



ANDREW MALCOLM ASSOCIATES Ltd.  
15 Wild Rose Crescent  
Locks Heath  
Southampton  
SO31 6TG  
Tel/fax 01489 605526  
Email amassoc@ntlworld.com

09 December 2011

Michael O'Brien  
Linden Homes Ltd  
14 Bartram Road  
Totton  
Southampton  
SO40 9PP

Our ref. AJM/Waterlooville  
Your ref.

Dear Mike,

**Proposed Development  
St. Michael's Convent, London Road, Waterlooville  
Final Engineering Appraisal**

Please note the following comments regarding services, drainage and highways. Copies of correspondence and service records are attached at the end of the report.

1). Water.

Portsmouth Water have provided details of their existing mains and services in the vicinity of the site. These confirm that there are 125mm mains in Villa Gardens and in Hulbert Road. They have confirmed that these mains have sufficient capacity to serve the development and that no diversions are necessary. However, without more detailed proposals for the site, Portsmouth Water will not provide an estimate for the cost of new mains and services.

2). Gas

Southern Gas Networks have provided details of their existing mains and services in the vicinity of the site. These confirm that there is a 4inch steel main serving the existing site from London Road. It is anticipated that this main will have sufficient capacity to serve the proposed development.

Although the route of this main follows the line of the existing access road, as part of the site proposals the existing road will be upgraded and widened to adoptable standards. It appears from the records that this existing main would then be located in the proposed carriageway for some of its length and would ordinarily require diverting. However, the gas supply company will probably lay a new main along the length of the new widened road and abandon the existing main. Without more detailed proposals for the site, the gas supply companies will not provide a quotation for these works. However, the additional costs should be absorbed in their costs for on-site works for which there is normally a nil charge or even a contribution by the gas supplier to the developer.

### 3). Electricity

Scottish and Southern Energy have provided details of their existing HV and LV Cables in the vicinity of the site. The existing site is served by an LV sub-station located on the western boundary of the site adjacent to the access road. This sub-station only serves the existing convent and Sacred Heart Church and has no capacity to serve any further units.

Scottish and Southern Energy have confirmed that their existing LV network has sufficient capacity to serve the development, but at this stage they are not able to confirm whether the existing LV sub-station may still be required to serve the Sacred Heart Church. In any event, they have provided a budget estimate of between £45k and £48k for the cost of providing new services to the development, together with some preliminary proposals. These proposals show the site being served from their cables at the end of Villa Gardens and linking to their existing LV Cables in Hulbert Road.

From the SSE records, it can be seen that no diversions are necessary, and if the existing LV Sub-Station needs to be removed, these costs have been included in their budget estimate.

### 4). British Telecom

British Telecom have provided details of their existing plant in the vicinity of the site. These confirm that the existing site is served from Hulbert Road and that BT have cable ducts in both the access roads leading into the site from London Road and Hulbert Road.

It is likely that the cable ducts in the access road off London Road will be extended to serve the proposed development and the existing cable ducts from Hulbert Road will be abandoned. No diversion works will therefore be necessary.

### 5). Virgin Media

Virgin Media have confirmed that their apparatus will not be affected by the proposals for the site.

### 6). Foul Drainage

Southern Water have provided details of their existing sewers in the vicinity of the site. These confirm that there is an existing 225mm diameter foul sewer running through the site from North to South, as indicated on the drainage strategy. Southern Water have confirmed that there is sufficient spare capacity in this sewer to serve the proposed development. It should be noted that the position of the existing manholes along this sewer differ to the Southern Water records.

The Southern Water records also indicate a 150mm diameter foul sewer crossing the existing access road off Hulbert Road, it can be seen from the Drainage Strategy that this sewer may affect the site layout.

Not shown on Southern Water's records, but now deemed as public sewers are a 150mm diameter foul sewer and a 300mm diameter storm sewer serving Villa Gardens. These run through the southern part of the site from west to east. It can be seen from the Drainage Strategy that this sewer will affect the site layout.

