

August 2026

**RE: Former Oakenrod School & Mill Sites, Bury Road, Rochdale, OL11 5EU -
Drainage Technical Note in Support of Section 73 Application (Consented Ref:
22/01068/FUL)**

1. Purpose / Background Context

This note supports a Section 73 application to vary the consented residential development of up to 52 dwellings at the former Oakenrod School & Mill Sites. The variation substitutes a number of plots to suit the developer's current house type range and reduced the scheme down to 46 dwellings. This note sets out the drainage position for the amended scheme against the consented strategy and should be read alongside the T J Booth Associates Flood Risk Assessment (Rev 3, November 2024) and Drainage Strategy Report (Rev 1, November 2024), which remain the governing drainage documents for the development.

Planning conditions 4 & 5 of App Ref: 22/01068/FUL are of relevance and set out below:

"4. The development shall be carried out in accordance with the submitted Flood Risk Assessment (Ref TJBA-HALLMARK-OAKENROD-FRA2&3-220120, Dated November 2024 Rev 3) and the following mitigation measures it details:

- Finished floor levels shall be set no lower than 116.74 metres above Ordnance Datum (AOD) on the upper reach, and 115.31 mAOD on the lower reach.*
- Flood contour, compensation and flow route mitigation shall adhere to the appropriate plan in the FRA at "Flood Contour, compensation and Flow Route Mitigation Plan", drawing name DWG-TJBA-HALLMARK-OAKENROD-24-0220 Rev 1.*

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the Scheme's timing/phasing arrangements. The detailed measures above shall be retained and maintained thereafter throughout the lifetime of the development."

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“5. The drainage for the development hereby approved, shall be carried out in accordance with the principles set out within the submitted Foul & Surface Water Drainage Design Drawing 240220, Rev 2 - Dated November 2024 which was prepared by T J Booth Associates. For the avoidance of doubt, surface water must drain at the restricted rate of 12.13 l/s. No surface water will be permitted to drain directly or indirectly into the public sewer.

Prior to occupation of the proposed development, the drainage schemes shall be completed in accordance with the approved details and retained thereafter for the lifetime of the development.”

It is the intention to amend approved details listed under Condition 4 & 5 as part of the S73 application, specifically to replace the flood contour, compensation and flow route mitigation plan (condition 4) and the foul and surface water drainage drawing for the site (condition 5). The approved FRA and FFL, as well as the discharge rate remain unchanged.

2. Consented Drainage Strategy

The consented strategy follows the national drainage hierarchy for surface water disposal. Infiltration was ruled out on ground conditions: the site is underlain by cohesive soils with widespread PAH exceedances, and the geoenvironmental consultant (E3P) advised against soakaway drainage to avoid mobilising contaminants towards the River Roch and groundwater.

Surface water therefore discharges to the River Roch, the next available tier in the hierarchy. Flows from the developed area are controlled by a hydrobrake vortex control at the greenfield QBar rate (12.1 l/s) as required by Condition 5, with an offline attenuation basin providing storage up to the 100 year + 45% climate change rainfall event.

Foul water discharges by gravity to the United Utilities 450mm combined sewer in Bury Road at a peak rate of 10.8 l/s.

3. Proposed Amendments

The plot substitutions do not materially alter the site access, the road layout, or the drainage catchments. Impermeable areas are materially unchanged from the consented layout and remain within the contributing area allowed for in the consented Microdrainage model. The surface water strategy - discharge point, control rate, attenuation volume and basin location - is retained as consented. The substituted layout has been re-run through the Microdrainage model in full: discharge to the River Roch remains controlled at the greenfield QBar rate of 12.1 l/s, the attenuation basin accommodates all storms up to the 100 year + 45% climate change event, and there is no flooding to the development in the 30 year event nor property flooding in the 100 year + 45% event. The full calculation set is appended to this note.

See Appendix A

4. Foul Water Connection

One amendment is proposed to the foul strategy. The consented scheme showed a new manhole connection to the combined sewer within the Bury Road carriageway. Bury Road is a busy classified route, and breaking into the sewer within the live carriageway would require a road closure or significant traffic management.

