Houlihan & Co. (Excavations) Limited
OHSEQ Management System

Project		**Hare's Leap, Henham.**	
Activity		The works are part of the 278 works agreement between Highways and Bellway Homes for the new development under construction at Hare's Leap.	
No:	Doc. Ref	***M0615 – MS – 2501 – S278 Works***	Client: Bellway ***Homes***

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		Document reviewed by:	Emmet Fogarty	Signature:		Date of review:	26.06.2025
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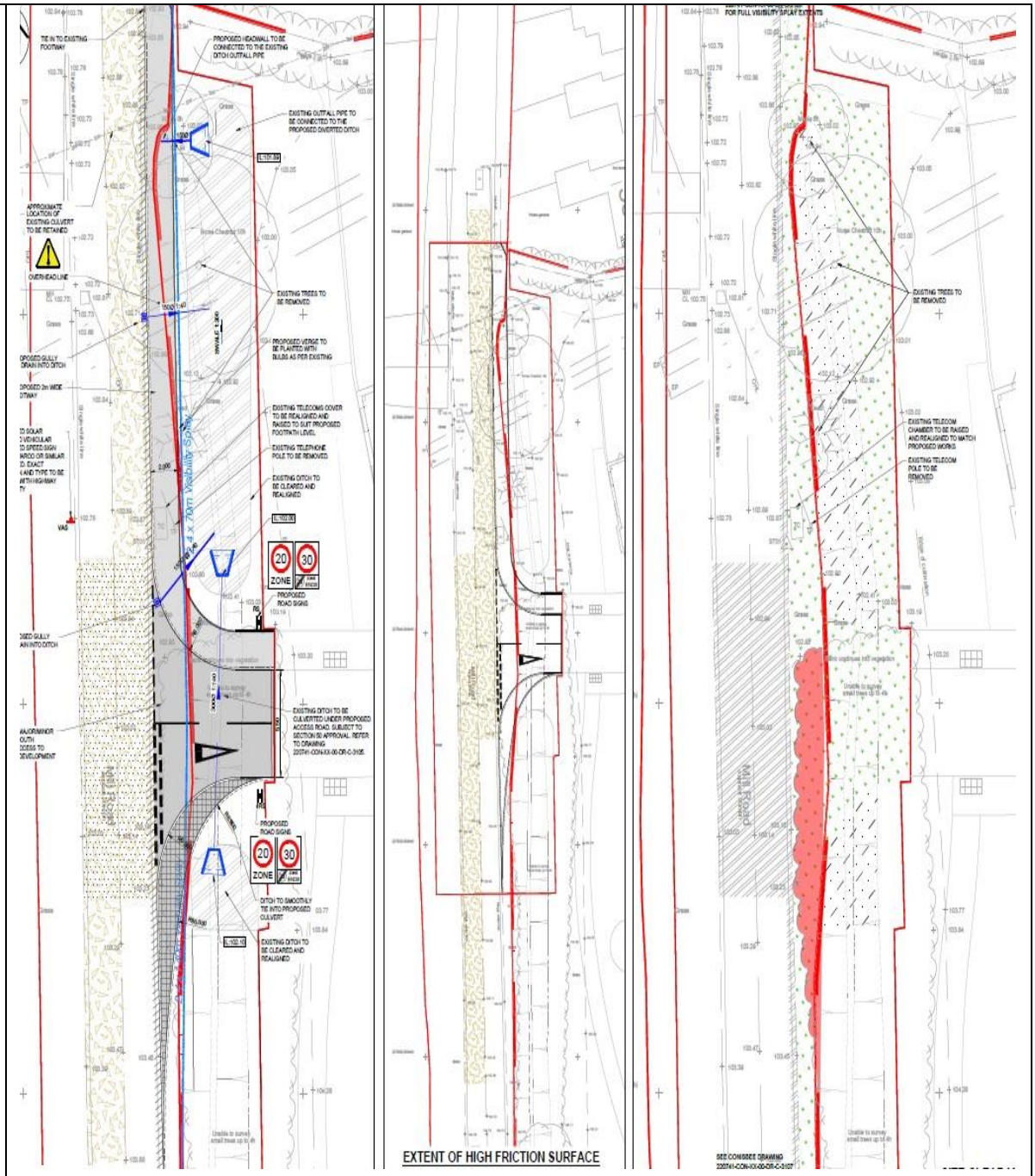
4.0	Site Description	The site is called Hare's Leap, located south of Henham, east of Mill Road, with a postcode CM22 9AF. The site currently comprises agricultural land. The site's northern boundary abuts the rear residential gardens of properties off Vernons Close. The east and south of the site is bounded by scrubland with further open fields beyond. Mill Road and vegetation bound the west of the site. Surrounding land uses included residential areas in the north, open fields to the east, fields and industrial units to the south, and further open fields to the west. Site access will be off Mill Road onto the temporary site access that is already constructed.



Restrictions and risks of developing this site are:

- There are Overhead Power Lines on site, and where the permanent site entrance is going to be constructed. OPHL cables and BT are on the verge of the carriageway, near the side. While on-site, the overhead powerline runs roughly east to west in the north of the Site.
- MP and LP gas mains in the proximity of works area

The construction vehicle route to the site is via M11 and A120. Vehicles will exit the M11 at junction 8 using the A120 Eastbound Lane. Vehicles will remain on A120 for approximately. Three kilometres and take the exit signed by Stansted Airport. Vehicles will then take Thremhall Avenue until they reach Coopers End roundabout. Then they will take Hall Road and turn right on Henham Road at the end. Traffic will continue until they reach the junction with the Mill Road. Vehicles will then turn left on Mill Road and proceed for 600m. The site entrance will be located on the right-hand side. The site entrance will be identified using signage reading Works Access. **The Mill Road will be closed at the junction with Henham Road during operation and will be used for access only to the construction site.**

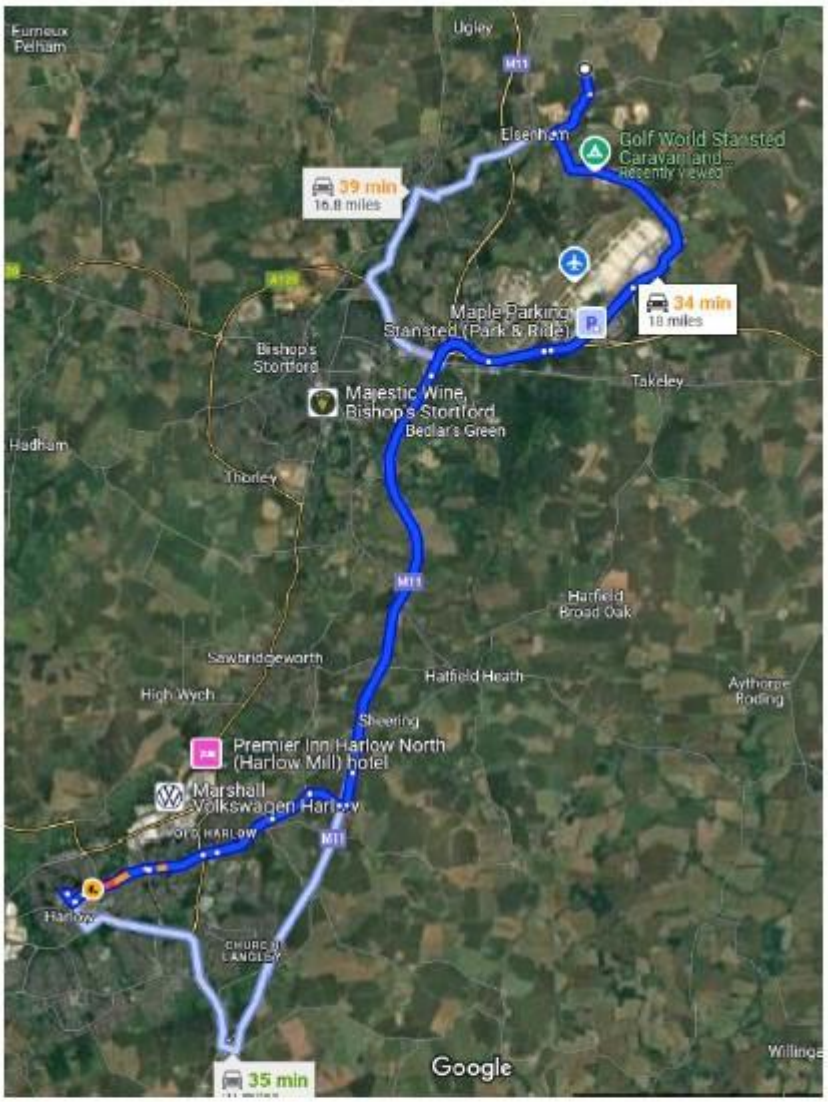
The construction plant will only be allowed to operate between the following hours:

• 8 am to 6 pm, Monday to Friday.

• 8 am to 1 pm Saturday (only if required as per the construction programme); and

• No work will be permitted on Sundays and Bank Holidays, unless a requirement is identified under a statutory, i.e. Energy provider

		& Highways team. No deliveries are permitted outside working hours unless there is a prior agreement with site management. Vehicles arriving outside regular hours will be turned away, and Houlihan & Co will not be responsible for any costs incurred. The PC Site Traffic Management Plan also indicates the location of entrance/exit gates, laydown areas and materials storage. Vehicles will not be allowed to be reversed out of the site access. **Route to Hospital**



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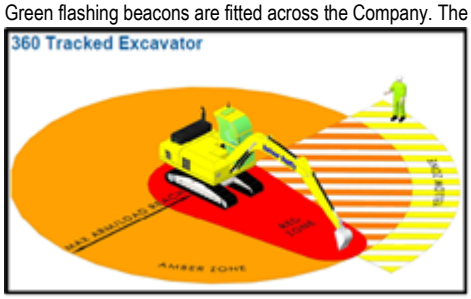
- Get on Thremhall Ave/A120 from Hall Rd
  11 min (5.9 mi)
- Take M11 and A1025 to First Ave in Harlow
  12 min (10.0 mi)
- Continue on First Ave to your destination
  6 min (2.1 mi)

Princess Alexandra Hospital
Hamstel Rd, Harlow CM20 1QX

5.0	Scope of Works	**A Hold point has been introduced to our safe system of works company-wide.** **"Any remedial works required due to non-conformity or not to quality assurance and require remedial works that are not part of this**

		approved safe system of works, shall be risk assessed and remedial documentation produced where required". **Installation and Connection of Site Foul Drainage to the System** **5.1** 278 Works **5.2** Forming the Bellmouth **5.3** Kerbs and edgings **5.4** Gullies, connecting drainage to headwalls **5.5** Erecting speed signs **External Works** **5.6** Tarmac Road.
6.0	Preparation	**Pre-start on site:** • An S278 permit must be agreed with Highways and put in place. • A road closure and TM to divert the traffic must be erected before we start any work. • Goal posts must be erected 6m away from the overhead powerlines. It will be restricted to a height of 3.5m. • The excavator with a 3.5m height restriction must be on site to carry out the work. • Existing services drawing must be available in the working area. • Everyone working on the highway must be trained in street work, and the PPE must comply with ECC Highways requirements. • All operatives must be inducted and sign this RAMS. These RAMS must be used in conjunction with Live Services RAMS • There is a medium-pressure gas main showing within the footprint of the work area. • Cadent must be notified of the works that will take place in the vicinity of their MP gas main. Works in the vicinity of the MP gas main will not be carried out without their approval. • Overheads in the vicinity of works • Electric , water and other services present in the vicinity of work areas. • Once tarmac has been taken off Vac-Ex, hand digging only to take place in the vicinity of MP. • Overhead powerlines in the proximity of works. • Only plant with restricter must work in the proximity of overheads powerlines • Relevant signage must be displayed as per GS6 **Pre-Start Each day :** • Every morning before each shift, no operative / sub-contractor must commence work without attending a daily briefing held by the site work supervisor at the site compound no later than 0730hrs, where the day's task/s and associated risk/s will be addressed, planned and possibly challenged if operatives have any concern. • Toolbox talks must be undertaken after the daily briefing with the operatives who are about to engage in high-risk work, such as: working underneath powerlines, excavating, high-risk live services / deep excavation activities/work in the public highway / confined space work, etc. • Check if there are any changes to the traffic management on site. • Carry out a CAT scan survey in the proposed excavation areas routinely & review existing utility plans. • Ensure there are no other trades or public works along the line of the proposed works. • Check that all Drawings are up to date and are the latest issue. • Cordon off the area of work from other personnel and traffic not involved in the work. • Ensure that the area of work is closed and that no access is permitted to the public. • Carry out Topographical Survey: Agree to levels with client. • A task-specific briefing will be carried out and signed off by the team or teams involved. If the work is on or near live services, the prestart procedure will also be followed.
7.0	Access & Egress	• Construction vehicles would access the site off Mill Road. A temporary site entrance will be used until the permanent one has been constructed. • All Lorries and Traffic Movement will be banked through the gates and around the site to the area of discharge /loading via a banksman, who will also be responsible for maintaining a mud-free access road. • All deliveries will be stocked on site.
8.0	Supervision, Responsibilities and Site Organisation	• R. Gatward – Site Supervisor: 07880501399 • J. Barrowman – Site Supervisor: 07516754153 • L. Foster – Site Engineer: • E. Fogarty – Contract Manager: 07871114848 • R. Carroll - Construction Director: 07884490755 • A. Selita- H&S advisor: 07507430655 • E. Fogarty - Temporary Works Co-ordinator: • J. Barrowman - Temporary Works supervisor • J. Barrowman – First Aider - 07516754153

