SCHEDULE OF WORKS

for

PROPOSED NEW COMMUNITY HALL

at

WILDEWOOD RISE
LONGBURTON
SHERBORNE
DORSET

for

CAM VALE PARISH COUNCIL

SLADE PARRY
CHARTERED SURVEYORS

Princes House, 50A Princes Street, Yeovil,
Somerset, BA20 1EQ
Tel: 01935 422298
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August 2020

SECTION 1

PRELIMINARIES

A10 PROJECT PARTICULARS

110 THE PROJECT
- Name: New Community Hall
- Location: Wildewood Rise, Longburton, Dorset
- Timescale for construction work: 26 calendar weeks or in accordance with any agreed alternative time tender as Clause A30/515.

120 EMPLOYER (CLIENT)
- Name: Cam Vale Parish Council
- Address: Wriggle House, Church Street, Yetminster, Dorset, DT9 6LG
- Contact: Tom Gilchrist
- Telephone: 01963 210577
- Email: tomnjeanette@gmail.com

130 PRINCIPAL CONTRACTOR (CDM)
- Name: The Contractor

140 PERSON EMPOWERED BY THE CONTRACT TO ACT ON BEHALF OF THE EMPLOYER
- Title: Contract Administrator & Principal Designer
- Name: Bell Associates
- Address: Fountain Cottage, Wyke Road, Gillingham, Dorset, SP8 4NH
- Contact: Terry Bell
- Telephone: 01747 822162
- Email: enquiries@bell-associates.co.uk

160 QUANTITY SURVEYOR
- Name: Slade Parry Ltd
- Address: Princes House, 50A Princes Street, Yeovil, Somerset, BA20 1EQ
- Contact: Ian Prestwood
- Telephone: 01935 422298
- Email: ian@sladeparry.co.uk

200 CONSULTANTS
- Description: Structural Engineers
- Name: John Beveridge Ltd
- Address: 8 Leigh Road, Street, Somerset, BA16 0HA
- Contact: Aurimas Dubinskas
- Telephone: 01458 440018

200 CONSULTANTS
- Description: Mechanical & Electrical Engineer
- Name: Phil Tester
- Address: Gable Crest, Longburton, Dorset, DT9 5PD
- Telephone: 07956 494422

A11 TENDER AND CONTRACT DOCUMENTS

110 TENDER DRAWINGS
- The tender drawings are:

Bell Associates drawings:-

1438/1bc	Location Plan
1438/2bc	Site Plan of the Aster Group site and New Village Hall
1438/3d	Proposed Site Plan

1438/4bc	Plans
1438/5bc - A	Ground Floor Entrance
1438/6bc	Ground & First Floor End Section
1438/7bc	Section A-A
1438/8bc	Section B-B
1438/9bc	Proposed Elevations
1438/10bc	Foul Drainage Layout
1438/11bc	Drainage Site Plan
1438/12bc	Column Grid & Detail
1438	Site Sections
1438	Eaves Detail
1438	Glazed Screen
1438	Construction Notes

John Beveridge Ltd's drawings:-

Y203-01	Foundation – Ground Floor Plan and Sections
Y203-02A	Mezzanine Floor Plan and Sections
Y203-03A	Roof Plan and Sections
Y203-04A	Cross Section and Details
Y203-05A	External Elevations

Survey Solutions drawing:-

26710swg-01	Topographical Survey

Infrastruct CS Ltd drawings (for EG Carter & Co. Ltd):-

2654-003-P11	Proposed Drainage
2654-004-P10	Surface Finishes & Kerb Specifications

Quattro Design Architects drawing (for EG Carter & Co. Ltd):-

6006-W-11-C1	Utilities Plan (As Built)

120 CONTRACT DRAWINGS

- The contract drawings: Same as the Tender Drawings.

160 PRECONSTRUCTION INFORMATION

- Format: Preconstruction information is described in these preliminaries in Section A34. A separate Pre-Construction Information health & safety document for CDM purposes has been prepared by *** and will be included with the Tender Documents.

180 OTHER DOCUMENTS

- Inspection: Drawings and other documents relating to the Contract but not included in the Tender Documents may be seen by appointment during normal office hours at the offices of Slade Parry Ltd.

A12 THE SITE/ EXISTING BUILDINGS

110 THE SITE
- Description: The proposed Site lies adjacent to a recently completed housing development named Wildewood Rise within Longburton for Aster Housing by their Contractor's EG Carter & Co Ltd, as shown on Drawing No.'s 2654-004-P10 and 1438/2bc – Site Plan of the Aster Group site and New Village Hall. The boundaries of the Site and access thereto are shown on Drawing No. 1438/3d – Proposed Site Plan.

120 EXISTING BUILDINGS ON/ ADJACENT TO THE SITE
- Description: As detailed above the proposed Site lies adjacent to a new housing development and behind a residential property named The Coppers off the main A352 trunk road.

140 EXISTING UTILITIES AND SERVICES
- Drawings: (Information shown is indicative only): Details of the newly installed services adjacent to the Site are shown on Drawing No. 6006-W-11-C1 – Utilities Plan (As Built).
- Other information: The Employer does not guarantee that the above information is wholly accurate. The Contractor will therefore be responsible for confirming the exact nature and location of all existing public utility or private means and services on or adjacent to the Site prior to commencing any works, especially those services that may be effected by the carrying out of the works.

160 SITE INVESTIGATION / SOILS AND GROUND WATER
- Information: A Site Investigation No. AC1128 Factual & Interpretative Report was prepared by CJ Associates Geotechnical Ltd for Dorset County Council in January 2015, a copy of which is included within this document at Appendix C. The results from Boreholes WS1, WS2 and WS4 are relevant to this Site.

170 SITE LEVELS
- Report: A Topographical Survey of the current site levels has been prepared by Survey Solutions and is included in the Tender Documents.

180 HEALTH AND SAFETY FILE
- Availability for inspection: There is no Health and Safety File for the area of the Site of the proposed works.

200 ACCESS TO THE SITE
- Description: Access is via Wildewood Rise off the main A352 trunk road in the middle of Longburton village.

210 PARKING
- Restrictions on parking of the Contractor's and their employees' vehicles: All vehicles are to be parked within the proposed Site including the area for the future parking bays on the opposite side of the access road.

220 USE OF THE SITE
- General: Do not use the site for any purpose other than carrying out the Works.
- Limitations: The exact location of the proposed site compound, site cabins, toilet facilities, etc. and the positioning of any temporary spoil heaps are to be agreed with the CA and Employer before commencing the works.

240 HEALTH AND SAFETY HAZARDS
- General: The nature and condition of the Site cannot be fully and certainly ascertained before it is opened up.

- Information: Ascertain if any additional information is required to ensure the safety of all persons and the Works.
- Site staff: Draw to the attention of all personnel working on the site the nature of any possible contamination and the need to take appropriate precautionary measures.

250 SITE VISIT
- Assessment: Ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.
- Arrangements for visit: No specific arrangements are required to visit the Site.

A13 DESCRIPTION OF THE WORK

110 PREPARATORY WORK BY OTHERS
- Details: SSE are currently in the process of arranging the disconnection and removal of the electrical Meter Box currently on the Site, plus the removal of the overhead pole within the area for the future parking bays on the opposite side of the access road.

120 THE WORKS
- Description: The Works comprise the construction of a steel portal framed building with partial first floor area and associated external works.
- The Substructure comprises insitu concrete trench fill foundations with associated column bases, dense blockwork perimeter and dwarf support walls, supporting 150mm deep precast concrete beam and block flooring.
- The Superstructure consists of a structural timber infill frame between the structural steelwork members, filled with insulation and boarded with plywood internally and OSB board externally, finished with through-coloured render on renderboard up to GF window head level and horizontal composite boarding above. Pitched roofs are to be covered with insulated metal profiled sheeting on mild steel purlins. Windows and external doors are to be uPVC. The upper floor structure comprises T&G chipboard flooring on timber floor joists. Internal partitions are to be in studwork with timber flush doors.
- Details of the Mechanical and Electrical Installations to be installed are to be in accordance with the Specification and drawing provided.
- External works include precast concrete paving to the perimeter of the building and front entrance, concrete bagwork retaining wall system to the boundary with The Coppers, landscaping, foul and surface water drainage systems connected to existing systems, plus the provision of services connections as necessary.

130 WORK BY OTHERS CONCURRENT WITH THE CONTRACT
- Description: None.

140 COMPLETION WORK BY OTHERS
- Description: Provision of the Play Area will be carried out by the Employer after the new Community Hall has been completed.

A20 JCT INTERMEDIATE BUILDING CONTRACT WITH CONTRACTOR'S DESIGN (ICD)

335 JCT INTERMEDIATE BUILDING CONTRACT WITH CONTRACTOR'S DESIGN (ICD)

- The Contract: JCT Intermediate Building Contract with Contractor's Design 2016 Edition.
- Requirement: Allow for the obligations, liabilities and services described.

THE RECITALS

First - THE WORKS
- Comprise: The construction of a steel portal framed building with partial first floor area and associated external works.
- Location: See clause A10/110.

Second - CONTRACTOR'S DESIGNED PORTION
- The Works include the design and construction of:
  - The Mechanical and Electrical Services Installations.

Third - CONTRACT DRAWINGS
- The Contract Drawings: As listed in clause A11/120.

Fourth - OTHER DOCUMENTS SUPPLIED BY THE EMPLOYER
- Comprise: Schedule of Works.
- Named person: The whole of the text referring to a named person as a subcontractor will be deleted.

Fifth A - PRICING BY THE CONTRACTOR
- Option A will apply: Option B will be deleted.
- Priced document: Within Option A the following words will be deleted:
  - Bills of Quantities / Specification.
- Priced Activity Schedule: The words 'and has provided the Employer with a priced schedule of activities annexed to this Contract (the Activity Schedule)' will be deleted.

Ninth - INFORMATION RELEASE SCHEDULE
- The Ninth Recital will be deleted.

Eleventh - DIVISION OF THE WORKS INTO SECTIONS
- The Eleventh Recital will be deleted.

THE ARTICLES

3 - ARCHITECT/ CONTRACT ADMINISTRATOR
- Architect/ Contract Administrator: See clause A10/140.

4 - QUANTITY SURVEYOR
- Quantity Surveyor: See clause A10/160.

5 - PRINCIPAL DESIGNER
- Principal Designer: See clause A10/140.

6 - PRINCIPAL CONTRACTOR
- Principal Contractor: See clause A10/130.

9 - LEGAL PROCEEDINGS
- Amendments: None.

CONTRACT PARTICULARS

Fourth Recital - EMPLOYER'S REQUIREMENTS
- Comprise: Design, Supply, Install, Test and Commission of Electrical & Heating Systems and associated drawing produced by Phil Tester, which is included within this document at Appendix B.

Sixth Recital - CONTRACTOR'S PROPOSALS/ CDP ANALYSIS
- Comprise: Contractor to provide Design Drawings and supporting documentation for review and comment by the Mechanical & Electrical Engineer.
- Specific Requirements: Provide a Summary of Tender Costs for both Mechanical & Electrical Installations broken down into specific sections, plus Schedules of Rates for the valuation of variations which must agree with the above summaries.

Eighth Recital and Clause 4.6 - CONSTRUCTION INDUSTRY SCHEME
- Employer at Base Date is not a “Contractor” for the purposes of the CIS.

Tenth Recital - CDM REGULATIONS
- The project is notifiable.

Twelfth Recital - FRAMEWORK AGREEMENT
- Framework agreement: Does not apply.

Thirteenth Recital and Schedule 5 - SUPPLEMENTAL PROVISIONS
- Collaborative working: Supplemental Provision 1 applies.
- Health and safety: Supplemental Provision 2 applies.
- Cost savings and value improvements: Supplemental Provision 3 applies.
- Sustainable development and environmental considerations: Supplemental Provision 4 applies.
- Performance indicators and monitoring: Supplemental Provision 5 does not apply.
- Notification and negotiation of disputes: Supplemental Provision 6 applies.
- Where Supplemental Provision 6 applies, the respective nominees of the parties are:
  - Employer's nominee: To be notified by the Employer.
  - Contractor's nominee: To be notified by the Contractor.
  - Or such replacement as each party may notify to the other from time to time.

Article 8 - ARBITRATION
- Article 8 and clauses 9.3 to 9.8 (arbitration) do not apply.

Clause 1.1 - BASE DATE
- Base Date: 15 September 2020.

Clause 1.1 - DATE FOR COMPLETION OF THE WORKS
- Date for completion of the Works (where completion by sections does not apply): 23 April 2021.

Clause 1.7 - ADDRESSES FOR SERVICE OF NOTICES
- Employer:
  - Address: As clause A10/120.
- Contractor:
  - Address: To be provided by the Contractor.

Clause 2.4 - DATE OF POSSESSION OF THE SITE
- Date of Possession of the site: 26 October 2020.

Clause 2.5 - DEFERMENT OF POSSESSION OF THE SITE
- Clause 2.5 applies.
- Where clause 2.5 applies, maximum period of deferment (if less than six weeks) is 6 weeks.

Clause 2.23.2 - LIQUIDATED DAMAGES
- Damages: At the rate of £1,500.00 per calendar week or pro rata thereto.

Clause 2.30 - RECTIFICATION PERIOD
- Period: 6 months from the date of practical completion of the Works.

Clause 2.34.3 - CONTRACTOR'S DESIGNED PORTION
- Limit of Contractor's liability for loss of use: Unlimited.

Clause 4.3 and 4.9 - FLUCTUATIONS PROVISION
- Fluctuations Provision: Does not apply.

Clause 4.7 - ADVANCE PAYMENT AND ADVANCE PAYMENT BOND
- Advance payment: Clause 4.7 does not apply.

Clause 4.8.1 - INTERIM PAYMENTS - INTERIM VALUATION DATES
- The first interim valuation date is: 23 November 2020, and thereafter the fourth Monday in each month or the nearest business day in that month.

Clause 4.9.1 - INTERIM PAYMENTS - PERCENTAGE OF VALUE
- Not achieved Practical Completion: Where the Works, or those works in a section, have not achieved Practical Completion, the percentage of total value in respect of the works that have not achieved practical completion is 95%.
- Completed works: Where the Works, or those works in a section, have achieved Practical Completion, the percentage in respect of the completed works is 97½%.

Clause 4.10.4 - LISTED ITEMS - UNIQUELY IDENTIFIED
- Listed items: Clause 4.10.4 will be deleted.

Clause 4.10.5 - LISTED ITEMS - NOT UNIQUELY IDENTIFIED
- Listed items: Clause 4.10.5 will be deleted.

Clause 6.4.1 - CONTRACTOR'S PUBLIC LIABILITY INSURANCE: INJURY TO PERSONS OR PROPERTY
- Insurance cover for any one occurrence or series of occurrences arising out of one event: £10,000,000.00.

Clause 6.5.1 - INSURANCE - LIABILITY OF EMPLOYER
- Insurance may be required.
- Minimum amount of indemnity for any one occurrence or series of occurrences arising out of one event: To be advised.

Clause 6.7 and Schedule 1 - WORKS INSURANCE - INSURANCE OPTIONS
- Schedule 1: Insurance option A applies.
- Percentage to cover professional fees: 18 per cent.
- If option A applies, annual renewal date: To be supplied by the Contractor.

Clause 6.10 and Schedule 1 - TERRORISM COVER
- Details of the required cover: Cover is not required.

Clause 6.15 - JOINT FIRE CODE
- The Joint Fire Code: Does not apply.

Clause 6.15 - JOINT FIRE CODE
- Joint Fire Code: Applies.
- Application: State whether the insurer under Insurance Option A, B or C (paragraph C.2) has specified that the Works are a 'Large Project': To be supplied by the Contractor.

Clause 6.18 - JOINT FIRE CODE - AMENDMENTS/ REVISIONS
- Joint Fire Code - Amendments/ revisions: The cost, if any, of compliance with amendments or revisions to the Joint Fire Code shall be borne by the Contractor.

Clause 6.19 - CONTRACTOR'S DESIGN PORTION - PROFESSIONAL INDEMNITY INSURANCE
- Level of cover: Amount of indemnity required:
  - relates to claims or series of claims arising out of one event;
  - and is £5,000,000.00.
- Cover for pollution and contamination claims: is not required.
- Expiry of required period of CDP Professional Indemnity Insurance: 12 years.

Clause 7.2.1 - PERFORMANCE BOND OR GUARANTEE
- Bond or guarantee from bank or other approved surety: May be required.
  - Required form: ABI Model Form of Guarantee Bond.
  - Initial value (percentage of the Contract Sum): 10%.
  - Period of validity: The date of Practical Completion of the Works.

Clause 7.3 - COLLATERAL WARRANTIES
- Conditions: Collateral warranties are required from the following sub-contractors or category of sub-contractors.
- Name or category: All Named Sub-Contractors and those sub-contractors having a significant design input, especially on the Contractor’s Designed Portion Works.
- Types of warranty: Sub-Contractor Collateral Warranty for the Employer (SCWa/E).
- Professional Indemnity Insurance: Level: Relates to claims or series of claims arising out of one event.
- Amount: £5,000,000.
- Period: 12 years.

Clause 8.9.2 - PERIOD OF SUSPENSION (TERMINATION BY CONTRACTOR)
- Period of suspension: 2 months.

Clauses 8.11.1.1 to 8.11.1.5 - PERIOD OF SUSPENSION (TERMINATION BY EITHER PARTY)
- Period of suspension: 2 months.

Clause 9.2.1 - ADJUDICATION
- The Adjudicator is: To be appointed by Nominating body.
- Nominating body - where no Adjudicator is named or where the named Adjudicator is unwilling or unable to act (whenever that is established): The Royal Institution of Chartered Surveyors.

THE CONDITIONS

SECTION 1: DEFINITIONS AND INTERPRETATION

SECTION 2: CARRYING OUT THE WORKS

SECTION 3: CONTROL OF THE WORKS

SECTION 4: PAYMENT

SECTION 5: VARIATIONS

SECTION 6: INJURY, DAMAGE AND INSURANCE

SECTION 7: ASSIGNMENT AND COLLATERAL WARRANTIES

SECTION 8: TERMINATION

SECTION 9: SETTLEMENT OF DISPUTES

EXECUTION
- The Contract: Will be executed as a Deed.

	Fixed	Time Related

A30 TENDERING/ SUBLETTING/ SUPPLY

MAIN CONTRACT TENDERING

110 SCOPE
- General: These conditions are supplementary to those stated in the Invitation to Tender and on the form of tender.

145 TENDERING PROCEDURE
- General: In accordance with the principles of JCT Tendering Practice Note 2012.
- Arithmetical errors: Alternative 2 is to apply is dominant.

160 EXCLUSIONS
- Inability to tender: Immediately inform if any parts of the work as defined in the tender documents cannot be tendered.
- Relevant parts of the work: Define those parts, stating reasons for the inability to tender.

170 ACCEPTANCE OF TENDER
- Acceptance: No guarantee is offered that any tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.
- Costs: No liability is accepted for any cost incurred in the preparation of any tender.

190 PERIOD OF VALIDITY
- Period: After submission or lodgement, keep tender open for consideration (unless previously withdrawn) for not less than 12 weeks.
- Date for possession/ commencement: See section A20.

195 CONTRACTOR'S DESIGN
- Scope: Undertake and take full responsibility for the design of the following parts of the Works:
  - The Mechanical and Electrical Services Installations.
- Drawings and supporting documentation: Submit with tender.

PRICING/ SUBMISSION OF DOCUMENTS

210 PRELIMINARIES IN THE SPECIFICATION
- Measurement rules: Preliminaries/ General Conditions have been prepared in accordance with SMM7.

220 PRICING OF PRELIMINARIES
- Charges: When pricing Preliminaries, identify separately for each item where, for the purpose of valuing the work, the charge for that item is considered to be:
  - Fixed (i.e. where the charge for the item does not depend on duration).
  - Time related (i.e. where the charge for the item is dependent on duration).

	Fixed	Time Related

250 PRICED DOCUMENTS
- Alterations: Do not alter or qualify the priced documents without written consent. Tenders containing unauthorised alterations or qualifications may be rejected.
- Measurements: Where not stated, ascertain from the drawings.
- Deemed included: Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.
- Submit: Within 2 working days of request.

300 QUANTITIES IN THE PRICED DOCUMENT
- Quantities: Where included in the priced document, these have been prepared in accordance with SMM7/ NRM2 only where and to the extent stated.
- Other items, descriptions and measurements not prepared in accordance with SMM7/ NRM2: Must be priced taking account of the information given elsewhere in the tender documents, including for all associated and ancillary work shown or clearly apparent as being necessary for the complete and proper execution of the work.

310 TENDER
- General: Tenders must include for all work shown or described in the tender documents as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

480 PROGRAMME
- Programme of work: Prepare a summary showing the sequence and timing of the principal parts of the Works and periods for planning and design. Itemize any work which is excluded.
- Submit: Within 2 working days of request.

515 ALTERNATIVE TIME TENDERS
- General: In addition to and at the same time as tendering based upon the date or period specified in section A20, an alternative tender based upon a different date for completion or period may be submitted.
- Date for completion: If any such tender is accepted the date for completion inserted in the Contract will be the date stated in the alternative tender or determined from the period stated in the alternative tender.

520 DESIGN DOCUMENTS
- Scope: Include the following in the Contractor's Proposals:
  - Design drawings: Initial design drawings in relation to the Mechanical and Electrical Services Installations.
  - Technical information: Summary of Tender Costs for both Mechanical & Electrical Installations broken down into specific sections, plus Schedules of Rates for the valuation of variations which must agree with the above summaries, plus all supporting technical information/brochures and calculations to confirm the proposed designs.
  - Submit: With tender.

	Fixed	Time Related

530 SUBSTITUTE PRODUCTS

- Details: If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions, which have not been notified at tender stage, may not be considered.
- **Pricing: Do not include the cost of substitute products within the tender but only the work shown or described in the tender documents.**
- Compliance: Substitutions accepted will be subject to the verification requirements of clause A31/200.

540 QUALITY CONTROL RESOURCES

- Statement: Describe the organisation and resources to control the quality of the Works, including the work of subcontractors.
- QA staff: Identify in the statement the number and type of staff responsible for quality control, with details of their qualifications and duties.
- Submit: Within 5 working days of request.

550 HEALTH AND SAFETY INFORMATION

- Content: Describe the organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- Include:
  - A copy of the health and safety policy document, including risk assessment procedures.
  - Accident and sickness records for the past five years.
  - Records of previous Health and Safety Executive enforcement action.
  - Records of training and training policy.
  - The number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- Submit: Within 5 working days of request.

570 OUTLINE CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

- Content: Submit the following information within one week of request:
  - Method statements on how risks from hazards identified in the pre-construction information and other hazards identified by the contractor will be addressed.
  - Details of the management structure and responsibilities.
  - Arrangements for issuing health and safety directions.
  - Procedures for informing other contractors and employees of health and safety hazards.
  - Selection procedures for ensuring competency of other contractors, the self-employed and designers.
  - Procedures for communications between the project team, other contractors and site operatives.
  - Arrangements for cooperation and coordination between contractors.
  - Procedures for carrying out risk assessment and for managing and controlling the risk.
  - Emergency procedures including those for fire prevention and escape.

	Fixed	Time Related
- Arrangements for ensuring that all accidents, illness and dangerous occurrences are recorded. - Arrangements for welfare facilities. - Procedures for ensuring that all persons on site have received relevant health and safety information and training. - Arrangements for consulting with and taking the views of people on site. - Arrangements for preparing site rules and drawing them to the attention of those affected and ensuring their compliance. - Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. - Review procedures to obtain feedback.		
SUBLETTING/ SUPPLY		
630 DOMESTIC SUBCONTRACTS - General: Comply with the Construction Industry Board 'Code of Practice for the selection of subcontractors'. - List: Provide details of all subcontractors and the work for which they will be responsible. - Submit: Within 5 working days of request.		

	Fixed	Time Related

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

DEFINITIONS AND INTERPRETATIONS

110 DEFINITIONS
- Meaning: Terms, derived terms and synonyms used in the preliminaries/ general conditions and specification are as stated here or in the appropriate referenced document.

120 COMMUNICATION
- Definition: Includes advise, inform, submit, give notice, instruct, agree, confirm, seek or obtain information, consent or instructions, or make arrangements.
- Format: In writing to the person named in clause A10/140, unless otherwise specified.
- Response: Do not proceed until response has been received.

130 PRODUCTS
- Definition: Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
- Includes: Goods, plant, materials, site materials and things for incorporation into the Works.

135 SITE EQUIPMENT
- Definition: Apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
- Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.
- Excludes: Products and equipment or anything intended to form or forming part of the permanent works.

140 DRAWINGS
- Definitions: To BSRIA BG 6, ‘A design framework for building services: Design activities and drawing definitions’.
- CAD data: In accordance with ISO 19650.

150 CONTRACTOR'S DESIGNED PORTION
- Meaning: Design to be carried out or completed by the Contractor and supported by appropriate contractual arrangements, to correspond with specified requirements.

155 SUBMIT PROPOSALS
- Meaning: Submit information in response to specified requirements.

160 TERMS USED IN SPECIFICATION
- Fix: Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging To include all labour, materials and site equipment for that purpose.
- Supply and fix: As above, but including supply of products, components or systems to be fixed, together with everything

	Fixed	Time Related

necessary for their fixing. All products, components or systems are to be supplied and fixed unless stated otherwise.
Make secure, sound and neat. Excludes redecoration and/ or replacement.
- Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.
- System: Equipment, accessories, controls, supports and ancillary items (including installation) necessary for that section of the work to function.
 	
170 MANUFACTURER AND PRODUCT REFERENCE
- Definition: When used in this combination:
  - Manufacturer: the person or legal entity under whose name or trademark the particular product, component or system is marketed.
  - Product reference: the proprietary brand name and/ or identifier by which the particular product, component or system is described.
- Currency: References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.
 	
200 SUBSTITUTION OF PRODUCTS
- Products: If an alternative product to that specified is proposed, obtain approval before ordering the product.
- Reasons: Submit reasons for the proposed substitution.
- Documentation: Submit relevant information, including:
  - manufacturer and product reference;
  - cost;
  - availability;
  - relevant standards;
  - performance;
  - function;
  - compatibility of accessories;
  - proposed revisions to drawings and specification;
  - compatibility with adjacent work;
  - appearance;
  - copy of warranty/ guarantee.
- Alterations to adjacent work: If needed, advise scope, nature and cost.
- Manufacturers' guarantees: If substitution is accepted, submit before ordering products.
 	
220 REFERENCED DOCUMENTS
- Conflicts: Specification prevails over referenced documents.
 	
250 CURRENCY OF DOCUMENTS AND INFORMATION
- Currency: References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.
 	
260 SIZES
- General dimensions: Products are specified by their co-ordinating sizes.
- Timber: Cross section dimensions shown on drawings are:		

	Fixed	Time Related

- Target sizes as defined in BS EN 336 for structural softwood and hardwood sections.
- Finished sizes for non-structural softwood or hardwood sawn and further processed sections.
 	
DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER
 	
410 ADDITIONAL COPIES OF THE DRAWINGS/ DOCUMENTS
- Additional copies: Two of each contract drawing and contract document will be issued free of charge (not counting any certified copies).
 	
440 DIMENSIONS
- Scaled dimensions: Do not rely on.
 	
460 THE SPECIFICATION
- Coordination: All sections must be read in conjunction with Main Contract Preliminaries/ General conditions.
 	
470 DIVERGENCE FROM THE STATUTORY REQUIREMENTS
- Divergence: Between the drawings or specification and the requirements of the Building Regulations, other Statutes, statutory undertakers and other regulatory authorities.
- Action: Inform the CA immediately.
 	
DOCUMENTS PROVIDED BY CONTRACTOR/ SUBCONTRACTORS/ SUPPLIERS
 	
510 CHANGES/ AMENDMENTS TO EMPLOYER'S REQUIREMENTS
- Contractor’s changes to Employer's Requirements: Support request for substitution or variation with all relevant information.
- Employer’s amendments to Employer’s Requirements: If considered to involve a variation, which has not already been acknowledged as a variation, notify without delay (maximum period 7 days), and do not proceed until instructed. Claims for extra cost, if made after the variation has been carried out, may not be allowed.
- Submit: At least 10 working days prior to installation of substituted work.
 	
600 CONTRACTOR'S DESIGNED PORTION INFORMATION
- General: Complete the design and detailing of parts of the Works as specified.
- Provide:
  - Production information based on the drawings, specification and other information.
  - Liaison to ensure coordination of the work with related building elements and services.
- Master programme: Make reasonable allowance for completing design/ production information, submission (including information relevant to the CDM Regulations), comment, inspection, amendment, resubmission and re-inspection.
- Submit: Within 5 working days of request.		

	Fixed	Time Related

620 AS BUILT DRAWINGS AND INFORMATION
- Contractor designed work: Provide as built drawings/ information for inclusion within the Building Manual.
- Submit: At least two weeks before date for completion.
 	
630 TECHNICAL LITERATURE
- Information: Keep on site for reference by all supervisory personnel:
  - Manufacturers' current literature relating to all products to be used in the Works.
  - Relevant British Standards.
 	
640 MAINTENANCE INSTRUCTIONS AND GUARANTEES
- Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.
- Information location: In the Building Manual.
- Emergency call out services: Provide telephone numbers for use after completion.		

	Fixed	Time Related

A32 MANAGEMENT OF THE WORKS

GENERALLY

110 SUPERVISION
- General: Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.
- Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

118 VEHICLE SAFETY REQUIREMENTS
- Vehicle equipment: Ensure that all vehicles have the following:
  - Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation.
  - Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.
  - Properly adjusted class VI mirror/s or Fresnel lens to eliminate the nearside blind spot.
  - Side under run guards.
- Driver training:
  - Drivers must be trained on vulnerable road user safety through an approved course and hold a current valid Certificate of Competence.
  - Drivers must have a valid driving licence and be legally able to drive the vehicle.

120 INSURANCE
- Documentary evidence: Submit details before starting work on site and/ or policies and receipts for the insurances required by the Conditions of Contract.

130 INSURANCE CLAIMS
- Notice: If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the employer/ client, the person administering the Contract on their behalf and the Insurers.
- Failure to notify: Indemnify the employer/ client against any loss, which may be caused by failure to give such notice.

140 CLIMATIC CONDITIONS
- Information: Record accurately and retain:
  - Daily maximum and minimum air temperatures (including overnight).
  - Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

150 OWNERSHIP
- Alteration/ clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

	Fixed	Time Related

PROGRAMME/ PROGRESS

210 PROGRAMME

- Master programme: When requested and before starting work on site, submit in an approved form a master programme for the Works, which must include details of:
  - Design, production information and proposals provided by the Contractor/ Subcontractors/ Suppliers, including inspection and checking (see section A31).
  - Planning and mobilization by the Contractor.
  - Earliest and latest start and finish dates for each activity and identification of all critical activities.
  - Running in, adjustment, commissioning and testing of all engineering services and installations.
  - Work resulting from instructions issued in regard to the expenditure of provisional sums (see section A54).
  - Work by or on behalf of the Employer and concurrent with the Contract (see section A50). The nature and scope of which, the relationship with preceding and following work and any relevant limitations are suitably defined in the Contract Documents.
- Exclusions: Where and to the extent that the programme implications for work which is not so defined are impossible to assess, the Contractor should exclude it and confirm this when submitting the programme.
- Submit: 1 hard copy and an electronic version is required.

230 SUBMISSION OF PROGRAMME

- Further information: Submission of the programme will not relieve the Contractor of the responsibility to advise of the need for further drawings or details or instructions in accordance with the Contract.

240 NOTICE OF COMMENCEMENT OF WORK

- Notice period (minimum): Before the proposed date for commencement of work on site give minimum notice of 5 working days.

250 MONITORING

- Progress: Record on a copy of the programme kept on site.
- Avoiding delays: If any circumstances arise which may affect the progress of the Works submit proposals or take other action as appropriate to minimize any delay and to recover any lost time.

260 SITE MEETINGS

- General: Site meetings will be held to review progress and other matters arising from administration of the Contract.
- Frequency: Monthly.
- Location: On site.
- Accommodation: Ensure availability at the time of such meetings.
- Attendees: Attend meetings and inform subcontractors and suppliers when their presence is required.
- Chairperson (who will also take and distribute minutes): CA.

	Fixed	Time Related

265 CONTRACTOR'S PROGRESS REPORT
- General: Submit a progress report at least 2 working days before the site meeting.
- Content: Notwithstanding the Contractor's obligations under the Contract the report must include:
  - A progress statement by reference to the master programme for the Works.
  - Details of any matters materially affecting the regular progress of the Works.
  - Subcontractors' and suppliers' progress reports.
  - Any requirements for further drawings or details or instructions.

285 PARTIAL POSSESSION BY EMPLOYER
- Clause 2.25 of Conditions of Contract: Ensure all necessary access, services and other associated facilities are also complete.

290 NOTICE OF COMPLETION
- Requirement: Give notice of the anticipated dates of completion of the whole or parts of the Works.
- Associated works: Ensure necessary access, services and facilities are complete.
- Period of notice (minimum): 10 working days.

310 EXTENSIONS OF TIME
- Notice: When a notice of the cause of any delay or likely delay in the progress of the Works is given under the Contract, written notice must also be given of all other causes which apply concurrently.
- Details: As soon as possible, submit:
  - Relevant particulars of the expected effects, if appropriate related to the concurrent causes.
  - An estimate of the extent, if any, of the expected delay in the completion of the Works beyond the Date for Completion.
  - All other relevant information required.

CONTROL OF COST

410 CASH FLOW FORECAST
- Submission: Before starting work on site submit a forecast showing the gross valuation of the Works at the date of each Interim Certificate throughout the Contract period and based upon the programme for the Works.

430 PROPOSED INSTRUCTIONS
- Estimates: If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.
- Include:
  - A detailed breakdown of the cost, including any allowance for direct loss and expense.
  - Details of any additional resources required.
  - Details of any adjustments to be made to the programme for the Works.
  - Any other information as is reasonably necessary to fully assess the implications of issuing such an instruction.

	Fixed	Time Related

- Inability to comply: Inform immediately if it is not possible to comply with any of the above requirements.
 	
440 MEASUREMENT
- Covered work: Give notice before covering work required to be measured.
 	
450 DAYWORK VOUCHERS
- Before commencing work: Give reasonable notice to person countersigning daywork vouchers.
- Content: Before delivery, each voucher must be:
  - Referenced to the instruction under which the work is authorized.
  - Signed by the Contractor's person in charge as evidence that the operatives' names, the time daily spent by each and the equipment and products employed are correct.
- Submit: No later than the end of the week following that in which the work has been recorded.
 	
460 INTERIM VALUATIONS
- Applications: Include details of amounts requested under the Contract together with all necessary supporting information.
- Submission: At least seven days before established dates.
 	
470 PRODUCTS NOT INCORPORATED INTO THE WORKS
- Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
- Evidence: When requested, provide evidence of freedom of reservation of title.
 	
480 LABOUR AND EQUIPMENT RETURNS
- Records: Provide for verification at the beginning of each week in respect of each of the previous seven days.
- Records must show:
  - The number and description of craftsmen, labourers and other persons directly or indirectly employed on or in connection with the Works or Services, including those employed by subcontractors.
  - The number, type and capacity of all mechanical, electrical and power-operated equipment employed in connection with the Works or Services.		

	Fixed	Time Related

A33 QUALITY STANDARDS/ CONTROL

STANDARDS OF PRODUCTS AND EXECUTIONS

110 INCOMPLETE DOCUMENTATION
- General: Where and to the extent that products or work are not fully documented, they are to be:
  - Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
  - Suitable for the purposes stated or reasonably to be inferred from the project documents.
- Contract documents: Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

120 WORKMANSHIP SKILLS
- Operatives: Appropriately skilled and experienced for the type and quality of work.
- Registration: With Construction Skills Certification Scheme.
- Evidence: Operatives must produce evidence of skills/ qualifications when requested.

130 QUALITY OF PRODUCTS
- Generally: New. (Proposals for recycled products may be considered).
- Supply of each product: From the same source or manufacturer.
- Whole quantity of each product required to complete the Works: Consistent in kind, size, quality and overall appearance.
- Tolerances: Where critical, measure a sufficient quantity to determine compliance.
- Deterioration: Prevent. Order in suitable quantities to a programme and use in appropriate sequence.

135 QUALITY OF EXECUTION
- Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- Colour batching: Do not use different colour batches where they can be seen together.
- Dimensions: Check on-site dimensions.
- Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- Location and fixing of products: Adjust joints open to view so they are even and regular.

140 EVIDENCE OF COMPLIANCE
- Proprietary products: Retain on site evidence that the proprietary product specified has been supplied.
- Performance specification: Submit evidence of compliance, including test reports indicating:
  - Properties tested.
  - Pass/ fail criteria.
  - Test methods and procedures.
  - Test results.
  - Identity of testing agency.
  - Test dates and times.

	Fixed	Time Related
- Identities of witnesses. - Analysis of results. 150 INSPECTIONS - Products and executions: Inspection or any other action must not be taken as approval unless confirmed in writing referring to: - Date of inspection. - Part of the work inspected. - Respects or characteristics which are approved. - Extent and purpose of the approval. - Any associated conditions. 160 RELATED WORK - Details: Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is: - Appropriately complete. - In accordance with the project documents. - To a suitable standard. - In a suitable condition to receive the new work. - Preparatory work: Ensure all necessary preparatory work has been carried out. 170 MANUFACTURER'S RECOMMENDATIONS/ INSTRUCTIONS - General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender. - Exceptions: Submit details of changes to recommendations or instructions. - Execution: Use ancillary products and accessories supplied or recommended by main product manufacturer. - Products: Comply with limitations, recommendations and requirements of relevant valid certificates. 180 WATER FOR THE WORKS - Mains supply: Clean and uncontaminated. - Other: Do not use until: - Evidence of suitability is provided. - Tested to BS EN 1008 if instructed. **SAMPLES/ APPROVALS** 210 SAMPLES - Products or executions: Comply with all other specification requirements and in respect of the stated or implied characteristics either: - To an express approval. - To match a sample expressly approved as a standard for the purpose. 220 APPROVAL OF PRODUCTS - Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme. - Approval: Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.		

	Fixed	Time Related
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.		
230 APPROVAL OF EXECUTION - Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme. - Approval: Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed. - Complying sample: Retain in good, clean condition on site. Remove when no longer required.		
ACCURACY/ SETTING OUT GENERALLY		
320 SETTING OUT - General: Submit details of methods and equipment to be used in setting out the Works. - Levels and dimensions: Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding. - Inform: When complete and before commencing construction.		

330 APPEARANCE AND FIT
- Tolerances and dimensions: If likely to be critical to execution or difficult to achieve, as early as possible either:
  - Submit proposals; or
  - Arrange for inspection of appearance of relevant aspects of partially finished work.
- General tolerances (maximum): To BS 5606, tables 1 and 2.		

340 CRITICAL DIMENSIONS - Critical dimensions: Set out and construct the Works to ensure compliance with the tolerances stated.		
360 RECORD DRAWINGS - Site setting out drawing: Record details of all grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the Contract and hand over on completion.		
SERVICES GENERALLY		
410 SERVICES REGULATIONS - New or existing services: Comply with the Byelaws or Regulations of the relevant Statutory Authority.		
420 WATER REGULATIONS/ BYELAWS NOTIFICATION - Requirements: Notify Water Undertaker of any work carried out to or which affects new or existing services and submit any required plans, diagrams and details. - Consent: Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.		

	Fixed	Time Related

430 WATER REGULATIONS/ BYELAWS CONTRACTOR'S CERTIFICATE

- On completion of the work: Submit (copy where also required to the Water Undertaker) a certificate including:
  - The address of the premises.
  - A brief description of the new installation and/ or work carried out to an existing installation.
  - The Contractor's name and address.
  - A statement that the installation complies with the relevant Water Regulations or Byelaws.
  - The name and signature of the individual responsible for checking compliance.
  - The date on which the installation was checked.

435 ELECTRICAL INSTALLATION CERTIFICATE

- Submit: When relevant electrical work is completed.
- Original certificate: To be lodged in the Building Manual.

445 SERVICE RUNS

- General: Provide adequate space and support for services, including unobstructed routes and fixings.
- Ducts, chases and holes: Form during construction rather than cut.
- Coordination with other works: Submit details of locations, types/ methods of fixing of services to fabric and identification of runs and fittings.

450 MECHANICAL AND ELECTRICAL SERVICES

- Final tests and commissioning: Carry out so that services are in full working order at completion of the Works.
- Building Regulations notice: Copy to be lodged in the Building Manual.

SUPERVISION/ INSPECTION/ DEFECTIVE WORK

510 SUPERVISION

- General: In addition to the constant management and supervision of the Works provided by the Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.
- Evidence: Submit, including details of the person proposed, their relevant skills training and knowledge; practical experience; qualifications; membership or registration with professional bodies; employment history, work related assessments and management structure.
- Replacement: Give maximum possible notice before changing person in charge or site agent.

520 COORDINATION OF ENGINEERING SERVICES

- Suitability: Site organisation staff must include one or more persons with appropriate knowledge and experience of mechanical and electrical engineering services to ensure compatibility between engineering and the Works generally.

	Fixed	Time Related
- Evidence: Submit when requested CVs or other documentary evidence relating to the staff concerned.		
525 ACCESS - Extent: Provide at all reasonable times access to the Works and to other places of the Contractor or subcontractors where work is being prepared for the Contract.		
530 OVERTIME WORKING - Notice: Prior to overtime being worked, submit details of times, types and locations of work to be done. - Minimum period of notice: 1 working day. - Concealed work: If executed during overtime for which notice has not been given, it may be required to be opened up for inspection and reinstated at the Contractor's expense. - Agreement: Any agreement by the Employer for overtime to be worked shall not incur any additions to the Contract Sum.		
550 ACCESS FOR INSPECTION - Removal: Before removing scaffolding or other facilities for access, give notice of not less than 3 working days.		
560 TESTS AND INSPECTIONS - Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented. - Confirmation: Two working days prior to each such test or inspection. If sample or test is not ready, agree a new date/time. - Records: Submit a copy of test certificates and retain copies on site.		
570 AIR PERMEABILITY - Testing organisation: UKAS Accredited and registered with the Air Tightness Testing and Measurement Association (ATTMA) or the Independent Air Tightness Testing Scheme (iATS). - Method: Pressure test in accordance with ATTMA Technical Standard L2 (Non-Dwellings). - Standard: Design Air tightness value (maximum) 5m³/(h.m²). - Results: - Content: Include test results and all supporting data. - Copies: Required for building control inspection and inclusion in Building Manual. - Electronic deposit: Through the ATTMA lodgement database. - Additional copies: Provide on request.		
580 CONTINUITY OF THERMAL INSULATION - Record and report: Confirm that work to new, renovated or upgraded thermal elements has been carried out to conform to specification. Include: - The address of the premises. - The Contractor's name and address. - The name, qualification and signature of the competent person responsible for checking compliance. - The date on which the installation was checked. - Submit: Before completion of the Works. - Copy: To be lodged in the Building Manual.		

	Fixed	Time Related

595 ENERGY PERFORMANCE CERTIFICATE
- Assessment: To be produced by a specialist consultant appointed by the Employer.

610 PROPOSALS FOR RECTIFICATION OF DEFECTIVE PRODUCTS/ EXECUTIONS
- Proposals: Immediately any execution or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
- Acceptability: Such proposals may be unacceptable and contrary instructions may be issued.

620 MEASURES TO ESTABLISH ACCEPTABILITY
- General: Wherever inspection or testing shows that the work, materials or goods are not in accordance with the contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures:
  - Will be at the expense of the Contractor.
  - Will not be considered as grounds for revision to the completion date.

630 QUALITY CONTROL
- Procedures: Establish and maintain to ensure that the Works, including the work of subcontractors, comply with specified requirements.
- Records: Maintain full records, keep copies on site for inspection, and submit copies on request.
- Content of records:
  - Identification of the element, item, batch or lot including location in the Works.
  - Nature and dates of inspections, tests and approvals.
  - Nature and extent of nonconforming work found.
  - Details of corrective action.

WORK AT OR AFTER COMPLETION

710 WORK BEFORE COMPLETION
- General: Make good all damage consequent upon the Works.
  - Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.
- Cleaning: Clean the Works thoroughly inside and out, including all accessible ducts and voids. Remove all splashes, deposits, efflorescence, rubbish and surplus materials.
- Cleaning materials and methods: As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- COSHH dated data sheets: Obtain for all materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- Minor faults: Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.

	Fixed	Time Related
- Moving parts of new work: Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.		
720 SECURITY AT COMPLETION - General: Leave the Works secure with, where appropriate, all accesses closed and locked. - Keys: Account for and adequately label all keys and hand over together with an itemized schedule, retaining duplicate schedule signed as a receipt.		
730 MAKING GOOD DEFECTS - Remedial work: Arrange access with Employer. - Rectification: Give reasonable notice for access to the various parts of the Works. - Completion: Notify when remedial works have been completed.		

740 HIGHWAY/ SEWER ADOPTION
- Work to be adopted under the Highways Act, section 38, or the Roads (Scotland) Act, sections 16-18, or the Water Industry Act, section 104.
- Work for adoption must be:
  - Completed by the Contractor to the satisfaction of the Highway/ Sewer Authorities before the certificate stating that the works are complete is issued.
  - Subject to a defects liability/ rectification period of 12 months (see Appendix to the Contract/ contract particulars).
  - Maintained during the defects liability/ rectification period, including making good of damage due to reasonable wear and tear occurring during the period, and cleaning at the end of the period, all to the satisfaction of the Highway/ Sewer Authorities.		

	Fixed	Time Related

A34 SECURITY/ SAFETY/ PROTECTION

SECURITY, HEALTH AND SAFETY

110 PRECONSTRUCTION INFORMATION
- Location: Integral with the project Preliminaries, including but not restricted to the following sections:
  - Description of project: Sections A10 and A11.
  - Client's consideration and management requirements: Sections A12, A13 and A36.
  - Environmental restrictions and on-site risks: Section A12, A35 and A34.
  - Significant design and construction hazards: Section A34.
  - The Health and Safety File: Section A37.

120 EXECUTION HAZARDS
- Common hazards: Not listed. Control by good management and site practice.

130 PRODUCT HAZARDS
- Hazardous substances: Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Workplace Exposure Limits.
- Common hazards: Not listed. Control by good management and site practice.

140 CONSTRUCTION PHASE HEALTH AND SAFETY PLAN
- Submission: Present to the Employer/ Client no later than two weeks before commencement of work on site.
- Confirmation: Do not start construction work until the Employer has confirmed in writing that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by CDM Regulations.
- Content: Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan, clause A30/570, and the Pre-tender Health and Safety Plan/ Preconstruction information.

150 SECURITY
- Protection: Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
- Access: Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

160 STABILITY
- Responsibility: Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- Design loads: Obtain details, support as necessary and prevent overloading.

210 SAFETY PROVISIONS FOR SITE VISITS
- Safety: Submit details in advance of safety provisions and procedures (including those relating to materials, which may be

	Fixed	Time Related

deleterious), which will require their compliance when visiting the site.
- Protective clothing and/ or equipment: Provide and maintain on site for other visitors to the site.
 	
PROTECT AGAINST THE FOLLOWING
 	
330 NOISE AND VIBRATION
- Standard: Comply with the recommendations of BS 5228-1, in particular clause 7.3, to minimize noise levels during the execution of the Works.
- Equipment: Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
- Restrictions: Do not use:
  - Percussion tools and other noisy appliances outside the stated Working Hours without the consent of the Employer.
  - Radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.
 	
340 POLLUTION
- Prevention: Protect the site, the Works and the general environment including the atmosphere, land, streams and waterways against pollution.
- Contamination: If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.
 	
350 PESTICIDES
- Use: Not permitted.
 	
360 NUISANCE
- Duty: Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- Surface water: Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.
 	
370 ASBESTOS CONTAINING MATERIALS
- Duty: Report immediately any suspected materials discovered during execution of the Works.
  - Do not disturb.
  - Agree methods for safe removal or encapsulation.
 	
371 DANGEROUS OR HAZARDOUS SUBSTANCES
- Duty: Report immediately suspected materials discovered during execution of the Works.
  - Do not disturb.
  - Agree methods for safe removal or remediation.
 	
375 ANTIQUITIES
- Duty: Report immediately any fossils, antiquities and other objects of interest or value discovered during execution of the works.
- Preservation: Keep objects in the exact position and condition in which they were found.		

	Fixed	Time Related

380 FIRE PREVENTION
- Duty: Prevent personal injury or death, and damage to the Works or other property from fire.
- Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by Construction Industry Publications and The Fire Protection Association (The 'Joint Fire Code').

