

Boom Gate Installation Procedure

Note – This document is for boom gates that have been pre balanced and programmed.

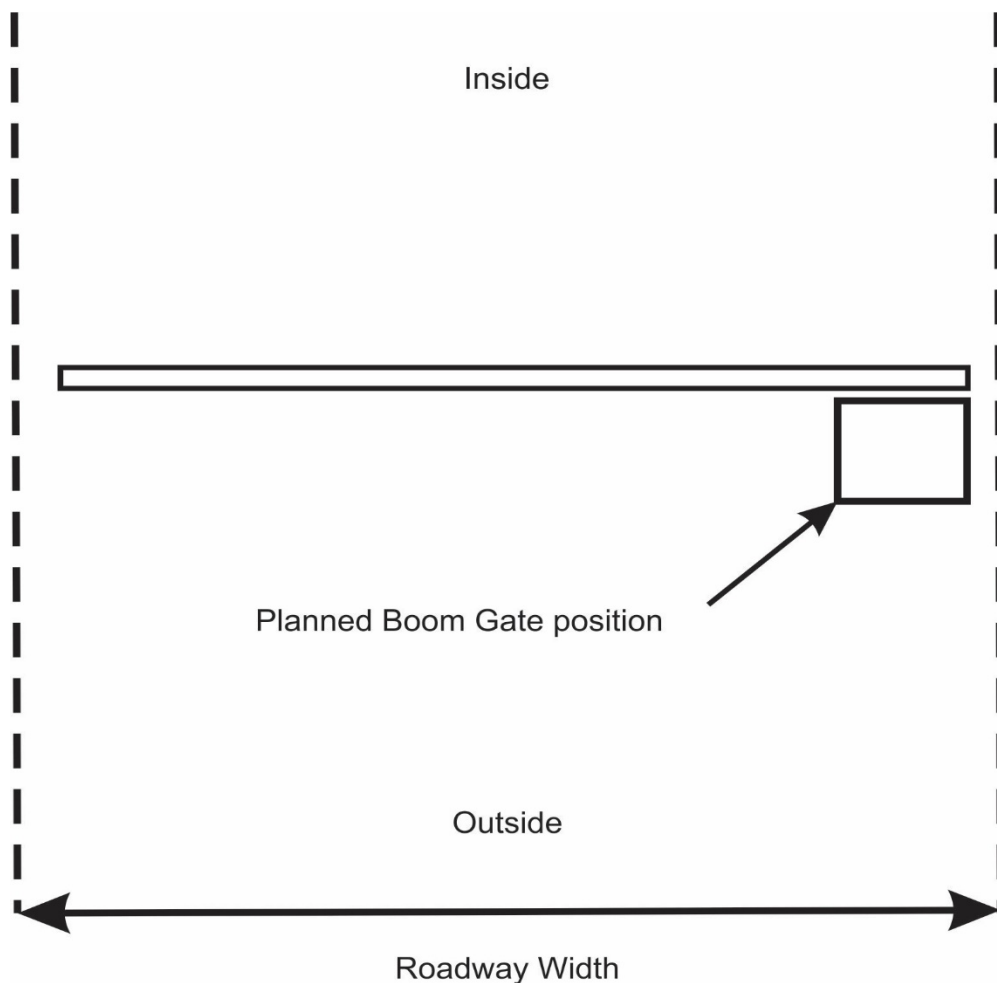
General order of installation.

1. Planning and layout.
2. Installation of cabling.
3. Hard stand installation.
4. Boom Gate installation.
5. Boom Support installation (If required).
6. Safety beam (photocell) installation.
7. Access control equipment installation.

