

ATTACHMENT 1



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Scale(A4):1:8000

Date: 13/11/2015

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## LOCALITY PLAN

### MARMION AVENUE, KINROSS PEDESTRIAN CROSSINGS





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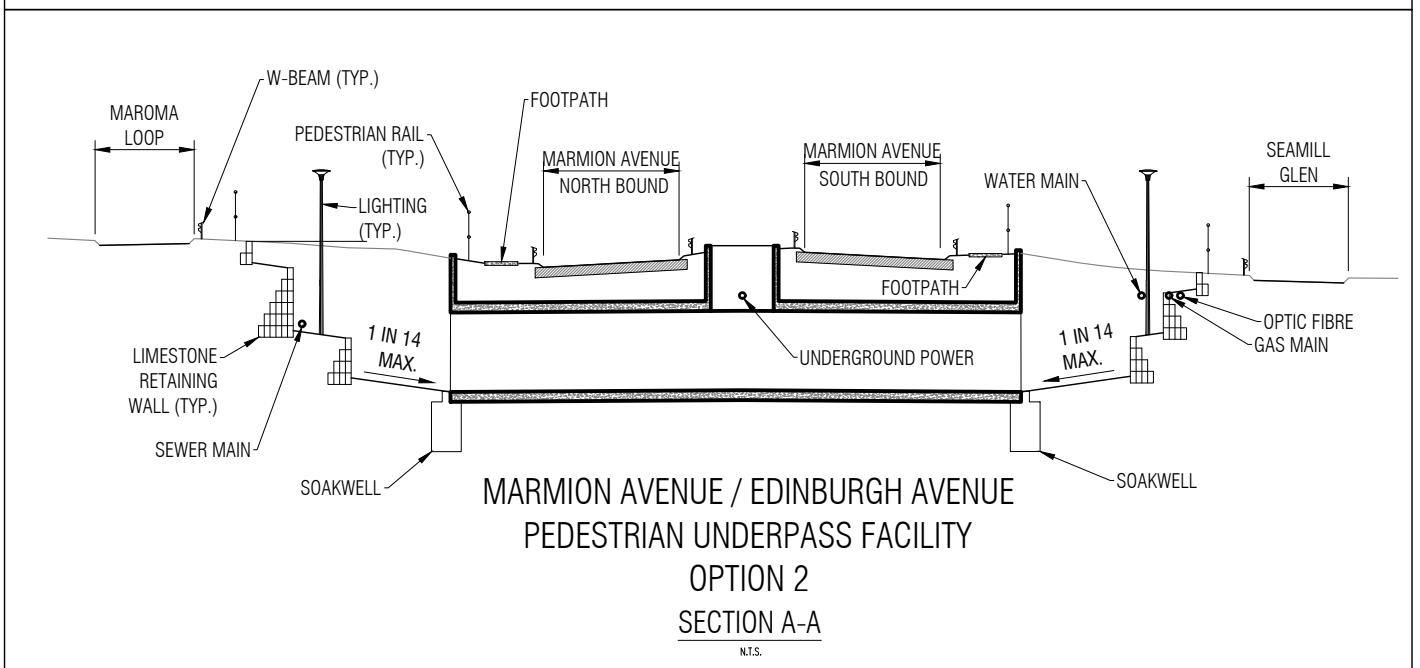
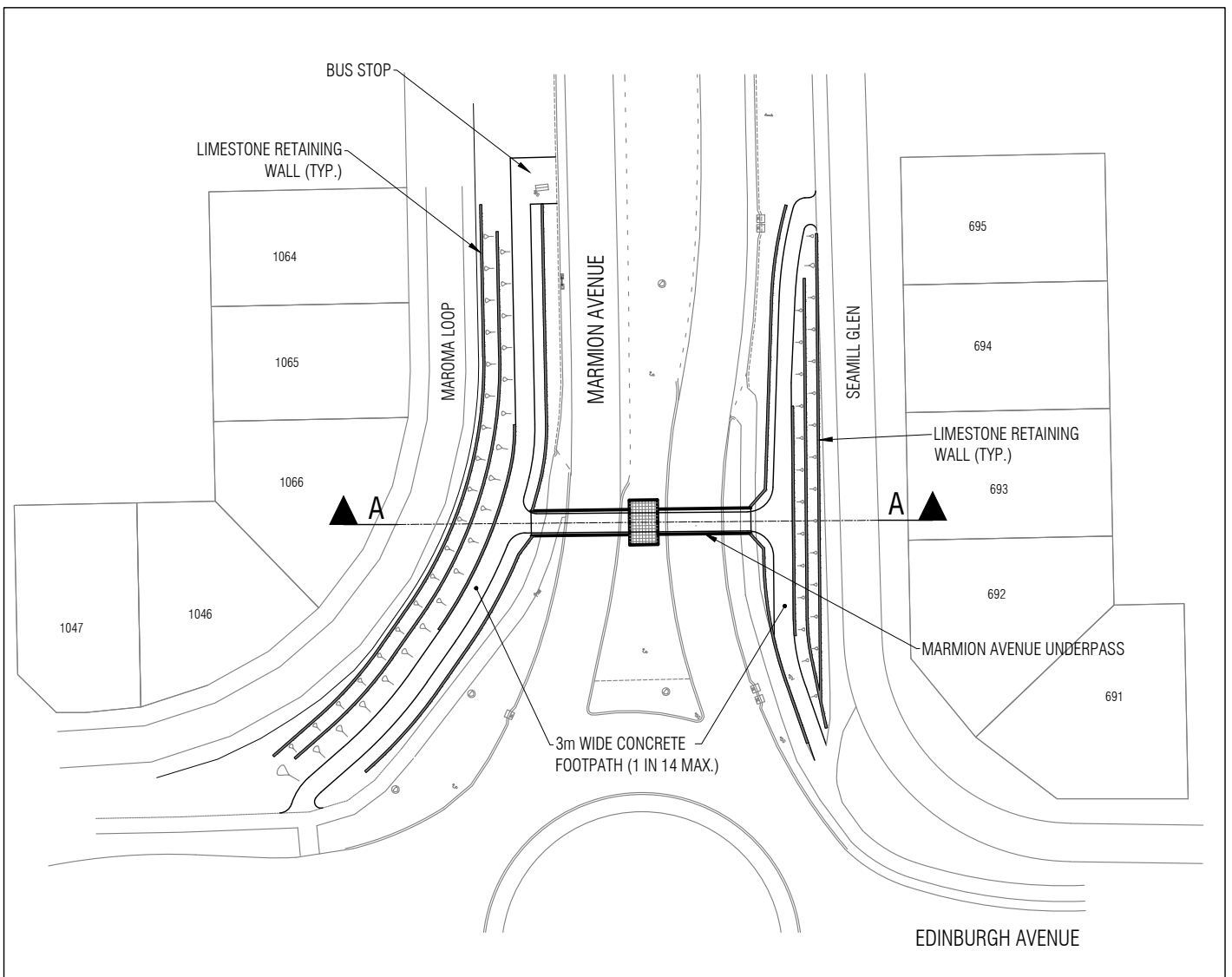
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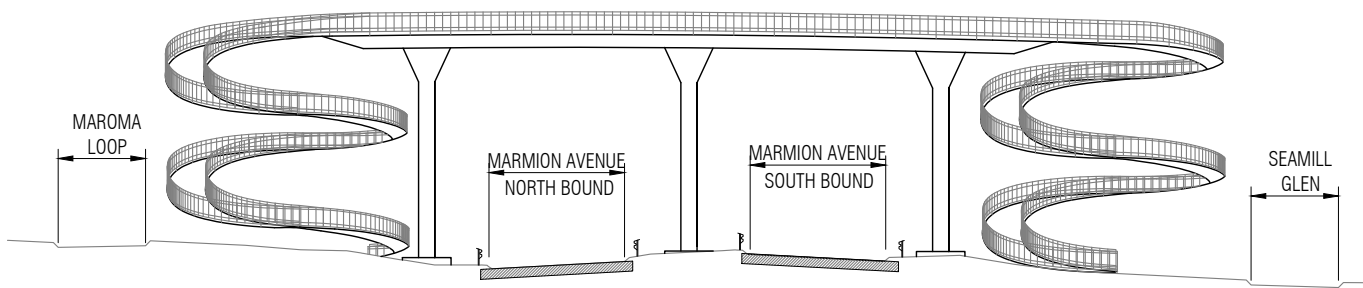
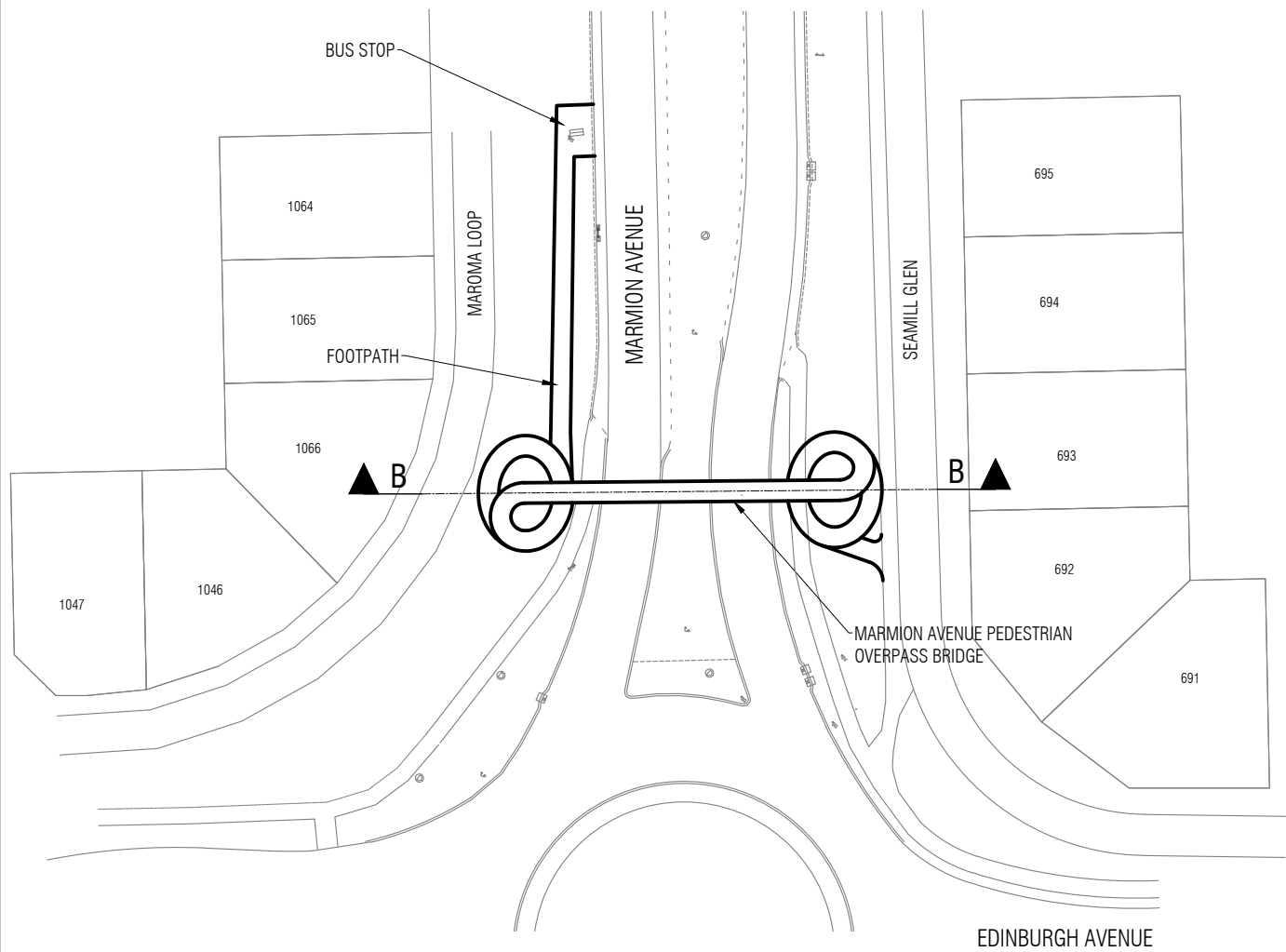
## MARMION AVENUE EXISTING PEDESTRIAN CROSSINGS



