					Do	oor						FRAM	ES							
Quantity	Single/Pr	Opening #	Outside	Inside	Type	Finish	Type	Mfgr	Ga/Thickness	Door Thickness	Rating	Jamb Debth	Nominal Door Opening	Hand	Elevation	Net Wall Th	Finish	Degree Opng	HW Set	Notes
1	SGL	2316	CORR 2315	DECONTAM	E	WD	HMF	D00	16 GA	1-3/4"	60PPS	6-3/8"	3'6"X8'0"	RH	AS4	5-1/4"	PT	90	13	Welded Hollow Mtl Frame
1	SGL	2316A	DECONTAM	EVS	Α	WD	HMF	D00	16 GA	1-3/4"	60PPS	6-3/8"	3'0"X8'0"	LHR	AS4	5-1/4"	PT	90	9	Welded Hollow Mtl Frame
1	SGL	2316C	DECON SCOPE	SCOPE PROC	E	WD	HMF	D00	16 GA	1-3/4"	NON-RTD	6-3/8"	3'0"X8'0"	RHR	AS4	5-1/4"	PT	90	46	Welded Hollow Mtl Frame
1	SGL	2317	BREAKDOWN	PROCESSING	Α	WD	AA	WIM	300	1-3/4"	NON-RTD	6-3/8"	3'6"X8'0"	LH	CS4	5-1/4"	AA	90	48	Aluminum Frame
1	SGL	2317E	PROCESSING	SCOPE PROC	BB	WD	HMF	D00	16 GA	1-3/4"	NON-RTD	6-3/8"	3'0"X8'0"	Ν	AS4	5-1/4"	PT	360	15	Welded Hollow Mtl Frame
1	SGL	2317F	BREAKDOWN	PROC STERIL	Α	WD	AA	WIM	300	1-3/4"	NON-RTD	6-3/8"	3'0"X8'0"	LH	CS4	5-1/4"	AA	90	48	Aluminum Frame
1	PR	2317FA	PROCESSING	CLOSET	AA	WD	HMF	DOO	16 GA	1-3/4"	NON-RTD	6-3/8"	3'0"X8'0"	RHRA	BS4	5-1/4"	PT	90	2	Welded Hollow Mtl Frame
1	SGL	2317FB	PROCESSING	CLOSET	Α	WD	HMF	DOO	16 GA	1-3/4"	NON-RTD	6-3/8"	1'3"X8'0"	RHRA	AS4	5-1/4"	PT	90	2	Welded Hollow Mtl Frame
										•										

**FINISH SCHEDULE** 

WD - Wood AA - Anodized Aluminum

PT - Paint

STAINLESS STEEL PER C1020 STAINLESS STEEL PER C1020

#### OPENINGS 2316, 2316A, 2316C, 2317E, 2317FB

WELDED HMF





JAMB/HEAD DETAIL Openings 2316, 2316A, 2316C, 2317E, 2317FA, 2317FB



YOUR FIRM NAME HERE	PROJECT NAME	HEALTH CENTER	PROJECT NU	JMBER 1737		DRAWING NAME
Рн FAX -	DRAWN BY	BOB REDONDO	SCALE FILE NAME	Elev - 3/8in. = 1ft. F_1737_41SS VSD	Details - 0.3125 in. = 1 in.	J1SS



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## SUBMIT STAINLESS STEEL per C1020

#### F-SERIES FLUSH FRAMES

## STEELCRAFT.



#### **ABOUT THE PRODUCT:**

F Series 3 Sided Flush Frames are designed to meet requirements for light to maximum duty applications in both commercial and institutional buildings. They are installed in both interior and exterior locations, and in virtually all types of buildings and wall constructions. These frames are to be installed as part of the wall framing sequence. They can be specified and supplied as KD (knock-down) for field assembly prior to installation or welded for installation as a complete unit.

#### **INSTALLATION:**

- 1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) Recommended Erection Instructions for Steel Frames and HMMA 840.
- Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. The Authority Having Jurisdiction is the final authority in issues related to the installation and use of installed Fire Rated Doors.

#### **FEATURES AND BENEFITS:**

Steelcraft F Series Flush Frames offer the following unique features, which enhance long term functionality and durability:

- Die-mitered corner connections Die-mitered corner connection at the head and jamb insure an attractive, tight and closed mitered connection. The miter includes 4 corner tabs designed with concealed connection eliminating the need for continuous profile welding.
- Patented universal hinge preparations allow for easy field conversion from standard weight .134" (3.3mm) thick hinges to heavy weight .180" (4.7mm) hinges.
- Adjustable base anchors allow for installation adjustment when the floor is not level.
- 4. Factory prepared for field installed silencers.
- Factory applied baked on rust inhibiting primer in accordance with ANSI A250.10-1998 (R2004).

#### **SPECIFICATION COMPLIANCE:**

- Overall frame construction for the Steelcraft F-Series Flush Frames meets the requirements of ANSI A250.8-2003 (commonly referred to as SDI-100).
- Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115.

### FIRE RATINGS:

The F-Series Flush Frames meet the broadest fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL 10B) and positive pressure standards (UL 10C). Refer to the **Fire Rated Section** of this manual for particular listings.

#### **APPLICATIONS:**

F-Series Frames are typically installed in wall construction types as defined in the chart below:

Profile	Steel Thickness	Wall Construction	Typical Wall Anchors
F16	16 Gage [0.053" (1.3mm)]	Wood or Steel Stud	Lock-in Stud Anchor
		Masonry	Wire Masonry
		Existing Masonry	Bolted Through Soffit
F14	14 Gage [0.067" (1.7mm)]	Wood or Steel Stud	Lock-in Stud Anchor
		Masonry	Wire Masonry
		Existing Masonry	Bolted Through Soffit
F12	12 Gage [0.093" (2.3mm)]	Wood or Steel Stud	Welded Stud Anchors
		Masonry	Wire Masonry
		Existing Masonry	Bolted Through Soffit

#### FRAME APPLICATIONS



#### F-SERIES FLUSH FRAMES





#### **GENERAL NOTES:**

1. Variations in jamb depths available in 1/8" (3mm) increments.

 All F Series frames are supplied standard with masonry wire or lock-in jamb anchors and adjustable base anchors. Anchors are designed for maximum wall/frame engagement and installation flexibility.

- 3. F Series Frames are to be installed as part of the wall framing sequence.
- 4. Depending on environmental and usage conditions the steel can be either cold rolled or galvannealed. Galvannealed steel is recommended for all exterior applications.





#### **FRAME OPTIONS**

SERIES		and the second second		CORNER CON					
	FRAME I	PROFILE	K (Knoc	( <b>D</b> k-Down)	<b>SL</b> (Set-Up	JA o & Weld)	4" (102mm) HEADS		
	SINGLE RABBET	DOUBLE RABBET	SINGLE RABBET	DOUBLE RABBET	SINGLE DOU RABBET RAB				
F16	Typically for walls less than 3-3/4" (95mm) thick.	Typically for	3 interlocking corner tabs per	4 interlocking corner tabs per	Available whe	en specified, and	Die-mitered for use with 2" (51mm) face double rabbet jambs.		
F14	Minimum walls thickness 2" (51mm)	thickness (95mm) See the "k 2" (51mm) thickness Corner Det		factory die-miter. See the "KD Corner Detail	in accordance wit (SD	n ANSI A250.8-2003 NI 100).	Available when specified for KD or SUA applications.		
F12	N/A	or greater	N/A	N/A	Standard Saw and in acc ANSI A250.8	Cut and welded, cordance with -2003 (SDI 100)	For use with 2" (51mm) face double rabbet jambs.		

N/A = Not Available



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### STEELCRAFT.



Anchor for Wood Stud Partition







#### **Anchoring and Installation Notes:**

- F16 and F14-Series Commercial and Institutional Frames are supplied standard with masonry wire or lock-in jamb anchors and adjustable base anchors. Anchors are designed for maximum wall/frame engagement and installation flexibility.
- 2. For anchoring applications, refer to section 2.4 of this manual.
- 3. Installation Caution Notice Grouted Frames:
  - When temperature conditions necessitate an additive to be used in the mortar to prevent freezing, the contractor installing the frames must coat the inside of frames in the field with a corrosion resistant coating per SDI 105.
  - · When frames are to be grouted full, silencers must be field installed prior to grouting.
  - Steel frames, including fire rated frames, do not require grouting. Grouting is not recommended for frames in drywall.
- **4.** All fire rated frames must be installed in accordance with NFPA Pamphlet 80 and the *Authority Having Jurisdiction*.

FI	RA	M	ING	AP	PLI	CAT	IONS

SERIES	Steel Type	Building Type	Opening	Usage Frequency <sup>1</sup>	<b>KD</b> ⁴ Corner	SUA <sup>5</sup> Corner	Applications
F16	Non- Galvannealed <sup>2</sup>	Institutional and	Interior	Heavy to			Typical Building Conditions
	$Galvannealed_3$	Commercial	Mainly Exterior	Duty	~		High Humidity and/or Weather Exposure
F14	Non- Galvannealed <sup>2</sup>	Institutional and	Interior	Extra Heavy to	,		Typical Building Conditions
	Galvannealed <sub>3</sub>	Commercial	Mainly Exterior	Maximum Duty			High Humidity and/or Weather Exposure
F12	Galvannealed	Institutional and Commercial	Interior and Exterior	Maximum Duty	N/A	1	Maximum Traffic Building Conditions
		connereid				V	High Humidity and/or weather Exposure

<sup>1</sup> Usage frequency is based on ANSI A250.8-2003

<sup>2</sup> Commercial quality cold rolled steel

<sup>3</sup> Reinforcements for galvannealed frames are also galvannealed

<sup>4</sup> Knock-Down for field assembly prior to installation

5 Set-up and Welded for installation as a pre-welded unit









### HONEYCOMB CORE DOOR

STANDARD SPECIFICATION MATERIAL: GALVANNEAL GAUGE: 18





- 1.) 1-3/4" STANDARD DOOR THICKNESS, OTHER THICKNESSES AVAILABLE.
- 2.) 16, 14 AND 12 GAUGE AVAILABLE.
- 3.) G90 GALVANIZED AVAILABLE. STAINLESS STEELS 304 AND 316 AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
- 4.) 1" HONEYCOMB HEX CELLS PERMANENTLY BONDED TO BOTH FACE SHEETS. IMPACT RESISTANT (HONEYCOMB IS CRUSH RESISTANT TO 45 PSI).
- 5.) RESIN IMPREGNATED HONEYCOMB OPTIONAL
- 6.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS. 7.) CONTINOUS WELD SEAMLESS EDGE (STANDARD FOR MILD STEEL -
- OPEN SEAM AVAILABLE). OPEN SEAM EDGE (STANDARD FOR STAINLESS STEEL - SEAMLESS AVAILABLE).
- 8.) HARDWARE REINFORCEMENTS:
  - 3/16" FOR HINGES
  - 12 GA FOR LOCKS
  - 14 GA FOR CLOSER
- 9.) WHI LABELS AVAILABLE





INTERLOCKING DOOR EDGE SEAM



1.) BEVELED AND SQUARE EDGES ARE AVAILBLE IN ANY COMBINATION 2.) ONLY 18 AND 16 GAUGES AVAILABLE WITH THIS DOOR EDGE



STANDARD TOP AND BOTTOM CHANNEL





### **CAP TOP FLUSH**





# Western Integrated Materials, Inc.

### **Door Frame Installation Instructions**

- 1. Frames are fabricated to exact width specified and no clearance is built in.
- 2. Rough opening should be 1-1/2" wider than the desired width, 3/4" over in height.
- 3. Determine high side of floor and cut jambs to the required height. Be sure mute is pushed to top of jamb before cutting.
- 4. Check opening for proper swing, then slip header over the wall. (Fig. 1)
- 5. Hold jambs at an angle and slip the upper portion over the wall. Push upward to engage notch with door stop on header, then push the rest of the jamb over the wall. (Fig. 2)



- 6. Slide butt jamb down to finished floor. If carpet is to be laid, the base on which it is to be laid shall be considered the finished floor. For other floor coverings, (tile, etc.) the jamb should rest on removable spacers the same thickness as the flooring to be used.
- 7. Plumb butt side and secure to wall.

