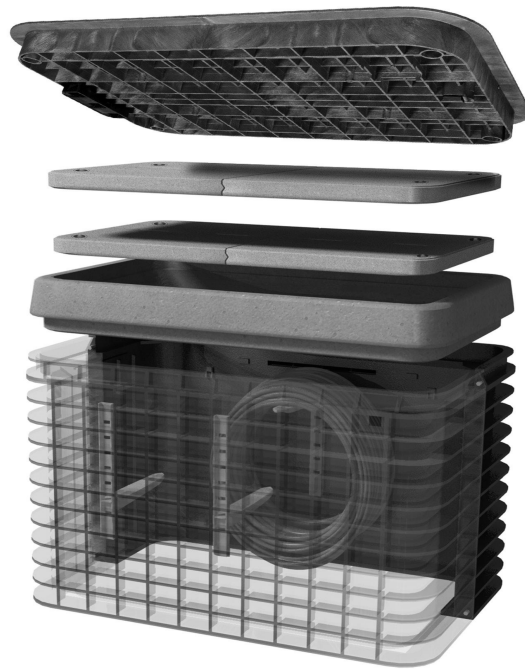




Shutter Box Series

Shutter Grade Level Boxes (SGLB®)

Polymer Concrete Lid



Installation Procedure



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1. PURPOSE

Installation instructions provide general information useful for installing the “Shutter Grade Level Box” (SGLB) in sidewalk and driveway placement. This guide cannot anticipate all situations that could develop in the field. Rather, it represents information applicable to common installation conditions and should be used in conjunction with specifications set-out by infrastructure owner or network provider.

2. SCOPE

This ‘Shutter Box’ series of pits is suitable for installation in footways and driveways where they will be subject to occasional, non-deliberate heavy vehicular traffic.
AS/NZ Classification - Class B

3. GENERAL SPECIFICATIONS

Installation procedure covers the following SGLB models - 1200, 1700, 2400 and 3000 series supplied with polymer concrete and L-bolt lockable lids.

Series	Model	External Dimensions
1200 Series	SGLB1230 – 24	845mm (L) x 305 mm (W) x 610mm (D)
1700 Series	SGLB1730 – 24	845mm (L) x 572 mm (W) x 610mm (D)
2400 Series	SGLB2448 – 24	1330mm (L) x 730mm (W) x 610mm (D)
	SGLB2448 – 36	1330mm (L) x 730mm (W) x 914mm (D)
3000 Series	SGLB3048 – 24	1330mm (L) x 883mm (W) x 610mm (D)
	SGLB3048 – 36	1330mm (L) x 883mm (W) x 914mm (D)

4. INSTALLATION PROCEDURE

4.1. New Build

Site Preparation

Prior to the commencement of the pit installation:

- Ensure all safety rules and policies are carried out correctly and that all OHS requirements have been met.
- Ensure vehicular and pedestrian traffic management procedures and policies have been followed and suitable traffic management is in place prior to commencing work and excavating.
- Ensure DBYD procedures have been followed and that all underground structures in the vicinity have been identified and located.

- Ensure all permits and relevant public authorisations have been secured and complied with.

4.1.2. Excavation

- The perimeter of excavation should be approximately 300mm to 400mm longer and wider than external dimensions of SGLB whilst depth should be approximately 75mm to 125mm deeper than the depth of SGLB being installed.
- Excavate the site using hand or mechanical methods ensuring that the bottom of the excavation is level and conforms with general slope of ground level.

4.1.3. Preparing Foundation

- Bed the SGLB on layer of fine crushed rock (20mm or less) to a depth of 75mm to 125mm to prevent subsidence and assist drainage. The rock shall be free of soil and organic material. Alternatively a dry mix of Cement and crushed rock in a ratio of 1:10 may be used where higher lateral loads are anticipated.
- In circumstances where other services are located underneath SGLB place approved mechanical protection below foundation covering complete base area of SGLB.

