EarthBin®

SLEEVE INSTALLATION GUIDE

EB500B
09-18

EarthBin®

INSTALLATION CONSIDERATIONS

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING THE INSTALLATION.
PLEASE CONTACT EARTHBIN PRODUCTS AT 1-844-213-2467 (BINS) IF YOU HAVE ANY QUESTIONS.

- Note that illustrations are not to scale
- Compliance to local bylaw ordinances are the responsibility of the owner
- Compliance to local regulations for excavation embankment requirements
- Compliance to local municipal building department requirements
- Locates to be verified prior to excavation

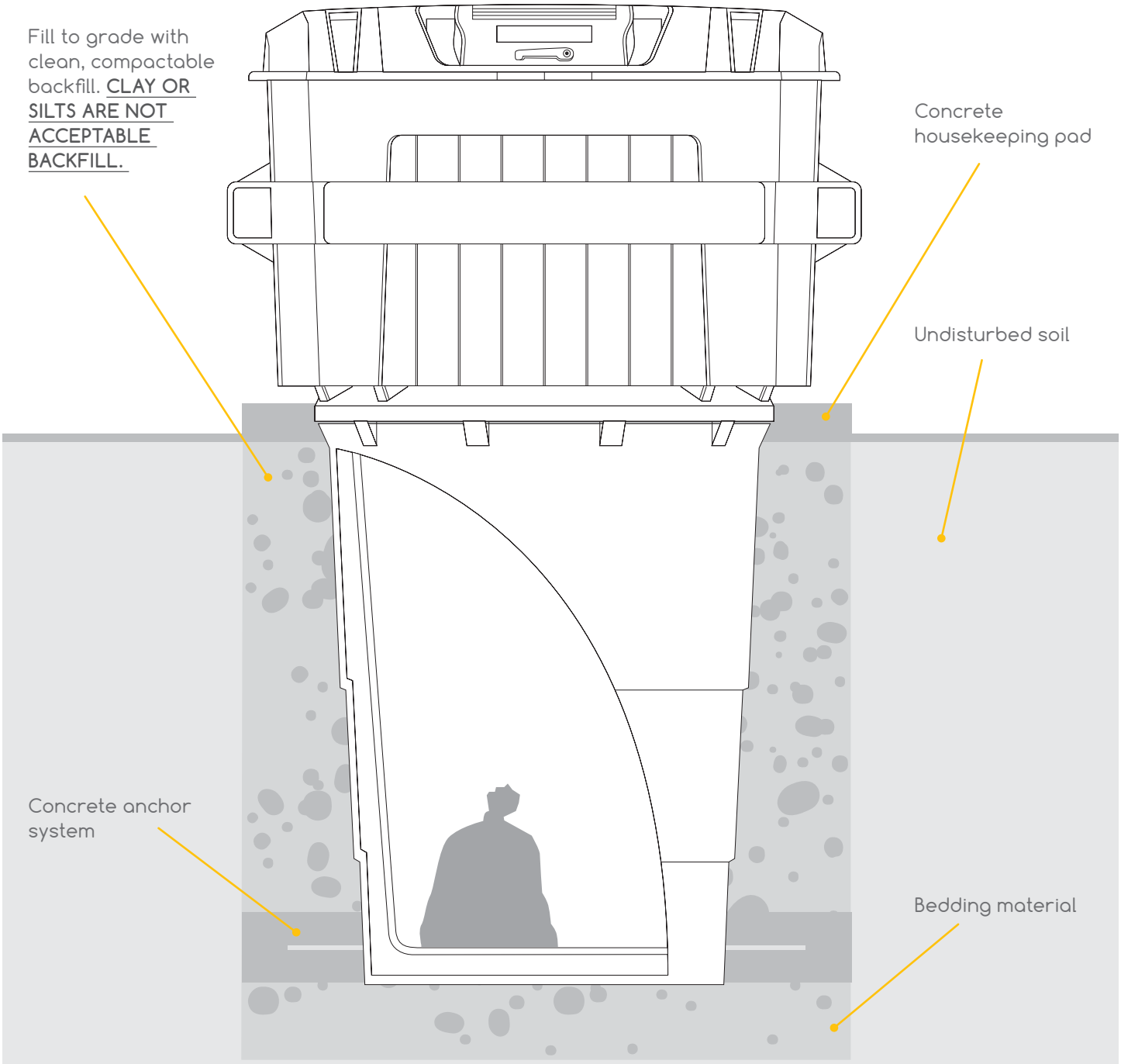
Safety Warnings

A WARNING statement in this manual designates a situation that may cause bodily harm and/or equipment damage.

A CAUTION statement in this manual indicates a situation that could potentially cause equipment damage or failure. Follow proper safety procedures as described.

FAILURE TO COMPLY WITH INSTALLATION INSTRUCTIONS WILL VOID WARRANTY.

TYPICAL INGROUND SECTION VIEW

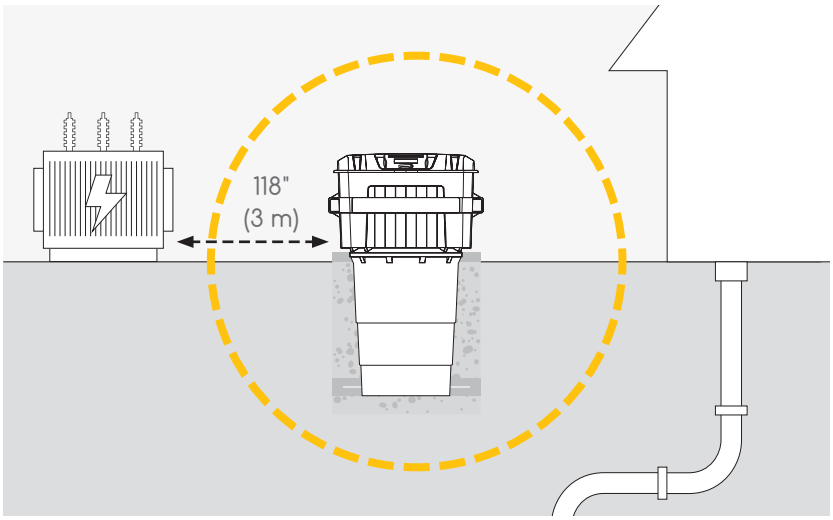


Protected by United States Patent No. 9,938,077

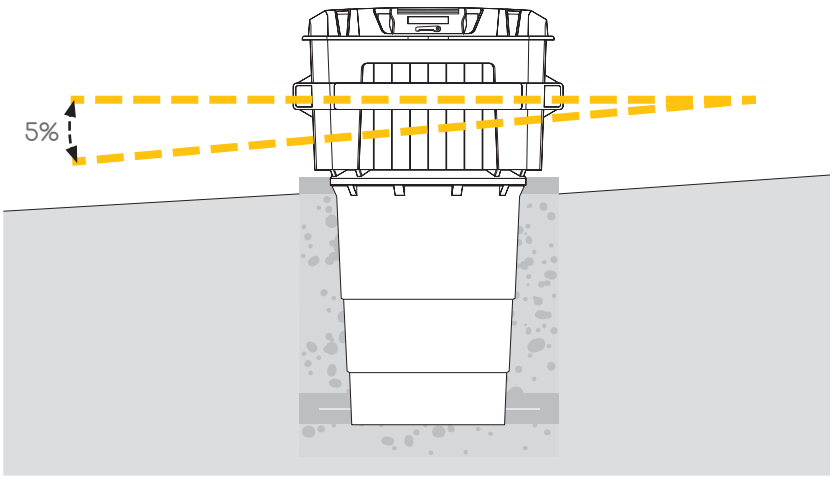
STEP 1 – SITE CONSIDERATIONS

1.1 Overhead clearances, such as powerlines or trees, proximity to transformers, fire hydrants, drains, storm sewers, other services.

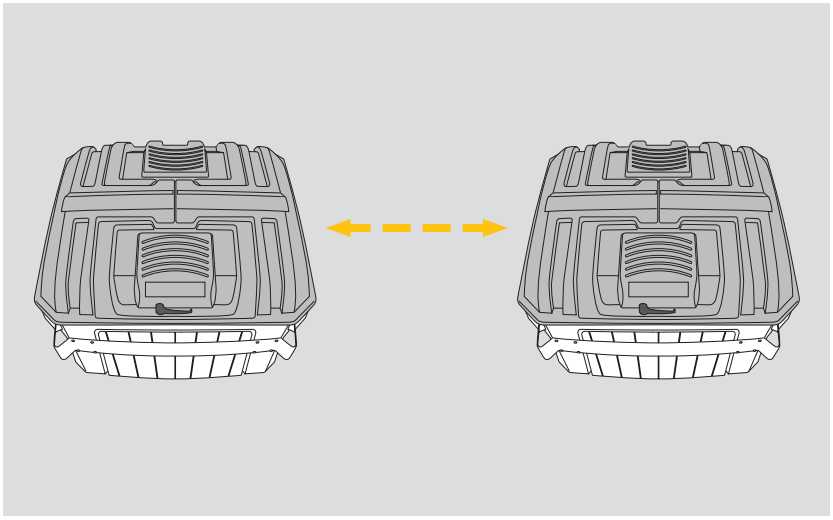
DO NOT PLACE EARTHBINS ABOVE ANY UNDERGROUND SERVICES.



