

THE LEVELS THUS SHOW :-

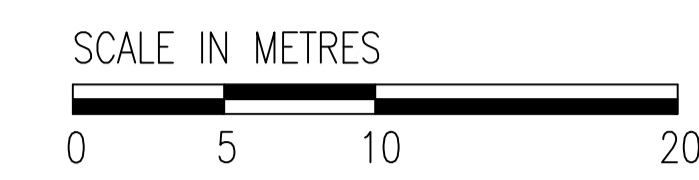
- A. EXISTING SURVEY LEVEL LESS 250mm TOPSOIL REMOVED **295.43**
- B. FINISHED SURFACE LEVELS LESS 150mm FOR TOPSOIL BELOW GARDENS AREAS
- C. FINISHED DRIVE LEVELS LESS 225mm (150mm STONE) FOR CONSTRUCTION DEPTH
- D. FINISHED FLOOR LEVELS LESS 325mm FOR CONSTRUCTION DEPTH
- E. FINISHED ROAD LEVELS LESS 485mm FOR CONSTRUCTION DEPTH

**294.20**

AND THE DEPTH OF CUT / FILL REQUIRED TO ACHIEVE THE ABOVE LEVELS

- +0.12 (DENOTES FILL DEPTH)**
- 1.56 (DENOTES CUT DEPTH)**

THIS DRAWING IS BASED ON PLANNING LAYOUT PROVIDED BY CLIENT  
DRAWING NUMBER:- 2203-PL-03  
REVISION:- G  
CLIENT TO ENSURE THE ABOVE LAYOUT IS CURRENT BEFORE USING THIS DRAWING FOR CONSTRUCTION PURPOSES



- GENERAL**
- All adoptable sewers and associated works are to comply fully with 'Design and Construction Guidance' & Local Practices
  - All highway works to be to adoptable standards and to comply fully with the Local Authority specification.
  - All private drainage works are to comply fully with part H of the Building Regulations
  - 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.
  - All materials to bear the relevant BS, 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)
  - All opening notices etc. are to be obtained prior to commencement of works. All works are to be inspected by LA, 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:-
- Support / treatment for ALL excavation work.
  - Guarding to edges of excavations to prevent people, materials and vehicles falling into excavation.
  - Guarding of excavations outside working hours to prevent unauthorised access.
  - Undermining to adjacent roads or structures.
  - Confined space operations.
  - Dealing with existing services.
  - Traffic management on existing highways.
  - Procedure to be followed in event of accident or emergency.
  - Method of working where contaminated ground is present on site.
  - 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.