### Western Integrated Materials, Inc.

3310 E. 59th Street Long Beach, CA 90805 Phone: (562) 634-2823 Fax (562) 634-8449

Aluminum Door Frames - Aluminum Doors - Sliders - Pocket Frames - Glazing Components

#### **Door Frames**

Western Integrated Series 300 door frames are offered in one of the most complete range of wall thickness available. All frames are compatible with each other 2-1/4" thru 7-1/4".

When special wall conditions are involved, the 400 Series can be used to give complex flexibility from 3-0/0" thru 9-1/2".

The 400, 401 & 402 Series is not a true expandable door frame. It is fabricated to fit a variety of wall conditions.



Western Integrated Materials, Inc.

With the 400 Series frames, we fabricate the throat of the frame to the required wall thickness. It is installed the same as the type 300 Series and has exactly the same exposed profile.

Add a Western Integrated aluminum door, glass and hardware for a complete system.

#### Type 300 Throat Sizes Include:

2-1/4"	3-0/0"	3-1/4"	3-3/8"
3-1/2"	3-3/4"	3-7/8"	4-1/2"
4-5/8"	4-3/4"	4-7/8"	5-0/0"
5-1/4"	5-1/2"	6-0/0"	7-1/4"

#### Type 400 Series:

400 Series	3-1/2" thru 6-0/0"
401 Series	6-0/0" thru 7-1/2"
402 Series	7-1/2" thru 9-1/2"

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Home Directions Visitors **Photos Company Profile Going Green** General Const. **Product Profile** Spec. Info. **Door Frames Aluminum Doors** Sliders 90 Min. Frames Sidelites Window Frames **Pocket Frames** Rating Info. Support Page **PDF** Details Contact Info. Lead Times **Order Forms Online Order Door Order** Employment



## Western Integrated Materials, Inc.

- 8. If door is premortised, hang prefit door and close into opening.
  - a.) If doors are not premortised, then use a square to attain a  $90^{\circ}$  corner between head & jambs. Head must butt up to vertical edge of clip (Fig. 3) and set flat in alignment groove (Fig. 4). You can then attach clips.
  - b.) Secure head to wall.
  - c.) Use same procedure for strike jamb.
- 9. Pull header down to door, allowing 1/8" spacing. Install corner clips (Fig. 3 & 4) and secure to wall.
- 10. Pull strike jamb into position and align with corner clips and door edge. Secure to wall.
- 11. If required, cut trim to length and, if necessary, make required notch at top of trim for clearance of clip and/or trim legs. Install trim. Trim should fit snugly. If there is any tendency to rattle, give full length a slight twist before installing.







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![](_page_20_Figure_0.jpeg)

