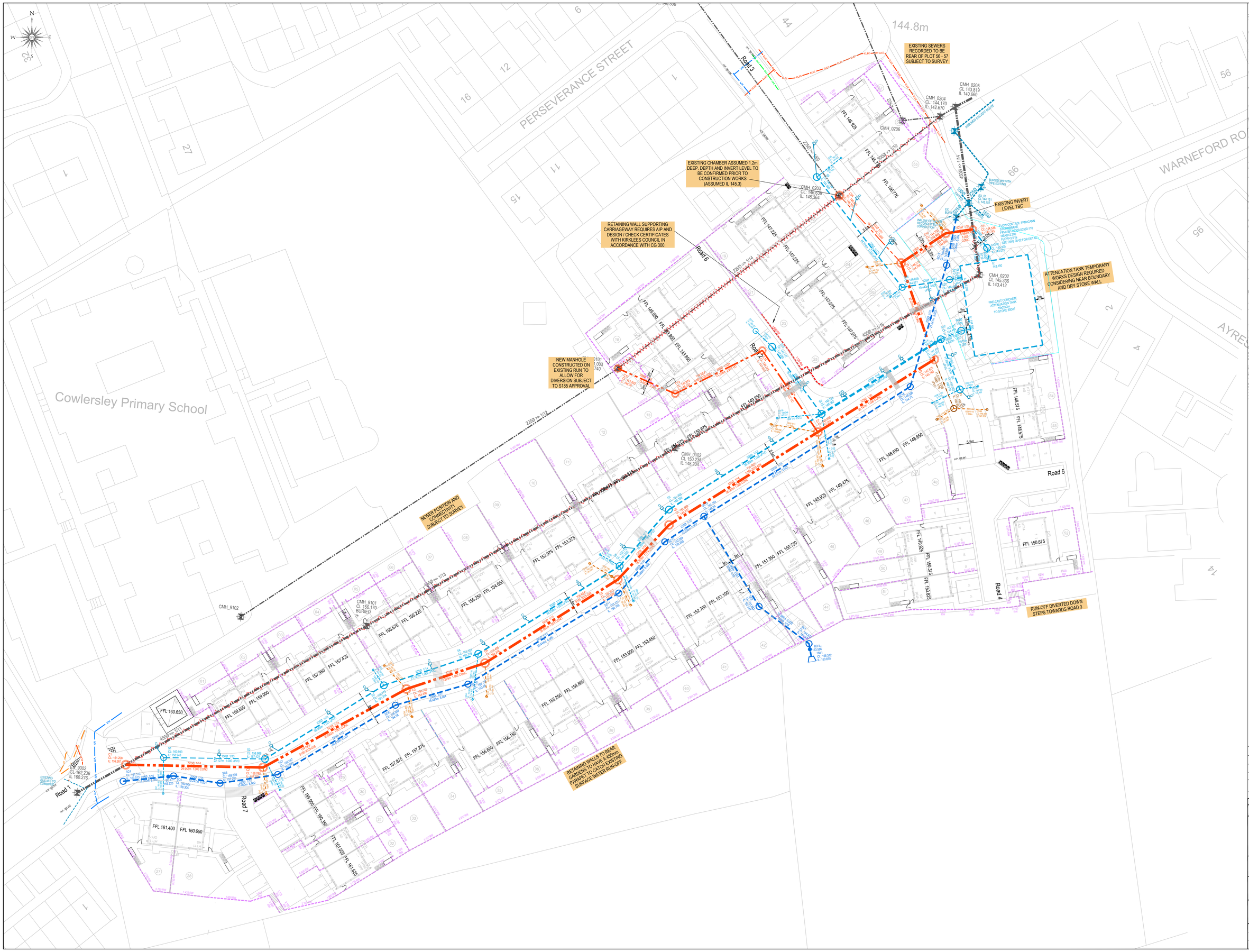

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GENERAL NOTES

1. DO NOT USE THIS DRAWING IN ISOLATION. THIS DRAWING HAS BEEN PREPARED AS PART OF A SET, AND MUST THEREFORE BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER PRIOR TO COMMENCING WORKS.
2. THIRD PARTY INFORMATION IS USED TO PREPARE THE ENGINEERING DESIGN. THIS INCLUDES BUT IS NOT LIMITED TO: TOPOGRAPHICAL SURVEYS, UNDERGROUND UTILITIES RECORDS, AND SPECIALIST DESIGN ITEMS. THE ENGINEERING DESIGN MUST THEREFORE BE READ IN CONJUNCTION WITH ALL THIRD PARTY INFORMATION PRIOR TO COMMENCING WORK. QUEENSBERRY DESIGN LTD ARE NOT RESPONSIBLE FOR ANY THIRD PARTY INFORMATION OR DETAILS
3. DRAWING STATUS WILL REMAIN PRELIMINARY UNTIL FULL TECHNICAL APPROVAL IS RECEIVED FROM LOCAL AUTHORITY AND SEVERAGE UNDERTAKER. WORKS COMMENCED PRIOR TO TECHNICAL APPROVAL ARE DONE SO AT RISK AND MAY BE SUBJECT TO CHANGE.
4. THE CONTRACTOR IS EXPECTED TO PREPARE APPROPRIATE CONSTRUCTION METHOD STATEMENTS FOR ALL ASPECTS OF APPOINTED WORK. THIS SHOULD INCLUDE ANY TEMPORARY PROTECTION / WORKS.
5. ALL PROPERTIES ARE EXPECTED TO DISCHARGE INTO THE PUBLIC SEWER NETWORK. ANY NEED FOR LAND DRAINAGE SHOULD BE ASSESSED BY THE GROUND WORKER AND LANDSCAPER DURING CONSTRUCTION AND PLACEMENT OF GARDENS ON AN INDIVIDUAL PLOT BASIS. IF LAND DRAINAGE DESIGNS ARE REQUIRED, THEY SHOULD BE APPOINTED PRIOR TO PLOT COMPLETION.
6. THE CONTRACTOR IS EXPECTED TO CROSS CHECK ALL DRAINAGE INVERTS PRIOR TO COMMENCING WORK. THIS MAY INVOLVE COMPLETION OF TRIAL HOLES IF INVERT LEVELS ARE NOT SHOWN ON THE DRAWING. THE LOCATION AND DIAMETER OF ALL EXISTING DRAINAGE APPARATUS SHOULD BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER IMMEDIATELY.
7. THE CONTRACTOR MUST MONITOR THE "AS BUILT" PROGRESS OF EACH CONSTRUCTION STAGE (ROADS/SEWERS/PLOT WORKS ETC), TO ENABLE THE NEXT STAGES OF CONSTRUCTION TO BE CHECKED BEFORE INSTALLATION.

HIGHWAYS

1. ALL HIGHWAY WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT LOCAL AUTHORITY DESIGN GUIDE AND SPECIFICATION.
2. ALL EXCAVATIONS BELOW PROPOSED AND EXISTING HIGHWAYS TO BE BACK FILLED WITH TYPE 1 SUB BASE AND WELL COMPACTED IN LAYERS NOT EXCEEDING 150MM, UNLESS OTHERWISE AGREED.
