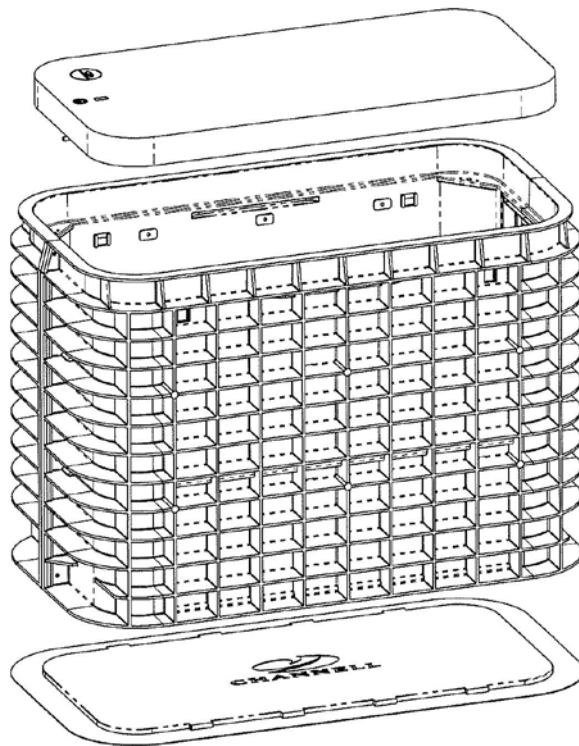




Shutter Box Series Shutter Grade Level Boxes (SGLB®) with Polymer Cover



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.

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	SGLB2436 - 24	980mm (L) x 690mm (W) x 610mm (D)
	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

4.1.1. 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 150mm to 200mm 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 that can be positioned on ends and/or side wall of pit.
- Refer relevant authority work practices for maximum number of conduits per pit.

Side Entry

- Side entry holes provision (flat section) is available on the bottom section of all SGLB models however holes can be drilled through ribs from the inside of the pit without sacrificing the integrity.
- It is possible to drill through structural ribs from inside the pit with sacrificing integrity however it is recommended that wherever possible holes 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

- If required drill thru SGLB floor to accommodate conduit entry. Alternatively pit can be installed without floor if installation practice is allowable.
- Centrally position SGLB over vertical conduit (90 deg elbow or sweeping bend)
- Conduit should protrude approximately a minimum of 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 (per side)

Series	Model	Side Entry – Conduit Capacity
1200 Series	SGLB1230 – 24	1 x 100mm Dia.
1700 Series	SGLB1730 – 24	2 x 100mm Dia.
2400 Series	SGLB2436 -24	2 x 100mm Dia.
	SGLB2448 – 24	2 x 100mm Dia.
	SGLB2448 – 36	2 x 100mm Dia.
3000 Series	SGLB3048 – 24	4 x 100mm Dia.
	SGLB3048 – 36	4 x 100mm Dia.

