

Water Construction

SEW audits against the relevant codes and standards, these checklists are simply a tool to help in auditing and auditors are not limited to the items in the checklists.

1. Mgmt
1.1. Is the consultant representative on site
1.2. Is the contractor representative on site
1.2.1. Are copies of current design drawings on site
1.2.2. Are copies of standard drawings on site
1.2.3. Are copies of specifications on site
· MRWA Edition of WSAA Water Supply Code of Australia WSA 03-2002
1.3. Have construction activities commenced
• If NO then close audit
1.4. Are any construction activities external to the development site
1.4.1. Have SEWL customers been notified of the construction work in accordance with SEWL requirements
1.4.2. Are appropriate traffic management controls in place
1.4.3. Have the appropriate affected authorities been notified
• Local council
• Emergency service
• Vic Roads
• Bus companies
1.5. Are any construction activities located within railway properties
1.5.1. Have the railway authorities issued a permit for the works
1.5.2. Is there an approved Job Safety Analysis report on site.
1.6. Is water being used on site from SEWL assets
1.6.1. Have SEWL been notified
1.6.2. Has a SEWL permit been obtained (record permit no)
1.7. Is water being used on site from private property
1.7.1. Has permission been obtained
1.8. Are there dining / changing available on site
1.9. Do amenities on site comply with the C of P
1.10. Are there toilet facilities on site
1.11. Are dining / changing / toilet facilities kept in a clean condition
2. Materials/Products
2.1. Are all Pipes on SEWL approved Products list and according to Design Drawings& WSAA Purchase Specifications
2.2. Are all Fittings on SEWL approved Products list and according to Design Drawings& WSAA Purchase Specifications
2.3. Are all Embedment materials on SEWL approved Products list, supplied by ISO 9001 accredited suppliers and according to Design Drawings & WSAA Purchase Specifications
2.4. Are all Backfill materials on SEWL approved Products list and according to Design Drawings
2.5. Are all Concrete materials on SEWL approved Products list, supplied by ISO 9001 accredited suppliers and according to Design Drawings & WSAA Purchase Specifications
2.6. Are all Pre cast maintenance structures on SEWL approved Products list and according to Design Drawings & WSAA Purchase Specifications
2.7. Are all Surface fittings on SEWL approved Products list and according to Design Drawings & WSAA Purchase Specifications
2.7. Are all Surface fittings on SEWL approved Products list and according to Design Drawings
3. Storage
3.1. Are pipes unloaded according to manufacturer's recommendations
3.2. Have pipes been stored in a secure location
3.3. Are pipes & fittings stored according to manufacturer's recommendations
3.4. Are pipes stored on timber bearers to prevent contamination in accordance with AS2566 Part 2
3.5. Are plastic pipes within their 'Use by Date'
3.6. Are pipes stored away from chemicals or contaminated ground
3.7. Are Rubber rings stored in a cool dry place
3.8. Are Rubber rings stored away from petroleum products
4. OH&S - Including but not limited to
4.1. Plant & Equipment