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															]			
				UN UN		DOOR INFO	OOR SCHEDU	JLE - A10.51	FRAME IN	FO.		DETAILS						
ROOM NAME	OPENING NUMBER	WIDTH	HEIGHT	ASSEMBLY RAT	ТҮРЕ	FINISH	GLAZING	TYPE	MAT./CONST.	FINISH	HEAD	JAMB	SILL	HARDWARE	NOTES	ROOM NAME	OPENING NUMBER	WIDTH
BASEMENT LEVEL STAIR #1	0000-ST1	3'-0"	8'-0"	(E)	A	(E)		1	(E)	(E)	(E)	(E)		68		HOT LAB PARKING GARAGE	1277 1280	3'-0" 3'-0"
ELEVATOR VESTIBULE	0001	6'-0" 3'-0"	8'-0" 8'-0"	(E) (E)	AA A	(E) (E)		2	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67 67		LEVEL 1.00		
CONTROL ROOM ELECTRICAL ROOM	0004 0005	3'-0" 3'-0"	8'-0" 8'-0"	(E) (E)	A A	(E) (E)		1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67 66	ADD CARD READER	ELEVATOR VESTIBULE (E) STAIR #1	2000 (E) 2000-ST1	5'-6" 3'-4"
STORAGE FAN ROOM	0006 0007	3'-0" 3'-0"	8'-0" 8'-0"	(E) (E)	A A	(E) (E)		1 1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67 67		(E) STAIR #2 CORRIDOR	2000-ST2 2001	3'-4" 6'-0"
STORAGE FAN ROOM	0008 0009	6'-0" 3'-0"	8'-0" 8'-0"	(E) (E)	AA A	(E) (E)		2	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67 67		ELECTRICAL CLOSET ELECTRICAL CLOSET	2004A (E) 2004B (E)	<u>4'-0"</u> <u>4'-0"</u>
STORAGE STORAGE	0010 0011 0012	3'-0" 3'-0"	8'-0" 8'-0"	(E) (E)	A A A	(E) (E)		1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67 67 67		MEN'S RESTROOM	2005 (E) 2006 (E) 2007 (E)	<u>3'-0"</u> <u>3'-0"</u>
BFP FIRE PUMPS	0013	3'-0" 3'-0"	8'-0" 8'-0"	(E) (E)	A	(E) (E)		1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67 67		WOMEN'S RESTROOM	2007 (E) 2008 (E) 2009	<u>3'-0"</u> 6'-0"
SUMP PUMPS BASEMENT LEVEL: 16	0015	3'-0"	8'-0"	(E)	A	(E)		1	(E)	(E)	(E)	(E)		67		CORRIDOR CONSULT	2100 2101 2102	7'-8" 3'-0"
LEVEL 1 (E) STAIR #1	1000-ST1	3'-4"	8'-0"	90 _	A			1	HM	PT	3A/A10.55	3B/A10.55	 DP #2В - Е	80 DP #2B - E		EQUIP STOR RESTROOM	2102 2103 2106	<u>3'-0"</u> 3'-0"
(E) CAFE	1000-ST2 (E) 1000-ST2-A (E)	3'-0" 3'-4"	8'-0" 8'-0"	DP <u>#2</u> -A	A A	(E)		1	(E)	(E)	(E)	(E)		NIC	2 DP <u>#2B</u> -F	HALL RESTROOM	2120 2125	8'-0" 3'-0"
STAIR VESTUBULE	1001 1001 (E)	5'-0" 6'-0"	8'-0" 9'-9 1/2"	180	AA -	HM (E)		2 (E)	HM (E)	PT (E)	12A/A10.55 (E)	5 12B/A10.55 (E)		71 67	HC ASSIST & CARD	CORRIDOR SOILED UTILITY	2128 2131	3'-0" 3'-0"
LOADING DOCK	1003 1003 (E)	5'-0" 3'-0"	7'-0" <sub>DP #</sub>	^  <u>¥2</u> - A	AA A	(E) (E)		2	(E) (E)	(E) (E)	(E) (E)	(E) (E)		55 56	CARD READER (E) VIDEO CALL BOX	CLEAN SUPPLY PRE-OP/RECOVERY	2132 2133	<u>3'-0"</u> 8'-6"
RESTROOM	1003E 1004 (E)	10'-0" 3'-0"	10'-0" 8'-0"	-	- A	(E) (E)		(E) 1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		67		STAFF RESTROOM	2134	3'-0"
	1005 (E) 1006 DP #2 - A 1007 (E)	3'-U" 6'-0" 3'-0"	8'-0"	90	A AA A	(E)		1 2 1	(E) (F)	(E)	(E) (E)	(E)		04 79 <sub>DP #2B</sub> - E		HALL DRESSING AREA MEN	2135 2137 2137A	<u>3'-0"</u> <u>3'-0"</u>
ELECTRICAL ROOM	1007 (E) 1008	3'-0"	8-0" 8'-0"	-	A	(E) (E)		1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		(E)	SALVAGED. SEE	DRESSING AREA WOMEN	2137	3'-0"
GENERATOR ROOM GENERATOR ROOM	1009 (E) 1009A	3'-0" 3'-0"	8'-0" 6'-0"	-	A	(E) (E)		1	(E) (E)	(E) (E)	(E) (E)	(E) (E)		9	CARD READER	DRESSING AREA WOMEN	2138A	3'-0"
CORRIDOR CORRIDOR	1010 1010 (E)	6'-0" 3'-0"	7'-0" 8'-0"	180	EE A	HM (E)		2	HM (E)	PT (E)	12A/A10.55 (E)	5 12B/A10.55 (E)		70 -	DP <u>#2B</u> -	F RESTROOM CORRIDOR	2138C 2200	3'-0" 7'-6"
EMERGENCY SUPPLIES ELECTRICAL ROOM	1011 1012A (E)	5'-0" 3'-0"	8'-0" 8'-0"	45	AA A	(E)		2 1	(E)	(E)	(E)	(E)		64	CARD READER	CORRIDOR CORRIDOR	2200A 2200B	6'-0" 6'-0"
ELECTRICAL ROOM DRY VAULT	1012B (E) 1013 (E)	3'-0" 8'-6"	8'-0" 9'-6"		A AA	(E) (E)		1 (E)	(E) (E)	(E) (E)	(E) (E)	(E) (E)		66 -	CARD READER NIC	CLEAN SUPPLY SOILED UTILITY	2201 2202	<u>3'-0"</u> <u>3'-0"</u>
GAS METER PARKING GARAGE	1014 (E) 1100	3'-0" 6'-0"	9'-6" 7'-0"	90	A AA	(E) HM		1 2	(E) HM	(E) PT	(E) 12A/A10.55	(E) 5 12B/A10.55		- 55	NIC CARD READER	RESTROOM	2203 2204 2206	<u>3'-0"</u>
STAFF LOUNGE CRAWL SPACE	1101 1102	3'-0" 3'-6"	7'-0" 7'-0"	60	A A	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		2 21 DP <u>#2B</u> -E		REGISTRATION	2206A 2206A 2207	<u>3'-0"</u> <u>6'-0"</u>
CIRCULATION CIRCULATION	1104 1105	3'-6" 3'-0"	7'-0" 7'-0"	60 90	A A			1						09 80		ELECTRICAL ROOM	2211	<u>6'-0"</u> <u>3'-0"</u>
	1105B 1106	6'-0" 3'-0"	7'-0" 7'-0"	20 DP <u>#2B</u> -E	A A	WD		2	HM	PT	3A/A10.55	3B/A10.55		7 DP <u>#2B</u> - F		WORKROOM CORRIDOR (ZONE I)	2220	7'-6"
CLEAN LINEN	1108	3-0 4'-0"	7'-0" 7'-0"	60	A A A	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		9	CARD READER CARD READER	EQUIP ROOM OR	2222 2223	3'-0" 6'-0"
LOCKER ROOM WOMEN'S STAFF	1109A	3'-0"	7'-0"	DP <u>#2B</u> - E	A	WD		1	HM	PT	3A/A10.55	3B/A10.55		54		OR OR	2223A 2225	3'-0" 6'-0"
SHOWER MEN'S STAFF LOCKER	1110	3'-0"	7'-0"		A	WD		1	HM	PT	3A/A10.55	3B/A10.55		3		OR CLEAN CORE	2225A 2226	3'-0" 3'-0"
ROOM MEN'S STAFF SHOWER	1110A	3'-0"	7'-0"		A	WD		1	HM	PT	3A/A10.55	3B/A10.55		54		CLEAN CORE CORRIDOR	2226A 2227	3'-0" 6'-0"
CRAVIL SPACE	1201E	6'-0"	9'-0"		-	(E)		5 (E)	(E)	(E)	(E)	(E)		63	HC ASSIST & CARD READER	WORK AREA	2227A (2230A CO-01A 2240	<u>3'-0"</u> <u>3'-0"</u>
COPY/ WORK FILE/FILM WORK ROOM	1202A 1203	3'-0" 3'-0"	8'-0" 8'-0"		BB	WD WD		5	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		15			2240 2241 2242	5'-0"
RESTROOM	1204 1205	3'-0" 3'-0"	8'-0" 8'-0"		A A	WD WD		1	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		54 54		EQUIP STOR	2242 2243 2244	<u>6'-0"</u> <u>3'-0"</u>
CORRIDOR	1210	3'-0"	8'-0"		D	WD	OPAQUE		AL	AA	3A/A10.54	3A/A10.54		9	CARD READER, PUSH PLATE	HYBRID OR	2245 2246	3'-6"
BLOOD DRAW RESTROOM	1211 1216	3'-0" 3'-0"	8'-0" 8'-0"		BB A	WD WD		5 1	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		15 54		CLEAN CORE CONTROL ROOM	2246A 2246A-A	<u>3'-0<sup>DP</sup>#2B</u> 3'-0"
PHLEB LAB WORKROOM	1218 1219	3'-0" 3'-0"	8'-0" 8'-0"		C A	WD WD		1	AL AL		3A/A10.54 3A/A10.54	3A/A10.54 3B/A10.54		9 9	CARD READER CARD READER	HYBRID OR CORRIDOR	2246A-B 2300	3'-0" 4'-0"
	1220 1230	3'-0" 5'-8"	8'-0" 8'-0"	60		WD HM		1	HM HM	PT	3A/A10.55 4/A10.55	3B/A10.55 5/A10.55		9 33 42	CARD READER	WASTE HOLD CLEAN HOLD	2301 2302	4'-0" 4'-0"
GOWNED WAITING MEN	1231 1232 1232B	3'-0" 3'-0"	8'-0"		A D <u>P #2 - A</u> A	WD WD		1	AL AL		3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		2		TDR CORRIDOR	2303 2304	3'-0" 4'-0"
CORRIDOR DRESSING AREA	1232	3'-0" 3'-0"	8'-0" 8'-0"		A	WD WD		1	AL		3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		12 2		CORRIDOR (ZONE I) PAS GUEST SERVICES	2305 2306	<u>6'-0"</u> <u>3'-0"</u>
WOMEN DRESSING AREA	1234C	3'-0"	8'-0"		A	WD		1	AL		3A/A10.54	3B/A10.54		54		RADIOLOGIST READING	2307 2308	3'-0" 5'-6"
WOMEN CORRIDOR	1240	3'-0"	8'-0"		A	WD		1	AL	AA	3A/A10.54	3B/A10.54		9		IMAGING CORRIDOR (ZONE II)	2308A	3'-0"
CORRIDOR STAFF RESTROOM	1241 1242	3'-0" 3'-0"	8'-0" 8'-0"		A A	WD WD		1	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		54 54		CONTROL ROOM	2309 2310	<u>3'-0"</u> 5'-6"
STAFF LOUNGE OFFICE	1243 1244	3'-0" 3'-0"	8'-0" 8'-0"		A A	WD WD		1	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		14 7		(ZONE II) CT ROOM	2310A-A	8'-0"
	1250 1250-E	3'-0" 6'-0"	8'-0" 9'-0"	90	A -	(E)		1 (E)	(E)	(E)	(E)	(E)		63	1, 2	COMPUTER CONTROL ROOM (ZONE	2310A-B 2311	<u>8'-0"</u> 4'-0"
	1250A 1251	3'-0" 3'-0"	8'-0" 8'-0"	60	A A A	WD		1	HM	PT PT	3A/A10.55	3B/A10.55		9	CAREDP #2B - F=R	COMPUTER EQUIPMENT	2312	3'-0"
X-RAY X-RAY	1261 1261A	3'-6" 3'-0"	8'-0"	DP <u>#2B</u> - E	A A A	WD WD		1	AL		3A/A10.53 3A/A10.54	3B/A10.54 3B/A10.54		9		MRI ROOM (ZONE IV) MRI ROOM (ZONE IV)	2313 2313A	<u>4'-0"</u> 5'-0"
TECH WORK BONE DENSITY	1262 1263	3'-0" 3'-0"	8'-0" 8'-0"		ABB	WD WD		1 5	AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		9 15	CARD READER		2313M 2316	4'-0" 3'-6"
TECH WORK MAMMOGRAPHY	1263A 1264	3'-0" 3'-0"	8'-0" 8'-0"		A BB	WD WD		1	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		16 15		EVS SCOPE PROCESSING	2316A 2316C	3'-0" 3'-0"
TECH WORK EXAM	1264A 1265	3'-0" 3'-0"	8'-0" 8'-0"		A BB	WD WD		1 5	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		16 15			2317	3'-6"
TECH WORK ULTRA SOUND	1265A 1266	3'-0" 3'-0"	8'-0" 8'-0"		A BB	WD WD		1 5	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		16 15		SCOPE PROCESSING BREAKDOWN	2317E 2317F	3'-0"
TECH WORK RESTROOM	1266A 1267	3'-0" 3'-0"	8'-0" 8'-0"		A A	WD WD		1	AL AL	AA AA	3A/A10.54 3A/A10.54	3B/A10.54 3B/A10.54		16 54			2317FA 2317FB	<u>3'-0"</u> 1'-3"
ELECTRICAL ROOM	1268 1270	6'-0" 6'-0"	8'-0" 8'-0"	60	AA AA	WD WD		2	HM AL	PT AA	12A/A10.55 3A/A10.54	12B/A10.55           3B/A10.54		1 62	CARD READER		2317G 2318 A CO-01A	3'-0" 3'-0"
CORRIDOR EVS	1270A 1271	5'-0" 3'-0"	7'-0" 8'-0"	DP <u>#2B</u> - E 60	AA A	WD		2	AL HM	AA PT	3A/A10.54 3A/A10.55	3B/A10.54 3B/A10.55		53 13	CARD READER	WOMEN'S STAFF	2318-B	3'-0"
	1275	3-0" 6'-0"	8'-0"	DP <u>#2B</u> - E	A A A A			1 2 1		PT	3A/A10.54 12A/A10.55	5 12B/A10.55		54       17       72		WOMEN'S STAFF RESTROOM	2318B	2'-6"
	1275A 1276	3'-0" 3'-6"	8'-0"	90	A	WD		1 1	HIVI/LD	AA	3A/A10.55 3A/A10.54	зв/А10.55 3B/А10.54		12 14		WOMEN'S STAFF RESTROOM	2318C	3'-0"

