

B 156

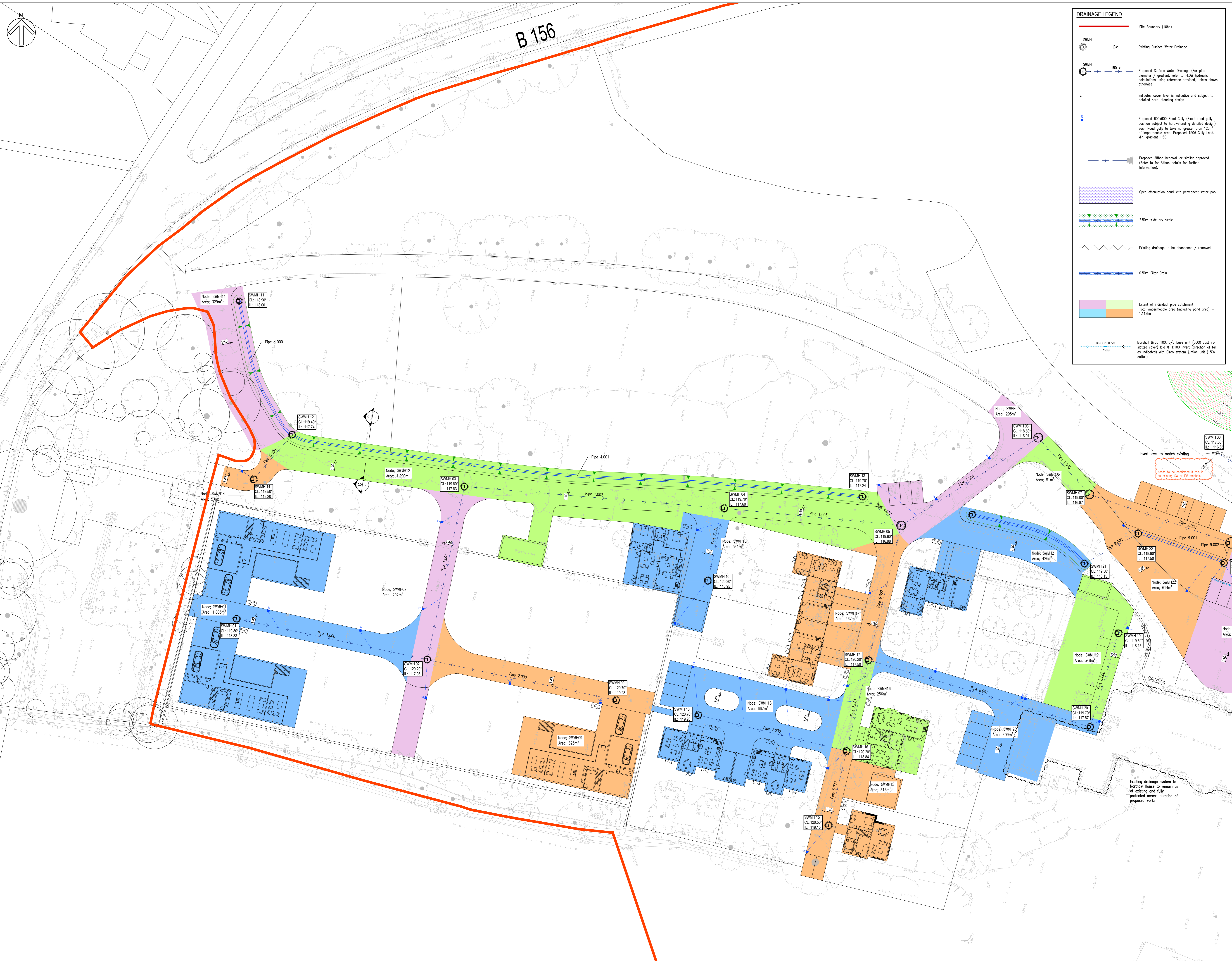
### Drainage Legend

- Site Boundary (10+)
- Existing Surface Water Drainage
- Proposed Surface Water Drainage (For pipe diameter / gradient; refer to FLOW hydraulic calculations using reference provided, unless shown otherwise)
- Proposed 600x600 Road Gully (Exact road gully position subject to hard-standing detailed design) Each Road gully to take no greater than 100m<sup>2</sup> of impermeable area Proposed 150# Gully Lead. Min. gradient 1:80.
- Proposed Althon headwall or similar approved. (Refer to for Althon details for further information).
- Open attenuation pond with permanent water pool.
- 2.50m wide dry swale.
- Existing drainage to be abandoned / removed
- 0.50m Filter Drain
- Extent of individual pipe catchment
- BRCC 100.50
- Marshalls Bico 100, 5/0 base unit (600 cast iron slotted cover) laid @ 1:100 invert (direction of fall as indicated) with Bico system junction unit (150# outlet).

