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|--|---|--|
| <b>Canal:</b> Grantham Canal                     | <b>Site address:</b> Lock 14, Stenwith, nearest postcode NG32 2HE | <i>All work to be carried out with accordance to the Practical Restoration Handbook.</i> |
| <b>Work Location:</b> Lock 14, Woolthorpe Flight | <b>Operation:</b> Lock restoration, enabling works                | <b>RA Sheet No:</b> 1 of 5   |
|  |   | <b>Date Task Starts:</b> 11 <sup>th</sup> August 2018                                    |

**Likelihood (L):**

|   |    |                    |
|---|----|--------------------|
| 1 | EU | Extremely Unlikely |
| 2 | U  | Unlikely           |
| 3 | L  | Likely             |
| 4 | VL | Very Likely        |
| 5 | AC | Almost Certain     |

**Severity (S):**

|   |     |                                |
|---|-----|--------------------------------|
| 1 | FAC | First Aid Required             |
| 2 | LTI | Lost time injury               |
| 3 | >3d | Time off work more than 3 days |
| 4 | MI  | Major Injury                   |
| 5 | F   | Fatal                          |

**Risk Level = LxS**

**Risk Level** High / Medium / Low

|    |     |     |     |    |    |
|----|-----|-----|-----|----|----|
| AC | 5   | 10  | 15  | 20 | 25 |
| VL | 4   | 8   | 12  | 16 | 20 |
| L  | 3   | 6   | 9   | 12 | 15 |
| UL | 2   | 4   | 6   | 8  | 10 |
| EU | 1   | 2   | 3   | 4  | 5  |
|    | FAC | LTI | >3D | MI | F  |

| No. | TASK                   | HAZARD               | WHO IS EXPOSED AND HOW                          | RISK LEVEL |   |    |    | CONTROL MEASURES   | NEW RISK LEVEL |   |   |    | FURTHER ACTION   |
|-----|------------------------|----------------------|---|------------|---|----|----|--|----------------|---|---|----|--|
|     |                        |                      |   | L          | S | R  | RL |  | L              | S | R | RL |  |
| 1   | Site set up and access | Uneven ground        | Volunteers, slips trips and falls               | 3          | 2 | 6  | M  | Site cleared of vegetation, Site kept tidy, use of safety footwear,                        | 1              | 2 | 2 | L  | Monitor site after inclement weather                         |
| 2   | General work           | Sharp, rough objects | Volunteers, cuts and grazes                     | 4          | 2 | 8  | M  | Correct training in handling of tools, Use of correct PPE                                  | 1              | 2 | 2 | L  |  |
| 3   |                        | Weather conditions   | Volunteers, General well-being (heat cold, wet) | 4          | 2 | 8  | M  | Shelter provided, Welfare available for breaks, Screening while working, Use of sun screen | 1              | 2 | 2 | L  | Leader to monitor weather conditions and stop work if severe |
| 4   | Accessing work area    | Moving plant         | Volunteers, Collision injuries                  | 3          | 4 | 12 | H  | Warning signs, Separate pedestrian and plant route<br>Banksman in operation,               | 1              | 4 | 4 | M  | Monitor plant movements                                      |

