GENERAL NOTES:

1. THE CONTRACTOR'S DESIGN AND MATERIAL SUBMITALS
SUBMIT CONTRACTOR PROPOSALS WITH ADEQUATE TIME FOR ER AND CONTRACTOR TECHNICAL ADVISOR TEAM TO COMMENT IN ORDER TO CONFIRM COMPLIANCE WITH DESIGN INTENT/SPECIMEN DESIGN, CODES AND BUILDING REGULATIONS.
2. DO NOT SCALE. ALL DIMENSIONS ON DRAWINGS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. USE FIGURED DIMENSIONS ONLY.
3. ALL SETTING OUT DIMENSIONS TO BE CHECKED AGAINST ARCHITECTS DRAWINGS. ARCHITECTS DRAWINGS TO TAKE PRECEDENCE.
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S, ENGINEER'S AND MANUFACTURERS' DRAWINGS AND SPECIFICATIONS.
5. CIVIL AND STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH CIVIL & STRUCTURAL SPECIFICATIONS & ALL ARCHITECTS AND SERVICES DRAWINGS AND SPECIFICATIONS.
6. ANY QUERIES OR DISCREPANCIES ARE TO BE REFERRED TO THE EMPLOYER'S REPRESENTATIVE IMMEDIATELY.
7. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. BEFORE RELATED WORK COMMENCES THE CONTRACTOR SHALL SUBMIT A METHOD STATEMENT AND SEQUENCE OF WORK TO THE ENGINEER AND ARCHITECT FOR APPROVAL.
8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES IDENTIFIED SHOULD BE NOTIFIED IN WRITING TO BOTH THE ENGINEER AND ARCHITECT AS SOON AS POSSIBLE.
9. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM. OTHER STANDARDS MAY ONLY BE CONSIDERED FOLLOWING PRIOR APPROVAL BY THE ENGINEER.
10. ALL LEVELS ARE RELATED TO THE ORDNANCE DATUM (O.D.) - MALIN HEAD UNLESS NOTED OTHERWISE
11. THE CONTRACTOR SHALL NOTE, AND MAKE ALLOWANCES FOR, THE MEASURES NECESSARY TO COMPLY WITH THE WASTE MINIMISATION AND RECYCLING TARGETS SET OUT IN THE SPECIFICATION.
12. FOR DETAILS AND SETTING OUT OF RWP, SVP, WVP AND ALL OPENINGS REFER TO RELEVANT ARCHITECTS DRAWINGS.
13. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING ALL GROUND AND SURFACE WATER WITHIN THE SITE DURING THE CONSTRUCTION WORKS. AT NO POINT SHOULD ANY CONTAMINATED WATER FROM THE SITE BE DISCHARGED TO AN EXISTING DRAIN OR SEWER. REFER TO SITE INVESTIGATION REPORT FOR FURTHER INFORMATION ON GROUND WATER LEVELS. PLEASE ALSO REFER TO CONTROL OF SURFACE WATER/GROUNDWATER NOTES.
14. VIBRATION AND NOISE MONITORS TO BE INSTALLED ON SITE AND ALSO ON ADJACENT BUILDINGS IN ACCORDANCE WITH ARCHITECTS SPECIFICATION, PUNCH SPECIFICATION, BS 7385, BS 5228 DMRB VOLUME 11 AND CIRIA TECHNICAL NOTE 142.
15. WHENEVER CONTRADICTORY ADVICE IS APPARENT IN THE CIVIL ENGINEERING WORKS REQUIREMENTS THE MOST ONEROUS GUIDANCE SHALL BE DEEMED TO TAKE PRECEDENCE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT ALL DRAINAGE INFRASTRUCTURE TO ENSURE NO CLASHES OCCUR WITH OTHER UNDERGROUND SERVICES AND UTILITIES INCLUDING SERVICE DUCTS, CHAMBERS ETC
17. ONLY THE PRINCIPAL EXISTING SERVICES AND FEATURES HAVE BEEN INDICATED WITH APPROXIMATE LOCATIONS. ACTUAL POSITIONS SHALL BE ESTABLISHED AND VERIFIED ON SITE BY THE CONTRACTOR.
18. THE CONTRACTOR SHALL BE REQUIRED TO FIT ALL PROPOSED INFRASTRUCTURE TO ENSURE NO CLASHES WITH ALL EXISTING AND PROPOSED UTILITIES AND SERVICES, BOTH OVERGROUND AND UNDERGROUND. THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE MINIMUM RECOMMENDED SEPARATION DISTANCES BETWEEN ALL EXISTING AND PROPOSED SERVICES AS DETAILED ON IRISH WATER DRAWING STD-WW-05. THE CONTRACTOR SHALL BE DEEMED TO COMPLY WITH ALL THESE REQUIREMENTS IN THEIR TENDER PRICE.
19. CONTRACTOR TO ALLOW FOR UNDERTAKING SLIT TRENCHES TO ESTABLISH LOCATION OF EXISTING SERVICES PRIOR TO SERVICES CONSTRUCTION COMMENCING. THIS INFORMATION IS TO SUBMITTED TO THE ENGINEER 10 DAYS PRIOR TO COMMENCEMENT OF WORKS.
20. REFER TO THE FOLLOWING SITE INVESTIGATION DOCUMENTS FOR INDICATIVE INFORMATION OF SITE CONDITIONS:
21. FOR LOCATION OF UNDER SLAB DRAINAGE LAYOUT REFER TO ARCHITECTS DRAWINGS AND DETAILS.
22. THE CONTRACTOR MUST LIAISE DIRECTLY WITH THE LOCAL AUTHORITY DEPARTMENTS AS DIRECTED IN THE CIVIL ENGINEERING SPECIFICATION AND STANDARD CONSTRUCTION DETAILS.
23. ALL VEHICULAR AND PEDESTRIAN, CYCLE & PRIVATE ACCESS ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC MANAGEMENT PLAN AND CONSTRUCTION MANAGEMENT PLAN.

ROAD MARKINGS AND SIGNAGE:

1. ALL ROAD MARKINGS AND SIGNAGE TO BE IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORT, TOURISM AND SPORT TRAFFIC SIGNS MANUAL.
2. ALL ROAD MARKING MATERIALS TO COMPLY WITH EU REGULATION NO. 305/2011 IN RELATION TO CE MARKINGS AND DECLARATION OF PERFORMANCE (DOP).
3. ALL ROAD MARKINGS ON ASPHALT/CONCRETE SURFACES TO BE THERMOPLASTIC PAINT WITH REFLECTIVE BEADS.
4. ON CONCRETE SURFACES, CONCRETE TO BE SAND BLASTED AND PRIMER APPLIED PRIOR TO APPLICATION OF PAINT.
5. ALL ROAD MARKINGS ON BRICK PAVED SURFACES TO BE SPECTRUM TRAFFIC LINE 9612 PAINT OR EQUIVALENT.
6. SIGNS & MARKINGS; CONTRACTOR TO CONFIRM PRECISE SETTING OUT WITH EMPLOYER'S REPRESENTATIVE PRIOR TO COMPLETION.
7. ALL SIGNS TO BE MOUNTED ON 75mm GALVANISED STEEL POSTS WITH COLOURED SLEEVES U.N.O. TO SPECIFICATION AND IN ACCORDANCE WITH THE TRAFFIC SIGNS MANUAL. MOUNTING HEIGHT TO BOTTOM OF SIGN = 2.3m U.N.O.
8. ALL STREET FURNITURE TO BE TAKEN UP AND SET ASIDE FOR RE-USE. PROPOSED STREET FURNITURE TO BE RETROFITTED BY OTHERS.
9. ALL EXISTING SIGNS (INCLUDING POLES) AND MARKINGS TO BE TAKEN UP OR COVERED AND TEMPORARY MEASURES APPLIED IN ACCORDANCE WITH CONTRACTORS TRAFFIC MANAGEMENT PLAN. THE CONTRACTOR MAY USE EXISTING SIGNAGE AS PART OF THEIR TRAFFIC MANAGEMENT PLAN.
10. ALL EXISTING CHAMBERS AND ACCESS POINTS TO REMAIN CLEAR OF OBSTRUCTION THROUGHOUT WORKS. CHAMBERS SHALL BE REBULT/RETAMED IN POSITION IDENTIFIED ON FINISHING WORKS DRAWING.
11. ALL PEDESTRIAN, CYCLE AND VEHICULAR ROUTES MUST BE RETAINED IN ACCORDANCE WITH APPROVED TRAFFIC MANAGEMENT PLAN.
12. THE CONTRACTOR MUST LIAISE DIRECTLY WITH LOCAL AUTHORITY DEPARTMENTS AS DIRECTED IN THE WORKS REQUIREMENTS.
13. ALL VEHICULAR & PEDESTRIAN, CYCLE & PRIVATE ACCESS ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT PLAN.
14. ALL TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT SHALL COMPLY FULLY WITH THE CIVIL ENGINEERING SPECIFICATION AND STANDARD CONSTRUCTION DETAILS.

TEMPORARY WORKS FOR EXCAVATIONS

1. CONTRACTOR/SUB CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND REMOVAL OF ALL TEMPORARY WORKS AND CO-ORDINATION WITH THE PERMANENT WORKS. REFER ALSO TO HEALTH & SAFETY RISK ASSESSMENTS
2. THE DESIGN OF TEMPORARY WORKS FOR ANY EXCAVATION WORK SHALL CONSIDER THE FOLLOWING;
   a) ALL CURRENT HEALTH AND SAFETY REGULATIONS
   b) SLOPE STABILITY (SOILS NOT CUT STEEPER THAN 1V:2H)
   c) PINCH POINTS
   d) GROUNDWATER
   e) SURCHARGING FROM ADJACENT MATERIALS \ PLANT
   f) PRESENCE OF WATER BEARING COARSE GRAINED SOILS
3. TEMPORARY WORKS DESIGNER SHALL BE A CHARTERED ENGINEER WITH RELEVANT EXPERIENCE.
4. DETAILS OF TEMPORARY WORKS INCLUDING METHOD STATEMENTS SHALL BE SUBMITTED TO THE DESIGN TEAM INCLUDING THE PSDP FOR COMMENT THREE WEEKS PRIOR TO COMMENCEMENT OF THE WORKS.
5. A DILAPIDATION SURVEY OF ADJACENT BUILDINGS AND ROADS IS TO BE CARRIED OUT BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF THE WORKS. COPIES OF THE REPORT TO BE ISSUED TO ALL DESIGN TEAM MEMBERS.
6. COMMENTS BY CONSULTANTS IN NO WAY ALLEVIATE THE CONTRACTOR, SUB-CONTRACTORS OR TEMPORARY WORKS DESIGNER OF THEIR TEMPORARY WORKS DESIGN RESPONSIBILITY.
7. IT IS THE CONTRACTORS RESPONSIBILITY TO MONITOR THE MOVEMENT OF ADJACENT BUILDINGS, NOISE, DUST AND VIBRATIONS IN ACCORDANCE WITH THE RELEVANT STANDARDS. REFER ALSO TO ARCHITECTS AND PUNCH SPECIFICATION.
8. THE CONTRACTOR TO REFER TO THE PRELIMINARY HEALTH AND SAFETY PLAN, DRAWINGS, SPECIFICATIONS IN ADVANCE OF CARRYING OUT THE WORKS AND THE PREPARATION OF THEIR HEALTH AND SAFETY PLAN.
9. CONTRACTOR TO ENSURE THAT THE TEMPORARY WORKS DESIGNER IS ISSUED WILL ALL RELEVANT DOCUMENTATION.
10. STABILITY AND INTEGRITY OF ALL CIVIL AND STRUCTURAL ELEMENTS TO BE MAINTAINED BY THE CONTRACTOR DURING THE CONSTRUCTION WORKS.
11. THE CONTRACTOR TO PROCURE ALL RELEVANT PERMITS FROM THE LOCAL AUTHORITY PRIOR TO COMMENCEMENT OF THE WORKS.
12. CONTRACTOR MUST LOCATE ALL BELOW GROUND SERVICES.THIS MAY REQUIRE THE CONTRACTOR TO CARRYOUT ADDITIONAL INVESTIGATION WORKS PRIOR TO COMMENCEMENT ON SITE. ALL SERVICES TO REMAIN TO BE PROTECTED FOR THE DURATION OF THE WORKS.
13. TEMPORARY BRACING WHERE REQUIRED TO BE DESIGNED AND CO-ORDINATED BY THE CONTRACTOR,TEMPORARY WORKS DESIGNER AND RELEVANT SUB-CONTRACTORS.

DEMOLITION WORKS:

1. PRIOR TO THE START OF ANY WORKS, THE CONTRACTOR MUST ENSURE THAT ALL SERVICES (WATER, GAS, ESB ETC) SERVING THE BUILDING ARE FULLY DISCONNECTED AND ISOLATED. CONTACT MUST BE MADE WITH THE RELEVANT SERVICES PROVIDERS IN THIS REGARD.
2. ANY SERVICES TO BE MADE REDUNDANT ARE TO BE STRIPPED OUT AND REMOVED COMPLETELY AS PART OF THE WORKS.
3. ALL ABANDONED SEWER PIPES TO BE FILLED WITH C12/15 CONCRETE. ABANDONED MANHOLES TO BE BROKEN OUT IF POSSIBLE. AT A MINIMUM THEY SHOULD BE BROKEN DOWN TO FORMATION LEVEL AND FILLED WITH C12/15 CONCRETE.
4. ALL EXISTING SERVICES TO REMAIN IN USE ARE TO BE FULLY PROTECTED THROUGHOUT THE CONTRACT PERIOD.
5. THE CONTRACTOR TO SUBMIT A FULL METHOD STATEMENT ON ALL THE PROPOSED DEMOLITION WORKS. THIS STATEMENT SHOULD PROVIDE ALL TEMPORARY CALCULATIONS/DETAILS REQUIRED GUARANTEEING FULL STABILITY OF THE BUILDING DURING ALL STAGES OF DEMOLITION WORKS. CONTRACTOR TO APPOINT SUITABLY EXPERIENCED CHARTERED ENGINEER TO CARRY OUT TEMPORARY DESIGN AND CALCULATIONS.
6. THE CONTRACTOR TO SUBMIT A FULL DESIGN/DETAIL OF HOARDING TYPE AND SUPPORT REQUIREMENT.
7. UNKNOWN OCCURRENCES: GIVE NOTICE IMMEDIATELY OF SUSPECTED ASBESTOS CONTAINING MATERIALS (ACM'S) WHEN DISCOVERED. DO NOT DISTURB. ACM'S TO REMOVED BY A SPECIALIST ASBESTOS REMOVAL CONTRACTOR WHO SHALL BE A MEMBER OF ARCA. WHERE REQUIRED, HSA TO BE NOTIFIED.

