	DENOTES PROPOSED FOUL SEWER TO BE ADOPTED UNDER S104 AGREEMENT
	DENOTES PROPOSED SURFACE WATER SEWER TO BE ADOPTED UNDER S104 AGREEMENT
🟨	DENOTES SEWER EASEMENT
FFL 24.20	DENOTES INDICATIVE FINISHED FLOOR LEVEL
	DENOTES PROPOSED CELLULAR STORAGE (TO REMAIN PRIVATE) TO CATER FOR 100 YEAR + 45% CC EVENT
▦	INDICATES DRIVEWAYS / PARKING AREAS TO USE PROPRIETARY PERMEABLE SURFACING MATERIALS WITH STONE SUB BASE AS MANUFACTURERS DETAILS. WHERE POSSIBLE DRIVEWAYS ARE TO BE LAID TO FALL TO SURROUNDING GARDENS AND POS AREAS. WHERE DRIVEWAYS FALL TOWARDS GARAGES ACO DRAIN CONNECTED TO SUB BASE IS TO BE INSTALLED TO REDUCE RISK OF WATER INGRESS IN TO GARAGES

PLEASE NOTE THAT THE FLOOR LEVELS SHOWN ARE FOR APPRAISAL PURPOSES ONLY AND WILL BE SUBJECT TO REVIEW / CHANGE AT DETAILED ROAD AND SEWER DESIGN STAGE

FOUNDATIONS TO BE DESIGNED TO TAKE INTO ACCOUNT ANY ADJACENT DEEP SEWERS

N

SCALE IN METRES
0 5 10 20 50

THE OFF SITE SEWER CONNECTION(S) HAVE BEEN DESIGNED IN ACCORDANCE WITH INFORMATION FROM UNITED UTILITIES RECORDS & SURVEY INFORMATION.

REFA WOULD ADVISE THE CLIENT TO EMPLOY A SUITABLY EXPERIENCED COMPANY TO UNDERTAKE TRIAL HOLES TO ASCERTAIN THE EXACT LOCATION OF EXISTING SERVICES AND THE PROXIMITY OF THE SAME TO THE PROPOSED SEWERS AND THEN TO ADVISE REFA OF ANY POTENTIAL CLASHES TO ENABLE DESIGN CHANGES TO BE MADE WHERE FEASIBLE

DUE TO THE NEED FOR OFF SITE SEWER WORKS IT IS STRONGLY ADVISED THAT THESE INVESTIGATIONS ARE UNDERTAKEN PRIOR TO ANY CONSTRUCTION ON SITE TO ALLOW DESIGN CHANGES TO BE MADE.