4.1.4. Drilling Conduit Entry Holes

- The SGLB will accommodate bottom and sidewall conduit entry positioned on ends and/or side wall of pit.
- Refer relevant authority work practices for maximum number of conduits allowable per pit.

Side Entry

- Side conduit entry provision (flat section) is available on the bottom section of all SGLB models however holes can be drilled through ribs without sacrificing pit integrity.
- It is recommended that drilling through structural ribs be started from inside pit. Wherever possible holes should be drilled between ribs for ease of drilling.
- Mark position of entry hole/s within 'flat section' provided or evenly spaced across in the case of multiple conduit entries at same the depth. A minimum of 10mm spacing between drilled holes is recommended to maintain integrity of hole to fit conduit bushing.
- When correct location of entry hole have been marked drill holes using suitable hole saw.
- Fit and seal as per approved practices or with available conduit bushing
- Conduit entry on opposite side of thru conduit should be closely aligned.

Bottom Entry

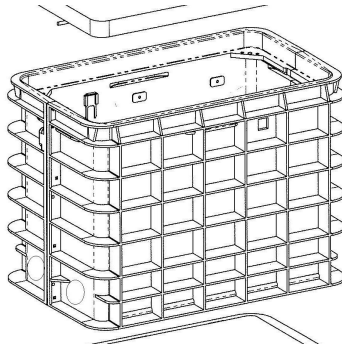
- Drilling floor is acceptable to accommodate bottom conduit entry. Alternatively the SGLB can be installed without floor.
- Position SGLB over vertical conduit (90 deg elbow or sweeping bend)
- Conduit should protrude approximately 100mm from inside base of pit. Conduit entry should be covered by utilising appropriate conduit cap to minimise water and dirt ingress.

Standard SGLB conduit entry available on 'flat section' provided

Series	Model	Conduit Configuration/ End
1200 Series	SGLB1230 – 24	1 x 100mm Dia.
1700 Series	SGLB1730 – 24	2 x 100mm Dia.
2400 Series	SGLB2448 – 36	2 x 100mm Dia.
3000 Series	SGLB3048 – 36	4 x 100mm Dia.

Note: Additional holes can be position directly above bottom holes.

Models 3048 and 2448 have a moulded-in sidewall reinforcement bar on each side $\frac{3}{4}$ of way down from the top of lid identified externally. **Do not drill through this section.**

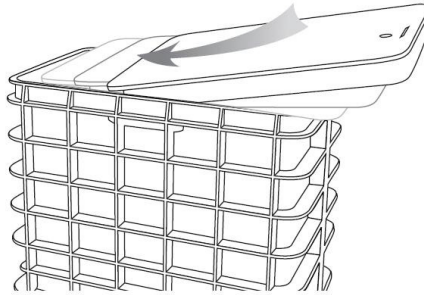


Hole Saw Guide

Conduit Diameter	Hole Saw Size	Bushing PVC
20mm	30mm	20mm
50mm	66mm	50mm
100mm	123mm	100mm

4.1.5. Placing Pit in Excavation

Note: SGLB cover and floor should be installed and secured on body prior to placing pit into position and/or backfilling. Slide pit lid into SGLB body and secure one end into position. Drop lid into pit and secure by turning 'L'-Bolt $\frac{1}{4}$ turn. Replace lock cover.



- Place the SGLB in the excavation using appropriate handling method or aid. Once SGLB is placed in position adjust the height and top of the pit so it is level with surrounding footway/driveway or ground surface.
- Centre the pit in the excavation in line with the conduit entries and parallel to the edge of the footway or driveway paving.
Note: Polymer concrete lid is a 'drop-in' lid and does not overlap pit body. Ensure internal centre brace on 2400 and 3000 series pit is fitted prior to replacing lid.

4.1.6. Installing Conduits in Pit

- Position conduit in holes and cut end flush with inside wall of pit.
- Remove sharp edges and burrs.
- Install conduits into drilled holes and fit to all conduits with suitable PVC bushing.
- Ensure PVC bushing is fitted into pit entry hole and flush with inside of pit wall with flange located internally.
- PVC bushing must be fully inserted into conduit and adhered into position using suitable pipe adhesive.
- Externally seal gaps using polyurethane foam, pre-mixed concrete or other approved sealant.