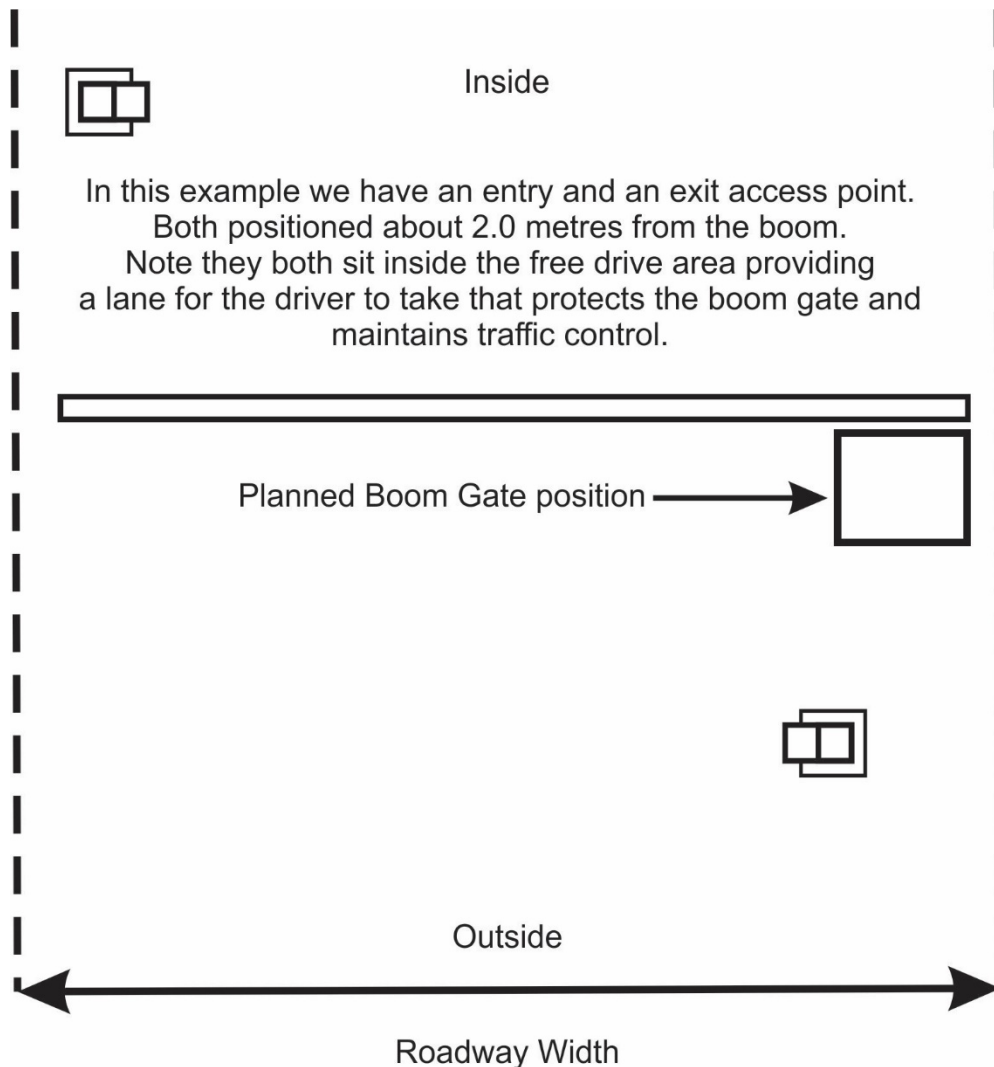
1. Planning and layout.

A boom gate is designed to control access on a roadway and will typically cover a three to six metre section of road. A single boom gate covering six metres will allow two way traffic of normal road size but in reality general standards of driving mean most people will give way and let the approaching vehicle through first.

So the first consideration is where the boom gate will be located giving thought to single or two way traffic and roadway width. Typically the boom gate will be closest to the given power source.



The next consideration is the location of, number of and type of control and safety devices as some of these will require pre cabling and hardstands prior to installation. For example it may be necessary to allow for card readers or keypads, intercoms etc. on access bollards installed before the boom gate on entry and/or exit. Safety devices like traffic lights need to be prewired with additional consideration given to photocells and/or loop detectors. Some of these are installed post boom gate install but should still be part of your overall plan.



