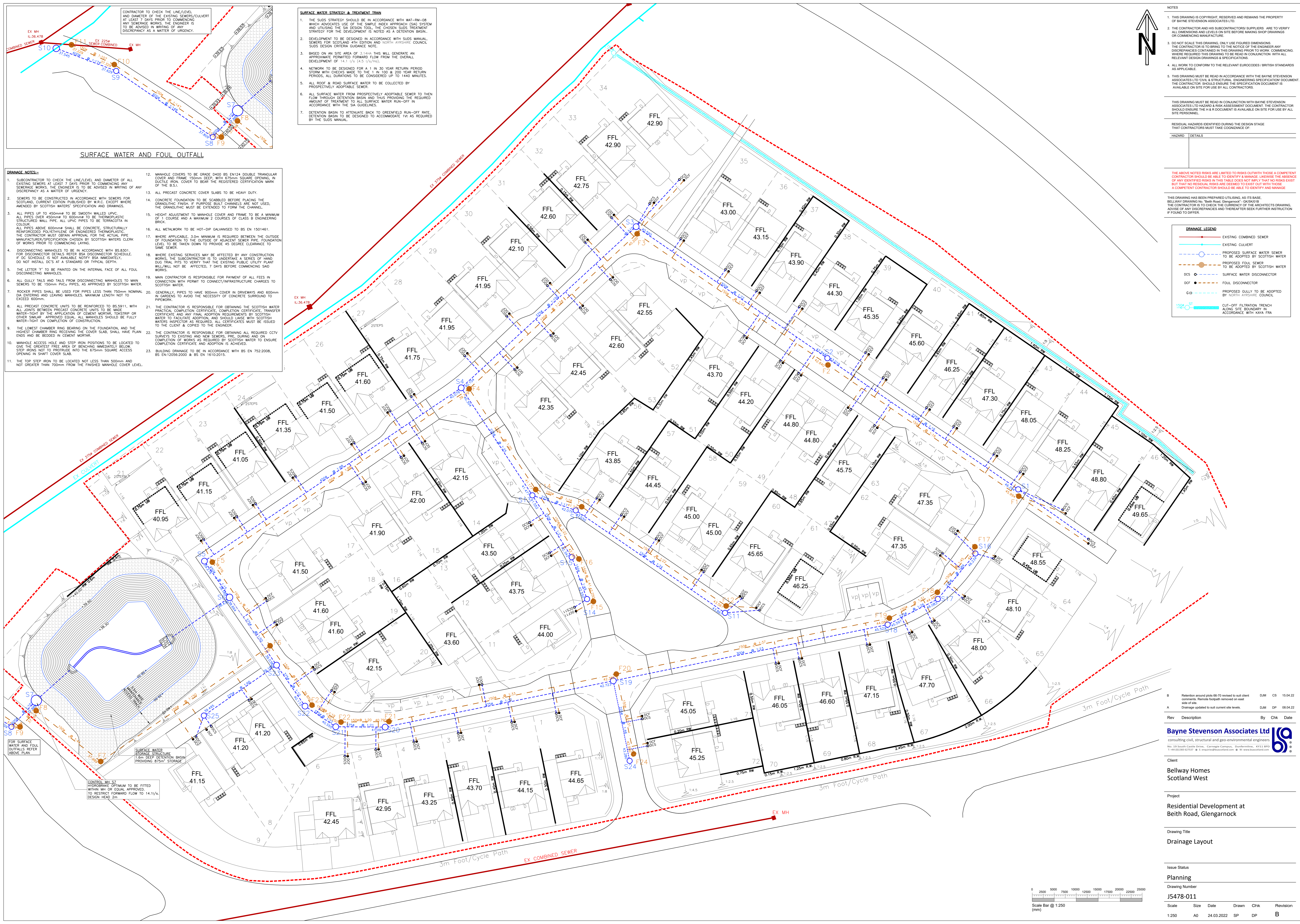
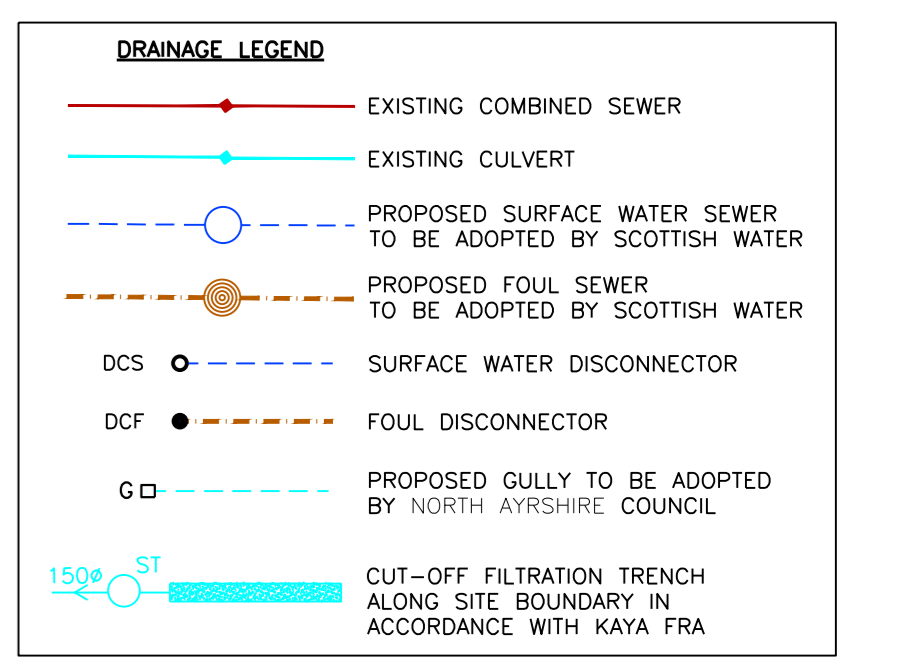