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	U Z		DOOR INFO.		JLE - A10.5	FRAME INF	-O.		DETAILS			
	Y RATIN					ST.					ЯЕ	
HEIGHT	ASSEMBL	ТҮРЕ	FINISH	GLAZING	TYPE	MAT./CON	FINISH	HEAD	JAMB	SILL	HARDWAF	
8'-0" 7'-0"	90	A A	HM,LD		1	AL HM	AA PT	3A/A10.54 3A/A10.55	3B/A10.54 3B/A10.55		9 80	2LE
									^ DP #2	B - F	DP <u>#2B</u> - F	
8'-0" 8'-0"	905	AA	(E) HM		(E)	(E)	(E) PT	(E)	(E) 3B/A10.55	<u> </u>	-	
8'-0"	90S	A	HM		1	HM	PT	3A/A10.55	3B/A10.55		68 DP <u>#2</u>	
8'-0" 8'-0"	60	AA	HM WD		2	HM (E)	(E)	4/A10.55 (E) ^	5/A10.55 (E)	л DP <u>#2B</u> - Е	33 1	NE
8'-0" 8'-0"	DP #2B - F	AA A	WD (E)		2	(E) (E)	(E) (E)	(E)	(E) (E)		1 69	NE CA
8'-0" 8'-0"		A	(E)		1	(E)	(E)	(E)	(E)		_ DP <u>#2</u> -	A AD
8'-0"		A	(E)		1	(E)	(E)	(E) (E)	(E)		-	
8'-0" 8'-0"	60S	EE	HM	FIRELITE		HM	PT	4/A10.55	5/A10.55		33	
8'-0" 8'-0"	45	A A	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		9 54	
8'-0" 8'-0"	60 <u></u>	A	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3A/A10.55		9 54	CA
8'-0"	60S	EE	HM	FIRELITE	1	HM	PT	4/A10.55	5/A10.55		35	
8'-0"	60	A	WD		1	HM	PT	3A/A10.55	3B/A10.55		1	CA
8'-0" 8'-0"	60 60	A A	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		13 13	CA CA
8'-2"	DP <u>#2B</u> - E	M	AA		7	AL	AA	14/A10.54	13/A10.54		48	
8'-0" 8'-0"	60S	A E	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3A/A10.55 3A/A10.55		54 9	CA
8'-0" 8'-0"		A A	WD		1	НМ	PT PT	3A/A10.55	3A/A10.55		2	
8'-0"		A	WD		1	НМ	PT	3A/A10.55	3A/A10.55		2	
₽#2A - <sup>©</sup> G⊻		A	WD		1	НМ	PT	3A/A10.55	3A/A10.55		2	
8' <b>-0"</b> P #2A		A	WD		1	HM	PT	3A/A10.55	3B/A10.55		54	
<del>در</del> یل 8'-0"		AA AA	WD WD		2 2	HM HM	PT PT	12A/A10.55 12A/A10.55	12B/A10.55 12B/A10.55		34 84	
8'-0" 8'-0"	60	AA A	WD WD		2	HM HM	PT PT	12A/A10.55 3A/A10.55	12B/A10.55 3A/A10.55		83 13	CA
8'-0" 8'-0"	60 20	E AA	WD HM	FIRELITE	1	HM HM	PT PT	3A/A10.55 12A/A10.55	3A/A10.55 12B/A10.55		13 30	CA
8'-0"	45 DP <u>#2B</u> -E	A A	WD		1	НМ	PT	3A/A10.55	3A/A10.55		11	
8'-0"	60 60	A	WD		1	HM	PT	3A/A10.55	3A/A10.55		9	CA
8'-0" 8'-0"	<u>2</u> DP <u>#2</u> _A 60 DP <u>#2B</u> -E	AA	WD		2	HM HM	PT	12A/A10.55 12A/A10.55	12B/A10.55 12B/A10.55		30 1	CA
8'-0"	60	E	WD	FIRELITE	1	HM	PT	3A/A10.55	3A/A10.55		13	CA
8'-0" 8'-0"	60	AA A	WD HM		2	HM HM	PT PT	12A/A10.55 3A/A10.55	12B/A10.55 3A/A10.55		34 13	CA CA
8'-0" 8'-0"	45	AA C	HM HM		2	HM HM	PT PT	12A/A10.55 3A/A10.55	12B/A10.55 3A/A10.55		30 32	
8'-0" 8'-0"	45	AA C	HM		2	HM	PT PT	12A/A10.55	12B/A10.55		30	
8'-0"	60S	A	WD		1	HM	PT	3A/A10.55	3A/A10.55		13	
8'-0" 8'-0"	45 20	AA	HM		2	HM HM	PT	3A/A10.55 12A/A10.55	3B/A10.55 12B/A10.55		30	
8'-0" 8'-0'C <u>O-01</u>	A20 DP #2B - E	C A	HM		1 1	HM	PT	3A/A10.55	3A/A10.55		32	
8'-0" 8'-0"	603 603 603 603 603 603 603 603 603 603	EE AA	HM WD	FIRELITE	2	HM HM	PT PT	4/A10.55 12A/A10.55	5/A10.55 12B/A10.55		33 19	CA
8'-0" 8'-0"	60 DP <u>#2B</u> - E	Ε	WD	FIRELITE	1	НМ	PT PT	3A/A10.55	3A/A10.55		13	
8'-0"	45	A	WD		1	HM	PT	3A/A10.55	3A/A10.55		9	
8'-0" 8'-0"	45 <sub>DP #2B</sub> - E	AA	HM		2	HM HM	PT	3A/A10.55 12A/A10.55	3B/A10.55 12B/A10.55		30	
8'-0" 8'-0"	45	C E	HM WD	FIRELITE	1	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		32 31	
8'-0" 8'-0"	60S	C A	HM/LD WD	2LB LD	1	HM/LD HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		41 25	2LE
8'-0" 8'-0"	60	A	WD		1	НМ	PT PT	3A/A10.55	3B/A10.55		13	
8'-0"	60 DP <u>#2B</u> - E	A	WD		1	HM	PT	3A/A10.55	3B/A10.55		9	
7'-0" 7'-0"	60S	EE	HM	FIRELITE	0WNER RE		PT PT	3A/A10.55 4/A10.55	3B/A10.55 5/A10.55		33	
8'-0" 8'-0"	45 45	A A	WD WD		C1020 Requ Stainless St	uire eel Doors	PT PT	3A/A10.55 3A/A10.55	3A/A10.55 3B/A10.55		22 13	CA
8'-0"	60	AA	WD		and Frames		PT	3A/A10.55	3B/A10.55		44	CA
8'-0"	60 <sub>DP <u>#2B</u> - E</sub>	A	MFR		1	MFR	MFR	MFR	MFR		82	
8'-0" 8'-0"	DP <u>#2</u> -B_	E AA	HM/LD HM/LD	2LB LD	1 2	HM HM/LD	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		45 ^ 78 DP <u>#2B</u> -E—	2LF
8'-0"		AAA	WD		3	AL	AA	14/A10.54	13/A10.54		47	
8'-0" 8'-0"		AAA	WD WD		3 ^ 1 <sup>DP #2 - B</sup>	AL HM	AA PT	14/A10.54 3A/A10.55	13/A10.54 3B/A10.55		47	
8'-0"		A	WD		1	HM	PT	3A/A10.55	3B/A10.55		12	
8'-0"		A	MFR		1	MFR	MFR	MFR	MFR		23	
8'-0" 8'-0"		AA	WD		2	MFR	MFR -	MFR -	MFR -		24	
8'-0"	60	E	WD	FIRELITE	1	HM	PT	3A/A10.55	3B/A10.55		13	CA
8'-0"	DP <u>#2B</u> -E	E	WD		1	HM	PT	3A/A10.55	3B/A10.55		46	
o -U <sup></sup>	+	A			1		AA	14/A10.54	1 <i>3</i> /A10.54		48	
8'-0" 8'-0"	DP <u>#2B</u> - E	BB A			5 1	HM AL		3A/A10.54 14/A10.54	3B/A10.55 13/A10.54		15 48	CU
8'-0" 8'-0"		AA A			2	HM HM	PT PT	3A/A10.55 3A/A10.55	3B/A10.55 3B/A10.55		2	
8'-0"		A	WD		1	HM	PT	3A/A10.55	3B/A10.55		2	
8'-0" 2A	45 45	A	WD WD		1	HM HM	PT PT	3A/A10.55 3A/A10.55	3A/A10.55 3A/A10.55	$\overline{}$	4	$\gamma \gamma \gamma \gamma$
- <u></u>	hunn	A	WD	hunn	1	HM	PT	3A/A10.55	3B/A10.55	<u>M.M.M.</u>	54	$\frac{1}{2}$
#∠A - <u>G</u> <u>\</u> 8'-0"		A	WD		1	HM	PT	3A/A10.55	3A/A10.55		54	_
								-	-			1

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![](_page_22_Figure_0.jpeg)

#### SECTION 08 11 13

#### HOLLOW METAL DOORS AND FRAMES

#### PART 1 - GENERAL

#### 1.01 DESCRIPTION

- A. This SECTION describes the requirements for furnishing and installing:
  - 1. Hollow metal doors and frames.
  - 2. Hollow metal frames for wood doors.
  - 3. Hollow metal frames for cased openings.
  - 4. Hollow metal frames for interior fixed glazing (borrowed lites).
  - 5. Hollow metal frames for exterior fixed glazing.
  - 6. Associated materials.
- B. Lead-lined hollow metal doors and frames are specified in SECTION 13 49 00 "RADIATION PROTECTION".
- C. Associated wood doors are specified in applicable SECTIONS of DIVISION 08 OPENINGS.
- 1.02 DEFINITIONS
  - A. Interior of the Building: Refer to SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS".
  - B. Steel Thickness: Thickness of base metal without coatings in accordance with ANSI/SDI A250.8.

#### 1.03 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer.
- B. Reference Standards:
  - 1. Hollow metal doors and frames and associated materials shall be in compliance with ANSI/SDI A250.8 and as specified.
  - 2. Manufacturing tolerances shall be in compliance with SDI-117.
- C. Qualifications:
  - 1. Manufacturer: Manufacturer shall have been regularly engaged in manufacturing hollow metal doors and frames of the types required with a proven record of successful in-service performance for not less than ten (10) years prior to the date of this Project.

- 2. Installer: Installer shall be experienced in the installation of hollow metal doors and frames, capable of providing installations of specified quality, and acceptable to the manufacturer.
- D. Regulatory Requirements:
  - 1. General: Hollow metal doors and frames and their installation shall be in compliance with requirements of the applicable building code and other regulations. Refer to SECTION 01 41 00 "REGULATORY REQUIREMENTS" for further information.
  - 2. Fire-Rated Doors and Frames:
    - a. Fire-rated doors and frames shall comply with NFPA 80 and shall be listed and labeled by UL, ITS-WH, or other qualified testing agency acceptable to the public authority having jurisdiction for fire ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
    - b. Fire-rated doors at vertical exit enclosures, exit passageways, and other locations required by code to be temperature-rise-rated shall have a maximum temperature transmission rating of 450 degrees Fahrenheit above ambient measured on the non-fire side after 30 minutes of standard fire text exposure and shall be labeled accordingly.
    - c. Fire-rated fixed-glazing frames shall comply with NFPA 80 and shall be listed and labeled by UL, ITS-WH, or other qualified testing agency acceptable to the public authority having jurisdiction for fire ratings indicated, based on testing according to NFPA 257, UL 9, or ASTM E2010.
    - d. Labels shall comply with requirements of the building code and NFPA 80 and shall be permanently affixed to the hinge stile of the door and hinge jamb of the frame.
  - 3. Smoke and Draft Control Assemblies:
    - a. Smoke and draft control doors and frames shall comply with UL 1784 and shall be labeled accordingly with an 'S' label by UL, ITS-WH, or other qualified testing agency acceptable to the public authority having jurisdiction.
    - b. Applied smoke seals to meet smoke and draft control are specified in SECTION 08 71 00 "DOOR HARDWARE".
- E. LEED Requirements:
  - 1. Recycled Materials and Products: To the greatest extent practicable, furnish materials and products containing recycled materials in compliance with requirements of the LEED Rating System to contribute to the achievement of MR Credit 4.
  - 2. Regional Materials and Products: To the greatest extent practicable, furnish materials and products that are extracted, processed, and manufactured regionally in compliance with requirements of the LEED Rating System to contribute to the achievement of MR Credit 5.

- 3. Low-Emitting Materials Adhesives and Sealants: Adhesives, sealants, and sealant primers for use on the Interior of the Building shall be in compliance with requirements of the LEED Rating System to contribute to the achievement of IEQ Credit 4.1.
- 4. Low-Emitting Materials Paints and Coatings: Paints, coatings, and associated materials for use on the Interior of the Building shall be in compliance with requirements of the LEED Rating System to contribute to the achievement of IEQ Credit 4.2.
- 5. Refer to SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS" for further information.

