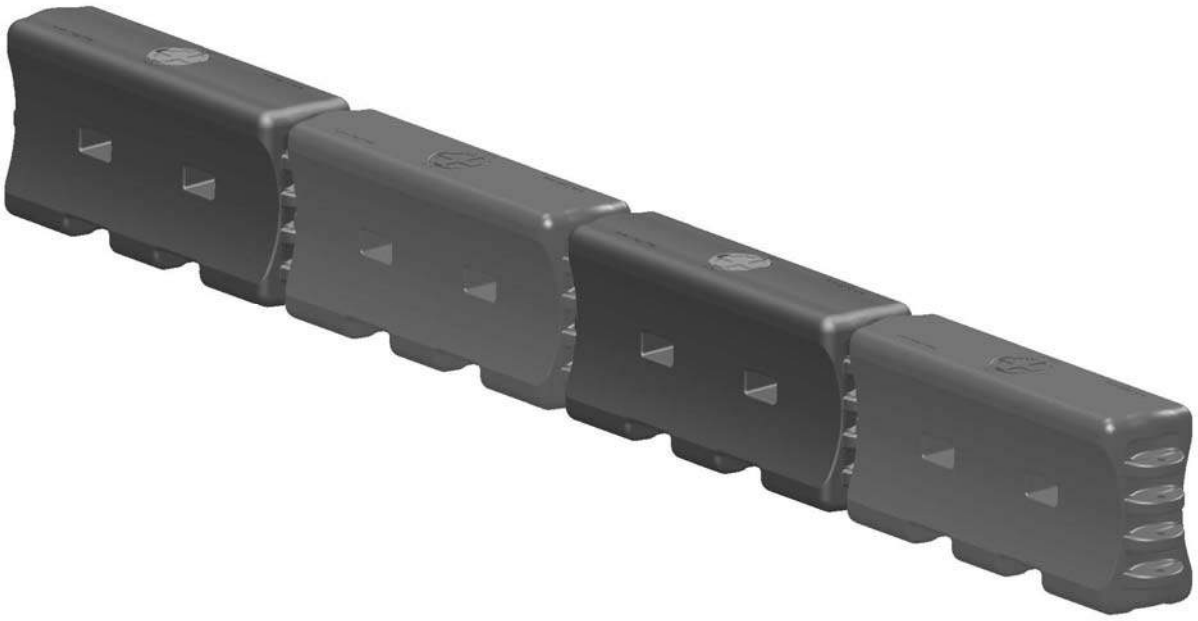
TrafFix® Water-Wall™ Manual



TL-1 Longitudinal Barrier

TL-3 Barricade

TrafFix Devices Inc.

160 Ave. La Pata
San Clemente, California 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com

PN 45035 Revision A (Dated 05/01/13)

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160 Ave. La Pata
San Clemente, California 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com

Product Overview/Function

General description- The TrafFix Water-Wall™ is a plastic, water filled portable module that can produce the desired energy attenuation characteristics to decelerate an impacting vehicle to meet TL-1 for Longitudinal Barrier, TL-2 for Longitudinal Channelizing Device or TL-3 for Barricade crashworthy requirements of Report NCHRP 350.

Advantages the TrafFix Water-Wall:

The TrafFix Water-Wall utilizes water dispersion upon impact that ruptures the plastic container and disperses the contained water to prevent vehicle intrusion into the work zone.

-Features

Durable polyethylene plastic minimizes cracking and breaking
Molded through forklift holes eliminate bowing when filled with water
Double wall knuckle design minimizes breakage at hinge points
Hinge design allows for a 30-degree pivot between sections
Large 8" fill hole speeds filling process, includes twist-lock plastic cap
Tamper resistant, corner offset drain plug with coarse buttress thread - screws in or out in only 2 1/2 turns
Includes one steel connection pin that allows sections to be locked together
Forklift and pallet jack through holes and recesses for easy movement
Standard colors are orange or white — additional colors available upon request
Can use Optional "Drive By" Float Fill Cap for easy water level inspection from moving vehicle
Will accept the TrafFix Water-Wall Fence Panel, 45032-WWF, sold separately

-Linked units meet NCHRP-350 crashworthy test requirements for a TL-1 LONGITUDINAL BARRIER

-Single units meet NCHRP-350 crashworthy test requirements for a TL-3 BARRICADE.

The TrafFix Water-Wall has been tested and passed all crash tests required by NCHRP Report 350 and meets all crashworthy acceptance criteria for use on the National Highway System. (Reference FHWA Product Acceptance HSA-10/B130 and HSA-10/WZ-224)

Product Function

TrafFix Water-Wall sections are designed to link together to form a portable TL-1 longitudinal water filled barrier that provides positive separation between moving vehicles and workers or pedestrians in the protected zone.

Single TrafFix Water-Wall sections are designed to be used as a portable barricade in TL-1, TL-2, or TL-3 applications.

Product Components and General Specifications

The TrafFix Water-Wall sections are Orange or White in color and have an outer shell made from virgin low density polyethylene (LDPE) and have a water capacity of 122 gallons [462 liters]. The polyethylene material is durable and recyclable and will break up in large sections upon impact. It will not crack or corrode when left on the job site or stored for long periods of time.

Overall Dimensions
Width: 18" [457 mm]
Height: 32" [812 mm]
Length: 73" [1854 mm] pin to pin

Weight:
Empty Weight: 79 lbs. [36 kg]
Filled Weight: 1,110 lbs. [503 kg]

Fill Capacity
Volume: 123 Gal [466 L]

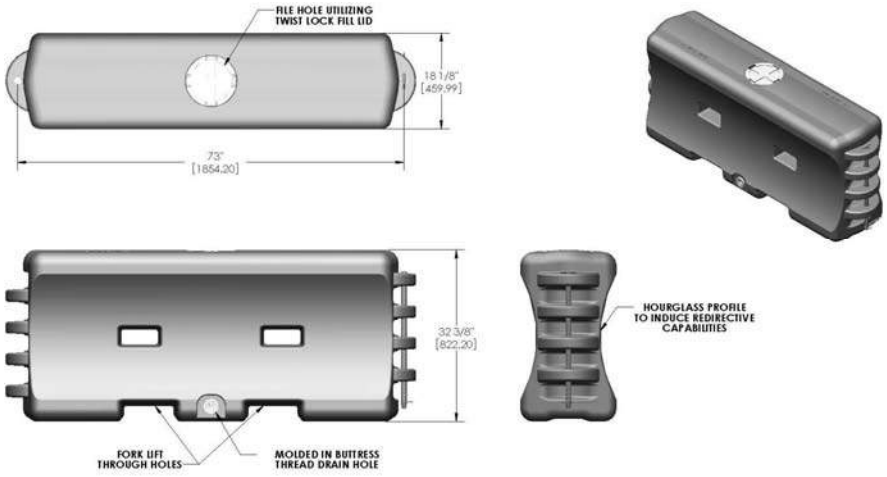


Figure 1: Sentry Water-Cable Barrier

Each TrafFix Water-Wall section contains an eight inch diameter water fill-hole located on the top surface of each wall section. This large diameter opening allows easy access for water filling using a water tanker truck or large diameter hose. Each TrafFix Water-Wall section comes with a twist lock lid to cover the fill hole opening when the water filling process is complete. An optional water level indicator built into the twist lock lid is available to show the section is properly filled (refer to pg. 10).

