

<b>METROPOLITAN UTILITIES DISTRICT</b>	<b>Construction Standard</b>	No: <b>1.8.3</b>
Prepared by: Bill Travnicsek	<b>Reinforced Vault Footings &amp; Concrete Slab Design</b>	Page: 1 of 3
Approved by: Jeff Loll		<u>Supersedes:</u> New
		Effective: 3-1-12

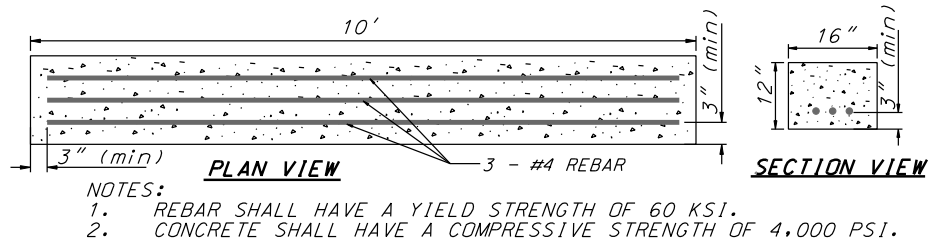
## GENERAL

This standard covers the details of reinforced concrete footings and reinforced concrete slabs to be used with precast concrete vaults as shown on drawings or as directed by the Field Engineer.

Vault base sections shall be set on undisturbed or well compacted soil. **If the stability of the ground below the base section is such that it cannot be reasonably compacted** as determined by the Field Engineer, a reinforced concrete slab and/or footings shall be used under the base section. *Note: It is recommended that the Field Engineer contact Engineering Design to modify the proposed combination of footings and/or slab and vault to be used before proceeding.*

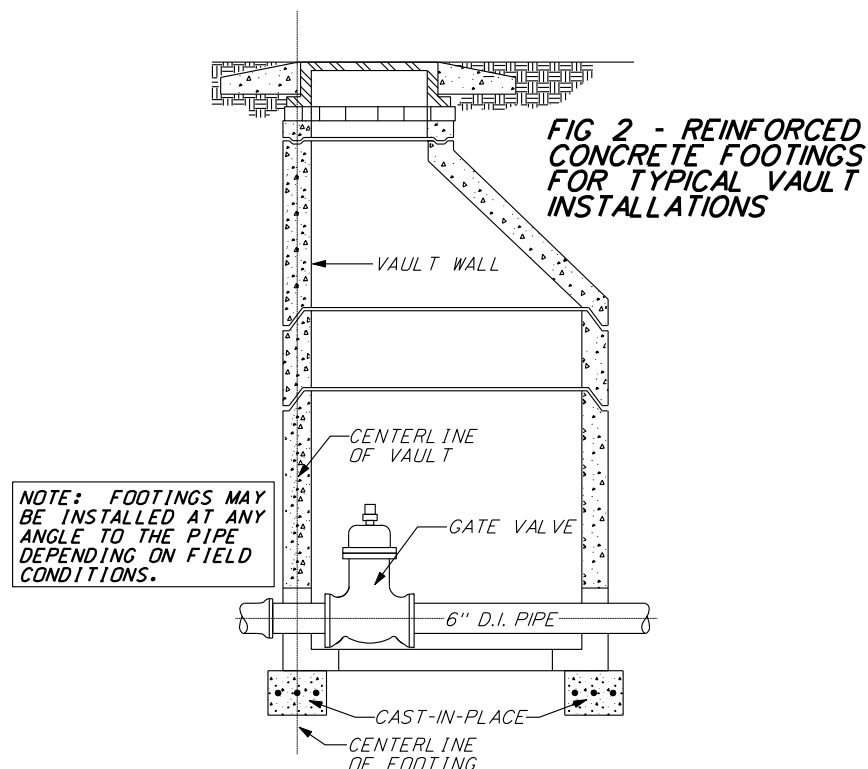
## REINFORCED CONCRETE VAULT FOOTINGS

Reinforced concrete vault footings shall be cast-in-place in such a manner to support the base section of the vault. If possible the base section should not bear on the pipe line at any point. See Fig 1 for footing detail.