3. HIGHWAY AUTHORITY TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.

ADOPTABLE DRAINAGE

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "CODE FOR ADOPTION" THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATERS 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 INTO 150MM DEEP FRAMES IN HIGHWAYS
3. ALL WORKS TO BE INSPECTED 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 DRAINLAND DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM WITHIN THE PROPOSED DEVELOPMENT. ALTERNATIVE METHODS OF DEALING WITH DRAINAGE RUN-OFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION REGARDING THE DISPOSAL OF THE FILTER DRAIN LAND DRAINAGE RUN-OFF
5. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1M AND MANHOLES 0.5M FROM KERB FACES AND SERVICE MARGINS.
6. SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES OR THE WIDTH OF THE TREE AT MATURITY, WHICHEVER
7. 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 NON-VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE GRANULAR BED AND SURROUND.
8. PIPE BEDDING AND SURROUND TO BE IN ACCORDANCE TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION A-BED (TABLE A).
9. YORKSHIRE WATER POLICY IS THAT TYPE "C" BRICK MANHOLES AND 1050MM DIAMETER MANHOLE RINGS ARE NOT PREFERRED. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200MM DIAMETER OR 1500MM DIAMETER RINGS, WITH THE OPENING SITED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS 1.5M OR
10. ADOPTABLE PLASTIC SEWER PIPES TO BE BSI KITEMARKED (CERTIFIED TO WIS 4-03-01 AND ESDEN DATE. ADOPTABLE PLASTIC SEWER PIPES TO BE LAID IN MAXIMUM 5 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD REQUIRE CLAY WARE CHANNEL IN MANHOLES.
11. ALL PIPE CONNECTIONS TO BE MADE WITH FLEXIBLE JOINTS. THESE MUST BE AS FOLLOWS: 150MM DIA. 40MM; 150MM DIA. 40MM; 225MM DIA. 45MM AND 300MM DIA. 75MM. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE - (CLASS120 TO EN 1916/BS881-1 2002). PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN1401
12. WHERE A S125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
13. WHERE A SEWER CROSSES OVER A SEWER THE CONTRACTOR MUST ENSURE BEDDING TO BOTH PIPES, APPROX. 300MM - IF CROSSOVER IS NEAR THE ROOFER THEN THE CLEARANCE NEEDED MAY NEED TO BE INCREASED.

