Attachment E

Date: September 23, 2020
Our File No: 7255-01

BY EMAIL

Eric Hughes
VP of Development
Onni Group
Suite 200, 1010 Seymour Street
Vancouver, BC
V6B 3M6

Dear Mr. Hughes,

Re: Golden Ears Business Park, Pitt Meadows – FINAL Access Assessment

1.0 BACKGROUND

Onni is currently seeking development permits for the last two phases i.e. Phase 3 and Phase 4, of its Golden Ears Business Park (GEBP) development in Pitt Meadows. The Phase 3 property is 1,761,795 ft^2 in area and the Phase 4 property is 1,927,003 ft^2 in area.

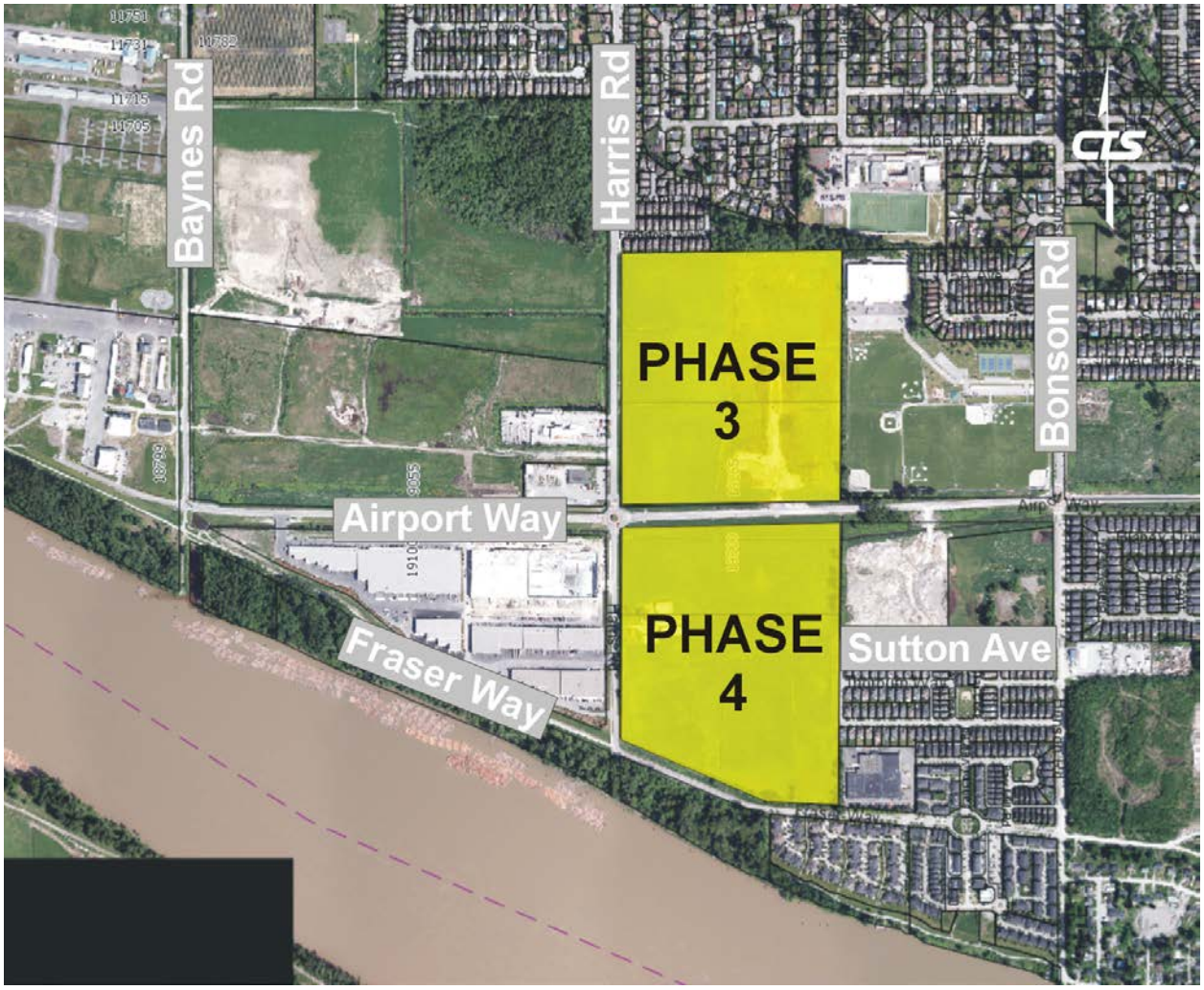
The current development permit application proposes the following:

- Phase 3 – 19265 Airport Way
  - Building 3100 – 145,518 ft^2
  - Building 3200 – 236,272 ft^2
  - Building 3300 – 111,581 ft^2

- Phase 4 – 11208 Harris Road
  - Building 4000 - 748,530 ft^2

Both GEBP - Phase 3 and Phase 4 front Airport Way (approximate 425 meters of frontage) and Harris Road (approximately 475 meters and 425 meters of frontage respectively. **FIGURE 1** illustrates the location of Phase 3 and Phase 4 within the context of the local road network. A site/access plan for GEBP - Phase 3 and Phase 4 is included as **APPENDIX A**.

FIGURE 1
GEBP - PHASE 3 AND PHASE 4



2.0 SCOPE

CTS was tasked with undertaking an access assessment which rationalizes the proposed site/access plan for GEBP - Phase 3 and Phase 4 by Onni with consideration for:

- Adjacent road network including City of Pitt Meadows truck routes
- On-site building, drive aisle and parking layout;
- Location of parking and loading areas;
- Operational requirements by the tenant of each building/space;
- Type of motorist i.e. visitor, staff/personnel, delivery person, equipment/vehicle operator;
- Type of vehicle i.e. passenger car, pick-up truck, delivery van, light/medium/heavy single unit truck, tractor with semi-trailer;
- Driveway access type;
- Driveway access spacing;
- Driveway access offset from intersections;
- Driveway access location relative to the adjacent property;
- Sight lines;
- Site safety;
- Proposed road geometry; and
- Capacity analysis.

The site/access plan for GEBP - Phase 3 and Phase 4 is included as **APPENDIX A**.

3.0 ROAD NETWORK

3.1 Existing Road Network

The following can be stated about Airport Way and Harris Road adjacent to GEBP - Phase 3 and Phase 4:

Airport Way

- Is an arterial road connecting Golden Ears Way in the east with Baynes Road (Pitt Meadows Regional Airport) in the west. Airport Way is also a City of Pitt Meadows Truck Route.
- Two lanes with paved shoulder.
- Bicycle route i.e. bicycle lanes.
- Illuminated at Bonson Road, Harris Road and Baynes Road.
- The posted speed on Airport Way is 60 km/h.

Bonson Road

- An arterial road connecting Lougheed Highway in the north with Fraser Way in the south.
- Two lanes with paved shoulder.
- Bicycle route i.e. shared bikeway.
- Illuminated.
- The posted speed on Bonson Road is 50 km/h.

Harris Road

- An arterial road connecting Lougheed Highway in the north with Fraser Way in the south.
- Two lanes with paved shoulder from Fraser Way to Hammond Road.
- Bicycle route i.e. bicycle lanes.
- Illuminated at Airport Way and south of Airport Way.
- The posted speed on Harris Road is 50 km/h.

Baynes Road

- An arterial road connecting Lougheed Highway in the north with Fraser Way in the south. Baynes Road is also a City of Pitt Meadows Truck Route.
- Two lanes with paved shoulder.
- Bicycle route i.e. shared bikeway.
- Illuminated at Airport Way.
- The posted speed on Baynes Road is 50 km/h.

Airport Way at Golden Ears Way

- Intersection is controlled by a roundabout.
- There are signed and marked pedestrian crossings on all four approaches to the intersection.
- The intersection is illuminated.

Airport Way at Bonson Road Intersection

- Intersection is controlled by a roundabout.
- There are signed and marked pedestrian crossings on all four approaches to the intersection.
- The intersection is illuminated.

Airport Way at Harris Road Intersection

- Intersection is controlled by a roundabout.
- There are signed and marked pedestrian crossings on all four approaches to the intersection.
- The intersection is illuminated.

Airport Way at Baynes Road Intersection

- Intersection is STOP controlled on Baynes Road.
- The intersection is illuminated.

3.1 Proposed Road Network

The following improvements are proposed for Airport Way between Bonson Road and Baynes Road adjacent to GEBP - Phase 3 and Phase 4:

Airport Way

- Four lanes with paved shoulder.
- Multi-user pathway along the north boulevard connecting the proposed park amenity with a midpoint between Harris Road and Baynes Road.
- Multi-user pathway along the south boulevard connecting Bonson Road with Harris Road
- Street lighting.

Airport Way at Bonson Road Intersection

- Traffic signal control.
- Pedestrian controlled crossings on all four approaches to the intersection.
- Street lighting.

Airport Way at Sutton Development/Park Amenity Access

- New full movement access to the proposed park amenity.
- Sutton Development access restricted to right-in/right-out only.
- Pedestrian controlled crossing on the west approach to the intersection.
- Street lighting.

Airport Way at Harris Road Intersection

- Traffic signal control.
- Pedestrian controlled crossings on all four approaches to the intersection.
- Street lighting.

4.0 ACCESS ASSESSMENT

CTS undertook the following access assessment with reference to Onni's site/access plan for GEBP - Phase 3 and Phase 4 included as **APPENDIX A**.

Adjacent Road Network

Routing to/from GEBP - Phase 3 and Phase 4 is intended to be along the adjacent arterial roads i.e. Airport Way, Harris Road and Baynes Road and City of Pitt Meadows Truck Routes i.e. Airport Way and Baynes Road. The City of Pitt Meadows Truck Route Network is included as **APPENDIX B**.

Given vehicles routing to GEBP - Phase 3 and Phase 4 from the north and west along Harris Road and Baynes Road, and from the south and east along Airport Way and Harris Road, it is reasonable to expect that the majority those vehicles route from GEBP - Phase 3 and Phase 4 in the direction from which they originated.

Also, it is therefore reasonable to expect that vehicles routing to/from GEBP - Phase 3 and Phase 4 require a pre-requisite number of direct and functional access points and turns to accommodate ingress to/egress from GEBP - Phase 3 and Phase 4 to/from the adjacent arterial roads and truck routes.

Note - GEBP – Phase 1 and Phase 2 have a total of ten all movement access points along Baynes Road, Airport Way and Harris Road. The much smaller City of Pitt Meadows Works Yard has two access points on Harris Road, presumably to accommodate their operational requirements i.e. one access point for visitors, staff/personnel and deliveries and the other for work related vehicles and equipment.

GEBP – Phase 3 and Phase 4 Site Layout

The on-site building, drive aisle parking and loading layout have been designed to not only meet the City's land use, parking and loading requirements but also to align the on-site operation of GEBP – Phase 3 and Phase 4 with a pre-requisite number of direct and functional access points along the adjacent arterial road and truck route by directly connecting the motorist/vehicle with the associated land use, parking or loading area.

- Visitors and delivery persons require access to the main public entrance for each building. The main public entrance is typically at the front of the building facing the adjacent road and is where the business/company name and unit number/address are displayed.

  Operationally, there is typically a public parking area at the front of the building as well as access to that parking to accommodate visitors and delivery persons who might be unfamiliar with the GEBP.

  The driveway, drive aisle and parking area are typically designed to accommodate a passenger car, pick-up truck or delivery van.

Onni is proposing two all movement driveways on Airport Way i.e. one for GEBP - Phase 3 and one for GEBP - Phase 4, and one all movement driveway on Harris Road i.e. one for GEBP - Phase 3, for this purpose.

- Parking for staff/personnel is typically removed from the main public entrance and delivery and loading areas so not to "take away" from parking and/or conflict with their operation.

  Staff/personnel parking is proposed for the northeast quadrant of GEBP – Phase 3 and for the western half of GEBP – Phase 4.

  The driveway, drive aisle and parking area are typically designed to accommodate a passenger car, pick-up truck or delivery van.

  Onni is proposing two all movement driveways on Harris Road i.e. one for GEBP - Phase 3 and one for GEBP - Phase 4, for this purpose.

- Delivery persons and operators require access to delivery and loading bays typically at the back of the building facing away from the adjacent street. The vehicle type could be a delivery van, light/medium/heavy single unit truck, tractor with semi-trailer or a piece of equipment such as a fork lift and the delivery person or operator is typically familiar with their location being a frequent user.

  The area associated with delivery/loading bays is typically designated as a work area which might require the use of personal protective equipment (PPE) such as hard hats, visi-vests, protective footwear, etc.

  Delivery and loading areas are not intended to be associated with public and/or staff/personnel access given they are typically active works areas, there is a disparity in vehicle size and operation, larger vehicles have a larger blind spot, etc.

  The driveway, drive aisle and parking area is typically designed to accommodate a tractor with semi-trailer.

  Onni is proposing three all movement driveways on Airport Way i.e. one for GEBP - Phase 3 and two for GEBP - Phase 4, and one all movement driveway on Harris Road i.e. one for GEBP - Phase 3, for this purpose.

Driveway Design

The Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017* provides typical driveway dimensions based on operation i.e. one-way or two-way, and land use i.e. residential, commercial or industrial. Their dimensions can vary dramatically if accommodating a passenger car or a tractor with semi-trailer. Per *Table 8.9.1: Typical Driveway Dimensions*, the recommended width of a two-way industrial driveway is 9.0 to 15.0 meters.

The three all movement driveways on Airport Way and one all movement driveway on Harris Road intended for the movement of delivery van, light/medium/heavy single unit trucks, tractors with semi-trailer or a pieces of equipment will be designed to

accommodate the manoeuvring of a WB20. A swept path analysis illustrating a WB20 ingressing and egressing each driveway is included as **APPENDIX C**.

The one all movement driveway on Airport Way and three all movement driveways on Harris Road intended for the movement of a passenger car, pick-up truck and delivery van will be designed to accommodate those vehicle types.

Note – In the rare event where two WB20 vehicles wish to egress/ingress the same driveway at the exact same time, one or the other WB20 operators would typically hold their position while the other WB20 operator clears the driveway. To design a driveway crossing where both WB20 vehicles could clear simultaneously would result in an unacceptably wide crossing from an operational and safety perspective. For example, a pedestrian crossing the driveway would be exposed to vehicular traffic for a longer distance and time period than is reasonably expected or design for.

Driveway Frequency

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017* the maximum number of driveways based on frontage is four or more for properties having a frontage greater than 150 meters. As mentioned, the frontage for GEBP – Phase 3 and Phase 4 along both Airport Way and Harris Road exceeds 400 meters. The maximum number of driveways on the GEBP - Phase 3 frontages is two on Airport Way and three on Harris Road. The maximum number of driveways on the GEBP - Phase 4 frontages is two on Airport Way and one on Harris Road.

Adjacent Driveway Spacing

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017* the minimum driveway spacing along an arterial road in an industrial area is 25 meters.

The driveway spacing on Airport Way exceeds 160 meters for GEBP – Phase 3 and GEBP – Phase 4. The driveway spacing on Harris Road exceeds 75 meters for GEBP – Phase 3.

Opposite Driveway Spacing

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads* 2017 driveways should be offset such that left turns in and the left turns out do not overlap.

Of the driveways on Airport Way all four (two and two) are aligned directly opposite one another.

Of the driveways on Harris Road two are offset. The two driveways that are offset, are offset such that the left turns in and the left turns out do not overlap.

Note - The driveways on the west side of Harris Road belongs to the City of Pitt Meadows Works Yard.

Corner Clearance

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017* the minimum clearance from a driveway to the intersection of two arterial roads i.e. Airport Way and Harris Road, is 70 meters.

The driveways proposed for GEBP – Phase 3 and Phase 4 along Airport Way and Harris Road exceed 70 meters by 30 to 50 meters on all approaches to the intersection of Airport Way and Harris Road.

Sight Lines

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017*, the Stopping Sight Distance (SSD) for a road posted a 60 km/h is 85 meters whereas the SSD for a road posted at 50 km/h is 65 meters.

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Road*s 2017, the Intersection Sight Distance (ISD) for a truck for a road posted a 60 km/h is 195 meters whereas the ISD for a road posted at 50 km/h is 160 meters.

The sight distance to/from the proposed driveway crossings along Airport Way and Harris Road exceed the SSD and ISD.

Proposed Road Geometry

Airport Way is proposed to be widened from two lanes to four lanes by 2024. The benefits to traffic operations along Airport Way include:

- Additional lane capacity and improved levels of service.
- Turns from Airport Way to GEBP – Phase 3 and Phase 4 can be made without impeding through traffic.
- Turn availability from GEBP – Phase 3 and Phase 4 to Airport Way is approximately doubled.

The intersection of Airport Way and Harris Road is proposed to be signalized by 2024. The benefits to traffic operations and safety include:

- Additional lane capacity and improved levels of service.
- Improved left turn radius through the intersection on all approaches.
- Signalized pedestrian and bicycle movements on all approaches.

5.0 PARK AMENITY ACCESS ASSESSMENT

A park dedication is proposed for the northeast quadrant of GEBP – Phase 3. The park dedication also abuts the Pitt Meadows Arena Complex and Athletic Park. The Pitt Meadows Arena Complex and Athletic Park are accessed from Bonson Road.

Access to the park is proposed on Airport Way opposite the Sutton Development. A preliminary design of the proposed access point is include as **APPENDIX D**. It is expected that the proposed driveway and parking area would operate at their peak, evenings and weekends i.e. outside of the peak operational periods for GEBP – Phase 3 and Phase 4. No operational conflict is expected.

Adjacent Driveway Spacing

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017* the minimum driveway spacing along an arterial road in an industrial area is 25 meters.

The driveway spacing on Airport Way between the proposed park amenity access and GEBP – Phase 3 and GEBP – Phase 4 exceeds 140 meters.

Sight Lines

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017*, the Stopping Sight Distance (SSD) for a road posted a 60 km/h is 85 meters whereas the SSD for a road posted at 50 km/h is 65 meters.

Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Road*s 2017, the Intersection Sight Distance (ISD) for a truck for a road posted a 60 km/h is 195 meters whereas the ISD for a road posted at 50 km/h is 160 meters.

The sight distance to/from the proposed park amenity access along Airport Way exceeds the SSD and ISD.

6.0 CITY OF PITT MEADOWS WORKS YARD ACCESS ASSESSMENT

At the request of the City of Pitt Meadows, CTS assessed the driveway points of access to/from the City of Pitt Meadows works yard, with reference to **FIGURE 2**.

FIGURE 2
CITY OF PITT MEADOWS WORKS YARD

Currently there are driveway two points of access along Harris Road, servicing the works yard. The north driveway access point is full movement whereas the south driveway access point is right-in/right-out/left-in. Left turns out are prohibited at the south access point by signage. Also, the north driveway access point is primarily for staff, deliveries and visitors whereas the south driveway access point is primarily for the movement of work related vehicles and equipment and larger deliveries.

In assessing the design and operation of both driveway points of access, CTS applied the corner clearance criterion. Per the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017* the minimum clearance from a

driveway to the intersection of two arterial roads i.e. Airport Way and Harris Road, is 70 meters.

The north driveway access point is offset approximately 79 meters from Airport Way and the south driveway access point is offset approximately 21 meters from Airport Way. The south driveway access point does not meet the TAC corner clearance criterion. Left-in turns and left-out turns would conflict with the operation of the intersection of Airport Way and Harris Road e.g. left-in turns and left-out turns would track through the southbound left turn storage lane. The south driveway access point would operate best as right-in/right-out.

7.0 TRIP GENERATION

The number of vehicle trips expected to be generated by GEBP – Phase 3 and Phase 4 for 2024 is summarized by **TABLE 1**. The ITE *Trip Generation Manual 10th Edition* trip generation rates for an Industrial Park, were referenced.