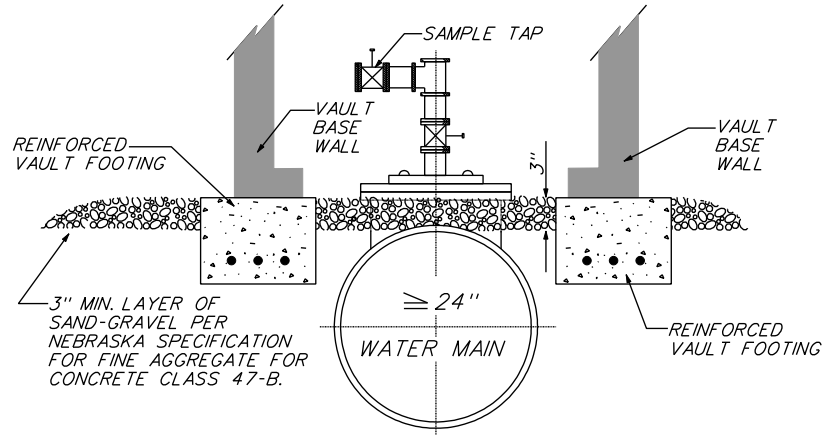


**FIG 1 - REINFORCED CONCRETE FOOTING DETAIL**

Typical installations showing vaults supported by reinforced concrete footings are shown in Fig 2 and Fig 3.

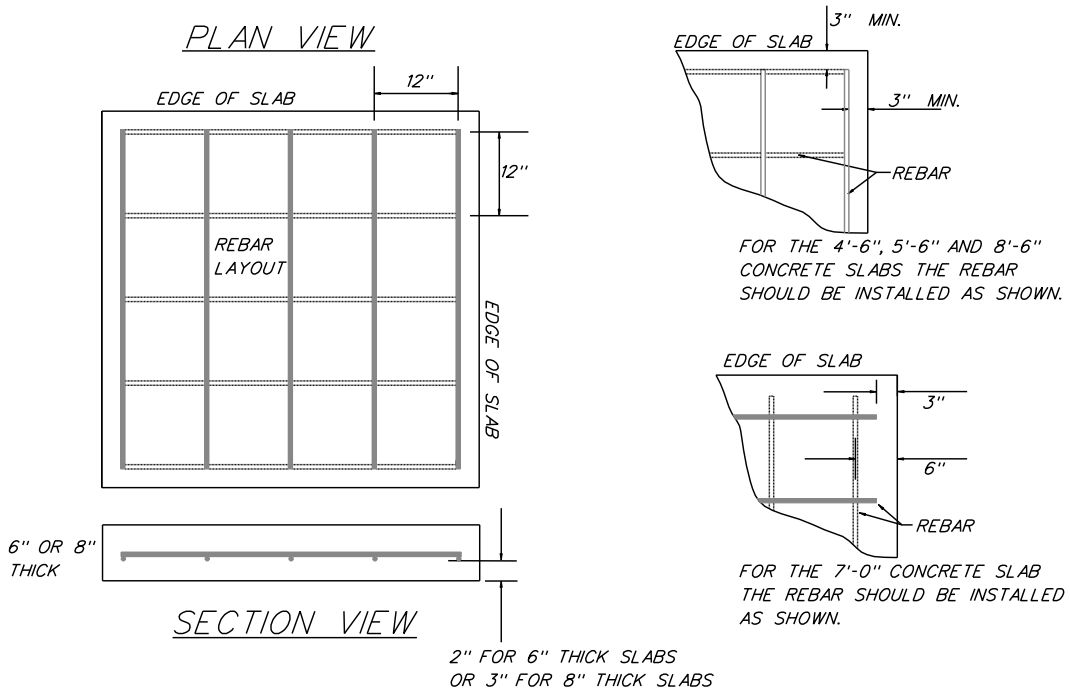


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**FIG 3 - REINFORCED CONCRETE FOOTINGS FOR ELEVATED VAULT  
REINFORCED CONCRETE SLAB**

Reinforced concrete slabs shall be designed according to Fig 4 below.



