



now part of



Kenavon Drive

Piling Specification

Doc Ref: F367-37454-SW-XX-S-0001

Revision: T1

On behalf of **Berkeley Homes**

Berkeley
Designed for life

Project Ref: 12345/001 | Rev: AA | Date: January 2013

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Document Control Sheet

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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
T1	2019.01.22	Tender Issue	MW	AA	MD

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D30 Piling

To be read with Preliminaries/ General conditions.

TENDERING

GENERAL

110 PILING SPECIFICATION

- Standard: Comply with the current edition of 'Specification for piling and embedded retaining walls' (SPERW).
- Substitution of British Standard for SPERW requirements: None.
- References to Engineer in SPERW: For the purpose of this contract, interpret such references as being to the person named in section A10 as administering the contract on behalf of the Employer.

130 PILES

- Standard: To SPERW, sections B2-B6, as appropriate to the pile type.
- Permitted types: Any type of bored pile.
- Project specification: Submit proposals to cover the SPERW requirements in clause B1.2 and listed under this heading for the chosen pile type.
- Other requirements: None.

180 AUGURED CAST-IN-PLACE PILES

- Standard: To SPERW, section B4.
- Method of construction: Continuous flight auger.
 - Splitting of auger: Not permitted.
- Filling:
 - Material: Contractor's choice to meet structural and durability requirements.
 - Placing: Inject through hollow stem of auger.
 - Control of concreting/ grouting: Contractors choice.
- Pile group designation: All.
 - Diameter: As drawings.
 - Length: As contractor's design.
 - Reinforcement:
 - Quantity: As contractor's design.
 - Extent: As contractor's design.
 - Other requirements: 450mm and 600mm diameter piles assumed in the design and detailing of the foundations and ground slab. If any alternative size is selected by the contractor, the contractor is responsible for any foundation and ground slab redesign costs that this choice may incur.

195 PROTECTION AGAINST AGGRESSIVE GROUND/ GROUND WATER

- Purpose: To provide protection against sulphate attack .
- Method: Contractor's choice.
- Piles to be treated: All.
- Aggressive strata/ source of attack: Refer to ground investigation interpretative report - Preliminary report .
- Extent of treatment: Minimum for full depth of aggressive strata and 2 m below.

SYSTEM PERFORMANCE

210 CONTRACTOR DESIGN

- Structural requirements:
 - Generally: As section B50.
 - Modifications: None.
- Design responsibility:
 - Piles: Complete design of piles in accordance with SPERW, clause B1.4, option 2.
 - Other: None.
- Pile layout: As drawings.
- Performance criteria for piles: As drawings.
- Other requirements: Column and wall starter bars TBC.
- Submission of information: As required by SPERW, table B1.1 and elsewhere, as appropriate for the pile type, materials and tests specified.
 - Amendments to requirements specified in SPERW for information required:
 - Prior to commencing design: None.
 - Prior to commencing the works: Details of size and weight of plant to be used.

280 PERFORMANCE SPECIFICATION CRITERIA FOR PILES

- Pile group designation: All.
- References for piles to be load tested:
 - Preliminary test: 1 per 500 piles.
 - Proof test: 1 per 100 piles.
- Requirements for test piles: As for working piles.
- Criteria:
 - Specified working load
 - Axial (SWL): Refer to Drawings.
 - Other: 25KN Horizontal.
 - Design verification load (DVL): SWL + 212KN.
 - Required factor of safety (minimum): TBC by Pile Designer.
 - Permitted settlement at DVL: 10mm.
 - Permitted settlement at DVL + ½ SWL: 15mm.

290 BASIS FOR SETTING OUT

- Site datum: Ordnance (Newlyn) datum.
- Site grid: Ordnance Survey.

300 COMMENCING SURFACE

- Level: Piling mat as drawings - TBC.

320 PILE LENGTH – TOE LEVEL

- Pile group designation: All.
 - Pile cut-off level: 75 mm above underside of pile cap.
 - Depth of pile toe beneath site datum (minimum): As Contractors Design.
 - Other requirements: None.