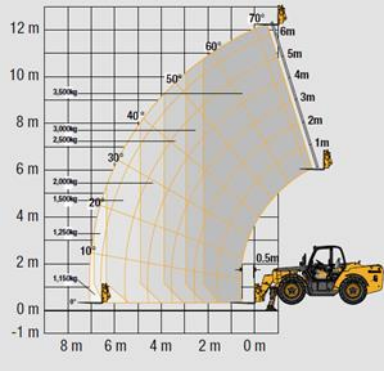
9.0	Labour, management resources & training	• Sufficient time and resources will be available to undertake the work. The works described will be undertaken by one gang of 4-5 operatives under the supervision of a competent Supervisor and Site Engineer, and the Contracts Manager, Emmet Fogarty, will visit the site as often as required. • The Contracts Manager, Emmet Fogarty, will report to our Construction Director, Richard Carroll, who will visit the site regularly. The Health and Safety Advisor, Alex Salmon, will visit twice monthly to monitor compliance with the Method Statement and risk assessments and produce a monthly safety report sent to Bellway Homes. He will also carry out investigations of all site accidents and near misses. • The site supervisor will ensure the work area is secure after every shift. They will inspect open excavations before work starts and record results. There is no site security. • All our operatives have undertaken safety training within the last 2 years. Our Managers and Directors have also attended Safety Courses. All personnel have a health and safety training schedule to undertake over the next 2 years to maintain our high standards. • Machine operators are all certificated to CITB standards, and copies of certification are readily available from the Head Office. • Our entire workforce has presently achieved or is undergoing on-site assessment via the CITB experienced worker route. This leads to National Vocational Qualifications in General Construction and Plant Operations for all relevant plant categories. Our whole workforce will then be accredited under the Construction Skills Certification Scheme. • All plant operators will be either CPCS or NPORS accredited and hold an NVQ in the relevant Plant Operations category with lifting operations endorsement/ NVQ in lifting with an excavator. Please note that the NVQ is the senior qualification and is regarded as such by the HSE. The card schemes are regarded as little more than passport schemes, though the underpinning knowledge content is increasing annually. • If drivers hire machines, these qualifications will be required of the incoming drivers. • All banksman will be either NPORS trained on N403 – Vehicle Marshall, or L2 NVQ certified in Plant Operations (Construction) – Movement Guide Marshall A/506/4668 • Note- Regardless of qualification, all plant operators must be formally authorised as competent by the Houlihan site supervisor on the H&Co plant operator authorisation register. • All personnel on site will have CSCS/ CPCS/ NPORS accreditation as relevant. • Our site induction will include a brief questionnaire about health problems, and the data will be held off-site securely—NI number and address. This will be separate from new starter employment details and is a first scan for signs of modern slavery.
10.0	Major Plant & Minor Plant/ Equipment	Major Plant (Typically): 360° 8t excavator (height restricted at 3.5m) 6t/9t/10t forward tipping dumper 80/120/135 Ride on roller JCB 535 -125 Telehandler *(Refer to H&Co's site safety OHSEQ notice board for current records & registers)* Note: All Weekly Check Sheets for 360s are carried out by the machine operator and will always be available within the cab for inspection, including the most recent through examination certificate; copies are also kept in H&Co's site office (OHSEQ board). Excavators will have to monitor cameras fixed in the rear of the machine for all-around vision. Any machine that is not fixed with a camera and is not carrying out bulk earthworks will be accompanied by a Banksman. A Major Plant that does not have cameras fitted will achieve all-around vision using mirrors. We will continue to promote the "thumbs up" campaign. Green flashing beacons are fitted across the Company. The new plant will come equipped.  Banksman • The banksman must be situated in a safe position and preferably outside the operational area of the machine's fully extended boom, dipper and attachment. • The banksman must face the operator when signalling and be clearly visible to them. • The banksman must always maintain a clear line of sight with the excavator operator. • The banksman must have direct sight of the load and lifting equipment at all times during the lifting operation and have adequate visibility of the load path. • The communication between the operator and banksman must be continuous throughout the duration of the lifting operation Plant Operator/ 360° Machine Driver • The operator must not respond to any hand signals (or other communication) that are not clearly understood and should seek additional clarification. • Hand signals and any additional voice instructions should only be given by the identified banksman – except for an emergency stop, which can be given by any person at any time if a perilous circumstance is spotted. • If other instructions are required (other than the agreed hand signals), then the operation should be stopped. Where there is any concern about the safety of, or the need to halt, the operation, all movement (and therefore, the lifting and any operation) should be stopped until the issue has

been resolved to the mutual satisfaction of both the operator and the banksman. Comprehensive

Telescopic Handler JCB 535-125

JCB 525-125 will be utilised with the fork attachment to move Heras panels and on-site materials. The Telescopic handler operator will have the relevant NPORS/CPCS endorsements and be competent to operate the plant. The telescopic handler operator will be briefed on his duties and made aware of the 4.5m heigh restriction set on site. A safety clearance of 5.3M will be achieved at all times.

- 3500kg Maximum lift capacity with stabiliser extended.
- 8.06m maximum forward reach with stabilisers extended
- To maintain stability, the telehandler should be used on firm level ground that resists sinking of the wheels or stabilisers.
- Telehandler should be stationary with the brakes applied lifting normal loads.
- A marshaller to accompany all telescopic handler movements.
- Reversing is to be kept at a minimum with the marshaller present, and turning points are to be used when applicable.
- The operator should follow the manufacturer's instructions for travelling on slopes and inclines. It is essential that they do not attempt to climb, descend, or cross inclines in excess of the manufacturer's limiting values, as this significantly increases the likelihood of overturning.
- The operator will complete daily checks every morning. If any issues are observed, do not operate the telescopic handler. Please notify the site supervisor and do not operate until remedial action has been taken.
- When travelling with a load, the load should point up-slope and tilted back, regardless of the direction of travel. This will keep the load from shifting and falling off the forks.
- When travelling without a load, the forks should point down-slope, regardless of the direction of travel. This will improve stability, traction, and adhesion and apply regardless of the direction of travel.
- Any loads should be strapped and properly secured on the grid of the forks.



Minor Plant & Equipment (Typically):

- Block Grab
- Concrete Skip/Bucket
- Excavation Support Equipment
- Setting out Instruments
- Compressor & associated pneumatic tools
- Heras Fence Panels / Avalon barrier
- Shovels Inc. insulated
- Hand Tools
- Small electrical tools
- Kerb lifter/ laying dolly
- Block barrow
- Pipe Lifter
- Rammax
- Goal Posts

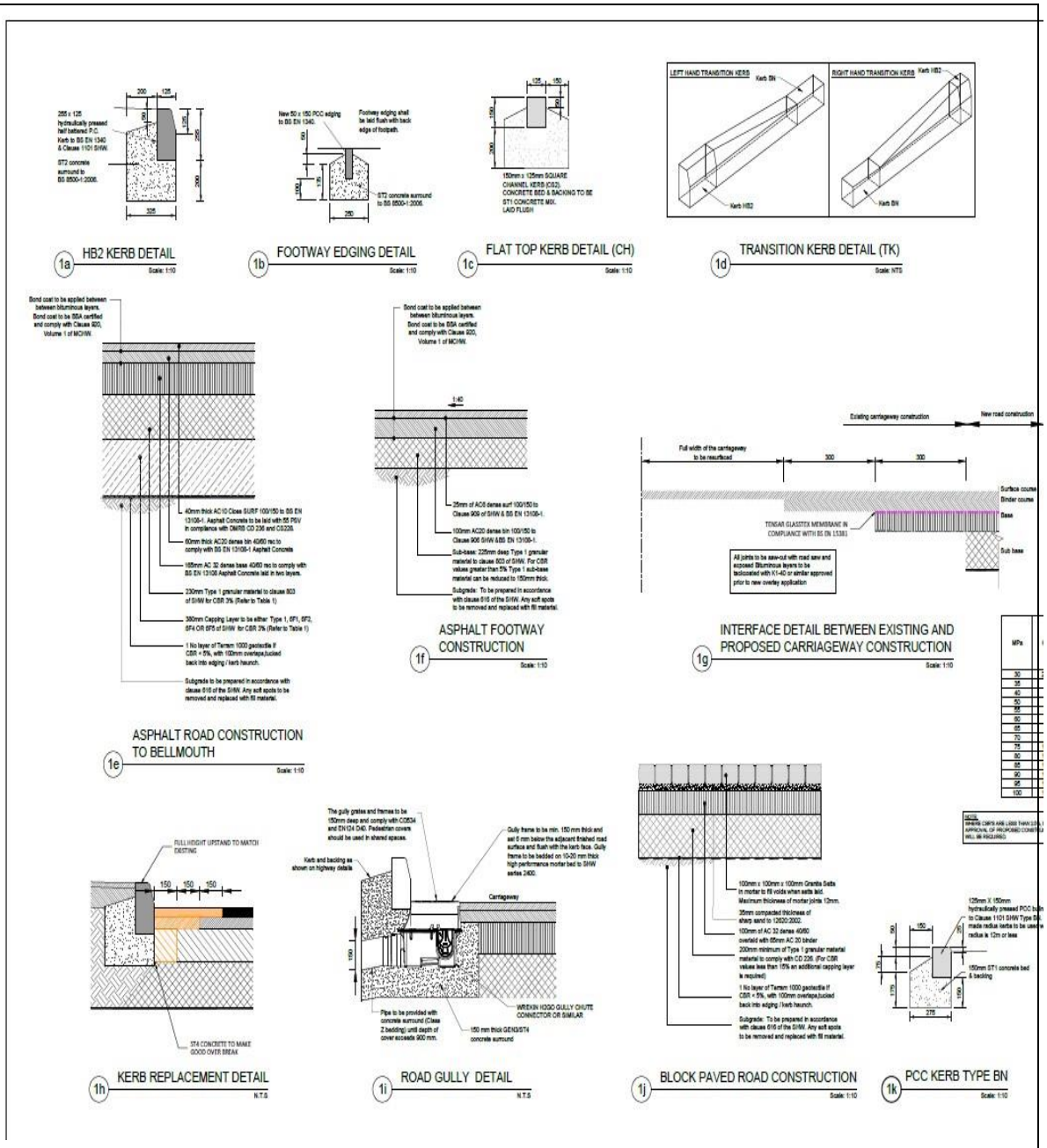
Minor plant will be visually checked prior to use. Any defect or failure noted during pre-use checks will be reported immediately to the site supervisor. The site supervisor will remove the equipment from use as "Out of Order/service" and report it to the Plant Department for repair or replacement.

11.0	Plant/ Materials and vehicle preparation and delivery	Unless it is reasonably practicable to do so, the following safe systems of work must be followed at all times. • The Low Loader Driver will sign in at the site entrance or Site Office before delivering the plant. • Plant deliveries are not to be made outside site working hours unless previously agreed upon with the Site Manager. • Lone Working is not permitted, and deliveries are not to be made unless a staff member is present on site. • Plant deliveries are not to be made in areas without adequate lighting. • The vehicle collecting the plant shall be a vehicle designed for the collection, transportation and delivery of mobile plant, be it wheeled or tracked. Low Loader. • The vehicle must have a suitable means of getting the plant onto the trailer and will include designed loading ramps. • The Low Loader driver must be a competent person trained in the loading/unloading of all categories of plant from the lorry and for its security during transport. • All loading/unloading operations shall be supervised by a competent person. The Low Loader driver shall act as the competent person. • All plant shall be loaded/unloaded onto the low loader by a competent plant operator only and directed by the lorry driver only. No other person shall undertake these instructions. The low-loader driver can unload the plant, provided he is qualified to do so. • During the plant loading/loading operations, all persons other than the plant operator and lorry driver shall stand away from the loading area. • During access to the lorry platform, if there is a risk of personal injury from a fall, a means of preventing a person from falling off needs to be installed, or the use of a safety harness must be implemented. All such persons shall be trained in the risk of falling off the lorry platform and how to control those risks. Where clients provide access platforms/podiums these must be used. • Prior to moving all loaded plant, it shall be adequately secured by the appropriate means, such as chains, etc., by the low-loaded driver only or assisted by others working under his instructions • The driver shall determine the route and final resting place of any plant to be loaded/offloaded before the activity commences. • The driver shall also ensure the plant/materials loading/unloading route is clear of all hazards, obstructions, restrictions, etc., if the operations commence. • All suppliers have been asked to follow industry guidelines regarding working at height on their vehicles. A solution for each load will have been determined before the load is dispatched, and loads that cannot be safely unloaded will be turned away. • Loads, depending on banding or shrink wrapping, must be strapped to include each row and, in addition, strapped twice perpendicular to the straps on each row. Note: no individual must enter the bed of a lorry without edge protection.

12.0	Method of work 278 Works Forming Bellmouth	**Pre–start the work.** Before Starting work. • Complete the appropriate Houlihan Site Procedure, "When Requested To Work On Near Live Services", paperwork. • Make sure the operatives have received Houlihan's "Digging on/or round live services" and they have signed to the Designated RAMS for this procedure. • The site supervisor NRSWA must be on site at all times to supervise the dig team. The dig supervisor must never leave the dig area. If he is not present, the operation must stop. • The team must receive the briefing for the task before the start of the work. • Complete an appropriate Risk Assessment safety check. • Wear the appropriate Arc Flash Protective Suit that has been issued, as well as the protective face shield and gauntlets. Specifications of the protective clothing are available in the Houlihans site office. • Check the service drawings to determine the number of cables, voltage rating, and physical dimensions of the cable(s). When Houlihan arrived on site, CAT and Genny sweeps of the perimeter boundary must have been carried out. Any services identified, tracked, traced, and marked with service indicators must have been recorded in the existing services drawing. • Use a cable avoidance tool (C.A.T. & Transmitter) to trace the cables' line and mark their route on the ground. The supervisor or Engineer must carry out this task only. The EZiCAT i750, with depth locator, memory, GPS, and Bluetooth, will be used at minimum. Take a copy of the permit and armband issued with you to the dig area. • The foreman will consult with the client and agree on the areas for the works to commence. • Signage and barriers will be erected to segregate the works area from traffic and other members of the public due to works being carried out on the road. • H & Co to commence the work starting with a detailed survey of the area for live cables and services using a **C**able **A**voidance **T**ool and hand excavation methods to ascertain the actual line and level of underground apparatus that could be encountered, mark and plot all live services encountered on a relevant drawing. • Once the tarmac has been removed only Vacex to be utilized: Medium-pressure gas within the Bellmouth area and other services in the proximity. **Working near overhead powerlines** Swag and sway assessment Exclusion zone clearance around the conductor 3m, Heras fencing panels secured by double clipping along the whole length of overheads. will be created for the National Grid Overhead powerlines. Working under the line or within the horizontal clearance 3m. Driving under the line only 3m The minimum horizontal clearance is 6m. Warning signage will be erected on the fence warning the works and the public.