TABLE 1
GEBP – PHASE 3 and PHASE 4
YEAR 2024

Land Use		Peak Hour	Trip Generation Variable	Scope of Development	Vehicle Trip Generation Rate	Trip Rate Source	Directional Split		Peak Hour Volumes (vph)		
							% in	% out	in	out	total
Industrial Park Phase 3	Building 3100	Weekday Morning	1,000 Sq. Ft. GFA	145.4	0.40	ITE 10th Edition Code 130	81%	19%	48	11	59
		Weekday Afternoon		145.4	0.40		21%	79%	12	47	59
Industrial Park Phase 3	Other Buildings	Weekday Morning	1,000 Sq. Ft. GFA	347.9	0.40	ITE 10th Edition Code 130	81%	19%	113	27	140
		Weekday Afternoon		347.9	0.40		21%	79%	29	111	140
Industrial Park Phase 4	Phase 4 Buildings	Weekday Morning	1,000 Sq. Ft. GFA	748.5	0.40	ITE 10th Edition Code 130	81%	19%	243	57	300
		Weekday Afternoon		748.5	0.40		21%	79%	63	237	300
TOTAL WEEKDAY MORNING PEAK HOUR									404	95	499
TOTAL WEEKDAY AFTERNOON PEAK HOUR									104	395	499

For the year 2024, GEBP – Phase 3 and Phase 4 are expected to generate 499 (404 inbound and 95 outbound) vehicle trips in the morning peak hour and 499 (104 inbound and 395 outbound) vehicle trips in the afternoon peak hour.

FIGURE 2 and **FIGURE 3** illustrate the site generated traffic for the year 2024 during the weekday morning and afternoon peak hours. The same site generated traffic was assumed for the year 2035 during the weekday morning and afternoon peak hours.

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FIGURE 2
2024 WEEKDAY MORNING PEAK HOUR SITE GENERATED TRAFFIC VOLUMES

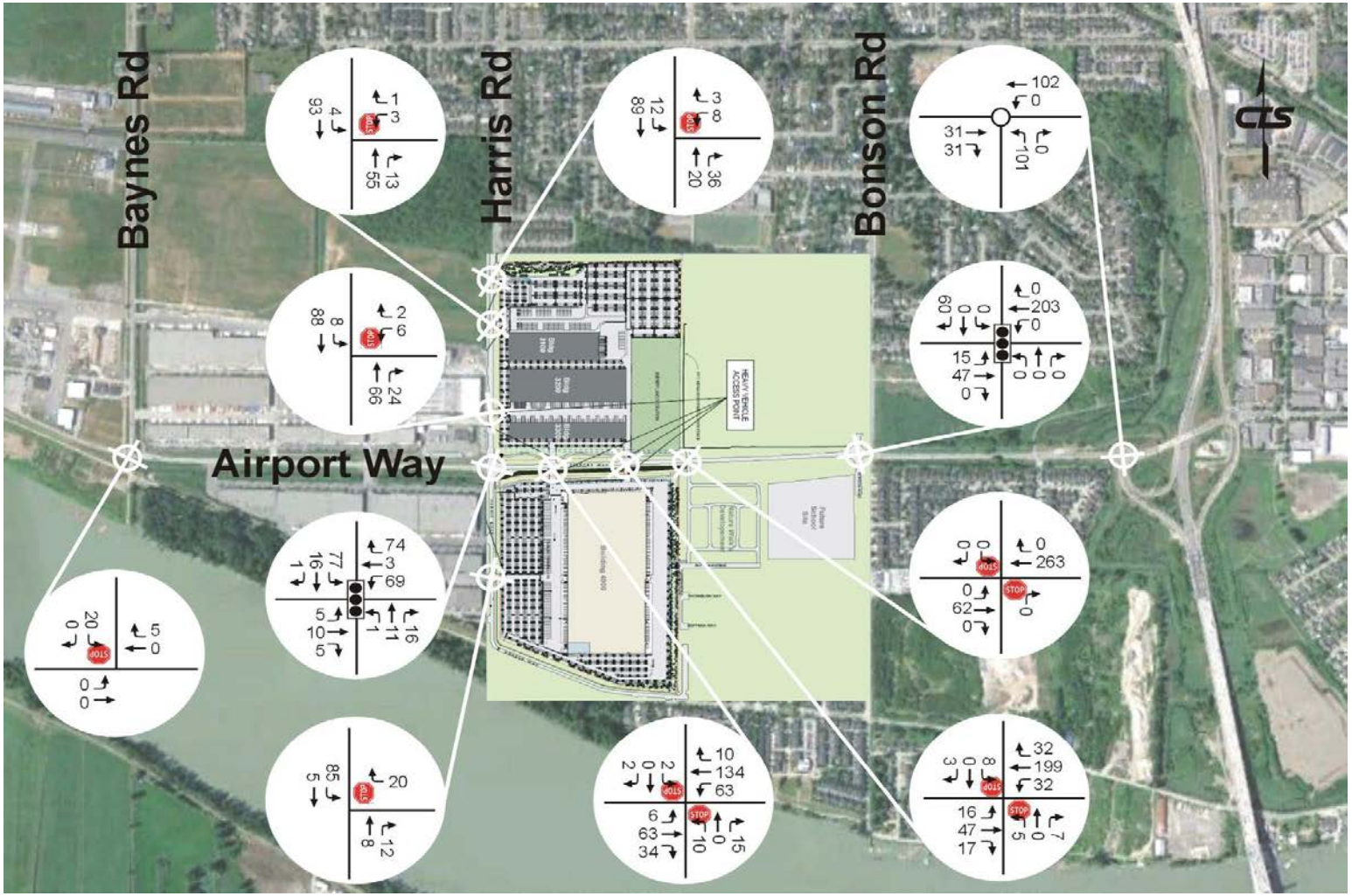
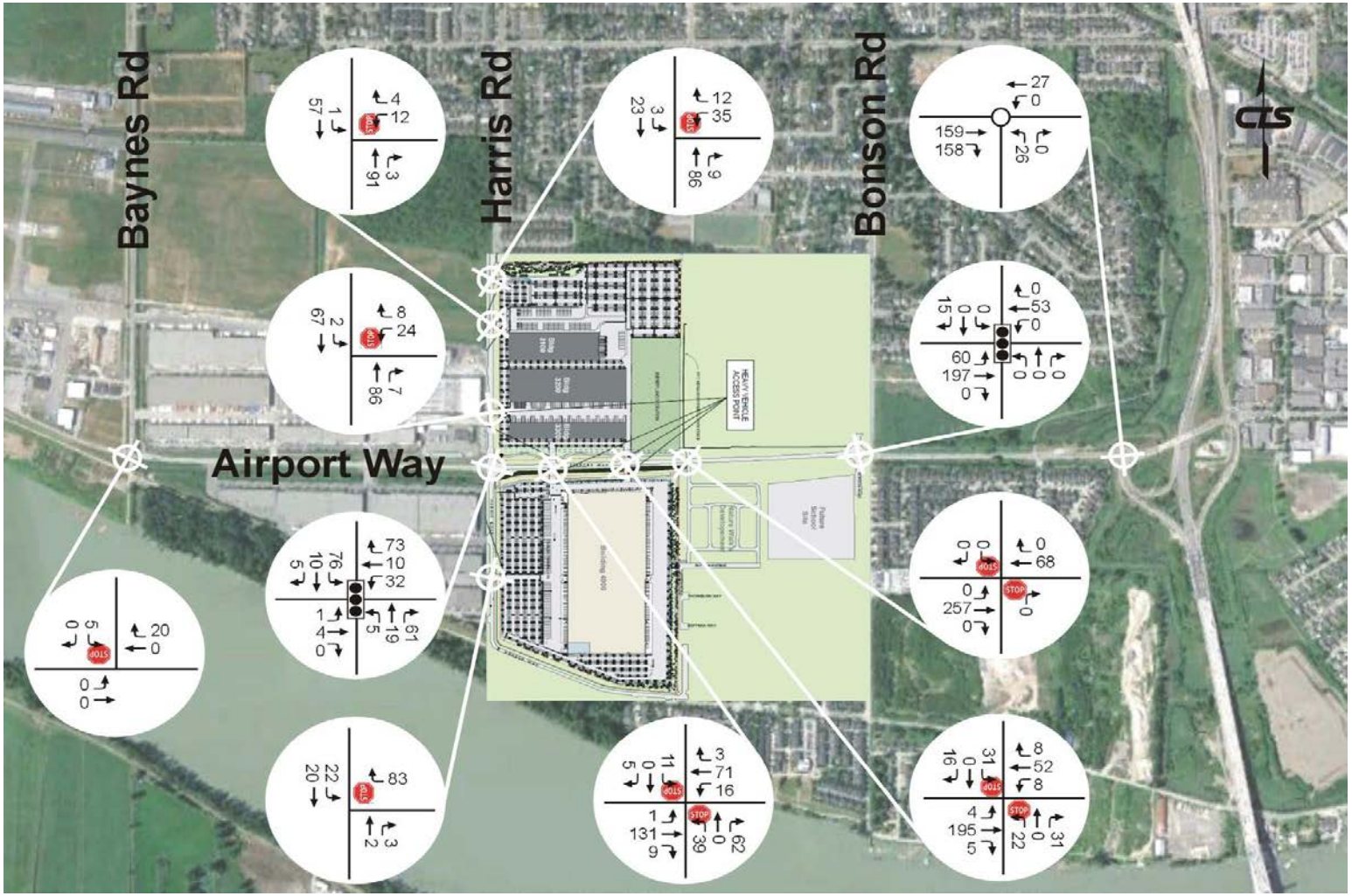


FIGURE 3
2024 WEEKDAY AFTERNOON PEAK HOUR SITE GENERATED TRAFFIC VOLUMES



8.0 CAPACITY ANALYSIS

8.1 Assumptions

In addition to the Access Assessment undertaken in Section 4.0, capacity analysis was performed for each of the GEBP – Phase 3 and Phase 4 access points on Airport Way and Harris Road as well as for the intersection of Airport Way and Harris Road, to determine the overall intersection and individual movement Level of Service (LOS) that is provided to motorists. The LOS for intersections and movements is defined in terms of delay (seconds per vehicle) which is a measure of driver discomfort and frustration, fuel consumption and lost travel time.

An intersection or movement LOS can range from "A" (Excellent) to "E" (Capacity). A LOS of "F" indicates that an intersection or movement is failing because the intersection or movement is over capacity and delays are excessive. A LOS of “D” or better is considered acceptable by many public agencies for overall intersection, through and right turn movements and a LOS of “E” or better is considered acceptable for left turn movements, at signalized intersections.

Synchro (Version 10.0) was used to analyze the intersection and movement level of service for signalized intersections. Highway Capacity Software (HCS) was used to analyze the intersection and movement Level of Service for unsignalized intersections. SIDRA INTERSECTION 6.1 was used for the roundabout intersection analysis.

With respect to the access point and intersection analyses, the following assumptions were made:

- Saturation flow rate → 1,900 passenger cars/hour of green/lane (pcphgpl).
- Heavy truck i.e. 3+ axles, percentage → 15% for all truck access point movements and on Airport Way and Harris Road. All other access points were assumed to be zero heavy trucks.
- Peak Hour Factor (PHF) → 0.93 for the weekday morning peak hour and 0.86 for the weekday PM peak hour which were the average PHF’s from the traffic turning movement counts.
- All access points were assumed to be all movement i.e. right-in, right-out, left-in and left-out.
- All access points outbound were assumed to be shared left turn/right turn movements.
- CTS based the capacity analysis on background traffic data collected by CTS on February 28, 2017. Copies of the turning movement summary count data are included as **APPENDIX E**. The weekday morning peak hour was 0745 to 0845. The weekday afternoon peak hour was 1615 to 1715.
- Per direction received from the City of Pitt Meadows, CTS studied the 2024 and 2035 horizon years with GEBP – Phase 3 and Phase 4.

- The 2017 background data was grown to the 2024 and 2035 study years at 2% per annum simple straight line, consistent with McElhanney's *South Bonson Traffic Study – Final Report, April 2016*.
- Vehicle trips generated by the Sutton Development residential community were included as background traffic in the years 2024 and 2035. The Sutton Development generated vehicle trips are summarized by **TABLE 2.**

TABLE 2
SUTTON DEVELOPMENT VEHICLE TRIP GENERATION

Land Use		Peak Hour	Trip Generation Variable	Scope of Development	Vehicle Trip Generation Rate	Trip Rate Source	Directional Split		Peak Hour Volumes (vph)		
							% in	% out	in	out	total
Residential	Townhouse	Weekday Morning	Dwelling Units	220	0.36	ITE 10th Edition Code 221	26%	74%	21	59	80
		Weekday Afternoon	Dwelling Units	220	0.44	ITE 10th Edition Code 221	61%	39%	59	38	97
TOTAL WEEKDAY MORNING PEAK HOUR									21	59	80
TOTAL WEEKDAY AFTERNOON PEAK HOUR									59	38	97

The vehicle trip generation data is based on that assumed by the City of Pitt Meadows in their *Staff Report to Council – Temporary Commercial Use Permit Application for 19451 Sutton Avenue, April 2019.*

- Vehicle trips generated by the proposed park amenity were assumed to be 20 vehicle trips inbound and 20 vehicle trips outbound for both the morning and afternoon peak hours.
- Vehicle trips generated by the proposed elementary school on the southwest corner of Airport Way and Bonson Road were included as background traffic in the year 2035. The school generated vehicle trips are summarized by **TABLE 3.**

TABLE 3
SCHOOL VEHICLE TRIP GENERATION

Land Use		Peak Hour	Trip Generation Variable	Scope of Development	Vehicle Trip Generation Rate	Trip Rate Source	Directional Split		Peak Hour Volumes (vph)		
							% in	% out	in	out	total
School	Elementary	Weekday Morning	1,000 Square Feet GFA	15	6.97	ITE 10th Edition Code 520	55%	45%	58	47	105
		Weekday Afternoon	1,000 Square Feet GFA	15	1.37		45%	55%	9	12	21
TOTAL WEEKDAY MORNING PEAK HOUR									58	47	105
TOTAL WEEKDAY AFTERNOON PEAK HOUR									9	12	21

The vehicle trip generation data is based on that assumed by McElhanney in their *South Bonson Traffic Study – Final Report, April 2016.*

- Vehicle trips generated by the GEBP Phase 1 and Phase 2 were included as background traffic. The vehicle trip generation data is based on that assumed by MMM in their *Golden Ears Business Park – Phase 3 Transportation Impact Study, April 2015.*
- Trip distribution parameters for distributing GEBP – Phase 3 and Phase 4 generated vehicle trips to/from the site are summarized by **TABLE 4**. The traffic distribution is based on that assumed by McElhanney in their *South Bonson Traffic Study, April 2016*.

Note - The distribution percentage for North - Harris Road was changed from 30% to 25% and the distribution percentage for West – Airport Way was changed from 0% to 5%.

TABLE 4
TRIP DISTRBUTION PERCENTAGES

FROM / TO	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
North - Bonson Rd	15.0%	15.0%	15.0%	15.0%
North - Harris Rd	25.0%	25.0%	25.0%	25.0%
East Airport Way	50.0%	50.0%	50.0%	50.0%
South - Harris Rd	5.0%	5.0%	5.0%	5.0%
West - Airport Way	5.0%	5.0%	5.0%	5.0%
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**

- CTS analyzed Airport Way as a four-lane cross-section for both the 2024 and 2035 scenarios.
- CTS analyzed the intersections of Airport Way and Bonson Road and Airport Way and Harris Road as traffic signal controlled for both the 2024 and 2035 scenarios. For the traffic signal controlled intersection, CTS assumed protected/permissive phasing on all approaches and optimized the signal timing.
- CTS analyzed the intersection of Airport Way and the Sutton Development/Park Amenity access and Airport Way and Baynes Road as STOP controlled for both the 2024 and 2035 scenarios.
- CTS analyzed the intersection of Airport Way and Golden Ears Way as roundabout control with no geometric or laning improvements. The link volumes established for the east approach to the intersection of Airport Way and Bonson Road for 2024 were used as basis for the west approach to the intersection of Airport Way and Golden Ears Way. The link volumes were distributed to the

east and south approaches to the intersection of Airport Way and Golden Ears Way 50%/50%.

- The preliminary geometry and laning assumed for Airport Way is illustrated by the preliminary design included as **APPENDIX D**.

8.2 Analysis

With consideration for the preceding assumptions, capacity analysis was performed for each of the GEBP – Phase 3 and Phase 4 access points on Airport Way and Harris Road as well as for the intersections of:

- Airport Way and Bonson Road;
- Airport Way and Harris Road;
- Airport Way and Baynes Road;
- Airport Way and Sutton Development/Park Amenity access; and
- Airport Way and Golden Ears Way.

TABLE 5 summarizes and compares the delay in seconds and the 95th percentile queue for all GEBP – Phase 3 and Phase 4 unsignalized access points on Harris Road (two lane cross-section) for the 2024 and 2035 morning and afternoon peak hours.

TABLE 6 summarizes and compares the delay in seconds and the 95th percentile queue for all GEBP – Phase 3 and Phase 4 unsignalized access points on Airport Way (four lane cross-section) for the 2024 and 2035 morning and afternoon peak hours.

TABLE 7 summarizes and compares the delay in seconds and the 95th percentile queue for the unsignalized intersection of Airport Way (four lane cross-section) and the Sutton Development/Park Amenity access for the 2024 and 2035 morning and afternoon peak hours.

TABLE 8 summarizes and compares the delay in seconds and the 95th percentile queue for the unsignalized intersection of Airport Way and Baynes Road for the 2024 and 2035 morning and afternoon peak hours.

TABLE 9 summarizes and compares the main performance parameters of the capacity analysis for the signalized intersection of Airport Way (four lane cross-section) and Bonson Road and Airport Way (four lane cross-section) and Harris Road for the 2024 and 2035 morning and afternoon peak hours.

The capacity analysis summary sheets are included as **APPENDIX F**.

