

231 and 233 Handholes, Precast, Secondary and Streetlight, Detailed



1. Scope

This standard covers the detailed requirements for the precast 231 and 233 handhole bases, covers, and hatches; and the assembled 213 and 233 handhole units. Components can be ordered separately or ordered as an assembled unit.

Manufacturers, Washington State Department of Transportation (WSDOT) and City of Seattle Standard Plan No 550A refer to the 231 handhole as a Type 3 handhole and the 233 handhole as a Type 5 handhole.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	231 and 233 Handhole Components and Assemblies
015090	Base, 231 handhole, 6-inch height
013182	Base, 231 handhole, 12-inch height
013183	Base, 233 handhole
013184	Cover with hatch, "SCL"
013185	Cover with hatch, "SL"
013484	Cover with hatch, "SL/SDOT"
013180	Assembly, 231 handhole base with cover, "SCL"
013181	Assembly, 231 handhole base with cover, "SL"
720388	Assembly, 233 handhole base with cover, "SCL"
013179	Assembly, 233 handhole base with cover, "SL"
013485	Assembly, 233 handhole base with cover, "SL/SDOT"

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2. Application

Handholes are used to house secondary service and streetlight service connections.

Handholes are for use in pedestrian sidewalks where an occasional car or light truck may inadvertently traverse.

3. General Requirements

This standard is to be used in conjunction with the latest version of SCL 7203.01, "Precast Reinforced Concrete Handholes, General Requirements."

4. Handhole Base

4.1 231 Handhole Base (Stock Nos. 013182 and 015090)

Handhole base shall have four 3/4 in diameter lift inserts (2 each along the length of handhole), as shown in Figure 4.1.

Dimensions shall be as shown in figures 4.1a. and 4.1b.

Top of handhole base shall have a keyway to allow proper fit with the cover.

Figure 4.1a. 231 Handhole Base, Stock No. 013182

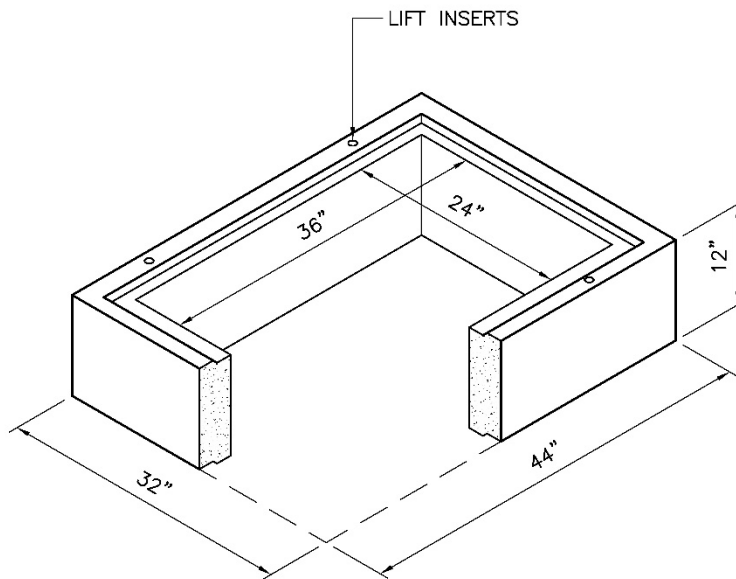
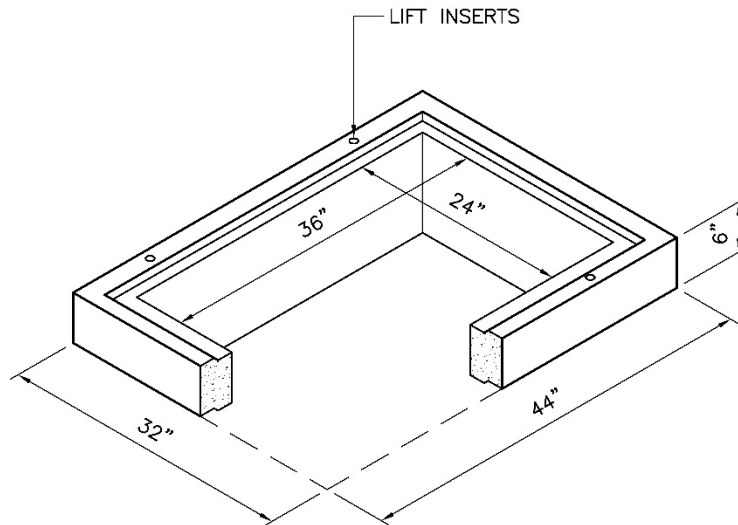