DRAINAGE WITHIN HIGHWAY REQUIREMENTS

14. ALL PRECAST CONCRETE DRAINAGE MATERIALS TO BE IN ACCORDANCE WITH CODE FOR ADOPTION AND NATIONAL SPECIFICATION DESIGN MANUAL FOR ROADS AND BRIDGES
15. ALL PCC UNITS IN OVERSIZE MANHOLES MUST HAVE A DESIGN WORKING LIFE OF 120 YEARS (MIN) IN ACCORDANCE WITH BS 8500-1:2015+A2:2019 TABLE A6
16. PRECAST CONCRETE MANHOLE UNITS INCLUDING THEIR PCC COVER SLABS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1917 AND BS 5911-3 AND SHALL BE MANUFACTURED IN ACCORDANCE WITH A QUALITY SYSTEM. THEY SHALL BE SHOWN TO SATISFACTORY EVIDENCE THROUGH SOA AND FQS CAN BE PROVIDED THAT A LOWER CLASS WILL RESIST ATTACK FROM SOILS AND GROUND WATER
17. PRECAST CONCRETE CORBEL SLABS SHALL COMPLY WITH BS 5911-3 TABLE 3 AND FIGURE 8
18. PRECAST CORBEL SHALL BE INSTALLED WITH A MINIMUM OF 300mm COVER TO FINISHED GROUND LEVEL
19. SUBMISSION OF A CONSTRUCTION COMPLIANCE CERTIFICATE SHALL BE PROVIDED UPON COMPLETION OF DRAINAGE WORKS

EXISTING SERVICES

PRIOR TO THE COMMENCEMENT OF ANY WORKS UNDER GROUND MAPPING SURVEYS AND CONSTRAINTS PLANS IS TO BE REFERRED TO ANY DISCREPANCIES ARE TO BE REPORTED TO ENGINEER.

ANY EXISTING SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS SHOULD BE PROTECTED AND SUPPORTED TO THE SATISFACTION OF THE RELEVANT STATUTORY AUTHORITIES. THE CONTRACTOR SHALL INFORM THE DEVELOPER OF ANY SERVICES THAT MAY AFFECT THE PROPOSED DESIGN. CONTRACTOR TO NOTIFY STATUTORY SERVICE AUTHORITIES PRIOR TO COMMENCEMENT OF WORK. AS CONSTRUCTED INFORMATION IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE FOLLOWING AS CONSTRUCTED DRAWINGS TO THE DEVELOPER UPON THE COMPLETION OF THE WORKS COVERED BY THE CONTRACT:

1. IMPACT/CONTROL ORDINATES OF ALL ADOPTABLE MANHOLES.
15. INVERT AND COVER LEVELS OF ALL ADOPTABLE MANHOLES.
16. NEW GULLY POSITIONS AND CONNECTIONS.
17. POSITION AND DEPTH OF SERVICE DUCTS FOR WATER, GAS, ELECTRIC, BT, CABLE AND STREET LIGHTING. STATING SIZE AND NUMBER OF DUCTS

LEGEND

ADOPTABLE DRAINAGE

- PROPOSED ADOPTABLE COMBINED MANHOLE
- PROPOSED ADOPTABLE STORM MANHOLE
- PROPOSED ADOPTABLE FOUL MANHOLE
- PROPOSED CULVERT
- PROPOSED EASEMENT
- EXISTING ADOPTED STORM MANHOLE
- EXISTING ADOPTED COMBINED MANHOLE

HEALTH & SAFETY RISKS

IN ADDITION TO THE STANDARD HAZARDS AND RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING RESIDUAL HEALTH AND SAFETY RISKS THESE RISKS ARE APPLICABLE TO THE SET OF DRAWINGS FORMING THE DESIGN.