390 SMOKING ON SITE
- Smoking on site: Not permitted except within designated areas.

400 BURNING ON SITE
- Burning on site: Not permitted.

410 MOISTURE
- Wetness or dampness: Prevent, where this may cause damage to the Works.
- Drying out: Control humidity and the application of heat to prevent:
  - Blistering and failure of adhesion.
  - Damage due to trapped moisture.
  - Excessive movement.

430 WASTE
- Includes: Rubbish, debris, spoil, surplus material, containers and packaging.
- General: Minimize production. Prevent accumulations. Keep the site and Works clean and tidy.
- Handling: Collect and store in suitable containers. Remove frequently and dispose off site in a safe and competent manner:
  - Non-hazardous material: In a manner approved by the Waste Regulation Authority.
  - Hazardous material: As directed by the Waste Regulation Authority and in accordance with relevant regulations.
- Recyclable material: Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.
- Waste transfer documentation: Retain on site.

440 ELECTROMAGNETIC INTERFERENCE
- Duty: Prevent excessive electromagnetic disturbance to apparatus outside the site.

450 LASER EQUIPMENT
- Construction laser equipment: Install, use and store in accordance with BS EN 60825-1 and the manufacturer's instructions.
- Class 1 or Class 2 laser equipment: Ensure laser beam is not set at eye level and is terminated at the end of its useful path.
- Class 3A and Class 3B laser equipment: Do not use without approval and subject to submission of a method statement on its safe use.

460 POWDER ACTUATED FIXING SYSTEMS
- Use: Not permitted.

	Fixed	Time Related

470 INVASIVE SPECIES
- General: Prevent the spread of species (e.g. plants or animals) that may adversely affect the site or Works economically, environmentally or ecologically.
- Duty: Report immediately any suspected species discovered during execution of the Works.
  - Do not disturb.
  - Agree methods for safe eradication or removal.

PROTECT THE FOLLOWING

510 EXISTING SERVICES
- Confirmation: Notify all service authorities, statutory undertakers and/ or adjacent owners of proposed works not less than one week before commencing site operations.
- Identification: Before starting work, check and mark positions of utilities/ services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.
- Work adjacent to services:
  - Comply with service authority's/ statutory undertaker's recommendations.
  - Adequately protect, and prevent damage to services: Do not interfere with their operation without consent of service authorities/ statutory undertakers or other owners.
- Identifying services:
  - Below ground: Use signboards, giving type and depth;
  - Overhead: Use headroom markers.
- Damage to services: If any results from execution of the Works:
  - Immediately give notice and notify appropriate service authority/ statutory undertaker.
  - Make arrangements for the work to be made good without delay to the satisfaction of service authority/ statutory undertaker or other owner as appropriate.
  - Any measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- Marker tapes or protective covers: Replace, if disturbed during site operations to service authority's/ statutory undertakers recommendations.

520 ROADS AND FOOTPATHS
- Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner.

530 EXISTING TOPSOIL/ SUBSOIL
- Duty: Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.
- Protection: Before starting work submit proposals for protective measures.

	Fixed	Time Related

540 RETAINED TREES/ SHRUBS/ GRASSED AREAS
- Protection: Preserve and prevent damage, except those not required.
- Replacement: Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

550 RETAINED TREES
- Protected area: Unless agreed otherwise do not:
  - Dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk.
  - Sever roots exceeding 25 mm in diameter. If unintentionally severed give notice and seek advice.
  - Change level of ground within an area 3 m beyond branch spread.

555 WILD LIFE SPECIES AND HABITATS
- Protected habitats and species: Upon discovery immediately advise. Do not proceed until instruction is received.
- Education: Ensure employees and visitors to the site receive suitable instruction and awareness training.

560 EXISTING FEATURES
- Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

625 ADJOINING PROPERTY RESTRICTIONS
- Precautions:
  - Prevent trespass of workpeople and take precautions to prevent damage to adjoining property.
  - Pay all charges.
  - Remove and make good on completion or when directed.
- Damage: Bear cost of repairing damage arising from execution of the Works.

	Fixed	Time Related
A35 SPECIFIC LIMITATIONS ON METHOD/ SEQUENCE/ TIMING		
110 SCOPE - General: The limitations described in this section are supplementary to limitations described or implicit in information given in other sections or on the drawings.		
140 SCAFFOLDING - Scaffolding: Make available to subcontractors and others at all times.		
170 WORKING HOURS - Specific limitations: 8.00am to 6.00pm Monday to Friday and 8.00am to 1.00pm on Saturday. Work on Sundays will be by prior agreement with the Employer. These times are subject to any condition that may be contained within a future consent.		
	To Collection	

	Fixed	Time Related

A36 FACILITIES/ TEMPORARY WORKS/ SERVICES

GENERALLY

110 SPOIL HEAPS, TEMPORARY WORKS AND SERVICES
- Location: Give notice of intended siting.
- Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

ACCOMMODATION

210 ROOM FOR MEETINGS
- Facilities: Provide suitable temporary accommodation for site meetings, adequately heated and lit. The room may be part of the Contractor's own site offices.
- Furniture and Equipment: Provide table and chairs for 10 people.

230 TEMPORARY ACCOMMODATION
- Proposals for temporary accommodation and storage for the Works: Submit two weeks prior to starting on site.
- Details to be included: Type of accommodation and storage, its siting and the programme for site installation and removal.

260 SANITARY ACCOMMODATION
- Requirement: Provide sanitary accommodation for the Employer and other members of the consultant team, either separate or shared with the Contractor’s supervisory staff. Maintain in clean condition and provide all consumables.

TEMPORARY WORKS

340 NAME BOARDS/ ADVERTISEMENTS
- General: Obtain approval, including statutory consents, and provide a temporary name board displaying:
  - Title of project: Wording to be agreed with the Employer.
  - Name of Employer.
  - Names of Consultants.
  - Names of Contractor and significant Subcontractors.

SERVICES AND FACILITIES

410 LIGHTING
- Finishing work and inspection: Provide temporary lighting, the intensity and direction of which closely resembles that delivered by the permanent installation.

440 MOBILE TELEPHONES
- Direct communication: As soon as practicable after the start on site:
  - provide the Contractor's person in charge with a mobile telephone.
  - pay all charges reasonably incurred.

	Fixed	Time Related

470 E-MAIL AND INTERNET FACILITY

- General: As soon as practicable after the start on site provide a suitable e-mail facility on site, with a separate dedicated telephone line, for the use of the Contractor, Subcontractors and other members of the project team.

520 USE OF PERMANENT HEATING SYSTEM

- Permanent heating installation: May be used with the prior approval of the Employer for drying out the Works and controlling temperature and humidity levels.
- Installation: If used:
  - Take responsibility for operation, maintenance and remedial work.
  - Arrange supervision by and indemnification of the appropriate Subcontractors.
  - Pay all costs arising based on meter readings.

530 BENEFICIAL USE OF INSTALLED SYSTEMS

- Permanent systems: Unless specific permission is given by the Employer and installer, do not use for any purpose other than running in, testing and commissioning.
- Other uses: If permission is given for any other use of a system before the Works are accepted as complete it must be subject to a separate written agreement recording details of the terms and conditions of use.

540 METER READINGS

- Charges for service supplies: Where to be apportioned ensure that:
  - Meter readings are taken by relevant authority at possession and/ or completion as appropriate.
  - Copies of readings are supplied to interested parties.

550 THERMOMETERS

- General: Provide on site and maintain in accurate condition a maximum and minimum thermometer for measuring atmospheric shade temperature, in an approved location.

570 PERSONAL PROTECTIVE EQUIPMENT

- General: Provide for the sole use of other members of the project team, in sizes to be specified:
  - Safety helmets to BS EN 397, neither damaged nor time expired. Number required: 4 nr.
  - High visibility waistcoats to BS EN ISO 20471 Class 2. Number required: 4 nr.
  - Safety boots with steel insole and toecap to BS EN ISO 20345. Pairs required: 4 nr, sizes to be agreed.

	Fixed	Time Related

A37 OPERATION/ MAINTENANCE OF THE FINISHED WORKS

GENERALLY

110 THE BUILDING MANUAL

- Purpose: The Manual is to be a comprehensive information source and guide for owners and users of the completed Works. It should provide an overview of the main design principles and describe key components and systems to enable proper understanding, efficient and safe operation and maintenance.
- Scope:
  - Part 1: General: Content as clause 120.
  - Part 2: Fabric: Content as clause 130.
  - Part 3: Services: Content as clause 140.
  - Part 4: The Health and Safety File: Content as clause 150.
- Responsibility: The Building Manual is to be produced by the Contractor.
- Compilation:
  - Prepare all information for Contractor designed or performance specified work including as-built drawings.
  - Obtain or prepare all other information to be included in the Manual.
- Reviewing the Manual: Submit a complete draft. Amend in the light of any comments and resubmit. Do not proceed with production of the final copies until authorized.
- Final copies of the Manual:
  - Number of copies: 1 hard copy plus an electronic in full.
- Latest date for submission: 5 working days before the Date for Completion of the Works stated in the contract.
- As-built drawings and schedules:
  - Number of copies: 1 hard copy plus an electronic version of all as-build drawings to be clearly marked “As Built”, with a fully indexed schedule of all the drawings.
  - Format: Hard copies to be on paper folded to A4 size.

120 CONTENT OF THE BUILDING MANUAL PART 1: GENERAL

- Content: Obtain and provide the following, including all relevant details not included in other parts of the manual:
- Index: list the constituent parts of the manual, together with their location in the document.
- The Works:
  - Description of the buildings and facilities.
  - Ownership and tenancy, where relevant.
  - Health and Safety information - other than that specifically required by the Construction (Design and Management) Regulations.
- The Contract:
  - Names and addresses and contact details of all significant consultants, contractors, subcontractors, suppliers and manufacturers.
  - Overall design criteria.
  - Environmental performance requirements.
  - Relevant authorities, consents and approvals.
  - Third party certification, such as those made by ‘competent’ persons in accordance with the Building Regulations.

	Fixed	Time Related

- Operational requirements and constraints of a general nature:
  - Maintenance contracts and contractors.
  - Fire safety strategy for the buildings and the site. Include drawings showing emergency escape and fire appliance routes, fire resisting doors, location of emergency alarm and fire fighting systems, services, shut off valves, switches, etc.
  - Emergency procedures and contact details in case of emergency.
- Description and location of other key documents.
 	
130 CONTENT OF THE BUILDING MANUAL PART 2: BUILDING FABRIC
- Content: Obtain and Provide the following, including all relevant details not included in other parts of the manual:
- Detailed design criteria, including:
  - Floor and roof loadings.
  - Durability of individual components and elements.
  - Loading restrictions.
  - Insulation values.
  - Fire ratings.
  - Other relevant performance requirements.
  - Construction of the building:
  - A detailed description of methods and materials used.
  - As-built drawings recording the construction, together with an index.
  - Information and guidance concerning repair, renovation or demolition/ deconstruction.
- Periodic building maintenance guide chart.
- Inspection reports.
- Manufacturer's instructions index, including relevant COSHH data sheets and recommendations for cleaning, repair and maintenance of components.
- Fixtures, fittings and components schedule and index.
- Guarantees, warranties and maintenance agreements - obtain from manufacturers, suppliers and subcontractors.
- Test certificates and reports required in the specification or in accordance with legislation, including:
  - Air permeability.
  - Resistance to passage of sound.
  - Continuity of insulation.
  - Electricity and Gas safety.
 	
140 CONTENT OF THE BUILDING MANUAL PART 3: BUILDING SERVICES
- Content: Obtain and provide the following, including all relevant details not included in other parts of the manual:
- Detailed design criteria and description of the systems, including:
  - Services capacity, loadings and restrictions
  - Services instructions.
  - Services log sheets.
  - Manufacturers' instruction manuals and leaflets index.
  - Fixtures, fittings and component schedule index.
- Detailed description of methods and materials used.
- As-built drawings for each system recording the construction, together with an index, including:		

	Fixed	Time Related
- Diagrammatic drawings indicating principal items of plant, equipment and fittings. - Record drawings showing overall installation. - Schedules of plant, equipment, valves, etc. describing location, design performance and unique identification cross referenced to the record drawings. - Identification of services - a legend for colour coded services. - Product details, including for each item of plant and equipment: - Name, address and contact details of the manufacturer. - Catalogue number or reference. - Manufacturer's technical literature, including detailed operating and maintenance instructions. - Information and guidance concerning dismantling, repair, renovation or decommissioning. - Operation: A description of the operation of each system, including: - Starting up, operation and shutting down. - Control sequences. - Procedures for seasonal changeover. - Procedures for diagnostics, troubleshooting and fault-finding. - Guarantees, warranties and maintenance agreements - obtain from manufacturers, suppliers and subcontractors. - Commissioning records and test certificates list for each item of plant, equipment, valves, etc. used in the installations - including: - Electrical circuit tests. - Corrosion tests. - Type tests. - Work tests. - Start and commissioning tests. - Equipment settings: Schedules of fixed and variable equipment settings established during commissioning. - Preventative maintenance: Recommendations for frequency and procedures to be adopted to ensure efficient operation of the systems. - Lubrication: Schedules of all lubricated items. - Consumables: A list of all consumable items and their source. - Spares: A list of recommended spares to be kept in stock, being those items subject to wear and tear or deterioration and which may involve an extended delivery time when replacements are required. - Emergency procedures for all systems, significant items of plant and equipment. - Annual maintenance summary chart. 150 CONTENT OF THE BUILDING MANUAL PART 4: THE HEALTH AND SAFETY FILE - Content: Obtain and provide the following, including all relevant details not included in other parts of the manual, including: - residual hazards and how they have been dealt with. - hazardous materials used. - information regarding the removal or dismantling of installed plant and equipment. - health and safety information about equipment provided for cleaning or maintaining the structure. - the nature, location and markings of significant services.		

	Fixed	Time Related
- information and as-built drawings of the structure, its plant and equipment.		
160 PRESENTATION OF BUILDING MANUAL - Format: A4 size, plastics covered, loose leaf, four ring binders with hard covers, each indexed, divided and appropriately cover titled. - Selected drawings needed to illustrate or locate items mentioned in the Manual: Where larger than A4, to be folded and accommodated in the binders so that they may be unfolded without being detached from the rings. - As-built drawings: The main sets may form annexes to the Manual.		
220 TRAINING - Objective: Before Completion, explain and demonstrate to designated maintenance staff the purpose, function and operation of the installations including items and procedures listed in the Building Manual. - Time allowance: Include a minimum of 1 day.		
230 SPARE PARTS - General: Before Completion submit a priced schedule of spare parts that the Contractor recommends should be obtained and kept in stock for maintenance of the services installations. - Content: Include in the priced schedule for: - Manufacturers' current prices, including packaging and delivery to site. - Checking receipts, marking and numbering in accordance with the schedule of spare parts. - Referencing to the plant and equipment list in Part 3 of the Building Manual. - Painting, greasing, etc. and packing to prevent deterioration during storage. - Latest date for submission: 5 working days before the Date of Completion of the Works as stated in the contract.		
250 TOOLS - General: Provide tools and portable indicating instruments for the operation and maintenance of all services plant and equipment (except any installed under Named Subcontracts) together with suitable means of identifying, storing and securing. - Quantity: Two complete sets. - Time of submission: At completion.		

	Fixed	Time Related
A40 CONTRACTOR'S GENERAL COST ITEMS: MANAGEMENT AND STAFF		
110 MANAGEMENT AND STAFF - Cost significant items:		
A41 CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION		
110 SITE ACCOMMODATION - Details: Site accommodation required or made/ not made available by the Employer: See section A36. - Cost significant items:		
A42 CONTRACTOR'S GENERAL COST ITEMS: SERVICES AND FACILITIES		
110 SERVICES AND FACILITIES - Details: Services or facilities required or made/ not made available by the Employer: See section A36. - Cost significant items:		
A43 CONTRACTOR'S GENERAL COST ITEMS: MECHANICAL PLANT		
110 MECHANICAL PLANT - Cost significant items:		
A44 CONTRACTOR'S GENERAL COST ITEMS: TEMPORARY WORKS		
110 TEMPORARY WORKS - Details: Temporary works required or made/ not made available by the Employer: See section A36. - Cost significant items:		

A5 WORK BY OTHERS OR SUBJECT TO INSTRUCTION

A50 WORK/ PRODUCTS BY/ ON BEHALF OF THE EMPLOYER

120 PRODUCTS PROVIDED BY/ ON BEHALF OF EMPLOYER
- General: Details of such products are given in the work sections, for fixing as part of the contract. Use for no other purpose than the Works.
- Handling: Accept delivery, check against receipts and take into appropriate storage.
- Surplus products: Keep safe and obtain instructions.

A53 WORK BY STATUTORY AUTHORITIES/ UNDERTAKERS

105 Where and to the extent only that a separate item is given for the addition of a percentage adjustment against a Provisional Sum hereunder, the preceding Provisional Sum shall be deemed to be exclusive of any allowance for overheads and profit. The Contractor shall insert the percentage he requires to cover same and extend the value into the pricing column for inclusion within the Tender Sum.

110 WORK BY STATUTORY UNDERTAKERS
- Item: Water Supply.
- Description of work: Supply and installation of a water service to the site by Wessex Water, including connection charge plus supply and sewerage infrastructure charges.
- Provisional Sum: Include the sum of Two Thousand Five Hundred Pounds. 2,500.00
- Allow for general attendance.

- Add for Main Contractor's overheads and profit: _____%

120 WORK BY STATUTORY UNDERTAKERS
- Item: Electricity Supply.
- Description of work: Supply and installation of an electricity service to the site by Scottish & Southern Electricity Networks, including connection charges.
- Provisional Sum: Include the sum of Four Thousand Five Hundred Pounds. 4,500.00
- Allow for general attendance.

- Add for Main Contractor's overheads and profit: _____%

130 WORK BY STATUTORY UNDERTAKERS
- Item: Telecom Supply.
- Description of work: Supply and installation of a telecom service to the site by Openreach, including connection charges.
- Provisional Sum: Include the sum of One Thousand Pounds. 1,000.00
- Allow for general attendance.

- Add for Main Contractor's overheads and profit: _____%

A54 PROVISIONAL WORK/ ITEMS

105 Where and to the extent only that a separate item is given for the addition of a percentage adjustment against a Provisional Sum hereunder, the preceding Provisional Sum shall be deemed to be exclusive of any allowance for overheads and profit. The Contractor shall insert the percentage he requires to cover same and extend the value into the pricing column for inclusion within the Tender Sum.

100 LIFT INSTALLATION

- Description of work: Supply and installation of a Midilift SL enclosed platform lift by Stannah Lifts Ltd
- Provisional Sums: Include the sum of Seventeen Thousand Five Hundred Pounds. 17,500.00
- Allow for general attendance.

- Add for Main Contractor's overheads and profit: _____%

110 KITCHEN INSTALLATION

- Description of work: Supply and installation of the selected kitchen units including all necessary fittings, plinths, etc. in accordance with specified layout.
- Provisional Sums: Include the sum of Eight Thousand Pounds. 8,000.00
- Allow for general attendance.

- Add for Main Contractor's overheads and profit: _____%

210 REFUSE STORAGE AREA

- Description of work: Fencing and gates required to enclose a Refuse Storage area.
- Provisional Sum: Include the sum of Four Thousand Pounds. 4,000.00
- Allow for general attendance.

590 CONTINGENCIES

- Provisional Sum: Include the sum of Eighteen Thousand Pounds. 18,000.00

A55 DAYWORKS

110 DAYWORK CHARGES

- General: Where an instruction is issued requiring a variation which is not of a similar character or executed under similar conditions to work included in the Contract and where work cannot properly be measured and valued, the Contractor shall be allowed payment on a daywork basis at the following rates:

- RICS Prime Cost of Labour: The Provisional Sum of One Thousand Pounds	1,000.00
- Percentage adjustment to cover incidental costs, overheads and profit: _____ % **(extend cost into pricing column).**	
- RICS Prime Cost of Materials and Goods: The Provisional Sum of Five Hundred Pounds	500.00
- Percentage adjustment to cover incidental costs, overheads and profit: _____ % **(extend cost into pricing column).**	
- RICS Prime Cost of Plant: The Provisional Sum of Two Hundred and Fifty Pounds	250.00
- Percentage adjustment to cover incidental costs, overheads and profit: _____ % **(extend cost into pricing column).**	

COLLECTION

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APPENDIX A

CONSTRUCTION NOTES
BY BELL ASSOCIATES (WESSEX) LIMITED

Longburton Village Hall, DT9 5PG

May 2020

Structure : See Structural engineers details for structural information regarding portal frame and foundation/bases.

Roof : Insulated metal profile sheeting supported on purlins for main roof and single storey section see engineers details and sections.

Ceilings : suspended ceiling by specialist contractor to hall and other ceilings. Flame spread rating to be class 0 in all circulation areas including hall and meeting room.

Foundations : see engineers details regarding bases to steel portal frame. To single storey section foundations to be trench fill depth to suit ground conditions but min 1m deep. Concrete blockwork to underside of timber frame. To external walls between columns. Ground beam spanning between bases to engineers detail. To sleeper walls as alternative ground floor as for single storey section.

Ground Floor : either

a) beam & block by specialist manufacturer onto sleeper walls at centres as directed by manufacturer. Min 150mm void below beams to be ventilated via telescopic vents at max 2m c/cs and not further than 1m from corners. Consolidated sub base below void to preclude and vegetation growth. To common areas, store and toilet areas 75mm reinforced sand/cement screed onto 120 extruded polystyrene insulation laid onto vapour barrier and beam & block floor. To main hall engineered timber onto extruded polystyrene insulation manufactured to accept under floor heating pipes.

b) as for the above but instead of beam & block flooring construction to be min 120 concrete oversite slab 300 micron damp proof membrane and min 120mm consolidated fill. Subject to engineers detail re-enforcement mesh to be incorporated.

External walls : between steel portal framework See Grid drawing. Externally at ground floor level up to head of windows and doors to be K rend onto a renderboard on battens fixed to 9mm OSB board and breather membrane. 150 x 50 timber studwork at max 600 vertical c/cs with horizontal bracing at max 800mm c/cs. Internal finish 6mm self finished masterboard flame spread class O bonded onto 18mm ply. Above heads of windows and doors to be horizontal composite boarding in place of renderboard and same construction as ground floor internally Columns to be encased to achieve 1 hour fire resistance as per grid drawing No. 1438/12bc.

First Floor : 22mm T & G chipboard flooring onto metal web floor joists or Posi joists sizes to be determined by manufacturer to suit span and projected loadings.

Windows : and external doors all to be upvc. All windows to be openable at ground floor level to single storey section. To first floor meeting room windows to be restricted opening to meet current regulations. One window to be escape type. Windows to hall to be openable and restricted at ground floor level and fully openable via remote meand to upper levels.

Doors : All doors to ground floor to be min 840 wide. Emergency exit doors to be 840 wide with panic bolts and open outwards. Door between entrance lobby and hall to be FD30sSC fire door with intumescent and smoke control.

Electrical works ; All electrical work to comply with Part P and the Electricity at work regulations 1989 and be undertaken in accordance with British Standard 7671 (The IEE Regulations) An Electrical Installation Certificate and Test results to be submitted to LA on completion of the building works carried out by a suitably qualified person. All electrical work to comply with Part P and be certified on completion.

Heating : electricital**.** By specialist installer via air source heat pump serving under floor heating to hall and radiators to other areas.

Hot water : by electric stand alone instant water heaters to each basin or sink.

Smoke detection and fire alarm system by specialist manufacturer to include all safety notices and emergency lighting and signage,

Staircase : Metal staircase with provision for timber treads to be incorporated into tread carriers. Underside of stairs to be lined with fire retardant boarding and entire stairs to be protected as mean sof escape.

Partitions : 100 x 50 timber studwork lined both sides with 12.5 plasterboard with skim finish. Framework to incorporate sound deadening fibre glass insulation. Partitions separating wc cubicles by specialist manufacturer with self finished walls. Cubicle partitions to be open and top to facilitate cleaning clear of floor finish at bottom.

Disabled toilet : layout to be in accordance with diagrams 18 & 19 of part M 2004

Conservation of heat : . Joints at junctions of walls and ceilings and boxing to pipes to be sealed. Pipes to be sealed where penetrating or projecting into hollow voids.

Ventilation : to all toilets areas and kitchen by mechanic fans and ducted to open air. Fans to be wired in conjunction with light switch with 20 mins over-run. Flow rate 30 litres per second

Drainage Foul : See site drainage drawing. 100 mm upvc drainage as shown. Manhole and inspection chambers Drainage to connect to Messrs Aster lateral already laid to site. Drains to be surrounded with 10 mm pipe bedding Max 1 in 90 falls
New 100mm soil stack as shown on drainage drawing with stub stacks to terminate with an air admittance valves above the basin outlets.

Surface water : See drainage drawing for routes. Upvc drains as denoted on drawings and laid on and surrounded with 10mm pipe bedding. Surface water to connect to Messrs Aster lateral already laid in position shown

Plumbing : 38mm waste to kitchen sink. 32mm wastes to basins. Rodding eyes at all changes of direction of waste pipes.

Smoke detection and alarm system by specialist contractor to comply with current legislation. to smoke lobbies and landings wired to mains dedicated fuse and re-charging battery back-up. Sounders to be located in smoke lobbies.

Lighting to stairs, landings and lobbies : by specialist supplier. Suitable primary and emergency lighting to be provided to BS5266 both internally and to fire exits externally

Light fittings : All light fittings to be energy efficient type and to have luminous efficiency greater than 55 lumens per circuit watt. Fixed external lighting not to exceed 150w and be daylight and movement sensitive (PIR). Alternatively fittings to have sockets which can only be used with lamps having an efficiency greater than 55 lumens per circuit watt.

Fire alarm system to be provided to BS 5839 by specialist contractor. With call points, sounders/beacons and detection as determined by risk assessment. Offices and board/meeting rooms to have means of early warning of a fire. Fire safety signage to be provided in accordance with BS 5499. signage to include directional fire exit signage visible from all points. Specialist installation contractor to provide commissioning certificate on completion of works.

Conservation of heat : all door and window openings between office areas and storage/factory area to have flexible seal to walls. Joints at junctions of walls and ceilings and boxing to pipes to be sealed. Pipes to be sealed where penetrating or projecting into hollow voids.

Glazing : all glazing to windows below 800mm from floor level to be safety glass. All glazing to doors to be safety glass or laminated.

Flashing : code 4 lead at junction of single storey roof with timber boarding as shown on section drawing.

APPENDIX B

SPECIFICATION OF ELECTRICAL & HEATING SYSTEMS
BY PHIL TESTER

Cam Vale New Community Hall

Design, Supply, Install, Test and Commission of Electrical and Heating Systems

1) Introduction

   a) This document describes the functional requirements for the electrical and heating installation at Cam Vale new Community Hall.

2) General

   a) All electrical works to be carried out in accordance with the current issue of relevant specifications, eg BS7671. (IET Wiring Regulations, 18th edition, 2018).

   b) All works to be carried out in accordance with best practise Health, Safety and Environment (HS&E) requirements.

   c) All cabling and pipework to be sub surface. Where not the case the tenderer should detail on the tender documents.

   d) Containment necessarily surface mounted, eg inductive loop, to be agreed for type and location prior to installation

   e) A split distribution board, or boards, as necessary, fully RCD protected shall be provided

   f) Circuits to be suitably distributed across each section, with an allowance of 10% spare ways, minimum two per section

   g) All user facing electrical equipment, ie sockets, switches and fused spur outlets, to be by Messrs MK.

   h) All installation to be carried out by suitably competent professionals

   i) All testing and certification shall be carried out by certificated qualified professionals

   j) Installation and user manuals to be provided with the tender, for all equipment proposed for supply under this sub-contract

   k) Tenderers are to supply a drawing showing the proposed location of all electrical outlets and switches.

3) Lighting

a) Functional Lighting

i) All lighting to be LED

ii) LUX levels to be minimum 300 LUX in all areas except where specified below

iii) LUX level to be 500 LUX in the kitchen area

iv) Main hall to be equipped for multi-function use as follows:

(1) As a sporting facility, in line with Badminton court guidelines: viz 500 LUX and colour temperature between 5000 and 6500K

(2) As an entertainment facility: consideration to be given to the provision of intensity and colour change lighting in the main hall. Proposals to be submitted with the tender

(3) The client's working assumption is that this will be achieved using a 6 x 11 array of 2000lm RGB CCT downlights, (eg ledpanelwholesale DOWN-RGBCCT-FUT060), spaced at notional 1.5 m intervals.

v) Toilet facilities to be equipped with either PIR or touch activated time switching. Activation of the lights shall also activate a "run on" extractor fan, connected to the toilet lighting circuit via a three pole disconnection switch.

vi) Entrance lighting to be provided either to the sides or above the entrance door, as agreed with the client.

b) Emergency Exit Lighting

i) Individually battery backed, and mains charged units shall be provided at each exit door, including internal doors leading to an external exit

ii) Operated on mains power fail AND fire alarm operation

iii) It is acceptable the fire alarm "fails" the mains feed eg the fire alarm alarm function operates a mains disconnect relay

iv) Units to be installed over each doorway, to indicate direction of exit

v) Emergency lighting shall be directly fed from the mains fuse board, from a dedicated circuit breaker.

c) Security Lighting

i) Security lighting shall be installed around the building perimeter. The client's working assumption is that lights are located at 4m intervals and are interlinked

ii) Proximity detectors shall operate the security lighting and be co-located with each light

iii) Installation, positioning and direction of lighting to be in consideration of "good neighbourliness," as noted in the ILE Best Practise Guide

iv) Security lighting shall be directly fed from the mains distribution board, from a dedicated circuit breaker.

4) Heating

a) Space heating

i) Space heating for the ground floor area shall be by means of a "wet" underfloor heating system

ii) Space heating for the upper floor area shall be by conventional wall mounted radiators

iii) The system shall be zoned and thermostatically controlled per area. Tenderer to propose accordingly

iv) An Air Source Heat Pump shall be provided and integrated into this system

v) A back up oil fired boiler is required to supplement the ASHP in conditions of low temperature

vi) An alternative solution using oil fired boiler only, shall be costed, to enable the client to select best whole life costs and any grant opportunities.

b) Water heating

i) Instantaneous water heaters, suitably sized, shall be provided in each of kitchen, men's, ladies' and disabled toilets

ii) Access to the water heaters shall be restricted eg by means of a locked cupboard door or removable shelves within a unit

iii) Local switching via a suitably rated double pole switch is mandatory

5) 230v socket outlets

i) 230v socket outlets shall be provided throughout the building: the client's working assumption on locations are shown on the tender drawings

ii) The client's working assumption assumes two radial circuits serving the main hall and three ring circuits serving kitchen, general ground floor and general first floor

(1) Note that this assumption includes that kitchen appliances are generally served from the ring circuit, with the exception of high current devices fed from a dedicated "cooker circuit".

6) Cooker Circuit

a) In line with 5)ii)(1) above: A dedicated cooker circuit shall be extended from a 32Amp MCB to a position within the kitchen to be identified by the client and terminated on a 45Amp double pole switch.

7) Lift Circuit

a) A lift circuit shall be provided, fed from a dedicated 10Amp type D MCB and terminated at a lockable isolator. The isolator location, near the lift, will be identified by the client.

8) Fire Alarm

a) A fire detection and alarm system shall be provided throughout the building

b) A mix of smoke and heat detection shall be provided as recommended by a fire service representative

c) All sounders shall operate together

d) Combined detection /sounder units are permissible

e) It is considered that the building layout does NOT lead to a requirement for zoning

f) Activation of the fire alarm shall also activate the Emergency lighting system. The client's working assumption is that the control wire of the alarm system shall disconnect the emergency lighting system mains feed.

g) Fire alarm units shall be directly fed from the mains distribution board, from a dedicated circuit breaker

h) The control wire function, in addition to the requirement at 6)f) shall operate a GSM autodialler, installed under this contract.

9) Security Alarm system

a) All external doors to be alarmed

b) Activation /de-activation to be by means of a control panel adjacent the main entrance

c) External audible sounder to be provided adjacent the main entrance

d) Alarm activation shall also activate the external security lighting, the internal emergency lighting and shall operate a GSM autodialler, installed under this contract.

10) Disabled toilet alarm

a) The disabled toilet shall be equipped with a dual pull cord (seated and floor height) operated alarm, to provide local visual and audible indication when activated. The specific location of each item (pull cord switch, reset device and indicators) will be determined on site.

11) Ancillary wiring

a) PA system

i) A PA equipment cubicle will be provided and equipped in the main hall (by others)

ii) Provide separate cabling to six loudspeaker locations, assume 2 off 4mm^2 per speaker and three locations on each of the hall longer walls

iii) Provide 4 off twin switched sockets within the PA equipment cubicle, fed from the nearest hall 230 volt mains socket circuit

b) Inductive loop systems

i) Provide surface containment housed 4mm^2 loop in each of main hall and meeting room

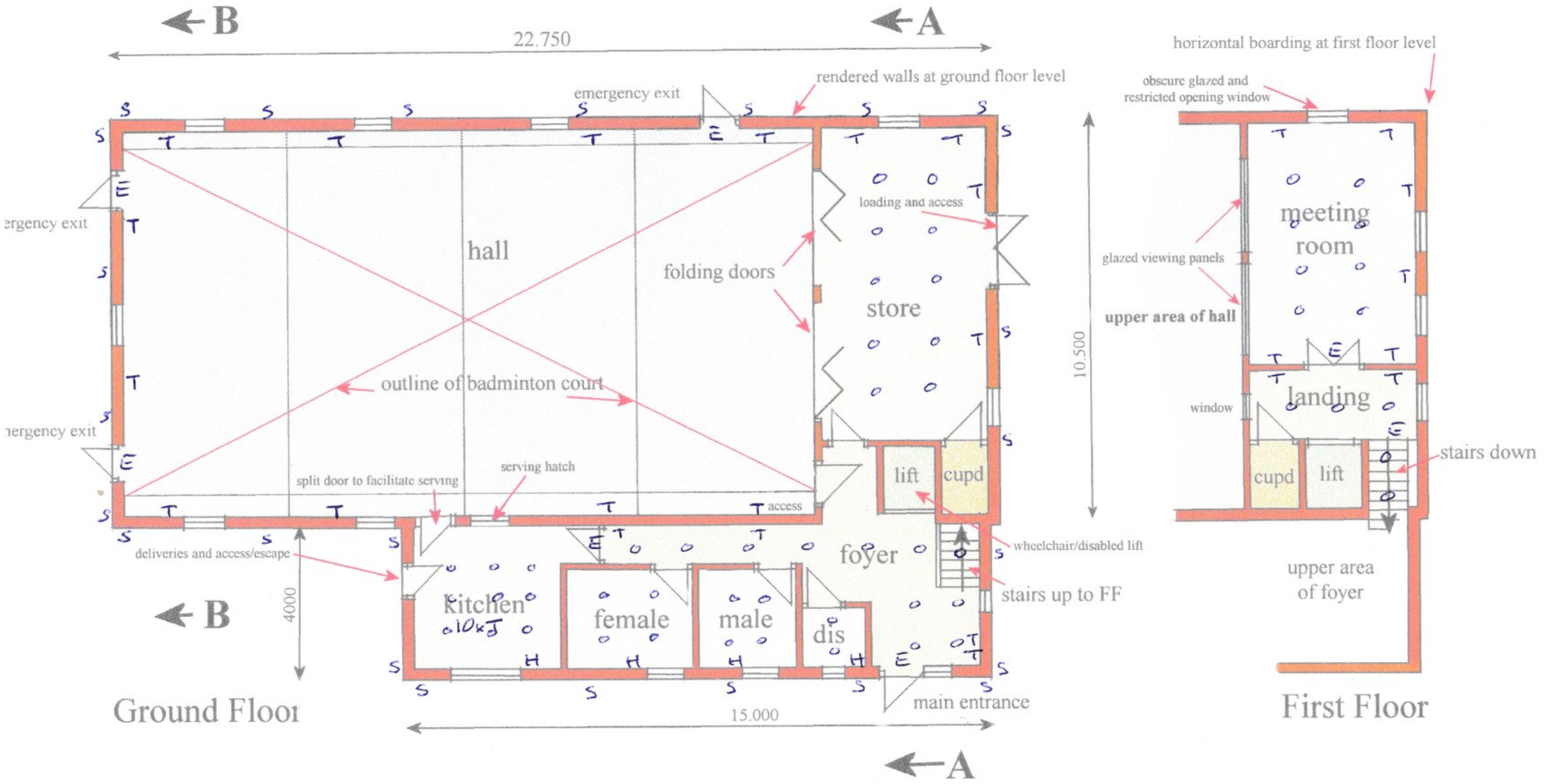
ii) The main hall wiring will extend to the PA equipment cubicle

iii) The meeting room wiring will extend to a location within the meeting room.

Drawing No. 1438/4bc

T = twin switched socket outlet
O = LED cold white downlight
H = instant water heater
S = security lights
E = emergency egress lights

Bell Associates
Architectural Planning



CAM VALE COMMUNITY HALL, LONGBURTON.

APPENDIX C

SITE INVESTIGATION NO. AC1128
FACTUAL AND INTERPRETATIVE REPORT
BY CJ ASSOCIATES GEOTECHNICAL LTD
(PREPARED FOR DORSET COUNTY COUNCIL)

cjassociates

Site Investigation No. AC1128
Factual and Interpretative Report

Longburton Depot

January 2015

Geotechnical and environmental services you can rely on.

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Site Investigation No. AC1128
Factual and Interpretative Report

Longburton Depot

January 2015

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1. SUMMARY

Appointment	C.J. Associates Geotechnical Limited was instructed by Dorset County Council to carry out a site investigation at their former depot in Longburton, Dorset. This report presents full factual records of the investigation together with recommendations on geotechnical design and potential ground contamination risks for the proposed development.
The Investigation	The investigation comprised a desk study, dynamic widow sample boreholes with associated sampling and in situ testing, gas/groundwater monitoring, laboratory geotechnical and contamination testing and the provision of a Factual and Interpretative Report.
The Site	The site is located in a former quarry on the northern outskirts of Longburton village, to the south of Sherborne in Dorset at National Grid Reference ST 647 131. The site is currently occupied by a disused depot/waste recycling centre, with buildings and hardstanding.
Site History	The site was previously occupied by a quarry until sometime between the 1960s and 1980s when the site was developed as a 'depot'. The surrounding areas has remained largely unchanged with the exception of residential expansion of Longburton Village between the 1960s and 1980.
Environmental Database Information	The site is a registered BGS Recorded Mineral Site, previously worked for the Forest Marble Formation. The site itself is a registered Waste Transfer Site, operated by Dorset County Council, since October 2000 until recent closure of the depot.
Ground Conditions	The exploratory holes have encountered Made Ground (including generally soft quarry backfill material) to depths of between 1.5m and 3m below existing ground level, overlying generally firm stiff Forest Marble Clay. Groundwater was not encountered during the investigation. Subsequent monitoring of groundwater in standpipes indicated groundwater levels at depths ranging between 1.22m and 2.60m. Slightly elevated levels of carbon dioxide have been encountered in standpipes.
Geotechnical Assessment	Conventional spread foundations will be suitable at this site either taken down to natural ground or used with ground improvement, depending on type of redevelopment, associated structural loadings and tolerance of structures to settlement.
Contamination Assessment	Description of Receptor or Source — Risk rating Health and safety of workers during redevelopment — Low Current and future site users and third parties: Residential development — Low to Moderate* Commercial/industrial development — Low Risk to groundwater — Low Risk to surface waters — Low On site and off site migration of gasses — Low Presence of asbestos in ground — Low Risk to buried services — Low New planting/vegetation — Low * soil remediation required OVERALL GROUND CONTAMINATION RISK RATING — LOW
This sheet is intended to provide a summary only of the report. It does not provide a definitive engineering analysis for the purposes of costing or construction, and is subject to the limitation of the agreed brief.	

2.INTRODUCTION

2.1 Instruction

C.J. Associates Geotechnical Limited (CJA) was instructed by Dorset County Council to carry out a site investigation at their former depot in Longburton, Dorset. Instructions to proceed are contained in DCC's email correspondence, reference I.Cardy, dated 17th November 2014 and DCC's official Order No. 4500273632, dated 9th December 2014.

2.2 Brief and Report Scope

The general specification for the works was provided by DCC and incorporated the brief to undertake a Phase I desk study and Phase II Intrusive Investigation for the site.

The investigation comprised a desk study, dynamic widow sample boreholes with associated sampling and in situ testing, gas/groundwater monitoring, laboratory geotechnical and contamination testing and the provision of a Factual and Interpretative Report.

This report is based upon a review of readily available historical and current information, a site walkover, our geological and hydrogeological map library, preliminary consultations with key relevant agencies, including Local Authorities and other Statutory Authorities, and information from an Environmental Database search.

The report also presents full factual records of the site work carried out, the ground conditions encountered in the exploratory holes, the in situ and laboratory test results and the results of any monitoring of ground installations. All information collected has been used to provide an interpretation of the ground conditions, with recommendations on geotechnical design and potential ground contamination risks for the proposed development.

2.3 Limitations

The recommendations and opinions expressed in this report are based on the strata observed in the exploratory holes, the results of the site and laboratory tests, and

information obtained as part of the desk study or provided by others. CJA take no responsibility for conditions that have not been revealed by the exploratory holes, or which occur between them. Information provided from other sources is taken in good faith and CJA cannot guarantee its accuracy.

The report has been prepared exclusively for DCC, for the site area indicated, and for the purpose stated. CJA accepts no responsibility for any site, client or type of development not indicated in this report.

This report should be reviewed at all stages of construction by someone familiar with the terms and assumptions it contains. It is essential that a suitably qualified and experienced engineer be appointed for the design of the works, and supervise construction.

3.THE SITE

3.1 Site Location & Description

As part of the investigation, CJA carried out a site walkover survey on the 20th November 2014. The information present below is based on the site visit and review of the Ordinance Survey map information. Site photographs are presented in the Appendices to this report.

The site is located in a former quarry on the northern outskirts of Longburton village, to the south of Sherborne in Dorset at National Grid Reference ST 647 131, and is shown on the Site Location Plan, included in the Appendices to this report and in the aerial photograph below.

Aerial Photograph
Showing Site Location

Access to the site is through locked steel gates off the existing A352 to the east (Plate 1). The site is bounded to the east by a cobbled brick wall, beyond which is residential development. The site has a shallow incline from east to west is generally 2m to 3m lower than the surrounding land to the north, west and south, formed by historical quarrying activities. Land beyond these boundaries is generally agricultural.

The site is generally flat, with the exception of a small raised area on the north-western part of the site formed by a small retaining wall (Plate 7). Larger retaining walls are located along the western and southern edges of the site (Plates 3,4). Cracks are located within the wall along the southern boundary (Plates 5,6) and the small retaining structure in the north-western part of the site (Plate 8).

The majority of the site is covered with asphalt or concrete.

Buried services are evident on site with manhole covers and drainage runs located between the existing buildings. Overhead cables are located along the western boundary and across the entrance to the site.

There are small trees and shrubs surrounding the existing buildings on site and larger trees are generally located along the (poorly maintained) boundaries.

There are four buildings on site, all disused. The largest building is a warehouse type single storey brick built with corrugated steel roof and is located approximately centrally on site (plates 9,10,11,12). The other smaller buildings are located close to the entrance to the site on the northern and southern boundaries and are single storey construction (Plates 13,14,15,16). The buildings are empty, with the exemption of one of the smaller buildings on the northern boundary which has been used to store refuse bins (Plate 17).

There are 11 nr recycling containers located by the small retaining structure on the north-western part of the site (Plate 18).

At the time of the site walkover above ground fuel storage tanks were not observed on site.

There was no standing water present at the time of the investigation.

3.2 Geology

3.2.1 Published Geology

According to the British Geological Survey the site is underlain by the Forest Marble Formation (limestone, argillaceous rock and subordinate sandstone), part of the Great Oolite Group of Jurassic Age.

3.2.2 BGS Borehole Records

The BGS hold historical records of boreholes undertaken in the area, the closest of which is located at NGR 364770 112930 to the south of the site. The ground conditions encountered are summarised in the following table:

Depth to top of stratum	Thickness	Description
0.00m	1.50m	Brown sandy CLAY with large concretions
1.50m	0.30m	Hard blue LIMESTONE
1.80m	0.35m	Brown sandy CLAY
2.15m	0.35m	Blue LIMESTONE
2.50m	0.60m	Dark blue marly sludge
3.10m	2.40m	Dark blue LIMESTYONE and sandy CLAY

Groundwater was encountered at 2.7m below existing ground level.

3.3 Hydrogeology & Hydrology

The hydrogeology of the site area is detailed in the map, 'Groundwater Vulnerability of East Somerset and South West Wiltshire', Sheet 43, published by the Environment Agency. This classifies the soils beneath the site as having high leachate potential. The bedrock has been given a designation of Secondary – Aquifer – A.

The nearest surface watercourse is a small stream feature located 270m to the north of the site. The site is not located within a flood plain.

3.4 Radon

According to the British Geological Survey, the site is located in an area where less than 1% of homes are above the radon action level and no radon protection measures are necessary in the construction of new dwellings or extensions.

4. SITE HISTORY

The historical development of the site and surrounding area has been determined using available extracts of historical Ordnance Survey (OS) plans, the extracts of which are included in the Appendices to this report.

The history of the site is summarised in the following table:

OS Map Date	On Site	Off Site
1887	Site occupied by quarry on its eastern part. Open fields and field boundaries located on western part of the site	Existing road to the east. Longburton Village located to the south and a quarry to the north.
1903	No significant change – small buildings located on eastern part of site.	No change.
1928	Quarry has extended further to the west on site.	No change
1962	No change	No change
1980	Site occupied by 'Depot'	Residential development has occurred to south, east and north, associated with the expansion of Longburton.
1995	No change	No change
2006	No change	No change
2014	No change	No change

5. ENVIRONMENTAL INFORMATION

5.1 Environmental Database Information

As part of the investigation, an environmental database search was obtained by CJA, a copy of which is included in the Appendices to this report and summarised below.

The following summary is generally limited to locations within 250m of the site boundary unless it is considered that installations or activities beyond that range could potentially have an impact on the site or be affected by the redevelopment of the site.

There are no **Discharge Consents**, **Water Abstraction Licenses**, Local Authority **Pollution Prevention and Controls**, **Pollution Incidents to Controlled Waters**, **Substantiated Pollution Incidents** or **Fuel Stations** within 250m of the site.

The site is a registered **BGS Recorded Mineral Site**. The site was worked using opencast methods to quarry the Forest Marble Formation. There is another BGS Recorded Mineral Site located 188m to the N of the site, which also worked the Forest Marble Formation using opencast methods.

Other information obtained in the environmental database check is as follows:

- **Coal mining affected areas** – in an area not be affected by coal mining.
- **Potential for collapsible ground stability hazards** – very low.
- **Potential for compressible ground stability hazards** – no hazard.
- **Potential for ground dissolution hazards** - no hazard.
- **Potential for landslide subsidence hazards** - very low.
- **Potential for running sand ground stability hazards** – no hazard.
- **Potential for shrinking or swelling clay ground stability hazard** - no hazard.

With the exception of the site itself, which is a depot/waste transfer site (see Section 5.2) there are three **contemporary trade entries** within 250m of the site, the uses of which include servicing boilers, damp and dry rot control and cleaning services.

5.2 Landfills and Waste Facilities

According to the Envirocheck Report there are no **Landfill Sites** located within 250m of the site.

The site itself is a registered **Waste Transfer Site**, operated by Dorset County Council, since October 2000 until recent closure of the depot. The site was authorised to take brickwork, concrete (hardcore) inert materials and weathered excavated coated roadstone. Prohibited wastes were dust/ash/powder, liquid wastes, sludge waste and special waste.

5.3 Soil Chemistry

According to the Envirocheck Report, estimated soil chemistry for the site, as supplied by the British Geological Society, is as follows:

- Arsenic concentration = <15mg/kg
- Cadmium concentration = <1.8mg/kg
- Chromium concentration = 60 - 90mg/kg
- Lead concentration = <150mg/kg
- Nickel concentration = 15 - 30mg/kg

6.FIELDWORK

6.1 General

The fieldwork, scheduled by CJA was carried out by CJA between 20th and 21st November 2014 and comprised, window sampling/dynamic probing, installation of standpipes, and associated sampling and in situ testing.