The vendor has provided details of their existing foul and storm water connections which serve the new Church and Church Hall. These run along the northern boundary of the site and need to be retained. The details provided of these connections do not correspond accurately with the site survey and will therefore need to be confirmed, as they may affect the site layout. It should be noted that it might be possible to divert the foul connection into the proposed on-site sewers, but it will not be possible to divert the storm connection, as this will compromise the on-site storage requirements for storm water.

## 7). Storm Drainage

Although the results of the site investigation have still to be issued, from geological maps and the absence of any soakaways on site, it is believed that soakaways are not a viable method for the disposal of storm water.

Surface water run-off from the existing site drains to the Hermitage Stream, which also forms the eastern boundary of the site. From the site survey there appear to be two existing points of discharge as follows:

- a). A headwall in the north eastern corner of the site. which is also the outfall for the storm water connection from the new Church and Church Hall as discussed in item 6.
- b). A tributary watercourse of The Hermitage Stream located in the South Eastern Corner of the site. This watercourse forms the outfall for a 300mm diameter storm sewer serving Villa Gardens. It can be seen from the Drainage Strategy that this sewer will affect the site layout. From a site investigation of the existing drainage, it was also found that this 300mm diameter sewer had been severely affected by root penetration at Manhole A, as indicated on the drainage strategy, and will require repair works.

A drainage strategy has been prepared which indicates a new outfall to the Hermitage Stream, with a discharge rate equivalent to the existing Mean Annual Flood Rate (Qbar) of 26.9 litres/sec. This figure take into account the existing impermeable area of the site. To cater for a 1in100 year storm (+30% allowance for climate change), the volume of on-site storage required is approximately 500m<sup>3</sup>. Because of the topography of the site and the space available on the site layout, this volume of storage cannot be provided in one location. The strategy therefore indicates two storage tanks and a swale, with the discharge from each controlled by a hydrobrake to create a cascade affect.

This strategy has been submitted to the Environment Agency and they have responded with the following comments:

- a). A Flood Risk Assessment report will be required.
- b). A discharge to the Hermitage Stream will be permitted equivalent to the Mean Annual Flood Rate (Qbar).

- c). For the storage of storm water, they would wish to see a range of Suds techniques such as swales, ponds, permeable paving, water butts etc, rather than underground storage.
- d). Any works within 8.0m of the Hermitage Stream will require their consent.
- e). The existing outfall from the new church has been poorly constructed and should be rebuilt.

#### 8). Highways

The existing access road off London Road is private, but has been constructed to adoptable standards up to the new Church Hall. From this point, the existing access road serving the Sacred Heart Church and Convent will need to be reconstructed and widened to adoptable standards to link in with the proposed estate roads.

The secondary access road off Hulbert Road will also need to be reconstructed/realigned to adoptable standards to link in with the proposed estate roads.

There are also existing link roads from the end of Villa Gardens and around the Eastern side of the retained Green. These will be retained, but it is not known at the time of writing, whether any additional improvement works will be required to them. Although for the purpose of providing budget costs, it would be prudent to allow for resurfacing works.

I trust these details will assist you in your endeavours, but if you should have any further queries, please do not hesitate to contact me.

Yours Sincerely

A handwritten signature in blue ink, appearing to read 'A. Malcolm', is written over a light blue rectangular background.

Andrew Malcolm

2<sup>nd</sup> December 2011

**For the Attention of Mr. A Malcolm**  
Andrew Malcolm Associates Ltd,  
15 Wild Rose Crescent  
Locks Heath  
Southampton  
SO31 6TG



**Registered Office:**  
Portsmouth Water Ltd  
PO Box 8  
Havant  
Hampshire PO9 1LG

Tel: 023 9249 9888  
Fax: 023 9245 3632  
Web: [www.portsmouthwater.co.uk](http://www.portsmouthwater.co.uk)

|                |                   |
|----------------|-------------------|
| Please ask for | Mr Hayler         |
| Our Ref        | JAH/IE240         |
| Your Ref       | AJM/Waterlooville |

Dear Mr Malcolm,

**INITIAL ENQUIRY - PROPOSED RESIDENTIAL DEVELOPMENT, ST. MICHAEL'S CONVENT,  
LONDON ROAD, WATERLOOVILLE**

Thank you for your recent payment of £66.00 (Inc VAT) paid as a standard charge for an initial enquiry in respect of water mains at the above location. Our official invoice has been forwarded under separate cover. In response to your enquiry I would comment as follows:-

**1. Off-Site Mains**

I do not foresee any necessity for off-site mains for this development.