## CUT AND FILL VOLUMETRICS

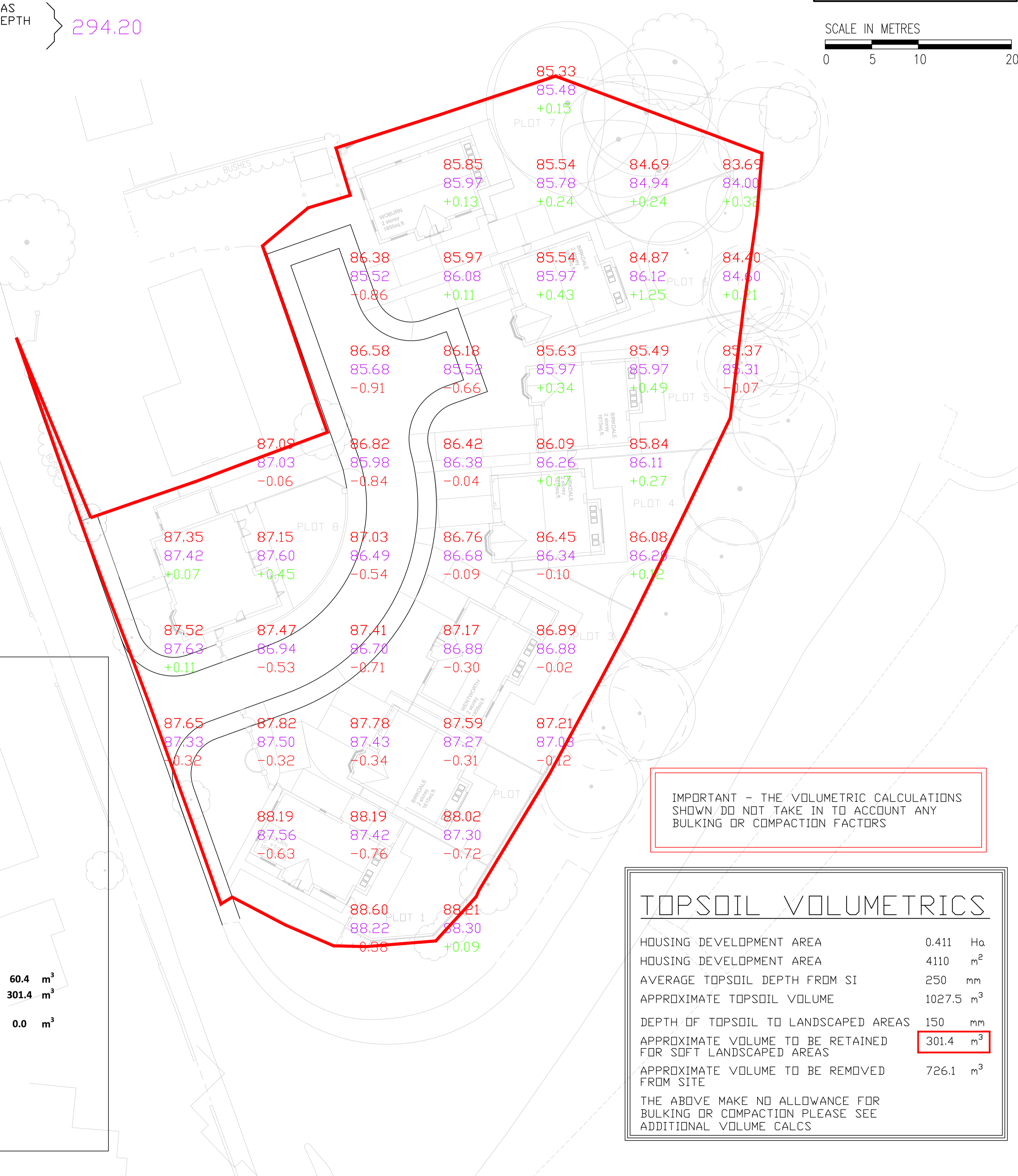
FOR THE PURPOSE OF THIS VOLUMETRICS EXERCISE THE FOLLOWING PARAMETERS HAVE BEEN USED AS INSTRUCTED BY OAKTREE DEVELOPMENTS:-

- THE GROUND PROFILE MODEL BASED UPON SURVEYING DRAWING OD.TS.08 TOPOGRAPHICAL SURVEY, (MINUS 250mm RE USABLE TOPSOIL) HAS BEEN BUILT FOR THE FINAL PHASE AND USED AS THE BASE MODEL FOR THE VOLUMETRIC CALCULATIONS.
- A FINISHED SURFACE MODEL HAS BEEN PREPARED USING LEVELS ON EXISTING SITE BOUNDARIES, PROPOSED GARDEN LEVELS, PROPOSED SLAB LEVELS AND PROPOSED ADOPTABLE ROADS AND FOOTWAYS LEVEL AS WELL AS THE PARAMETERS CHOSEN BY THE CLIENT.
- THIS SURFACE MODEL HAS THEN BEEN COMPARED USING A PRISMOIDAL COMPUTATION METHOD AGAINST THE SURVEY MODEL GENERATED IN POINT 1 ABOVE TO ESTIMATE VOLUMES OF CUT AND FILL
- THIS HAS PREDICTED THAT THERE WILL BE SOME:-

**1,962.6m<sup>3</sup> OF CUT REQUIRED**  
**481.4m<sup>3</sup> OF FILL REQUIRED**

LEADING TO A SURPLUS 1,481.2m<sup>3</sup> OF MATERIAL

THESE FIGURES DO NOT TAKE IN TO ACCOUNT BULKING FACTORS OR ANY MOVEMENT OF MATERIAL ON SITE WHICH HAS TAKEN PLACE SINCE THE SURVEY BY SURVEY ENGINEERING PROJECTS. OR ARISING FROM OTHER SOURCES OR EXCAVATIONS



