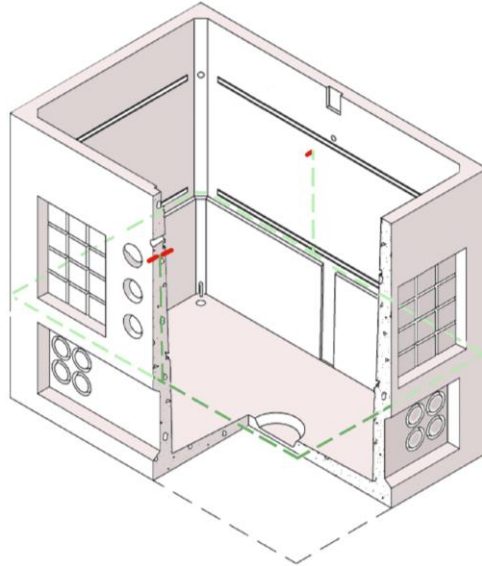


577 Electric Vault, Primary Service



1. Table of Contents

1. Table of Contents	1
2. Scope	1
3. Application	2
4. General Requirements	2
5. Component Requirements	2
5.1. Grounding and Bonding	2
5.2. Vault Base	2
5.3. Divider Wall	3
5.4. Vault Cover	4
6. Vault Assemblies	5
7. Issuance	5
8. Approved Manufacturer	5
9. References	6

2. Scope

This standard covers the detailed requirements for 577 electrical vault components (vault base, cover with hatches, and divider walls) and 577 electric vaults assembled from those components. The basic components can be ordered separately, or they can be ordered as assembled vaults with covers.

This standard applies to the following Seattle City Light Stock Numbers:

Stock

Number 577 Vault Components

013089	vault base , standard 577
013090	removable divider wall , standard 577
013091	cover , 7-foot by 4-foot-8-inch by 12-inch with two 3- by 3-foot, non-slip, solid hatches, H-20
013092	cover , 7-foot by 4-foot-8-inch by 12-inch with two 3- by 3-foot, H-20 hatches (one non-slip, solid hatch and one grated vent hatch)
013151	cover , 7-foot-6-inch by 5-foot-2-inch with two non-slip, H-30 hatches

Stock

Number Assembled 577 Vaults with Cover

013125	assembled 577 vault with two 3- by 3-foot, non-slip, H-20 solid hatches
013126	assembled 577 vault with divider wall and with two 3- by 3-foot, H-20 hatches (one non-slip, solid hatch and one grated vent hatch)
013127	assembled 577 vault with divider wall and with two 3- by 3-foot, non-slip, H-20 solid hatches
013152	assembled 577 vault with two non-slip, H-30 hatches

standards coordinator	standards supervisor	unit director
 Quan Wang	 John Shippek	 Andrew Strong

3. Application

577 vaults are intended for use in the construction of underground electric systems. This precast concrete structure may be used to house medium-size transformers, loadbreak junction boxes, and in making service connections and splices for the distribution system.

The H20-rated 577 vault assemblies are not intended to be used in high density locations.

The standard 577 vault assembly typically consists of the 577 base (Stock Number 013089) and the 7-foot by 4-foot-8-inch cover with two 3- by 3-foot non-slip, H-20 solid hatches (Stock Number 013091).

Due to different applications, the vault may need to be customized with a divider wall and/or different entry openings and hatches.

Depending on the application for the enclosure selected, it can be defined as a handhole or a vault. When Seattle City Light uses the 577 enclosure for primary service, the 577 enclosure will be designated as a vault. For non-primary service the 577 enclosure can typically be referred to as a handhole (not covered in this Standard).

Steps for selecting the proper vault assembly for your application:

1. Select vault base
2. Determine if divider wall is needed
3. Select removable divider wall (optional)
4. Select cover with hatches

4. General Requirements

This detailed standard is to be used in conjunction with the latest revision of Seattle City Light Material Standard 7203.21, "Precast Reinforced Concrete Structures – General."

5. Component Requirements**5.1 Grounding Requirements**

Vault grounding shall comply with Material Standard 7203.21, Section 9, Grounding.

5.2 Vault Base

The SCL 577 vault base (Stock No. 013089) shall have overall nominal dimensions of 7 feet by 4 feet 8 inches by 6 feet high as shown in Figure 6.2.

Approximate weight is 6,000 pounds.

