

METHOD STATEMENT

Contract Number:	W000125
Site:	Rock Street Flood Alleviation Scheme
Method Statement No:	MSrevA
Task / Activity:	Open Cut Solution Manhole 11 to Manhole 12

	Prepared by:	Reviewed by: (where applicable)	Approved by: (where applicable)
Name:	Matthew Llewellyn	Callum Maddocks	
Position:	Senior Quantity Surveyor	YII Engineer	
Signature:			
Date:	17/01/2023	23/01/2023	

Records of Amendments to Method Statement.

Issue:	Date:	Details of Amendments:	Amended by:	Comment / response required by (Date)
1	03/01/23			
2	10/01/23	Details based on feedback by NPT/Atkins received 06/01/23 and feedback from MP received 09/01/23.	ML	At earliest convenience
3	17/01/23	Amended stockpile plan for compound side in Appendix 2 and open cut plan amended for a 1in2 gradient open cut in Appendix 3	ML	
4	18/01/23	Further details added regarding storage of SINC materials.	CM	
5	23/01/23	Additional comments covering asbestos and further comments from MM (NPT)	CM	

Note: Following amendment the Method Statement shall be re-briefed with a record maintained.

Ref:	Item:	Comments:
1	Scope of the task. Describe what the task is and what it is to achieve.	Excavation of old A465 embankment to 5.9m below crest, to allow installation of trench and top-box support system 5m below the cut to enable the pipeline between MH11 and MH12 to be installed.
2	Program for the work. Timing of the work including date, start and finish times if applicable, and duration.	Work due to start 06/02/2023 Expected duration 4 to 5 weeks

Ref:	Item:	Comments:
3	Work Area clearly identified with references to drawings, sketches, grids, elevations. Where exactly on site is the task to be undertaken.	Manhole 11 to Manhole 12 PLAN 1:200 SECTION A SECTION B
4	Supervisory and monitoring arrangements. Who will be supervising the task. While undertaking the task who will be undertaking monitoring or checks.	The site will be controlled by Knights Brown, as Principal contractor. Daily and weekly checks will be conducted to ensure correct standards are being met on site. Checks will be in accordance with Knights Browns policies and procedures. All activities will be controlled and supervised by the following site team: Site Manager – Greg Jerrett Site Engineer – Peter Shija, Callum Maddocks, Joseph Pugh Site Supervisor – Jeff Neeson All main works will be undertaken using subcontracted labour.

5	Schedule of plant to be used. List the plant and equipment required to undertake the task.	Tracked Excavators (30T and 20T) Forward Tipping dumper (2nr 9T) Machine Mounted Whacker Plate Lifting Equipment (Slings, Chains, Shackles, etc.) Diesel Bowser Rotating Laser Auto Level CAT 4 & Genny4 Total Station/Robotic Chainsaws Floor saw/Disc Cutter
6	Sequence of task. Describe how the task is to be undertaken, (if applicable break it down into individual steps). For each step identify the. Hazards (including any biological hazards) Assess risks and determine control measures e.g. refer to Risk Assessments.	Prior to works Prior to any works, all operatives will attend site specific safety induction provided by Knights Brown. All operatives to provide suitable competency cards related to the type of works they are required to undertake. <i>Minimum requirements – CSCS/CPCS cards</i> All operatives to be briefed on relevant Risk Assessments and Method Statements (RAMS) and sign the briefing sheet as confirmation they understand the Method and Risks associated with the required works. All operatives to be briefed on the daily site activities before commencing work. Daily briefing task sheet to be signed by all operatives. Noise monitoring to the rear of the houses on the South side of Park Avenue/High Street will be undertaken ahead of the open-cut works being carried out, with the trees still in place to provide a baseline noise level. Following completion of the works, noise monitoring will be undertaken in the same locations with the trees now removed. Should there be a increase in noise as a result of the tree removal, , mitigation such as acoustic fence installation will be completed to reduce noise levels back to those experiences previously. Before any open-cut work is undertaken an independent geotechnical engineer (GE) will be engaged to undertake an assessment of the ground information and provide a review of the proposed gradient of the open cut. The GE will also interrogate the temporary works design for the trench shoring to ensure the proposal is suitable. Strategies with the GE will be devised should particular localised areas of incongruous material, such as sand or large rock, be discovered. The GE will visit site to audit the assessment findings and adjust if required.