PRODUCTS

470 CONCRETE GENERALLY

- Standards: To BS 8500-2 and SPERW, section B19.
- Project compressive strength testing of concrete: Required as SPERW, clause B19.8.
- Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

530 REINFORCEMENT GENERALLY

- Steel reinforcement: To BS 4449.
 - Type/ Strength grade: Ribbed bar, grade B500B.
- Supplier: Firm holding a valid certificate of approval issued under a product certification scheme operated by a third party certification body with appropriate Category 2 accreditation from the United Kingdom Accreditation Service (UKAS).
- Other requirements: Debond reinforcement that is above cut-off level,.

540 COVER TO REINFORCEMENT

- Cover (nominal): Suitable for concrete specification and durability - Submit proposals.
- Method of ensuring correct cover: Submit details.

550 LAPS IN REINFORCEMENT:

- Length (minimum): 40 x bar diameter.

EXECUTION

610 METHOD STATEMENT

- Requirement: Submit proposed method of installation to achieve the design parameters, including:
 - Details of equipment.
 - Programme showing sequence and resources.
 - Confirmation that performance requirements for load and settlement will be achieved.

615 RECORDS AND SUBMISSION OF INFORMATION DURING THE WORKS

- Generally: As required in SPERW, tables B1.1, B1.6 and elsewhere, as appropriate for the pile types, materials and tests specified.
- Amendments to requirements: Report integrity test results and findings within 7 days of testing.

650 PERFORMANCE OF WORKING PILES

- Substandard performance: Give notice if the performance of any pile will be less than that of a similar pile whose test behaviour has been accepted.

655 TESTING EXCAVATED MATERIAL

- Contamination tests: Undertake at following rates:
 - Made up ground: Tests at 1m intervals in 10% of bores.
 - Other soil types: Tests at 1m intervals in 10% of bores in underlying strata.

680 PROHIBITION OF SUPPORT FLUID

- Usage: Not permitted.

685 EXCAVATED MATERIAL

- Disposal: Contractors Responsibility.

690 DISPOSAL OF PILE HEADS

- Cutting down and disposal: Contractor's responsibility.

696 METHOD OF PLACING PILE FILLING

- Designation: All.
 - Requirement: Through auger stem.

710 INSTRUMENT FAILURE WHEN AUGURING PILES

- Manual monitoring: Use a stop watch.

755 PREPARATION OF PILE HEADS FOR INTEGRITY TESTING

- Preparation: To suit test method.
- Inconsistencies: Submit report on inconsistencies which could inhibit execution or interpretation of test.

760 PILE INTEGRITY TESTING - GENERAL

- Method: Submit proposals.
 - Satisfactory evidence in support of proposals: Submit.
- Period between casting and testing (minimum): 7 days.
- Piles to be tested:
 - Pile group designation: All.
 - Number of piles to be tested: All.
 - Locations: As drawings.
- Programme: Contractors Choice.
- Other requirements: None.

780 AXIAL MAINTAINED LOAD TESTING OF PRELIMINARY PILES

- Type of test: Compression.
 - Initial proof load test: Single-cycle.
 - Completion of test: To maximum test load or failure to stabilise as SPERW, clause B15.13.3.
- Pile group designation: All.
 - Test pile construction: As for working piles.
Location: Contractor Choice.
 - Number of piles to be tested: 1 per 500.
 - Test load (maximum): As SPERW Clause B17.13.2.
- Special requirements: None.

785 AXIAL MAINTAINED LOAD PROOF TESTING OF WORKING PILES

- Type of test: Compression, with multi-cycle loading.
- Pile group designation: All.
 - Number of tests: 1 per 100.
 - Test pile construction: As for working piles.
 - Test load (maximum): As SPERW Clause B17.3.3.
- Special requirements: None.

810 TIMING OF PILE TESTING

- Period between installation and load testing (minimum): Until concrete achieves sufficient strength to avoid damage when tested.

1.1 COMPLETION

910 HEALTH AND SAFETY FILE

- Piling completion report: Collate and submit a full set of pile records for inclusion in the health and safety file.
- Content and date for submission: As SPERW, clause B1.12.2.
 - Record plan: Give the number of each pile and its final location relative to nearest grid line.
 - Additional requirements: When sectional completion of piling is agreed, submit completion report for each section within two weeks of installation of final pile in section.

920 PILING GUARANTEE

- Type: Insurance backed. Administered by an independent insurance protection company.
 - Guarantee period (minimum): 12 years from completion .
 - Documentation: Provide certificates/ guarantees at completion of piling works.