1. ALL ADOPTABLE SEWERS AND ASSOCIATED WORKS ARE TO COMPLY FULLY WITH "SEWERS FOR ADOPTION" 7TH EDITION. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ON-SITE DRAWINGS PRIOR TO UNDERTAKING ANY WORKS AND ANY DISCREPANCIES WITH BOUNDARIES, FENCELINES, EARTHWORKS OR OTHERWISE REPORTED IMMEDIATELY TO THE ENGINEER PRIOR TO WORKS COMMENCING.

2. ALL HIGHWAY AND DRAINAGE WORKS TO BE TO ADOPTABLE STANDARDS AND SHALL COMPLY FULLY WITH THE LOCAL AUTHORITY SPECIFICATION, APPROVED STANDARD DETAILS AND THE RELEVANT SECTIONS OF THE DESIGN MANUAL FOR ROADS AND BRIDGES, SPECIFICATION FOR HIGHWAY WORKS AND BRITISH STANDARDS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO ALL GULLIES PRIOR TO UNDERTAKING ANY PAVEMENT WORKS.

3. ANY PRIVATE WORKS ARE TO COMPLY FULLY WITH THE LATEST EDITIONS OF THE BUILDING REGULATIONS

4. ALL EXISTING STATIONS, INVERT LEVELS AND DRAINAGE NETWORK TO BE CHECKED BY THE CONTRACTOR AT THE START OF WORKS AND ANY DISCREPANCIES NOTIFIED TO THE ENGINEER. ALL LEVELS ARE BASED ON TOPOGRAPHICAL SURVEY INFORMATION PROVIDED BY OTHERS. ANY DISCREPANCIES BETWEEN THIS AND OTHER DRAWINGS TO BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION

5. ALL MATERIALS TO BEAR THE RELEVANT B.S.KITEMARK AND COMPLY FULLY WITH THE SPECIFICATIONS. ALL MATERIALS TO BE AGREED WITH THE OVERSEEING LOCAL AUTHORITY REPRESENTATIVE PRIOR TO ORDERING. 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 STATUTORY CONSENTS, OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS AND WATER INDUSTRIES ACTS,. ARE TO BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF THE WORKS (UNLESS OTHERWISE STATED). ALL WORKS ARE TO BE INSPECTED BY L.A., NHBC OR STATUTORY AUTHORITY AS APPLICABLE.

7. CONTRACTOR TO MAKE ADVANCE ALLOWANCE FOR THE MANAGEMENT AND COORDINATION OF STATUTORY UNDERTAKERS DIVERSIONS WITHIN THEIR PROGRAMME OF WORKS. PRESENCE OF STATUTORY UNDERTAKERS EQUIPMENT IN THE HIGHWAY SHOULD BE VERIFIED BY THE CONTRACTOR ON SITE PRIOR TO STARTING ANY WORKS. THE LOCATION OF STATUTORY PLANT SHOWN ON ANY PLANS IS INDICATIVE ONLY AND SHOULD NOT BE RELIED UPON FOR THE LOCATION OF ANY PIPEWORK OR CABLING. THE CONTRACTOR SHOULD CONFIRM THE LOCATION OF ALL STATS PLANT BY HAND DUG TRIAL TRENCHES PRIOR TO COMMENCING ANY WORKS. ALLOWANCE FOR THE PRESENCE OF ALL STATS APPROPRIATE PROTECTION / DIVERSION MEASURES (INCORPORATING SPLIT DUCT AND 150MM CONCRETE SURROUND OR SIMILAR STATUTORY APPROVED METHOD) IS TO BE PUT IN PLACE BY THE CONTRACTOR (UNLESS STATED OTHERWISE) WHERE STATS EQUIPMENT ARE FOUND TO BE WITHIN THE AREA OF HIGHWAY WORKS.