REFA WILL NOT BE HELD RESPONSIBLE FOR ANY ABORTIVE WORKS IF THIS PROCEDURE IS NOT FOLLOWED

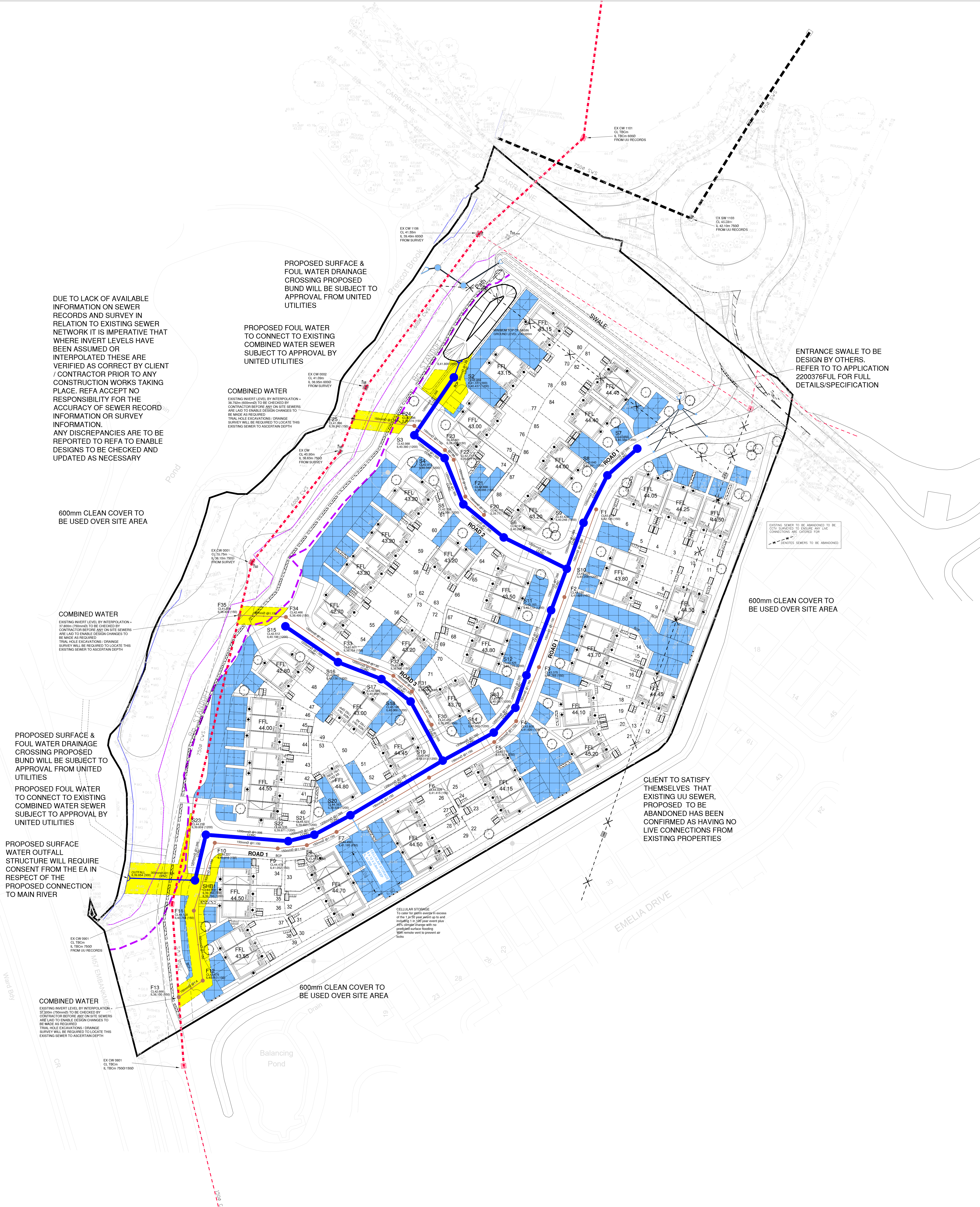
ALL DESIGNS SHOWN ARE FOR APPRAISAL PURPOSES ONLY AND ARE SUBJECT TO DETAILED DESIGN AND APPROVAL BY THE RELEVANT REGULATORY AUTHORITIES AT THE APPROPRIATE TIME
DRAWING IS THUS NOT ISSUED FOR CONSTRUCTION PURPOSES

THE FOUL AND SURFACE WATER DRAINAGE SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH DESIGN & CONSTRUCTION GUIDANCE, SuDS MANUAL CIRIA C753, AND SC030219 AND THE FRA AND ARE SUBJECT TO APPROVAL BY UNITED UTILITIES, LLFA & EA

THE FOUL WATER SYSTEM IT TO CONNECT TO THE EXISTING UU COMBINED SEWER BY WAY OF 3 CONNECTIONS AND WILL BE SUBJECT TO APPROVAL FROM UNITED UTILITIES.
ADDITIONAL LEVEL INFORMATION WILL BE REQUIRED ON THE COMBINED SEWER TO COFIRM DEPTHS AND CONNECTION POINTS.

THE SURFACE WATER SYSTEM HAS BEEN DESIGNED TO CONNECT TO THE EXISTING WATER COURSE AND IS SUBJECT TO APPROVAL BY THE EA.

THE PIPE DIAMETERS AND GRADIENTS SHOWN ARE FOR GUIDANCE ONLY AND MAY BE SUBJECT TO CHANGE AT DETAILED DESIGN STAGE


CARR LANE
SWALE
ROAD 1
ROAD 2
ROAD 3
EMELIA DRIVE
Balancing Pond
Pond
M57 EMBANKMENT
Ward Bdy
CELLULAR STORAGE 6 x 12 x 0.8m DEEP IL 41.500
F25 CL41.086 IL39.242 (150)
F13 CL42.666 IL38.100 (150)
EX CW 0002 CL 41.09m IL 38.95m 600Ø FROM SURVEY
EX CW CL 40.90m IL 38.63m 750Ø FROM SURVEY
EX CW 0901 CL TBCm IL TBCm 750Ø FROM UU RECORDS
EX CW 0801 CL TBCm IL TBCm 750Ø/150Ø