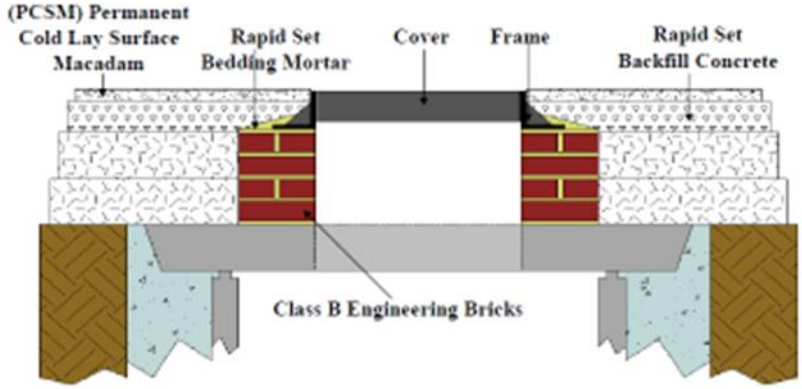
		• Crossing points will be established for the site traffic. Crossing points will not be wider than 10m, and they will have a goal post on each side of the crossing as well as Heras panels on either site. Their height will be determined by the height of the overhead powerline above the existing ground level. • Goal post will be erected at the 3m height that it maintains the exclusion area around the powerline. • **Any plant or equipment used to carry out works within this easement will be fitted with a 3.m height restriction so as not to intrude on the designated exclusion zone around cables.** • All personnel will be briefed on the risk assessment of the safe method statement and control measures on how to carry the work safely. Supervisors will brief the teams and monitor that all control measures are rigorously applied. . Permit to work under powerlines must be approved for any work within the easement. • Travelers used for rotating laser on the Overhead Powerlines Easement must never be longer than 3m, which is a set height restriction for any plant working within the Overhead Powerlines Easement. **Bellmouth Formation** • Mark the area to be excavated as per bellmouth design – refer to drawings: 220741-CON-XX-00-DR-C-3102/3103/3104 • The excavated material will be removed directly in tipper trucks to avoid double handling and stored on site. If the material is suitable for reuse, stockpiles will be required – All stockpiles must be managed to allow safe access for dumpers with shallow gradient ramps and bunded sides. • Excavate the road to formation level using traveler and profile boards, as set out by the site engineer. If possible, excavations should be dug from reduced levels and backfilled on the same day, thus avoiding any risks that open excavations would incur. • Offer formation to the client for approval: HOLD POINT • One person will inspect the formation to confirm uniformity and compliance with the specifications. • Lay Formation subject to CBR-s. • **Refer to drawings for material type and depth of each layer**

13.0	Method of work Road Reinstatement	**Road Formation** • Refer to relevant drawings provided • Subgrade to be prepared in accordance with clause 616 of the SHW. Any soft spots to be removed and replaced with fill material. • 1 No layer of Terram 1000 geotextile if CBR < 5%, with 100mm overlaps,tucked back into edging / kerb haunch. • 380mm Capping Layer to be either Type 1, 6F1, 6F2, 6F4 OR 6F5 of SHW for CBR 3% (Refer to Table 1) • 230mm Type 1 granular material to clause 803 of SHW for CBR 3% (Refer to Table 1) • 165mm AC 32 dense base 40/60 rec to comply with BS EN 13108 Asphalt Concrete laid in two layers. • 60mm thick AC20 dense bin 40/60 rec to comply with BS EN 13108-1 Asphalt Concrete • 40mm thick AC10 Close SURF 100/150 to BS EN 13108-1. Asphalt Concrete to be laid with 55 PSV in compliance with DMRB CD 236 and CS228.



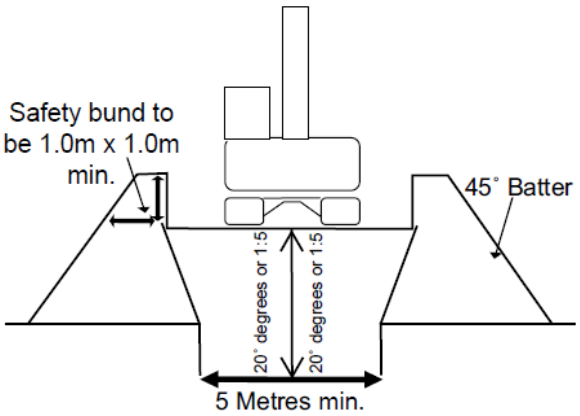
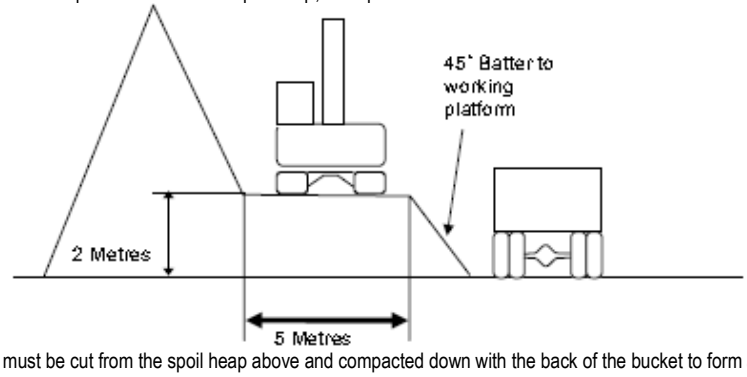
Kerb / Edging Installation

- New kerb and edging lines will be set out using non-penetrating cantilevered 'pin-safe' with "top of kerb/ edging" levels marked.
- The excavator will then conduct the minor excavations to provide suitable depth for kerb /edging and concrete bedding.
- Kerbs will be loaded out by the tracked excavator using lifting strops or, alternatively, forklift attachment, and each stack will be deposited at a suitable position along the kerb line.
- Kerbs will then be installed or deposited from the pallet using the Probst kerb laying dolly, as close to the proposed kerb line as possible.

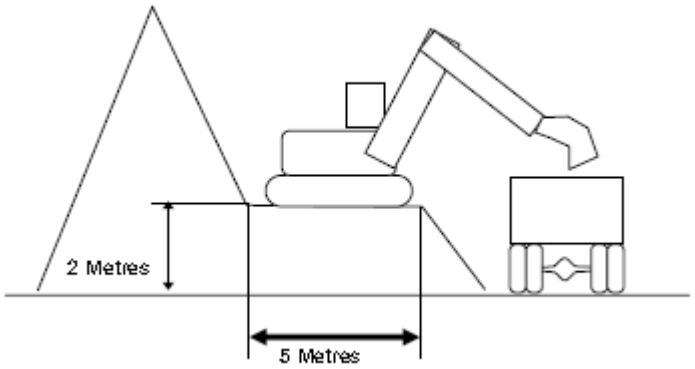
		• The excavator bucket will distribute the concrete to the line. • Concrete will be manually levelled under the string lines and will be left approx. 20mm high to allow for bedding of the kerb. • For Kerbs that aren't able to be finally placed by the Probst kerb dolly, two skilled groundworkers will use the 'bicycle handle type' kerb lifter and finally lift them into their proposed position Note: under no circumstance should anybody use the 'bicycle type' handle lifter as their primary laying process; it should only be used where the Probst kerb dolly is limited in use. Once kerbs have been placed on the concrete bed and aligned/levelled, they will be levelled using a pick. **Raise Ironworks.** Enclose the work area with half-height barriers. Ch 8 signage will be used to direct other on-site trades away from the area of work and the access and egress routes to the area of work. Using a Petrol Saw with a water suppression pressurised pump, the retaining material will be scored, broken, and transported to a stockpile for reuse or removal. The engineer will give the finished road level and camber, and operatives will lay the ironworks at these levels. Engineering brick will be laid on a bed of mortar, a minimum of 2 courses and not more than four courses. The cover will be laid to line and level and surrounded by concrete to the underside of the tarmac level. The concrete will be allowed to cure, and tarmac will be called to the site, laid, levelled and compacted.  **Final Wearing Course Road Surfacing** • The sacrificial kerbs and existing bedding will be removed; all new kerbs will be bedded on a new bed. • The road will receive a final clean in preparation for wearing the course tarmacadam. • An appointed specialist contractor will then undertake the required tarmac resurfacing works.

14.0	Method of work Works on / near Underground Services	• Pre-tender information and Construction Phase Plan will be used and considered in light of additional information from utilities' plan drawings, section drawings from utility companies recording depth of services and commissioned ground probing radar surveys as necessary. • Any on-site service disconnections should be confirmed by the Client prior to the commencement of construction. • The assumption that live working can be avoided as the default position is set out above, and a full justification of any live working must be set out before this is considered. A method statement for live working will be required as live working is not considered to be properly controlled by any permit-to-work system. HSG47, rev. Feb.2014, states, "Where new services such as electrical or gas supplies are being installed, it may be possible to reduce risks by not installing or commissioning them until other groundworks and work on the installation have been completed. This should be considered early in the design process to allow the works to be sequenced accordingly." • Permit to Dig will be completed prior to excavating on/near underground services, and this will be accompanied by existing and as-built service drawings. • Team working on/near underground services will be trained on "Digging on/ near Underground Services" Houlihan's Procedures. It will be briefed on the task, provided with existing and/or as-built drawings, and will sign a Permit to Dig before starting any work. NO MECHANICAL DIGGING WITHIN 500MM OF A KNOWN SERVICE. General site RAMS to be read in conjunction with Houlihans' working on or near live services" procedures. • A cable avoidance tool in conjunction with a transmitter will be used by a competent person prior to the commencement and during any work to identify all services and ducts. The intention will be to bring up-to-date records of existing services and supplement these records where they are deficient. Services found will be clearly identified to avoid the risk of damage, and where necessary, we will hand dig around them to expose the services prior to full excavation. Hand digging will require the use of air picks to expose services, starting immediately under the hardcover. Record drawings will be red-lined to show the most up-to-date information, held available on site for consultation, and details will be communicated at inductions, toolbox talks, and in a careful briefing on site prior to excavation. • As each service is exposed, it will be photographed and sketched with offset notes to inform future re-visits. • Backfill will be with self-compacting granular material to a level where compaction is acceptable and then in a suitable material, including selected as dug, which must be possible to excavate with the air pick in future: i.e. dense, cohesive material like clay must NOT be used. If suitable backfill material is unavailable, the excavation should not proceed. • Warning tape will always be placed on top of the sand backfill, and if it has not been provided by the utility, we will have rolls to use. If physical protection is specified, then the backfill will not be completed until the protection is in place. A 1-tonne bag of sand will be placed at each

		planned service connection. Red debris netting will be placed over the sand backfill as an additional warning. • Great care will be taken to establish what is meant by "terminations" or "diversions" and any assertion that there are "no" services will be treated with caution. • Techniques using ground penetrating radar will be considered where information is clearly deficient and services are congested. • We will comply with the Principal Contractor's Permit to Dig the system. We will additionally follow HSE advice that a permit-to-work system cannot adequately control works on or near live services. We will provide a full method statement for the work and brief it to our competent team.

15.0	Method of work Spoil Heaps	There will be a need to stockpile different categories of material separately, whether they eventually go to landfills or can be recycled or reused. • Stockpiles will be constructed by the dumper tipping material at ground level for an excavator to place as a graded pile. The excavator must grade off the sides to a compacted batter, throw off rainwater, and dress the top. • No Spoil heap must be constructed within Overhead Powerlines Easements. • Dumpers must not tip on uneven ground: all tipping operations must be undertaken on level firm ground. • The sides and end of the spoil heap must be bunded (at least 1.0m(H)1.0m(W)) • The stockpile will be monitored for slippage and damped down if any dust becomes airborne. • The angle of repose will be estimated for different materials, with 45° an accepted average unless there is evidence of slippage. • Stockpiles of topsoil will be no higher than 2.0m as this would prevent aerobic action in the heap and render the topsoil sterile. • Notify the H&S department to arrange an inspection within 24 hours of the former spoil heap. • We will include spoil heaps in our temporary works register, but the detailed construction of the spoil heap will be determined from the material it consists of. Note: any characterisation of material site won is an approximation or average, and a 45° batter has been a proven average, approximate solution. There is no way of completely removing uncertainty from creating spoil heaps, but the experience of our site supervisors practically succeeds. We will provide details in our temporary works register, with risk and category, before creating a stockpile • If there is a need to place contaminated material in a spoil heap, awaiting the results of tests or grading, for example, it will be placed on thick polythene on hard standing while it remains available. The heap will be graded, sealed and polythene placed over and weighted down. • The Company procedure for forming stockpiles will accompany this MS. **Standard detail below:**  **Spoil Heap Removal** • A single excavator will be used for the spoil heap removal. • The excavator will remove spoil from the heap, dragging it down from higher levels to the loading area. • The excavator will work from a platform cut into the spoil heap, as depicted in the sketch below.  • The working platform must be cut from the spoil heap above and compacted down with the back of the bucket to form a secure and stable working area. • The platform must not be higher than two metres and must be a minimum of 5 metres wide. • The machine must not work closer than a metre from the edge of the platform. • The front of the platform must be battered back at a 45-degree angle at all times.

- The working platform must extend the length of the spoil heap face that is being cut away with an access ramp onto the platform at both ends.
- When tracking the excavator, the operator must always face the direction of travel. When slewing around to face the direction of travel, he must be mindful of any lorries near his position.
- The loading area will be a restricted area, with no pedestrians allowed into this area. All drivers are to stay in their vehicles at all times while waiting to be loaded.
- While loading the vehicles, the excavator will face the vehicles with the tracks pointing towards them. This will increase the stability and the driver will have better visibility while loading the vehicles.



- This process will continue until the spoil heaps are removed to existing ground levels.
- The machine driver will monitor and supervise all vehicular movements. He will signal when the next lorry is to come forward into the loading area. The loading area is large enough for the lorries to turn and reverse into position if necessary.
- There are no areas with a restricted view, and as only one lorry will be reversing at a time, a banksman is not required at this point.
- Where required and as necessary, continual watering down procedures will be maintained throughout the progress of the work contributing to the suppression of dust migration.

16.0 Method of work

Lifting with excavators

All lifting operations on site should be planned to ensure that they can be carried out safely and that all foreseeable risks have been taken into account.

Poor planning is one of the major causes of accidents arising from using excavators for lifting operations.

LOLER requires that the siting, setting up, and use of an excavator for lifting operations are carefully planned to carry out these activities safely and efficiently. The responsibility for planning lifting operations lies with the employer who is undertaking the task. The employer should ensure that they identify one person with sufficient training, practical and theoretical knowledge, and experience who should be appointed to be responsible for planning and supervising the tasks. This person is known as the "Appointed Person" to BS 7121. – Alban Shehu 07584809221.

To enable lifts to be planned, supervised and carried out effectively, three categories of lifts are detailed below. The category into which a particular lift will fall depends on assessing the hazards associated with the environment in which the lift is to be carried out and those associated with the load and lifting equipment. As can be seen from the table below, increases in either or both environmental or load complexity (the "Complexity Index") will lead to the lift being allocated a higher category. Having identified the hazards associated with a particular lift, a hierarchy of control measures should be applied to eliminate or control those hazards.

Lift categories (Basic / Intermediate / Complex).

