INDICATIVE 5m OVERALL EASEMENT SHOWN. PRECISE EASEMENT DIMENSIONS TO BE CONFIRMED DURING THE DETAILED DESIGN.

FOUL WATER PUMPING STATIONS. 12m x 8m BASED ON FIGURE D3 WITHIN THE DESIGN AND CONSTRUCTION GUIDANCE

ADDITIONAL TOPOGRAPHICAL & RADAR SURVEY INFORMATION REQUIRED ALONG THE OUTFALL LOCATION TO CONFIRM WHETHER DIVERSIONS ARE REQUIRED AND AT WHAT POINT A GRAVITY SOLUTION CAN BE USED. OUTFALL ROUTE SUBJECT TO CHANGE BASED ON EXISTING APPARATUS.

ATTENUATION BASIN
TOP OF BANK = 47.600m
BASE OF POND = 46.300m
APPROXIMATE STORAGE = 1600m³
(THE POND HAS BEEN DESIGN USING 1 IN 3 MAX EMBANKMENTS AND TO ALLOW FOR 300mm OF FREEBOARD. IN ADDITION A 1m MAINTENANCE STRIP HAS BEEN INCLUDED).

S38 - CONTROL CHAMBER
CL -53.258m
IL - 46.067m
DISCHARGE RATE - 7.66 l/s
(BASED ON IH124 CALCULATIONS)

DEVELOPER TO GAIN 3RD PARTY LAND PERMISSION TO ALLOW FOR CONSTRUCTION OF OUTFALL AND REQUIRED EASEMENTS..

DETAILED DITCH SURVEY TO BE COMPLETED IN ORDER TO CONFIRM OUTFALL LOCATION. CONSENT TO DISCHARGE WILL BE REQUIRED ALONG WITH 3RD PARTY LAND CONSENT.

Notes:

HEADWALL LOCATION WILL BE SUBJECT TO DETAILED SURVEY WORKS BEING COMPLETED. FIXED LOCATION TO BE SET DURING THE DETAILED DESIGN. LOCATION ALSO SUBJECT TO APPROVAL.

SCALE BAR 1:1250
0 10 50 75 100

EXISTING FWMH 1201 PROPOSED OUTFALL LOCATION BASED ON DEVELOPER ENQUIRY RESPONSE. NO COVER LEVEL OR INVERT LEVEL INFORMATION AVAILABLE. THIS SHOULD BE CONFIRMED PRIOR TO THE DETAILED DESIGN.

PROPOSED MANHOLE AND EXISTING MANHOLE COVER AND INVERT LEVELS TO BE CONFIRMED FOLLOWING FURTHER SURVEY WORKS.

GENERAL SITE INFORMATION

TOTAL SITE AREA = 4.96Ha

IMPERMEABLE AREA = 1.84Ha (BASED ON THE MEASURED IMPERMEABLE AREA)

IMPERMEABLE AREA (INC URBAN CREEP) = **2.03 Ha** (BASED ON MEASURED IMPERMEABLE AREA + 10% FOR URBAN CREEP)

115 HABITABLE DWELLINGS - SUBJECT TO RECEIPT OF A DETAILED LAYOUT & DETAILED ENGINEERING DESIGN.

ALL DRAINAGE PROPOSALS SUBJECT TO RECEIPT OF A UPDATED DEVELOPER ENQUIRY RESPONSE FROM THE ADOPTING WATER AUTHORITY AND CLARIFICATION THAT THE PROPOSED STORM OUTFALL LOCATIONS & INVERT LEVELS ARE SUITABLE & ACCEPTABLE (TO BE CONFIRMED BY THE EA AND/OR LOCAL LEAD FLOOD AUTHORITY (LLFA) & SEVERN TRENT WATER).

DEVELOPER TO CONFIRM AGREEMENT TO CONSENT TO DISCHARGE & FOR ANY EASEMENTS REQUIRED OVER OFFSITE LAND OWNERSHIP.

PROPOSED STORM & FOUL SOLUTION SUBJECT TO NEGOTIATION AND APPROVALS FROM SEVERN TRENT WATER, EA & LLFA.

ANY ADOPTION OF ANY SUDS FEATURES TO BE AGREED & CONFIRMED BY DEVELOPER.

DETERMINE DISCHARGE FROM SITE

BASED ON THE SITES IMPERMEABLE AREA OF 1.84 Ha, DISCHARGE RATES WERE DETERMINED.

BASED ON USING 5 L/S/H THE SITE DISCHARGE RATE WOULD BE 9.2 L/S.

BASED ON USING THE IH124 WALLINGFORD TOOL THE DISCHARGE RATE WOULD BE 7.66 L/S.