#### 1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's descriptive and technical data clearly marked to show specific products, materials, metal finishes, and compliance with requirements.
  - 1. Include data for shop primer, showing compliance with specified requirements.
  - 2. Include manufacturer's printed installation instructions.
- B. Shop Drawings: Submit Shop Drawings for each type of hollow metal door and frame, frame condition, and adjoining construction. Include:
  - 1. Elevation of each door and frame design.
  - 2. Door details including vertical and horizontal edges, metal thicknesses, lite frames, louvers, and methods of assembling door sections.
  - 3. Frame details including dimensioned profiles; metal thicknesses; joints, field splices, and connections; removable and fixed stops; glazing; and anchorages at each different wall opening condition.
  - 4. Locations and thicknesses of reinforcement and preparations for door and other hardware.
  - 5. Details of conduit and preparations for power, signal, and control systems.
  - 6. Schedule of hollow metal doors and frames using the same reference numbers for openings as those indicated.
- D. Certificate of Compliance:
  - 1. Submit manufacturer's written certification that products meet or exceed specified requirements.
  - 2. Submit manufacturer's written certification that fire-rated doors and frames meet or exceed specified requirements and have been constructed to conform to design, materials, and construction equivalent to requirements for labeled assemblies and tested in accordance with UL10C.
    - a. Oversize Fire-Rated Assembly Certification: For assemblies exceeding sizes of tested assemblies, submit written certification by a qualified Testing Agency that the assembly complies with standard construction requirements for tested and labeled fire-rated assemblies except for size.

- E. Test Reports for Fire-Rated Doors and Frames: Submit test reports, based on evaluation of comprehensive tests performed by a qualified Testing Agency, for each type of fire-rated metal door and frame assembly.
- F. Maintenance Data: Furnish manufacturer's printed recommendations for the care and maintenance of hollow metal doors and frames to the Owner.

#### 1.05 LEED SUBMITTALS

- A. General Requirements:
  - 1. Submittals to document compliance with specified LEED requirements are required in addition to other submittals specified in the Article titled "Submittals".
  - 2. Even if Product Data to demonstrate LEED compliance is identical to that submitted to document compliance with other requirements, submit additional copies as a separate submittal to document compliance with LEED requirements. Clearly identify this submittal as "LEED Submittal" on the transmittal and on the data.
  - 3. Submit LEED Submittals concurrent with the non-LEED submittals specified hereinbefore.
- B. LEED Certification Product Data: Submit LEED Certification Product Data specified in SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS".
- C. LEED Material Buyout Form: Complete and submit LEED Material Buyout Form, attached at the end of SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS", for the applicable LEED credit(s) specified hereinbefore.
- D. Prohibited Content Installer Certification: Following completion of installation, complete and submit the certification form specified in SECTION 01 33 29.07 "PROHIBITED CONTENT INSTALLER CERTIFICATION".

#### 1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products to the Site in a manner to prevent damage and deterioration and in compliance with ANSI/SDI A250.8.
- B. Furnish doors and frames in packaging such as cardboard or other containers, separators, banding, spreader bars, and paper wrappings to protect products. Do not use unvented plastic or other coverings that could trap humidity.
- C. Upon delivery, thoroughly inspect doors and frames for damage. Promptly clean and touch-up scratches and disfigurements with specified field-applied primer. Minor damage may be repaired provided finish items are equal to new Work and acceptable to Architect; otherwise remove damaged products as directed and provide new acceptable products at no increase in Contract Sum or Contract Time.
- D. Store doors and frames at the Site under cover in a location where they will not be exposed to or come in contact with the elements. Place products on minimum 4-inch high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4-inch space between doors to permit air circulation.
- E. Store products in a vertical position in a manner to prevent their twisting, bending, and other damage

F. Comply with additional requirements of the manufacturer.

#### 1.07 COORDINATION

- A. Coordinate fabrication and installation of hollow metal doors and frames with the Work of other trades including, but not limited to preparation of openings to receive frames, doors, door hardware, glazing, and shop- and field-applied finishes, and grouting of frames, and power, signal, and control systems used with the doors and frames.
- B. Verify measurements and conditions in field for Work fabricated to fit job conditions and show measurements on the final Shop Drawings.

#### PART 2 - PRODUCTS

- 2.01 MATERIALS
  - A. Steel Sheet:
    - Hollow Metal Doors: Cold-rolled in compliance with ASTM A1008 Commercial Steel (CS) Type B except steel sheet for exposed surfaces of exterior doors and doors in toilet, bath, janitor, and other wet and damp areas shall be hot-dip zinciron alloy-coated (galvannealed) sheet in compliance with ASTM A653 Commercial Steel (CS), Type B, with A60 galvannealed coating. Steel for door faces shall be stretcher leveled.
      - a. Internal Stiffening: Manufacturer's standard in compliance ANSI/SDI A250.8 and as follows:
        - 1) Interior Non-Fire-Rated Doors: Honeycomb core.
        - 2) Interior Fire-Rated Doors: In compliance with regulatory requirements and listing requirements of the labeling authority.
        - 3) Exterior Non-Fire-Rated Doors: Vertical steel stiffeners with thermal insulation with U-value determined in accordance with ASTM E1423 and in compliance with regulatory requirements.
        - 4) Exterior Fire-Rated Doors: Thermal insulation U-value determined in accordance with ASTM E1423 and in compliance with regulatory requirements and listing requirements of the labeling authority.
    - 2. Hollow Metal Frames: Cold-rolled in compliance with ASTM 1008 Commercial Steel (CS) Type B or hot-rolled, pickled, and oiled in compliance with ASTM A1011 Commercial Steel (CS) Type B, except steel sheet for exterior frames and frames in toilet, bath, janitor, and other wet or damp areas shall be hot-dip iron alloy-coated (galvannealed) sheet in compliance with ASTM A653 Commercial Steel (CS), Type B, with A60 metallic coating.
  - B. Grout:
    - 1. Frames for Interior Metal-Framed Openings: Gypsum plaster in compliance with ASTM C28 with average dry compressive strength of not less than 700 psi per ASTM C472; U.S. Gypsum "Structo-Lite Basecoat", or accepted equal.

Spec does not specify or reference stainless steel requirement for sterile processing area

- 2. Frames for Exterior Metal-Framed Openings: Pre-blended product containing a balanced mixture of portland cement, sand, hydrated lime, poly-fiber and conforming to the proportion specifications of ASTM C926; Basalite Concrete Products, LLC "Basalite Stucco Premix", or accepted equal.
- 3. Frames for Concrete and Masonry Openings: Cementitious grout in compliance with ASTM C476 with a compressive strength of not less than 2000 psi and a slump of not more than 4-inches per ASTM C143.
- C. Expansion Bolts (for use in concrete and grouted masonry): Drilled-in, wedge type, torque-controlled anchor with impact section designed to prevent thread damage and complete with required nuts and washers; fabricated of carbon steel with zinc-electroplated finish in compliance with ASTM B633 Type III, Fe/Zn 5 (SC1) for interior use and AISI Type 304 stainless steel for exterior use; in compliance with ICC-ES AC193 acceptance criteria; Hilti, Inc. "Kwik Bolt TZ" in compliance with ICC-ES ESR-1917), or accepted equal.
  - 1. Furnish bolt sizes and lengths suitable for specific Work required and to meet design criteria, but not less than those indicated.
  - 2. Expansion bolts shall have a capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete, as determined by testing per ASTM E488 conducted by a qualified independent testing agency.
- D. Primers:
  - Shop Primer: Rust-inhibiting, low VOC, modified alkyd resin primer formulated for direct to metal (DTM) application to steel and meeting or exceeding ANSI/SDI A250.10 acceptance criteria for prime painted steel surfaces (salt spray testing, condensation resistance, impact testing, and film adhesion); Sherwin Williams "Kem Kromik Universal Metal Primer B50AV1001 Light Gray" (VOC less than 420 g/L), or accepted equal.
  - 2. Field Touch-Up Primer: Air-drying type recommended in writing by the manufacturer, in compliance with regulatory and LEED requirements, and compatible with shop-applied primer and with field-applied paint specified in SECTION 09 91 00 "PAINTING".
- E. Door Hardware: Specified in SECTION 08 71 00 "DOOR HARDWARE".
- F. Glazing: As specified in SECTION 08 80 00 "GLAZING".

#### 2.02 FABRICATION

- A. General Requirements:
  - 1. Fabricate hollow metal doors and frames of required types, styles, and sizes in accordance with applicable portions of ANSI/SDI A250.8, accepted Shop Drawings, as indicated, and as specified.
  - 2. Mark, label, or otherwise identify doors and frames as complying with ANSI/SDI A250.8.
- B. Doors:
  - 1. Types:

- a. Exterior Doors: ANSI/SDI A250.8 Level 3 Model 2 (seamless) and Physical Performance Level A (Extra Heavy Duty) with steel thickness of door faces not less than 0.053-inch (nominal 16-gauge).
- b. Interior Doors: ANSI/SDI A250.8 Level 2 Model 2 (seamless) and Physical Performance Level B (Heavy Duty) with steel thickness of door faces not less than 0.042-inch (nominal 18-gauge).
- 2. Thickness: 1-3/4 inches.
- 3. Sizes and Configurations: As indicated.
- 4. Faces: Smooth and with no seams visible (seamless).
- 5. Top and Bottom Edges: Close top and bottom edges with steel closures, steel thickness not less than 0.053-inch (nominal 16-gauge); top surface flush for interior doors; top and bottom surfaces flush and watertight for exterior doors.
- 6. Vertical Edges: No seams visible. Bevel vertical edges of doors 1/8-inch per 2inches, unless otherwise indicated.
- 7. Hardware Reinforcement: Fabricate reinforcement in compliance with ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- 8. Louvers: Comply with SDI-111C as follows.
  - a. Non-Fire-Rated Doors: Inserted, vision proof type, stationary, with inverted "V" or "Y" blades; locations and sizes as indicated.
  - b. Fire-Rated Doors: Fire-rated louvers complying with requirements of the labeling authority.
- 9. Glazed Openings:
  - a. Configurations, Sizes, and Locations: As indicated.
  - b. Fixed Glazing Stops: Provide on the exterior side of exterior doors and the corridor- or non-secured-side of interior doors.
  - c. Removable Glazing Stops: Either the snap-in type or the type secured with countersunk screws.
  - d. Glazing Stops for Fire-Rated Doors: Comply with requirements of the labeling authority.
- 10. Clearances: Fabricate doors to provide installation clearances specified in Part 3 of this SECTION.
- 11. Astragals: Provide 1-1/2 inch wide overlapping flat surface steel astragal on one leaf of pairs of doors where required by NFPA 80 or listing agency for fireperformance rating, and where indicated. Extend astragal not less than 3/4-inch beyond edge of door on which astragal is mounted. Steel shall be not less than 0.067-inch thick (nominal 14-gauge). Secure to doors with spot welds at maximum 4-inch centers and 1-inch from ends; no cutouts permitted in astragals.