- SURFACE WATER STRATEGY & TREATMENT TRAIN**
1. THE SUDS STRATEGY SHOULD BE IN ACCORDANCE WITH WM-RM-OR WHICH ADVOCATES USE OF THE SIMPLE INDEX APPROACH (SIA) SYSTEM AND UTILISING THE SIA DESIGN TOOL. THE CHOSEN SUDS TREATMENT STRATEGY FOR THE DEVELOPMENT IS NOTED AS A DETENTION BASIN.
 2. DEVELOPMENT TO BE DESIGNED IN ACCORDANCE WITH SUDS MANUAL, SEWERS FOR SCOTLAND WITH EDITION AND NORTH AYSHIRE COUNCIL SUDS DESIGN CRITERIA GUIDANCE NOTE.
 3. BASED ON AN SITE AREA OF 3.14HA THIS WILL GENERATE AN APPROXIMATE PERMITTED FORWARD FLOW FROM THE OVERALL DEVELOPMENT OF 14.1 l/s (4.9 l/s/m²).
 4. NETWORK TO BE DESIGNED FOR A 1 IN 30 YEAR RETURN PERIOD STORM WITH CHECKS MADE TO THE 1 IN 100 & 200 YEAR RETURN PERIODS. ALL DURATIONS TO BE CONSIDERED UP TO 1440 MINUTES.
 5. ALL ROOF & ROAD SURFACE WATER TO BE COLLECTED BY PROSPECTIVELY ADAPTABLE SEWER.
 6. ALL SURFACE WATER FROM PROSPECTIVELY ADAPTABLE SEWER TO THEN FLOW THROUGH DETENTION BASIN AND THUS PROVIDING THE REQUIRED AMOUNT OF TREATMENT TO ALL SURFACE WATER RUN-OFF IN ACCORDANCE WITH THE SIA GUIDELINES.
 7. DETENTION BASIN TO ATTENUATE BACK TO GREENFIELD RUN-OFF RATE. DETENTION BASIN TO BE DESIGNED TO ACCOMMODATE 1V1 AS REQUIRED BY THE SUDS MANUAL.