8. PRIOR TO ORDERING THE CONTRACTOR IS TO AGREE ALL SIGN POST/LIGHTING COLUMN MATERIALS AND FINISHES WITH THE LOCAL AUTHORITY. ALL SIGNS TO COMPLY WITH BS EN 12899:2007 AND ITS NATIONAL ANNEX. TYPE OF POSTS, FINISHES AND LIGHTING UNITS/COLUMNS TO BE AGREED WITH LA STREETLIGHTING ENGINEER PRIOR TO ORDERING. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE PROVISION OF ALL REQUIRED EQUIPMEMT AND ELECTRICAL FEEDS TO LIGHTING AND ANY SIGNALS PRIOR TO WORKS COMMENCING, CONTRACTOR TO MAKE ALLOWANCE FOR ANY LEAD-INS WITHIN THEIR PROGRAMME.

9. ALL ROADMARKINGS TO BE LAID IN ACCORDANCE WITH THE REQUIREMENTS OF THE TRAFFIC SIGNS MANUAL CHAPTER 5, TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS. ROADMARKING MATERIALS, LAYING AND PERFORMANCE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF BS EN 1436.ALL ACCESS COVERS WITHIN THE VICINITY OF THE WORKS TO HAVE HIGH FRICTION COVERS AND AGREED WITH LA ENGINEER. PSV OF ALL LINING AND COVERS TO SUIT ADJACENT SURFACING

10. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL ADVANCE NOTICES ARE IN PLACE AND TRAFFIC MANAGEMENT AGREED FOR THE WORKS PRIOR TO COMMENCING. THE CONTRACTOR IS TO MAKE ALLOWANCE FOR THE ADVANCE PROVISION OF ALL ELECTRICAL WORKS AND EQUIPMENT FOR SIGNALS AND STREETLIGHTING WITHIN THEIR PROGRAMME OF WORKS

C.D.M. REGULATIONS 2015

IN LINE WITH THE ABOVE REGULATIONS WE ARE OBLIGED TO INFORM THE CLIENT OF THE RISKS THAT MAY BE ENCOUNTERED IN THE CONSTRUCTION OF THESE WORKS. 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 CROFT BELOW:-

1. TRENCH EXCAVATIONS IN EXCESS OF 1.2M DEEP.
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 AND PROTECTION OF SITE PERSONNEL AND MEMBERS OF THE PUBLIC.
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.
11. ANY CONSTRUCTION PERSONNEL, INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE HAD SIGHT OF:

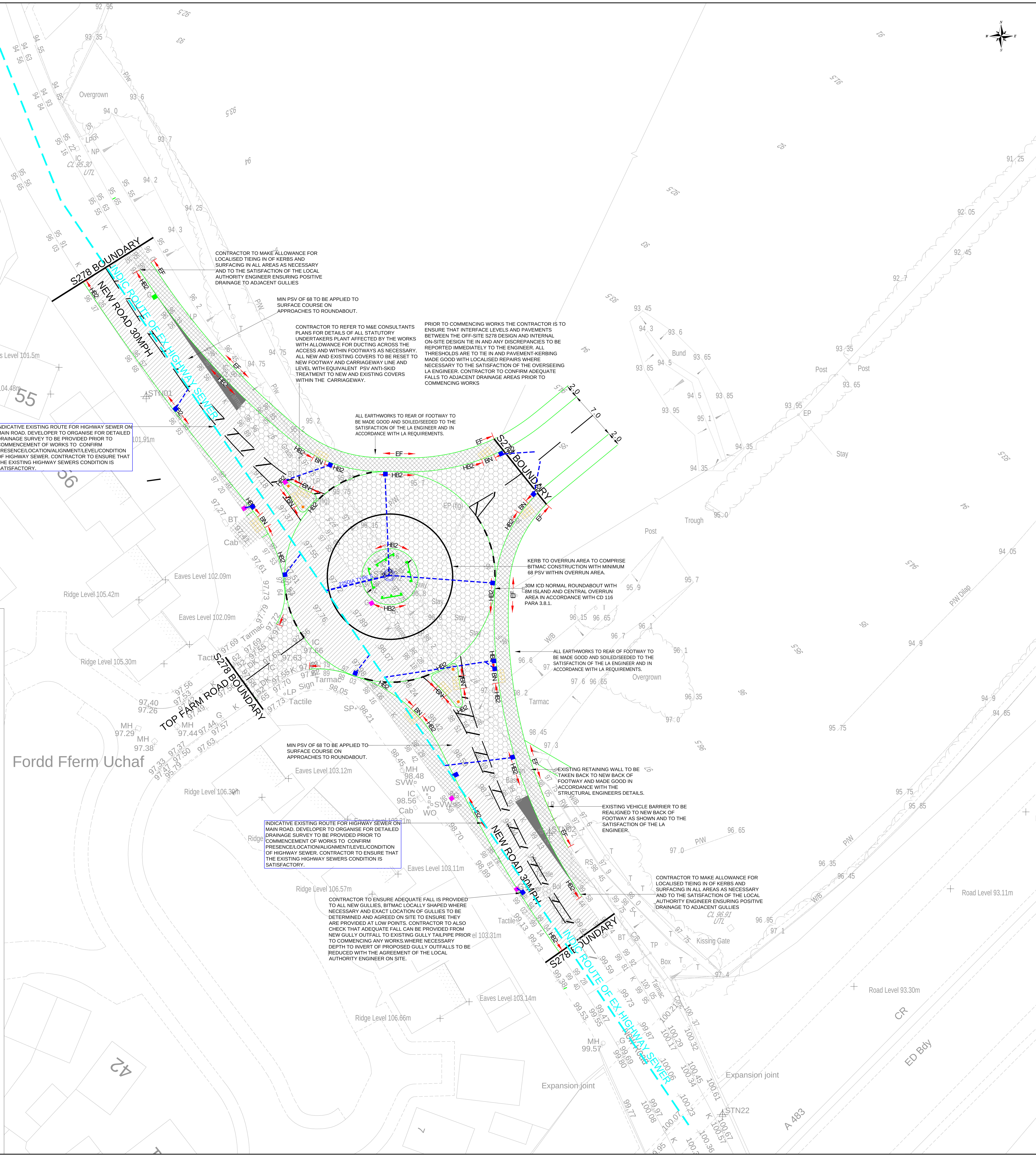
I) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS.
II) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN
III) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