CONSTRUCTION RISKS

- C1 BURIED SERVICES - OBTAIN ACCURATE LOCATIONS OF UNDERGROUND SERVICES PRIOR TO EXCAVATION.
- C2 CONFINED SPACE WORKS - ENSURE STAFF ARE SUITABLY TRAINED.
- C3 CONSTRUCTION ADJACENT LIVE TRAFFIC - ENSURE SAFE METHOD OF WORKING
- C4 DEEP EXCAVATIONS - RISK OF LAND SLIPS AND LARGE FALLS CONNECTION TO EXISTING LIVE SEWERS - RISK OF DROWNING
- C5 CONSTRUCTION ADJACENT LIVE TRAFFIC - ENSURE SAFE METHOD OF WORKING
- C6 CONTAMINATED GROUND - SITE ASSESSMENT MUST BE CARRIED OUT TO DETERMINE RISK IF CONTAMINATED GROUND IS UNCOVERED.
- C7 UNFORESEEN GROUND CONDITIONS - CONTRACTOR SHOULD CARRY OUT APPROPRIATE SURVEYS TO MINIMISE RISK OF ENCOUNTERING UNKNOWN STRUCTURES
- C8 STEEP SIDED STRUCTURES/RETAINING WALLS - COULD RESULT IN FALLS FROM HEIGHT ENSURE FALL PROTECTION PRIOR TO PERMANENT FENCING BEING ERECTED.
- C9 SHALLOW GROUND WATER WILL BE ENCOUNTERED <1m BGL

OPERATION & MAINTENANCE RISKS

- OM 1 UNTREATED/POLLUTED WATER CAN CAUSE ILL HEALTH FOR OPERATIVES
- OM 2 WORKING ON OR NEAR SEWERS STEEP SIDED STRUCTURES/RETAINING WALLS COULD RESULT IN FALLS FROM HEIGHT
- OM 3 ENSURE BARRIERS ARE PLACED AROUND TOPS OF RETAINING WALLS AND EXCAVATIONS PRIOR TO PERMANENT FENCING BEING ERECTED. CONFINED SPACE WORKS - ENSURE STAFF ARE SUITABLY TRAINED.

ALL WORKS MUST BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING IN ACCORDANCE WITH THE REQUIREMENTS DEFINED IN THE CDM REGULATIONS AND BS 8000
THE RISK LISTED ARE NOT EXHAUSTIVE REFER TO DESIGNERS RISK ASSESSMENT FOR FULL DETAILS

Rev.	Date	Revision Details	Drawn	Checked
P06	27.10.25	UPDATED TO SUIT REVISED LAYOUT RECEIVED 21.10.2025	JR	ND
P05	06.10.25	DRAWING AMENDED FOR PLANNING TO SUIT REVISED ARCHITECTS LAYOUT REV P11	JR	ND
P04	15.09.25	RAMP LOCATIONS AMENDED FOR SUBMISSION FOR RSA	JR	ND
P03	21.07.25	UPDATED TO SUIT STRATA COMMENTS	JR	ND
P02	17.07.25	UPDATED TO SUIT STRATA COMMENTS, CULVERT ADDED FOLLOWING DRAINAGE SURVEY	JR	ND
P01	28.02.25	FIRST ISSUE	JR	ND

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Client
STRATA/ THIRTEEN

Project
MAIN AVENUE
COWERSLEY

Title
ENGINEERING LAYOUT

Drawn	Checked	Date
JR	ND	28.02.2025

Drawing Number: 2153-QD-XX-HD-DR-C-03-01

Drawing Status	Scale	Rev.
TENDER	1:250 - A0	P06