Table 5.2, Vault Base Attributes

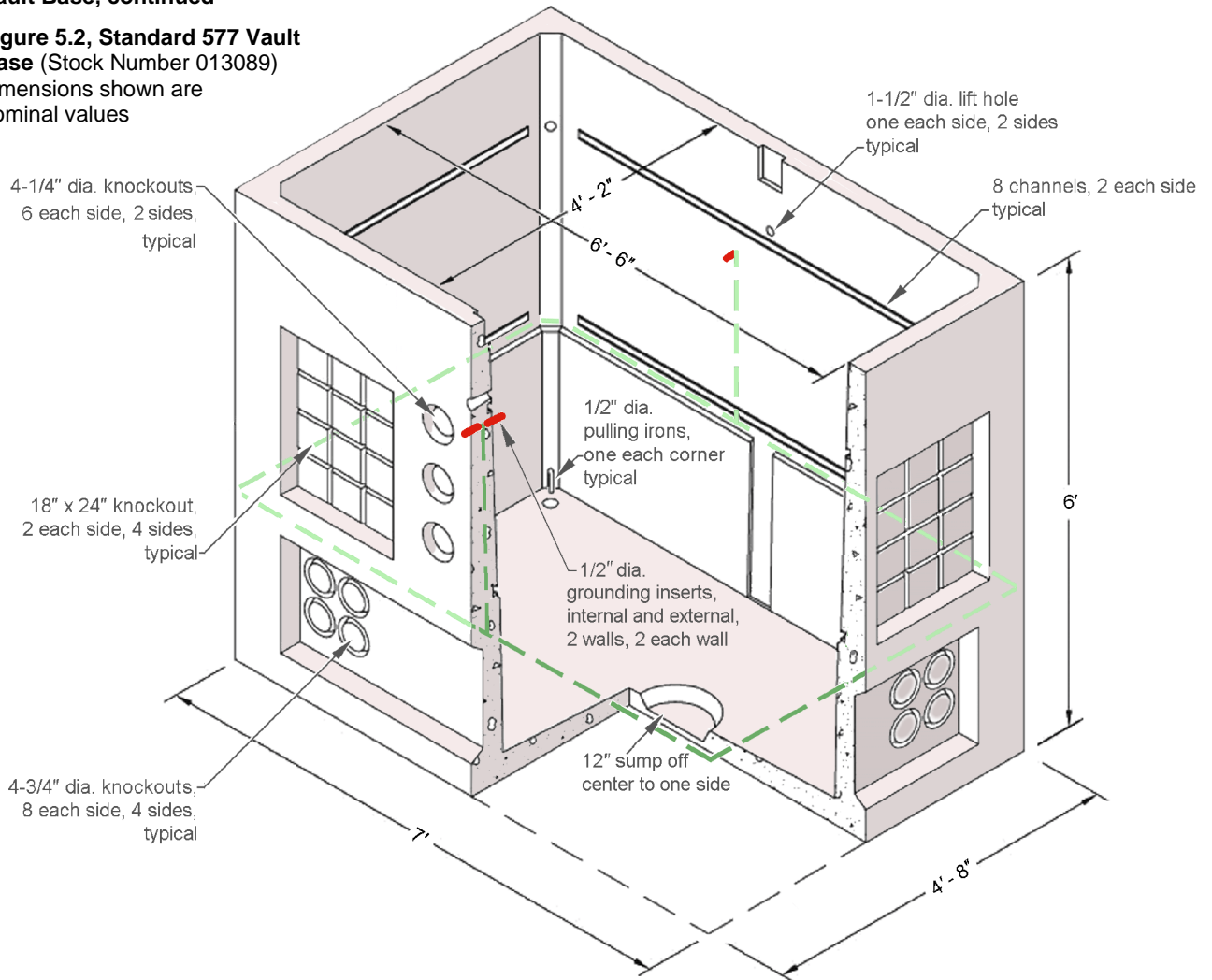
All standard 577 vault bases shall have the following features:

	Size, Nominal, in	Location	Per Location	Total Number
Knockouts				
round	4-3/4 dia	all 4 walls, on bottom	8 ea side	32
round	4-3/4 dia	3 rows of 2 in center of 2 long walls	6 ea side	12
waffle (12 - 6" squares)	18 x 24	all 4 walls	2 ea side	8 waffles
ground rod	2 dia	2 corners of floor	1 ea	2
Channels				
galvanized "C" channel, horizontal, embedded in walls	42 long	short walls, above waffle	1 ea side	2
	42 long	short walls, below waffle	1 ea side	2
	72 long	long walls, above waffle	1 ea side	2
	72 long	long walls, below waffle	1 ea side	2
Sump, round	12 dia	floor, off center (long axis)	1, to one side	1
Pulling Irons	1/2 dia	1 ea corner of floor (typical)	1 ea corner	4
Lift Holes	1-1/2 dia	2 center of wall, just below channel, long walls, opposite	1 ea side	2
Ground Inserts, bronze	1/2 dia	on opposite long walls, on the internal and external side of walls	2 ea side	4
Ladder		not required		

