

FLOOD BARRIER TECHNOLOGY

Selection and Implementation



Flood Barriers and Flood Doors are playing a significant role in flood protection for all infrastructure including residential, commercial, community and council mitigation programs.

So how do you know what kind of flood protection you need?

No two floods are the same, no two applications are the same and as such, no two barriers are the same. Every flood protection system should be purpose-built to ensure it meets all site requirements.

During your selection process you will need to know;

- What are the critical factors in selection?
- What is currently available?
- What are the design and installation limitations?
- What costs are involved?

The factors to be considered in order to identify the most appropriate flood protection infrastructure to be implemented for any particular application include:

- **Response times:** How much warning will you receive? Is the site manned 24/7? Buoyant barriers operate autonomously without power and without human intervention.
- **Expected flood conditions:** Including flood water depth, flood flow velocities, expected debris etc.
- **Critical design factors:** Assurance that the barrier will operate without human intervention and without power in case of blackouts.
- **Types of installations:** Is the barrier design restricted by space, operation or aesthetic requirements? Vertical and horizontal barriers

are designed to be concealed within existing infrastructure.

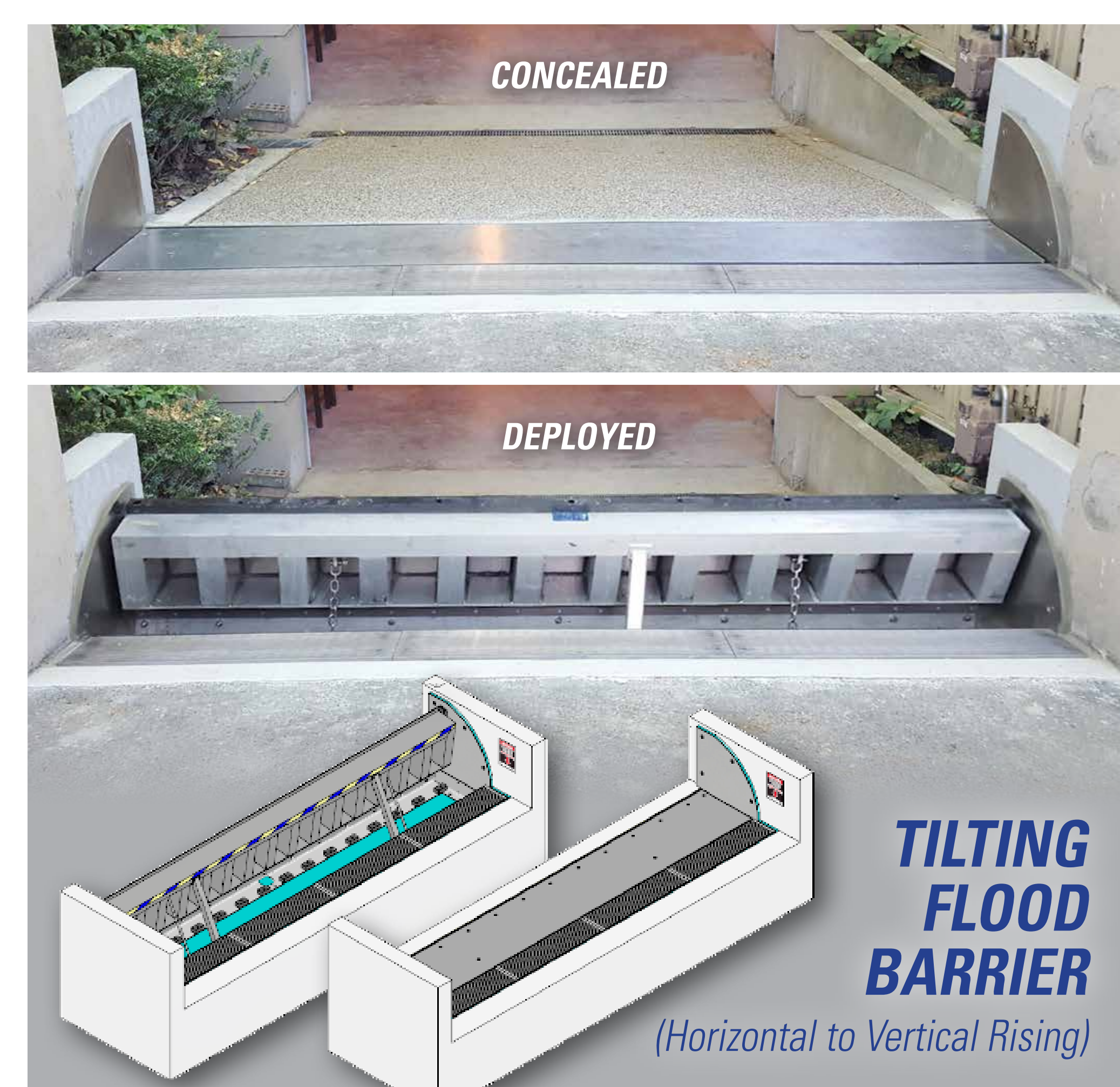
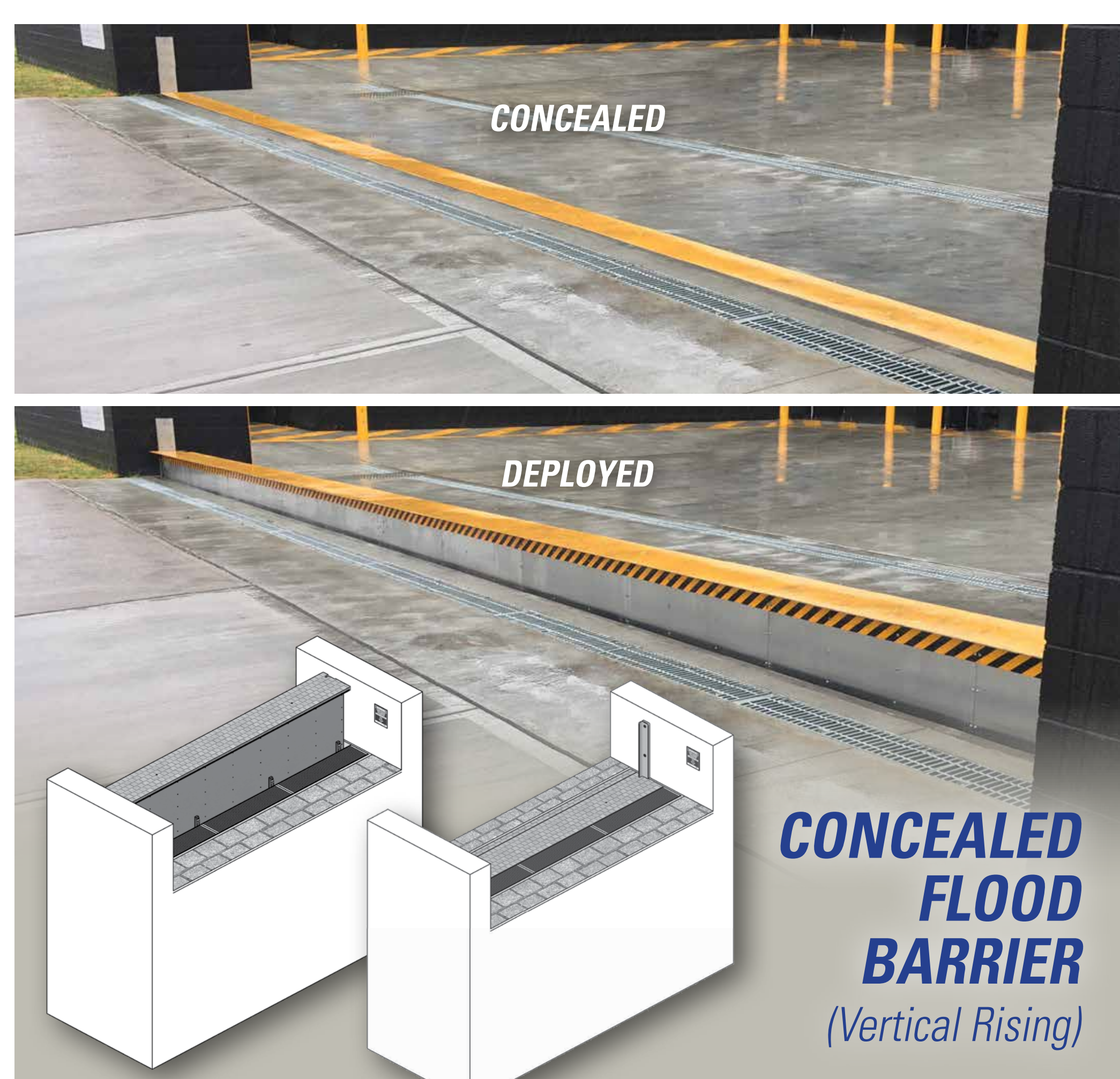
- **Limitations:** Associated with manual systems, power sources, battery backups, actuator types etc.
- **Safety factors:** Including any manual labor to erect the barrier, raising of the barrier, redirection of flow, power sources etc.
- **Flood mitigation plans:** Seek professional advice in regard to flood risk assessments and information including storm water systems, run off flows and water harvesting opportunities.
- **Technical support and servicing:** Partner a flood barrier manufacturer who can assist with operational and maintenance questions, upgrades and additional custom requirements.
- **Engineering and collaborative interfacing:** Ensure your flood barrier is purpose engineered to meet exact site and operational requirements.
- **Warning systems:** Warning systems are available to advise asset owners and anyone in the vicinity, of the barrier deployment, this is an important safety feature and involves visual and audible warning systems.
- **Aesthetics:** Numerous options are available to ensure flood barriers can be 'concealed' within existing infrastructure, with materials and colours to match aesthetics.
- **Availability:** Flood barriers must be ready and available to operate at a moment's notice.