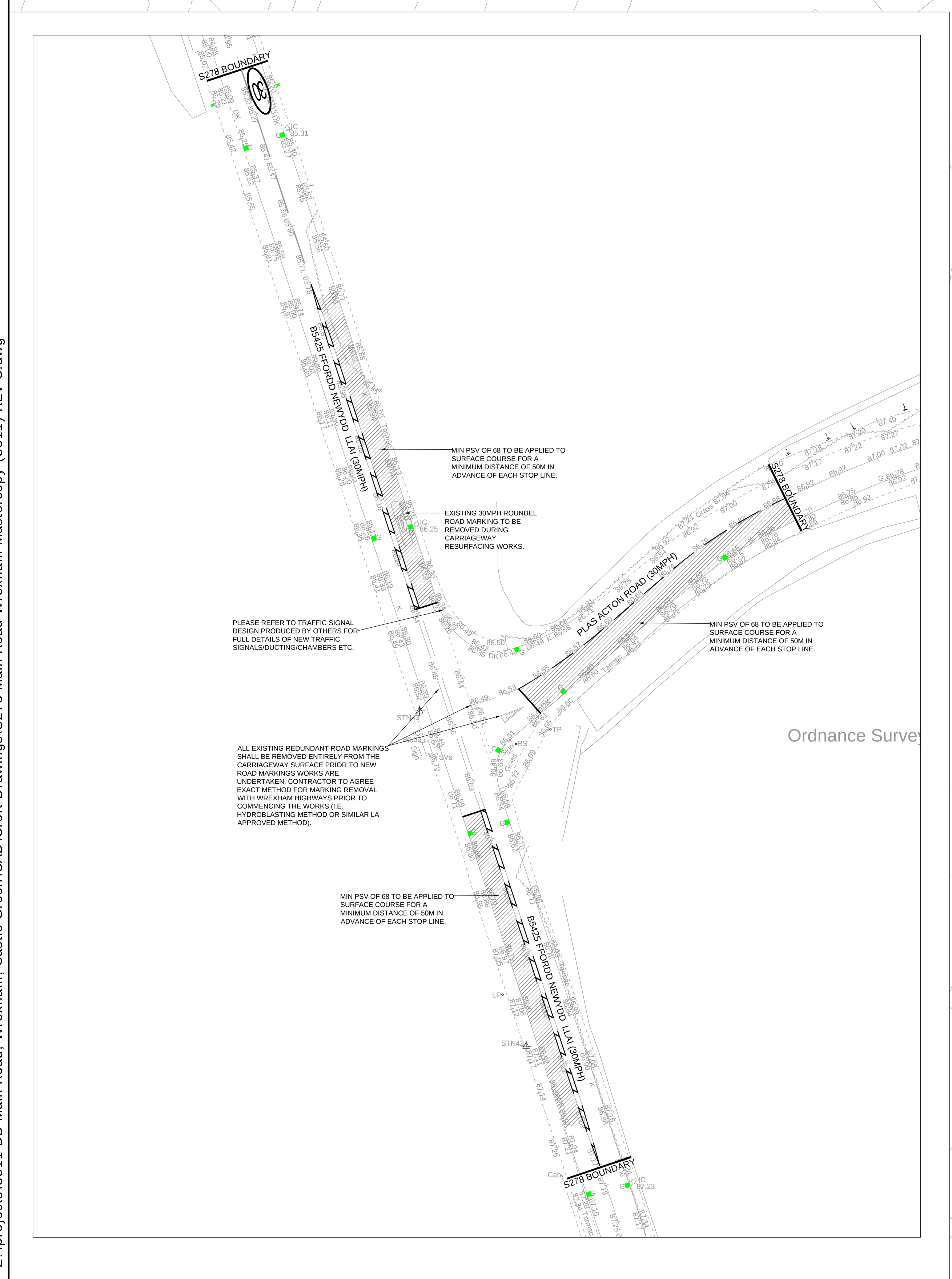
THE ABOVE LIST IS BY NO MEANS EXHAUSTIVE BUT IT DOES HIGHLIGHT OPERATIONS THAT PRESENT A RISK TO CONTRACTORS AND THE GENERAL PUBLIC.

