

# FIBERGLASS WETWELLS

## SANITARY SEWER LINES



**CONTAINMENT**  
SOLUTIONS®

Containment Solutions is a name you can trust. Formerly a division of Owens-Corning, the world's largest fiberglass producer, we are committed to continuing our tradition of excellence. After all, we have been manufacturing underground storage tanks and wetwells for over forty - five years and we want to continue to earn your trust, just as we have for decades.

Sanitary sewer lines are gravity-flow systems relying on natural elevation changes to transfer sewage to a treatment plant. Wetwells or lift stations, are the low points in the sewer line where incoming wastewater is pumped to a higher grade to continue the gravity flow of the system.

### WETWELL DESIGN

CSI wetwells are fabricated using high quality resin and glass specifically designed to improve corrosion resistance and overall performance. This laminate matrix is then centrifugally fused through a computer automated process from the inside-out using rotating mandrels. This manufacturing process produces a smooth, high gloss, inner surface that is maintenance free.



MONOLITHIC DESIGN, WITH A WIDE RANGE OF DIAMETERS ▼

▼ WETWELL BOTTOM WITH STRUCTURAL ANCHORS





## SAFETY FACTOR

Fiberglass wetwells have a better safety factor against float-out than concrete wetwells. The wall thickness in a fiberglass wetwell is far less than concrete, resulting in a decrease in volume displacement of the unit. As a result, the buoyant forces on CSI fiberglass wetwells are less than concrete wetwells.

CSI Fiberglass Wetwells have been in service for more than 45 years. CSI wetwells are designed to meet or exceed the requirements of ASTM D 3753. They can be installed in a variety of soil conditions. Each wetwell is designed to withstand hydrostatic head pressure to grade with the wetwell completely empty.



Maintenance free, smooth, high gloss, inner surface.



Flat top with rectangular opening. Appropriate dimension specified by customer.

