



89 Courtenay Place

CGML Limited

Building Services Feasibility Study

IZ000-FEASIBILITY-BLDGSERV-RPT-001 | A1

15th July 2016

-



89 Courtenay Place

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Document history and status

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A	15/07/16	Issue for CGML Review	R. Bhula E. Schmidt	-	R. Bhula
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Appendix A. Site Photos

Appendix B. Before You Dig Drawings

1. Executive Summary

The following summary is a list of the key building services feasibility risk issues identified during Jacobs review of the existing building:

Ref No	Feasibility Risk Summary	Low	Medium	High
M0	For building services and seismic bracing installation (as required by NZS4219) sufficient in ceiling void space will be required for the reticulation and seismic bracing of services. Detailed review of this aspect will need to be addressed with the Architect, in areas where ceiling voids are restrictive and passage of services is limited by structural beams.			H
M1	Modification to the roof plant room is likely to trigger a resource consent issue			H
H1	Continuation of the new sanitary riser routes from the upper hotel levels through the carpark, requires further detailed assessment and review. To determine if the vertical height clearances impact on functional use of the carpark.			H
H2	The installation of two new gas fired hot water boilers within the roof plant room requires further assessment by the structural engineer.			H
H3	The size of the existing York St sewage mains size may not be adequately sized to support a proposed new Ø225 connection; further review with the WCC is required.			H
M2	Potential Boundary noise issues from adjacent rooftop plant may cause occupant complaints, acoustic design advise required for mitigation		M	
M3	Structural implications resulting from new roof top plant introduced, i.e. central chiller, boiler and air handling plant. <i>(Note, Chiller plant weights could be slightly reduced with installation of a cooling tower and remote chiller on the carpark level, however this would be a higher capital cost solution)</i>		M	
M4	Ceiling void space for services reticulation is restrictive based upon indicated ceiling heights, lowered bulkheads and ceiling will be required impacting on ambience of spaces		M	
F1	The existing stairwell hydrant outlets, are likely to require upgrade for compliance with NZS4510 requirements i.e. spatial clearances.		M	
F2	If external drenchers (Sprinklers) are proposed as an alternative solution by HFS, the existing water supply will require further review, to determine the quantity of drenchers the water supply can support		M	
E1	Ventilation arrangements for a Standby Generator to enable horizontal and vertical pressurisation (assuming required under the Fire Engineering Report) would be difficult to achieve without allocation of a perimeter carpark space, along grid A of the building for ventilation.		M	
C1	Incorporation of the existing Main Communications Room (MCR) position into the new Architectural design or provision of a new MCR at considerable cost and service disruption.		M	
H1	The size of the existing water main within the laneway may require upgrade by the WCC, to support a new Ø100mm to Ø125mm connection, dependant on the size of the existing line.		M	

2. Introduction

Jacobs New Zealand Ltd has been commissioned by CGML Ltd to provide a Building Services Feasibility Study, for the proposed re-development of 89 Courtenay Place, into a Hotel and Conference facility.

The purpose of this Building Services Feasibility Study is to serve as a technical description of the existing and proposed building services infrastructure required, with an emphasis on the feasibility aspects of re-purposing the existing commercial building into a Hotel and Conference facility.

The report outlines the feasibility aspects which need to be addressed to support a Hotel and Conference facility which covers the following:

- A review of the existing building infrastructure
- An assessment of the new building Infrastructure required to support the new development
- A summary of the key building services feasibility issues which need to be addressed
- Identification of the key Risk Items associated with the redevelopment

The redevelopment is proposed to encompass the whole building, and re-purpose the floors as summarised below:

Existing Building

- Level G Retail & Car Parking
- Level 1 Hotel/Conference Facility & Car Parking
- Level 2 Hotel Accommodation
- Levels 3 & 4 Hotel Accommodation
- Levels 5 to 8 Hotel Accommodation
- Level 9 Hotel Accommodation & Deck
- Level 10 Plant Room
- Level 11 Plant Room

Jacobs is acting as the Building Services Consultant for the Feasibility Study and will be providing the following consulting services:

- Mechanical Services
- Electrical Services
- Communications Services
- Hydraulics Services
- Fire Protection Services
- Vertical Transportation Services

This Feasibility Study report is intended to provide a high level summary of the building services feasibility aspects which need to be addressed, to support CGML informing a decision on the redevelopment of 89 Courtenay Place, into a Hotel and Conference facility.

3. Mechanical Services

3.1 Existing Infrastructure

- The existing building heating/cooling plant (variable refrigerant flow (VRF) and split system conditioners) have been installed to suit tenancy requirements and are unsuitable for the proposed hotel development.
- Existing outdoor air supplies are provided on a floor by floor basis, there is no sign of a central AHU system for the building for vertical riser to support such infrastructure.
- The existing carpark ventilation system is non-compliant to current AS/NZS16682 design requirements and would need upgrade for the proposed development
- The existing central toilet exhaust system is unsuitable for the proposed layout of the new development.
- The existing auxiliary exhaust systems are provided on a floor by floor basis and are unsuitable for re-use for the new development.
- The existing carpark ventilation system, does not currently comply with current code requirements
- The existing vertical riser infrastructure is limited within the existing building layout. The existing vertical stairwell in some instances on the upper levels, serves as a riser shaft for the passage of ductwork between floors, this is a potential fire engineering compliance issue.
- During review of the upper levels of the building, existing chiller plant on the adjacent building at 97-99 Courtenay Place was observed. This noise is likely to cause hotel noise complaints, and requires further review.

