PLEASE NOTE THAT THE FRA REPORT RECOMMENDS THE USE OF SOAKAWAYS INTERLINKED WITH LAND-DRAINS WHICH OVERFLOW TO BALANCING PONDS.

THIS OPTION HAS NOT BEEN SHOWN DUE TO THE FOLLOWING CONSTRAINTS :-

* INSUFFICIENT SPACE IN THE REAR GARDENS TO OBTAIN THE NECESSARY 5m STAND-OFFS FROM THE SOAKAWAYS TO THE BUILDINGS AND BOUNDARY.

** SOAKAWAYS SHOULD NOT BE POSITIONED IN ROOT ZONES OF EXISTING TREES.

*** SOAKAWAYS WILL NOT WORK EFECTIVELY IF THE SURROUNDING AREA IS IN FLOOD.

THIS DRAINAGE STRATEGY SHOWS A POTENTIAL POSITIVE CONNECTION TO THE WATERCOURSE IN THE SOUTH-EAST CORNER, WITH PROPOSED SW FLOWS LIMITED TO GREENFIELD RUN-OFF BASED ON 5 l/s PER HECTARE.

PLEASE NOTE THAT THIS DRAINAGE STRATEGY IS SUBJECT TO NEGOTIATION AND AGREEMENT WITH THE ENVIRONMENT AGENCY AND LOCAL AUTHORITY,

AS AN ALTERNATIVE, SEVERN TRENT WATER HAVE CONFIRMED THAT SOME SW FLOWS CAN BE PUT IN TO THE EXISTING PUBLIC FW SYSTEM. HOWEVER, PLEASE NOTE THAT THIS WILL REQUIRE SUBSTANTIAL SW STORAGE IN EXCESS OF WHAT IS CURRENTLY SHOWN ON THIS DRAINAGE STRATEGY PLAN.

PROPOSED SITE PLAN - 55 DWELLINGS

DRAINAGE KEY

POTENTIAL HEADWALL (TO HAVE A STONE TRENCH AND BAFFLES, CONNECTING TO A SWALE (IF ACHIEVABLE) TO PROVIDE FILTER SYSTEM. *

POTENTIAL ATTENUATION / INFILTRATION PONDS *

POTENTIAL PERVIOUS DRIVEWAY AREAS (FOR NON-ADOPTED AREAS ONLY WHERE SPECIFIED). *

POTENTIAL PUMP STATION LOCATION (SUBJECT TO DETAILED DESIGNS & APPROVED LAYOUT). *

DESIGN NOTE :

BASED UPON THE ABOVE PROPOSALS THERE WOULD BE 3 SUDS TECHNIQUES INTRODUCED INTO THE PROPOSED SCHEME. IT SHOULD BE NOTED THAT THE SUDS TREATMENT TRAINS WITHIN THE DETAILED ENGINEERING LAYOUT SHOULD FOLLOW THE FRA ADDENDUM REPORT ACCORDINGLY.

PRELIMINARY

THIS DRAWING ILLUSTRATES A SKETCH PROPOSAL ONLY AND AS SUCH IS SUBJECT TO DETAILED DRAINAGE & ENGINEERING DESIGN WORKS.

NOTE :

THE INDICATED DESIGN IS BASED UPON OUTLINE PLANNING APPROVED LAYOUT, AND IS TO BE READ TO INDICATE PRELIMINARY STRATEGY PROPOSALS ONLY. THE PLAN IS SUBJECT TO CONFIRMATION & RECEIPT OF A DETAILED PLANNING APPROVED LAYOUT & SUBSEQUENT DETAILED ENGINEERING DESIGNS.

GENERAL NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL LEVELS GIVEN IN METRES ABOVE ORDNANCE DATUM (mAOD).
3. ALL OTHER DIMENSIONS IN MILLIMETRES, UNLESS OTHERWISE STATED.
4. ALL SLAB LEVELS ARE INDICATIVE AND REFLECT EXPECTED WORST CASE SCENARIOS AND ARE THEREFORE 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. POND = 0.5m DEPTH, SIDE SLOPES 1:3.
8. ALL FOUL SEWERS 150mmØ UNLESS OTHERWISE STATED.
9. MAXIMUM ADOPTABLE CARRIAGEWAY GRADIENT 1:15, MIN 1:80.
10. NO ALLOWANCES FOR RETAINING FEATURES (INCLUDING RETAINING WALLS, EXPOSED BRICKWORK, TANKING ETC) MADE AT THIS STAGE; THESE ELEMENTS BEING SUBJECT TO REVIEW FOLLOWING UNDERTAKING A DETAILED ENGINEERING DESIGN.
11. EASEMENTS INDICATED ARE PRELIMINARY AND SUBJECT TO CONFIRMATION OF PROPOSED ADOPTABLE AREAS / ELEMENTS.

