Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM.

CONSTRUCTION
WORKING ADJACENT TO LIVE ROADWAY.
DRAINAGE CONNECTIONS REQUIRED TO EXISTING LIVE SEWERS.
WORKING AT HEIGHT.

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

NOTES

1. This drawing is based on the following received information:
THREE60° MAPPING Topographical Survey drawing,
ID PARTNERSHIP drawing SL–01 Rev D.

2. For construction details refer to FAIRHURST drawing no's. 112153/2006 – 2009.

3. All drainage works shall be carried out in accordance with Sewers for Adoption (7th Edition) and Civil Engineering Specification for the Water Industry (5th Edition). All adoptable sewer works and materials to be in accordance with Sewers for Adoption and the local water companies requirements regarding sewers for adoption.

4. All work is to be carried out in accordance with the current British and or European standards, BS codes of Practice & Building Regulations.

5. The position, line and diameter of all existing drainage apparatus should be confirmed on site prior to the commencement of the works. Any discrepancies should be reported to the Engineer in writing immediately.

6. The connection of foul drainage to the existing public sewer system shall be subject to the approval of the local water company.

7. The following pipe strengths shall be used unless stated otherwise.

   Clay pipes – Pipes up to and including 150mm diam to be 28kN/m min. crush strength to BSEN295 1 and BS 65 (surface water only).
   – Pipes between 225mm diam and 300mm diam to be class 160 to BSEN295 1.

   Concrete pipes – Pipes above 300mm diam to be concrete pipe strength class 120 to BS EN 1916 and BS 5911–1.

   Thermoplastic pipes – PVC–U pipes to comply with BS EN 1401–1, BS EB 1852 and BS EN 12666–1.

   Thermoplastic Structured wall pipes – Pipes to comply with BS EN 13476–1, WIS 4–35–01 and BS EN 13476–2 or BS EN 1 3476–3.

8. Trenches to be backfilled with 'approved as dug' material compacted in layers not exceeding 150mm. Method to be determined on site by ground conditions and to the approval of the inspector. Material for Granular bedding & surround shall be single size and rounded.

9. All pipe runs to be laid with flexible joints.

   All pipes entering and exiting manholes are to be connected with pipe soffits level unless noted otherwise.

   Bedding and Surround to be as follows:

Location	Cover to Soffit	Bedding
Road	>1.2m	Class S Granular Bed & Surround
	<1.2m	Class S granular bed with RC protection slab
Non–Adoptable Sewers below Car Parking	>0.9m	Class S Granular Bed & Surround
	<0.9m	Class A Concrete Surround
Hard & Soft Landscaping	>0.6m	Class S Granular Bed & Surround
	<0.6m	Class A Concrete Surround

10. The following concrete mixes are to be used (all in accordance with BS5328):–

Location	Mix Reference
Concrete surround to pipes	GEN3
Concrete base & surround to manholes	GEN3

11. All insitu concrete to be sulphate resisting.
All precast concrete products (ie pipes, manholes, etc) are to be sulphate resisting.

12. Granolithic concrete benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the specification (min thk. 20mm).

    Pre–formed channels are to be used in all manholes with 300mm dia pipes or less.

    Pre–cast concrete seating rings shall NOT be used on Adoptable Manholes.

13. All connections to be turned in direction of flow using pipe bends.

14. Manhole covers & frames to be ductile iron to BS EN124 & as detailed on FAIRHURST drawing 112153./2005 – Manhole Schedules.

15. The Principal Contractor shall be responsible for checking the existing line and invert levels of any connection points for both the foul and surface water systems, prior to undertaking installation of any new drainage works. Any deviation to the levels and positions indicated on the drawing should be brought to the attention of the Project Engineer.

16. All gully & RWP connections to be 150mm diameter laid at a minimum gradient of 1:150 unless noted otherwise.

17. All foul sewer pipes to be 100mm diameter laid at a minimum gradient of 1:40 unless noted otherwise.

18. All polypropylene inspection chambers shall be in accordance with BS7158.

19. All drains to be tested prior to backfilling, after backfilling and upon completion of hard landscaping, in addition all drains to be inspected by CCTV methods prior to hard landscaping.

20. Surface water Linear Drainage Channels, unless noted otherwise, are to be ACO MD 100D 0100 with BS EN124 D400 class ductile iron 'heelguard' grating, or equivalent for the MD types. Linear channel sumps are to have a silt trap and roddable connection to main drainage unless specified otherwise.

21. All private/adopted foul pipes and private surface water pipes to be 100mmø unless indicated otherwise. All adopted surface water pipes to be 150mmø unless indicated otherwise.

22. Location of private manholes is indicative only.

KEY

- Site boundary
- Existing NWL sewer and manhole
- Proposed surface water sewer with manhole
- Proposed surface water sewer with polypropylene inspection chamber (PPIC)
- Proposed rain water downpipe
- Proposed surface water rodding eye
- Proposed foul sewer with manhole
- Proposed foul sewer with polypropylene inspection chamber (PPIC)
- Proposed soil vent pipe
- Proposed combined sewer with manhole
- Proposed permeable paving
- Proposed attenuation tank – Wavin Aquacell, or equivalent

Rev.	Date	Description	Drawn	Checked	Approved
A	23/05/17	BASEPLAN UPDATED. DRAINAGE AMENDED TO SUIT.	JH	JM	NB

Client: South Tyneside Housing Ventures

Project Title: ESKDALE HOUSING

Drawing Title: PROPOSED DRAINAGE

FAIRHURST
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Scale at A1:	Status:		
1:250	Tender		
Drawn:	Checked:	Approved:	
JH	JM	NB	
Date:	Date:	Date:	
28/02/17	03/03/17	03/03/17	

Drawing No.: 112153/2003 Revision: A