- Sanderson Associates Consulting Engineers ("the consultant"), has not checked or verified, and shall have no liability whatsoever for any inaccuracies which may be attributable to any data, reports, base plan(s) and drawings provided by the client, or purchased by the consultant on the client's behalf, that may have been utilised within this drawing.
- The consultant shall not be liable for the use by any person of any document for any purpose other than that for which the same were provided by the consultant.
- No liability whatsoever is accepted by the consultant for any error or omissions.
- The consultant accepts no liability for any vehicle specification errors within the vehicle track software used and / or it's vehicle libraries.
- The locations of utilities apparatus, if shown, is reproduced from plans supplied to the consultant, although care has been taken when duplicating this information. These locations are approximate only and no guarantee can be given for their accuracy. It is the client's or it's appointed agent/contractors responsibility to verify the exact locations on site by hand dug trial holes or other appropriate means prior to mechanical excavation.
- Service connections are not shown but their presence should be anticipated.
- Reference to any third party equipment shown on this drawing was only relevant at the time the drawing was prepared.
- It is the client's responsibility to ensure that any equipment ordered meets the design.

EXISTING SWMH08-IN TANK FLOW CONTROL
DESIGN HEAD: 2.20m
DESIGN FLOW: 5.0 LSec
COVER LEVEL: 120.573
INVERT IN: 118.385
INV OUT: 118.300
HYDROBRAKE SPEC MD-SHE0089-5000-2200-5000

AS-BUILT ATTENUATION TANK CONSTRUCTED TO ACCOMMODATE SURFACE WATER FLOWS FROM PHASE 1

NEW 600Ø CONNECTION TO EXISTING CONTROL CHAMBER IL:118.385

PHASE 2 (UPPER) SURFACE WATER ATTENUATION

DESIGN PARAMETERS:-
RETURN PERIOD - 1 in 100 years
RAINFALL M5-60(mm) - 19.000
RATION R - 0.350
DISCHARGE RATE - 5.0 litres/sec
CLIMATE CHANGE - 40%
APPROXIMATE STORAGE REQUIRED = 65m³

SURFACE WATER STORAGE STRUCTURE
5 ROWS x 9m long, 1350mmØ WEHOLITE TANK SYSTEM OR SIMILAR APPROVED SYSTEM

PROPOSED LOCATION OF ATTENUATION TANK TO BE CONSTRUCTED WITH NEW CONNECTION INTO AS-BUILT TANK TO ACCOMMODATE ADDITIONAL SURFACE WATER FLOWS FROM PHASE 2 (UPPER). SEE DRAINAGE SPLIT FOR PROPERTIES TO BE INCLUDED.

RETAINING WILL BE REQUIRED ALONG THE EASTERN BOUNDARY TO SUIT THE ELEVATED FLOOR LEVELS

STORAGE TANK BELOW PARKING

PHASE 2 (UPPER) ATTENUATION

PHASE 2 (LOWER) ATTENUATION

INDICATIVE ALIGNMENT OF FOUL SEWER

EXISTING COVER AND FRAME TO BE RAISED 600mm TO 122.550 IL: 119.440

EXISTING FOUL WATER SEWER TO BE DIVERTED AS INDICATED

PROPOSED FW CL: 120.879 IL: 118.697

FWMH14 CL:120.100 IL: 118.613 IL: 118.613

FWMH15 CL:120.000 IL: 118.550 IL: 118.550

FWMH16 CL:119.900 IL: 118.502 IL: 118.502

FWMH17 CL: 120.000 IL: 118.128 IL: 118.128

EXCOM01 Cover -122.100 Invert - 121.933 (TBC)

112m Existing 150mm Ø Combined Sewer@ 1:24.5

1. ALL LEVELS ARE SUBJECT TO DETAILED DESIGN
2. FLOOR LEVELS OF PROPERTIES TO BE SET ABOVE THE COVER LEVEL OF THE ADOPTABLE MANHOLE AND DEMARCATION CHAMBER THAT THEY CONNECT TO. IF THIS IS NOT POSSIBLE THEN FURTHER ANALYSIS OF FLOOD ROUTE AND USE OF NON-RETURN VALVES MAY BE REQUIRED
3. ALL DRAINAGE OUTSIDE OF ADOPTABLE HIGHWAY WILL REQUIRE AN EASEMENT IN ACCORDANCE WITH YORKSHIRE WATER'S CURRENT STANDARDS
4. THE COVER LEVEL OF THE EXISTING FOUL MANHOLES WILL REQUIRE ADJUSTING TO SUIT THE PROPOSED ROAD LEVELS AND WILL REQUIRE CHAMBER SECTIONS REBUILDING IF THE CHANGES CANNOT BE MADE USING A MIN OF 2 COURSES AND A MAX OF 4 COURSES OF BRICKWORK

PHASE 2 (LOWER) SURFACE WATER ATTENUATION BASIN [1.3m depth (300mm FREEBOARD)]

