

Attachment F - Summary of Engineering Assessment by property

	Objector	Property Address	Summary Engineering Assessment	Specific Monitoring Proposed (noting that monitoring will be offered to all property owners along the alignment if requested)
1	Susan Young	17 London Street	Reference Drawing 255303-0000-DRG-CC-1322-C. The pipeline underlies an existing residential building toward the London St end of an elongated section. The pipeline is deep in this location (19-20m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	This is a suitable location for a dwelling-based vibration monitor (baseline and relevant construction period). Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
2	Trevor and Ann Hackett	19 London Street	Reference Drawing 255303-0000-DRG-CC-1321-C. The pipeline underlies an existing residential building in about the middle of an elongated section. The pipeline is relatively deep in this location (16-19m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	This is a suitable location for a dwelling-based vibration monitor (baseline and relevant construction period). Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
3	Julia Winterbottom	21a London Street	Reference Drawing 255303-0000-DRG-CC-1320-D. The pipeline crosses a land parcel on the diagonal, underlying an accessway, an existing residential building and a garden area. Existing foundations for this structure are relatively shallow timber piles (to unweathered rock, EU). The pipeline is relatively deep on the SE boundary (16m) but shallows toward the NW boundary (<12m bgl). There is a reasonable cover of unweathered rock above the proposed pipeline. Any future redevelopment of the site would plausibly have piled foundations to pipeline depths (or deeper). Therefore any such foundations would need to be designed around the pipeline. We do not foresee any difficulty in designing a suitable pile arrangement.	This is a desirable candidate site for vibration and noise monitoring, as it is a dwelling with the least separation from the proposed pipeline. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
4	Candy Taunton	25e Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1315-C. The pipeline underlies an existing residential apartment immediately behind the cliff top. Existing piled foundations are relatively deep. The pipeline is deep in this location (19m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	Vibration monitoring in the common access area for Apartments C, D & E is recommended. The boundary retaining wall (25/27 Ring Tce) supporting the shared parking area for 25 Ring Tce is cracked, and should undergo further assessment and monitoring. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
5	Liza Jones Sue Mihakis-Tierney via Doug Cowan (lawyer)	25C, 25G and 25D Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1315-C. The pipeline underlies the rear of existing residential apartments C & D which are situated immediately behind the cliff top, Apartment G is behind the pipe alignment (away from the cliff). Existing piled foundations are relatively deep. The pipeline is deep in this location (19m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	Vibration monitoring in the common access area for Apartments C, D & E is recommended. The boundary retaining wall (25/27 Ring Tce) supporting the shared parking area for 25 Ring Tce should undergo further assessment and monitoring ahead of construction. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
6	Darrin Johannink and Anjala Natali	23 London Street	Reference Drawing 255303-0000-DRG-CC-1320-2-D. 23 London St is an existing residential building toward the London St end of a cross-leased section (building towards the cliff is 21A London St). The pipe alignment lies to the north of this building and the pipe is reasonably deep (at least 11m). The proposed pipe is unlikely to pose any impediment to future development of 23 London St.	None suggested (but available if landowner requests monitoring). Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.