NOTE:

1. THIS DRAWING PROVIDES A BRIEF SUMMARY OF THE PROJECT SPECIFICATION. IT SHOULD BE READ IN CONJUNCTION WITH THE PUNCH AND DESIGN TEAM PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHOULD CHECK FOR DISCREPANCIES AND THEY SHOULD BE REPORTED TO THE ENGINEER FOR CLARIFICATION BEFORE ANY WORK COMMENCES.
3. MAIN CONTRACTOR TO CARRY OUT CONDITION SURVEY OF ADJACENT PROPERTIES AND BOUNDARY WALLS PRIOR TO COMMENCEMENT OF WORKS ON SITE.
4. THE CONTRACTOR MUST PROVIDE CE MARKING WITH DECLARATION OF PERFORMANCE FOR ALL PRODUCTS COVERED UNDER THE CONSTRUCTION PRODUCTS REGULATIONS.

AS BUILT DRAWINGS

1. AS BUILT DRAWINGS TO BE PROVIDED IN ACCORDANCE WITH PUNCH SITEWORKS SPECIFICATIONS AND IRISH WATER CODE OF PRACTICE (WATER AND WASTE WATER)

DRAINAGE GENERAL:

1. CONTRACTOR TO PROVIDE INVERT LEVEL, COVER LEVEL, PIPE DIAMETER AND DIRECTION OF FLOW IN EXISTING MANHOLES. INFORMATION TO BE SUBMITTED TO PUNCH 15 WORKING DAYS PRIOR TO COMMENCEMENT ON SITE.
2. WHERE A NEW MANHOLE/CONNECTION IS TO BE CONSTRUCTED ON AN EXISTING SURFACE WATER/FOUL WATER/COMBINED SEWER, CONTRACTOR TO UNDERTAKE A SLIT TRENCH TO CONFIRM INVERT LEVEL AND PIPE DIAMETER OF EXISTING SEWER. INFORMATION TO BE SUBMITTED TO PUNCH 15 WORKING DAYS PRIOR TO COMMENCEMENT ON SITE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT ALL DRAINAGE INFRASTRUCTURE TO ENSURE NO CLASHES OCCUR WITH SERVICE DUCTS, CHAMBERS ETC.
4. CARE SHOULD BE TAKEN BY THE CONTRACTOR WHEN HANDLING PIPES, PARTICULARLY WHEN UNLOADING AND STACKING, SO AS TO AVOID DAMAGING THEM.
5. ALL PIPE SEALS AND GASKETS SHOULD BE STORED INDOORS AWAY FORM DIRECT SUNLIGHT.
6. ALL SEWERS TO BE THERMOPLASTIC STRUCTURED WALL SEWER PIPE AND SHALL COMPLY WITH THE RELEVANT PROVISIONS OF IS EN 13476. PIPES TO BE OF STIFFNESS CLASS 8KN/m² AND BE CAPABLE OF DEMONSTRATING A JETTING RESISTANCE OF 2,600 PSI (180 BAR) WITHOUT DAMAGE WHEN TESTED IN ACCORDANCE WITH WIS 4-35-01.
7. EXCAVATION SHOULD NOT BE CARRIED OUT TOO FAR IN ADVANCE OF PIPE INSTALLATION. ALL RELEVANT HEALTH & SAFETY REQUIREMENTS IN RESPECT OF EXCAVATION SHOULD BE OBSERVED BY THE CONTRACTOR DURING EXCAVATION WORKS.
8. THE MINIMUM DEPTH OF COVER TO PIPES FROM THE FINISHED SURFACE TO THE CROWN OF THE PIPE ***WITHOUT PROTECTION*** IS AS FOLLOWS:
   a) 1200mm ROADWAYS/CAR PARKS
   b) 900mm OPEN SPACES & FOOTPATHS NOT ADJACENT TO ROADS
   c) 600mm GARDENS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS
9. WHERE MINIMUM DEPTH OF COVER TO PIPES ***IS ACHIEVED***, PLEASE REFER TO IRISH WATER STANDARD DETAIL "TRENCH BACKFILL AND BEDDING" DRAWING. THIS DRAWING IS ALSO APPLICABLE TO SURFACE WATER SEWERS
10. WHERE MINIMUM DEPTH OF COVER TO PIPES ***IS NOT ACHIEVED***, PLEASE REFER TO IRISH WATER STANDARD DETAIL "CONCRETE BED, HAUNCH AND SURROUND" DRAWING. THIS DRAWING IS ALSO APPLICABLE TO SURFACE WATER SEWERS.
11. THE CONTRACTOR SHOULD PLAN HIS WORK FOR CHAMBERS AND MANHOLES SO AS TO MINIMISE AS MUCH AS POSSIBLE WORKING REQUIRED IN CONFINED SPACES.
12. JOINT LUBRICANTS FOR SLIDING JOINTS SHALL HAVE NO DELETERIOUS EFFECT ON EITHER THE JOINT RINGS OR PIPES AND SHALL BE UNAFFECTED BY SEWAGE.
13. ALL ABANDONED SEWER PIPES TO BE FILLED WITH C12/15 CONCRETE. ABANDONED MANHOLES TO BE BROKEN OUT IF POSSIBLE. OTHERWISE THEY SHOULD BE FILLED WITH C12/15 CONCRETE.
14. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RELEVANT SERVICE PROVIDERS IN ADVANCE OF ANY PLANNED EXCAVATION WORKS TO VERIFY THE LOCATION, DEPTH AND NATURE OF ANY UNDERGROUND SERVICES.
15. ROCKER PIPES;
   a) ROCKER PIPES TO BE PROVIDED AT ALL LOCATIONS WHERE;
      i. A PIPE ENTERS OR LEAVES A MANHOLE, PUMPING STATION OR OTHER RIGID STRUCTURE.
      ii. A PIPE ENTERS OR LEAVES A CONCRETE ENCASEMENT.
      iii. ANY LOCATION AS DIRECTED BY THE ENGINEER.
   b) ROCKER PIPE JOINT TO BE LOCATED AS NOTE ON IRISH WATER MANHOLE STANDARD DETAIL. THE EFFECTIVE LENGTH OF THE ROCKER PIPE SHOULD BE;
      i. PIPE DIAMETER 150mm TO 600mm: 0.60m
      ii. PIPE DIAMETER 600mm TO 750mm: 1.00m
      iii. PIPE DIAMETER GREATER THAN 750mm: 1.25m