The connection point has therefore been relocated to a more favourable and less disruptive position on site, connecting to the existing combined sewer at existing manhole 6107, located within the site on the 150mm VC combined sewer which drains to the 450mm sewer in Bury Road (refer to the United Utilities sewer records extract attached). This removes all works from the highway, avoids any closure of Bury Road, and reduces construction risk to both operatives and the travelling public. The connection remains subject to United Utilities approval under the Section 106 (Water Industry Act) application process.

The peak foul discharge remains 10.8 l/s by gravity and is unchanged by the revised connection point. Flows continue to discharge to the same Bury Road combined sewer, now via the existing 150mm branch, so there is no change to the receiving network downstream. The foul pumping station remains at the site entrance, but relocated to the northern side of the new estate road.

5. Flood Risk

The conclusions of the consented Flood Risk Assessment (FRA) remain wholly unaffected by the proposed plot substitutions. Minimum finished floor levels are maintained exactly as consented: 116.74m aOD in the upper reach and 115.31m aOD in the lower reach. While the flood compensation scheme has been updated because a portion of the original area falls outside the site boundary, the required compensation volume has been fully re-provided within the current site limits / application red edge. Consequently, the floodplain compensation works shown on the consented mitigation plan are retained in full, ensuring the development remains safe for its lifetime up to and including the 100-year + 35% climate change fluvial event, with a net gain in floodplain volume. See Appendix B.

6. Conclusion

The Section 73 scheme follows the consented drainage strategy in full: surface water to the River Roch at the greenfield QBar rate with attenuation to the 100 year + 45% climate change event, and foul flows to the United Utilities combined sewer at an unchanged rate. The only amendment is the foul connection point, relocated onto the site to avoid closing Bury Road. Flood compensatory storage areas have been provided on a like for like basis. The proposals remain compliant with the national drainage hierarchy and the drainage-related conditions of the consent, and no change to the approved drainage philosophy is sought. Updated drawings are submitted for approval against conditions 4 & 5 as outlined above.

For and on behalf of Alan Johnston Partnership



Kenny O'Brien

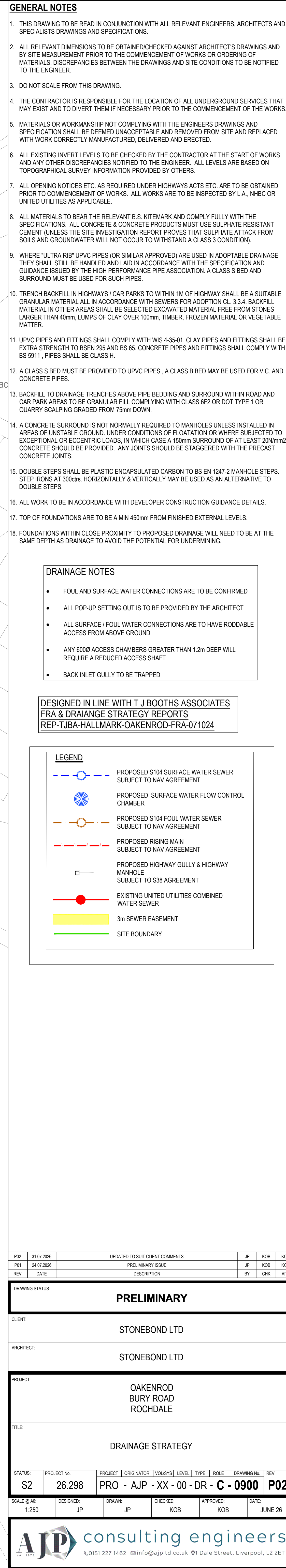
- Director

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Appendix A – Proposed Drainage Layout & SW Calculations