WARNING:- PRESENCE OF EXISTING STATS EQUIPMENT IN THE VICINITY OF WORKS

PRESENCE OF STATUTORY UNDERTAKERS EQUIPMENT IN THE HIGHWAY SHOULD BE VERIFIED BY THE CONTRACTOR ON SITE PRIOR TO STARTED ANY WORKS. THE LOCATION OF STATUTORY PLANT SHOWN ON ANY PLAN IS INDICATIVE ONLY AND SHOULD NOT BE RELIED UPON FOR THE LOCATION OF ANY PIPEWORK OR CABLING. THE CONTRACTOR SHOULD CONFIRM THE LOCATION OF ALL STATS PLANT BY HAND DUG TRIAL TRENCHES PRIOR TO COMMENCING ANY WORKS. ALLOWANCE FOR THE PRESENCE OF ALL STATS APPROPRIATE PROTECTION / DIVERSION MEASURES (INCORPORATING SPLIT DUCT AND 150MM CONCRETE SURROUND OR SIMILAR STATUTORY APPROVED METHOD) IS TO BE PUT IN PLACE BY THE CONTRACTOR (UNLESS STATED OTHERWISE) WHERE STATS EQUIPMENT ARE FOUND TO BE WITHIN THE AREA OF HIGHWAY WORKS.

ALL TRAFFIC SIGNALS EQUIPMENT INCLUDING SIGNAL POLES, SIGNAL HEADS, CONTROLLER, UPS, DUCTING, LOOPS ETC TO BE AGREED IN ADVANCE BY CONTRACTOR WITH THE LA PRIOR TO ORDERING IN ADDITION TO REFERENCE WITH SIGNALS SPECIFICATION. ALL COLUMNS, LANTERNS, AND COLUMN FINISHES TO ALSO BE AGREED WITH LOCAL AUTHORITY LIGHTING ENGINEER BY CONTRACTOR PRIOR TO ORDERING. CONTRACTOR TO MAKE ALLOWANCE FOR EQUIPMENT SUPPLY LEAD-INS IN ADVANCE OF THEIR ARRIVAL ON SITE AND PRE-START DISCUSSIONS HELD IMMEDIATELY FOLLOWING AWARD OF CONTRACT WITH SUPPLIERS AND THE LOCAL AUTHORITY TO RE-CONFIRM PREFERRED EQUIPMENT SPEC AND LEAD IN TIMESCALES.





