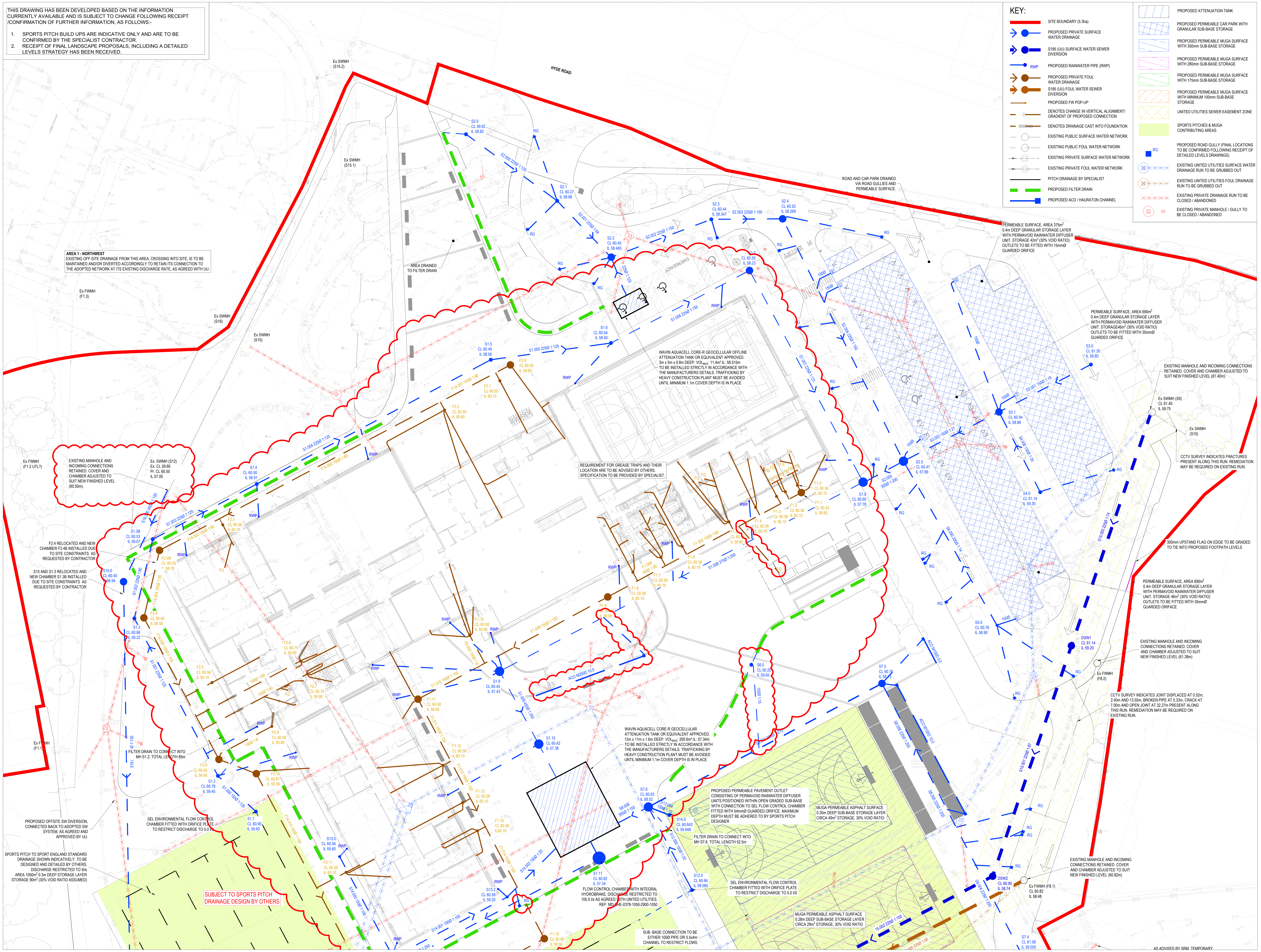
THIS DRAWING HAS BEEN DEVELOPED BASED ON THE INFORMATION CURRENTLY AVAILABLE AND IS SUBJECT TO CHANGE FOLLOWING RECEIPT /CONFIRMATION OF FURTHER INFORMATION, AS FOLLOWS:-

1. SPORTS PITCH BUILD UPS ARE INDICATIVE ONLY AND ARE TO BE CONFIRMED BY THE SPECIALIST CONTRACTOR.
2. RECEIPT OF FINAL LANDSCAPE PROPOSALS, INCLUDING A DETAILED LEVELS STRATEGY HAS BEEN RECEIVED.