3.2 New Infrastructure

- We recommend that new centralised heating and cooling be installed to suit the proposed hotel development. We envisage that this be installed within the existing roof plant room enclosure with some modification and extension, as required. The plant would ideally consist of:
 - New air cooled chilled water plant rated at approximately 500kW or if weight was an issue for seismic design then a cooling tower, with the chiller located within the carpark with all associated distribution pumps
 - Two new gas fired hot water boilers providing heating and domestic hot water heating rated at approximately 280kW each to provide suitable redundancy service for hot water service
 - Review of the existing (outdoor air) air handling plant space, vertical and horizontal reticulation infrastructure to support a hotel
- To provide outdoor air for the proposed hotel development, we recommend that central air handling plant located at the roof level be installed, with integral heat recovery on the toilet extract system to reduce building energy demands. Note. The provision of openable windows for outdoor ventilation is restricted within the CBD, by WCC bylaws.
- A high level review of the existing plant room has been undertaken, indications are that some modification, possible extension or additional mezzanine floor (subject to structural review) is required for house central plant, which would consist of:
 - Central chiller plant (or cooling tower with a remote chiller within the carpark with pumps).
 - Central Boiler plant
- The existing carpark ventilation system would require a new mechanical supply and extract system to comply with current code requirements
- The new proposed vertical riser infrastructure currently documented on the Architects drawings, mitigates issues with the current vertical riser limitations of the existing building. In terms of current sizing this would need further design review at later stages of design

3.3 Feasibility Issues

- The existing carpark ventilation system will need upgrade to AS/NZS16682 for proposed development
- New centralised ventilation, heating and cooling will require to be installed for the proposed hotel development, within a re-vamped rooftop plant room. This would need re-configuration and possible extension to house, new ventilation, chilled water and heating plant
- The seismic loads of the above plant, is likely to require structural input and upgrade.
- Subject to development of the design, some additional vertical riser space is likely to be required for chilled, heating water reticulation and outdoor air ventilation ductwork.

3.4 Risk Items

Ref No	Description	Low	Medium	High
M0	For building services and seismic bracing installation (required by NZS4219) sufficient in ceiling void space will be required for the reticulation and seismic bracing of services. Detailed review of this aspect will need to be addressed with the Architect, in areas where ceiling voids are restrictive and passage of services is limited structural beams.			H
M1	Modification to the roof plant room is likely to trigger a resource consent issue			H
M2	Potential Boundary noise issues from adjacent rooftop plant may cause occupant complaints, acoustic design advise required for mitigation		M	
M3	Structural implications resulting from new roof top plant introduced, i.e. central chiller, boiler and air handling plant. <i>(Note, Chiller plant weights could be slightly reduced with installation of a cooling tower and remote chiller on the carpark level, however this would be a higher capital cost solution)</i>		M	
M4	Ceiling void space for services reticulation is restrictive based upon indicated ceiling heights, lowered bulkheads and ceiling will be required impacting on ambience of spaces		M	
M5	Addition of vertical riser space for central plant reticulation, may impact on spatial layouts, determination to occur during development of the design	L		

4. Electrical Services

4.1 Existing Infrastructure

- Electrical supply at 400V limited to 400Amps or 277kVA
- Emergency lighting and Exit signage utilises self-contained battery backed up system

4.1.1 Site Assessments

The existing electrical infrastructure includes a mixture of aged and very new equipment as summarised below:

- Electrical supply to the building is limited to 277kVA or 400Amps supplied at low voltage from a Wellington Electrical substation elsewhere within the precinct.
- Main switchboard is located at grid A.5 / 8 (Loading dock) and is no longer serviceable (available spare parts & age of equipment).
- Existing sub distribution board on Podium L1 located at grid D / 8 is new although the room location is likely to be problematical for the new Architectural layout.
- Existing building services horizontal pathways and risers are located along grid 8 (north wall) of the carpark and at grid D/6 up the north side of the lift shaft servicing the Tower.
- Existing floor distribution boards located at grid D / 6 on the north side of the lift/evacuation stair core that were accessed during the inspection were found to be no longer serviceable (available spare parts & age of equipment).
- Vertical rises for electrical cables were not vertically aligned on all floors of the building and were generally of inadequate size.
- Access was not possible to the existing ground floor switchboard cupboard, which is located on grid 6 between D and F. The cupboard doors are recently painted so possibly the switchboard has been upgraded.
- On floor Tower installation, we understand that the entire floor will be stripped back to a bare shell so existing on floor installation is not relevant.
- Carpark installation, we understand that the entire floor will be stripped back to a bare shell but note the presence of a naturally ventilated room in the south west corner of the ground floor carpark – possible position for a Wellington Electrical 11kV/400V substation.