Environmental complexity (E)			
3	*Complex*	*Complex*	*Complex*
2	*Intermediate*	*Intermediate*	*Complex*
1	*Basic*	*Intermediate*	*Complex*
	1	2	3

Load complexity (L)

Complexity variables and constants	Lift category		
	Basic	Intermediate	Complex
Increasing environmental complexity	The excavator operator has clear sight of the load path and the load is to be placed on the ground.	The load is to be placed over an obstruction such that the excavator operator might not have clear sight of the landing area from the control position.	The load is to be placed in a trench behind a bund, without line of sight, and with proximity hazards, such as scaffolding or overhead power lines.
Constant low load complexity	A load of known weight with designated top lifting points and central centre of gravity. The load does not contain fluids, is not fragile and is inherently stable when landed.	A load of known weight with designated top lifting points and central centre of gravity. The load does not contain fluids, is not fragile and is inherently stable when landed.	A load of known weight with designated top lifting points and central centre of gravity. The load does not contain fluids, is not fragile and is inherently stable when landed.
	Complexity Index E1:L1	Complexity Index E2:L1	Complexity Index E3:L1
Increasing load complexity	A load of known weight with designated top lifting points and central centre of gravity. The load does not contain fluids, is not fragile and is inherently stable when landed.	A load of estimated weight with an estimated centre of gravity and without designated lifting points. The load does not contain fluids, is not fragile and is inherently stable when landed.	A load of estimated weight and centre of gravity and without designated lifting points. The load contains fluids, is fragile and is not stable when landed.
Constant low environmental capacity	The excavator operator has clear sight of the load path and the load is lifted to and from the ground	The excavator operator has clear sight of the load path and the load is lifted to and from the ground	The excavator operator has clear sight of the load path and the load is lifted to and from the ground
	Complexity Index E1:L1	Complexity Index E1:L2	Complexity Index E1:L3

** Only basic lifts can be undertaken in absence of a formal lift plan produced by the Company's appointed person, providing the criteria below is met.*

Planning, Supervisory and Operating Personnel

The Lifting Team

All lifting operations should be carried out by the lifting team. The team will consist of persons carrying out the following roles:

- Appointed Person
- Lift Supervisor

- Excavator operator
- Slinger/Signaller

The complexity and size of the job will determine the exact team structure but all roles must be allocated and the duties discharged.

Roles and Responsibilities

Appointed Person

- Planning the lifting operation for Intermediate & complex tasks; selection of the lifting equipment and lifting accessories; instruction and supervision; and consultation with other responsible bodies to ensure effective collaboration as is necessary for the work to be undertaken safely.
- Ensuring that the planning process outcomes are recorded in a lift plan.
- Ensuring that adequate pre-operational checks, intermediate inspections, maintenance and thorough examination of the equipment have been carried out.
- Ensuring that there is an effective procedure for reporting defects and incidents and for taking any necessary corrective action.
- Taking responsibility for the organisation and control of the lifting operation.
- Ensuring that the Lift Supervisor and other lifting team members are competent to carry out their roles and are fully briefed on the lift plan's contents, scope and limits.
- Be familiar with the relevant parts of the project's health and safety plan, where the lifting operation is being carried out on a site where the Construction (Design and Management) Regulations 2015 apply.
- Liaising effectively with the site temporary works coordinator regarding relevant issues such as ground stability.

NOTE: The Appointed Person should have the required understanding and experience in planning lifting operations with excavators.

Lift Supervisor

- All lifting operations should be supervised by a Lift Supervisor. For basic lifts, this role may be combined with that of slinger signaller, whilst for more complex lifts, a separate person will be required.

NOTE: The degree of supervision required will depend on the category of lift and the outcomes of the risk assessment

- The Lift Supervisor should direct and supervise the lifting operation, ensuring that it is carried out in accordance with the lift plan. The Lift Supervisor should be competent, suitably trained, and have sufficient experience to carry out all relevant duties.

NOTE: Competence requirements for self-supervision might differ from those for supervising others.

- The Lift Supervisor should also have sufficient authority to stop the lifting operation if they consider it dangerous to proceed.

NOTE: The Appointed Person may decide to undertake the Lift Supervisor's duties or delegate these to another person with appropriate expertise for the lifting operation.

Excavator Operator

- The excavator operator should be responsible for the correct operation of the excavator in accordance with the manufacturer's instructions and within the safe system of work, as detailed in the lift plan.
- The excavator operator should respond only to the signals from the slinger/ signaller, who should be clearly identified.
- The excavator operator should:
- Have the necessary competence (skills, knowledge and experience) to carry out lifting operations.
- Be familiar with the excavator to be operated. Check that it is in good condition and that it has sufficient capacity to carry out the lift safely.
- Ensure that they do not wear loose clothing, which could snag on the controls and lead to unintended movement.
- Ensure, before the lifting operation starts, that the bucket is removed from the machine if the lifting attachment (hook) is fitted to the quick hitch or dipper end.
- Ensure that lifting operations are only carried out with the excavator in lifting mode and that the overload warning device or rated capacity indicator/limiter is selected.
- Ensure that they have been briefed on and understand the lift plan (for Intermediate & Complex lifts).
- Identify the other members of the lifting team and ensure that they are clear of the excavator's arc before operating the machine.
- Check that the area where the excavator is to be positioned for the lifting operation is suitable for the task, the landing area is suitable to take the load, the area is segregated from the rest of the site and that only those personnel directly involved in the lift are within the segregated area.
- Ensure that the pre-use checks of the lifting accessories to be used have been carried out and that the lifting accessories have been correctly attached to the excavator's lifting attachment.
- Ensure that the excavator's control isolator (dead man) is selected when the lifting accessories and load are being attached to avoid unintended movement.
- Only follow signals from the designated slinger-signaller during the lifting operation, using the pre-arranged system of signals.

NOTE: It is essential that the excavator operator responds immediately to an emergency stop signal from any person.

Slinger-signaller

The slinger-signaller should be properly trained in all aspects of slinging loads and signalling and be authorised by the Appointed Person – for intermediate and complex tasks.

The slinger-signaller should be responsible for:

- Carrying out pre-use and post-use checks of lifting accessories.
- Attaching and detaching the load to and from the excavator load-lifting attachment.
- Using the correct lifting accessories and other equipment in accordance with the lift plan (for intermediate & complex tasks);
- Initiating and directing the safe movement of the excavator using a pre-arranged system of signals. If there is more than one slinger-signaller, only one of them should have this responsibility at any one time, depending on their position relative to the excavator.
- Guiding movements of the excavator during pick and carry lifting operations.
- Ensuring that they are readily identifiable as the designated Slinger/Signaller by the excavator operator.

		• Movement of the excavator includes pick and carry duties. All pick and carry duties will be continuously controlled by a banksman. NOTE: Where continuity of signalling is required and this slinger-signaller is not visible to the excavator operator, another slinger-signaller or signaller will be necessary to relay signals to the excavator operator. Alternatively, other audio or visual methods may be used. A typical example of audio methods used is where a Slinger/Signaller using a radio continuously instructs the operator to lower a load, e.g. by saying "Lower…lower…lower...", and failure of this continuous instruction from the slinger-signaller indicates that the operator needs to halt all excavator movements. Lift plans will be in the excavator cabs.

17.0	Method of work Work in Confined Spaces	We will avoid the creation of confined spaces where possible; for example, benching will be done when the first manhole ring is placed. • A confined space is defined by the presence or absence of prescribed risks. It is possible but unusual for these risks to be present at excavations for foundations or drainage or for these risks to be reasonably foreseeable. The most common confined space encountered is a manhole connected to a live sewer. All such manholes encountered on this site will be treated as confined spaces. • Prior to entering any existing manhole, gas monitoring equipment (which will be kept on-site at all times) will be used to determine that it is safe to enter the manhole. • The gas monitor will be in use all the time operatives are inside any existing manholes or excavations where it is reasonably foreseeable that the confined space procedures may be necessary. This can be determined by site investigation reports, olfactory smell or visual contaminants, or recommended as a precautionary measure by geotechnical consultants. NOTE: This will be a specific requirement to address a foreseen risk, such as the presence of PAHs. In that case, a gas monitor would have to be specifically calibrated to detect a marker for PAHs, benzo-A-pyrene. The gas monitors used on site will be calibrated to methane/ carbon monoxide and hydrogen sulphide (dual toxic)/ oxygen 19%-23%/ /hydrogen sulphide and carbon dioxide. TPHs/ PAHs can be discovered by sight and smell. • If there is a hostile environment in the confined space, no entry will be attempted. If it is essential to enter, entry will be made by a specialist contractor using a self-contained breathing apparatus or airline. The contractor we use for specialist entry and accompaniment is ESS Safeforce • Safety harnesses and a tripod will be on-site and will be used by the surface rescue trained operatives where a confined space is to be entered vertically. If the confined space involves working away from a vertical access point, a harness is not acceptable, and the operative would have to be accompanied by a specialist team, or a rescue entry to bring a rescue stretcher into use would be required. • Escape B.A., good for 10 minutes, will be held at the workforce, and operatives will be harnessed while in the confined space. Extraction will be by the topman operating the overhead winch attached to the harness. Should entry to the confined space be necessary, only the trained topman will enter using a 30-minute rescue B.A. • The tripod is suitable for manhole entry. The gantry will span excavations up to 5.0m. in width. Davit arms are suitable for fixing the shoring apparatus. When working away from vertically under the rescue apparatus, rescue will be by rescue stretcher, which requires entry by trained rescue operative/s. • If a problem should arise, the emergency services are to be summoned immediately on a 999 call. If anyone has been trapped for more than 5 minutes, they will not be released until paramedics are present to deal with possible toxic shock. • Under no circumstances is anyone else to enter a manhole where an incident has occurred other than the competent person/s who has been trained to use the rescue equipment and has completed his training to work in confined spaces. • Any operative who engages in works within deep excavations or confined space entry works must be trained and certificated for work in Confined Spaces, including rescue. • A 'Confined space entry permit' will be issued confirming control measures are in place for each day maximum or for each configuration of work. Any changes in support or rescue arrangements will require a new permit. This will be controlled by the foreman issuing, discharging, revising and ensuring the procedure applies. • There will be some confined space entry required, though most is avoidable.

18.0	Health & Safety	• All operators and personnel shall be trained and certified in the functions and role suitable to their responsibility on the site. • Approved method statements are to be used together with site rules and restrictions to inform and advise the workforce of the manner in which the operations will be conducted. • All trades will be made aware of the Overhead Powerlines and their height restriction for passing and working on their respective easement. Trades working on these areas must have a 'Permit To work on the easement 'issued and work adhering strictly to their approved RAMS. • PPE appropriate to the scheme will be issued on commencement and the operatives and site management are to ensure the correct and continued use of such whilst on site. • All items of plant, access and lifting equipment are to have been inspected prior to delivery and be accompanied by the required documentation. Site checks will be performed to the manufacturer's / supplier's recommendations. • Where appropriate, Operatives will be trained for Confined Space Work. • Works contained in or about live sewers are to be tested for the presence of gas and are to employ additional PPE of gauntlets, enclosure suits / overalls, breathing equipment and tripod / harness / winch. Gas monitoring equipment is to be used throughout such operations. • If it is not possible to Step or batter the Excavations Earthwork support is to be used in all excavations over 1.2m deep and at any other time as is deemed necessary. • Manual handling to be kept to a minimum, with nothing larger than 25 Kg without a suitable risk assessment. • Banksmen are to attend all machine excavations, lifting operations, especially all pick and carry duties, and direct site traffic as required. • Eye and ear protection is required when using powered tools. • All users of abrasive wheels must be abrasive wheel awareness trained & face-fit tested. • Site dump trucks etc. are to be fitted with ROPS, seat belts & reversing warning indicators. • Existing site services are to be identified located [using scanners] and protected throughout the works and shall only be exposed by means of hand excavations to determine depths etc. • Main traffic routes are to be established for bulk removal or transportation of materials.

- Small tools will be kept in the storage container when not in use. Plant is to be left in-situ on site but will be secured and immobilised. All small drum oils to be kept in COSHH store.

Welfare Arrangements

The contract manager and site foreman will check and make arrangements for the use of adequate welfare facilities by all operatives as laid down in the Construction (Design and Management) Regulations 2015.
The Contract Manager will ensure sufficient provision for the canteen, drying/changing room, offices, and toilets.
There is no TBS on site. The generator will supply power. Water will be using a metered standpipe that has been installed and approved on-site. South-eastern

Personal Protective Equipment
Personal Protective Equipment

- **Everyone working on S278 will be wearing all the time 6P PPE as per Essex County Council requirement.**
- Safety helmets EN 397
- High visibility orange jacket EN 20471 Class 3
- High Visibility orange trousers EN 20471 Class 3
- Safety Gloves EN 388
- Hearing protection EN 352-1/2.
- Safety boots to EN 20345: S1-P
- Eye Protection EN 166 1F.
- PPE must still be worn in hot weather: Breaks from work and drinking water are essential but where risk assessments show the need for PPE it must be worn, or work halted.
- Sunglasses will be issued on site where glare is a problem, and on all site where there is chalk.
- If working near HV must wear only arch ban clothing:, overalls, gloves, visor(as well as rest of PPE such as ear defenders and hard hat)
- Basic PPE for our groundworkers has been assessed to be safety footwear with steel toe caps and insoles., hi-vis jackets, helmets at all times. Gloves, helmet mounted ear defenders, wellington boots and eye protection are available on site depending on the task in hand.
- Vibration procedure attached which includes assessment nomograms for all hand held vibration emitting plant
- Noise assessments attached for all noise emitting plant.
- More specialised equipment for confined spaces, asbestos, contaminated land will be issued as required by risk assessments from time to time and signed for in a Construction Confederation register compliant with the Construction (Design and Management) Regulations 2015.
- PPE must still be worn in hot weather: Breaks from work and drinking water are essential but where risk assessments show the need for PPE it must be worn, or work halted.
- Sun block is available on all sites. Covering up is recommended even when not a requirement of the Principal Contractor.
- Sunglasses will be issued on site where glare is a problem, and on all site where there is chalk.
- Personal protective equipment is provided free of charge to our employees and will be replaced when required.

Bucket changing areas

- Suitable fencing & signage will be erected in close proximity to excavator working areas where buckets will require changing. The designated areas will move to minimise transit but will remain of the same standard even for short duration work.
- The smallest changing area must consist of 3 Heras fencing panels and a half-height barrier along the face so all four sides are enclosed; the requirement for the half-height barrier is to prevent 10t & below excavators from damaging any hydraulic hoses on the underside the boom or the fencing panel.
- NOTE: all our quick hitches are fully automatic.