5. Component Requirements, continued

5.2 Vault Base, continued

Figure 5.2, Standard 577 Vault Base (Stock Number 013089)
dimensions shown are nominal values



5.3 Removable 577 Divider Wall (Stock Number 013090)

Divider wall shall be reinforced with #4 rebar. Divider wall shall be 3 inches thick (nominal). Approximate weight is 1,000 pounds.

The removable 577-divider wall shall include:

1/2-inch diameter lift ring, placed in the top edge

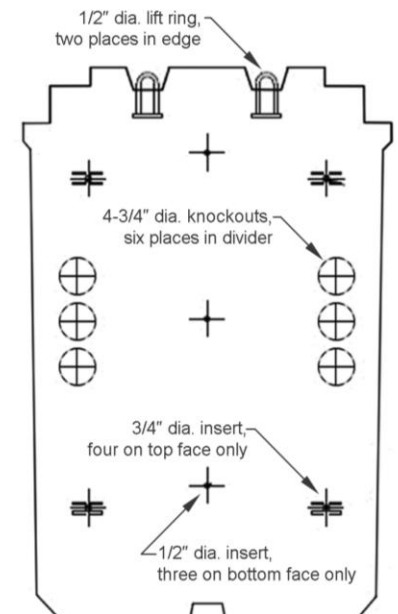
4-3/4-inch diameter knockouts, 6 locations in divider, 3 to a side laterally

1/2-inch diameter inserts, 3 on bottom face of wall only

3/4-inch diameter inserts, 4 on the top face of wall only

See Figure 5.3.

Figure 5.3, Removable Divider Wall



5. Component Requirements, continued

5.4 Vault Cover

Covers shall have a nominal overall dimension of 7 feet by 4 feet 8 inches. Thickness shall be 12 inches. Approximate weight is 2,200 pounds.

All covers shall have 3/4-inch lift insert at each corner on the top, as shown in Figure 5.4.

Caps shall be provided to cover the lift inserts.

Hinges for the lids shall be along the length of the cover.

All hinged hatches shall open 180 degrees, or flat.

Covers shall have a keyway to match the base for proper assembly.