4.2 New Infrastructure

An entire new electrical installation is recommended including the following:

- A Wellington Electric 11kV/400V sub-station is proposed as the intended building function would require significant areas to be air-conditioned; existing ground floor room in the south west corner (grid A/½) provides an appropriate sub-station location.
- Phone discussions with Wellington Electricity has confirmed that an 11kV underground cable is located within York St at the back of the building; hence substation connection costs (payable to Wellington Electricity) would not be significant with a substation in this position. Wellington Electricity 24hour substation access could be achieved with a new main door alongside the existing carpark roller shutter door.
- With a substation in the south west corner. We recommend new electrical cable routes be created along the south side of the carpark, and Tower floor switchboards be located on the south side of the lift/evacuation stair core.

4.3 Feasibility Issues

The proposed new substation and electrical installation located on the south side of the building would allow the existing 400V system to be retained in service for a construction phase Temporary Builders electrical supply.

4.4 Risk Items

Ref No	Description	Low	Medium	High
E1	Ventilation arrangements for a Standby Generator to enable horizontal and vertical pressurisation (assuming required under the Fire Engineering Report) would be difficult to achieve without allocation of a perimeter carpark space, along grid A of the building.		M	

5. Communications Services

5.1 Existing Infrastructure

- Main Communications Room (MCR) located on Podium L2 grid D/6 of building.
- MCR includes both copper (Telecom) and fibre (Vodafone, City Link & FibreNet) connections for the building.

Site Assessments

The existing communications infrastructure includes a mixture of very old and very new equipment as summarised below:

- Multi-pair copper cable connection providing traditional telephone services to the building thought to originate from the Telecom ducting system located on the west side of Courtenay St.
- Fibre cable connection providing high-speed data service thought to originate from the Vodafone ducting system located on the west side of Courtenay St.
- Fibre cable connection providing high-speed data service thought to originate from the CityLink service located on the east side of Courtenay St.
- Building vertical communications cable ways not well defined / could not be found but some cables found co-located within a 100 diameter cast iron storm water or waste water pipe riser located in the MCR room.
- On floor communications patch panels could not be found – expect were located on each floor as dictated by the tenancy layout.

5.2 New Infrastructure

An entire new communications installation is recommended including the following:

- A new Main Communications Room to be located in proximity to the existing position or accept the relocation costs and interruption of services as Jacobs expect all the communications services to enter the building via the same underground duct installed during the original building construction.
- A new communications riser and on floor patch panels to be included within the design, sized to provide appropriate services for a Hotel and Conference venue.

5.3 Feasibility Issues

Any change to the existing Main Communications Room will introduce an interruption of communications services within the building.

5.4 Risk Items

Ref No	Description	Low	Medium	High
C1	Incorporation of the existing Main Communications Room (MCR) position into the new Architectural design or provision of a new MCR at considerable cost and service disruption.		M	

6. Hydraulics Services

6.1 Existing Infrastructure

- The existing plumbing risers are inadequate to support the proposed development. However, the new risers allocated by the Architect addresses this aspect.
- The size of the existing incoming water supply is still to be determined, however it is unlikely to be adequately sized to support the water demand required for a hotel development.
- Indications are that the size of the existing sanitary drainage connection to the WCC mains appears to be only a Ø150mm connection. For the proposed development a new single Ø225 connection is likely to be required to support the proposed hotel development.
- The existing gas fired hot water plant located within the rooftop plant room is inadequate to support the proposed new development.
- The size of the existing incoming gas supply is still to be determined, however it is unlikely to be adequately sized to support the gas demand required for a hotel development.

6.2 New Infrastructure

- The size of the existing incoming water supply will require upgrade to a new Ø100mm to Ø125mm incoming water supply main, with new backflow prevention and reticulation to the building. The size of the main within York St may require upgrade by the WCC to support the new development.
- The size of the existing sanitary drainage connection to the WCC mains will require upgrade to a new single Ø225 connection to support the hotel development. Further review of the Wellington Council York Street sewage mains size is required to determine if a new Ø225 proposed new hotel connection is possible.
- A new approximately Ø100mm incoming gas supply will be required to support the proposed new development, with reticulation up to the rooftop plant room boiler location.
- The gas meter and regulator for the new supply should be located within a ventilated gas metre room accessible from York St along with a purpose vertical riser to the roof plant room.
- Two new gas fired hot water boilers are proposed to support the building space heating and domestic hot water heating rated at approximately 280kW each with a domestic hot water calorifier (heat exchanger) for domestic hot water service.
- The new plumbing risers allocated by the architect (subject to further review during design development) appears to provide suitable space for vertical hydraulics services reticulation i.e. new sanitary drainage stacks and hot and cold water supplies to the hotel rooms.

6.3 Feasibility Issues

- The size of the new incoming Ø100mm to Ø125mm water supply will require consultation with the WCC on the capacity of the main within York St (May require upgrade to Taranaki St.)
- The size of the new Ø225 connection sanitary waste connection proposed within the laneway will require further consultation with the WCC, in respect to permitted connection size and capacity of York St sewage main. (May require upgrade to Taranaki St or beyond.)
- The installation of two new gas fired hot water boilers which are proposed to be located on the roof will require detailed structural assessment.
- The continuation of the new sanitary riser routes from the upper hotel rooms to the ground floor will require routing through the car parking levels and could impact on vertical height clearances within the carpark.