- **Maintenance programs:** As with all mechanical equipment flood barriers require ongoing scheduled maintenance programs.
- **Mode of operation:** Flood barriers may be manually deployed, actuated, automated or use buoyancy principles for passive operation.
- **Power and automation requirements:** Where powered systems are required a battery backup is recommended as floods often cause blackouts, alternatively, a passive system. Combinations of powered and passive flood barriers are available for sites requiring instant and automated control enabling pre and post barrier deployment.
- **Storage and transportation:** Options are available for storage and transportation of manually deployed flood barriers.
- **Asset ownership:** Responsible for ongoing scheduled maintenance.

DESIGN OPTIONS

There are numerous vertical and horizontal flood barriers that can be concealed within the surrounding infrastructure. Exposed barrier surfaces can be tailor made to match the adjoining materials.

1. **Retractable Flood Barriers** (Vertical Sliding)
2. **Concealed Flood Barriers** (Vertical Rising)
3. **Tilting Flood Barriers** (Horizontal to Vertical Rising)
4. **Personal Access Flood Doors** (for standard doorways)



IS YOUR BARRIER BUOYANT? Installing a flood barrier that is based on the engineering principles of buoyancy creates a passively actuated flood barrier, rather than a flood barrier requiring actuators to deploy. A buoyant, or passive flood barrier will always deploy once a certain water height at the barrier is triggered. Human intervention and power, are not required to activate a passively actuated flood barrier.

Due to the range of unknown variables, flood barrier design is most successful when facilitated in partnership. This would see technical experts, manufacturers, construction companies, developers and authorities all working together. The result would give key stakeholders the best opportunity to mitigate associated risks for a viable flood mitigation solution.