**2. Diversionary Work**

I do not envisage the need for any mains diversions at this location.

**3. Pressure**

We advise that properties constructed higher than 2 storeys should consider a storage and booster arrangement to maintain constant water supplies.

**4. Design Layout**

Your proposed site layout does not seem to offer service corridors for any proposed utilities. I note that this drawing is indicative only, however, I would advise you to consider how the units will be supplied by water and other services, especially those which are remote from the access road.

**5. Terms and Conditions**

Once I have sufficient information to determine the total cost of on-site mains, I will then be able to offer you terms and conditions for provisions of mains.

You will be offered two options:

- (a) To enter into an agreement, in accordance with section 42 of the Water Industry Act, 1991, to guarantee for twelve years, a fixed return of our total estimated mainlaying costs and depositing this sum with us for a period of twelve years; or
- (b) Making a once and for all contribution towards the cost of the mains, in accordance with section 91 of the Water Industry Act 2003.

When we calculate the amount to be paid under each option, we take account of our income (in the form of water charges) from the new properties concerned.

Cont...

Please note that the terms and conditions would exclude individual service connections and building water. Statements of Cost for these would only be prepared, on application from yourselves, once the new mains were commissioned. A Scheme of Charges is available on our website [www.portsmouthwater.co.uk](http://www.portsmouthwater.co.uk)

VAT is charged according to the type of development concerned.

(c) We are also able to offer developers a 'self lay' option. Please see our website [www.portsmouthwater.co.uk](http://www.portsmouthwater.co.uk) for details.

## **6 Existing Mains and Services**

The enclosed extract of Ordnance Survey sheet shows our existing water mains in black line. I regret that I am unable to indicate any other water services that have been taken from these mains but wherever there are surface stopcock or meter boxes, it should be assumed that a service has been connected to the main.

Should accurate information regarding the Company's installation be required, then trial holes should be taken by hand digging and no mechanical plant should be used within two metres of the Company's mains.

Please note that all enquiries regarding drainage should be directed to Southern Water, who is the responsible undertaker in this area.

## **7 Contaminated Land**

I have no reason to suspect there is contaminated land at this location. Certain contaminants can permeate polyethylene water pipes. If these are found, any mains and services would be laid in protected polyethylene or some other protective material. We would also require that your underground supply pipes be laid in an impermeable material such as protected polyethylene. Please note that if the communication pipes are laid in protected material, our standard scheme of charges for services would not apply.

I would request a copy of the soil report when it becomes available.

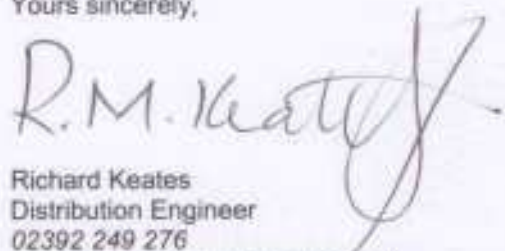
## **8 Private Water Mains/Long Supply Pipes**

This initial enquiry relates to the provision and installation of water mains which will become the property and responsibility of Portsmouth Water. The terms and financial arrangements are strictly regulated in accordance with the Water Industry Act 1991.

The site layout may necessitate the installation of private water mains and long supply pipes which normally the developer will install. We are pleased to be able to offer specialist pipe work services, which includes the installation of private mains, supply pipes, fire mains and hydrants. I have enclosed a brochure summarising these services. Should they be of interest to you please contact the undersigned at these offices.

When you are in a position to provide the information requested above, I will be pleased to offer you terms and conditions for the development.