AREA 1 - NORTHWEST
EXISTING OFF-SITE DRAINAGE FROM THIS AREA, CROSSING INTO SITE, IS TO BE MAINTAINED AND/OR DIVERTED ACCORDINGLY TO RETAIN ITS CONNECTION TO THE ADOPTED NETWORK AT ITS EXISTING DISCHARGE RATE, AS AGREED WITH UU.

AREA DRAINED TO FILTER DRAIN

EXISTING MANHOLE AND INCOMING CONNECTIONS RETAINED. COVER AND CHAMBER ADJUSTED TO SUIT NEW FINISHED LEVEL (60.50m).

F2.4 RELOCATED AND NEW CHAMBER F2.4B INSTALLED DUE TO SITE CONSTRAINTS AS REQUESTED BY CONTRACTOR

S15 AND S1.3 RELOCATED AND NEW CHAMBER S1.3B INSTALLED DUE TO SITE CONSTRAINTS AS REQUESTED BY CONTRACTOR

WAVIN AQUACELL CORE-R GEOCELLULAR OFFLINE ATTENUATION TANK OR EQUIVALENT APPROVED. 3m x 5m x 0.8m DEEP. VOL_{MAX}: 11.4m³.IL: 58.515m TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS DETAILS. TRAFFICKING BY HEAVY CONSTRUCTION PLANT MUST BE AVOIDED UNTIL MINIMUM 1.1m COVER DEPTH IS IN PLACE

REQUIREMENT FOR GREASE TRAPS AND THEIR LOCATION ARE TO BE ADVISED BY OTHERS. SPECIFICATION TO BE PROVIDED BY SPECIALIST.

ROAD AND CAR PARK DRAINED VIA ROAD GULLIES AND PERMEABLE SURFACE.

PERMEABLE SURFACE, AREA 375m^2 0.4m DEEP GRANULAR STORAGE LAYER WITH PERMAVOID RAINWATER DIFFUSER UNIT. STORAGE 42m^3 (30% VOID RATIO). OUTLETS TO BE FITTED WITH 15mmØ GUARDED ORIFICE

PERMEABLE SURFACE, AREA 690m^2 0.4m DEEP GRANULAR STORAGE LAYER WITH PERMAVOID RAINWATER DIFFUSER UNIT. STORAGE46m^3 (30% VOID RATIO) OUTLETS TO BE FITTED WITH 35mmØ GUARDED ORIFICE

EXISTING MANHOLE AND INCOMING CONNECTIONS RETAINED. COVER AND CHAMBER ADJUSTED TO SUIT NEW FINISHED LEVEL (61.40m)

CCTV SURVEY INDICATES FRACTURES PRESENT ALONG THIS RUN. REMEDIATION MAY BE REQUIRED ON EXISTING RUN.

300mm UPSTAND FLAG ON EDGE TO BE GRADED TO TIE INTO PROPOSED FOOTPATH LEVELS

PERMEABLE SURFACE, AREA 690m^2 0.4m DEEP GRANULAR STORAGE LAYER WITH PERMAVOID RAINWATER DIFFUSER UNIT. STORAGE 46m^3 (30% VOID RATIO) OUTLETS TO BE FITTED WITH 35mmØ GUARDED ORIFACE

EXISTING MANHOLE AND INCOMING CONNECTIONS RETAINED. COVER AND CHAMBER ADJUSTED TO SUIT NEW FINISHED LEVEL (61.38m)

CCTV SURVEY INDICATES JOINT DISPLACED AT 0.52m, 2.40m AND 13.55m, BROKEN PIPE AT 5.33m, CRACK AT 7.00m AND OPEN JOINT AT 32.27m PRESENT ALONG THIS RUN. REMEDIATION MAY BE REQUIRED ON EXISTING RUN.

FILTER DRAIN TO CONNECT INTO MH S1.2. TOTAL LENGTH 85m

PROPOSED OFFSITE SW DIVERSION, CONNECTED BACK TO ADOPTED SW SYSTEM, AS AGREED AND APPROVED BY UU.