6.4 Risk Items

Ref No	Description	Low	Medium	High
H1	The size of the existing water main within York St may require upgrade by the WCC to support a new Ø100mm to Ø125mm connection, dependant on the size of the existing line.			H
H2	The installation of two new gas fired hot water boilers within the roof plant room requires further assessment by the structural engineer.			H
H3	The size of the existing York St sewage mains size may not be adequately sized to support a proposed new Ø225 connection; further review with the WCC is required.			H
H4	Continuation of the new sanitary riser routes from the upper hotel levels through the carpark, requires further detailed assessment and review. To determine if the vertical height clearances impact on functional use of the carpark.		M	
H5	The new plumbing risers for the hotel rooms allocated by the Architect appear to provide suitable space. Subject to further review during design development.	L		

7. Fire Protection Services

7.1 Existing Infrastructure

- The building is currently serviced by an existing fire sprinkler system, with coverage generally throughout the building.
- Existing fire brigade and sprinkler inlets for NZ Fire Service attendance are located on York Street
- The building is protected by an existing fire alarm system, with the fire panel located in York Street
- The existing building is serviced by a dry riser hydrant system.
- The existing building appears to be provided with external drenchers located over the western façade windows for fire engineering design compliance
- The existing hydrant outlets set out within the stairwell risers, is unlikely to comply with current code requirements
- The building upper levels appear to be serviced by 2 – 3 risers, around the building perimeter
- The building hydrant system is not presently serviced by any hydrant pumpsets
- The level 8 existing sprinkler system appears to have all sprinkler heads removed, this is likely to result in a potential compliance/insurance claim issue

7.2 New Infrastructure

- The existing fire sprinkler coverage throughout the building will require to be upgrade to suit the new development
- The existing sprinkler valveset will require upgrade to a new enhanced safety valveset to comply with current NZS4541 requirements
- The existing fire alarm system will require to be upgraded to a new type 7 system, with fully addressable smoke detection system, with new manual call points and emergency warning speakers through the new and existing areas of the building, to comply with NZS4512 requirements
- The existing dry riser hydrant system will likely need to be converted to a charged riser (subject to HFS confirmation, and NZS4510 compliance review), and stairwell outlets modified to comply with NZS4510 requirements.
- The existing fire brigade inlet for the hydrant and sprinkler systems will likely need to be relocated to the Courtenay place side of the building to satisfy the requirements of the fire report and the NZ Fire Service.
- Where fire rated windows are unable to be achieved or too costing to install, it is likely that drenchers as an alternative solution may be proposed by HFS. Dependant on the quantity of windows and drencher water quantities required, this option may not be feasible dependant on the available water supply.

7.3 Feasibility Issues

- If the existing hydrant system requires upgrade to a pumped system, allocation of plant space within the carpark will be required.
- The existing fire brigade inlets for the hydrant and sprinkler systems may need to be housed on Courtenay place, within a new enclosure in conjunction with the retail tenancies.
- If external drenchers are proposed as an alternative solution to fire rated windows by HFS, a review of the proposed drencher quantity will be required, to determine if the existing water supply is adequate, or if upgrade is required.

7.4 Risk Items

Ref No	Description	Low	Medium	High
F1	The existing stairwell hydrant outlets, are likely to require upgrade for compliance with NZS4510 requirements i.e. spatial clearances.		M	
F2	If external drenchers (Sprinklers) are proposed as an alternative solution by HFS, the existing water supply will require further review, to determine the quantity of drenchers the water supply can support		M	
F3	The existing fire brigade inlets for the hydrant and sprinkler systems may need to be housed on Courtenay place, within a new enclosure in conjunction with the retail tenancies.	L		

8. Vertical Transportation Services

8.1 Existing Infrastructure

- Two electrical passenger traction lifts servicing the Podium and Tower floors
- One electrical goods lift servicing the Podium levels.

8.1.1 Site Assessments

- Existing 2N° Passenger lift car internal dimensions to be confirmed, but ride quality appeared very good for a building of this age.
- Lift car travel speed approx. 1.25m/s
- Lift car door speed operation to be confirmed but door speeds appeared very good for a building of this age.
- Lift motor room has recently been re-furbished with, new thought to be electronic, control system and possibly variable speed drives servicing re furbished lift traction motors.
- Lift motor room natural cooling system also recently refurbished.
- Existing goods lift failed to respond to landing calls / assumed non-operational.
- No access available into the goods lift motor room (thought to be hydraulic).

8.2 New Infrastructure

The passenger lifts have been recently refurbished but recommend the following additional works:

- Refresh of lift car fit out during the last stages of the building refurb works.

8.3 Feasibility Issues

- Consideration for the need of a goods lift with the building conversion into a Hotel / Conference venue.

