

DO NOT SCALE

LEGEND

- 150mm 1/100 Surface water drain
- Surface water rodding eye
- Surface water bio-retention drainage channel
- 150mm 1/200 Foul water drain
- Foul water inspection chamber
- Foul water manhole
- 1.0m deep (with varies) soakaway slip trench (IL.68.68)
- Surface water distribution pipe
- Denotes extent of permeable block paved car park
- Denotes extent of asphalt access road with permeable sub-base
- Denotes extent of impermeable membrane to be laid at a level of 69.68m AOD to prevent soakage within 5m of building
- Site Boundary
- Proposed finished floor level
- Proposed level
- Existing level
- Proposed gradient
- Proposed min. permeable sub base formation level
- INDICATES RESIDUAL RISK AS WARNING

ENGINEERING NOTES

- This drawing to be read in conjunction with all relevant Architects, Engineers and Subcontractors drawings and details.
- This drawing is based on topographical survey by Reynolds Groundwork Services Limited.
Drawing Number RGS-2624-TS-01
Dated 18/09/2019
Site Engineer's GPS survey.
- All levels relate to levels given on survey drawing.
- Refer to Architects drawings for details of all soft landscaping, fences, gates & bollards.
- For lighting, service supplies & ducting requirements, refer to M&E drawings.
- All works to be carried out in accordance with BS EN 752 "Drain and sewer systems outside buildings" and the current edition of The Building Regulations "Approved document H".
- New drainage connections are to be made with appropriate lengths of rodder pipes & couplings.
- All manhole chamber covers to be installed parallel to final kerbs, edgings, paving joints or building lines as appropriate.
- This drawing details all below ground drainage up to finished floor level. For details of drainage above finished floor level, refer to Architects drawings.
- All stack connections under buildings to be minimum 100mm diameter solid PVC-U to BS EN 1401-1/BS4660 & laid at a minimum gradient of 1 in 40 unless otherwise noted. If the stack is greater than 100mm then the diameter of the connection is to be increased to match it.
- All RWP connections to be minimum 100mm diameter solid PVC-U to BS EN 1401-1/BS4660 & laid at a minimum gradient of 1 in 80 unless otherwise noted. If the RWP is greater than 100mm then the diameter of the connection is to be increased to match it.
- All private foul water pipework up to 150mm in diameter to be PVC-U to BS EN 1401-1/BS4660.
- All private surface water pipework up to 150mm in diameter to be solid PVC-U to BS EN 1401-1/BS4660. All private surface water pipework 225mm and above to be structured wall plastic sewer pipe complying with clause 518 of the specification for highway works.
- Plastic chambers shall comply with BS EN 1917 and BS 5911-3.
- On completion of development all drainage shall be jet cleaned and CCTV surveyed.
- Sewers marked to be removed are to be dug out with manholes demolished & void filled with suitable engineering fill material.
- All road gully connections to be minimum 150mm diameter solid PVC-U pipework to BS EN 1401-1/BS4660 and laid at a minimum gradient of 1 in 150.
- All existing services shown are based on Proposed Engineering Layout (12076_502) and Proposed Overall Service Infrastructure Plan (12076_504) by Baytham Meike. Location of all services in close proximity to works should be confirmed by means of trial pits under supervision of statutory undertaker & in accordance with HSE document "Avoiding Danger from Underground Services".