4.1.7. Backfilling

Note: SGLB cover and floor should be installed and secured to pit body prior to placing into position and/or backfilling. Slide pit lid into SGLB body and secure one end into position. Drop lid into pit and secure by turning 'L' -Bolt ¼ turn. Replace lock cover.

To remove lid unlock and slide out using approved lifting tool.

- Ensure top of the pit is as per final ground level and allow for the correct depth of footway or driveway to the edge of the pit.
- Backfill around the pit using the finer excavated material in 200mm deep layers tamping each layer either by hand or using a mechanical tamper.
- Ensure backfill flows into SGLB rib pockets to secure pit into position.
- Discard rocks larger than 75mm from the backfill material.
- Match level and surface grade to surrounding area.
- Remove excess excavated material from the site.

4.2 Cutover Existing Plant

4.2.1. Site Preparation

Refer 4.1.1

4.2.1. Excavating Hole

Refer 4.1.2

4.2.2. Retrofitting Pit

- SGLB can be positioned over existing conduits by cutting slots (hole and hand saw) into bottom section of conduit pit entry or separating pit halves by unscrewing fixing bolts.
- Ensure cut-out is as close as possible to conduit diameter.
- Place pit into position or screw back together ensuring all bolts are fully tightened into position.
- Internally screw into position cutover reinstatement plate kit over pit opening.
- Externally seal gaps using polyurethane foam, pre-mixed concrete or other approved sealant

5. RAISING GROUND LEVEL

5.1. Raising Ground Level or Increasing Pit Depth

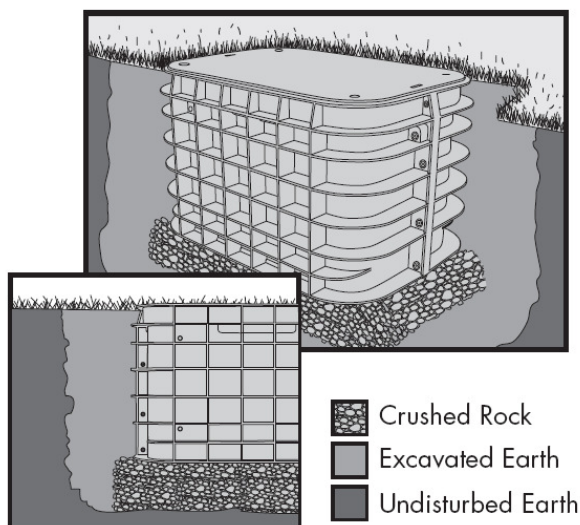
The SGLB is available in 2 standard depths 610mm and 914mm

- To re-surface existing ground level a raising ring is fixed to top of existing pit in increments of 100mm.
- To increase depth of pit a 200mm pit extension is screwed to bottom of pit for new installations.

6. HARDWARE

All SGLB models are supplied with pre-installed studs to accommodate optional mounting hardware options.

- Mounting hardware and bracing may be factory fitted for use with network provider equipment and installation practices.
- Mounting hardware or bracing can be removed if during pit installation however must be re-fitted prior to backfilling.



7. CHECK LIST

7.1. New Build

- Ensure pit location complies with footways and pathways as set out in section 2
- Floor fitted and secured into position
- Conduit entry correctly positioned and sealed accordingly
- Mounting hardware or bracing fitted
- Pit lid locked and lock cover replaced.
- Pit and backfill material is level with surrounding area.
- Excess material removed from site.

7.2. Cutover Existing Plant

- Ensure pit location complies with footways and pathways as set out in section 2
- Floor fitted and secured into position
- Reinstatement kits fixed into position
- Conduit entry correctly positioned and sealed accordingly
- Extension kits and raising ring fixed into position (if used)
- Mounting hardware or bracing fitted
- Pit lid locked and lock cover replaced.
- Pit and backfill material is level with surrounding area.
- Excess material removed from site

END