16. PIPEWORK AND BENCHING TO A SINGLE MANHOLE CHAMBER SHOULD BE COMPLETED AND THE ENGINEER INVITED TO INSPECT SAME BEFORE ALL REMAINING CHAMBERS ARE COMPLETED.
17. ONLY PROPRIETARY CONNECTION PIECES TO BE USED FOR MAKING CONNECTIONS TO SEWERS.
18. WHEN INSTALLING FLEXIBLE PIPES (SINGLE\TWIN WALLED PVC OR SIMILAR) PARTICULAR CARE SHOULD BE TAKEN BY THE CONTRACTOR TO ENSURE THE PIPES ARE WELL BEDDED AND SURROUNDED IN GOOD QUALITY GRANULAR MATERIAL IN ACCORDANCE WITH THE SPECIFICATION.
19. THE CONTRACTOR MUST TAKE GREAT CARE WHEN COMPACTING MATERIAL OVER DRAINAGE PIPES SO AS NOT TO DISLODGE THEM FROM THEIR CORRECT LINE AND LEVEL.
20. ALL MANHOLES TO BE CONSTRUCTED WITH PRECAST CONCRETE RINGS IN ACCORDANCE WITH RELEVANT ENGINEERS DETAILS DRAWING.
21. PROPRIETARY CONNECTIONS TO BE USED THROUGHOUT.
22. ALL JOINTS TO BE WATERTIGHT TO CL 504 SUB CLAUSE 3 OF THE NRA SPECIFICATION FOR ROADWORKS.
23. ALL AJs/ INSPECTION CHAMBERS/MANHOLES WITHIN HARD LANDSCAPING AREAS TO BE RECESSED TO RECEIVE PAVIORS AND LOCKABLE FACTA CLASS D (EN124 CLASS D400).
24. ALL AJs/ INSPECTION CHAMBERS/MANHOLES IN TARMACADAM/GRASSED AREAS TO BE NON ROCK D400 LOCKABLE MANHOLES.
25. TRENCHES IN EXISTING SURFACES TO BE SAW CUT.
26. IF CONSTRUCTING MANHOLE CHAMBERS USING PRECAST CONCRETE RINGS, THE CONTRACTOR SHOULD ENSURE THAT THE JOINTS IN THE PRECAST CONCRETE RINGS ARE STAGGERED WITH THE JOINTS IN THE CONCRETE SURROUND TO REDUCE THE POSSIBILITY OF GROUND WATER INGRESS.
27. WHERE A CONNECTION IS REQUIRED TO AN EXISTING PUBLIC SEWER SYSTEM, THE CONTRACTOR MUST MAKE A FORMAL APPLICATION TO THE LOCAL AUTHORITY TO DO SO.
28. A DETAILED METHOD STATEMENT MUST BE SUBMITTED TO THE LOCAL AUTHORITY FOR APPROVAL AT LEAST FOUR WEEKS IN ADVANCE OF THE PLANNED CONSTRUCTION WORKS.
29. WHERE NEW DRAINAGE INFRASTRUCTURE IS TO CROSS AN EXISTING ROAD, THE CONTRACTOR IS REQUIRED TO:
   c) CONTACT THE RELEVANT AUTHORITIES WELL IN ADVANCE OF THE PLANNED WORKS.
   d) MAKE AN APPLICATION AND PAY FOR A ROAD OPENING LICENCE IF APPLICABLE.
   e) MAKE GOOD THE EXISTING ROAD TO THE SATISFACTION OF THE ENGINEER & THE RELEVANT AUTHORITIES ON COMPLETION OF THE WORKS.
30. THE CONTRACTOR IS ADVISED TO COMPLETE AIR TESTING ON A DAILY BASIS DURING THE COURSE OF THE WORKS TO ENSURE ISOLATION OF ANY FAILED TESTS.
31. THE COMPLETE DRAINAGE WORKS SHOULD BE PROTECTED, WHERE NECESSARY, FROM LOADS IMPOSED BY CONSTRUCTION PLANT DURING CONSTRUCTION.
32. ON COMPLETION OF THE WORKS, THE CONTRACTOR MUST ENSURE ALL INTERNAL SURFACES OF THE NEW SEWERS ARE THOROUGHLY CLEANED TO REMOVE ALL DELETERIOUS MATERIAL. THIS MATERIAL MUST BE PREVENTED FROM ENTERING THE PUBLIC SEWER SYSTEM.
33. A CCTV SURVEY AND JET CLEANING OF THE COMPLETED UNDERGROUND DRAINAGE NETWORK TO BE CARIED OUT BY THE CONTRACTOR ON COMPLETION OF THE WORKS IN ACCORDANCE WITH PUNCH SITEWORKS SPECIFICATION. IT IS RECOMMENDED THAT THIS EXERCISE IS COMPLETED BEFORE FINAL SURFACE COURSES AND FINISHES ARE APPLIED IN CASE ANY REMEDIAL WORKS ARE REQUIRED TO THE DRAINAGE.
34. WHERE WORKS ARE TO BE UNDERTAKEN IN A LIVE SITE, DISRUPTION TO EXISTING SEWERS CANNOT BE TOLERATED. THE PROGRAMME FOR DIVERSION/ABANDONING OF THE SEWERS TO BE AGREED WITH THE ENGINEER/CLIENT/LOCAL AUTHORITY/IRISH WATER PRIOR TO COMMENCEMENT OF ANY SITE WORKS. CONTRACTOR TO DESIGN AND PROVIDE FOR OVER PUMPING.
35. ALL INTERNAL DRAINAGE LOCATIONS INCLUDING POP UPS TO BE INSTALLED AS PER ARCHITECT/M&E DRAWINGS.
36. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING ALL TEMPORARY WORKS.
37. WHERE MANHOLES ARE LESS THAN 1m DEEP, A BLOCKWORK MANHOLE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS TO BE USED.
38. ALL SURFACE WATER DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY'S CODE OF PRACTICE FOR DRAINAGE AND GDSDS.
39. ALL FOUL DRAINAGE TO BE IN ACCORDANCE WITH IRISH WATER'S CODE OF PRACTICE FOR WASTE WATER SUPPLY AND WASTE WATER INFRASTRUCTURE STANDARD DETAILS.
40. SURFACE WATER COLLECTOR DRAINS TO BE 150mm DIA.
41. FOUL HOUSE CONNECTIONS TO BE 100mm DIA.
42. CONTRACTOR SHALL INSPECT THE ROUTE AND CONFIRM LOCATIONS OF ALL TREES, FEATURES, ENTRANCES AND ASPECTS IMPACTING CONSTRUCTION OF THE WORKS.