Yours sincerely,



Richard Keates  
Distribution Engineer  
02392 249 276  
[r.keates@portsmouthwater.co.uk](mailto:r.keates@portsmouthwater.co.uk)

Encs:



Our Ref: SC/09.11.11/JM935/236088  
Your Ref: AJM/WATERLOOVILLE  
Date: 09 November 2011  
Email:



95 Kilbirnie Street  
Glasgow  
G5 8JD

Andrew Malcolm  
Andrew Malcolm Associates Ltd  
15 Wild Rose Crescent  
Locks Heath  
Southampton, SO31 6TG.

Fax:

Dear Sir / Madam

**Re: St Michael's Convent, London Road, Waterloooville.**

Southern Gas Networks (SGN) acknowledges receipt of your notice of your intention to carry out work at the above location. We enclose an extract from our mains records in the location of the area covered by your proposals together with a comprehensive list of precautions for your guidance. This plan shows only those pipes owned by SGN in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's and also privately owned may be present in this area. Information with regard to such pipes should be obtained from the owners. The information shown on this plan is given without obligation, or warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, siphons, stub connections, etc., are not shown but their presence should be anticipated. Your attention is drawn to the information and disclaimer on these plans. The information included on the enclosed plan should not be referred to beyond a period of 28 days from the date of issue.

You will note the presence of our Low/Medium/Intermediate Pressure gas main in the proximity to your site. NO mechanical excavations are to take place above or within 0.5 m of the Low pressure and medium pressure system and 3metres of the intermediate pressure system. You should where required CONFIRM THE POSITION of mains using HAND-DUG TRIAL HOLES.

**A colour copy of these plans and the gas safety advice card should be passed to the senior person on site in order to prevent damage to SGN plant and potential direct or consequential costs to your organisation.**

Safe digging practices, in accordance with HSE publication HSG47 "Avoiding Danger from Underground Services", must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. In addition please follow the advice given on the gas safety card.

It must be stressed that both direct and consequential damage to gas plant can be dangerous both for your employees and the general public, repairs to any such damage will incur a charge. Your works should be carried out in such a manner that we are able to gain access to our apparatus throughout the duration of your operations.

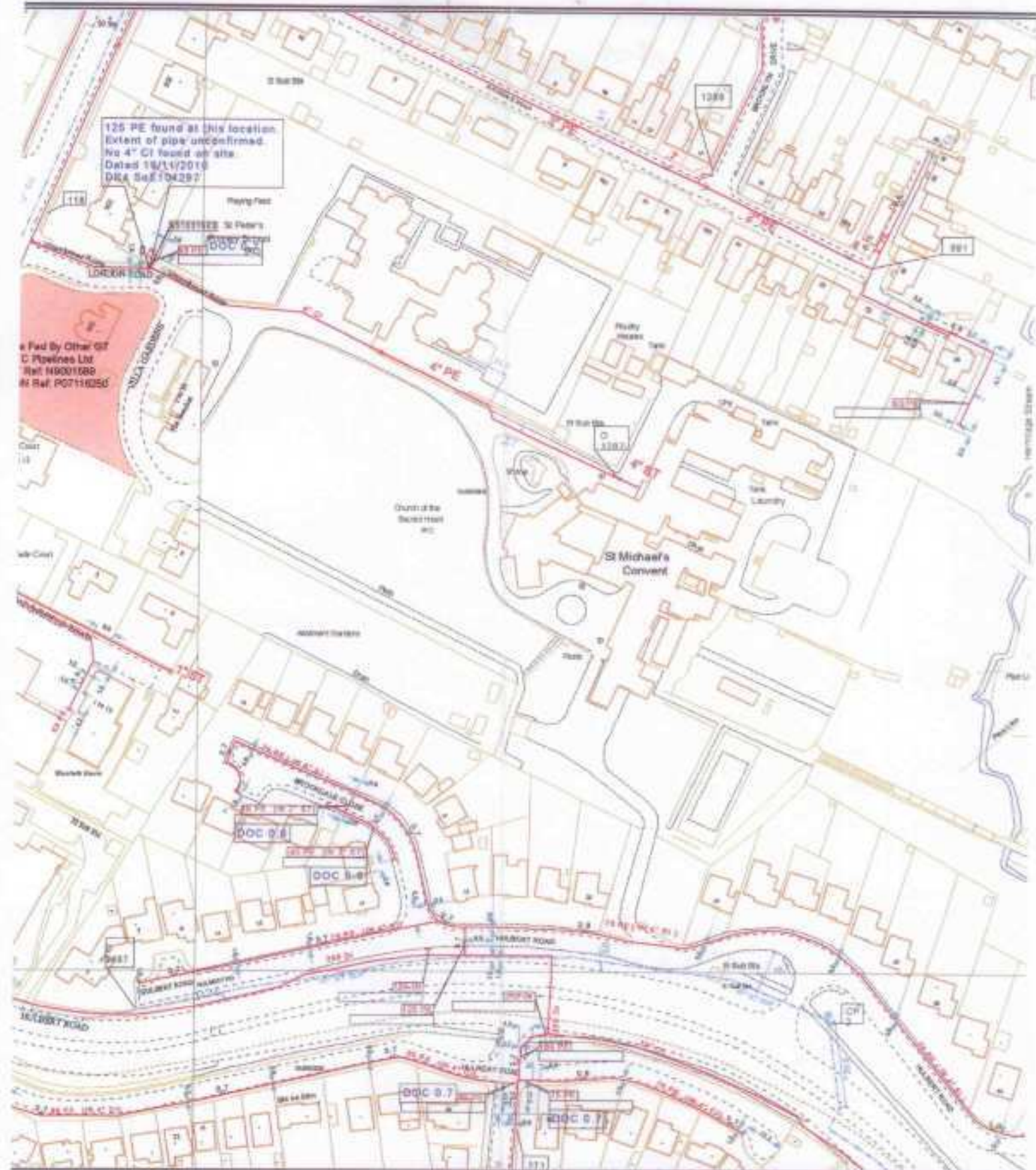
If you have any further enquires please contact the telephone number below.