Type of Crossing Facility	Advantages	Disadvantages	Cost
<b>Option One</b> No change to at grade crossings  (Attachment 2 refers)	No civil or structural works or costs involved.	Ongoing poor Level of Service for pedestrians when crossing Marmion Avenue due to lack of gaps in traffic.  Ongoing potential for vehicle / pedestrian conflicts to occur.	Nil
<b>Option Two</b> Pedestrian Underpass  (Attachment 4 refers)	Grade separated pedestrian crossing.  Potential for vehicle / pedestrian conflicts reduced.	Typically designed and constructed as part of land development subdivision process in Greenfield situations. Design and construction in Brownfield situations (post land development) is difficult due to site constraints, design limitations and traffic impacts during construction.  Similar to other pedestrian underpasses on Marmion Avenue, there is the potential for limited use only by pedestrians due to personal safety and security concerns.  High construction costs due to extensive civil works involved. The construction costs being subject to detail design including site surveys and geotechnical investigations.  Conflict with existing services, for example, water mains, sewer mains, gas mains, optic fibres.	Approx. cost  In excess of \$1.4 million
<b>Option Three</b> Pedestrian Overpass  (Attachment 5 refers)	Grade separated pedestrian crossing.  Potential for vehicle / pedestrian conflicts reduced.	Usually designed and constructed as part of subdivision land development process in Greenfield situations. Design and construction in Brownfield situations post land development is difficult due to site constraints, design limitations and traffic impacts during construction.	Approx. cost  In excess of \$3.5 million