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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
1	119.300	1.800	Open Manhole	1200	1.000	117.500	225				
2	119.000	1.665	Open Manhole	1350	1.001	117.335	225	1.000	117.335	225	
3	118.800	3.040	Open Manhole	1500	1.002	115.760	225	1.001	117.260	225	1500
4	117.500	1.800	Open Manhole	1800	2.000	115.700	375				
5	118.100	2.705	Open Manhole	1800	2.001	115.395	375	2.000	115.395	375	
6	118.600	4.950	Open Manhole	2100	1.003	113.650	375	1.002	115.265	225	1465
								2.001	115.175	375	1525
HW	114.200	1.625	Open Manhole	1350	1.004	112.575	450	1.003	112.650	375	
HW	114.200	1.680	Open Manhole	1350	1.005	112.520	450	1.004	112.520	450	
9	114.200	1.700	Open Manhole	2100	1.006	112.500	225	1.005	112.500	450	
	113.500	1.130	Open Manhole	0		OUTFALL		1.006	112.370	225	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
1	388676.307	413071.660	388676.307	413071.660	Required	
2	388702.706	413079.166	388702.706	413079.166	Required	
3	388713.816	413084.943	388713.816	413084.943	Required	
4	388797.807	413147.626	388797.807	413147.626	Required	
5	388756.197	413116.765	388756.197	413116.765	Required	
6	388726.427	413094.503	388726.427	413094.503	Required	
HW	388749.070	413063.743	388749.070	413063.743	Required	
HW	388747.365	413047.212	388747.365	413047.212	Required	
9	388746.889	413040.200	388746.889	413040.200	Required	

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1 Dale Street Liverpool L2 2ET	26.294 OAKENROD NETWORK RESULTS	
Date 24/07/2026 16:47 File REV A NETWORK.MDX	Designed by JP Checked by KOB	
Micro Drainage		Network 2020.1.3

Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
	388764.750	413027.883			No Entry	

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1 Dale Street Liverpool L2 2ET	26.294 OAKENROD NETWORK RESULTS	
Date 24/07/2026 16:47 File REV A NETWORK.MDX	Designed by JP Checked by KOB	
Micro Drainage	Network 2020.1.3	

Online Controls for Storm

Hydro-Brake® Optimum Manhole: 9, DS/PN: 1.006, Volume (m³): 6.7

Unit Reference	MD-SHE-0154-1210-1300-1210
Design Head (m)	1.300
Design Flow (l/s)	12.1
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	154
Invert Level (m)	112.500
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.300	12.1	Kick-Flo®	0.839	9.8
Flush-Flo™	0.384	12.1	Mean Flow over Head Range	-	10.5

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.6	0.800	10.4	2.000	14.8	4.000	20.7	7.000	27.0
0.200	11.3	1.000	10.7	2.200	15.5	4.500	21.9	7.500	27.9
0.300	12.0	1.200	11.7	2.400	16.2	5.000	23.0	8.000	28.8
0.400	12.1	1.400	12.5	2.600	16.8	5.500	24.1	8.500	29.7
0.500	12.0	1.600	13.3	3.000	18.0	6.000	25.1	9.000	30.5
0.600	11.7	1.800	14.1	3.500	19.4	6.500	26.1	9.500	31.3

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Storage Structures for Storm

Tank or Pond Manhole: HW, DS/PN: 1.005

Invert Level (m) 112.520

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	250.0	1.450	469.2	1.451	0.0

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Micro Drainage	Network 2020.1.3	

Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	1	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR M5-60 (mm)	19.000	Cv (Summer)	1.000	
Region	England and Wales	Ratio R	0.279	Cv (Winter)	1.000

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 45

									Water	Surcharged	Flooded
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)
1.000	1	15 Summer	100	+45%	30/15 Summer				118.439	0.714	0.000
1.001	2	15 Summer	100	+45%	30/15 Summer				118.025	0.465	0.000
1.002	3	15 Summer	100	+45%	100/15 Summer				116.799	0.814	0.000
2.000	4	15 Summer	100	+45%	100/15 Summer				116.397	0.322	0.000
2.001	5	15 Summer	100	+45%	100/15 Summer				116.187	0.417	0.000
1.003	6	15 Summer	100	+45%	100/15 Summer				115.352	1.327	0.000
1.004	HW 360	Winter	100	+45%	30/15 Summer				113.790	0.765	0.000
1.005	HW 360	Winter	100	+45%	30/60 Summer				113.786	0.816	0.000
1.006	9 360	Winter	100	+45%	1/60 Summer				113.791	1.066	0.000