|    |   |                            |  |   |   |    |   |  |   |   |   |   |  |
|----|---|----------------------------|--|---|---|----|---|--|---|---|---|---|--|
|    |   |                            |  |   |   |    |   | Only authorised plant operators to be used,<br>Hi-viz jacket to be worn,   |   |   |   |   |  |
| 5  | Dismantling wall                                  | Bricks, tools              | Volunteers,<br>Impact injuries                                   | 3 | 2 | 6  | M | Volunteers to have separate work area,<br>Volunteer to monitor stability of their work section,<br>No tools stored on the wall<br>Safety boots to be worn,   | 1 | 2 | 2 | L |  |
| 6  |   | Tools                      | Volunteers,<br>Cuts impact injuries,<br>repetitive stress injury | 5 | 3 | 15 | H | Tools checked for wear,<br>Use the correct tool for the job,<br>Keep tools clean<br>Training provided to volunteers<br>When not in use, tools to be stored safely<br>Use correct PPE<br>Limit time on individual task and take breaks  | 2 | 3 | 6 | M | Leader to monitor use and provide advice                                 |
| 7  |   | Water                      | Volunteers,<br>falling into lock                                 | 3 | 3 | 9  | M | Maintain wall height above 1 metre as edge protection.<br>No work from the top of the wall   | 1 | 3 | 3 | L | Leader to monitor volunteers.  |
| 8  | Moving pipe lengths with excavator or telehandler | Pipe                       | Volunteers,<br>Impact injuries                                   | 3 | 2 | 6  | M | Separate plant and pedestrian routes<br>Banksman used when moving pipes<br>Only authorised plant operators to be used<br>Hi-viz jackets to be worn.  | 1 | 3 | 3 | L |  |
| 9  | Assembling pipes                                  | pipe                       | Volunteers,<br>Entrapment injury                                 | 3 | 4 | 12 | H | Volunteers trained in correct installation technique<br>Use appropriate jointing tools<br>Only authorised plant operators to be used<br>Gloves to be worn when handling pipes  | 1 | 4 | 4 | M |  |
| 10 | Excavating extension to access and parking area   | Moving plant               | Volunteers,<br>Collision injuries                                | 4 | 5 | 20 | H | Warning signs,<br>Only banksman working near excavator,<br>Banksman will stop operations and plant operator to place excavator bucket on ground when pedestrians are near plant,<br>Make volunteers aware of safe areas around plant,<br>Only authorised plant operators to be used,<br>Hi-viz jacket to be worn | 1 | 5 | 5 | M | Leader to monitor progress   |
| 11 | Moving concrete blocks and bricks                 | Concrete blocks and bricks | Volunteers,<br>Musculo-skeletal                                  | 4 | 3 | 12 | H | Use mechanical handling where possible,<br>Train volunteers in correct lifting   | 1 | 3 | 3 | L | Leader to monitor storage of bricks and volunteers for signs of fatigue, |

|    |                            |                         |   |   |   |    |   |   |   |   |   |   |  |
|----|----------------------------|-------------------------|---|---|---|----|---|---|---|---|---|---|--|
|    |                            |                         | strains and impact injuries                   |   |   |    |   | techniques, Minimise the distance bricks need to be moved by storing reusable bricks close to point of re-use. Avoid fatigue by taking regular breaks   |   |   |   |   |  |
| 12 | Mixing mortar and concrete | Wet mortar and concrete | Volunteers, Skin inflammation                 | 3 | 3 | 9  | M | Instruction in mortar properties, COSHH Assessment available, Use of appropriate PPE including long sleeves and trousers  | 1 | 3 | 3 | L |  |
| 13 |                            | Cement, silica dust     | Volunteers, Lung infection, skin inflammation | 4 | 5 | 20 | H | Instruction in cement properties, COSHH Assessment available, Designated area for mortar mixing, Use of appropriate PPE including dust masks long sleeves and trousers  | 1 | 5 | 5 | M | Leader to monitor use and provide advice           |
| 14 | Using mortar and concrete  | Wet mortar and concrete | Volunteers, Skin inflammation                 | 3 | 3 | 9  | M | Instruction in mortar properties, COSHH Assessment available, Use of appropriate PPE including long sleeves and trousers  | 1 | 3 | 3 | L |  |
| 15 | Cutting bricks and blocks  | Dust                    | Volunteers, Lung infection                    | 4 | 5 | 20 | H | Instruction in brick dust properties, COSHH assessment available, Designated area for brick cutting, Use dust suppression where possible, Use of appropriate PPE including dust masks long sleeves and trousers | 1 | 5 | 5 | M | Leader to monitor brick cutting and provide advice |
| 16 |                            | Flying debris           | Volunteers, Cuts and grazes                   | 4 | 2 | 8  | M | Use hand tools and provide training, Use a separate area for cutting away from others, Correct use of PPE   | 1 | 2 | 2 | L |  |
| 17 | Use of brick saw           | Brick saw               | Volunteer, HAV                                | 4 | 3 | 12 | H | Train volunteers in correct use of bricksaw, Correctly maintain bricksaw, Limit time exposure of bricksaw   | 1 | 3 | 3 | L | Leader to monitor use of bricksaw                  |
| 18 |                            | Noise                   | Volunteers and public, hearing damage         | 4 | 2 | 8  | M | Separate area for cutting and provide screening, Correctly maintained bricksaw, Volunteer to use ear defenders.   | 1 | 2 | 2 | L | Leader to monitor use of bricksaw                  |
| 19 | Excavating towpath         | Underground services    | Volunteers, Fatal injury                      | 2 | 5 | 10 | M | Service search by CRT, Cat scan before excavation, Hand dig around services   | 1 | 5 | 5 | M |  |

