

Catchpit Installation onto existing run (Bilsham Road, Yapton) – Risk Assessment & Method Statement (RAMS)

September 2022

Risk Assessment								
Hazard	Risk Level Before Controls			Those at Risk or Impact Area	Controls	Risk Level After Controls		
	L	SV	R/I			L	SV	R/I
Collapse of Excavation Injury caused by collapse of excavation and burial due to excavated ground or spoil falling in.	Med	High	Med	- MJ operatives - Site Personnel	- When excavating ground for drainage trenches / manhole installation, dependant on depth and ground type / condition, the ground will need to be battered / stepped away from the excavation. Steps are to be 1mtr x 1mtr minimum. Always ensure there is sufficient space for this. Discuss with your supervisor. - Excavation must be inspected and recorded on daily excavation reports due to entry required for pipe / manhole installation. - Spoil will not be stored close enough to the excavation where it may pose of risk of surcharging into the excavation. - Operatives must never enter an excavation without assessing the risk of collapse. This must be discussed with the supervisor before anyone enters an excavation. Under no circumstances, must anyone enter an excavation above 1.2mtrs without excavation support / battering / stepping. Excavations may be battered or stepped if space allows. If excavations cannot be battered or stepped, trench boxes and manhole boxes must be used. - Never stand directly on the edge of an excavation. Edge protection must be used. Ladder access / viewing platform must also be set up. - Never step out of the manhole / trench box when in the ground.	Low	High	Med
Injury through contact with tools / ejected debris - Rotating or moving parts - Sharp edges or blades. - Entanglement - Penetration wound	Med	Med	Med	- MJ operatives - Site Personnel	- Ensure operative has been trained in the use of the equipment and is either competent, or if being trained, suitably supervised. - Ensure long hair is tied up and loose clothing secured (or not worn) when operating equipment with moving parts. - Ensure blades, wheels, etc. are positioned safely away from persons when not in use and when they are slowing down after use. - Ensure guards are fixed and positioned in place as recommended by manufacturer's instructions. - Ensure tools are not left unattended when idling. - Operative to be aware of location of other persons who may be hit by flying debris. Should this be an issue then works must be adjusted, either altering sequence of works or erection of protective screens. - MJ to offer abrasive wheels training to operatives. - Ensure PPE is worn, appropriate to the equipment being used	Low	Med	Med

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Manual Handling - Cuts and abrasions to hands, fingers, torso or lower limbs on loads with sharp or abrasive edges. - Injuries from dropping load - Injuries associated with poor manual handling techniques	Med	Med	Med	- MJ operatives - Site personnel	- All MJ operatives to receive manual handling training and instruction in good manual handling practices. - Plant, mechanical means and manual handling aids to be used whenever possible: - Plant – telehandler, excavator, etc – operator must have lifting ops and must only be attached trained competent slinger signaller. - Mechanical - wheelbarrows, trolleys, pipe laying hooks, chains, etc - Loads not to exceed personal physical capabilities. - Always use a machine where possible – machine operator must refer to lift plan and SWL chart. If lift is not shown on lifting plan, speak to your supervisor / lift supervisor / appointed person. - Safety footwear with protected toecaps to be worn for all manual handling activities. - If practicable remove sharp / abrasive edge or take an alternative hand hold. MJ operatives to use protective gloves - For repetitive manual handling tasks identify if the task can be carried out slower, reduced load, shared amongst more operatives etc. - Take care when handling full length of pipes. - Take care on uneven ground.	Low	Med	Low
Exposure to fumes and dust Inhaling dust produced by tool use.	Med	Med	Med	- MJ operatives - Site Personnel	- COSHH assessment to be produced on substances identified as being a significant hazard and all operatives have been briefed including: - Silica dust when cutting concrete products - Cement based materials - General dust from dry site conditions - Ensure work area is well ventilated or alternative measures provided, including: - forced ventilation provided in enclosed work areas. Do not cut concrete pipes when in trench box or manhole box. - water suppression via either a water hose or pressurised container - Operatives to wear appropriate PPE as identified in COSHH assessment. - Operatives to be face fit tested to face masks with FFP3 masks.	Low	Med	Low
Exposure to hand arm vibration Chronic long-term injury through use of vibratory power tool: i.e. 'white finger'.	Med	Med	Med	MJ operatives	- Vibration levels will be assessed using manufacturer's guidelines and the HSE online calculator. - Use of tools which do not require a 'hands on' approach and are technically advanced, with a lower vibratory profile will be used where appropriate. - Use of vibratory tools will be monitored and recorded on HAVS register.	Low	Med	Med

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					Where it is likely that the assessed 'trigger time' will be exceeded; works will be rotated between other MJ operatives so that no operative will exceed the exposure limit value (ELV) associated with the tool or equipment.			
Exposure to noise Noise produced by use of tools.	Med	Med	Med	- MJ operatives - Site Personnel	- Noise assessments will initially be based on manufacturer's guidance for each tool - Where the work location may amplify the sound due to its acoustic properties, an additional assessment will be carried out. - Noise will be reduced at source whenever possible through choice of equipment or use of acoustic screens if practicable. - If ear protection is used then it must be available if noise levels equal or exceed 80dB(A) and must be used if noise levels exceed 85dB(A). - If noise levels exceed 85dB(A) the area will be designated a noise protection zone and ear protection must be worn' signage displayed. - Ear protection must be assessed to ensure that SNR reduces the noise level to an acceptable level while still allowing alarms or warnings to be heard. - Do not operate disc cutter in confined space i.e manhole box / trench box as noise is amplified.	Low	Med	Med
Underfoot conditions slippery due to wet weather or other environmental conditions - Slipping on muddy / wet ground - Slipping on uneven ground - Slipping on icy ground - Housekeeping	Med	Med	Med	- MJ operatives - Site personnel - Visitors (NHBC / Building Control)	- Ensure housekeeping and the good order of the site and designated working areas is maintained - Clean work area of slippery material if possible. - Ensure lighting is adequate - Ensure correct footwear is worn. - Walk carefully, do not run. - If area continues to be a hazard, install barriers and signs, warning of the danger. - Smooth out uneven ground if possible – speak to your supervisor first. If works are assessed as too hazardous because of the risk of slipping halt works and report to Supervisor/Site Manager.	Low	Med	Med
Falls from height Injury when falling into an open excavation	Med	Med	Med	- MJ operatives - Site Personnel	- Depth of drainage varies but falls from any height can be dangerous and cause injury. - Edge protection should be used at all times around the edge of the excavations. This can be either perimeter fencing (chapter 8 or orange barrier fencing), heras fencing, or the top section of the manhole box left above ground level to act as edge protection. - Perimeter heras fencing will be installed with clear signage warning of excavations. Only persons involved in installing the drainage may enter the work area.	Low	Med	Low

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					- Never leave an excavation unattended without fencing or signage. If going for a break, or leaving at the end of the day, always ensure excavations are suitably fenced using heras with double clips on each panel. - Working at height training is available for all employees. Always ask your supervisor if unsure about protecting excavations. - Always ensure there is safe access & egress for excavations. This can be through steps cut into the ground, tied ladder access or specially designed steps. A ladder access platform will be supplied. - Always ensure the ladder has been checked for defects at the start of every shift. Update the ladder tag.			
Contact with materials contaminated with Weils disease. Contracting Leptospirosis when working contaminated ground or sewers	Med	High	High	- MJ operatives - Site Personnel	Weils disease can be found in areas where standing water has become contaminated with rodent urine. - MJ operatives must wear PPE when working in areas where vermin are likely and increased chance of becoming exposed to conditions where operatives could contract Leptospirosis (Weils Disease) - Operatives should wear nitrile or other similar gloves which offer protection against liquids. Operatives should also consider whether conditions warrant the use of disposable overalls. - Operatives should ensure that any open wounds are covered with waterproof dressings - Wash hands as frequently as possible. Always before eating, smoking and drinking, or putting your hands near your face.	Low	High	Med
Use of a petrol powered cut of saw - Rotating or moving parts - Sharp edges or blades. - Entanglement - Penetration wound - Inhaling dust produced by tool use - Noise produced by use of tools. - Fluids leaking onto ground – environmental controls	Med	Med	Med	- MJ operatives - Site Personnel	- Ensure operative has been trained in the use of the equipment and is either competent, or if being trained, suitable supervised. - Ensure long hair is tied up and loose clothing secured (or not worn) when operating equipment with moving parts. - Ensure blade are positioned safely away from persons when not in use and when they are slowing down after use. - Ensure tools are not left unattended when idling - Operative to be aware of location of other persons who may be hit by flying debris. Should this be an issue then works must be adjusted, either altering sequence of works or erection of protective screens. - Ensure PPE is worn, appropriate to the equipment being used - Ensure work area is well ventilated or alternative measures provided, including: - forced ventilation provided in enclosed work areas - water suppression via either a water hose or pressurised container Operatives to be face fit tested to face masks with FFP3 masks	Low	Med	Low

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					- Noise assessments will initially be based on manufacturer's guidance for each tool. - Disc cutters will be placed on drip trays / plant nappies rather than on the floor to prevent fluids leaking onto the ground. - If ear protection is used then it must be available if noise levels equal or exceed 80dB(A) and must be used if noise levels exceed 85dB(A). - Disc cutters will be inspected and recorded on PUWER register, - Do not use disc cutters whilst in the trench box or manhole box as there is insufficient ventilation and noise is amplified.			
Contact with site delivery and plant vehicles - Collision causing death or major injury - Overtuning vehicles during spoil movement	Med	High	High	- MJ operatives - Site Personnel	- All delivery lorries will be driven to the site using the correct traffic route. - Delivery vehicles will be assessed for the load they are carrying. - All vehicle traffic and plant movements will be in conjunction with the Site Managers traffic management plan and controlled by a banksman. - Plant equipment not to be operated on slopes or gradients above manufacturer's specifications. - All vehicles and plant will be fitted with visual aids, warning lights and audible devices. - All reversing will be kept to a minimum and to be controlled by banksman. - The site speed limit will be restricted to 5mph. - All operatives working on site will be wearing high visibility clothing. - All plant will be subject to weekly visual inspections. - The supervisor must be suitably positioned where they are not at risk of being hit with the excavator.	Low	High	Med
Contact with buried services - Contact with buried gas pipes or electrical cables services causing fire, explosion, or electrocution - Contact with overhead electrical services causing electrical arc and electrocution	High	High	High	- MJ operatives - Site Personnel	The following controls will be implemented, where necessary... - Prior to any excavation the Supervisor will liaise with the PC's Site Manager to determine the location of buried services within the site. - Permit to dig must be obtained from the site management team. These permits must be held by the machine driver in a hard copy or digital form. - Service drawings must be kept in the vicinity of the excavation. - All existing buried services will be located using the service drawings provided by the service company / Principle Contractor, and by scanning of the ground with a CAT & genny. The CAT and genny must only be operated by a trained competent person. Any identified services must be marked on the floor by use of spray paint (see method statement – page 16). Scanning must be done every 300mm.	Med	High	Med

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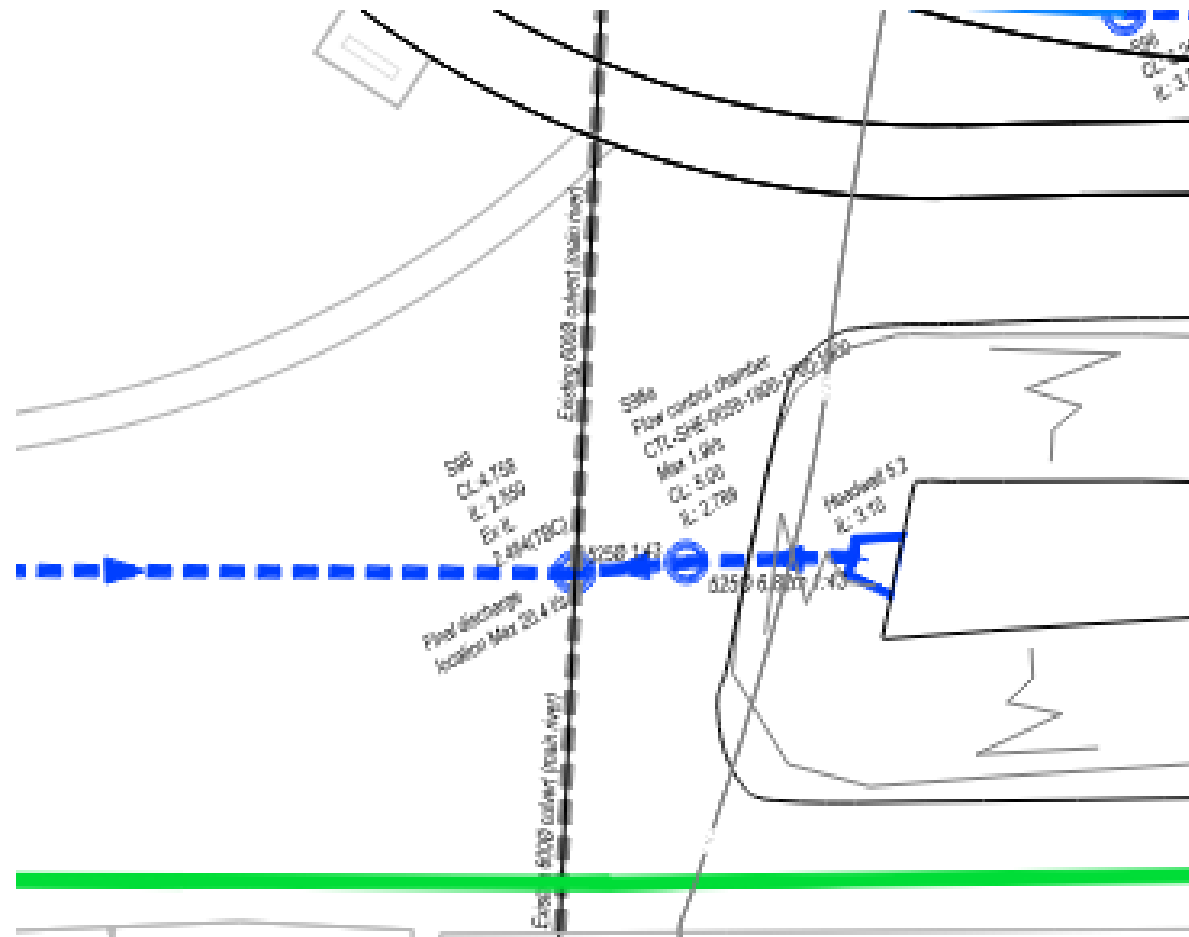
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					- Initially non-penetrative investigation will be carried out, whereby the route and location of a service will be marked using spray paint marks (see method statement – page 16). Where necessary hand dug trial holes will be excavated using non mechanical tools (insulated tools) to locate exact positioning of the service. Air picks with a compressor may also be used in hard ground. - No mechanical digging within 500mm of any service. This increases if digging around IP or HP gas mains or HV cables. - Service excavations must be barriered off to prevent unauthorised access into the working area.			
Lifting - Dropping of load (concrete manholes / concrete pipes) - Incorrect lifting equipment being used	Med	High	Med	- MJ Operatives - Site Workers	- All loads will be secured by trained competent slinger / signallers - All loads will be lifted by machine operators with lifting ops or excavator as crane qualification. - Lift plan will be available in each machine for reference on each item to be lifted. - Lifting equipment will be inspected prior to each use for any visible defects. - All lifting equipment will have a valid thorough exam certificate - All lifts will be within the machines SWL capability	Low	High	Low
Water Risks - Localised flooding to working area - Localised flooding upstream at open culvert - Construction debris being washed downstream.	Med	High	Med	- MJ Operatives - Local Residents	- A watchman will be stationed at the open culvert section upstream to watch for increased level of water when pipe bung is installed. - Existing pipework will be left insitu through the excavation for the majority of the works until chamber is fully installed. - Straw bales will be installed downstream to catch any construction debris entering the watercourse.	Low	High	Low

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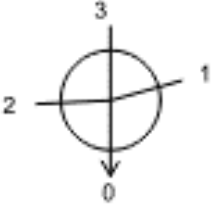
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Method Statement – Install catchpit onto existing 600mm culvert (underground)



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Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types		
Coordinates	Depth To Soffit		Code	Inverts	Diams		Manhole	Cover	
S98	4.758		1	19.008	2.484	525	2100	CATCHPIT	D400
	1.749		2	1.020	2.484	525			
			3		2.409	600			
			0	1.021	2.409	600			

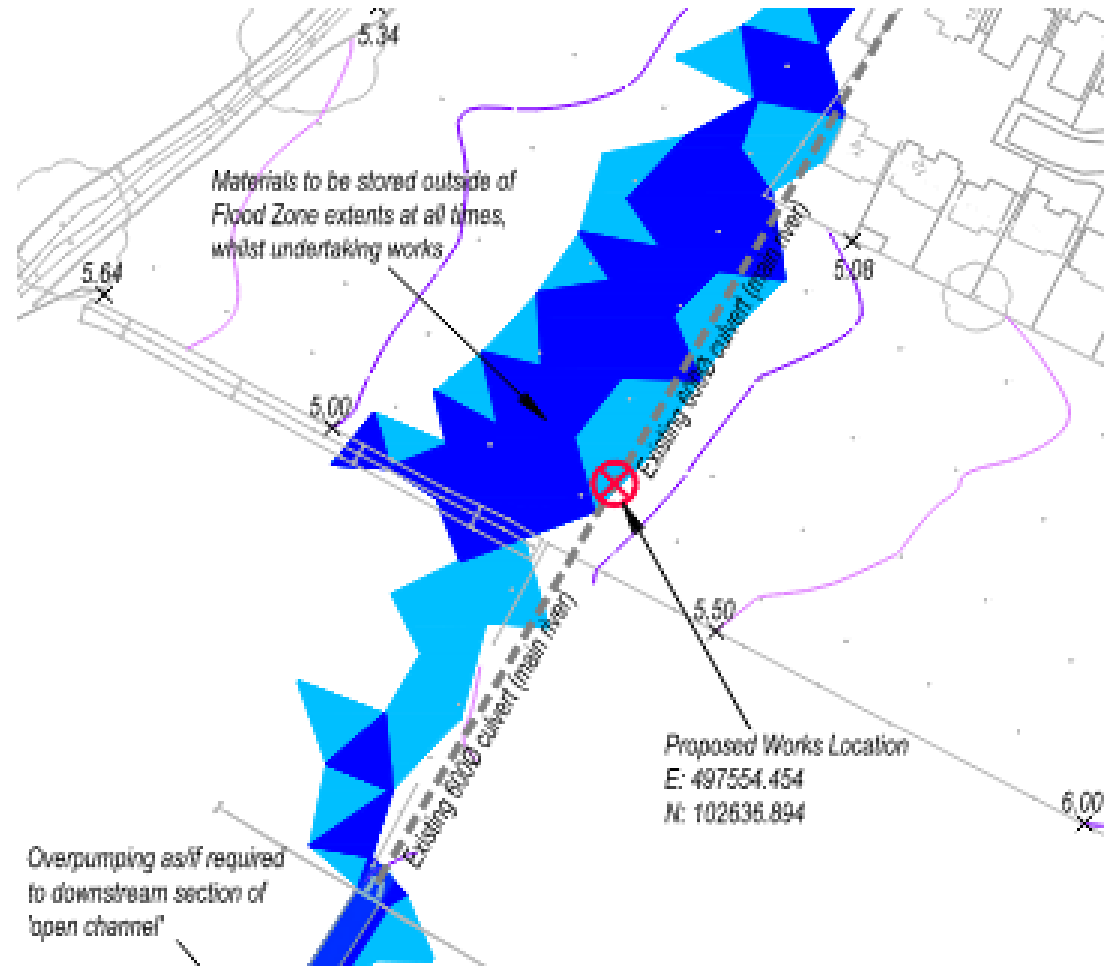
Joyce Groundwork are contracted to install a 2100mm diameter catchpit onto an existing 600mm diameter culvert as per the drawing extract shown above. The blue drainage line running horizontally is from the new pond that is to be constructed. The grey drainage line running vertically is the existing 600mm culvert. Please also see extract above from the manhole schedule.

Sequence of works

- 1) Permit to dig in place / CAT scan location
- 2) Location of new catchpit to be set out by engineer or by GPS machine control (see drawing below for exact positioning).

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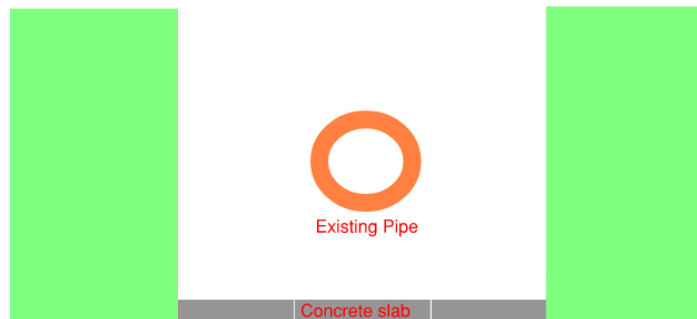


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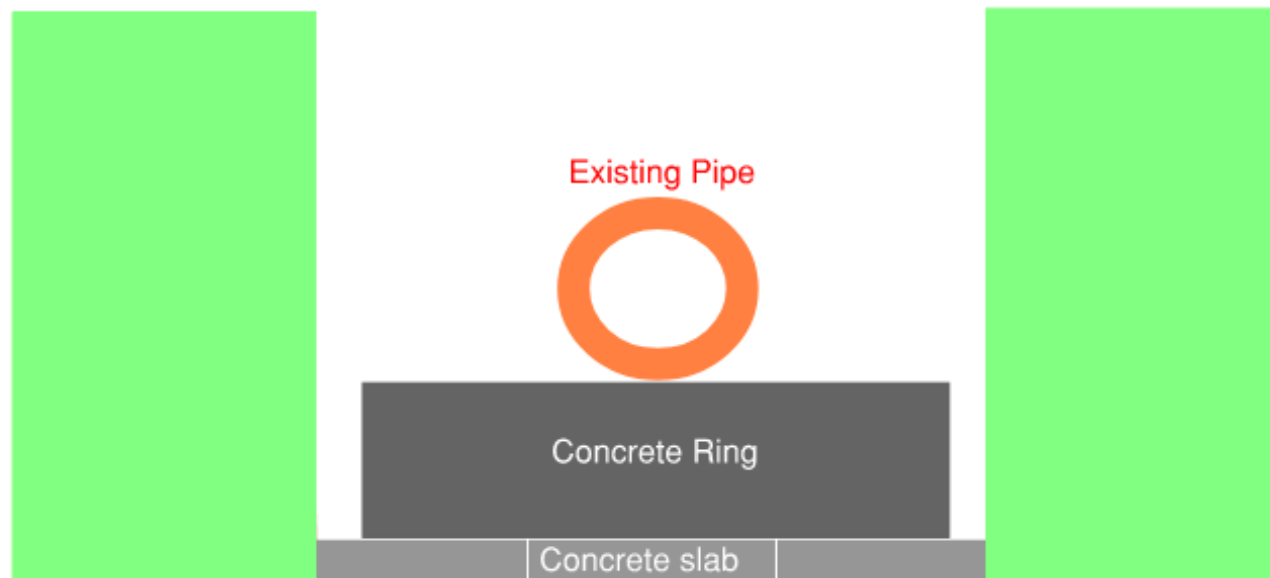
- 3) Carefully dig down on existing pipework to establish exact pipe line and level. Expose around pipe approx. 4mtrs along pipeline whilst allowing enough space underneath the pipe for the sump of the catchpit (75mm blinding + 150mm concrete slab + 600mm sump = 825mm). The pipework coming from the headwall to the flow control chamber (S96A). The excavation will be stepped and battered back to prevent ground surcharge and collapse of excavation.
- 4) Install 75mm blinding and pour 150mm concrete slab underneath the existing pipe. This forms the base for the catchpit to sit on.



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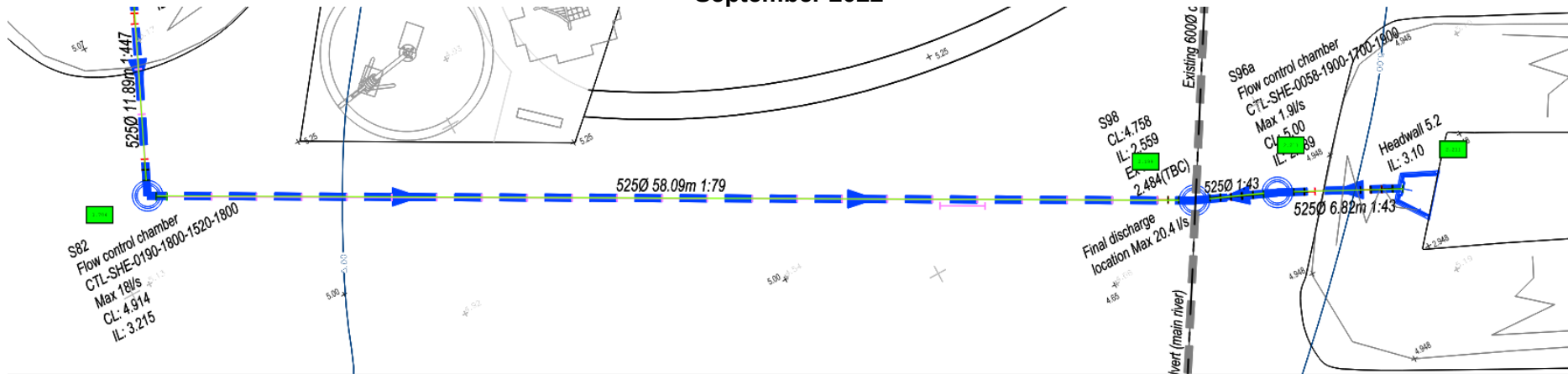
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- 5) Slide 2100mm dia concrete ring underneath existing 600mm pipe using chains attached to an excavator. Concrete slab must have set before this step. The concrete ring will be tight underneath the existing pipe. The ring will be positioned 600mm away from the pipe joint upstream so when the existing pipe is cut, this section of pipe will act as a rocker. Pipework will be installed between S96A flow control chamber and the new catchpit. A rocker and length of pipe will be installed towards S82 to be connected at a later date.

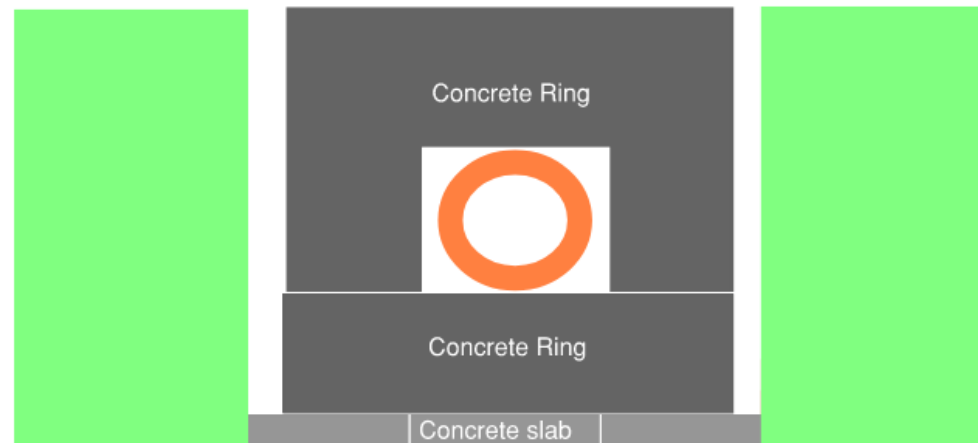


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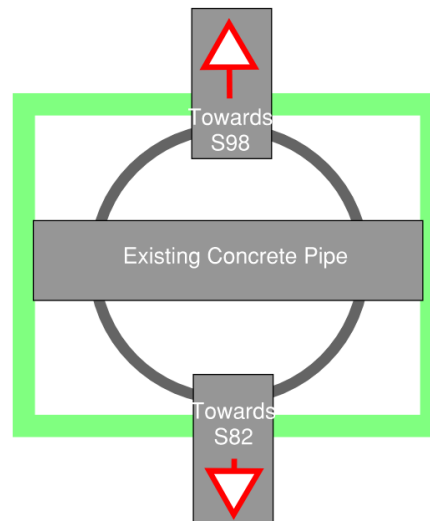
- 6) The next section of 2100mm ring will be installed over the existing pipe. The ring will be cut out to allow for the existing pipe to pass through. The rings will be installed to reach ground level.



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- 7) Straw bales will be installed at the outfall headwall into the field adjacent to the site. This will catch any material gets washed downstream when cutting into the pipe. Any debris can be removed by hand once the works are complete.



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- 8) The top half section of the existing pipe within the 2100mm concrete ring will be cut out to form an open channel. This can only be done when flow is minimal, not after periods of heavy rain when flow of water is increased. Flow cannot be running any more than half bore of the 600mm pipe. This will allow for a pipe bung to be installed to halt the flow of water. Once the flow is temporarily halted, the existing pipework channel can be removed within the 2100mm concrete, and the rocker pipe can be installed downstream. We anticipate this taking a maximum of 2 hours as it will be pre-marked and ready to install. We will have a watchmen stationed at the open section of the culvert further upstream in case of increased water level. This will be communicated to the operatives carrying out the work. Before the pipe bung is removed, care will be taken to remove any debris from the bottom of the catchpit. This will prevent any builder's debris from being washed downstream when the catchpit is functioning.
- 9) The concrete cover slab will be lowered into position on the manhole chambers. Pipework will be backfilled with shingle. Spoil will be used to backfill around the manhole chambers.
- 10) If required, the pipework upstream and downstream from the new catchpit will be jetted and cleaned to improve the flow of water. This will be carried out by subcontractor who would supply their own RAMS. Straw bales will be kept in place downstream to catch any debris washed down the existing pipe.

PPE Requirements