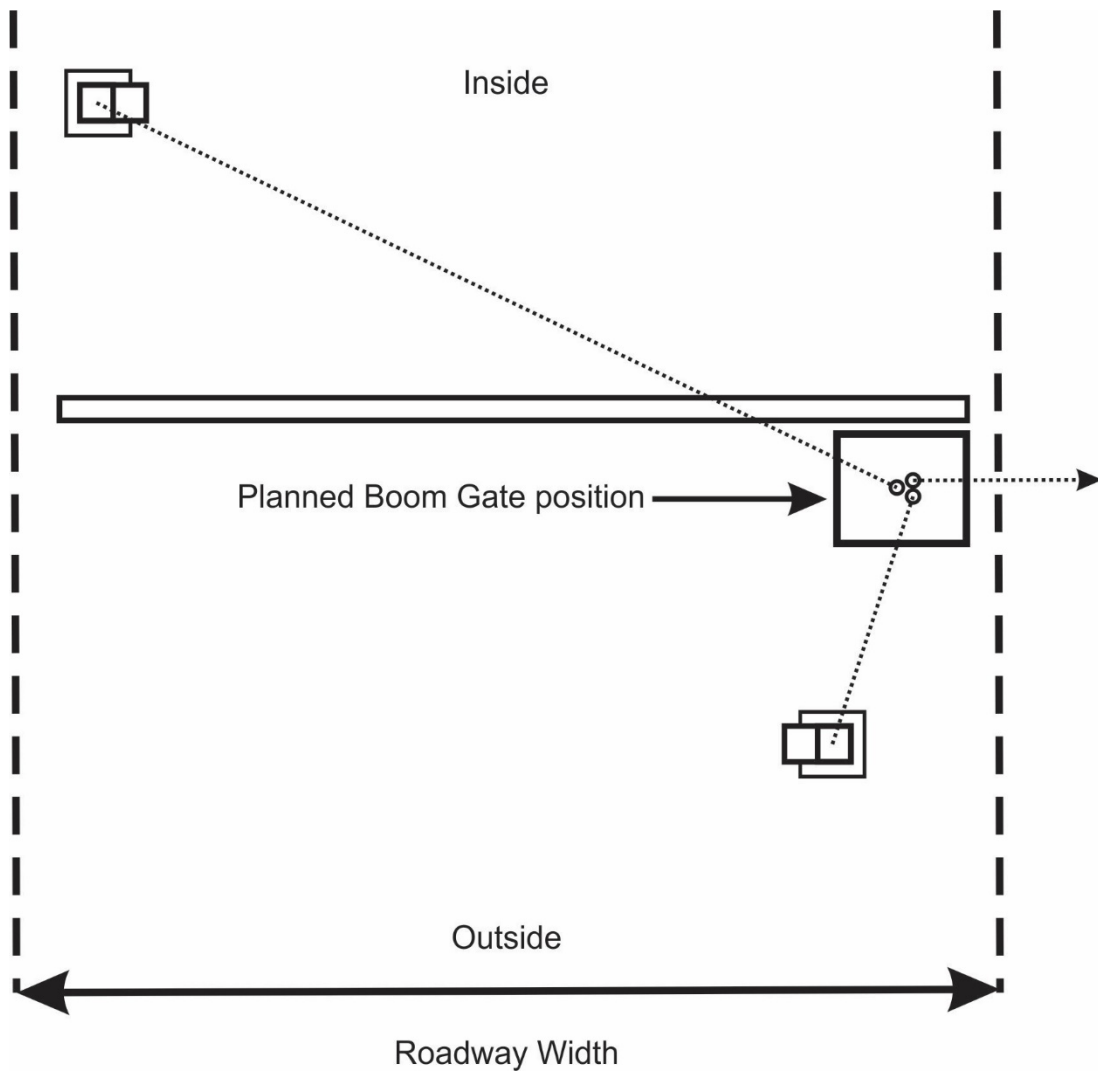
Once our layout is clear we are ready to start site preparations by installing conduits and cables.