DUE TO LACK OF AVAILABLE INFORMATION ON SEWER RECORDS AND SURVEY IN RELATION TO EXISTING SEWER NETWORK IT IS IMPERATIVE THAT WHERE INVERT LEVELS HAVE BEEN ASSUMED OR INTERPOLATED THESE ARE VERIFIED AS CORRECT BY CLIENT / CONTRACTOR PRIOR TO ANY CONSTRUCTION WORKS TAKING PLACE. REFA ACCEPT NO RESPONSIBILITY FOR THE ACCURACY OF SEWER RECORD INFORMATION OR SURVEY INFORMATION.
ANY DISCREPANCIES ARE TO BE REPORTED TO REFA TO ENABLE DESIGNS TO BE CHECKED AND UPDATED AS NECESSARY

PROPOSED SURFACE & FOUL WATER DRAINAGE CROSSING PROPOSED BUND WILL BE SUBJECT TO APPROVAL FROM UNITED UTILITIES

PROPOSED FOUL WATER TO CONNECT TO EXISTING COMBINED WATER SEWER SUBJECT TO APPROVAL BY UNITED UTILITIES

COMBINED WATER

EXISTING INVERT LEVEL BY INTERPOLATION = 38.792m (600mmØ) TO BE CHECKED BY CONTRACTOR BEFORE ANY ON SITE SEWERS ARE LAID TO ENABLE DESIGN CHANGES TO BE MADE AS REQUIRED
TRIAL HOLE EXCAVATIONS / DRAINGE SURVEY WILL BE REQUIRED TO LOCATE THIS EXISTING SEWER TO ASCERTAIN DEPTH

ENTRANCE SWALE TO BE DESIGN BY OTHERS. REFER TO APPLICATION 2200376FUL FOR FULL DETAILS/SPECIFICATION

600mm CLEAN COVER TO BE USED OVER SITE AREA

EXISTING SEWER TO BE ABANDONED TO BE CCTV SURVEYED TO ENSURE ANY LIVE CONNECTIONS ARE CATERED FOR

DENOTES SEWERS TO BE ABANDONED

600mm CLEAN COVER TO BE USED OVER SITE AREA

COMBINED WATER

EXISTING INVERT LEVEL BY INTERPOLATION = 37.800m (750mmØ) TO BE CHECKED BY CONTRACTOR BEFORE ANY ON SITE SEWERS ARE LAID TO ENABLE DESIGN CHANGES TO BE MADE AS REQUIRED
TRIAL HOLE EXCAVATIONS / DRAINGE SURVEY WILL BE REQUIRED TO LOCATE THIS EXISTING SEWER TO ASCERTAIN DEPTH

PROPOSED SURFACE & FOUL WATER DRAINAGE CROSSING PROPOSED BUND WILL BE SUBJECT TO APPROVAL FROM UNITED UTILITIES

PROPOSED FOUL WATER TO CONNECT TO EXISTING COMBINED WATER SEWER SUBJECT TO APPROVAL BY UNITED UTILITIES

PROPOSED SURFACE WATER OUTFALL STRUCTURE WILL REQUIRE CONSENT FROM THE EA IN RESPECT OF THE PROPOSED CONNECTION TO MAIN RIVER

CLIENT TO SATISFY THEMSELVES THAT EXISTING UU SEWER, PROPOSED TO BE ABANDONED HAS BEEN CONFIRMED AS HAVING NO LIVE CONNECTIONS FROM EXISTING PROPERTIES

DUE TO LACK OF AVAILABLE INFORMATION ON SEWER RECORDS AND SURVEY IN RELATION TO EXISTING SEWER NETWORK IT IS IMPERATIVE THAT WHERE INVERT LEVELS HAVE BEEN ASSUMED OR INTERPOLATED THESE ARE VERIFIED AS CORRECT BY CLIENT / CONTRACTOR PRIOR TO ANY CONSTRUCTION WORKS TAKING PLACE. REFA ACCEPT NO RESPONSIBILITY FOR THE ACCURACY OF SEWER RECORD INFORMATION OR SURVEY INFORMATION.
ANY DISCREPANCIES ARE TO BE REPORTED TO REFA TO ENABLE DESIGNS TO BE CHECKED AND UPDATED AS NECESSARY