DRAINAGE GENERAL (CONT.):

43. NOTE THAT CONTRACTOR AND/OR ARCHITECT ARE RESPONSIBLE FOR THE CONNECTIONS INTO BUILDINGS.

DRAINAGE: SURFACE WATER:

1. ALL GULLY TRAPS/ACCESS JUNCTION PIPE RUNS TO BE 150mm DIAMETER UPVC LAID TO GRADIENTS NOT EXCEEDING 1:50, UNLESS NOTED OTHERWISE.
2. GULLY GRATINGS & FRAMES TO DUCTILE CLASS D400TO EN124:1994. GRATING TO BE REVERSIBLE, END HINGED & FLAT.
3. GULLIES CONNECTING TO A FOUL SEWER MUST BE TRAPPED.
4. TESTING OF ALL SEWERS MUST BE COMPLETED AND SIGNED OFF BY THE ENGINEER PRIOR TO ANY GULLY CONNECTIONS BEING MADE TO THE MAIN SEWER BY THE CONTRACTOR.
5. ALL DRAINAGE CHANNELS TO BE 150mm WIDE LINEAR DRAINAGE CHANNEL SYSTEM COMPLETE WITH HEEL SAFE D400 LOAD CLASS DUCTILE IRON GRATINGS
6. ALL JOINTS ALONG DRAINAGE CHANNEL RUNS TO BE SEALED WITH SILICONE.
7. ALL SEPARATORS TO BE FITTED WITH OIL LEVEL ALARM SYSTEM AND AUTOMATIC CLOSURE VALVES.
8. PLEASE REFER TO MANUFACTURER FOR FOUNDATION/SURROUND DETAIL.
9. GATIC SLOT DRAIN OR APPROVED EQUIVALENT ACCESS POINTS TO BE PROVIDED AT THE START OF ALL RUNS AND AT ANY CHANGE OF DIRECTION. ACCESS COVER TO BE RECESSED TO RECEIVE PAVING. PLEASE REFER TO MANUFACTURER FOR FOUNDATION/SURROUND DETAIL.
10. GATIC SLOT DRAIN OR APPROVED EQUIVALENT SILT TRAP TO BE PROVIDED AT ALL OUTLET LOCATIONS. ACCESS COVER TO BE RECESSED TO RECEIVE PAVING. PLEASE REFER TO MANUFACTURER FOR FOUNDATION/SURROUND DETAIL.
11. SLOT DRAIN TO BE CONSTRUCTED IN 1m SECTIONS TO ACHIEVE DESIRED CURVES.
12. SLOT DRAIN ACCESS/SILT BOXES TO BE MITRED OFF SITE WHERE A 90 DEGREE CONNECTION IS NOT POSSIBLE.
13. CONNECTION PIPES FROM SILT BOXES TO MATCH DIAMETER OF SLOT DRAIN.
14. MARKER TAPE (WITH TRACE WIRE) TO BE PROVIDED AT THE TOP OF PIPE BEDDING LAYER. MARKER TAPE TO BE IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.

FOUL WATER SEWER:

1. ALL DRAINAGE PIPES BETWEEN ACCESS JUNCTIONS (AJ'S) TO BE 150mm DIAMETER UPVC LAID TO GRADIENTS NOT EXCEEDING AT 1:40, UNLESS NOTED OTHERWISE.
2. VENT STACK IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS TO BE PROVIDED AT THE HEAD OF ALL FOUL WATER SEWERS.
3. MARKER TAPE (WITH TRACE WIRE) TO BE PROVIDED AT THE TOP OF PIPE BEDDING LAYER. MARKER TAPE TO BE IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.

FILTER DRAIN

1. RAIN WATER PIPE TO BE TERMINATED IN THE FILTER MATERIAL. NO DIRECT CONNECTION TO THE PIPE. OPENING THROUGH GEOTEXTILE TO BE MADE GOOD AT RAIN WATER PIPE ENTRY.

ATTENUATION TANKS

1. CONTRACTOR TO ENSURE THAT NO CONSTRUCTION MATERIAL (GRANULAR MATERIAL, WASH DOWN FROM PLASTERING ETC.) ENTERS THE ATTENUATION/INFILTRATION TANK. IF THERE IS EVIDENCE OF CONSTRICTION MATERIAL IN THE ATTENUATION/INFILTRATION TANK THE CONTRACTOR WILL BE LIABLE FOR REPLACING THE ENTIRE ATTENUATION/INFILTRATION TANK.
2. TRAFFICKING BY CONSTRUCTION PLANT INCLUDING MECHANICAL EQUIPMENT MUST BE AVOIDED. IN PARTICULAR OUTRIGGERS FROM CRANES, TELEPORTERS ETC. AND POINT LOADS ARE NOT PERMITTED OVER THE EXTENT OF THE ATTENUATION/INFILTRATION TANK. PLEASE REFER TO ATTENUATION/INFILTRATION TANK MANUFACTURER FOR FURTHER RESTRICTIONS.
3. TEMPORARY MESH PANEL SECURITY FENCING SYSTEM TO BE PLACED ON THE PERIMETER OF THE ATTENUATION/INFILTRATION TANK TO ENSURE CONSTRUCTION TRAFFIC DOES NOT DRIVE OVER EXTENT OF ATTENUATION/INFILTRATION TANK. SECURITY FENCING SYSTEM TO BE COMPLETE WITH HIGH VISIBILITY FEET BLOCKS AND ANTI-TAMPER COUPLERS. FENCING TO CONSIST OF GALVANISED 2.0M X 3.5M PANELS CONSTRUCTED FROM HEAVY DUTY 38.1MM TUBULAR STEEL AND INFILLED WITH ANTI-CLIMB MESH (250MM X 50.8MM) . PANELS TO HAVE ROUNDED TOP CORNERS AND REINFORCED BOTTOM CORNERS.

WATERMAIN:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS & MANUFACTURERS DRAWINGS & SPECIFICATIONS.
2. ALL MATERIALS, SUBSTANCES AND PRODUCTS IN CONTACT WITH POTABLE WATER SHALL COMPLY IN ALL RESPECTS WITH THE EUROPEAN COMMUNITIES (DRINKING WATER) (NO. 2) REGULATIONS, 2007 (S.I. NO. 278 OF 2007) AND SHALL BE INCLUDED IN THE LATEST "LIST OF APPROVED PRODUCTS AND PROCESSES" PUBLISHED BY THE DRINKING WATER INSPECTORATE FOR ENGLAND AND WALES. THE CONTRACTOR SHALL PRODUCE DOCUMENTARY EVIDENCE THAT THE SUBSTANCE OR PRODUCT HAS BEEN SPECIFICALLY APPROVED UNDER THE DWI SYSTEM, OR EQUIVALENT APPROVAL SYSTEM.
3. ALL PROPOSED PIPE DIAMETERS ARE NOMINAL.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT WATERMAINS & VALVES TO ENSURE NO CLASHES WITH SERVICE DUCTS OR PIPES. CONTRACTOR TO CO-ORDINATE CONSTRUCTION OF WATERMAINS WITH ALL OTHER GROUND SERVICES AND UTILITIES.
5. ALL THRUST BLOCKS MUST BE CAST AGAINST UNDISTURBED GROUND. FLEXIBLE PIPES SHOULD BE WRAPPED IN PLASTIC SHEETING IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.
6. MARKER POSTS AND PLATES TO BE PROVIDED FOR ALL VALVES, METERS AND HYDRANTS.
7. TESTING AND COMMISSIONING - ALL ON SITE AND OFF SITE TESTING (PRESSURE TESTING, JOINT TESTING, DISINFECTION OF WATERMAIN TESTING, COMMISSIONING TESTING ETC.) TO BE UNDERTAKEN BY EXTERNAL TESTER. ALL TESTING AND CERTIFICATION TO BE UNDERTAKEN IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE, MUST PASS THE RELEVANT TESTS AND BE SUBMITTED TO THE ENGINEER.
8. TESTING BETWEEN LIVE SHUT VALVES WILL NOT BE ACCEPTED UNDER ANY CIRCUMSTANCE.
9. WHERE PIPE RUN IS LOCATED ADJACENT TO FOUNDATION AND IS AT A LEVEL BELOW UNDERSIDE OF THE FOUNDATION, PIPE TRENCH TO BE BACKFILLED TO FORMATION LEVEL WITH CLASS 15/20 CONCRETE.
10. PROVIDE ANCHOR/THRUST BLOCKS ON ALL HORIZONTAL BENDS EQUAL TO OR IN EXCESS OF 11.25°, ALL VERTICAL BENDS, DEAD ENDS, TAPERS TEES ON ALL PIPES ETC. IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.
11. TRENCHES IN EXISTING SURFACES TO BE SAW CUT.
12. ALL INDIVIDUAL CONNECTIONS TO THE EXISTING WATERMAINS TO BE DISCONNECTED AND RECONNECTED TO THE NEW WATERMAIN WHEN IT HAS BEEN MADE LIVE.
13. FINAL CONNECTION DETAILS TO BE AGREED WITH IRISH WATER.
14. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING ALL TEMPORARY WORKS, SUPPORTS AND VALVING TO ENSURE THE WATERMAIN REMAINS ADEQUATELY ANCHORED AND STABLE FOR THE DURATION OF THE TEST.