The fieldwork was carried out generally in accordance with BS 5930:1999 *Code of Practice for Site Investigations*, *Eurocode 7*, and DCC's instructions, unless otherwise stated. The exploratory hole locations were determined on site by CJA and are shown approximately on the Borehole Location Plan, included in the Appendices. A summary of exploratory holes undertaken is presented in Table 1.

All exploratory hole locations were scanned for buried services using a Cable Avoidance Tool (CAT) before drilling/boring commenced to check for underground services.

On completion all samples recovered from the site were taken to CJA's laboratory for further examination and testing. Details of the depths and types of samples recovered are indicated on the attached log sheets.

6.2 Window Sampler Boring

Ten window sample boreholes (designated WS1 to WS10 inclusive were sunk to depths of between 0.58m and 3.50m below existing ground level.

Window sampler boring is carried out with a small, track-mounted rig, which uses a chain-driven trip hammer to drive sampling tubes or penetrometers into the ground. These tools are coupled to the anvil of the hammer by solid drill rods. Sampling tubes comprised "windowless samplers", which are plain sampler tubes in which a continuous disturbed sample is recovered within a semi-rigid plastic liner. In order to reduce friction within the borehole, sampling tubes of progressively smaller diameter are used as the borehole depth increases. Sampler diameters generally range from between approximately 90mm to 50mm.

Groundwater observations were noted where possible. These observations relate to the time of the investigation only, and do not necessarily reflect seasonal fluctuations.

50mm diameter standpipes were installed in WS2, WS6 and WS10 at depths of between 2.0m and 3.5m below ground level. Installation and backfill details are shown with the appropriate borehole logsheet.

6.3 Groundwater / Gas Monitoring

CJA carried out groundwater/gas monitoring in standpipes after the fieldwork period, the results of which are presented in the Appendices to this report.

6.4 In Situ Tests - Dynamic Probing

Dynamic probe tests were carried out generally in accordance with BS EN ISO 22476-2, from ground level to depths of up to 3.7m below ground level. The results of these tests are shown in the attached appendix.

Dynamic probe tests are conducted with a window sampler type rig, which uses a chain-driven trip hammer to drive a cone-tipped, solid steel penetrometer into the ground. For the standard “heavy” type of test (DPH), the penetrometer consists of a 90° cone, 43.7mm in diameter, driven by a 50kg hammer, falling over a distance of 500mm.

The “super heavy” test (DPSH) uses a 50.5mm diameter cone, and a 63.5kg hammer, falling over a distance of 750mm. The resistance of the ground to the dynamic penetration is given by the number of blows required to drive the cone over depth increments of 100mm (DPN_{100}).

6.5 The Logging of Soils and Rocks

The logging of soils and rocks has been carried out in accordance with BS5930(1999) except where superseded by the soil and rock description methodology in BS EN14688-1(2002), BS EN 14688-2(2004) and BS EN 14689-1(2003).

7. LABORATORY WORK

7.1 Geotechnical Tests

A programme of laboratory testing was carried out on samples taken from the various strata to assist in classification and determine the engineering properties of the materials underlying the site. The testing was scheduled by CJA and carried out by CJA. The test procedures used were generally in accordance with the methods described in BS1377:1990. Details of the specific tests used in each case are given below:

TEST	STANDARD (BS1377:1990)	No.
Moisture Content	Part 2, Clause 3.2	8
Liquid Limit, Plastic Limit, Plasticity Index	Part 2, Clause 4.4	8
Sulphate content of 2:1 soil:water extract	Part 3, Clause 5	3
pH value	Part 3, Clause 9	3

The results of the laboratory geotechnical tests are summarised in Table 2 and included in the Appendices to this Report.

7.2 Contamination Tests

The environmental chemistry of the ground was investigated by specialist chemical analysis of selected samples, scheduled by CJA and carried out by Scientific Analysis Laboratories Limited.

Chemical analyses were carried out on 10 soil samples and were submitted for the following suite of determinants:

Arsenic, Arsenic, Beryllium, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc, Cyanide, Thiocyanate, Phenol, Sulphate (SO_4), Sulphide, pH, Sulphur, Soil Organic Matter and speciated Polyaromatic Hydrocarbons (PAH).

In addition 5 samples were also tested for speciated Total Petroleum Hydrocarbons (TPH).

The results of the laboratory contamination tests are summarised in Tables 3A and 3B and included the Appendices to this Report.

The range of potentially hazardous contaminants present on the site can be wide and varied, and the suite has been chosen to reflect both commonly found contaminants and others indicated by research to have a significant risk of being present. It is, however, possible that others may exist for which analyses have not been carried out. It is also possible that contaminants exist on the site but were not present at any of the exploratory hole locations.

8.GROUND CONDITIONS ENCOUNTERED

8.1 Soil Profile

The sequence of strata encountered beneath is variable and comprises a mixture of clay (organic in places) and limestone gravel and cobbles.

It is not clear whether the materials encountered beneath (obvious) Made Ground is in fact Made Ground or backfill to the former quarry, or whether it represents natural materials.

From the desk study information, it has not been possible to ascertain the depth of the former quarry in relation to current site levels or whether the site was backfilled prior to development as a DCC Depot.

Organic material has been encountered in some of the boreholes at depth which is not normally associated with strata of the Forest Marble Formation. Existing BGS records show no superficial deposits beneath the site and in particular alluvium which is typically organic. This alone could suggest this material is backfill to the quarry.

For the purposes of this report it is assumed materials with no constituents to confirm it is Made Ground is regarded as quarry backfill where it is generally soft or contains organic material. Natural Forest Marble Clay is considered to be the dark grey brown stiff to very stiff clay encountered at depth in the boreholes.

The depths of the various materials encountered in each of the exploratory holes are summarised in the following table.

Summary of Ground Conditions Encountered

Hole	Depth to Stratum (m)						GROUNDWATER
	TOPSOIL	MADE GROUND (Including QUARRY BACKFILL)			FOREST MARBLE FORMATION		
		Asphalt surfacing	GRAVEL Sub-Base	Soft to firm orange brown gravelly CLAY, organic in places	Stiff dark grey sandy gravelly CLAY, occasional cobbles	Limestone GRAVEL/ COBBLES	
WS1				GL-0.05	0.05-0.20 0.65-1.60	0.20-0.65	Dry
WS2	GL-0.20			0.20-1.20	1.20-2.10		Dry
WS3		GL-0.18		0.18-1.55	1.55-2.25		Dry
WS4		GL-0.05	0.05-0.35	0.35-1.35	1.35-1.95		Dry
WS5		GL-0.05	0.05-0.45	0.45-2.20	2.20-3.20		Dry
WS6		GL-0.05	0.05-0.55	0.55-3.00	3.15-3.20	3.00-3.15 3.20-3.50	Dry
WS7		GL-0.35	0.35-0.50	0.50-1.50	1.50-1.75		Dry
WS8		GL-0.05	0.05-0.35	0.35-1.65	1.65-1.95		Dry
WS9		GL-0.05	0.05-0.20		0.20-0.58		Dry
WS10		GL-0.20	0.20-0.65	0.65-2.00			Dry

8.2 Obstructions

Underground man-made obstructions were not encountered in any of the exploratory holes. However, all the holes refused at relatively shallow depth which could either represent bedrock or possibly obstructions (cobbles/boulders) within Made Ground/Quarry Backfill.

8.3 Groundwater

Groundwater was not encountered during the investigation. Subsequent monitoring of groundwater in standpipes indicated groundwater levels at depths ranging between 0.77m$^{(WS2)}$ and 2.60m$^{(WS6)}$.

8.4 Land Gas

Results obtained during the initial monitoring visit on 5th December 2014 indicated Methane (CH_4) levels ranging from 0% to 0.1% by volume, Carbon Dioxide (CO_2) levels ranging from 0.9% to 1.8% by volume, and Oxygen (O_2) levels ranging from 16.9% to 20.2% by volume. Hydrogen Sulphide levels of 0ppm were recorded together with borehole pressures of 0Pa and gas flows of 0l/hr. Atmospheric pressure was recorded as 1014mb.

Results obtained during subsequent monitoring visits on 23rd December 2014 and 9th January 2015 indicated Methane levels ranging from 0% to 0.1% by volume, Carbon Dioxide levels ranging from 0.1% to 1.7% by volume, and Oxygen levels ranging from 15.3% to 20.6% by volume. Hydrogen Sulphide levels of 0ppm were recorded together with borehole pressures of 0Pa and gas flows of 0l/hr. Atmospheric pressure was recorded in the range 1008mb to 1015mb.

It should be noted that the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore be representative of the conditions only at the time of sampling.

8.5 Visual / Olfactory Evidence of Contamination

Hydrocarbon odours were noted in the Made Ground in WS6 (0.05m-0.15m depth) and WS9 (0.05m-0.20m depth).

9. ENGINEERING PROPERTIES OF SOILS ENCOUNTERED

The following sections discuss the engineering and chemical properties of the strata encountered, based on results of in situ testing and laboratory testing obtained during this investigation.

9.1 Made Ground (granular)

SPT N values range from 4 to 46 as can be seen from the SPT v Depth Plot, included in the Appendices to this report. These results suggest the granular Made Ground (sub-base) is variably loose to dense.

9.2 Quarry Backfill

9.2.1 Gravel/cobbles

SPT N values range from 6 to 12 as can be seen from the SPT v Depth Plot. These results suggest the granular Quarry Backfill is loose to medium dense.

9.2.2 Gravelly clay

Atterberg Limit tests have given values of **liquid limit** in the range 42% to 75% and **plastic limit** values in the range 29% to 37%, resulting in values of **plasticity index** in the range 6% to 38%. These results suggest the samples tested are clay or silt of intermediate to high plasticity as shown on the Plasticity Chart included in the Appendices.

In accordance with Chapter 4.2 Building Near Trees(2003) soils can be classified in terms of **volume change potential**, using the relationship:

$$I_p' = I_p \times \frac{\%\ \text{less than } 425\mu m}{100\%}$$

….where I_p' = modified plasticity index, I_p = plasticity index.

Based on the laboratory test results, the above relationship and Table 1 of NHBC Chapter 4.2, the samples tested are shown to have **low to medium volume change potential**.

SPT N values range from 3 to 23, as can be seen from SPT v Depth Plot, with most values <10. These results suggest the cohesive quarry backfill is generally very soft to firm, stiff in places.

Laboratory tests have given values of **water soluble sulphate** (SO_4) = 20mg/l and a **pH value** of 8.0.

9.3 Forest Marble Formation

9.3.1 Clay

Atterberg Limit tests have given values of **liquid limit** in the range 42% to 67% and **plastic limit** values in the range 25% to 36%, resulting in values of **plasticity index** in the range 6% to 37%. These results suggest the samples tested are clay of high to very high plasticity as shown on the Plasticity Chart. For design purposes, a value of plasticity index = 36% is recommended, based on the upper quartile value of the results.

Based on the laboratory test results, and Table 1 of NHBC Chapter 4.2, the samples of Forest Marble Clay are shown to have **low to medium volume change potential**.

SPT N values range from 6 to >50, as can be seen from SPT v Depth Plot. These results suggest the Forest Marble Clay is soft to very stiff. For design purposes, a value of 15 seems reasonable based on the lower quartile value.

Shear strength may be estimated from a correlation by Stroud and Butler(1975): for a clay with a plasticity index of 36%,

c_u = 4.6 x SPT N value
= 4.6 x 15 = 69kN/m^2.

Based on the above, a design value of **undrained shear strength** of 70kN/m^2 is recommended for the Forest Marble Clay.

Effective stress strength parameters may also be obtained from correlations with plasticity index. For a plasticity index of 36%:

- BS8002[(1994)], Table 2 gives $\phi'_{crit} \approx 23^o$;
- Gibson[(1953)], gives $\phi_d = 25.2^o$.

Based on all the above, design values of $\phi' = 23^o$ and $c' = 0kN/m^2$ are recommended.

The **coefficient of volume compressibility**, m_v may also be estimated from a correlation by Stroud and Butler[(1975)]: for a clay with a plasticity index of 36%,

m_v = 1 / (0.45 x N value)

m_v = 1 / (0.45 x 15) = $0.15m^2/MN$

Laboratory tests have given values of **water soluble sulphate** (SO_4) in the range 10mg/l to 190mg/l and **pH values** in the range 7.8 to 8.2.

9.3.2 Gravel/cobbles

SPT N values range from 6 to 12, as can be seen from the SPT v Depth Plot. These results suggest the gravel/cobbles is loose to medium dense. For design purposes, a value of 7 seems reasonable based on the lower quartile value. Based on the correlation by Peck, Hanson and Thornburn[(1974)], this gives an **angle of shearing resistance** of $\phi=29^o$.

10.GEOTECHNICAL ASSESSMENT

10.1 Proposed Development

At the time of writing this report, the proposed end use of the site was for residential purposes and the following sections give general geotechnical recommendations based on residential end use.

10.2 Ground Conditions Encountered

The exploratory holes have encountered Made Ground (including generally soft quarry backfill material) to depths of between 1.5m and 3m below existing ground level, overlying generally firm stiff Forest Marble Clay. Groundwater was not encountered during the investigation. Subsequent monitoring of groundwater in standpipes indicated groundwater levels at depths ranging between 1.22m(WS2) and 2.60m(WS6). Slightly elevated levels of carbon dioxide have been encountered in standpipes.

10.3 Shallow Depth Foundations

10.3.1 Foundations Placed in Natural Clay

Foundations should not be placed in Made Ground due to its inherent variability and risk of intolerable differential settlement. Therefore foundations should be taken down a minimum 1m depth and placed in the firm to stiff natural clay. If any Made Ground, loose, particularly soft, or otherwise unsuitable material is encountered at foundation level, this should be excavated, removed and replaced by suitable engineered granular fill, or the foundation depth extended to suitable strata.

The following table summarises allowable bearing pressures at a depth of between 1m and 2m for strip and pad foundations, placed in the natural clays. The bearing pressures have been calculated based on Hansen's method(1978), a factor of safety of 3 against bearing capacity failure, and assuming groundwater is at foundation level.

Summary of Anticipated Allowable Bearing Pressures

Stratum	Design Value (see Section 9)	Foundation depth	Foundation Type	Foundation Size	Allowable Bearing Pressure
Firm to stiff Forest Marble Clay	c_u = 70kN/m^2	1.0m	Strip	0.6m wide	170kN/m^2
				0.9m wide	160kN/m^2
			Pad	1mx1m	190kN/m^2
				2m x 2m	170kN/m^2
		1.5m	Strip	0.6m wide	180kN/m^2
				0.9m wide	170kN/m^2
			Pad	1mx1m	200kN/m^2
				2m x 2m	180kN/m^2
		2.0m	Strip	0.6m wide	185kN/m^2
				0.9m wide	180kN/m^2
			Pad	1mx1m	210kN/m^2
				2m x 2m	190kN/m^2

The following table summarise anticipated foundation settlements, based on foundations being placed in the natural clay at depths of between 1.0m and 2.0m. For the purposes of the analyses, design values have been used as discussed in Section 9. It is assumed the materials beneath the foundation is homogeneous over the depth of influence of the foundation and structural loadings have been taken as equal to the allowable bearing pressures above to give a worst case scenario.

Summary of Anticipated Settlements

Foundation depth	Foundation Type	Foundation Size	Foundation Loading	Settlement (mm)		
				At centre	At corner	Average
1.0m	Strip	0.6m wide	170kN/m^2	10-15		
		0.9m wide	160kN/m^2	15-20		
	Pad	1mx1m	190kN/m^2	25-30	5-10	20-25
		2m x 2m	170kN/m^2	50-55	10-15	35-40
1.5m	Strip	0.6m wide	180kN/m^2	10-15		
		0.9m wide	170kN/m^2	15-20		
	Pad	1mx1m	200kN/m^2	25-30	5-10	20-25
		2m x 2m	180kN/m^2	45-50	10-15	35-40
2.0m	Strip	0.6m wide	185kN/m^2	10-15		
		0.9m wide	180kN/m^2	15-20		
	Pad	1mx1m	210kN/m^2	40-45	10-15	30-35
		2m x 2m	190kN/m^2	55-60	10-15	35-40

The above tables give a worst case scenario, as the calculations are based on the maximum load the foundation/ground can take. If the loading is less then settlements will also be less. In addition the exploratory holes have refused at relatively shallow depth, suggesting significantly less incompressible material is likely to be present at these depths and again this will reduce settlements.

If trees are to be planted as part of the redevelopment, the recommendations of the National House Building Council Practice Standard “Building Near Trees”, should be closely followed. In this context soils should be regarded as having medium volume change potential.

Floor slabs should be constructed a suspended where Made Ground is greater than 600mm thickness or floor slabs are located within the zone of influence of trees. Alternatively ground floor slabs may be constructed as ground bearing where Made Ground is less than 600mm thickness, slab not within the zone of influence of a tree, Made Ground is excavated and replaced by suitable granular fill, or where placed in natural materials.

All foundation excavations will need careful inspection by a suitably qualified engineer or inspector to ensure the founding strata is suitable and uniform along the length of the foundation, and capable of taking the anticipated structural loadings.

10.3.2 Foundations in Engineered Fill

Consideration can be given to excavating the Made Ground, replacing with suitable granular (engineered) fill and placing foundations at shallow depth (1m) in the Engineered Fill.

The following table summarises allowable bearing pressures at a depth of 1m for different sized foundations, placed on 1m thickness of engineered granular fill (i.e. made ground excavated to 2m depth and replaced by 1m thickness of granular fill in base of excavation). The bearing pressures have been calculated based on Hansen's method(1978), a factor of safety of 3 against bearing capacity failure, and assuming groundwater is at a level of 1.22mbgl (i.e. 0.22m below foundation level).

Summary of Anticipated Allowable Bearing Pressures

Foundation depth	Stratum	Assumed Design Value	Foundation Type	Foundation Size	Allowable Bearing Pressure*
1.0m	Engineered Granular Fill (Medium Dense)	N = 15	Strip	0.6m wide	110kN/m^2
				0.9m wide	115kN/m^2
			Pad	1m x 1m	165kN/m^2
				2m x 2m	170kN/m^2
	Engineered Granular Fill (Dense)	N = 35	Strip	0.6m wide	235kN/m^2
				0.9m wide	250kN/m^2
			Pad	1m x 1m	365kN/m^2
				2m x 2m	385kN/m^2
	Engineered Granular Fill (Very Dense)	N = 50	Strip	0.6m wide	385kN/m^2
				0.9m wide	410kN/m^2
			Pad	1m x 1m	>500kN/m^2
				2m x 2m	>500kN/m^2

The bearing pressures in granular material is significantly influenced by the presence of groundwater. In general if groundwater is close to the foundation base, bearing pressures are normally significantly reduced.

The following tables summarise anticipated foundation settlements, based on foundations being placed at 1m depth on 1m thickness of engineered granular fill. For the purposes of these calculations, structural loadings have been assumed as equal to the allowable bearing pressures given above, to give a worst case scenario.

Summary of Anticipated Settlements

Foundation depth	Stratum	Foundation Type	Foundation Size	Foundation Load	Immediate Settlement (mm)		
					Best Estimate	Lower Limit	Upper Limit
1.0m (groundwater at base of foundations)	Engineered Granular Fill (Medium Dense)	Strip	0.6m wide	110kN/m^2	<5	<5	10-15
			0.9m wide	115kN/m^2	5-10	<5	15-20
		Pad	1m x 1m	165kN/m^2	5-10	5-10	20-25
			2m x 2m	170kN/m^2	30-35	25-30	45-50
	Engineered Granular Fill (Dense)	Strip	0.6m wide	235kN/m^2	<5	<5	5-10
			0.9m wide	250kN/m^2	<5	<5	5-10
		Pad	1m x 1m	365kN/m^2	10-15	5-10	15-20
			2m x 2m	385kN/m^2	50-55	50-55	65-70
	Engineered Granular Fill (Very Dense)	Strip	0.6m wide	385kN/m^2	<5	<5	5-10
			0.9m wide	410kN/m^2	<5	<5	5-10
		Pad	1m x 1m	>500kN/m^2	10-15	10-15	15-20
			2m x 2m	>500kN/m^2	70-75	65-70	75-80

From the above table, some of the settlements for the larger pad foundations are significant. This is due to the depth of influence of the foundation loading entering the natural clays beneath the fill and causing some consolidation settlement of this material in addition to the settlement of the fill itself.

10.3.3 Foundations with Ground Improvement

Ground treatment (e.g. vibro displacement) may be an option, used with conventional shallow depth (strip/pad) foundations.

For example, vibro stone columns are often used to solve a wide range of static, dynamic and seismic foundation problems by using powerful depth vibrators to densify soils of form stone columns that compact or reinforce soils in situ. Vibro systems can be used to treat granular deposits, fills, made ground and soft clays/silts. Soils treated by vibro could offer an allowable bearing pressure in the range 100kN/m^2 to 200kN/m^2, depending on column spacings and ground encountered.

Once the treatment has been carried out, spread foundations may be adopted across the site, and designed to the loadings given above. Providing that any imported fill material between the tops of the columns and the underside of the floor slab is placed in a controlled manner, floor slabs may be ground bearing. Positive assurances should be sought from an experienced specialist contractor that the proprietary system proposed is capable of providing the required working loads in the ground conditions encountered, with a guarantee on maximum settlement for both footings and floor slabs.

10.4 Pavement Design

Values of CBR may be interpreted from plasticity index values using the Department of Transport Design Manual for Roads and Bridges(1994). Based on Volume 7, Section 2, Table 2.2, and results of plasticity index tests, values of between 2% and 5% can be anticipated for the cohesive Made Ground and Forest Marble Clay.

It is therefore recommended a CBR value of 2% is used for the near surface cohesive materials.

Consideration should be given to the potential differing ground conditions near surface, which could cause pavements to be partly constructed on clay or gravel. In this context a flexible pavement design may be required.

Consideration could be given to the use of geotextiles to allow reduction of capping thickness. For examples biaxial geogrids such as Tensar SSLA20 and SSLA30 are

often used to reduce capping thickness. The advice of a suitable contractor should be sought as to the most appropriate type of geotextile to use in the ground conditions encountered at this site. For guidance, the following table gives a comparison of granular layer thickness with and without the use of a geotextile, in accordance with the requirement of HA25/94 Part 2.

CBR	Unreinforced			Reinforced with Tensar Geogrid				
	Sub-base	Capping	Total	Sub-base	Capping	No. of grids	Total	Thickness saving
0.5%	Design not suitable			200mm	400mm	2	600mm	-
1.0%	150mm	600mm	750mm	400mm	0	1	400mm	350mm
1.5%	150mm	600mm	750mm	310mm	0	1	310mm	440mm
2.0%	150mm	600mm	750mm	260mm	0	1	260mm	490mm
3.0%	150mm	350mm	500mm	210mm	0	1	210mm	290mm
4.0%	150mm	300mm	450mm	175mm	0	1	175mm	275mm
5.0%	150mm	250mm	400mm	160mm	0	1	160mm	240mm
These figures are suitable for light access roads and car parks, based on 1000 standard axles. For heavier loaded pavements the advice of specialist contractor should be sought.								

It should be noted the type of construction will depend on proposed finished pavement levels across the site and it is recommended the pavement design is reviewed once these levels are known. It is essential further in situ CBR testing is carried out once formation levels are known to confirm design CBR values.

All formation excavations should be examined by a suitably experienced engineer or inspector to check for soft or unsuitable material, which should be removed and replaced with compacted granular fill. Also, to ensure good compaction and remove unevenness, the formation should be compacted with equipment suitable for use in the ground conditions encountered. Careful inspection of this work will also help identify any soft spots at or just below formation level.

10.5 Chemical Attack on Buried Concrete

Chemical tests (see Appendices) show low levels of water soluble sulphates and slightly alkaline conditions. Based on these conditions, it is recommended that for foundations the Design Sulphate Class for the site, as defined in BRE Special Digest 1$^{(2005)}$, be taken as DS-1, and the Aggressive Chemical Environment for Concrete (ACEC) site classification be taken as AC-1s.

However, organic/peaty material has been encountered in places within the fill which is typically acidic. In this instance consideration should be given to increasing to DS-2 conditions for concrete in contact with these soils.

The recommendations of BRE Special Digest 1 should be followed for concrete foundations and ground bearing floor slabs.

10.6 Suitability of Excavated Materials

Acceptability criteria and testing, and methods of compaction/placement will depend on the type of contract and specification used for the construction of the proposed development and it is recommended that earthworks specifications are reviewed by a suitably qualified engineer, once these have been prepared by the relevant parties.

Granular Made Ground and granular Forest Marble deposits could be suitable for re-use as structural fill, providing they are not contaminated and do not contain excessive amounts of clay and providing moisture contents are controlled during placement. The control of moisture contents will be important as the cohesive content of this stratum is likely to be sensitive to moisture content changes.

The cohesive Made Ground (incl. backfill to quarry) is unlikely to be suitable as re-use as structural fill and should be used for landscaping purposes only, providing it is not contaminated.

Some of the Forest Marble Clay may be re-used as structural fill, compacted in thin layers and in accordance with current guidelines/specifications. If Forest Marble Clay is to be considered for re-use as structural fill, it is likely further compliance testing will be required on stockpiles of the material.

It should be noted the materials on site are likely to be susceptible to moisture content changes and suitable working methods will be required if the material is to be re-used (for example compaction of materials in stockpiles, protection of stockpiles from weather, and handling during dry periods).

10.7 Temporary Works

Formations in the Made Ground and natural clays are likely to be susceptible to damage both by weather and trafficking, and should be protected immediately on exposure, particularly in areas where construction plant will access the site.

Excavations in Made Ground and natural granular deposits are likely to be unstable and should be battered back to an angle of 1 in 2, or a system of close sheeting and shoring adopted to ensure stability, and in particular where personnel are required to enter excavations.

All excavations should be adequately supported where personnel are required to enter.

Depending on finished site levels it is possible groundwater could be encountered near surface in excavations. Pumping may be required to keep excavations dry.

Appropriate measures should be taken in accordance with current health and safety guidelines to protect all personnel and plant from the affects of land gas, and in particular gas monitoring should be adopted where personnel are required to enter excavations.

All natural materials on site (with the exception of limestone bedrock, possibly at depth) should be capable of being excavated using conventional excavating machinery.

10.8 Drainage

Based on the largely cohesive nature of materials encountered it is unlikely soakaway drainage will be suitable at this site.

11. ENVIRONMENTAL ASSESSMENT

11.1 Introduction

In accordance with current best practice, the assessment of potentially contaminated sites is normally carried out by means of a risk assessment, based on a conceptual model, which examines possible sources of contamination, potential receptors, and likely links between the two. For contamination to be a hazard, it must be demonstrated that there is an identifiable source of contamination (either inside or outside the site), potential receptors that may be at risk (occupiers of the site, for example, or the environment in general), and that there are also potential pathways through which the former may affect the latter.

Potential sources of contamination can be determined from the results of the laboratory tests that have been carried out on the soil samples. Other potential sources may be evident from the information on the history of the site and its environs. Contaminants are only a hazard if they are present in suitably high concentrations.

11.2 Conceptual Model

11.2.1 Contaminant Sources

Based on the current and historical uses of the site and its surroundings, and the findings of the investigation, it is concluded that the following contaminant sources should be considered:

Historical/Current Site Sources: The site was an opencast quarry, later used as a Waste Recycling Depot by Dorset County Council and both uses could be potential sources of contamination.

Materials present on the site: No visual evidence of contamination was seen on the site surface or within arisings from the boreholes. Given the presence of Made Ground beneath the site, this should be considered a potential source of contamination.

Hydrocarbon odours were noted in the Made Ground in WS6 (0.05m-0.15m depth) and WS9 (0.05m-0.20m depth).

Ground Water: Groundwater was not encountered during the investigation. Subsequent monitoring of groundwater in standpipes indicated groundwater levels at depths ranging between 1.22m$^{(WS2)}$ and 2.60m$^{(WS6)}$.

Asbestos: Asbestos was not encountered on site during the fieldwork, or within any of the samples subsequently tested.

Land Gas: Another potential source of contamination is land gas. Results obtained during the initial monitoring visit on 5th December 2014 indicated Methane levels ranging from 0% to 0.1% by volume, Carbon Dioxide levels ranging from 0.9% to 1.8% by volume, and Oxygen levels ranging from 16.9% to 20.2% by volume. Hydrogen Sulphide levels of 0ppm were recorded together with borehole pressures of 0Pa and gas flows of 0l/hr. Atmospheric pressure was recorded as 1014mb.

Contamination arising from external sources: Based on historical maps and environmental database information, it is unlikely that areas near to the site are considered likely to contain elevated concentrations of some contaminants, which might affect the site itself.

11.2.2 Contaminant Pathways:

Contaminants can reach potential receptors through various routes. The following are considered to be applicable to this site:

- **Ingestion:** Some contaminants can be harmful if ingested directly, either after handling contaminated soils, or due to eating plants grown in such soils that may not be thoroughly clean.
- **Absorption through Plants:** Other contaminants can be taken up by plants grown in contaminated soils, and ingested by anybody eating such plants.
- **Leachate:** Soluble fractions of some contaminants can leach into the ground, contaminating groundwater.
- **Services / Drains:** Contaminants in solution can be transported from one part of the site to another, or from outside the site to within the site, through old drains, or other service trenches which may be present.

11.2.3 Contaminant Receptors:

The following potential receptors are considered to be applicable to this site:

- **Future Site Occupants:** Future site occupants could be at risk from the effects of any contaminants in the soil and groundwater, and also from land gas.
- **Construction Workers:** The personnel involved in the construction of the proposed development are also at risk.
- **Construction Materials:** materials used in construction could be at risk from contamination.
- **Groundwater / River Water:** As well as being a potential source of contamination, the groundwater also needs to be considered as a potential receptor of further contamination.
- **Vegetation:** New planting on the site could be at risk from contamination.

11.3 Soil Risk Assessment

11.3.1 Risk of Soil Contamination - during development

To assess the risk of soil contamination to construction and ground workers during development, guidelines from the HSE Document *'Protection of workers and the general public during development of contaminated land'*(1991) are used. The document assesses soil contamination test results and classifies the site as being uncontaminated or contaminated with varying degrees of contamination from 'slight' to 'unusually heavy'.

The guideline values and laboratory test results are summarised in the following table:

Summary of guideline values for protection of workers and the general public during development of contaminated land

Contaminant	Typical Values* for:					Test Results	Class
	Uncontaminated Soils	Slight Contamination	Contaminated	Heavy Contamination	Unusually Heavy Contamination		
	Class A	Class B	Class C	Class D	Class E		
pH (alkaline)	7 - 8	8 - 9	9 - 10	10 - 12	12	7.8-9.3	A-C
Arsenic	0 - 30	30 - 50	50 - 100	100 - 500	500	10-48	A-B
Cadmium	0 - 1	1 - 3	3 - 10	10 - 50	50	<1	A
Chromium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	5-63	A
Copper	0 - 100	100 - 200	200 - 500	500 - 2500	2500	4-20	A
Lead	0 - 500	500 - 1000	1000 - 2000	2000 – 1%	1.0%	9-240	A
Mercury	0 - 1	1 - 3	3 - 10	10 - 50	50	<1	A
Nickel	0 - 20	20 - 50	50 - 200	200 - 1000	1000	8-31	A-B
Zinc	0 - 250	250 - 500	500 - 1000	1000 - 5000	5000	22-270	A-B
Boron	0 - 2	2 - 5	5 - 50	50 - 250	250	<1	A
Selenium	0 - 1	1 - 3	3 - 10	10 - 50	50	<3	A
Beryllium	0 - 5	5 - 10	10 - 20	20 - 50	50	<2	A
Vanadium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	18-58	A
Sulphate	0 - 2000	2000 - 5000	5000 – 1%	1% - 5%	5.05%	900-2800	A-B
Sulphur	0 - 100	100 - 500	500 - 1000	1000 - 5000	5000	<500	A
Sulphide	0 - 10	10 - 20	20 - 100	100 - 500	500	<1-2	A
Cyanide (free)	0 - 1	1 - 5	5 - 50	50 - 100	100	<1	A
Thiocyanate	0 - 10	10 - 50	50 - 100	100 - 500	2500	<10	A
Coal Tar	0-500	500-1000	1000-2000	2000-1%	>1.0%	<0.10-150	A
Phenol	0 - 2	2 - 5	5 - 50	50 - 250	250	<1	A

Based on results of laboratory testing, the site can generally be classified as uncontaminated, with some levels of arsenic, nickel, zinc and sulphate suggesting the site is slightly contaminated and one level of pH suggesting the site is contaminated.

Based on the above results there is a low potential risk from soil contamination to construction workers, ground workers and members of the public during groundworks/construction, and appropriate measures, such as PPE, site health plans, appropriate disposal of material arisings will mitigate this risk.

11.3.2 Risk of Soil Contamination – after development

As part of the contamination assessment, the chemical results obtained by CJA have been screened against accepted compliance criteria, namely:

- Defra C4SL Health Criteria Values (March 2014), where available.
- CLEA Soil Guideline Values for soil contaminants where available; and
- CJA Tier 1 assessment values - based on LQM/CIEH$^{(2009)}$ values.

In March 2014 Defra published Category 4 Screening Levels (C4SLs) for assessment of land affected by contamination. C4SLs are intended for use in determining whether land is 'clearly not contaminated' as defined by the revised Part 2A Statutory Guidance, i.e. Category 4 is where there is no risk or the level of risk to human health is acceptably low. The framework developed presents a departure from the conventional approach of defining 'minimal risk' and the derivation of C4SLs has involved the development of a new toxicological criterion, the 'low level of toxicological concern' (LLTC), alongside modifications to the exposure modelling previously used to determine soil guideline values (SGVs) and similar generic assessment criteria.

It should be noted, CLEA SGV's are being reviewed by the Environment Agency, and at the time of writing this report, SGVs were available for a limited range of metals, BTEX, phenols and dioxins. For the purposes of this report the chemical results will be compared to the revised SGVs for metals where available and the old SGVs where new guidance is not available.

The Land Quality Management (LQM)/Chartered Institute of Environmental Health (CIEH) Generic Assessment Criteria (GAC) have been derived for soil contaminants for which there are no SGVs, and have been derived in accordance with UK legislation, national and Environment Agency Policy and using the Environment Agency's tools and available guidance.

The SGVs and GAC are intended to be used as generic assessment criteria and can be used in the preliminary evaluation of the risk to human health from long-term exposure to chemicals in soil. They represent values, which indicate to an assessor that soil concentrations above this level might present risk to the health of site-users and that further assessment, quantitative risk assessment, site investigation or remediation may be required.

The use of these reference values for initial screening purposes does not imply that they are categoric indicators of whether contamination conditions are significant, this being subject to a more detailed risk assessment.

The CLEA system also introduces some statistical testing of test results. In principle, the mean (average) of the results for a given contaminant could be compared with the SGV. However, the measured mean could differ significantly from the true mean if only a limited number of results are available. Therefore in the mean value test the upper 95th percentile of the mean measured concentration (US_{95}) is calculated for each contaminant and this is compared to the SGV. This test calculates the upper bound, below which 95% of the results would be expected to lie. If the mean exceeds the SGV then this may indicate a requirement for remediation or further investigation.

In the case of possible receptors, one of the most significant factors is the proposed future use of the site (as some potential uses are much less sensitive to the presence of contamination than others). With regard to the assessment, at the time of writing this report, the proposed end use of the site was for residential purposes. Therefore for the purposes of this report, the following sections compare the results of contamination analyses to residential types of end development (considered most appropriate for residential development and gardens) and also commercial end use (considered most appropriate for areas of hard cover) as specified by Defra/CLEA/LQM/CIEH.

The comparison of results is summarised in the following tables:

Soil Results Comparison with Defra C4SL HCV/LLTC Values

Determinand	C4SL (mg/kg)*			No. of Samples	Min. (mg/kg)	Max. (mg/kg)	No. of Exceedences
	Residential with home grown produce (1a)	**Residential** without home grown produce (1b)	Commercial (2)				
Arsenic	37	40	640	10	10	48	1 for (1a), (1b)
Benzene	0.87	3.3	98	5	<0.001	<0.001	0
Benzo(a)pyrene	5.0	5.3	76	10	<0.1	9.4	1 for (1a), (1b)
Cadmium	26	149	410	10	<1	<1	0
Chromium VI	21	21	49	10	<1	<1	0
Lead	200	310	2300	10	9	240	1 for (1a)
*Minimal risk Health Criteria Values							

Soil Results Comparison with CLEA SGVs

Determinand	CLEA SGV (mg/kg)*		No. of Samples	Min. (mg/kg)	Max. (mg/kg)	No. of Exceedences
	Residential (1)	Commercial (2)				
Chromium**	130	130	10	5	63	0
Mercury	1.0	26	10	<1	<1	0
Nickel	130	1800	10	8	28	0
Selenium	350	13000	10	<3	<3	0
Toluene	610	4400	5	<0.001	<0.001	0
Ethylbenzene	350	2800	5	<0.001	<0.001	0
o-xylene	250	2600	5	<0.001	<0.001	0
m-xylene	240	3500	5	<0.001	<0.001	0
p-xylene	230	3200	5	<0.001	<0.001	0
Phenol	420	3200 (38,000)***	10	<1	<1	0
*all values assuming 1% Soil Organic Matter. **old SGVs awaiting review *** direct skin contact level (long term exposure level)						

The samples have shown contaminants at levels below the recommended SGVs, with the exception of the following:

- The sample from WS10 has an elevated level of **arsenic** (48mg/kg) in excess of the recommended Defra levels for residential with home grown produce (37mg/kg) and residential without home grown produce (40mg/kg).
- The sample from WS9 has an elevated level of **benzo(a)pyrene** (9.4mg/kg) in excess of the recommended Defra levels for residential with home grown produce (5.0mg/kg) and residential without home grown produce (5.3mg/kg).
- The sample from WS9 has an elevated level of **lead** (270mg/kg) in excess of the recommended Defra levels for residential with home grown produce (200mg/kg).

The following contaminants were not assessed with respect to risks posed to Human Health as they are not generally considered to represent a significant risk to Human Health (CLR 8); sulphate and sulphide.

For contaminants not covered by the Defra C4SLs/CLEA SGVs, reference is made to the Generic Assessment Criteria (GAC) derived by The Land Quality Management Ltd & Chartered Institute of Environmental Health(July 2009). The GAC are based on Soil Organic Matter (SOM) contents of 1%, 2.5% and 6.0%. From the lab results it can be seen the values of SOM are variable. Therefore for the purposes of this report the

samples are assessed to GAC based on 2.5% SOM which is the closest value to the average of all SOM results.

Soil Results Comparison with LQM/CIEH Generic Assessment Criteria

Determinand	Generic Assessment Criteria (mg/kg)*		No. of Samples	Min. (mg/kg)	Max. (mg/kg)	No. of Exceedences
	Residential (1)	Commercial (2)				
Metals						
Beryllium	51	420	10	<2	<2	0
Boron	291	192000	10	<1	<1	0
Copper	2330	71700	10	4	20	0
Vanadium	75	3160	10	18	58	0
Zinc	3750	665000	10	22	270	0
Petroleum Hydrocarbons						
Aliphatic EC 5-6	55	6200	5	<0.010	<0.010	0
Aliphatic EC >6-8	160	18000	5	<0.010	<0.010	0
Aliphatic EC >8-10	46	5100	5	<0.010	<0.010	0
Aliphatic EC >10-12	230	24000	5	<1	<10	0
Aliphatic EC >12-16	1700	83000	5	<1	13	0
Aliphatic EC >16-35	64000	1800000	5	<10	214	0
Aromatic EC 5-7	130	49000	5	<0.010	<0.010	0
Aromatic EC >7-8	270	110000	5	<0.010	<0.010	0
Aromatic EC >8-10	65	8600	5	<0.010	<0.010	0
Aromatic EC >10-12	160	29000	5	<1	2	0
Aromatic EC>12-16	310	37000	5	<1	120	0
Aromatic EC>16-21	480	28000	5	<1	430	0
Aromatic EC>21-35	1100	28000	5	<1	550	0
Polycyclic Aromatic Hydrocarbons						
Naphthalene	3.7	480	10	<0.1	0.3	0
Acenaphthylene	400	97000	10	<0.1	<0.1	0
Acenaphthene	480	98000	10	<0.1	6.1	0
Fluorene	380	69000	10	<0.1	5.4	0
Phenanthrene	200	22000	10	<0.1	25	0
Anthracene	4900	540000	10	<0.1	9.2	0
Fluoranthene	460	23000	10	<0.1	26	0
Pyrene	1000	54000	10	<0.1	20	0
Benz(a)anthracene	4.7	95	10	<0.1	10	1 for (1)
Chrysene	8.0	140	10	<0.1	8.9	1 for (1)
Benzo(b)fluoranthene	6.5	100	10	<0.1	12	1 for (1)
Benzo(k)fluoranthene	9.6	140	10	<0.1	5.2	0
Indeno(1,2,3-cd)pyrene	3.9	61	10	<0.1	3.6	0
Dibenz(a,h)anthracene	0.86	13	10	<0.1	0.9	1 for (1)
Benzo(ghi)perylene	46	660	10	<0.1	3.6	0

In general the samples have shown contaminants at levels below the CJA Tier 1 assessment levels, with the exception of the following.

- The sample from WS9 has elevated levels of **Polyaromatic Hydrocarbons (PAH)** in excess of the recommended GAC for residential end use.

Hydrocarbons tend to be a mixture of various organic compounds and are characterised by the length of their carbon chain, the 'C' value. For the purposes of this report, a speciated TPH analysis has been carried. This method allows the characterisation of different 'C' values within each soil sample. Typical 'C' values are summarised as follows:

Analytical Request	Carbon Range	Products
Petroleum/gasoline range organics	C_5 - C_{10}	Petrol
Diesel range organics	C_{10} - ca. C_{20}	Diesel, paraffin and heating oils
Mineral range organics	ca. C_{20} - C_{40}	Lubricating oil, higher boiling fuel oils

Based on the laboratory results, the TPH encountered would appear to be in the C_{10}-C_{20} and C_{20}-C_{40} range suggesting the hydrocarbon contamination is likely to be due to the presence of diesel, paraffin and heating oils (C_{10}-C_{20}).

The elevated levels of hydrocarbon contamination in WS9 agree with field observations of hydrocarbon odours in the Made Ground at shallow depth. It is likely this contamination could be due to previous usage of the site and could be due to a spillage or even leakage from a vehicle.

A summary of elevated contaminants encountered in soil is summarised in the following table:

Summary of Elevated Contaminants in Soil

Sample Location	Depth	Contaminants in excess of guidelines for:	
		Residential end use	Commercial end use
WS1	0.75m	-	-
WS2	0.50m	-	-
WS3	0.50m	-	-
WS4	0.75m	-	-
WS5	1.00m	-	-
WS6	0.25m	-	-
WS7	0.50m	-	-
WS8	0.25m	-	-
WS9	0.15m	Lead, PAH	-
WS10	0.50m	Arsenic,	-

11.4 Groundwater Risk Assessment

Based on the levels of soil contamination and ground/groundwater conditions encountered, it is considered the risk of contamination to groundwater is low.

11.5 Surface Water Risk Assessment

Given the levels of soil contamination encountered and ground conditions encountered (predominantly clays which are largely impermeable), and distance of site from the nearest surface water feature (270m), it is considered the risk to surface waters is low.

11.6 Land Gas Risk Assessment

The potential risk associated with gases being generated in the ground (whether from natural or man-made sources) depends on the concentrations of gas and its flow rate to the surface. These factors are assessed by monitoring of the gas installations in the boreholes. The variable nature of gas generation and the effect of barometric pressure on gas flow, means that the volume of gas potentially reaching the ground surface is normally inconsistent over time.

For the assessment of sites, in terms of the potential for ground gas to present a hazard, the risk based methodology detailed in the NHBC Guidance on Methane and Carbon Dioxide(Edition No. 4, March 2007) is used. This is a risk based approach that is designed to allow quick and easy design of gas protection for a low-rise development by comparing the measured gas emission rates to Characteristic Situations, based on risk based Gas Screening Values (GSVs), as described by CIRIA Report C665(2007). The GSVs equate to the borehole gas volume flow rate as defined by Wilson and Card(1999) as the borehole flow rate multiplied by the concentration in the air stream of the particular gas being considered.

For the purposes of this evaluation the calculations will be carried out for both carbon dioxide and methane encountered in the boreholes on site and a peak flow rate of 0.2l/hr assumed to give a worst case scenario adopted in order to establish the appropriate protection measures, as follows:

- Carbon dioxide: maximum flow rate = 0.2l/hr, max concentration = 1.8%
- Methane: maximum flow rate = 0.2l/hr, max concentration = 0.1%.

Based on the above figures, the GSV is calculated as:

- Carbon dioxide: GSV = 0.2 x 0.018 = 0.0036l/hr
- Methane: GSV = 0.2 x 0.001 = 0.0002l/hr.

The above results suggest the site can be given a Characteristic Situation of (1), i.e. 'very low risk', in accordance with the following table:

Modified Wilson & Card Classification (CIRIA Report 659)

Characteristic Situation (CIRIA Report 149)	*Risk Classification*	*GSV (CH_4 or CO_2) (l/hr)*	*Additional Factors*	*Typical Source of Generation*
1	Very Low Risk	<0.07	Typically methane ≤1%v/v and/or carbon dioxide ≤5% v/v. Otherwise consider increase to Situation 2.	Natural Soils with low organic content. "Typical" Made Ground.
2	Low Risk	<0.7	Borehole flow rate not to exceed 70l/hr. Otherwise increase to Situation 3.	Natural soil, high peat/organic content. "Typical" Made Ground.
3	Moderate Risk	<3.5		Old landfill, inert waste, mineworking flooded.
4	Moderate to High Risk	<15	Quantitative risk assessment required to evaluate scope of measures required.	Mineworking susceptible to flooding, completed landfill (WMP 26B criteria)
5	High Risk	<70		Mineworking unflooded inactive with shallow workings near surface.
6	Very High Risk	>70		Recent landfill site.

With respect to residential development, the above results suggest the site can be classified as 'Green' and gas protection measures will not be required, in accordance with the following tables, taken from the NHBC Guidance:

Gas Risk Assessment – Traffic Lights with Typical Maximum Concentrations and Gas Screening Values

Traffic Light Classification	Methane[1]		Carbon Dioxide[1]	
	Typical maximum concentration[3] (%v/v)	Gas Screening Value[2,4] (l/hr)	Typical maximum concentration[3] (%v/v)	Gas Screening Value[2,4] (l/hr)
Green	1	0.16	5	0.78
Amber 1	5	0.63	10	1.56
Amber 2	20	1.56	30	3.10
Red				

Notes:

1 The worst case ground gas regime identified on site, either methane or carbon dioxide, at the worst-case temporal conditions that the site may be expected to encounter will be the decider as to what Traffic Light is allocated.

2 Gas Screening Value is the borehole Gas Volume Flow Rate, in litres per hour, as defined in Wilson and Card (1999), which is the borehole flow rate multiplied by the concentration in the air stream of the particular gas being considered.

3 The Typical Maximum Concentrations can be exceeded in certain circumstances should the Conceptual Model indicate it is safe to do so.

4 The Gas Screening Value thresholds should not generally be exceeded without the completion of a detailed ground gas risk assessment taking into account site specific conditions.

Ground Gas Protection Measures Required for the Traffic Lights

Traffic Light	Ground Gas Protection Measures Required
Green	Ground gas protection measures not required.
Amber1	Low-level ground gas protection measures are required, using a membrane and ventilated sub-floor void that creates a permeability contrast to limit the ingress of gas into buildings. Gas protection measures are to be installed as prescribed in BRE414. Ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24hrs.
Amber2	High level ground gas protection measures are required, creating a permeability contrast to prevent ingress of gas into buildings. Gas protection measures are to be installed as prescribed in BRE414. **Membranes used should always be fitted by a specialist contractor and should be fully certified**. As with Amber1, ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24hrs.
Red	Standard residential housing is not normally acceptable without further Ground Risk Assessment and/or possible remedial mitigation measures to reduce/remove the source of the ground gases. In certain circumstances, active protection methods could be applied, but only when there is a legal agreement assuring the management and maintenance of the system for the life of the property.

According to Table 8.6 of CIRIA Report 665, no special precautions will be required in residential or commercial/industrial developments for Characteristic Situation 1.

11.7 Risk from Asbestos

Asbestos was not encountered on site during the fieldwork, or within any of the samples subsequently tested. It is therefore considered the risk of asbestos being present in the ground is low.

11.8 Risk to Buried Services

It is considered that, due to the levels of contamination on the site, standard materials are likely to be appropriate for new water pipes. Further advice should be sought from the local water company.