	Prior to any excavation a 'Permit to Break Ground' will be produced and all operatives involved with the excavation exercise are to be briefed on the permit and sign onto a briefing sheet. Service records will be reviewed from available Stat Providers Plan and eCAT4+ and Genny4 will be used to mark up services that are able to be scanned. Manhole lids will be lifted to assess the line and level of water mains and other services that are unable to be detected using the eCAT4+ and Genny4. A CCTV mast will be mobilised to the SINC/open cut area to provide 24hr surveillance of the area. A flatbed lorry will deliver bog mats to the end of the existing track and a 360 excavator will offload these with a bankman controlling reversing and lifting at all times. These bog mats will be installed between the embankment and the concrete slab area. This will stop degradation of the existing ground and prevent transport of any invasive non native species (INNS) around the work area. The bog mats will be installed such that none of the potentially contaminated area is tracked by any plant. This will be cover the entire stockpile area, with additional bog mats to the flanks to ensure the stockpiles do not spill over. The bog mats will extend fully from the stockpile area to the toe of the batter. A sealed off wash down area will be installed to clean <i>all</i> plant and bog mats thoroughly before being relocated to any else on/off site. The stockpile area is identified in Appendix 2. The bog mats will also be used to prevent the existing pipeline which has been laid from MH13 and the concrete slab where it will be trafficked. Any INNS located near to the work area will be demarcated with a physical Heras panel barrier to ensure that these areas cannot be entered by personnel or plant. The existing A465, whilst not intended, is used currently as a public footpath and so measures are to be taken to ensure public access is restricted. There is another existing pedestrian track that is to be used as the diversion around the works area. This track is in good condition and free of INNS on the last walkthrough. However should any improvements to the track be required, such as additional signage, these will be undertaken ahead of the closure of the old A465 track. We plan to monitor the existing pedestrian track to
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	ensure it remains free of INNS. Next, the old A465 track will be securely closed at either end using multiple layers of Heras panels as well as anti-climb fencing in the most important areas. Site signage indicating that the footway is closed and fingerboards directing pedestrians to the civilised diversion will also be included. See Appendix 1 for pedestrian diversion route plan. The extent of trees to be felled will be marked with spray and an inventory drawn up and provided to ecologist (MP) for approval prior to felling. Arborists will be mobilised and the marked trees will be felled. The felled trees will be maintained on site within the existing woodland area but 15m away from the footprint of the open cut works. Any areas of scrub will be cut and piled sympathetically to create wildlife refuge areas (hibernacula) within the SINC area as directed by ecologist. The brash piles will be situated well outside of the works area to prevent any nesting bird/reptile issues during the construction phase. The floor saw and 360 excavator will be utilised to break up the hard surface layers. No mechanical excavation within 500mm of service will be undertaken. Regular checks of excavations to be carried out using the eCAT4+ and Genny4 at 300mm layers and at 100mm layers around known services. Known services located are to be highlighted on as built drawings. All unknown services located shall be identified to Knights Brown site management team and highlighted on as built drawings. The topsoil strip can now be progressed, the extents of the excavation will be marked out by the engineer. The two faces of the existing A465 bank will be treated as two independent habitats and as such the topsoil from each side will be stripped and stockpiled independently of the other. This topsoil strip will be undertaken with a 360 excavator which will load the topsoil on to the forward tipping dumpers. These will transport the topsoil to the compound area for storage on top of a bog matted area, this will prevent any mixing of the soils with the compound hardstanding. Again, it will be ensured that the two faces of the bank are maintained in separate stockpiles. The topsoil stockpiles shall not exceed 3m in height to ensure that the topsoil is not degraded. Even and slack slopes will be maintained on
