SUDS STRATEGY

Planning Constraints

- Planning guidance followed with SUDS proposed as suitable.

suds proposals:
Phase 1

Mill Bld North = attenuation and possible porous paving
Mill Bld Mid = rain gardens and porous surfacing
Mill bld south = attenuation

phase 2

Mid bld = attenuation and possible porous paving
Corner bld = attenuation

Drainage Authority Constraints

- Betterment conditions have been applied to restrict discharge to 50% of existing 1 year brownfield rates. As agreed with UU. total site discharge to Bradford Road sewer = 39L/s

Mill North = 6L/s
Mill Mid = 25L/s
Mill South = 3L/s

Phase 2 works

Mid Bld = 5L/s
Total discharge to Bradford Road Combined sewer = 39L/s

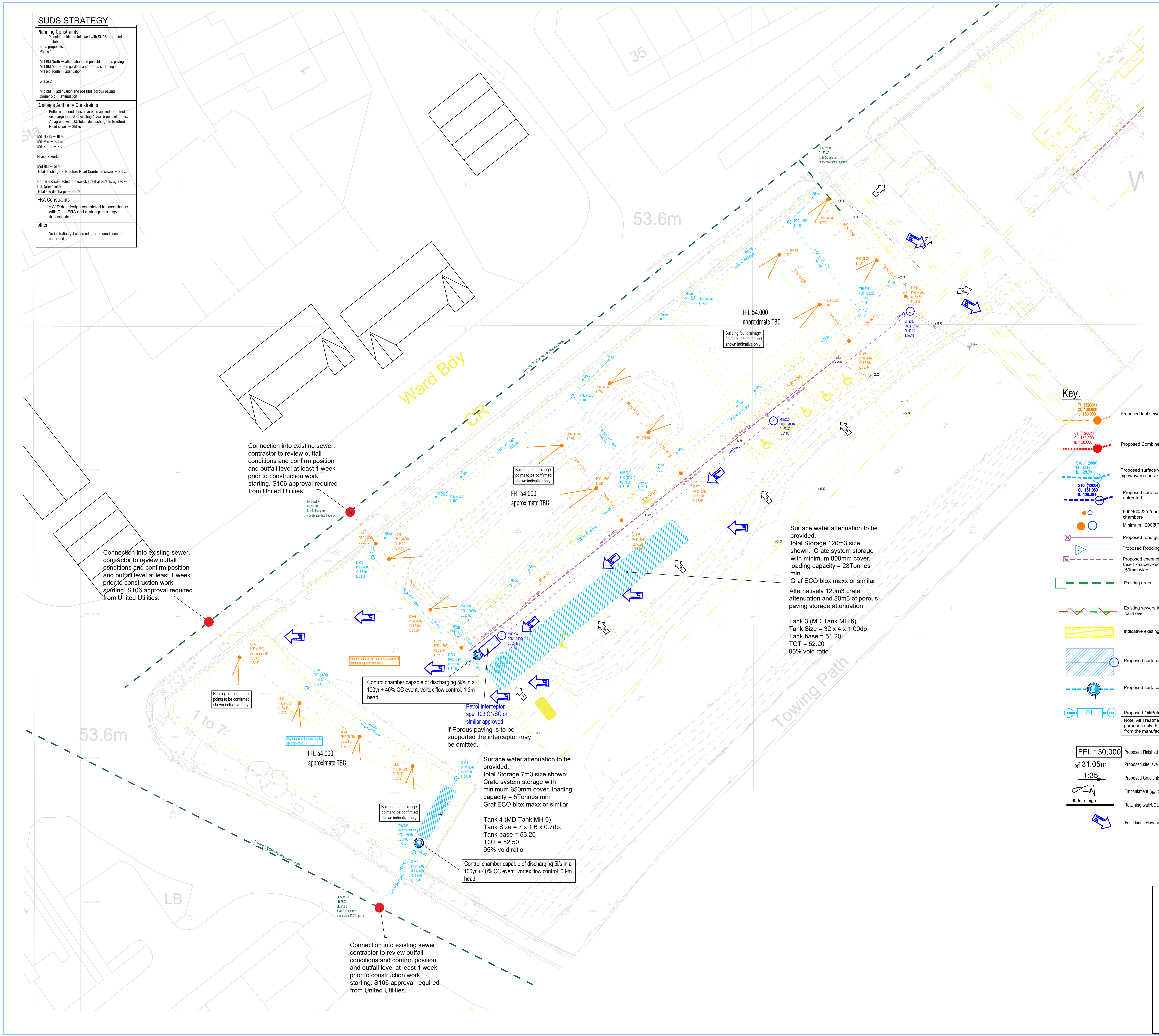
Corner Bld connected to beswick street at 5L/s as agreed with UU. (greenfield)
Total site discharge = 44L/s