1.2 Existing grade to be not more than 5% cross slope. Place EarthBins at different elevations depending on grade.



1.3 Angled truck approach — enough distance between bins as per detailed drawings.



Other considerations:

- Consult Geotechnical reports if available.
- High ground water height — contact EarthBin Products at 1-844-213-BINS(2467).
- Bore holes may be required to determine bedrock depth.

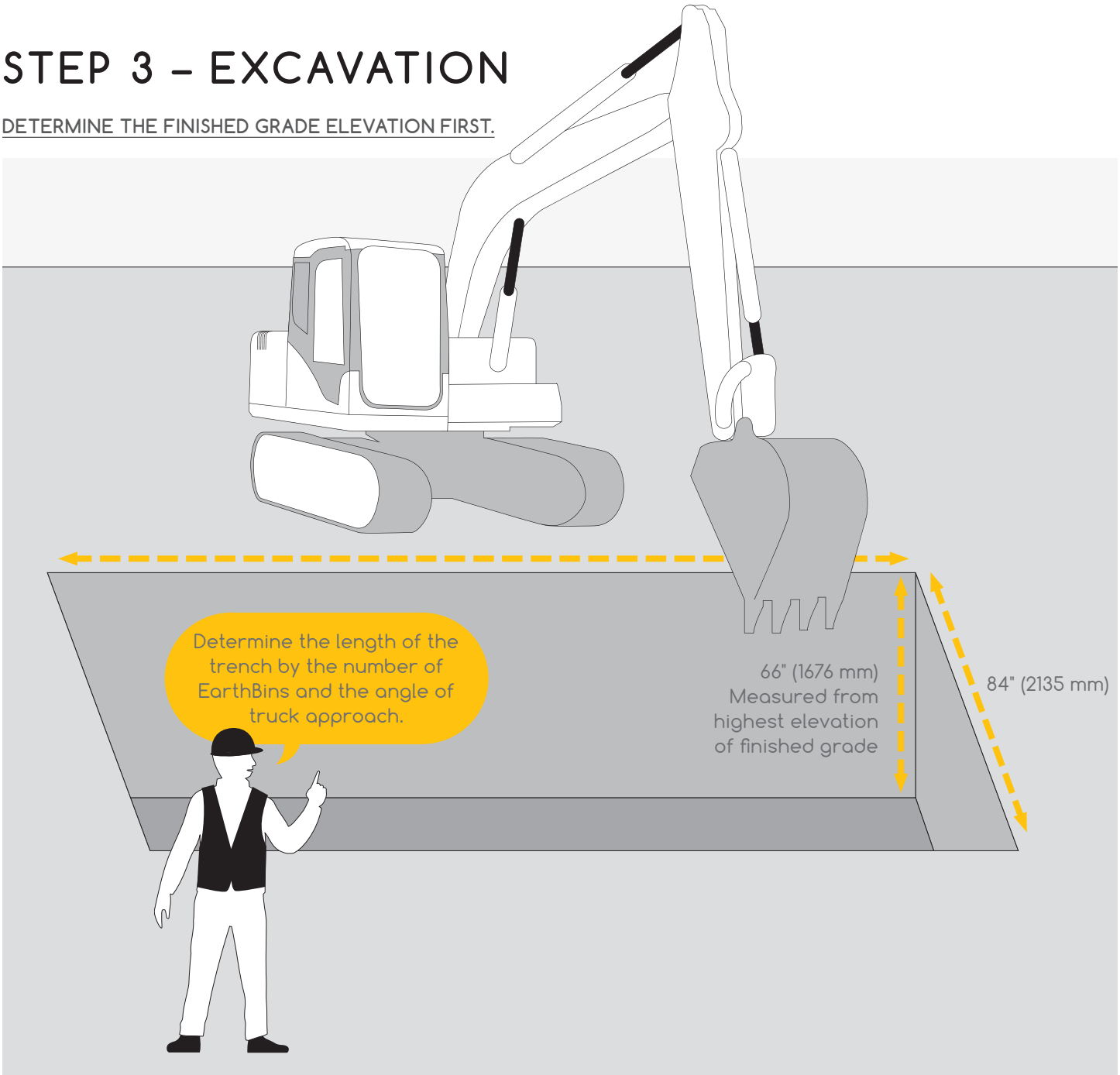
STEP 2 – SITE PREPARATION

SITE MUST BE CLEAR FROM ALL OBSTRUCTIONS, BOTH ABOVE GRADE AND BELOW GRADE. OWNER RESPONSIBLE TO REMOVE ANY OBSTRUCTIONS – DUMPSTERS, FENCING, ETC.

If required, cut & remove concrete or asphalt.

STEP 3 – EXCAVATION

DETERMINE THE FINISHED GRADE ELEVATION FIRST.

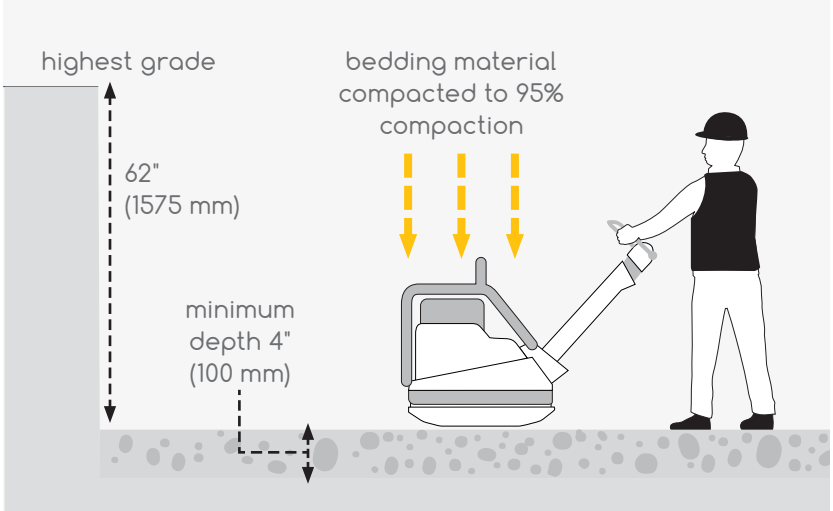


STEP 4 – INSTALLATION

STEP 4.1 – INSTALL BASE

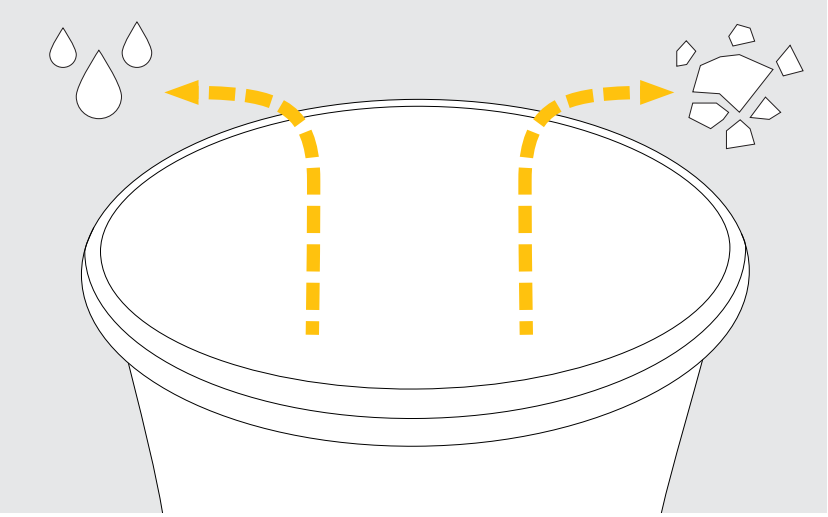
4.1.1 Place bedding material, such as gravel, into bottom of trench. Compact to 95% compaction & level.

MEASURE ELEVATION TO ENSURE THAT FINISHED GRADE WILL SLOPE AWAY FROM THE GROUND SLEEVE.