For draining, each TrafFix Water-Wall section has a centrally located drain hole designed at the bottom of each wall section. Each drain hole contains molded-in Buttress threads. The drain plug requires 1-1/2 turns to seal the plug preventing any water leaks. The molded-in Buttress threads eliminate the possibility of cross threading compared to standard threads used in a spin welded insert. Cracked spin welded inserts may require repair and are typically not reliable, leading to water leaks. The TrafFix Water-Wall, with its molded in Buttress threads, eliminates both issues of cross threading and insert repair.

There are two forklift pockets located at grade level for lifting. **Only these through holes should be used to lift the TrafFix Water-Wall as identified in Figure 1 (or pg. 15).**

Installation

Foundation Requirements

The TrafFix Water-Wall is free standing and only requires that the foundation support the weight of the fully loaded sections. The foundations include concrete, asphalt, dirt and gravel.

Installation Instructions

The TrafFix Water-Wall will be delivered in two pieces. The first piece will be the water wall barrier section with the twist lock fill cap and the buttress threaded drain plug installed. The second piece will be the galvanized steel T-pin with the keeper pin installed.

Proper site planning will have identified the required quantity and placement of the TrafFix Water-Wall. The sections should be removed from the transport vehicle using safe lifting and movement procedures and emplaced as planned.

At the end of each TrafFix Water-Wall are vertical interlocking knuckles. Within the knuckles are a series of vertical concentric holes as seen in Figure 2 (or pg. 16). When linking individual TrafFix Water-Walls together, the knuckle holes are vertically aligned with the adjacent TrafFix Water-Wall. This creates a series of eight vertical knuckles interlinked together with a vertical connecting T-pin which is dropped through the concentric aligned holes. Located at the bottom of each T-pin is a safety keeper pin which is inserted into the alignment hole at the bottom of each T-pin as seen in Figure 2. The keeper pin must be inserted to finalize the installation on each wall section. **The lower end of the T-pin is approximately 2-1/2" above the grade surface as seen in Figure 2 to insure that the pin is fully inserted.**

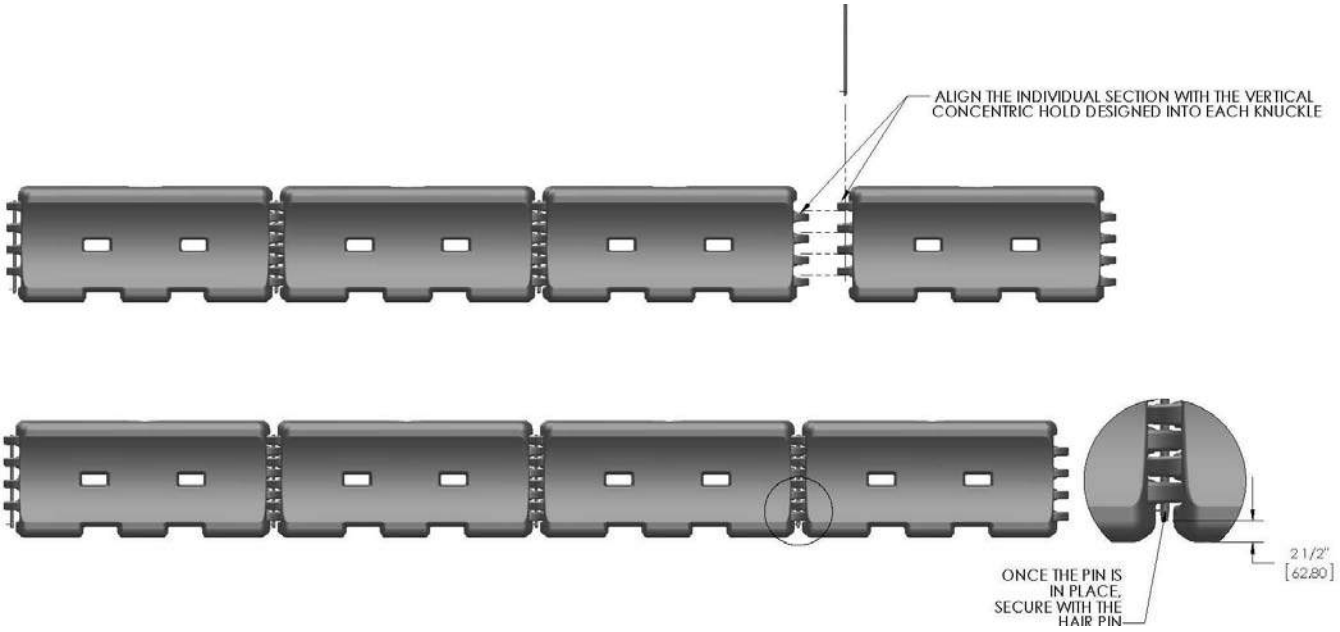


Figure 2: Installation Assembly Guide Diagram

When the TrafFix Water-Wall has been placed in accordance with the site plan and the sections fastened together, the twist lock fill cap for each section should be removed and the section filled with water. The fill cap is then replaced insuring that all tabs are engaged. If the optional water level indicator is installed, insure that the level indicator becomes fully raised. Since the water level indicator is built into the fill cap, care should be taken to insure that the water level indicator is not damaged during the removal and re-installation process.

When all sections have been linked together, the T-pin and keeper pins installed, and the sections filled with water including installation of the fill cap, the TrafFix Water-Wall is ready for use.

Angle of Rotation
The TrafFix Water-Wall is designed to have maximum angle of rotation of 30° when linked together as seen in Figure 3 (or on pg. 17). When fully rotated at the maximum angle of rotation, the linked TrafFix Water-Wall section can be set-up with a minimum inside radius of 11 ft. [3.5 m] as seen in Figure 3.

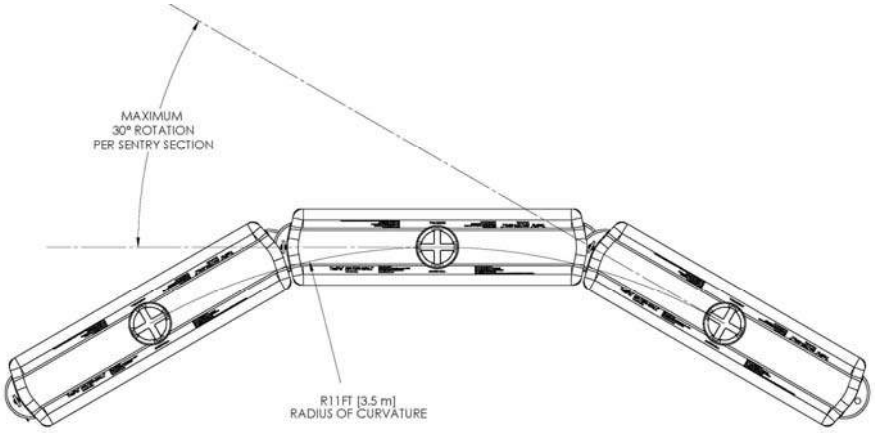


Figure 3: Angle of Rotation TrafFix Water-Walls Linked

Recommendations for Stacking

The TrafFix Water-Walls must only be stacked when empty and are not designed to be stacked on each other when filled. It is recommended to stack the empty TrafFix Water-Walls no more than three high as seen in Figure 4 (or on pg. 18). For additional support, a long T-pin can be inserted into the knuckles to secure the Sentry as seen in Figure 4.