Z:\projects\3311 DD Main Road, Wrexham, Castle Green\CAD\Croft Drawings\S278 Main Road Wrexham Mastercopy (3311) REV C.dwg

NOTES

FULL DEPTH CARRIAGEWAY CONSTRUCTION-(NO LIMESTONE AGGREGATE TO BE USED IN SURFACE COURSES OR ANY SURFACES TO BE TEMPORARILY TRAFFICKED). ALL MATERIALS TO BE LAID AND TRANSPORTED IN ACCORDANCE WITH THE SHW. BITUMINOUS SPRAY TO BE APPLIED IN ACCORDANCE WITH CLAUSE 920 OF THE SHW.

SURFACE: 50MM THICK HRA 35/14 SURF 40/60 DES 20MM PRECOATED CHIPPINGS PSV MIN 60 TO BS EN 13108. MIN PSV OF 68 TO BE APPLIED ON APPROACHES TO ROUNDABOUT AND TRAFFIC SIGNAL STOP LINES.

BINDER: 60MM THICK AC 20 DENSE BIN 40/60 REC TO BS EN 13108.

BASE: 150MM THICK AC32 BASE 40/60 REC TO BS EN 13108.

SUB BASE: MIN 150MM THICK SUB-BASE (SUBJECT TO ON-SITE CBR RESULTS-PLEASE REFER TO TABLE ON D004) IN TYPE 1 GRANULAR MATERIAL. LAID AND COMPACTED TO THE SPECIFICATION FOR HIGHWAY WORKS CLAUSES 701, 801, & 803.

CAPPING: REQUIRED CAPPING DEPTH SUBJECT TO ON-SITE CBR TEST RESULTS. FOR ALL CAPPING DETAILS PLEASE REFER TO THE TABLE PROVIDED ON THE STANDARD DETAILS PLAN AND THE DMRB FOR FURTHER GUIDANCE. CBR TO BE ESTABLISHED ON SITE PRIOR TO STARTING WORKS. CONTRACTOR TO REFER RESULTS TO A REPRESENTATIVE OF THE LOCAL AUTHORITY AND THE DESIGN MANUAL FOR ROADS AND BRIDGES VOLUME 7, SECTION 2, PART 3 CHAPTER 3 FOR FURTHER GUIDANCE ON SUB-BASE CAPPING RELATIONSHIP. APPROPRIATE TERRAM GEOTEXTILE MEMBRANE TO BE LAID BENEATH CAPPING LAYER TO MANUFACTURER'S PROPRIETARY REQUIREMENTS.

PLANE REGULATE AND INLAY

PLANE 50MM, BOND COAT IN ACCORDANCE WITH SHW AND REPLACE WITH 50MMSURFACE COURSE AS SPECIFIED ABOVE. IN AREAS OF OVERLAY LEVELS TO BE MADE UP WITH REQUIRED DEPTH OF BINDER COURSE (MIN 60MM) PRIOR TO LAYING OF SURFACE COURSE.
ALL FULL DEPTH AND INLAY TO INCORPORATE 300MM STEPPED TIE IN CONSTRUCTION . PLEASE REFER TO STANDARD DETAIL AS SUPPLIED.

NARROW WIDENING IN AREAS LESS THAN 2.0M

AS FULL DEPTH CARRIAGEWAY CONSTRUCTION BUT BASE AND SUB-BASE LAYER REPLACED WITH ST2 CONCRETE. PLEASE SEE STANDARD DETAIL ON DWG D004.