4.2. Manual Handling
4.3. First Aid
4.4. Trenching Operations
4.5. Noise
4.6. Temporary electrical installations
4.7. Cranes
4.8. Confined Spaces
4.9. Traffic Management
4.10. Dangerous Goods
4.11. Scaffolding
5. Excavation
5.1. Is a nominated mine manager required
5.1.1. Is the mine manager on site
5.2. Are any boring techniques being used in the construction
5.2.1. Is a steel pipe being used
5.2.1.1. Is the pipe an approved material of the correct thickness
5.2.1.2. Has a qualified welder joined the pipes
5.2.1.3. Is the pipe > 10m
5.2.1.3.1. Has the appropriate corrosion protection been installed
5.2.2. Is a concrete pipe being used
5.2.2.1. Verify that the pipe is a minimum class 3.5 or equivalent
5.2.3. Are DICL pipes being used for the carrier pipe
5.2.3.1. Are the pipes triple wrapped with lay flat plastic prior to installation of thinsulators
5.2.4. Verify ends of bore have been sealed using Foam fill or equivalent.
5.3. Are all site personnel wearing appropriate safety apparel are required by OH&S
5.4. Are excavations >1.5m properly supported (according to OH&S)
5.5. Are all excavations close to structures properly supported to prevent movement
5.6. Does ground support comply with OH&S
5.7. Is there a ladder on site to facilitate safe access to the trench
5.8. Has care been taken to ensure that all services near excavations are protected
5.9. Are affected surfaces in road reserves being maintained
5.10. Has care been taken to avoid the creation of traffic hazards
5.11. Are drains, channels and gutters being kept clear
5.12. Are operations confined to easements, reserves or approved areas where possible
5.13. Has damage to vegetation and trees been kept to a minimum
5.14. Have all services, drains, fences, structures and surfaces affected by the works been restored within the specified time frame
5.15. Are all survey marks maintained and clearly identified
5.16. Is Clearance between the edge of the excavation and the inner toe of the stockpile > 500mm
5.17. Is excess excavated material being progressively removed from private properties and road reserves
5.18. Is excavation being dewatered adequately
5.19. Is sediment pollution control on construction site in accordance with EPA guidelines
5.20. Is a laser being used on site
5.20.1. Is there a currently accredited operator on site (according to laser class -record name & expiry date)
5.20.2. Is the log book being maintained
5.20.3. Are there correct warning signs in place
5.20.4. Is the laser located in a safe position (in order to avoid eye contact)
5.20.5. Is the laser marked with its classification
5.21. Is blasting taking place for this job
5.21.1. Blasting conforms with appropriate statutory regulations and Australian standards
5.21.2. Is there an accredited explosive operator on site
5.21.3. Is a copy of the blasting permit on site
5.21.4. Does blasting comply with the restrictions specified on the design drawings
6. Installation of pipeline
6.1. Is there a currently accredited pipe layer on site (record name & expiry date)
• UPVC
• PE
• DICL

• HOBAS (GPR)
• MSCL
6.2. Is foundation preparation being carried out
6.2.1. Is widening of the excavation being carried out for areas with insufficient side support strength
6.2.2. Are the correct special bases being used
6.2.3. Does the foundation material achieve the required compaction
6.2.4. Has Correctly compacted embedment material been used for the full width of any widened trench
6.2.5. Is the width & depth of the trench within tolerances in accordance with standard drawing
6.2.6. Is Excessive excavation being refilled with approved materials
6.3. Are pipes currently being laid
6.3.1. Is the pipe arrangement in accordance with standard drawing
6.3.2. Pipes have been visually inspected for signs of damage before laying
6.3.3. Are damaged pipes suitably isolated and recorded
6.3.4. Are flexible pipes being checked for out of round and bowing
6.3.5. Has marker tape been installed for UPVC pressure mains in close proximity to drains
6.3.6. Are pipe barrels firmly embedded along the entire length in accordance with standard drawing
6.3.7. Are pipe sockets prevented from bearing on the bedding
6.3.8. Are cut pipes square and bevelled or deburred within tolerance pipe
6.3.9. Are horizontal and vertical clearances being maintained
6.3.10. Are approved exclusion caps being used after each joint is made
6.3.11. Have pipes been laid to the correct depth from surface in accordance with MRWA Edition of WSA Water Supply Code of Australia