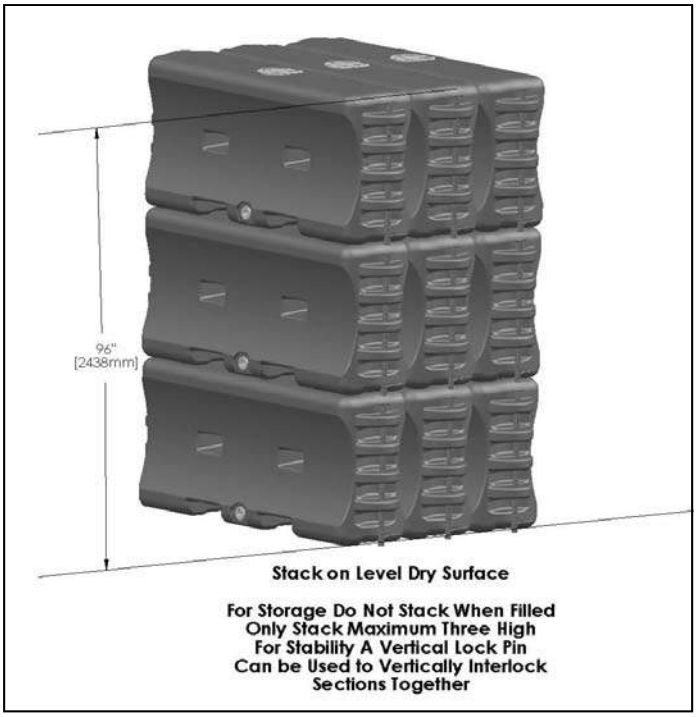


Figure 4: TrafFix Water-Walls Stacking Diagram for Long Term Storage Requirements

Deflection Clear Zone

When installing the TrafFix Water-Wall , a clear zone must be made kept on the work zone side of the barrier to allow for lateral deflection into the work zone. When impacted at the design speed of 31 mph [50 kph] at an impact angle of 25° with a 4500 lbs. [2000 kg] impact vehicle the deflection is 15.5 ft. [4.7 m]. This is the minimum clear zone required in the work zone. This clear zone is at the test impacted design speed and condition. Additional deflection values can be seen in Figure 5 (or on pg. 19).

Impact Vehicle 4400 lb (2000 kg)	Deflection ft.				
Design Speed	25°	20°	15°	10°	5°
31 mph (50 kph) NCHRP-350	15.5 ft.	12 ft.	9 ft.	5 ft.	2 ft.
25 mph	9 ft.	6 ft.	4 ft.	2 ft.	1.5 ft.
20 mph	5 ft.	3 ft.	2 ft.	1.5 ft.	<1 ft.
15 mph	3 ft.	2 ft.	1.5 ft.	<1 ft.	<1 ft.

Figure 5: Clear Zone Diagram and Chart Recommendation

Maintenance and Repair

There are no scheduled maintenance requirements for the TrafFix Water-Wall. There should be periodic checking of the water level to insure that it is filled to the proper level. The TrafFix Water-Wall is not fully effective unless each section is filled. If the optional water level indicator is installed, a visual inspection can be made while driving by, otherwise the fill cap should be removed for inspection.

In a major impact, a severely damaged TrafFix Water-Wall should be removed and replaced. There may be leaking sections that can be repaired following the steps below. See Figure 6 (or on pg. 20-21)

Patching leaks (holes or cracks) in the TrafFix Water-Wall plastic should be done on completely dry surfaces free of dirt and grease. In addition, any paint or added finish beyond the factory smooth plastic surface should be removed.

Plastic welding and welding patches onto the surface is the most common method for repairing leaking sections of the TrafFix Water-Wall. A plastic repair kit can be obtained from TrafFix Devices Inc. The plastic patch is made from the same material as the TrafFix Water-Wall plastic. The welding rod is made from the same material as the TrafFix Water-Wall plastic material as well. A small butane or propane torch is used for applying heat to the plastic rod. The rod should be melted to the patch and the wall surface in order to create a bonding patch. Temperature for bonding the plastic is 500-550°F [260-290°C]. The torch head should be held ¼-½ inch [0.635-1.27 cm] away

from the weld surface. Care should be taken when applying heat to plastic to insure that the melting occurs only as desired.

NOTE: Repairing a crack or hole *DOES NOT* return the plastic to its original strength, although most repairs are sufficient to insure a water tight section. Monitoring of the repair should be done for a short period after filling to insure that the repair has been done properly. If leaks cannot be prevented, the section should be replaced.

In addition, if there has been an impact, the T-pins may be difficult to remove for wall realignment since some sections have been compressed. A fork lift will facilitate wall realignment if necessary, without removing the T-pins or to relieve the force on the T-pins. *NOTE*: When moving the full water wall, use the two forklift pockets located at the bottom of the wall.