Previous guidance on buried water pipes was contained in Water Regulations Advisory Scheme (WRAS) Guidance Note No. 9-04-03(2002), however this has been superseded by the UK Water Industry Research Report 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' Ref 10/WM/03/21 (January 2011).

11.9 New Planting/Vegetation

Elevated levels of boron, nickel, copper and zinc (which are phytotoxic and harmful to plants) have not been encountered. It is therefore considered the risk from contamination to new planting/vegetation is low.

11.10 Site Risk Assessment

The following table presents an outline summary of the contamination assessment discussed above.

Contamination Assessment Summary

Description of Receptor or Source	Risk rating
Health and safety of workers during redevelopment	Low
Current and future site users and third parties residential development commercial/industrial development	 Low to moderate Low
Risk to groundwater	Low
Risk to surface waters	Low
On site and off site migration of land gasses	Low
Presence of asbestos in ground	Low
Risk to buried services	Low
New planting/vegetation	Low
OVERALL GROUND CONTAMINATION RISK RATING	**Low**

11.11 Discussion and Conclusions

The possible actions considered appropriate for the proposed development, together with other precautionary measures, are given below:

11.11.1 Contaminated Soils

As discussed in the above sections, the contamination tests have encountered elevated levels of arsenic, lead and polyaromatic hydrocarbons (PAH) with the majority of levels exceeding guidelines for residential development. The levels are however, well below recommended guidance levels for commercial/industrial (hard cover) development.

The requirement for remediation of these soils will depend on the type of end development for the site as some uses (e.g. gardens) are more sensitive to contamination than other uses (e.g. hard cover development).

Based on the findings of the investigation the following remediation requirements are recommended:

- Where levels of contamination are in excess of the recommended guidelines for residential end use and the proposed development at these particular

locations is gardens/soft landscaping, these should be excavated, removed and replaced with a minimum thickness of 600mm of clean inert material.

- If the development is hard cover at these locations the soils may be left in situ as the hard cover development seals contamination beneath and effectively breaks any source-pathway-receptor pollutant leakage, subject to Local Authority approval.

The presence of contamination in other areas of the site not covered by the current exploratory holes should not be discounted and it is recommended additional spot checks are carried out, after site clearance/demolition and during groundworks, particularly for any proposed allotment/garden/soft landscaping areas.

Laboratory tests suggest there is a low potential risk from soil contamination to construction workers and groundworkers and appropriate measures such as PPE, site health plans and appropriate disposal of arisings will mitigate this risk. The groundworks contractor should provide a Soil Management Plan to deal with, including method statements for dealing with known contamination and unanticipated contamination that may be encountered during development.

11.11.2 Contaminated Groundwater

Due to the low levels of contamination found at the site, it is not considered likely that there would be a hazard to the groundwater beneath the site, and no remedial action should be necessary.

11.11.3 Radon Gas

According to the BGS protection against the ingress of radon gas into new buildings is not required.

11.11.4 Land Gas

Based on the monitoring results to date gas protection measures will not be required for buildings.

However, attention is drawn to the limited amount of monitoring carried out to date. It is recommended further monitoring is carried out to examine long term land gas levels

and the above section reviewed accordingly. In particular it is recommended a further monitoring visit is undertaken at a time of falling atmospheric pressure, or when atmospheric pressure is <1000mb, in accordance with Ciria guidelines, and the gas protection measures reviewed accordingly.

11.11.5 Decommissioning Fuel Storage Tanks

Any fuel storage tanks within existing buildings should be decommissioned and treated as necessary by a specialist contractor.

11.11.6 Waste Disposal

Soils excavated from the site should either be taken to a suitable site, registered to take the levels of contamination encountered, or may possibly be used as general fill at this or other sites. If reuse is considered, however, further testing may be required.

CJA have given the results to a local waste company who operate their own tip and run removals and they confirm the waste classification of the soils is as follows:

Sample	Depth	Contaminant	Classification
WS1	0.75m	-	Inert
WS2	0.50m	-	Inert
WS3	0.50m	-	Inert
WS4	0.75m	-	Inert
WS5	1.00m	-	Inert
WS6	0.25m	-	Inert
WS7	0.50m	-	Inert
WS8	0.25m	-	Inert
WS9	0.15m	Lead, PAH, TPH	Hazardous
WS10	0.50m	Arsenic	Non- Hazardous

11.11.7 Fluorescent Tubes

If existing buildings are to be demolished prior to redevelopment, it should be noted that fluorescent light tubes must now be classified as hazardous waste and disposed of accordingly, as laid out in the Environment Agency's Technical Guidance WM2, and in accordance with the new Hazardous Water Regulations (England & Wales), effective from July 16th 2005.

11.11.8 Site Personnel

As with all construction sites, personnel working on the site during the construction period should be encouraged to maintain a high standard of personal hygiene and on site washing facilities should be available.

11.11.9 Other Matters

Due diligence is required during the construction period, and should any further evidence of contamination be found, appropriate investigation and / or action should be taken. The significance of any contamination not discovered by this investigation is outside the scope of this report.

It is emphasised that only a small number of tests for contamination have been carried out, and that the possibility of further contamination existing elsewhere on the site cannot be ruled out. CJA does not accept any liability for contamination.

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TABLE 1 - SUMMARY OF EXPLORATORY HOLES

Hole	Type*	Depth (m)	Date Started	Date Finished	Backfill Details**
WS1	WS	1.60	20/11/2014	20/11/2014	G
DPWS1	DP	1.60	20/11/2014	20/11/2014	-
WS2	WS	2.10	20/11/2014	20/11/2014	SP
DPWS2	DP	2.20	20/11/2014	20/11/2014	-
WS3	WS	2.25	20/11/2014	20/11/2014	G
DPWS3	DP	2.80	21/11/2014	21/11/2014	-
WS4	WS	1.95	20/11/2014	20/11/2014	G
DPWS4	DP	2.00	20/11/2014	20/11/2014	-
WS5	WS	3.20	20/11/2014	20/11/2014	G
DPWS5	DP	3.30	20/11/2014	20/11/2014	-
WS6	WS	3.50	20/11/2014	20/11/2014	SP
DPWS6	DP	3.70	20/11/2014	20/11/2014	-
WS7	WS	1.75	21/11/2014	21/11/2014	G
DPWS7	DP	1.70	21/11/2014	21/11/2014	-
WS8	WS	1.95	20/11/2014	20/11/2014	G
DPWS8	DP	1.90	20/11/2014	20/11/2014	-
WS9	WS	0.58	21/11/2014	21/11/2014	G
DPWS9	DP	0.60	21/11/2014	21/11/2014	-
WS10	WS	2.00	21/11/2014	21/11/2014	SP
DPWS10	DP	2.20	21/11/2014	21/11/2014	-

*WS = Window Sample,DP = Dynamic probe.
**G = Grout, SP = standpipe

TABLE 2 - SUMMARY OF LABORATORY GEOTECHNICAL TEST RESULTS

Hole	Depth (m)	CLASSIFICATION				CHEMICAL	
		Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	pH value	Water soluble Sulphate SO_4, (mg/l)
WS1	1.00	18	54	29	25		
WS2	1.50	19	53	25	28	8.2	190
WS3	2.00	29	67	32	37		
WS5	2.50	36	67	31	36	7.8	10
WS6	1.00	47	75	37	38		
WS7	1.20	37	62	29	33	8.0	20
WS9	0.50	31	63	29	34		
WS10	1.00	32	42	36	6		

TABLE 3A – SUMMARY OF SOIL CONTAMINATION TEST RESULTS

Exploratory Hole		WS1	WS2	WS3	WS4	WS5	WS6	WS7	WS8	WS9	WS10
Depth (m)		0.75	0.50	0.50	0.75	1.00	0.25	0.50	0.25	0.15	0.50
Contaminant	Units										
Arsenic	mg/kg	21	19	24	20	12	10	27	10	23	48
Beryllium	mg/kg	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Water Soluble Boron	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Chromium	mg/kg	5	22	14	27	27	27	23	29	14	63
Hexavalent Chromium	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	mg/kg	4	20	14	19	18	17	16	19	12	9
Lead	mg/kg	9	39	17	31	30	43	30	49	240	44
Mercury	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	mg/kg	8	23	19	28	31	16	22	20	11	19
Selenium	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vanadium	mg/kg	18	39	35	47	36	30	44	37	20	58
Zinc	mg/kg	22	89	52	87	72	250	120	200	270	120
Total cyanide	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Free cyanide	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thiocyanate	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenols	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphur (Free)	mg/kg	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
Total Sulphate (SO_4)	%	0.09	0.11	0.11	0.09	0.11	0.20	0.28	0.14	0.18	0.11
Sulphide	mg/kg	<1	2	<1	<1	5	<1	<1	<1	<1	<1
Soil Organic Matter	%	0.6	3.6	0.9	2.5	1.8	4.8	3.1	2.7	1.7	1.7
pH Value	Units	8.8	7.8	8.5	8.0	7.9	8.0	9.3	9.1	8.8	9.2
Asbestos ID	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3B – SUMMARY OF SOIL CONTAMINATION TEST RESULTS

Exploratory Hole		WS1	WS2	WS3	WS4	WS5	WS6	WS7	WS8	WS9	WS10
Depth (m)		0.75	0.50	0.50	0.75	1.00	0.25	0.50	0.25	0.15	0.50
Contaminant	Units										
Benzene	µg/kg	-	-	<1	<1	<1	<1	-	-	<1	-
Toluene	µg/kg	-	-	<1	<1	<1	2	-	-	<1	-
Ethylbenzene	µg/kg	-	-	<1	<1	<1	<1	-	-	<1	-
M/P Xylene	µg/kg	-	-	<1	<1	<1	<1	-	-	<1	-
O Xylene	µg/kg	-	-	<1	<1	<1	<1	-	-	<1	-
Methyl tert-Butyl Ether	µg/kg	-	-	<1	<1	<1	<1	-	-	<1	-
Aliphatic TPH C5-C6	mg/kg	-	-	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	-
Aliphatic TPH C6-C8	mg/kg	-	-	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	-
Aliphatic TPH C8-C10	mg/kg	-	-	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	-
Aliphatic TPH C10-C12	mg/kg	-	-	<1	<1	<1	<10	-	-	<10	-
Aliphatic TPH C12-C16	mg/kg	-	-	<1	5	<1	<10	-	-	13	-
Aliphatic TPH C16-C21	mg/kg	-	-	2	4	<1	<10	-	-	38	-
Aliphatic TPH C21-C35	mg/kg	-	-	2	210	4	<10	-	-	54	-
Aromatic TPH C6-C7	mg/kg	-	-	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	-
Aromatic TPH C7-C8	mg/kg	-	-	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	-
Aromatic TPH C8-C10	mg/kg	-	-	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	-
Aromatic TPH C10-C12	mg/kg	-	-	<1	2	<1	<10	-	-	<10	-
Aromatic TPH C12-C16	mg/kg	-	-	<1	4	<1	<10	-	-	120	-
Aromatic TPH C16-C21	mg/kg	-	-	<1	3	<1	<10	-	-	430	-
Aromatic TPH C21-C35	mg/kg	-	-	<1	8	<1	<10	-	-	550	-
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	0.3
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.2	0.3	6.1	1.0
Fluorene	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.1	0.2	5.4	0.7
Phenanthrene	mg/kg	<0.1	0.2	<0.1	2.4	<0.1	<0.1	0.9	1.1	25	4.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	0.3	0.5	9.2	1.3
Fluoranthene	mg/kg	<0.1	0.4	<0.1	5.8	<0.1	0.1	1.4	2.1	26	6.8
Pyrene	mg/kg	<0.1	0.3	<0.1	5.0	<0.1	0.1	1.2	1.9	20	6.0
Benz(a)anthracene	mg/kg	<0.1	0.2	<0.1	2.8	<0.1	<0.1	0.6	1.0	10	2.6
Chrysene	mg/kg	<0.1	0.2	<0.1	2.8	<0.1	<0.1	0.6	1.0	8.9	2.5
Benzo(b)fluoranthene	mg/kg	<0.1	0.3	<0.1	3.9	<0.1	<0.1	1.0	1.5	12	3.7
Benzo(k)fluoranthene	mg/kg	<0.1	<0.1	<0.1	1.6	<0.1	<0.1	0.4	0.6	5.2	1.5
Benzo(a)pyrene	mg/kg	<0.1	0.2	<0.1	2.8	<0.1	<0.1	0.7	1.1	9.4	2.7
Indeno(1,2,3-cd)pyrene	mg/kg	<0.1	<0.1	<0.1	1.4	<0.1	<0.1	0.4	0.6	3.6	1.2
Dibenz(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	0.9	0.3
Benzo(ghi)perylene	mg/kg	<0.1	<0.1	<0.1	1.4	<0.1	<0.1	0.4	0.6	3.6	1.3
Total PAH	mg/kg	<0.1	1.8	<0.1	32	<0.1	0.2	8.2	13	150	36

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APPENDICES

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SITE PHOTOGRAPHS

Plate 1 - Entrance to site from A352

Plate 2 - General view of site from entrance

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Project	Drawing Title
Longburton Depot	**Site Photographs**
Client	Project No.
Dorset County Council	**AC1128**

Plate 3 - General view of site showing retaining walls along western boundary

Plate 4 - General view of site showing retaining walls along southern boundary

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King Road Avenue,
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Bristol. BS11 9HF
Tel: 0117 982 1473

Project	Drawing Title
Longburton Depot	**Site Photographs**
Client	Project No.
Dorset County Council	**AC1128**

Plate 5 - Showing cracking in retaining wall on southern boundary

Plate 6 - Showing cracking in retaining wall on southern boundary

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Avonmouth,
Bristol. BS11 9HF
Tel: 0117 982 1473

Project	Drawing Title
Longburton Depot	**Site Photographs**
Client	Project No.
Dorset County Council	**AC1128**

Plate 7 - showing part of small retaining wall in north-western part of site

Plate 8 - showing cracking in small retaining wall in north-western part of site

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King Road Avenue,
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Bristol. BS11 9HF
Tel: 0117 982 1473

Project	Drawing Title
Longburton Depot	**Site Photographs**
Client	Project No.
Dorset County Council	**AC1128**

Plate 9 - showing large main building on site

Plate 10 - inside large main building on site

cjassociates King Road Avenue, Avonmouth, Bristol. BS11 9HF Tel: 0117 982 1473	Project **Longburton Depot**	Drawing Title **Site Photographs**
	Client **Dorset County Council**	Project No. **AC1128**

Plate 11 - inside large main building on site

Plate 12 - western side of large main building on site

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Project	Drawing Title
Longburton Depot	**Site Photographs**
Client	Project No.
Dorset County Council	**AC1128**

Plate 13 - single storey buildings near entrance to site

Plate 14 - single storey building near entrance to site southern side

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	Client **Dorset County Council**	Project No. **AC1128**

Plate 15 - single storey building near entrance to site southern side

Plate 16 - single storey building near entrance to site southern side

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	Client **Dorset County Council**	Project No. **AC1128**

Plate 17 - storage of bins

Plate 18 - recycling containers, north-western part of site

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Project	Drawing Title
Longburton Depot	**Site Photographs**
Client	Project No.
Dorset County Council	**AC1128**

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BGS BOREHOLE RECORDS

1

RECORD OF WELL (SHAFT OR BORE)

312/13

ST61/25

At New Cottages

Town or Village Long Burton

County Dorset Six-inch quarter sheet 12 NW

For Mr.

Exact site of well In the orchard to the west of the cottages ST6477 1293 (Attach a tracing from a map, or a sketch-map, if possible.)

Level of ground surface above sea-level (O.D.) ca 308 feet.

Is well-top at ground level? Yes If not, state how far above / below ; feet.

Shaft 18'4" ft., diameter 4 ft. Details of headings

Bore ft. ; diameter of bore : at top ins. ; at bottom ins.

Lengths, diameters, perforations, etc., of lining tubes Three 3-foot diam. concrete casings

Water struck at depths, below well-top, of (feet)

TEST DETAILS — Month — Year

Rest-level of water 9 ft. ~~above~~ / below well-top. Suction at ft. Yield on hours' / days'

pumping gallons per (max. capacity of pump g.p.h.),

with depression of feet. Recovery to in mins. / hours.

Dark

WORKING CONDITIONS

Rest-level of water in (month), (year), ft. above / below well-top.

Highest " in (month), (year), ft. above / below "

Lowest " in (month), (year), ft. above / below "

Suction at ft. Rate of pumping galls. per for hours per day,

with average depression of ft. Recovery to in mins. / hours

Quality of water (*attach copy of analysis if available*)

Well made by Date of well 1938

Information from V. Wilson

ADDITIONAL NOTES.

Now disused.

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map.	on 6" Map.
30/7/46.				⊙	⊙
				V.W. July '46	

(17208) Wt.42001/0877 10,000 2/41 A.&E.W.Ltd. Gp.686

(For Survey use only) Geological Classification	Nature of Strata. If measurements start below ground surface, state how far...	Thickness Feet	Thickness Inches	Depth Feet	Depth Inches
V					
Carnbrash	Brown sandy clay with large concretions	5	0		
	close grained hard blue limestone	1	0		
	Brown sandy clay	1	2		
	Blue hearted limestone	1	2		
	Dark blue marly rudge w. Pholadomya	2	0		
	Dark blue limestone + sandy clay	8	0	18	4

Agreed BJW 2/77

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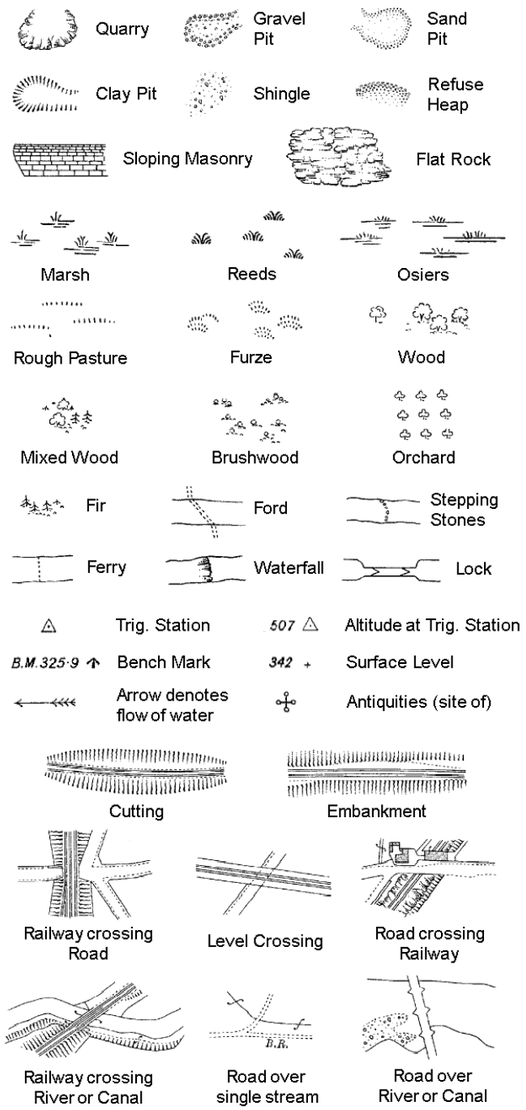
HISTORICAL MAP EXTRACTS

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)

County & Civil Parish Boundary

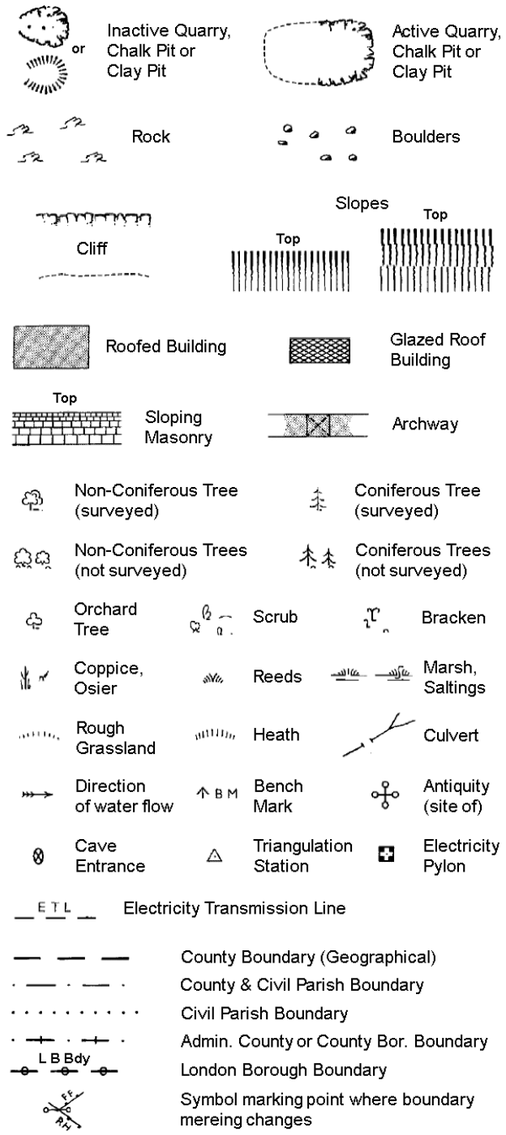
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

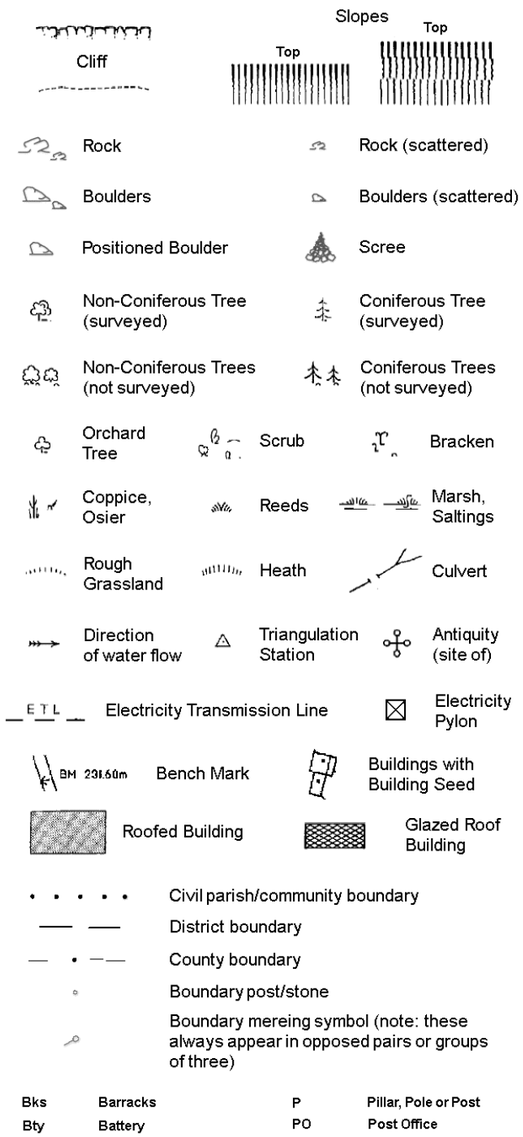
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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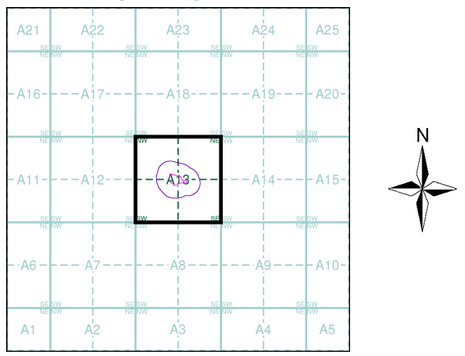
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Dorset	1:2,500	1887	2
Dorset	1:2,500	1903	3
Dorset	1:2,500	1928	4
Ordnance Survey Plan	1:2,500	1980	5
Large-Scale National Grid Data	1:2,500	1995	6

Historical Map - Segment A13



Order Details

Order Number:	62759210_1_1
Customer Ref:	AC1128
National Grid Reference:	364700, 113130
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	100

Site Details

Dorset County Council, Council Depot, Longburton, SHERBORNE, Dorset, DT9 5NZ

Landmark® Information Group

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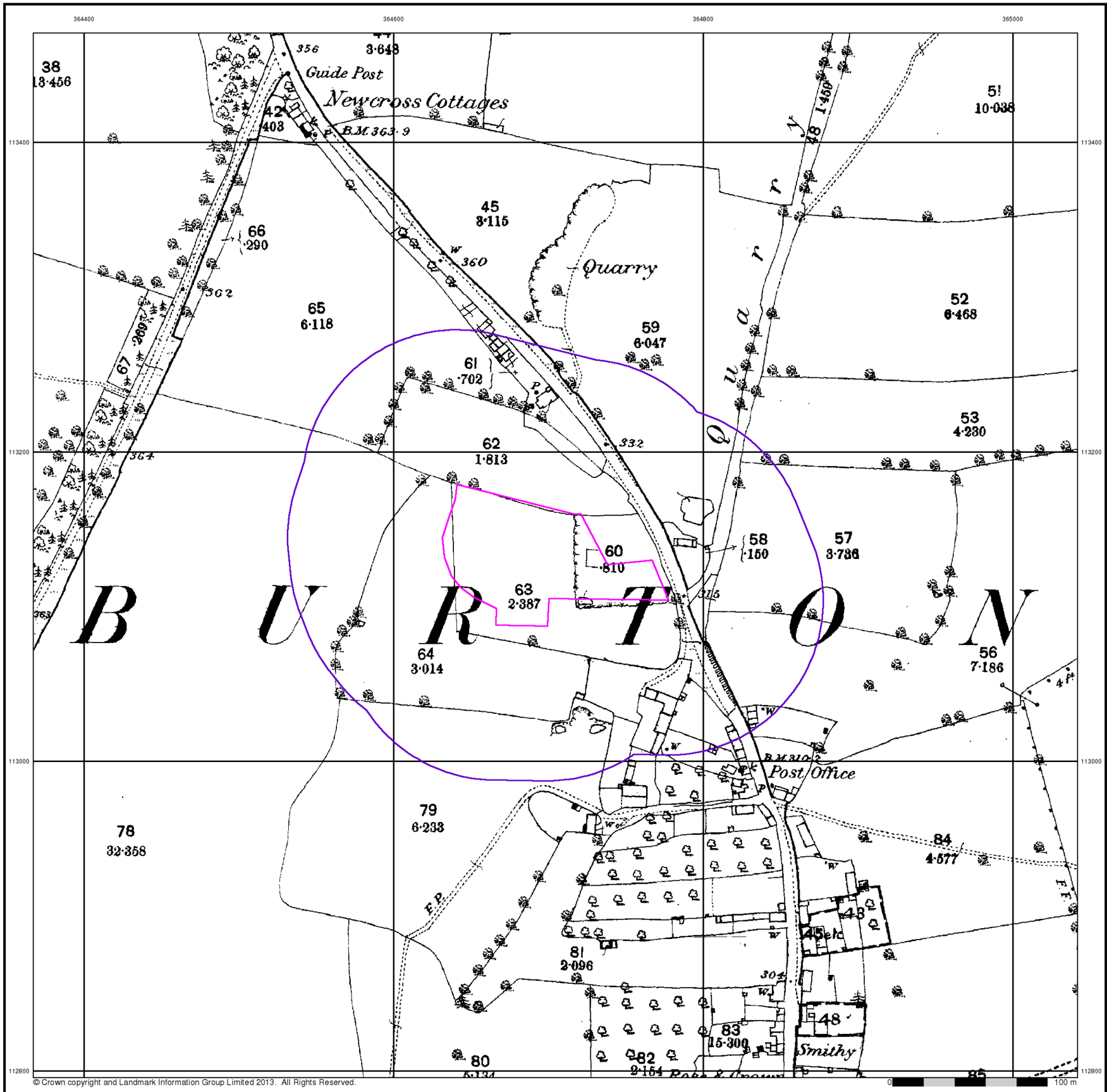
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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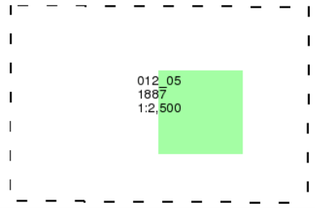
Dorset

Published 1887

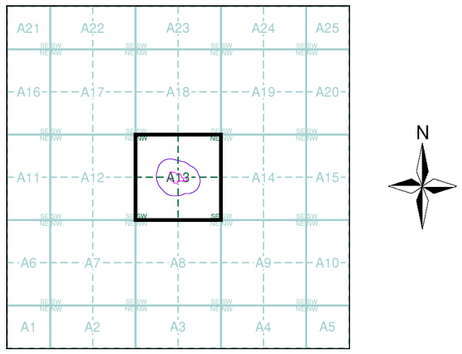
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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Search Buffer (m):	100

Site Details

Dorset County Council, Council Depot, Longburton, SHERBORNE, Dorset, DT9 5NZ

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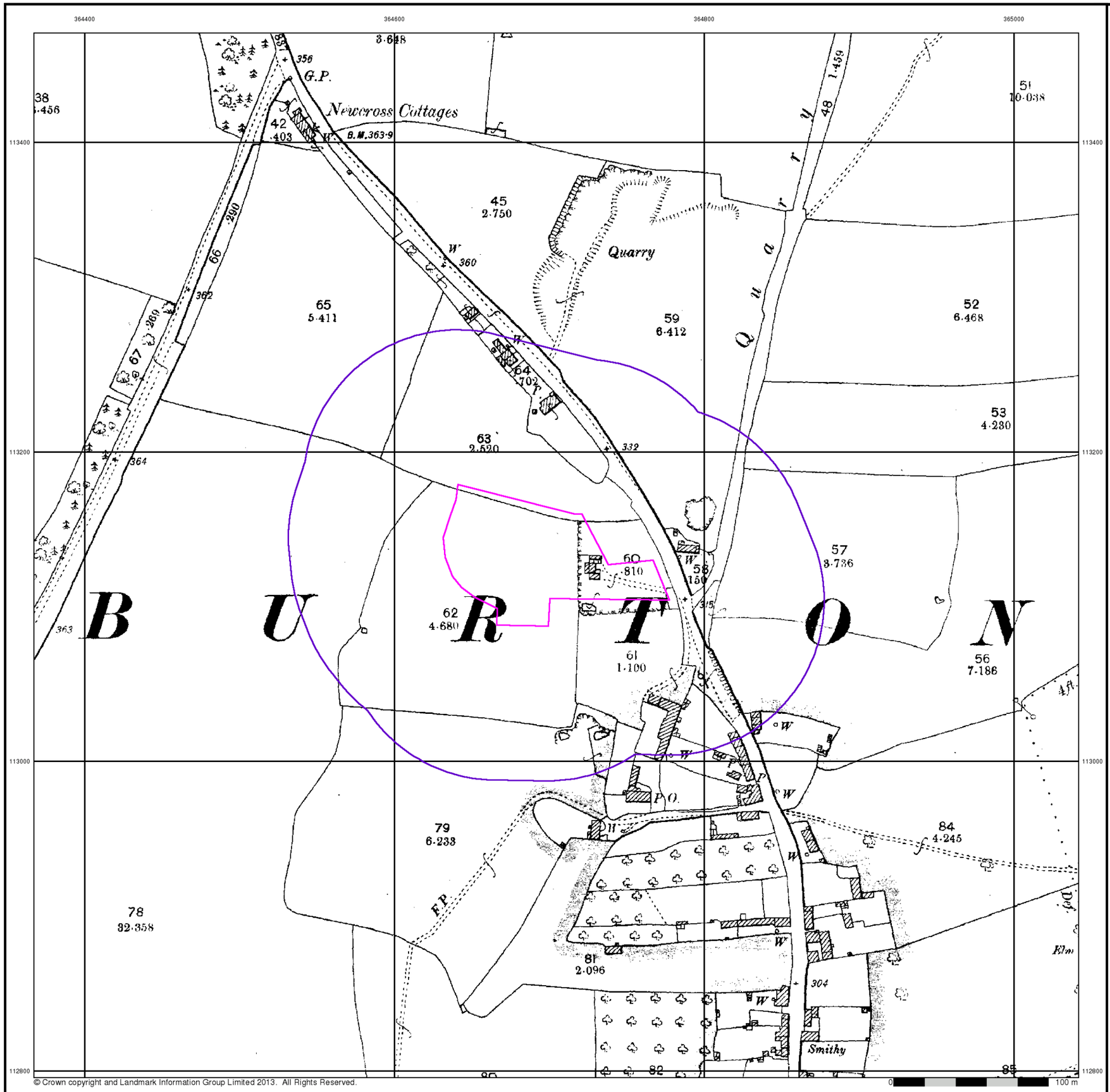

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Dorset

Published 1903

Source map scale - 1:2,500

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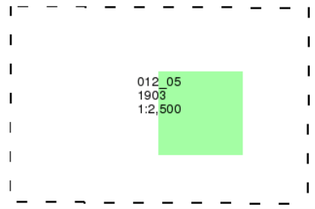
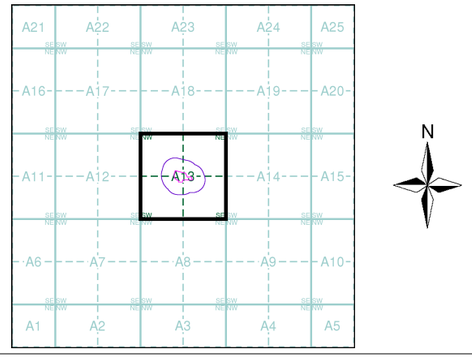


Historical Map - Segment A13



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Site Area (Ha):	0.75
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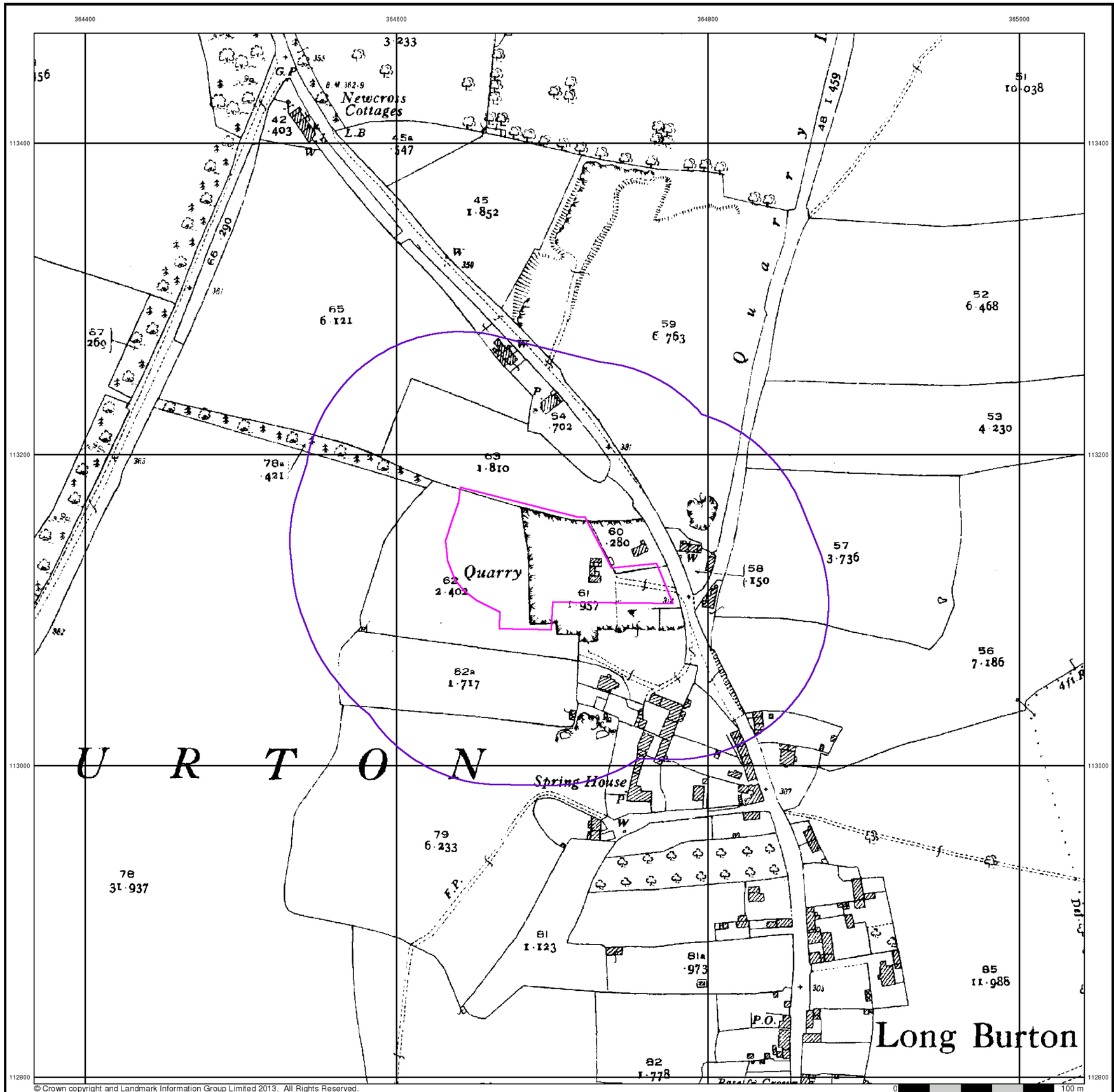
Site Details

Dorset County Council, Council Depot, Longburton, SHERBORNE, Dorset, DT9 5NZ



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Dorset

Published 1928

Source map scale - 1:2,500

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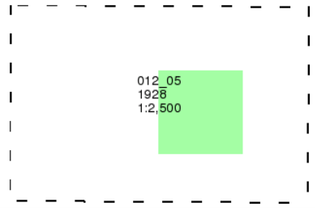
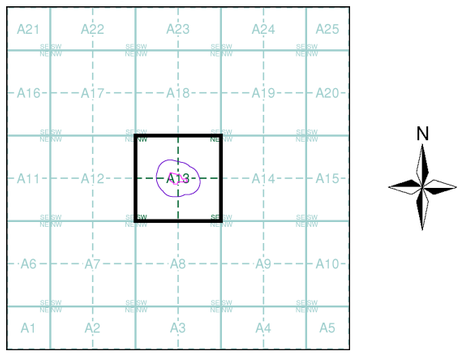
Map Name(s) and Date(s)



Historical Map - Segment A13



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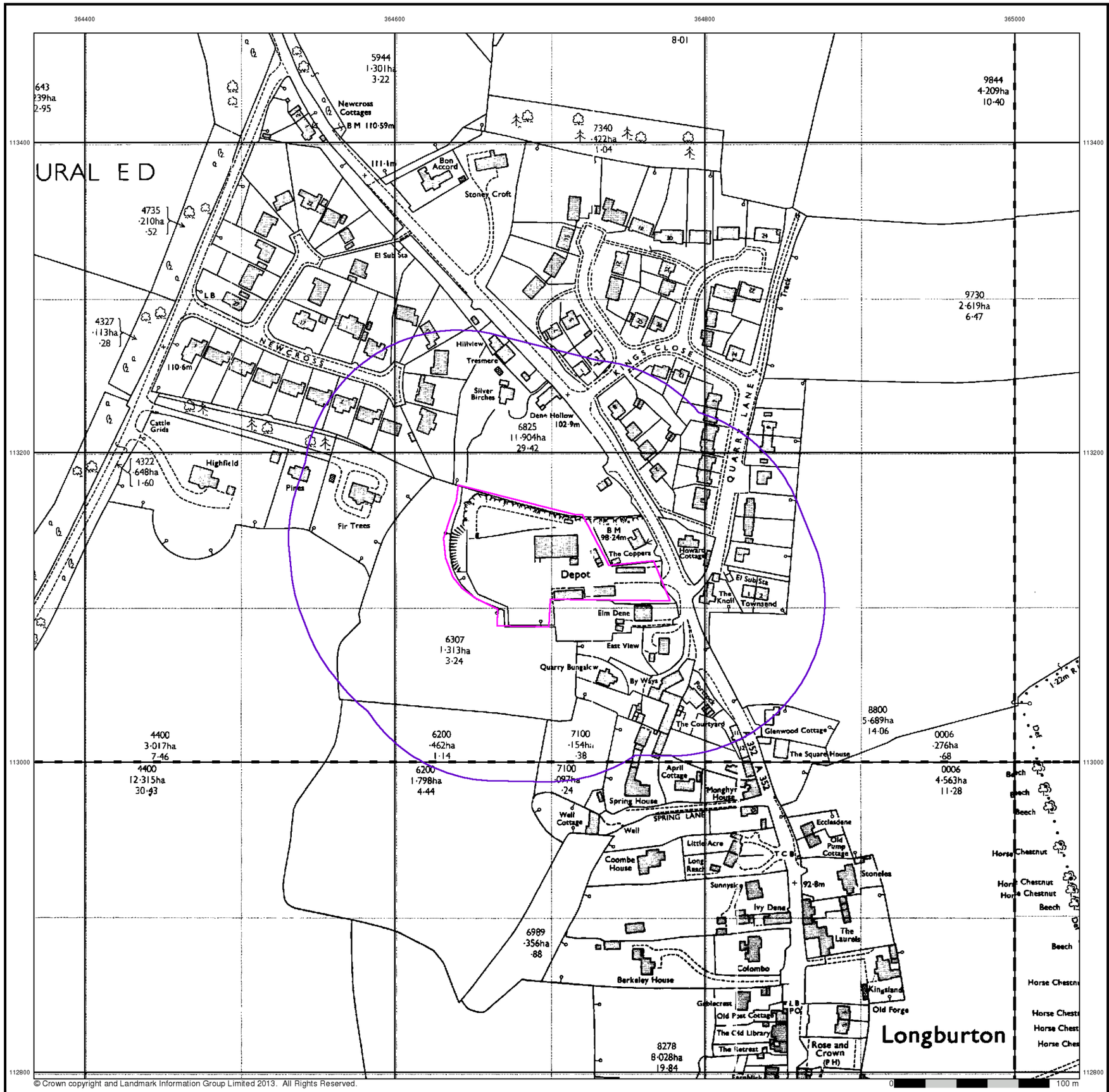

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Ordnance Survey Plan

Published 1980

Source map scale - 1:2,500

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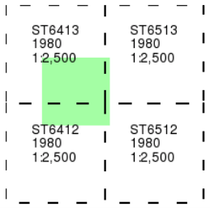
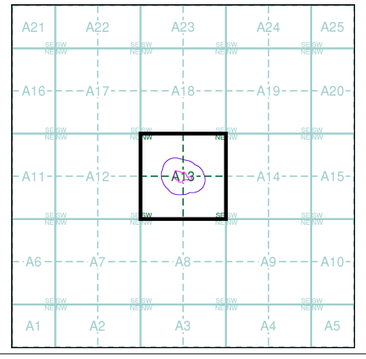
Map Name(s) and Date(s)



Historical Map - Segment A13



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Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	100

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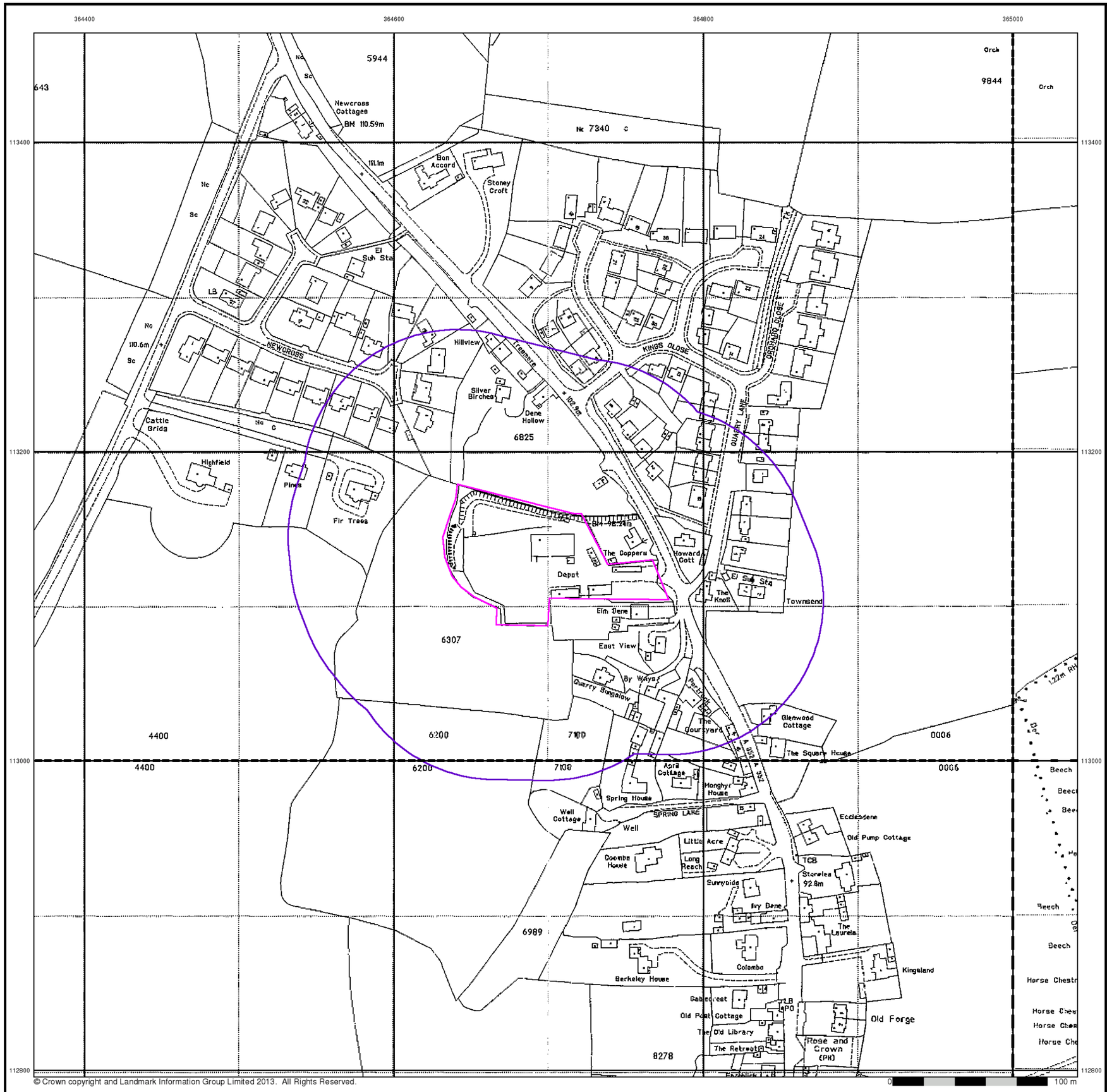

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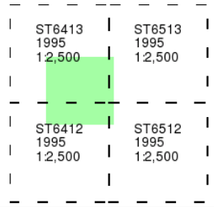
Large-Scale National Grid Data

Published 1995

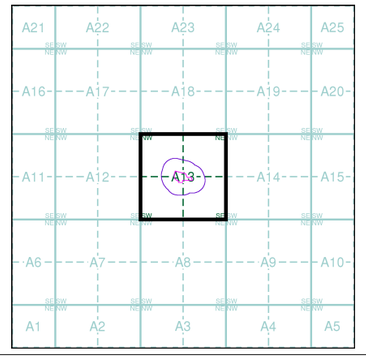
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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ENVIRONMENTAL DATABASE REPORT

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
62759210_1_1

Customer Reference:
AC1128

National Grid Reference:
364700, 113130

Slice:
A

Site Area (Ha):
0.75

Search Buffer (m):
1000

Site Details:

Dorset County Council, Council Depot
Longburton
SHERBORNE
Dorset
DT9 5NZ

Client Details:

MR S Leat
CJ Associates Geotechnical Ltd
King Road Avenue
Avonmouth
Bristol
BS11 9HF

Prepared For:

Dorset County Council

cjassociates

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Ove Arup Copyright Notice

Peter Brett Associates Copyright Notice

Radon Potential dataset Copyright Notice

Report Version v49.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1				14
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 4			Yes	
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 4				2 (*6)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 6	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 6	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines	pg 6			Yes	n/a
Detailed River Network Offline Drainage					n/a

