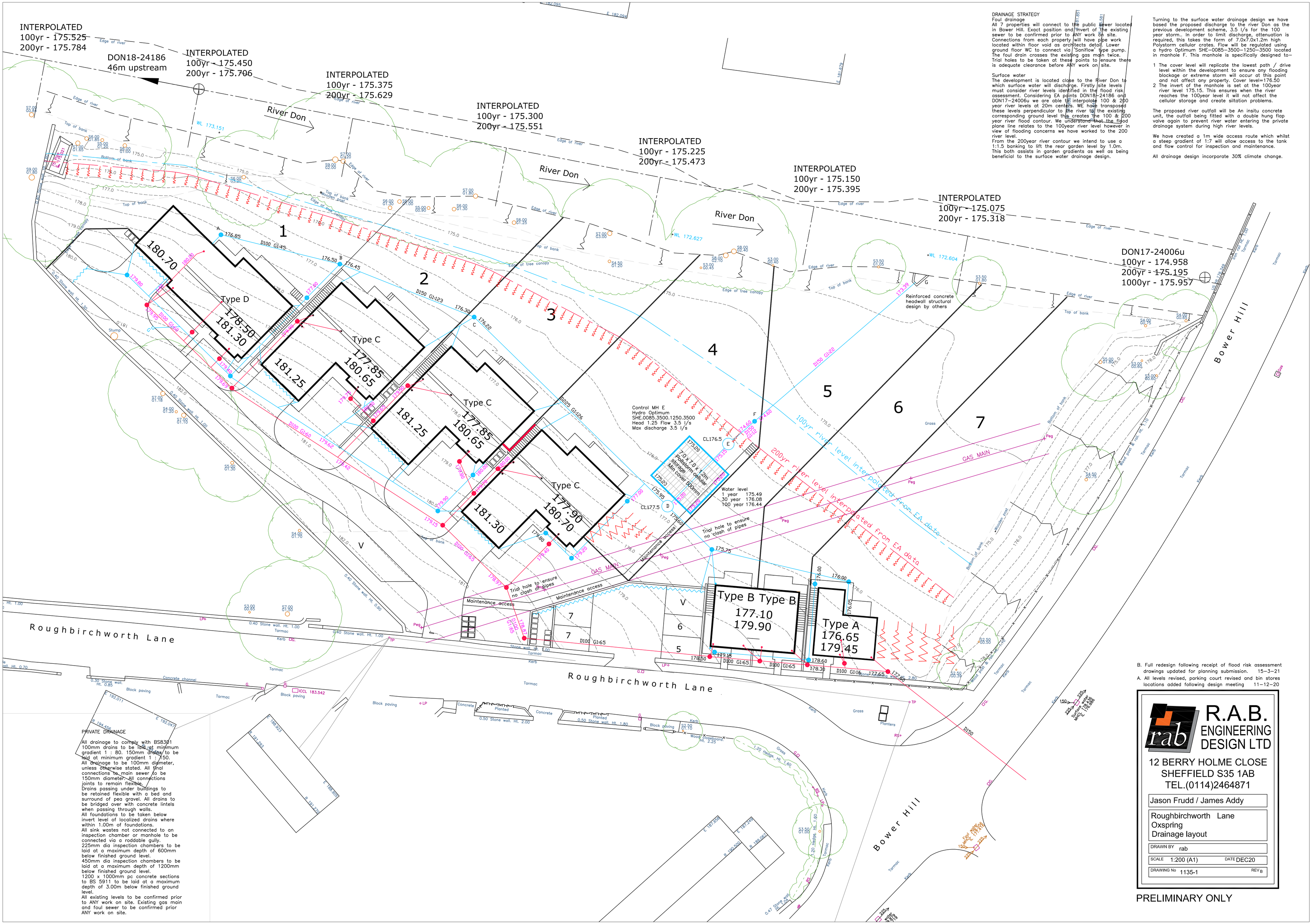

DRAINAGE STRATEGY

Foul drainage

All 7 properties will connect to the public sewer located in Bower Hill. Exact position and invert of the existing sewer to be confirmed prior to ANY work on site. Connections from each property will have pipe work located within floor void as architects detail. Lower ground floor WC to connect via 'Saniflow' type pump. The foul drain crosses the existing gas main twice. Trial holes to be taken at these points to ensure there is adequate clearance before ANY work on site.

Surface water

The development is located close to the River Don to which surface water will discharge. Firstly site levels must consider river levels identified in the flood risk assessment. Considering EA points DON18-24186 and DON17-24006u we are able to interpolate 100 & 200 year river levels at 20m centers. WE have transposed these levels perpendicular to the river to the existing corresponding ground level this creates the 100 & 200 year river flood contour. We understand that the flood plane line relates to the 100year river level however in view of flooding concerns we have worked to the 200 river level.

From the 200year river contour we intend to use a 1:1.5 banking to lift the rear garden level by 1.0m. This both assists in garden gradients as well as being beneficial to the surface water drainage design.

Turning to the surface water drainage design we have based the proposed discharge to the river Don as the previous development scheme, 3.5 l/s for the 100 year storm.. In order to limit discharge, attenuation is required, this takes the form of 7.0x7.0x1.2m high Polystorm cellular crates. Flow will be regulated using a hydro Optimum SHE-0085-3500-1250-3500 located in manhole F. This manhole is specifically designed to-

1 The cover level will replicate the lowest path / drive level within the development to ensure any flooding blockage or extreme storm will occur at this point and not affect any property. Cover level=176.50
2 The invert of the manhole is set at the 100year river level 175.15. This ensures when the river reaches the 100year level it will not affect the cellular storage and create siltation problems.

The proposed river outfall will be An insitu concrete unit, the outfall being fitted with a double hung flap valve again to prevent river water entering the private drainage system during high river levels.

We have created a 1m wide access route which whilst a steep gradient of 1:7 will allow access to the tank and flow control for inspection and maintenance.

All drainage design incorporate 30% climate change.

PRIVATE DRAINAGE

All drainage to comply with BS8301
100mm drains to be laid at minimum gradient 1 : 80. 150mm drains to be laid at minimum gradient 1 : 150.
All drainage to be 100mm diameter, unless otherwise stated. All final connections to main sewer to be 150mm diameter. All connections joints to remain flexible.
Drains passing under buildings to be retained flexible with a bed and surround of pea gravel. All drains to be bridged over with concrete lintels when passing through walls.
All foundations to be taken below invert level of localized drains where within 1.00m of foundations.
All sink wastes not connected to an inspection chamber or manhole to be connected via a roddable gully.
225mm dia inspection chambers to be laid at a maximum depth of 600mm below finished ground level.
450mm dia inspection chambers to be laid at a maximum depth of 1200mm below finished ground level.
1200 x 1000mm pc concrete sections to BS 5911 to be laid at a maximum depth of 3.00m below finished ground level.
All existing levels to be confirmed prior to ANY work on site. Existing gas main and foul sewer to be confirmed prior ANY work on site.

B. Full redesign following receipt of flood risk assessment drawings updated for planning submission. 15-3-21
A. All levels revised, parking court revised and bin stores locations added following design meeting 11-12-20

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Jason Frudd / James Addy

Roughbirchworth Lane
Oxspring
Drainage layout

DRAWN BY rab
SCALE 1:200 (A1) DATE DEC20
DRAWING No 1135-1 REV B

PRELIMINARY ONLY