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	the stockpile for stability and the stockpiles will be sealed to prevent excessive water ingress. It is unlikely that any INNS will be encountered as the compound area is not contaminated. Should any INNS be encountered, the area will be cordoned off and the INNS and surrounding material will be transported off-site to a licensed facility. A separate RAMS covering how this was undertaken at the inlet structure area will be briefed to all operatives. Excavation for the open cut can now be progressed down to the required level. The extents of the excavation will be marked out by the engineer and batter rails provided as per the Open Cut Plan in <i>Appendix 2</i>. Rock netting will be maintained on site and fixed in place at the toe of the cut if rock fill is encountered. The initial excavation will be cut to the gradient stated in the geotechnical report on the open faces. The open faces will be monitored by means of survey undertaken by a survey engineer. This information will be fed back to the Geotechnical Engineer in a brief periodic report, including the ground material type encountered, such that the gradient can be adjusted as required. The cut will be undertaken by the 30T excavator removing the subsoil in layers of 300mm. The arisings will be loaded on to the forward-tipping dumpers and transported to the compound stockpile area, for stockpiling on the bog matted area; the subsoil will be maintained in a separate stockpile from the two topsoil stockpiles. Coal spoil type material will also be stockpiled independently from the subsoil arisings, to ensure the soils are not mixed and can be re-engineered as fill in the correct locations, maintaining the existing disparate habitats on each side of the embankment. Based on trial excavations either side of the embankment, groundwater is not expected to be a problem, however a silt buster and 3" pump will be maintained in the work area to control inflows that will over pumped into the compound side and dealt with accordingly. Once the depth of 5.9m is reached, the trench box support system will be installed using the proprietary chains provided. All lifting operations will be controlled by a banksman. Next, proprietary edge protection will be
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	installed on the top box system away from the open excavation and will be lifted in to place on top of the trench box, repeating the methodology above. The access platform and ladder will be installed. Once the trench support system is installed, the drainage will be installed as per the existing separate drainage method statement. The drainage will be installed in a piecemeal fashion such that the majority of the embankment will continually remain in place as flood protection. It has been advised that since construction of the new A465 road, the SINC area has been raised with the arisings and as such this area no longer floods. This combined with the piecemeal installation methodology above and the added complication of stockpiling the distinct arisings separately, has resulted in the decision not to provide a horseshoe bund for further protection. However, Knights Brown will accommodate this if deemed a requirement. For the avoidance of doubt the embankment in the first phase will only be reduced down to a level which is 2m above EGL, and then the drainage works will commence pipe by pipe there after, so the embankment will retain a 2m above EGL height at all times. Following completion of the drainage installation and backfill, the trench box system will be removed by lifting out the system and backfilling and compacting using a machine mounted compactor plate, eliminating the requirement for man-entry in to the excavation. A slave excavator (20t) will be located at the stockpile area. This will load the subsoil on to the forward tipping dumpers to transport to the cut area. The correct subsoil from each independent stockpile will be transport to the corresponding area of the embankment, with no mixing of soils between the compound and SINC faces. This will be tipped in a suitable and flat location on the earthworks plateau. The 30t excavator situated at the cut area will first install a bund of material along the open edged of the excavation and compact using a machine mounted compactor plate. The depth of these layers will be determined by the geotechnical engineer and the plant manufacturer's information. This bund will act as edge protection. The forward tipping dumpers will transport further material and tip this directly in the plateau area within the edge protection. The 30t excavator will then spread the material in layers which