### DO NOT SCALE

- GENERAL**
- The contractor shall comply with the health and safety requirements as set out in the CDM Regulations.
  - All work is to be undertaken in accordance with the Building Regulations and latest relevant British Standards.
  - Conflicting information between this drawing and information given by others must be referred to the engineer before the works commence.
  - The contractor shall, before commencing the works, verify all existing outfall invert levels and site setting out dimensions. The contractor shall be responsible for the true and proper setting out of the works and for the correctness of the position, levels, dimensions, and alignment of all parts of the works. Any discrepancies are to be reported to Civilistix Consulting Engineers.
  - All products used are to be CE marked in accordance with the Construction Products Directive (CPD/89/106/EEC).
  - The contractor shall be responsible for locating all existing utilities prior to commencing construction and protecting all existing services affected by the works.
  - Any unidentified hazards discovered during the progress of works are to be reported immediately to the engineer.
- DRAINAGE**
- All drain runs constructed with less than 600mm cover between finished ground level and crown of the pipe are to be encased with a minimum of 150mm Grade S14 concrete. The casing concrete is to be jointed at every pipe joint position with 20mm Flexcell board to form joint and provide joint flexibility.
  - All pipework 300mmØ or below to be vitrified clay, Hargreaves Supersew/Supersew or similar approved. All pipework greater than 300mm Ø to be Class H concrete.
  - All SVP/SS and RWP building spurs to be 100Ø pipework laid at 1:40 for foul water and 1:80 for surface water.
  - Refer to architect's drawings for above-ground drainage locations.
  - All building drainage to be installed and tested in compliance with the building regulations approved document H, 2015 edition.
  - Install concrete for use in general drainage works shall be in accordance with BS8500 and in accordance with the recommendations of the site investigation report, and in accordance with BRE Digest 1 "Concrete in aggressive ground" to meet any expected sulphate conditions.
  - All gullies, channels and manhole covers are to be set 5mm lower than indicated on the drawing (i.e. 5mm lower than the adjacent surface). All drain and sewer pipes are to be laid soffit to soffit, unless shown otherwise.
  - All above-ground drainage to incorporate rodding access facilities.
  - All manhole covers and frames shall be manufactured from ductile iron and comply with BSEN124 and be marked 'FW' or 'SW'. They shall be non-ventilating type and have closed keyways, the minimum frame depth shall be 100mm.
  - Small lightweight access covers should be secured (e.g. with screws) to deter unauthorised access.
  - Manholes deeper than 1m to have galvanised steel stairs or fixed ladders.
  - Manhole covers within paved areas are to be recessed with paving to match.
  - Contractor to undertake a pre-construction CCTV drainage survey to confirm that no existing third party connections require maintaining or diverting through the development site.
  - All earthworks to be undertaken in accordance with the specification for highway works, including laying, tolerances, compaction, site preparation and material selection and grading.

**NOTES:**  
 THE COVER LEVELS AND FINISHED SURFACE GRADIENTS SHOWN ON THIS PLAN ARE INDICATIVE AND SUBJECT TO HARDSTANDING DETAILED DESIGN



REV	DATE	BY	SUMMARY OF CHANGE	CHK	APP
1	10/03/2020	DM			

PLANNING CONDITION DISCHARGE

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CLIENT: LW DEVELOPMENTS  
 ARCHITECT: BRYANT & MOORE  
 PROJECT: NORTHAW HOUSE, POTTERS BAR, HATFIELD

DRAWING TITLE: PROPOSED DRAINAGE GENERAL ARRANGEMENT PLAN (SHEET 1 OF 3)

SCALE @ A0: 1:200 @ A0  
 CHECKED/ APPROVED BY: DM  
 DATE: 10/03/2020  
 PROJECT NO: 1-046  
 DRAWING NO: 1-046-CCE-XX-DR-C-001