DESIGNERS RESIDUAL RISK SCHEDULE

CONSTRUCTION

- EXISTING SEWERS / DRAINAGE / SERVICES / OVERHEAD CABLES:
 - REFER TO TOPOGRAPHICAL SURVEY (REF: RGS-2624-TS-01) / STATUTORY UNDERTAKERS RECORDS FOR LOCATION OF EXISTING SEWERS / DRAINAGE / SERVICES & OVERHEAD CABLES.
 - WORKS IN CLOSE PROXIMITY TO EXISTING SEWERS / DRAINAGE / SERVICES / OVERHEAD CABLES: CONTRACTOR PREVENT OVERFLOWS FROM DRAINAGE CHANNEL AT LOWER LEVEL.
 - WORKS AFFECTED BY EXISTING SEWERS / DRAINAGE / SERVICES / OVERHEAD CABLES: CONTRACTOR SHOULD ARRANGE FOR DIVERSION / LOWERING / PROTECTION BY STATUTORY UNDERTAKER WHERE NECESSARY PRIOR TO COMMENCEMENT OF WORKS.
- GROUND CONDITIONS / SOIL CONTAMINATION / REMEDIATION
 - THE GROUND INVESTIGATION REPORT (REF: SHF.1733.001.GE.R.001.B) DID NOT IDENTIFY SOIL CONTAMINATION TO BE PRESENT. HOWEVER, CONTRACTOR SHOULD ENSURE SITE PERSONNEL USE APPROPRIATE PPE WHEN CARRYING OUT EXCAVATIONS & THAT CONSTRUCTION HEALTH & SAFETY PLAN INCLUDES METHOD STATEMENT FOR DEALING WITH UNFORESEEN CONTAMINATION IF ENCOUNTERED DURING WORKS.
 - EXCAVATIONS WHERE ACCESS IS REQUIRED SHOULD BE TEMPORARY SUPPORTED WITH SLOPES BATTERED WELL BACK AND MAINTAINED AT A SAFE ANGLE.
 - CONTRACTORS CONSTRUCTION HEALTH & SAFETY PLAN SHOULD INCLUDE METHOD STATEMENT OUTLINING SAFE METHOD OF WORKING IN OR ADJACENT TO DEEP EXCAVATIONS ADJACENT TO BOUNDARIES / STRUCTURES / EMBANKMENTS / BULK EARTHWORKS.
 - GROUNDWATER WILL BE ENCOUNTERED IN EXCAVATIONS. CONTRACTORS CONSTRUCTION HEALTH & SAFETY PLAN SHOULD INCLUDE METHOD STATEMENT OUTLINING SAFE METHOD FOR DEWATERING EXCAVATIONS DURING GROUNDWORKS. GROUNDWATER IDENTIFIED AT 68.25 AS PER RISK REPORT.
- EXCAVATIONS & EARTHWORKS
 - REFER TO GROUND INVESTIGATION REPORT (REF: SHF.1733.001.GE.R.001.B) FOR DETAILS OF UNDERLYING SOILS. WHERE GROUND CONDITIONS ARE FOUND TO DEVIATE FROM THOSE REPORTED IN THE SITE INVESTIGATION REPORT, THE ENGINEER SHOULD BE CONTACTED IMMEDIATELY FOR ADVICE ON HOW TO PROCEED.
 - CONTRACTOR SHOULD ENSURE SITE PERSONNEL HAVE APPROPRIATE TRAINING & USE APPROPRIATE PPE WHEN MAKING SEWER CONNECTIONS TO EXISTING MANHOLES / SEWERS.
 - CONTRACTORS CONSTRUCTION HEALTH & SAFETY PLAN SHOULD INCLUDE METHOD STATEMENT THAT ADOPTS BEST PRACTICE HEALTH AND SAFETY POLICIES FOR ALL SITE PERSONNEL THROUGHOUT THE DURATION OF THE WORKS ON / ADJACENT TO HIGHWAY.
 - CONNECTING TO EXISTING MANHOLES / SEWERS
 - CONTRACTORS CONSTRUCTION HEALTH & SAFETY PLAN SHOULD INCLUDE METHOD STATEMENT THAT ADOPTS BEST PRACTICE HEALTH AND SAFETY POLICIES FOR ALL SITE PERSONNEL THROUGHOUT THE DURATION OF SUCH WORKS.
 - CONTRACTOR SHOULD ENSURE SITE PERSONNEL HAVE APPROPRIATE TRAINING & USE APPROPRIATE PPE WHEN MAKING SEWER CONNECTIONS TO EXISTING MANHOLES / SEWERS.
- WORKS ON OR ADJACENT TO HIGHWAY
 - CONTRACTORS CONSTRUCTION HEALTH & SAFETY PLAN SHOULD INCLUDE METHOD STATEMENT THAT ADOPTS BEST PRACTICE HEALTH AND SAFETY POLICIES FOR ALL SITE PERSONNEL THROUGHOUT THE DURATION OF SUCH WORKS.
 - MAINTENANCE / CLEANING
 - ACCESS OF MANHOLES / CHAMBERS FOR MAINTENANCE OF DRAINAGE SYSTEM & HIGH PRESSURE JETTING
 - MAINTENANCE CONTRACTOR SHOULD PROVIDE RISK ASSESSMENT AND METHOD STATEMENT THAT ADOPTS BEST PRACTICE HEALTH AND SAFETY POLICIES FOR MAINTENANCE PERSONNEL THROUGHOUT THE DURATION OF SUCH WORKS.
 - MAINTENANCE PERSONNEL SHOULD HAVE APPROPRIATE TRAINING & USE APPROPRIATE PPE.