		Half Drain		Pipe			
PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
1.000	1	1.61			59.9	SURCHARGED	
1.001	2	2.65			91.6	SURCHARGED	
1.002	3	1.62			132.0	SURCHARGED	
2.000	4	0.85			121.5	SURCHARGED	
2.001	5	1.68			233.4	SURCHARGED	
1.003	6	1.37			402.0	SURCHARGED	
1.004	HW	0.52			75.3	SURCHARGED	

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Summary of Critical Results by Maximum Level (Rank 1) for Storm

US/MH			Half Drain		Pipe		
PN	Name	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
1.005	HW	0.15			14.6	SURCHARGED	
1.006	9	0.33			12.1	SURCHARGED	

Appendix B – Flood Compensation

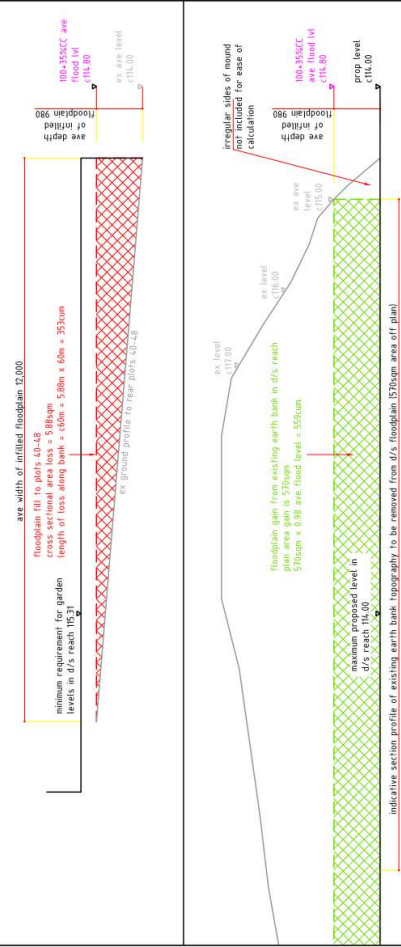


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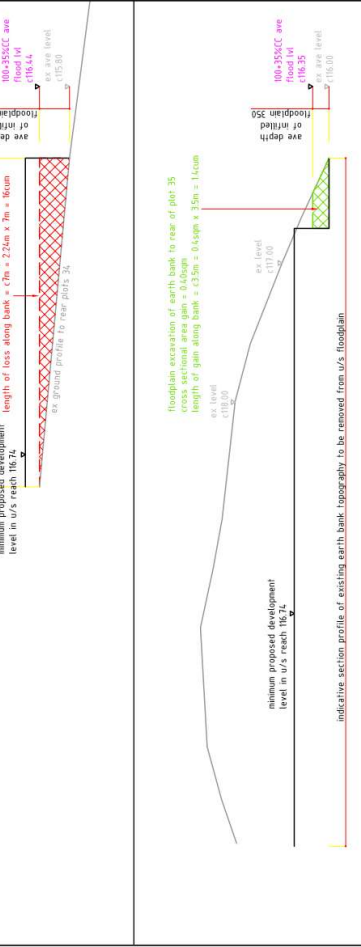
4.3 Flood Contour, Compensation & Flow Route Mitigation Plan.