Figure 4.1b. 231 Handhole Base, Stock No. 015090



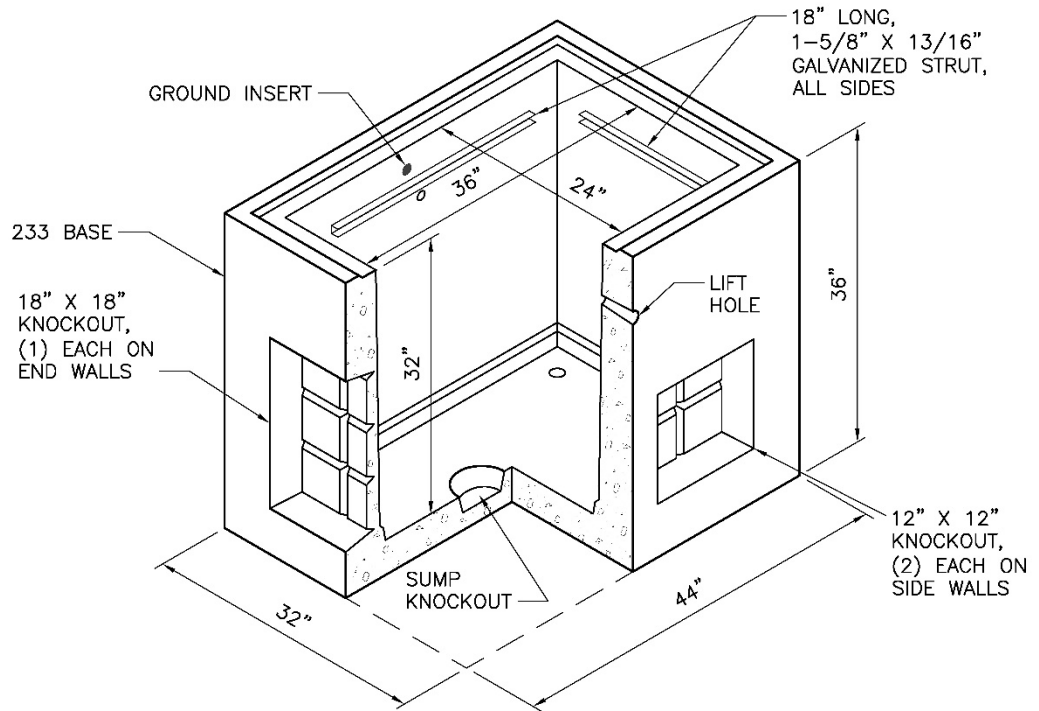
4.2 233 Handhole Base (Stock No. 013183)

233 handhole bases shall have the following attributes:

- Knockouts
 - Waffle (4-6 in squares), 12 in x 12 in on both side walls
 - Waffle (9-6 in squares), 18 in x 18 in on both end walls
 - Ground rod, 1 in diameter at 2 opposite corners of floor
- Galvanized "C" channel, embedded in all walls, 1-5/8 in x 13/16 in x 18 in long
- Sump, round, 6 in diameter, 3 inches deep, off center on floor
- Pulling Irons, 1/2 in diameter, as requested per project
- Lift Holes, 1-1/2 in diameter on center of wall
- Ground Inserts, bronze, 1/4 in diameter, on the side wall, centered, above lift hole

Dimensions shall be as shown in Figure 4.2.

Figure 4.2. 233 Handhole Base



5. Covers

Cover shall consist of a concrete collar with a 24 in by 36 in slip-resistant steel hatch with steel frame.

Cover shall be of configuration as shown in Figure 5.

- Cover dimensions shall be 32-in wide by 44-in long by 6-in deep.
- Covers shall have a 3/4-in lift insert at each corner on the top.
- Caps shall be provided to cover the lift inserts.
- Cover shall have a keyway to ensure a tight fit.
- A 1/4 in diameter ground insert shall be embedded in the cover on the hinged hatch side for bonding the frame.

The hatch shall have the following:

- Steel frame securely anchored in the concrete
- H20 rating
- Recessed lift handles
- One handle located on each of the short ends of the hatch
- 5/8-in bonding point hole on support bar for grounding hatch
- Hatch-locking mechanism with Penta-head bolt
- Label (SCL, SL, or SL/SDOT), according to Table 5.