6.3.12. What joint type is being used
6.3.12.1. Rubber ring joint
6.3.12.1.1. Are sockets and spigots being cleaned prior to installation
6.3.12.1.2. Are approved rubber ring lubricants being used
6.3.12.1.3. Is lubricant being correctly applied to both socket & spigot
6.3.12.1.4. Are rubber rings stamped and labelled correctly
6.3.12.1.5. Is the correct rubber ring being used for the pipe type
6.3.12.1.6. Are rubber rings visually inspected prior to use
6.3.12.1.7. Are rubber rings being checked for twisting when placed on pipes
6.3.12.1.8. Is the method used to push pipe home according to manufacturer's/water board's requirements
6.3.12.1.9. Are pipe layers ensuring that the pipe is pushed fully home to witness marks
6.3.12.1.10. Is the deflection at joint within allowable tolerances
6.3.12.2. Butt Welded
6.3.12.2.1. Is there an accredited welder on site (to AS/NZL 4129 / Polytec)
6.3.12.2.2. Has the welding equipment been calibrated within the last six months
6.3.12.2.3. Is the field welding being carried out in a sheltered area
6.3.12.2.4. Is the welding being carried out in a barricaded area (due to heat of equipment)
6.3.12.2.5. Are joints free from contamination - Dust, Dirt, mud.
6.3.12.2.6. Are joints free from rain or water.
6.3.12.2.7. Is there wind chill reduction of heater plate
6.3.12.2.8. Is there uneven heating of pipes due to direct sunlight
6.3.12.2.9. Is there contaminated welding equipment
6.3.12.2.10. Is there inadequate cleaning of pipe joints
6.3.12.2.11. Has a visual inspection of the welded beading to SEWL requirements
6.3.12.2.12. Have flanged joints been assembled with backing plate to SEWL requirements
6.3.12.2.13. Have all joint welds been recorded
6.3.12.2.14. Have all joint welds been marked on pipe
6.3.12.3. Electro fusion Welded
6.3.12.3.1. Is there an accredited welder on site (to AS/NZS 4129 / Polytec)
6.3.12.3.2. Has the welding equipment been calibrated within the last six months
6.3.12.3.3. Is the field welding being carried out in a sheltered area
6.3.12.3.4. Is the welding being carried out in a barricaded area (due to heat of equipment)
6.3.12.3.5. Verify that fitting and pipe are clamped together
6.3.12.3.6. Are joints free from contamination - Dust, Dirt, mud.
6.3.12.3.7. Are joints free from rain or water?