COMBINED WATER

EXISTING INVERT LEVEL BY INTERPOLATION = 37.500m (750mmØ) TO BE CHECKED BY CONTRACTOR BEFORE ANY ON SITE SEWERS ARE LAID TO ENABLE DESIGN CHANGES TO BE MADE AS REQUIRED
TRIAL HOLE EXCAVATIONS / DRAINGE SURVEY WILL BE REQUIRED TO LOCATE THIS EXISTING SEWER TO ASCERTAIN DEPTH

CELLULAR STORAGE
To cater for storm events in excess of the 1 in 30 year event up to and including 1 in 100 year event plus 45% climate change with no predicted surface flooding
With remote vent to prevent air locks

600mm CLEAN COVER TO BE USED OVER SITE AREA

GENERAL

1. All adoptable sewers and associated works are to comply fully with "Design and Construction Guidance" & Local Practices
2. All highway works to be to adoptable standards and to to comply fully with the Local Authority specification.
3. All private drainage works are to comply fully with part H of the Building Regulations
4. All existing invert levels to be checked by the Contractor at the start of works and any discrepancies notified to REFA.
   All levels are based on topographical survey information provided by others.
5. All materials to bear the relevant B.S.Kitemark 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)
6. 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., NHBC or Relevant Water Authority as applicable.

C.D.M. REGULATIONS 2015

In line with the above regulations we are obliged to inform the Client of their responsibilities under section CDM 15/1, and residual risks that may be encountered in the construction of these works.
All design work has been carried out with Health and Safety aspects given full consideration.
Wherever possible risks have been eliminated from the design, however due to the very nature of this type of work it is not possible to remove all the risks from the design.
We would also respectfully remind the Client of his obligations to take all reasonable steps in ensuring that only competent Contractors who have a valid safety policy are employed.
They should also provide satisfactory responses at tender stage as to the manner in which they will deal with the elements of risk involved in this type of work and in particular those highlighted by REFA below:-

1. Support / treatment for ALL excavation work.
2. Guarding to edges of excavations to prevent people,materials and vehicles falling into excavation.
3. Guarding of excavations outside working hours to prevent unauthorised access.
4. Undermining to adjacent roads or structures.
5. Confined space operations.
6. Dealing with existing services.
7. Traffic management on existing highways.
8. Procedure to be followed in event of accident or emergency.
9. Method of working where contaminated ground is present on site.
10. Confirmation will be required that all operatives are adequately trained, copies of relevant training certificates to be supplied.

The above list is by no means exhaustive but it does highlight operations that present a risk to contractors and the general public.
For clarification on any item please contact REFA.

rev	Revision details	Date
A	TO LATEST LAYOUT REV P	23.04.24

Drawing Stage		Drawing Status			
	Draft		Comments	●	Tender
●	Issued		Information		Construction
		●	Approval		As Built

Client

UNITED LIVING

Job title

CARR LANE,
PRESCOT

Drawing title

DRAINAGE STRATEGY

REFA
CONSULTING ENGINEERS
CIVIL• STRUCTURAL
GEOTECHNICAL• ENVIRONMENTAL
45 Bridgeman Terrace
Wigan, Lancs
WN1 1TT
Tel: -(01942) 826020
Fax: -(01942) 230816

Date	Scale	Drawn
30.08.23	1/500	AS

DRAWING No 23088/100/1 Rev A

© This drawing is the property of REFA and should not be copied, used or its contents divulged without prior written consent.

A0 SHEET

THIS DRAWING IS BASED ON PLANNING LAYOUT PROVIDED BY CLIENT
DRAWING NUMBER:- UL/CL/SL/01
REVISION:- P
CLIENT TO ENSURE THE ABOVE LAYOUT IS CURRENT BEFORE USING THIS DRAWING FOR CONSTRUCTION PURPOSES

PLEASE NOTE THAT THIS DRAWING IS ISSUED FOR INFORMATION/TENDER PURPOSES ONLY UNTIL TECHNICAL APPROVAL HAS BEEN GRANTED.
ANY WORK UNDERTAKEN PRIOR TO TECHNICAL APPROVAL BEING GRANTED IS AT THE CLIENTS RISK.