Figure 5. Cover with Slip-Resistant Steel Hatch

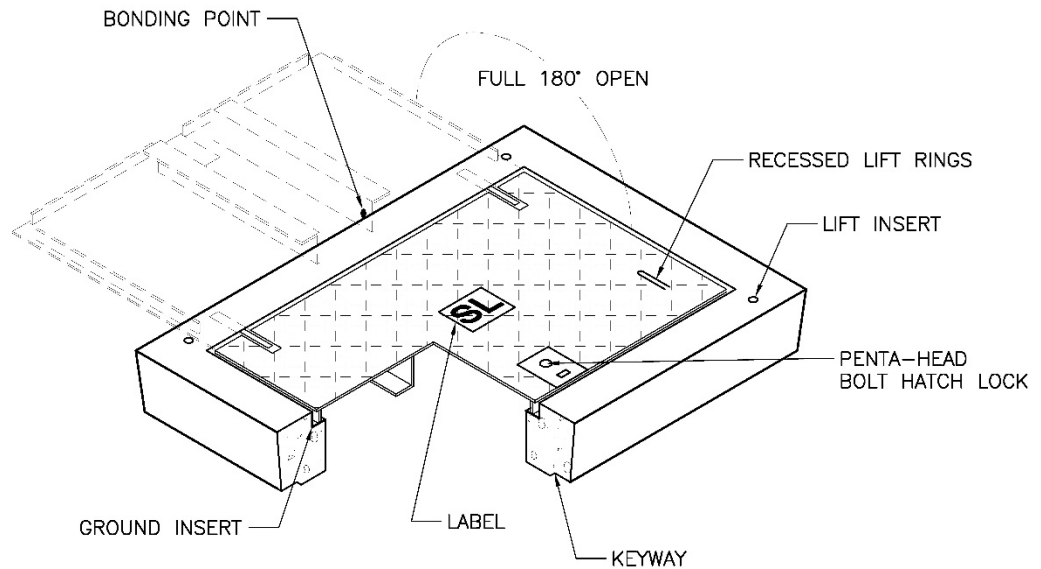


Table 5. Hatch Label

Stock No.	Label
013184	SCL
013185	SL
013484	SL/SDOT

6. Assemblies

Handhole assemblies consist of a handhole base and a cover with metal hatch. All handhole assemblies use the same size cover.

Table 6. Materials for 231 and 233 Handhole Assemblies

Fig #	Stock No.	Assembly Description	Quantity				
4.1	013180	231 handhole base with cover, "SCL"					
4.1	013181	231 handhole base with cover, "SL"					
4.2	720388	233 handhole base with cover, "SCL"					
4.2	013179	233 handhole base with cover, "SL"					
4.2	013485	233 handhole base with cover, "SL/SDOT"					
	Stock No.	Material Description					
	013182	Base, 231 handhole	-	-	-	1	1
	013183	Base 233 handhole	1	1	1	-	-
	013184	Cover with hatch, "SCL"	-	-	1	-	1
	013185	Cover with hatch "SL"	-	1	-	1	-
	013484	Cover with hatch, "SL/SDOT"	1	-	-	-	-

7. Issuance

Unit: EA

8. Approved Manufacturers

Stock No.	Description	OldCastle Precast/ Utility Vault	H2 Pre-Cast Inc.
015090	Base , 231 handhole, 6-inch height	23R-6	T3/T5 6" RISER
013182	Base , 231 handhole, 12-inch height	23R-12	VR233-12
013183	Base , 233 handhole	233-LA Base	VB233-SCL
013184	Cover , with hatch, "SCL"	23-2436F Cover w/ ID Marker "SCL"-3150029	VL233-2436-SCL
013185	Cover with hatch, "SL"	23-2436F Cover w/ ID Marker "SL"-3150028	VL233-2436-SL
013484	Cover with hatch, "SL/SDOT"	23-2436F Cover w/ ID Marker "SL/SDOT"	VL233-2436-SL/SDOT
013180	231 handhole base with cover, "SCL"	Type 3 Handhole-SCL-"SCL"-3150029	TYPE 3 HANDHOLE-W/2436-"SCL"
013181	231 handhole base with cover, "SL"	Type 3 Handhole-SCL-3150028	TYPE 3 HANDHOLE-W/2436-"SL"
720388	233 handhole base with cover, "SCL"	233 Handhole-SCL-"SCL"-3150029	233 HANDHOLE-W/2436-"SCL"
013179	233 handhole base with cover, "SL"	233 Handhole-SCL-"SL"-3150028	233 HANDHOLE-W/2436-"SL"
013485	233 handhole base with cover, "SL/SDOT"	233 Handhole-SCL-"SL/SDOT"	233 HANDHOLE-W/2436-"SL/SDOT"

9. References

SCL Material Standard 7203.01; "Precast Reinforced Concrete Handholes, General Requirements"

10. Sources

Edwards, Tommy; SCL Electrical Reviewer and subject matter expert for 7203.08

Ng, Sharon; SCL Civil Engineer and subject matter expert for 7203.08

Wang, Quan; SCL Standards Engineer and subject matter expert for 7203.08