STEP 4.2 – INSTALL & POSITION GROUND SLEEVE LINER

4.2.1 Ensure that liner is emptied of water and any debris.



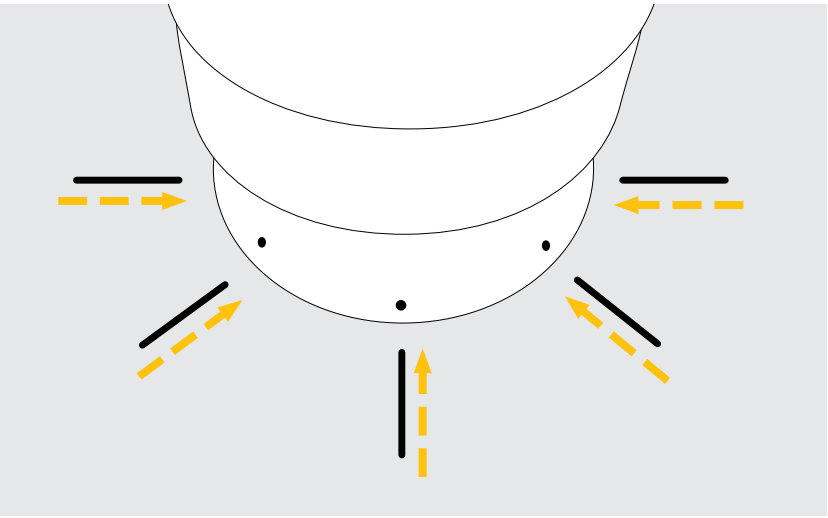
4.2.2 Install eight (8) 12" (300 mm) long 15M rebar (uncoated) into openings in perimeter of bottom of ground sleeve liner.

CAUTION: DO NOT DRILL HOLES IN PLASTIC OR ENLARGE EXISITNG HOLES AS THIS WILL VOID WARRANTY.

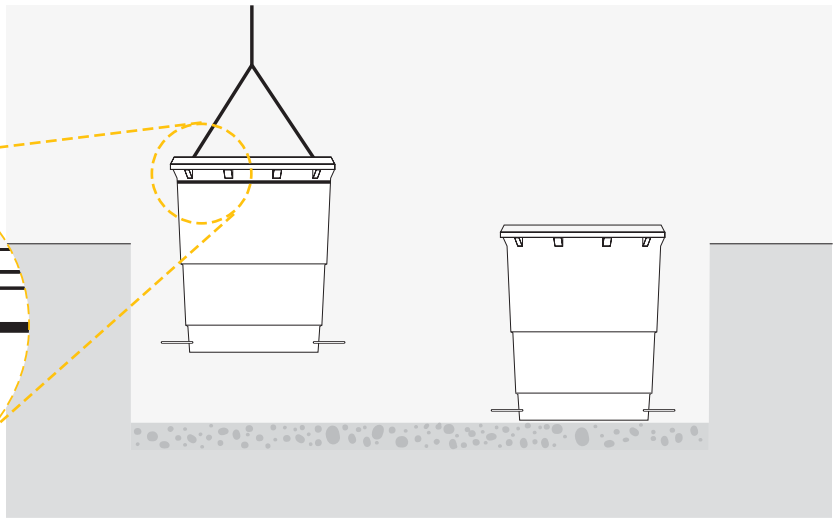
LIFTING INSTRUCTIONS

Lift the ground sleeve liner with methods as shown below 4.2.3

CAUTION: FAILURE TO FOLLOW LIFTING INSTRUCTIONS COMPLETELY WILL VOID WARRANTY.



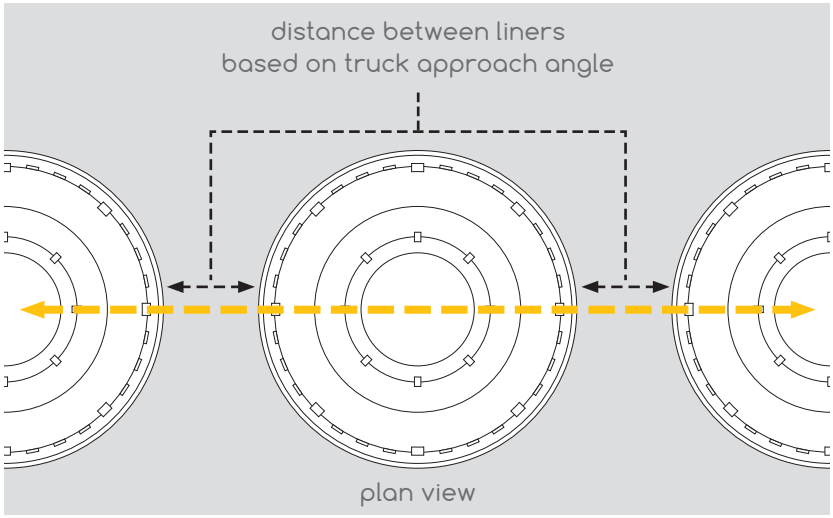
4.2.3 Hoist liner into trench (wrap a lifting strap around the top of the liner under the top lip of the liner).



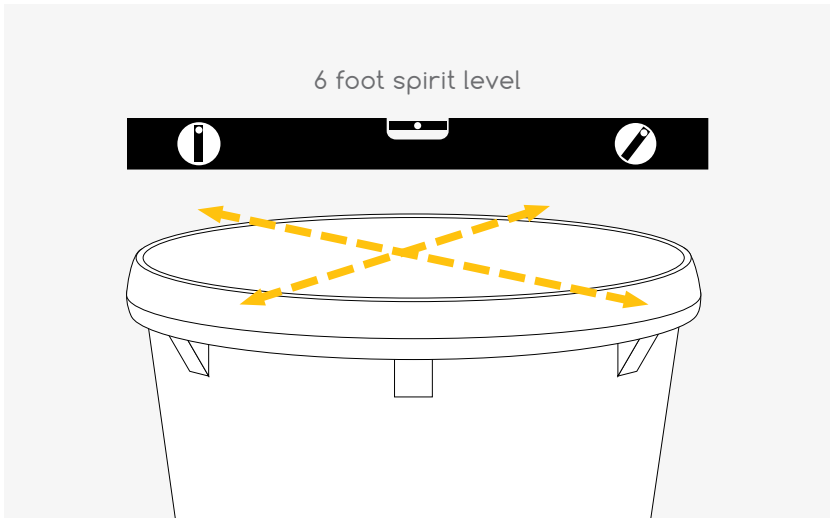
4.2.4 Centre liners in trench.

NOTE: If installing more than two units ensure that centres are inline.

IMPORTANT: SET DISTANCE BETWEEN LINERS BASED ON TRUCK APPROACH ANGLE.



4.2.5 Level the liners in the trench. Use plastic shims as required.

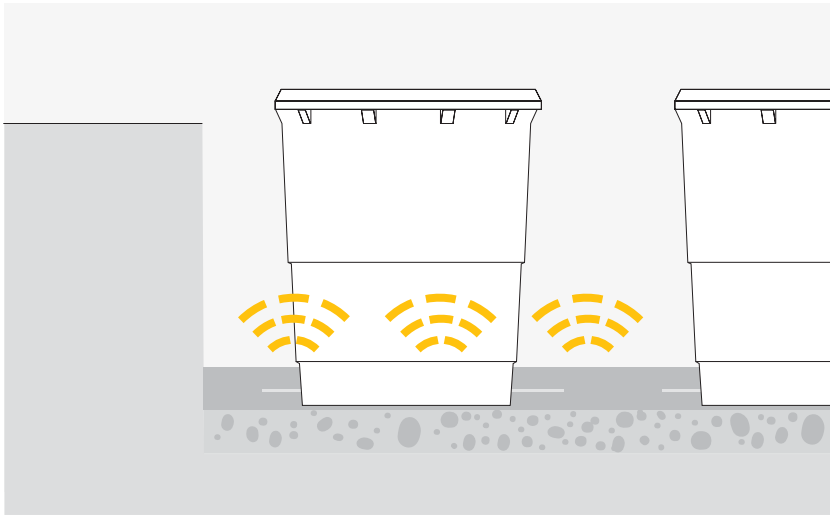


STEP 4.3 – INSTALL CONCRETE BALLAST

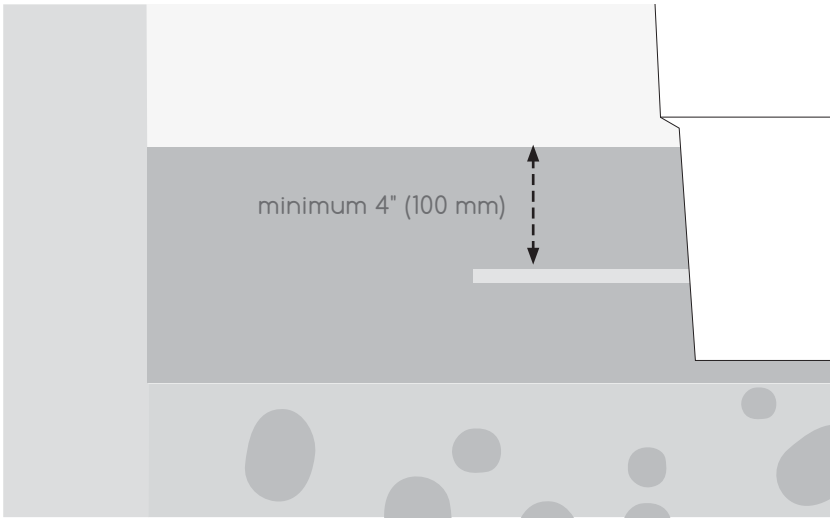
Pour .5 cubic metres (.65 cubic yards) of 20 MPa (2900 psi) concrete per ground sleeve liner.

