

Client:	National Trust
BIM Reference:	PXG-JBA-00-GL-RR-Z-5001-Garden_Lake_Designers_Risk_Assessment
Project Name:	Stourhead MIOS Detailed Design
Project Code	2025s0768
Project Stage	Detailed

Each revision must be approved by a Project Director or Technical Reviewer with appropriate competence, as stated in the Project Quality Plan (PQP).

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AS THE DESIGNER, HAVE YOU CONSIDERED ALL REASONABLY FORESEEABLE HAZARDS/RISKS ASSOCIATED WITH THIS DESIGN DURING CONSTRUCTION, USE, OPERATION, MAINTENANCE AND FUTURE DECOMMISSIONING? IF YES PROCEED WITH APPROVAL.

Stage 1					Stage 2		Stage 3			Stage 4	
Identify					Eliminate / Reduce		Inform			Control	
Ref. no.	Location	Project element, material or activity	Identified significant health, safety, security, welfare, and environmental hazards and possible effects	People or environment at risk from the hazard	Design measures taken to eliminate the hazard or reduce the risk	Residual hazards and risks	Communication method	Drawing Numbers	Warning Triangle Type	Risk owner(s)	Recommended control measures
LIMITATION IN DESIGNS											
CONSTRUCTION (MOST SIGNIFICANT RISKS)											
SC01		Constrained Site	Constrained Site, people-plant interface. Risk: Serious Injury / death	Site Team	Site size cannot be changed. ECI involvement with contractor visits to site to assess site areas/methodologies etc to ensure they are suitable for the site given the constraints in size.	Site constraints, small working area.	Drawings	Z-5001	General hazard	Contractor	A construction management plan and Contractor RAMS are required detailing working methodologies. Daily site briefings required to ensure working areas are suitable with no clashes. Safe system of works for approaching plant to be incorporated into RAMS. Exclusions zones to be applied during certain working tasks/around plant. Plant manoeuvre with banksmen. High vis PPE.
SC02		Access/Working Area – Plant loading	Embankment failure through loading during construction.	Site Team	Ground investigation undertaken.	Embankment failure through loading during construction.	Drawings	Z-5001	Construction Plant	Contractor	Contractor to ensure safe and stable working platform to carry out works. Any work to follow the Contractor's Safe System of Work. Temporary Works Design required utilising known information and select appropriate plant.
SC03		Lifting operations (e.g. sheet piling, railings, tree removal)	Risk of injury or death to personnel from lifting operations. Damage to plant.	Construction team, Equipment	Piles types specified.	Lifting Operations	Drawings	Z-5001, Z-5000	Lifting operations	Contractor	All works to be undertaken in accordance with contractor lift plan and RAMS. All machinery certificates and staff competencies to be checked and confirmed prior to works.
SC04		China Road	Plant/public interface resulting in collision/death/injury/damage to public/site vehicles/plant	Construction Team, Equipment, Public	China Road to be kept open for residents of Beech Cottage and the Convent as per Client instruction. PROW closure applied and approved for the footpath element NT to provide sufficient early warnings to neighbours/road users and signage to be installed to highlight risks	Plant/public interface resulting in collision/death/injury/damage to public/site vehicles/plant	Drawings	Z-5001, Z-5000	Public Interface	Contractor	Signage and traffic management plans
ENVIRONMENT (MOST SIGNIFICANT RISKS)											
SE01		Grade II Listed Iron Bridge	Risk to damage Grade II listed iron bridge that is adjacent to piling operations	Environment	Iron Bridge to be highlighted as a Grade II listed structure at risk due to proximity to the works. HIA to be completed regarding the asset and any mitigation/monitoring measures during the works. GI undertaken to investigate foundations and piling will not clash with foundations.	Damage to Iron Bridge (Grade II listed)	Drawings, Heritage Impact Assessment, Works Specification	Z-5001	General hazard	Contractor	A pre-condition survey is required before construction works with a subsequent post construction survey. HIA to be complied with.
OPERATION AND MAINTENANCE / CLEANING (MOST SIGNIFICANT RISKS)											
DECOMMISSIONING / DEMOLITION (MOST SIGNIFICANT RISKS)											
CONSTRUCTION											
C01		Western Arm of Garden Lake	Western Arm dried through water level lowering to enable the works resulting in soft ground. Damage to plant.	Construction team, Equipment	Working area to be dried through water level lowering of Garden Lake to reduce impounded area. ECI involvement to enable access and working area to be assessed for any required temporary works in creation of working platform etc	Soft Ground	Drawings	Z-5001	Soft ground	Contractor	Contractor to assess access and working areas with regards to temporary works.
C02		Sheet piling - Noise & Vibration	Disruption to local environment caused by piling hammer.	Construction team / Public	Piling selected as preferred option from Optioneering Project. ECI to advise on methodologies. Design to attempt driven rather than percussion to install piles. Where percussive/vibration need to be utilised then mitigation measures to be considered.	Noise and vibration created by piling.	Drawings	Z-5001	General hazard	Contractor	Noise and vibration levels to be monitored against allowable levels in HIA with works to stop if allowable limits are exceeded. Piling works only to occur between 08:00 and 17:00 on weekdays.
C03		Flooding/Extreme Weather	Garden Lake refills, allowing water to flow through embankment causing further erosion and instability	Construction Team	The lake will be drawn down to create a dry working area. The lake will need to be drawn down sufficiently to allow for a 1 in 10 year flood event to not impact working area. Contractor to be added to Emergency Response Site Plan by Client.	Garden Lake refills, allowing water to flow through embankment causing further erosion and instability	Drawings	Z-5001	Flood risk	Contractor / Client	Works to be undertaken with flooding considered, weather and flooding to be monitored through the works with any periods of risk marked as non-working times with the worksite secured to prevent any material loss/damage through flooding.
C04		Construction activities adjacent to a lake	Plant and people working on the edge of a reservoir embankment dam. Risk: Drowning	Site Team	Lake top water level will be lowered to reduce the site area adjacent to a water body, this will then be limited to the eastern end of the works. Edge and exclusion zones to be demarcated with physical barriers to identify limits of working area.	Plan/personnel falling into Reservoir - drowning/equipment damage	Drawings	Z-5001	Adjacent to watercourse	Contractor	Edge demarcation/exclusion zones to be identified
C05		Concrete Pathway removal	Dust generation during demolition activities of the existing concrete pathway leading to harm	Construction Team	Works to be undertaken using mitigation measures to manage dust.	Dust Generation from Concrete Demolition	Drawings	Z-5001	Toxic	Contractor	Dust suppression through damping down and appropriate working methods. Contractor RAMS to be prepared and utilised.
C06		Large vehicles accessing site	Striking and damaging Grade I listed Stone Archway.	Construction team/Public/Assets	Highlighted in the Works Specification.	Height Restriction on Stone Archway	Drawings	Z-5000	Height restriction	Contractor	Traffic Management Plan, RAMS to be followed. Contractor to highlight risks and signpost with height limits. Measurements of structure undertaken to identify restrictions.
C07		Large vehicles accessing site	Striking and damaging Grade I listed Stone Archway.	Construction team/Public/Assets	Highlighted in the Works Specification.	Width restriction on Stone Archway	Drawings	Z-5000	Width restriction	Contractor	Traffic Management Plan, RAMS to be followed. Contractor to highlight risks and signpost with width limits. Measurements of structure undertaken to identify restrictions.
C08		Overhead services near site	Risk of a cable strike, fire and explosions and related injuries, burns, personal injury, death. Site down time	Construction team	PAS Type D service search undertaken and known services are on drawings	Overhead Services	Drawings	Z-5000	Overhead Cables	Contractor	Traffic Management Plan, RAMS to be followed. Contractor to highlight risks and demarcate/identify with goal posts any overhead services if identified on site.
C09		Breaking Ground - Striking Buried services	Risk of damaging the service during excavation. Death/injury/damage to plant and equipment.	Site Team	No excavation works designed over or close to the underground services. No known services in the main working area - PAS128 Type D service search undertaken and on drawings.	Striking Buried Services	Drawings	Z-5001	Underground services	Contractor	Contractor to review service plans and follow RAMS.
C10		Exposure to COSHH materials (i.e. concrete & pile sealant)	Health risks, skin irritation/burns/respiratory problems	Site Team	Materials utilised are standard products and as such should have COSHH certificates detailing appropriate use and methodologies for use.	Substance exposure and COSHH Handling	Drawings	Z-5001	General hazard	Contractor	Comply with product instructions, ensure COSHH certificates are available on site, tool box talks to ensure site team area aware of the risks and understand the correct usage and methodologies for usage.
ENVIRONMENT											
E01		Damage to Grade II Listed Horse Trough	Risk of damage to structure	Environment	A Heritage Impact Assessment has been undertaken to inform the project of the Heritage features	Damage to Grade II listed Horse Trough	Drawings, Heritage Impact Assessment, Works Specification	Z-5000	General hazard	Contractor	A pre- and post-condition assessment is required before works and a condition assessment required after. Any incidences to be reported to the Client.
E02		Damage to Stone Archway	Risk of damage to structure	Environment	A Heritage Impact Assessment has been undertaken to inform the project of the Heritage features	Damaged to Grade 1 listed Stone Archway	Drawings, Heritage Impact Assessment, Works Specification	Z-5000	General hazard	Contractor	A pre- and post-condition assessment is required before works and a condition assessment required after. Any incidences to be reported to the Client.
E03		Damage to retained trees	Risk of damage to trees via compression of root zone or plant catching trees	Environment	An Arboricultural Impact Assessment (AIA) has been completed with a Tree Protection Plan has been produced identifying the root protection zones and classification of trees that are remaining.	Damage to Retained Trees and Vegetation	Drawings, Arboricultural Impact Assessment	Z-5001	Important tree/hedgerow	Contractor	Contractor to avoid works in exclusion zones, comply with AIA.
E04		Damage to Iron Railing during removal	Risk of damage to structure	Environment	Structure location identified and discussed with Client and Contractor, Contractor to provide a method statement detailing the removal works for the Client and Heritage Advisor to approve	Damage to Iron Railings during removal, storage and re-installation	Drawings, Heritage Impact Assessment, Works Specification	Z-5001, Z-5000	General hazard	Contractor	Specific methodology for removal to be prepared and agreed with the Client and Heritage Advisor prior to the works. A pre- and post-condition assessment is required before works and a condition assessment required after. Any incidences to be reported to the Client.
E05		Ecological disturbance	Disturbance of Ecology	Environment	A Great Crested Newt Method Statement has been produced and the risk of encountering GCN is low at the time of year construction works is occurring and in the environment that is being affected.	Disturbance of Protected Species	Drawings, Great Crested Newt Precautionary Method Statement	Z-5001	General hazard	Contractor	Undertake regular inspections of working area, stop works if any GCN are encountered and advise Client and Designer.
OPERATION AND MAINTENANCE / CLEANING											
DECOMMISSIONING / DEMOLITION											