		<p>High construction costs due to extensive civil and structural works involved. The construction costs being subject to detail design including site and geotechnical investigations.</p> <p>Overlooking of neighbouring properties.</p>	
<p><b>Option Four</b> Signalised Crossing  (Attachment 6 refers)</p>	<p>Controlled at grade pedestrian crossing.</p> <p>Potential for vehicle / pedestrian conflicts reduced.</p> <p>Relatively low construction cost in comparison to grade separated facilities.</p>	<p>Requires Main Roads WA approval based on signalised pedestrian crossing warrants. Initial discussions with Main Roads confirmed that the signalised crossing would not be supported due to warrants not being met. The multi criteria warrants are based on a number of factors including pedestrian numbers and traffic volume.</p> <p>Negative impact on Marmion Avenue traffic flows during peak periods.</p>	<p>Approx. cost</p> <p>\$150,000 to \$250,000</p>
<p><b>Option Five</b> Multi-Stage Pedestrian Crossing  (Attachment 7 refers)</p>	<p>At grade staged pedestrian crossing</p> <p>Potential for vehicle / pedestrian conflicts reduced.</p> <p>Relatively low construction cost in comparison to grade separated facilities.</p> <p>No negative impact on Marmion Avenue traffic flow.</p> <p>Main Roads WA have approved this treatment.</p>	<p>Pedestrians will need to cross at grade. Potential for vehicle / pedestrian conflict is reduced but still remains.</p> <p>The project undertaken on a trial basis involving follow up assessment once installed.</p>	<p>Approx. cost</p> <p>\$150,000</p>





MARMION AVENUE / EDINBURGH AVENUE  
PEDESTRIAN OVERERPASS BRIDGE  
OPTION 3  
SECTION B-B

N.T.S.