- REFER TO DRAWING P21-002-103 FOR SECTIONS SHOWN ON THIS PLAN.
- GROUND WATER INTERSPAT AT A LEVEL OF 68.68m AOD FROM RSK SITE INVESTIGATION REPORT 314248-01 (01) DATED JULY 2019
- EARTHWORKS TO BE CARRIED OUT TO EARTHWORKS SPECIFICATION SHF.1733.001.GE.R.002.A BY ENZYGO

CD	CONSTRUCTION ISSUE	CPH	17.03.21
PT	PRELIMINARY ISSUE	GBY	09.03.21
MK	REVISION	BY	DATE

DRAWING STATUS	
FINAL	

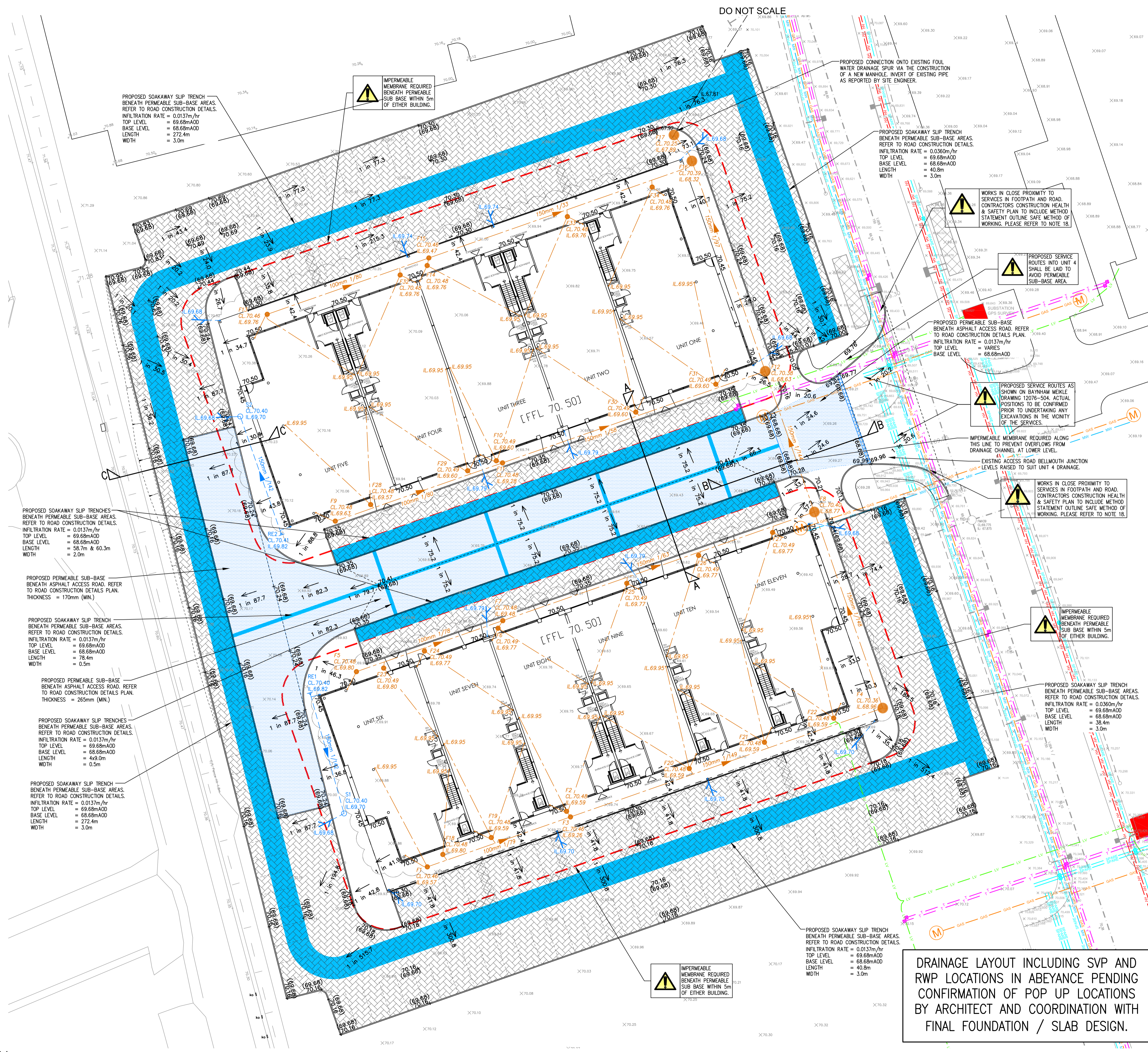
DRAWING TITLE	
ENGINEERING LAYOUT	

PROJECT	
UNIT FOUR	
OXFORD TECH PARK	
KIDLINGTON	
OXFORD	

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Drawn	Ch'd	Scales	Date
GPH	AR	1:250 @ A1	MAR '2021

Purpose of Issue		
CONSTRUCTION		
Project Number	Drawing Number	Revision
P21-002	101	C1



DRAINAGE LAYOUT INCLUDING SVP AND RWP LOCATIONS IN ABEYANCE PENDING CONFIRMATION OF POP UP LOCATIONS BY ARCHITECT AND COORDINATION WITH FINAL FOUNDATION / SLAB DESIGN.