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 8			1	
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 8	1			
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 9	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 9	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 18	1	1		6
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 20	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 20	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 20	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards				n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards				n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

cjassociates

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 21		3		3
Fuel Station Entries	pg 21				1
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: Mr Richard Fielding Property Type: Domestic Property (Single) Location: West Hall & 1/3 West Hall Cottages, Longburton, Sherborne, Dorset, Dt9 5pf Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: Npswqd009322 Permit Version: 1 Effective Date: 8th October 2009 Issued Date: 8th October 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Caundle Brook **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	610	2	365279 112758
2	**Discharge Consents** Operator: Lawrence, Mr J Property Type: Livestock Production, Food Production Location: West Hall Farm, Longburton, Sherborne, Dorset Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 051095 Permit Version: 1 Effective Date: 4th May 1973 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Trade Discharge - Agricultural And Surface Discharge Environment: Freshwater Stream/River Receiving Water: Not Supplied **Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961** Positional Accuracy: Unknown	A14SE (E)	625	2	365400 113050
3	**Discharge Consents** Operator: Mr C Crocker Property Type: Domestic Property (Single) Location: New Cottage, Crocker Engineering, Broke Lane Folke, Sherborne Dorset, Dt9 5hp Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041981 Permit Version: 1 Effective Date: 9th April 1992 Issued Date: Not Supplied Revocation Date: 1st October 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Part Soakaway And Unnamed W/C **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	693	2	365430 113335
3	**Discharge Consents** Operator: Crocker Engineering Property Type: Domestic Property (Single) Location: New Cottage, Crocker Engineering, Broke Lane Folke, Sherborne Dorset, Dt9 5hp Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 400309/Pw/01 Permit Version: 1 Effective Date: 14th October 1997 Issued Date: 14th October 1997 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Partial Soakaway To Unnamed We **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	694	2	365430 113340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Mr C Crocker Property Type: Domestic Property (Single) Location: New Cottage, Crocker Engineering, Broke Lane Folke, Sherborne Dorset, Dt9 5hp Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041981 Permit Version: 1 Effective Date: 9th April 1992 Issued Date: Not Supplied Revocation Date: 1st October 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Part Soakaway And Unnamed W/C **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	732	2	365470 113340
4	**Discharge Consents** Operator: Crocker Engineering Property Type: Domestic Property (Single) Location: New Cottage Crocker Engineering, Broke Lane, Folke, SHERBORNE, Dorset Authority: Environment Agency, South West Region Catchment Area: Lydden Reference: 400309/PW/01/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 14th October 1997 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Treated Effluent Discharge Environment: Land/Soakaway Receiving Water: Lydden; Partial Soakaway To Unnamed Watercourse, Status: Revoked **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	714	2	365470 113275
5	**Discharge Consents** Operator: Tilley, Mr & Mrs G A F Property Type: Domestic Property (Multiple) Location: Leweston Farm(Sherborne), Longburton, Sherborne, Dorset Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 051092 Permit Version: 1 Effective Date: 25th March 1965 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	824	2	364100 113800
6	**Discharge Consents** Operator: Mr & Mrs Gaf Tilley Property Type: Domestic Property (Single) Location: Dairy Unit Toilet Leweston Farm, Longburton, Sherborne, Dorset, Dt9 5nu Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 042437 Permit Version: 1 Effective Date: 30th June 1993 Issued Date: 5th July 1993 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Soakaway **Status: New Consent, by Application (Water Resources Act 1991, Section 113 & Schedule 12)** Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	843	2	364160 113870

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Discharge Consents** Operator: Wessex Water Services Limited Property Type: Sewage Disposal Works - Water Company Location: Longburton Stw, Longburton, Dorset, Dt9 5pa Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041355 Permit Version: 4 Effective Date: 31st March 2010 Issued Date: 31st March 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Caundle Brook **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	896	2	365210 112320
7	**Discharge Consents** Operator: Wessex Water Services Limited Property Type: Sewage Disposal Works - Water Company Location: Longburton Stw, Longburton, Dorset, Dt9 5pa Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041355 Permit Version: 3 Effective Date: 1st April 2009 Issued Date: 14th October 2008 Revocation Date: 30th March 2010 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Caundle Brook **Status: By direction of Secretary of State (Water Act 1989, Schedule 26 & 25(4)(5))** Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	896	2	365210 112320
7	**Discharge Consents** Operator: Wessex Water Services Limited Property Type: Sewage Disposal Works - Water Company Location: Longburton Stw, Longburton, Dorset, Dt9 5pa Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041355 Permit Version: 2 Effective Date: 30th March 2006 Issued Date: 30th October 1989 Revocation Date: 31st March 2009 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Caundle Brook **Status: By direction of Secretary of State (Water Act 1989, Schedule 26 & 25(4)(5))** Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	896	2	365210 112320
7	**Discharge Consents** Operator: Wessex Water Services Limited Property Type: Sewage Disposal Works - Water Company Location: Longburton Stw, Longburton, Dorset, Dt9 5pa Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041355 Permit Version: 1 Effective Date: 30th October 1989 Issued Date: Not Supplied Revocation Date: 29th March 2006 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Caundle Brook **Status: By direction of Secretary of State (Water Act 1989, Schedule 26 & 25(4)(5))** Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	896	2	365210 112320

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: St Antony'S-Leweston School Property Type: Education Location: St Antony'S School, Leweston Manor, Sherborne, Dorset, Dt9 6en Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 041446 Permit Version: 1 Effective Date: 23rd March 1990 Issued Date: Not Supplied Revocation Date: 29th September 2004 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Caundle Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	948	2	363820 112640
8	**Discharge Consents** Operator: Trustees Of St Anthony'S School Property Type: Education Location: St Antony'S School, Leweston Manor, Sherborne, Dorset, Dt9 6en Authority: Environment Agency, South West Region Catchment Area: Lydden / Caundle Brook Reference: 040543 Permit Version: 1 Effective Date: 1st December 1987 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Caundle Brook **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	951	2	363820 112635
	Nearest Surface Water Feature	A13NE (N)	270	-	364718 113437
9	**Water Abstractions** Operator: Leweston Farm Llp Licence Number: 13/43/033/G/119 Permit Version: 102 Location: Leweston Farm Borehole Authority: Environment Agency, South West Region Abstraction: General Agriculture; General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Leweston Farm, Longburton Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th June 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	915	2	364020 113850
9	**Water Abstractions** Operator: Leweston Farm Llp Licence Number: 13/43/033/G/119 Permit Version: 101 Location: Leweston Farm Borehole Authority: Environment Agency, South West Region Abstraction: General Agriculture; General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Leweston Farm, Longburton Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 16th September 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	915	2	364020 113850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Col J Dalley Licence Number: 16/52/002/G/226 Permit Version: 100 Location: Well, Higher Lillington Farm Authority: Environment Agency, South West Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st May 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16SW (W)	1502	2	363200 113600
	Water Abstractions Operator: Norris Weaver + Son Licence Number: 165202G167 Permit Version: Not Supplied Location: Lower & Manor Farms, LILLINGTON Authority: Environment Agency, South West Region Abstraction: Agriculture (General) Abstraction Type: Not Supplied Source: Borehole Daily Rate (m3): 2 Yearly Rate (m3): 650 Details: Not Supplied Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11SW (W)	1534	2	363105 112995
	Water Abstractions Operator: Weaver & Son Licence Number: 16/52/002/G/281 Permit Version: 100 Location: Borehole Authority: Environment Agency, South West Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11SW (W)	1539	2	363100 113000
	Water Abstractions Operator: E I Mapstone & Sons Licence Number: 16/52/002/G/164 Permit Version: 100 Location: Spring, Higher Stockbridge Farm Authority: Environment Agency, South West Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st February 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A2NW (SW)	1610	2	363700 111800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Norris Weaver + Son Licence Number: 165202G167 Permit Version: Not Supplied Location: Lower & Manor Farms, LILLINGTON Authority: Environment Agency, South West Region Abstraction: Agriculture (General) Abstraction Type: Not Supplied Source: Borehole Daily Rate (m3): 27 Yearly Rate (m3): 9955 Details: Not Supplied Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1863	2	362800 112800
	Water Abstractions Operator: R W Berry Licence Number: 16/52/002/G/227 Permit Version: 100 Location: Spring, Limekiln Farm Authority: Environment Agency, South West Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st May 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1901	2	364101 115001
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (H1) - Soils which readily transmit liquid discharges because they are either shallow, or susceptible to rapid by-pass flow directly to rock, gravel or groundwater Map Sheet: Sheet 43 East Somerset and South West Wiltshire Scale: 1:100,000	A13SW (NW)	0	2	364700 113130
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (NW)	0	3	364700 113130
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
10	**Detailed River Network Lines** River Type: Tertiary River River Name: Drain Hydrographic Area: D002 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14SW (E)	286	2	365061 113077

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Detailed River Network Lines** River Type: Secondary River River Name: Not Supplied Hydrographic Area: D002 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14NW (E)	365	2	365108 113261
12	**Detailed River Network Lines** River Type: Secondary River River Name: Not Supplied Hydrographic Area: D002 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14SW (E)	367	2	365143 113077
13	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D002 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A17SE (NW)	479	2	364287 113501
14	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D002 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A17SE (NW)	481	2	364309 113526
15	**Detailed River Network Lines** River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D002 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A17SE (NW)	481	2	364309 113526
	Detailed River Network Offline Drainage None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Licensed Waste Management Facilities (Locations)** Licence Number: 23663 Location: Longburton Highways Depot, Longburton, Dorset, DT9 5NZ Operator Name: Dorset Works Organisation Operator Location: Not Supplied Authority: Environment Agency - South West Region, Wessex Area Site Category: Transfer Stations Taking Non-biodegradable Wastes **Licence Status: Surrendered** Issued: 15th October 2000 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 20th September 2005 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SE (S)	305	2	364800 112800
	Local Authority Landfill Coverage Name: West Dorset District Council - Has supplied landfill data		0	8	364700 113130
	Local Authority Landfill Coverage Name: Dorset County Council - Has supplied landfill data		0	7	364700 113130
17	**Registered Waste Transfer Sites** Licence Holder: Dorset County Council Licence Reference: EAWML23663 Site Location: Longburton Depot, Longburton, SHERBORNE, Dorset, DT9 5NZ Operator Location: Charminster Depot, Wanchard Lane, CHARMINSTER, Dorset, DT2 9RP Authority: Environment Agency - South West Region, South Wessex Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: OperationalOperational Dated: 15th October 2000 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Brickwork/Concrete (Hardcore); Cat.A Waste; Inert Materials (As In Post'98 E.A.Lics And Equivalent To 21.00.00) - Comprising; Maximum Waste Permitted By Licence; Weathered/Excavated Coated Roadstone (Bitumen & Tarmac) Prohibited Waste: Dust /Ash / Powder / Particulates; Liquid Wastes; Other Waste/Waste Not Otherwise Specified; Sludge Wastes; Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A13NW (NW)	0	2	364660 113160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Great Oolite	A13SW (NW)	0	3	364700 113130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (W)	0	4	364632 113134
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (NW)	0	4	364700 113130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (E)	77	4	364851 113080
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	88	4	364700 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	107	4	364605 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	115	4	364824 113000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (E)	223	4	365000 113130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (SE)	246	4	365000 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14SW (E)	308	4	365083 113067
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A12NE (NW)	325	4	364355 113331
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SW (E)	352	4	365113 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14NW (E)	373	4	365138 113207

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	406	4	364227 113119
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (NE)	453	4	365000 113518
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14SW (E)	465	4	365230 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14SW (E)	476	4	365253 113130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	485	4	364166 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14SW (E)	486	4	365252 113000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	565	4	364072 113070
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	576	4	364073 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17SE (NW)	612	4	364257 113655
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A12SW (W)	632	4	364000 113130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (W)	639	4	364000 113047
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (W)	647	4	364000 113000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (NE)	651	4	365257 113558
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	662	4	364673 113840
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18NE (N)	662	4	364813 113823
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18SE (NE)	702	4	365000 113803
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	712	4	364830 113867
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (SW)	713	4	364000 112802

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NE (SW)	715	4	364039 112729
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	718	4	364626 112372
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (NE)	742	4	365000 113847
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17SE (NW)	756	4	364136 113741
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A12SW (W)	770	4	363878 112980
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A12SW (W)	770	4	363874 113000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A19NW (NE)	772	4	365103 113830
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A12SW (W)	800	4	363844 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17SW (NW)	819	4	364000 113687
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18NW (N)	822	4	364700 114000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17NE (NW)	824	4	364116 113813
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A19SW (NE)	827	4	365260 113793

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	835	4	364789 114000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A19NW (NE)	846	4	365144 113892
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NW (SW)	847	4	364000 112563
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A9SW (SE)	852	4	365247 112393
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A9SW (SE)	853	4	365247 112393
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	862	4	364585 112230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NW (SW)	864	4	364000 112536
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	886	4	365000 114000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A8SE (S)	933	4	365000 112199
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A19NW (NE)	948	4	365159 114000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19NW (NE)	962	4	365261 113955
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11SE (W)	978	4	363654 113130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11SE (W)	988	4	363654 113000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A19NW (NE)	994	4	365251 114000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A17NE (NW)	999	4	364074 114000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19NW (NE)	1000	4	365262 114000
18	**BGS Recorded Mineral Sites** Site Name: Longburton Location: , Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 12874 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Forest Marble Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A13SE (E)	0	3	364705 113130
19	**BGS Recorded Mineral Sites** Site Name: Longburton Location: Quarry Lane, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 12873 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Forest Marble Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A13NE (N)	188	3	364730 113350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**BGS Recorded Mineral Sites** Site Name: Broke Lane Location: Broke Lane, Folke, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 39998 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	880	3	365641 112938
21	**BGS Recorded Mineral Sites** Site Name: Bradford Lane Location: Bradford Lane, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 40028 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	882	3	364847 112218
22	**BGS Recorded Mineral Sites** Site Name: Bradford Lane Location: Bradford Lane, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 40030 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	936	3	364852 112165
22	**BGS Recorded Mineral Sites** Site Name: Manor Farm Location: Manor Farm, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 40017 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	942	3	364813 112153
23	**BGS Recorded Mineral Sites** Site Name: Bradford Lane Location: Bradford Lane, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 40029 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A3NE (S)	988	3	364798 112105
24	**BGS Recorded Mineral Sites** Site Name: Green Lane Location: Green Lane, Longburton, Sherborne, Dorset Source: British Geological Survey, National Geoscience Information Service Reference: 40000 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A23SE (N)	995	3	364855 114150

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	223	3	365000 113130
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	223	3	365000 113130
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	0	3	364632 113134
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	77	3	364851 113080
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	223	3	365000 113130
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	223	3	365000 113130
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	223	3	365000 113130
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	223	3	365000 113130
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	3	364700 113130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Contemporary Trade Directory Entries** Name: Sean Downton Location: 10, Kings Close, Longburton, Sherborne, Dorset, DT9 5PW Classification: Boilers - Servicing, Replacements & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	105	-	364767 113254
26	**Contemporary Trade Directory Entries** Name: The Heritage Guild Location: 5, Quarry Lane, Longburton, Sherborne, Dorset, DT9 5NY Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	107	-	364838 113209
27	**Contemporary Trade Directory Entries** Name: Spruced Up Location: 24, New Cross, Longburton, Sherborne, Dorset, DT9 6EJ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	211	-	364512 113346
28	**Contemporary Trade Directory Entries** Name: Crocker Engineering Location: Folke, Sherborne, Dorset, DT9 5HP Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	717	-	365448 113357
28	**Contemporary Trade Directory Entries** Name: Crocker Location: Folke, Sherborne, Dorset, DT9 5HP Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	717	-	365448 113357
29	**Contemporary Trade Directory Entries** Name: Town & Country Location: Leweston, Sherborne, Dorset, DT9 6EW Classification: Joinery Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	838	-	364207 112388
30	**Fuel Station Entries** Name: Longburton Garage Location: A352, Longburton, SHERBORNE, Dorset, DT9 5PH Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A8SE (S)	806	-	364906 112309

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
South Somerset District Council - Environmental Health Department	August 2013	Annual Rolling Update
West Dorset District Council - Health and Housing	February 2013	Annual Rolling Update
North Dorset District Council - Environmental Health Department	November 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - South West Region	November 2014	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - South West Region	March 2013	As notified
Integrated Pollution Controls		
Environment Agency - South West Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control		
Environment Agency - South West Region	November 2014	Quarterly
Local Authority Integrated Pollution Prevention And Control		
West Dorset District Council - Health and Housing	June 2014	Annual Rolling Update
South Somerset District Council - Environmental Health Department	October 2014	Annual Rolling Update
North Dorset District Council - Environmental Health Department	September 2013	Annual Rolling Update
Local Authority Pollution Prevention and Controls		
West Dorset District Council - Health and Housing	June 2014	Annual Rolling Update
South Somerset District Council - Environmental Health Department	October 2014	Annual Rolling Update
North Dorset District Council - Environmental Health Department	September 2013	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
West Dorset District Council - Health and Housing	June 2014	Annual Rolling Update
South Somerset District Council - Environmental Health Department	October 2014	Annual Rolling Update
North Dorset District Council - Environmental Health Department	September 2013	Annual Rolling Update
Nearest Surface Water Feature		
Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters		
Environment Agency - South West Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - South West Region	March 2013	As notified
Prosecutions Relating to Controlled Waters		
Environment Agency - South West Region	March 2013	As notified
Registered Radioactive Substances		
Environment Agency - South West Region	November 2014	Quarterly
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - South West Region - North Wessex Area	November 2014	Quarterly
Environment Agency - South West Region - South Wessex Area	November 2014	Quarterly
Environment Agency - South West Region - Wessex Area	November 2014	Quarterly
Water Abstractions		
Environment Agency - South West Region	October 2014	Quarterly
Water Industry Act Referrals		
Environment Agency - South West Region	November 2014	Quarterly
Groundwater Vulnerability		
Environment Agency - Head Office	January 2011	Not Applicable
Drift Deposits		
Environment Agency - Head Office	January 1999	Not Applicable

Data Currency

Agency & Hydrological	Version	Update Cycle
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	Annually
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	Annually
Source Protection Zones Environment Agency - Head Office	August 2014	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2014	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2014	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	August 2014	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	August 2014	Quarterly
Flood Defences Environment Agency - Head Office	August 2014	Quarterly
Detailed River Network Lines Environment Agency - Head Office	March 2012	Annually
Detailed River Network Offline Drainage Environment Agency - Head Office	March 2012	Annually

Data Currency

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - South West Region - North Wessex Area	August 2014	Quarterly
Environment Agency - South West Region - South Wessex Area	August 2014	Quarterly
Environment Agency - South West Region - Wessex Area	August 2014	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - South West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South West Region - North Wessex Area	August 2014	Quarterly
Environment Agency - South West Region - South Wessex Area	August 2014	Quarterly
Environment Agency - South West Region - Wessex Area	August 2014	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South West Region - North Wessex Area	November 2014	Quarterly
Environment Agency - South West Region - South Wessex Area	November 2014	Quarterly
Environment Agency - South West Region - Wessex Area	November 2014	Quarterly
Local Authority Landfill Coverage		
Dorset County Council	May 2000	Not Applicable
North Dorset District Council - Environmental Health Department	May 2000	Not Applicable
Somerset County Council - Environment Department	May 2000	Not Applicable
South Somerset District Council - Environmental Health Department	May 2000	Not Applicable
West Dorset District Council - Health and Housing	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Dorset County Council	May 2000	Not Applicable
North Dorset District Council - Environmental Health Department	May 2000	Not Applicable
Somerset County Council - Environment Department	May 2000	Not Applicable
South Somerset District Council - Environmental Health Department	May 2000	Not Applicable
West Dorset District Council - Health and Housing	May 2000	Not Applicable
Registered Landfill Sites		
Environment Agency - South West Region - North Wessex Area	March 2003	Not Applicable
Environment Agency - South West Region - South Wessex Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - South West Region - North Wessex Area	March 2003	Not Applicable
Environment Agency - South West Region - South Wessex Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - South West Region - North Wessex Area	March 2003	Not Applicable
Environment Agency - South West Region - South Wessex Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	August 2014	Bi-Annually
Explosive Sites		
Health and Safety Executive	October 2014	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
North Dorset District Council - Planning Department	August 2013	Annual Rolling Update
West Dorset District Council	August 2013	Annual Rolling Update
Dorset County Council	February 2007	Annual Rolling Update
Somerset County Council - Environment Department	September 2013	Annual Rolling Update
South Somerset District Council - Planning	September 2014	Annual Rolling Update
Planning Hazardous Substance Consents		
North Dorset District Council - Planning Department	August 2013	Annual Rolling Update
West Dorset District Council	August 2013	Annual Rolling Update
Dorset County Council	February 2007	Annual Rolling Update
Somerset County Council - Environment Department	September 2013	Annual Rolling Update
South Somerset District Council - Planning	September 2014	Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	August 1996	Not Applicable
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	January 2010	Annually
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	October 2014	Bi-Annually
Brine Compensation Area		
Cheshire Brine Subsidence Compensation Board	August 2011	Not Applicable
Coal Mining Affected Areas		
The Coal Authority - Mining Report Service	December 2013	As notified
Mining Instability		
Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	July 2014	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2014	Annually
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	November 2014	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2014	Quarterly
Sensitive Land Use	**Version**	**Update Cycle**
Areas of Outstanding Natural Beauty Natural England	August 2014	Bi-Annually
Environmentally Sensitive Areas Natural England	August 2014	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	October 2014	Bi-Annually
Marine Nature Reserves Natural England	July 2013	Bi-Annually
National Nature Reserves Natural England	September 2014	Bi-Annually
National Parks Natural England	August 2014	Bi-Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2012	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	July 2014	Annually
Ramsar Sites Natural England	March 2014	Bi-Annually
Sites of Special Scientific Interest Natural England	September 2014	Bi-Annually
Special Areas of Conservation Natural England	March 2014	Bi-Annually
Special Protection Areas Natural England	September 2014	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Useful Contacts

Contact	Name and Address	Contact Details
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
3	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
4	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmark.co.uk Website: www.landmarkinfo.co.uk
5	**Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)** Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
6	**Natural England** Suite D, Unex House, Bourges Boulevard, Peterborough, Cambridgeshire, PE1 1NG	Telephone: 0845 600 3078 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
7	**Dorset County Council** County Hall, Colliton Park, Dorchester, Dorset, DT1 1XJ	Telephone: 01305 251000 Website: www.dorsetcc.gov.uk
8	**West Dorset District Council - Health and Housing** South Walks House, South Walks Road, Dorchester, Dorset, DT1 1UZ	Telephone: 01305 251010 Fax: 01305 251481 Website: www.dorsetforyou.com
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

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LOGSHEETS

KEY TO SYMBOLS

CABLE PERCUSSIVE LOG SHEETS

S	Standard penetration test (split spoon)
C	Standard penetration test (cone)
N	Penetration resistance: number of blows- (63.5kg hammer, 0.76m drop) for 300mm penetration
D	Disturbed sample
B	Bulk sample
W	Water sample
T	Small disturbed sample (plastic tub)
U	Undisturbed sample
b	No. of blows to drive U100 using 160kg hammer
X%	Percentage recovery in U100 or SPT
V	Vane test
P	Piston sample
J	Jar sample

ROTARY LOG SHEETS

OH	Open hole drilling
RR	Rock roller drilling
DTH	"Down the hole" hammer drilling
C	Coring
W	Water sample
L	Windowless liner sample
D	Disturbed sample
S	Standard penetration test (split spoon)
C	Standard penetration test (cone)

TRIAL PIT LOG SHEETS

D	Disturbed sample
B	Bulk disturbed sample
U38	Undisturbed 38mm dia. sample
U100	Undisturbed 100mm dia. sample
BU	Block undisturbed sample
MP	Mackintosh probe test
HSV	Hand shear vane test
PBT	Plate bearing test
T	Small disturbed sample (plastic tub)
CBR(M)	California bearing ratio mould sample
CBR(P)	California bearing ratio penetrometer method
CBR(S)	California bearing ratio standard plunger method
W	Water sample
J	Jar sample

The logging of soils and rocks has been carried out in accordance with BS5930(1999) except where superseded by the soil and rock description methodology in BS EN14688-1(2002), BS EN 14688-2(2004) and BS EN 14689-1(2003).

Window Sampler Borehole Log Sheet

C J Associates

Site:	**Longburton**	WS No:	**1**
Job Number:	**AC1128**	Start Date:	20/11/2014
Client:	Dorset Council	Finish Date:	20/11/2014
Rig Type:	Archway Competitor 130	Vertical Scale:	1:25
		Sheet 1 of 1	

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Test Drive	N-value	Pen. (mm) Seat	Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.00 - 1.00	L1							49b / 100% (87mm)	0.05	(0.05)		Brown to black slightly silty CLAY with frequent fine to coarse gravel size fragments of asphalt.	
									0.20	(0.15)			
										(0.45)		Firm brown slightly silty slightly gravelly CLAY. Gravel is angular, fine to coarse of limestone (Quarry Backfill).	
									0.65			Medium dense yellowish brown to brown sandy clayey subangular to subrounded fine to coarse GRAVEL/COBBLES of limestone. Sand is fine to medium (Forest Marble Formation).	
1.00 - 1.60	L2							200b / 60% (78mm)		(0.52)			
									1.17			Firm greenish grey to dark grey slightly silty slightly gravelly CLAY. Gravel is angular, fine of limestone (Forest Marble Formation). Becoming stiff at 0.80m. Becoming very stiff at 1.00m.	
										(0.43)			
									1.60			Very stiff dark grey gravelly slightly silty calcareous CLAY. Gravel is angular, fine to coarse of claystone (Forest Marble Formation).	
												END OF BOREHOLE	

Water Remarks:	Borehole dry		Casing:	Casing not used.	Drilled By: CF
					Logged By: RM
General Remarks:	Consistency and relative density interpolated using DP results. Gravel have collapsed at the beginning of each run. Refused at				Checked By:

Window Sampler Borehole Log Sheet

WS No: **2**

Site: **Longburton**

Start Date: 20/11/2014

Job Number: **AC1128**

Finish Date: 20/11/2014

Client: Dorset Council

Vertical Scale: 1:25

Rig Type: Archway Competitor 130

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Blow Counts Test Drive	Blow Counts N-value	Pen. (mm) Seat	Pen. (mm) Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.00 - 1.00	L1							54b / 85% (87mm)	0.20	(0.20)		Grass over dark brown clayey slightly gravelly TOPSOIL with rare fine to medium gravel size fragments of red brick. Gravel is subrounded, fine to medium of limestone.	
										(1.00)		Soft dark brown slightly sandy slightly silty slightly gravelly CLAY with rare angular cobbles of limestone. Sand is fine to medium. Gravel is subangular, fine to coarse of limestone (Quarry Backfill).	
1.00 - 2.00	L2							82b / 80% (78mm)				Becoming very soft between 1.00m and 1.20m.	
									1.20	(0.90)		Very stiff dark grey gravelly calcareous CLAY. Gravel is angular, fine to coarse of claystone (Forest Marble Formation). Band of gravelly subangular COBBLES of claystone between 1.25m and 1.35m. Gravel is angular, fine to coarse of claystone. Becoming very stiff between 1.30m and 1.60m. Becoming stiff between 1.70m and 1.90m.	
2.00 - 2.10	L3							100b / 0% (68mm)	2.10			END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.
General Remarks:	Consistency and relative density interpolated using DP results. Gravel have collapsed at the beginning of each run. Refused at		

Drilled By: CF

Logged By: RM

Checked By:

Window Sampler Borehole Log Sheet

WS No: 3

Site: **Longburton**

Start Date: 21/11/2014

Job Number: **AC1128**

Finish Date: 21/11/2014

Client: Dorset Council

Vertical Scale: 1:25

Rig Type: Archway Competitor 130

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Blow Counts Test Drive	Blow Counts N-value	Pen. (mm) Seat	Pen. (mm) Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
										(0.18)		ASPHALT.	
0.18 - 1.00	L1							54b / 85% (87mm)	0.18			Soft to firm brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of limestone (Quarry Backfill). Becoming Stiff between 0.30m and 0.50m. Becoming soft at 0.60m. Clay becoming dark brown colour and gravel fine to medium size at 0.70m	
										(1.37)			
1.00 - 2.00	L2							82b / 80% (78mm)				Becoming very soft between 1.00m and 1.20m.	
												Becoming gravelly at 1.35m. Gravel is angular to subrounded, fine to medium of limestone.	
									1.55			Soft dark grey slightly silty CLAY (Forest Marble Formation).	
										(0.70)		Becoming firm at 1.80m.	
2.00 - 2.10	L3							100b / 0% (68mm)				Becoming stiff at 1.90m.	
									2.25			END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.
General Remarks:	Consistency and relative density interpolated using DP results. Refused at 2.25m.		

Drilled By: CF

Logged By: RM

Checked By:

Window Sampler Borehole Log Sheet

Site: **Longburton**

Job Number: **AC1128**

Client: Dorset Council

Rig Type: Archway Competitor 130

WS No: **4**

Start Date: 20/11/2014

Finish Date: 20/11/2014

Vertical Scale: 1:25

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Test Drive	N-value	Pen. (mm) Seat	Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.05 - 1.00	L1							99b / 85% (87mm)	0.05	(0.05)		ASPHALT.	
									0.20	(0.15)		Medium dense black sandy subrounded fine to coarse GRAVEL of asphalt. Sand is fine to medium.	
									0.35	(0.15)		Medium dense brown mottled black sandy GRAVEL of flint with rare fine to medium gravel size fragments of asphalt. Sand is fine to medium.	
										(0.75)		Firm dark green slightly silty slightly gravelly CLAY with rare fine to coarse gravel size fragments of asphalt. Gravel is angular, fine to coarse of limestone. Becoming soft at 0.60m.	
1.00 - 1.95	L2							150b / 95% (78mm)	1.10	(0.25)		Firm becoming stiff dark green mottled black slightly gravelly slightly organic slightly silty CLAY. Gravel is fine, subangular of limestone (Quarry Backfill). Becoming stiff at 1.30m.	
									1.35	(0.60)		Very stiff grey to greenish grey slightly silty slightly gravelly CLAY. Gravel is angular, fine of limestone (Forest Marble Formation).	
									1.95			END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.	Drilled By: CF Logged By: RM
General Remarks:	Consistency and relative density interpolated using DP results. Refused at 1.95m.			Checked By:

Window Sampler Borehole Log Sheet

Site: **Longburton**

Job Number: **AC1128**

Client: Dorset Council

Rig Type: Archway Competitor 130

WS No: **5**

Start Date: 20/11/2014

Finish Date: 20/11/2014

Vertical Scale: 1:25

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Blow Counts Test Drive	Blow Counts N-value	Pen. (mm) Seat	Pen. (mm) Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.05 - 1.00	L1							178b / 80% (87mm)	0.05	(0.05)		ASPHALT.	
										(0.30)		Medium dense black sandy subangular fine to coarse GRAVEL of asphalt.	
									0.35	(0.10)		Medium dense redslightly sandy angular fine to coarse GRAVEL/COBBLES of red brick and flint. Sand is fine. Becoming loose at 0.40m.	
									0.45	(0.10)			
									0.55			Firm dark green mottled black and brown slightly gravelly slightly silty CLAY with rare fine to coarse gravel size fragment of red brick. Gravel is subrounded, fine of limestone.	
1.00 - 2.00	L2							49b / 90% (87mm)				Soft greenish grey slightly silty slightly gravelly CLAY. Gravel is subrounded, fine of limestone (Quarry Backfill). Becoming slightly organic between 1.15m and 1.45m.	
										(1.65)			
2.00 - 3.00	L3							33b / 100% (78mm)					
									2.20			Occasional fine to coarse gravel size fragments of red brick between 2.10m and 2.20m.	
										(1.00)		Firm greenish grey to grey mottled black slightly silty CLAY (Forest Marble Formation). Becoming soft at 2.30m.	
3.00 - 3.20	L4							50b / 0% (68mm)				Becoming very stiff at 3.00m.	
									3.20			END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.	Drilled By:	CF
				Logged By:	RM
General Remarks:	Consistency and relative density interpolated using DP results. Gravel have collapsed at the begining of each run. Refused at 3.20m.			Checked By:	

Window Sampler Borehole Log Sheet

WS No: **6**

Site: **Longburton**

Start Date: 20/11/2014

Job Number: **AC1128**

Finish Date: 20/11/2014

Client: Dorset Council

Vertical Scale: 1:25

Rig Type: Archway Competitor 130

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Test Drive	N-value	Pen. (mm) Seat	Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.05 - 1.00	L1							16lb / 90% (87mm)	0.05	(0.05)		ASPHALT.	
									0.15	(0.10)		Dense black sandy angular fine to coarse GRAVEL of asphalt. Sand is fine to coarse. Slight hydrocarbon odour.	
										(0.40)		Dense black slightly clayey slightly silty slightly sandy angular fine to coarse GRAVEL of limestone with occasional fine to coarse gravel size fragments of asphalt and red brick. sand is fine to coarse. Becoming medium dense at 0.30m. Becoming reddish brown colour at 0.46m.	
									0.55				
1.00 - 2.00	L2							48b / 85% (87mm)				Firm dark green mottled black and brown slightly silty slightly gravelly CLAY. Gravel is subangular, fine of limestone (Quarry Backfill). Becoming very soft between 0.70m and 1.80m. Becoming slightly organic at 1.30m.	
										(2.10)			
2.00 - 3.00	L3							46b / 75% (78mm)				Becoming greenish grey at 2.20m.	
												Soft grey with black patches organic CLAY band between 2.37m and 2.44m.	
									2.65				
										(0.35)		Firm orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular fine of flint (Quarry Backfill). Becoming soft at 2.80m.	
3.00 - 3.50	L4							50b / 35% (68mm)	3.00	(0.15)			
									3.15	(0.05)		Loose orange slightly clayey slightly sandy angular fine to coarse GRAVEL/ COBBLES of flint. Sand is fine to medium (Forest Marble Formation).	
									3.20	(0.30)			
									3.50			Firm orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular fine of flint. Sand is fine (Forest Marble Formation).	
												Loose orange slightly clayey slightly sandy angular fine to coarse GRAVEL/ COBBLES of flint. sand is fine to coarse (Forest Marble Formation). Becoming dense at 3.40m.	
												END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.
General Remarks:	Consistency and relative density interpolated using DP results. Refused at 3.50m.		

Drilled By: CF
Logged By: RM
Checked By:

Window Sampler Borehole Log Sheet

WS No: **7**

Site: **Longburton**

Start Date: 21/11/2014

Job Number: **AC1128**

Finish Date: 21/11/2014

Client: Dorset Council

Vertical Scale: 1:25

Rig Type: Archway Competitor 130

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Test Drive	N-value	Pen. (mm) Seat	Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.05 - 1.00	L1							54b / 85% (87mm)	0.05	(0.05)		ASPHALT.	
										(0.30)		Medium dense brown slightly sandy clayey angular fine to coarse GRAVEL of limestone. Sand is fine to coarse.	
									0.35	(0.15)		Soft dark grey mottled black gravelly slightly silty CLAY. Gravel is angular, fine to coarse of limestone (Quarry Backfill).	
									0.50			Soft to very soft greenish grey with grey patches slightly silty slightly gravelly CLAY. Gravel is subrounded, fine of limestone (Quarry Backfill).	
1.00 - 1.75	L2							150b / 75% (78mm)		(1.00)			
												Dark grey to black clayey pseudo amorphous PEAT band between 1.21m and 1.22m. Becoming soft at 1.30m. Becoming firm at 1.40m.	
									1.50	(0.25)			
									1.75			Very stiff greenish grey with grey patches slightly silty slightly gravelly CLAY. Gravel is subrounded, fine of limestone (Forest marble Formation).	
												END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.	Drilled By:	CF
				Logged By:	RM
General Remarks:	Consistency and relative density interpolated using DP results. Gravel heve collapsed at the beginning of each run. Refused at			Checked By:	

Window Sampler Borehole Log Sheet

WS No: 8

Site: **Longburton**

Job Number: **AC1128**

Client: Dorset Council

Rig Type: Archway Competitor 130

Start Date: 20/11/2014

Finish Date: 20/11/2014

Vertical Scale: 1:25

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Test Drive	N-value	Pen. (mm) Seat	Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
0.05 - 1.00	L1							44b / 75% (87mm)	0.05	(0.05)		ASPHALT.	
										(0.30)		Medium dense reddish to grey sandy slightly clayey angular fine to coarse GRAVEL of limestone with occasional fine to coarse gravel size fragments of red brick. Sand is fine to coarse.	
									0.35			Soft grey with greenish grey patches slightly silty slightly gravelly CLAY. Gravel is fine, subrounded of limestone (Quarry Backfill). Becoming very soft between 0.50m and 1.00m.	
1.00 - 1.95	L2							100b / 95% (78mm)		(1.30)			
												Becoming gravelly between 1.45 and 1.65m. Gravel size is fine to coarse.	
									1.65				
										(0.30)		Very stiff dark grey gravelly calcareous CLAY. Gravel is angular, fine to coarse of claystone (Forest Marble Formation).	
									1.95			END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.	Drilled By:	CF
				Logged By:	RM
General Remarks:	Consistency and relative density interpolated using DP results. Gravel have collapsed at the beginning of each run. Refused at			Checked By:	

Window Sampler Borehole Log Sheet

C J Associates

Site:	**Longburton**	WS No:	**9**
Job Number:	**AC1128**	Start Date:	21/11/2014
Client:	Dorset Council	Finish Date:	21/11/2014
Rig Type:	Archway Competitor 130	Vertical Scale:	1:25
		Sheet 1 of 1	

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's)						Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
		Test type	Blow Counts			Pen. (mm)							
			Seat.	Test Drive	N-value	Seat	Test						
0.05 - 0.58	L1							100b / 55% (87mm)	0.05	(0.05)		ASPHALT.	
									0.20	(0.15)		Dense reddish to brown slightly clayey sandy angular to subangular fine to coarse GRAVEL of limestone with occasional fine to medium gravel size fragments of red brick. Sand is fine to coarse. Hydrocarbn odour.	
									0.40	(0.20)		Very stiff dark brown gravelly CLAY. Gravel is angular, fine to coarse of claystone (Forest Marble Formation). Becoming stiff at 0.30m.	
									0.58	(0.18)		Very stiff greenish grey mottled orange and dark brown slightly silty CLAY (Forest Marble Formation).	
												END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.	Drilled By:	CF
				Logged By:	RM
General Remarks:	Consistency and relative density interpolated using DP results. Refused at 0.58m.			Checked By:	

Window Sampler Borehole Log Sheet

Site: **Longburton**

Job Number: **AC1128**

Client: Dorset Council

Rig Type: Archway Competitor 130

WS No: **10**

Start Date: 21/11/2014

Finish Date: 21/11/2014

Vertical Scale: 1:25

Sheet 1 of 1

C J Associates

Depth (m)	Sample Ref.	Standard Penetration Tests (SPT's) Test type	Blow Counts Seat.	Test Drive	N-value	Pen. (mm) Seat	Test	Windowless Sample (L) Blows / % rec. (sample dia.)	Depth (m)	Thickness (m)	Legend	Description of Strata	Reduced Level (m. O.D.)
										(0.20)		ASPHALT.	
0.20 - 1.00	L1							74b / 80% (87mm)	0.20	(0.45)		Medium dense brown slightly silty slightly sandy angular fine to coarse GRAVEL of limestone. Sand is fine to medium. Becoming loose, sandy and slightly clayey at 0.30m. Becoming very soft. Rare fine to medium gravel size fragmnets of glass and clinker between 0.50m and 0.65m.	
1.00 - 2.00	L2							42b / 95% (78mm)	0.65	(1.00)		Very soft greenish brown with orange patches and mottled black slightly silty slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is subangular, fine to coarse of limestone (Quarry Backfill). Becoming dark green mottled black and brown colour at 1.25m.	
									1.65	(0.35)		Very soft dark green to black slightly silty organic CLAY. Slight organic odour (Quarry backfill). Becoming stiff at 1.90m.	
									2.00			END OF BOREHOLE	

Water Remarks:	Borehole dry	Casing:	Casing not used.	Drilled By:	CF
				Logged By:	RM
General Remarks:	Consistency and relative density interpolated using DP results. Refused at 2.00m.			Checked By:	

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IN SITU TESTS

Dynamic Probe Test Results Sheet

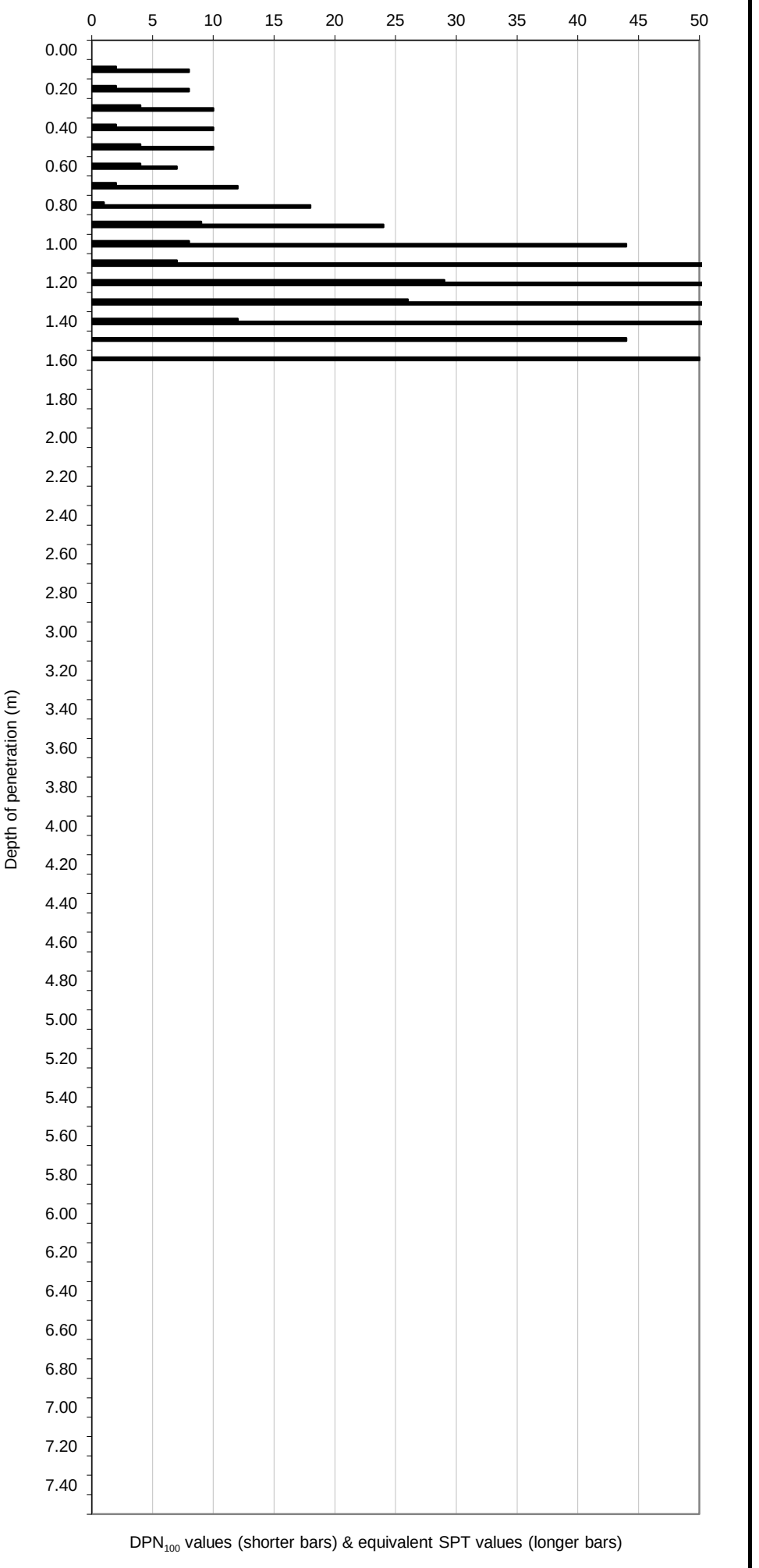
DP No: 1

Site:	**LONGBURTON**	Date:	20-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	1.60
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	2	8	8
0.20	2	8	8
0.30	4	10	10
0.40	2	10	10
0.50	4	10	10
0.60	4	7	7
0.70	2	12	12
0.80	1	18	18
0.90	9	24	24
1.00	8	44	44
1.10	7	62	62
1.20	29	67	67
1.30	26	82	82
1.40	12	106	106
1.50	44		
1.60	50		
1.70			
1.80			
1.90			
2.00			
2.10			
2.20			
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

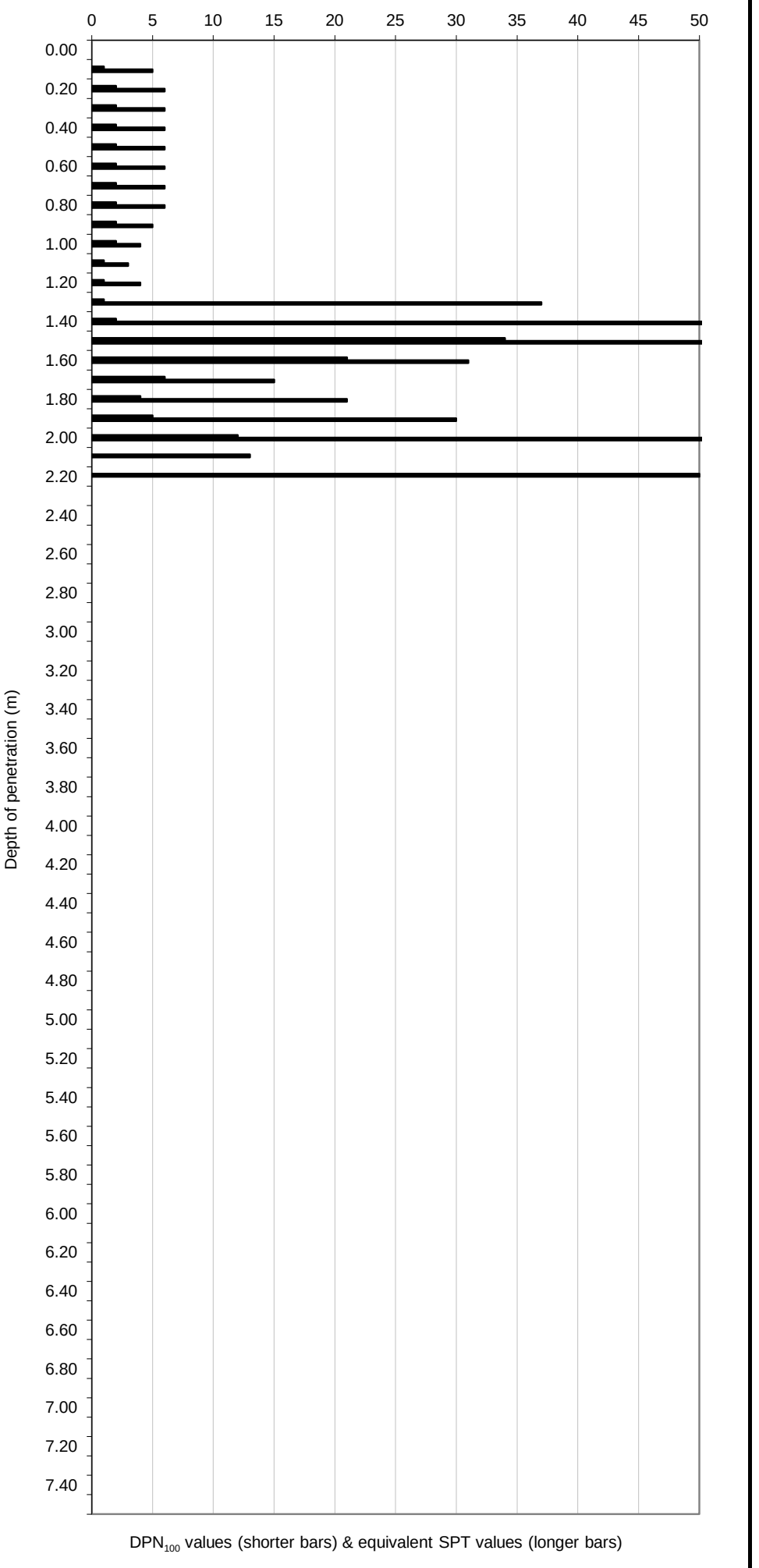
DP No: 2

Site:	**LONGBURTON**	Date:	20-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	2.20
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	1	5	5
0.20	2	6	6
0.30	2	6	6
0.40	2	6	6
0.50	2	6	6
0.60	2	6	6
0.70	2	6	6
0.80	2	6	6
0.90	2	5	5
1.00	2	4	4
1.10	1	3	3
1.20	1	4	4
1.30	1	37	37
1.40	2	57	57
1.50	34	61	61
1.60	21	31	31
1.70	6	15	15
1.80	4	21	21
1.90	5	30	30
2.00	12	75	75
2.10	13		
2.20	50		
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