TABLE 5
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
HARRIS ROAD (TWO LANE CROSS-SECTION) AND ACCESS POINTS

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Harris Road (N/S) & North Access - Phase 3 (E/W)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes				8		3		372	36	12	520		A	OK
			Delay				16.9				0.0		8.2				
			95% Queue (veh)				0.1				0.0		0.0				
		2035 Base + Site (Phase 3 & 4)	Volumes				8		3		449	36	12	623		A	OK
			Delay				20.3				0.0		8.5				
			95% Queue (veh)				0.2				0.0		0.0				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes				35		12		614	9	3	421		A	WB Movements are approaching capacity
			Delay				25.2				0.0		9.1				
			95% Queue (veh)				0.9				0.0		0.0				
		2035 Base + Site (Phase 3 & 4)	Volumes				35		12		717	9	3	498		A	WB Movements are approaching capacity
			Delay				34.2				0.0		9.5				
			95% Queue (veh)				1.2				0.0		0.0				
Harris Road (N/S) & Middle Access - Phase 3 (E/W)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes				3		1		407	13	4	529		A	OK
			Delay				16.9				0.0		8.2				
			95% Queue (veh)				0.0				0.0		0.0				
		2035 Base + Site (Phase 3 & 4)	Volumes				3		1		484	13	4	627		A	OK
			Delay				20.2				0.0		8.5				
			95% Queue (veh)				0.1				0.0		0.0				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes				12		4		619	3	1	455		A	OK
			Delay				22.7				0.0		9.1				
			95% Queue (veh)				0.3				0.0		0.0				
		2035 Base + Site (Phase 3 & 4)	Volumes				12		4		722	3	1	532		A	WB Movements are approaching capacity
			Delay				29.0				0.0		9.5				
			95% Queue (veh)				0.4				0.0		0.0				
Harris Road (N/S) & South Access - Phase 3 (E/W)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes				6		2		418	24	8	524		A	OK
			Delay				18.4				0.0		8.6				
			95% Queue (veh)				0.1				0.0		0.0				
		2035 Base + Site (Phase 3 & 4)	Volumes				6		2		495	24	8	622		A	OK
			Delay				22.3				0.0		8.8				
			95% Queue (veh)				0.1				0.0		0.0				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes				24		8		614	7	2	465		A	WB Movements are approaching capacity
			Delay				26.5				0.0		9.4				
			95% Queue (veh)				0.6				0.0		0.0				
		2035 Base + Site (Phase 3 & 4)	Volumes				24		8		717	7	2	542		A	WB Movements are approaching capacity
			Delay				35.7				0.0		9.9				
			95% Queue (veh)				0.9				0.0		0.0				
Harris Road (N/S) & Site Access - Phase 4 (E/W)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes						20		170	12	85	149		A	OK
			Delay						9.3		0.0		7.8				
			95% Queue (veh)						0.1		0.0		0.2				
		2035 Base + Site (Phase 3 & 4)	Volumes						20		199	12	85	177		A	OK
			Delay						9.5		0.0		7.9				
			95% Queue (veh)						0.1		0.0		0.2				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes						83		171	3	22	148		A	OK
			Delay						9.8		0.0		7.7				
			95% Queue (veh)						0.4		0.0		0.1				
		2035 Base + Site (Phase 3 & 4)	Volumes						83		203	3	22	175		A	OK
			Delay						10.1		0.0		7.7				
			95% Queue (veh)						0.4		0.0		0.1				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); ; or medium approach delays (25sec to <50sec)

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 6
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
AIRPORT WAY (FOUR LANE CROSS-SECTION) AND ACCESS POINTS

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Airport Way (E/W) & West Access - Phase 3 & 4 (N/S)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	6	441	34	63	806	10	10	0	15	2	0	2	A	OK
			Delay	9.7	9.7	0.0	9.0	9.0	0.0	19.8			24.5				
			95% Queue (veh)	0.0	0.0	0.0	0.2	0.2	0.0	0.3			0.1				
		2035 Base + Site (Phase 3 & 4)	Volumes	6	494	34	63	948	10	10	0	15	2	0	2	A	SB movements are approaching capacity.
			Delay	10.3	10.3	0.0	9.2	9.2	0.0	23.9			31.6				
			95% Queue (veh)	0.0	0.0	0.0	0.2	0.2	0.2	0.4			0.1				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	1	932	9	16	498	3	39	0	62	11	0	5	B	NB is over cpacity. SB movements are approaching capacity
			Delay	8.6	8.6	0.0	11.6	11.6	0.0	68.0			29.4				
			95% Queue (veh)	0.0	0.0	0.0	0.1	0.1	0.0	4.3			0.4				
		2035 Base + Site (Phase 3 & 4)	Volumes	1	1087	9	16	584	3	39	0	62	11	0	5	C	NB is over cpacity. SB movements are approaching capacity
			Delay	8.9	8.9	0.0	12.9	12.9	0.0	163.7			41.3				
			95% Queue (veh)	0.0	0.0	0.0	0.1	0.1	0.0	6.8			0.5				
Airport Way (E/W) & East Access - Phase 3 & 4 (N/S)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	16	395	17	32	871	32	5	0	7	8	0	3	A	SB is approaching capacity.
			Delay	10.9	10.9	0.0	8.6	8.6	0.0	17.6			35.3				
			95% Queue (veh)	0.1	0.1	0.0	0.1	0.1	0.0	0.1			0.3				
		2035 Base + Site (Phase 3 & 4)	Volumes	16	478	17	32	1013	32	5	0	7	8	0	3	A	SB movements are over capacity.
			Delay	11.8	11.8	0.0	8.9	8.9	0.0	21.5			50.2				
			95% Queue (veh)	0.1	0.1	0.0	0.1	0.1	0.0	0.2			0.4				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	4	996	5	8	479	8	22	0	31	31	0	16	B	NB & SB movements are approaching capacity.
			Delay	8.9	8.9	0.0	12.0	12.0	0.0	47.6			37.2				
			95% Queue (veh)	0.0	0.0	0.0	0.0	0.0	0.0	1.9			1.3				
		2035 Base + Site (Phase 3 & 4)	Volumes	4	1151	5	8	565	8	22	0	31	31	0	16	B	NB & SB movements are over capacity.
			Delay	9.3	9.3	0.0	13.3	13.3	0.0	88.4			59.6				
			95% Queue (veh)	0.0	0.0	0.0	0.1	0.1	0.0	3.0			2.1				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); ; or medium approach delays (25sec to <50sec)

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 7
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
AIRPORT WAY (FOUR LANE CROSS-SECTION) AND THE SUTTON DEVELOPMENT/PARK AMENITY ACCESS

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Townhouse Access / Park Access (N/S) & Airport Way (E/W)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	7	396	7		928	13			20	13		7	A	OK. SB is appraoching capacity
			Delay	11.1	11.1	0.0		0.0	0.0			9.7	28.6				
			95% Queue (veh)	0.0	0.0	0.0		0.0	0.0			0.1	0.4				
		2035 Base + Site (Phase 3 & 4)	Volumes	7	479	7		1070	13			20	13		7	A	OK. SB is appraoching capacity
			Delay	11.1	11.1	0.0		0.0	0.0			10.0	39.2				
			95% Queue (veh)	0.0	0.0	0.0		0.0	0.0			0.1	0.6				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	7	1033	18		488	13			13	13		7	A	OK. SB is appraoching capacity
			Delay	8.7	8.7	0.0		0.0	0.0			13.5	26.7				
			95% Queue (veh)	0.0	0.0	0.0		0.3	0.3			0.1	0.4				
		2035 Base + Site (Phase 3 & 4)	Volumes	7	1188	18		574	13			13	13		7	A	OK. SB is appraoching capacity
			Delay	9.0	9.0	0.0		0.0	0.0			14.8	36.4				
			95% Queue (veh)	0.0	0.0	0.0		0.3	0.3			0.1	0.6				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); ; or medium approach delays (25sec to <50sec)

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 8
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
AIRPORT WAY AND BAYNES ROAD

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Baynes Road (N/S) & Airport Way (E/W)	Weekday Morning Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	8	9			49	115				89		24	A	OK
			Delay	7.6				0.0	0.0				9.6				
			95% Queue (veh)	0.0				0.0	0.0				0.5				
		2035 Base + Site (Phase 3 & 4)	Volumes	9	11			59	138				105		28	A	OK
			Delay	7.7				0.0	0.0				9.8				
			95% Queue (veh)	0.0				0.0	0.0				0.6				
	Weekday Afternoon Peak Hour	2024 Base + Site (Phase 3 & 4)	Volumes	21	48			15	108				131		6	A	OK
			Delay	7.5				0.0	0.0				10.3				
			95% Queue (veh)	0.1				0.0	0.0				0.7				
		2035 Base + Site (Phase 3 & 4)	Volumes	25	58			17	126				156		7	A	OK
			Delay	7.6				0.0	0.0				10.8				
			95% Queue (veh)	0.1				0.0	0.0				0.9				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); ; or medium approach delays (25sec to <50sec)

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 9
SIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
AIRPORT WAY (FOUR LANE CROSS-SECTION) AND BONSON ROAD

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Bonson Road (N/S) and Airport Way (E/W)	Weekday Morning Peak Hour	2024 Base	Volumes	34	317	21	106	541	139	34	109	191	186	50	93	B	Optimized singal timing with 75s Cycle length
			V/C	0.14	0.42	0.42	0.29	0.66	0.66	0.13	0.65		0.62	0.21			
			95% Queue (m)	7.8	30.7	30.7	18.3	63.5	63.5	10.5	47.0		38.6	14.8			
		2024 Base +Site	Volumes	49	464	21	106	744	139	34	109	191	186	50	153	C	Optimized singal timing with 75s Cycle length
			V/C	0.22	0.48	0.48	0.30	0.79	0.79	0.14	0.68		0.75	0.31			
			95% Queue (m)	9.7	43.8	43.8	17.8	100.1	100.1	10.4	46.2		43.0	16.8			
		2035 Base	Volumes	39	375	43	154	645	166	52	137	249	222	68	110	C	Optimized singal timing with 80s Cycle length
			V/C	0.20	0.52	0.52	0.48	0.79	0.79	0.18	0.80		0.76	0.24			
			95% Queue (m)	9.7	42.6	42.6	29.2	98.9	98.9	15.2	73.7		54.6	17.9			
		2035 Base + Site	Volumes	54	422	43	154	848	166	52	137	249	222	68	170	C	Optimized singal timing with 90s Cycle length. WBTH, WBRT are near capacity.
			V/C	0.33	0.54	0.54	0.42	0.91	0.91	0.20	0.84		0.80	0.32			
			95% Queue (m)	12.6	54.8	54.8	30.4	143.6	143.6	17.6	91.8		63.5	23.7			
	Weekday Afternoon Peak Hour	2024 Base	Volumes	124	640	43	150	366	203	19	63	131	99	66	44	B	Optimized singal timing with 75s Cycle length
			V/C	0.39	0.72	0.72	0.54	0.50	0.50	0.10	0.55		0.44	0.24			
			95% Queue (m)	16.6	57.2	57.2	20.1	36.8	36.8	7.3	23.3		19.5	16.1			
		2024 Base +Site	Volumes	184	837	43	150	419	203	19	63	131	99	66	59	B	Optimized singal timing with 80s Cycle length
			V/C	0.52	0.78	0.78	0.60	0.58	0.58	0.11	0.60		0.52	0.29			
			95% Queue (m)	24.4	83.5	83.5	27.0	49.1	49.1	7.7	26.4		21.1	17.9			
		2035 Base	Volumes	147	762	54	178	436	243	26	77	161	118	78	53	C	Optimized singal timing with 80s Cycle length
			V/C	0.46	0.79	0.79	0.63	0.63	0.63	0.14	0.67		0.66	0.29			
			95% Queue (m)	22.2	94.0	94.0	37.8	57.5	57.5	9.4	35.9		24.3	20.5			
		2035 Base + Site	Volumes	207	959	54	178	489	243	26	77	161	118	78	68	C	Optimized singal timing with 90s Cycle length. EBTH & EBRT are near capacity.
			V/C	0.61	0.87	0.87	0.72	0.66	0.66	0.14	0.73		0.73	0.33			
			95% Queue (m)	32.4	136.2	136.2	51.7	78.1	78.1	10.7	45.4		32.6	27.1			

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or high approach demand over capacity (v/c => 1.0)

95% Queue length exceeds the capacity of existing storage bay.

TABLE 9 CONTINUED
SIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
AIRPORT WAY (FOUR LANE CROSS-SECTION) AND HARRIS ROAD

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Harris Road (N/S) and Airport Way (E/W)	Weekday Morning Peak Hour	2024 Base	Volumes	38	118	16	36	411	225	28	89	45	185	92	159	B	Optimized singal timing with 70s Cycle length
			V/C	0.14	0.14	0.14	0.09	0.64	0.64	0.08	0.33		0.47	0.44			
			95% Queue (m)	7.6	11.8	11.8	7.3	46.3	46.3	6.8	24.1		31.3	34.9			
		2024 Base +Site	Volumes	43	128	21	105	414	299	29	100	61	262	108	160	B	Optimized singal timing with 70s Cycle length
			V/C	0.17	0.20	0.20	0.26	0.64	0.64	0.09	0.39		0.74	0.48			
			95% Queue (m)	8.6	13.2	13.2	17.5	47.7	47.7	7.0	28.1		63.0	40.8			
		2035 Base	Volumes	46	144	19	43	493	278	33	105	53	234	110	190	B	Optimized singal timing with 70s Cycle length
			V/C	0.19	0.17	0.17	0.10	0.74	0.74	0.11	0.39		0.68	0.54			
			95% Queue (m)	9.5	15.0	15.0	9.0	66.6	66.6	7.5	28.1		47.9	44.6			
		2035 Base + Site	Volumes	51	154	24	112	496	352	34	116	69	311	126	191	B	Optimized singal timing with 75s Cycle length
			V/C	0.25	0.21	0.21	0.29	0.79	0.79	0.12	0.53		0.76	0.51			
			95% Queue (m)	10.8	16.6	16.6	20.2	80.4	80.4	7.8	35.8		67.4	51.0			
	Weekday Afternoon Peak Hour	2024 Base	Volumes	195	477	31	13	169	245	14	88	67	257	84	57	B	Optimized singal timing with 75s Cycle length
			V/C	0.64	0.48	0.48	0.05	0.56	0.56	0.05	0.48		0.76	0.27			
			95% Queue (m)	35.1	44.5	44.5	3.6	18.8	18.8	4.4	29.0		60.5	25.0			
		2024 Base +Site	Volumes	196	481	31	45	179	318	19	107	128	333	94	62	C	Optimized singal timing with 90s Cycle length
			V/C	0.72	0.61	0.61	0.19	0.68	0.68	0.07	0.72		0.80	0.24			
			95% Queue (m)	52.0	63.8	63.8	12.2	29.5	29.5	5.6	55.5		73.5	29.4			
		2035 Base	Volumes	233	570	38	16	203	294	17	104	80	306	101	68	C	Optimized singal timing with 90s Cycle length
			V/C	0.71	0.60	0.60	0.09	0.72	0.72	0.07	0.64		0.77	0.29			
			95% Queue (m)	57.9	69.0	69.0	5.4	31.5	31.5	5.8	45.5		74.3	34.6			
		2035 Base + Site	Volumes	234	574	38	48	213	367	22	123	141	382	111	73	C	Optimized singal timing with 90s Cycle length. EBLT, SBLT are near capacity.
			V/C	0.88	0.70	0.70	0.28	0.75	0.75	0.08	0.78		0.93	0.28			
			95% Queue (m)	73.3	75.6	75.6	12.8	34.7	34.7	6.4	65.5		108.0	35.9			

Intersection approaching capacity (LOS 'D' or 'E'); or approach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds capacity (LOS 'F'); or high approach demand over capacity (v/c => 1.0)

95% Queue length exceeds the capacity of existing storage bay.

Based on the capacity analysis summarized by **TABLE 5** to **TABLE 9** the following observations can be made:

Harris Road (N/S) and Phase 3 North Access (E/W)

- Under 2024 base + site and 2035 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours. The east approach experiences some delay under 2024 base + site conditions and 2035 base + site conditions during the afternoon peak hour.
- There are no operational issues expected for Harris Road i.e. delay is acceptable and there is no vehicle queuing.

Harris Road (N/S) and Phase 3 Middle Access (E/W)

- Under 2024 base + site and 2035 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours. The east approach experiences some delay under 2035 base + site conditions during the afternoon peak hour.
- There are no operational issues expected for Harris Road i.e. delay is acceptable and there is no vehicle queuing.

Harris Road (N/S) and Phase 3 South Access (E/W)

- Under 2024 base + site and 2035 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours. The east approach experiences some delay under 2024 base + site conditions and 2035 base + site conditions during the afternoon peak hour.
- There are no operational issues expected for Harris Road i.e. delay is acceptable and there is no vehicle queuing.

Harris Road (N/S) and Phase 4 Access (E/W)

- Under 2024 base + site and 2035 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours.
- There are no operational issues expected for Harris Road i.e. delay is acceptable and there is no vehicle queuing.

Airport Way (E/W) and Phase 3 and 4 West Access (N/S)

- Under 2024 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning peak hour and LOS B (Very Good) during the afternoon peak hour.
- Under 2035 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning peak hour and LOS C (Good) during the afternoon peak hour.
- Both the north and south approaches are experiencing some delay and some vehicle queuing.
- There are no operational issues expected for Airport Way i.e. delay is acceptable and there is no vehicle queuing.

Airport Way (E/W) and Phase 3 and 4 East Access (N/S)

- Under 2024 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning peak hour and LOS B (Very Good) during the afternoon peak hour.
- Under 2035 base + site conditions, this access point is expected to operate at an overall LOS A (Excellent) during the weekday morning peak hour and LOS B (Very Good) during the afternoon peak hour.
- Both the north and south approaches are experiencing some delay and some vehicle queuing.
- There are no operational issues expected for Airport Way i.e. delay is acceptable and there is no vehicle queuing.

Airport Way (E/W) and Sutton Development/Park Amenity Access (N/S)

- Under 2024 base + site conditions, this unsignalized intersection is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours.
- Under 2035 base + site conditions, this unsignalized intersection is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours.
- Both the north and south approaches are experiencing some delay.
- There are no operational issues expected for Airport Way i.e. delay is acceptable and there is no vehicle queuing.

Airport Way (E/W) and Baynes Road (N/S)

- Under 2024 base + site conditions, this unsignalized intersection is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours. All movements are under capacity.
- Under 2035 base + site conditions, this unsignalized intersection is expected to operate at an overall LOS A (Excellent) during the weekday morning and afternoon peak hours. All movements are under capacity.
- There are no operational issues expected for Airport Way i.e. delay is acceptable and there is no vehicle queuing.

Airport Way (E/W) and Bonson Road (N/S) Signalized

- Signalization of the intersection gives LOS B (Very Good) for the 2024 base weekday morning peak hour and the 2024 base and 2024 base + site weekday afternoon peak hours. The 2024 base + site, 2035 base and 2035 base + site weekday morning peak hours and the 2035 base and 2035 base + site weekday afternoon peak hours are LOS C (Good). The eastbound through and right turn and the westbound through and right turn are approaching capacity for the 2035 base + site weekday morning and afternoon scenarios.

Airport Way (E/W) and Harris Road (N/S) Signalized

- Signalization of the intersection gives LOS B (Very Good) for the 2024 base, 2024 base + site, 2035 base and 2035 base + site weekday morning peak hours and the 2024 base afternoon peak hour. The level of service for the 2024 base + site, 2035 base and 2035 base + site weekday afternoon peak hours, is LOS C (Good). The eastbound left turn and southbound left turn are approaching capacity for the 2035 base + site weekday afternoon peak hours and the southbound left turn 95th percentile queue exceeds 100 meters.

Airport Way (E/W) and Golden Ears Way Roundabout

- A table for this capacity analysis was not presented given the inputs were largely assumed. Based on the inputs stated in *Section 7.1*, the intersection fails in 2024.

General

The capacity analysis for all intersections along Airport Way and Harris Road gives excellent results in terms of delay i.e. no delay, and queuing i.e. no queuing, no further analysis was undertaken i.e. left turn warrant.

In support of the preceding statement, CTS checked left turn gap availability for scenarios where the opposing traffic volume was 500 vehicles per hour and 1,000 vehicles per hour. For the 500 vehicles per hour opposing volume scenario it was determined that there could be up to 200 left turn gaps available within which to turn. For the 1,000 vehicles per hour opposing volume scenario it was determined that there could be up to 120 left turn gaps available within which to turn. For none of the scenarios analyzed, were there left turn volumes close to the left turn gap availability thresholds identified.

9.0 ANALYSIS BY OTHERS

Throughout this report CTS has referenced a study undertaken by McElhanney specifically, their *South Bonson Traffic Study Final Report 2016* which assessed impacts of future developments on road network performance, intersection control and pedestrian safety/accessibility. In particular the future planned development of Golden Ears Business Park (GEBP) and other residential/industrial land uses along Airport Way were considered. McElhanney's report assumed GEBP - Phase 3 and Phase 4 would be improved with approximately 1,867,700 ft^2 of GFA This assumption was based on a plan previously provided by Onni which anticipated GEBP - Phase 3 and Phase 4 would be improved with eight industrial buildings.