Figure 5.4, Cover

dimensions shown are nominal values

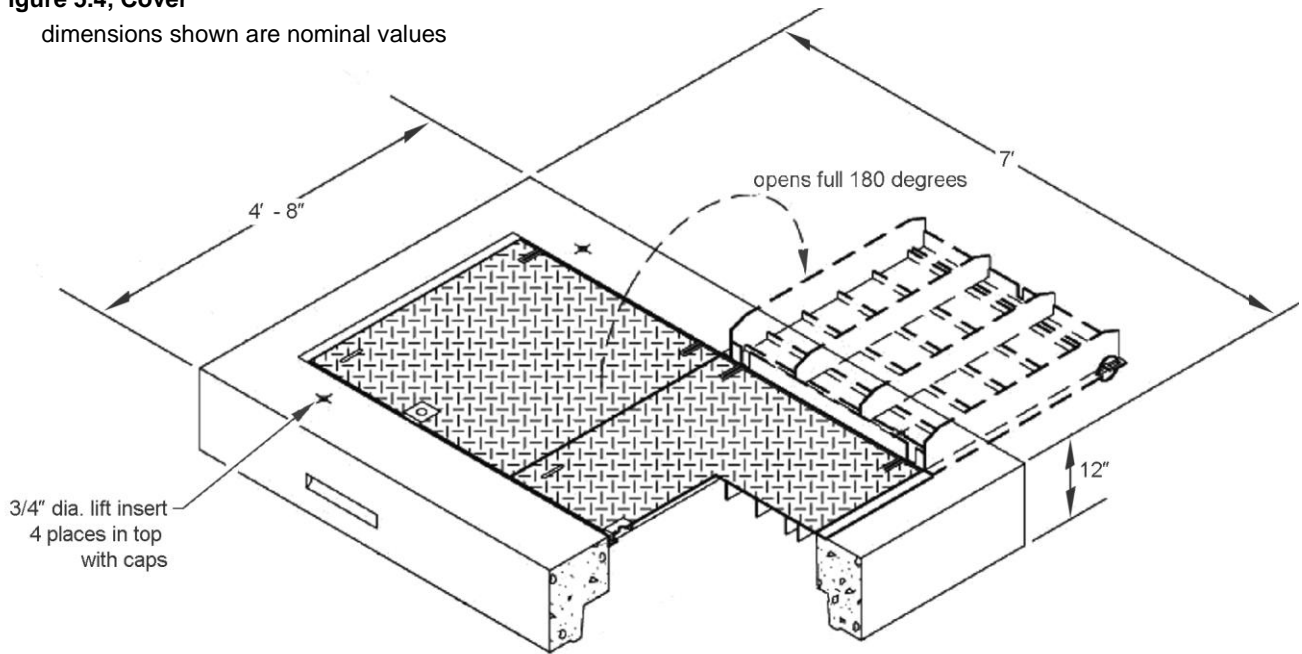


Table 5.4, 577 Vault Cover Options

Stock Number	Inside Dimensions, Nominal, ft-in		Outside Dimensions, Nominal, ft-in		Hatch Options
	Length	Width	Length	Width	
013091	6-6	4-2	7-0	4-8	with two 3- by 3-foot, non-slip, H-20 solid hatches
013092	6-6	4-2	7-0	4-8	with two 3- by 3-foot, H-20 hatches: one non-slip, solid hatch and one grated vent hatch
013151	6-6	4-2	7-6	5-2	with two non-slip, H-30 LW hatches

6. 577 Vault Assemblies**Table 6, Assembled 577 Vault Components**

Assembled Vault Stock Number	Vault Base Stock Number	Divider Wall Stock Number	Cover Number	Hatches	
				1	2
013125	013089	none	013091	H-20 solid	H-20 solid
013126	013089	013090	013192	H-20 solid	H-20 grate
013127	013089	013090	013191	H-20 solid	H-20 solid
013152	013089	none	013151	H-30 solid	H-30 solid

Refer to Table 6 for the various components included in each vault assembly.

6.1 Assembly Options

All vault assemblies use the same vault base. The assemblies differ on whether they are provided with a divided wall or not and on the type of hatch. Depending on the type of cover hatches desired, the vault base may be paired with a different cover size with appropriate hatches, as shown in Table 6.

6.2 Assembly Requirements

All solid hatches are and have non-slip surfaces.

Each section of the vault components shall have keyways for proper assembly.

7. Issuance

Unit: EA

8. Approved Manufacturer

Stock Number	Description	Catalog Number
		Oldcastle/Utility Vault
013089	vault base , standard 577	577-LA w/ GRD In & Out
013090	removable divider wall , standard 577	577-Divider Wall
013091	vault cover , 7-foot by 4-foot-8-inch with two 3- by 3-foot, non-slip, H-20, solid hatches	57-2-332-NS-SA-80
013092	vault cover , 7-foot by 4-foot-8-inch with two 3- by 3-foot, H-20 cover hatches (one non-slip, solid hatch and one grated vent hatch)	57-2-332-NS-GV-SA-80
013151	vault cover , 7-foot-6-inch by 5-foot-2-inch with two non-slip, H-30 hatches	57 Top w/ LW Hatch 34" x 74"
013125	assembled 577 vault with two 3- by 3-foot, non-slip, H-20 solid hatches	577-LA w/ GRD In & Out w/ 2-33 cover - SCL
013126	assembled 577 vault with divider wall and with two 3- by 3-foot, H-20 hatches (one non-slip, solid hatch and one grated vent hatch)	577-LA w/ Iron, GRD In & Out w/ grate and 33 cover - SCL
013127	assembled 577 vault with divider wall and with two 3- by 3-foot, non-slip, H-20 solid hatches	577-LA w/ Iron, GRD In & Out w/ 2-33 cover - SCL
013152	assembled 577 vault with two non-slip, H-30 hatches	577-LA w/ Iron, GRD In & Out w/ LW Hatches

9. References

Detter, Chris; SCL Distribution Engineer, subject matter expert for 7203.41

Ng, Sharon; SCL Civil Engineer, subject matter expert for 7203.41 (sharon.ng@seattle.gov)

SCL 7203.21; "Precast Reinforced Concrete Structure, General"; Material Standard

Wang, Quan; SCL Standards Engineer, originator and subject matter expert for 7203.41 (quan.wang@seattle.gov)