GENERAL SITE INFORMATION

SITE AREA = 2.6446 Ha
IMPEREABLE AREA = 1.322 Ha *(50%)*
55 HABITABLE DWELLINGS (SUBJECT TO RECEIPT OF A DETAILED LAYOUT & DETAILED ENGINEERING DESIGN).

ALL DRAINAGE PROPOSALS SUBJECT TO RECEIPT OF A DEVELOPER ENQUIRY RESPONSE FROM SEVERN TRENT WATER.

DETERMINE DISCHARGE FROM SITE

BASED ON 5 l/s PER HECTARE (GFR CONDITIONS) = 13.2 l/s*
* = based on worst case scenario (please refer to FRA addendum report for Qbar greenfield runoff rates to be applied within the detailed engineering design).

DETERMINE STORAGE VOLUMES

QUICK WINDES CALCULATION BASED ON GREENFIELD RUNOFF OF 13 l/s...

1 IN 30 YR = **308 - 445m³**

1 IN 100 YR + 30% = **622 - 855m³** (INCLUSIVE OF 1 IN 30 YR VOLUME)

THE ABOVE CALCULATION INDICATES APPROX **410m³** STORAGE REQUIRED TO BALANCE FLOWS RESULTING FROM A 1 IN 30 YEAR EVENT. THIS COULD BE PROVIDED IN AN ONLINE SYSTEM, THROUGH PROVISION OF BOX CULVERT, OR LARGE DIAMETER PIPES & PIPEWORK AS ILLUSTRATED.

TO BALANCE FLOWS RESULTING FROM A 1 IN 100 YEAR EVENT (+30% CLIMATE CHANGE) AN ADDITIONAL **390m³** IS REQUIRED. THIS COULD BE PROVIDED OFFLINE IN ATTENUATION / INFILTRATION PONDS AS ILLUSTRATED, PLUS ADDITIONAL STORAGE IN CELLULAR UNITS. AND POROUS BLOCK PAVING WITH SUB-BASE STORAGE.

THIS HOWEVER IS SUBJECT TO DETAILED DESIGN INC. MODELING & AGREEMENT WITH SEVERN TRENT WATER, THE EA, AND LA LAND DRAINAGE OFFICER, AND APPLICABLE CONSENT TO DISCHARGE APPLICATION

PROPOSED POINT OF DISCHARGE INDICATED IS FOR PRELIMINARY PURPOSES ONLY. CLIENT TO CONFIRM THAT LAND OWNER CONSENT IS NEGOTIATED AND AGREED FOR "CONSENT TO DISCHARGE".

IT SHOULD ALSO BE CONFIRMED BY THE DEVELOPER THAT ANY OFFSITE EASEMENTS REQUIRED IN ORDER TO CONSTRUCT THE PROPOSED OUTFALL SEWERAGE IS AGREED WITH THE LAND OWNER (IN ORDER A S104 AGREEMENT CAN BE COMPLETED AND NO ADOPTION 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

No of PLOTS (55) * 4000 = 2.8 l/s *(PEAK DISCHARGE)*

ALL FOUL WATER PIPES 150Ø UNLESS OTHERWISE SPECIFIED.

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

A MODELING EXERCISE MAY NEED TO BE CARRIED OUT TO ESTABLISH CAPACITY WITHIN DOWNSTREAM (EXISTING) PUBLIC FOUL WATER SEWERAGE NETWORK.

PLEASE NOTE THAT THE FW STRATEGY IS DEPENDANT ON AGREEING THE OUTFALL ROUTE WITH REDUCED EASEMENT WIDTHS ALONG THE EXISTING TRACK.

IT SHOULD ALSO BE CONFIRMED BY THE DEVELOPER THAT ANY OFFSITE 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 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.

Rev	Description	Date	Drawn	Check

Revisions:

Lioncourt Homes
RACE
RESIDENTIAL & COMMERCIAL ENGINEERING

Drawing Status: Preliminary - Subject to Detailed Designs

Client: LIONCOURT HOMES

Project: TATTENHILL LANE, BURTON

Title: PRELIMINARY DRAINAGE & LEVELS STRATEGY PLAN

Job Number. RACE/LC/TLB
Drawing No. P_ENG_100
Revision. #

Scale: 1:500 @ A0
Date: FEB '17
Drawn by: SM
Checked by: GJ

Contact us :
Residential & Commercial Engineering Ltd,
Unit 17, Lakeside Business Park, Walkmill Lane, Cannock,
WS11 0XE.
Tel : 01922 411552