FOOTWAY CONSTRUCTION

20MM THICK AC6 DENSE SURF 160/220 TO BS EN13108-1.
40MM THICK AC20 DENSE BIN 160/220 TO BS EN13108-1.
100MM THICK TYPE 1 SUB BASE 150MM AT VEHICLE CROSSINGS

GRASS VERGE

150MM TOP SOIL CLASS 5A GRASS SEEDING TO CLAUSE 3005 OF THE SPECIFICATION FOR HIGHWAY WORKS. WHERE GRASS VERGE OVERLAYS HARD CARRIAGEWAY THEN THIS IS TO BE PERFORATED AT 1M CENTRES TO ALLOW FOR DRAINAGE. GRASS SEEDING TO COMPLY WITH THE GENERAL REQUIREMENTS OF BS 4428 AT A RATE OF NOT LESS THAN 20G/M2 FOR SIDE SLOPES AND EMBANKMENTS AND NOT LESS THAN 15G/M2 ELSEWHERE. GRASS SEEDING TO BE LOW GROWING GRASS MIX TYPE 1 IE BSH A4 MIX OR SIMILAR APPROVED.

KERBING

ALL KERBS, CHANNELS, FLAGS, EDGINGS ETC CONSTRUCTED TO THE REQUIREMENTS OF BS EN 1339,1340, BS 7533 AND BS 7263. ANY GAP BETWEEN KERB AND EXISTING CARRIAGEWAY TO BE FILLED WITH HOT POURED BITUMEN MAX WIDTH 20MM. WHERE THE GAP IS GREATER THAN 20MM IT SHALL BE REINSTATED AS SHOWN IN THE REINSTATEMENT STANDARD DETAIL. ALL NEW TO EXISTING SURFACE COURSE JOINTS TO BE SEALED WITH HOT POUR BITUMEN. WHERE NECESSARY EXISTING SURFACES TO BE SAW CUT TO PROVIDE A NEAT VERTICAL EDGE. RADII BETWEEN 12M AND 20M TO BE LAID USING 600MM UNITS. 25MM UPSTAND AT VEHICLE CROSSOVERS.

DENOTES NEW KERBS & EDGINGS

HB2 PRECAST CONCRETE 'HALF BATTERED' KERB 125X255, BS REF 'HB2' SET WITH 125MM FACE UNLESS OTHERWISE INDICATED/TIED IN WITH EXISTING TO INCLUDE TAPER KERBS 125 X 255/150, BS REF 'DL1, 'DR1'.

PROPOSED HB2 KERBS AND ASSOCIATED TRANSITION/DROPPER KERBS EITHER SIDE OF THE PROPOSED PEDESTRIAN CROSSING ARE AVAILABLE FROM SUPPLIERS, WITHOUT THE NEED TO CUT KERBS.

EF PRE-CAST CONCRETE 'FLAT TOP' EDGING 200X50, BS REF 'EF'. FLUSH WITH FOOTWAY SURFACE.

BN DROPPED KERB CONSISTING OF PRECAST CONCRETE 'BULL NOSE' KERB 125 X 150, BS REF 'BN'. KERB SET FLUSH OR 6MM UPSTAND

TACTILE PAVING

450X450X80 CONCRETE 'BUFF' COLOURED TACTILE PAVING FLAGS
50MM 4:1 SAND/CEMENT BED
200MM TYPE 1 GRANULAR SUB-BASE MATERIAL TO CLAUSE 803
IN ACCORDANCE WITH GUIDANCE SET OUT IN THE DETR ENVIRONMENT TRANSPORT REGIONS DOCUMENT "GUIDANCE ON THE USE OF TACTILE PAVING SURFACES", TACTILE INLAYS SHALL BE PROVIDED WHERE NECESSARY AT ALL EXISTING/NEW INSPECTION COVERS/STATS EQUIPMENT.

EXISTING GULLY GRATING AND FRAME TO BE REMOVED TO TIP AND POT FILLED WITH MIX ST2 CONCRETE TO BELOW FORMATION LEVEL.

PRECAST CONCRETE STREET GULLY 450MM DIA X 900MM TO BS 5911 BS EN 124 WITH DUCTILE IRON HINGE GULLY GRATE AND 150MM FRAME WITH ENCAPSULATING GRATING TO EN 124 D400 SINGLE PIECE HINGED. LOCATION AND NATURE OF SEWER TO BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY DRAINAGE WORKS. CONTRACTOR TO ENSURE THAT NO OBLIQUE TURNS ARE MADE IN ALL GULLY CONNECTIONS AND ADJUST CONNECTIONS WHERE NECESSARY TO THE SATISFACTION OF THE LA ENGINEER.