- a. Locations for Exterior Pairs of Doors: Provide astragal on exterior side of active leaf for out-swinging doors and on exterior side of inactive leaf for in-swinging doors.
- b. Locations for Interior Pairs of Doors: Provide astragal on least conspicuous side of opening, unless otherwise indicated or directed.

#### C. Frames:

- 1. General Requirements:
  - a. Provide one-piece, full-profile welded frames with corners and connections mitered and welded and exposed welds ground flush and smooth with adjacent surfaces. All fastenings shall be concealed, unless otherwise indicated.
  - b. Fabricate frames with profiles and shapes free of warp, buckles, fractures, and other defects.
  - c. After fabrication, apply mineral filler to eliminate weld scars and other blemishes. Level and grind smooth and flush with adjacent surfaces.
- 2. Sizes and Configurations: As indicated.
- 3. Steel Thickness: Not less than 0.053-inch (nominal 16-gauge).
- 4. Glazing Stops:
  - a. Fixed Glazing Stops: Provide on the exterior side of exterior glazed openings and on the non-secured-side of interior glazed openings. Refer uncertainties to the Architect.
  - b. Removable Glazing Stops: Either the snap-in type or the type secured with countersunk screws.
- 5. Plaster, Grout, and Mortar Guards: Steel, not less than 0.0179-inch thick (nominal 26-gauge), welded to frame at back of door hardware cutouts where plaster, grout, mortar, or other materials could obstruct hardware operation.
- 6. Frame Anchors:
  - a. Provide anchors at each jamb as follows:

DOOR OR WINDOW HEIGHT	STUD WALLS AND PARTITIONS	UNIT MASONRY AND CONCRETE WALLS AND PARTITIONS
Up to 7'-6"	4	3
7'-6" to 8'-0"	5	4
Over 8'-0"	5 plus 1 additional for each 2'-0" or fraction thereof over 8'-0"	1 for each 2'-0" or fraction thereof

- b. Fabricate anchors from steel sheet not less than 0.053-inch thick (nominal 16-gauge). Anchors to be built into exterior walls shall be hotdip galvanized after fabrication in compliance with ASTM A153, Class B, C, or D, as applicable.
- c. Vary anchor types to provide positive fastening to adjacent construction.
- d. Secure a metal clip angle at bottom of each jamb member for anchoring to floor, with not less than two fasteners.
- 7. Inserts, Bolts, and Fasteners:
  - a. Provide manufacturer's standard types.
  - b. Items to be built into exterior walls shall be hot-dip galvanized in compliance with ASTM A153, Class B, C, or D as applicable.
- 8. Frames to be Grouted: Fabricate frames to be grouted with grout holes at top of each jamb. Provide additional grout holes as required to fill internal obstructions. Tape plugs to frames. Install grout protection guards at lock preparations, junction boxes, and tapped mounting holes.

#### 2.03 PREPARATION FOR DOOR HARDWARE

- A. Factory-prepare hollow metal doors and frames to receive hardware in accordance with the final hardware schedule and templates furnished by hardware suppliers.
  - 1. Preparation includes sinkages and cutouts for mortised and concealed hardware.
  - 2. Weld plaster, grout, and mortar guards behind cutouts in frames.
  - 3. Hardware preparation for labeled openings shall conform to the requirements of the labeling authority.
- B. Provide reinforcements for both concealed and surface-applied hardware in accordance with ANSI/SDI A250.8.
  - 1. Drill and tap mortised reinforcements at factory, using templates.
  - 2. Install reinforcements with concealed connections designed to develop full strength of reinforcements.

#### 2.04 SHOP FINISHING

- A. General Requirements:
  - 1. After fabrication, thoroughly clean and otherwise prepare steel for maximum paint adhesion in compliance with the primer manufacturer's printed instructions and ANSI/SDI A250.10.
  - 2. Apply primer in compliance with the manufacturer's printed instructions and ANSI/SDI A250.10. Primed surfaces shall be smooth and free from pinholes, irregularities, rough spots, missed areas, foreign embedded material, and other defects and ready to receive field-applied finishes.
- B. Doors and Frames: Apply one coat of shop primer.

	HOLLOW METAL DOORS AND FRAMES	Н
DP-2 100% CD - Backcheck	08 11 13 - 9	
106-201 KMD		

- 1. Interior Doors and Frames: Field finishing is specified in SECTION 09 91 00 "PAINTING".
- 2. Exterior Doors and Frames: Field finishing is specified in SECTION 09 91 00 "PAINTING".

#### PART 3 - EXECUTION

#### 3.01 INSPECTION

- A. Verify that conditions are satisfactory for the installation of hollow metal doors and frames.
- B. Do not begin installation until unsatisfactory conditions have been corrected.

#### 3.02 PREPARATION

- A. Protection:
  - 1. Protect adjacent surfaces and finishes from damage during installation of doors and frames.
  - 2. Protect doors and frames from damage during field handling and installation.
- B. Grouting:
  - 1. Frames for Installation in Metal-Framed Partitions: Prior to installation, mix and apply grout in compliance with the manufacturer's printed instructions. Solidly fill frames with grout and allow to dry. Promptly remove grout from exposed surfaces.
  - 2. Frames for Installation in Masonry Walls: Specified hereinafter.
  - 3. Frames for Installation in Concrete Walls: Specified hereinafter.

#### 3.03 INSTALLATION

- A. General Requirements:
  - 1. Install hollow metal doors and frames in compliance with the manufacturer's printed instructions and requirements of ANSI/SDI A250.11, both as applicable to Project conditions, accepted Shop Drawings, as indicated, and as specified.
  - 2. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
  - 3. Install frames with removable glazing stops located on secure side of opening. Secure frames to adjacent supporting Work so frames will retain their position and stability. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
  - 4. Secure frames to adjacent supporting Work to retain their position and stability.
  - 5. Secure frame anchors to concrete floor construction with expansion anchors.

- 6. Install doors to maintain accurate alignment with frames. Adjust doors to maintain specified perimeter clearances; provide shims as required.
- 7. Remove temporary braces necessary for installation only after frames have been properly set and secured.
- B. Fire-Rated Doors and Frames: In addition to general requirements, install fire-rated doors and frames in compliance with NFPA 80 and requirements of the labeling authority.
- C. Smoke Control Assemblies: In addition to general requirements, install smoke control doors and frames in compliance with NFPA 105 and requirements of the labeling authority.
- D. Frames at In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled, flat-head expansion anchors. Countersink anchors, and fill in mineral filler, and make smooth, flush, and invisible on exposed faces.
- E. Grouting of Frames in Concrete and Masonry Walls:
  - 1. Masonry Walls: Specified in applicable SECTIONS of DIVISION 04 -MASONRY. Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
  - 2. Concrete Walls: Solidly fill space between frames and concrete with grout. Take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces. Promptly remove grout from exposed surfaces.
- F. Door Hardware:
  - 1. Install hardware in compliance with the manufacturer's printed instructions applicable to Project conditions, taking care not to damage hardware, doors, frames, and their finishes.
  - 2. Install door silencers in frames before grouting.
  - 3. Adjust and lubricate hardware as required for smooth, quiet, and proper operation.
  - 4. Check and readjust hardware immediately before inspections for Substantial Completion and final acceptance of the Work.
  - 5. Comply with additional requirements specified in SECTION 08 71 00 "DOOR HARDWARE".
- G. Frame Installation Tolerances: Adjust frames for squareness, alignment, twist, and plumb to the following tolerances:
  - 1. Squareness: Plus or minus 1/16-inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
  - 2. Alignment: Plus or minus 1/16-inch, measured at jambs on a horizontal line parallel to plane of wall.
  - 3. Twist: Plus or minus 1/16-inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
  - 4. Plumbness: Plus or minus 1/16-inch, measured at jambs at floor.

- H. Door Installation Tolerances:
  - 1. Non-Rated Doors:
    - a. Jambs and Head: 1/8-inch, plus or minus 1/16-inch.
    - b. Between Edges of Pairs of Doors: 1/8-inch, plus or minus 1/16-inch.
    - c. Between Bottom of Door and Top of Threshold: Not more than 1/4-inch.
    - d. Between Bottom of Door and Top of Finish Floor (no threshold): Not more than 1/2-inch.
  - 2. Fire-Rated Doors: In compliance with NFPA 80 and limitations of the labeling authority.
  - 3. Smoke-Control Doors: In compliance with NFPA 105 and limitations of the labeling authority.

#### 3.04 FINISH TOUCH-UP

- A. Immediately after installation, prepare and touch-up areas where shop primer has been damaged with specified field touch-up primer. Feather preparation and touch-up Work into undamaged areas so that upon completion of repairs, neither damage nor repair Work will be evident after finish paint or coating is applied.
- B. Thoroughly remove rust, clean and prepare surfaces, and apply primer in compliance with the manufacturer's printed instructions. When complete touch-up Work shall not be obvious and shall comply with requirements for shop-applied finish.

#### 3.05 REPAIRS

- A. Repair minor damage to doors and frames in compliance with the manufacturer's printed recommendations to the satisfaction of the Architect.
- B. Remove doors and frames that cannot be satisfactorily repaired; remove hardware, glazing, and door accessories; and provide new acceptable Work and reinstall hardware, glazing, and door accessories at no increase in Contract Sum or Contract Time.
- C. When complete, repairs and replacement Work shall match original undamaged Work in all aspects.

#### 3.05 CLEANING

A. Remove foreign materials from exposed surfaces of hollow metal Work immediately after installation.

#### 3.06. COMPLETION

- A. When complete, frames shall be set square, plumb and level, accurately aligned with adjacent Work; securely anchored to supporting Work to prevent movement, and in compliance with specified tolerances.
- B. Doors shall fit frames to specified tolerances; be plumb in all positions of swing; operate smoothly and quietly without binding, and close positively without undue pressure.

C. Exposed surfaces shall be clean and free from dents, scratches, tool marks, stains, discoloration, and other defects and damage, and ready to receive field-applied finishes.

#### 3.07 PROTECTION

- A. Protect hollow metal doors and frames from damage and deterioration until time of completion and acceptance by the Owner.
- B. Maintain ambient temperature and relative humidity conditions in accordance with the manufacturer's printed recommendations to protect the Work.
- C. Do not allow doors and frames to be exposed to construction activity or traffic without adequate protection.