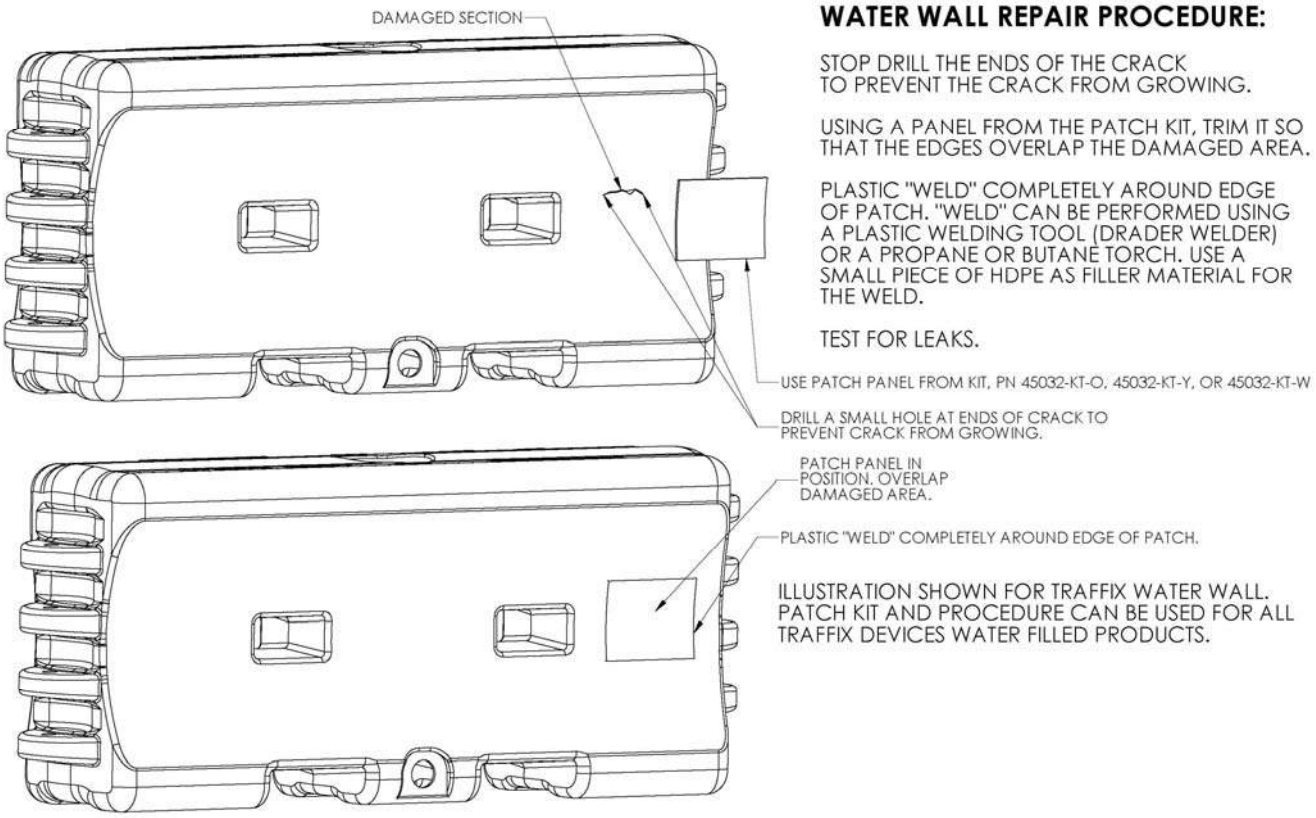


Figure 6: Clear Zone Diagram and Chart Recommendation

Water Freezing Prevention

In freezing weather conditions, allowing the water in TrafFix Water-Wall to freeze to a solid mass of ice should not be allowed. If the temperature at the TrafFix Water-Wall site is expected to be at or below the freezing point of water, it is recommended that an additive be used to prevent the water in the TrafFix Water-Wall from freezing.

-Common additives used to prevent water freezing currently used in work zone devices under the same category as the TrafFix Water-Wall.

SALT (Sodium Chloride)
20% mixture by weight
Reduces freezing down to 0° F [-18° C].
Corrosive to inadequately protected steel components (Galvanizing adequately prevents corrosion)
Recommended - premix before filling
Prevent spilling since solution is harmful to vegetation, soils, and wildlife. Draining should be done in an acceptable area.

CALCIUM CHLORIDE
35% mixture by weight
Reduces Freezing down to 20° F [-6.6 °C].
Corrosive to thin zinc plated components
Corrosive to inadequately protected steel components (Galvanizing adequately prevents corrosion)
High tendency to stay on road surface resulting in slick road surface.
High level of heat created when mixing. It is recommended that pre-mixing is done before filling.
Prevent spilling since solution is harmful to vegetation, soils, and wildlife. Draining should be done in an acceptable area.

ETHYLENE/PROPYLENE GLYCOL
50% mixture by volume
Reduces water freezing to 0° F [-18° C].
High tendency to stay on road surface resulting in slick road surface.
Prevent spilling since solution is harmful to vegetation, soils, and wildlife. Draining should be done in an acceptable area.

LIQUID CMA (calcium magnesium acetate)
25% mixture by volume
Reduces water freezing to 0° F [-18° C].
Has a low environmental impact.

LIQUID POTASSIUM ACETATE
60% mixture by volume
Reduces water freezing to 20° F [-6.6° C]
Low corrosive characteristics and has a low environmental impact.

Additive	Environmental Impact	Cost Rating	Protection Temp	Mix Solution Ratio
Salt (Sodium Chloride)	Harmful	Low	0 °F [-18 ° C]	20% by weight
Calcium Chloride	Harmful	Medium	20 °F [-6.6 ° C]	35% by weight
Ethylene/Propylene Glycol	Dangerous	High	0 °F [-18 ° C]	50% by volume
Liquid CMA	Non-Toxic	High	0 °F [-18 ° C]	25% by volume
Liquid Potassium Acetate	Non-Toxic	High	20 °F [-6.6 ° C]	60% by volume

Figure 7- Recommended water freezing prevention chart solution comparison

Redeployment to Another Site

If redeployment to another near-by site is required, a decision should be made as to whether draining of the sections is required. If the correct equipment is available, draining may not be necessary, but extreme care must be made when moving the 1,110 lbs. [503 kg] sections because of their weight. The correct equipment would be a forklift and appropriate transport vehicles. If the TrafFix Water-Wall is going to be stored for a period of time or if the correct equipment is not available, the sections should be drained by removing the drain plug with the drain plug removal tool, PN45032-DPT.

Limitations and Warnings

The TrafFix Devices TrafFix Water-Wall has been tested and passed all NCHRP-350 test criteria and received FHWA product acceptance letter HSA-10/B130 as a Longitudinal Barrier at Test Level 1 (TL-1), an acceptance letter HSA-10/WZ-224 as a Longitudinal Channelizing Device at Test Level 2 (TL-2), and an acceptance letter HSA-10/WZ-224 as a Barricade at Test Level 3 (TL-3).

This installation document is intended to provide guidance with the TrafFix Water-Wall field installation which is most commonly used in the work zone. **This is only a guide and local road authorities and regulations should always be checked for final installation procedures and guidance.**

Impact Test Specifications Per Report NCHRP-350

Test Designation Number: 1-11 for *Longitudinal Barrier*
TL-1 50 km/h [31 mph]
Impact Vehicle: 2000 kg [4500 lbs.]
Angled Impact 20°
Twenty One Sentry Sections Interlinked
(Reference FHWA Product Acceptance HSA-10/B130)

Test Designation Number: 2-10 for *Longitudinal Channelizing Device*
TL-2 70 km/h [45 mph]
Impact Vehicle: 820 kg [1087 lbs.]
Angled Impact 20°
Twenty Six TrafFix Water-Walls Interlinked
(Reference FHWA Product Acceptance HSA-10/WZ-224)

Test Designation Number: 3-71 for *Barricade (Single Unit)*
TL-3 100 km/h [62.5 mph]
Impact Vehicle: 2000 kg [4500 lbs.]
Head On and Perpendicular
Two Walls, Stand Alone
(Reference FHWA Product Acceptance HSA-10/WZ-224)

Float Lid—Optional

To indicate the water level in the TrafFix Water-Wall , a TrafFix Devices Float Lid can be used. The Float Lid consists of a lid and a green indicator. When the TrafFix Water-Wall is filled to the appropriate level, the green level indicator is popped up as shown in the figure below. When the TrafFix Water-Wall is not filled to the appropriate level, the green level indicator retracts into the barrier wall. It is important to frequently check the barrier walls to ensure that the water is at the appropriate level. If the green level indicator is not detectable from a drive by inspection (the green indicator is retracted), check for reason water level is low. Water must be added to the TrafFix Water-Wall until the green indicator float is fully popped up. See Figure 8.

TrafFix "Drive By" Float Fill Cap for Water Fill Module

Figure 8: TrafFix Devices Float Lid.

TrafFix Devices Inc.

Appendix A: TrafFix Water-Wall Specifications

160 Ave. La Pata
San Clemente, California 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com

TrafFix Devices Inc.
TrafFix Water-Wall
General Specifications

I. General

The TrafFix Water-Wall, components, and subassemblies shall be designed and manufactured by TrafFix Devices Inc. (TDI)
Corporate Office San Clemente, California
Manufacturing & Distribution Center, San Clemente, California

II. System Description

The TrafFix Water-Wall is a longitudinal water filled barrier designed to meet crashworthy requirements of Report NCHRP-350 as a TL-1 Longitudinal Barrier. The TrafFix Water-Wall shall be portable and provide positive protection when used in construction work zones. Also, single unlinked sections of the TrafFix Water-Wall may be used as a TL-3 Barricade.