SEL ENVIRONMENTAL FLOW CONTROL CHAMBER FITTED WITH ORIFICE PLATE TO RESTRICT DISCHARGE TO 5.0 l/s

SPORTS PITCH TO SPORT ENGLAND STANDARD DRAINAGE SHOWN INDICATIVELY. TO BE DESIGNED AND DETAILED BY OTHERS. DISCHARGE RESTRICTED TO 5l/s AREA 1050m^2 0.3m DEEP STORAGE LAYER STORAGE 90m^3 (30% VOID RATIO ASSUMED)

WAVIN AQUACELL CORE-R GEOCELLULAR ATTENUATION TANK OR EQUIVALENT APPROVED. 12m x 11m x 1.6m DEEP. VOL_{MAX}: 200.6m³.IL: 57.34m TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS DETAILS. TRAFFICKING BY HEAVY CONSTRUCTION PLANT MUST BE AVOIDED UNTIL MINIMUM 1.1m COVER DEPTH IS IN PLACE

PROPOSED PERMEABLE PAVEMENT OUTLET CONSISTING OF PERMAVOID RAINWATER DIFFUSER UNITS POSITIONED WITHIN OPEN GRADED SUB-BASE WITH CONNECTION TO SEL FLOW CONTROL CHAMBER FITTED WITH 54mmØ GUARDED ORIFICE. MAXIMUM DEPTH MUST BE ADHERED TO BY SPORTS PITCH DESIGNER

MUGA PERMEABLE ASPHALT SURFACE 0.35m DEEP SUB-BASE STORAGE LAYER CIRCA 49m^3 STORAGE, 30% VOID RATIO

FILTER DRAIN TO CONNECT INTO MH S7.6. TOTAL LENGTH 52.5m

FLOW CONTROL CHAMBER WITH INTEGRAL HYDROBRAKE. DISCHARGE RESTRICTED TO 105.0 l/s AS AGREED WITH UNITED UTILITIES. REF: MD-SHE-0378-1050-2900-1050

SEL ENVIRONMENTAL FLOW CONTROL CHAMBER FITTED WITH ORIFICE PLATE TO RESTRICT DISCHARGE TO 5.0 l/S

MUGA PERMEABLE ASPHALT SURFACE 0.28m DEEP SUB-BASE STORAGE LAYER CIRCA 29m^3 STORAGE, 30% VOID RATIO

SUB -BASE CONNECTION TO BE EITHER 100Ø PIPE OR 0.5x4m CHANNEL TO RESTRICT FLOWS

EXISTING MANHOLE AND INCOMING CONNECTIONS RETAINED. COVER AND CHAMBER ADJUSTED TO SUIT NEW FINISHED LEVEL (60.82m)

AS ADVISED BY SRM. TEMPORARY

KEY:

▬	SITE BOUNDARY (5.3ha)
→ ● —	PROPOSED PRIVATE SURFACE WATER DRAINAGE
➔ ● ▬	S185 (UU) SURFACE WATER SEWER DIVERSION
—● RWP	PROPOSED RAINWATER PIPE (RWP)
→ ● —	PROPOSED PRIVATE FOUL WATER DRAINAGE
➔ ● ▬	S185 (UU) FOUL WATER SEWER DIVERSION
—●	PROPOSED FW POP-UP
—) —	DENOTES CHANGE IN VERTICAL ALIGNMENT/ GRADIENT OF PROPOSED CONNECTION
— ▨ —	DENOTES DRAINAGE CAST INTO FOUNDATION
— ○ —	EXISTING PUBLIC SURFACE WATER NETWORK
— ○ —	EXISTING PUBLIC FOUL WATER NETWORK
→ ⊡ - -	EXISTING PRIVATE SURFACE WATER NETWORK
→ ⊡ -·-	EXISTING PRIVATE FOUL WATER NETWORK
—	PITCH DRAINAGE BY SPECIALIST
▬ ▬	PROPOSED FILTER DRAIN
—■	PROPOSED ACO / HAURATON CHANNEL
▨	PROPOSED ATTENUATION TANK
▦	PROPOSED PERMEABLE CAR PARK WITH GRANULAR SUB-BASE STORAGE
▨	PROPOSED PERMEABLE MUGA SURFACE WITH 350mm SUB-BASE STORAGE
▨	PROPOSED PERMEABLE MUGA SURFACE WITH 280mm SUB-BASE STORAGE
▨	PROPOSED PERMEABLE MUGA SURFACE WITH 175mm SUB-BASE STORAGE
▨	PROPOSED PERMEABLE MUGA SURFACE WITH MINIMUM 100mm SUB-BASE STORAGE
▩	UNITED UTILITIES SEWER EASEMENT ZONE
🟩	SPORTS PITCHES & MUGA CONTRIBUTING AREAS
■ RG	PROPOSED ROAD GULLY (FINAL LOCATIONS TO BE CONFIRMED FOLLOWING RECEIPT OF DETAILED LEVELS DRAWINGS)
⊠ ×××	EXISTING UNITED UTILITIES SURFACE WATER DRAINAGE RUN TO BE GRUBBED OUT
⊠ ×××	EXISTING UNITED UTILITIES FOUL DRAINAGE RUN TO BE GRUBBED OUT
×××××	EXISTING PRIVATE DRAINAGE RUN TO BE CLOSED / ABANDONED
⊠ ⊠	EXISTING PRIVATE MANHOLE / GULLY TO BE CLOSED / ABANDONED