4.3.1 When pouring concrete, start by pouring directly on top of anchor pins (rebar) first to ensure that the sleeve does not move.

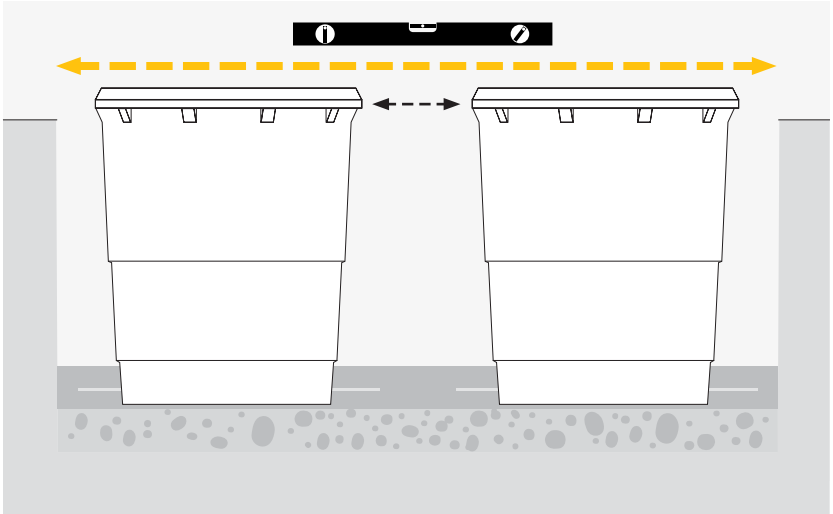
4.3.2 Vibrate concrete to ensure rebar is embedded into concrete and that there are no voids.



4.3.3 Ensure that concrete covers 4" (100 mm) above the rebar.



4.3.4 Check levelness and position of the liners once again (See steps 4-2d and 4-2e) before concrete has set.



STEP 4.4 – BACKFILL

Proper backfill is necessary to the long term stability of any underground structure. There are several ways to backfill that will result in a reliable installation. NO SHARP OBJECTS, ROOTS or rocks larger than 4" (100 mm) diameter in contact with ground sleeve liner.

The recommended method of backfilling above the concrete ballast and up to grade is to use Class 1 or Class 2 backfill materials as defined in ASTM 2321. Class 1A and Class 1B are recommended where frost heave is possible. Class 1B is a better choice when there could be a high and fluctuating water table or if the native soil is sand. Backfill must be compacted in lifts not to exceed 12" (300 mm) to a density of 90%.

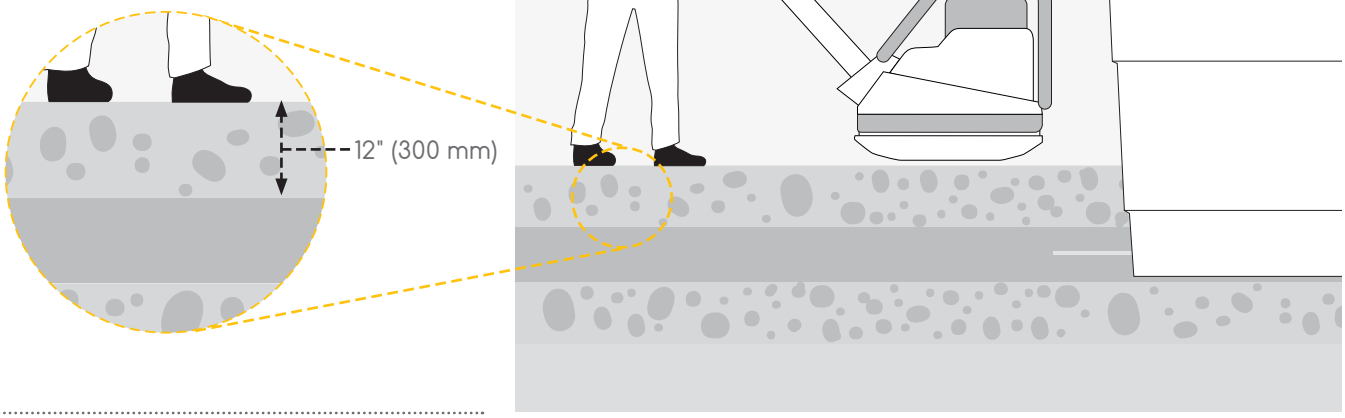
NON-COMPACTABLE CLAYS AND SILTS ARE NOT SUITABLE AS BACKFILL MATERIAL.

Flowable fill, for example low slump concrete is another option. This is a good option when there is very little space to assure proper backfilling and compaction with dry materials. Note that flowable fills should not be dropped with more than 4' (120 cm) between the discharge nozzle and the bottom of the pit.

4.4.1 Backfill once concrete is stiff enough to walk on.

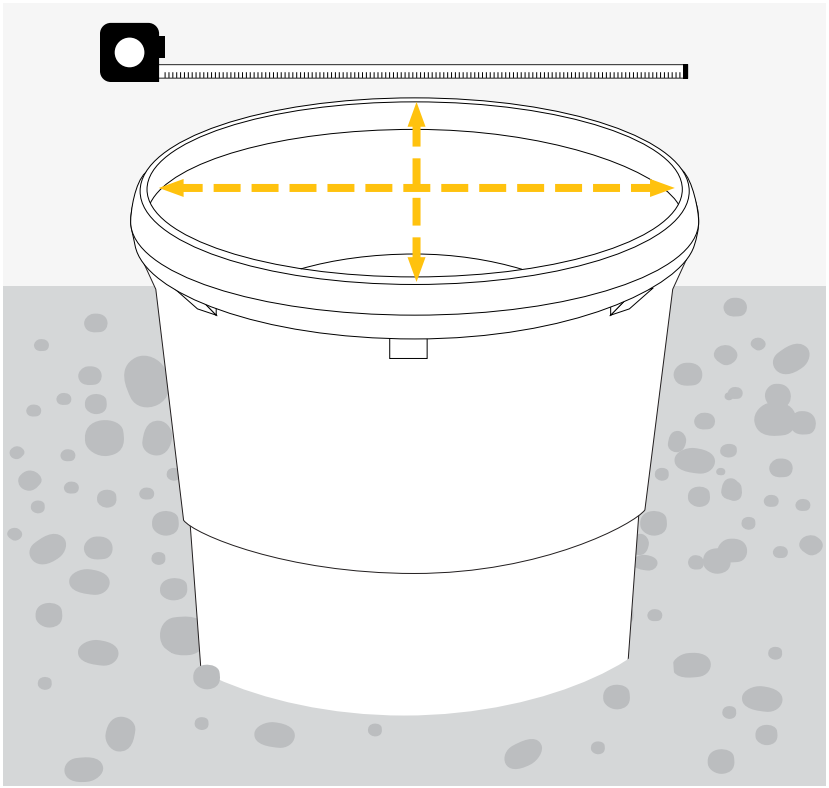
4.4.2 Backfill around the ground sleeve, packing in 12" (300 mm) lifts to 95% compaction ratio.

CAUTION – ENSURE THAT NO DEBRIS OR BACKFILL MATERIAL FALLS INTO THE GROUND SLEEVE LINER.