Each section shall consist of:

-Virgin low density polyethylene (LDPE) plastic shell, containing UV stabilizers and antioxidants molded to a concave reflective shaped face to prevent the tire of a vehicle from impacting the barrier and climbing up the side of the wall by pocketing the tire in the curved center portion.

-The ends of each section shall be constructed with vertically aligned knuckles which interlock with those of adjacent sections and accept a steel connecting T-pin. The T-pin is retained after installation by a keeper pin.

-The approximate dimensions, weight, and volume of each barrier section shall be: 18 in. [457 mm] width x 32 in. [812 mm] height x 73 in [1854 mm] length (pin to pin). Empty weight 80 lbs. [37 kg], weight filled 1110 lbs. [503 kg], water ballast 123 gal [466 L].

-Barrier sections shall be manufactured in Orange and White colors.

-Each section shall be manufactured with fork lift openings to allow for lifting when empty or full.

-Each section shall be manufactured with one 8 in. [203.2 mm] dia. twist lock fill lid and a 2.25 in. [57.15 mm] diameter molded-in Buttress threaded drain hole with a plug to allow quick water ballast draining.

III. Performance Criteria

The TrafFix Water-Wall shall be tested and pass all test requirements of Report NCHRP-350 as listed:

- Test TL-1 Longitudinal Barrier 2000 kg [4500 lbs.] vehicles at speeds of 50 kph [31.2 mph]
- TL-2 Longitudinal Channelizing Device 820 kg [1808 lbs.] vehicles at speeds of 70 kph [43.5 mph]
- TL-3 Barricade (Single Unit) 820 kg [1808 lbs.] vehicles at speeds of 100 kph [62.5 mph]

The TrafFix Water-Wall TL-1 test results, 6.4 m/s for occupant impact velocity and 3.9 g for ridedown acceleration, demonstrating a non-gating, controlled penetration into the barrier device when impacted at a high angle at the critical impact point.

Maximum dynamic deflection at point of impact shall not exceed 15.5 ft. [4.7 m] when impacted at the design speed of TL-1 50 km/h (31.2 mph) utilizing the 2000 kg (4500 lbs.) vehicle.

The TrafFix Water-Wall shall be capable of preventing vehicle penetration, vaulting, under riding, and shall bring the impacting vehicle to a controlled stop in the vicinity of the impact area. For shallow angle impacts it shall redirect the vehicle, while undergoing controlled lateral deflection.

Detached debris shall not show potential for penetrating the vehicle occupant compartment or present a hazard to other traffic, pedestrians, or workers in a protected zone.

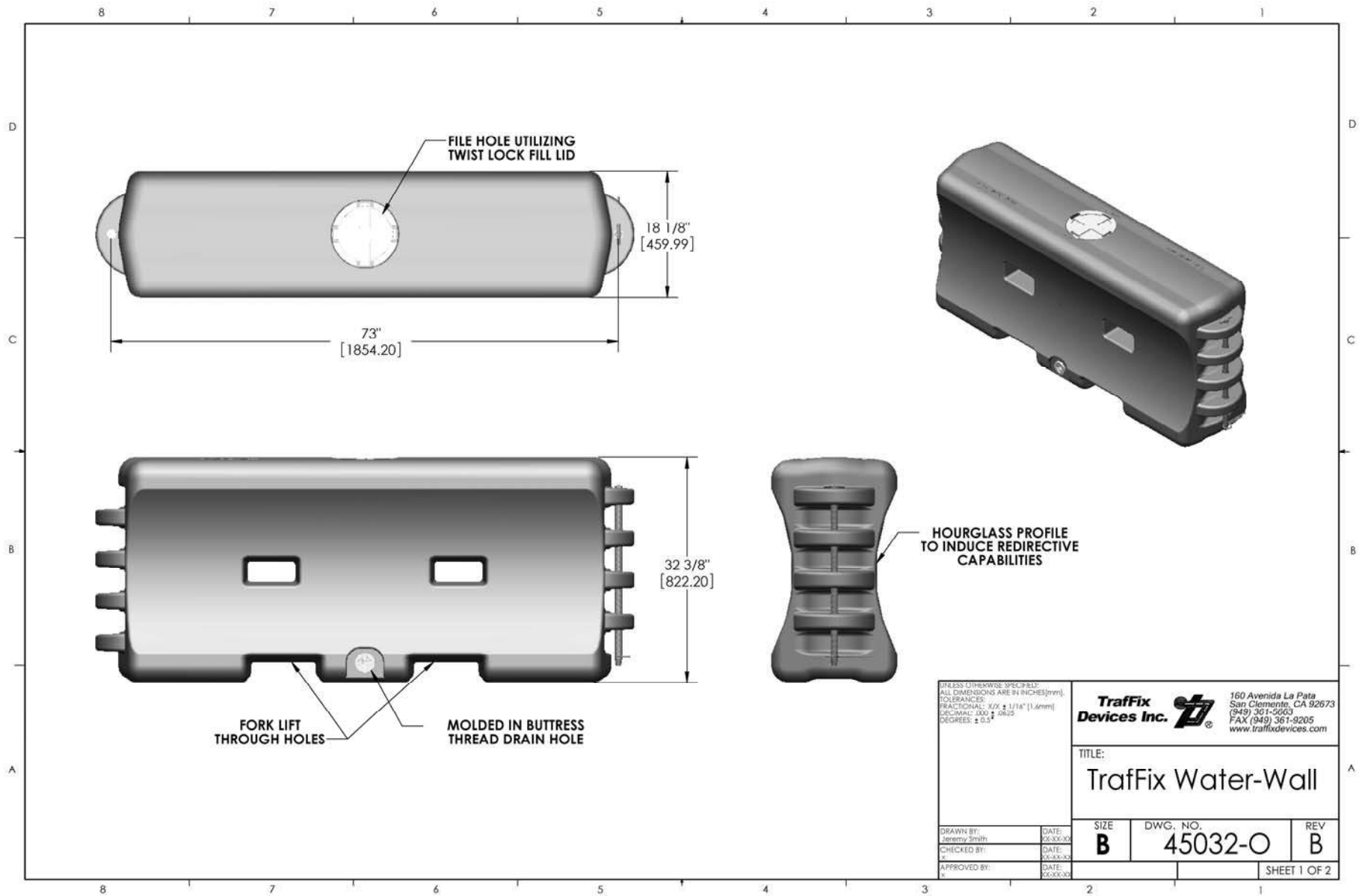
A vehicle impacting the TrafFix Water-Wall shall remain upright during and after the collision though moderate roll, pitch, and yaw may occur.

