METHOD STATEMENT Rev D

The Rothen Group
Maintaining Britain's waterways

Job Number:	B0575
Job Name:	Nestle complete works
Site Address:	Former Nestle Factory, Cranton Avenue, Hayes, UB3 4FT
What Three Words:	Canal wall: desk.term.pass Parking: rises.again.shared
Parking:	By prior agreement with Barratt Homes site supervisor with registration numbers given for ANPR cameras
Client:	Barratt Homes
Start date:	TBC
Duration:	Approx. 12 weeks
Task:	Dredging, installation of piles and associated works
Materials:	To be unloaded and stored at site
DWG:	FNF NIR ZZ XX DR S 31000 rev. C02 FNF NIR ZZ XX DR S 31002 rev. C02 TBC Hydroc drawing for Seagro End

Summary of works

All works will comply with CRT's Code of Practice. Further to the Condition Survey report of the canal wall undertaken in 2018 by Beckett Rankine, considerable defects were found in the masonry wall. Recommendations were repairing or replacing the sections considered poor or very poor. The proposed works include replacing the wall with new sheet piling so these recommendations will be fulfilled. In addition dredging works will take place prior to piling. Dredging will be undertaken between November and end of March. Any necessary consents, including access to, or oversailing of the CRT land or water during construction will be agreed in writing with the Trust before development commences.

Summary of Hazards

1. Excavators & Diggers (HS-RA-01)
2. Buried Services (HS-RA-03)
3. Fire (HS-RA-06)
4. Fuels, Diesels, Oils etc. (HS-RA-08)
5. Loading & Unloading Vehicles (HS-RA-10)
6. Manual handling (HS-RA-12)
7. Outside Working (HS-RA-14)
8. Slips, Trips and Falls (HS-RA-16)
9. Working on or near water (including Falling in, Boat Capsizing & Water depth) (HS-RA-20)
10. Working at Height (HS-RA-21)
11. Overhead Services (HS-RA-25)
12. Anti-social behaviour, vandalism & other boaters (HS-RA-26)
13. Contamination - Water, Silt, Arisings, Asbestos (HS-RA-27)
14. Access & Ingress to site (HS-RA-28)
15. Lifting Operations (HS-RA-29)

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16. Wildlife & the Natural Environment (HS-RA-30)
17. Heritage & built environment (HS-RA-31)
18. Unstable tow path & canal bank (HS-RA-32)

The above hazards have generic risk and method statements attached separately along with COSHH, fire procedure, spill procedure & the emergency water rescue plan. All specific record sheets for PPE, plant & equipment, LOLER, PUWER etc and certificates will be in the site folder on site. The specific detail of the works is discussed below.

PPE
Mandatory: Safety footwear, High vis top or jacket, Hi Vis trousers, Hard hat & Lifejackets.
As Required: Gloves, Overalls, Ear defenders with a 35 db reducing noise minimum, Safety Glasses, dust mask

Safe Method of Work
1. Vehicles to be parked in a safe and secure position as directed by Barratt Homes Site Supervisor.
2. Navigation and towpath will remain open.
3. Signs to be put out to warn other waterway users of the works being carried out.
4. Welfare to be provided by client.
5. All staff will be inducted to site and given site inductions.
6. Check site for any possible wildlife impact; no nesting birds anticipated due to the time of year.
7. A visual monitoring of the canal in respect of fish health will be undertaken throughout the works. Again due to the time of year the dredging is taking place the impact on fish health is considered minimal.
8. All staff to have read and signed the RAMS in section 1, tab 3 of the site file.
9. At the start of the day a daily briefing will be held.
10. Consult COSHH sheets applicable to any substance used (section 2, tab 3 I site file). All COSHH substances to be stored at least 10m from canal edge or on a plant nappy.
11. Put on protective clothing and safety equipment.
12. When working near water, automatic lifejackets should be worn.
13. Ensure a safety action plan is in plan in place on how to safely rescue someone who has fallen in the water.
14. The emergency plan can be found in the site file section 2, tab 4 and the emergency bag.
15. All staff to have read the guidance notes on working on or near water.
16. Mobile phone to be carried but technology should only be used in safe areas.
17. Works are to dredge the canal bed to 1.2m depth, install sheet piling with back piles, backfill with concrete, install brick coper & recycled plastic fender.
18. Works will be undertaken using an 8t digger with a vibro hammer and a clamshell on the bank. Digger will adhere to 45 degree rule and sit at least 2m back from the water's edge.
19. When working the digger, ensure the blade is down.
20. All operatives must get a thumbs up from the digger operator before entering the danger zone.

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21. Only trained personnel to operate any plant or steer vessels (certificates will be in site file).
22. Existing outfalls are redundant and will be removed to ensure that no construction run off enters the canal

Dredging

23. Ensure exclusion zone of 5m is retained away from the railway bridge.
24. The canal will be dredged to a depth of 1.2m as per dip surveys carried out previously, or until the clay bed lining is found. Care must be taken not to damage the clay lining.
25. The digger will be able to dredge maximum 4m out from the canal wall.
26. During dredging, a surveying staff will be used in each area and then continued along the length of the works to check we're at required depth.
27. The excavator will have a clamshell attachment and will work systematically from one end of the works to the other.
28. Dredgings will be placed into sealed tipper lorries and disposed of offsite.
29. Lorries will have designated routes to follow and have to wait whilst they are loaded.
30. The hauliers will add their additive to the wet silt to thicken it prior to leaving the works site.