BUILDING DESIGN PARTNERSHIP SHALL HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DOCUMENT OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.

ALL DIMENSIONS SHOULD BE CHECKED ON SITE.

DO NOT SCALE FROM THIS DRAWING.

ANY DRAWING ERRORS OR DIVERGENCES SHOULD BE BROUGHT TO THE ATTENTION OF BUILDING DESIGN PARTNERSHIP AT THE ADDRESS SHOWN BELOW.

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.
2. THIS DRAWING IS BASED ON:
   - TOPOGRAPHICAL SURVEY DWG FILE REF. 20D0510-001 TO 004 DATED JULY 2020 BY SURVEY OPERATIONS
   - FULL UTILITIES SURVEY DWG FILE REF. 0620-ARC-13319 DATED 06/07/2020 BY SITE VISION SURVEYS
   - UNITED UTILITIES RECORD MAP, UU REF. UUPS-ORD-175605 DATED 22/07/2020 (PDF)
3. BEFORE STARTING ANY WORKS, CONTRACTOR TO CHECK INVERT LEVELS AND POSITIONS OF EXISTING DRAINS, SEWERS, INSPECTIONS CHAMBERS AND MANHOLES AGAINST INFORMATION SHOWN ON THIS DRAWING, ENGINEER TO BE INFORMED IF FOUND DIFFERENT TO NOTED.
4. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.
5. EXTERNAL DRAINAGE OUTSIDE BUILDING FOOTPRINT: CLASS Z CONCRETE SURROUND TO BE PROVIDED FOR PIPES WITH COVER LESS THAN 1.2m ABOVE THE CROWN OF THE PIPE FOR ROADS AND 0.6m FOR SOFT AND PEDESTRIAN AREAS ONLY AND UNDER ALL FOUNDATIONS AND WHERE PIPES LAID WITHIN 1m OF FOUNDATIONS.
6. CONNECTIONS TO EXISTING PUBLIC SEWER IN ACCORDANCE WITH UNITED UTILITIES REQUIREMENTS, TO BE APPROVED / AGREED WITH THE WATER AUTHORITY. ALL EXISTING DRAINAGE LEVELS, ESPECIALLY WHERE NEW MANHOLES ON EXISTING RUNS OR NEW CONNECTIONS TO EXISTING MANHOLES ARE PROPOSED, ARE TO BE CONFIRMED PRIOR TO THE COMMENCEMENT OF ANY WORKS ON SITE.
7. DRAWING TO BE READ IN CONJUNCTION WITH EXISTING DRAINAGE DRAWING 009433-BDP-01-ZZ-DR-C-520010.
8. ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY AND IN CONJUNCTION WITH ALL RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND 'SEWERS FOR ADOPTION' 7TH EDITION AND ADDENDUMS AS APPROPRIATE.ALL DRAINAGE SHALL COMPLY WITH THE TYPICAL DRAINAGE CONSTRUCTION DETAILS AND THE REQUIREMENTS OF BS EN 752.
9. ACCESS COVERS AND FRAMES SHALL COMPLY WITH THE LOADINGS SPECIFIED AND TO BS EN 124 AND KITEMARKED OR IF RECESSED COVERS ARE SPECIFIED THEN IN ACCORDANCE WITH FACTA ASSOCIATION EQUIVALENT. ALLOW FOR RECESS MANHOLE COVERS TO ACCEPT LANDSCAPE ARCHITECT FINISHES TO ALL NON-ASPHALT EXTERNAL AREAS.
10. THE PROPOSED BUILDING OUTLINES SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY. REFER TO ARCHITECTS PLANS FOR PRECISE LOCATION SETTING OUT INFORMATION AND DETAILS
11. FOR SETTING OUT DIMENSIONS OF SS'S, SVP'S, RWP'S, FLOOR GULLY & OTHER DRAINAGE 'POP UP' LOCATIONS, REFER TO ARCHITECTS OR MECHANICAL & ELECTRICAL ENGINEERS DRAWINGS.
12. ALL DRAINAGE PIPEWORK SHOWN SHALL BE 100MM DIAMETER FOR FOUL AND 150MM FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPEWORK SHALL BE LAID SOFFIT TO SOFFIT UNLESS OTHERWISE STATED.
13. ALL UNDERSLAB DRAINAGE SHALL BE LAID AT GRADIENTS OF 1:80 MIN. FOR FOUL PIPEWORK AND 1:100 MIN. FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL UNDERSLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE. USE OF SHORT/ LONG RADIUS BENDS IS ACCEPTABLE PROVIDED THEY ARE KEPT TO A MINIMUM AND USED WHERE UNAVOIDABLE.
14. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE. ALL RAINWATER PIPES SHALL HAVE ABOVE GROUND RODDING ACCESS.
15. COVER LEVELS SHOWN ON THIS DRAWING ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FINISHED PAVEMENT LEVELS ON SITE BY CONTRACTOR. COVERS SHALL BE ORIENTATED TO SUIT PAVEMENT FINISHES WHERE APPROPRIATE.
16. ALL PRIVATE DRAINAGE PIPEWORK FOR FOUL AND SURFACE WATER SYSTEMS HAVE BEEN DESIGNED ON THE BASIS OF UPVC TO BS EN 1401-1, UNLESS NOTED OTHERWISE.
17. CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE THE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM.
18. WHERE NEW DRAINAGE IS SITUATED WITHIN 5 METRES OF NEW OR EXISTING TREES THE PIPEWORK SHALL BE ENCASED IN CONCRETE TO REDUCE THE RISK OF ROOT INGRESS.
19. ALL DRAINAGE CONNECTING TO THE PUBLIC SEWER NETWORK SHALL NOT COMMENCE UNTIL RECEIPT OF THE APPROVAL FROM THE DRAINAGE AUTHORITY AND SHALL COMPLY WITH REQUIREMENTS USING VITRIFIED CLAY PIPEWORK TO BS EN 295 WITH PLAIN SLEEVED OR SOCKETED FLEXIBLE JOINTS SUBJECT TO THEIR APPROVAL.
20. UPON COMPLETION ALL NEW DRAINAGE INSTALLATION TOGETHER WITH ANY EXISTING DRAINAGE RETAINED SHALL BE JETTED AND CCTV SURVEYED UPON COMPLETION. CONTRACTOR TO ENSURE THAT THE DRAINAGE SYSTEM IS FULLY OPERATIONAL, FREE OF EXCESS DEBRIS/SILT AND ALL IDENTIFIED FAULTS RECTIFIED.