**FIG 4 - REINFORCED CONCRETE SLAB DETAIL**

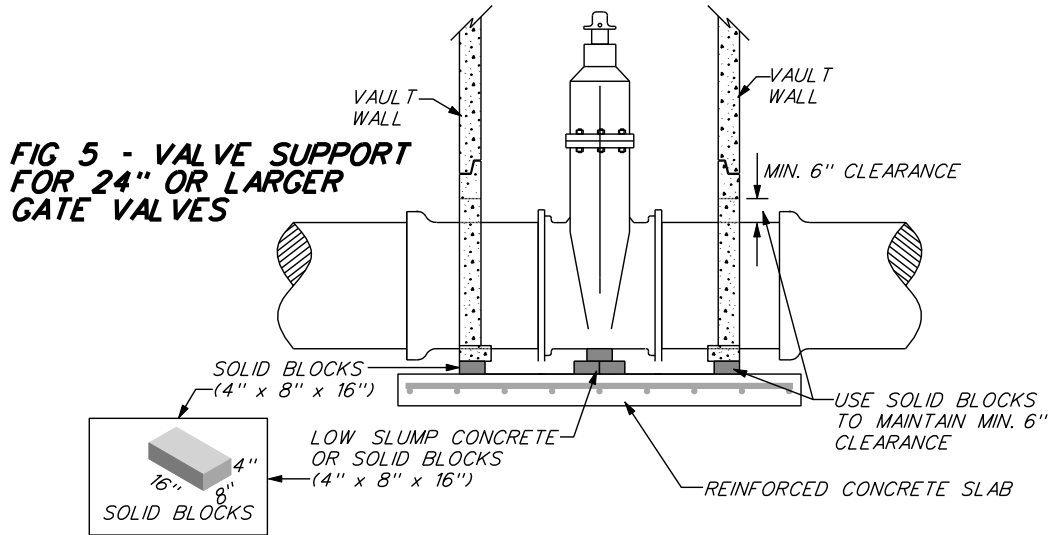
REINFORCED SLAB DIMENSIONS

VAULT SIZE	SQ. SLAB SIZE	SLAB THICK.	REBAR SIZE	TOTAL NO. REBAR	REBAR LENGTH	DISTANCE OF REBAR FROM SLAB BOTTOM
30"	4'-6"	6"	*5 - 5/8"	10	4'	2"
48"	5'-6"	6"	*5 - 5/8"	12	5'	2"
60"	7'-0"	6"	*5 - 5/8"	14	6'-6"	2"
72"	8'-6"	8"	*6 - 3/4"	18	8'	3"

**Note:** When a concrete slab is used with a precast base section, there shall be a mortar joint between the slab and base section. The slab shall be cleaned before placing the mortar joint.

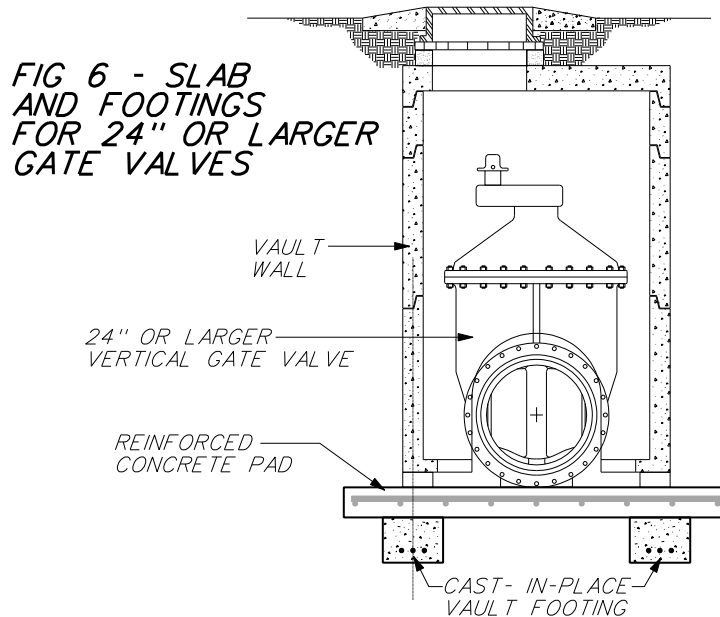
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Reinforced concrete slabs shall be cast-in-place in such a manner that the vault will be centered on the slab as shown in Fig 5.



**Note:** If the depth and/or location of the base section of a vault is such that construction of a reinforced concrete slab is unfeasible as determined by the Engineer, reinforced concrete footings shall be installed in place of a slab.

In some cases for 24" and larger valves, a combination of footings and slab may be required as shown in Fig 6.



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