Also, within the report McElhanney references background traffic data from 2016, vehicle trip generation data from the ITE *Trip Generation Manual 9th Edition* and assumes gross floor areas and horizon years at build-out for GEBP – Phase 3 and Phase 4 based on the best available information at the time.

Onni's current development application proposes 1,241,901 ft^2 of GFA based on four industrial buildings with build-out in 2024. For the 2035 build-out scenario this report assumes no additional development.

Note that constructing additional GFA beyond the current application would require a future development permit application and approval by Council.

The report by CTS updates much of the analysis undertaken by McElhanney by referencing more recent background traffic data from 2017 and the *ITE Trip Generation Manual 10th Edition* and applying the most recent site plan gross floor areas and time line for build-out of GEBP – Phase 3 and Phase 4. For example, **TABLE 11** compares the vehicle trip generation for GEBP – Phase 3 and Phase 4 for 2021, 2024 and 2031.

TABLE 11
GEBP – PHASE 3 AND PHASE 4 TRIP GENERATION

FIRM	GEBP	GFA	Year of Build-out		
			Total Vehicle Trips		
			2021	2024	2031
McElhanney	Phase 3 (50%)	443,000 ft2	306		
	Phase 4 (50%)	491,000 ft2	332		
	Phase 3 (100%)	886,000 ft2			529
	Phase 4 (100%)	981,000 ft2			573
CTS	Phase 3 (100%)	493,371 ft2		199	199
	Phase 4 (100%)	748,530 ft2		300	300

The GEBP – Phase 3 and Phase 4 50% build-out vehicle trip generation in 2021 by McElhanney is 638 vehicles. The GEBP – Phase 3 and Phase 4 100% build-out vehicle trip generation in 2024 by CTS is 499 vehicles. The CTS GEBP – Phase 3 and Phase 4 100% build-out vehicle trip generation number is 21.8% less than the McElhanney GEBP – Phase 3 and Phase 4 50% build-out vehicle trip generation number. The difference between the two vehicle trip generation numbers is primarily the result of application of the new trip generation rate for an industrial park i.e. 0.4 trips per 1,000 ft^2 of GFA.

Note that given the CTS 100% build-out vehicle trip generation by GEBP – Phase 3 and Phase 4 in 2024 is less than the McElhanney 50% vehicle trip generation by GEBP – Phase 3 and Phase 4 in 2021, presumes that all agreed upon road improvements could be delayed until as late as 2024.

Further, CTS understands Onni and the City of Pitt Meadows previously agreed to numerous traffic improvements recommended by McElhanney in their 2016 report including:

- Four laning of Airport Way between Baynes Road and Golden Ears Way;
- Signalization of Airport Way and Bonson Road;
- Signalization of Airport Way and Harris Road; and
- Numerous improvements for pedestrians and cyclists i.e. sidewalks and multi-user pathways, bike lanes, pedestrian crossings and bus shelters.

Despite the reduction in density between Onni's current application and what was considered in 2016, CTS understands the traffic improvements previously agreed to between Onni and the City will be constructed. Per the agreement between Onni and the City of Pitt Meadows, the traffic improvements will be constructed when the City confirms that 50% of build-out of both phases has been completed as previously agreed to. As a result, the traffic improvements need to be completed prior to the proposed building on Phase 4 being completed. However the timing of the traffic improvements may be altered based on the findings of this report as agreed to by the City and Onni.

10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1 Conclusions

CTS assessed the site/access plan for GEBP – Phase 3 and Phase 4 and proposed park amenity with reference to the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads 2017*. Design criteria included:

- Adjacent road network classification and function;
- Site layout and function;
- Driveway design;
- Driveway frequency;
- Adjacent driveway spacing;
- Opposite driveway spacing;
- Corner clearance; and
- Sight lines.

Based on the preceding assessments, all design criteria were exceeded.

CTS undertook capacity analysis for the purpose of confirming the operation of Airport Way and Harris Road with GEBP – Phase 3 and Phase 4 site traffic for 2024 and 2035. An Airport Way four lane cross-section was assumed. Based on the analysis, there are no operational issues expected for Airport Way and Harris Road i.e. delay is acceptable and there is no vehicle queuing for all laning scenarios.

CTS also undertook capacity analysis for the intersections of:

- Airport Way and Bonson Road;
- Airport Way and Harris Road;
- Airport Way and Baynes Road;
- Airport Way and Sutton Development/Park Amenity Access; and
- Airport Way and Golden Ears Way.

With GEBP – Phase 3 and Phase 4 site traffic for 2024 and 2035. Based on the analysis, there are no operational issues expected for Airport Way or Harris Road and all of the intersections operate at acceptable levels of service other than the intersection of Airport Way and Golden Ears Way.

Note - The intersection of Airport Way and Harris Road southbound left turn 95th percentile queue exceeds 100 meters for the 2035 base + site scenario and queuing i.e. 108 meters. That said, the most southerly driveway access point on Harris Road north of Airport Way is offset approximately 135 meters north of Airport Way.

CTS also assessed the two driveway access points for the City of Pitt Meadows works yard. The south driveway access point does not meet the minimum corner clearance criterion.

Lastly, CTS provided a summary and comparison of the studies undertaken by McElhanney for the City of Pitt Meadows and by CTS for Onni. The two key difference between the studies were:

- The GFA assumed by CTS in their 2020 study was substantially less than that assumed by McElhanney in their 2016 study; and
- The vehicle trip generation rate per 1,000 ft2 of GFA applied by CTS in their study was approximately half of that applied by McElhanney in their study.

10.2 Recommendations

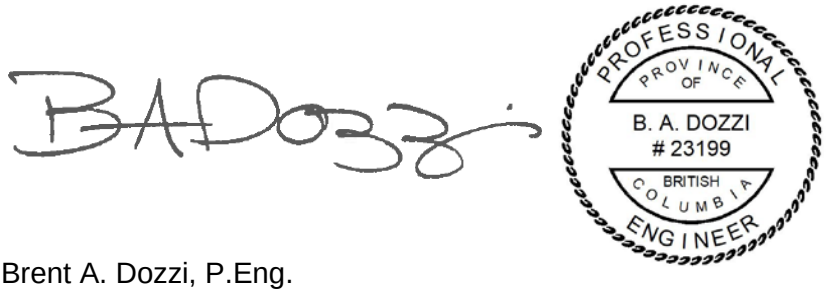
Based on this Golden Ears Business Park access assessment it is recommended that:

1. The City of Pitt Meadows accept the assessment and conclusions as documented by this report.
2. The City of Pitt Meadows accept the Golden Ears Business Park – Phase 3 and Phase 4 site/access plan. That is four all movement access points on Airport Way and four all movement access points on Harris Road.
3. All eight access points be permitted as all movement.
4. A proposed park amenity all movement access on Airport Way opposite the Sutton Development access is recommended and that the intersection be pedestrian signal controlled.
5. Airport Way be widened to four lanes and the intersection of Airport Way and Harris Road be re-constructed with signalization, before build-out of GEBP Phase 3 and Phase 4 in 2024.
6. The capacity analysis 95th percentile queue be considered for the design of all left turn storage lanes for the signalized intersections of Airport Way and Bonson Road and Airport Way and Harris Road.
7. The City of Pitt Meadows consider restricting the turning movements at the south driveway access point to their works yard, to right-in/right-out only.

Please call the undersigned should there be questions and/or comments pertaining to this FINAL Traffic Study.

Yours truly,

CREATIVE TRANSPORTATION SOLUTIONS LTD.

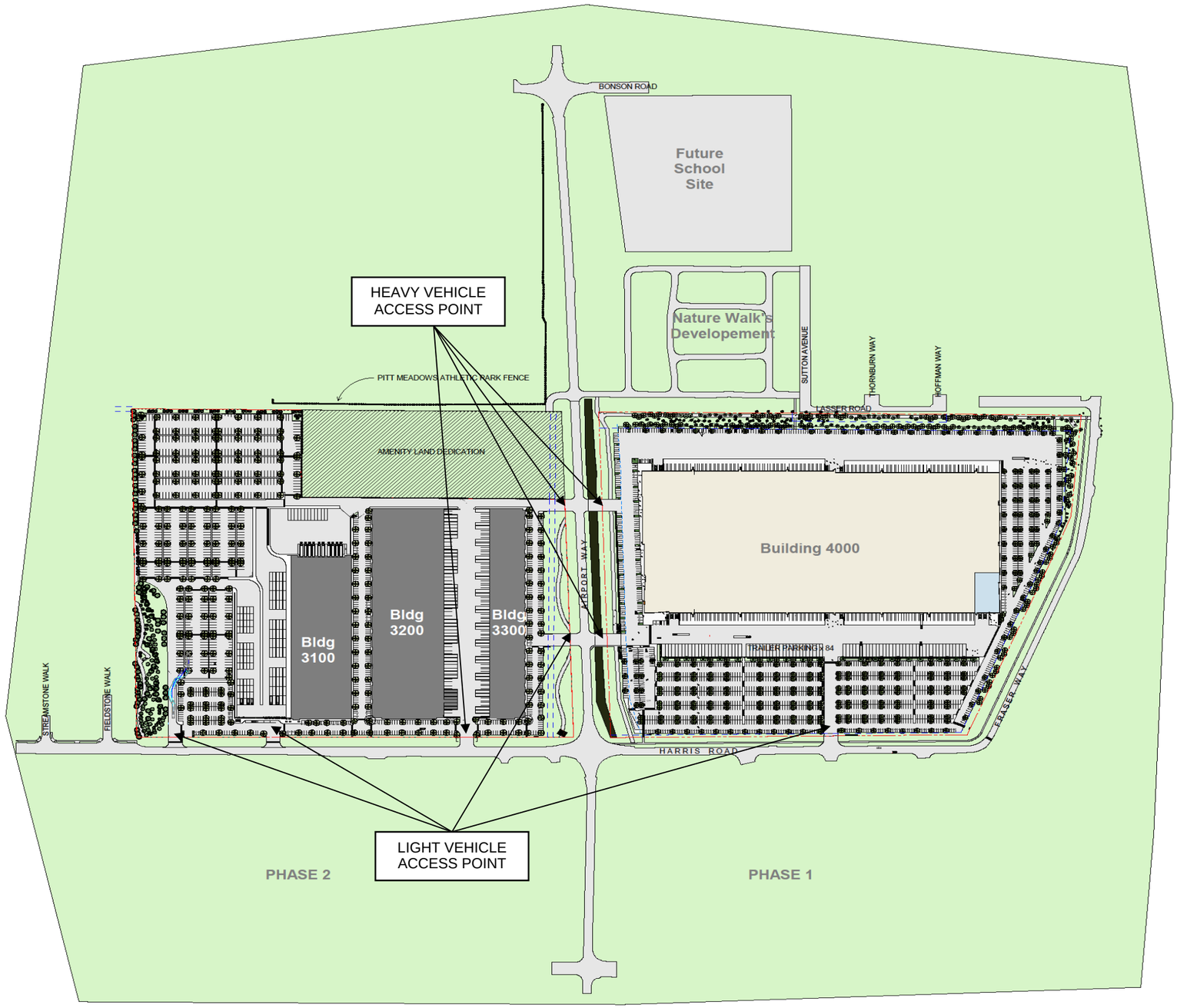


Brent A. Dozzi, P.Eng.
Project Manager

Phone: (604) 936-6190 x237
Email: bdozzi@cts-bc.com

APPENDICES

APPENDIX A
Phase 3 and Phase 4 Site/Access Plan



1 **Context Plan -PH3 4**
1" = 160'-0"

TKA+D
ARCHITECTURE + DESIGN INC
GEBP - PH4 - Build to Suit
11208 Harris Road,
Pitt Meadows

Site Plan - PH3-4

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Appendix B
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APPENDIX B
City of Pitt Meadows Truck Route Network

Appendix C
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APPENDIX C
Swept Path Analysis

APPENDIX D
Airport Way and Harris Road
Preliminary Design

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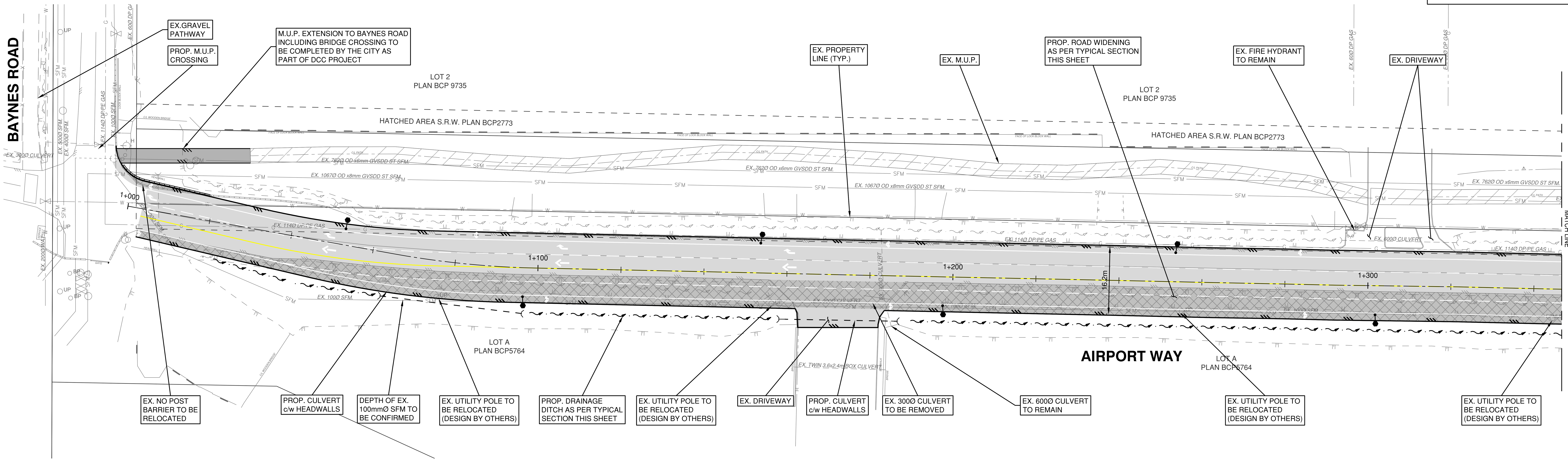
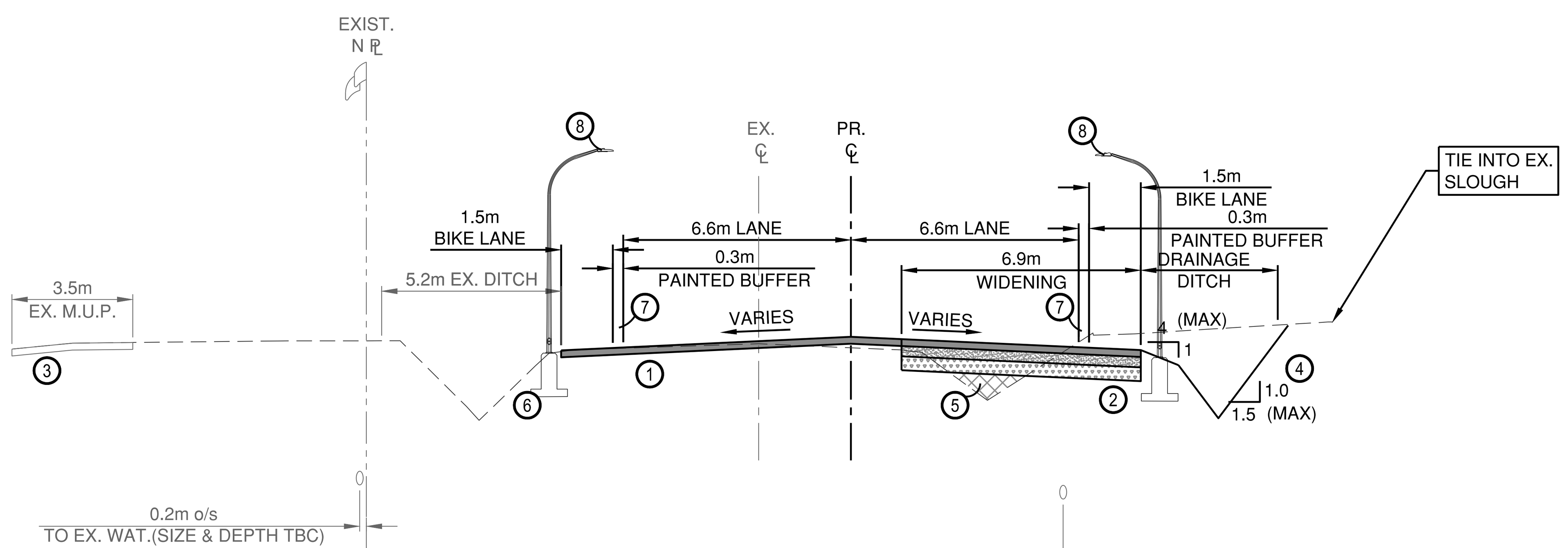
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429





TYPICAL SECTION - AIRPORT WAY
(STN. 1+000 - 1+745)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. EX. MULTI-USE PATHWAY
4. DRAINAGE DITCH (DIMENSIONS & SIDE SLOPES TO BE CONFIRMED)
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. EX. DITCH TO BE RETAINED
7. PHYSICAL SEPARATION BETWEEN TRAVEL LANE AND BIKE LANE TO BE REVIEWED AND CONFIRMED DURING DETAILED DESIGN
8. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE BASED ON PITT MEADOWS DESIGN CRITERIA [B.5.4]. ADEQUACY TO BE CONFIRMED BY GEOTECHNICAL ENGINEER.