Yours faithfully,

Janet MacCuish  
Admin Assistant  
0141 418 4093

125 PE found at this location.  
Extent of pipe unconfirmed.  
No 4" CI found on site.  
Dated 18/11/2019  
DGA Ref 104297

Not Fed By Other GT  
C Pipelines Ltd  
Ref: H9001582  
At Ref: PG7116250



This plan shows the location of those pipes owned by Scotia Gas Networks ("SGN") by virtue of being a licensed Gas Transporter (GT). Gas pipes owned by other GTs may also be present in this area and are not shown on this plan. Information with regard to such pipes should be obtained from the relevant owners. No warranties are made by SGN or its agents, servants or sub-contractors for any error or omission contained herein. Safe digging practices, in accordance with the relevant regulations, should be followed to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that no excavation is provided to all persons (whether direct labour or sub-contractors) working for you on or near gas apparatus. The information included on this plan should be used within a period of 28 days from the date of issue.

Mr Malcolm  
St Michael's Convent  
London Road  
Waterlooville  
Portsmouth  
Hampshire  
PO7 7SR

Mr A T Doe  
Portsmouth Depot  
PO BOX 93  
Portsmouth  
Hampshire  
PO6 2PB

Phone: 02392 624123

Fax: 023 92 624 548

E-mail [andy.doe@sse.com](mailto:andy.doe@sse.com)

7.11.2011

Your reference: New Development @ St Michael's Convent, London Road, Waterlooville.  
Our reference: **DUP852**

Dear Sir

**Subject:** New Supplies @ St Michael's Convent, London Road, Waterlooville.

Thank you for your recent enquiry regarding the above development. I am pleased to provide a **BUDGET** quotation for 80 new supplies. The budget quote figure is based on a desk top survey.

#### Budget Costs

|                                 |                         |           |                         |
|---------------------------------|-------------------------|-----------|-------------------------|
| <b>Budget Connection Charge</b> | <b>£45,000.00 + Vat</b> | <b>to</b> | <b>£48,000.00 + Vat</b> |
|---------------------------------|-------------------------|-----------|-------------------------|

These costs are based on the following conditions:

You will be responsible for all ducting & excavation & reinstatement on site at no cost to SSE Power Distribution.

SSE will carry out excavation/reinstatement in the Footpath & Highway.