	Objector	Property Address	Summary Engineering Assessment	Specific Monitoring Proposed (noting that monitoring will be offered to all property owners along the alignment if requested)
7	Leo van Veenendaal	111 Shelly Beach Road	Reference Drawing 255303-0000-DRG-CC-1301-C. The pipeline crosses this section at approximately the cliff crest, at the motorway end of an elongate section. A pronounced natural ridge parallels the long axis of the section, so the depth to the pipeline varies (14m to 18m bgl). This part of the section is undeveloped, but the motorway end of the section is a cut slope supported by retaining structures (made when the motorway was cut into this part of the Shelly Beach cliff line). The depth and orientation of the pipeline does not limit any future development. If deeply piled foundations are required near the pipeline, it is expected that they can be placed to accommodate the pipe.	Potential to attach vibration instrumentation to retaining wall structure on cut slope. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
8	Sheryl Glasse	85a Shelly Beach Road	Reference Drawing 255303-0000-DRG-CC-1308-C. The pipeline crosses the property just back from the cliff crest, which is under the front of the residential building. The pipeline is deep in this location (20-22m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	This is a suitable location for a dwelling-based vibration monitor (baseline and relevant construction period). Ground and building monitoring in accordance with Resource Consent conditions.
9	Steve Mutch (Lake Ltd)	2/17 Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1318-1-C & 1318-2-C. The pipeline underlies a protruding part of the land parcel that extends around the cliff face in front of the neighbouring parcel (19 Ring Terrace). The existing residential house is located on the main part of the lot between the cliff top and Ring Tce, well away from the pipe alignment. The pipeline underlies steep terrain, and comes out from under the cliff in front of this property (about 4m below reclaimed land of St Marys reserve). Any future redevelopment of the land over the pipeline will have significant geotechnical challenges both due to terrain issues and due to the pipeline. The awkward footprint of this area is likely to make any development over the pipeline impractical.	None suggested (but available if landowner requests monitoring). Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
10	Christine Heather	3/99 Shelly Beach Road	Reference Drawing 255303-0000-DRG-CC-1305-C. The pipeline crosses the property at approximately the cliff crest, which is coincident with the front of the northernmost residential building. The pipeline is deep in this location (21-23m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	This is a suitable location for a dwelling-based vibration monitor (baseline and relevant construction period). Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
11	Jeanette Henry	19 Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1317-C. The pipeline underlies a protruding part of the land parcel that extends over the cliff face while the existing residential house is located on the main part of the lot between the cliff top and Ring Tce. The house is founded on deep piles. The pipeline underlies steep terrain, and comes out from under the cliff in front of this property (about 4m below reclaimed land of St Marys Reserve). Any future redevelopment of the land over the pipeline will have significant geotechnical challenges both due to terrain issues and due to the pipeline. The awkward footprint of this area is likely to make any development over the pipeline impractical.	None suggested (but available if landowner requests monitoring). Ground and building monitoring in accordance with Resource Consent conditions.
12	Margaretha and Allan Cooper	6/79 Shelly Beach Road	Reference Drawing 255303-0000-DRG-CC-1310-2-C. The pipeline crosses the property beneath an existing building. The basement is a garage and access for 7/79 (non-dwelling), while upper level is residential apartments. The pipeline is deep in this location (18-20m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	Useful vibration monitoring locations - in the basement garage and in one of the residential spaces above. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.

	Objector	Property Address	Summary Engineering Assessment	Specific Monitoring Proposed (noting that monitoring will be offered to all property owners along the alignment if requested)
13	Kevin Pollock	25a Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1315-C. Apartment A is west of the pipe alignment (away from the cliff). The pipeline is deep in this location (19m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the event of deeper foundations, it is unlikely that the geometry of the pipe (slightly oblique to the section) would prevent design of a suitable piling arrangement.	The boundary retaining wall (25/27 Ring Tce) supporting the shared parking area for 25 Ring Tce should undergo further assessment and monitoring. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
14	Brian William Putt and Suzanne Linda Ashmore	27 Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1314-C. The pipeline underlies an existing residential building toward the Ring Terrace end of an elongated section. The pipeline is deep in this location (18-19m bgl), with considerable cover of unweathered rock. Any future redevelopment of the site would likely have foundations shallower than the pipe. In the unlikely event that deeper foundations are required, the geometry of the pipe (slightly oblique to the section) would not prevent design of a suitable piling arrangement.	The boundary retaining wall (25/27 Ring Tce) supporting the shared parking area for 25 Ring Tce should undergo further assessment and monitoring. Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.
15	Allan Tyler	21 Ring Terrace	Reference Drawing 255303-0000-DRG-CC-1316-C. The pipeline underlies the cliff crest immediately north of the existing residential building. At the west edge of the property the pipeline is almost 19m deep (underlying a retaining wall). Towards the southeast, the pipe underlies steep terrain of the cliff face, but remains relatively deep (13.4m minimum cover). Any future redevelopment of the land over the pipeline will have significant geotechnical challenges both due to terrain issues and due to the pipeline. The awkward footprint of this area is likely to make any development over the pipeline impractical.	This is a suitable location for a dwelling-based vibration monitor (baseline and relevant construction period). Ground and building monitoring in accordance with Resource Consent conditions. Pre and post condition surveys offered.

Relevant zones, overlays, controls and designation by property

St Marys Bay - Masefield Beach Water Quality Improvement Project – LGA Objector Subset

Table 1: Landowner information and relevant zones, overlays, controls and designations