Noise Monitoring
The following working practices will be employed to reduce noise throughout construction activity on site:

- Where practicable, position the plant away from site boundaries, particularly on sites with neighbours within close vicinity.
- Make use of stockpiles as noise shields
- Arrange delivery times on site to suit the area.
- Use all silencing equipment available and keep panels closed on all generators and compressors.
- Switch off noisy equipment when not needed.
- Arrange traffic routes for mobile plant so the amount of reversing required is minimised, reducing the use of reverse warning bleepers.
- If there is doubt as to noise levels or complaints, we will deploy a Class 1 noise level meter for operations. Environmental noise measurement has been done by a specialist. There is no Sec.60/61 in place.
- Observe restrictions on working hours: No plant operating before 8:00 am

Dust Monitoring

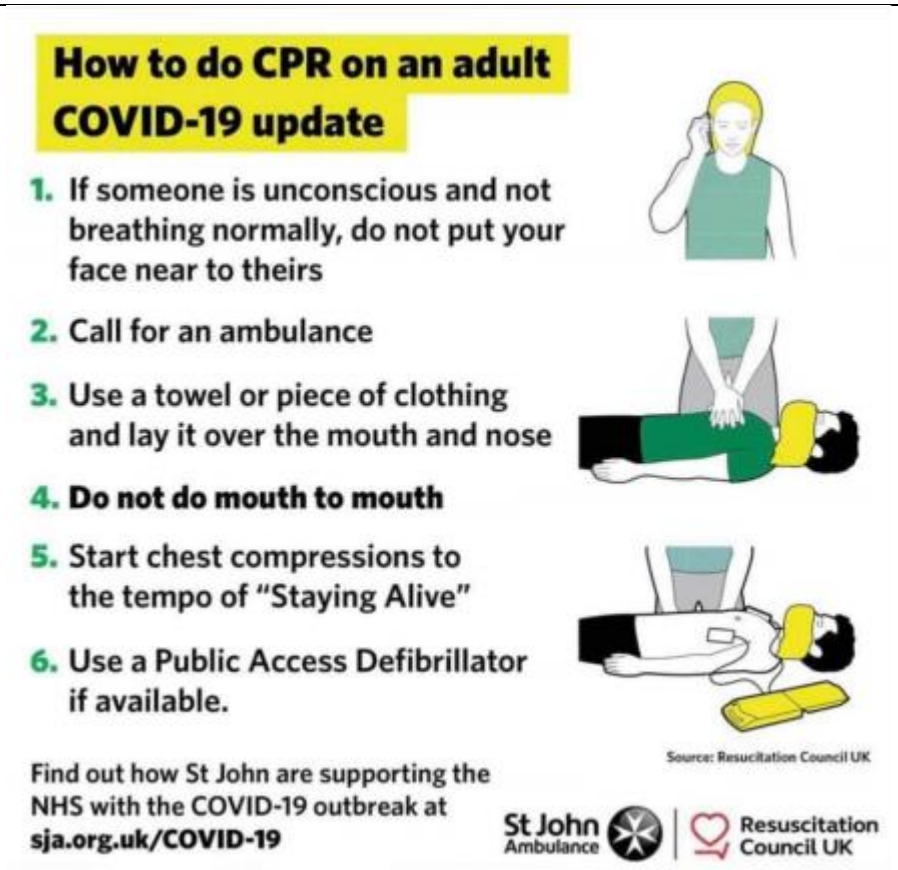
- Routine visual monitoring will be undertaken for dust at all operational areas at the site. In the event that significant visual dust is observed at the boundaries of the operational areas, action will be taken to suppress the dust. We won't wait for the dust but will also respond if it is seen in between regular preventive road cleaning and dust suppression by water from a bowser. The most useful stipulation, if we have bulk shifting of waste overhaul roads, is that the exhausts vent upwards and not down at the road. If haul roads were tarmacked, this would massively reduce the problem.

This action would comprise the application of water to waste stockpiles, roads, and waste treatment activities as appropriate. Inspections will be carried out by site operatives throughout the day and by the Site Manager on a daily basis.

Refuelling Area

- The fuel tank will be double-skinned bunded (110% of capacity) and placed in the designated refuelling area. The refuelling area will be Heras Fenced, marked out with visible signage, and the fuel tank will be positioned upon 150mm/ type 1 sitting on a sheet of Tarpaulin. During the

		fuelling process, a drip tray will be positioned under the connection point to ensure that any drips of diesel are caught in the tray; the same process applies to filling petrol tools/cans, etc. If the hose has been contained within the secondary bund and submersed in diesel, the hose itself must be located within the drip tray; take the lid off if necessary. A spill kit and nappy sacks will be there for any emergency. • A fire point with 2no. CO2 extinguishers will be placed close to the refuelling area and appropriately signed. **Storage of tools & materials** • Small tools will be kept in the storage container when not in use. The plant is to be left in situ on site but will be secured and immobilised. All small drum oils are to be kept in the CoSHH store. • Materials that are on pallets will not be stacked more than two pallets high. • Lightweight materials such as cell core, corded, and polystyrene panels used for floors will be weighted down. **Interface with other trades** • Coordinating work with other trades. • From the arrival of other trades on site, work will be coordinated by our Site foreman. • Our work will be segregated from other trades. • Excavations will be guarded to prevent unauthorised access. We will not undermine scaffolding at later stages of the job and will not work underneath scaffolding. Our machinery has flashing hazard lights, and all reversing will be kept to a minimum. • Note that flashing lights interfere with laser levels. Manufacturers have found no way around this problem. And so lights should be switched off when the laser level is in use, but only in the area our site engineer defines as where interference could occur. This is not a blanket excuse for the whole site. **Housekeeping** • Materials will only be stored in designated areas. Work areas will be cleared of waste as soon as practical, including materials surplus to a task. If this does not happen in a timely fashion, the working area will become constricted and separation will become difficult. If we leave behind waste or surplus materials, this makes distancing difficult for others. We should require this of other trades before we enter a new work area. • Any waste materials to be disposed of in the appropriate skip. • Waste from disposal bins around the site, including in offices, must be removed on a regular basis during the day. • Clear access at all times must be maintained should the emergency services be required. **Reporting of Accidents** • Any accidents whatsoever arising out of or in connection with the site works on or off the Site which cause personal injury or property damage shall be reported to the OHSEQ department immediately, in writing, giving full details and statements of witnesses. In the event of a reportable accident, the Health & Safety Executive shall be informed, and an F2508 will be submitted. • All accidents to be recorded in the Accident Book and reported to the Client. • All near misses will be reported to the Client. • If CPR is required, then the following guidelines have been extracted from the latest Resuscitation Council UK Statement on COVID-19 in relation to CPR and resuscitation: • Because of the heightened awareness of the possibility that the victim may have COVID-19, Resuscitation Council UK offers this advice: • Recognise cardiac arrest by looking for the absence of signs of life and the absence of normal breathing. Do not listen or feel for breathing by placing your ear and cheek close to the patient's mouth. If you are in any doubt about confirming cardiac arrest, the default position is to start chest compressions until help arrives. • Make sure an ambulance is on its way. If COVID-19 is suspected, tell them when you call 999. • If there is a perceived risk of infection, rescuers should place a cloth/towel over the victim's mouth and nose and attempt compression-only CPR and early defibrillation until the ambulance (or advanced care team) arrives. Put hands together in the middle of the chest and push hard and fast. • Early use of a defibrillator significantly increases the person's chances of survival and does not increase the risk of infection. • If the rescuer has access to personal protective equipment (PPE) (e.g. face mask, disposable gloves, eye protection), these should be worn. • After performing compression-only CPR, all rescuers should wash their hands thoroughly with soap and water; alcohol-based hand gel is a convenient alternative. They should also seek advice from the NHS 111 coronavirus advice service or medical adviser.



- Any accidents whatsoever arising out of or in connection with the site works on or off the Site which cause personal injury or property damage shall be reported to the OHSEQ department immediately, in writing, giving full details and statements of witnesses. In a reportable accident, the Health & Safety Executive shall be informed, and an F2508 will be submitted.
- All accidents are to be recorded in the Accident Book and reported to the Client.
- All near misses will be reported to the Client /Principal Contractor.
- Trained First Aider Jason Barrowman will be responsible for all treatment to operatives on site.
- First Aid equipment and facilities shall be available in the Houlihan & Co site office

H&Co First Aider will make entries in the Accident Book if the IP does not want to and agrees to the entry.

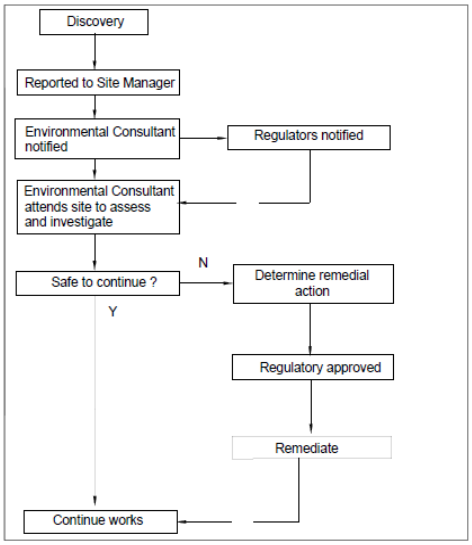
19.0 Discovery Strategy

Contamination

It remains possible that unexpected soil conditions may be encountered during the process of construction.
Examples may include oily pockets within the soil, pockets of cement boarding or fibrous materials within the soil, black ashy materials, soils exhibiting strong odours, brightly coloured materials and former structures or brickwork. Should previously undiscovered contamination be encountered during construction, this should be reported to the Site Manager immediately in order that any necessary inspection may be made. A watching brief approach is to be adopted during the various phases of the site's development such that in the event of suspicious conditions or materials being encountered, the Environmental Consultant can attend site to inspect the 'discovery'. Records should be kept and samples submitted for analysis where conditions encountered are not as anticipated. The results of any such testing should be sent to the Local Authority for consultation.
Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This should be reviewed on a 'discovery' specific basis and in conjunction with regulatory consultation.
As a general guide, where such unexpected conditions are encountered the following approach is recommended:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The area should be cordoned off using an appropriate barrier system.
- The Site Manager is to report any such discoveries to the Client and the Environmental Consultant: - RSK
- Following notification from the Site Manager, the Environmental Consultant shall discuss the discovery with the Local Authority and if considered necessary, arrange to meet an Officer on site to view the discovery;
- The Environmental Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site.
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Environmental Consultant and held on site (with copies held by the Environmental Consultant, Client and Local Authority), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is shown below.



Waste Disposal

Duty of Care

As the persons undertaking construction work and specifying a particular waste disposal carrier and receiver, Houlihan & Co. have a duty of care under the Environmental Protection Act 1990.We must and will take all reasonable measures:

- To prevent any contravention by another person of the legal requirements associated with depositing, treating or keeping of controlled waste or its transport.
- To prevent the escape of waste from our control or that of any other person.
  On the transfer of waste, ensure that the transfer is only to an authorised person and that there is a written description of the controlled waste, which will enable other persons to understand clearly the nature of the waste and comply with the duty to prevent its escape.

(An authorised person is a waste collection authority or the holder of a waste management licence.)

Keeping Waste Safely

To comply with our duty of care, we must ensure that the waste is not affected by:

- Corrosion or wear of waste containers.
- Accidental spillage or leakage.
- Accidents or weather breaking contain waste open and allow it to escape.
- Waste blowing away or falling whilst stored or transported.
- Scavenging of waste by vandals, thieves, children, trespassers or animals.

The site perimeter will be secured and signed.
Stockpile areas will be clearly delineated and set on an impervious membrane.
Dust will be controlled by damping down or covering.

Transferring Waste

Waste can only be transferred to an authorised person. The Waste (England and Wales) Regulations 2011 detail the transfer note arrangements. The note must be completed by a responsible person from the company producing the waste, not by the carrier. The responsible person will consider whether the waste will require a special container to prevent its escape (e.g. a closed skip for asbestos) or if the waste can be mixed safely with other waste.
Part of the duty of care obligation is that checks are carried out before waste is transferred. Tip licences in particular must be carefully checked to ensure that the tip can receive the type of material being sent. Carriers' original registration certificates, not photocopies, must be carefully inspected.
A Waste Transfer Note (WTN) must be completed and signed by both the person handing over the waste and the person receiving it. It must contain enough information about the waste for it to be handled safely and either recovered or disposed of legally.
The WTN must include:

- a description of the waste
- any processes the waste has been through
- how the waste is contained or packaged
- the quantity of the waste
- the place, date and time of transfer
- the name and address of both parties
- details of the permit, licence or exemption of the person receiving the waste
- the appropriate European Waste Catalogue (EWC) code for the waste
- a declaration that you have applied the waste management hierarchy has been applied
- the 2007 Standard Industrial Classification (SIC) code of the person transferring the waste
- the producer is most able to describe their waste accurately. It is not acceptable to use non-specific terms such as 'general waste'.

		• separate paperwork must be completed for hazardous waste.
20.0	Silt Management & Dewatering	**Measures on Enabling Phase and Preparatory Earthworks.** • Stripping topsoil must be done in stages to maintain as much vegetation cover across the site as possible. • Retention of vegetation as far as reasonably practicable along south-western boundaries to promote infiltration of any surface water and silt run-off. • Haul road preferably be topped with tarmac, easy to clean with a road sweeper. • Jet wash and cattle grid will be installed at the exit of the site to clean the wheels of any vehicle leaving the site. • The designated car park will be topped with stone and be maintained mud-free. **Additional Measures During Construction Phase** • The placement of gulley protection (specially designed gulley guards or standard protection - straw and terram) in all gullies during construction, which are to be inspected and replaced/cleaned when necessary. • Minimising the movement of plant on and off roads to prevent the tracking of excess soil onto roads and highways. • The installation of hardstanding areas to the front of all plots to enable 'clean' forklift access. • The placement of hardstanding or topsoil at the earliest opportunity to control surface runoff from completed areas. • Avoid tracking on areas of permeable paving once installed and otherwise maintain paving areas. **Monitoring Procedures and Records** • Inspect all silt fencing, traps and manholes to monitor the discharge entering the drainage system and the sensitive receptors around all site boundaries. • Maintenance, cleaning and replacement of silt fences, silt traps, silt matting, and Terram as required. • The completion of the Environment Checklist (Site Audit form) on a weekly basis, which will assist in documenting any changes on site and identifying any changes needed to the protection systems as the development progresses. • The Site Specific Environmental Action Plan (SSEAP) will be reviewed using the Environmental Checklist and updated when required to reflect changes to site conditions and operations. • All records will be reviewed on a monthly basis. Bellway Homes Environmental Department must be contacted apart from the Health and Safety Department of Houlihan & Co. in the event of heavy rainfall breaching protective measures. **Dewatering** • When dewatering of excavations will be required, pumping from a sump pit will be prioritised prior to over-pumping to a vegetated area away from sensitive receptors to allow infiltration to ground. • All pumping operations will be agreed upon with local site management, who will gain approval from the Contracts Manager, and the SHE Advisor will be notified of pumping intentions. • All dewatering should utilise a 2" pump and be through a Dirtbag onto an area of gravel or straw bales at an approved designated vegetated sacrificial area located away from sensitive receptors. Silt fencing will be placed down a topographic gradient if pumping near any drainage ditch or surface water receptor. • If over-pumping into the surface water system (including use of a completed attenuation basin as collection areas) is proposed, ensure any necessary permits and adequate protection measures (potentially comprising, but not limited to, use of filter bags or a settlement tank) are in place to prevent discharge of silt into the surface water drainage system. The implemented measures should be frequently monitored and maintained to prevent the discharge of silt into the drainage system. The placement of silt matting at the discharge point within the attenuation basin may limit erosion of the banks.