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	will be compacted by the excavator compactor attachment. The fill will be engineered in layers of depth determined by the geotechnical engineers assessment and information provided by the compactor attachment supplier . The process of installing a new bund at the open cut edges will be repeated continually to ensure edge protection is continually in place. There does not appear to be any evidence of the existing embankment being engineered, as the embankment has eroded outside of the work area giving view in to the embankment which shows no signs of additional stabilisation. However, should anything be encountered this will be replaced like-for-like. A CBR test will be completed following the installation of the fill material to ensure compaction. The topsoil from the compound face of the bank will be transported back from the disparate stockpile on the compound side, this will be dressed by the 30t excavator. The topsoil from the SINC face of the embankment will be utilised on an area of the SINC as highlighted by the ecologist (MP). The SINC embankment face will remain as exposed coal tip material with a view to provide a suitable habitat for Bryophyte propagation. Landscape subcontractors will be mobilised to plant native tree species, to replace those felled in a ratio of 2:1. Megan Price will be consulted as to the species of tree and planting location. The planting will be undertaken during the correct season to ensure the trees thrive. The trees will be replanted in A/W planting season 2023 in a 2:1 ratio . The existing track will be reinstated to a hard-standing condition. Type 1 subbase will be transported to site using 20t tipper lorries along the existing tarmac track. The subbase will be installed in layers using the 30t excavator and the machine mounted compactor plate attachment. The track will be reinstated with tarmac as per the existing should this be required. A Type Z surround to the proposed pipeline can be installed more easily with the open-cut solution to the length of pipe which runs below the existing open drainage ditch, this will be undertaken as part of the open cut works.
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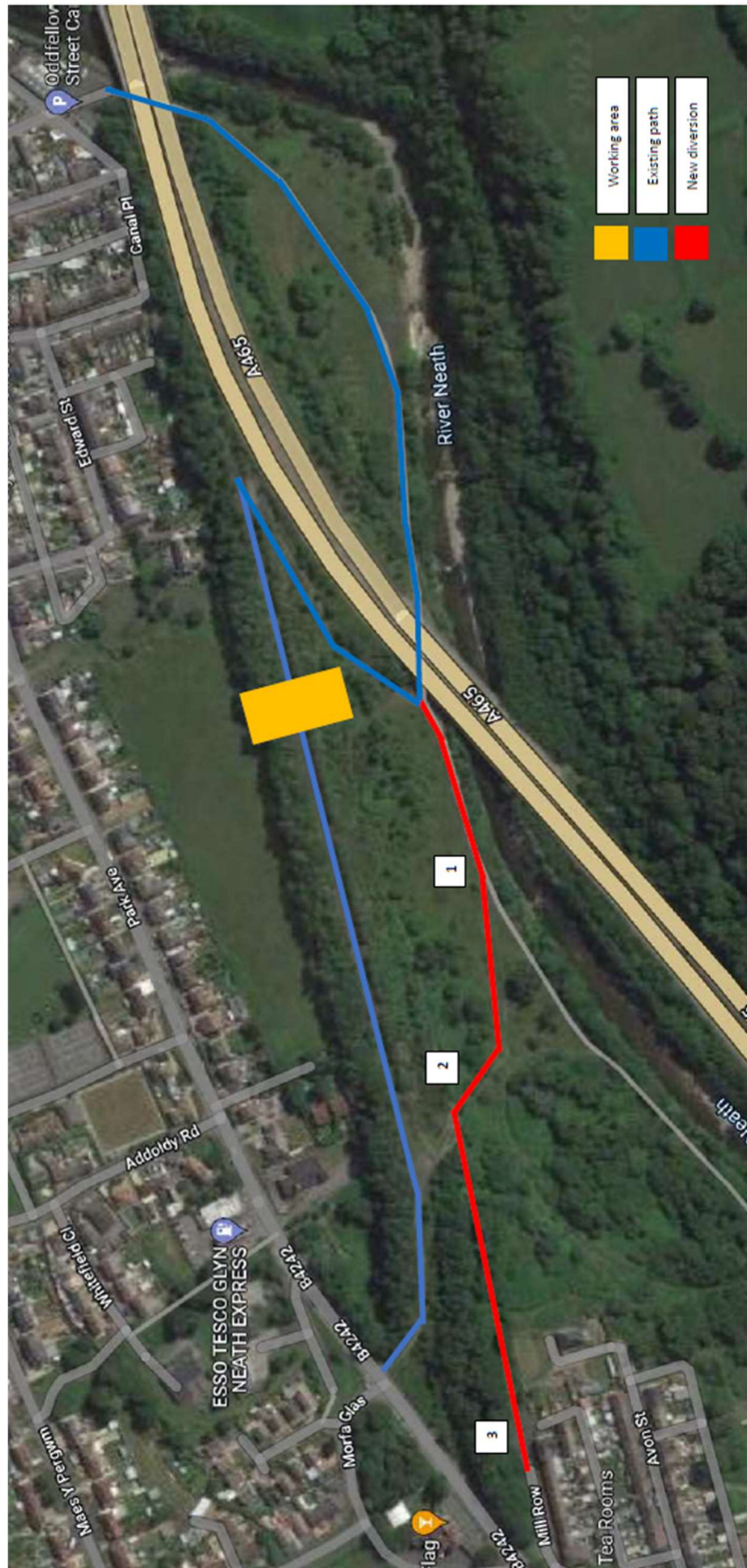
7	Reference to occupational health standards: COSHH, manual handling, noise exposure. Does the task introduce risks to occupational health, for example; Manual handling (detail on a Manual Handling Risk Assessment). Using substances hazardous to health (if a COSHH Assessment is not available obtain a MSDS and undertake an assessment and record on COSHH Assessment). Noise/vibration (determine or measure levels and undertake Risk Assessment, record on Vibration Register).	Manual Handling of trench support components & equipment to be reduced via shared tandem lifts. Operatives must be trained in manual lifting techniques. Operatives must be comfortable with each lift. Note all heavy lifting will be done by an excavator
8	PERMITS TO WORK REQUIRED Does the task require additional controls using a Permit to Work. Permit to Dig Hot Work Permit Confined Space Entry Permit If yes list them.	All works shall be controlled via Knights Brown permit systems where applicable. Control and issue of permits by Knights Brown include but are not limited to: <i>Hot Work Permit</i> <i>Confined Space Entry Permit</i> <i>Permit to Disturb Ground</i>
9	QUALITY CONTROLS While undertaking the task detail any Quality Controls required ie: Records of Concrete Cube tests. DRAINAGE TESTS Certificates of conformity, etc.	Material data sheets will be provided for all materials delivered to site. All plant to be certified and inspected daily, prior to use. Any faults shall be highlighted and rectified before use. All certifications and checks shall be kept in site records. All surveying equipment to be calibrated and subsequently certified. Certificate shall be kept in site records. Welfare unit to be electrically tested by supplier. All electrical equipment to be PAT tested. Quality checks of all engineering tasks will be conducted following the Inspection Test Plan.
10	ENVIRONMENTAL CONTROLS While undertaking the task detail any Environmental controls that need to be put in place to safeguard the	Storage of materials to be on bog mats only and in designated storage areas, as per the stockpile plan in Appendix 2. These will be effectively segregated based on the dig locations (compound topsoil, SINC topsoil, compound subsoil, SINC subsoil) No materials to be