Objector number	Map ref	Address	Proprietors	Zones and overlays
1	32	17 London Street Ponsonby Auckland 1011	Michael Chung, Susan Suet-Sun Young	Residential - Single House Zone
2	31	19 London Street Ponsonby Auckland 1011	Ann Marlene Hackett, Derek Warren Kime, Trevor James Hackett	Built Heritage and Character: Special Character Areas Overlay Residential and Business - Residential Isthmus A
3	30	21A London Street Ponsonby Auckland 1011	Julia Winterbottom, Marc John Barclay McKenzie	
4	22	25E Ring Terrace, Ponsonby Auckland 1011	Allison Dale Tauber, Candy Morag Mendez, Vincent John Carmine	
5	22	25C, 25G and 25D Ring Terrace Ponsonby Auckland	Liza Jones, Sue Mihakis-Tierney c/o Doug Cowan	
6	30	23 London Street Ponsonby Auckland 1011	Anjala Devi Natali, Darrin John Johannink	
7	8	111 Shelly Beach Road Ponsonby Auckland 1011	Bernadette Yolanda Devenie and Leo Timoteum van Veendendaal as Executors	
8	15	85A Shelly Beach Road Ponsonby Auckland 1011	Sandra May Barry, Sheryl Glasse	
9	25	2/17 Ring Terrace Ponsonby Auckland 1011	Russ and Lynda Bowler (Lake Ltd) c/o Steve Mutch	Residential - Single House Zone Built Heritage and Character: Special Character Areas Overlay Residential and Business - Residential Isthmus A
10	12	3/99 Shelly Beach Road Ponsonby Auckland 1011	Christine Jane Heather	Residential - Terrace Housing and Apartment Building Zone
11	24	19 Ring Terrace Ponsonby Auckland 1011	Jeanett Barbara Henry	Residential - Single House Zone

				Built Heritage and Character: Special Character Areas Overlay Residential and Business - Residential Isthmus A
12	17	6/79 Shelly Beach Road Ponsonby Auckland 1011	Alcooper Trustee Company Limited, Margaretha Wilhelmina Sehnert, Allan Charles Cooper, Sehnert Trustee Company Limited	Residential - Terrace Housing and Apartment Building Zone
13	22	25A Ring Terrace, Ponsonby Auckland 1011	Beryl Ruth Pollock, Geoffrey Philip Dalzell, Kevin William Pollock	Residential - Single House Zone
14	21	27 Ring Terrace Ponsonby Auckland 1011	Brian Willian Putt, Suzanne Linda Ashmore	Built Heritage and Character: Special Character Areas Overlay Residential and Business - Residential Isthmus A
15	23	21 Ring Terrace Ponsonby Auckland 1011	Allan Victor Tyler, Carole Erica Tyler	



Figure 1: Reference map for the properties listed in the Table above.

Table 2: Development controls for the relevant zones and overlays

H6. Residential Terrace Housing and Apartment Building Zone – Development controls	
<p>Within the Residential Terrace Housing and Apartment Building Zone:</p> <ul style="list-style-type: none"> • Development will generally be two storey detached and attached housing in a variety of types and sizes to provide housing choice. • Up to three dwellings are permitted as of right subject to compliance with the standards (outlined below) • Resource consent is required for four or more dwellings on a site. • Other uses such as: supported residential care accommodating up to 10 people per site, boarding houses accommodating up to 10 people per site, visitor accommodation accommodating up to 10 people per site, accessory buildings and additions to existing dwellings are all permitted provided they comply with the standards outlined below. 	
H.6.6.5 (1) Building height	Building height must not exceed 16m
H.6.6.6 (1) Height in relation to boundary:	<p>(1) buildings must not project beyond a 45-degree recession plane measured from a point 3m vertically above ground level along the side and rear boundaries.</p> <p>(3) Standard H6.6.6(1) does not apply to site boundaries where there is an existing common wall between two buildings on adjacent sites or where a common wall is proposed.</p>
H6.6.7 Alternative height in relation to boundary within the Residential – Terrace Housing and Apartment Buildings Zone	<p>(1) This standard is an alternative to the permitted Standard H6.6.6 Height in relation to boundary and applies to sites in the Terrace Housing and Apartment Buildings Zone that adjoin another site in the same zone or any other zone not specified in Standard H6.6.8 Height in relation to boundary adjoining lower intensity zones.</p> <p>(2) Buildings or any parts of buildings must not project beyond a 60 degree recession plane measured from a point 8m vertically above ground level alongside and rear boundaries within 20m of the site frontage</p> <p>(3) Buildings or any parts of buildings further than 20m from the site frontage must not project beyond a 60 degree recession plane measured from a point 8m vertically above ground level, and 2m perpendicular to side and rear boundaries</p> <p>(5) Standard H6.6.7(2) and (3) above do not apply to site boundaries where there is an existing common wall between two buildings on adjacent sites or where a common wall is proposed.</p>
H6.6.8. Height in relation to boundary adjoining lower intensity zones	<p>(1) Where sites in the Residential – Terrace Housing and Apartment Buildings Zone adjoin: (a) a site in the Residential – Single House Zone then buildings must not project beyond a 45 degree recession plane measured from a point 2.5m vertically above ground level along the boundary of the site in the Residential – Terrace Housing and Apartment Buildings Zone with the zone listed in Standard H6.6.8(1)(a) – (c) above.</p> <p>(3) The building setback must be a stepped profile and must not be a literal regression of the recession plane.</p>