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

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BINNIE.com

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200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
AIRPORT WAY ROADWORKS

SURVEYED BY	
DRAWN BY	KF
DESIGNED BY	VL
CHECKED BY	NP

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DATE 2020-05-07
DRAWING No.
19-1049-R1-1
SHEET 05 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
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LEGEND

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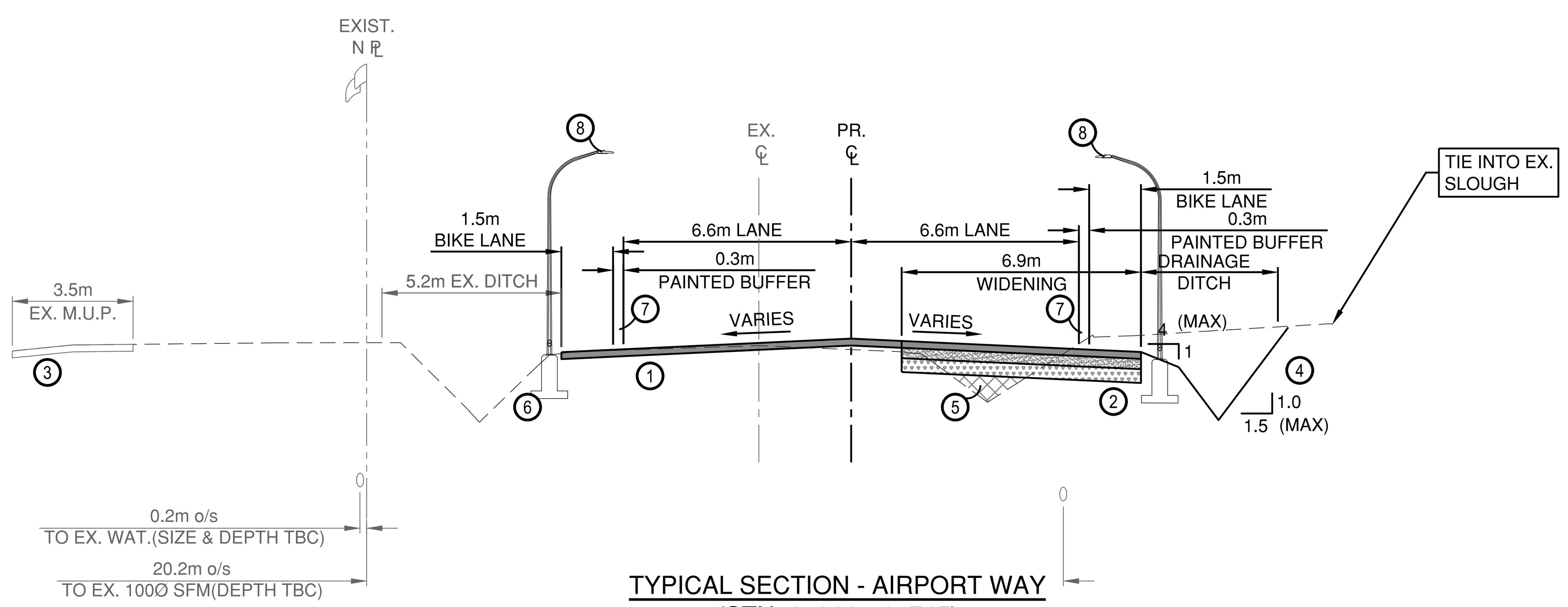

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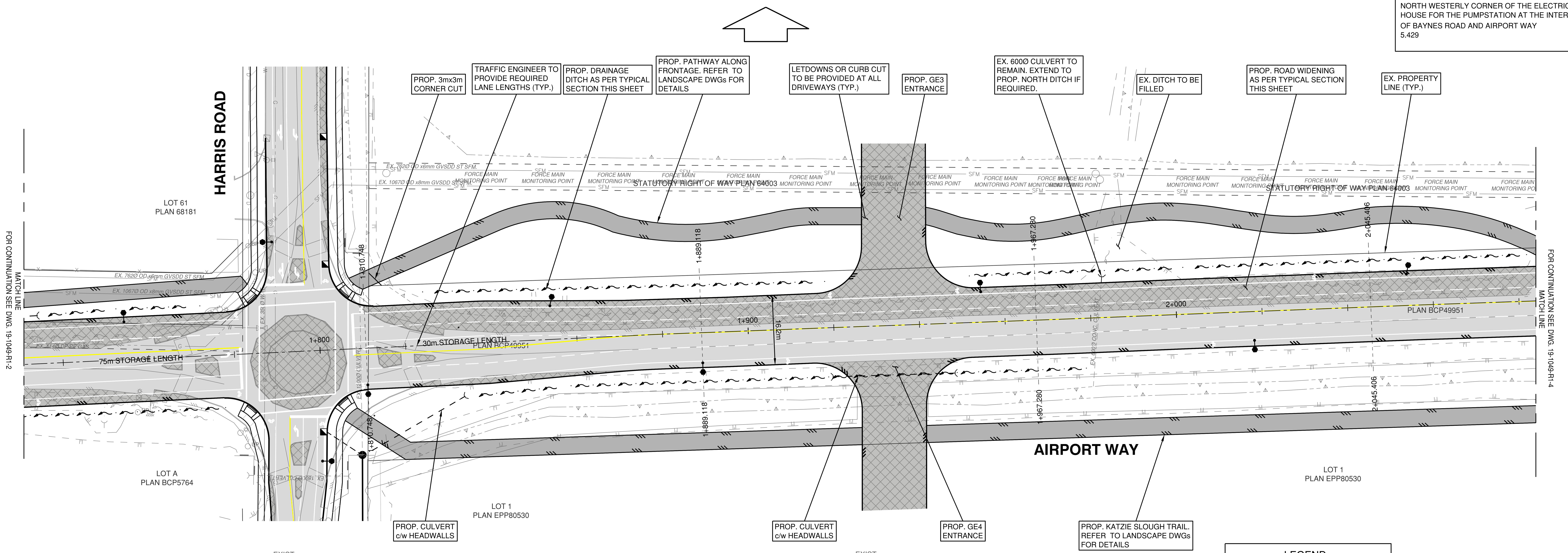

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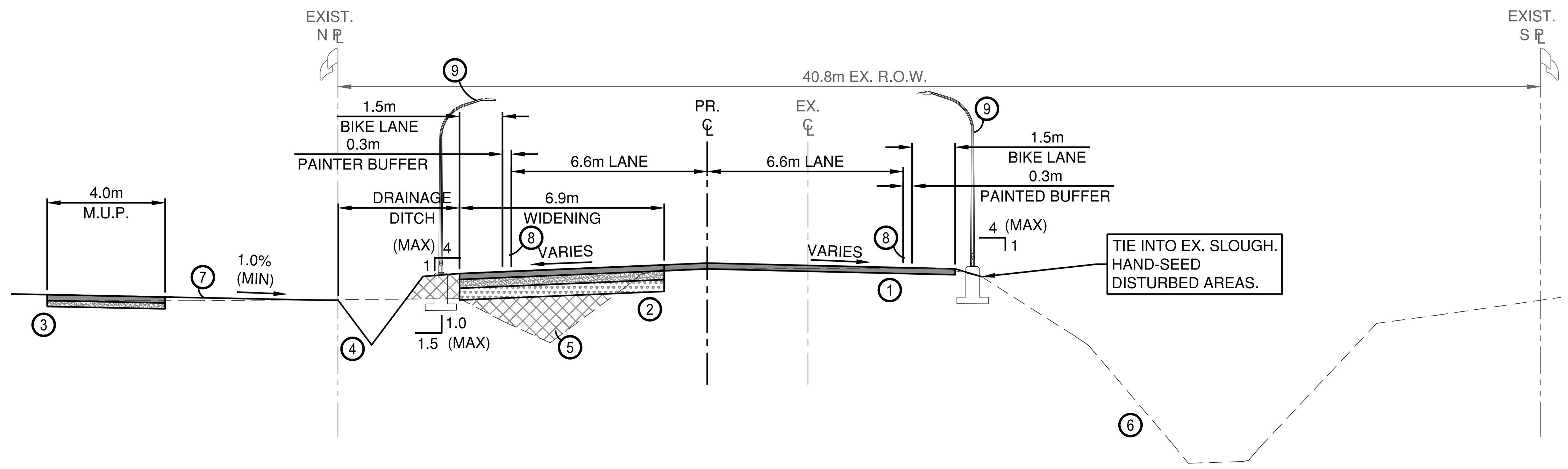

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SCALE: 150H
75V

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DESTROY ALL PRINTS BEARING PREVIOUS No.

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

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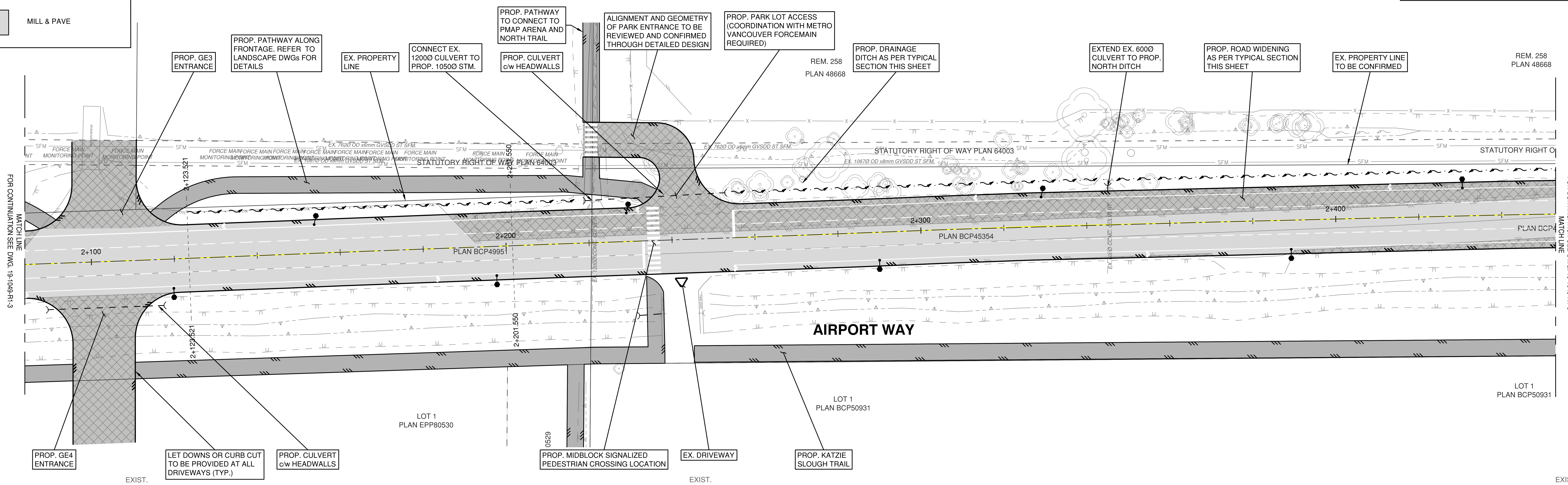
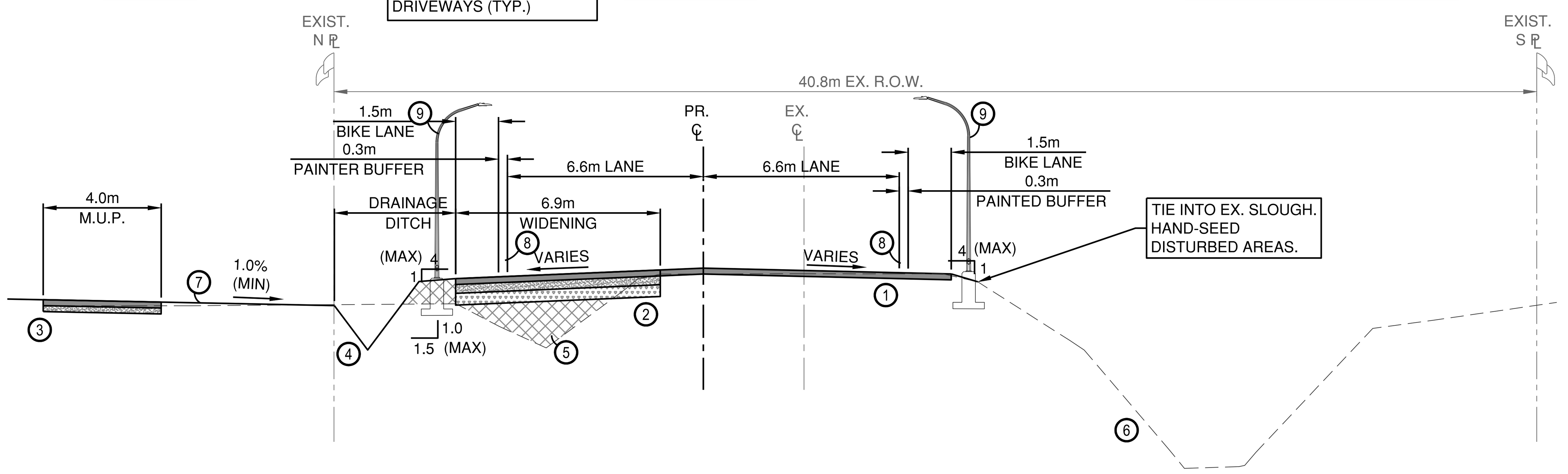
5.429





TYPICAL SECTION - AIRPORT WAY
(STN. 1+745 - 2+320)

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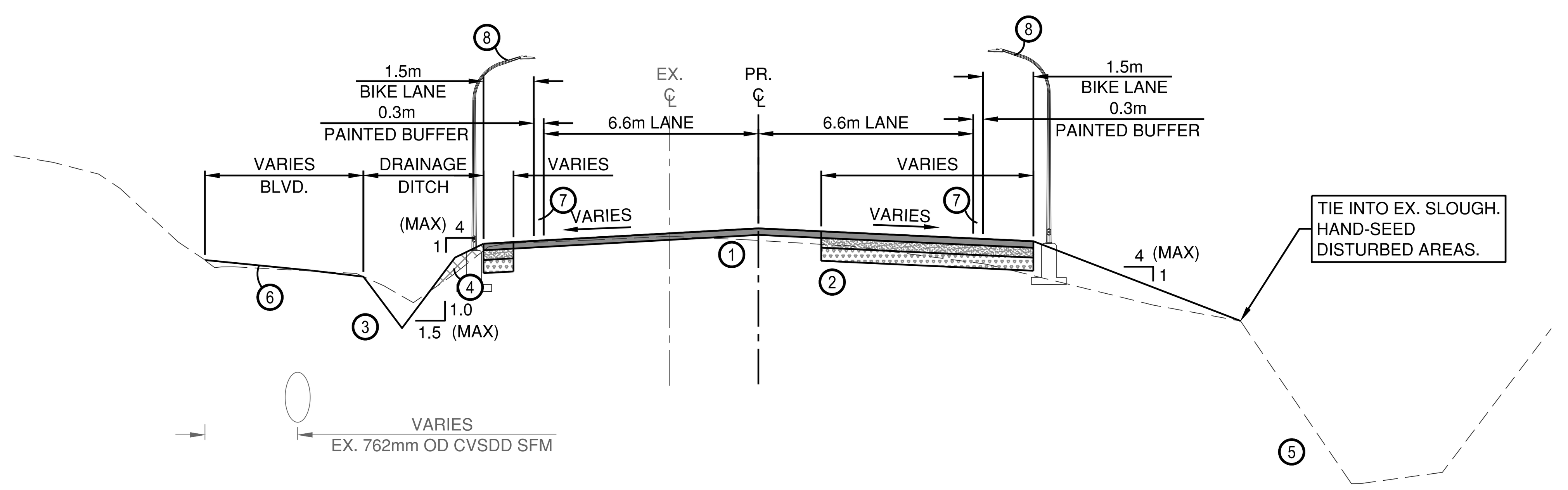

TYPICAL SECTION - AIRPORT WAY
(STN. 2+320 - 2+580)

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CHECKED BY	NP

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DATE 2020-05-07
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19-1049-R1-4
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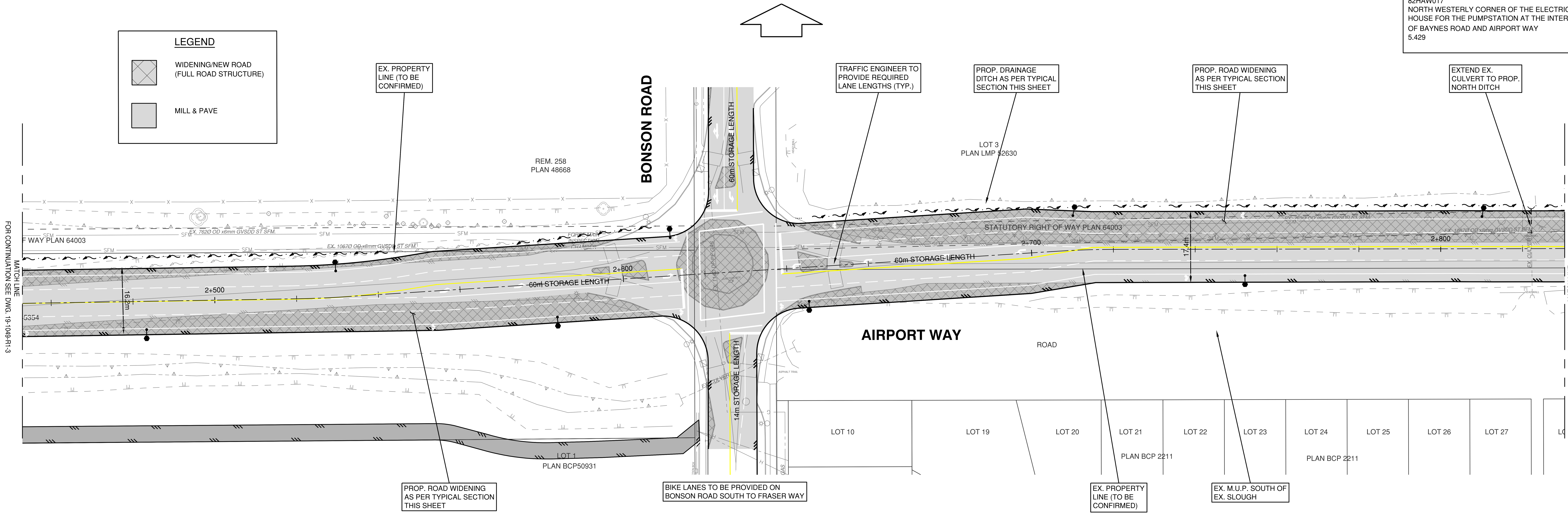
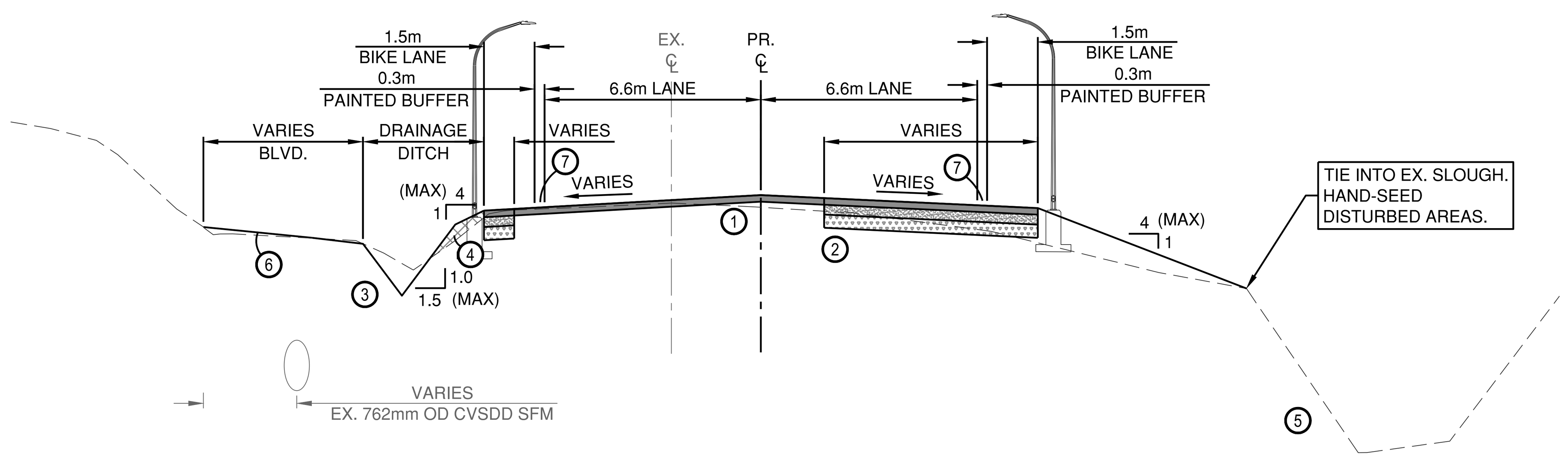
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE





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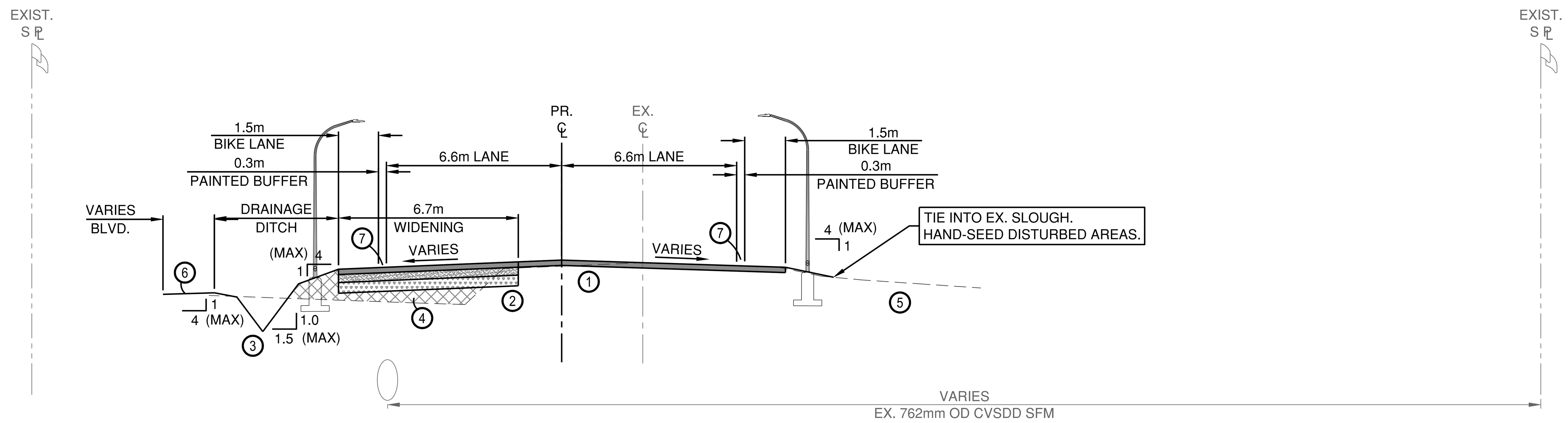

TYPICAL SECTION - AIRPORT WAY
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AIRPORT WAY ROADWORKS

SURVEYED BY	
DRAWN BY	KF
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SCALES: 0 — 1:500 — 20m

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SHEET 09 OF 13
REV.