FRA Constraints

- HW Detail design completed in accordance with Civic FRA and drainage strategy documents.

other

- No infiltration yet assumed, ground conditions to be confirmed.



Building foul drainage points to be confirmed shown indicative only

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Connection into existing sewer, contractor to review outfall conditions and confirm position and outfall level at least 1 week prior to construction work starting. S106 approval required from United Utilities.

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Surface water attenuation to be provided.
total Storage 120m3 size shown: Crate system storage with minimum 800mm cover. loading capacity = 28Tonnes min
Graf ECO blox maxx or similar

Alternatively 120m3 crate attenuation and 30m3 of porous paving storage attenuation

Tank 3 (MD Tank MH 6)
Tank Size = 32 x 4 x 1.00dp.
Tank base = 51.20
TOT = 52.20
95% void ratio

Control chamber capable of discharging 5l/s in a 100yr + 40% CC event. vortex flow control. 1.2m head.

Petrol Interceptor spel 103 C1/SC or similar approved

if Porous paving is to be supported the interceptor may be omitted.

Surface water attenuation to be provided.
total Storage 7m3 size shown: Crate system storage with minimum 650mm cover. loading capacity = 5Tonnes min
Graf ECO blox maxx or similar

Tank 4 (MD Tank MH 6)
Tank Size = 7 x 1.6 x 0.7dp.
Tank base = 53.20
TOT = 52.50
95% void ratio

Control chamber capable of discharging 5l/s in a 100yr + 40% CC event. vortex flow control. 0.9m head.

Connection into existing sewer, contractor to review outfall conditions and confirm position and outfall level at least 1 week prior to construction work starting. S106 approval required from United Utilities.

General Notes

Do not scale this drawing. If in doubt, consult with the Engineer

1. This drawing is to be read in conjunction with all other relevant Engineers, Architects and Specialist design drawings and specifications.
2. All dimensions and levels are in metres unless noted otherwise.
3. This drawing is for information purposes and all information displayed is subject to detailed design.
4. Cover levels noted are indicative or best design levels. constructed levels should take into account as-built surfacing levels and gradients.
5. The Contractor shall be responsible for checking all tie-ins for line and level with existing foul and surface water systems before commencing any works.
6. The Engineer shall be notified immediately, in writing, should any errors or discrepancies be found prior to the commencement or continuation of any works. All work is to be carried out in accordance with current British Standards, Building Regulations and NHBC Standards.
7. All drainage work is to be strictly in accordance with the requirements of the Building Regulations 2010, Approved Document Part H, "Drainage and waste disposal".
8. It is the responsibility of the Contractor to execute the works at all times in strict accordance with the requirements of the Health and Safety at Work Act 1974, and the C.D.M. Regulations 2015. The Contractor will be deemed to have allowed for full compliance, including full liaison with the Principle Contractor, within his rates.
9. All existing land drains encountered on site during construction are to be re-connected.
10. Should any departure from the proposed slab or external levels be considered, agreement shall be sought from the Engineer immediately and prior to the commencement or continuation of any works. Proposals should take full account of all restrictions to the slab level.
11. Temporary protection to be provided to drainage work during construction as necessary.
12. Power supply to separator/treatment units, alarm, panel, vent etc to be provided by contractor in accordance with manufacturers recommendations.

13 Topographical survey shown is based upon Survey Solutions drawing 46746MCLS-01

14 Architects layout shown is based upon Hodder and Partner Site Layout drawing no.200
This layout may be subject to change and is intended for indicative purposes only.