Any wayleaves and legal consents to carry out the work as planned being forthcoming from third parties.

All ADMD loads to be confirmed.

Any generation (i.e. Solar Panels, etc) to be confirmed.

Any apartments to be confirmed.

## Site Safety Requirements

If your project will require work in the vicinity of our equipment, you are advised to refer to the following documents before commencement of your works:

- \*Health & Safety Executive's Guidance Notes HS (G)47**  
*Avoiding Danger from Underground Services.*
- \*Health & Safety Executive's Guidance Note GS6**  
*Avoiding Danger from Overhead Electricity Lines.*
- \*Electricity at Work Regulations 1989.**

Please note that all SSE Power Distribution plant or equipment should be treated as live until specifically proved otherwise by our authorised personnel.

If you damage our equipment then the cost of repair, and any claims on us, will be invoiced to you or your contractors. If you intend to employ contractors, it is essential that you inform them of the up to date details of our plant and the contents of this letter. Southern Electric does not relinquish its rights to any of its property, including land, disconnected cables or recovered materials.

We trust you find the above in order,

Yours sincerely,

A handwritten signature in dark ink, appearing to be 'A T Doe', written over a horizontal line.

Mr A T Doe  
Network Connections Designer

AVONDALE ROAD

Job Ref: DUP852

Design Review &  
Verification Completed

Name: Andy Doss

Date: 08-11-11

ADJOINING LAND  
INITIAL DEVELOPMENT

EN

SACRED  
HEART  
CHURCH

CONVENT  
CONVERSION

CENTRAL  
AMENITY GARDENS

P.O.C. to existing network

P.O.C. to existing network

BROOKDALE CLOSE

HULBERT ROAD

otation

own

37

Div

PRELIMINARY ISSUE

ARCHITECTS: TOWN  
ST MICHAEL'S CONVENT  
WATERLOOVILLE





# Maps by email Plant Information Reply



## IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

## DIAL BEFORE YOU DIG

FOR PROFESSIONAL ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS

ADVANCE NOTICE REQUIRED  
(Office hours: Monday-Friday 08.00 to 17.00)

Tel: 0800 9173993  
E-mail: [dbyd@openreach.co.uk](mailto:dbyd@openreach.co.uk)  
Website: [www.dialbeforeyoudig.com](http://www.dialbeforeyoudig.com)

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## KEY TO BT SYMBOLS

|  |                    |  |               |
|--|--------------------|--|---------------|
|  | UNDERGROUND PLANT  |  | POLE          |
|  | OVERHEAD PLANT     |  | CABINET       |
|  | JOINT BOX          |  | BURIED JOINT  |
|  | DISTRIBUTION POINT |  | JOINTING POST |
|  | MANHOLE            |  | PROPOSED U/G  |
|  | DP BOUNDARY        |  | PROPOSED O/H  |
|  | OTHER BT BOUNDARY  |  | PROPOSED BOX  |

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.

**openreach**  
a BT Group business

BT ref: BSI09382E

Map reference (centre): SU6850009600

Issued: 25/10/11 09:51:17



**Andrew Malcolm  
Andrew Malcolm Associates Limited  
15 Wild Rose Crescent  
Locks Heath  
Southampton  
SO31 6TG**

Virgin Media  
National Plant Enquiries Team  
Scimitar Park  
Courtauld Road  
Basildon  
Essex  
SS13 1ND

Tel: 0870 888 3116 Opt 2  
Fax: 01268 468557

Plant Enquiry Ref: VM/CIP/77044  
Your Letter Date: 26/10/2011  
Your Ref: AJM/Waterlooville  
Date: 04/11/2011

Dear Mr Malcolm

Enquiry Location: **St. Michael's Convent, London Road, Waterlooville**

Thank you for your enquiry regarding work at the above location.

Virgin Media and Viatel plant should not be affected by your proposed work and no strategic additions to our existing network are envisaged in the immediate future.