6.3.12.3.8.	Is there contaminated welding equipment
6.3.12.3.9.	Have all joint welds been recorded
6.3.12.3.10.	Have tapping systems been installed
6.3.12.3.10.1.	(if Yes) Are the tappings closer than 500mm from end of pipe
6.3.12.3.11.	Are tappings closer than 600mm along the centreline of the pipe
6.3.12.3.12.	Are the tappings been carried out on top of the pipe
6.3.12.3.13.	Has the tappings cooled before cutting into the main
6.3.12.4.	Steel welded
6.3.12.4.1.	Is there an accredited welder on site
6.3.12.4.2.	Does the equipment comply with OH&S requirements
6.3.12.4.3.	Does the equipment comply with EPA requirements
6.3.12.4.4.	Have pipes and joints been protected from corrosion in accordance with SEWL requirements
6.3.12.4.5.	Is cathodic protection of steel water mains being completed in accordance with standard drawings
6.3.12.4.6.	Are insulated bolts required
6.3.12.4.6.1.	Have the correct size bolts been used
6.3.12.4.6.2.	Verify in accordance with standard drawing
6.3.12.4.7.	Have Delrin washer been used
6.3.12.4.7.1.	Have bolts and nuts been tightened to the specified torque as defined by manufacturer
6.3.12.4.7.2.	Have bolts and nuts been tightened in accordance with appropriate sequence
6.3.12.4.8.	Is spark testing of mild steel mains being undertaken
6.3.12.4.9.	Are welding procedures being carried out to SEWL requirements
6.3.12.5.	Mechanical
6.3.12.5.1.	Are the fittings approved by SEWL
6.3.12.5.2.	Are bolts the correct size
6.3.12.5.3.	Are bolts the correct material
6.3.12.5.4.	Have bolts been tensioned to the required specification
6.3.12.5.5.	Do the fittings require wrappings
6.3.12.5.5.1.	Has the lay flat sleeving being installed to SEWL requirements
6.3.12.6.	Flanged
6.3.12.6.1.	Does the joint require insulation
6.3.12.6.1.1.	Verify that the joint is insulated
6.3.12.6.2.	Is the gasket an approved material in accordance with SEWL requirements
6.3.12.6.3.	Does the gasket match the flange
6.3.12.6.4.	Is the gasket the correct thickness in accordance with SEWL requirements
6.3.12.6.5.	Has the flange been fabricated from the design specified material
6.3.12.6.6.	Have all edges been prepared to SEWL requirements
6.3.12.6.7.	Have the flange(s) been drilled to the specified table.
6.3.12.6.8.	Is the flange welded to the offtake
6.3.12.6.8.1.	(if Yes)
6.3.12.6.9.	Have all surfaces been coated to SEWL requirements
6.3.13.	Are DICL pipes being used
6.3.13.1.	Is the lay flat sleeving being installed to SEWL requirements
6.3.14.	Are pipes currently being embedded
6.3.14.1.	Are all Embedment materials on SEWL approved Products list, supplied by ISO 9001 accredited suppliers and according to Design Drawings & WSAA Purchase Specifications
6.3.14.2.	Is support being placed prior to the laying of pipes
6.3.14.3.	Is the support (bedding) thickness within tolerance
6.3.14.4.	Verify that no mechanical compaction is being carried out within the support zone
6.3.14.5.	Is the support being correctly compacted for the material being used
6.3.14.6.	Are the pipes being embedded in accordance with the standard drawings
6.3.14.7.	Are embedded materials being placed in layers <150mm thick
6.3.14.8.	Verify that select excavated material doe not contain any rock fragments >20mm or clay fragments >40mm
6.3.15.	Does the pipe require Thrust restraints
6.3.15.1.	Are tees, bends and rubber ring jointed fittings being anchored in accordance with the standard drawings .
6.3.15.2.	Verify that thrust block do not interfere with any services or structures
6.3.15.3.	Are thrust block bearing on solid ground