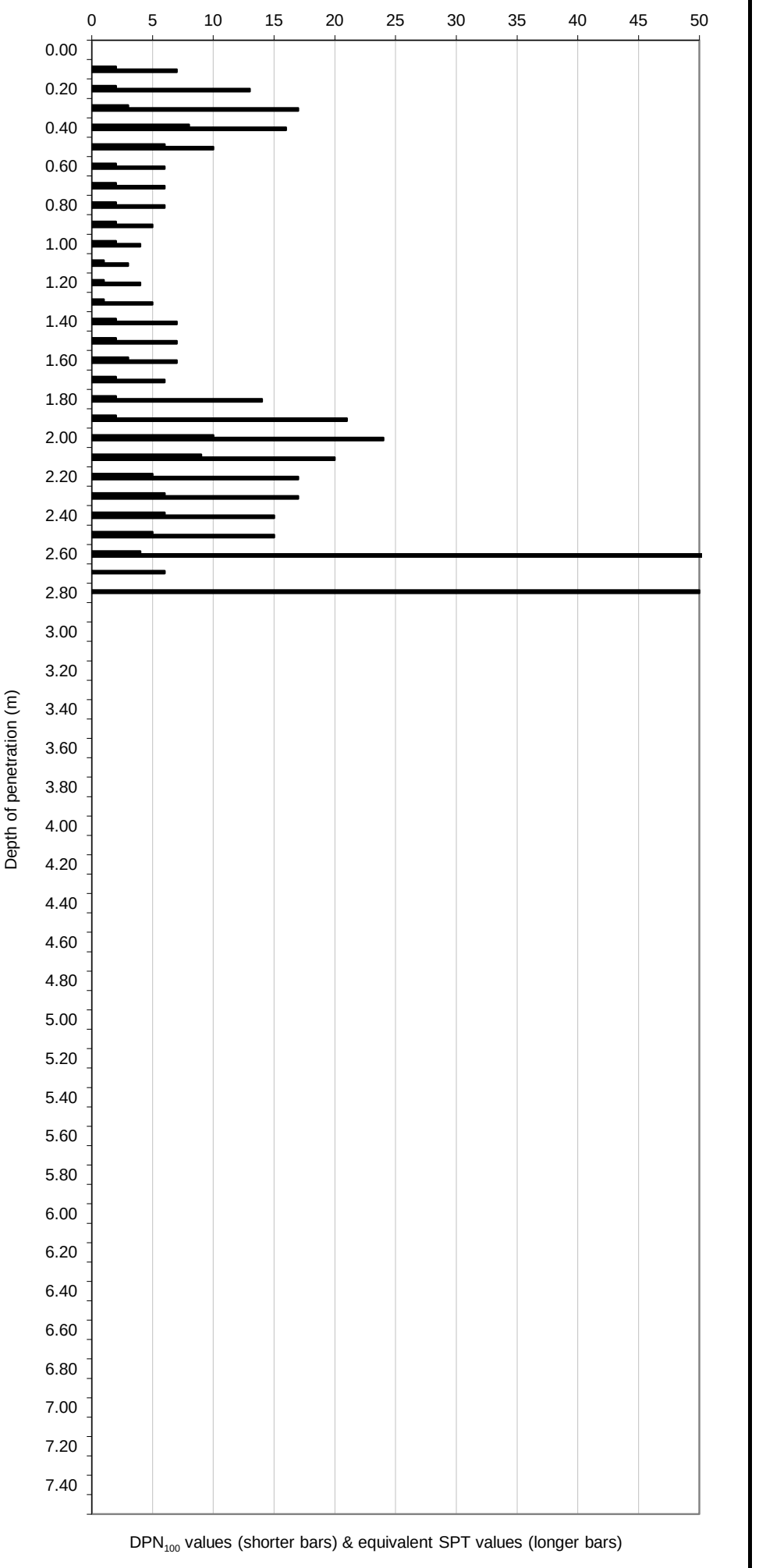
DP No: 3

Site:	**LONGBURTON**	Date:	21-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	2.80
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	2	7	7
0.20	2	13	13
0.30	3	17	17
0.40	8	16	16
0.50	6	10	10
0.60	2	6	6
0.70	2	6	6
0.80	2	6	6
0.90	2	5	5
1.00	2	4	4
1.10	1	3	3
1.20	1	4	4
1.30	1	5	5
1.40	2	7	7
1.50	2	7	7
1.60	3	7	7
1.70	2	6	6
1.80	2	14	14
1.90	2	21	21
2.00	10	24	24
2.10	9	20	20
2.20	5	17	17
2.30	6	17	17
2.40	6	15	15
2.50	5	15	15
2.60	4	60	60
2.70	6		
2.80	50		
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

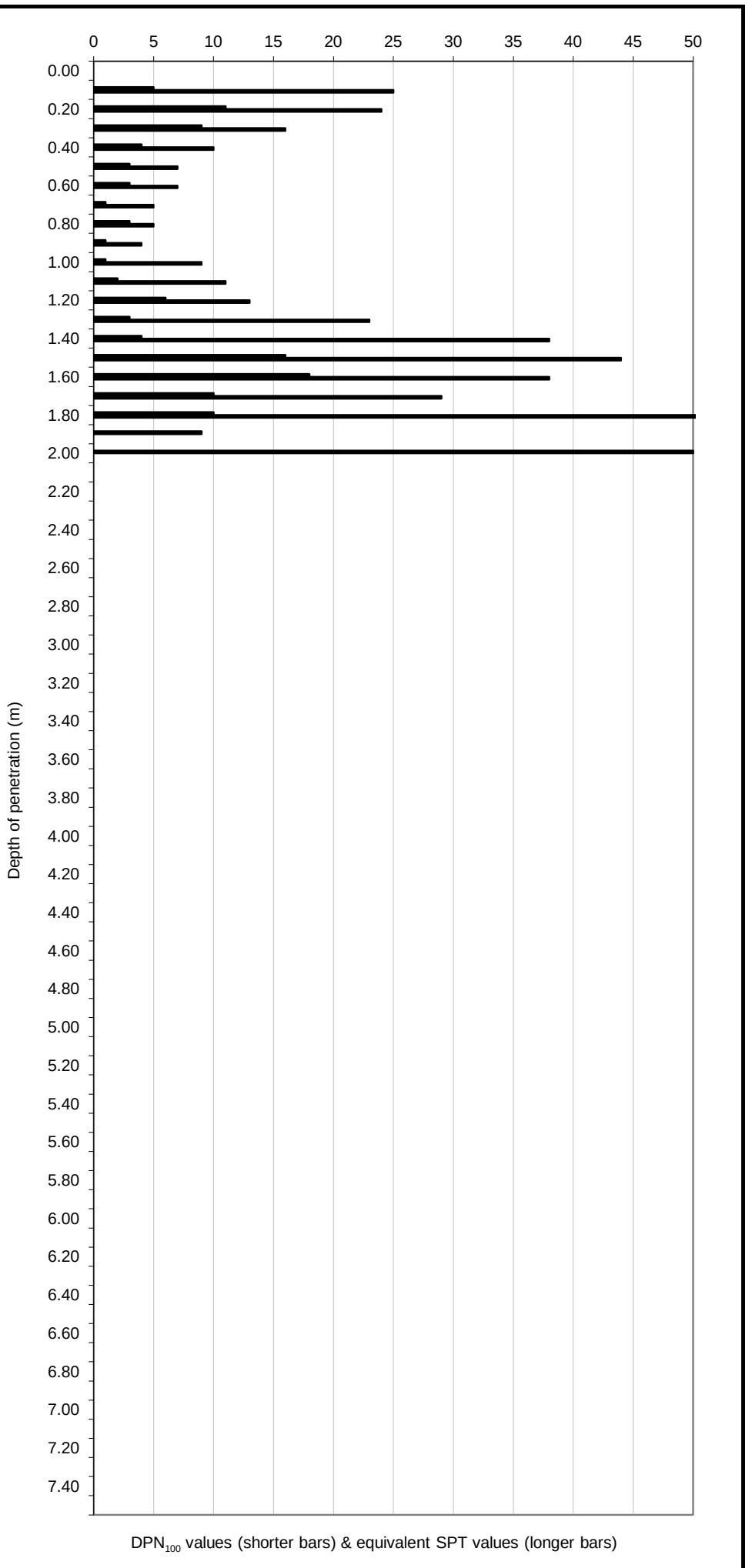
DP No: 4

Site:	**LONGBURTON**	Date:	20-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	2.00
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	5	25	25
0.20	11	24	24
0.30	9	16	16
0.40	4	10	10
0.50	3	7	7
0.60	3	7	7
0.70	1	5	5
0.80	3	5	5
0.90	1	4	4
1.00	1	9	9
1.10	2	11	11
1.20	6	13	13
1.30	3	23	23
1.40	4	38	38
1.50	16	44	44
1.60	18	38	38
1.70	10	29	29
1.80	10	69	69
1.90	9		
2.00	50		
2.10			
2.20			
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

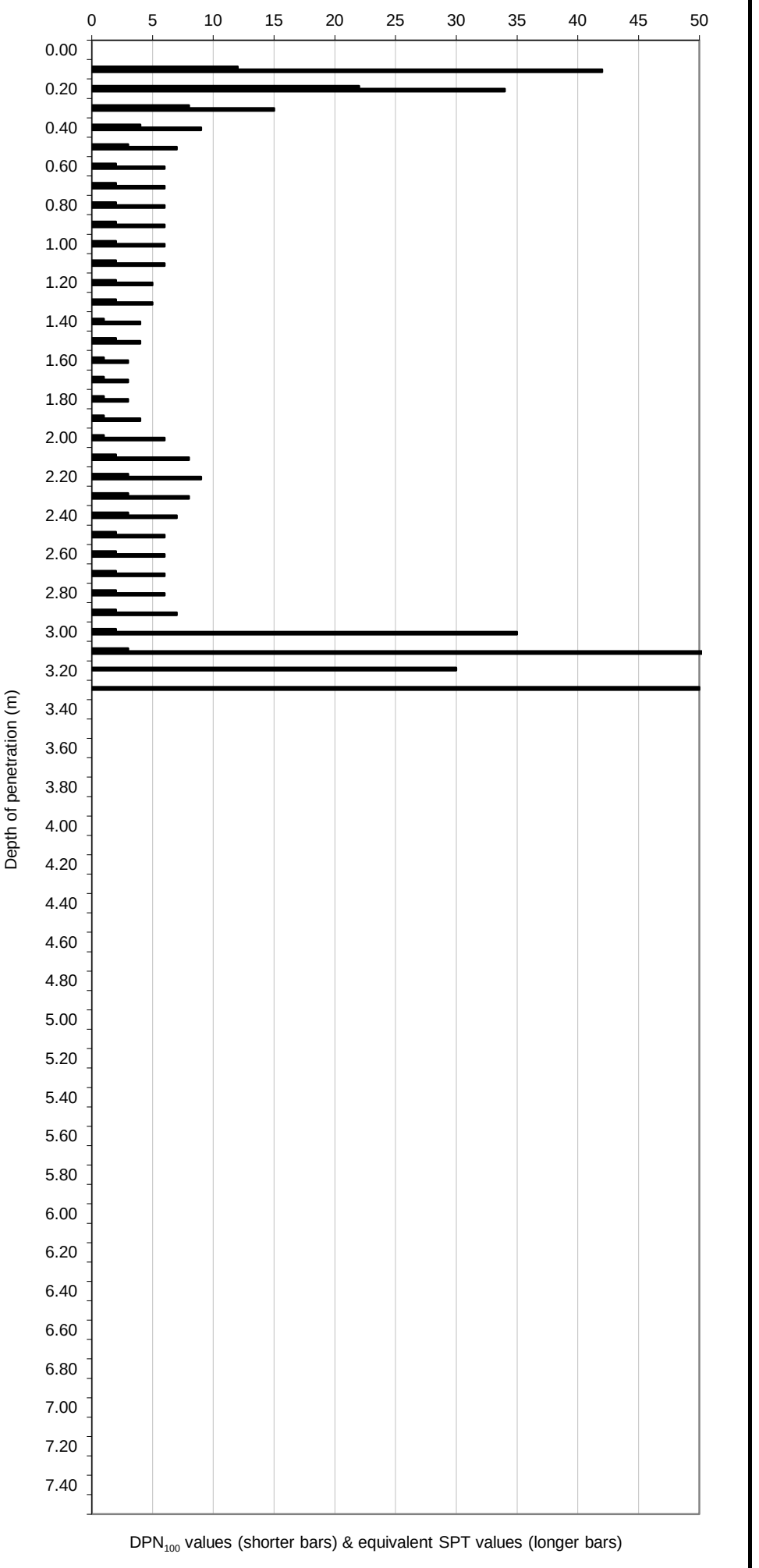
DP No: 5

Site:	**LONGBURTON**	Date:	20-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	3.30
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	12	42	42
0.20	22	34	34
0.30	8	15	15
0.40	4	9	9
0.50	3	7	7
0.60	2	6	6
0.70	2	6	6
0.80	2	6	6
0.90	2	6	6
1.00	2	6	6
1.10	2	6	6
1.20	2	5	5
1.30	2	5	5
1.40	1	4	4
1.50	2	4	4
1.60	1	3	3
1.70	1	3	3
1.80	1	3	3
1.90	1	4	4
2.00	1	6	6
2.10	2	8	8
2.20	3	9	9
2.30	3	8	8
2.40	3	7	7
2.50	2	6	6
2.60	2	6	6
2.70	2	6	6
2.80	2	6	6
2.90	2	7	7
3.00	2	35	35
3.10	3	83	83
3.20	30		
3.30	50		
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

DP No: 6

Site:	**LONGBURTON**	Date:	20-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	3.70
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	15	46	46
0.20	16	37	37
0.30	15	23	23
0.40	6	10	10
0.50	2	5	5
0.60	2	4	4
0.70	1	3	3
0.80	1	3	3
0.90	1	3	3
1.00	1	3	3
1.10	1	3	3
1.20	1	3	3
1.30	1	3	3
1.40	1	3	3
1.50	1	3	3
1.60	1	3	3
1.70	1	3	3
1.80	1	4	4
1.90	1	5	5
2.00	2	5	5
2.10	2	5	5
2.20	1	4	4
2.30	2	5	5
2.40	1	5	5
2.50	2	7	7
2.60	2	8	8
2.70	3	8	8
2.80	3	7	7
2.90	2	7	7
3.00	2	7	7
3.10	3	7	7
3.20	2	6	6
3.30	2	10	10
3.40	2	31	31
3.50	6	79	79
3.60	23		
3.70	50		
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
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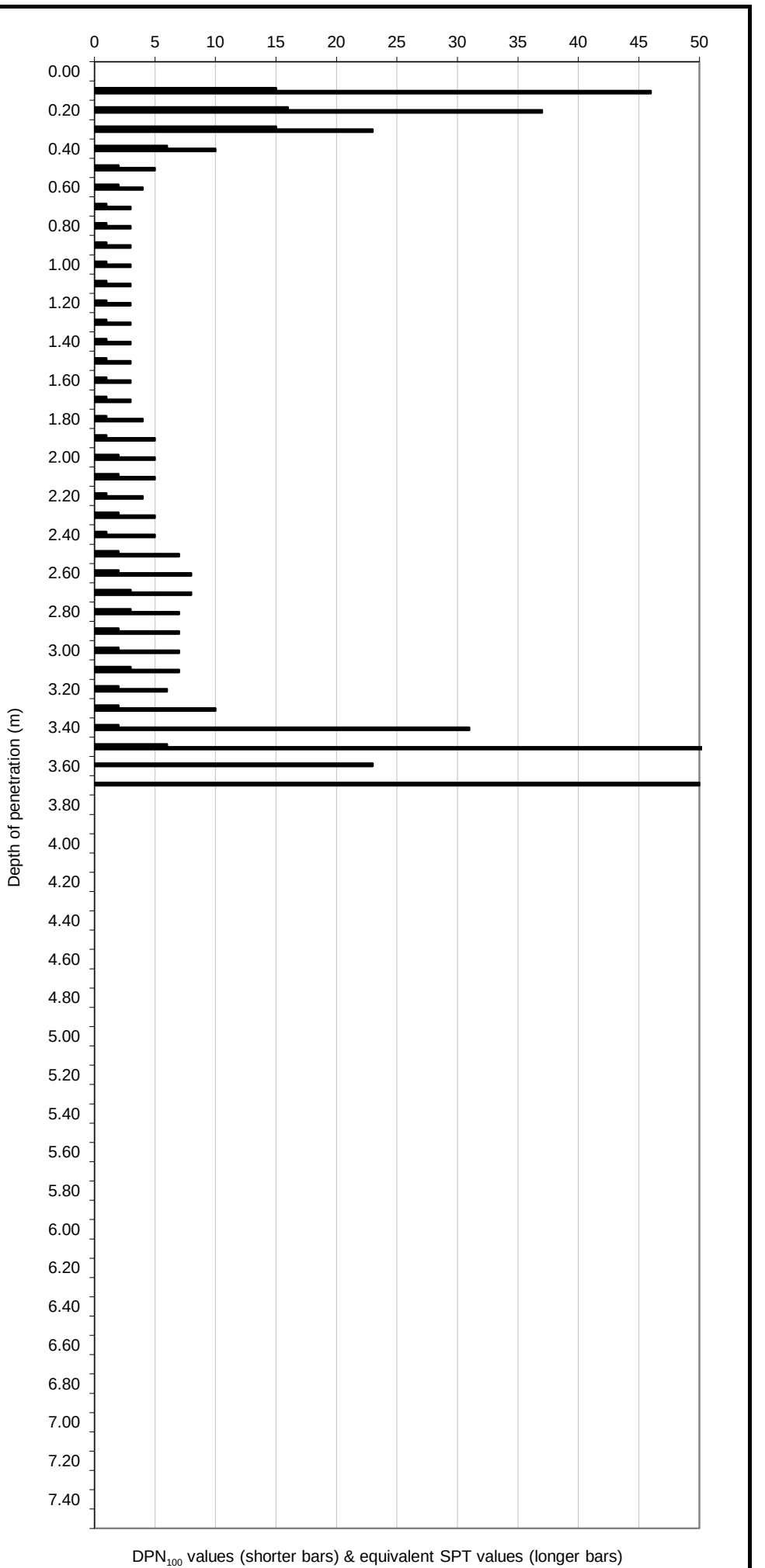
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:

DPN_{100} = Dynamic penetration resistance for 100mm penetration.

DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.

* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).

For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

DP No: 7

Site:	**LONGBURTON**	Date:	21-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	1.70
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	9	25	25
0.20	10	18	18
0.30	6	11	11
0.40	2	7	7
0.50	3	6	6
0.60	2	4	4
0.70	1	3	3
0.80	1	3	3
0.90	1	3	3
1.00	1	3	3
1.10	1	3	3
1.20	1	3	3
1.30	1	7	7
1.40	1	12	12
1.50	5	61	61
1.60	6		
1.70	50		
1.80			
1.90			
2.00			
2.10			
2.20			
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
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4.70			
4.80			
4.90			
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5.80			
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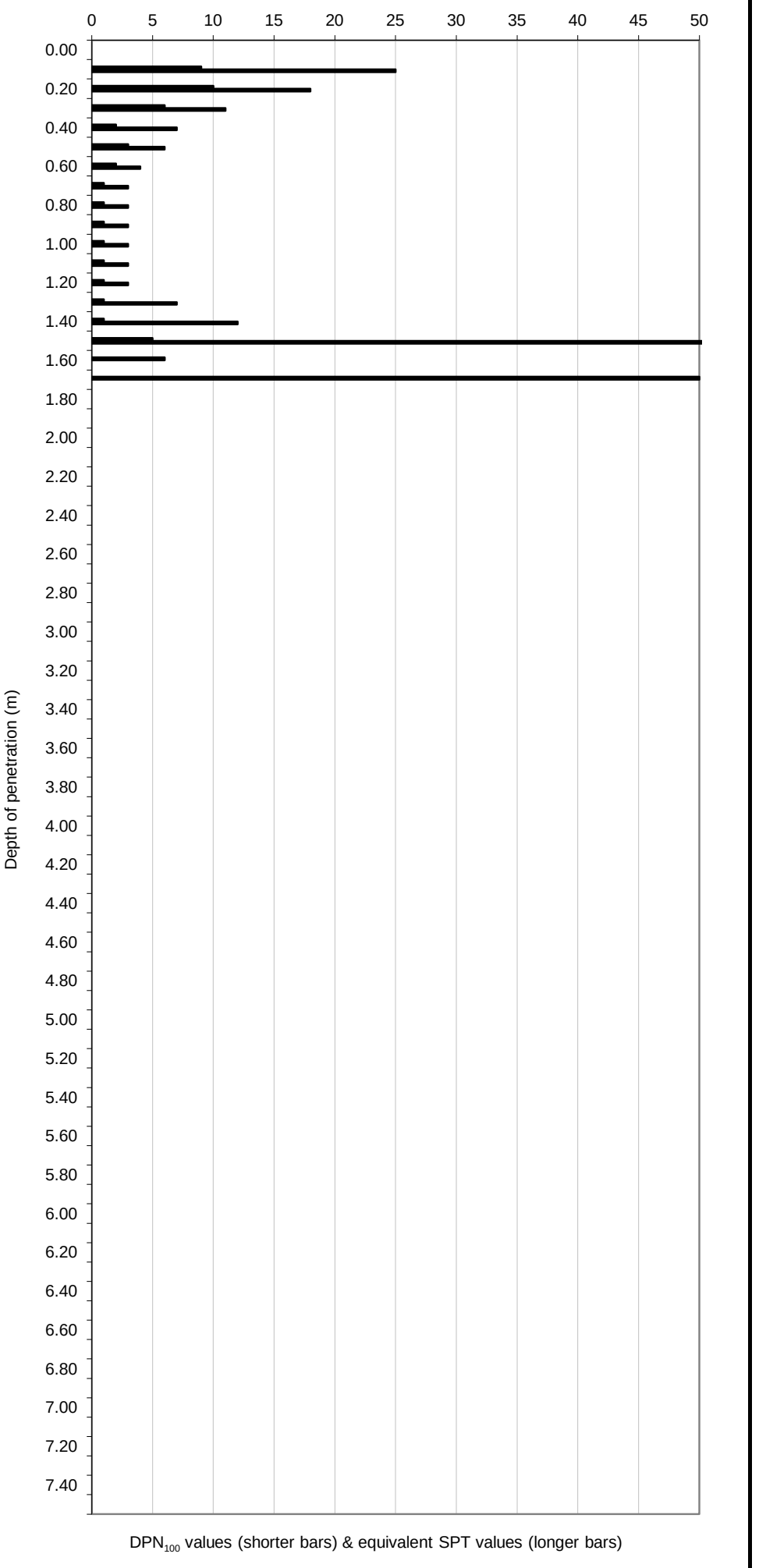
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet

DP No: 8

Site:	**LONGBURTON**	Date:	20-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	1.90
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	4	15	15
0.20	6	13	13
0.30	5	8	8
0.40	2	4	4
0.50	1	3	3
0.60	1	3	3
0.70	1	3	3
0.80	1	3	3
0.90	1	3	3
1.00	1	3	3
1.10	1	4	4
1.20	1	5	5
1.30	2	6	6
1.40	2	6	6
1.50	2	6	6
1.60	2	10	10
1.70	2	58	58
1.80	6		
1.90	50		
2.00			
2.10			
2.20			
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
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4.20			
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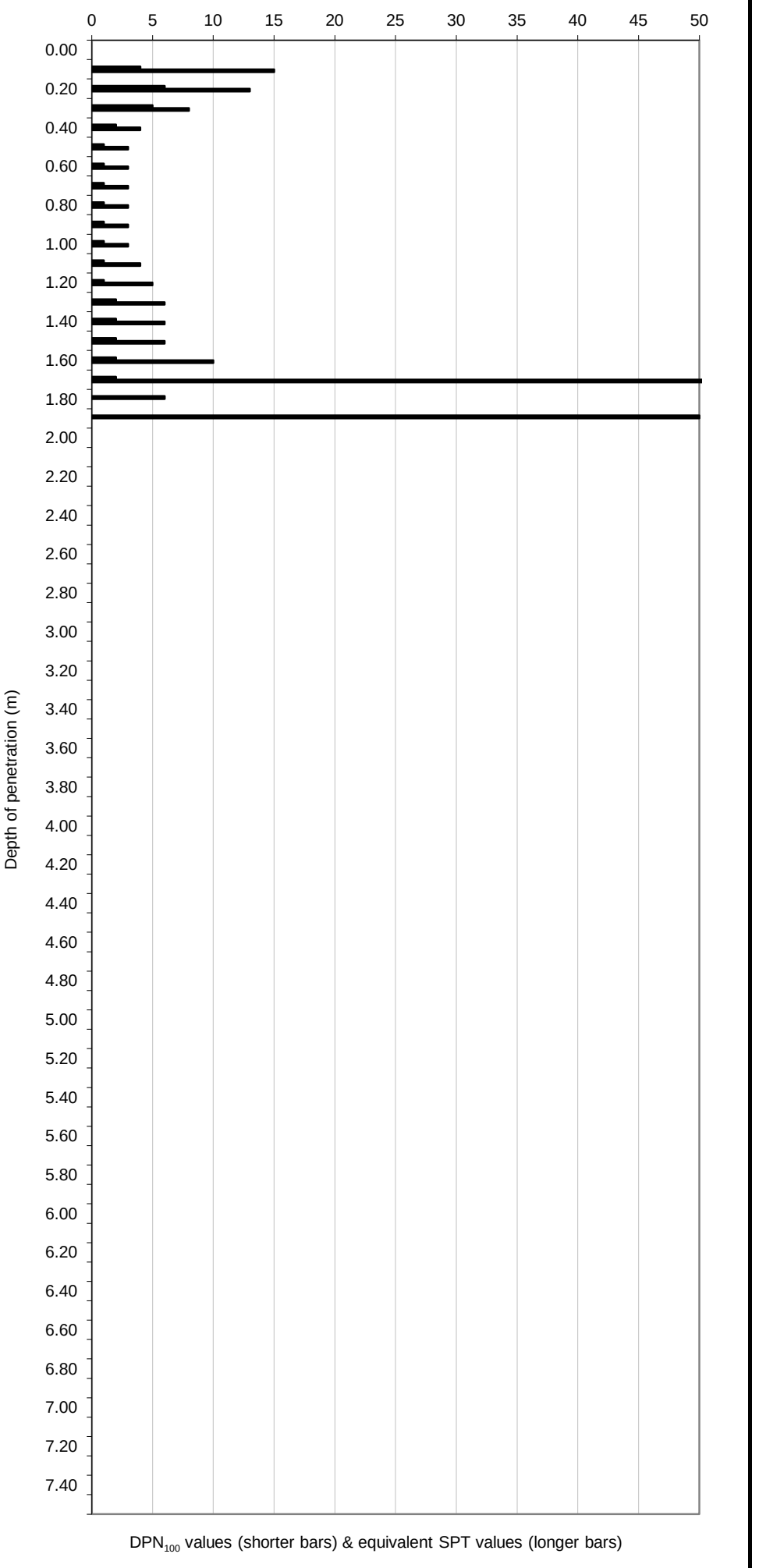
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

Dynamic Probe Test Results Sheet DP No: **9**

Site:	**LONGBURTON**	Date:	21-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	0.60
Rig Type:	Competitor 130	Sheet 1 of 1	

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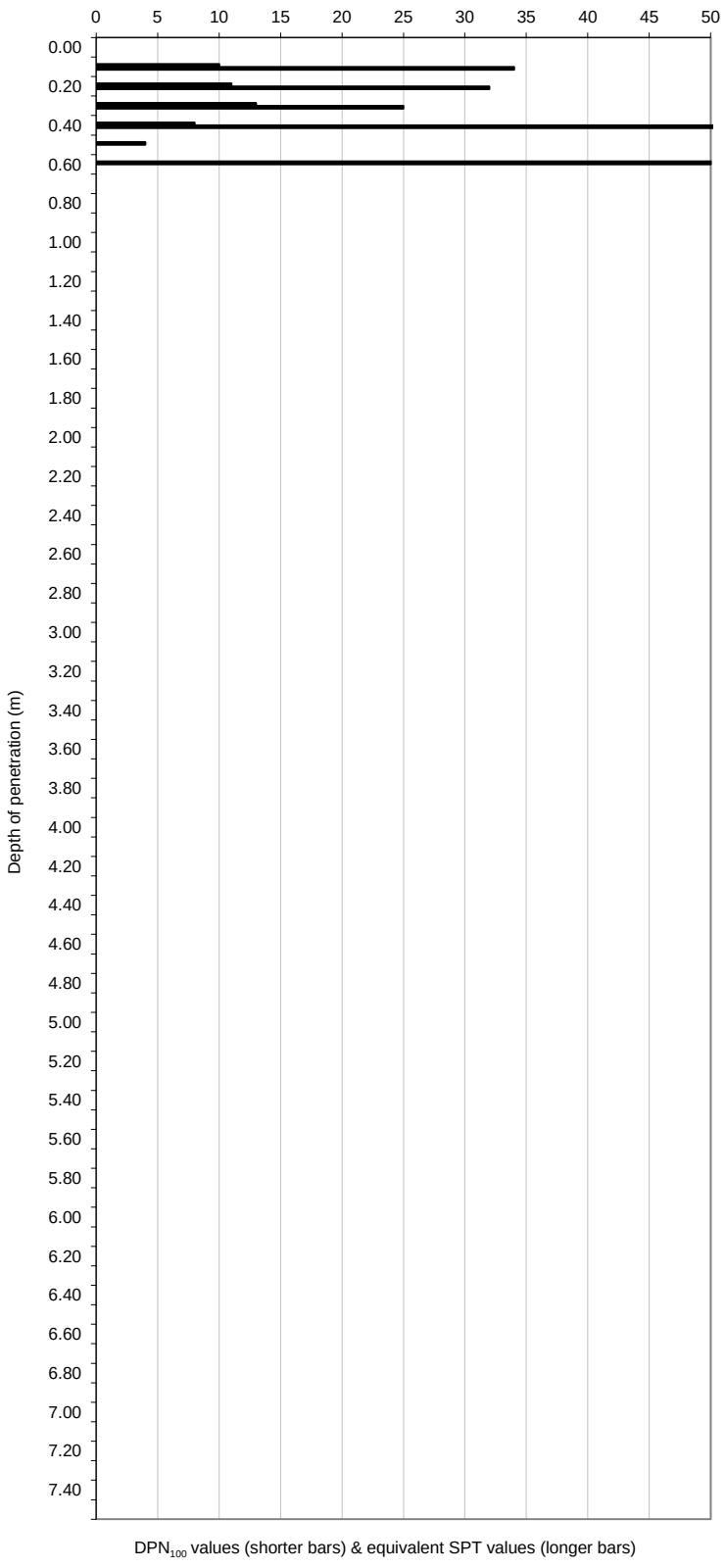
Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	10	34	34
0.20	11	32	32
0.30	13	25	25
0.40	8	62	62
0.50	4		
0.60	50		
0.70			
0.80			
0.90			
1.00			
1.10			
1.20			
1.30			
1.40			
1.50			
1.60			
1.70			
1.80			
1.90			
2.00			
2.10			
2.20			
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



DPN_{100} values (shorter bars) & equivalent SPT values (longer bars)

General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

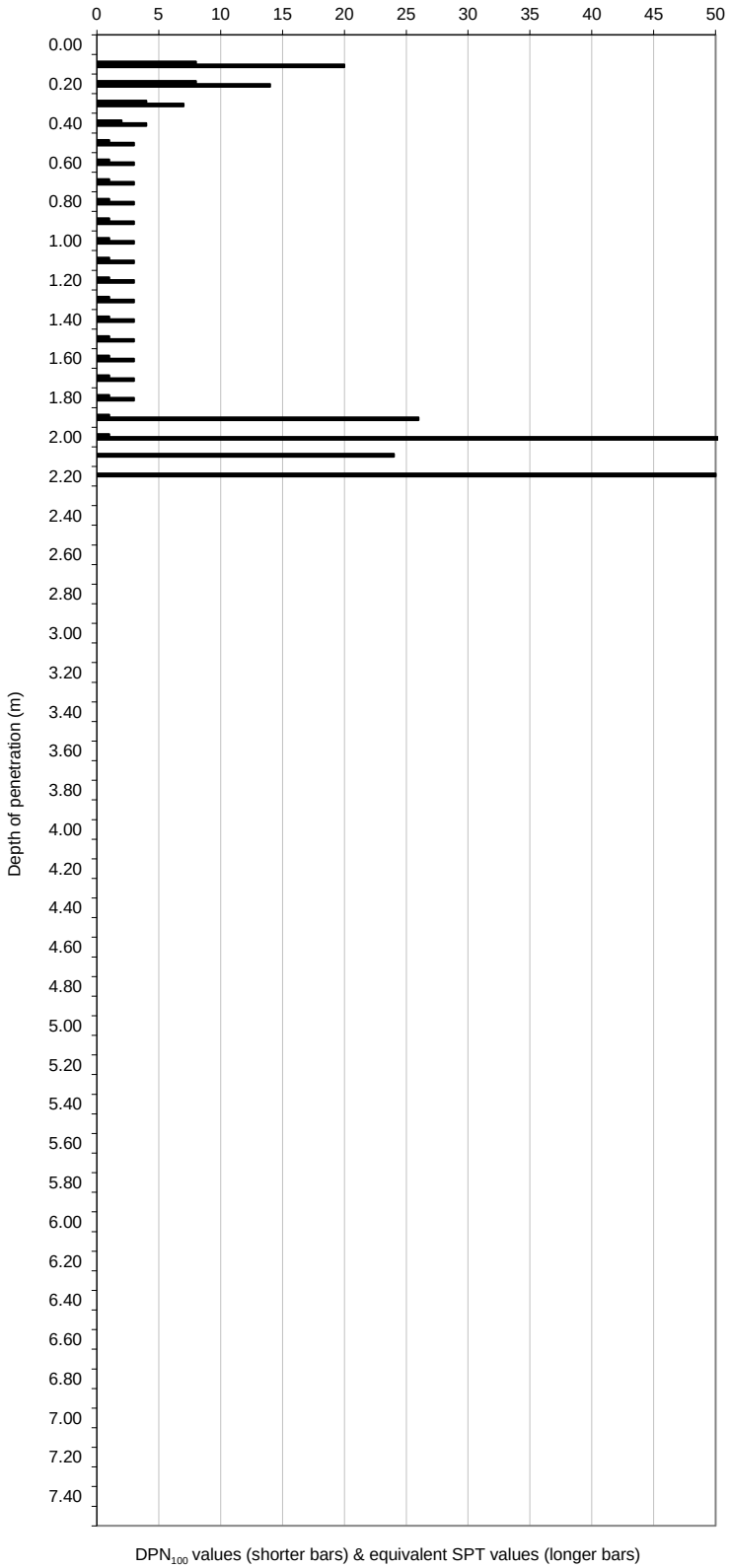
Dynamic Probe Test Results Sheet DP No: **10**

Site:	**LONGBURTON**	Date:	21-Nov-14
Job Number:	**AC1125**	Test Type:	DPSH
Client:	Dorset Council	Final Depth:	2.20
Rig Type:	Competitor 130	Sheet 1 of 1	

cjassociates

Penetration Test Results			
Depth (m)	DPN_{100}	DPN_{300}	SPT N *
0.00			
0.10	8	20	20
0.20	8	14	14
0.30	4	7	7
0.40	2	4	4
0.50	1	3	3
0.60	1	3	3
0.70	1	3	3
0.80	1	3	3
0.90	1	3	3
1.00	1	3	3
1.10	1	3	3
1.20	1	3	3
1.30	1	3	3
1.40	1	3	3
1.50	1	3	3
1.60	1	3	3
1.70	1	3	3
1.80	1	3	3
1.90	1	26	26
2.00	1	75	75
2.10	24		
2.20	50		
2.30			
2.40			
2.50			
2.60			
2.70			
2.80			
2.90			
3.00			
3.10			
3.20			
3.30			
3.40			
3.50			
3.60			
3.70			
3.80			
3.90			
4.00			
4.10			
4.20			
4.30			
4.40			
4.50			
4.60			
4.70			
4.80			
4.90			
5.00			
5.10			
5.20			
5.30			
5.40			
5.50			
5.60			
5.70			
5.80			
5.90			
6.00			
6.10			
6.20			
6.30			
6.40			
6.50			
6.60			
6.70			
6.80			
6.90			
7.00			
7.10			
7.20			
7.30			
7.40			
7.50			

Hammer Mass: 63.5 kg Cone Dia: 50.5mm
Drop Height: 750 mm Test by: CF



DPN_{100} values (shorter bars) & equivalent SPT values (longer bars)

General Remarks:
DPN_{100} = Dynamic penetration resistance for 100mm penetration.
DPN_{300} = Dynamic penetration resistance for 300mm penetration (ie: sum of 3 consecutive DPN_{100} values), starting at the depth given.
* Equivalent SPT N-values (for 300mm penetration) assumed to approximate the DPN_{300} values for dynamic probe "super-heavy" test (DPSH).
For dynamic probe "heavy" test (DPH), equivalent SPT N-values estimated using the theoretical relationship DPN_{300} = 1.5 SPT-N. [see Card,G.B., Roche,D.P. & Herbert,S.M., in Geol. Soc. Special Publication No 6, *Field Testing in Engineering Geology* (1990)]. SPT values are estimated and are for general guidance only.

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MONITORING RESULTS

GAS AND GROUNDWATER MONITORING RESULTS

Project: Longburton Job no: AC1128 Date: 5-Dec-2014

Time of start of visit: 13:30
Time of end of visit: 14:00

Barometric pressure start of visit:..... 1014
Barometric pressure end of visit:..... 1014

Barometric pressure trend - preceding 24 hrs: Steady

Weather conditions: Clear skies, Bright

Ground conditions: Wet

Monitoring point	Methane (% vol) CH_4	Carbon Dioxide (% vol) CO_2	Hydrogen Sulphide (ppm) H_2S	Oxygen (% vol) O_2	Gas flow average (l/hr)	Borehole pressure (Pa)	Water (m)
Ambient	0.0	0.0	0.0	20.6			
WS10	0.1	0.9	0.0	20.2	0.0	0.0	1.60
WS6	0.0	1.8	0.0	16.9	0.0	0.0	2.60
WS2	0.0	1.8	0.0	18.8	0.0	0.0	1.22

C.J. ASSOCIATES GEOTECHNICAL LIMITED

King Road Avenue, Avonmouth, Bristol, BS11 9HF
Tel: 0117 982 1473 Fax: 0117 982 8200 Email: simon.leat@cjageo.co.uk

GAS AND GROUNDWATER MONITORING RESULTS

Project: Longburton Job no: AC1128 Date: 23-Dec-2014

Time of start of visit: 15:00
Time of end of visit: 15:25

Barometric pressure start of visit:..... 1008
Barometric pressure end of visit:..... 1008

Barometric pressure trend - preceding 24 hrs: Falling

Weather conditions: Drizzle

Ground conditions: Damp

Monitoring point	Methane (% vol) CH_4	Carbon Dioxide (% vol) CO_2	Hydrogen Sulphide (ppm) H_2S	Oxygen (% vol) O_2	Gas flow average (l/hr)	Borehole pressure (Pa)	Water (m)
Ambient	0.0	0.0	0.0	20.9			
WS10	0.1	1.7	0.0	19.5	0.0	0.0	1.25
WS6	0.0	1.3	0.0	16.2	0.0	0.0	2.54
WS2	0.1	0.1	0.0	20.6	0.0	0.0	0.97

C.J. ASSOCIATES GEOTECHNICAL LIMITED

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Tel: 0117 982 1473 Fax: 0117 982 8200 Email: simon.leat@cjageo.co.uk

GAS AND GROUNDWATER MONITORING RESULTS

Project: Longburton Job no: AC1128 Date: 9-Jan-2015

Time of start of visit: 10:30
Time of end of visit: 10:45

Barometric pressure start of visit:..... 1015
Barometric pressure end of visit:..... 1015

Barometric pressure trend - preceding 24 hrs: Falling

Weather conditions: Clear

Ground conditions: Damp

Monitoring point	Methane (% vol) CH_4	Carbon Dioxide (% vol) CO_2	Hydrogen Sulphide (ppm) H_2S	Oxygen (% vol) O_2	Gas flow average (l/hr)	Borehole pressure (Pa)	Water (m)
Ambient	0.0	0.0	0.0	20.8			
WS2	0.0	1.4	0.0	19.8	0.0	0.0	1.19
WS6	0.0	0.9	0.0	15.3	0.0	0.0	1.27
WS10	0.0	0.0	0.0	20.0	0.0	0.0	0.77

C.J. ASSOCIATES GEOTECHNICAL LIMITED

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cjassociates

LABORATORY TESTS

Laboratory Test Certificate

Site	Longburton
Client	Dorset County Coucil
Job Number	AC1128
Lab Number	L107030
Order Number	-
F.A.O.	Simon Leat

Number of samples submitted for testing:	18	sample (s)

Natural Moisture Content	8	test(s)
Atterberg Limits	8	test(s)
Aqueous Sulphate	3	test(s)
pH	3	test(s)
CJA General Soil Contamination Suite	10	test(s)
Speciated TPH with Aliphatic / Aromatic Split	5	test(s)
Asbestos Screen / ID	10	test(s)

Date (s) sample (s) received at laboratory:	24	Nov-14
Date of receipt of testing instructions	26	Nov-14
Date testing started:	27	Nov-14
Date of issue:	8	Dec-14

Please note that we will keep the sample (s) for one month after submission of our report and will then dispose of them without notice unless you ask us to store them. We will then make a separate charge for this.