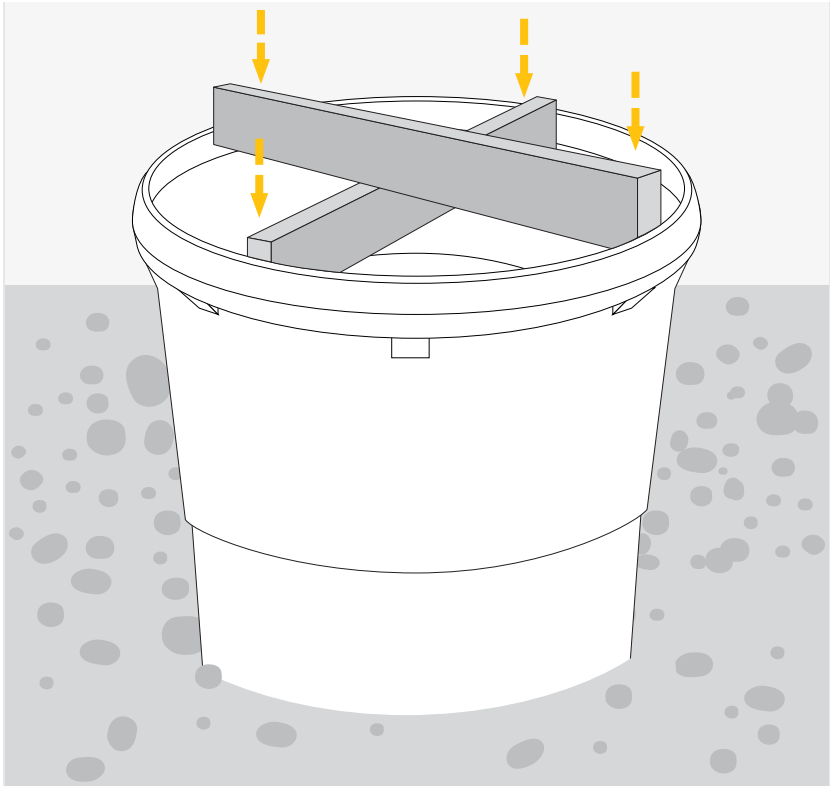


4.4.3 Fill trench to a depth of 24" (600 mm) and measure roundness of liner at rim.

Measurement in 2 directions must differ by less than 1" (25 mm).



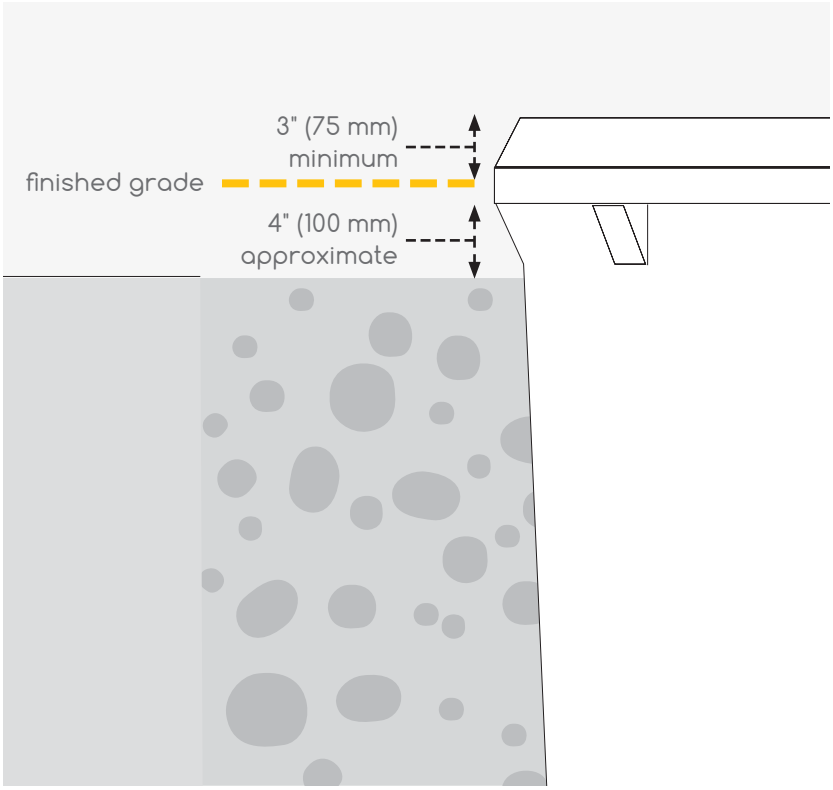
4.4.4 If necessary, cut 2x4 to appropriate length and insert in a cross pattern flush with top rim to maintain roundness while continuing to backfill.



4.4.5 Continue filling, packing and measuring roundness until trench is filled to grade to allow for concrete housekeeping pad.

WARNING: BINS MUST BE INSTALLED IMMEDIATELY OR OPENING COVERED APPROPRIATELY AND SECURELY TO PREVENT A FALL HAZARD.

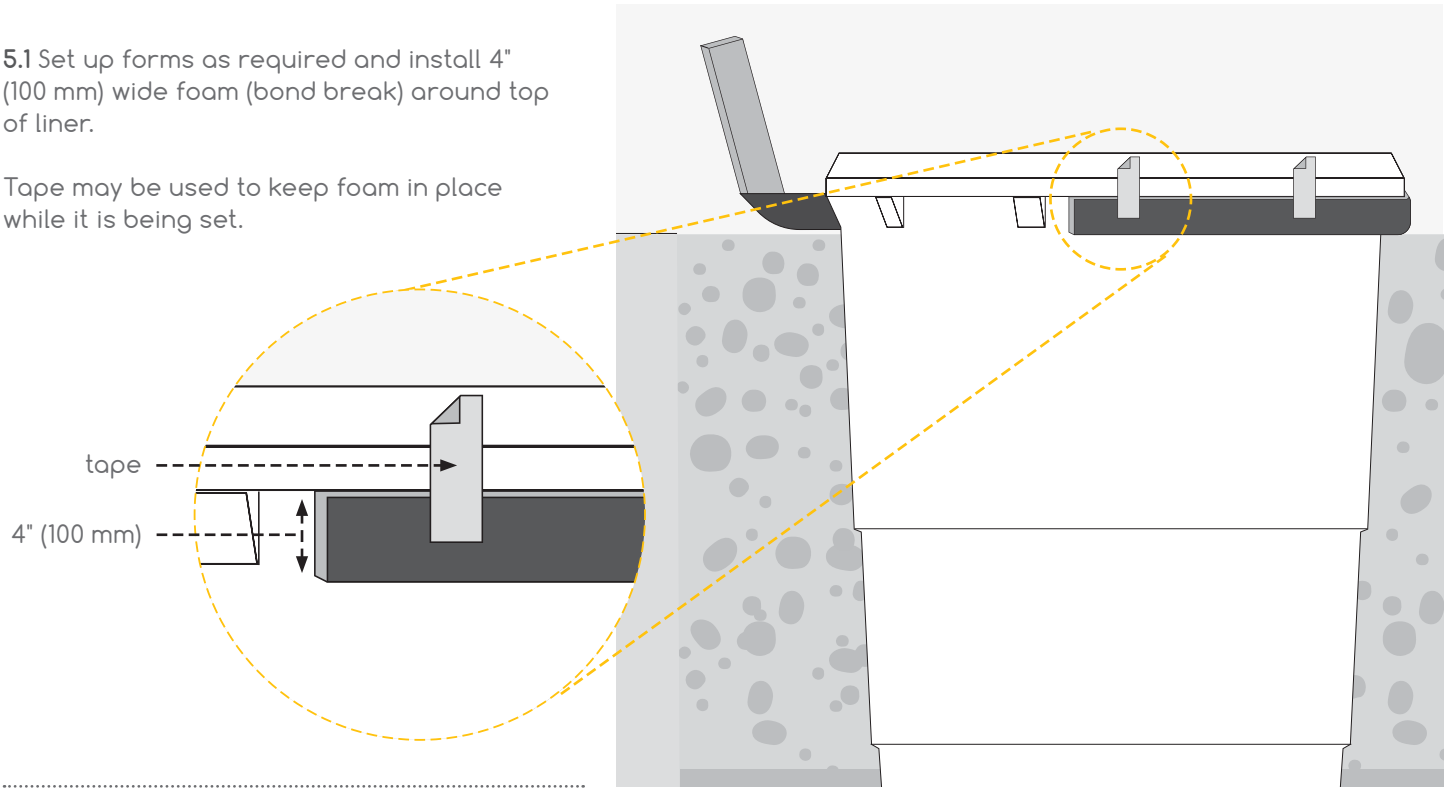
CAUTION: DISTANCE FROM TOP OF GROUND SLEEVE LINER NOT TO BE LESS THAN 3" (75 mm).



STEP 5 – FINISHING

5.1 Set up forms as required and install 4" (100 mm) wide foam (bond break) around top of liner.

Tape may be used to keep foam in place while it is being set.