8.4 Risk Items

Ref No	Description	Low	Medium	High
V1	Need for a Goods Lift at all with Hotel / Conference facility building conversion.	L		

Appendix A. Site Photos

MECHANICAL SERVICES



Existing Gas Meters



Passage of ductwork through existing riser highlighting spatial riser issue



Typical Ceiling Void HVAC installation



Adjacent building boundary noise issue (Chiller)

MECHANICAL SERVICES



Existing Roof Plant



Existing HVAC Condensers

FIRE PROTECTION SERVICES



Existing Brigade Inlets



Existing Sprinkler Valveset



Hydrant outlet spatial clearance issue

ELECTRICAL SERVICES



Main Switchboard at Ground Floor Goods Lift



New Sub-Main Switchboard on Podium L2



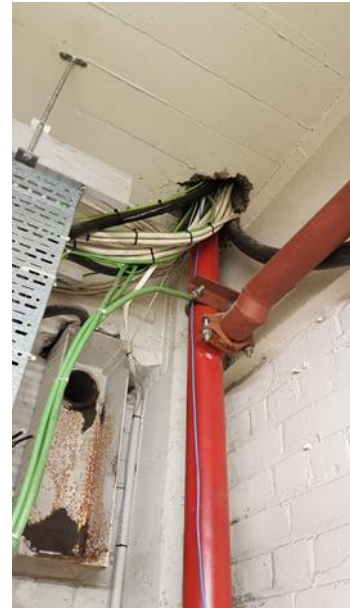
Main Switch and Sub Metering



Sub-Circuits feeding Tower Floors



Fire Rated Cable Penetrations



Cable Riser to Upper Floors

COMMUNICATIONS SERVICES



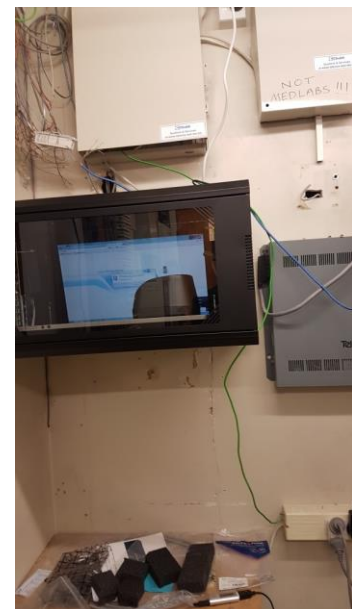
Copper Cable Service in MCR



Fibre Services in MCR



CityLink Fibre Service in MCR



Telecom service in MCR



Comms Cable Riser in MCR



Tenancy PABX services in MCR

VERTICAL TRANSPORTATION



Ground Floor Lift Lobby



Typical Lift Car Interior



Lift Car Control Panel



View Lift Motor Room looking South



View Lift Motor Room looking North



Lift Motor Room Cooling Louvers

HYDRAULIC SERVICES



Grd floor sanitary riser connection to manhole



Drainage pipework within carpark

Appendix B. Before You Dig Drawings

Drawings received include:

- Linz – Site identification
- Vodafone - Communications
- Chorus - Communications
- PowerCo - Gas
- Vector Fibre – Communications
- Water & Drainage
- Wellington Electric – Electrical