DESTROY ALL PRINTS BEARING PREVIOUS No.

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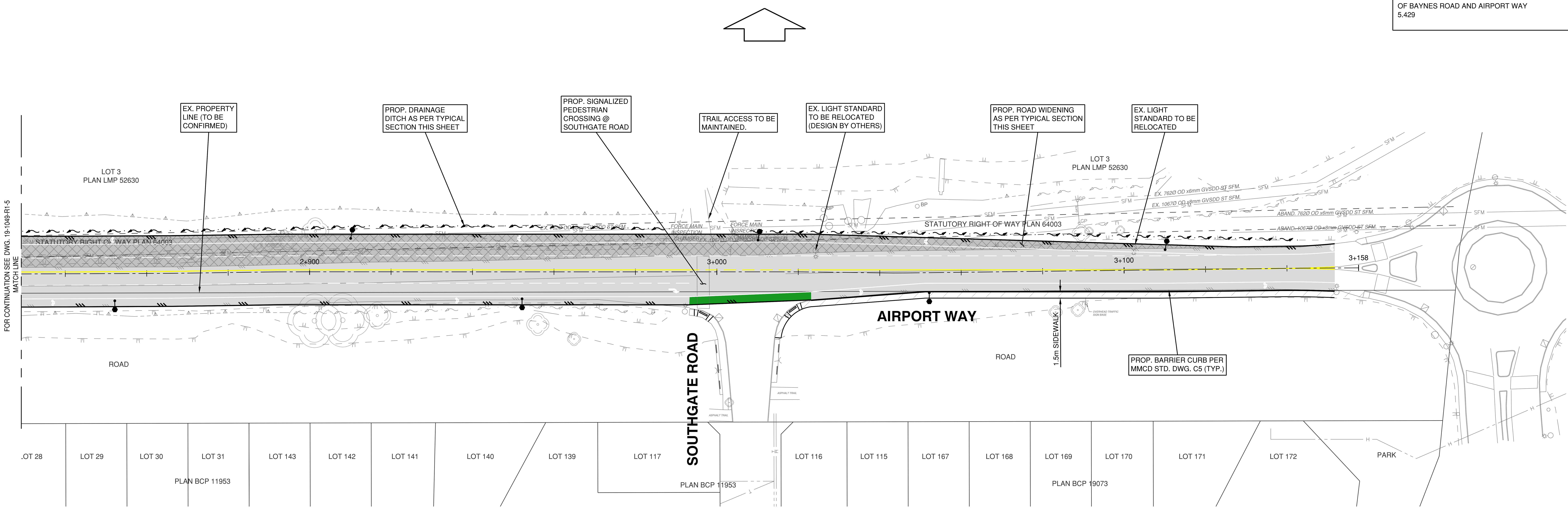
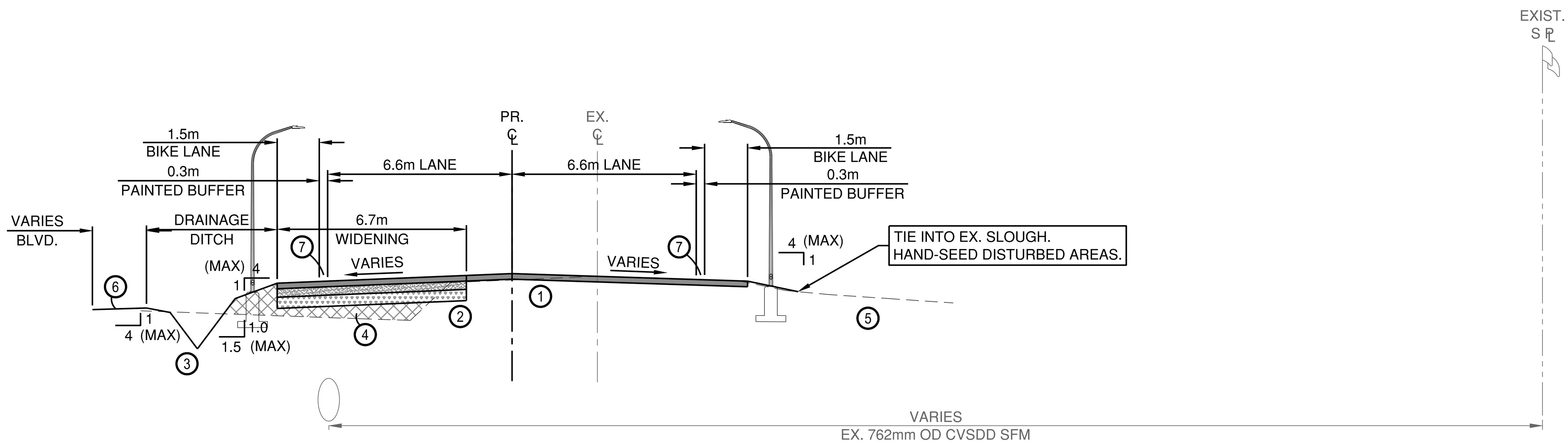


LEGEND

[cross-hatched]	WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
[grey]	MILL & PAVE



TYPICAL SECTION - AIRPORT WAY
(STN. 2+675 - 3+140)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. DRAINAGE DITCH (DIMENSIONS & SIDE SLOPES TO BE CONFIRMED)
4. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
5. EX. DITCH TO BE RETAINED
6. GRASSED BOULEVARD c/w 450mm TOPSOIL
7. PHYSICAL SEPARATION BETWEEN TRAVEL LANE AND BIKE LANE TO BE REVIEWED AND CONFIRMED DURING DETAILED DESIGN

NOTE: PAVEMENT STRUCTURE BASED ON PITT MEADOWS DESIGN CRITERIA [B.5.4]. ADEQUACY TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

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PRELIMINARY

No.	DATE	REVISION	BY

BINNIE
The people behind your infrastructure.
R.F. BINNIE & ASSOCIATES LTD.
314-9440 202 Street
Langley, BC V1M 4A6
TEL 604 574 3336
BINNIE.com

CLIENT
ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

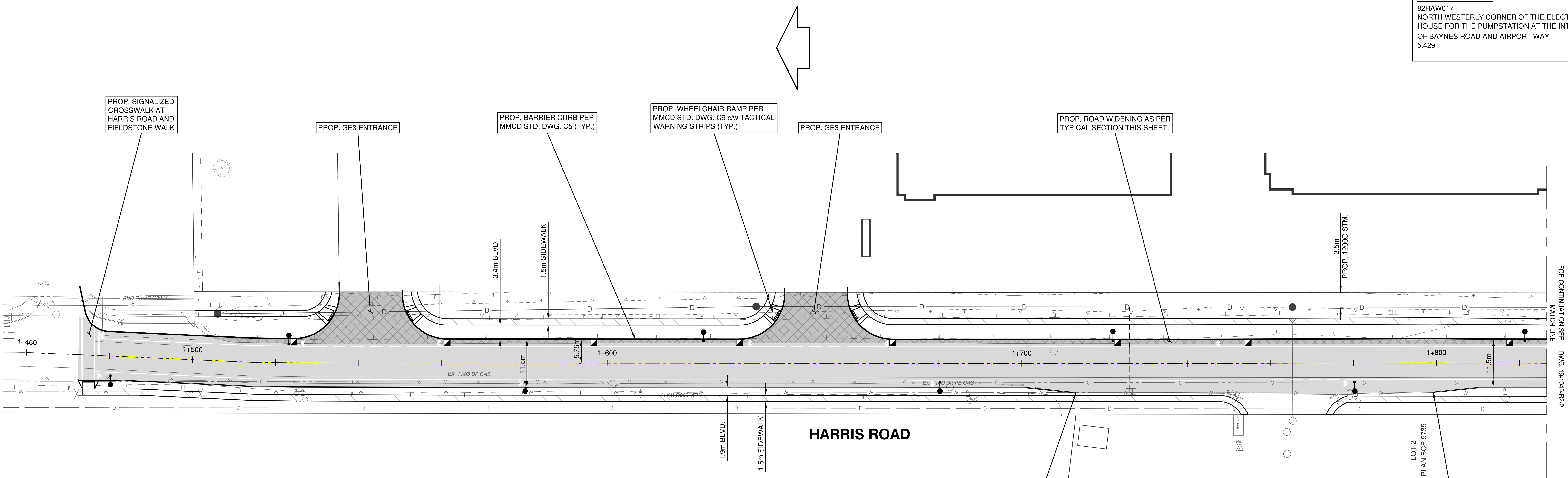
DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
AIRPORT WAY WIDENING

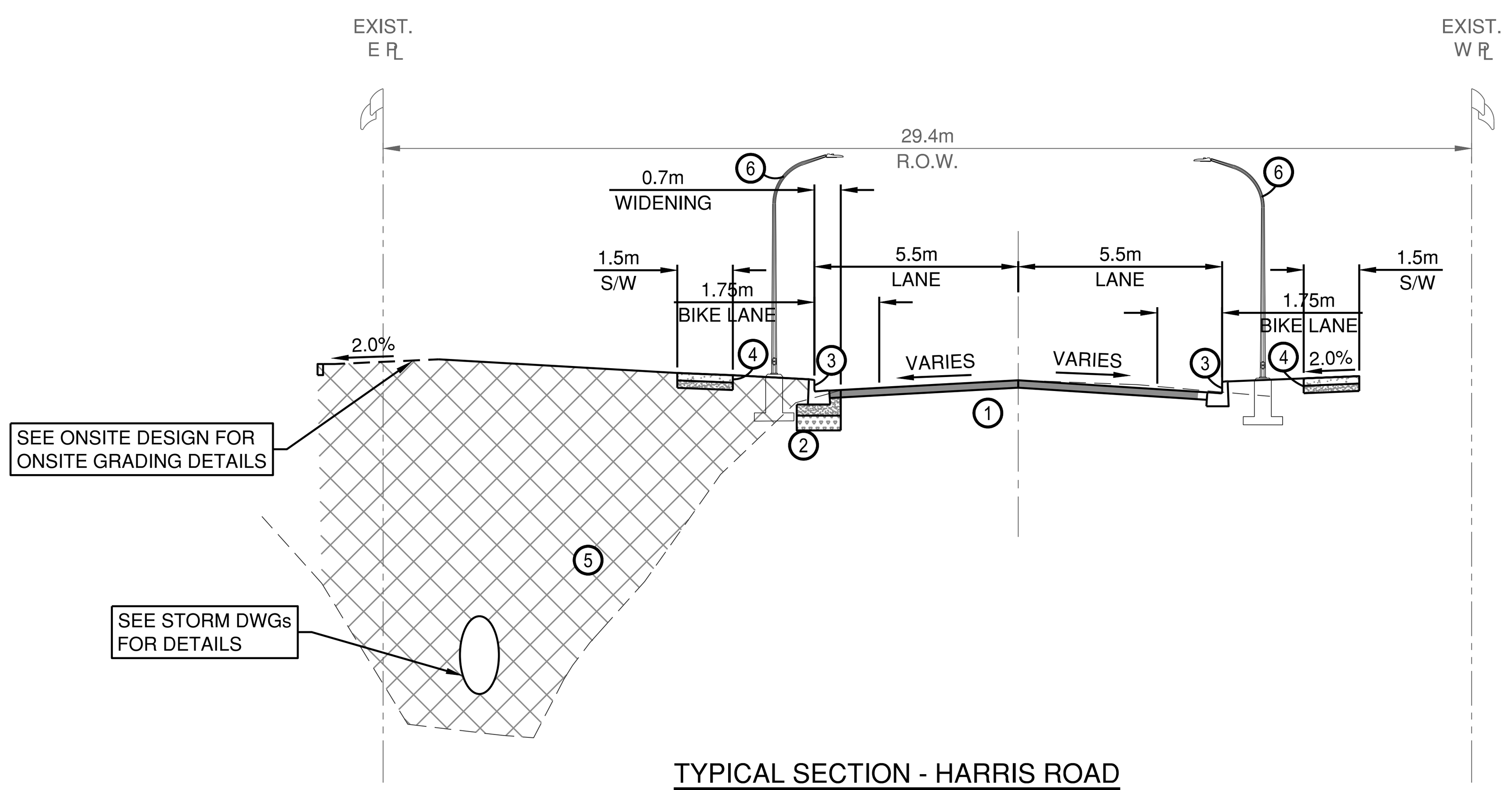
SURVEYED BY
DRAWN BY KF
DESIGNED BY VL
CHECKED BY NP

SCALES
0 1:500 20m

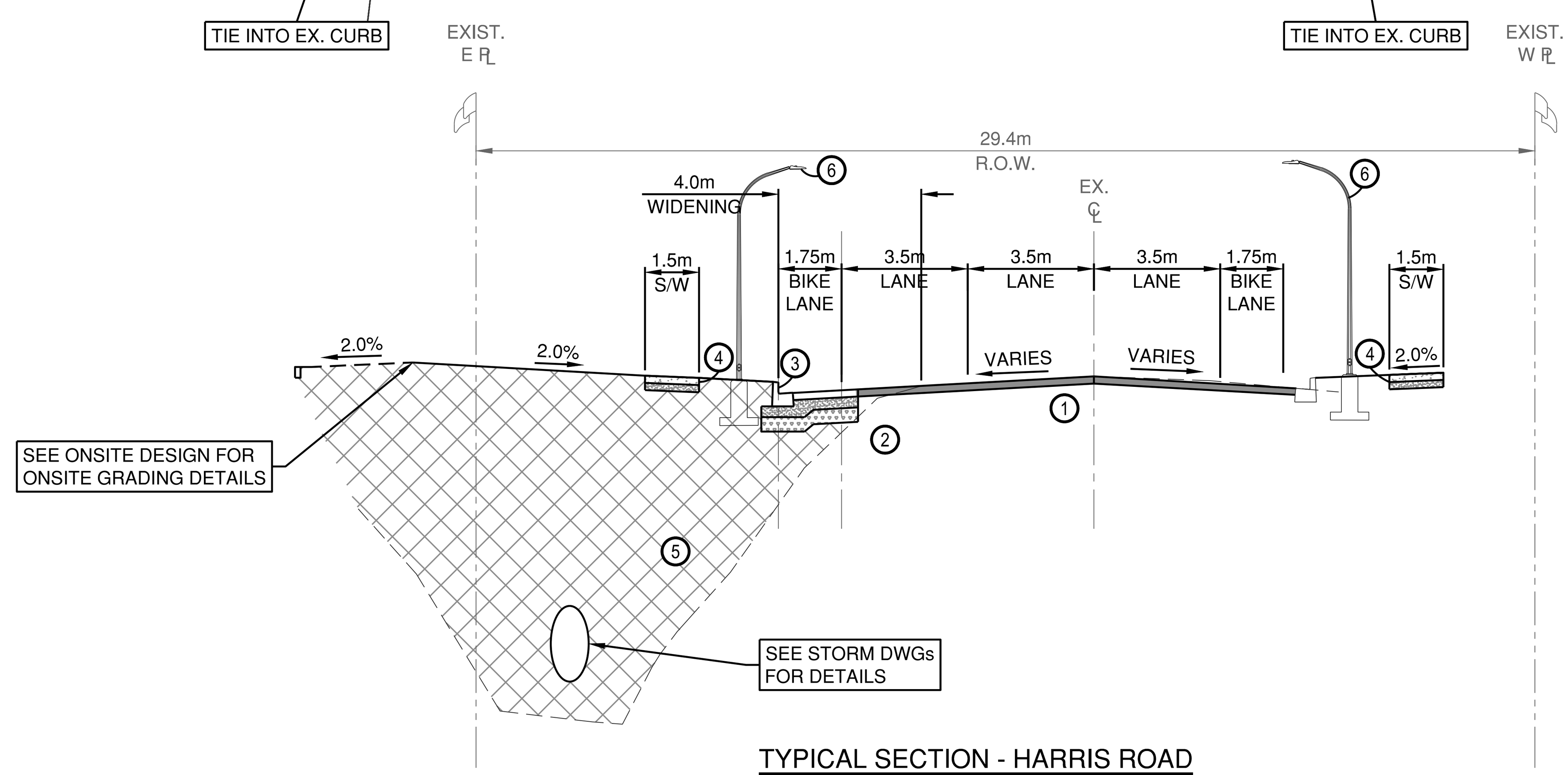
DATE 2020-05-07
DRAWING No.
19-1049-R1-6
SHEET 10 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429





TYPICAL SECTION - HARRIS ROAD
(STN. 1+500 - 1+720)
SCALE: 150H
75V



TYPICAL SECTION - HARRIS ROAD
(STN. 1+720 - 1+935)
SCALE: 150H
75V

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: CROSS SECTION OF HARRIS ROAD NORTH OF AIRPORT WAY IS UNDER REVIEW AND SUBJECT TO CHANGE

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

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PRELIMINARY

No.	DATE	REVISION	BY

BINNIE
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Langley, BC V1M 4A6
TEL 604 574 3336
BINNIE.com

CLIENT
ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
HARRIS ROAD ROADWORKS

SURVEYED BY
DRAWN BY KF
DESIGNED BY VL
CHECKED BY NP

SCALES
H 1:500 (0 – 20m)
V 1:50 (0 – 2m)

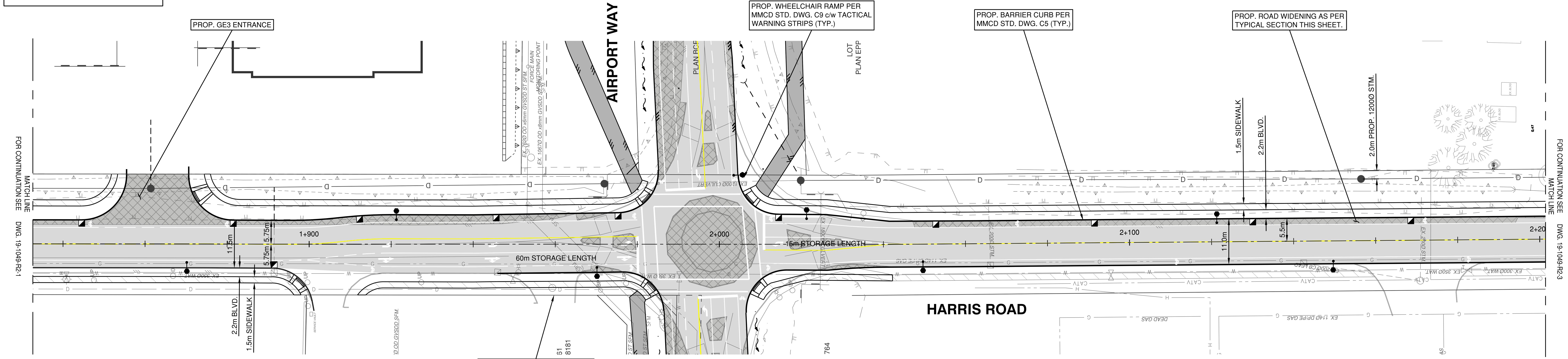
DATE 2020-05-07
DRAWING No.
19-1049-R2-1
SHEET 11 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