SURFACE WATER AND FOUL OUTFALL

- DRAINAGE NOTES:-**
1. SUBCONTRACTOR TO CHECK THE LINE/LEVEL AND DIAMETER OF ALL EXISTING SEWERS AT LEAST 7 DAYS PRIOR TO COMMENCING ANY SEWERAGE WORKS. THE ENGINEER IS TO BE ADVISED IN WRITING OF ANY DISCREPANCY AS A MATTER OF URGENCY.
 2. SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR SCOTLAND, CURRENT EDITION PUBLISHED BY W.A.C. EXCEPT WHERE AMENDED BY SCOTTISH WATERS' SPECIFICATION AND DRAWINGS.
 3. ALL PIPES UP TO 450mm TO BE SMOOTH WALLED UPVC. ALL PIPES OVER 450mm TO 600mm TO BE THERMOPLASTIC STRUCTURED WALL PIPE. ALL UPVC PIPES TO BE TERRACOTTA IN COLOUR. ALL PIPES ABOVE 600mm SHALL BE CONCRETE. STRUCTURALLY REINFORCED POLYETHYLENE OR ENGINEERED THERMOPLASTIC. THE CONTRACTOR MUST OBTAIN APPROVAL FOR THE ACTUAL PIPE MANUFACTURER/SPECIFICATION CHOSEN BY SCOTTISH WATERS CLERK OF WORKS PRIOR TO COMMENCING LAYING.
 4. DISCONNECTING MANHOLES TO BE IN ACCORDANCE WITH BS.8301. FOR DISCONNECTOR DETAILS REFER BS4 DISCONNECTOR SCHEDULE. IF DC SCHEDULE IS NOT AVAILABLE NOTIFY BSA IMMEDIATELY. DO NOT INSTALL DC'S AT A STANDARD OR TYPICAL DEPTH.
 5. THE LETTER 'F' TO BE PAINTED ON THE INTERNAL FACE OF ALL FOUL DISCONNECTING MANHOLES.
 6. ALL GULLY TAILS AND TAILS FROM DISCONNECTING MANHOLES TO MAIN SEWERS TO BE 150mm PVCu PIPES, AS APPROVED BY SCOTTISH WATER.
 7. ROCKER PIPES SHALL BE USED FOR PIPES LESS THAN 750mm NOMINAL DIA ENTERING AND LEAVING MANHOLES. MAXIMUM LENGTH NOT TO EXCEED 600mm.
 8. ALL PRECAST CONCRETE UNITS TO BE REINFORCED TO BS.5911. WITH ALL JOINTS BETWEEN PRECAST CONCRETE UNITS TO BE MADE WATER-TIGHT BY THE APPLICATION OF CEMENT MORTAR, TOMSETPR OR OTHER SIMILAR APPROVED EQUAL. ALL MANHOLES SHOULD BE FULLY WATER-TIGHT ON COMPLETION OF CONSTRUCTION.
 9. THE LOWEST CHAMBER RING BEARING ON THE FOUNDATION, AND THE HIGHEST CHAMBER RING RECEIVING THE COVER SLAB, SHALL HAVE PLAIN ENDS AND BE BEDDED IN CEMENT MORTAR.
 10. MANHOLE ACCESS HOLE AND STEP IRON POSITIONS TO BE LOCATED TO GIVE THE GREATEST FREE AREA OF BENCHING IMMEDIATELY BELOW. STEP IRONS NOT TO PROTRUDE INTO THE 675mm SQUARE ACCESS OPENING IN SHAFT COVER SLAB.
 11. THE TOP STEP IRON TO BE LOCATED NOT LESS THAN 500mm AND NOT GREATER THAN 700mm FROM THE FINISHED MANHOLE COVER LEVEL.
 12. MANHOLE COVERS TO BE GRADE D400 BS EN124 DOUBLE TRIANGULAR COVER AND FRAME 150mm DEEP, WITH 675mm SQUARE OPENING, IN DUCTILE IRON. COVER TO BEAR THE REGISTERED CERTIFICATION MARK OF THE B.S.I.
 13. ALL PRECAST CONCRETE COVER SLABS TO BE HEAVY DUTY.
 14. CONCRETE FOUNDATION TO BE SCABBLED BEFORE PLACING THE GRANULITIC FINISH IF PURCHASE BUILT CHANNELS ARE NOT USED. THE GRANULITIC MUST BE EXTENDED TO FORM THE CHANNEL.
 15. HEIGHT ADJUSTMENT TO MANHOLE COVER AND FRAME TO BE A MINIMUM OF 1 COURSE AND A MAXIMUM 2 COURSES OF CLASS B ENGINEERING BRICK.
 16. ALL METALWORK TO BE HOT-DIP GALVANISED TO BS EN 1501461.
 17. WHERE APPLICABLE, 3.0m MINIMUM IS REQUIRED BETWEEN THE OUTSIDE OF FOUNDATION TO THE OUTSIDE OF ADJACENT SEWER PIPE. FOUNDATION LEVELS TO BE TAKEN DOWN TO PROVIDE 45 DEGREE CLEARANCE TO SAME SEWER.
 18. WHERE EXISTING SERVICES MAY BE AFFECTED BY ANY CONSTRUCTION WORKS, THE SUBCONTRACTOR IS TO UNDERTAKE A SERIES OF HAND DUG TRIAL PITS TO VERIFY THAT THE EXISTING PUBLIC UTILITY PLANT WILL NOT BE AFFECTED, 7 DAYS BEFORE COMMENCING SAID WORKS.
 19. MAIN CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL FEES IN CONNECTION WITH PERMIT TO CONNECT/INFRASTRUCTURE CHARGES TO SCOTTISH WATER.
 20. GENERALLY, PIPES TO HAVE 900mm COVER IN DRIVEWAYS AND 600mm IN GARDENS TO AVOID THE NECESSITY OF CONCRETE SURROUND TO PREPARED.
 21. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE SCOTTISH WATER PRACTICAL COMPLETION CERTIFICATE, COMPLETION CERTIFICATE, TRANSFER CERTIFICATE AND ANY FINAL ADOPTION REQUIREMENTS BY SCOTTISH WATER TO FACILITATE ADOPTION, AND SHOULD LAISE WITH SCOTTISH WATERS INSPECTOR AS REQUIRED. ALL CERTIFICATES MUST BE ISSUED TO THE CLIENT & COPIED TO THE ENGINEER.
 22. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CCTV SURVEYS TO EXISTING AND NEW SEWERS. PRE, DURING AND ON COMPLETION OF WORKS AS REQUIRED BY SCOTTISH WATER TO ENSURE COMPLETION CERTIFICATE AND ADOPTION IS ACHIEVED.
 23. BUILDING DRAINAGE TO BE IN ACCORDANCE WITH BS EN 752:2008, BS EN 12056:2000 & BS EN 16182:2015.