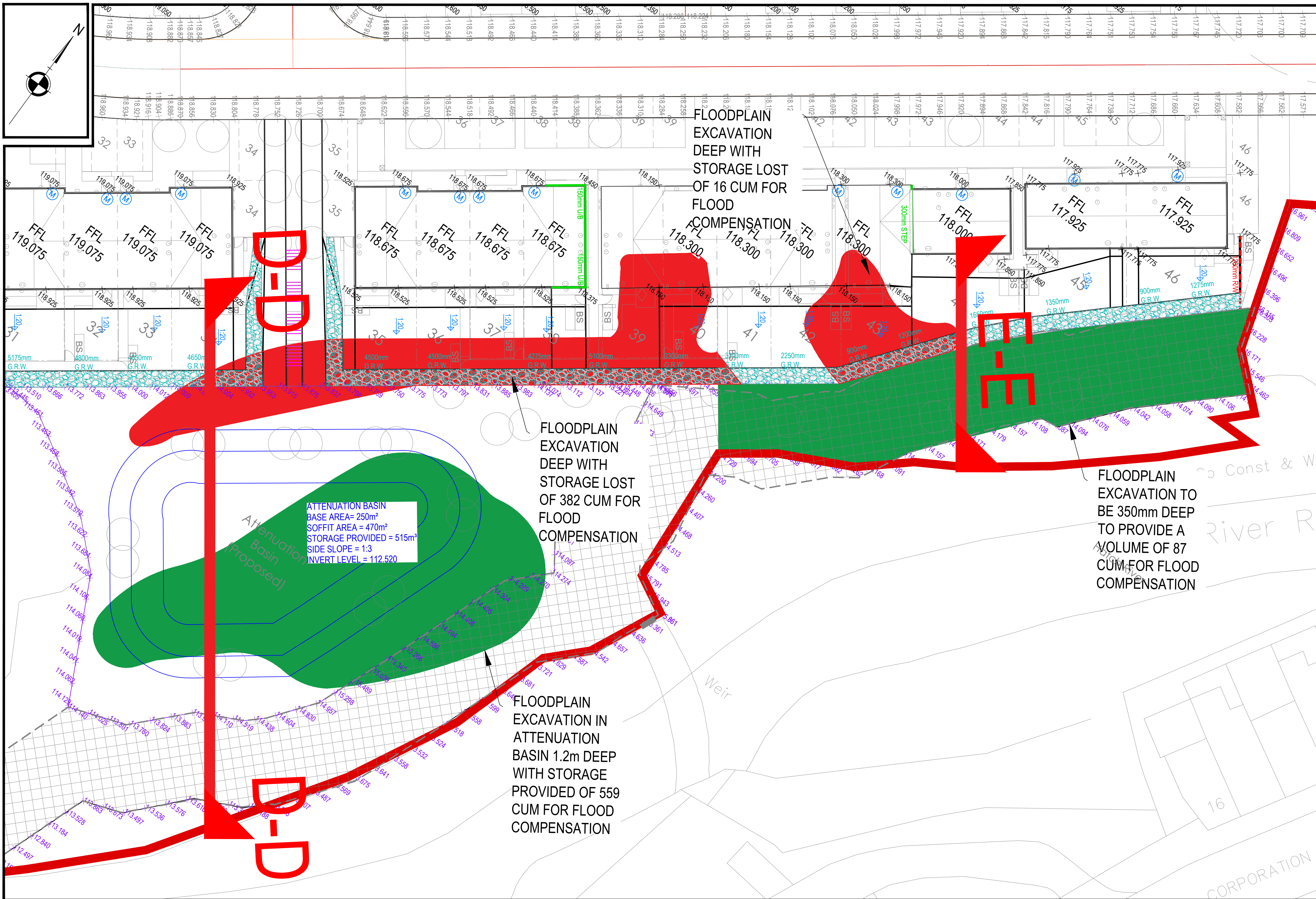
DOWNSTREAM FLOOD COMPENSATION



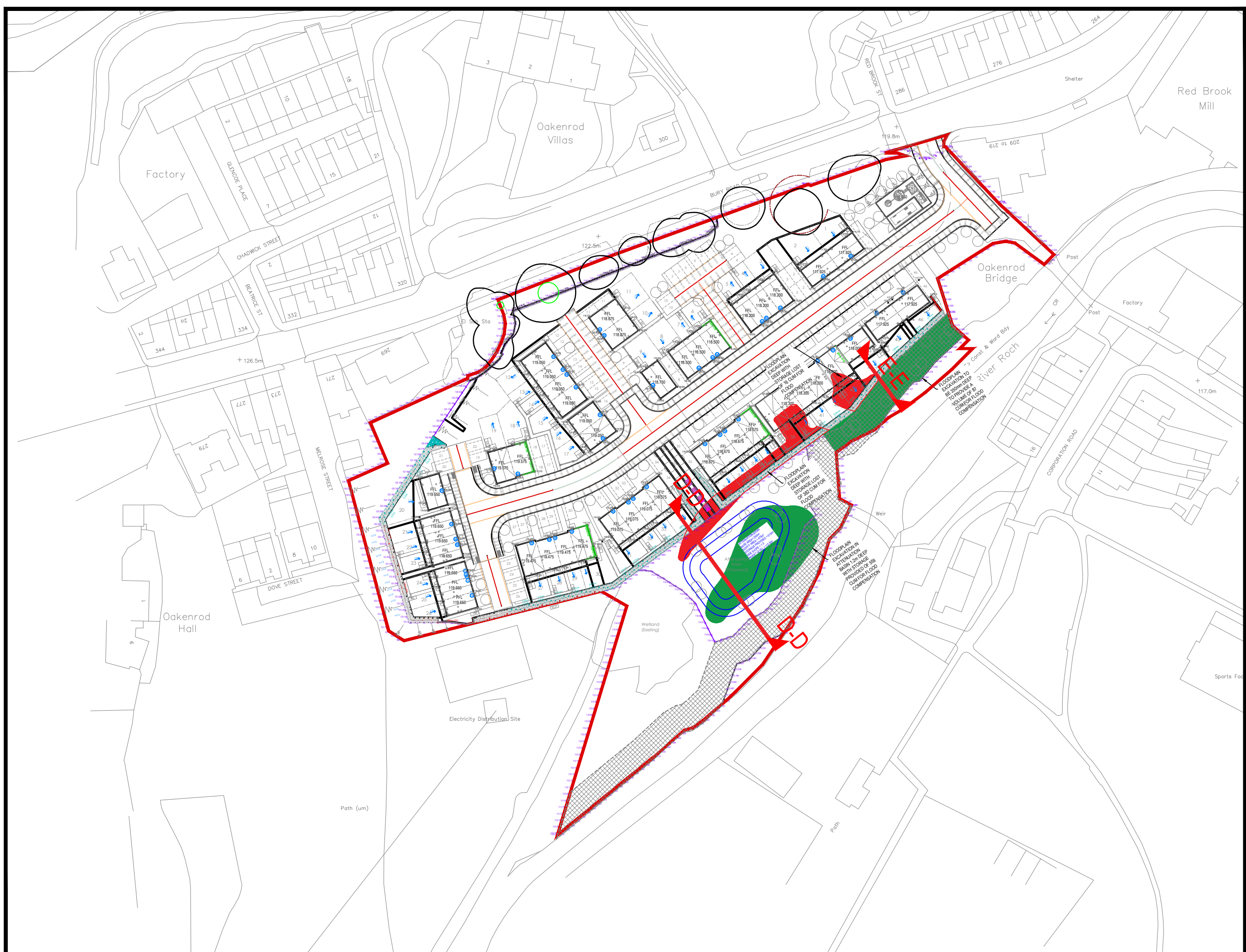
UPSTREAM FLOOD COMPENSATION
SECTIONS (net gain 31.4cum)



CONSULTING CIVIL & GEOTECHNICAL ENGINEERS		OL16 IDH Tel:01706 869288	
HALLMARK / OAKENROD			
FLOOD CONTOURS, PROPOSED FFLS & COMPENSATION MITIGATION			
FILE NAME: dwg-3jba-hallmark-oakernod-240220	1	are both levels updated	nov 2024 ds
	0	original for RIA	nov 2024 ds
SCALE: 1 : 1250 & 1:100 @ A3	REVISION	REASON/ CHANGE	DATE BY