Should your request be in relation to a New Development and you require an estimate to be prepared for Virgin Media to service your proposed development, please submit this request for costs along with site drawings (scale 1:500) to:

**Virgin Media**  
New Build  
Virgin Media  
1 Dove Wynd  
Strathclyde Business Park  
Bellshill  
ML4 3AL

This information is only valid on the date of issue. If your start date is 3 months or more from the date of this letter, please re-apply for updated information.

Yours faithfully,

National Plant Enquiries Team  
email: [plant.enquiries.team@virginmedia.co.uk](mailto:plant.enquiries.team@virginmedia.co.uk)

**Please note: National Plant Enquiries Team (Basildon) cover and respond to plant enquiries for all ex ntl:Telewest franchise areas.**



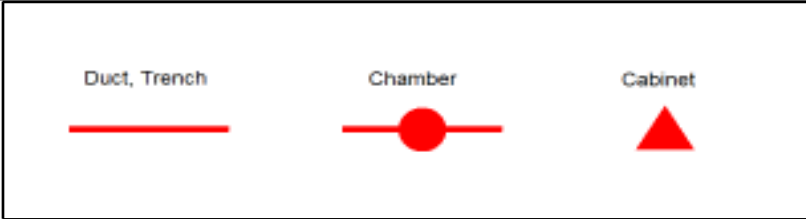
Ordnance Survey Mapping © Crown Copyright 1000019209    Date: 04/11/11    Scale: 1:2162    Map Centre: 468644.8,109669.4    Data updated: 25/10/11    Telecoms Plan A4

Important information - please read

The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website.

Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan.

This plan is produced by Virgin Media Limited from Ordnance Survey © Crown Copyright 100019209



|                                   |
|-----------------------------------|
| bryony.meredith@virginmedia.co.uk |
| Waterlooville                     |
|                                   |



Mr. A Malcolm  
Andrew Malcolm Associates Limited  
15 Wild Rose Crescent  
Locks Heath  
Southampton  
Hampshire  
SO31 6TG

Atkins Limited  
Anglo St James House  
39A Southgate Street  
Winchester  
Hampshire SO23 9EH

Telephone +44 (0)1962 858688  
Fax +44 (0)1962 810296

[winchester.enquiries@atkinsglobal.com](mailto:winchester.enquiries@atkinsglobal.com)  
[www.atkinsglobal.com](http://www.atkinsglobal.com)

23/11/2011

Our Ref: SWS-HANTS-CC-001014

RE: Capacity check application for St. Michael's Convent, London Road, Waterlooville, Hampshire, PO7 7SR

Dear Mr. Malcolm,

I am now in receipt of the results of the capacity check you requested for the above development site.

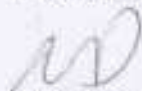
#### FOUL WATER

Following initial investigations, there is currently adequate capacity in the local sewerage network to accommodate a foul flow of 3.7 l/s at manhole reference 7503. Please note that no surface water flows (existing or proposed) can be accommodated within the existing sewerage system.

Before any connection/s are made, an application form needs to be completed and approved by Southern Water services.

Please let me know if we can be of any further assistance in this matter.

Yours faithfully,



Network Development

Please note: -

The information provided above does not grant approval for any designs/drawings submitted for the capacity analysis. The results quoted above are only valid for 12 months from the date of issue of this letter.

# SOUTHERN WATER



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility for any errors or omissions. The actual positions should be checked on site.

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O.S. REF: SU6809NE

Sewer Plot

**WARNING: BAC pipes are constructed of Bitulast Arbestos Cement**

**WARNING: Unknown (UNK) materials may include Bitulast Arbestos Cement**

Scale: 1:2490



Printed By: sathya

Southern Water MapGuide Browser

Requested By:

Date: 8-11-2011

**Southern Water**

Mr Andrew Malcolm  
Andrew Malcolm Associates Ltd.  
15 Wild Rose Crescent  
Locks Heath  
Southampton  
SO31 6TG

**Our ref:** HA/2011/112395/01-L01

**Your ref:**

**Date:** 05 December 2011

Dear Mr Malcolm,

**PROPOSED RESIDENTIAL DEVELOPMENT AT ST MICHAEL'S CONVENT,  
LONDON ROAD, WATERLOOVILLE - PROPOSED DRAINAGE STRATEGY**

Thank you for submitting an enquiry relating to a proposed residential development at St. Michaels Convent, Waterlooville.