Specification Notes

15. The following types of pipe may be used unless noted or agreed otherwise;

- Pipes up to 300mm diameter to be Structured Walled to BS EN 13476, Polypropylene to BS EN 1852 or PVC-U to BS EN 1401.
- Pipes 300mm diameter or over to be Concrete to BS 5911.

16. Both Clay and Concrete pipes shall be strength class 120 (100/150mm min crushing strength 28kN/m). Thermoplastic pipes shall have a minimum ring stiffness of SN4.
17. Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, Clauses 2.23 to 2.25.
18. All pipes, chambers and fittings shall be installed, bedded and backfilled in accordance with the manufacturers instructions subject to the following minimum requirements;

Pipe Location	Cover to crown	Clay/Concrete Pipe * Bedding	Plastic Pipe Bedding	Backfill
Roads (HGV)	>1.2m <1.2m	Class S Class 'A' (Concrete)	Class S (S1or2) Class 'A' (Concrete)	Type 1Granular
Drives / car parking	>0.9m <0.9m	Class S Class 'A' (Concrete)	Class S (S1or2) Class 'A' (Concrete)	Type 1 Granular
Hard and soft Landscaping	>0.6m <0.6m	Class S Class 'A' (Concrete)	Class S (S1or2) Class 'A' (Concrete)	Suitable as dug material

19. The first flexible joint in pipes adjoining a manhole shall be a maximum length of 600mm from the inside face of the manhole, connecting to a rocker pipe. The length of the rocker pipe shall be as follows;

Pipe diameter	Length of Rocker pipe
150-600mm	600mm
675-750mm	1000mm
over 750mm	1250mm

20. All manholes and inspection chambers situated in areas subject to vehicular loading to have class D400 covers and frames to BS EN124 and those not subject to vehicular loading to have class minimum class B125 covers and frames.
21. Drainage frames must be tied to manhole risers by use of manufacturers ties (eg. Polypipe ref FRK500 fixing kit and FRK501 black ties.) The ground works contractor will be held fully responsible for any accidents due to incorrect fitting or failure to use the correct manufacturers fixing equipment.
22. All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of NHBC Practice Note 3.

Key.

F1 (1200ø) CL 130.900 IL 130.000	Proposed foul sewer (Invert level shown)
C1 (1200ø) CL 130.900 IL 130.000	Proposed Combined water sewer
S10 (1200ø) CL 131.050 IL 128.391	Proposed surface water drain (roof water/ highway/treated external area flows only)
S10 (1200ø) CL 131.050 IL 128.391	Proposed surface water drain external areas untreated
● ○	600/460/225 "non -accessible" inspection chambers
● ○	Minimum 1200Ø "accessible" manholes
☒	Proposed road gully and lateral Connection
RE	Proposed Rodding Eye point
☒	Proposed channel drainage system - hauraton faserfix super/Recyfix Pro or similar approved. 150mm wide.
☐	Existing drain
	Existing sewers to be diverted/made redundant /built over
🟨	Indicative existing sewer easement
▨	Proposed surface water attenuationunit
◎	Proposed surface water flow control unit
PI	Proposed Oil/Petrol interceptor or drainage treatment unit
FFL 130.000	Proposed Finished Floor Level
x131.05m	Proposed site levels
1:35	Proposed Gradients
	Embankment (@1:3 unless stated)
600mm high	Retaining wall/SOE detail
	Eceedance Flow routes.

Note: All Treatment units noted are for indicative costing purposes only. Full detailed design specification to be obtained from the manufactures prior to any orders being placed.

Levels provided are indicative only to assist with completion of drainage design works. For precise level information refer to architects/landscaping information

INFORMATION/PLANNING

Rev.	Date	Amendments	By	Chk'd
P02	30.03.24	Revised to suit LLFA comments 25-03-24	BD	
P01	21.03.24	drainage text amended	BD	

Drawing Title
Drainage Strategy phase 2 only

Client
ARROWSMITH- Brunswick Square.

Project/Drawing No.
23178-HW-23-00-DR-C-503

Rev.
P02

Project
Brunswick Mill
Bradford Road
Manchester

Status
FOR INFORMATION/PLANNING

Scale	Drawn	Checked	Date
1:250	BD	CW	05-02-24

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