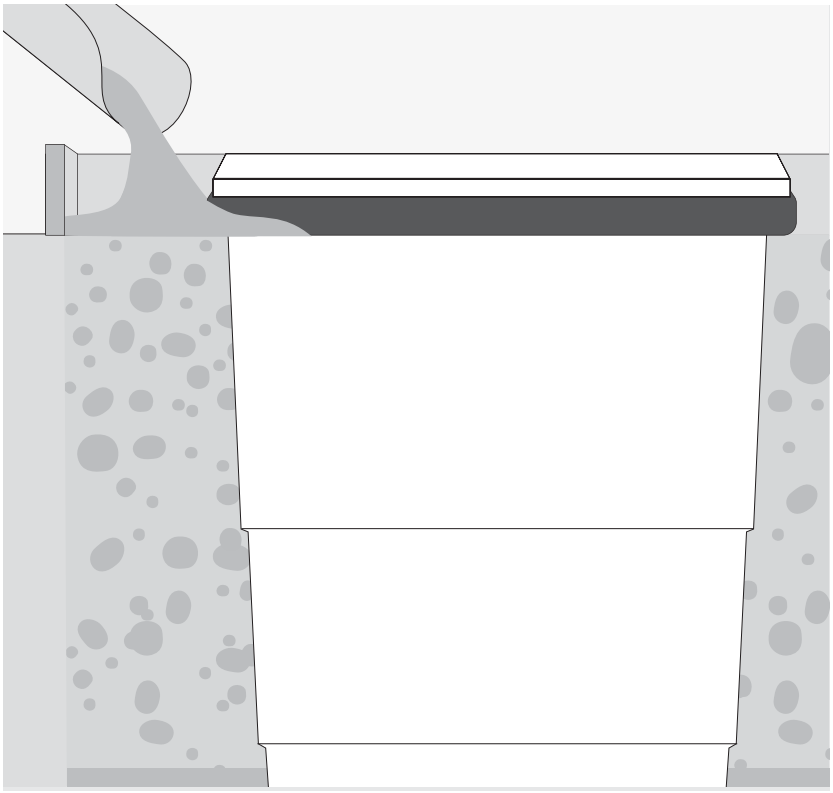


5.2 Pour 25 MPa (3600 psi) slab as specified with a broom finish.

4" (100 mm) minimum pad shown in illustrations; however, pad thickness to be determined by the contractor or engineer.

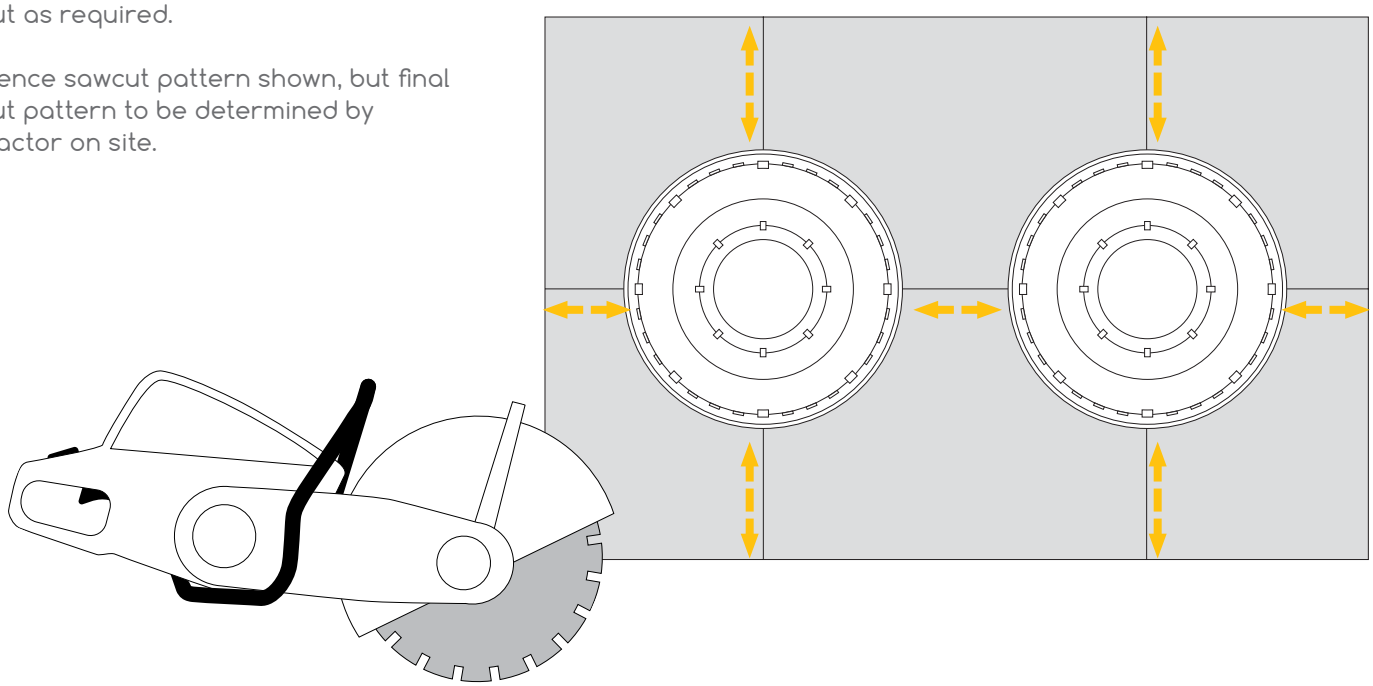
CAUTION: ENSURE THAT THERE IS A MINIMUM 4% GRADE AWAY FROM LINER

ILLUSTRATION SHOWS ONE POSSIBLE CONFIGUARATION BUT MAY ALSO BE POURED FLUSH DEPENDING ON FINISHED GRADE

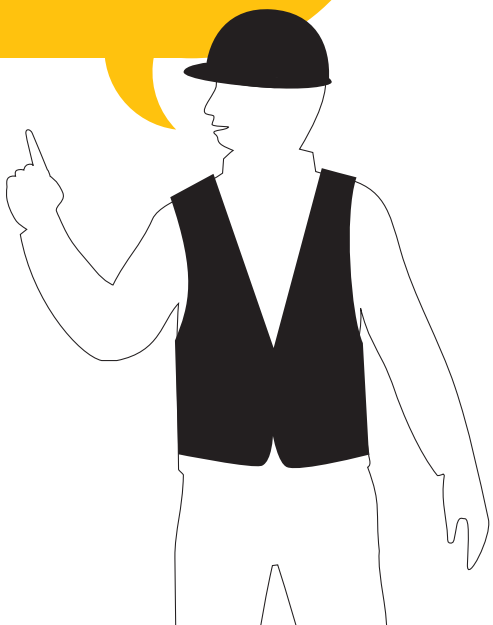


5.3 Remove forms after concrete has set and sawcut as required.

Reference sawcut pattern shown, but final sawcut pattern to be determined by contractor on site.