BASED ON ENSURING THE SITE IS DESIGNED BASED ON THE WORSE-CASE SCENARIO THE DETERMINED DISCHARGE RATE FOR THE DEVELOPMENT WILL BE **7.66 L/S.**

DETERMINE STORAGE VOLUMES

SITE AREA = 4.96 Ha

IMPERMEABLE AREA = 2.03 Ha (INCLUDING 10% FOR URBAN CREEP)

FLOW HYDRAULIC CALCULATION BASED ON AN IMPERMEABLE AREA OF 2.03 Ha & DISCHARGE RATE OF 7.66 l/s .

FLOW STORAGE CALCULATIONS = **1645m³ - 2051m³** (INCLUSIVE OF 1 IN 30 YR VOLUME)

ABOVE CALCULATION INDICATES APPROX **1648m³** STORAGE REQUIRED TO BALANCED FLOWS RESULTING FROM A 1 IN 100 (+40% CC) YEAR EVENT.

THIS COULD BE ACCOMMODATED THROUGH INSTALLATION OF AN ONLINE AND OFF-LINE ATTENUATION AS ILLUSTRATED

THIS HOWEVER IS SUBJECT TO DETAILED DESIGN INC. MODELLING & AGREEMENT WITH WATER AUTHORITY & EA AND APPLICABLE CONSENT TO DISCHARGE APPLICATION (WHERE REQUIRED).

CLIENT TO CONFIRM/ENSURE THAT LAND OWNER CONSENT IS NEGOTIATED AND NECESSARY "CONSENT TO DISCHARGE" AGREED FOR AT DRAINAGE OUTFALL LOCATIONS (WHERE REQUIRED).

IT SHOULD ALSO BE CONFIRMED BY THE DEVELOPER THAT ANY EASEMENTS REQUIRED IN ORDER TO CONSTRUCT THE PROPOSED OUTFALL SEWER IS AGREED WITH THE LAND OWNER (IN ORDER A S104 AGREEMENT CAN BE COMPLETED AND NO ADOPTION OR RANSOM ISSUES FOR DRAINAGE OR HIGHWAYS ARE ENCOUNTERED).

PLEASE NOTE THE ABOVE IS CRITICAL TO THE PROPOSED SCHEME & IT IS THE DEVELOPERS RESPONSIBLY TO ENSURE THIS ELEMENT IS SATISFIED, IN ORDER THAT THE PROPOSED SITE CAN BE DEVELOPED.

FOUL DISCHARGE FROM SITE

THE PROPOSED OUTFALL STRATEGY WILL BE VIA A FOUL WATER PUMPING STATION. AS STATED WITHIN THE DEVELOPER ENQUIRY A PUMPED ALLOWANCE WOULD BE ACCEPTABLE TO THE EXISTING MANHOLE WITHIN WORCESTER ROAD "MANHOLE 1201". A PUMPED CONNECTION HAS BEEN SHOWN TO THIS MANHOLE. AT THE STAGE OF COMPLETING THIS DRAINAGE STRATEGY, NO INFORMATION ON THE COVER LEVEL OR INVERT LEVEL OF THE EXISTING MANHOLE IS KNOWN. SUBJECT TO ANY DETAILED DESIGN THIS SHOULD BE CONFIRMED TO CONFIRM THE FOUL STRATEGY IS VIABLE. IN ADDITION TO THIS, CONFIRMATION ON THE REQUIRED ROUTE BEING ACCEPTABLE WILL BE NEEDED.

ALL FOUL WATER PIPES 150Ø UNLESS OTHERWISE SPECIFIED.

PROPOSED FOUL WATER STRATEGY INDICATED ON THIS DRAWING SUBJECT TO CONFIRMATION FROM SEVERN TRENT WATER THAT THERE IS SUFFICIENT CAPACITY WITHIN DOWNSTREAM (EXISTING) PUBLIC SYSTEM TO ACCEPT ADDITIONAL FLOWS FROM DEVELOPMENT AREA.

ALL DETAILS ARE SUBJECT TO FURTHER REVIEW & POTENTIAL REDESIGN WORKS, FOLLOWING PROVISION OF ANY SITE SPECIFIC FOUL WATER DRAINAGE STRATEGY, MODELING REPORT OR ANY OTHER STRATEGIC DESIGN PLANS AND DOCUMENTS.

AS STATED ABOVE THE FOUL WATER EXISTING SEWER COVER LEVELS AND INVERT LEVELS NEED TO BE CONFIRMED AND SHOULD BE USED DURING THE DETAILED DESIGN TO MAKE SURE THE PROPOSALS TIE UP WITH THE EXISTING SEWER.

CLIENT TO CONFIRM/ENSURE THAT LAND OWNER CONSENT IS NEGOTIATED AND NECESSARY "CONSENT TO DISCHARGE" AGREED FOR AT DRAINAGE OUTFALL LOCATIONS (WHERE REQUIRED).