|    |                        |              |  |   |   |    |   |   |   |   |   |   |   |
|----|------------------------|--------------|--|---|---|----|---|---|---|---|---|---|---|
| 20 |                        | Water        | Volunteers,<br>Flooding of<br>excavation     | 3 | 5 | 15 | H | Canal water level dropped prior to<br>excavation<br>Bund provided on canal bank   | 1 | 5 | 5 | M | Leader to monitor canal water level                 |
| 21 | Working near water     | Water        | Volunteers,<br>drowning                      | 3 | 5 | 15 | H | Volunteers to watch CRT video,<br>Edges of work area protected,<br>Life jackets to be worn when<br>working next to an unprotected<br>edge,<br>Throw lines available<br>No lone working<br>Extra care to be taken when<br>walking near water,  | 1 | 5 | 5 | M |   |
| 22 |                        | Water        | Volunteers,<br>Weil's<br>disease             | 3 | 3 | 9  | M | Volunteers made aware of Weil's<br>disease,<br>Wash hands after contact with<br>water and before eating or<br>smoking,<br>Cover any open wounds   | 1 | 3 | 3 | L |   |
| 23 | Moving stone by dumper | Moving plant | Volunteers ,<br>Collision with<br>plant      | 4 | 4 | 16 | H | Warning signs,<br>Separate plant and pedestrian<br>route if possible,<br>Banksman working with dumper,<br>Banksman will stop dumper when<br>pedestrians are near plant,<br>Make volunteers aware of safe<br>areas around plant,<br>Only authorised plant operators to<br>be used,<br>Hi-viz jacket to be worn | 1 | 4 | 4 | M |   |
| 24 |                        | Loose stone  | Volunteers ,<br>Impact from<br>falling stone | 4 | 4 | 16 | H | Warning signs,<br>Don't overload dumper,<br>Banksman working with dumper,<br>Banksman will stop dumper when<br>pedestrians are near plant,<br>Exclusion zone when tipping stone,<br>Only authorised plant operators to<br>be used,<br>Hi-viz jacket to be worn  | 1 | 4 | 4 | M |   |
| 25 | Levelling stone        | Loose stone  | Volunteers,<br>Muscular<br>strain            | 4 | 3 | 12 | H | Manual work minimised by dumper<br>distributing stone evenly,<br>Volunteers trained in the use of<br>tools,<br>Volunteers rotated in task to<br>prevent overuse strain.   | 2 | 3 | 6 | M | Leader to monitor volunteers for<br>signs of strain |
| 26 | Compacting stone       | Wacker plate | Volunteers,<br>HAV                           | 4 | 3 | 12 | H | Correctly maintained plant,<br>Limit time of use of wacker within<br>exposure limits,<br>Volunteers rotated in task to<br>prevent overuse.  | 1 | 3 | 3 | L |   |

|    |  |                       |  |   |   |    |   |  |   |   |   |   |  |
|----|--|-----------------------|--|---|---|----|---|--|---|---|---|---|--|
| 27 |  | Noise                 | Volunteers and public, Hearing damage          | 4 | 3 | 12 | H | Warning signs, Banksman to keep public away from compaction area, Volunteers the use hearing protection.   | 1 | 3 | 3 | L |  |
| 28 | Cutting geotextile                                     | Cutting knife         | Volunteers, Cuts                               | 3 | 2 | 6  | M | Instruction given in correct use of tool, Correct knife to be used.  | 1 | 2 | 2 | L |  |
| 29 | Refuelling plant and tools                             | Fuel                  | Volunteers, Skin inflammation, Fire            | 3 | 4 | 12 | H | COSHH assessment available, Use of funnels, Use PPE Avoid contact with heat  | 1 | 4 | 4 | M |  |
| 30 | Contact with members of the public                     | Members of the public | Members of the public, Personal injury         | 3 | 5 | 15 | H | Secure the site out of working hours, Exclude members of the public from site during the working day, Site mixing and cutting areas away from areas of public access Care to be taken when moving materials in the public area | 1 | 5 | 5 | M | Leaders to monitor the site during the day |
| 31 | Work on Sustrans path                                  | Members of the public | Volunteers and public, Personal injury         | 3 | 3 | 9  | M | Warning signs, Banksman to be used to warn volunteers / public No materials or tools left on Sustrans path   | 1 | 3 | 3 | L |  |
|    | <b>Additional hazards associated with tasks 9 - 13</b> |                       |  |   |   |    |   |  |   |   |   |   |  |
| 32 | Removal of silt and debris                             | Contaminated silt     | Volunteers, ingestion problems, Weil's disease | 4 | 3 | 12 | H | Avoid contact with contaminated silt<br>Wear protective gloves, long sleeves<br>Make volunteers aware of the hazard<br>Wash hands before eating, drinking or smoking<br>Cover open wounds                                      | 1 | 3 | 3 | L |  |
| 33 |  | Sharp rough debris    | Volunteers, cuts and grazes                    | 4 | 2 | 8  | M | Avoid handling debris<br>Use of correct PPE  | 1 | 2 | 2 | L |  |
| 34 | Dismantling walls and breaking out concrete weir       | Ground                | Volunteers, impact injury from fall            | 3 | 4 | 12 | H | Retain a section of wall to provide protection<br>Provide barrier across lock<br>Face drop into lock when erecting barrier   | 1 | 4 | 4 | M |  |
| 35 | Breaking out concrete weir (machine mounted breaker)   | Flying debris         | Volunteers, cuts and grazes, impact            | 4 | 2 | 8  | M | Keep out of work zone<br>Use appropriate PPE   | 1 | 2 | 2 | L |  |

|    |   |               |  |   |   |    |   |  |   |   |   |   |                                      |
|----|---|---------------|--|---|---|----|---|--|---|---|---|---|--------------------------------------|
|    |   |               | injuries                                     |   |   |    |   |  |   |   |   |   |                                      |
| 36 | Breaking out concrete weir (road breaker) | Flying debris | Volunteers, cuts and grazes, impact injuries | 4 | 2 | 8  | M | Lean breaker away from operator<br>No work in front of breaker<br>Use appropriate PPE                | 1 | 2 | 2 | L |                                      |
| 37 |   | Road breaker  | Volunteers, HAV                              | 4 | 3 | 12 | H | Use properly maintained breaker<br>Limit exposure time<br>Train volunteers in correct use of breaker | 1 | 3 | 3 | L | Leader monitor volunteer for fatigue |
|    |   |               |  |   |   |    |   |  |   |   |   |   |                                      |
|    |   |               |  |   |   |    |   |  |   |   |   |   |                                      |
|    |   |               |  |   |   |    |   |  |   |   |   |   |                                      |

|   |                                     |   |                                       |
|---|-------------------------------------|---|---------------------------------------|
| <b>CAN THE JOB PROCEED?</b> <i>(Tick one box)</i> | <input type="checkbox"/>            | Safe using existing control measures              |                                       |
|   | <input checked="" type="checkbox"/> | Safe using existing + additional control measures |                                       |
|   | <input type="checkbox"/>            | Not safe to proceed                               |                                       |
| <b>ARE THERE ANY LONG TERM CONTROLS?</b>          |                                     |   |                                       |
| <b>ASSESSED BY:</b>                               | Name: M Bradley                     | Name (signed) M Bradley                           | Date: 25 July 2018 and 3 October 2018 |
| <b>AUTHORISED BY:</b>                             | Name (Printed)                      | Name (Signed)                                     | Date:                                 |