EXISTING GULLY TO REMAIN.

PRIOR TO CONSTRUCTION THE CONTRACTOR IS TO SURVEY/PROOF AND IF NECESSARY CLEAR EXISTING SURFACE SEWERS/TAILPIPES TO CONFIRM PIPE ALIGNMENTS AND PREVENT ANY OBLIQUE CONNECTIONS WITH EXISTING PIPEWORK.

1200 DIA UNITED UTILITIES TYPE 1 MANHOLE
PLEASE REFER TO STANDARD DETAILS PROVIDED ON THE LATEST REVISION OF DRAWING 3311-D004 AND 3311-D005.
CONTRACTOR TO CONFIRM EXACT MANHOLE TYPE AND ALL DRAINAGE CONNECTIONS WITH THE LA ENGINEER PRIOR TO CONSTRUCTION AND TO ORDERING.

EARTHWORKS

ALL EARTHWORKS AND PREPARATION OF SUB-GRADE TO BE IN ACCORDANCE WITH SERIES 600 OF THE SPECIFICATION FOR HIGHWAY WORKS. ALL UNACCEPTABLE MATERIALS, TOPSOIL, ORGANIC MATTER OR SOFT SPOTS SHALL BE EXCAVATED AND DISPOSED OF TO A SUITABLE TIP. IMMEDIATELY PRIOR TO LAYING SUB-BASE ALL SURFACES ARE TO BE CLEANED AND UN-SOUND MATERIAL REMOVED THE SURFACE SHOULD BE BROUGHT UP TO FORMATION LEVEL BY THE ADDITION OF SUITABLE FILL MATERIAL CLASS 1A OR CLASS 6F2 TO PROVIDE A SOUND BASE FOR CONSTRUCTION MINIMUM CBR OF 15%. CONTRACTOR TO SATISFY THEMSELF THAT THE SUB-GRADE IS ADEQUATLEY ROLLED IN ACCORDANCE WITH THE SHW AND SUITABLE FOR CONSTRUCTION PRIOR TO UNDERTAKING ANY WORKS

TOPSOIL REQUIREMENTS

1. THE CONTRACTOR SHALL ALLOW FOR THE REINSTATEMENT OF ANY EXISTING GROUND DISTURBED WITHIN THE WORKING SPACE BOUNDARY USING 150MM TOPSOIL AND GRASS SEED IN ACCORDANCE WITH THE LOCAL AUTHORITY SPECIFICATION FAND THE SHW. NO RECYCLED TOPSOIL.

2. ALL 1.0M WIDE SOFT VERGES ADJACENT TO WORKS SHALL INCLUDE 150MM TOPSOIL AND GRASS SEED AS (1) ABOVE.

3. STRUCTURAL EARTHWORKS REQUIRED TO SUPPORT THE WORKS SHALL BE GRADED OUT TO SLOPES OF 1:3 OR SHALLOWER AND FINISHED WITH 150MM TOPSOIL AND GRASS SEED AS (1) ABOVE

UNLESS OTHERWISE STATED EARTHWORK SLOPES TO BE AT 1:3 WITH SUITABLE GRANULAR FILL AND TOP SOIL IN ACCORDANCE WITH SHW. SUPPORTIVE EARTHWORKS TO BACK OF FOOTWAY TO BE GRADED LEVEL TO MAINTAIN HIGHWAY BOUNDARY TO REAR OF FOOTWAY

REV	DETAILS	DRAWN	CHECKED	DATE
B	REVISED IN LINE WITH WREXHAM COMMENTS	JC	MC	JUL 21
A	REVISED IN LINE WITH STAGE 1/2 RSA	JC	MC	MAY 21

CLIENT: CASTLE GREEN

PROJECT: MAIN ROAD, WREXHAM

DRAWING TITLE: S278 CONSTRUCTION MATERIALS

SCALES: 1:200/1:500 @ A0

DRAWN: JC | CHECKED: MC | DATE: MAR 21

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DRAWING NUMBER: 3311-D002 | REVISION: B

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