SCALE: 1:200



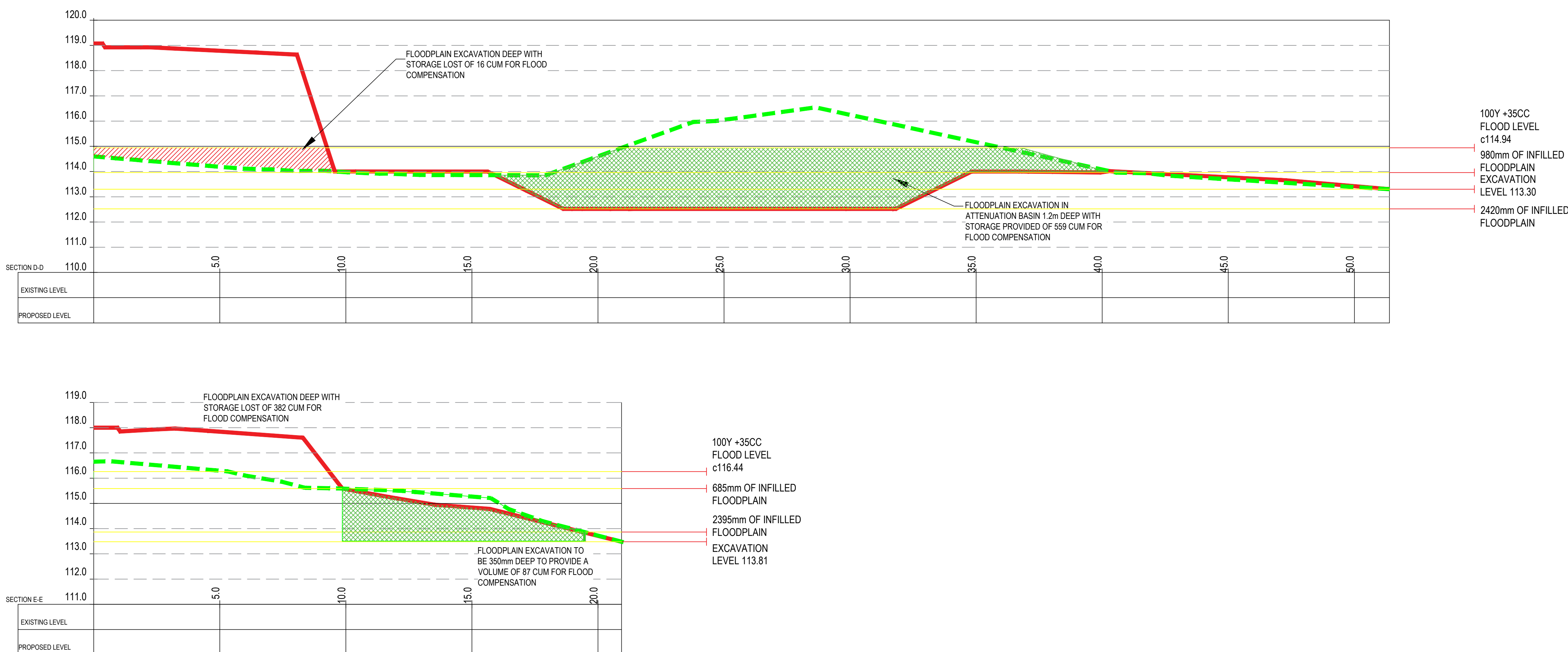
SCALE: 1:1000

GENERAL NOTES

- SETTING OUT SHALL BE UNDERTAKEN USING ONLY THE INFORMATION GIVEN. DISTANCES SHOULD NOT BE SCALED FROM THE DRAWING.
 - ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION 6TH EDITION AND UNITED UTILITIES DETAILS & GUIDELINES.
 - THE MINIMUM GRAVITY PIPE DIAMETER UNDER ADOPTABLE HIGHWAYS SHALL BE 150mm.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION GIVEN WITH REGARDS TO EXISTING SERVICES AND DRAINAGE CONNECTIONS ETC. PRIOR TO COMMENCING THE WORKS. THE RATES SHALL INCLUDE FOR HANDING AROUND SERVICES WHERE NECESSARY. THE CONTRACTOR SHALL ADHERE TO THE CDM REGULATIONS AT ALL TIMES.
 - THE OUTSIDES OF ALL SEWERS SHALL BE A MINIMUM OF 1.0m FROM KERB LINES AND THE OUTSIDE OF MANHOLES SHALL BE A MINIMUM OF 0.5m FROM KERB LINES.
 - EXISTING FLOWS IN WATERCOURSES, SEWERS AND LAND DRAINS SHALL BE MAINTAINED AT ALL TIMES.
 - ONLY TRAINED PERSONNEL SHALL BE PERMITTED TO ENTER CONFINED SPACES.
 - ALL MATERIALS TO BEAD THE RELEVANT B.S. ITEM AND COMPLY FULLY WITH THE SPECIFICATIONS. ALL CONCRETE & CONCRETE PRODUCTS MUST USE SULPHATE RESISTANT CEMENT (UNLESS THE SITE INVESTIGATION REPORT PROVES THAT SULPHATE ATTACK FROM SOILS AND GROUNDWATER WILL NOT OCCUR TO WITHSTAND A CLASS 4).
 - ALL OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS ETC. ARE TO BE OBTAINED PRIOR TO COMMENCEMENT OF WORKS. ALL WORKS ARE TO BE INSPECTED BY L.A., INBC OR THE NETWORK OPERATOR AS APPLICABLE.
 - WHERE 'ULTRA RIB' UPVC PIPES OR SIMILAR APPROVED ARE USED IN ADOPTABLE DRAINAGE THEY SHALL STILL BE HANDLED AND LAID IN ACCORDANCE WITH THE SPECIFICATION AND GUIDANCE ISSUED BY THE HIGH PERFORMANCE PIPE ASSOCIATION.