21.0	COSHH	COSHH Register: refer to the OHSEQ notice board in the site office: • AdBlue • Asphalt Materials • Bituthene Primer • Bituthene Adhesive Primer • Butane - Calor • Cement – packaged • Cement colouring – Sealotone • Diesel • JCB Grease • JCB Hydraulic Fluid • Engine Oil • Marking Paint – Powerline • Mortar Plasticiser – Sealocrete • Petrol • Pipe Joint Lubricant – Hepworth/ Osma • Sika block paving seal • Silica • Weedkiller Doff

		• Wet Concrete • White spirit

22.0	Immediate Emergency Procedures	1. In case of an accident, Phone 999 and ask for the Emergency Services. 2. Shut Down all Plant and Cordon off the Area. 3. Inform the Main Contractor Site Manager. 4. Contact Alban Shehu at 07584 809221 5. In case of Fire, follow Signage and meet at the Assembly point near the front gate: **SAFETY PRECAUTIONS IN THE EVENT OF CONTACT WITH AN OVERHEAD ELECTRICITY POWER LINE** KEEP EVERYONE AWAY AND SUSPEND ALL WORK WITHIN 50M OF THE DAMAGE AND CALL OWNER OF THE LINES IMMEDIATELY REMEMBER TREAT ALL CABLES AS LIVE **The Operator of a machine that is in contact with an overhead power line should take the following steps** **If the machine is still operable** • Lower any raised parts that are controlled from the driving position and/or drive the vehicle clear of the line, as long as neither of these actions risk breaking the line or dragging it to the ground **If the machine is not operable or cannot be driven clear of the line** • Stay in the cab • Contact your site manager immediately by radio or mobile phone or as soon as possible by any other method and ask them to inform the electricity company or the owner of the lines • Warn others to stay well clear and not approach the vehicle • Do not exit the cab until confirmation by the owners of the overhead power line that it is safe to do so. **If the machine is inoperable or cannot be driven free and there is a risk of fire or other immediate hazard or risk** • Jump clear of the vehicle, avoiding simultaneous contact with any part of the machine and the ground • Try to land with your feet as close together as possible, and continue to move away from the vehicle using “bunny hops” with your feet together until at least 15m from the vehicle • Instruct other people in the vicinity not to approach the vehicle • Be aware the wires may switch back on after a few seconds, minutes or even a few hours • Do not return to the vehicle until given confirmation from the owners of the overhead power lines that it is safe to do so **REPORTING A CONTACT WITH OVERHEAD POWER LINES** • In the event of an incident where contact is made with an overhead power line on your site, the event will be reported by the Network Operator to the DTI as required under Regulation 31 of the Electricity, Safety, Quality and Continuity Regulations 2002. • Your responsibility is to report any contacts with the overhead power lines to the Health and Safety Executive as a Dangerous Occurrence under the Reporting of Injuries, Disease and Dangerous Occurrence Regulations 1995 (RIDDOR) regardless of the outcome
	Author:	Alban Shehu

Contract: Bellway Homes, Hare's Leap, Henham.	OPERATION: (Site Specific) \S50 Foul Drainage		
ORIGINATED BY: A. Shehu	**DATE: 04/04/2025**	**APPROVED BY:** Emmet Fogarty	**RE-ASSESS:** At least every 3mths or following an incident or change in working equipment or processes

Risk Rating: Severity (S) & Likelihood (L) as 1 (low) 2 or 3 (high) , multiply to give Overall Rating (R) 1 (low) to 9 (high) for priority actions

A=Operative: B=Others on Site including clients staff: C=Public

Hazard	People at Risk			Risk Rating			Control Measures STANDARD PPE TO BE WORN ON SITE (HI-VIZ, SAFETY FOOTWEAR, HEAD PROTECTION). ADDITIONAL/ALTERNATIVE PPE TO BE WORN WHEN REQUIRED BY RISK ASSESSMENT	Residual Risk Rating		
	A	B	C	S 1,2,3	L 1,2,3	R 1 - 9		S 1,2,3	L 1,2,3	R 1 - 9
Sec. 278 works on highway, Contact with vehicles, public require safe route, road traffic accident	Y	Y	Y	H	H	H	TM plan, barriers, signage, HI-VIS, speed limits, Workforce NRSW Act qualified The New Roads and Street Works Act 1991 (NRSWA) requires that there is a qualified operative on site at all times while street works are in progress. The qualifications held must be appropriate for the work being carried out. The Act does not require all the relevant qualifications to be held by a single operative - the main requirement is that there is always at least one operative on site whose qualifications match the activities being undertaken The Act also requires that the site is supervised by a person having a prescribed qualification as a supervisor. The supervisor is not required to be on site at all times. A qualified supervisor might therefore supervise a number of street works sites Traffic management drawings will be produced and approved by local authority Traffic management to Code of Practice for Street Works and revised Chapter 8.	L	M	M
Work near overhead power lines 1.Burns from electric arcing 2.Electrocution from contact	Y	Y	Y	3	3	9	• Swag and sway assessment taken place Exclusion zone clearance around the conductor 3m, Heras fencing panels secured by double clipping along the whole length of overheads. will be created for the National Grid Overhead powerlines. Working under the line or within the horizontal clearance 3m. Driving under the line only 3m The minimum horizontal clearance is 6m. Any footing must be dug 8m from nearest overhead powerlines. Warning signage will be erected on the fence warning the works and the public. • Crossing points will be established for the site traffic. Crossing points will not be wider than 10m, and they will have a goal post on each side of the crossing as well as Heras panels on either site. Their height will be determined by the height of the overhead powerline above the existing ground level. • Goal post will be erected at the 3m height that it maintains the exclusion area around the powerline. • Any plant or equipment used to carry out works within this easement will be fitted with a 3.m height restriction so as not to intrude on the designated exclusion zone around cables. • All personnel will be briefed on the risk assessment of the safe method statement and control measures on how to carry the work safely. Supervisors will brief the teams and monitor that all control measures are rigorously applied. . Permit to work under powerlines must be approved for any work within the easement. • Travelers used for rotating laser on the Overhead Powerlines Easement must never be longer than 3m, which is a set	3	1	3

							height restriction for any plant working within the Overhead Powerlines Easement.			
Oil, fuel spills.	Y	Y	Y	3	2	6	**Spillage of oil, fuels**. • Steel double-skinned bunded (110% of tank's capacity) tank set up in the refuelling area. The refuelling area will be Heras fenced, and the fuel tank will be positioned upon 150mm/ Type 1 sitting on a sheet of Tarpaulin. The refuelling area will be allocated to a secure location on site away from the Network Rail zone of influence. • Environmental procedure for spills and hydraulic hose bursts. • Preventive maintenance of machines. • Daily pre-operation inspection checks are carried out & recorded weekly as a minimum. • Check lifting eye prior to lifting. • Lifting eye to have compatible shackles. • Plant "nappy" under compressor. • Newest compressors are internally bunded.	3	1	3
All works Leptospirosis	Y	Y	N	2	3	6	• The likelihood of rats and, hence, leptospirosis has been made clear to all operatives at their company induction. • The main defence against the disease is personal hygiene, including not smoking on site. • The HSE information leaflet has been used in toolbox talks and is issued to operatives • Prevent/discourage rats from coming onto the site. • Ensure adequate pest control provisions are in place around the site and welfare facilities. • Do not leave scraps of food lying around to attract them. • Ensure cuts, grazes and open wounds are covered with a waterproof plaster. • Wear waterproof gloves and clothing when working in wet conditions. • Wash your hands and arms thoroughly before eating, drinking and smoking. • Report any ill health to your Supervisor or Manager. • If you start to suffer from what seems like flu but have reason to believe that it may be leptospirosis, see your doctor as a matter of urgency. Inform your GP of your occupation. • The internal/external refuse storage area is regularly cleaned and monitored. • All waste bins were kept in a clean condition and emptied on a frequent basis. • Non-toxic monitoring bait devices are used for pest control within the food preparation and food storage areas. • Visual checks are carried out by employees, and detailed records are maintained when evidence of pest activity has been found, initiating any follow-up action.	2	1	2
Delivering, unloading, and reloading vehicles on-site Mechanical failure; road traffic incident; contact with pedestrians and others.	Y	Y	N	3	3	6	• Only trained and competent site staff to complete tasks. • **Staff will follow prescribed safe systems of work detailed under the sub-heading "Plant and vehicle preparation and delivery" of this document.** • If at any point, the safe systems of work detailed in this document are deemed insufficient, work is to stop a risk assessment shall be completed and new safe systems of work developed and implemented.	3	1	3

							• All deliveries to be undertaken on-site; within a controlled offloading pre-planned area, not in the public domain.			
Vehicle movements Vehicles, including mobile plant, come into contact with workers and other plants/vehicles or property, resulting in potentially serious injury to persons and/or damage to plants/property.	Y	Y	N	3	3	9	• All site personnel will be made aware of the requirements of the Principal Contractor's traffic management arrangements at the site induction and updated whenever necessary. • Vehicle banksman are to be suitably trained. • Suitable safety signs will be displayed on site instructing drivers not to use mobile phones, not to reverse without a banksman and to stop if they cannot see the banksman. • The use of mobile phones is not permitted within the processing area. • All persons on site, including lorry drivers outside of their cabs, are to wear the PPE required by site rules, including a high visibility vest/coat. • All vehicles must travel at a safe speed for the conditions below the site speed limit, which is displayed on site – within the processing area, the speed limit is 5mph. • Access routes on site will be formed with a safe incline, and bunds or barriers will be provided to prevent vehicles from falling into excavations or off-ramps.	3	1	3
Operating Plant and Equipment Contact between plant and operatives resulting in possible serious injury. Plant overturning resulting in injury to the operator or other persons Failure of lifting equipment resulting in persons being struck by falling loads/equipment	Y	Y	N	3	3	9	• Establish a clear work area and cordon off if necessary to prevent pedestrian / unauthorised access. Site management to determine the need for fencing/barriers to ensure operatives not involved in the task do not enter the works area. • Operatives must never stand under an excavator bucket or a suspended load. • Only authorised competent people to operate the plant. • All plant operators to hold valid qualifications for the category of plant they operate. • All machinery to be inspected before use and, where required, to have valid thorough examination certificates. • Operators are required to complete and record daily pre-use inspections. The operator must ensure that any defects/damage are reported to H&Co's Site Manager before operating the plant. • All mobile plant to have flashing beacons and 360-degree vision ability. Loading shoves to have a reversing audible warning system. • Plant to travel at a safe speed for the conditions and always within the site speed limit. • Keys are to be removed from plant not in use and safely secured at the end of the shift. • Plant is only to be used for the purpose that it is intended and in conditions it is intended for. • Plant must be banked in areas where pedestrians are present. • Access routes on site will be formed with a safe incline, and bunds or barriers will be provided to prevent mobile plant from falling into excavations or off ramps.	3	1	3
Lifting with site excavators Failing Loads, Trapping fingers, Load swing causing injury, Falls from height, Crushing	Y	Y	N	3	3	9	• **Staff to follow prescribed safe systems of work detailed under the sub-heading "Lifting with excavators" of this document.** • Loads to be slung by competent operatives. • Banksman to ensure that no lifts are taken over the adjacent work area and that all loads are correctly slung. • Basic task lifts only to be undertaken without the approval of the company's appointed person. • Intermediate & complex tasks require a specific lift plan. • No lifting over populated areas. • No lifting with bucket attached. • Prior to the instruction to lift slinger signaller to stand clear of load • Keep load as low as possible and use guide ropes on 2 corners where necessary • All delivery vehicles to have edge protection fitted. If delivery vehicles have no edge protection - TURN THE LORRY AWAY.	3	1	3

							• All excavator drivers are to hold current CPCS cards. being operated • Excavators to be thoroughly examined at 12 monthly intervals. • All excavators to have a daily inspection (F91) to be carried out and recorded by the machine operator • All accessories to be checked prior to use by slinger signaller. All accessories are to have 6 monthly thorough inspections. Slinger signaller to ensure lifting accessories have sufficient SWL • IF IN DOUBT CONSULT H&Cos APPOINTED PERSON – Alban Shehu: 07584 809 221			
Quick Hitch devices on excavators Operatives being crushed by falling buckets, possibly fatal or very serious injury.	Y	Y	N	3	2	6	• Identify the type of quick hitch on each excavator and ensure you know if it requires pins to be fitted. Test that the bucket is correctly attached. (IE Shake, rattle and roll) • Regular checks to be made on the machine. Faults are to be reported to the site manager immediately, and machines are to be stood down until repaired. • Where required, pins must be fitted after changing the buckets; this is the driver's responsibility, not the nearest operative. Operatives are not to stand underneath buckets at any time.	3	1	3
Work potentially generating dust-vehicle movements on site Inhalation of silica, asbestos, and other respirable airborne contaminants, environmental nuisance	Y	Y	Y	3	2	6	• Speed restricted to 5mph. • Lorries to be specified on hire as having upward-directed exhausts. • PC to control forklift movements. • Hard top to roads, haul roads where practicable. • Road cleaning. • Drop distances from bucket into lorry or dumper skip to be minimised. • Traffic marshal to explain routes on site. • Any concrete and tarmac cutting will be carried out using a water-suppression pressurised bottle. • Water bowser will be used when it is required (especially in summertime)	3	1	3
Work potentially generating dust-bulk movement of materials Inhalation of silica, environmental nuisance	Y	Y	Y	3	2	6	• Scrape by a blade instead of digging and dumper transfer. • Avoid double handling whenever possible. • Cover loads in motion & static spoils on site. • Limit drop distances to a minimum. • Continuous micro spray as new surfaces are exposed to spoil heaps in dry weather. • Use larger plant to minimise the number of movements. • Retain vegetation until removed just in time. • Road cleaning on and off-site.	3	1	3
Machine operations Maintenance work on plant- greasing, hydraulic oil leaks, pressurising tracks Oil, and fuel spills.	Y	Y	N	3	2	6	• Re-fuelling area. • Environmental procedure for spills and hydraulic hose bursts. • Fluids under pressure, whether toxic or not, carry the risk of serious harm if injected. • Minor entry wound belies harm caused as fluid blocks veins or arteries. • No fault should be traced without Kevlar gloves; only Houlihan issue grease guns should be used. • Fitters to adjust excavator tracks unless the driver has had training. • Preventive maintenance of machines. • Daily pre-operation inspection checks are carried out & recorded weekly as a minimum.	3	1	3
Compressor operations Oil, fuel spills.	Y	Y	N	2	2	4	• Re-fuelling area. • Environmental procedure for spills and hydraulic hose bursts. • Preventive maintenance of machines.	2	1	2

