



General Notes:-

Highways

- All highway works to be carried out in accordance with the current local authority design guide and specification
- All excavations below proposed and existing highways to be back filled with granular Type 1 sub base and well compacted in layers not exceeding 150mm.
- Highway authority to be notified by the contractor prior to the commencement of works.

Adoptable Drainage

- All adoptable drainage works to be in accordance with the water authorities publication - "Sewers For Adoption 6th Edition" as well as the approved drawings.
- Precast concrete manhole rings to comply with the relevant provisions of BS5911: Part 200.
- All brickwork to be Class B engineering complying with the relevant provisions of BS 3921. Concrete bricks may be used if their specification is the same as Class B engineering bricks. Please seek approval from relevant water authority before using.
- Manhole covers and frames shall comply with the relevant provisions of BS EN 124 and be of a non-rocking, non-ventilating design.
- Ladders that are required in Type A manholes are to comply with "Sewers For Adoption 6th Edition".
- Concrete must be either C20 sulphate resistant portland cement with high strength concrete topping to the benching or C35 ordinary portland cement
- 150mm Concrete surround is required around pipes where the depth from finished surface to soffit of pipe is less than 120mm. This may be reduced to 90mm within open space.
- The location of existing drainage that is within close proximity to the proposed site works, which is not to be diverted, should be confirmed by the contractor and reported to the developer to ensure it corresponds to that shown on the engineering layout and that no proposed works are affected.
- Roads and sewers contractor must inform water authority prior to works commencing

Existing Services

Any existing services which may be affected by the proposed works should be located by means of a hand dip in close liaison with the statutory service authorities. The contractor shall inform the developer of any services that may affect the proposed design. Contractor to notify statutory service authorities prior to commencement of work.

As Constructed Information

It is the contractors responsibility to provide the following as constructed drawings to the developer upon the completion of the works covered by the contract :-

- Position/co-ordinates of all adoptable manholes.
- Invert and cover levels of all adoptable manholes.
- New gully positions and connections.
- Position and depth of service ducts for water, gas, electric, BT, cable and street lighting, stating size and number of ducts.

Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and NOT construction. Should the contractor commence site work prior to such approval being given, it is entirely at his own risk.

LEGEND

Adoptable Drainage

- Proposed adoptable Foul manhole: F1
- Proposed adoptable Storm manhole: S1
- Proposed adoptable Combined manhole: C1
- Existing adopted Foul manhole: ex. F1
- Existing adopted Storm manhole: ex. S1
- Existing adopted Combined manhole: ex. C1
- Existing adopted Storm manhole to be abandoned: ex. S1 X

Adoptable Highways

- Proposed Highway to be cambered: [Symbol]
- Proposed Highway to have crossfall: [Symbol]
- Proposed Highway gully: [Symbol]
- Proposed tactile pedestrian crossing: T.C.

Private Drainage

- Private storm rodding eye: [Symbol]
- 300mm dia. private inspection chamber: To be used where depth to invert is 600mm or less
- 450mm dia. private inspection chamber: To be used where depth to invert is 3000mm or less. Reduced access fitting required at depths greater than 1200mm.

Note:-

All private drainage to be 100mm rigid pipe or 110mm flexible pipe unless otherwise shown

Where 5 or more properties connect to the same private storm run the pipes should be collected to 150mm dia. after the 5th property. Please refer to layout to see which that applies.

All private drainage to have a minimum fall of 1:100

Bedding should be granular material to BS 882 - Part 2 of 10mm nominal sharp edged aggregate. Rigid pipes of nominal dia 100mm and 110mm flexible pipes should have granular bedding to BS 882 - Part 2 of 10mm or 15mm nominal sized aggregate or 16mm to 5mm graded aggregate.

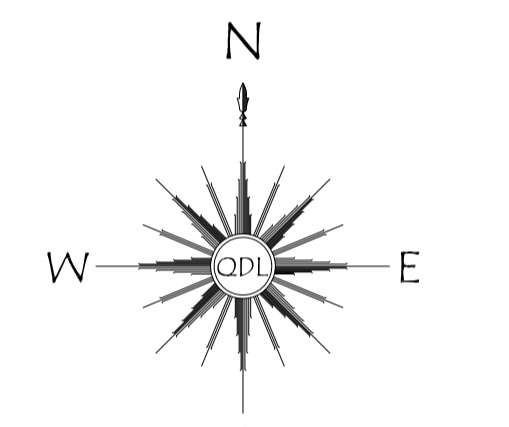
Retaining walls and steps

- Retaining wall (retained height shown): [Symbol]
- Top edge projection (retained over 600mm): [Symbol]
- Tanking: [Symbol]
- Bitwork to be shown below DPC: [Symbol]
- Paving flag Steps - 300mm Gains, 150mm Rise: [Symbol]
- Batter: these should not exceed 1:3 adjacent to adoptable highways: [Symbol]
- Proposed finished ground level: [Symbol]
- DPC levels must NOT be altered without informing the designer

Please refer to Architects layout for details of proposed fencing and walls.