6.3.15.4. Has concrete been supplied from an ISO 9001 accredited plant
6.3.15.5. Is concrete to specifications
6.3.15.6. Is concrete being allowed to cure prior to charging of mains
6.3.16. Does the pipe require trench stops.
6.3.16.1. Verify in accordance with standard drawing
6.3.17. Does the trench require drainage
6.3.17.1. Verify in accordance with standard drawing
6.3.18. Cul-de-Sac
6.3.18.1. Verify in accordance with standard drawing
6.3.19. Combined trenching
6.3.19.1. Verify in accordance with standard drawing
6.3.20. Pipeline crossing under sewer
6.3.20.1. Verify in accordance with standard drawing
7. Service connections
7.1. Are the service connections being constructed
7.1.1. Are they being constructed according to standard drawings
7.1.2. Are services being installed using approved materials in accordance with SEWL approved products list
7.1.3. Is the approved pre tapped connector being used
7.1.4. Is PE pipe a minimum of PN25
7.1.5. Is ball valve A approved
7.1.6. Is ball valve A open
7.1.7. Is ball valve B approved
7.1.8. Is ball valve B closed
7.1.9. Is ball valve B a minimum of 300mm inside title boundary
7.1.10. Is ball valve B a minimum of 300mm and a maximum of 500mm from surface
7.1.11. Has the service been installed allowing a 4metre clearance from the side boundary of the property
7.1.12. Are service connection installed perpendicular to the mains
7.1.13. Are service connections embedded in accordance with standard drawings
7.1.14. Are service connections backfilled in accordance with standard drawings
7.1.15. Is a W marked on the concrete kerb
7.2. Do existing services require connection
7.2.1. Is there a licensed plumber on site (record name, license no & expiry date)
7.2.2. Has the licensed plumber checked for earth leakage in accordance with AS 3500
7.2.3. Has the customer been notified of disruption of water supply
7.2.4. Are there any existing fire services to be reconnected
7.2.4.1. Have the fire services & sprinklers been replaced using pipe materials similar to the existing services
7.2.4.2. Has the fire service isolating valve been reinstalled?
7.2.5. Is the service galvanized iron pipe
7.2.5.1. YES - Verify that the pipe has been replaced with PE
7.2.5.2. NO - For all other materials verify that pipe has been replaced using same pipe material
7.2.6. Are serviced being constructed at a level to suit road works and the minimum cover
8. Valves
8.1. Is the valve in accordance with SEWL approved products list
8.2. Is the valve cover and surround in accordance with SEWL approved products list
8.3. Verify that valves are anti-clockwise closing
8.4. Are valves and valve spindles being installed in accordance with standard drawings
8.5. Has correct blocking been used
8.6. Has spindle protection pipe been used
8.7. Have valve spindles been installed in accordance with standard drawings
8.8. Is the valve spindle a min of 100mm to a max of 400mm to Finished Surface Level (FSL)
8.9. Is the valve spindle centrally located
8.10. Verify that thrust restraints do not affect the operation of the valves
8.11. Are valves with flanges being installed
8.11.1. Are galvanized bolts being used
8.11.1.1. Have the bolts been wrapped
8.12. Are soc-soc valve being installed
8.12.1. Has the 100x75mm toms been keyed into the side of the undisturbed ground

8.13. Are air valves installed.
8.13.1. Verify in accordance with standard drawing
8.14. Are scour valves installed
8.14.1. Verify in accordance with standard drawing
9. Hydrants/Washout assemblies
9.1. Are all hydrant fittings in accordance with SEWL approved products list
9.2. Are all hydrant covers in accordance with SEWL approved products list
9.3. Are hydrants being installed in accordance with standard drawings
9.4. Is the hydrant cover installed within a roadway
9.4.1. Verify that the cover is in accordance with MRWA Edition of WSAA Water Supply Code of Australia
9.5. Is the hydrant cover centrally located over the hydrant head
9.6. Is the hydrant head a min of 100mm and a max of 200mm from the top of the cover
9.7. Has correct blocking been used
9.8. Are galvanized bolts being used
9.8.1. Have the bolts been wrapped
9.9. Is the backfilling in accordance with SEWL requirements
9.10. Are ductile iron fittings used
9.10.1. Are the fittings wrapped in accordance with SEWL requirements
9.11. Are valve controlled hydrants being installed
9.11.1. Is the valve control hydrant assembly in accordance with SEWL approved products list
9.11.2. Has an approved concrete pit been used
9.12. Are air valves being installed
9.12.1. Is the valve assembly in accordance with SEWL approved products list
9.12.2. Has an approved concrete pit been used
10. Flushing assemblies
10.1. Are all fitting in accordance with SEWL approved products list
10.2. Are all gate valves in accordance with SEWL approved products list
10.3. Has correct blocking been used
10.4. Is the top of the PE main a min of 450mm and a max of 600mm from FSL
10.5. Has approved embedment material been used
10.6. Has approved backfill material been used
10.7. Has the backfill been compacted in accordance with MRWA Edition of WSAA Water Supply Code of Australia
10.8. Has a 150mm UPVC class 4.5 been used to allow access to gate vane