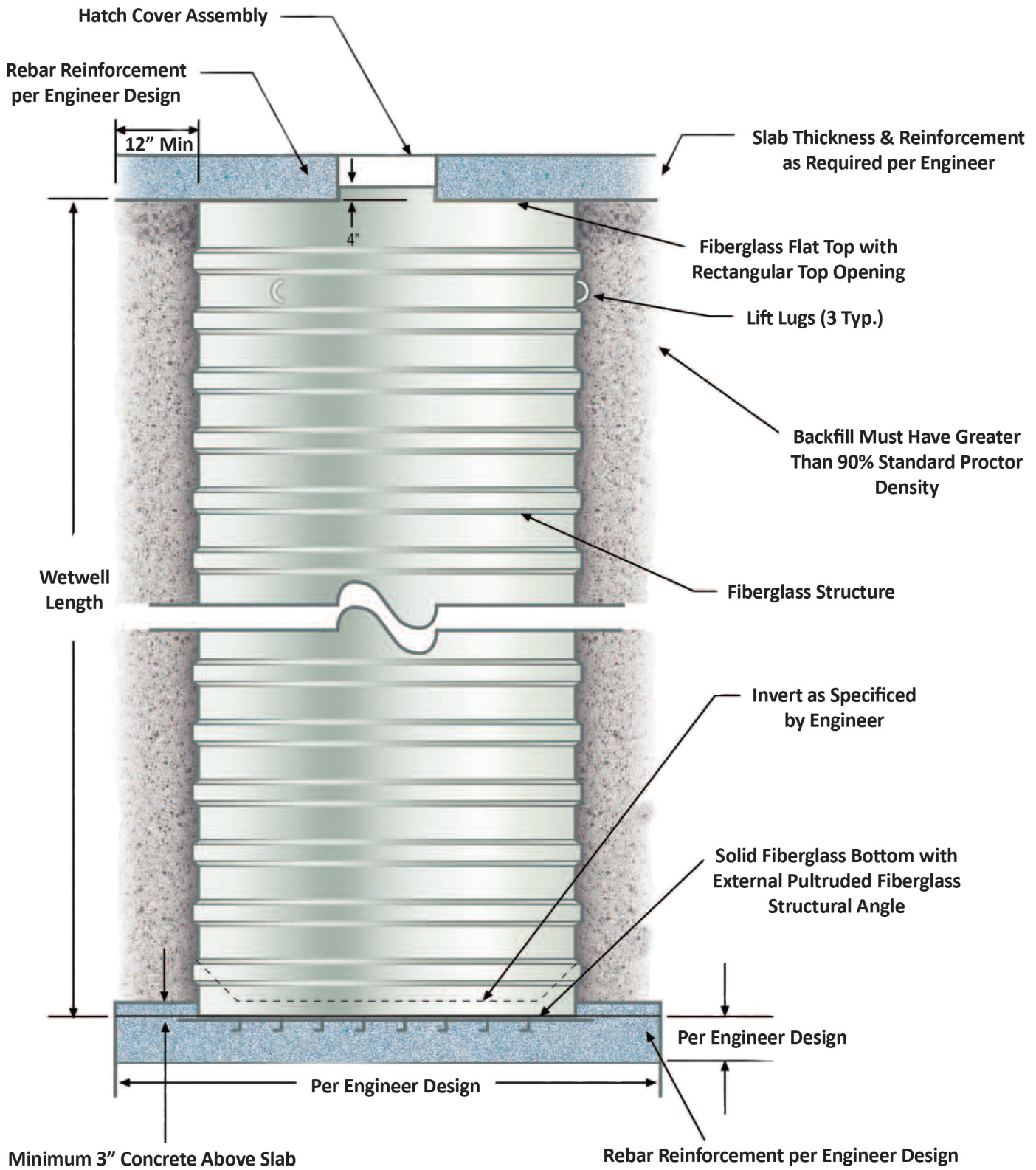
## CORROSION RESISTANT

Traditionally wetwells were made of concrete but the volume of sewage creates an extremely corrosive environment with a high concentration of hydrogen sulfide gas. Hydrogen sulfide gas causes Microbiologically Influenced Corrosion (MIC), the most common form of corrosion in concrete, and this corrosion significantly impacts the products life expectancy.

Fiberglass wetwells are not susceptible to the damaging effects of hydrogen sulfide or MIC. Non-corrosive wetwells from Containment Solutions (CSI) are watertight and come with an industry leading limited warranty. Fiberglass is simply the superior choice for wetwells.

## FIBERGLASS WETWELL BENEFITS

- Corrosion resistance
- Structural strength
- Lightweight
- Monolithic design
- Designed per ASTM D 3753
- Corrosion and structural limited warranty



## ELIMINATE INFILTRATION/EXFILTRATION

In most cases, ordinary concrete wetwells are installed in sections; otherwise they would be too heavy to move. This creates joints, the source of most leaks.

CSI Fiberglass wetwells are made in one integral piece to prevent infiltration and exfiltration. CSI Fiberglass Wetwells have no joints. With no sidewall joints, seams or sections to let groundwater in or wastewater out, CSI Fiberglass Wetwells provide a virtually leak proof answer to deteriorated concrete wetwells. The monolithic design also makes installation easier by reducing the time necessary to complete joints between sections.

## FIBERGLASS FLAT TOPS AND BOTTOMS

Fiberglass flat tops provide a corrosion barrier for the top concrete slab. Fiberglass tops are designed to allow the contractor to place forms and the hatch cover on the unit and make one pour for the top concrete slab. The opening can be rectangular or round. A vapor barrier up to 4" high is standard around the opening. Fiberglass bottoms are watertight to reduce infiltration/exfiltration.

All wetwell bottoms have structural anchors that embed in the concrete slab base to ensure a consistent safety factor over the life of the unit.



NON-CORROSIVE WITH A SMOOTH, HIGH GLOSS SURFACE ▲

▼ STUBOUT INSTALLED AT WETWELL BOTTOM







## THE PROVEN SOLUTION

Containment Solutions Fiberglass Wetwells were developed over forty-five years ago. Since then, thousands of our wetwells have been installed in many different types of soil, and many different effluents without a single failure. CSI Fiberglass Wetwells withstand the test of time.

## IMPERVIOUS TO WASTEWATER CONDITIONS

CSI Fiberglass Wetwells are suitable for using in storm, industrial and sanitary sewers with a wide range of temperatures. Because they are constructed of glass fiber reinforced polyester resin, they are virtually inert to corrosion from sewage, sewage gases, corrosive soils or stray electrical currents. In contrast to concrete, CSI wetwells are unaffected by hydrogen sulfide. Over 400 chemical environments have been approved for use with CSI Fiberglass Wetwells. Your Containment Solutions representative can give you more information concerning use of the product in corrosive conditions.