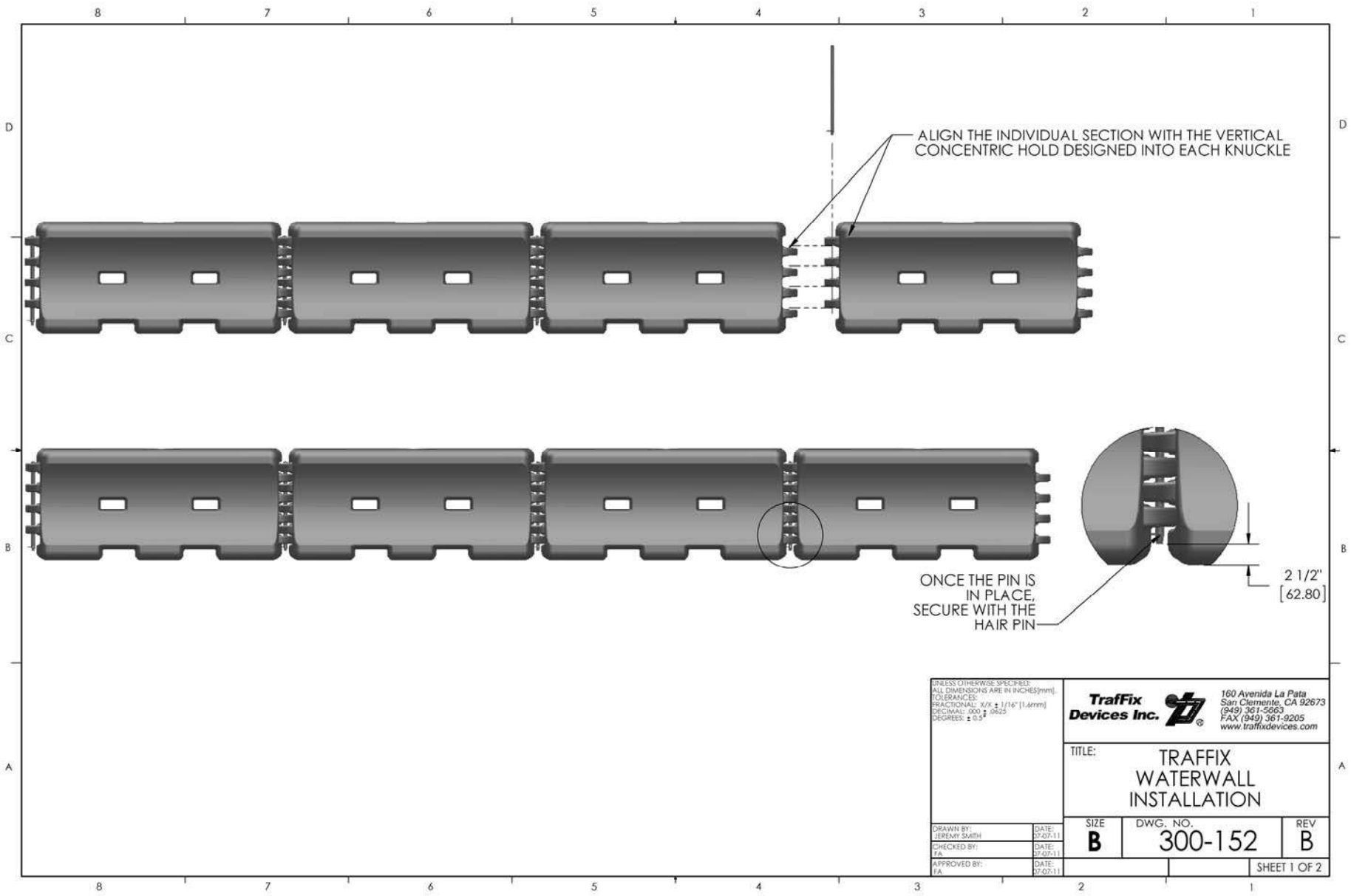
The impacting vehicles intrusion into adjacent traffic lanes shall be minimized.

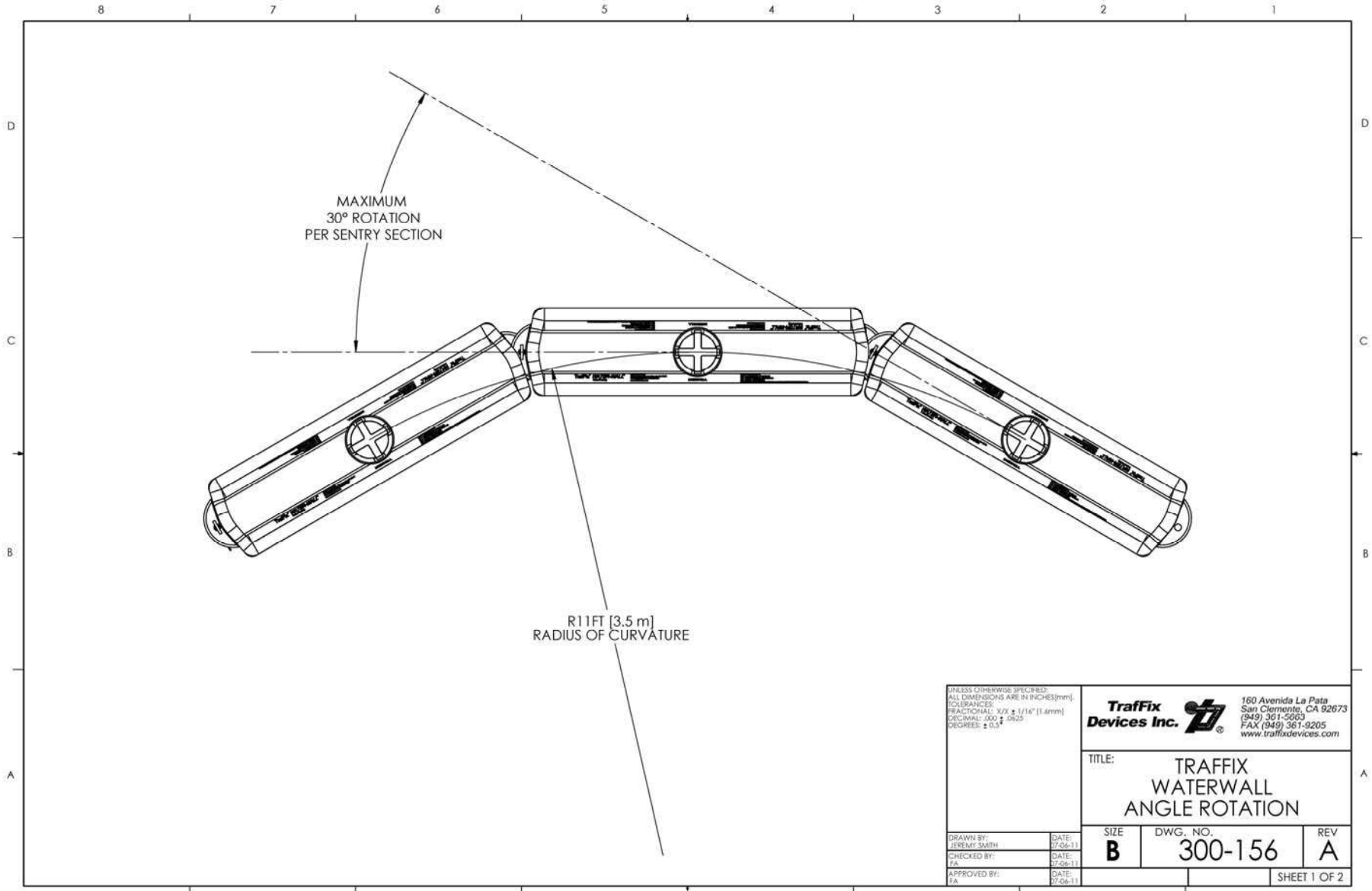
TrafFix Devices Inc.