- NOTES**
1. THIS DRAWING IS COPYRIGHT, RESERVED AND REMAINS THE PROPERTY OF BAYNE STEVENSON ASSOCIATES LTD.
 2. THE CONTRACTOR AND HIS SUBCONTRACTORS/SUPPLIERS ARE TO VERIFY ALL DIMENSIONS AND LEVELS ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING MANUFACTURE.
 3. DO NOT SCALE THIS DRAWING. ONLY USE FIGURED DIMENSIONS. THE CONTRACTOR IS TO BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCIES CONTAINED IN THIS DRAWING PRIOR TO WORK COMMENCING. WHERE REQUIRED THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGN DRAWINGS & SPECIFICATIONS.
 4. ALL WORK TO CONFORM TO THE RELEVANT EUROCODES / BRITISH STANDARDS AS APPLICABLE.
 5. THIS DRAWING MUST BE READ IN ACCORDANCE WITH THE BAYNE STEVENSON ASSOCIATES LTD CIVIL & STRUCTURAL ENGINEERING SPECIFICATION DOCUMENT. THE CONTRACTOR SHOULD ENSURE THE H & R DOCUMENT IS AVAILABLE ON SITE FOR USE BY ALL CONTRACTORS.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH BAYNE STEVENSON ASSOCIATES LTD HAZARD & RISK ASSESSMENT DOCUMENT. THE CONTRACTOR SHOULD ENSURE THE H & R DOCUMENT IS AVAILABLE ON SITE FOR USE BY ALL SITE PERSONNEL.
- RESIDUAL HAZARDS IDENTIFIED DURING THE DESIGN STAGE THAT CONTRACTORS MUST TAKE COGNIZANCE OF:
- | HAZARD | DETAILS |
|--------|---------|
| | |
- THE ABOVE NOTED RISKS ARE LIMITED TO RISKS OUTWITH THOSE A COMPLETE CONTRACTOR SHOULD BE ABLE TO IDENTIFY & MANAGE. LIKEWISE THE ABSENCE OF ANY IDENTIFIED RISKS IN THIS TABLE DOES NOT IMPLY THAT NO RISKS EXIST BUT THAT NO RESIDUAL RISKS ARE DEEMED TO EXIST OUT WITH THOSE A COMPETENT CONTRACTOR SHOULD BE ABLE TO IDENTIFY & MANAGE.
- THIS DRAWING HAS BEEN PREPARED UTILISING, AS ITS BASE, BAYNE STEVENSON ASSOCIATES LTD HAZARD & RISK ASSESSMENT DOCUMENT. THE CONTRACTOR IS TO CHECK THE CURRENCY OF THE ARCHITECTS DRAWING. ADVISE OF ANY DISCREPANCIES AND THEREAFTER SEEK FURTHER INSTRUCTION IF FOUND TO DIFFER.



Rev	Description	By	Chk	Date
B	Retention around plots 66-70 revised to suit client comments. Retention footpath removed on east side of site.	DJM	CS	15.04.22
A	Drainage updated to suit current site levels.	DJM	DP	08.04.22

Bayne Stevenson Associates Ltd
 consulting civil, structural and geo-environmental engineers

Client
**Bellway Homes
 Scotland West**

Project
**Residential Development at
 Beith Road, Glengarnock**

Drawing Title
Drainage Layout

Issue Status
Planning

Drawing Number
I5478-011

Scale	Size	Date	Drawn	Chk	Revision
1:250	A0	24.03.2022	SP	DP	B