H6.6.9. Yards	<p>Buildings must have the following setbacks from the relevant boundaries.</p> <table border="1" data-bbox="506 264 866 416"> <thead> <tr> <th>Yard</th> <th>Minimum depth</th> </tr> </thead> <tbody> <tr> <td>Front</td> <td>1.5m</td> </tr> <tr> <td>Side</td> <td>1m</td> </tr> <tr> <td>Rear</td> <td>1m</td> </tr> </tbody> </table> <p>(2) Standard H6.6.9(1) does not apply to site boundaries where there is an existing common wall between two buildings on adjacent sites or where a common wall is proposed.</p>	Yard	Minimum depth	Front	1.5m	Side	1m	Rear	1m
Yard	Minimum depth								
Front	1.5m								
Side	1m								
Rear	1m								
H6.6.10. Maximum impervious area	<p>(1) The maximum impervious area must not exceed 70 per cent of site area. (2) The maximum impervious area within a riparian yard, a lakeside yard or a coastal protection yard must not exceed 10 per cent of the riparian yard, the lakeside yard or the coastal protection yard area.</p>								
H6.6.11. Building coverage	<p>(1) The maximum building coverage must not exceed 50 per cent of the net site area.</p>								
H6.6.12. Landscaped area	<p>(1) The minimum landscaped area must be at least 30 per cent of the net site area.</p>								
Residential – Single House Zone and Special Character Areas Overlay									
<p>Within the Residential Single House Zone:</p> <ul style="list-style-type: none"> • Multi-unit development is not anticipated • Additional housing limited to the conversion of an existing dwelling into two dwellings and minor dwelling units. • The zone is generally characterised by one to two storey high buildings consistent with a suburban built character. <p>Within the Special Character Areas Overlay:</p> <ul style="list-style-type: none"> • Restoration and repair of a building or minor alterations to the rear of a building is a permitted. • Total or substantial demolition of a building, construction of a new building or external alterations and additions to a building is restricted. <p>All activities which are permitted must comply with the standards outlined below.</p>									
Building height	<p>(1) Buildings must not exceed 8m in height except that 50 per cent of a building's roof in elevation, measured vertically from the junction between wall and roof, may exceed this height by 1m, where the entire roof slopes 15 degrees or more</p>								
Height in relation to boundary	<p>(1) Buildings must not project beyond a 45-degree recession plane measured from a point 2.5m vertically above ground level along side and rear boundaries, as shown in Figure H3.6.7.1 Height in relation to boundary below. (3) Standard H3.6.7(1) above does not apply to site boundaries where there is an existing common wall between two buildings on adjacent sites or where a common wall is proposed.</p>								

	(4) Where the boundary forms part of a legal right of way, entrance strip or access site, the standard applies from the farthest boundary of that legal right of way, entrance strip or access site.	
Yards	(1) A building or parts of a building must be set back from the relevant boundary by the minimum depth listed in Table H3.6.8.1 Yards below.	
	Yard	Minimum depth
	Front	The average of existing setbacks of dwellings on adjacent sites, being three sites on either side of the subject site or six sites on one side of the subject site.
	Side	1.2m
	Rear	3m
Building coverage	Site Area	Building Coverage
	Up to 200m ²	55 per cent of the net site area
	200m ² – 300m ²	45 per cent of the net site area
	300m ² – 500m ²	40 per cent of the net site area
	500m ² – 1000m ²	35 per cent of the net site area
	Greater than 1000m ²	25 per cent of the net site area
Landscaped area	Site Area	Landscaped area
	Up to 200m ²	28 per cent of the net site area
	200m ² – 500m ²	33 per cent of the net site area
	500m ² – 1000m ²	40 per cent of the net site area
	Greater than 1000m ²	50 per cent of the net site area
	(2) The front yard must comprise at least 50 per cent landscaped area	
Maximum paved area	Site Area	Paved area
	Up to 200m ²	17 per cent of the net site area
	200m ² – 500m ²	20 per cent of the net site area
	500m ² – 1000m ²	25 per cent of the net site area
	Greater than 1000m ²	25 per cent of the net site area
Fences, walls and other structures	(1) Fences, walls and other structures, or any combination of these, in the Special Character Areas Overlay - Residential must not exceed a height of 1.2m above ground level.	