Create Date : 01/06/2016

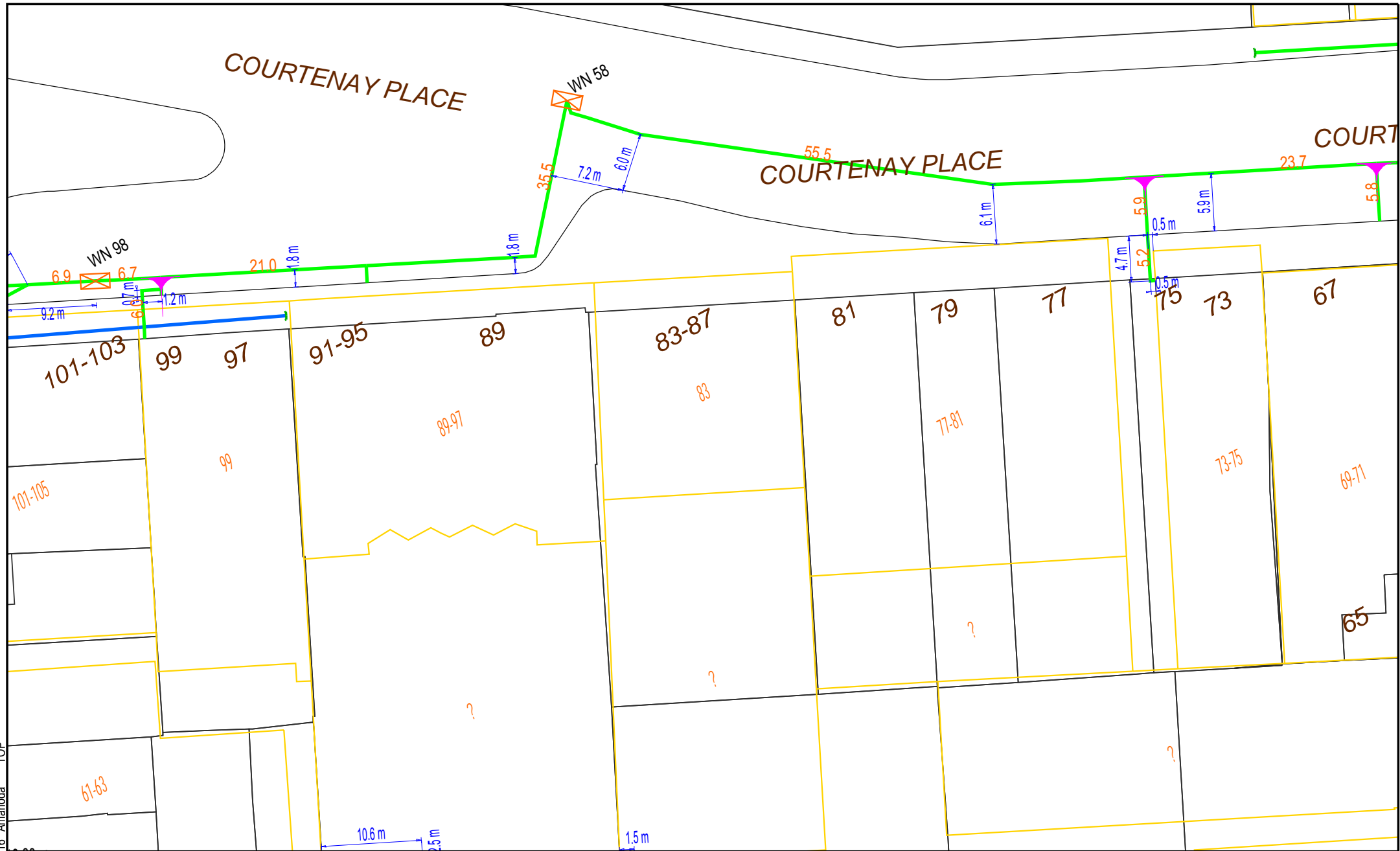
Map Scale : 1:1000

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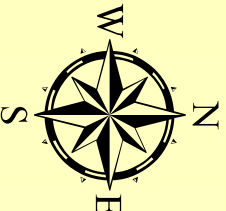
If any survey marks e.g. AB12 appear on this image and are at risk from your works please fill in the response form. If no marks are shown or affected, no further action is required.



