

**STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
SUPPLEMENTAL SPECIFICATION 995  
PRECAST WATER QUALITY STRUCTURE**

**April 20, 2007**

**995.01 Precast Water Quality Structure.** Furnish precast water quality structures according to the following criteria:

- A. An external structure conforming to 604. Alternative materials may be used with approval from the Office of Structural Engineering.
- B. Internal components conforming to 604 or the following table:

Table 1			
	Aluminum Plate	Stainless Steel	Fiber Reinforced Polymer
ASTM Standard	B209	A276	D4097
Alloy/ Type	5052	304	-
Temper	H32	-	-

Alternative materials may be used with approval from the Office of Structural Engineering.

- C. Capable of being placed in an off-line configuration.
- D. No scour and no re-suspension of material previously collected will occur.
- E. Provide 80% capture of the total suspended solids at the water quality flow discharges shown in Table 2. Provide third party verification including a signed letter from the third party confirming total suspended solids removal efficiency. Ensure testing conforms to the following:
  - 1. The laboratory test influent concentration is 0.028 lb/ft<sup>3</sup> (450 mg/L) or less.
  - 2. Use an OK110 particle distribution with a specific gravity of 2.65 or less.
- F. Capture of all floatable free oil.
- G. Sediment storage capacity as listed in Table 2.
- H. A water-lock feature to prevent the introduction of trapped oil and floatable contaminants to the downstream piping during routine maintenance.
- I. Direct access to the sediment and floatable contaminant storage chambers. Provide a maximum distance of 36 inches (915 mm) from the interior wall to the outside edge of the first access hole. Furnish additional access holes at a maximum spacing of 66 inches (1675 mm) measured from center of access hole to center of access hole. Alternate spacing of access holes requires approval from the Office of Structural Engineering.

- J. Confined space entry is not a requirement for routine maintenance.
- K. No special tools or attachments are required to provide routine maintenance with a vacuum pumping truck.
- L. A minimum access hole of 30 inches (762 mm) in diameter.
- M. Capable of supporting a traffic load of HS-25 and a dead load as required in the plans. A reinforced concrete slab conforming to 511 with epoxy coated reinforcing steel constructed per 509 may be provided to achieve the loading requirements.
- N. Completely housed within one structure excluding the structure containing the diversion weir and necessary structures to ensure connectivity to the storm sewer trunk.

Table 2		
ODOT Type	Maximum Water Quality Flow cfs (cms)	Minimum Sediment Storage ft <sup>3</sup> (m <sup>3</sup> )
1	1 (0.028)	10 (0.28)
2	2 (0.056)	20 (0.56)
3	3 (0.084)	32 (0.91)
4	6 (0.168)	65 (1.84)

Furnish materials according to the Department's Qualified Products List (QPL).

**Designer Note:**

This specification should be used in conjunction with SS 895.