Piling (within 3m of Network Rail end)

31. Lift the piles into the next clutch with the excavator and pile lifter (at 3m out from the network rail wall).
32. Use the impact hammer attached to the excavator to drive the pile to height.
33. The impact hammer will be a BSP 300 with minimum vibration.
34. Client to set up vibration monitoring and Network Rail to provide upper limits of peak particle velocity (ppv) in mm.
35. We will stop works if the ppv are exceeded and monitor the levels.
36. The backties will be installed using an impact hammer too.
37. The old concrete capping will be broken out from the from top using hand tools and selector grab.

Piling (beyond 3m of Network Rail end)

38. Piling works to be undertaken between the hours of 8am and 5pm.
39. Piling works to be undertaken in 10m sections.
40. Use a breaker attachment on the digger to break out the concrete coper at the rear of the wall. Put arisings in a pile to the rear ready for disposal.
41. Use the clamshell attachment on the 8t digger to excavate slot trenches in 10m sections which are 300mm wide by 300mm deep and place material to the side/rear outside of the 45degree angle from the edge of excavation.
42. As soon as there are enough arisings, these will be removed off site with a tipper lorry to keep the work area as clear as possible.
43. No persons are to enter the excavation at any time.
44. Netlon fencing will be used to fence off the excavation when not being worked around.
45. Any overhanging concrete at the back of the existing coping will be broken out with hand breakers.
46. Use the vibro hammer chain and puk to pick up the first pile, once vertical, hammer will clamp onto pile.
47. Piles will be RMax 500 4m long and weigh 155kgs each, adhere to lift plan (attached separately).
48. Lift into position vertically and begin installation with vibro hammer.

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49. Drive piles to 557mm above water level using a laser level set from the datum
50. Continue digging out behind the wall and installing front piles in 10m sections until all front piles are installed.
51. At the Segro end of the piling, use a concrete saw and hand breaker to cut back and break out existing concrete wall that is sitting on top of the existing piles.
52. Dig the slot trench past the existing piling by approximately 1m.
53. Install corner piling detail as per drawing DR-S-31000 'Sheet Piling Tie in Detail – Segro end'.
54. Continue installing sheet piles behind existing wall.
55. Once all piles installed dig down behind piles to the required 1000mm deep ready for concreting.
56. Dig T-shaped slot trenches 2m back from front piles to incorporate back piles and tie-rods.
57. Drive back piles using EMV vibro hammer. Back piles are 3m long.
58. Install tie rods from back-tie pile into front face pile and fix with nuts and plates.
59. Fit steel U-channel to front face of front piles securing to tie-rods.
60. Tension all tie-rods.
61. Refer to drawings and locate 2no. outfall pipes. Piles to be driven to a lower level around the outfalls.
62. Once all front piles are installed, bolt a capping angle to top of piles with M12 galvanised bolts.
63. Use breaker and selector grab attachment on 8t digger to break out and remove existing canal wall. All arisings to be put to side.
64. Mass fill with grade 40 concrete behind piles – 300mm wide x 1m deep, ensuring areas where mooring bollards are required is a minimum of 600mm deep.
65. Concrete will be delivered by lorry and placed into the trench with digger.
66. Leave outfall sections open.
67. Mooring bollards will be installed as per CRT standard detail STD-CRT-ZZ-ZZ-04-DR-C-01.
68. Fit recycled plastic fender fitted into PFC waler beam securing with zinc plated dome head bolts. This will be lifted into place by hand. All operatives have received manual handling training.

Brick capping detail

69. Drill and resin starter bars into concrete to reinforce brickwork. Spec of resin is Hilti HIT HY-200.
70. Lay some test sections of brickwork to establish mortar colour and get approval from client.
71. Once approved, lay 1 course of perforated blue engineering bricks onto the protruding reinforcement rods.
72. Ensure all joints and areas around rods are completely filled.
73. Lay 1 course of solid bullnose blue engineering bricks on top.
74. Mortar to be 2 parts soft sand, 1 part sharp sand and 1 part cement.
75. Brickwork can only be laid in suitable weather conditions which will be monitored by the site supervisor.

Outfalls

76. Install outfall pipes connected to chamber pre-installed by Barratts as per their drawing.
77. Shutter around the pipes before mass-filling this section with concrete. Ensure H20 dowels are in place.
78. Once concrete is cured, remove shuttering and install Althon double hinged flap valves as per drawing.

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79. All materials to be stored away from water's edge.
80. All rubbish to be removed from site.
81. If there is a pollution of the waterway contact CRT emergency contact 0800 47 999 47 and SHEQ for The Rothen Group.
82. Gloves must be worn at all times.
83. Wash any parts of the body, which have come in contact with any hazardous substances.
84. At the end of the day all equipment will be checked and left safely.

Competencies
SSSTS Trained Site Supervisor.
CSCS Trained staff
NPORS digger training
Slinger/banksman training
Emergency first aid training
Water safety training
Manual lifting training
COSHH Training
First Aid

Tools & Equipment
Van to be checked daily when in use, for safety, fuel and oil.
Hand tools: All tools should be 110v and to be checked daily when in use.
Slings and shackles. All items to be marked WLL and tested.
Digger: To have stability calculations carried out and to be checked daily by operatives.

Nearest A & E (2.5 miles)
Hillingdon Hospital, Pield Heath Road, Uxbridge, UB8 3NN
01895 238282

Written & Assessed by:

Ian Rothen, Director of The Rothen Group 1/11/2023

By signing below you are confirming that you have read, understood and will follow the above method statement.

Operative	Date	Signed

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Contact information

The Rothen Group:	Ian Rothen	Director	07903 560772
The Rothen Group:	Joe Kiteley	Site Supervisor	07534 256010
Barratt Homes:	Paul Smith	Site Supervisor	07834 874858
The Rothen Group SHEQ:	Kat Oliphant	SHEQ	07494 568440

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