Legend

Distribution Main/Service

- | OPERATING PRESSURE, SAT. STEAM | |
|--------------------------------|-----------------------------|
| HP | 200-300 PSI, Sat. Steam |
| HP | 300-400 PSI, Sat. Steam |
| HP | 400-500 PSI, Sat. Steam |
| HP | 500-600 PSI, Sat. Steam |
| HP | 600-700 PSI, Sat. Steam |
| HP | 700-800 PSI, Sat. Steam |
| HP | 800-900 PSI, Sat. Steam |
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| HP | 1700-1800 PSI, Sat. Steam |
| HP | 1800-1900 PSI, Sat. Steam |
| HP | 1900-2000 PSI, Sat. Steam |
| HP | 2000-2100 PSI, Sat. Steam |
| HP | 2100-2200 PSI, Sat. Steam |
| HP | 2200-2300 PSI, Sat. Steam |
| HP | 2300-2400 PSI, Sat. Steam |
| HP | 2400-2500 PSI, Sat. Steam |
| HP | 2500-2600 PSI, Sat. Steam |
| HP | 2600-2700 PSI, Sat. Steam |
| HP | 2700-2800 PSI, Sat. Steam |
| HP | 2800-2900 PSI, Sat. Steam |
| HP | 2900-3000 PSI, Sat. Steam |
| HP | 3000-3100 PSI, Sat. Steam |
| HP | 3100-3200 PSI, Sat. Steam |
| HP | 3200-3300 PSI, Sat. Steam |
| HP | 3300-3400 PSI, Sat. Steam |
| HP | 3400-3500 PSI, Sat. Steam |
| HP | 3500-3600 PSI, Sat. Steam |
| HP | 3600-3700 PSI, Sat. Steam |
| HP | 3700-3800 PSI, Sat. Steam |
| HP | 3800-3900 PSI, Sat. Steam |
| HP | 3900-4000 PSI, Sat. Steam |
| HP | 4000-4100 PSI, Sat. Steam |
| HP | 4100-4200 PSI, Sat. Steam |
| HP | 4200-4300 PSI, Sat. Steam |
| HP | 4300-4400 PSI, Sat. Steam |
| HP | 4400-4500 PSI, Sat. Steam |
| HP | 4500-4600 PSI, Sat. Steam |
| HP | 4600-4700 PSI, Sat. Steam |
| HP | 4700-4800 PSI, Sat. Steam |
| HP | 4800-4900 PSI, Sat. Steam |
| HP | 4900-5000 PSI, Sat. Steam |
| HP | 5000-5100 PSI, Sat. Steam |
| HP | 5100-5200 PSI, Sat. Steam |
| HP | 5200-5300 PSI, Sat. Steam |
| HP | 5300-5400 PSI, Sat. Steam |
| HP | 5400-5500 PSI, Sat. Steam |
| HP | 5500-5600 PSI, Sat. Steam |
| HP | 5600-5700 PSI, Sat. Steam |
| HP | 5700-5800 PSI, Sat. Steam |
| HP | 5800-5900 PSI, Sat. Steam |
| HP | 5900-6000 PSI, Sat. Steam |
| HP | 6000-6100 PSI, Sat. Steam |
| HP | 6100-6200 PSI, Sat. Steam |
| HP | 6200-6300 PSI, Sat. Steam |
| HP | 6300-6400 PSI, Sat. Steam |
| HP | 6400-6500 PSI, Sat. Steam |
| HP | 6500-6600 PSI, Sat. Steam |
| HP | 6600-6700 PSI, Sat. Steam |
| HP | 6700-6800 PSI, Sat. Steam |
| HP | 6800-6900 PSI, Sat. Steam |
| HP | 6900-7000 PSI, Sat. Steam |
| HP | 7000-7100 PSI, Sat. Steam |
| HP | 7100-7200 PSI, Sat. Steam |
| HP | 7200-7300 PSI, Sat. Steam |
| HP | 7300-7400 PSI, Sat. Steam |
| HP | 7400-7500 PSI, Sat. Steam |
| HP | 7500-7600 PSI, Sat. Steam |
| HP | 7600-7700 PSI, Sat. Steam |
| HP | 7700-7800 PSI, Sat. Steam |
| HP | 7800-7900 PSI, Sat. Steam |
| HP | 7900-8000 PSI, Sat. Steam |
| HP | 8000-8100 PSI, Sat. Steam |
| HP | 8100-8200 PSI, Sat. Steam |
| HP | 8200-8300 PSI, Sat. Steam |
| HP | 8300-8400 PSI, Sat. Steam |
| HP | 8400-8500 PSI, Sat. Steam |
| HP | 8500-8600 PSI, Sat. Steam |
| HP | 8600-8700 PSI, Sat. Steam |
| HP | 8700-8800 PSI, Sat. Steam |
| HP | 8800-8900 PSI, Sat. Steam |
| HP | 8900-9000 PSI, Sat. Steam |
| HP | 9000-9100 PSI, Sat. Steam |
| HP | 9100-9200 PSI, Sat. Steam |
| HP | 9200-9300 PSI, Sat. Steam |
| HP | 9300-9400 PSI, Sat. Steam |
| HP | 9400-9500 PSI, Sat. Steam |
| HP | 9500-9600 PSI, Sat. Steam |
| HP | 9600-9700 PSI, Sat. Steam |
| HP | 9700-9800 PSI, Sat. Steam |
| HP | 9800-9900 PSI, Sat. Steam |
| HP | 9900-10000 PSI, Sat. Steam |
| HP | 10000-10100 PSI, Sat. Steam |
| HP | 10100-10200 PSI, Sat. Steam |
| HP | 10200-10300 PSI, Sat. Steam |
| HP | 10300-10400 PSI, Sat. Steam |
| HP | 10400-10500 PSI, Sat. Steam |
| HP | 10500-10600 PSI, Sat. Steam |
| HP | 10600-10700 PSI, Sat. Steam |
| HP | 10700-10800 PSI, Sat. Steam |
| HP | 10800-10900 PSI, Sat. Steam |
| HP | 10900-11000 PSI, Sat. Steam |
| HP | 11000-11100 PSI, Sat. Steam |
| HP | 11100-11200 PSI, Sat. Steam |
| HP | 11200-11300 PSI, Sat. Steam |
| HP | 11300-11400 PSI, Sat. Steam |
| HP | 11400-11500 PSI, Sat. Steam |
| HP | 11500-11600 PSI, Sat. Steam |
| HP | 11600-11700 PSI, Sat. Steam |
| HP | 11700-11800 PSI, Sat. Steam |
| HP | 11800-11900 PSI, Sat. Steam |
| HP | 11900-12000 PSI, Sat. Steam |
| HP | 12000-12100 PSI, Sat. Steam |
| HP | 12100-12200 PSI, Sat. Steam |
| HP | 12200-12300 PSI, Sat. Steam |
| HP | 12300-12400 PSI, Sat. Steam |
| HP | 12400-12500 PSI, Sat. Steam |
| HP | 12500-12600 PSI, Sat. Steam |
| HP | 12600-12700 PSI, Sat. Steam |
| HP | 12700-12800 PSI, Sat. Steam |
| HP | 12800-12900 PSI, Sat. Steam |
| HP | 12900-13000 PSI, Sat. Steam |
| HP | 130 |



Powerco Gas Network Gas Reticulation Map

267032 - 85 Courtenay Place

DO NOT SCALE FROM PLAN



Colour map generated: 17/06/2016
Expires 1 month from this date

Schmidt, Ed

From: no-reply.BUD@vector.co.nz
Sent: Thursday, 16 June 2016 3:53 PM
To: Schmidt, Ed
Subject: Vector Communications Fibre Location Enquiry for Sequence 4670875
Attachments: Fibre Obs Plans T&C 2016.pdf

THIS IS AN AUTOMATED EMAIL. PLEASE DO NOT REPLY.

Dear Ed Schmidt,

Thank you for enquiring about the location of Vector's underground fibre assets in the vicinity of your planned work site at 85 Courtenay Place, Te Aro, Wellington, 6011. To confirm the type of work you are undertaking is Removing Structure(s).

We have found that there are **No Fibre Assets** within a 10 metre radius of your requested work area. [Click here](#) to go to our safety page from where you can download Vector's 'Guide to Working Safely'.