	Environment and others who may be affected by our actions ie: Ground Contamination Water Pollution- Protection of Species/Habitat Statutory Nuisances- noise/dust Invasive plants – Knotweed etc. Waste Materials- Site Waste Management plan etc.	stored to the side of the track leading to the SINC area. Deliveries of pipe bedding and Type 1 Subbase are to be organised with due care to ensure that they can be stockpiled correctly. Spill kits to be made available in suitable locations. Drip trays to be provided for storage of fuels. All fuels to be stored in bunded containers. COSHH assessments to be made available. No refuelling to be undertaken on the embankment area. When undertaking excavation and clearance works, extra vigilance will be taken to ensure the work area is being examined for any asbestos bound material. If any hazardous material is located, the asbestos management plan and risk assessment will be followed closely and specialists will be contacted immediately to investigate further.
11	First Aid and Emergency Arrangements. In addition to the general site first aid and emergency arrangements are any additional first aid or emergency requirements required for the task.	First aid facilities will be located within the site office. All Knights Brown Staff will be first aid trained, however the designated Competent first aiders on site are Greg Jerrett (Site Manager) & Callum Maddocks (Year in Industry Engineer) All accidents shall be reported to the knights brown site management team and recorded within the accident book.
12	Control for the safety of third parties While undertaking the task detail any controls that are to be put in place to safeguard others on site who may be affected by the work.	Work area is to be segregated to protect others from the hazards within the works. All reversing vehicles shall have banksman present. All lifts to be conducted under control of slinger/signaller