Approved by :
Lorna Logan

Time [12:40] Date [08/12/2014]

C.J. Associates Geotechnical Ltd
King Road Avenue
Avonmouth - Bristol BS11 9HF
Tel: 0117 982 1473 Fax: 0117 982 8200

Index Property Test Results

Site **Longburton**

Client **Dorset County Council**

Job Number AC1128

Lab Number

UKAS Testing Laboratory 1429

Hole	Sample	Depth (m)	Method	History	MC (%)	LL (%)	Ret (%)	PL (%)	Pa (%)	PI (%)	Class	Description
WS 1	L	1.00	1	2	18	54	31	29	69	25	CH	Refer to log sheets
WS 2	L	1.50	1	2	19	53	41	25	59	28	CH	Refer to log sheets
WS 3	L	2.00	1	2	29	67	63	32	37	35	CH	Refer to log sheets
WS 5	L	2.50	1	2	36	67	13	31	87	36	CH	Refer to log sheets
WS 6	L	1.00	1	2	47	75	8	37	92	38	MV	Refer to log sheets
WS 7	L	1.20	1	1	37	62	6	29	94	33	CH	Refer to log sheets
WS 9	L	0.50	1	2	31	63	68	29	32	34	CH	Refer to log sheets

Key

MC - Moisture content
LL - Liquid Limit
Ret - Percentage retained on 425 micron test sieve
PL - Plastic limit
Pa - Percentage passing the 425 micron test sieve
PI - Plasticity Index

History

(1) Sample was tested from the natural state. Particles greater than 425 microns removed by hand (BS1377:Part2:1990:4.2.3)
(2) Sample was wet sieved through 425 micron test sieve (BS1377:Part2:1990:4.2.4)
(3) Sample was air dried at less than 50 degrees Centigrade and passed through the 425 micron sieve
(4) Unknown

Methods

[1] BS1377:Part2:1990: Methods 3.2/4.4/5.3 - Liquid Limit by One point Cone Penetrometer
[2] BS1377:Part2:1990: Methods 3.2/4.4/5.3 - Liquid Limit by Four Point Cone Penetrometer

Samples were prepared in accordance with BS1377:Part1:1990

Classification is based on the plasticity chart - Fig 2.6 of Manual of Soil Laboratory Testing - Volume 1 by K.H.Head.
NOTE - 'O' is added to the symbol for soils containing a significant amount of organic material (determined by visual inspection) e.g. MHO

Checked

Approved

Index Property Test Results

Site	**Longburton**
Client	**Dorset County Council**
Job Number	AC1128
Lab Number	

UKAS Testing Laboratory 1429

Hole	Sample	Depth (m)	Method	History	MC (%)	LL (%)	Ret (%)	PL (%)	Pa (%)	PI (%)	Class	Description
WS10	L	1.00	1	2	32	78	49	36	51	42	MV	Refer to log sheets

Key

MC - Moisture content
LL - Liquid Limit
Ret - Percentage retained on 425 micron test sieve
PL - Plastic limit
Pa - Percentage passing the 425 micron test sieve
PI - Plasticity Index

History

(1) Sample was tested from the natural state. Particles greater than 425 microns removed by hand (BS1377:Part2:1990:4.2.3)
(2) Sample was wet sieved through 425 micron test sieve (BS1377:Part2:1990:4.2.4)
(3) Sample was air dried at less than 50 degrees Centigrade and passed through the 425 micron sieve
(4) Unknown

Methods

[1] BS1377:Part2:1990: Methods 3.2/4.4/5.3 - Liquid Limit by One point Cone Penetrometer
[2] BS1377:Part2:1990: Methods 3.2/4.4/5.3 - Liquid Limit by Four Point Cone Penetrometer

Samples were prepared in accordance with BS1377:Part1:1990

Classification is based on the plasticity chart - Fig 2.6 of Manual of Soil Laboratory Testing - Volume 1 by K.H.Head.
NOTE - 'O' is added to the symbol for soils containing a significant amount of organic material (determined by visual inspection) e.g. MHO

Checked

Approved

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 440238-1

Date of Report: 08-Dec-2014

Customer: CJ Associates Ltd
King Road Avenue
Avonmouth
Bristol
BS11 9HF

Customer Contact: Ms Lorna Logan

Customer Job Reference: AC1128-L10730-S5189
Customer Site Reference: Longburton
Date Job Received at SAL: 01-Dec-2014
Date Analysis Started: 02-Dec-2014
Date Analysis Completed: 08-Dec-2014

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

1549

Report checked and authorised by :
Mr Richard Wong
Project Manager

Issued by :
Mr Richard Wong
Project Manager

SAL Reference: 440238
Project Site: Longburton
Customer Reference: AC1128-L10730-S5189

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**440238 001**	**440238 002**	**440238 004**	**440238 005**	**440238 006**	**440238 007**	**440238 008**	**440238 010**	**440238 011**	**440238 012**
				Customer Sample Reference	**WS1**	**WS2**	**WS3**	**WS4**	**WS5**	**WS6**	**WS7**	**WS8**	**WS9**	**WS10**
				Date Sampled	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**
				Depth	**0.75**	**0.50**	**0.50**	**0.75**	**1.00**	**0.25**	**0.50**	**0.25**	**0.15**	**0.50**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**11**	**24**	**11**	**24**	**22**	**13**	**14**	**12**	**3.8**	**12**

SAL Reference: 440238
Project Site: Longburton
Customer Reference: AC1128-L10730-S5189

Soil Analysed as Soil
CJ Associates Suite

				SAL Reference	**440238 001**	**440238 002**	**440238 004**	**440238 005**	**440238 006**	**440238 007**	**440238 008**	**440238 010**	**440238 011**	**440238 012**
				Customer Sample Reference	**WS1**	**WS2**	**WS3**	**WS4**	**WS5**	**WS6**	**WS7**	**WS8**	**WS9**	**WS10**
				Date Sampled	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**
				Depth	**0.75**	**0.50**	**0.50**	**0.75**	**1.00**	**0.25**	**0.50**	**0.25**	**0.15**	**0.50**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Arsenic	T6	M40	2	mg/kg	**21**	**19**	**24**	**20**	**12**	**10**	**27**	**10**	**23**	**48**
Beryllium	T6	M40	2	mg/kg	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1
Chromium	T6	M40	1	mg/kg	**5**	**22**	**14**	**27**	**27**	**27**	**23**	**29**	**14**	**63**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**4**	**20**	**14**	**19**	**18**	**17**	**16**	**19**	**12**	**9**
Lead	T6	M40	1	mg/kg	**9**	**39**	**17**	**31**	**30**	**43**	**30**	**49**	**240**	**44**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**8**	**23**	**19**	**28**	**31**	**16**	**22**	**20**	**11**	**19**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vanadium	T6	M40	1	mg/kg	**18**	**39**	**35**	**47**	**36**	**30**	**44**	**37**	**20**	**58**
Zinc	T6	M40	1	mg/kg	**22**	**89**	**52**	**87**	**72**	**250**	**120**	**200**	**270**	**120**
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyanide(free)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thiocyanate	T4	AR	10	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphur(Free)	T2	M40	500	mg/kg	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
SO4(Total)	T6	M40	0.01	%	**0.09**	**0.11**	**0.11**	**0.09**	**0.11**	**0.20**	**0.28**	**0.14**	**0.18**	**0.11**
Sulphide	T546	AR	1	mg/kg	<1	**2**	<1	<1	**5**	<1	<1	<1	<1	<1
Soil Organic Matter	T287	M40	0.1	%	**0.6**	**3.6**	**0.9**	**2.5**	**1.8**	**4.8**	**3.1**	**2.7**	**1.7**	**1.7**
pH	T7	AR			**8.8**	**7.8**	**8.5**	**8.0**	**7.9**	**8.0**	**9.3**	**9.1**	**8.8**	**9.2**

SAL Reference: 440238
Project Site: Longburton
Customer Reference: AC1128-L10730-S5189

Soil Analysed as Soil
Suite A

				SAL Reference	**440238 003**	**440238 006**	**440238 009**
				Customer Sample Reference	**WS2**	**WS5**	**WS7**
				Date Sampled	**Deviating**	**Deviating**	**Deviating**
				Depth	**1.50**	**1.00**	**1.20**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**			
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	**0.19**	**0.01**	**0.02**
pH	T7	AR			**8.2**	**7.8**	**8.0**

SAL Reference: 440238
Project Site: Longburton
Customer Reference: AC1128-L10730-S5189

Soil Analysed as Soil
Miscellaneous

SAL Reference	440238 001	440238 002	440238 004	440238 005	440238 006	440238 007	440238 008	440238 010	440238 011	440238 012
Customer Sample Reference	WS1	WS2	WS3	WS4	WS5	WS6	WS7	WS8	WS9	WS10
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Depth	0.75	0.50	0.50	0.75	1.00	0.25	0.50	0.25	0.15	0.50

Determinand	Method	Test Sample	LOD	Units									
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

SAL Reference: 440238
Project Site: Longburton
Customer Reference: AC1128-L10730-S5189

Soil Analysed as Soil
TPH (CWG)

SAL Reference	440238 004	440238 005	440238 006	440238 007	440238 011
Customer Sample Reference	WS3	WS4	WS5	WS6	WS9
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating
Depth	0.50	0.75	1.00	0.25	0.15

Determinand	Method	Test Sample	LOD	Units					
Benzene	T54	AR	1	µg/kg	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Toluene	T54	AR	1	µg/kg	<1	<1	<1	**2**	<1
EthylBenzene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1
O Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/kg	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	(9) <10	(9) <10
TPH (C12-C16 aliphatic)	T8	M105	1	mg/kg	<1	**5**	<1	(9) <10	**13**
TPH (C16-C21 aliphatic)	T8	M105	1	mg/kg	**2**	**4**	<1	(9) <10	**38**
TPH (C21-C35 aliphatic)	T8	M105	1	mg/kg	**2**	**210**	**4**	(9) <10	**54**
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aromatic)	T8	M105	1	mg/kg	<1	**2**	<1	(9) <10	(9) <10
TPH (C12-C16 aromatic)	T8	M105	1	mg/kg	<1	**4**	<1	(9) <10	**120**
TPH (C16-C21 aromatic)	T8	M105	1	mg/kg	<1	**3**	<1	(9) <10	**430**
TPH (C21-C35 aromatic)	T8	M105	1	mg/kg	<1	**8**	<1	(9) <10	**550**

SAL Reference: 440238
Project Site: Longburton
Customer Reference: AC1128-L10730-S5189

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

					SAL Reference	**440238 001**	**440238 002**	**440238 004**	**440238 005**	**440238 006**	**440238 007**	**440238 008**	**440238 010**	**440238 011**	**440238 012**
					Customer Sample Reference	**WS1**	**WS2**	**WS3**	**WS4**	**WS5**	**WS6**	**WS7**	**WS8**	**WS9**	**WS10**
					Date Sampled	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**	**Deviating**
					Depth	**0.75**	**0.50**	**0.50**	**0.75**	**1.00**	**0.25**	**0.50**	**0.25**	**0.15**	**0.50**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**											
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	**0.3**	**0.3**
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	**0.2**	**0.3**	**6.1**	**1.0**
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1	**0.1**	**0.2**	**5.4**	**0.7**
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	**2.4**	<0.1	<0.1	**0.9**	**1.1**	**25**	**4.2**
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.8**	<0.1	<0.1	**0.3**	**0.5**	**9.2**	**1.3**
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**0.4**	<0.1	**5.8**	<0.1	**0.1**	**1.4**	**2.1**	**26**	**6.8**
Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.3**	<0.1	**5.0**	<0.1	**0.1**	**1.2**	**1.9**	**20**	**6.0**
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	**2.8**	<0.1	<0.1	**0.6**	**1.0**	**10**	**2.6**
Chrysene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	**2.8**	<0.1	<0.1	**0.6**	**1.0**	**8.9**	**2.5**
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	<0.1	**0.3**	<0.1	**3.9**	<0.1	<0.1	**1.0**	**1.5**	**12**	**3.7**
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**1.6**	<0.1	<0.1	**0.4**	**0.6**	**5.2**	**1.5**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	**2.8**	<0.1	<0.1	**0.7**	**1.1**	**9.4**	**2.7**
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**1.4**	<0.1	<0.1	**0.4**	**0.6**	**3.6**	**1.2**
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	**0.2**	**0.9**	**0.3**
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	**1.4**	<0.1	<0.1	**0.4**	**0.6**	**3.6**	**1.3**
PAH(total)	T207	M105	0.1	mg/kg	<0.1	**1.8**	<0.1	**32**	<0.1	**0.2**	**8.2**	**13**	**150**	**36**

Index to symbols used in 440238-1

Value	Description
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
AR	As Received
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
N.D.	Not Detected
13	Results have been blank corrected.
9	LOD raised due to dilution of sample
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

The date of sampling has not been provided and therefore the time from sampling to analysis is unknown. It is possible therefore that the results provided may be compromised
Asbestos ID performed at REC Asbestos

Method Index

Value	Description
T2	Grav
T287	Calc TOC/0.58
T27	PLM
T162	Grav (1 Dec) (105 C)
T6	ICP/OES
T4	Colorimetry
T8	GC/FID
T207	GC/MS (MCERTS)
T546	Colorimetry (CF)
T7	Probe
T54	GC/MS (Headspace)

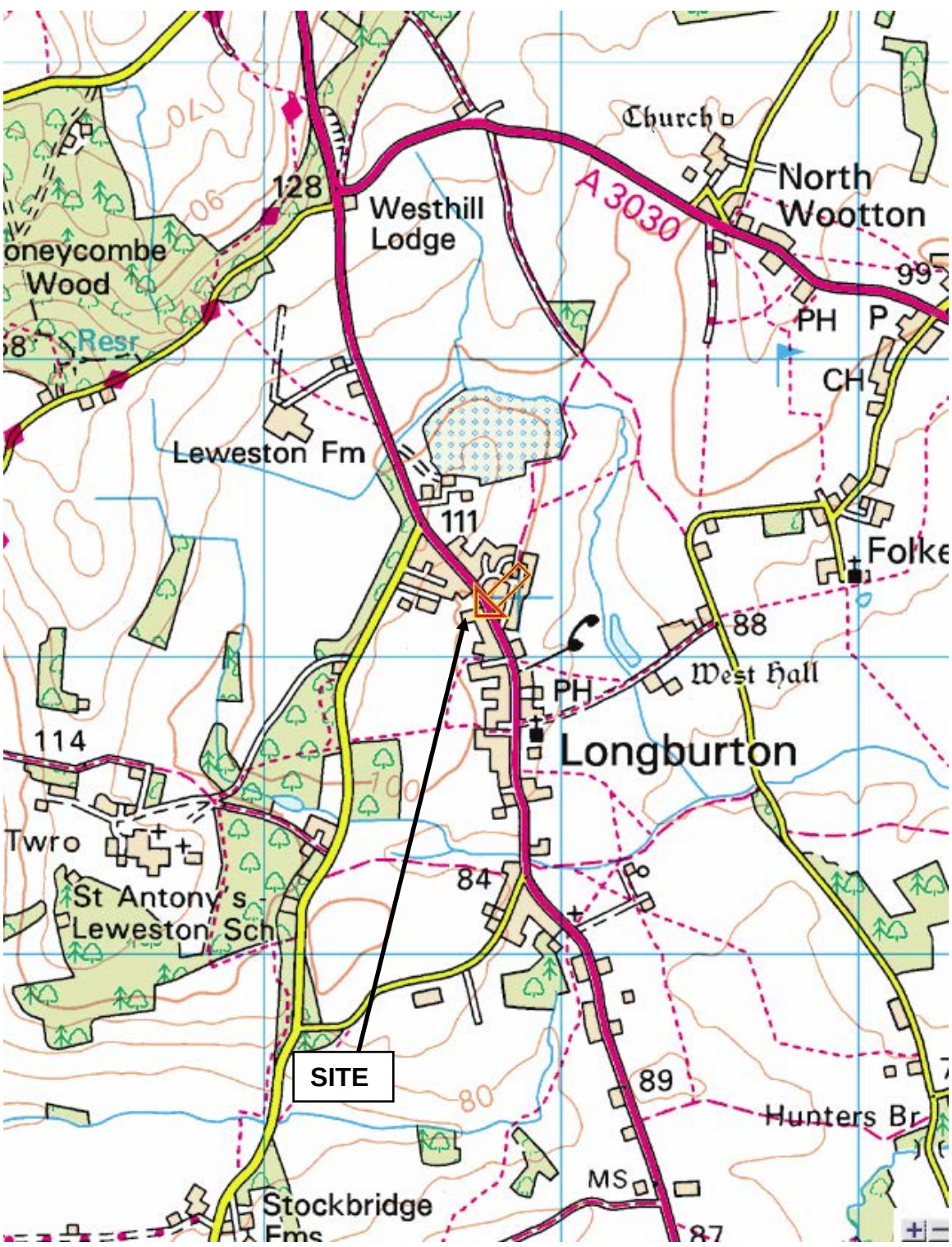
T242	2:1 Extraction/ICP/OES (TRL 447 T1)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos ID	T27	AR			SU	001-002,004-008,010-012
Arsenic	T6	M40	2	mg/kg	M	001-002,004-008,010-012
Beryllium	T6	M40	2	mg/kg	M	001-002,004-008,010-012
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-002,004-008,010-012
Cadmium	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Chromium	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Chromium VI	T6	AR	1	mg/kg	N	001-002,004-008,010-012
Copper	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Lead	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Mercury	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Nickel	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Selenium	T6	M40	3	mg/kg	M	001-002,004-008,010-012
Vanadium	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Zinc	T6	M40	1	mg/kg	M	001-002,004-008,010-012
Cyanide(Total)	T546	AR	1	mg/kg	M	001-002,004-008,010-012
Cyanide(free)	T546	AR	1	mg/kg	M	001-002,004-008,010-012
Thiocyanate	T4	AR	10	mg/kg	N	001-002,004-008,010-012
Phenols(Mono)	T546	AR	1	mg/kg	M	001-002,004-008,010-012
Sulphur(Free)	T2	M40	500	mg/kg	N	001-002,004-008,010-012
SO4(Total)	T6	M40	0.01	%	N	001-002,004-008,010-012
Sulphide	T546	AR	1	mg/kg	N	001-002,004-008,010-012
Soil Organic Matter	T287	M40	0.1	%	N	001-002,004-008,010-012
pH	T7	AR			M	001-002,004-008,010-012
Naphthalene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-002,004-008,010-012
Acenaphthene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Fluorene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Phenanthrene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Anthracene	T207	M105	0.1	mg/kg	U	001-002,004-008,010-012
Fluoranthene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Pyrene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Chrysene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-002,004-008,010-012
PAH(total)	T207	M105	0.1	mg/kg	U	001-002,004-008,010-012
Moisture @ 105 C	T162	AR	0.1	%	N	001-002,004-008,010-012
(Water Soluble) SO4 expressed as SO4	T242	AR	0.01	g/l	N	003,006,009
pH	T7	AR			U	003,006,009
Benzene	T54	AR	1	µg/kg	U	004-007,011
Toluene	T54	AR	1	µg/kg	U	004-007,011
EthylBenzene	T54	AR	1	µg/kg	U	004-007,011
M/P Xylene	T54	AR	1	µg/kg	U	004-007,011
O Xylene	T54	AR	1	µg/kg	U	004-007,011
Methyl tert-Butyl Ether	T54	AR	1	µg/kg	U	004-007,011
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	N	004-007,011
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	N	004-007,011
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	N	004-007,011
TPH (C10-C12 aliphatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C12-C16 aliphatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C16-C21 aliphatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C21-C35 aliphatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	N	004-007,011
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	N	004-007,011
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	N	004-007,011
TPH (C10-C12 aromatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C12-C16 aromatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C16-C21 aromatic)	T8	M105	1	mg/kg	N	004-007,011
TPH (C21-C35 aromatic)	T8	M105	1	mg/kg	N	004-007,011

cjassociates

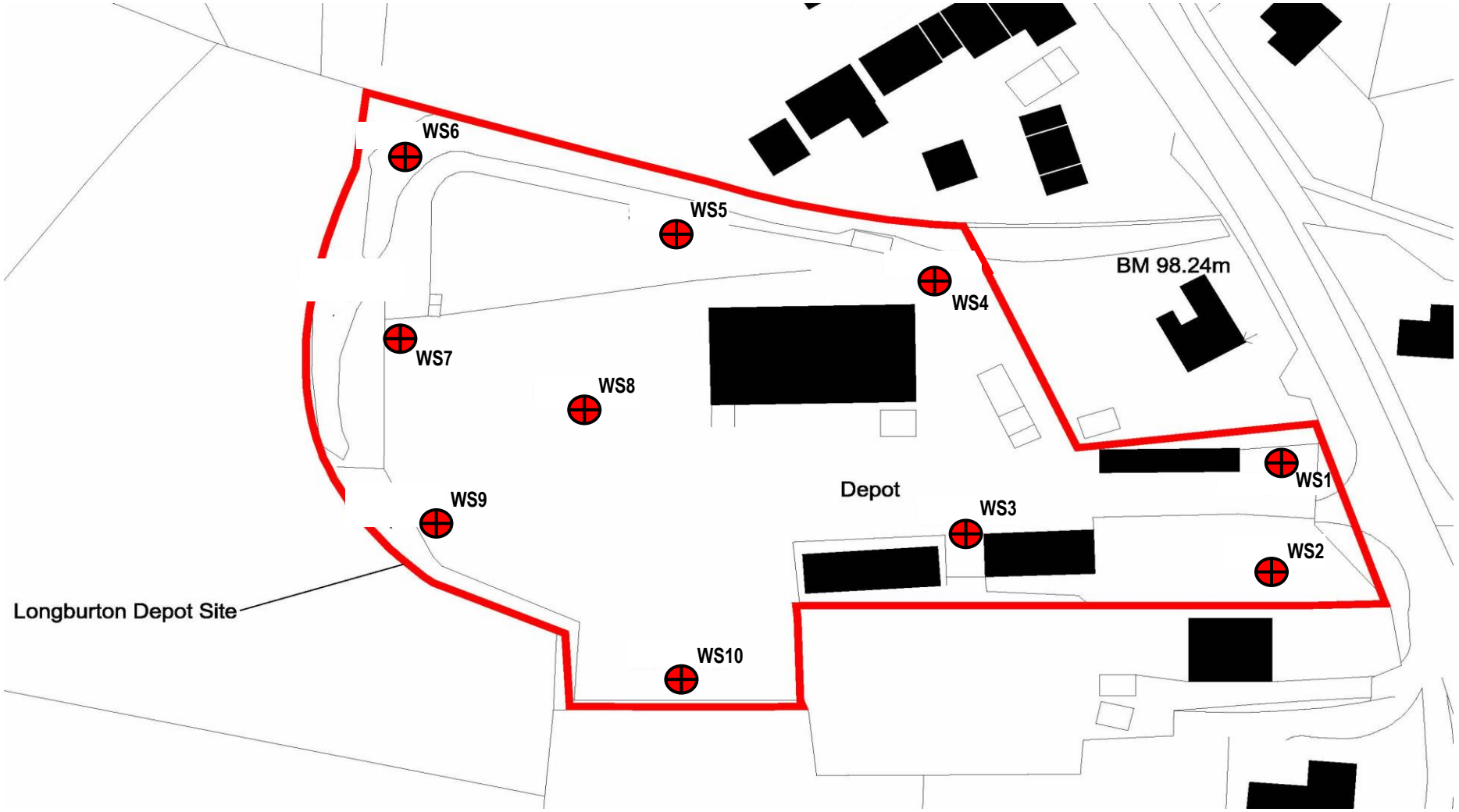
DRAWINGS



Title: **Site Location Plan** – Longburton Depot

Job no. AC1128	Drawn by: SL	Date: Dec 2014	Scale: NTS

cjassociates
CJ Associates
Geotechnical Limited



KEY:

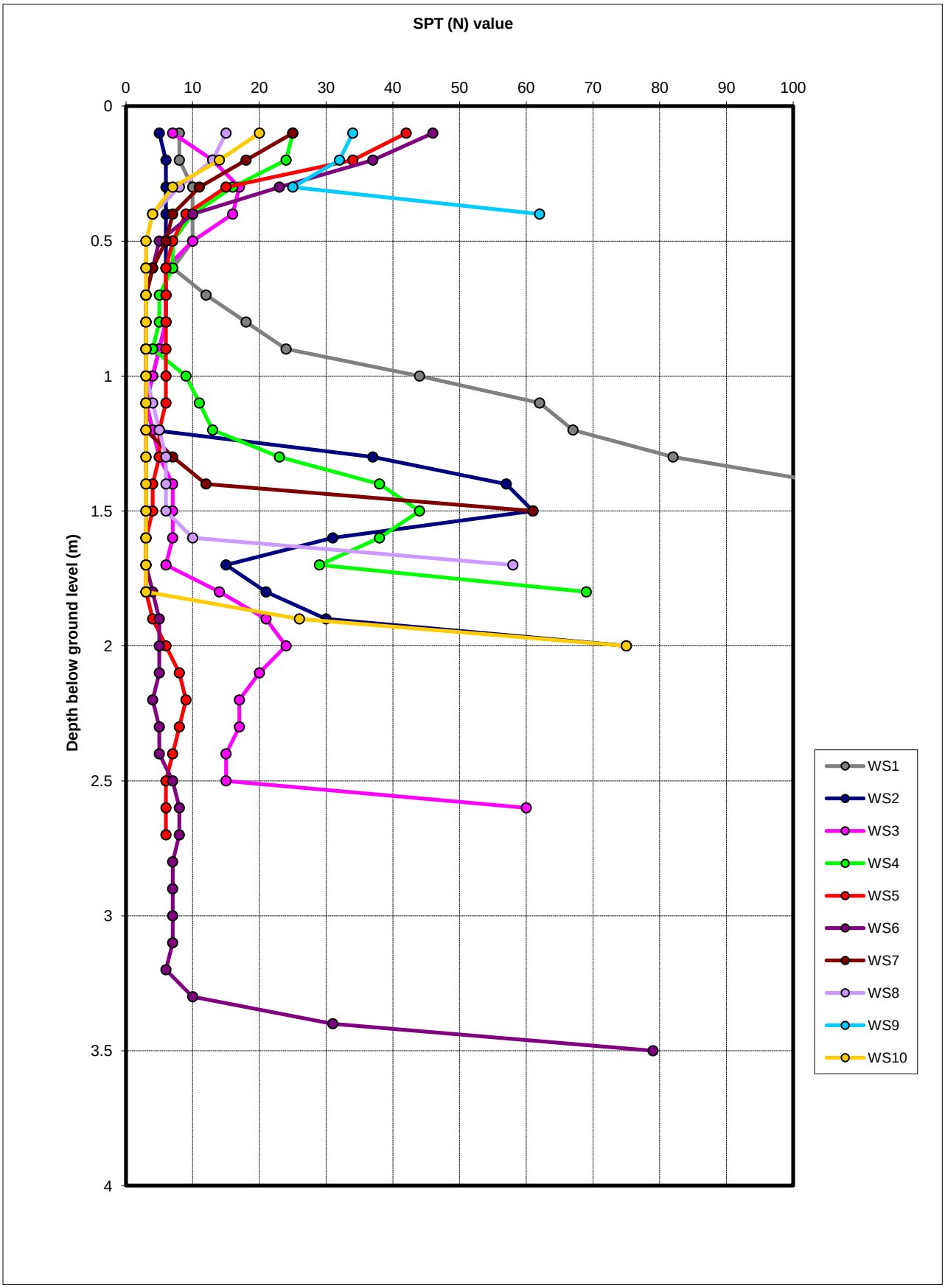
Borehole/Dynamic Probe Location (NTS)

cjassociates

King Road Avenue,
Avonmouth,
Bristol. BS11 9HF
Tel: 0117 982 1473

Project	Drawing Title	Client	Project No.
Longburton Depot	**Borehole Location Plan**	**Dorset County Council**	**AC1128**

PLOT OF SPT 'N' VALUE AGAINST DEPTH



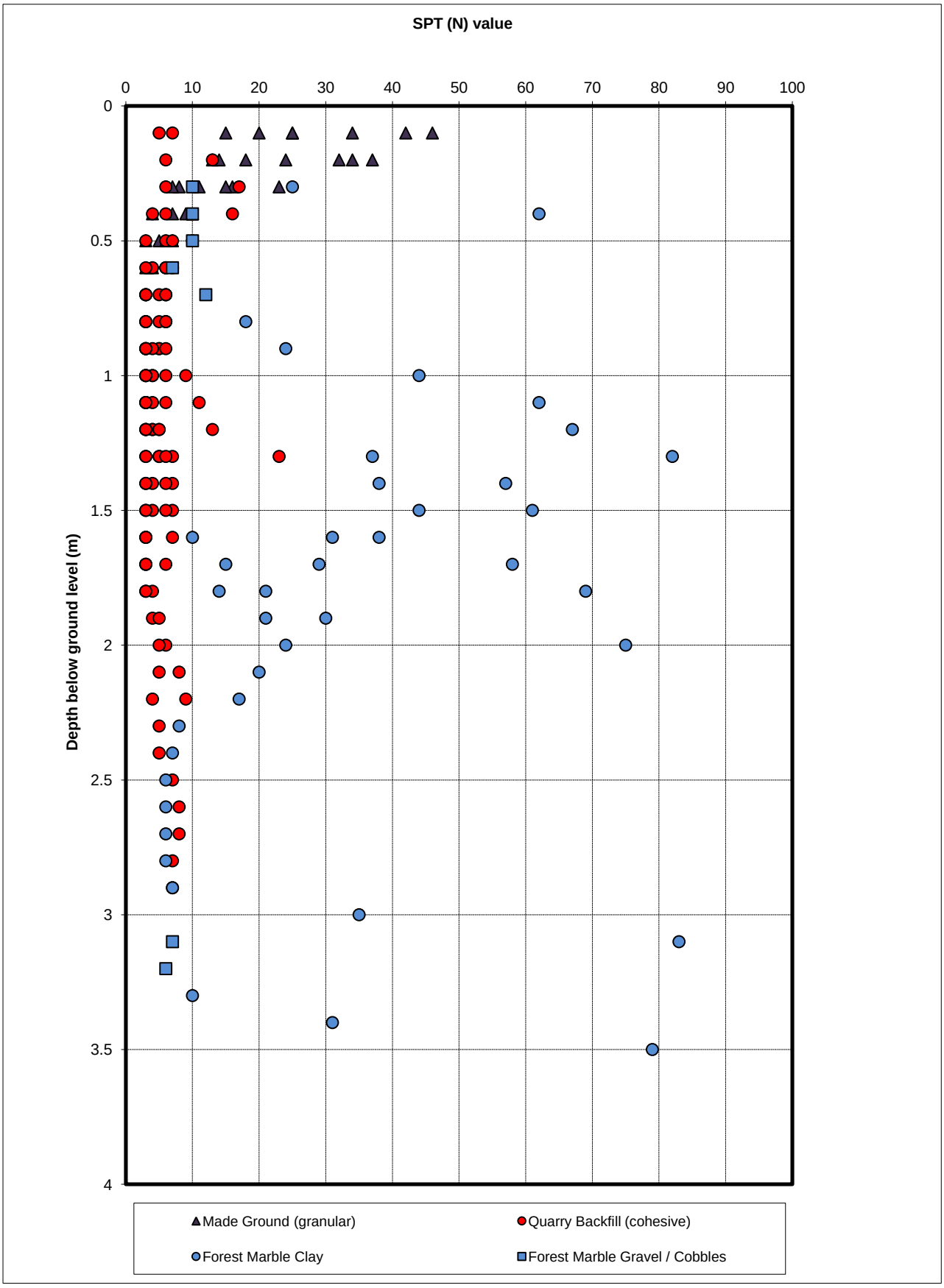
cjassociates

King Road Avenue, Avonmouth, BS11 9HF

Tel 0117 9821473 Fax 0117 982 8200

Project: Longburton Depot		Drawing Title: SPT v Depth
Client: Dorset County Council		Project No.: AC1128

PLOT OF SPT 'N' VALUE AGAINST DEPTH

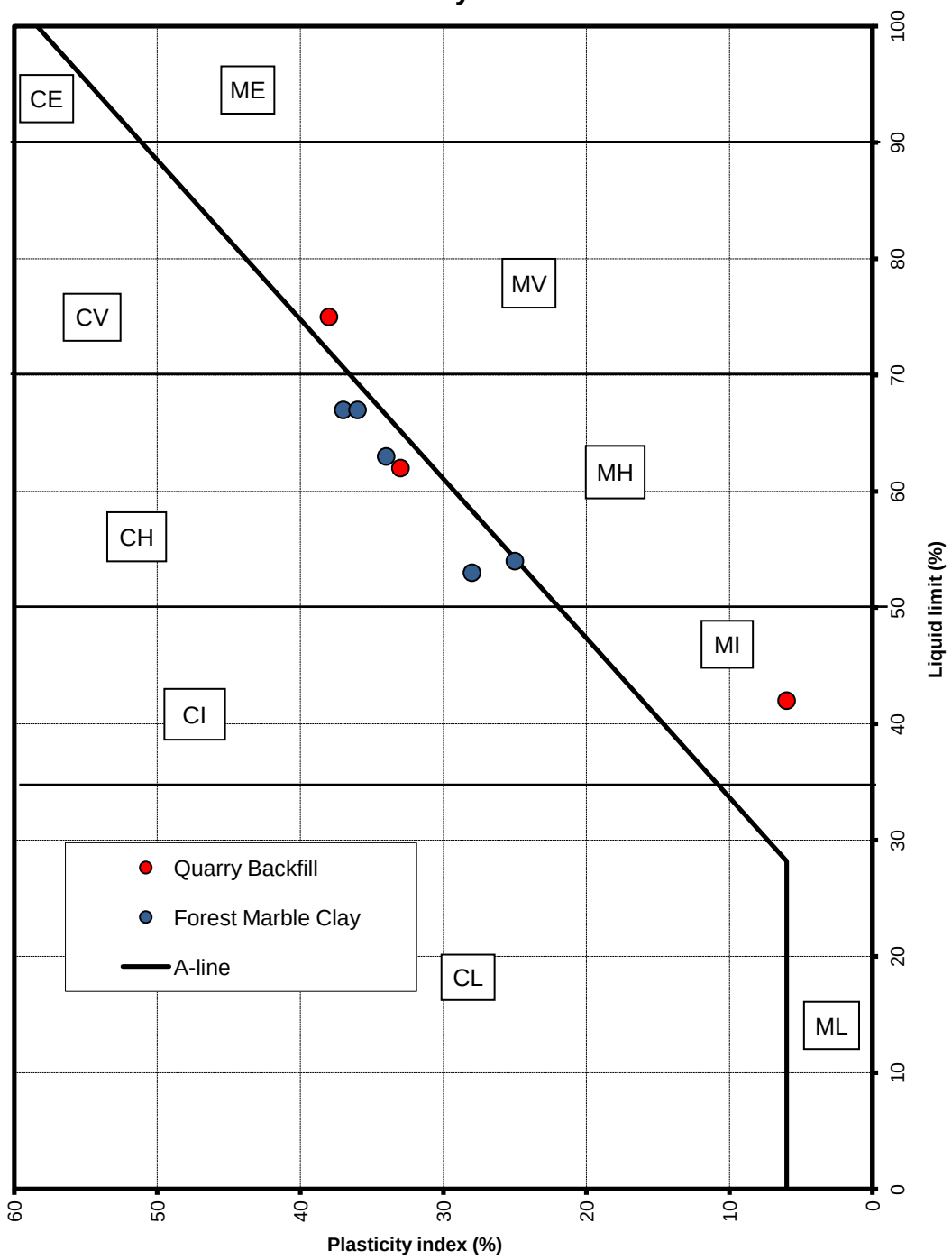


cjassociates

King Road Avenue, Avonmouth, BS11 9HF
Tel 0117 9821473 Fax 0117 982 8200

Project: Longburton Depot		Drawing Title: SPT v Depth
Client: Dorset County Council		Project No.: AC1128

Plasticity chart



cjassociates

King Road Avenue, Avonmouth, BS11 9HF

Tel: 0117 9821473 Fax: 0117 9828200

Project: Longurton Depot	Drawing Title: **PLASTICITY CHART**
Client: **Dorset County Council**	Project No.: **AC1128**

APPENDIX D

AS DESIGNED SBEM BRUKL OUTPUT DOCUMENT AND SBEM DATA REFLECTION REPORT BY SPIRE BUILDING CONTROL SERVICES LTD

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2013

Project name

4748-SBEM-SPIRE-LONGBURTON VILLAGE HALL

As designed

Date: Mon Aug 17 12:02:22 2020

Administrative information

Building Details

Address: Longburton Village Hall, Longburton, SHERBORNE, DT9 5PG

Certification tool

Calculation engine: SBEM

Calculation engine version: v5.6.a.0

Interface to calculation engine: iSBEM

Interface to calculation engine version: v5.6.a

BRUKL compliance check version: v5.6.a.0

Owner Details

Name: Information not provided by the user

Telephone number: Information not provided by the user

Address: Information not provided by the user, Information not provided by the user, Information not provided by the user

Certifier details

Name: Mr Michael Andrews

Telephone number: 01225 862266

Address: 28 Silver Street, Bradford on Avon, BA15 1JY

Criterion 1: The calculated CO_2 emission rate for the building must not exceed the target

CO_2 emission rate from the notional building, $kgCO_2/m^2.annum$	19.5
Target CO_2 emission rate (TER), $kgCO_2/m^2.annum$	19.5
Building CO_2 emission rate (BER), $kgCO_2/m^2.annum$	18.3
Are emissions from the building less than or equal to the target?	BER =< TER
Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

Building fabric

Element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	Surface where the maximum value occurs*
Wall**	0.35	0.29	0.29	Z0/07 MEETING HALL/ne.1
Floor	0.25	0.13	0.13	Z0/07 MEETING HALL/f
Roof	0.25	0.18	0.18	Z0/06 KITCHEN/c
Windows***, roof windows, and rooflights	2.2	1.6	1.6	Z0/07 MEETING HALL/ne/g
Personnel doors	2.2	2.2	2.2	pd
Vehicle access & similar large doors	1.5	-	-	"No external vehicle access doors"
High usage entrance doors	3.5	-	-	"No external high usage entrance doors"

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

$U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

* There might be more than one surface where the maximum U-value occurs.

** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

*** Display windows and similar glazing are excluded from the U-value check.

N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air Permeability	Worst acceptable standard	This building
$m^3/(h.m^2)$ at 50 Pa	10	5

Building services

The standard values listed below are minimum values for efficiencies and maximum values for SFPs. Refer to the Non-Domestic Building Services Compliance Guide for details.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- ASHP TO HALL

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	3.5	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps. For types <=12 kW output, refer to EN 14825 for limiting standards.

2- ASHP ALL OTHER ROOMS

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	3.5	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps. For types <=12 kW output, refer to EN 14825 for limiting standards.

1- Instant DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	1	-
Standard value	1	N/A

Local mechanical ventilation, exhaust, and terminal units

ID	System type in Non-domestic Building Services Compliance Guide
A	Local supply or extract ventilation units serving a single area
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal supply and extract ventilation units serving a single room or zone with heating and heat recovery
E	Local supply and extract ventilation system serving a single area with heating and heat recovery
F	Other local ventilation units
G	Fan-assisted terminal VAV unit
H	Fan coil units
I	Zonal extract system where the fan is remote from the zone with grease filter

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**		
Standard value	0.3	1.1	0.5	1.9	1.6	0.5	1.1	0.5	1	**Zone**	**Standard**
Z0/03 DIS WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Z0/04 MALE WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Z0/05 FEMALE WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Z0/06 KITCHEN	0.4	-	-	-	-	-	-	-	-	-	N/A

General lighting and display lighting

Zone name	Luminous efficacy [lm/W]			
	Luminaire	**Lamp**	**Display lamp**	**General lighting [W]**
Standard value	60	60	22	
Z0/07 MEETING HALL	-	200	-	915

General lighting and display lighting	Luminous efficacy [lm/W]			
Zone name	**Luminaire**	**Lamp**	**Display lamp**	**General lighting [W]**
Standard value	60	60	22	
Z0/01 STORE	17	-	-	180
Z0/02 ENTRANCE & PASSAGEWAY	-	80	-	153
Z0/03 DIS WC	-	232	-	20
Z0/04 MALE WC	-	182	-	37
Z0/05 FEMALE WC	-	174	-	44
Z0/06 KITCHEN	-	391	-	82
Z1/01 MEETING ROOM	145	-	-	139
Z1/02 CIRC	-	79	-	84

Criterion 3: The spaces in the building should have appropriate passive control measures to limit solar gains

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Z0/07 MEETING HALL	NO (-68.3%)	NO
Z1/01 MEETING ROOM	NO (-63.7%)	NO

Criterion 4: The performance of the building, as built, should be consistent with the calculated BER

Separate submission

Criterion 5: The necessary provisions for enabling energy-efficient operation of the building should be in place

Separate submission

EPBD (Recast): Consideration of alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Area [m²]	329.7	329.7
External area [m²]	1003.5	1003.5
Weather	SOU	SOU
Infiltration [m³/hm²@ 50Pa]	5	3
Average conductance [W/K]	291.44	427.32
Average U-value [W/m²K]	0.29	0.43
Alpha value* [%]	88.56	16.3

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	A1/A2 Retail/Financial and Professional services
	A3/A4/A5 Restaurants and Cafes/Drinking Est./Takeaways
	B1 Offices and Workshop businesses
	B2 to B7 General Industrial and Special Industrial Groups
	B8 Storage or Distribution
	C1 Hotels
	C2 Residential Institutions: Hospitals and Care Homes
	C2 Residential Institutions: Residential schools
	C2 Residential Institutions: Universities and colleges
	C2A Secure Residential Institutions
	Residential spaces
100	**D1 Non-residential Institutions: Community/Day Centre**
	D1 Non-residential Institutions: Libraries, Museums, and Galleries
	D1 Non-residential Institutions: Education
	D1 Non-residential Institutions: Primary Health Care Building
	D1 Non-residential Institutions: Crown and County Courts
	D2 General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger terminals
	Others: Emergency services
	Others: Miscellaneous 24hr activities
	Others: Car Parks 24 hrs
	Others: Stand alone utility block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	14.74	21.1
Cooling	0	0
Auxiliary	3.27	2.38
Lighting	13.95	12.78
Hot water	3.22	3.72
Equipment*	11.17	11.17
TOTAL**	**35.18**	**39.99**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m²]	221.35	278.46
Primary energy* [kWh/m²]	108.01	112.64
Total emissions [kg/m²]	18.3	19.5

* Primary energy is net of any electrical energy displaced by CHP generators, if applicable.

HVAC Systems Performance

System Type		Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Central heating using water: floor heating, [HS] Heat pump (electric): air source, [HFT] Electricity, [CFT] Electricity										
	Actual	188.9	54.9	16.8	0	2	3.12	0	3.5	0
	Notional	234.8	97.3	26.8	0	0.9	2.43	0	----	----
[ST] Central heating using water: radiators, [HS] Heat pump (electric): air source, [HFT] Electricity, [CFT] Electricity										
	Actual	137	56.5	12.2	0	4.9	3.12	0	3.5	0
	Notional	122.2	89.6	14	0	4.2	2.43	0	----	----

Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type

Key Features

The Building Control Body is advised to give particular attention to items whose specifications are better than typically expected.

Building fabric

Element	$U_{i\text{-}Typ}$	$U_{i\text{-}Min}$	Surface where the minimum value occurs*
Wall	0.23	0.28	Z0/07 MEETING HALL/ne
Floor	0.2	0.13	Z0/07 MEETING HALL/f
Roof	0.15	0.18	Z0/06 KITCHEN/c
Windows, roof windows, and rooflights	1.5	1.6	Z0/07 MEETING HALL/ne/g
Personnel doors	1.5	2.2	pd
Vehicle access & similar large doors	1.5	-	"No external vehicle access doors"
High usage entrance doors	1.5	-	"No external high usage entrance doors"

$U_{i\text{-}Typ}$ = Typical individual element U-values [W/(m²K)] $U_{i\text{-}Min}$ = Minimum individual element U-values [W/(m²K)]

* There might be more than one surface where the minimum U-value occurs.

Air Permeability	Typical value	This building
m³/(h.m²) at 50 Pa	5	5

SBEM Data Reflection Report — Actual Building

Date: Mon Aug 17 12:02:18 2020

Project name: 4748-SBEM-SPIRE-LONGBURTON VILLAGE HALL **Building type:** 21 Non-residential Institutions - Community/Day Centre **Building area [m2]:** 330

General

Building address	Longburton Village Hall Longburton SHERBORNE DT9 5PG
Building area [m2]	330
Weather	SOU
Building rotation [degrees]	0
Special conservation status	NO
Project complexity	-

Certifier/Energy assessor

Name	Mr Michael Andrews
Telephone number	01225 862266
Address	28 Silver Street Bradford on Avon BA15 1JY
Assessor number	-
Qualification	-
Accreditation scheme	-
Employer name	-
Employer address	-

Owner

Name	Information not provided by the user
Telephone number	Information not provided by the user
Address	Information not provided by the user Information not provided by the user Information not provided by the user

Analysis

Compliance checked with	England Building Regulations Part L 2013
Asset rating	None
Stage	As designed
Shell & core building	NO

Software

SBEM version	v5.6.a.0
Interface to SBEM	iSBEM
Interface version	v5.6.a

Summary of objects

Object type	Total number	Total related area [m2]
Envelope/Door constructions	7	-
Window/Rooflight constructions	1	-
HW systems	1	-
SE systems	0	0
PV systems	0	0
Wind generators	0	-
CHP generators	0	-
HVAC systems	2	-
Zones	9	329.68
Envelopes	64	1518.75
Doors	1	1.85
Windows/Rooflights	20	58.72

Envelope/Door constructions

Name	U-value [W/m2K]	Adjusted U-value	Km [kJ/m2K]	Metal clad
RENDER WALL	0.28	NO	12	NO
MCS WALL	0.29	NO	12	YES
INT	0.48	NO	11.7	NO
ROOF	0.18	NO	7	YES
GROUND	0.13	YES	22.5	NO
SUSP FLOOR/CEIL	1	NO	20	NO
PD	2.2	NO	11.25	NO

Window/Rooflight constructions

Name	U-value [W/m2K]	Solar transmittance	Light transmittance
WINDOWS AND GLAZED DOORS	1.6	0.72	0.8

Project building sevices

Electric power factor	<0.9
Submetering and M&T for lighting systems	NO
Emission factor for district heating [kgCO2/kWh]	0.293
Primary energy factor for district heating [kWh/kWh]	1.2

Notes

Hot water systems	
Name	Instant DHW
Generator Type	Instantaneous hot water only
Fuel type	Grid Supplied Electricity
Seasonal efficiency	1
Uses CHP	NO
Storage system	NO
Storage volume [litres]	-
Insulation thickness [mm]	-
Secondary circulation	-
Circulation losses [W/m]	-
Pump power [kW]	-
Loop length [m]	-

Notes

Heating, ventilation, and air conditioning systems		
Name	ASHP TO HALL	ASHP ALL OTHER ROOMS
Type	Central heating using water: floor heating	Central heating using water: radiators
Heat source	Heat pump (electric): air source	Heat pump (electric): air source
Heating fuel type	Grid Supplied Electricity	Grid Supplied Electricity
Heating seasonal efficiency	3.5	3.5
Uses CHP	NO	NO
Variable speed pumping type	-	-
Generator radiant efficiency	-	-
Cooling generator type	-	-
Cooling fuel type	-	-
Cooling seasonal energy efficiency ratio	-	-
Cooling nominal energy efficiency ratio	-	-
Mixed-mode cooling operation	-	-
Heat recovery system	-	-
Heat recovery seasonal efficiency	-	-
Variable heat recovery efficiency	-	-
Specific fan power [W/(l/s)]	-	-
Submetering and M&T for this system	NO	NO
Heating - Central time control	-	-
Heating - Optimum stop/start control	-	-
Heating - Local time control	-	-
Heating - Local temperature control	-	-
Heating - Weather compensation control	-	-

Notes

Zone name: Z0/07 MEETING HALL | **Activity:** Hall/lecture theatre/assembly area | **Multiplier:** 1

Area [m2]: 182.61 | **Height [m]:** 6.082 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP TO HALL
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	NO
Exhaust air flow rate [l/s.m2]	-
SFP for mechanical exhaust [W/(l/s)]	-
Exhaust fans location	-
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	915
Design illuminance [Lux]	300
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL	(1) Z0/07 MEETING HALL/c.1
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling	Wall	Wall	Wall	Pitched roof
Area [m2]	69.52	46.81	26.61	19.36	95.8	182.61	61.8	42.77	52.04	95.8
Orientation	South-East	North-East	North-West	South-West	North-East	Horizontal	North-East	North-West	South-West	South-West
Adjacent space	Conditioned	Exterior	Exterior	Exterior	Exterior	Underground	Exterior	Exterior	Exterior	Exterior
Construction name	INT	RENDER WALL	RENDER WALL	RENDER WALL	ROOF	GROUND	MCS WALL	MCS WALL	MCS WALL	ROOF

Envelopes - continued

(Multiplier) Name	(1) Z0/07 MEETING HALL/swi
Type	Wall
Area [m2]	69.52
Orientation	South-West
Adjacent space	Conditioned
Construction name	INT

Windows & rooflights

(Multiplier) Name	(1) Z0/07 MEETING HALL/ne.1	(1) Z0/07 MEETING HALL/ne.2	(1) Z0/07 MEETING HALL/nw.1	(1) Z0/07 MEETING HALL/nw.2	(1) Z0/07 MEETING HALL/sw.2	(1) Z0/07 MEETING HALL/sw.3	(1) Z0/07 MEETING HALL/ne.3	(1) Z0/07 MEETING HALL/nw.3	(1) Z0/07 MEETING HALL/sw.1
In envelope	Z0/07 MEETING HALL/ne	Z0/07 MEETING HALL/ne	Z0/07 MEETING HALL/nw	Z0/07 MEETING HALL/nw	Z0/07 MEETING HALL/sw	Z0/07 MEETING HALL/ne	Z0/07 MEETING HALL/nw	Z0/07 MEETING HALL/sw	Z0/07 MEETING HALL/sw.1
Area [m2]	2.35	5.7	4.7	1.9	3.8	7.6	5.7	1.9	2.9
Glazing name	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)	None (no shading)	None (no shading)	None (no shading)	None (no shading)	None (no shading)	None (no shading)	None (no shading)	None (no shading)
Shading colour	-	-	-	-	-	-	-	-	-
Shading translucency	-	-	-	-	-	-	-	-	-
Transmission factor	1	1	1	1	1	1	1	1	1
Frame / Aspect ratios	0.1 / 0.7	0.4 / 0.7	0.1 / 0.7	0.4 / 0.7	0.1 / 0.7	0.4 / 0.7	0.4 / 0.7	0.4 / 0.7	0.4 / 0.7

Notes

Zone name: Z0/01 STORE | **Activity:** Store Room | **Multiplier:** 1

Area [m2]: 35.88 | **Height [m]:** 3.3 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	NO
Exhaust air flow rate [l/s.m2]	-
SFP for mechanical exhaust [W/(l/s)]	-
Exhaust fans location	-
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	180
Design illuminance [Lux]	50
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/01 STORE/se	(1) Z0/01 STORE/ne	(1) Z0/01 STORE/nwi	(1) Z0/01 STORE/swi	(1) Z0/01 STORE/ci	(1) Z0/01 STORE/f	(1) Z0/01 STORE/sei
Type	Wall	Wall	Wall	Wall	Floor or Ceiling	Floor or Ceiling	Wall
Area [m2]	25.43	14.57	27.26	14.57	35.88	35.88	1.82
Orientation	South-East	North-East	North-West	South-West	Horizontal	Horizontal	South-East
Adjacent space	Exterior	Exterior	Conditioned	Conditioned	Conditioned	Underground	Conditioned
Construction name	RENDER WALL	RENDER WALL	INT	INT	SUSP FLOOR/CEIL	GROUND	INT

Windows & rooflights

(Multiplier) Name	(1) Z0/01 STORE/se/g	(1) Z0/01 STORE/se/g.1	(1) Z0/01 STORE/ne/g
In envelope	Z0/01 STORE/se	Z0/01 STORE/se	Z0/01 STORE/ne
Area [m2]	3.98	1.9	1.9
Glazing name	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)	None (no shading)	None (no shading)
Shading colour	-	-	-
Shading translucency	-	-	-
Transmission factor	1	1	1
Frame / Aspect ratios	0.4 / 0.7	0.4 / 0.7	0.4 / 0.7

Notes

Zone name: Z0/02 ENTRANCE & PASSAGEWAY | **Activity:** Circulation area (corridors and stairways) | **Multiplier:** 1

Area [m2]: 30.52 | **Height [m]:** 2.45 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	NO
Exhaust air flow rate [l/s.m2]	-
SFP for mechanical exhaust [W/(l/s)]	-
Exhaust fans location	-
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	153
Design illuminance [Lux]	100
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG	(1) Z0/02 ENTRANCE & PASSAG
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling	Floor or Ceiling	Wall
Area [m2]	20.69	32.46	20.69	21.63	22.37	8.33	30.52	7.66
Orientation	South-East	North-East	North-West	South-West	South-West	Horizontal	Horizontal	South-West
Adjacent space	Exterior	Conditioned	Conditioned	Conditioned	Exterior	Conditioned	Underground	Exterior
Construction name	MCS WALL	INT	INT	INT	ROOF	SUSP FLOOR/CEIL	GROUND	RENDER WALL

Windows & rooflights

(Multiplier) Name	(1) Z0/02 ENTRANCE & PASSAG
In envelope	Z0/02 ENTRANCE & PASSAGEWAY
Area [m2]	0.78
Glazing name	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)
Shading colour	-
Shading translucency	-
Transmission factor	1
Frame / Aspect ratios	0.4 / 0.7

Notes

Zone name: Z0/03 DIS WC | **Activity:** Toilet | **Multiplier:** 1

Area [m2]: 3.85 | **Height [m]:** 2.45 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	YES
Exhaust air flow rate [l/s.m2]	6.8
SFP for mechanical exhaust [W/(l/s)]	0.3
Exhaust fans location	Fan within zone
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	20
Design illuminance [Lux]	200
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/03 DIS WC/sei	(1) Z0/03 DIS WC/nei	(1) Z0/03 DIS WC/nwi	(1) Z0/03 DIS WC/sw	(1) Z0/03 DIS WC/c	(1) Z0/03 DIS WC/f
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling
Area [m2]	6.3	5.21	6.3	4.17	4.02	3.85
Orientation	South-East	North-East	North-West	South-West	South-West	Horizontal
Adjacent space	Conditioned	Conditioned	Conditioned	Exterior	Exterior	Underground
Construction name	INT	INT	INT	RENDER WALL	ROOF	GROUND

Windows & rooflights

(Multiplier) Name	(1) Z0/03 DIS WC/sw/g
In envelope	Z0/03 DIS WC/sw
Area [m2]	0.78
Glazing name	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)
Shading colour	-
Shading translucency	-
Transmission factor	1
Frame / Aspect ratios	0.4 / 0.7

Notes

Zone name: Z0/04 MALE WC | **Activity:** Toilet | **Multiplier:** 1

Area [m2]: 7.31 | **Height [m]:** 2.45 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	YES
Exhaust air flow rate [l/s.m2]	6.8
SFP for mechanical exhaust [W/(l/s)]	0.3
Exhaust fans location	Fan within zone
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	37
Design illuminance [Lux]	200
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/04 MALE WC/sei	(1) Z0/04 MALE WC/nei	(1) Z0/04 MALE WC/nwi	(1) Z0/04 MALE WC/sw	(1) Z0/04 MALE WC/c	(1) Z0/04 MALE WC/f
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling
Area [m2]	7.67	8.55	7.67	6.82	7.85	7.31
Orientation	South-East	North-East	North-West	South-West	South-West	Horizontal
Adjacent space	Conditioned	Conditioned	Conditioned	Exterior	Exterior	Underground
Construction name	INT	INT	INT	RENDER WALL	ROOF	GROUND