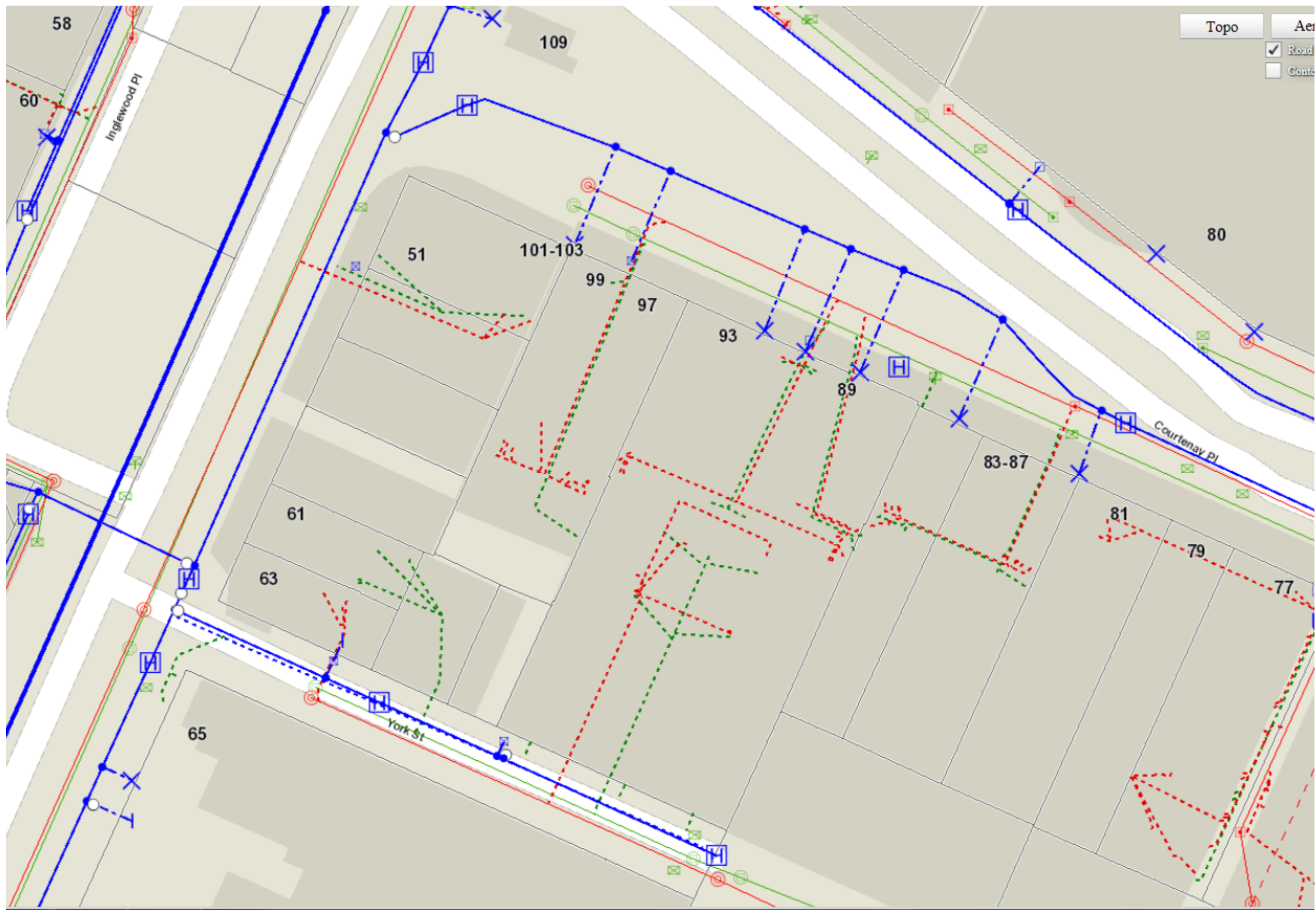
Important: Please refer to the documentation attached and the guides for information about safe digging in this location before commencing excavations.

This response is for Vector's fibre network only. We will respond separately by mail or phone if there are any Vector electricity cables, Vector gas distribution or Vector gas transmission pipes which may also be in the vicinity of your work site.

For any further enquiries, please contact Vector on 0508 248 967.

The information contained in this e-mail is confidential and may be legally privileged. If you have received it in error, you may not read, use, copy or disclose this email. If you are not the intended recipient, please let us know by reply e-mail immediately and then delete this email from your system. We shall not be responsible for any changes to, or interception of, this email or any attachment after it leaves our information systems.

We accept no responsibility for viruses or defects in this email or any attachments.



Schmidt, Ed

From: Schmidt, Ed
Sent: Friday, 15 July 2016 6:00 PM
To: PErobinson@welectricity.co.nz
Subject: 89 Courtenay Place - Electrical Power Supply

Hi Peter

This serves to confirm our recent phone discussion regarding the existing electrical power supply to the building:

- Currently supplied at 400V with a maximum capacity of 400A per phase = 2778kVA located at north west corner of building.
- Any increase in electrical power requirements to the building would necessitate the construction of a 11kV / 400V substation and recommend the substation be located in the carpark along York St.
- A 11kV underground cable is currently located in this street which has some capacity expected to accommodate the increase in building electrical load.

Regards

Ed Schmidt | Jacobs | Lead Electrical Engineer - Wellington | +64 (04) 914 8405 | +64 (0)277 046 716 |
Ed.Schmidt@jacobs.com | www.jacobs.com