IT SHOULD ALSO BE CONFIRMED BY THE DEVELOPER THAT ANY EASEMENTS REQUIRED IN ORDER TO CONSTRUCT THE PROPOSED OUTFALL SEWER IS AGREED WITH THE LAND OWNER (IN ORDER A S104 AGREEMENT CAN BE COMPLETED AND NO ADOPTION OR RANSOM ISSUES FOR DRAINAGE OR HIGHWAYS ARE ENCOUNTERED).

PLEASE NOTE THE ABOVE IS CRITICAL TO THE PROPOSED SCHEME & IT IS THE DEVELOPERS RESPONSIBLY TO ENSURE THIS ELEMENT IS SATISFIED, IN ORDER THAT THE PROPOSED SITE CAN BE DEVELOPED.

GENERAL NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL LEVELS GIVEN IN METRES ABOVE ORDNANCE DATUM (m AOD).
3. ALL OTHER DIMENSIONS IN MILLIMETRES, UNLESS OTHERWISE STATED.
4. ALL SLAB LEVELS ARE +/- 475mm AND ARE SUBJECT TO DETAILED ENGINEERING DESIGN.
5. ALL DRAINAGE SHOW IS INDICATIVE AND SUBJECT TO DETAILED ENGINEERING DESIGN.
6. ATTENUATION POND SIZED FOR STORM RUNOFF FROM DEVELOPMENT AREAS BASED UPON LAYOUT PROVIDED.
7. ALL FOUL SEWERS 150mmØ UNLESS OTHERWISE STATED.
8. MINIMUM CARRIAGEWAY GRADIENT 1:80.
9. MAXIMUM CARRIAGEWAY GRADIENT 1:20
10. MAXIMUM GARDEN GRADIENT OF 1:15
11. MAXIMUM TANKING OF 600mm ON GARAGES
12. NO TANKING ON PLOTS UNLESS UNAVOIDABLE
13. ALLOWANCES FOR RETAINING FEATURES (INCLUDING RETAINING WALLS, EXPOSED BRICKWORK, TANKING ETC) MADE AT THIS STAGE SUBJECT TO REVIEW FOLLOWING RECEIPT OF A DETAILED LAYOUT. SLAB LEVELS INDICATED REFLECT PROPOSED LEVEL DIFFERENCES AT THIS STAGE OF THE PRELIMINARY DESIGN.
14. PART M APPROACH TO THE FRONT DOOR UNLESS IDENTIFIED DIFFERENTLY.
15. NO ALLOWANCE HAS BEEN MADE TO CATER FOR SW OR FW FLOWS THROUGH THESE PARCELS FROM OTHER AREAS.
16. ALL INFRASTRUCTURE WORKS WITH REGARDS TO HIGHWAY LEVELS, S278 & S106 WORKS HAVE BEEN ASSUMED AND ARE SUBJECT TO DETAILED DESIGN INFORMATION BEING PROVIDED BY OTHERS

PROPOSED SUDS FEATURES

ATTENUATION BASIN INCORPORATING LOW FLOW CHANNEL, STONE PITCHING & AQUATIC PLANTING

INDICATIVE LOCATION FOR PERMEABLE PAVING

INDICATIVE LOCATION FOR SWALES

PRELIMINARY DESIGN KEY

The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. The Contractor is to comply in all respects with current Building Legislation, British Standard Specifications , Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided. This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Each area of ground relied upon to support any structure depicted (including drainage) must be investigated by the Contractor. A suitable method of foundation should be provided allowing for existing ground conditions. Any suspect or fluid ground, contaminates on or within the ground, should be further investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert. Where existing trees / structures are to be retained they should be subject to a full specialist inspection for safety. All trees are to be planted so as to ensure they are a minimum of 5 metres from buildings. A suitable method of foundation is to be provided to accommodate the proposed tree planting.
Residential & Commercial Engineering Limited do not accept any responsibility for any losses (financial or otherwise) to any Client or third party arising out of the Clients (be it Developer or Contractor but not limited thereto) non-compliance with afore mentioned provisos.

Rev	Description	Date	Drawn	Check

Revisions:

Lioncourt Homes
RACE
RESIDENTIAL & COMMERCIAL ENGINEERING

Drawing Status:
FOR INITIAL DISCUSSION/REVIEW PURPOSES ONLY.

Client:
LIONCOURT HOMES

Project:
REBECCA ROAD, PERSHORE

Title:
PRELIMINARY DRAINAGE STRATEGY

Job Number. RACE/LCH/RRP
Drawing No. ENG_001
Revision. #

Scale: 1:500 @ A1
Date: JULY ' 24
Drawn by: LE
Checked by: SM

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