 - A CLASS 5 BEDDING AND SURROUND MUST BE USED FOR SUCH PIPES. TRENCH BACKFILL IN HIGHWAYS TO WITHIN 1M OF HIGHWAY SHALL AS DIRECTED BY THE HIGHWAY AUTHORITY BE A SUITABLE GRANULAR MATERIAL ALL IN ACCORDANCE WITH SEWERS FOR ADOPTION C4.3.4.
 - SLAB LEVELS SHALL NOT BE VARYED WITHOUT REFERENCE TO THE ENGINEER FOR GUIDANCE.
 - DOMESTIC DRAINAGE SHALL BE TO BUILDING REGULATIONS APPROVED DOCUMENT H: 110mm U.P.V.C. PIPES LAD TO THE FOLLOWING MINIMUM FALLS UNLESS OTHERWISE SHOWN.
- | FOUL | S.W. | HEAD RISE | ELSEWHERE |
|---------|---------|-----------|-----------|
| 1 IN 40 | 1 IN 60 | 1 IN 60 | 1 IN 100 |
- ALL GULLY CONNECTIONS TO BE 150mm VITRIFIED CLAY UNLESS NOTED OTHERWISE.
 - MINIMUM COVER TO DRAINAGE SOFFIT LEVEL: LANDSCAPING: 0.600m TRAFFICKED AREAS: 0.800m HIGHWAYS: 1.200m
- CLASS 5 BEDDING AND SURROUND TO BE USED WHERE MINIMUM COVER IS ACHIEVED.
• WHERE MINIMUM COVER IS NOT ACHIEVED CLASS 7 BEDDING AND SURROUND (CONCRETE ENCASEMENT) IS TO BE USED.

LEGEND

- FLOOD PLAIN EXCAVATION STORAGE GAINED
- FLOOD PLAIN EXCAVATION STORAGE LOST
- EXISTING GROUND LEVELS
- PROPOSED GROUND LEVELS



SCALE: 1:100

PIV	07.08.2020	PRELIMINARY ISSUE	JUL	JP	NAC
REV	DATE	DESCRIPTION	BY	CHK	APP
DRAWING STATUS:					
PRELIMINARY					
CLIENT:					
STONEBOND LTD					
ARCHITECT:					
STONEBOND LTD					
PROJECT:					
OAKENROD BURY ROAD ROCHDALE					
TITLE:					
FLOOD EXCAVATION COMPENSATION SITE CROSS SECTIONS					
STATUS:	PROJECT No:	PROJECT	ORIGINATOR	VOLUMES	LEVEL
S2	26.298	PRO - AJP - XX - 00 - DR - C - 9001	JP	1	P01
SCALE & NO:	DESIGNED:	DRAWN:	CHECKED:	APPROVED:	DATE:
AS SHOWN	JUL	JUL	JP	KOB	JULY 2020