10.9. Are all covers in accordance with SEWL approved products list
10.10. Is a detail A assembly being used
10.10.1. Are connections being made to mains 150mm to 375mm
10.10.1.1. Has a SOC-FL TEE with a blank flanged plate tapped to standard drawing been used
10.10.2. Are connections being made to 100mm mains
10.10.2.1. Is an approved tapping saddle being used
10.11. Is a detail B assembly being used
10.11.1. Has the washout assembly in accordance with MRWA Edition of WSAA Water Supply Code of Australia
10.11.2. Has an approved 100mm x 300mm riser, tapped to 50mm been installed
10.11.3. Are galvanized bolts being used
10.11.3.1. Have the bolts been wrapped
10.11.4. Are ductile iron fittings used
10.11.4.1. Are the fittings wrapped in accordance with SEWL requirements
10.12. Is a detail D assembly being used
10.12.1. Has the 90° bend been connected to the main
10.12.2. Has the straight pipe been installed to adjust the height of the ferrule
10.12.3. Has the 40mm ferrule been installed
10.12.4. Has the 40mm ferrule bend been installed
10.12.5. Has the camlock fitting been installed
10.12.6. Has the plastic cap on the camlock fitting been installed
10.12.7. Has the 80mmx50mm redgum blocks been placed under the washout assembly
10.12.8. Is the flushing assembly in accordance with SEWL approved products list
10.12.9. Is the embedment in accordance with MRWA Edition of WSAA Water Supply Code of Australia
10.12.10. Is the backfill in accordance with MRWA Edition of WSAA Water Supply Code of Australia

10.12.11. Is compaction in accordance with MRWA Edition of WSAA Water Supply Code of Australia
10.12.12. Is there a max of 100mm from under the cover to the top of the camlock fitting
10.12.13. Has the main been laid at a min depth of 450 mm and a max of 600mm
10.12.14. Has the ferrule assembly been installed in the correct position in relation to the flushing box assembly
11. Chlorination assemblies 1 and 2
11.1. Is an assembly 1 or 2 being installed
11.1.1. Are all fitting in accordance with SEWL approved products list
11.1.2. Are all covers in accordance with SEWL approved products list
11.1.3. Is the valve in accordance with SEWL approved products list
11.1.4. Is the valve cover and surround in accordance with SEWL approved products list
11.1.5. Are valves being installed in accordance with drawings
11.1.6. Has correct blocking been used
11.1.7. Has spindle protection pipe been used
11.1.8. Have valve spindles been installed in accordance with standard drawings
11.1.9. Is the valve spindle a min of 100mm to a max of 400mm to Finished Surface Level (FSL)
11.1.11. Has approved embedment material been used
11.1.12. Has approved backfill material been used
11.1.13. Has the backfill been compacted in accordance with MRWA Edition of WSAA Water Supply Code of Australia
11.1.14. Are galvanized bolts being used
11.1.14.1. Have the bolts been wrapped
11.1.15. Are ductile iron fittings used
11.1.15.1. Are the fittings wrapped in accordance with SEWL specifications
11.1.16. Is a 900mm flange socket connector been installed
11.1.16.1. Has the concrete thrust restraint been installed in accordance with MRWA Edition of WSAA Water Supply Code of Australia
11.1.17. Verify all works in accordance with standard drawing
12. Creek / Culvert crossing
12.1. Verify in accordance with standard drawing
13. Major Road Crossing
13.1. Verify in accordance with standard drawing
13.2. Verify electrolysis work installed in accordance with standard drawing
14. Aqueduct
14.1. Verify in accordance with standard drawing
15. Concrete Structures
15.1. Are concrete structures being constructed in accordance with standard drawings
15.2. Verify that outside formwork being used
15.3. Verify that inside formwork being used
15.4. Has all forms been coated with an approved form-release agent
15.5. Verify that concrete structures have been built within tolerance
15.6. Has concrete been supplied from an ISO 9001 accredited plant
15.7. Is concrete to specifications
15.8. Are all working surfaces clean and safe for use
15.9. Have all surfaces been washed down before the start of the concrete pour
15.10. Has all debris and water been removed from construction joint
15.11. Has water been added to the premix concrete delivered to site - does this comply to SEWL requirements
15.12. Has concrete been placed on site within 90 minutes from the commencement of mixing the concrete
15.13. Has the concrete been vibrated in accordance with the Cement and Concrete Association of Australia concrete data sheets
15.14. Has the concrete been placed using a chute
15.15. Has the concrete been placed using a discharge concrete bucket
15.16. Have stepirons and ladders been located and fixed correctly
15.17. Are covers fixed flush with the pavement or finished surface level
15.18. Have covers been installed in accordance with standard drawings
15.19. Is the correct type of cover being used
15.20. Verify that no distorted covers or frames have been used
15.21. Is the grade of premix concrete as ordered (and in accordance with WSAA Purchase Specifications)
15.22. Is the slump within the tolerances in accordance with MRWA Edition of WSAA Water Supply Code