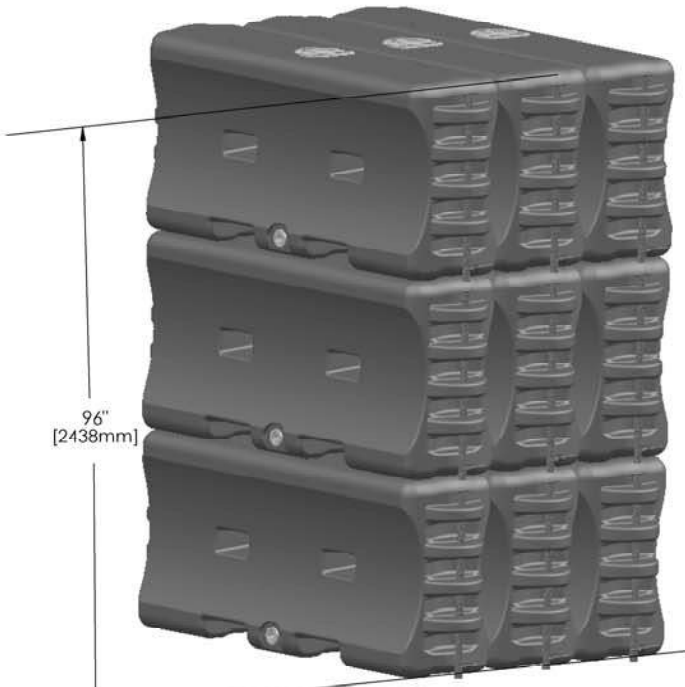
Appendix B: Drawings

160 Ave. La Pata
San Clemente, California 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com


FILE HOLE UTILIZING
TWIST LOCK FILL LID
18 1/8"
[459.99]
73"
[1854.20]
32 3/8"
[822.20]
HOURGLASS PROFILE
TO INDUCE REDIRECTIVE
CAPABILITIES
FORK LIFT
THROUGH HOLES
MOLDED IN BUTTRESS
THREAD DRAIN HOLE
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.6mm]
DECIMAL: .XXX ± .0625
DEGREES: ± 0.5°
TrafFix Devices Inc.
160 Avenida La Pata
San Clemente, CA 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com
TITLE:
TrafFix Water-Wall
DRAWN BY:
Jeremy Smith
DATE:
XX-XX-XX
CHECKED BY:
x
DATE:
XX-XX-XX
APPROVED BY:
x
DATE:
XX-XX-XX
SIZE
B
DWG. NO.
45032-O
REV
B
SHEET 1 OF 2


ALIGN THE INDIVIDUAL SECTION WITH THE VERTICAL CONCENTRIC HOLD DESIGNED INTO EACH KNUCKLE
ONCE THE PIN IS IN PLACE, SECURE WITH THE HAIR PIN
2 1/2" [62.80]
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.4mm]
DECIMAL: .XXX ± .0625
DEGREES: ± 0.5°
TrafFix Devices Inc.
160 Avenida La Pata
San Clemente, CA 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com
TITLE:
TRAFFIX WATERWALL INSTALLATION
DRAWN BY: JEREMY SMITH
DATE: 27-07-11
CHECKED BY: FA
DATE: 27-07-11
APPROVED BY: FA
DATE: 27-07-11
SIZE B
DWG. NO. 300-152
REV B
SHEET 1 OF 2


MAXIMUM
30° ROTATION
PER SENTRY SECTION
R11FT [3.5 m]
RADIUS OF CURVATURE
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.6mm]
DECIMAL: .000 ± .0625
DEGREES: ± 0.5°
DRAWN BY: JEREMY SMITH
DATE: 07-06-11
CHECKED BY: FA
DATE: 07-06-11
APPROVED BY: FA
DATE: 07-06-11
TrafFix Devices Inc.
160 Avenida La Pata
San Clemente, CA 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com
TITLE:
TRAFFIX
WATERWALL
ANGLE ROTATION
SIZE
B
DWG. NO.
300-156
REV
A
SHEET 1 OF 2



Stack on Level Dry Surface

For Storage Do Not Stack When Filled
Only Stack Maximum Three High
For Stability A Vertical Lock Pin
Can be Used to Vertically Interlock
Sections Together

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.6mm]
DECIMAL: .XXX ± .0625
DEGREES: ± 0.5

DRAWN BY: Mary Dralle — DATE: 04/09/13
CHECKED BY: GM — DATE: 04/09/13
APPROVED BY: GM — DATE: 04/09/13

TrafFix Devices Inc.
160 Avenida La Pata
San Clemente, CA 92673
(949) 361-5660
FAX (949) 361-9205
www.traffixdevices.com

TITLE:
STACKED TL-1 WATER WALLS

SIZE	DWG. NO.	REV
B	300-214	A

SHEET 1 OF 2

Impact Vehicle 4400 lb (2000 kg)	Deflection ft.				
Design Speed	25°	20°	15°	10°	5°
31 mph (50 kph) NCHRP-350	15.5 ft.	12 ft.	9 ft.	5 ft.	2 ft.
25 mph	9 ft.	6 ft.	4 ft.	2 ft.	1.5 ft.
20 mph	5 ft.	3 ft.	2 ft.	1.5 ft.	<1 ft.
15 mph	3 ft.	2 ft.	1.5 ft.	<1 ft.	<1 ft.

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.6mm]
DECIMAL: .000 ± .0625
DEGREES: ± 0.5°