ROAD OPENING LICENCE AND TRAFFIC MANAGEMENT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPLICATION AND PAYMENT OF ALL ROAD OPENING LICENCES IN ACCORDANCE WITH THE DEPARTMENT OF THE ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT (DOEHLG) "GUIDELINES FOR THE OPENING, BACKFILLING AND REINSTATEMENT OF TRENCHES IN PUBLIC ROADS" AND THE RELEVANT LOCAL AUTHORITY REQUIREMENTS. THE CONTRACTOR SHALL ALLOW IN THEIR PROGRAMME FOR ALL RELEVANT PROCEDURES TO BE ADOPTED IN THE DOEHLG GUIDELINES AND THE RELEVANT LOCAL AUTHORITY REQUIREMENTS. THE CONTRACTOR SHALL PAY ALL OF THE LICENCE FEES, AND APPLICATION COSTS AND SHALL INCLUDE FOR THESE COSTS IN THE TENDERED CONTRACT SUM. ALL BACKFILLING AND REINSTATEMENT ON THE PUBLIC ROADS SHALL BE COMPLETE IN ACCORDANCE WITH THE "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS"- APRIL 2017 (PURPLE BOOK).
2. ROAD REINSTATEMENT WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THESE WORKS REQUIREMENTS AND ALL LOCAL AUTHORITY REQUIREMENTS. THIS SHALL INCLUDE TEMPORARY AND PERMANENT REINSTATEMENT IN ACCORDANCE WITH THE GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS DOCUMENT.
3. THE CONTRACTOR SHALL AGREE THEIR PROPOSED PHASING PLAN AND TRAFFIC MANAGEMENT PLAN FOR ALL PROPOSED ROAD AND INFRASTRUCTURE WORKS WITH THE LOCAL AUTHORITY AS PARK OF THE ROAD OPENING LICENCE APPLICATION.
4. THE CONTRACTOR SHALL NOTE THAT ALL MAIN THOROUGHFARE ROADS SHALL BE REQUIRED TO REMAIN OPERATIONAL DURING THE COURSE OF THE WORKS. ANY PROPOSED DIVERSIONS AND/OR ROAD CLOSURES SHALL BE AGREED IN ADVANCE WITH THE LOCAL AUTHORITY AS PART OF THE ROAD OPENING LICENCE APPLICATION PROCESS.
5. THE CONTRACTOR SHALL BE DEEMED TO INCLUDE ANY AND ALL LOCAL AUTHORITY REQUIREMENTS RELATING TO ROAD OPENING LICENCES, TRAFFIC MANAGEMENT, PHASING, PROGRAMMING, FEES, BONDS AND CHARGES IN THEIR TENDER SUM. NO ADDITIONAL COSTS SHALL BE ENTAILED.

NOTES FOR CONNECTION TO IRISH WATER SERVICES/CONSTRUCTION OF FOUL SEWERS/COMBINED SEWERS AND WATERMAINS

(REFER ALSO TO DRAWING SCR-PUNCH-SITE-XX-DR-C-0050 FOR CONNECTION APPLICATION REQUIREMENTS)

1. DRAINAGE AND WATERMAINS TO BE MANAGED AND CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING IRISH WATER DOCUMENTS:
   1.1. CODE OF PRACTICE FOR WATER INFRASTRUCTURE
   1.2. STANDARD DETAILS FOR WATER INFRASTRUCTURE
   1.3. CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE
   1.4. STANDARD DETAILS FOR WASTEWATER INFRASTRUCTURE
   1.5. QUALITY ASSURANCE (QA) FIELD INSPECTION REQUIREMENTS MANUAL
   1.6. IRISH WATER GUIDANCE DOCUMENTS
   1.7. LATEST REVISION OF THE ABOVE DOCUMENTS TO BE REFERENCED.
2. THE CONTRACTOR SHALL BE DEEMED TO HAVE INCLUDED FOR COMPLIANCE WITH ALL IRISH WATER REQUIREMENTS (ITEMS 1.1-1.7 ABOVE) IN THEIR TENDERED CONTRACT SUM.
3. CONTRACTOR TO LIAISE WITH IRISH WATER PRIOR TO MOBILISATION ON SITE TO DETERMINE THE DURATION OF THE APPROVAL PROCESS AND WHAT DOCUMENTATION AND FEES ARE REQUIRED BY IRISH WATER AND THE LOCAL AUTHORITY AND PROGRAM THIS INTO THE CONSTRUCTION PROGRAM. CONTRACTOR TO CONFIRM EXTENT OF NOTICE REQUIRED BY IRISH WATER TO INSPECT WORKS AND ALSO PROGRAM INTO THE CONSTRUCTION PROGRAM.
4. IRISH WATER TO BE CONTACTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY FOUL SEWER AND WATERMAIN WORKS. ALL DETAILS TO BE AGREED WITH IRISH WATER. IRISH WATER TO BE GIVEN 40 WORKING DAYS NOTICE FOR ALL FOUL SEWER AND WATERMAIN CONNECTION WORKS.
5. CONTRACTOR TO COMPLETE AND ISSUE IRISH WATER FORM "FORM OF COMMENCEMENT NOTICE FOR DEVELOPMENT" .
6. THE CONTRACTOR IS RESPONSIBLE FOR:
   6.1. MANAGING AND ARRANGING THE CONSTRUCTION OF THE WORKS IN ACCORDANCE WITH RELEVANT IRISH WATER GUIDANCE DOCUMENTS, CODES OF PRACTICE AND STANDARD DETAILS.
   6.2. AGREEING TO AND COMPLYING WITH THE INSPECTION PLAN FOR THE WORKS WITH IRISH WATER'S FIELD ENGINEER.
   6.3. ENSURING THAT THE WORKS ARE ACCEPTABLE TO IRISH WATER.
   6.4. MAINTAINING QA DOCUMENTATION ON SITE (IN THE FORM OF THE QA FOLDER).
   6.5. FACILITATING SITE INSPECTIONS BY THE IRISH WATER FIELD ENGINEERS.
   6.6. ENSURING AS CONSTRUCTED INFORMATION IS ACCURATELY RECORDED.
   6.7. DEVELOPING AND SIGNING OFF ON THE FINAL DOCUMENTS.
   6.8. ALL OTHER ITEMS NOTED IN IRISH WATER GUIDANCE DOCUMENTS, CODES OF PRACTICE AND STANDARD DETAILS.
7. EXACT LOCATION AND DEPTH OF THE EXISTING FOUL SEWERS, RISING MAINS, WATERMAINS, STORM SEWERS, M&E SERVICES ETC. SHOULD BE ESTABLISHED BY THE CONTRACTOR IN ADVANCE OF THE MAIN EXCAVATION FOR THE NEW FOUL SEWER AND WATERMAIN SO AS TO AVOID THE POSSIBILITY OF DAMAGE TO THE EXISTING FOUL SEWER, RISING MAINS AND WATERMAIN DURING CONSTRUCTION WORKS. SLIT TRENCHES TO BE UNDERTAKEN.
8. ALL EXISTING FOUL SEWERS, RISING MAINS AND WATERMAINS TO BE ADEQUATELY PROTECTED. ANY FOUL SEWERS, RISING MAINS OR WATERMAINS DAMAGED DURING THE COURSE OF CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR AT THEIR OWN COST.
9. THE CONTRACTOR SHALL APPLY FOR A ROAD OPENING LICENSE AND PAY THE REQUIRED ROAD OPENING LICENSE FEE. THIS FEE IS A NON-NEGOTIABLE AND NON-REFUNDABLE FIGURE. THE CONTRACTOR SHALL BE DEEMED TO HAVE INCLUDED IN HIS TENDER PRICE FOR ALL REQUIREMENTS SUCH AS CONTRIBUTION FOR CONNECTIONS TO PUBLIC INFRASTRUCTURE, LICENSE APPLICATION, PAYMENT OF FEE(S), STATUTORY TIME PERIODS, TRAFFIC MANAGEMENT PLANS AND APPLICATION, REINSTATEMENT, ETC.