DESIGN PARAMETERS:-
RETURN PERIOD 1 IN 100 YEARS
RAINFALL M5-60(mm) 19.000
RATION R 0.350
DISCHARGE RATE 3.0 litres/sec
CLIMATE CHANGE 40%
APPROXIMATE STORAGE REQUIRED = 529m³

CONTROL CHAMBER FITTED WITH HYDROBRAKE OPTIMUM
DESIGN HEAD 1.2m
FLOW 3.0 l/sec
CL: 118.500
IL: 117.200

HEADWALL IL: 117.250

EXCOM02 Cover -119.00 Invert - 117.330 (TBC)

EXCOM03 Cover -114.585 Invert - 113.385 (TBC)

EXCOM04 Cover -112.100 Invert - 109.500 (TBC)

Backdrop onto existing manhole IL:110.650

Existing 45m 150mm Ø Combined Sewer

Existing 85m 150mm Ø Combined Sewer

NEW CONNECTION LEVEL IL:115.372

ENFIELD DRIVE

Pond

Track

NOTES:

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS". THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
2. MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 600MM AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS.
3. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. YORKSHIRE WATER IS NOT OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (DIRECTLY OR IN-DIRECTLY), AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUN-OFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUN-OFF.
5. COVER SLABS MUST CARRY THE BSI KITEMARK OR WILL BE REJECTED BY YORKSHIRE WATER INSPECTOR. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOADING BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600mm x 600mm FOR THE YORKSHIRE WATER SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATION (CPSA), "TECHNICAL BULLETIN' ISSUED AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.
6. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES AND SERVICE MARGINS.
8. "SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES (PLEASE ALSO REFER TO FIGURE 2.3 ON PAGE 33 IN "DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS" FOR RESTRICTIONS ON TREE PLANTING ADJACENT TO SEWERS)".
9. SEWERS TO BE LAID IN CLASS "S" BEDDING (150mm GRANULAR BED AND SURROUND). WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND VERGES (OR LESS THAN 900MM IN NONE VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHOULD BE PROVIDE ABOVE GRANULAR BED AND SURROUND.
10. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2).
11. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
12. YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE "C" BRICK MANHOLES AND 1050mm DIA MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200mm DIA OR 1500mm DIA RINGS, WITH THE OPENING SITED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS 1-1.5m.

UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES OR STATUTORY BODIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR AND / OR EMPLOYER COMMENCE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK

KEY

- FOUL MANHOLE
- FOUL TEXT
- FOUL SEWER
- COMBINED MANHOLE
- COMBINED SEWER
- SURFACE WATER MANHOLE
- SURFACE WATER TEXT
- SURFACE WATER

Off-site combined sewer to be either requisitioned in accordance with Section 98 of the Water Industry Act 1991 or laid by the developer by negotiating an easement with the landowner. A 3m easement will be required to either side of the proposed and existing sewers

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Rev	Amendment	Drawn	Date	Checked
P11	DRY BASIN DEPTH INCREASED TO INCLUDE 300MM FREEBOARD	TC	30/03/2026	DB
P10	CONTOURS AMENDED TO SUIT LATEST LAYOUT	TC	15/12/2025	DB
P09	ATTENUATION TANK AMENDED TO AVOID PLOTS 33 & 34	TC	02/12/2025	DB
P08	UPDATED POND IL	SM	30/10/2025	DB
P07	LATEST SITE LAYOUT ADDED	TC	04/09/2025	DB
P06	LATEST SITE LAYOUT ADDED	TC	04/09/2025	DB

Rev	Amendment	Drawn	Date	Checked
P05	DRAINAGE DESIGN AMENDED TO SUIT LATEST REQUIREMENTS	TC	15/08/2025	PJM
P04	COMBINED SEWER AMENDED SO ALL MANHOLES ARE WITHIN JONES HOMES OWNERSHIP	TC	01/08/2025	DB
P03	DRAINAGE LAYOUT AMENDED TO INCORPORATE LANDSCAPING PROPOSALS AND NEW INTERNAL LAYOUT	TC	17/07/2025	DB
P02	DRAINAGE LAYOUT AMENDED TO TIE INTO REVISED CONNECTION POINT DOWNSTREAM	TC	12/05/2025	DB
P01	FIRST ISSUE	TC	07/03/2025	DB

Drawing Status: S3 - FOR COMMENT

Client: JONES HOMES (YORKSHIRE) LIMITED

Project Title: LAND OFF SUNNY VIEW, BATLEY (PHASE 2)

Drawing Title: FEASIBILITY DRAINAGE LAYOUT

Scale	Drawing Size	Drawn By	Checked By
1:500	A1	TC	DB

Project Number	Date	Approved By
166039	March 25	DB

Drawing Number	Rev
166039-SAN-WLG-XX-DR-C-05_001	P11

FILE REF: \\hudsrvr01\projects_fair\166000\166039 - white lee gardens, batley\05 drawings (working on)\01 drawings\166039-sand-wlg-xxx-dr-c-05_001-p11 - drainage layout

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