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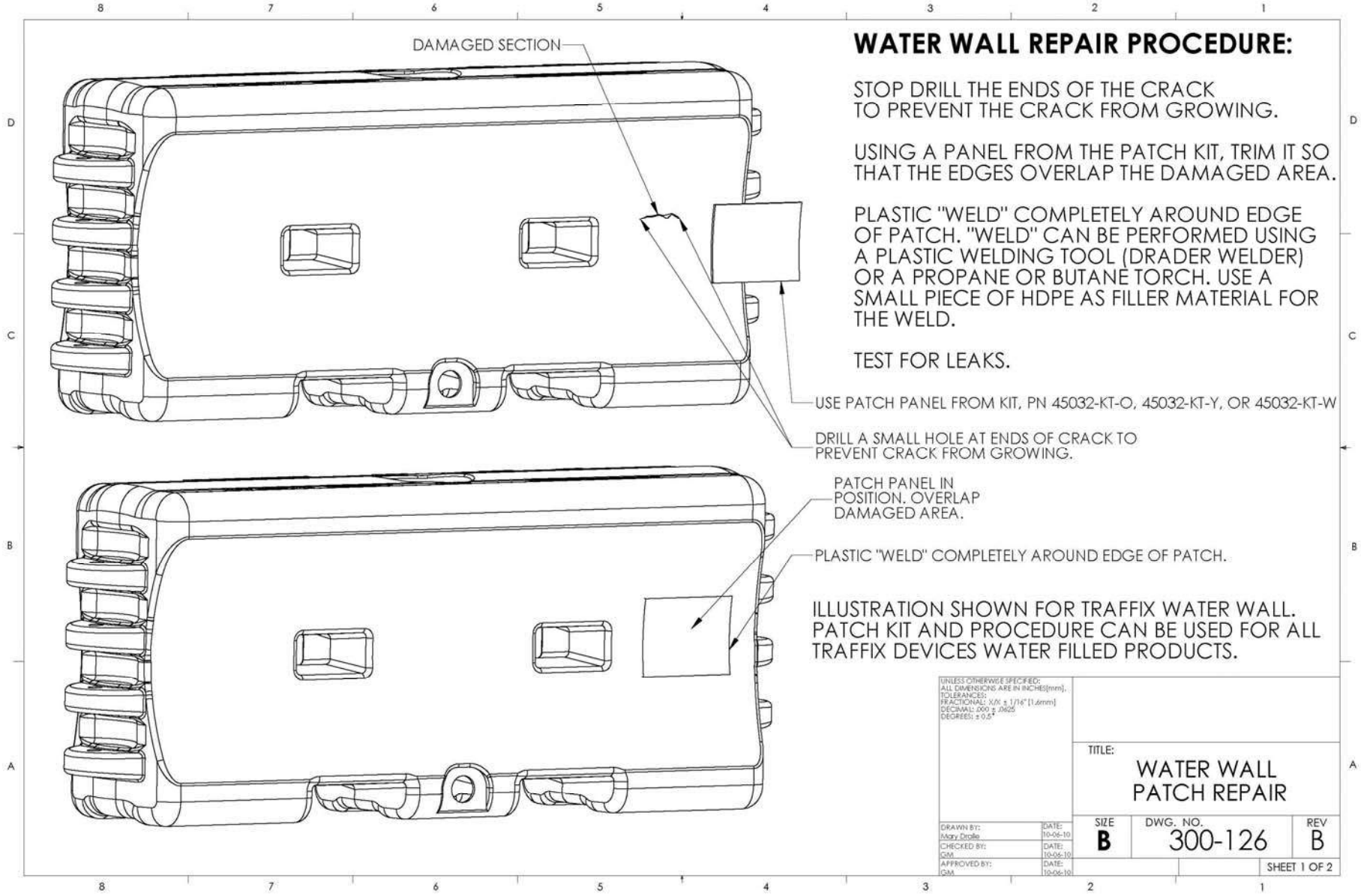
San Clemente, CA 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com

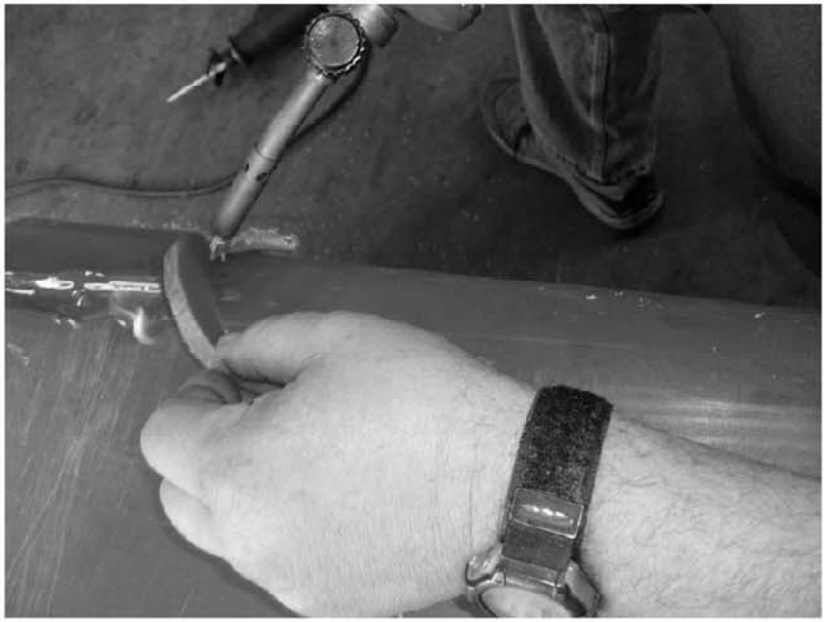
TITLE:
DEFLECTION SHEET
FOR TL-1 WATER WALLS

DRAWN BY:	DATE:
Mary Dralle	04/16/13
CHECKED BY: GM	DATE: 04/16/13
APPROVED BY: GM	DATE: 04/16/13

SIZE	DWG. NO.	REV
B	300-215	A

SHEET 1 OF 4


DAMAGED SECTION
WATER WALL REPAIR PROCEDURE:
STOP DRILL THE ENDS OF THE CRACK TO PREVENT THE CRACK FROM GROWING.
USING A PANEL FROM THE PATCH KIT, TRIM IT SO THAT THE EDGES OVERLAP THE DAMAGED AREA.
PLASTIC "WELD" COMPLETELY AROUND EDGE OF PATCH. "WELD" CAN BE PERFORMED USING A PLASTIC WELDING TOOL (DRADER WELDER) OR A PROPANE OR BUTANE TORCH. USE A SMALL PIECE OF HDPE AS FILLER MATERIAL FOR THE WELD.
TEST FOR LEAKS.
USE PATCH PANEL FROM KIT, PN 45032-KT-O, 45032-KT-Y, OR 45032-KT-W
DRILL A SMALL HOLE AT ENDS OF CRACK TO PREVENT CRACK FROM GROWING.
PATCH PANEL IN POSITION. OVERLAP DAMAGED AREA.
PLASTIC "WELD" COMPLETELY AROUND EDGE OF PATCH.
ILLUSTRATION SHOWN FOR TRAFFIX WATER WALL. PATCH KIT AND PROCEDURE CAN BE USED FOR ALL TRAFFIX DEVICES WATER FILLED PRODUCTS.
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.6mm]
DECIMAL: .000 ± .0625
DEGREES: ± 0.5°
TITLE:
WATER WALL PATCH REPAIR
DRAWN BY: Mary Dralle
DATE: 10-06-10
CHECKED BY: GM
DATE: 10-06-10
APPROVED BY: GM
DATE: 10-06-10
SIZE B
DWG. NO. 300-126
REV B
SHEET 1 OF 2



PLASTIC "WELD" COMPLETELY AROUND EDGE OF PATCH.

WATER WALL AFTER PATCH WELD

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES[mm].
TOLERANCES:
FRACTIONAL: X/X ± 1/16" [1.6mm]
DECIMAL: .000 ± .0625
DEGREES: ± 0.5°

TrafFix Devices Inc.
160 Avenida La Pata
San Clemente, CA 92673
(949) 361-5663
FAX (949) 361-9205
www.traffixdevices.com

TITLE:
WATER WALL
PATCH REPAIR

DRAWN BY: Mary Drolle	DATE: 0-06-10		
CHECKED BY: GM	DATE: 0-06-10		
APPROVED BY: GM	DATE: 0-06-10		

SIZE	DWG. NO.	REV
B	300-126	B

SHEET 2 OF 2

U.S. Department of Transportation

Federal Highway Administration

Appendix C:

FHWA

Product Acceptance Letter

B-130

Use this link to locate the letters on the FHWA Web-site:

http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/listing.cfm?code=long

Product Acceptance Letter

WZ-224

Use this link to locate the letters on the FHWA Web-site:

http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/listing.cfm?code=workzone

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NOTES:

160 Ave. La Pata San Clemente, California 92673
(949) 361-5663 FAX (949) 361-9205
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