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
C13	New drainage features added, S6 relocated and updated MH cover levels around building	EH	DN	09/09/22
C12	Revised drainage for MUGA Pitches	EH	DN	27/07/22
C11	Drainage Channel details added and location amended	EH	DN	15/07/22
C10	Drainage layout revised to suit new levels design and updated landscape GA	EH	DN	11/07/22
C09	Location of pitch manholes revised and Manhole S8.1 removed	NC	EH	28/04/22
C08	CLs amended to suit revised level strategy	EMM	DN	17.02.22
C07	Storage, Flow Controls and SW levels	EMM	DN	26.10.21
C06	Below slab drainage updated	ARJ	EMM	17.09.21
C05	S13.0 added	ARJ	EMM	12.09.21
C04	Foul drainage & cover levels updated	ARJ	DN	09.09.21
C03	F1.17, F1.18 & Key/ Legend updated	ARJ	DN	09.08.21
C02	Minor corrections	ARJ	DN	23/07/21
C01	Issued for Construction	ARJ	DN	14/07/21

KEY PLAN

CLIENT

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PROJECT TITLE
BELLE VUE CO-OP ACADEMY

BDP JOB NUMBER
P3001502

ISO 27001 CLASSIFICATION
COMMERCIAL IN CONFIDENCE

DRAWING TITLE
SITE WIDE DRAINAGE STRATEGY
GENERAL ARRANGEMENT
SHEET 1 OF 3

SCALE
1:200 @ A0

DATE
25/03/21

DRAWING No.
009433-BDP-01-ZZ-DR-C-520001

REVISION
C13

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