## PIPING CONNECTIONS

Piping connections can be made with factory installed PVC pipe or fiberglass host sleeves that are sized to accept the incoming pipe. The annular space of the piping is sealed using a mechanical seal such as Inner-Lynx or Link-Seal. Other connections available are PVC stubouts and resilient rubber boot connectors.

## FIBERGLASS WETWELL ACCESSORIES

- PVC stubouts
- Flexible rubber boots
- Fiberglass watertight bottoms
- Factory installed concrete slab
- Bottoms flanges
- Ladders



## WETWELL SIZES

Wetwells are available in lengths from 3' to 50' and are manufactured as one integral piece. Wetwells are available in 3' to 20' diameters. Longer wetwells can be custom fabricated.

## SPECIFICATION COMPLIANCE

CSI Fiberglass Wetwells meet or exceed all requirements of ASTM specification D3753 for Glass Fiber-Reinforced Polyester Manholes and Wetwells.

## PROPERTIES OF CSI FIBERGLASS WETWELLS

Diameters : 36", 42", 48", 60", 66", 72", 96", 120", 132", 144", 186", 216", 240"

Wetwell thickness - varies with burial depth.

Typical weight - Approximately 125lb/ft (72" dia.)

Flat Tops - Rectangular or round openings are available. Customer can specify the appropriate dimension to fit access covers.

Water tight bottoms - designed to withstand hydrostatic load to grade with unit completely empty.

## WETWELL SHORT FORM SPECIFICATION

Fiberglass Wetwells will be used for wet pits on industrial and municipal sewer lines. They are to be supplied with standard diameters of 36" through 240". Lengths up to 50' as required. Wetwells will be manufactured by Containment Solutions and installed as described.

### GUIDE SPECIFICATION:

Containment Solutions Fiberglass Reinforced Polyester Wetwell Part I General Quality Assurance:

- A. Acceptable Manufacturer: Containment Solutions, Inc.
- B. Governing Standards: ASTM D3753-Glass Fiber Reinforced Manholes and Wetwell
- C. Chemical Resistance Test ASTM C581. Previous tests are acceptable provided laminates are representative.

### SUBMITTALS:

- A. **Catalog Data:** Submit copies of manufacturer's literature.
- B. **Installation Instructions:** Submit copies of manufacturer's instructions.

### LOADING CONDITIONS:

Wetwell shall meet the following design criteria:

1. Load Bearing Capacity: Properly installed wetwell shall not fail under H-20 dynamic wheel load applied vertically.
2. Cylinder axial compressive strength: Minimum 14,000 psi.

### ENVIRONMENT CONDITIONS:

1. The maximum temperature of the material shall be 120° Fahrenheit.
2. The material shall be in the pH range of 4-10. (For other conditions, contact your Containment Solutions representative.)
3. For industrial and chemical applications, the material composition, concentration, and operating conditions shall be reviewed by Containment Solutions.

### DIMENSIONAL REQUIREMENTS:

1. Inside diameter of cylinder portion: 36" through 240".
2. Height of Wetwell purchased is design depth of wetwell + 4" for each poured- in place slab (top or bottom) or 1" for each pre-cast slab.



## FIBERGLASS TOPS AND BOTTOMS:

1. Flat tops shall be designed to withstand the weight of 8" concrete slab.
2. Hatch opening dimensions and position shall be specified by engineer.
3. Hatch opening shall have an upper barrier lip of 4".
4. Fiberglass bottoms shall have fiberglass structural stiffeners when required for hydrostatic pressures.

## CONSTRUCTION REQUIREMENTS:

1. Solid Wall - 36", 42", 48", 54", 60", 66" I.D.
  - a. Component Elements: polyester resin, fiberglass chopped strand and continuous reinforcement.
2. Ribbed wall - 72", 96", 120", 133", 144", 156", 186", 216", 240" ID.
  - a. Component Elements: polyester resin, fiberglass chopped strand and continuous reinforcement.



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**CONTAINMENT SOLUTIONS MANUFACTURES:**

Fiberglass Manholes and Wetwells

Underground Fiberglass Storage Tanks

Aboveground Steel Storage Tanks

Automotive Oil and Lubricant Storage Tanks

Oil/Water Separators and Interceptors

Flowtite® Water Tanks

Chemical Storage Tanks

Field Service



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