DEALING WITH SURFACE/GROUNDWATER

1. THE CONTRACTOR SHALL ALLOW AND BE RESPONSIBLE FOR THE CONTROL OF GROUND/SURFACE WATER IN ALL TEMPORARY EXCAVATIONS AND IN ALL TEMPORARY SITUATIONS DURING THE COURSE OF THE WORKS.
2. THE CONTRACTOR SHALL AGREE/OBTAIN APPROVAL FOR DISPOSAL POINT OF GROUND/SURFACE WATER WITH THE RELEVANT STATUTORY BODIES (LOCAL AUTHORITY, IRISH WATER, FISHERIES, EPA ETC.).
3. ANY GROUND OR SURFACE WATER PERMITTED TO ENTER AN EXISTING WATER COURSE OR SURFACE WATER NETWORK MUST COMPLY WITH THE FOLLOWING:
   a. SUSPENDED SOLIDS ENTERING THE WATERCOURSE/SURFACE WATER NETWORK CANNOT BE GREATER THAN 25MG/L AS PER THE FRESH WATER FISH DIRECTIVE GUIDELINES. TESTING IS REQUIRED TO VERIFY THAT THIS STANDARD IS BEING ACHIEVED PRIOR TO DISCHARGING TO WATERCOURSE/SURFACE WATER NETWORK AND WEEKLY TESTING THEREAFTER. TEST CERTIFICATES TO BE ISSUED TO ENGINEER FOR REVIEW.
   b. HYDROCARBONS ENTERING THE WATERCOURSE/SEWER CANNOT BE GREATER THAN 5MG/L. TESTING IS REQUIRED AS ABOVE.
   c. ALL TEMPORARY PUMPS, HOLDING TANKS, PRIMARY SETTLEMENT TANKS, SECONDARY SETTLEMENT TANKS AND ANY OTHER PLANT/EQUIPMENT REQUIRED TO ACHIEVE 25MG/L OR LESS SUSPENDED SOLIDS AND 5MG/L OR LESS HYDROCARBONS ENTERING THE WATERCOURSE/STREAM TO BE DESIGNED BY THE CONTRACTOR.
   d. PLEASE NOTE THE FRESH WATER FISH DIRECTIVE MENTIONED ABOVE ARE FORMALLY REFERRED TO AS "COUNCIL DIRECTIVE OF 18TH JULY 1978 ON THE QUALITY OF FRESH WATERS NEEDING PROTECTION OR IMPROVEMENT IN ORDER TO SUPPORT FISH LIFE (78/659/EEC)".
   e. STATUTORY BODY REQUIREMENTS
4. NOT WITHSTANDING THE ABOVE, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A DETAILED METHOD STATEMENT INCLUDING PROPOSED MEASURES FOR THE CONTROL, MANAGEMENT AND TESTING OF GROUND AND SURFACE WATER GENERATED DURING CONSTRUCTION AT LEAST 4 WEEKS IN ADVANCE OF COMMENCEMENT OF THE WORKS.
5. THE CONTRACTOR SHALL PROVIDE THE ENGINEER/EMPLOYER'S REPRESENTATIVE WITH WEEKLY TESTING REPORTS FROM AN INAB ACCREDITED LABORATORY OF THE TOTAL SUSPENDED SOLIDS, BOD, PH, TEMPERATURE, HYDROCARBONS AND SULPHATE OF THE TREATED GROUND/SURFACE WATER PRIOR TO DISCHARGE.
6. TREATMENT SYSTEM(S) FOR GROUND/SURFACE WATER SHALL BE INSPECTED ON A DAILY BASIS AND A COPY OF ALL RECORDS (INCLUDING TESTING AND MAINTENANCE) SHALL BE KEPT IN A SITE LOG BOOK.
7. AN EMERGENCY RESPONSE PROCEDURE SHALL BE PUT IN PLACE TO DEAL WITH FAILURE OF THE TREATMENT SYSTEM(S).
8. ALL STORAGE TANK AREAS AND DRUM STORAGE AREAS WHICH CONTAIN OILS, CHEMICALS OR OTHER SUBSTANCES WHICH ARE, OR COULD BE, HARMFUL TO AQUATIC ENVIRONMENT WHICH ARE LIABLE TO SPILLAGE OR SEEPAGE SHALL BE RENDERED IMPERVIOUS TO THE MATERIALS STORED THEREIN. ADDITIONAL, THESE TANKS SHALL BE BUNDED, EITHER LOCALLY OR REMOTELY, TO A VOLUME OF 110% OF THE TANKS OR DRUMS WITHIN EACH INDIVIDUAL BUNDED AREA AND/OR FITTED WITH INTERCEPTOR, OR OTHERWISE DESIGNED IN ORDER TO GIVE PROTECTION TO SURFACE WATER AND GROUND WATERS ON SPILLAGE OR SEEPAGE OF THE STORED MATERIALS.
9. THE INTEGRITY AND TIGHTNESS OF ALL BUNDED STRUCTURES AND THEIR RESISTANCE TO PENETRATION BY WATER OR OTHER MATERIALS STORED THEREIN SHALL BE TESTED AND DEMONSTRATED TO THE ENGINEER PRIOR TO USE ON SITE.
10. NO FUEL STORAGE TANKS SHALL BE ERECTED ON SITE.
11. AN EMERGENCY RESPONSE PROCEDURE SHALL BE PUT IN PLACE FOR DEALING WITH SPILLAGES OF POLLUTANT MATERIALS.