15.23. Has strength testing taken place in accordance with AS 1012
15.24. Has a slump test been done to required SEWL specs (if No non-con to be issued)
15.24.1. Has a test been undertaken for each sample taken for 28 day strength test
15.24.2. Has one test been taken for every 5 concrete deliveries
15.24.3. Has one test been taken if under 5 concrete deliveries will be made to site
15.25. Has the test been undertaken by a NATA approved tester.
15.26. Has concrete been mixed on site
15.26.1. Has superintendent given written approval?
15.27. Is the concrete surface finish to F3 or better
15.28. Has the concrete been allowed to cure before backfilling
15.29. Is steel reinforcement required
15.29.1. Is the steel used for reinforcing to the design drawings
15.29.2. Is the steel stored off the ground
15.29.3. Is the steel supported to prevent distortion
15.29.4. Is the mesh stored flat to prevent distortion
15.29.5. Is the mesh delivered in rolls stored to prevent distortion
15.29.6. Are steel bars cut & bent to specific shapes stored to prevent distortion
15.29.7. Is deformed bars Grade 410Y
15.29.8. Is 1.2mm black annealed wire being used to tie steel
15.29.9. Are the reinforcement steel fixed to correct tolerances to the design drawings
15.29.10. Has the reinforcement bar been welded
15.29.10.1. Has approval be obtained from the superintendent
15.29.11. Has the reinforcement steel been cleaned before concrete placement
15.29.12. Has support chairs, spacers, hangers or ties been used as supports
15.29.12.1. Have they been placed to SEWL requirements
15.30. Have waterstops been specified
15.30.1. Is the specified material being used
15.30.2. Is the specified size being used
15.30.3. Has the waterstop been joined using an approved method
15.31. Are construction joints shown on design drawing
15.31.1. Are construction joints constructed in accordance with the design drawing
15.31.2. Has the construction joint been cleaned by an approved method before continuing with the next pour
15.31.3. Was a surface retarding agent used on the joint
15.31.3.1. Has all traces of the retardant been removed
15.32. Are cast iron covers filled with N25 grade concrete
15.33. Do cast iron covers have identification, cover locating marks and numbering pads exposed
15.34. Have covers and frames been cleaned and greased after completion of works
15.35. Are precast pits being used
15.35.1. Are the products approved by SEWL
15.35.2. Is the appropriate lifting equipment being used
15.35.3. Are jointing of components being made in accordance with standard drawings
15.35.4. Are the correct jointing materials being used
15.35.5. Have all jointing surfaces been cleaned thoroughly before jointing
15.35.6. Have holes for pipe connections been core drilled
15.35.7. Have connections been sealed according to manufacturers requirements
15.36. Is a dismantling joint being used
15.36.1. Is the joint in accordance with SEWL approved products list
15.37. Are any pedestal stands required
15.37.1.1. Are these constructed in accordance with SEWL requirements
15.38. Are electrical conduits required to be cast into pit
15.38.1. Have they been cast in accordance with design drawings
15.39. Are PRV's installed
15.39.1. verify in accordance with standard drawing
16. Backfilling
16.1. Is backfilling being carried out in accordance with standard drawings
16.2. Is impact loading being avoided during backfilling
16.3. Are voids being filled behind the timber ground support

16.4. Have property service connections been backfilled as specified
16.5. Do backfill materials in road reserves comply with the standard drawings and municipality requirements
16.6. Have trenches and shafts been backfilled in accordance with standard drawings
16.7. Have drives and tunnels been refilled in accordance with standard drawings
16.8. Has compaction testing been carried out by a NATA registered tester
17. Restoration
17.1. Have permanent repairs to unpaved carriageway surfaces been completed according to SEWL requirements
17.2. Have temporary repairs to paved surfaces been completed according to SEWL requirements
17.3. Have all surfaces been restored satisfactorily
17.4. Do covers on all surface structures conform to final surface levels
17.5. Has all surplus material been removed from site
17.6. Is the site clean and tidy