Operators Instruction: Australian GIBNEY® Barrier

An alternate to the STOP/SLOW bat helping to move traffic controllers out of live lanes

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About the GIBNEY® Barrier

Designed by Fulton Hogan in New Zealand and approved by New Zealand Transport Agency in 2017. The Australian GIBNEY® Barrier was modified to suit the Australian market as an alternate manual traffic control device that could be used to replace the

STOP/SLOW bat. It was approved by the Australian Road Research Board – Transport Infrastructure Product Evaluation Process in February 2021.

Existing, industry and road agency accepted traffic management principles, techniques and advanced signage layouts are utilised, with the device acting as the focus for traffic control, in lieu of alternatives (STOP/SLOW bats or portable traffic signals). As Australian model of the Gibney Barrier incorporates an extendable 'boomerang handle', the traffic controller's exposure to live traffic and risk of impact by an errant vehicle is much reduced.

Purpose

The GIBNEY® Barrier is designed and manufactured to:

- ✓ Move the traffic controller (TC) out of the live lane of traffic.
- ✓ Be a manual traffic control device (MTCD) that can be an alternate option to the industry standard STOP/SLOW bat, all other traffic control options should be considered prior to use as per the recommended Traffic Control Decision Tree – see appendix.
- ✓ Position TCs a minimum 1.2m from edge line, edge of seal or through lane, always with a clear escape path.
- ✓ Provide a positive barrier to eliminate road users to drive off and drive through a "STOP" sign.
- ✓ Increase operator safety so that the TC cannot operate the GIBNEY® from anywhere other than the left hand shoulder of the road.
- ✓ Make it difficult for road users to fit between the end of the barrier arm and the last cone on the centreline threshold.

Operating features

Locking system

- Handbrake locking system to close the barrier.

Multi-use

- STOP/SLOW bat built into the base plate that can be removed for intermittent works
- If the STOP/SLOW bat is removed at any point the GIBNEY® should be locked in a STOP position and should not be used again until the STOP/SLOW bat has been repositioned.

Better visibility

- Oversized "STOP" sign which is mounted on the barrier arm, mid lane, is directly in the drivers' line of vision

- Duplicate signage with STOP/SLOW bat to the left of the barrier inserted into base plate.

Simple to transport & easy assemble

- Dismantled into relatively light weight components to fit in a ute to transport on the site.
- Handles and wheels on the base plate to lift and/or move into position
- Easy to assemble with four key components and minimum operator training.

Barrier assembly

The Gibney Barrier device is assembled in four distinct components:

1. **Central base plate stand**
   - A stabilised base place with handles and wheels so it can be easily transported
   - Fitted traffic cone
   - Space for built in STOP/SLOW bat
2. **Built in STOP/SLOW bat**
   - a STOP/SLOW bat is inserted into the base plate stand
3. **Boomerang arm**
   - Boomerang arm with hand brake extends to position the operator a minimum of 1.2m from the live lane is locked to the central base plate
4. **Barrier arm**
   - Place the barrier arm complete with the oversize STOP sign front and a Keep Left sign at the back
   - Barrier arm has red and white retro reflective stripes (as per a rail crossing barrier arm) along the length across the lane.

Note:

- Sandbags can be used to weight the device if required
- As of June 2021 the barrier arm will include a pivot joint as a failsafe at the barrier arm if the device is impacted by a vehicle.

ARRB Certification and usage on site

The Australian model of the GIBNEY® Barrier is approved by the Australian Road Research Board – Transport Infrastructure Product Evaluation Scheme.

The product has the primary safety objective of locating the Traffic Controller further away from live traffic than if using a STOP/SLOW sign. This reduces the risk of a Traffic Controller being impacted by any off path or errant vehicle.

A caveat is that the device can be withdrawn from usage at any time in response to any local concerns and/or local on-site risk assessment, e.g. excessive wind gusts, visibility, traffic volumes and composition, compliance of traffic with speed controls etc.

A dedicated Traffic Control Decision Tree Flowchart is to be used as a guide decision making on selection and retention of a device on a site by site basis.

Full compliance with a Traffic Management Plan (TMP) or Traffic Control Plan (TCP) which has been pre-approved with the client for the works is essential.

Planning and set up

Recommendations on how to set up your GIBNEY® Barrier in your Traffic Control Plan are as outlined below.

As with 'STOP/SLOW' bats, Gibney Barriers are operated in pairs.

As stated the device can be withdrawn from usage at any time in response to any local concerns and/or local on-site risk assessment, e.g. excessive wind gusts, visibility, traffic volumes and composition, compliance of traffic with speed controls etc.

Planning

- Plan to use the GIBNEY® Barrier as an alternate to the STOP/SLOW bat
- Position the traffic controller a minimum of 1.2m from the live lane with a clear escape path
- Document its use in your traffic plans using a boom barrier and traffic controller icons.

Set up

- Use cones to taper traffic a minimum of 12m
- Position the Gibney Barrier 4m from the cone, on the left hand side of the threshold, adjacent to the end of the taper
- Ensure the TC operator has a clear escape path
- When the Gibney has been installed at both ends of the site the barrier arms should both be set to "STOP" and by agreement the TCs can commence alternating flow through the site by opening one end by tuning the barrier arm to "SLOW".

Operating the barrier

To shift the barrier arm from one position to another, the TC operator using the hand brake mechanism, swings the arm allowing it to move to either the open or closed position.

The TC operator can easily move the barrier arm by using the extended handle (Boomerang) section of the device to pivot the barrier arm.

The barrier arm will lock when in position (either Open – “SLOW” or closed “STOP”) when the handbrake is released.

A removable STOP/SLOW sign is fitted in the cone of the base plate that can be removed for intermittent or emergency works. The STOP/SLOW has a hinge that must be set at 90 degrees for operation and released if used as a traditional STOP/SLOW bat.

Operator requirements

- It is essential that all TCs are fully trained and certified as Traffic Controllers as per Fulton Hogan’s and local state road authority requirements.
- It is essential that both TCs operating the Gibney MUST be equipped with reliable and fully charged radio telephones.
- All TCs operating must have the appropriate PPE as approved by the local road authority.

Product Manufacture

It will be manufactured under contract to the proponent Certificate by approved companies that have obtained ISO 9001 (Quality) and ISO 14001 (Environmental Management) certification.

Approved manufacturers include:

- Blackroo Industries 2/12 Enterprise Cres, Muswellbrook, NSW 2333
- DeNeefe Signs/ Traffic Technologies Ltd 25 Brisbane Street, Eltham, Vic 3095

Useful links

- www.arrb.com.au/tipes
- www.blackroo.com.au
- www.deneefe.com/ /www.trafficltd.com.au
- www.fultonhogan.com/move-traffic-controllers-out-of-live-lanes

Fulton Hogan

Appendix - Traffic Control Decision Tree

TRAFFIC REQUIREMENTS All traffic control devices are subject to approval on a State-by-State basis, and which may alter the Fulton Hogan requirements stated within the decision tree.