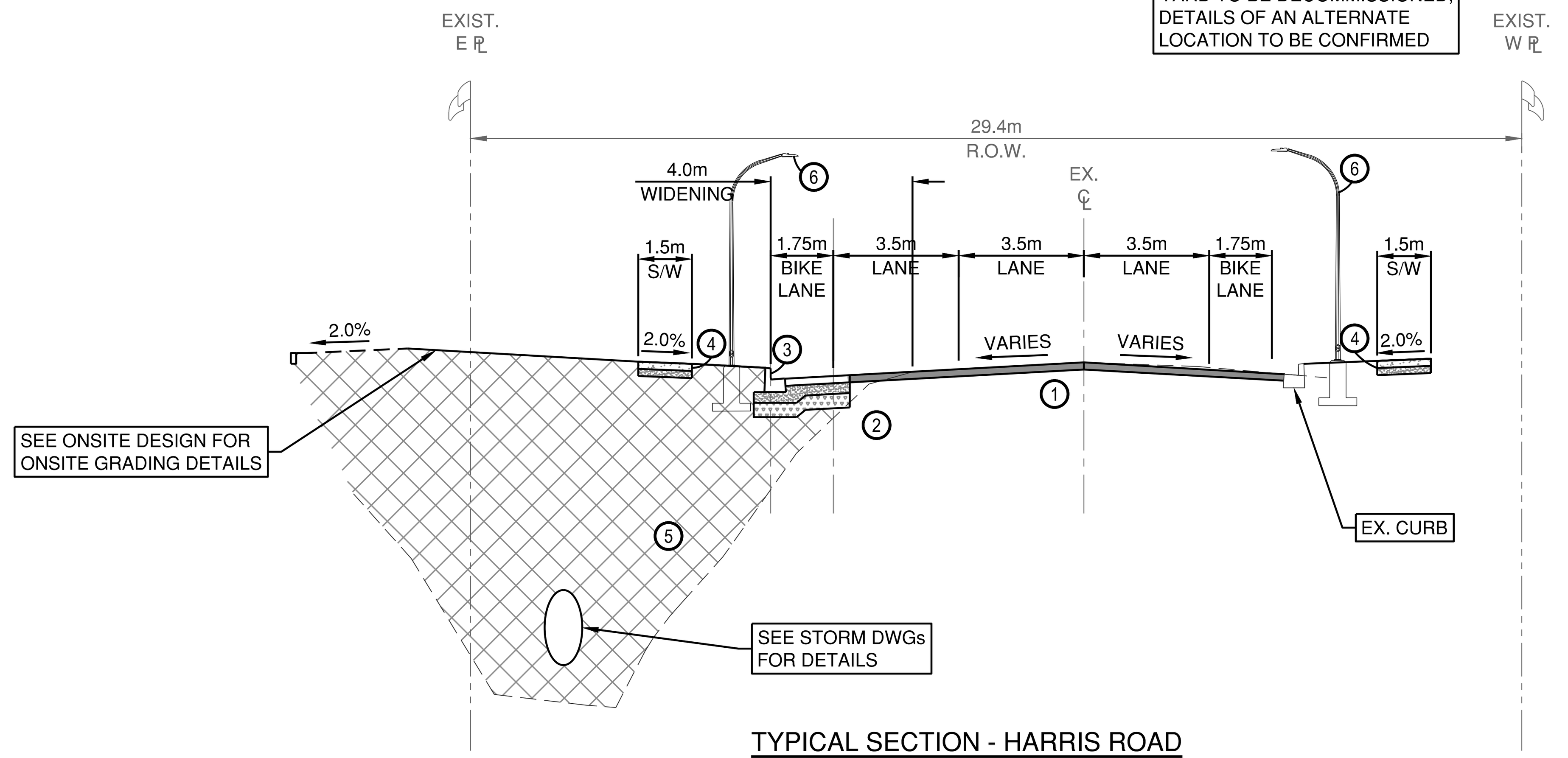
LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

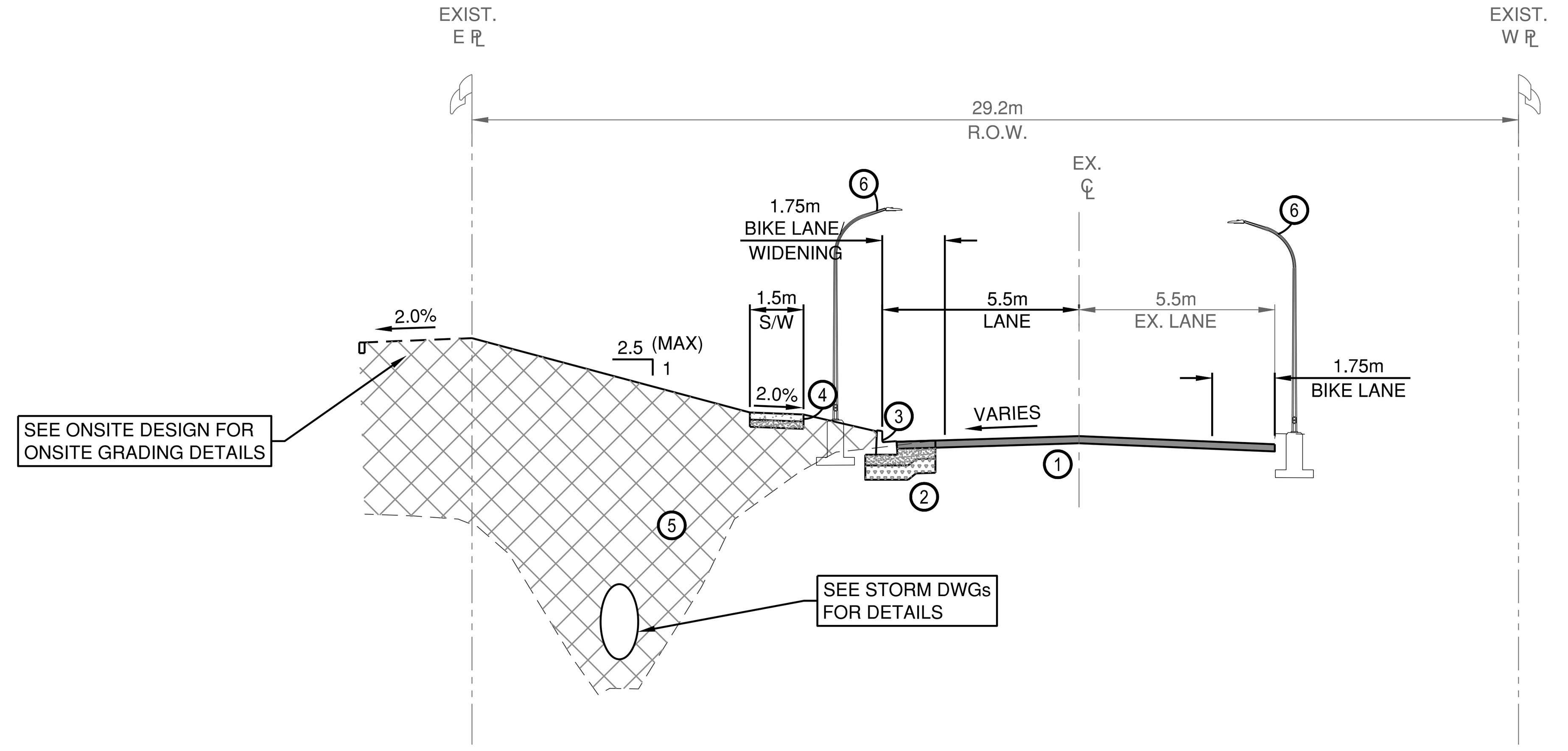
BENCHMARK:

82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429





TYPICAL SECTION - HARRIS ROAD
(STN. 1+720 - 1+935)
SCALE: 150H
75V



TYPICAL SECTION - HARRIS ROAD
(STN. 2+040 - 2+402)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

NOTE: CROSS SECTION OF HARRIS ROAD NORTH OF AIRPORT WAY IS UNDER REVIEW AND SUBJECT TO CHANGE

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PRELIMINARY

No.	DATE	REVISION	BY

BINNIE
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Langley, BC V1M 4A6
TEL 604 574 3336
BINNIE.com

CLIENT: ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

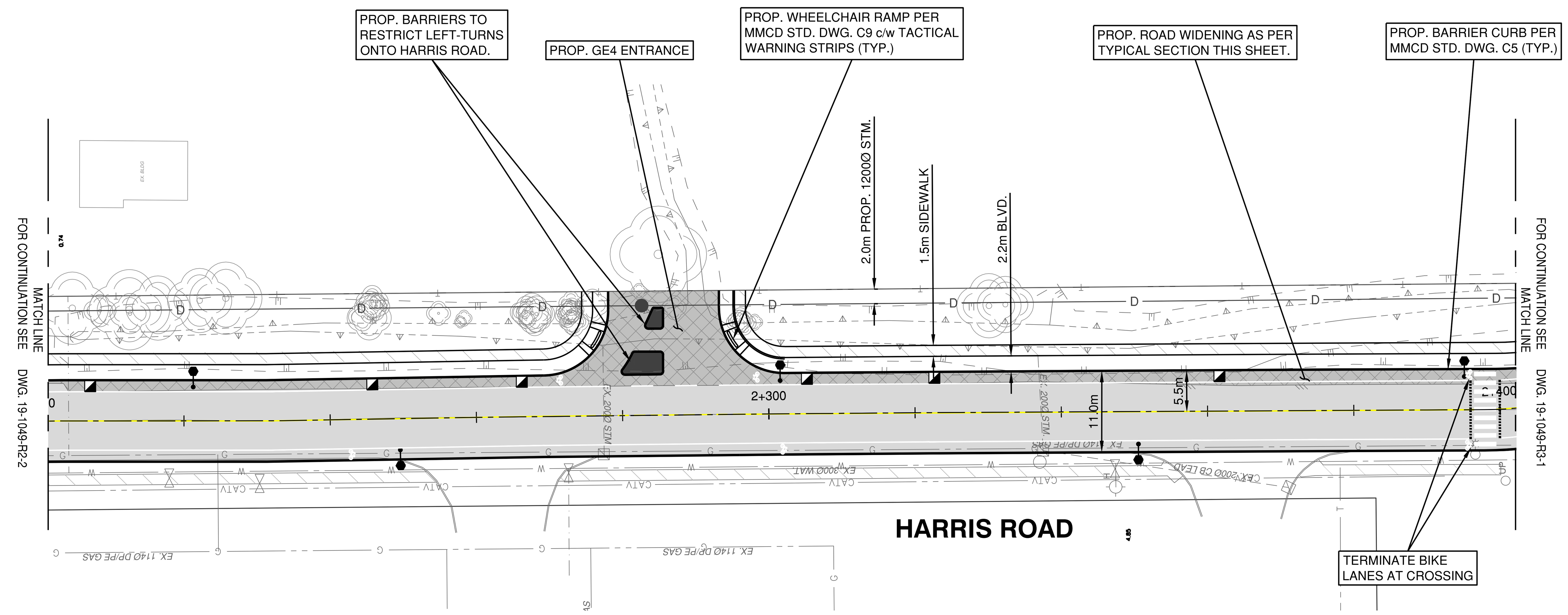
DRAWING DESCRIPTION:
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
HARRIS ROAD ROADWORKS

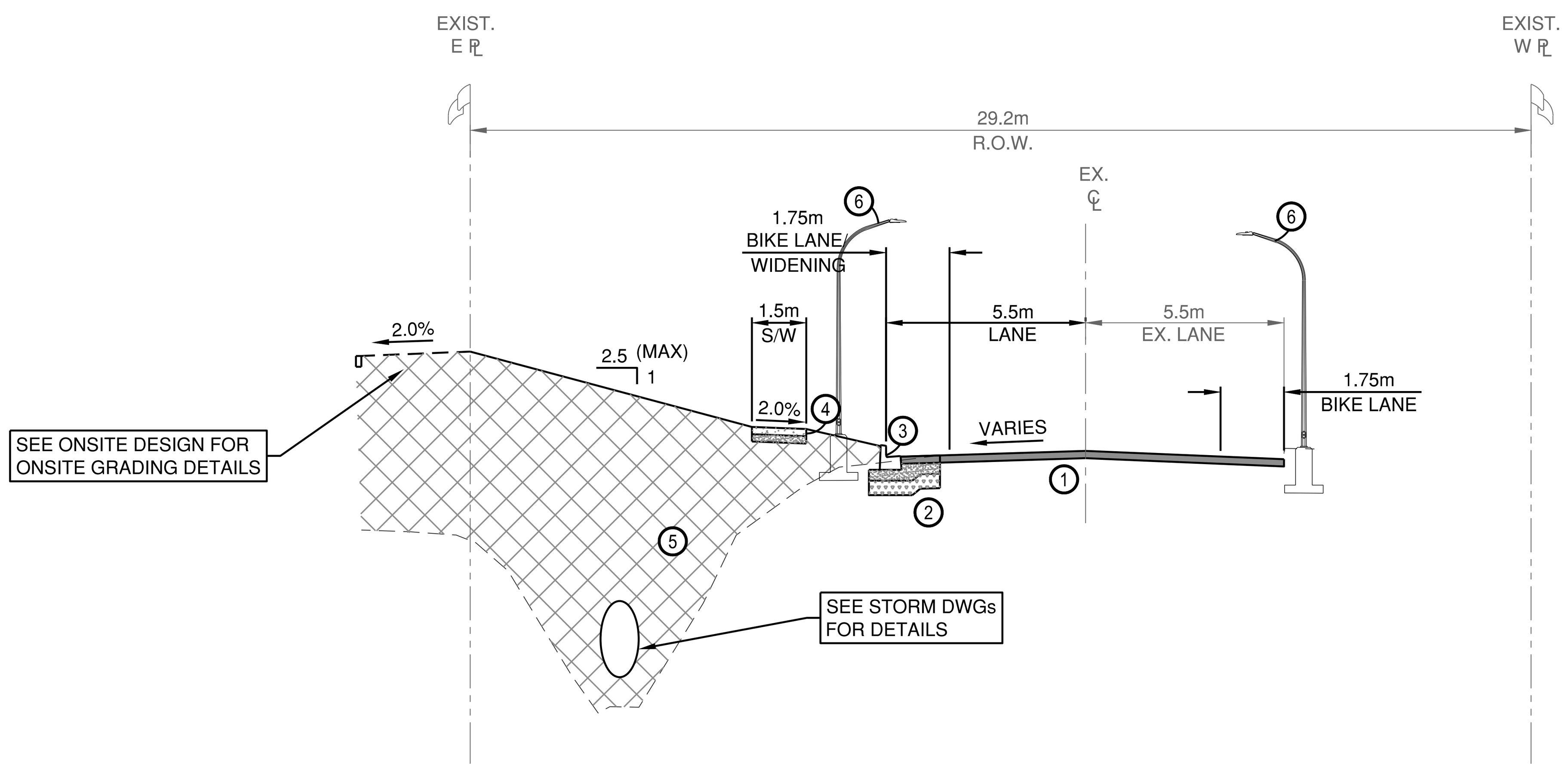
SURVEYED BY
DRAWN BY KF
DESIGNED BY VL
CHECKED BY NP

SCALES
H 1:500 (0–20m)
V 1:50 (0–2m)

DATE 2020-05-07
DRAWING No. 19-1049-R2-2
SHEET 12 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429





TYPICAL SECTION - HARRIS ROAD
(STN. 2+040 - 2+402)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

DRAFT

PRELIMINARY

No.	DATE	REVISION	BY

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Langley, BC V1M 4A6
TEL 604 574 3336
BINNIE.com

CLIENT
ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

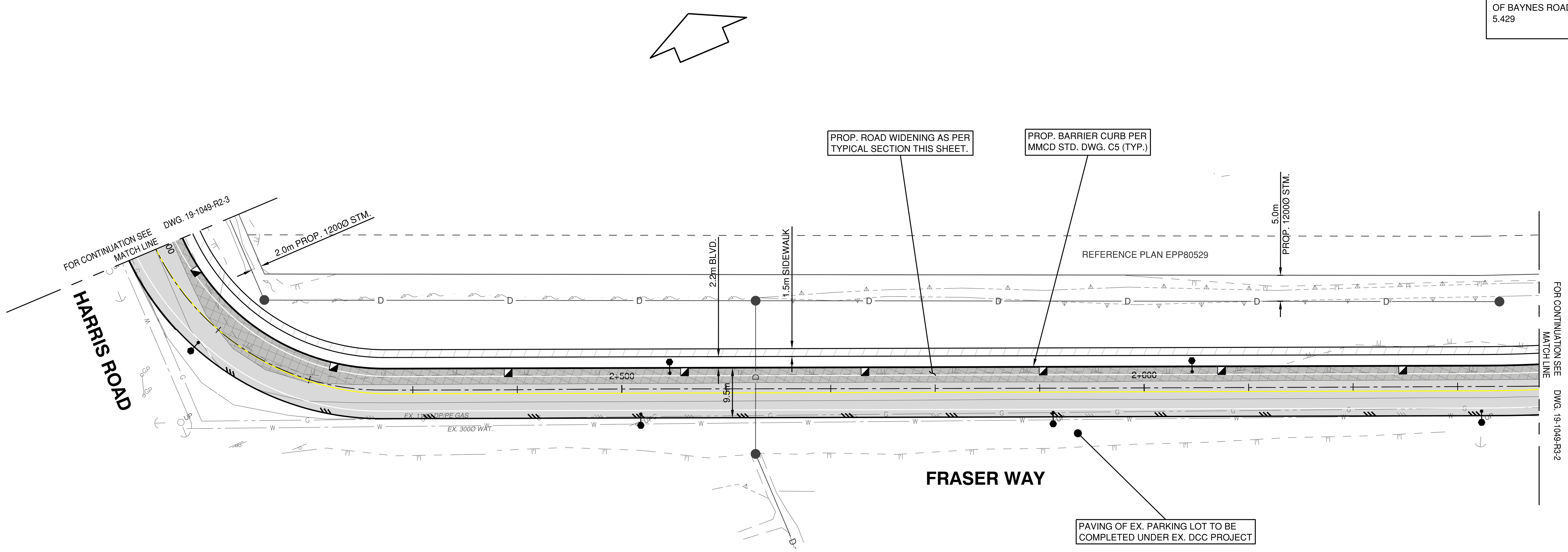
DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
HARRIS ROAD ROADWORKS