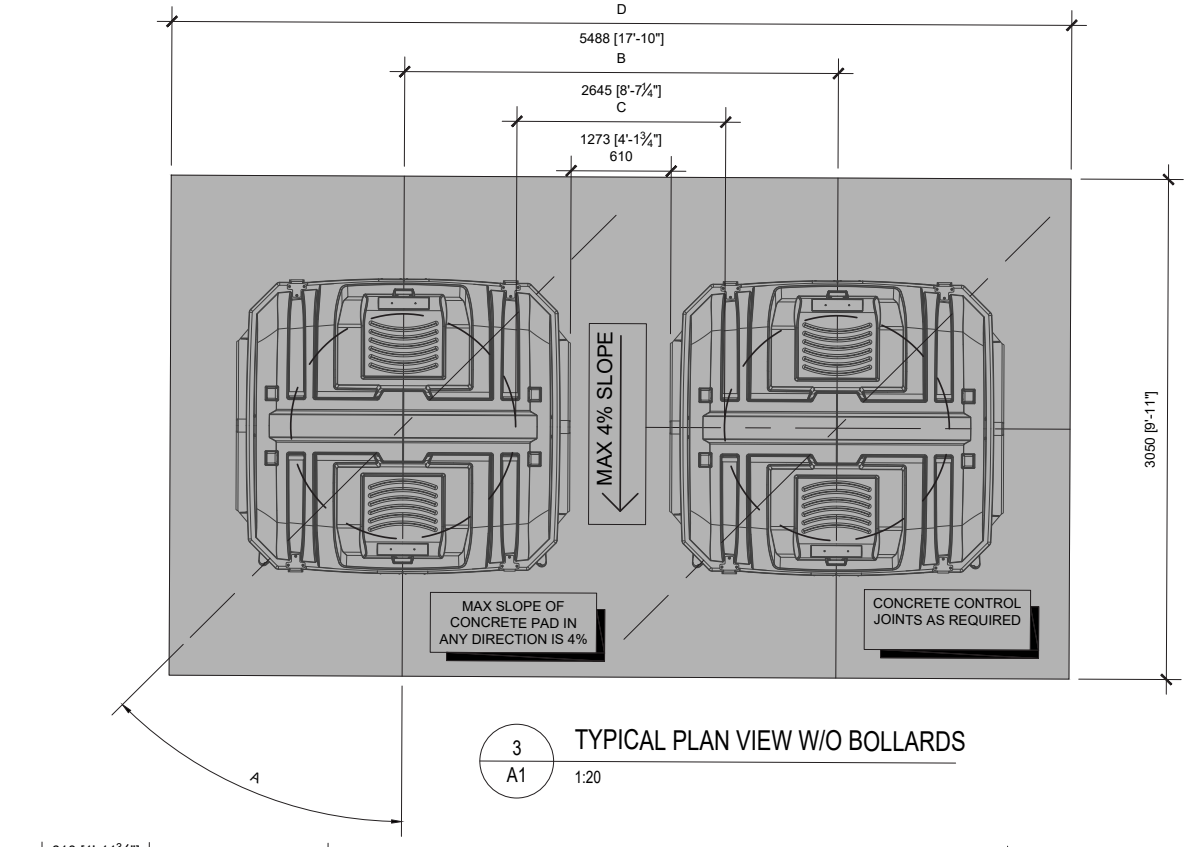


Great Job!
If you have any further questions, please call
1-844-213-BINS



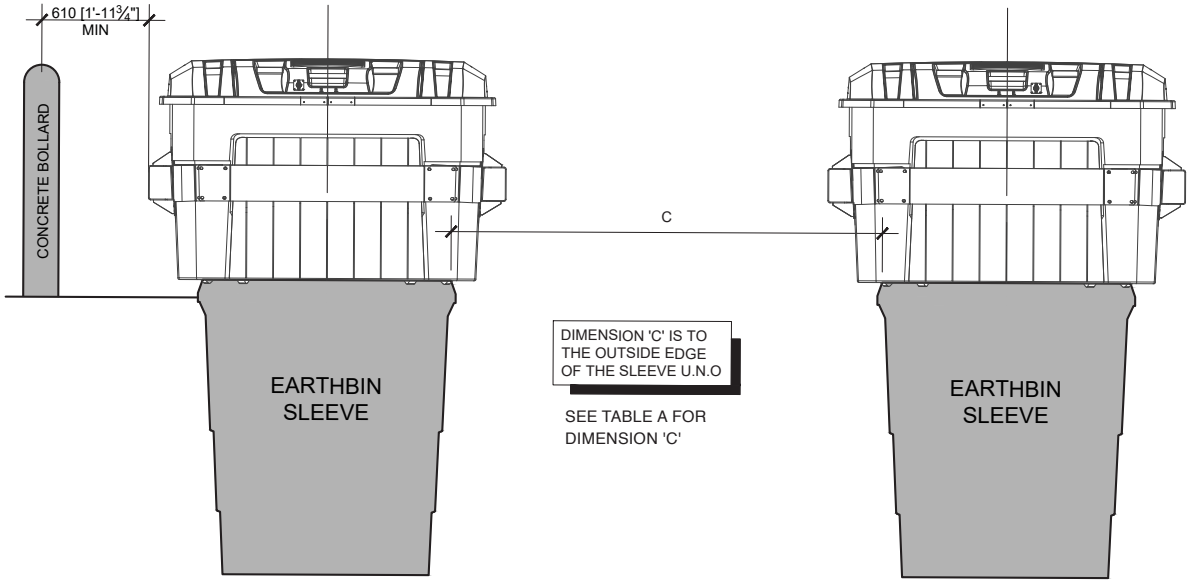
APPENDIX

Installation Drawings



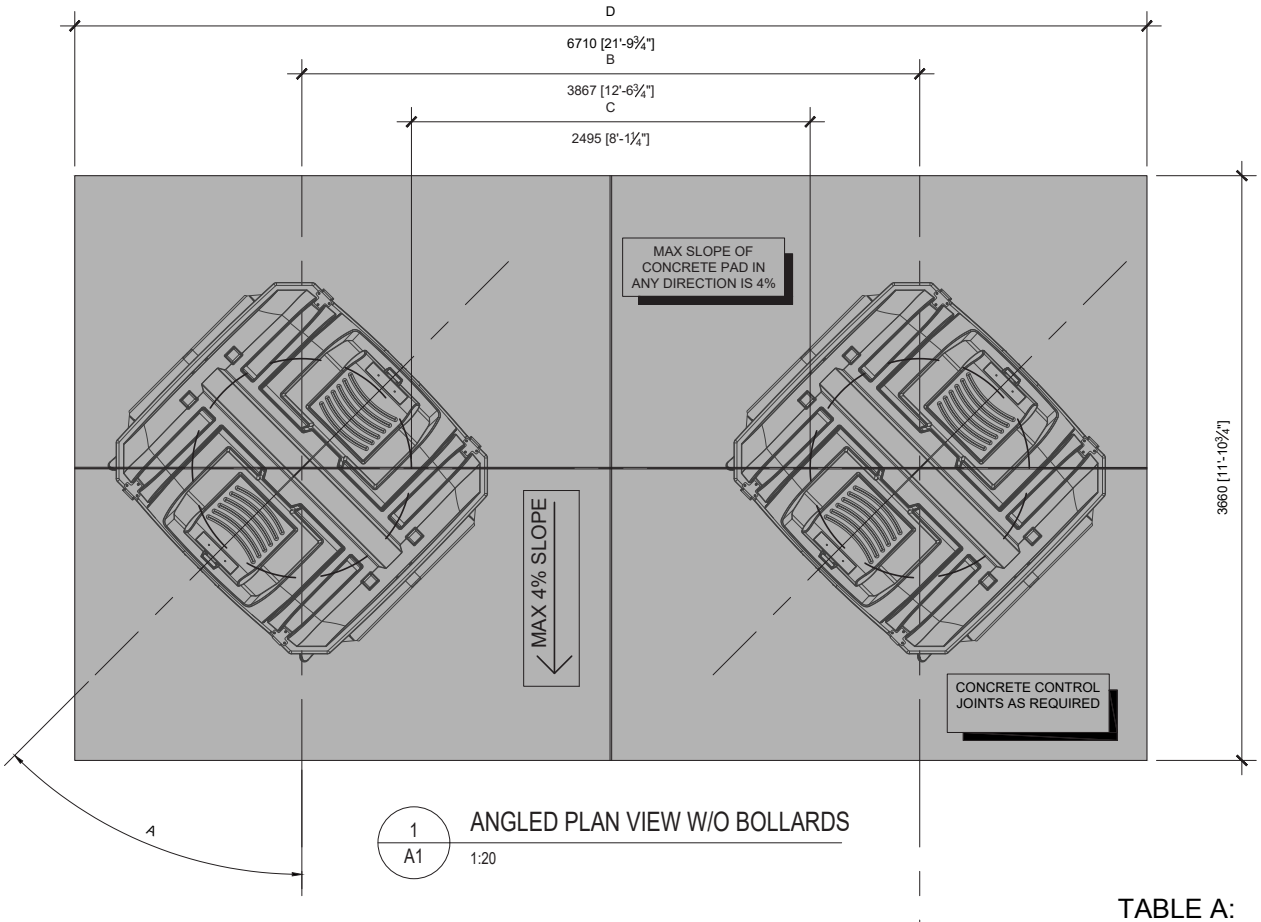
3 / A1 TYPICAL PLAN VIEW W/O BOLLARDS

1:20



2 / A1 ELEVATION VIEW OF BINS

1:20

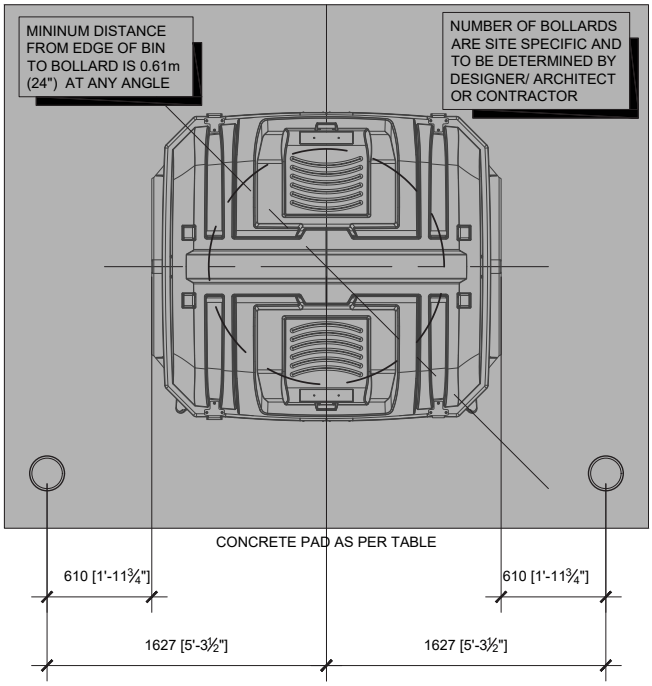


1 / A1 ANGLED PLAN VIEW W/O BOLLARDS
1:20

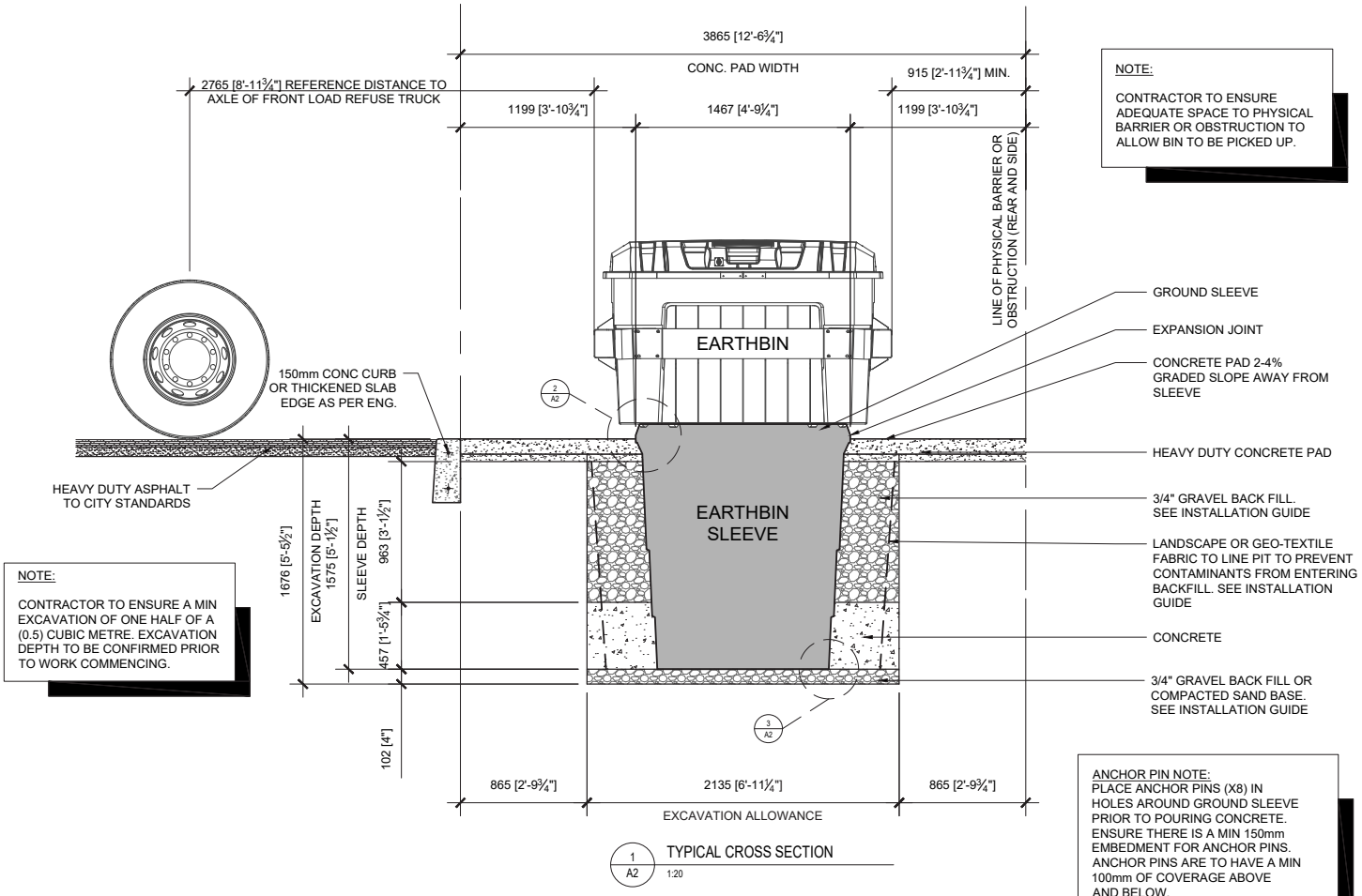
TABLE A:

TABLE A:
MINIMUM DIMENSIONS BETWEEN BINS

A	B	C	D
0°	2645 [104"]	1275 [50"]	5290 [208"]
15°	2740 [108"]	1365 [54"]	6290 [247.5"]
30°	3055 [120"]	1685 [66"]	7290 [287"]
45°	3865 [152"]	2495 [98"]	8290 [326"]



4 / A1 OPTIONAL BOLLARD PLACEMENT
1:20



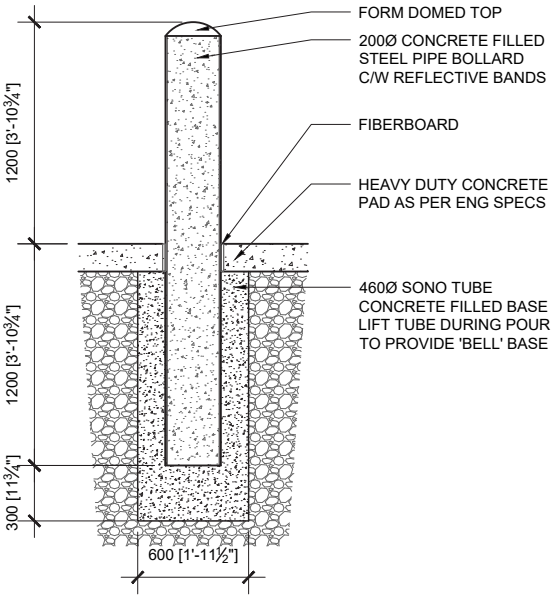
NOTE:

CONTRACTOR TO ENSURE ADEQUATE SPACE TO PHYSICAL BARRIER OR OBSTRUCTION TO ALLOW BIN TO BE PICKED UP.

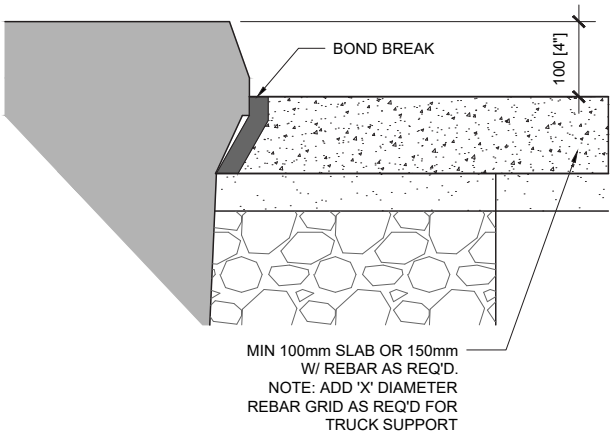