ENGINEERING NOTES - FOR THE ATTENTION OF BELLWAY HOMES TECHNICAL DEPARTMENT

1	Bunding to be constructed in POS area adjacent to the site entrance to facilitate 100 year climate change event.
2	Existing trees located in POS area to remain
3	Storm discharge rate at manhole S10 restricted to 130l/s as requested by Northumbrian Water via the Pre-development Enquiry.
4	Hydro Brake Optimum unit to be constructed at manhole S10.
5	Restricted discharge rate to 130l/s, and there is to be no rainwater harvesting on site.
6	Existing service infrastructure located within site boundary. Potential diversion required.
7	Existing storm sewer between MH6981 & MH6902 to be abandoned.



Rev I - First off manhole cover levels revised to new back of footpath levels. JM 24 06 15
 Rev H - Service duct location overlaid as requested by client. JT 23 06 15
 Rev G - Adoptable drainage revised. Combined outfall added. S10 invert revised. Street lighting revised. Hydrobrake spec revised. JM 04 06 15
 Rev F - Road 3a revised to crossfall and gullies amended. Revised site layout added with amendments to VPs. JM 19 05 15
 Rev E - Sub station removed. Footpath amended fronting plot 87. JM 21 02 15
 Rev D - Lighting column locations added. Slips added fronting plots 10-12. Batter revised to gable of plot 12. Steps omitted to adoptable to footpath fronting plot 12. Footpath alignment revised. White lining added. Tactile crossing points added to Mill Lane. Existing sewer 6981 annotated as to be abandoned. JM 09 01 15.
 Rev C - Engineering updated to latest architect layout. Roads 1 and 4 revised to crossfall. JM 25 06 14
 Rev B - Engineering design updated to current architect layout. JM 29 08 14
 Rev A - Gully position revised at site access. JM 30 07 14.

STREET LIGHTING
 DESIGNED TO BS 5489-1:2003 CEN S3

LC1B

6m high Galvanised Tubular Steel Post Top Column
 Stanton Metal Company Ltd. (Metro)
 to South Tyneside Borough Council's and
 Balfour Beatty Power Networks Specifications.
Finish before erection
 Hot dip Galvanised to BS 729
 External Surfaces Overall & Internal to 250 mm above
 Ground Level
 1st Coat - 'T' Wash
 2nd Coat - Primer of Amercoat 71TC
 External Surfaces overall
 Ameron PSX 700 Colour BS 4800 00 E53
 Additional coat to 250mm above finished Ground Level
 Ameron Steelgard Root Treatment
Lantern :-
 Thorn R2L2 Lanterns with a Neutral White LED
 R2L2 S 12L70 WSC LED_2413 29W
 Controlled by Philips City Touch CMS

LC1A

6m High Raising & Lowering Galvanised Tubular Steel Post Top Column
 Stanton Metal Company Ltd. (Metro)
 to South Tyneside Borough Council's and
 Balfour Beatty Power Networks Specifications.
Finish before erection
 Hot dip Galvanised to BS 729
 External Surfaces Overall & Internal to 250 mm above
 Ground Level
 1st Coat - 'T' Wash
 2nd Coat - Primer of Amercoat 71TC
 External Surfaces overall
 Ameron PSX 700 Colour BS 4800 00 E53
 Additional coat to 250mm above finished Ground Level
 Ameron Steelgard Root Treatment
Lantern :-
 Thorn R2L2 Lanterns with a Neutral White LED
 R2L2 S 12L50 WSC LED_1815 21W
 Controlled by Philips City Touch CMS

Notes

The supply to each column by separate connection to the Regional Electricity Company's Low Voltage Network
By the Regional Electricity Company Operatives

Notes

The supply to each column by separate connection to the Regional Electricity Company's Low Voltage Network
By the Regional Electricity Company Operatives

Drawing Status: **PRELIMINARY**

Title: **Bellway Homes
 Former South Tyneside College
 Mill Lane, Hebburn
 Engineering Layout**

Scale: 1:500 A1	Date: June 2014
Drawn by: JM	e-mail: james.mason@queensberrydesign.co.uk
Drawing no.: QD973-03-01	Revision: I Checked by: MP

QUEENSBERRY DESIGN
 ENGINEERING & ARCHITECTURAL CONSULTANTS

NORTH EAST OFFICE
 SUITE 7D, NETHERTON PARK, STANNINGTON
 NORTHUMBERLAND, NE61 6EP T: 01670 789834

NORTH WEST & YORKSHIRE OFFICE
 BLAKE HOUSE, 2A ST MARTIN'S LANE
 YORK YO1 6LN T: 01904 500 663

www.queensberrydesign.co.uk