#### END OF SECTION

#### SECTION 08 12 16.10

#### STANDARD ALUMINUM FRAMES

#### PART 1 - GENERAL

#### 1.01 DESCRIPTION

- A. This SECTION describes the requirements for furnishing and installing standard aluminum frames for interior wood doors, cased openings, and interior windows (borrow lights).
- B. Aluminum frames are indicated on the Drawings.

#### 1.02 DEFINITIONS

A. Interior of the Building: Refer to SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS".

#### 1.03 QUALITY ASSURANCE

- A. Source Limitations: Obtain standard aluminum frames through one source from a single manufacturer.
- B. Qualifications:
  - 1. Manufacturer: Manufacturer shall have been regularly producing standard aluminum frames of the type required with a proven record of successful in-service performance for not less than 5 years prior to the date of this Project.
  - 2. Installer: Installer shall be trained, experienced, and skilled in the installation of standard aluminum frames of the types specified and capable of providing installations of specified quality.
- C. Regulatory Requirements:
  - 1. General: Aluminum frames and their installation shall be in compliance with requirements of the applicable building code and other regulations. Refer to SECTION 01 41 00 "REGULATORY REQUIREMENTS" for further information.
  - 2. 20-Minute Fire-Rated Frames in Corridor and Smoke Barrier Walls:
    - a. Frames required to have a fire protection rating of 20-minutes in corridor and smoke barrier walls shall testing in accordance with NFPA 252 or UL 10C without the hose stream test and shall comply with requirements for a smoke- and draft-control door assembly as tested in accordance with UL 1784.
    - b. Frames shall be permanently identified with the letter "S" on the label. Label shall comply with the governing code and shall be permanently affixed to the hinge jamb.
- D. LEED Requirements:

- 1. Recycled Materials and Products: To the greatest extent practicable, furnish materials and products containing recycled materials in compliance with requirements of the LEED Rating System to contribute to the achievement of MR Credit 4.
- 2. Regional Materials and Products: To the greatest extent practicable, furnish materials and products that are extracted, harvested or recovered, as well as manufactured regionally in compliance with requirements of the LEED Rating System to contribute to the achievement of MR Credit 5.
- 3. Refer to SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS" for further information.

#### 1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed descriptive information, technical data, and specifications for frames clearly marked to show specific products, materials, fabrication, and shop painting. Include manufacturer's printed installation instructions.
- B. Shop Drawings: Submit Shop Drawings covering each type of frame, frame condition, and complete anchorage details. Include elevations and details showing frame types and profiles.
- C. Frame Schedule: Submit schedule of standard aluminum frames using the same reference numbers for details and openings as those indicated.
- D. Certificate of Compliance: Submit manufacturer's written certification that 20-minute rated fire-rated frames meet or exceed specified requirements and have been constructed to conform to design, materials, and construction equivalent to requirements for labeled assemblies and tested in accordance with ANSI/UL10C.
- E. Samples:
  - 1. Fabrication Sample: For each vertical-to-horizontal intersection, submit sample made from 12-inch lengths of full-size components and showing details of assembly.
  - 2. Finish Samples: Submit 12-inch long sections of specified frame material showing full extent of variations color and texture in finish to be furnished.
- F. Warranty: Submit review copy of proposed warranty.
- G. Maintenance Data: Furnish manufacturer's printed recommendations for the care of aluminum frames to the Owner.

#### 1.04 LEED SUBMITTALS

- A. General Requirements:
  - 1. Submittals to document compliance with specified LEED requirements are required in addition to other submittals specified in the Article titled "Submittals".
  - 2. Even if Product Data to demonstrate LEED compliance is identical to that submitted to document compliance with other requirements, submit additional copies as a

separate submittal to document compliance with LEED requirements. Clearly identify this submittal as "LEED Submittal" on the transmittal and on the data.

- 3. Submit LEED Submittals concurrent with the non-LEED submittals specified hereinbefore.
- B. LEED Certification Product Data: Submit LEED Certification Product Data specified in SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS".
- C. LEED Material Buyout Form: Complete and submit LEED Material Buyout Form, attached at the end of SECTION 01 81 13 "SUSTAINABLE DESIGN REQUIREMENTS", for the applicable LEED credit(s) specified hereinbefore.
- D. Prohibited Content Installer Certification: Following completion of installation, complete and submit the certification form specified in SECTION 01 33 29.07 "PROHIBITED CONTENT INSTALLER CERTIFICATION".

#### 1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in the manufacturer's original protective packaging and other means necessary to prevent damage and deterioration during shipment, handling, and storage. Packaging shall be properly labeled for identification and installation purposes.
- B. Do not deliver products to the jobsite until wet construction materials such as concrete, gypsum board finish, and finish paint are dry and temperature and humidity are controlled and normal.
- C. Maintain protective coverings in place and in good repair until removal is necessary. Packaging shall be properly labeled for identification and installation purposes.
- D. Store products inside enclosed storage facilities or enclosed building, elevated above concrete slabs in a clean, dry, secure location, protected from construction activities, until ready for use in the Work. Do not cover with tarp or create a moisture chamber over stored products.
- E. Comply with additional requirements of the manufacturer and AAMA "Care and Handling of Architectural Aluminum from Shop to Site".

#### 1.05 COORDINATION

A. Coordinate with other applicable trades to ensure that walls are finished before frames are attached, and that fasteners are concealed.

#### 1.06 WARRANTY

- A. Furnish to the Owner a written warranty, executed by an authorized representative of the manufacturer, stating that aluminum frames will be free from defects in factory materials and workmanship for entire warranty period.
- B. During warranty period repair or replace frame components found to be defective at no cost to the Owner.
- C. Warranty period shall be for two (2) years from the date of Substantial Completion.

D. Manufacturer's warranty shall be in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.

#### PART 2 - PRODUCTS

- 2.01 ACCEPTABLE MANUFACTURERS
  - A. Furnish standard aluminum frames manufactured by Raco Interior Products, Inc. of Houston, TX, or subject to compliance with requirements an accepted equal by one of the following:
    - 1. Advanced Architectural Frames of Garden Grove, CA.
    - 2. Versatrac division of American Door Products Inc. of Houston, TX.
    - 3. Western Integrated Materials of Long Beach, CA.

#### 2.02 STANDARD ALUMINUM FRAMES

- A. Basis-of-Design Product: Raco Interior Products, Inc. "Solutions II OfficeFronts".
- B. Sizes and Configurations: As indicated on the Drawings.
- C. Materials and Components:
  - 1. Frames, Trim, and Stops: Extruded aluminum in compliance with ASTM B221, 6063-T5 alloy-temper and as required to ensure compliance with dimensional tolerances and maintain finish color uniformity. Billets shall be composed of at least 33 percent recycled aluminum.
    - a. Throats: Fixed type, suitable to partitions indicated.
    - b. Trim Width: As indicated on the Drawings.
  - 2. Gaskets:
    - a. Glazing: Manufacturer's standard rubber extrusions, continuous, suitable to glazing thickness and type, replaceable, black color.
    - b. Doors: Manufacturer's standard rubber extrusions in compliance with listing requirements, continuous, replaceable, black color.
  - 3. Anchorage Devices, and Clips: Manufacturer's standard types suitable to opening sizes and construction, of materials and finishes compatible with the materials being secured.
  - 4. Fasteners: Aluminum, stainless steel, or zinc-plated steel in compliance with ASTM A164.
  - 5. Accessories: Manufacturer's standard, as recommended by the manufacturer for complete and proper installation.
  - 6. Door Hardware: Specified in SECTION 08 71 00 "DOOR HARDWARE".

Western integrated listed as acceptable, but still conflicts with Stainless steel door and frame requirement in C1020

- 7. Glazing: Specified in SECTION 08 80 00 "GLAZING".
- C. Fabrication: Fabricate standard aluminum frames in accordance with the final accepted Shop Drawings and as follows:
  - 1. Fastenings: Fabricate frames with concealed fastenings.
  - 2. Stops: Manufacturer's standard, fabricated of extruded aluminum, continuous, snapin type. Locate removable stops on secured side.
  - 3. Door Hardware Preparation: Factory prepare frames to template for hardware specified in SECTION 08 71 00 "DOOR HARDWARE".
    - a. Provide sinkages and cutouts for mortised and concealed hardware.
    - b. Provide plaster guards or mortar boxes behind cutouts in frames.
    - c. Provide reinforcements for both concealed and surface-applied hardware:
      - 1) Drill and tap mortised reinforcements.
      - 2) Install reinforcements with concealed connections designed to develop full strength of reinforcements.
  - 4. Aluminum Finishes:
    - a. Exposed: After fabrication, provide clear anodized finish as specified in SECTION 05 05 13 "SHOP-APPLIED COATINGS FOR METAL". Protect finish with a strippable film or covering.
    - b. Concealed Surfaces: Mill finish.
- PART 3 EXECUTION
- 3.01 INSPECTION
  - A. Verify that conditions are satisfactory for the installation of aluminum frames.
  - B. Do not begin installation until unsatisfactory conditions have been corrected.

#### 3.02 PREPARATION

- A. Surface Preparation: At cementitious surfaces, protect aluminum surfaces that will be in contact with concrete from corrosion with an application of protective coating recommended in writing by the manufacturer. At dissimilar metals, comply with AAMA 101, Appendix Dissimilar Materials by separating aluminum materials and other corrodible surfaces from sources of corrosion or electrolytic action contact points.
- B. Protection:
  - 1. Protect adjacent surfaces and finishes from damage during installation of aluminum frames.

2. Protect frames and other materials from damage during field handing and installation.

#### 3.03 INSTALLATION

- A. General Requirements:
  - 1. Install aluminum frames plumb and level in compliance with the manufacturer's printed instructions, final accepted Shop Drawings, and as specified.
  - 2. Assemble door frames, sidelights, and window units with screws utilizing internal screw spline system, insert into the rough opening, and attach perimeter flanges.
  - 3. Assemble sidelights and windows without the use of clips.
  - 4. Secure frames to adjacent supporting construction to retain their position and stability.
- B. Smoke Control Frames: In addition to general requirements, install smoke control frames in compliance with NFPA 105.
- C. Door Hardware:
  - 1. Install door hardware in compliance with the manufacturer's printed instructions and specified in SECTION 08 71 00 "DOOR HARDWARE".
  - 2. Do not damage hardware, doors, frames, or their finishes.
  - 3. Adjust and lubricate hardware for proper operation.
- D. Glazing: Install glazing in compliance with the manufacturer's printed instructions and as specified in SECTION 08 80 00 "GLAZING".
- 3.04 CLEANING
  - A. After installation, clean aluminum frames in compliance with the manufacturer's printed instructions and AAMA 609 & 610 "Cleaning and Maintenance Guide for Architecturally Finished Aluminum" without damaging finish.
- 3.05 REPAIRS
  - A. Repair damaged components to the satisfaction of the Architect.
  - B. Remove frame components that are damaged beyond successful repair and provide new replacement components at no additional cost to the Owner. Replacement components shall match adjacent original undamaged Work.
- 3.06 COMPLETION
  - A. When complete, frames shall be set true-to-line and position, plumb, level, rigid, in true alignment with adjacent Work, securely fastened in place, and free of warp and twist and other defects and damage.