IMPORTANT - THE VOLUMETRIC CALCULATIONS SHOWN DO NOT TAKE IN TO ACCOUNT ANY BULKING OR COMPACTION FACTORS

TOPSOIL VOLUMETRICS		
HOUSING DEVELOPMENT AREA	0.411	Ha
HOUSING DEVELOPMENT AREA	4110	m <sup>2</sup>
AVERAGE TOPSOIL DEPTH FROM SI	250	mm
APPROXIMATE TOPSOIL VOLUME	1027.5	m <sup>3</sup>
DEPTH OF TOPSOIL TO LANDSCAPED AREAS	150	mm
APPROXIMATE VOLUME TO BE RETAINED FOR SOFT LANDSCAPED AREAS	<b>301.4</b>	<b>m<sup>3</sup></b>
APPROXIMATE VOLUME TO BE REMOVED FROM SITE	726.1	m <sup>3</sup>
THE ABOVE MAKE NO ALLOWANCE FOR BULKING OR COMPACTION PLEASE SEE ADDITIONAL VOLUME CALCS		

### FORMATION DEPTHS BELOW PROPOSED FINISHED SITE LEVELS AND VOLUMES OF CUT AND FILL TO ACHIEVE FORMATION LEVEL

DEVELOPER :-	OAKTREE DEVELOPMENTS				DEVELOPMENT:-				NORTHCOTE RD, LANGHO			DATE :-	13.04.23	
AREA	DRIVES		225 mm O/A		HOUSES		325 mm		GARDENS		150 mm			
PLOTS	STONE	E/O	150	150	AREA	CUT	FILL	AREA	CUT	FILL	AREA	CUT	FILL	
POD	AREA	CUT	STONE FILL	SUB BASE	AREA	CUT	FILL	AREA	CUT	FILL	AREA	CUT	FILL	
ALL PLOTS	m <sup>2</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>2</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>2</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>2</sup>	m <sup>3</sup>	m <sup>3</sup>	
TOTALS	323	63.3	11.9	48.5	939	194.7	144.1	2009.0	225.7	337.3				

TOTAL VOLUME OF CUT GENERATED FROM THE ABOVE	483.7	m <sup>3</sup>	TOTAL STONE REQUIRED BELOW DRIVES	<b>60.4</b>	m <sup>3</sup>
FILL VOLUMES REQUIRED TO GARDENS AND HOUSES	481.4	m <sup>3</sup>	TOTAL TOPSOIL REQUIRED TO GARDENS	<b>301.4</b>	m <sup>3</sup>
FOUNDATION EXCAVATIONS AT 40m <sup>3</sup> / PLOT	320.0	m <sup>3</sup>			
EXCAVATED MATERIAL FROM ROADS	495.3	m <sup>3</sup>	ADDITIONAL 6F2 STONE FILL REQUIRED BELOW ROADS	<b>0.0</b>	m <sup>3</sup>
EXCAVATED MATERIAL FROM SEWERS	323.6	m <sup>3</sup>			
<b>SURPLUS SPOIL VOLUME</b>	<b>1141.2</b>	<b>m<sup>3</sup></b>			

rev	Revision details	RevBy	Date

worksafe designer SSIP SAFETY SCHEMES IN PROGRESS

Drawing Stage	Drawing Status
<input type="checkbox"/> Draft	<input type="checkbox"/> Tender
<input checked="" type="checkbox"/> Issued	<input checked="" type="checkbox"/> Information
<input type="checkbox"/> Approval	<input type="checkbox"/> Construction
<input type="checkbox"/> As Built	<input type="checkbox"/> As Built

Client  
**OAK TREE DEVELOPMENTS**

Job title  
**NORTHCOTE ROAD LANGHO**

Drawing title  
**CUT AND FILL DRG 2 SPOT LEVELS & DEPTHS**

**REFA CONSULTING ENGINEERS**  
CIVIL • STRUCTURAL  
GEOTECHNICAL • ENVIRONMENTAL

45 Bridgeman Terrace  
Wigan, Lancs  
Tel: (01942) 826020  
Fax: (01942) 230816

Date	Scale	Drawn
17.04.23	1:250	RW
DRAWING No	22009/110/2	Rev

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