REINFORCEMENT LAYERING CONVENTION:

1. ALL REINFORCEMENT SHALL BE GRADE B500A OR GRADE B500B OR GRADE B500C COMPLYING WITH CURRENT BS 4449 STANDARD.
2. ALL STEEL FABRIC REINFORCEMENT SHALL COMPLY WITH BS 4483.
3. NOMINAL TENSION REINFORCEMENT LAP LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON DRAWINGS:

BAR DIA.	LAP LENGTH	BAR DIA.	LAP LENGTH
8	310	20	1040
10	420	25	1350
12	540	32	1720
16	790	40	2340

NOTE: LAP LENGTHS FROM TABLE 13,EUROCODE 2
CONCRETE CLASS C30/37

REINFORCED CONCRETE:

1. CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH IS EN 1992 AND IS EN 13670.
2. CEMENT SHALL BE ORDINARY PORTLAND CEMENT COMPLYING WITH I.S. EN 197 UNLESS OTHERWISE APPROVED.
3. REINFORCEMENT SHALL BE HOT ROLLED DEFORMED TYPE 2 BARS, GRADE 500 STEEL COMPLYING WITH BS 4449. STEEL FABRIC (i.e. MESH) SHALL COMPLY WITH BS 4483. "FLYING ENDS" SHALL BE USED TO AVOID LAYERING OF FABRIC SHEETS AT LAPS. ALL REINFORCEMENT TO BE 'CARES' CERTIFIED. CERTIFICATES TO BE ISSUED TO THE ENGINEER.
4. ALL CONCRETE SHALL BE IN ACCORDANCE WITH I.S. EN 1992 & I.S. EN 206.
5. ALL REINFORCED CONCRETE COLUMNS SHALL BE GRADE C40/50 TO IS EN 206 UNLESS NOTED OTHERWISE. ALL OTHER REINFORCED CONCRETE IS TO BE GRADE C32/40 TO IS EN 206 UNLESS NOTED OTHERWISE.
6. ALL CONCRETE FOR FOUNDATIONS / RETAINING WALLS AND EXPOSED TO EXTERNAL ENVIRONMENTS, INCLUDING SOIL, STONE, etc. TO BE C32/40.
7. CEMENT FOR INTERNALLY EXPOSED CONCRETE SHALL BE CEM III/A IN ACCORDANCE WITH IS EN 197-1, WITH 50% GGBS, UNLESS NOTED OTHERWISE. FOR ALL OTHER CONCRETE, CEMENT SHALL BE CEM II/B-S IN ACCORDANCE WITH IS EN 197-1, WITH 25% GGBS, UNLESS NOTED OTHERWISE. ORDINARY PORTLAND CEMENT SHALL BE IN ACCORDANCE WITH IS EN 197-1. GGBS SHALL BE IN ACCORDANCE WITH IS EN 15167, GROUND TO A BLAINE OF 4000 cm2/g. NORMAL WEIGHT AGGREGATE SHALL BE IN ACCORDANCE WITH EN 12620.
8. MAXIMUM FREE WATER/CEMENT RATIO TO BE 0.55.
9. MAXIMUM AGGREGATE SIZE TO BE 20mm.
10. NOMINAL CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON DRAWINGS;
   a) SURFACE POURED AGAINST EARTH: 75mm
   b) SURFACE POURED AGAINST FORMWORK BUT IN CONTACT WITH EARTH, ROCK OR BLINDING: 75mm
   c) BEAMS, COLUMNS: 30mm (TO LINKS)
   d) SLABS: 30mm
10. CONCRETE BLINDING SHALL BE GRADE ST3 COMPLYING WITH IS EN 206-1.
11. FOR CONCRETING IN COLD WEATHER REFER TO THE CONCRETE SPECIFICATION AND THE PROVISIONS OF I.S. EN 1992 AND I.S. EN 13670
12. AT ALL WATER RETAINING STRUCTURE JOINTS ADCOR 500S CENTRAL BULB
WATERBAR BY GCP APPLIED TECHNOLOGIES TO BE USED
13. THE SPACING, POSITION AND TREATMENT OF CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE "NATIONAL STRUCTURAL CONCRETE SPECIFICATION FOR BUILDING CONSTRUCTION" PUBLISHED BY THE CONCRETE SOCIETY, UK, AND WITH IS EN 13670, UNLESS AGREED OTHERWISE WITH THE ENGINEER. PRIOR TO CONTRACT POSITION AND TREATMENT OF CONSTRUCTION JOINTS SHALL BE TO THE APPROVAL OF THE ENGINEER.
14. PROVIDE A 25 x 25mm CHAMFER TO ALL EXPOSED CORNERS AND EDGES, UNLESS NOTED OTHERWISE ON THE ENGINEER AND ARCHITECT DRAWINGS AND SPECIFICATION.
15. MOVEMENT JOINT FILLER SHALL BE A COMPRESSIBLE FIBRE BOARD, FOSROC HYDROCELL XL OR EQUIVALENT. MOVEMENT JOINT SEALANT SHALL BE A TWO-PART POLYSULPHIDE SEALANT, FOSROC THIOFLEX 600 OR EQUIVALENT, UNLESS NOTED OTHERWISE.
16. CONCRETE VERTICAL SURFACES ADJOINING MASONRY WALLS SHALL HAVE CONTINUOUS STAINLESS STEEL PROPRIETARY CHANNELS CAST-IN, TO RECEIVE STAINLESS STEEL WALL TIES. ANCON 21/18 OMEGA CHANNELS AND SP21 150mm WALL TIES OR EQUIVALENT SYSTEM.
17. PROVIDE A MINIMUM OF 72 HOURS NOTICE TO THE ENGINEER FOR INSPECTION OF ALL REINFORCING STEEL PRIOR TO PLACING CONCRETE.
18. WHERE CONCRETE STRUCTURE INTERFACE TO WALLS PROPRIETARY REINFORCEMENT T12@150mm C/C ANCHORAGE TO BE USED UNO ON THE DRAWINGS OR ANCHORAGE REINFORCEMENT PROVIDED.
19. ALL NON-STRUCTRAL SCREEDS TO HAVE ONE LAYER OF A252 MESH AND SAW CUTS AT MAX. 6.0m C/C. ISOLATION JOINTS ARE TO BE PROVIDED AROUND MEMBERS PENETRATING THE SCREED. NON-STRUCTRAL SCREEDS ARE NOT SHOWN ON PUNCH CONSULTING DRAWINGS. REFER TO ARCHITECT OR M&E DRAWING FOR LOCATIONS AND FALLS.
20. CONCRETE CUBES SHALL BE TAKEN AT A RATE OF ONE SET OF THREE CUBES PER 20m3 OR FRACTION THEREOF, WITH A MINIMUM OF ONE SET PER DAY PER CLASS OF CONCRETE. CUBES SHALL BE TESTED AT 7 AND 28 DAYS.
21. ALL SAMPLING AND TESTING OF CONCRETE TO COMPLY WITH BS 1881. ALL THE RESULTS SHALL BE FORWARDED DIRECTLY TO THE ENGINEER BY THE TESTING LABORATORY.
22. CORE DRILLING OF ANY REINFORCED CONCRETE ELEMENTS OF THE WORK SHALL NOT BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
23. CONTRACTOR TO REFER TO ARCHITECTS DRAWINGS FOR THE PROPOSED JOINT LAYOUT FOR EXPOSED FINISHED CONCRETE.
24. A QUALITY PLAN IS REQUIRED. BUILDING EXECUTION CLASS IS CLASS 2 UNLESS NOTED OTHERWISE IN THE OTHER PROJECT DOCUMENTS. FOR FAIRFACED CONCRETE, A SACRIFICIAL TRIAL PANEL, INCORPORATING A JOINT, IS REQUIRED IN ADVANCE OF THE MAIN WORKS.

BUILDING INFORMATION MODELLING (BIM) I.S. EN ISO 19650-2:2018 NSAI Certified

Rev	Amendment	By	Date	Rev	Amendment	By	Date
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Client:

PUNCH consulting engineers
Dublin | Limerick | Cork | Galway | Glasgow
97 Henry Street, Limerick, V94 YC2H
t +353 61 221 200 | w punchconsulting.com

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