NOTE:

CONTRACTOR TO ENSURE A MIN EXCAVATION OF ONE HALF OF A (0.5) CUBIC METRE. EXCAVATION DEPTH TO BE CONFIRMED PRIOR TO WORK COMMENCING.

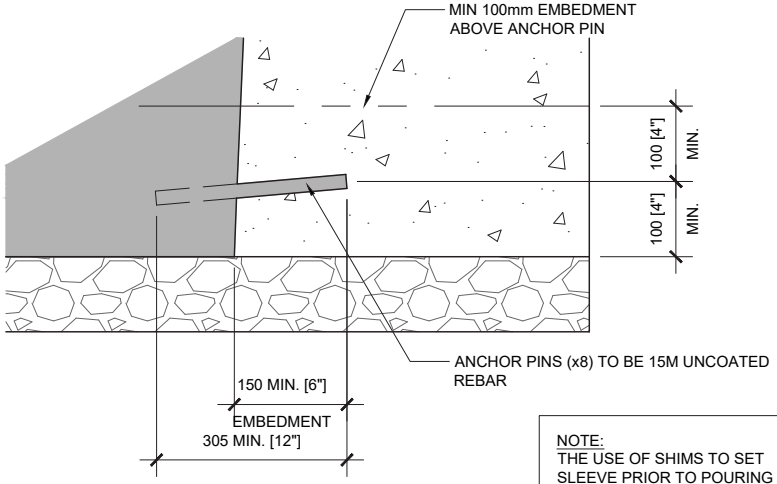
ANCHOR PIN NOTE:
PLACE ANCHOR PINS (X8) IN HOLES AROUND GROUND SLEEVE PRIOR TO POURING CONCRETE. ENSURE THERE IS A MIN 150mm EMBEDMENT FOR ANCHOR PINS. ANCHOR PINS ARE TO HAVE A MIN 100mm OF COVERAGE ABOVE AND BELOW.



4 / A2 BOLLARD DETAIL IF REQUIRED 1:20



2 / A2 SLEEVE DETAIL A 1:20



NOTE:
THE USE OF SHIMS TO SET SLEEVE PRIOR TO POURING CONCRETE IS ALLOWED.

3 / A2 SLEEVE DETAIL B 1:20

EarthBin®

If you have to see, smell, or even think about garbage on your property, you don't have a waste management system. You have a waste problem. Find out what the industry's most innovative thinkers have designed to solve it.

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