							• Daily pre-operation inspection checks are carried out & recorded weekly as a minimum. • Check lifting eye prior to lifting. • Whip check fitting attached at hose inlet. • Lifting eye to have compatible shackles. • Plant "nappy" under compressor. • Newest compressors are internally bunded.			
Use of vibrating plant **H**and **A**rm **V**ibration	Y	N	N	3	2	6	• Plant is selected for low vibration characteristics and a full assessment has been carried out for tasks where vibration exposure is expected. • The intention is not to expose any operative to even the lower action value. • Drilling and vibrating concrete works for a short duration. • Tools should be used for their designated purpose. • All operations have been timed for trigger times, and manufacturers' information re-vibration was checked for OPERC emission test results. • As the trigger time is critical, this will be periodically checked by timing actual operations- monitoring sheets for the site supervisor in the vibration pack. • HSE nomogram for each item of plant. • Equipment will, in addition, be tested by an accelerometer monitoring vibration levels and trigger time (exposure) by process: results will inform purchasing policy and decision re continuous safe use. • The plant department will maintain contact with suppliers to ensure that they're aware of any engineering control measures that can be installed to minimise vibration levels. • Any damaged equipment must be taken out of use and reported. • All work equipment must have appropriate guards in place. If guards are missing, the item may not be used. • Our vibration assessments will be on site. We do not keep registers because it involves recording trigger time, which is usually not done properly. Our assessments are based on operations which have been timed- as trigger times- by observing operations and collecting the seconds of use as against the ancillary work where there is no vibration. We do not accept it is a good idea to record harm rather than avoiding it,	3	1	3
Use of plant emitting noise **N**oise **I**nduced **H**earing **L**oss	Y	Y	N	3	2	6	• Plant has been selected for low noise rating. Ear defenders and ear plugs are available to the workforce. Where the noise at the workforce reaches 80dB, ear protection will be worn as per company policy. • It is not expected that anyone will be exposed to noise of 90dBA or over, but where the level exceeds 85dBA, ear protection must be worn, and we will try to reduce the noise dose by reduction at source. • All noisy areas display mandatory 'Ear Protection' signs. • Site monitoring by process and site-specific operations if necessary. • Acoustic blankets deployed at the site boundary and/ or locally to the source, depending on ongoing monitoring and site-specific requirements. • The plant department will maintain contact with suppliers to ensure that they're aware of any engineering control measures that can be installed to minimise noise levels. • Any damaged equipment must be taken out of use and reported. • All work equipment must have appropriate guards in place. If guards are missing, the item may not be used. • Wherever possible, noise is combated at the source by enclosures and engineering controls. Acoustic enclosures and engineering controls are regularly inspected to ensure they achieve the designed noise reduction. • Access to noisy areas is restricted to only those persons having to enter the zone, thereby reducing the number of persons exposed by distance.	3	1	3
Cutting concrete – Kerbs, slabs	Y	Y	N	3	3	9	• Kerbs cut in an area excluding public and other operatives. Physical screening is positioned to protect other workers and passers-by.	3	1	3

and other PCC items. Inhalation of respirable silica, strike by flying fragments. Vibration.							• Battery-operated water dust suppression or pressurised bottle unit on disc cutters must be used (on diamond-tipped blades only). • Correct blade used on disc cutters. • Filter masks to P3 standard worn (personal issue, disposable, fit-tested). • Stihl disc cutters selected for low vibration. • Tasks will not require trigger time over lower action levels. Nomogram for specific work equipment on site. • COSHH assessment in place. • Abrasive wheel training **must** be provided to all abrasive wheel users. • Eye protection to BS EN166:1995 1. B will be worn			
Cutting Steel Strike by flying fragments, Vibration	Y	Y	N	3	2	6	• Steel will be cut on-site in a cordoned-off section, which will be on site clear of any fire hazards, with the correct PPE being worn. • Ensure refuelling areas containing flammable substances are at least 20.0m away. • Task will not require trigger time over lower action levels. • Nomogram for specific work equipment on site. • Hot works permit to be in place • Fire extinguishers to be at the work face • Operatives to wear safety goggles • Operatives to wear ear defenders • Fire watchman to be present at all times when cutting	3	1	3
Placing concrete -backing kerbs, slabs, strip footings Contact with wet concrete causing chemical burns, irritant or contact dermatitis	Y	N	N	2	2	4	• Concrete delivered ready mixed to avoid site mixing where practicable. • The chutes from RM lorries will be opened out and directed by the driver ONLY. • Mix for backing kerbs will be dry to prevent slump, and this will minimise the possibility of splash. • Placing by hand from dumper skip. PPE will include nitrile gloves and clothing to cover up arms and legs. • Standing in concrete to be avoided if possible. • Use of vibrating poker limited where possible and selected for low vibration. • COSHH assessment in place	2	1	2
Lifting and placing kerbs/slabs Injury to back from manual handling of standard HB2 pre-cast concrete kerbs	Y	N	N	3	3	9	• HB2 kerbs weigh 67kg: substitution of lighter kerbs is only possible if permitted in the specification. • Kerb lifting wheelbarrow will be used: push force only 5kg after the kerb is levered off the ground by pressing down on the handle. • Easylifter replaces the need to use the machines in constricted space and with passing traffic. • Transit was carried out safely by Probst Kerb Caddy. • **Refer to the full Houlihan & Co slab/kerb laying manual handling assessment**	3	1	3

Confined spaces in manholes
Asphyxiation, Poisoning from toxic gases, Injuries from exploding or igniting gases, Infection from contaminated water, e.g. Weils disease, Drowning, Back injuries from falls or collisions with structures/ fittings in the working area.
	Y	N	N	3	3	9	• Wherever possible, consider doing the work from outside the space
							• A Permit to Work system should be in operation.
							• A detailed assessment of the task has been carried out:
							  ◦ Available ventilation
							  ◦ The potential for hazardous gases/atmosphere to be present
							  ◦ Hygiene/welfare requirements.
							• The local rescue services have been informed of the work and where necessary, advice or inspection has been sought. (High-risk operations).
							• Suitable detection equipment is on-site and used prior to each entry and continually during the presence of people in confined spaces.
							• Emergency breathing apparatus and harnesses are readily available on site.
							• Precautions for the use of plant and equipment or heavier-than-air gases are established.
							• Flood potential and isolation have been checked.
								3	1	3

							• Emergency procedures are fully developed and have been adequately rehearsed. • Workers must be physically fit and competent to enter and undertake work in confined spaces • Effective communication should be established between workers in the confined space and those outside the area • The atmosphere of the confined space should be monitored for the presence of and levels of gases and must always be tested before entry. • If dangerous fumes are present, suitable breathing apparatus should be worn, and the person entering the confined space should wear a safety rope, one of each end is held by the person keeping watch outside • Equipment which may release excess oxygen or engines which omit carbon monoxide gas should not be used in confined spaces • Smoking, naked lights, sparking tools and ant nylon material should be prohibited • If working in contact with contaminated water, e.g. in sewers, workers must be inoculated against serious disease. Any skin cuts should be covered • Washing facilities should be available to encourage good hygiene • Trenches deeper than 4.5m should be treated as confined spaces. • Manholes to be vented for 30 minutes before entering. • Gas monitor to be placed in manhole 30 minutes before entering. • A confined space work permit is to be obtained before entering. • Operatives to be briefed on an escape plan. • Operatives are to be trained to work in confined spaces. • Topman to be present at all times. • Rescue harness and tripod to be used. • Escape kit to be used where necessary. • Benching should be carried out with the cover slab removed to allow air entry.			
Working with live sewers/Sewer diversions Gastroenteritis, Wiels disease, Infection of the skin or eyes; and/or occupational asthma, resulting in attacks of breathlessness, chest tightness and wheezing produced by the inhalation of living or dead organisms	Y	N	N	3	3	9	All the above items are covered in **Confined spaces in manholes** • Overpumping to be carried out where operatives need to enter a live sewer. • Ensure that employees and line management understand the risks through proper instruction, training and supervision • Waterproof gloves and overalls to be worn at all times • Gas monitors to be in place • Good personal hygiene • Flow to be diverted where possible. • Management to ensure a good standard of welfare is kept on site prior to any live sewerage works taking place.	3	1	3
All work in the area- live services Contact with live service resulting in burns from flashover or electric shock. Toxic or flammable gases from damaged sewer pipes. Damaged or severed pipes leading to leakage of substances, resulting in potential flood, gas leak, explosion or fire Contact with severed fibre optic cables	Y	Y	N	3	3	9	• A Permit to dig will be completed and authorised by the client site team. • **Works must be undertaken as per H&Co's safe digging procedure "works on/near underground services".** • Operatives are to receive full TBT relating to site services provided by the services coordinator prior to starting work. • Cable and metal location equipment must be duly calibrated and in good working order. Operatives appointed will be trained on how to locate services using the EziSystem & safe digging techniques as set out in the H&Co's works/on near underground services procedure. (Note: Lighting columns may be dormant during the day so the generator should be used to trace cables). • Utility plans from network operators must be reviewed in conjunction with a visual survey to be carried out for any service covers nearby that may indicate buried services in the trench line. • Located services will be identified, i.e. gas, electricity, etc., and indicated clearly by the survey operative using marker paint on the ground, with depth estimations if possible. • Operatives **will** now wear flame-resistant clothing (a Nomex material by J. Ross) for all close proximity work to any exposed cable.	3	1	3

Work near overhead lines Contact with live conductor, arcing	Y	Y	N	3	3	9	(Note: The clothing can be used in layers to reduce the heat burden of wearing it, but as UKPN have not provided an arc flash risk assessment giving us a calorific value to inform clothing selection, we will assume the worst-case scenario and wear the highest level of protection). • An air-pick **must** accompany every excavation on/near underground services to loosen up fill material & insulated tools to remove loose material only – forced digging must be avoided if ground conditions permit. • No mechanical digging within 1m of a known service. • Safe digging practice will be practised by all workers when hand digging in the proximity of an underground service, i.e. air-pick **must always be the first tool of choice** used to lose up backfill material. Spades/shovels should be used, not picks or power tools, and horizontal digging should be used to locate the exact position of a cable to avoid fracturing it. • All exposed services must be supported. • It should be assumed that all services are "Live" until proven otherwise. • If a service is struck, cease work immediately and report it to site management. • The quality of backfill is important for future site users, and if a man has to be exposed to service connections, only granular material should be used. No cohesive soil and marker tape are essential. Engineers should record sufficient data before backfilling for the PAS256 recording. • Control measures set out in GS6. • A site visit from the DNO required establishing sag and swing and advice on safety clearance- (GS6 survey). • Routes to transit are set out with goalposts at entry and exit and sideways barriers to delineate the width of access. • Working underneath will require notification to DNO, grant of permission, probably with conditions, and limiters/ chaining back of booms etc. or use of a small plant, in either case, to prevent absolute reach of the plant into space above clearance limit.	3	1	3
Presence of contaminated ground Chemical injury, skin irritants, burns, blindness, death	Y	N	N	2	2	4	• Ground conditions must be established by a survey to identify the type of ground in which the excavation is to be carried out • Contaminants will be removed by a remediation contractor, and a validation/clearance report must be issued to us from the client. • Discovery procedure in place for reporting unusual conditions not previously discovered in surveys, e.g. unusual smells, bright coloured layers in the ground	2	1	2
Constructing walls from the foundation level using bricks or blocks & raising brickwork on manholes leads to Manual handling issues, Slip and trip hazards from an untidy working area Repeated contact with mortar, Collapse of brickwork/blockwork Contact with sharp edges Concrete mixers with faulty or missing guards, Silicosis.	Y	N	N	2	2	4	• Small bags of cement (25kg) should be used to minimise the risk of back injuries, etc • Management should arrange for the safe delivery of materials to the work area • As a result of the COSSH assessment, all operatives should be informed of the hazards of dermatitis and the control measures required to avoid contact with mortar and good personal hygiene • The operative knocking-up mortar MUST wear a P3 mask and eye protection when using the mixer • Washing facilities should be available on-site to ensure good personal hygiene • Mechanical or electric cement mixers should be inspected for faults before use • Safe working platforms should not be required for substructure blockwork; if required, consult with the H&S department. • Foundations must always be stripped to TOC level prior to the bricklayer's arrival • Where practicable, lifting aids are provided to reduce/remove the need for manual handling. • Lightweight blocks are specified where possible. • COSHH data sheets are readily available on-site and displayed on the OHSEQ site noticeboard • Manual handling assessments are readily available on-site. • Work is halted/curtailed in inclement weather. • Suitable and sufficient dust control measures are provided and used. • Bricklayers' foreman should ensure bricks/blocks stacked close to the working area are on a level base and stacked to a safe working height where they cannot topple over – this should minimise bending, carrying, stretching and twisting activities, all of which can generate back	2	1	2

							injuries. • Concrete blocks to be cut with a block splitter or hammer and bolster to minimise the use of airborne dust. Eye protection must be worn manually when cutting/breaking bocks.			
Excavations Noise / Vibration Weakening of adjacent structures Ingress of water Falls of persons Falling materials or plant Underground services – gas, electricity or water Toxic or flammable gas Oxygen deficiency "Boiling" Collapse of excavation Presence of contaminated ground	Y	Y	N	3	3	9	• Permit to Excavate will be completed and authorised by the Contractors Management. • Ground conditions must be established by a survey to identify the type of ground in which the excavation is to be carried out • Prior to the commencement of excavation, the need for and method of support should be determined • Support materials will be on site before excavation starts • If there is a possibility of underground services being present, the area will be surveyed using a suitable detection instrument • Inspections of excavations will be carried out prior to each shift, after any event likely to affect strength or stability, and after any accidental fall of material. A logged report **must** be carried out every 7 days. • No heavy plant within 2m of an unsupported excavation. • Excavations should be assessed by a competent individual, nominally the site supervisor. Where necessary, the sides of the excavation will be battered to the angle of repose or stepped, making sure the step is equal to the depth of the excavation. • Where an assessment establishes possible ventilation problems, a gas monitor will be utilised to monitor the atmosphere before entry • Plant and materials will be kept away from the side of excavations to prevent undue pressure or ingress of exhaust fumes • Excavations must be suitably illuminated • To keep the atmosphere healthy, ventilating equipment should be used in confined areas • If the depth of the excavation is two metres or more, or if the depth is less but there is a particular risk of anybody falling, suitable guard-rails will be placed, and suitable access arrangements, such as ladders or ramps, should be provided • If there is a risk of water ingress, suitable methods and/or equipment should be provided to either prevent the entry of water or to remove water, e.g. water pumps • If a plant could fall into the excavation, timber baulks should be provided • Inspections of excavations will be carried out prior to each shift, after any event likely to affect strength or stability, and after any accidental fall of material • Suitable gloves must be worn at all times when working in/around excavations. • All excavations **must** be fenced off with suitable fencing and signage. Pins and bunting/barriers may be suitable for shallow trenches. Heras Fencing should be used for deep trenches.	3	1	3
Working from height with loose materials/plant Falling material, debris striking operatives/visitors	Y	Y	N	2	2	4	• Plant and materials will be kept away from the side of excavations to prevent undue pressure or ingress of exhaust fumes. • If a plant could fall into the excavation, timber baulks should be provided • All loose material is to be cleared at the end of every shift. • No loose material to be left in close proximity to excavation where there could be a risk of material falling. • All excavations **must** be fenced off with suitable fencing and signage.	2	1	2
General - Manual Handling Strained/pulled muscles, abrasions, cuts, foot injuries, back strain, Slip/trips/falls	Y	Y	N	3	2	6	• Assess the task; use appropriate lifting equipment / lifting accessories for the activity. Always use mechanical lifting aids where necessary. • Assess the weight of the load; avoid lifting heavy loads of more than 20kg. • Break the load down into smaller, lighter parts. • Plan the work to avoid excessive carrying. • Change the layout of the work if possible. • Ensure work areas are clean and tidy, free from tripping and slipping hazards. • Check individual capabilities of those carrying out manual handling operations. • The weight of the load is checked before any lifting commences. • Mechanical equipment such as forklift trucks, pallet trucks, trolleys, and sack barrows are used to reduce employee injuries.	3	1	3