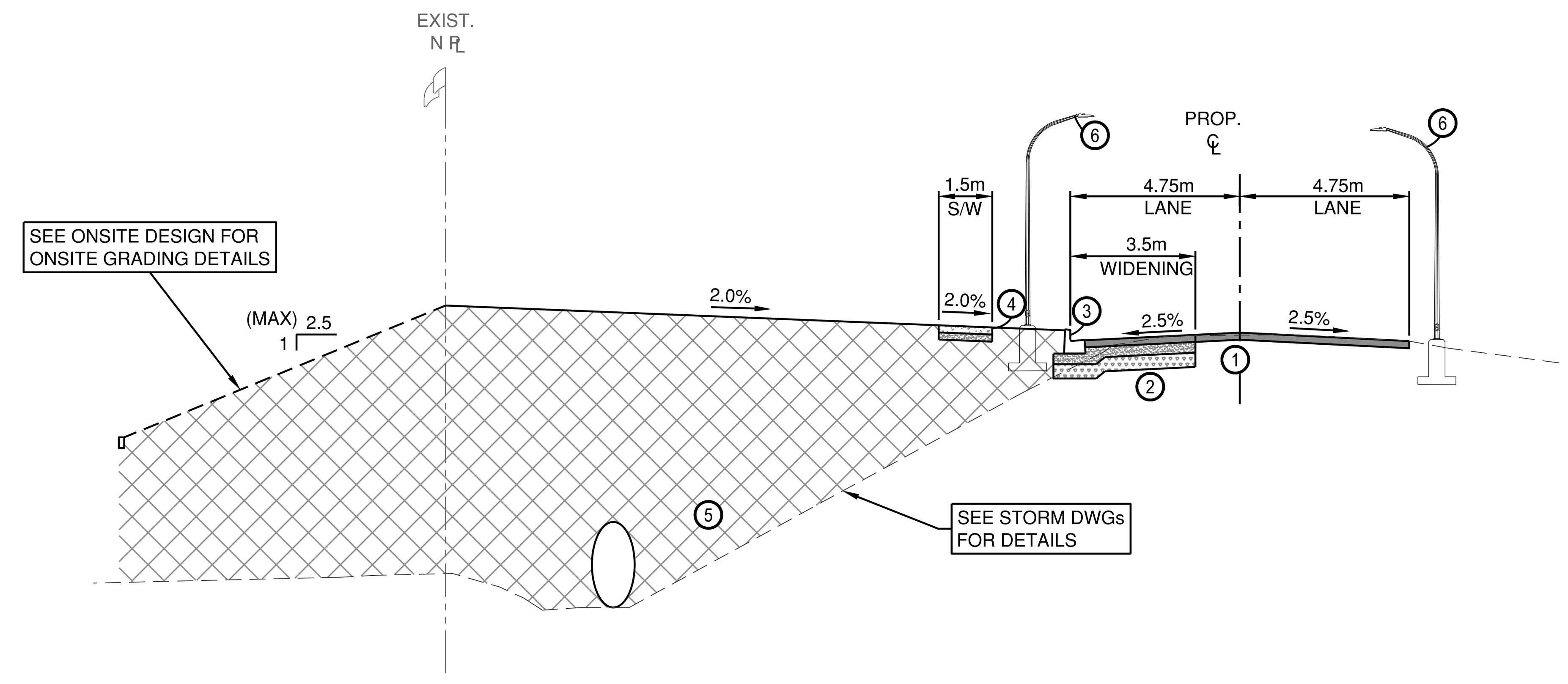
SURVEYED BY
DRAWN BY KF
DESIGNED BY VL
CHECKED BY NP

SCALES
H 1:500 (0 – 20m)
V 1:50 (0 – 2m)

DATE 2020-05-07
DRAWING No. 19-1049-R2-3
SHEET 13 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429





LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

TYPICAL SECTION - FRASER WAY
(STN. 2+040 - 2+722)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

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No.	DATE	REVISION	BY

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TEL 604 574 3336
BINNIE.com

CLIENT
ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
FRASER WAY ROADWORKS

SURVEYED BY
DRAWN BY KF
DESIGNED BY VL
CHECKED BY NP

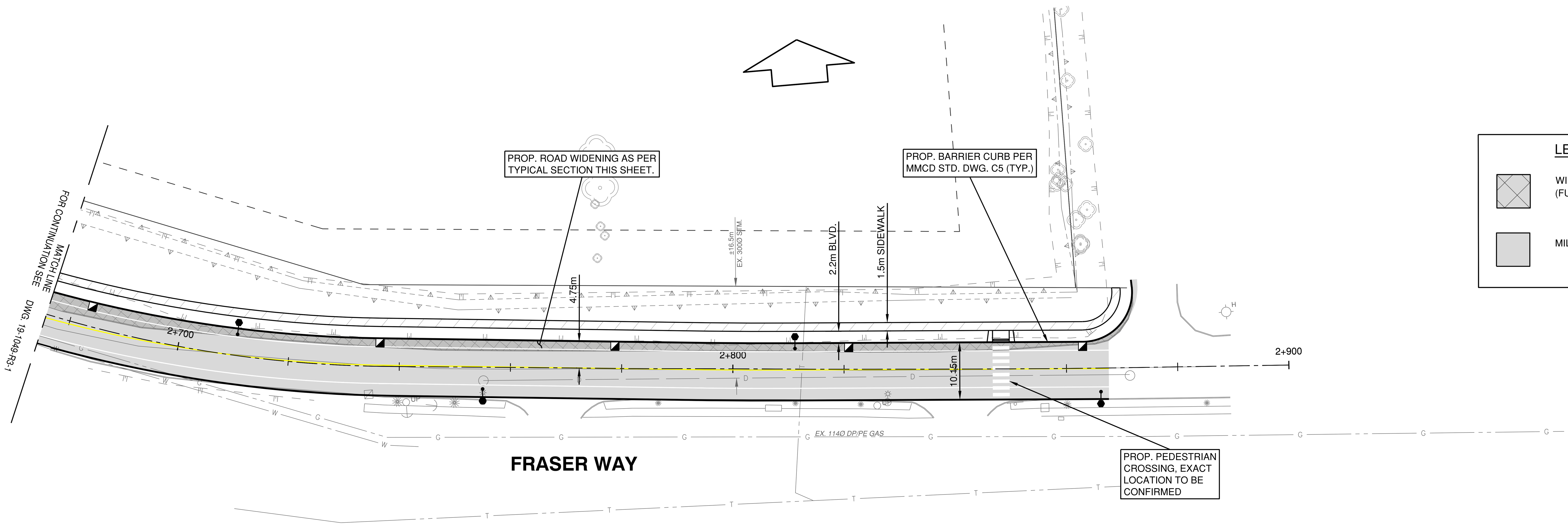
SCALES
H 1:500 (0 – 20m)
V 1:50 (0 – 2m)

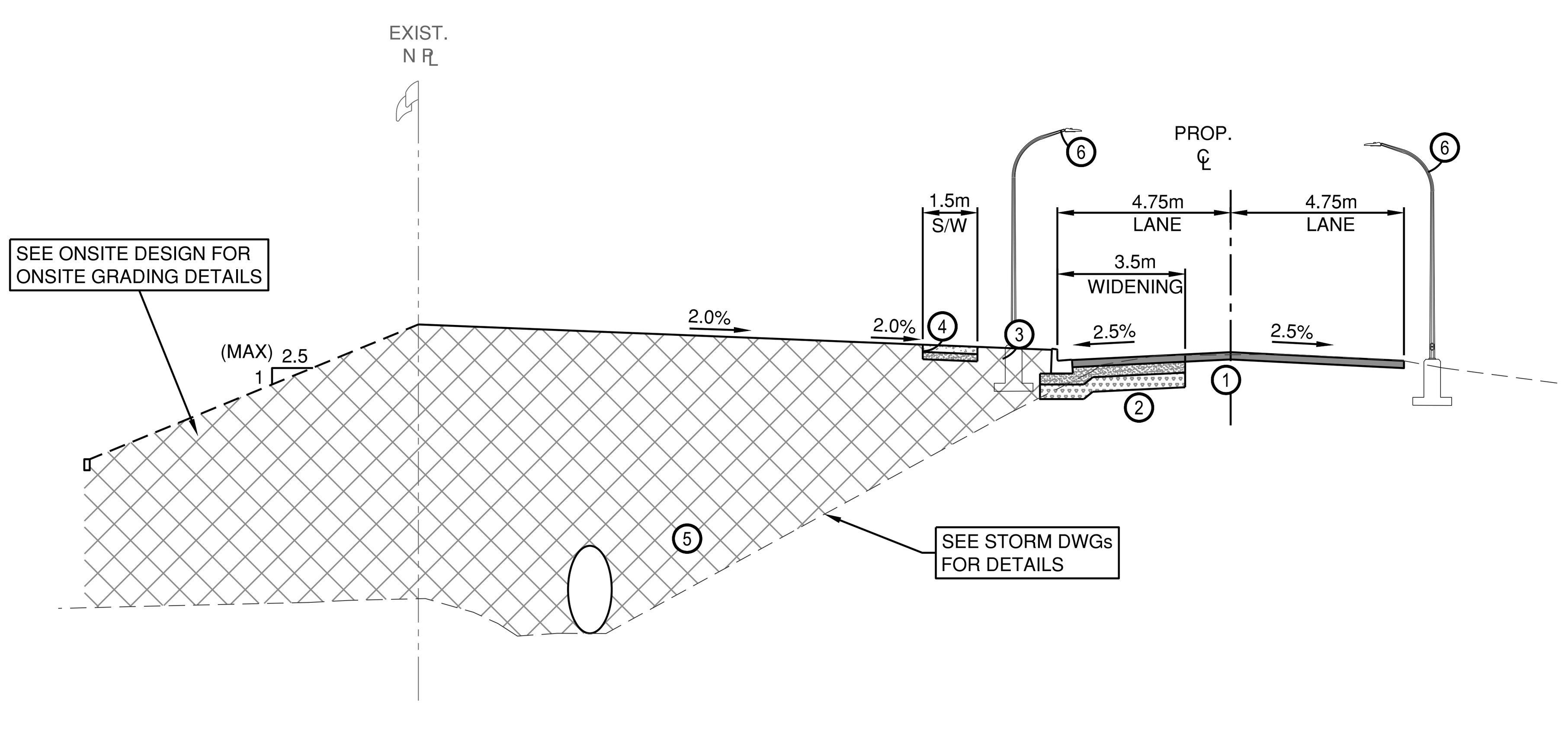
DATE 2020-05-07
DRAWING No. 19-1049-R3-1
SHEET 14 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE

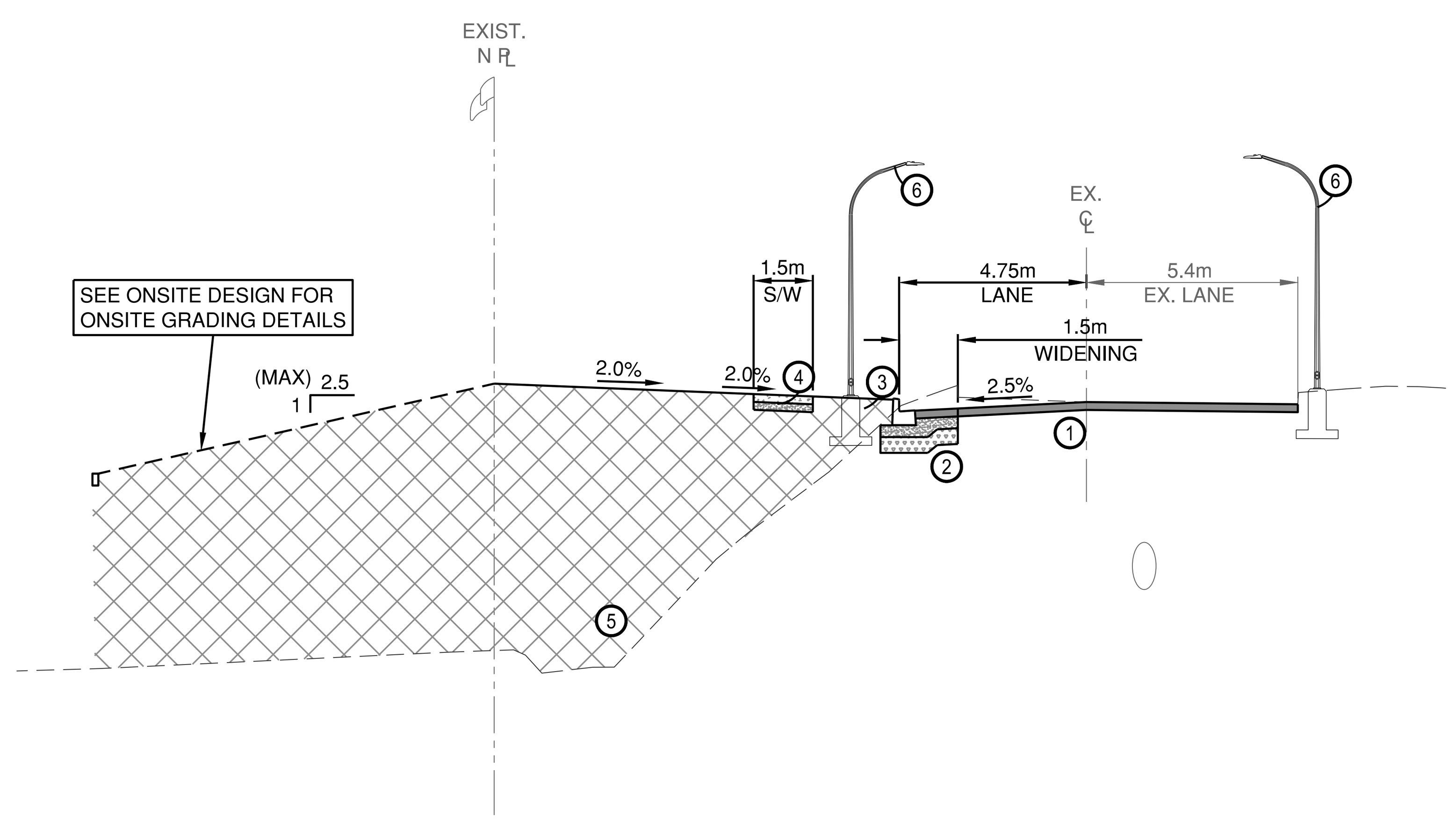




TYPICAL SECTION - FRASER WAY
(STN. 2+040 - 2+722)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER



TYPICAL SECTION - FRASER WAY
(STN. 2+722 - 2+770)
SCALE: 150H
75V

1. MIN. 40mm MILL AND PAVE c/w UC#1 (DEPTH TO BE CONFIRMED)
2. WIDENING c/w FULL STRUCTURE:
   - 50mm UC#1
   - 50mm LC#1
   - 150mm BASE GRAVELS
   - 300mm SUB-BASE GRAVELS
3. BARRIER CURB PER MMCD STD. DWG. C5
4. 1.50m WIDE CONCRETE SIDEWALK AS PER MMCD STD. DWG. C1
   - 100mm THICK CONCRETE
   - 100mm THICK - BASE GRAVELS
5. EX. DITCH TO BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL FILL (TO BE CONFIRMED BY GEOTECHNICAL ENGINEER)
6. PROP. STREET LIGHT

NOTE: PAVEMENT STRUCTURE TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

DRAFT

PRELIMINARY

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Langley, BC V1M 4A6
TEL 604 574 3336
BINNIE.com

CLIENT
ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
FRASER WAY ROADWORKS

SURVEYED BY
DRAWN BY KF
DESIGNED BY VL
CHECKED BY NP

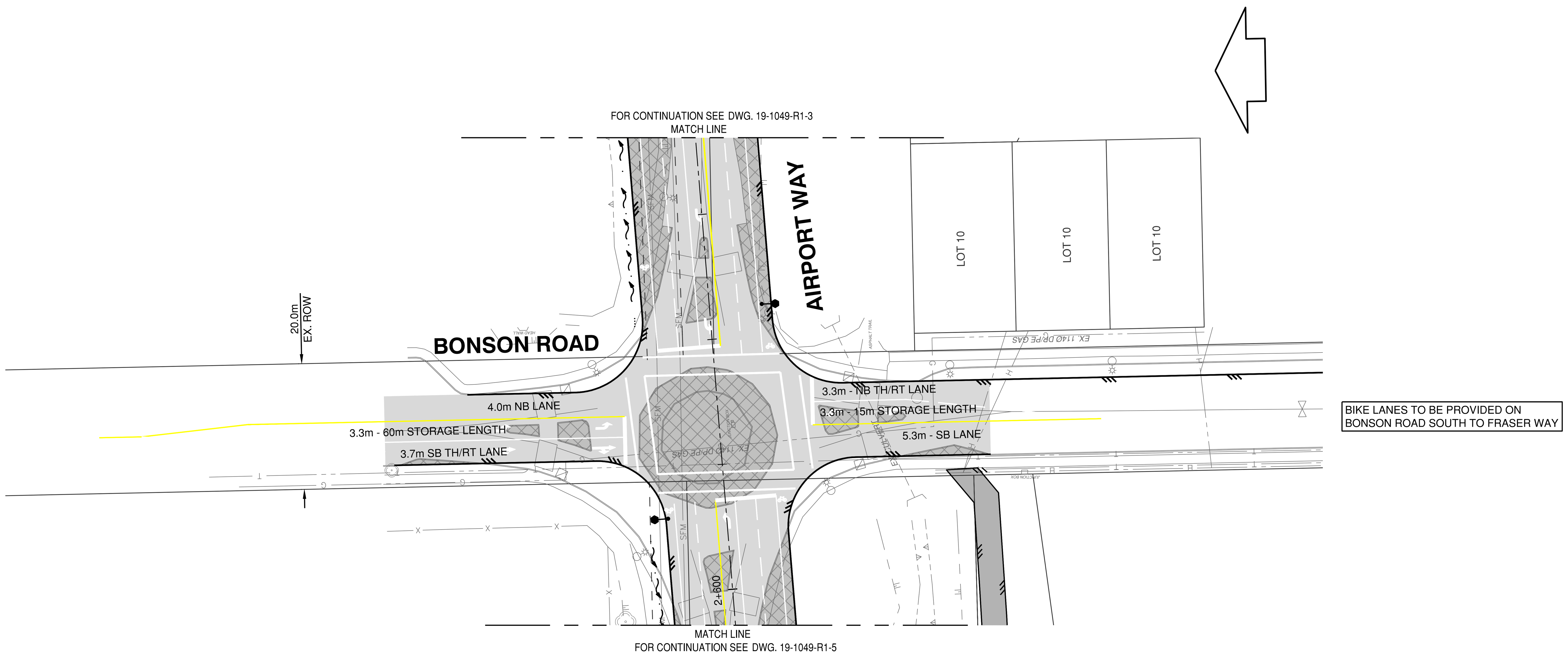
SCALES
H 1:500 (0 – 20m)
V 1:50 (0 – 2m)

DATE 2020-05-07
DRAWING No.
19-1049-R3-2
SHEET 15 OF 13
REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

BENCHMARK:
82HAW017
NORTH WESTERLY CORNER OF THE ELECTRICAL HOUSE FOR THE PUMPSTATION AT THE INTERSECTION OF BAYNES ROAD AND AIRPORT WAY
5.429

LEGEND

- WIDENING/NEW ROAD (FULL ROAD STRUCTURE)
- MILL & PAVE



DRAFT

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No.	DATE	REVISION	BY

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Langley, BC V1M 4A6
TEL 604 574 3336
BINNIE.com

CLIENT
ONNI GROUP
200-1010 SEYMOUR STREET, VANCOUVER, BC, V6B 3M6

DRAWING DESCRIPTION
GOLDEN EARS BUSINESS PARK
19265 & 19300 AIRPORT WAY
BONSON ROAD ROADWORKS

SURVEYED BY	
DRAWN BY	KF
DESIGNED BY	VL
CHECKED BY	NP

SCALES
0 1:500 20m

DATE 2020-05-07
DRAWING No.
19-1049-R4-1
SHEET 16 OF 13 REV.
DESTROY ALL PRINTS BEARING PREVIOUS No.

Appendix E
Intentionally removed

APPENDIX E
Turning Movement Count Data Summary Sheets

Appendix F
Intentionally removed

APPENDIX F
Intersection Capacity Analysis Summary Sheets