The site in question is located in an area shown as flood zone 1, on the Environment Agency's indicative flood zone map and therefore is considered to have a low probability of fluvial flooding.

For development proposals on sites of one hectare or above the vulnerability to flooding from other sources as well as from river and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off, should be fully investigated within a Flood Risk Assessment (FRA) to be submitted with the planning application.

The FRA will need to be produced in accordance with PPS25 Annex E: The Assessment of Flood Risk. Further information on the requirements of an FRA can be obtained from the following website:

<http://www.environment-agency.gov.uk/research/planning/82584.aspx>

The FRA will need to detail how surface water runoff generated by the developed site will be managed. If infiltration methods of drainage are not feasible on the site then an attenuated discharge to the Hermitage Stream would, in principle, be acceptable. Runoff rates from the whole development site should be maintained at existing rates and wherever possible betterment provided. The proposal to discharge from the site at the Mean Annual Flood Rate ( $Q_{bar}$ ) is acceptable and at the detailed design stage calculations should be provided to confirm the rate and long term storage requirements. It is noted from your plan that underground aquacell storage is proposed. The

Environment Agency  
Wessex Business Park (Colvedene Court) Wessex Way, Colden Common, Winchester, SO21 1WP.  
Customer services line: 03708 506 506  
[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Cont/d..

Environment Agency would wish to see a range of SUDS features employed at the site in a management train approach as recommended by CIRIA document C697 (The SUDS manual), in order to control surface water runoff and not just underground storage tanks.

The variety of SUDS techniques available means that virtually any development should be able to include a scheme based around these principles.

Further information on SUDS can be found in:

§ PPS25 page 33 Annex F

§ PPS25 Practice Guide

§ CIRIA C522 document Sustainable Drainage Systems-design manual for England and Wales

§ CIRIA C697 document SUDS manual

§ the Interim Code of Practice for Sustainable Drainage Systems. The Interim Code of Practice provides advice on design, adoption and maintenance issues and a full overview of other technical guidance on SUDS.

The Interim Code of Practice is available on both the Environment Agency's website: [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk) and CIRIA's website: [www.ciria.org.uk](http://www.ciria.org.uk)

If surface water runoff is going to be managed by attenuation to a watercourse the following criteria should be adhered to:

- The drainage system should be designed so that surface water runoff rates from the developed site are no greater than the existing runoff rates from the site, for a range of storms including the 1 in 1, 1 in 30 and 1 in 100 30% events. If a variable rate is not achievable a single rate equivalent to  $Q_{bar}$  is acceptable.
- Long term storage must be provided to cater for the additional runoff volume generated by the development compared to the volume that would have been contributed from the site in its existing state.

The management of surface water runoff from a development should be considered early in the planning process so that sufficient areas of land can be set aside for storage and attenuation features.

If a planning application is submitted for the site the Environment Agency is likely to request a drainage condition ensuring that the above criteria are incorporated into the development.

It is also understood that the existing outfall to the Hermitage Stream is poorly constructed and is causing a potential obstruction to flow and waterborne debris. This structure would benefit from a redesign and build.

The Hermitage Stream is classed as a 'main river' and therefore any works in, under, over or within 8 metres of the river will require the prior written permission of the Environment Agency in the form of a Flood Defence Consent. Any new or replacement headwall structures will require consent from the Environment Agency.

Please note that the view expressed in this letter by the Environment Agency is a response to a pre application enquiry only and does not represent our final view in relation to any future planning application made in relation to this site. We reserve the right to change our position in relation to any such application.

You should seek your own expert advice in relation to technical matters relevant to any planning application before submission.

Should you require any further assistance please do not hesitate to contact me on the number shown below.

Yours sincerely

**Rob Waite**  
**Development & Flood Risk Officer**

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On behalf of Planning Liaison



ROOT PENETRATION INTO EXISTING STORM SEWER AT MANHOLE A



EXISTING STORM OUTFALL TO HERMITAGE STREAM