							• Ensure a clear working area for general distribution and installation. • Environmental conditions, including unobstructed walkways, no tripping hazards, adequate lighting etc.			
Concrete operations. Vibration, Concrete penetration of eyes, nose or ears due to an uncontrolled surge during cleaning operations or clearing of blockages, Exposure burns to skin.	Y	N	N	2	2	4	• PPE & washing facilities should be provided. • Regular toolbox talk training must be provided regarding PPE, burn injuries, dermatitis, etc. • Appropriate personal protective equipment (PPE) should be worn • Coveralls to be worn whilst concreting – there should be no exposed skin. • The accumulation of concrete spillage should be prevented. • Glasses to be worn whilst concreting. • Walking boards' are to be in place prior to the slab/beams/ crane base pour commencing for the safe passage of concrete workers. • Concrete Poker can be used for no more than 3 hours, which is the Daily Exposure Action Value (EAV). (Dally Exposure Limit Value ELV is reached over 12 hours)	2	1	2
Steel fixing, shuttering & general site duties Stepping on tied-steel wire, Cuts to hands from Stanley knife & various site materials, Trapping fingers, Sprained ankles,	Y	N	N	2	2	4	• Exclusion zones are to be erected by physical barriers before commencing work. Banksman to enforce exclusion zones. • Steel toe cap boots are to have midsole protection. • NO loose correx to be left 'laying' and especially unweighted. • All loose tie wires are to be cleaned & collected by the site fixers as they progress to new work fronts. • Automatic retractable blades only to be used for cutting materials IE correx for shuttering. • Suitable gloves MUST be worn; however - Gloves will not completely protect your hands, but if you do receive a cut, it may not be quite so bad. • NO walking on ground beams or any other RC cages without walking boards. • Glasses high-impact goggles to be worn at all times whilst cutting site materials. Task specific. • Minimum FFP3 dust masks to be worn whilst cutting site timber/ply. • Minimum FFP3 dust masks to be worn whilst cutting any concrete objects, including kerbs & slabs. • Electronic water attachment to be in place on the cut of saws whilst cutting concrete surfaces, including kerbs & slabs. • Cutting station to be fenced off and ear protection to be worn at all times. • A Hot Permit must be obtained prior to any cutting taking place.	2	1	2
Setting out with instruments/surveying with cobras/rods Slips/trips/falls, Service strikes, cobra/rod striking operative.	Y	Y	N	2	2	4	• Read and understand setting out and service drawings prior to setting out. • Pins and stakes are only to be installed when no services are present; the site engineer must review stat plans & CAT survey the area; if services are remotely likely, PinSafe setting out instruments **MUST** be used. • Cat scanning of the area to take place prior to excavation. • Line marker paint to be stored in the COSHH storage area. • Empty line marker paint to be disposed of in the empty line marker paint can in a general waste bin – ONLY IF EMPTY. • Do not enter the swing radius of an excavator. Adhere to exclusion zones. • Operatives using the cobra reel/rods must wear eye protection & gloves at all times whilst undertaking the operation. • Flashing safety lights on site can interfere with levels, necessitating the removal of machinery or turning off rotating orange lights while the plant is in the vicinity. Risk migrates to plant/ pedestrian interface: The engineer/ site foreman must authorise the lights off, arrange work to minimise the time necessary and arrange banking vehicles if required.	2	1	2
COSHH Chemical injury, skin irritants, burns, blindness, death	Y	Y	N	3	2	6	• Refer to COSHH Assessment for all hazardous substances to be used and briefed to all operatives prior to commencing work. • COSHH data sheets provided when COSHH products are issued from stores • Full PPE to be worn in conjunction with COSHH assessments • All hazardous substances must be stored in the provided COSHH storage cage.	3	1	3

Work near asbestos inhalation of respirable fibres leading to mesothelioma, lung cancer	Y	Y	N	3	3	9	**NOTE: there is no known safe level of exposure to asbestos.** • Additional MS from a specialist licensed contractor who will be in attendance for monitoring and for emergencies if bulk asbestos is uncovered. • Background air monitoring must have taken place to give a baseline, which must be a measured figure below clearance level or undetectable. • Continuous monitoring during operations with analysis continuous from the on-site facility. Personal dosimeters for all personnel involved. Again with analysis in real time. • Prevention of dust raised by damping down, minimising drop distances, avoiding double handling, prompt removal from site, stockpiles only if absolutely necessary and covering on the impervious membrane. • As a licensed contractor operative, I place in case bulk asbestos is found, then stop work, re-assess, and treat it as licensed work, with the full facility for this already on site.	3	1	3
Hand laying tarmac Burns from contact with hot tarmac-delivered at 170°. Irritant or contact dermatitis	Y	N	N	3	2	6	• Heat-resistant gauntlets to be worn. • Body covered up against splash. • Placing at a minimal drop distance from the dumper skip. • Tools kept clean- Farvis tool heater used- no open fire or use of diesel. • COSHH assessment in place	3	1	3
Fire	Y	Y	Y	3	3	9	• All fuels must be kept in the correct type of container that is clearly identified and labelled. • No refuelling to take place in the vicinity of forms of ignition. • Engines must be switched off. • Do not improvise for containers or funnels. • Check you are using the correct fuel. • . • No smoking/no naked flames. Signs to display. • All hazardous substances must be stored in the COSHH storage. • Any cutting metal or welding involving sparks or naked flame must be controlled with Hot Work Permit	3	1	3
Silt Management. Silt gets into the water courses and contaminates the water system, damaging the environment on the waterways/ risk to aquatic life.	N	N	Y	2	3	6	• The placement of gulley protection (specially designed gulley guards, or standard protection - straw and terram) in all gullies during construction which are to be inspected and replaced/cleaned when necessary. • The placement of a terram layer within all manholes during construction and to be inspected and replaced when necessary. • Minimising the movement of plant on and off roads to prevent the tracking of excess soil onto roads and highways. • Hardstanding areas should be installed at the front of all plots to enable 'clean' forklift access. • The placement of hardstanding or topsoil at the earliest opportunity to control surface runoff from completed areas. • Avoidance tracking on areas of permeable paving once installed and otherwise maintaining paving areas. • Stripping topsoil must be done in stages to maintain as much vegetation cover across the site as possible. • Retention of vegetation as far as reasonably practicable along western and south-western boundaries to promote infiltration of any surface water and silt run-off. • Haul road preferably be topped with tarmac, easy to clean with a road sweeper. • Jet wash will be installed in the exit of the site to clean the wheels of any vehicle leaving the site. • The designated car park will be topped with stone and be maintained mud-free. • Silt traps and silt fencing will be strategically constructed along the sites' western and south-western boundaries to reduce runoff. These will be formed to a depth of 400mm with excavated arisings placed on the downgradient side of the slope to aid the retention of silt and	2	1	2

							excessive surface water run-off in the detention basins. • A series of Sady Matts will be placed along the watercourse to prevent any silt from going to the main water system should the silt traps placed on western and south-western boundaries alone not be sufficient to prevent run-off of surface water/silt.			
Working on the highway										
H&Co's Contracts Manager and Site Manager to ensure suitable first aid arrangements are available on site at all times & compliance with the above document.										

B 24.0	HAND ARM VIBRATION & DECIBLE LEVEL REFERENCE CHART					
	Equipment/Plant	**m/s²**	**Time to reach EAV 2.5m/s² (Daily Exposure Action Value)**	**Time to reach EVL 5m/s² (Daily Exposure Limit Value)**	**Sound levels**	**HSE Points (per 15/60 mins)**
	Hilti DD130	2.2m/s²	10hr 20mins	24hr mins	80dB(A)	2.2/10
	Hilti TE 1000	6.5m/s2	1hr 11mins	4hr 44mins	87dB(A)	21 / 85
	Hilti TE 700 AVR	6.6m/s2	1hr 09mins	4hr 35mins	86dB(A)	22 / 87
	Hilti AG230-S	8.7m/s²	3hr 08mins	12hr 34mins	89dB(A)	8 / 32
	Atlas Copco 09 PE (Ver)	3.8ms2	3hr 28mins	13hr 51mins		7 / 29
	SK12 Med Breaker	4.2m/s²	2hr 55mins	10hr mins	108dB(A)	25/100
	Atlas Copco 230 PE	4.2m/s2	2hr 50mins	11hr 20mins		9 / 35
	Tex 150PE Breaker	4.5m/s²	2hr 28mins	9hr 53mins	90dB(A)	10 / 41
	Atlas Copco LT5005	6.4m/s	1hr 13mins	4hr 53mins	106dB(A)	20 / 82
	Vibrating Poker	4m/s²	3hr 08mins	12hr 30mins	85dB(A)	8 / 32
	Wacker Plate Belle 320-574mmx320mm	2.42m/s	8hr 32 mins	>24hr	101dB(A)	3 / 12
	Wacker Plate13/40Belle 720mmx400mm	3.20m/s	4hr 53 mins	19hr 32 mins	105dB(a)	5 / 20
	Wacker Plate Belle 320-720mmx320mm	4.43m/s	2hr 33 mins	10hr 11 mins	105dB(A)	10 / 39
	MBW Plate Compactor GBX Series 3550	4.5m/s	2hr 28mins	9hr 53mins		
	Plate compactor	5.18m/s²	1hr 52mins	7hr 27mins	93dB(A)	13.4/54
	LF75 Vibration Plate	6m/s2	1hr 23mins	5hr 33mins		18/72

	Wacker Plate Bomag/1845	7.3m/s	0hr 56min	3hr 45mins	89dB(A)	27 / 107
	Skill saw 5903R	3.0m/s^2	5hr 33mins	22hr 13mins	95dB(A)	4.5/18
	Airsaw Toku 9''	3.6m/s	3hr 51min	15hr 26 min	82Db(A)	35
	Petrol Saw Stihl/TS410	3.9m/s	3hr 17 mins	13hr 9 mins	98dB(A)	8 / 30
	Petrol Saw Stihl/TS420	3.9m/s	3hr 17 mins	13hr 9mins	98Db(A)	8 / 30
	Petrol Saw Stihl/TS800	Left/6.5 Right3.9m/s			116dB(A)	
	Cut-off Saw Stihls	3.90m/s^2	3hr 17mins	13hr 09mins	98dB(A)	7.5/30
	Bosch Angle Grinder GWS 7-115	6.5m/s	1hr 11 mins	4hr 44 mins	91dB(A)	
	Hilti DD130	2.2m/s^2	10hr 20mins	24hr mins	80dB(A)	2.2/10
	Hilti TE 800 AVR	9m/s^2	3hr 0mins	12hr 0mins	87dB(A)	8/32
	Stirrer Drill / Paddle Mixer	3.5m/s2	4hr 5mins	16hr 20min	87dB(A)	6 / 25
	Ausa 3t Dumper	m/s^2	hr mins	hr mins	101dB(A)	
	Thwaites 9t FTD	m/s^2	hr mins	hr mins	103dB(A)	
	Takeuchi 1.5t	m/s^2	hr mins	hr mins	93dB(A)	
	JCB 4.5t	m/s^2	hr mins	hr mins	94dB(A)	70(dBA) cab
	JCB 13t	m/s^2	hr mins	hr mins	101dB(A)	70(dBA) cab
	Doosan 14t	m/s2	hr mins	hr mins	101dB(A)	70(dBA) cab
	Doosan 22.5t	m/s2	hr mins	hr mins	105dB(A)	70(dBA) cab
	JCB 22t	m/s^2	hr mins	hr mins	105dB(A)	70(dBA) cab

	Bomag 135 AD	2.5m/s	8hr	>24hr	106dB(A)	
	Rammax	Remote control	hr mins	hr mins	109dB(A)	
	Bosch Angle Grinder GWS 7-115	6.5m/s	1hr 11 mins	4hr 44 mins	91dB(A)	
	Pramac 10KVA	m/s^2	hr mins	hr mins	70dB(A)	@ 7 mts
	Soil-Mech 4 piling rig	m/s2	hr mins	hr mins	103dB(A)	
	SP11 screed pump	m/s2	hr mins	hr mins	79dB(A)	

25.0	**COMMUNICATIONS**	
25.1	**TO WHOM THE INFORMATION / WILL BE COMMUNICATED AND HOW?** **(TO INCLUDE NON ENGLISH SPEAKING OPERATIVES):**	All persons involved in the operation
25.2	**CONFIRMATION OF OPERATIVES BRIEFING: M0615 – MS - 2501- 278 Works**	

I have been briefed on the requirements and risks involved with the operation detailed above and fully understand the contents and implications. I was allowed to discuss any points that I did not understand or felt were important in my health, safety, or welfare.

NAME:	SIGNATURE:	DATE: