MORGAN SINDALL CONSTRUCTION

Drainage

To facilitate this ambition of getting the quality right, these checks should take place:

- Be aware of inspection and testing requirements from the customer / building control / adoption authority. Notify building control of start
- Check invert levels of all outfalls before work starts
- Do not allow invert levels that cause pipework to pass through reinforced concrete ground beams. Pipes are likely to foul major rebar, so boxouts will not work
- Have temporary works for excavations been designed?
- Has a check / sign off certificate been obtained?
- Are excavated materials or ground water likely to be contaminated?
- Ensure handling and storage requirements of drainage materials are determined and agreed
- Is type and thickness of pipe bedding correct?
- Is the bedding material supported on weal ground (peat) thus requiring special measures?
- Is the system roddable? Bear in mind access to internal rodding eyes
- Ensure trench widths do not exceed design assumptions
- Are manholes detailed large enough for a number of branches?
- Take pipe wall thickness and collar size into account when calculating dig levels, especially for large diameter concrete pipes
- Are pipes and manholes installed to manufacturer's recommendations?
- Are rockers detailed at structures and manholes? If not, query
- Be aware that any flexible joint has limited rotation. Are puddle flanges detailed / required?
- Ensure articulated joints in concrete surrounds are accurately formed and all around the pipe
- Be aware when backfilling trenches that lumps of concrete / hardcore are not allowed to fall onto the pipes or are in close proximity as they may cause the drains to fracture
- Check the position of step irons is suitable for the cover position
- Check that the local Water Authority details are compatible with drawings
- Have manhole cover positions been considered in relation to footpaths, roads and structures?
- Has a CCTV survey been carried out on existing drains?
- Has an inspection and test plan been created for this element of work?
- Check for services in relation to service lines
- When setting out, ensure you are working to the latest construction drawings
- Permit to break ground should be obtained from site management prior to any works commencing
- Ensure correct manhole covers are installed
- Ensure any thrust blocks are cast against firm ground. Any pumped system must have blocks at changes of direction

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- Ensure that invert levels are checked and recorded before backfill
- Check that run is straight, horizontally and vertically
- Carry out test (air or water) before and after backfill
- Ensure that all runs, manholes and gullies are kept clean and protected from debris
- Beware of shallow gradients – use a drain laser for accuracy
- Do not pump silty water into drainage systems. Use setting tanks or other methods to remove silt
- Confined spaces safety method statement is necessary for entry into existing manhole connections
- All equipment provided to be serviced and calibrated and that all staff involved have up-to-date training
- A full CCTV survey is recommended at completion