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

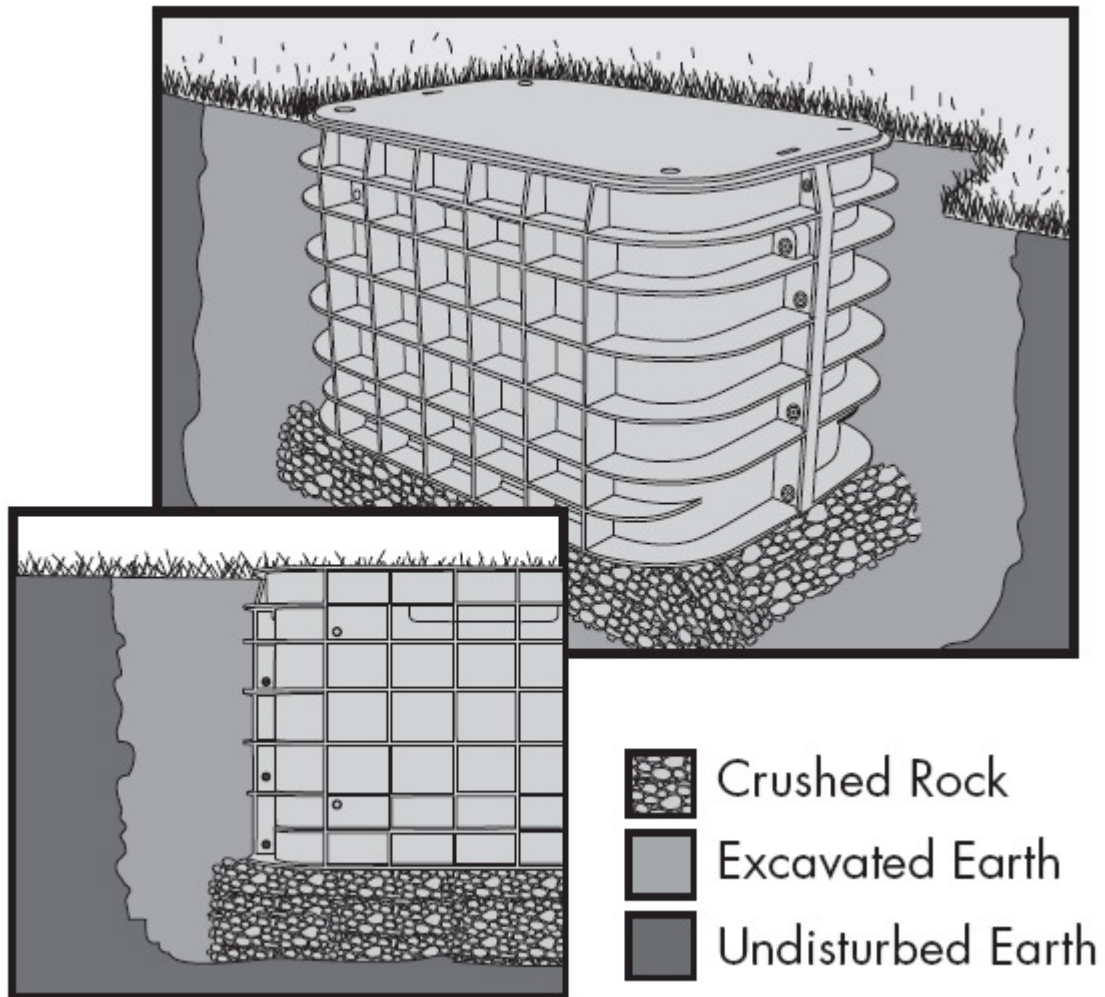
Hole Saw Guide

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 to body prior to placing into position and/or backfilling.

- 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.



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.
- PVC bushing must be fully inserted into conduit and adhered into position using suitable adhesive.
- Any visible gaps must be covered using gap sealant or similar.

4.1.7. Backfilling

Note: SGLB cover and floor should be installed and secured on body prior to placing pit into position and/or backfilling.

- 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 support 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 splitting pit into 2 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.
- Seal gaps with pre-mixed concrete or other approved sealer.

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 fitted to top of existing pit in increments of 50mm(1230, 1730 & 2436) 80mm (2448 & 3048)
- To increase depth of pit an extension is clipped to bottom of pit for new installations. 250mm Extns (1230, 1730 & 2436) 350mm Extns (2448 & 3048)

6. HARDWARE

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

- In some case hardware may be factory fitted and therefore must be used in accordance with approved installation practices.
- Mounting hardware can be removed if required however must be replaced as fitted prior to backfilling.

7. CHECK LIST

7.1. New Build

- All new pits shall be located on footways and pathways as per section 2
- Pit Lid and Floor fitted
- Conduit entry correctly positioned and sealed.
- Mounting Hardware in position
- Pit Lid locked into position and lock cover replaced.
- Pit and backfill material is level with surrounding area.
- Excess material removed from site.

7.2. Cutover Existing Plant

- All new pits shall be located on footways and pathways as per section 2
- Pit Lid and floor fitted
- Conduit entry correctly positioned and sealed.
- Reinstatement kits fitted
- Extension kits and raising ring fixed (if used)
- Mounting Hardware in position
- Pit Lid locked into position and lock cover replaced.
- Pit and backfill material is level with surrounding area.
- Excess material removed from site

END