Windows & rooflights

(Multiplier) Name	(1) Z0/04 MALE WC/sw/g
In envelope	Z0/04 MALE WC/sw
Area [m2]	1.31
Glazing name	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)
Shading colour	-
Shading translucency	-
Transmission factor	1
Frame / Aspect ratios	0.4 / 0.7

Notes

Zone name: Z0/05 FEMALE WC | **Activity:** Toilet | **Multiplier:** 1

Area [m2]: 8.83 | **Height [m]:** 2.45 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	YES
Exhaust air flow rate [l/s.m2]	6.8
SFP for mechanical exhaust [W/(l/s)]	0.3
Exhaust fans location	Fan within zone
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	44
Design illuminance [Lux]	200
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/05 FEMALE WC/se	(1) Z0/05 FEMALE WC/ne	(1) Z0/05 FEMALE WC/nw	(1) Z0/05 FEMALE WC/sw	(1) Z0/05 FEMALE WC/c	(1) Z0/05 FEMALE WC/f
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling
Area [m2]	7.67	10.31	7.67	8.22	9.48	8.83
Orientation	South-East	North-East	North-West	South-West	South-West	Horizontal
Adjacent space	Conditioned	Conditioned	Conditioned	Exterior	Exterior	Underground
Construction name	INT	INT	INT	RENDER WALL	ROOF	GROUND

Windows & rooflights

(Multiplier) Name	(1) Z0/05 FEMALE WC/sw/g
In envelope	Z0/05 FEMALE WC/sw
Area [m2]	1.31
Glazing name	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)
Shading colour	-
Shading translucency	-
Transmission factor	1
Frame / Aspect ratios	0.4 / 0.7

Notes

Zone name: Z0/06 KITCHEN | **Activity:** Food preparation area | **Multiplier:** 1

Area [m2]: 16.25 | **Height [m]:** 2.45 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	YES
Exhaust air flow rate [l/s.m2]	27.2
SFP for mechanical exhaust [W/(l/s)]	0.4
Exhaust fans location	Fan within zone
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	82
Design illuminance [Lux]	500
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z0/06 KITCHEN/sei	(1) Z0/06 KITCHEN/nei	(1) Z0/06 KITCHEN/nw	(1) Z0/06 KITCHEN/sw	(1) Z0/06 KITCHEN/c	(1) Z0/06 KITCHEN/f	(1) Z0/06 KITCHEN/swi
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling	Wall
Area [m2]	12.41	16.44	12.41	9.16	17.21	16.25	2.75
Orientation	South-East	North-East	North-West	South-West	Horizontal	Horizontal	South-West
Adjacent space	Conditioned	Conditioned	Exterior	Exterior	Exterior	Underground	Conditioned
Construction name	INT	INT	RENDER WALL	RENDER WALL	ROOF	GROUND	INT

Windows & rooflights

(Multiplier) Name	(1) Z0/06 KITCHEN/sw/g
In envelope	Z0/06 KITCHEN/sw
Area [m2]	2.61
Glazing name	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)
Shading colour	-
Shading translucency	-
Transmission factor	1
Frame / Aspect ratios	0.4 / 0.7

Doors

(Multiplier) Name	(1) pd
In envelope	Z0/06 KITCHEN/nw
Area [m2]	1.85
Type	Personnel
Construction name	PD

Notes

Zone name: Z1/01 MEETING ROOM | **Activity:** Office and consulting areas | **Multiplier:** 1

Area [m2]: 27.76 | **Height [m]:** 2.78 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	NO
Exhaust air flow rate [l/s.m2]	-
SFP for mechanical exhaust [W/(l/s)]	-
Exhaust fans location	-
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	139
Design illuminance [Lux]	400
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z1/01 MEETING ROOM/se	(1) Z1/01 MEETING ROOM/ne	(1) Z1/01 MEETING ROOM/sw	(1) Z1/01 MEETING ROOM/nw	(1) Z1/01 MEETING ROOM/c	(1) Z1/01 MEETING ROOM/f	(1) Z1/01 MEETING ROOM/c.1
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling	Pitched roof
Area [m2]	22.89	12.29	22.89	17.19	23.57	27.76	5.53
Orientation	South-East	North-East	North-West	South-West	North-East	Horizontal	South-West
Adjacent space	Exterior	Exterior	Conditioned	Conditioned	Exterior	Conditioned	Exterior
Construction name	MCS WALL	MCS WALL	INT	INT	ROOF	SUSP FLOOR/CEIL	ROOF

Windows & rooflights

(Multiplier) Name	(1) Z1/01 MEETING ROOM/se/g	(1) Z1/01 MEETING ROOM/ne/g
In envelope	Z1/01 MEETING ROOM/se	Z1/01 MEETING ROOM/ne
Area [m2]	3.8	1.9
Glazing name	WINDOWS AND GLAZED DOORS	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)	None (no shading)
Shading colour	-	-
Shading translucency	-	-
Transmission factor	1	1
Frame / Aspect ratios	0.4 / 0.7	0.4 / 0.7

Notes

Zone name: Z1/02 CIRC | **Activity:** Circulation area (corridors and stairways) | **Multiplier:** 1

Area [m2]: 16.67 | **Height [m]:** 2.78 | **Air permeability @ 50pa [m3/hm2]:** 5

HVAC system, ventilation, and exhaust

Name	ASHP ALL OTHER ROOMS
Destratification fans	NO
Ventilation type	Natural
SFP for local mechanical supply & extract [W/(l/s)]	-
Heat Recovery system	-
Heat recovery seasonal efficiency	-
Variable heat recovery efficiency	-
Local mechanical exhaust	NO
Exhaust air flow rate [l/s.m2]	-
SFP for mechanical exhaust [W/(l/s)]	-
Exhaust fans location	-
SFP for system terminal units [W/(l/s)]	-
Demand-controlled ventilation	None
Flow regulation type for ventilation control	-
Night cooling maximum hours [hours/month]	-
Night cooling maximum air flow rate [l/s.m2]	-
SFP for night cooling [W/(l/s)]	-

General Lighting and controls

Total wattage [W]	84
Design illuminance [Lux]	100
Lamp and ballast efficacy [Lumens/W]	-
Light output ratio	-
Lamp type	-
Air-extracting luminaires	NO
Controls	MANUAL
Type of photoelectric control	-
Different sensor for back of zone	-
Photoelectric control parasitic power [W/m2]	-
Automatic zoning for daylight	YES
Occupancy sensing	NONE
Occupancy sensing parasitic power [W/m2]	-

Display lighting

Efficient lamps	NO
Lumens per circuit wattage	-
Time switching	NO

Thermal bridges Psi values [W/mK]

Junction type	Metal clad	Not metal clad
Roof-wall	0.42	0.18
Wall-ground floor	1.725	0.24
Wall-wall (corner)	0.375	0.135
Wall-not ground floor	0.04	0.11
Lintel (window/door)	1.905	0.45
Sill (window)	1.905	0.08
Jamb (window/door)	1.905	0.09

Hot water system

Name	Instant DHW
Dead leg length in this zone [m]	0

Shell & core

Shell area for fit-out	-

Envelopes

(Multiplier) Name	(1) Z1/02 CIRC/se	(1) Z1/02 CIRC/nei	(1) Z1/02 CIRC/nwi	(1) Z1/02 CIRC/sw	(1) Z1/02 CIRC/c	(1) Z1/02 CIRC/fi
Type	Wall	Wall	Wall	Wall	Pitched roof	Floor or Ceiling
Area [m2]	12.89	17.19	12.89	12.29	17.77	16.67
Orientation	South-East	North-East	North-West	South-West	South-West	Horizontal
Adjacent space	Exterior	Conditioned	Conditioned	Exterior	Exterior	Conditioned
Construction name	MCS WALL	INT	INT	MCS WALL	ROOF	SUSP FLOOR/CEIL

Windows & rooflights

(Multiplier) Name	(1) Z1/02 CIRC/se/g
In envelope	Z1/02 CIRC/se
Area [m2]	1.9
Glazing name	WINDOWS AND GLAZED DOORS
Shading position	None (no shading)
Shading colour	-
Shading translucency	-
Transmission factor	1
Frame / Aspect ratios	0.4 / 0.7

Notes

SECTION 2

THE WORKS

THE WORKS

The following items are not intended to be a comprehensive list or to fully describe the Works but to provide a template for pricing the Works, and are to be read in conjunction with the Preliminaries and the Construction Notes prepared by Bell Associates (Wessex) Ltd together with the Tender Drawings and all other ancillary documents.

The Contractor is to include for all costs necessary to carry out the Works as a whole, including all items clearly apparent as being necessary for the complete and proper execution of the Works.

EXCAVATIONS

A Prior to any excavations being carried out, locate and clearly mark the positions of all existing services and drainage works running on or adjacent to the Site which should be in accordance with Drawing No.'s 6006-W-11-C1 – Utilities Plan (As Built) and 2654-003-P11 – Proposed Drainage.

B Excavate to remove topsoil from the area of the building. Place excavated topsoil on site in temporary spoil heaps with the position to be agreed with the CA.

C To the area of the new building excavate to reduce levels to create the minimum 150mm deep ventilated void under the PCC beam and block floor, including 120mm thick consolidated hardcore to the oversite sheeting. Allow for all earthwork support as necessary and compact bottoms of excavations. Remove surplus excavated material from site.

D Ensure that at all times the excavations including foundation trenches remain free from standing water.

FOUNDATIONS

E Foundations are to be constructed in accordance with the Structural Engineers Drawing No.'s Y203-01 Foundation – Ground Floor Plan and Sections and Y203-04A Cross Section and Details.

F Excavate trenches for all external and internal walls to widths and depths as detailed, being minimum 1000mm below proposed external ground levels. Remove surplus excavated material from site. Allow for all earthwork support as necessary and level and compact bottoms of excavations. All foundation formations to be to the approval of the Local Authority Building Control Officer. If necessary to excavate further to reach acceptable foundation soil, the resultant voids shall be filled with Designated Mix GEN1 insitu concrete as specified.

G Widen the trenches at all concrete pad foundation positions, to dimensions and thickness in accordance with schedule on Drawing No. Y203-01.

H Place either 450mm or 600mm wide Designated Mix GEN1 insitu concrete trenchfill foundations to all external and internal walls as detailed. Depth of underside of foundations to be minimum 1000mm below proposed external ground levels and to the approval of the Local Authority Building Control Officer.

A Place wider mass concrete pad foundations at all column base positions, to dimensions and thickness in accordance with schedule on Drawing No. Y203-01.

B To base of all 203 x 203 UC portal stanchions and gable posts supply and install sets of 4 nr x M20 holding down bolts with washers, nuts, polystyrene cones and templates, cast into top of insitu concrete pad foundations with minimum 360mm embedment and filled with non-shrink grout, as Typical Baseplate Section and Baseplate Plan on Drawing No. Y203-01.

C To base of all 152 x 152 UC portal stanchions and 100 x 100 SHS posts supply and install sets of 4 nr x 20mm diameter resin grouted holding down bolts, set into prepared holes within top of insitu concrete pad foundations with minimum 200mm embedment and set in Rawl CFS RP30 resin, as Typical Baseplate Section and Baseplate Plans on Drawing No. Y203-01.

D Surround the bottom of all columns and posts with associated base plates from top of foundations to SSL in minimum 100mm thick Designated Mix RC35 insitu concrete including all necessary additional blockwork to form stanchion encasement shutters, as Typical Baseplate Section and Wall Movement Joint MJ1, Wall Restraint and Encasement Details on Drawing No. Y203-01. Provide wrapping fabric D49 around the column base. Includes columns between Main Hall and single storey section.

WALLING TO DPC LEVEL

E Walling to dpc level to be constructed in accordance with the Structural Engineers Drawing No.'s Y203-01 Foundation – Ground Floor Plan and Sections and Y203-04A Cross Section and Details.

F Build up 240mm wide external walls to dpc level in 140mm thick outer skin of 7N/mm² dense concrete blockwork in cement mortar 1:3 to underside of sole plate to loadbearing timber stud wall and 100mm inner skin of similar construction to underside of PCC beam and block flooring, as shown on Cross Section CS1-CS1 on Drawing No. Y203-04A. For height of 100mm thick inner skin build in stainless steel wall ties of suitable length as to have a minimum embedment of 75mm in each leaf, ties to be installed at 750mm horizontal and 450mm vertical centres. To outside face of 140mm thick outer skin build fair-faced to receive render finish.

G Between Main Hall and single storey section build up 340mm wide internal wall to dpc level in 140mm thick central skin of 7N/mm² dense concrete blockwork in cement mortar 1:3 to underside of sole plate to loadbearing timber stud wall, with 2 nr skins of 100mm thick blockwork of similar construction either side of central skin to support PCC beam and block flooring, as shown on Cross Section CS1-CS1 on Drawing No. Y203-04A. For height of 100mm thick blockwork both sides build in stainless steel wall ties of suitable length as to have a minimum embedment of 75mm in each leaf, ties to be installed at 750mm horizontal and 450mm vertical centres.

H Where 140mm thick outer skin of external walls abuts insitu concrete column casings, install movement joint Type MJ1 comprising Ancon SPA frame cramps with debonding sleeves at 225mm centres into wall bed joints, Tek screwed to concrete, with 10mm thick compressible filler board between with polysulphide sealant both sides. All as Wall Movement Joint MJ1, Wall Restraint and Encasement Details on Drawing No. Y203-01.

J Build up 215mm wide internal sleeper walls in 100mm thick 7N/mm² dense concrete blockwork, laid flat, in cement mortar 1:3 to underside of PCC beam and block flooring, as shown on Cross Section CS1-CS1 on Drawing No. Y203-04A.

A To both skins of external walls provide 140mm and 100mm wide continuous high performance horizontal dpc's. To internal sleeper walls provide 215mm wide continuous high performance horizontal dpc. All dpc's to be bedded in cement mortar 1:3 with fully lapped joints.

B At positions of door openings install cavity trays formed of high performance horizontal dpc's as necessary.

C Ventilate min. 150mm deep void under the PCC beam and block flooring with telescopic cranked ventilators with matching air bricks to the outside face, at max. 2.00m centres and not further than 1.00m from each corner.

D To internal sleeper walls supply and install 215mm wide plastic sleeves into blockwork at max. 2.00m centres and not further than 1.00m from each end, to provide cross ventilation beneath the PCC beam and block floor.

E To external surface of blockwork below dpc level finish with K Rend through coloured external waterproof render, colour from standard range, applied strictly in accordance with the manufacturer's instructions. Including all stainless steel angle and stop beads, movement joints, etc. as necessary.

GROUND FLOOR SUSPENDED SLAB

F Ground floor suspended slab to be constructed in accordance with the Structural Engineers details on Drawing No. Y203-04A Cross Section and Details and span directions shown on Drawing No. Y203-01 Foundation – Ground Floor Plan and Sections.

G To the reduced level surface of the new building supply and lay black geotextile sheet as Terram WeedGuard or similar and cover with 120mm thick consolidated hardcore backfill.

H Supply and install 150mm deep PCC beam and block floor, all in accordance with the Ground Floor Beam and Block Floor Performance Specification on Drawing No. Y203-01. Specialist manufacturer's final design including beam layout drawings, calculations and specification are to be submitted to the Architect and Structural Engineer for comments min. 14 days prior to manufacture, for subsequent forwarding to the Local Authority Building Control Officer. Span directions shown on Drawing No. Y203-01. PCC beams to have minimum 90mm bearing on inner leaf of external walls and internal sleeper walls, laid on continuous dpc at bearings as previously described. Infill block to be 100mm thick 7N/mm² dense concrete blockwork with concrete beam closure units installed between beams. Surface of infill blocks to be grouted and levelled to receive the vapour barrier/damp proof membrane.

J Provide 30 x 5 x 1200mm long once bent galvanised mild steel lateral restraint straps to gable walls of building, with strap turned down a minimum 100mm and be tight against inner face of blockwork. Horizontal part of strap to be plugged and screwed into infill blocks.

K To surface of beam and block floor lay 1200 gauge polythene vapour barrier/dpm, turned up 195mm vertically to face of blockwork at junction with external walls and lapped with high performance dpc's as previously described.

A To whole internal area of new building lay 120mm thick Kingspan Kooltherm K103 Floorboard floor insulation with tight butt joints or equal approved. Provide 25mm thick perimeter upstand insulation board as detailed above to all edges of the building against external walls. To surface of insulation lay 1000 gauge polythene dpm. To the Main Hall the floor insulation is to be suitable for underfloor heating pipes.

B To surface of insulation in Foyer, Store, Kitchen and Toilets lay 75mm thick sand:cement screed, reinforced with PP fibres to prevent cracking and additional mesh reinforcement at door openings.

C To area beneath lift shaft and associated enclosure plus 300mm all round, approx 2.00 x 2.20m overall, omit floor insulation and screed and construct 195mm thick reinforced insitu concrete base with 70mm deep Lift Pit within the top surface.

STRUCTURAL STEELWORK

D All structural steelwork is to be installed and positioned strictly in accordance with the Structural Engineers design, layout plans, elevations and sections, connection details and notes on Drawing No.'s Y203-01 to 05A inclusive, and fabricated, supplied and erected in accordance with the Specification stated. All structural steelwork is to be prepared and shop painted with single pack high build zinc phosphate to achieve dry film thickness of 75 microns as specified.

E Supply and install all steelwork portal stanchions, additional stanchions, gable posts, mid-height beams, eaves beams, portal rafters and associated works supporting the walls and roof structure to the Main Hall, GF Store, FF Landing and Meeting Room and associated rooms

F Supply and install all RHS bracing to the walls and CHS bracing to the roof.

G Supply and install isolated full-height stanchions, beams and tie-beams to mezzanine floor including trimming beams around Lift shaft, as Sections F1-F1 to F6-F6 inclusive on Drawing No. Y203-02A.

H Supply and install SHS post and additional high level beam to stair flight opening, as Elevation on Grid 4 on Drawing No. Y203-05A and Section F5-F5 on Drawing No. Y203-02A.

J Supply and install hot dipped galvanised steel Z-section purlins (sleeved system) by Metsec ref. 142Z15 at 1800mm centres including all sleeves, cleats, stays, cleader angles and ref. 172E20 eaves beams as necessary, with 1 nr row of struts to each bay. Members and fittings all to be installed strictly in accordance with the manufacturer's specifications.

K All steelwork below FFL is to be site painted with three coats of RIW bituminous paint.

L To any exposed elements of structural steelwork and isolated steel beams or lintels as detailed, provide 1 hour fire protection with Nullifire intumescent paint comprising primer, base coat and top coats as required.

WALLING ABOVE DPC LEVEL

A External walls are to be constructed in accordance with the Architect's drawings and Structural Engineers details on Drawing No.'s Y203-02A, 04A and 05A. All structural timber is to be Grade C24 treated sawn softwood unless specified otherwise, with compound timbers connected with M12 bolts of suitable lengths and toothed washers at 600mm centres.

B Between steel portal framework construct timber studwork external walls comprising 44 x 145mm vertical studs at max. 600mm centres with similar horizontal bracing at max. 800mm centres plus all associated members. 44 x 145mm sole plates to be fixed to top of blockwork walls with RAWL corrosion resistant 8mm diameter frame anchors at 200mm centres with min. 70mm embedment.

C To UB and PFC mid-height beams install timber sole and head plates bolted to beams as Details A and B on Drawing No. Y203-04A. To PFC eaves beams install timber head plates bolted to beams as Detail C on Drawing No. Y203-04A. To gable end portal rafters install timber head plates Tek screwed to 2 nr packers bolted to portal rafters as Detail D on Drawing No. Y203-04A. Install additional packers and web plates as shown on all four details, Tek screwed as specified.

D To all RHS bracing to walls install timber plates both sides bolted to bracing as Side Bracing – Timber Connection and Section X-X on Drawing No. Y203-05A.

E To reveals of all external doors and windows install full height doubled-up studs of similar size, shown as "DS" on Mezzanine Floor Plan with same on Roof Plan as Drawing No.'s Y203-02A and 03A respectively. To door and window heads plus window cills install similar size members.

F To single storey section construct timber studwork external walls comprising 44 x 145mm vertical studs at max. 600mm centres with similar horizontal bracing at max. 800mm centres plus all associated members. 44 x 145mm sole plates to be fixed to top of blockwork walls as previously detailed. To top of studwork form wall plate comprising doubled-up timbers of similar size as shown on Cross Section CS1-CS1 on Drawing No. Y203-04A.

G To reveals of all external doors and windows install full height triple studs of similar size, shown as "TS" on Mezzanine Floor Plan on Drawing No. Y203-02A. To door and window heads install similar triple lintels as Detail A – Timber Lintel Connection on Drawing No. Y203-02A. To window cills install similar size members.

H Between all timber studwork to external walls install 200mm thick Rockwool Roll mineral wool insulation or equal approved, tightly packed in available depth of studs in accordance with the manufacturer's instructions.

J To outside face of all external walls fix 9mm thick OSB3 board including noggins to all edges, fixed in accordance with the Timber Sheathing Fixing note on Drawing No. Y203-02A. Fix 1200 gauge breather membrane to outside face of OSB3 boarding with fully lapped and sealed joints.

K To outside face up to head height of all GF windows and external doors supply and fix 25mm thick render board on 25 x 50mm wide treated sawn softwood battens to all timber studs and braces and to all edges. To surface of render board finish with K Rend through coloured external waterproof render, colour from standard range, applied strictly in accordance with the manufacturer's instructions. Including all stainless steel angle and stop beads, movement joints, etc. as necessary.

A To outside face above head height of all GF windows and external doors supply and fix 10mm thick Dura Cladding Weatherboard Resist horizontal boarding, colour "Larch", on 25 x 50mm wide treated sawn softwood vertical battens and counter battens at max. 400mm centres and to all edges. Boarding fixed strictly in accordance with the manufacturer's instructions including all trims and profiles as necessary.

B To inside face of all external walls fix 18mm thick marine plywood including noggins to all edges, fixed in accordance with the Timber Sheathing Fixing note on Drawing No. Y203-02A. At all intermediate and corner column positions where shown on relevant plans install plywood around stanchions including treated sawn softwood angle fillets, as detailed on Architect's Drawing No. 1438/12bc. To surface of plywood within Main Hall adhesively bond 6mm thick self-finished Masterboard (flame spread Class O), including all angles as previously described. To all other surfaces of plywood adhesively bond 12.5mm thick plasterboard with skim finish including all thin-coat angle and stop beads.

WINDOWS AND EXTERNAL DOORS

C All windows and external doors are to be double glazed uPVC in accordance with current regulations and British Standards, all as shown on Architect's Plans and Proposed Elevations as Drawing No.'s 1438/4bc and 9bc respectively. All frames to be fixed to structural timber reveals with appropriate fixings and sealed with silicone all round. Glazing to include safety or laminated glass as stated and manifestations as required. Details of proposed units including sizes, glazing, ironmongery, etc. to be provided to Architect for review and comment.

D Supply and fix 13 nr windows in total to sizes as shown on Architect's Ground Floor Entrance and Ground & First Floor End Section plans as Drawing No.'s 1438/5bc-A and 6bc respectively. Windows to rooms within single storey section are to be openable, to Store and GF level of Main Hall to be openable but restricted to meet current regulations, to FF Meeting Room to have similar restricted opening and to upper levels of Main Hall every other window is to be openable with Teleflex manual winding gear. One window to FF Meeting Room to be an escape type and rear window to have obscure glazing.

E Supply and fix 6 nr external doors in total, all to have min. 840mm wide opening. Main entrance door to Foyer to be a single door and associated sidelight (1500 x 2100mm high overall) with security lock, Kitchen door to be a single door (900 x 2100mm high overall) with security lock but to allow access/escape, Store door to be a pair of doors with borrowed lights over (1500 x 2600mm high overall) and security lock and Main Hall to have 3 nr single emergency exit doors with borrowed lights over (900 x 2600mm high overall), opening outwards and having emergency panic bolts.

F To reveals and heads of all windows and doors supply and fix 18mm thick moisture resistant MDF lining and to cills of windows supply and fix similar window boards having 25mm projection with half rounded front edge and 50mm horns both ends, all to be screwed and pelleted to timber framing.

ROOFS

G Roofs are to be constructed in accordance with the Architect's Section A-A and Section B-B as Drawing No.'s 1438/7bc and 8bc respectively and Structural Engineers details on Drawing No.'s Y203-02A and 04A. All structural timber is to be Grade C24 treated sawn softwood unless specified otherwise, with compound timbers connected with M12 bolts of suitable lengths and toothed washers at 600mm centres.

A To outer face of vertical timber stud wall between Main Hall and single storey section install 44 x 195mm pole plate screw fixed to each vertical timber stud as specified. To pitched roof area install 44 x 195mm rafters at 400mm centres, birds-mouthed and spike nailed over both pole plate and doubled-up timber wall plate mentioned previously.

B To the sloping surface of timber rafters fix 18mm thick OSB3 board including noggins to all edges, fixed in accordance with the Timber Sheathing Fixing note on Drawing No. Y203-02A. Fix 1200 gauge breather membrane to outside face of OSB3 boarding with fully lapped and sealed joints. To surface of OSB3 boarding install battens and counter-battens at appropriate centres to suit insulated profiled cladding detailed below.

C To surface of battens detailed above supply and fix Kingspan Profile KS1000 RW Trapezoidal Insulated Roof Panels, 150mm thick (115mm thick core), jointed, sealed and fixed with proprietary fasteners strictly in accordance with the manufacturer's instructions. Inside finish to be CleanSafe 15, colour White, with outside finish to be XL Forte, standard colour from Symphony Range.

D To galvanised steel Z-section purlins previously mentioned supply and fix Kingspan Profile KS1000 RW Trapezoidal Insulated Roof Panels as detailed above.

E At ridge, eaves, verges and abutment with single storey section supply and fix proprietary flashings mechanically fixed to structure below with all straps, profiled fillers, seals, etc.

F At all eaves to main building and single storey section, supply and install uPVC fascia and soffit boards to Metsec eaves beams, as shown on the Architect's Eaves Detail.

G At abutment with single storey section install a Code 4 lead flashing dressed under horizontal boarding with top edge fixed to OSB3 boarding, with flashing dressed down boarding and over insulated profiled pitched roof cladding. Both ends dressed down face of verges to cladding.

UPPER FLOORS

H The first floor is to be constructed in accordance with the Structural Engineers details on Drawing No.'s Y203-02A and 04A. All structural timber is to be Grade C24 treated sawn softwood unless specified otherwise, with compound timbers connected with M12 bolts of suitable lengths and toothed washers at 600mm centres.

J To UB beams supporting the mezzanine floor joists install timber web plates bolted to beams as Timber To Steel Connection detail on Drawing No. Y203-02A. To outside face of UB beams between positions G1-G4 and G4-H4 install additional timber web plates bolted to beams to support fire protection plasterboard as above detail. To outside face of mid height beams between positions B/C4-G4 install similar timber web plates Tek screwed to beams as Detail A on Drawing No. Y203-04A.

K Between web plates install 72 x 220mm mezzanine floor joists at 400mm centres, doubled-up under all partitions, supported by proprietary joist hangers.

L To surface of joists supply and lay 22mm thick T&G flooring grade chipboard screw fixed to timber.

STAIRS

A Supply and install new metal staircase from GF Entrance Hall to FF Lobby with total rise of 3,017mm, bolted to GF structure and UB beam within depth of mezzanine floor (location TBC). Treads to comprise timber inlays within metal tread carriers. Metal structure to be prepared and shop painted in similar manner as the structural steelwork.

B Supply and install metal prefabricated balustrading to both sides of staircase comprising hardwood handrails fixed to top/core rail on vertical steel bar balustrades welded to metal staircase, with returns back to timber framed lift surround and external wall. Balustrading to be 900mm above pitch line of staircase and 1100mm high to FF Lobby.

INTERNAL WALLS AND PARTITIONS

C All internal walls and partitions are to be constructed in accordance with Architect's Ground Floor Entrance, Ground & First Floor End Section and Section A-A as Drawing No.'s 1438/5bc-A, 6bc and 7bc. All structural timber is to be Grade C24 treated sawn softwood unless specified otherwise, with compound timbers connected with M12 bolts of suitable lengths and toothed washers at 600mm centres.

D To all internal walls and partitions construct timber studwork comprising 44 x 94mm vertical studs at max. 400mm centres with similar horizontal bracing at max. 800mm centres plus all associated members. 44 x 94mm sole plates to be fixed through screeded floor into beam and block flooring with RAWL corrosion resistant 8mm diameter frame anchors at 200mm centres with min. 70mm embedment. 44 x 94mm head plates to be fixed to underside of timber roof or mezzanine floor structure.

E Construct timber studwork walls to lift enclosure as detailed above, with additional web plates plus head and sole plates fixed to trimming steelwork as Section F6-F6 on Drawing No. Y203-02A.

F To reveals to all internal doors, screens and serving hatch install full height doubled-up studs of similar size, with similar members to lintels/heads and cills as appropriate.

G Between all studwork install 100mm thick sound deadening fibreglass insulation. Line both sides of studwork with 12.5mm thick plasterboard with skim finish, including noggins to all edges plus all thin-coat angle and stop beads.

H Within the Female and Male Toilets install sets of toilet cubicles by Trade Washrooms comprising 18mm thick melamine faced chipboard with SAA fittings to sizes as specified.

INTERNAL DOORS

J To all internal door openings provide 32mm thick wrot softwood linings, width to suit wall thicknesses, on softwood packing pieces if necessary. To these linings supply and fix 38 x 25mm (f) thick stops, glued and screwed in position, plus 69 x 19mm (f) moulded architraves.

A Supply and install solid core flush faced veneered internal doors to all internal doors. Those stated as fire doors to have the appropriate fire rating and provided with intumescent strips/fire and smoke seals to jambs and head. Those doors with vision panels to be glazed with toughened glass, fire rated where necessary.

B All doors to have 1½ pair of stainless steel butt hinges plus ironmongery as stated.

C To GF Cupboard (understairs) and FF Cupboard install solid doors with lever lock furniture.

D To Female and Male Toilets install solid doors with push plate and pull handle furniture plus self-closing device. To Disabled Toilet install similar to width to meet statutory requirements.

E To Passageway/Main Hall, Passageway/Store, Passageway/Kitchen and Kitchen/Main Hall install FD30S fire doors with vision panels, push plate and pull handle furniture plus self-closing device.

F To Meeting Room install pair of half-glazed doors lever lock furniture with rebated forend set.

G To Serving Hatch install 30 minute fire resistant roller shutter door with associated matching frame, to be fitted with fire relay to fire alarm system, safety device to prevent sudden closing, safety stop button and manual over-ride.

H To Store install pair of steel top-hung multi-leaf sliding folding doors by Samson Industrial Doors with associated top rail and matching frame, overall size 3,600mm wide x 2,600mm high.

J To Meeting Room install uPVC double glazed screen in accordance with Drawing No. 1438/ Glazed Screen /viewing panels, size 3.60 x 1.10m high overall, glazed with fixed panels incorporating clear wired cast or laminated safety glass.

WALL FINISHES

K To surface of internal OSB3 board to timber studwork between steel portal framework to Kitchen, Passageway and Entrance Hall, adhesively bond 12.5mm thick plasterboard with skim finish including all thin-coat angle and stop beads, installed strictly in accordance with the manufacturer's instructions.

L To internal mid-height beams on Grid Line 4 install fire-proof casings comprising 12.5mm thick plasterboard with skim finish as Detail A on Drawing No. Y203-04A, including additional 50 x 25mm treated sawn softwood battens as necessary.

M To internal beams to mezzanine floor between positions G1-G4 install fire-proof casings comprising 12.5mm thick plasterboard with skim finish as Timber To Steel Connection detail on Drawing No. Y203-02A, including additional 50 x 25mm treated sawn softwood battens as necessary.

N To all columns not previously detailed provide fire-proof casings comprising 12.5mm thick plasterboard with skim finish including all thin-coat angle and stop beads, with additional 50 x 50mm treated sawn softwood framework at 400mm centres and to all vertical edges as necessary.

P Behind all worktops to Kitchen, to backs and to sides of all wash hand basins and beneath all hand dryers provide 4 nr rows of 150 x 150mm ceramic wall tiles, installed in accordance with the manufacturer's instructions including adhesive and grout.

FLOOR FINISHES

A To Main Hall supply and fix Junkers Sylvasport Premium Beech pre-lacquered 2 strip flooring, secret nailed to New Era S1 Levelling System (height 74-115mm) with battens at 411mm centres, laid strictly in accordance with the manufacturer's instructions. Supply and fix Junkers Combi Beech sports skirting to perimeter of Main Hall, plus door threshold strips and access panel underneath byfold doors as necessary.

B Allow for painting lines to surface of strip flooring for 1 nr badminton court.

C To Entrance Hall and Passageway provide and lay 2mm thick Altro Wood Safety vinyl sheet flooring by Altro Flooring UK, colour from standard range, laid strictly in accordance with the manufacturer's instructions including primer, adhesive and hot welded joints.

D To Kitchen and all Toilets provide and lay 2.5mm thick Altro Reliance 25 vinyl sheet flooring by Altro Flooring UK, colour from standard range, laid strictly in accordance with the manufacturer's instructions including primer, adhesive and hot welded joints.

E To perimeters of all rooms with vinyl sheet flooring as detailed above, provide matching coved skirtings including cove formers and capping seals to top edge.

F To Entrance Hall provide and lay Heckmondwicke Battleship entrance matting size 1500 x 1000mm, colour from standard range, laid loose in screwed down aluminium splayed edging ramp.

G To screeded floor of Store and GF Cupboard apply two full coats of Flortex Clearseal by Polycote UK, applied strictly in accordance with the manufacturer's instructions.

H To FF Lobby, Meeting Room and Cupboard provide and lay 600 x 600 x 8mm thick heavy duty needle punch contract carpet floor tiles, colour from standard range, laid strictly in accordance with the manufacturer's instructions.

J To perimeters of all rooms with painted and carpeted finishes as detailed above, provide 19 x 144mm high (f) wrot softwood skirting.

K At all door opening supply and install aluminium solid base multi-purpose trims or transition strips as necessary.

CEILING FINISHES

L To underside of rafters to single storey section line with 1 nr layer of 12.5mm thick plasterboard with skim finish with all thin-coat angle and stop beads, installed strictly in accordance with the manufacturer's instructions.

M To underside of mezzanine floor joists line with 2 nr layers of 12.5mm thick plasterboard with skim finish with all thin-coat angle and stop beads, installed strictly in accordance with the manufacturer's instructions.

N To underside of stairs install similar ceiling fixed to and including 50 x 50mm treated sawn softwood framework at 400mm centres and to sloping edges.

P To all the ceiling areas above include 50 x 25mm treated sawn softwood edge and perimeter battens to fix edges of plasterboard ceilings.

A To underside of galvanised steel Z-section purlins supply and fix 600 x 600mm Armstrong Tatra suspended ceiling tiles in Prelude XL Grid System with 24mm grid width, including all associated main tees, cross tees and edge trims, installed strictly in accordance with the manufacturer's instructions.

DECORATIONS

B To all plastered walls and ceilings internally not detailed below, apply one mist coat and two full coats of Dulux Trade Diamond Eggshell paint, colour White.

C To all new softwood joinery in internal linings, stops and architraves to internal doors, window linings and cill boards, skirtings, etc., apply knot, prime, stop and two full coats of Dulux Trade undercoat plus one full coat of Dulux Trade Acrylic Gloss paint, colour Brilliant White.

FIXTURES AND FITTINGS

D To all skirtings, architraves and window boards, provide treated sawn softwood grounds of suitable size.

E To Female and Male Toilets supply and install frameless mirrors above the wash hand basins, size 500 x 700mm high, fixed to studwork walls with stainless steel screws with chrome plated dome heads.

F To Disabled Toilet supply and install frameless mirror to size and layout/position as current regulations, fixed to studwork walls with stainless steel screws with chrome plated dome heads.

SANITARY APPLIANCES

G All new sanitary appliances are to be assembled with all valves, outlets, etc. and jointed to all hot and cold water services and waste connections, in positions shown on Drawing No. 1438/10bc Foul Drainage Layout. Sanitary appliances are to be from the Contour 21 Range by Armitage Shanks or equal approved and are to be installed strictly in accordance with the manufacturer's instructions and recommendations.

H To Female Toilets supply and install 3 nr close coupled WC's with horizontal outlets, lever cisterns and standard seats, plus 2 nr wash hand basins with lever operated pillar taps, chrome plated waste, bead chain and plug, etc.

J To Male Toilets supply and install 1 nr close coupled WC with horizontal outlet, lever cistern and standard seat, set of 2 nr urinals with traps, sparge pipes and combined cistern with cisternmiser, plus 2 nr wash hand basins with lever operated pillar taps, chrome plated waste, bead chain and plug, etc.

K To Disabled Toilet supply and install Doc M Pack complete with close coupled WC suite including cistern, seat and cover, back support, etc. and wash hand basin on concealed hangers, lever operated thermostatic mixer tap, chrome plated waste, bead chain and plug, etc. Layout to be in accordance with Diagrams 18 and 19 of Part M of The Building Regulations 2010.

L To sink base unit within Kitchen supply and install stainless steel sink top with lever operated pillar taps, chrome plated waste, bead chain and plug, etc.

INTERNAL PLUMBING

A All new internal plumbing is to be installed in locations shown on Drawing No. 1438/10bc Foul Drainage Layout. All new waste pipes and soil & vent pipes (S&VP's) are to be uPVC and installed strictly in accordance with the relevant manufacturer's instructions and recommendations.

B Provide 32mm diameter waste pipes to all wash hand basins, 38mm waste pipe to Kitchen sink and 110mm diameter waste pipes to all WC's, including all associated bottle traps or running traps as necessary. Provide rodding eyes/access points at all changes of direction to waste pipes.

C Provide 110mm diameter S&VP within Female Toilet to terminate above roof level at regulation height, including all necessary brackets, vermin proof weathering cowl and proprietary Dektite pipe flashing to suit profiled insulated roof cladding. Connect S&VP to foul drainage system with suitable plastic adaptor. Provide 110mm diameter stub stacks fitted with air admittance valves within Male and Disabled Toilets to terminate at regulation height above the basin outlets. Connect stub stacks to foul drainage system with suitable plastic adaptors.

D Install internal trapped floor gullies with stainless steel gratings within Female and Male Toilets, bedded and surrounded in 150mm thick plain insitu concrete. Connect floor gullies to foul drainage system with suitable drain runs.

MECHANICAL AND ELECTRICAL INSTALLATIONS

E Complete the Electrical and Heating Installations as Contractor's Design Portion works in accordance with the "Design, Supply, Install, Test & Commission of Electrical and Heating Systems" document and associated drawing produced by the Mechanical & Electrical Engineer, which is included within this document at Appendix B, plus elements of the Construction Notes produced by Bell Associates. Details of the SBEM As Designed calculations are included at Appendix D, showing the various efficiencies required such as the ASHP's COP of 3.5, extract ventilation SFP's of 0.3 for WC's and 0.4 for the Kitchen, plus lighting at 5W/m², etc. These installations are to be carried out by a Specialist Sub-Contractor strictly in accordance with the above documents.

F The Contractor is to provide Design Drawings and supporting documentation for review and comment by the Mechanical & Electrical Engineer prior to carrying out the CDP works.

G Each individual item listed below are to be priced in full and no amalgamated figures are to be included. Each individual item must include for all associated and ancillary work shown and clearly apparent as being necessary to complete these installations, including any items under section 2) General, and for their proper integration within the Works generally.

H A Schedule of Rates for the Electrical and Heating Installations covered by the items below will be required for the valuation of any variations.

J 2e+f) Mains Distribution

K 3a) Functional Lighting

L 3b) Emergency Exit Lighting

M 3c) Security Lighting

A	4a) Space Heating (to include OMNIE underfloor heating systems or similar approved)	
B	4b) Water Heating	
C	5) 230v Socket Outlets	
D	6) Cooker Circuit	
E	7) Lift Circuit	
F	8) Fire Alarm System including directional fire exit signage	
G	9) Security Alarm System	
H	10) Disabled Toilet Alarm	
J	11a) PA System	
K	11b) Inductive Loop Systems	
L	Ventilation (as Construction Notes)	
M	Hand Dryers (as Drawing No. 1438/5bc)	
N	Lightning Protection	
P	2i) Testing and Commissioning including certification	
Q	2j) Operating & Maintenance Manuals including As-Built Drawings	
R	Demonstrating Systems to Employer's Representative	
	RAINWATER INSTALLATIONS	
S	To uPVC fascia boards supply and install Marley Deepflow 150 rainwater gutter by Marley Plumbing and Drainage Solutions, colour Black, laid to falls in accordance with the manufacturer's instructions on fascia brackets/gutter supports, including joints in the running length and all necessary fittings including stop-ends, angles, outlets, etc.	
T	From all outlets supply and install 82mm diameter circular downpipes by Marley Plumbing and Drainage Solutions, colour Black, in accordance with the manufacturer's instructions on brackets, including joints in the running length and all necessary fittings including angles, one piece swan-necks, shoes, etc.	
	SUNDRIES	
U	Joints at junctions of walls and ceilings including boxings to structure, pipes and ductwork are to be suitably sealed. Pipes or ducts penetrating or projecting into hollow voids are to be suitably sealed.	

A Carry out all builder's work in connection with the Electrical and Heating Installations including cutting or forming holes, mortices, sinkings and chases for all cables, pipes, ducts, conduits/containment, etc. as necessary through all elements of the building.

B Where any pipes pass through a separating/party wall a Sealmaster TC1 Pipe Closer Intumescent Collar or similar of appropriate size is to be provided, surface mounted to the wall to give one hour fire resistance. Where any cable tray penetrations and small pipework pass through a separating/party wall provide Sealmaster Firefoam or similar to give one hour fire resistance. Any ductwork passing through a separating/party wall provide fire dampers with fusible links to give one hour fire resistance.

C On completion of the Works to the building carry out the required Air Permeability Test in accordance with Preliminaries clause A33/570, with an acceptable air tightness value (maximum) of 5m³/(h.m²) at 50 Pa. All costs in arranging and carrying out this test and any subsequent re-testing is to be included against this item.

EXTERNAL WORKS

D The areas marked Play Area and Parking on Drawing No. 1438/3d Proposed Site Plan will be carried out by the Employer after the new Community Hall has been completed, therefore they are available for use as the Contractor's compound.

E To the North and North East boundary of the site carefully remove existing planting of bushes, shrubs, saplings, etc. and hand to Employer for re-use.

F To the area of the new building and surrounding grassed areas carefully remove existing topsoil and store on site for re-use. Excavate across the site to re-grade existing levels to new formation levels to suit build-ups as described. Surplus excavated material is to be removed from site.

G To perimeter of building construct new paving slab footpaths, 900mm wide except South East boundary at 1500mm wide and rear North East boundary at 1620mm wide. Level and compact surfaces of ground and lay 150mm thick compacted hardcore sub-base. Supply and lay 600 x 600 x 50mm thick Marshalls Saxon textured precast concrete paving on and including cement sand 1:3 bedding mortar to new footpath level of 92.70. Include additional area between Main Entrance and existing footpath.

H To grassed areas grade and level as necessary then prepare sub-soil and lay min. 150mm thick topsoil either from on-site spoil heaps or imported to supplement arisings from site. To surface of topsoil lay grass seed at 30g/m² and well water in during initial growing period.

J Construct new 14 nr parking bays on opposite side of access road as detailed on plan and strictly in accordance with Grasscrete's installation instructions. Carefully remove existing knee rail to length of area and hand to Employer for possible re-use. Excavate to complete area of existing hardstanding to new formation levels to suit build-ups as described. Surplus excavated material is to be removed from site.

A Level and compact surfaces of ground and lay 150mm thick Type 1 sub-base, compacted in max. 100mm layers. To surface of sub-base lay 20mm thick sand

bedding. Provide edge formwork to required height to full perimeter all round. To surface of sand bedding place 600 x 600 x 76mm high void formers ref. GC3, edge to edge, with mesh fabric reinforcement ref. A193 over the top. Place 30N/mm² insitu concrete to standard Grasscrete mix design, finished with a squeegee to expose the void former tops. Complete by melting the void former tops with a flame gun filling voids with topsoil and seeding as detailed above. Top up topsoil as it settles.

B To area of additional existing hardstanding between 14 nr parking bays and first dwelling construct 2 nr extra parking bays as detailed above but of suitable size to be designated as disabled parking bays.

C To the length of the North East boundary of the site between the rear of the Hall and the garden of the adjacent house, construct a retaining wall of SoluForm-Pro Prefilled Concrete Bagwork to the heights as detailed on the plan and sections on Drawing No. 1438/site sections. Excavate within existing bank to form a battered face down to formation level, removing excavated material from site. Form a 450mm wide x 300mm deep foundation in Designated Mix GEN1 plain insitu concrete including all necessary excavations, disposal of soil, earthwork support, etc. To surface of foundation lay bottom “starter” course of bags with successive courses being stepped back and stagger-jointed to create a battered profile.

DRAINAGE

D Prior to any new drainage being installed, confirm the invert levels of the existing surface water and foul water sewers plus the branches connected to the public sewers.

E Drainage works are all to be installed in accordance with Architect’s Drawing No.’s 1438/10bc Foul Drainage Layout and 11bc Drainage Site Plan, plus Drawing No. 6006-W-11-C1 Utilities Plan.

F Excavate trenches on line of new foul drains as shown up to position of foul water adoptable demarcation manhole (DM) ref. F2a, laying new 100mm diameter uPVC drainpipes to max. 1 in 90 falls with associated 10mm size pipe bedding and surrounds as necessary. Connect to available outlet in base of manhole ref. F2a. Where drains pass through external walls install prestressed concrete lintels within masonry over, or sleeve through the foundations if levels require it with 50mm gap all around the pipes. Provide rocker pipes where required.

G At base of soil and vent pipe and stub stacks install swept bends, bedded and surrounded in 150mm thick plain insitu concrete, and connect to the new foul drainage system as detailed. Underneath Kitchen window install back inlet gully for sink waste, bedded and surrounded in 150mm thick plain insitu concrete, and connect to the new foul drainage system as detailed.

H Construct new foul water polypropylene inspection chambers where stated, including covers and frames. Construct new foul water manholes where stated, including covers and frames plus step irons as necessary. Provide rocker pipes where required.

J Excavate trenches on line of new surface water drains as shown up to foul water adoptable demarcation manhole (DM) ref. S2a (manhole not constructed), laying new 100 and 150mm diameter uPVC drainpipes with associated 10mm size bedding and surrounds including protection slabs as necessary. Provide rocker pipes where required.

A At base of all rainwater downpipes install accessible back inlet gullies, bedded and surrounded in 150mm thick plain insitu concrete, and connect to the new surface water drainage system as detailed.

B Construct new foul water polypropylene inspection chambers where stated, including covers and frames. Construct new foul water manholes where stated including manhole ref. S2a on end of available lateral, including covers and frames plus step irons as necessary. Provide rocker pipes where required.

EXTERNAL SERVICES

C All works associated with the external services are to be in accordance with the Utilities Plan on Drawing No. 6006-W-11-C1 – As Built. Quotations for the relevant services will be sourced from Scottish & Southern Electricity Networks, Wessex Water and Openreach. Assume that the electricity supply will be sourced from the new sub-station at the far end of the site, the water supply from the main within the adjacent footpath and the telecom supply from a similar location.

D Excavate service trenches in respect of the electricity, telecom and water services to the size and depths required by the relevant statutory companies. Prepare bottoms of trenches and supply and lay bedding and surrounds, smooth bore ducts, marker tapes and protection slabs as required by the relevant statutory companies.

E Careful reinstate all existing surface finishes and associated bedding layers to match existing where disturbed by the new service trenches.

F Install service entries into the new building with smooth bore ducts through the foundation walls, with easy swept bends for ducts to rise and terminate flush with the floor level in positions shown on the relevant drawings. Ducts to comply with relevant statutory companies' specifications and include prestressed concrete lintels where the service entries pass through the foundation walls.

COLLECTION

GENERAL SUMMARY

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GENERAL SUMMARY			
Section 1	Preliminaries From Page No. 1/47		
Section 2	The Works From Page No. 2/17		