2. Installation of cabling.

The most common practice in boom gate installation is that most conduits and cables terminate in the boom gate enclosure. So a list of cables and cable types needs to be made. In our example we have –

- A mains power cable to power the boom gate.
- Two six core shielded cables from the readers to the boom gate enclosure.

A pretty simple install really. A finished installation may have many more for items like loop detection and traffic lights. You might need to consider an access conduit before your boom gate hardstand for these items.



In the above installation we have pre-installed three conduits with appropriate cables. The cable on the right is going to our mains power installed by our electrician. Then we have two six core shielded cables inside conduits for our readers.

3. Hardstand installation.

We have conduits in place and it is now time to form up and install hardstands onto which we can mount the boom gate and other relevant equipment. Access bollards, boom supports, traffic lights etc. A hardstand is essentially a block of concrete capable of supporting the structure intended to sit on it.

A boom gate hardstand needs to be roughly twice the width and length of your boom gate footprint and then a similar depth. Example – The boom gate footprint might be 300mmx250mm so we will make our boom gate hardstand 600mm x 600mm x 600mm deep.

Note – Most boom gates have base plates available which make positioning much easier as well as providing for the installation of rag bolts for ease of bolting down.

The same formula should be applied to other equipment hardstands. Double the footprint and then a similar depth. As noted above most access bollards and traffic light bollards have plates and rag bolts available.

4. Boom Gate Installation

The good news is that because you have a boom gate that has already been balanced and programmed this part is relatively easy. Start by positioning your boom gate on your hardstand. If you have a base plate installed with rag bolts it is a simple matter of lowering the boom gate into place. If not you need to mark your fastening points on the hardstand then drill and secure the boom gate to the hardstand.

Next assemble your boom. In some cases this is no more than inserting your end caps but in the case of larger booms (more than four metres) you will need to assemble your sections complete with strength join inserts and/or end hub braces.

When your boom is assembled simply insert it into the boom gate securing hub with the boom in the horizontal (or down) position and secure the boom to the boom gate.

Now have your electrician connect your power and you should see the control board light up.

If you have remote controls programmed you can use these now to test your installation. The first full operation after power up will usually seem a little odd as the boom gate determines where it is in the cycle but after that you should find the operation as you ordered it.

5. Boom Support Installation

It is recommended that all booms over three metres in width use a boom support when in the down or closed position. The most common method is to install the boom support at the far end of the boom. It also comes in handy in the next stage if installing photocells or safety beams.

It is possible to install a hardstand for your boom support to bolt to during the hardstand installation phase but usually easier when the boom gate is installed and the boom is down. This makes accurate positioning of the boom support much easier. Install a suitable hardstand (usually about 250mm square) at the required height to support your boom.

6. Install safety equipment.

Most boom gate installations will include one or multiple safety devices essentially to stop the boom from closing on vehicles and or people. It is important to understand that some safety devices will work with a vehicle but not with a human so consider your site requirements carefully and consult your Automatic Gate Solutions branch if unsure.

PHOTOCELLS – Are normally installed between the boom gate housing (below the boom) and the boom support. Models that use battery power at the boom support end or even reflective types are popular to avoid running cables across driveways.

LOOP DETECTORS – Are installed below the road surface and operate by detecting the presence of a vehicle. They can be positioned and used as a safety device, as a free egress device or even as part of your access control system ensuring a vehicle is present at the time of activation.

7. Install access control equipment.

The final stage is to install and or connect the access control equipment which will allow authorised users to gain access. There are options here from the simplicity of a remote control to the complexity of time managed and audited access control systems with dozens of options in between. Your Automatic Gate Solutions branch will be able to help with selecting the correct equipment for you installation and advice on final installation.