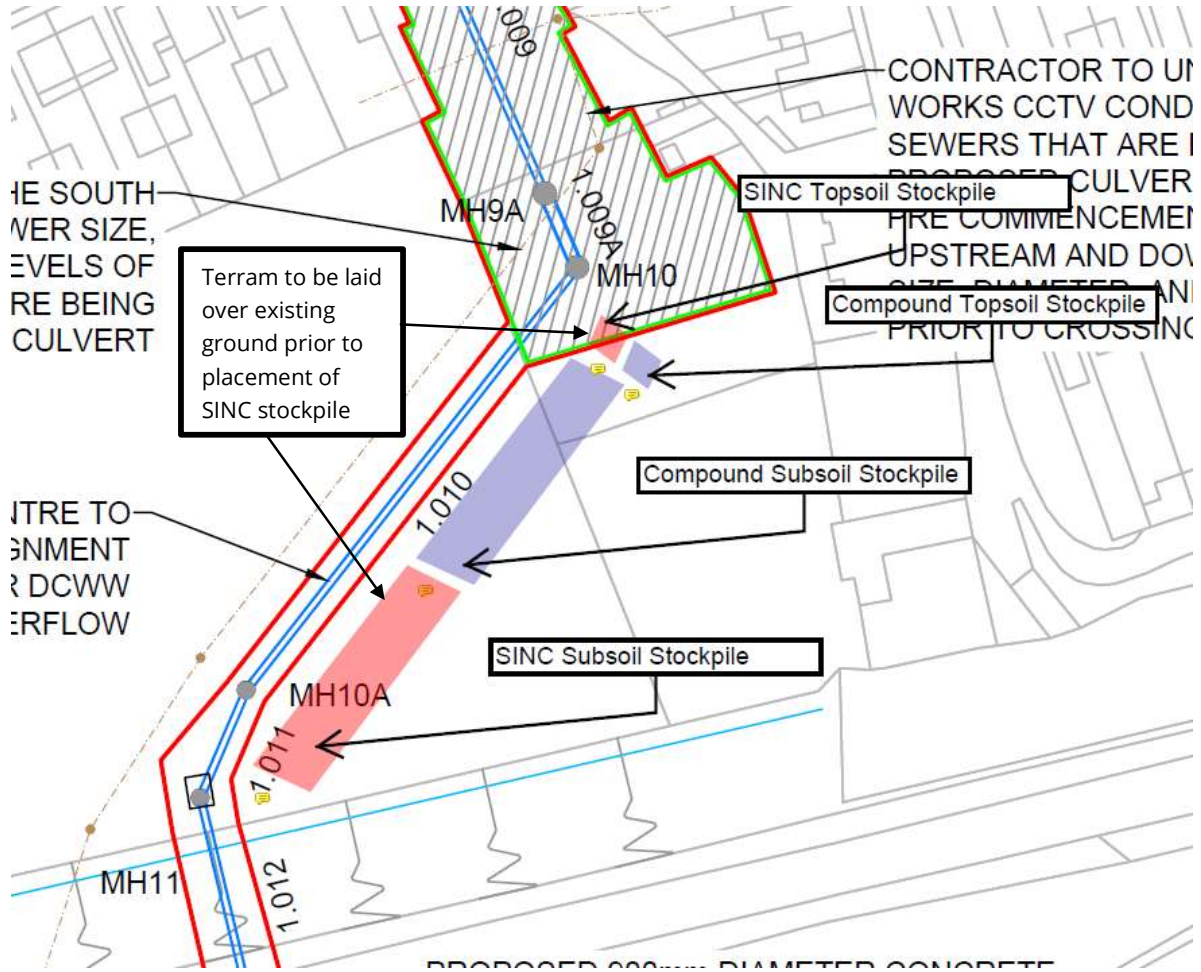
13	Details of temporary services required. List any temporary services required to undertake the task.	Welfare will be supplied by Knights Brown. The welfare arrangements include the provision of water, power and sufficient internet connection.
14	Are any lifting operations to be undertaken? Is yes: is a lifting plan required? If a crane is to be used a lift plan, crane certification, operators and banks man/riggers certification must be presented.	Lift plans to be supplied by the supplier for the following tasks: • Lifting trench box/top Box and edge protection components • Lifting pipes • Lifting felled trees General site deliveries will be covered in a site generated permit to lift.

	(Provide details of lifting equipment accessories, certification and competency proofs).	
15	Arrangements for dealing with waste. Identify any waste materials that require arrangements for safe storage and disposal. Site Waste Management Plan.	Waste is to be segregated in the designated skips provided. Any contaminated material must be kept separate, barriered off, and labelled appropriately. A site waste management plan will be generated and maintained throughout the duration of the job. In this all, waste generated from site will be recorded. Vigilance will be maintained during all excavation and clearance works to ensure any asbestos containing materials are identified and dealt with safely as per our asbestos management plan.
16	Attachments. List of documents that are required to be attached to this Method Statement. Risk Assessments. COSHH Assessments.	Risk Assessments RA – Open Cut Solution Manhole 11 to Manhole 12 COSHH Assessments CA01 – Gas oil (diesel) CA07 – Petrol CA25 – Spray Marker Paint
17	Additional Information	Appendix 1, 2 & 3 overleaf

Appendix 1 – Pedestrian Diversion Route Plan



Appendix 2 – Stockpile Plan



Appendix 3 – Open Cut Drawing