- B. Joints shall be hairline tight and surfaces shall be flush with adjacent components.
- C. Exposed surfaces shall be clean and free of dents, nicks, scratches, tool marks, and other damage and defects.
- D. Door hardware shall meet requirements specified in SECTION 08 71 00 "DOOR HARDWARE".
- E. Glazing shall meet requirements specified in SECTION 08 80 00 "GLAZING".
- F. Finishes shall match accepted samples.

#### 3.07 PROTECTION

- A. Protect aluminum frames from damage and deterioration until time of completion and acceptance by the Owner.
- B. Do not allow frames to be exposed to construction traffic or activity without adequate protection.

#### END OF SECTION

#### **PART C - INTERIORS**

#### C10 INTERIOR CONSTRUCTION

The existing facility is constructed as a shell and core, with partition assemblies in place for the first floor lobby, public toilet facilities, mechanical shafts, and building support spaces. The interior face of the exterior wall system at the upper floors does not include metal stud framing and gypsum board assemblies, and are to be completed by Design/Build Contractor in order to maintain acoustic separation between rooms at the exterior face of the building. In addition, the back face of the precast panels are exposed, and not insulated. In both cases, interior metal framing (studs) will be required, as well as an evaluation by the Design/Build team to determine if any additional insulation or moisture mitigation is required. Ceilings in the proposed "tenant improvement" space have not been constructed, and the building structure is exposed. The Design/Build contractor shall patch and repair any applied fireproofing removed or damaged during construction to maintain the code required protection. The Interior Construction section of this report describes the design criteria for the following elements:

- New interior partitions including masonry partitions, rough carpentry, fire and smoke assembly identification, fire-stopping and joint sealants, glazing, non-structural metal framing (studs, channels, etc.), gypsum board assemblies, and sliding partitions. Partition scope also includes metal framing for wall reinforcing (backing) at equipment, casework, and furniture locations. Framing shall be attached and braced per the performance requirements outlined in this report. Partition construction shall meet the requirements for appropriate fire, smoke, and acoustic assemblies per the building codes and acoustic criteria outlined in the first chapter of this report. Provide and coordinate framing details at doors such that "king studs" attached to the structure above do not conflict with MEP systems passing over the door.
- Interior doors and hardware including hollow metal doors and frames, fire rated doors, interior aluminum doors and frames, flush & sliding wood doors, access doors and panels, coiling doors and grilles, ICU doors, folding/operable doors, and door hardware. Door finish is to be selected by the Design/Build team interior designer, conforming to SHC Facility Design Standards. Hardware components to be selected from Stanford facility list of approved products, and combined into hardware groups assigned to individual openings, meeting both Stanford and AHJ requirements. Refer to the electrical section of this report for electrified hardware (access control, push plates, etc.) requirements.
- Refer to the matrices at end of Part C for additional information regarding building elements in this section
- Refer to Stanford Health Care Facility Standards, Ambulatory Care Standards, and the codes and standards referenced in this report.
- Refer to Emerystation Greenway Building Assessment (Exhibit 3)

- C1010 Partitions
  - 1. Unit Masonry:
    - a. Interior CMU Partitions: Basis of Design: Standard non-Loadbearing Units: ASTM C 129. Size: Standard units with nominal face dimensions of 16 x 8 x 8 inches. Masonry Mortar Type N. Bond: Running. Mortar Joints: Flush.
    - b. Locations: As required for partitions located in the existing parking garage.
  - 2. Rough Carpentry:
    - a. Provide miscellaneous rough carpentry items including fire retardant treated wood materials, communications and electrical room mounting boards, miscellaneous wood nailers, furring, and grounds.
  - 3. Identification of Fire and Smoke Assemblies:
    - a. Identification for fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions. Regulatory Requirements: Comply with Marking and Identification requirements as adopted by the Local Authority having Jurisdiction.
  - 4. Firestopping:
    - a. Interior Firestopping: Provide firestopping from single source manufacturer. Basis of Design: Products by 3M Fire Protection Products, Rectroseal, Hilti Inc. or a comparable manufacturer.
  - 5. Joint Sealers:
    - a. Interior Sealants: Provide joint sealants at vertical surfaces, horizontal nontraffic surfaces, horizontal traffic surfaces, perimeter joints between interior wall surfaces and frames of interior doors windows, joints between plumbing fixtures and adjoining walls, floors, and counters, tile control and expansion joints and that establish and maintain continuous joint seals without staining or deteriorating joint substrates.

#### 6. Glazing:

- a. Interior Glazing: Minimum 1/4 inch Tempered float glass, safety glazing, fire rated safety glazing at code required locations.
- b. Laminated Safety Glazing: For use in doors and sidelights at locations where a translucent interlayer is required for patient, or staff privacy. Use tempered float glazing in laminated glazing assemblies as an additional safety measure.
- c. Glass thickness for glass supported on top and bottom only:
  - 1) Up to 8 feet high: minimum 3/8 inch.
  - 2) Up to 10 feet high: minimum 1/2 inch.
  - 3) Up to 12 feet high: minimum 5/8 inch.
- d. Radiation shielded glazing: Provide at equipment locations as noted in Section F.
- 7. Gypsum Board Assemblies:
  - a. All gypsum board products installed prior to dry in must have a mold resistant score of 10 per ASTM D 3273.
  - b. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut Application: Use for vertical surfaces, unless otherwise indicated.
  - c. Board for Wet Areas: ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325or Glass-Mat-Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178. Basis of Design USG Corporation; Durock Brand Cement Board or Georgia-Pacific Gypsum; DensShield Tile Backer
  - d. Ceiling Board: Special sag-resistant gypsum ceiling board as defined in ASTM C 1396/C 1396M; sizes to minimize joints in place; ends square cut.
  - e. Shaftwall and Coreboard: Type X; 1 inch (25 mm) thick by 24 inches (610 mm) wide, beveled long edges, ends square cut ASTM C1396 or C117.
  - f. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
    - 1) Down or up lighting or natural critical lighting
    - 2) Walls or ceilings scheduled for dark colored finishes
    - 3) Walls or ceilings subject to strong side (low angle) lighting

- 8. Non-Structural Metal Framing:
  - Non-Loadbearing Framing System and Reinforcing (backing) Components: ASTM C 645; galvanized sheet steel, of size and properties necessary to comply with ASTM C 754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
  - b. Shaft Wall Studs and Accessories: ASTM C 645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 with maximum deflection of wall framing of L/240 at 7.5 psf or seismic force, Fp, whichever control.
  - c. Ceiling Hangers: Acoustical tile or lay-in panel ceilings shall be installed in accordance with ASTM C635, ASTM A636, and ASTM E580, Section 5 Seismic Design Categories D, E and F as modified by ASCE 7-10, Section 13.5.6.2.2..
- 9. Backing:
  - a. Provide wall backing for all wall-mounted fixtures and equipment using performance criteria noted in 8a. above.

#### C1020 Interior Doors

- 1. Hollow Metal Doors and Frames:
  - a. Basis of Design: Field finished, ANSI A250.8 Level 3 physical performance level A, Model 2 seamless from: Ceco, Curries, Fleming or comparable manufacturer. Provide welded frames.

#### 2. Stainless Steel doors and Frames:

- a. Provide at the following locations:
   1. Sterile Processing Department
- 3. Impact Resistant Plastic clad doors and frames:

Owner Performance Requirements require Stainless steel doors and frames. Specs and door schedule sheets call for HMF and Aluminum Knock down with wood doors

- a. Manufacturer: Acrovyn, Marshfield, comparable product by another manufacturer.
- b. Provide at the following locations:
  - 1. Soiled Utility
  - 2. Clean Supply.
  - 3. Equipment Storage
- 4. Flush Wood Doors and Wood Frames:
  - a. Basis of Design: Premium Grade, Heavy Duty Performance in accordance with WDMA I.S.1-A. Plain Sliced, slip veneer match, balance assembly match from: Marshfield Door Systems, Lyndon Doors, Algoma Hardwoods, Graham Wood

Doors, Eggers Industries, or comparable manufacturer.

- b. Basis of design veneer species is maple, no heartwood, and non-tinted transparent finish.
- c. Provide at the following locations:
  - 1. Public Corridors
  - 2. Exam rooms.
  - 3. Offices.
  - 4. Conference rooms
  - 5. Staff Lounge
  - 6. Staff Locker rooms
- 5. Sliding Wood Doors:
  - a. Basis of Design: Aurora Slider Hi-Performance Doors System with full wrap frames and Anodized finish by GoldFinch Bros. Inc.
  - b. Locations: Alternate door type for exam Rooms.
- 6. Access Doors and Panels:
  - a. Interior Access Doors and Panels: Areas subject to humidity galvanized steel, typical areas manufacturer's standard steel, wet areas stainless steel. Public areas recessed doors, non-public areas flush doors. Fire rated in locations required to maintain the wall or ceiling rating. Basis of Design: Factory fabricated access doors and panels from: Karp Associates, Inc. or Nystrom, Inc. or J.L. Industries or comparable manufacturer.
- 7. Sliding Glass Doors:
  - Factory glazed sliding doors and frames. Top hung, no track across opening, stops and ADA accessible hardware, options for glazing infill and frame finish.
     Basis of Design: Raumplus North America, DIRTT Environmental Systems or comparable.
  - b. Location: Alternate door type for conference/consult rooms, offices, and/or exam rooms.
- 8. Overhead Coiling Doors:
  - a. Interior Coiling Doors: Fire rated overhead coiling doors, motorized and linked to fire alarm system. High cycle equipment. Stainless Steel slats. Basis of Design: FireKing 630 Series by Overhead Door or a comparable product by Cornell Iron Works Inc., The Cookson Company, or McKeon.

- 9. Overhead Coiling Grilles:
  - a. Interior Overhead Coiling Grilles: Overhead coiling grille, motorized. Curtain anodized aluminum horizontal rods and vertical circles. Basis of Design: SG3000 Series with ACL curtain by McKeon Door Company or a comparable product by Cornell Iron Works Inc. or The Cookson Company.
- 10. Intensive Care Unit Critical Care Unit Entrances:
  - a. ICU/CCU Entrance Doors: Packaged units consisting of doors, sidelights, frames, and hardware. Factory assembled, manually operated, extruded aluminum doors and frames with normally-closed but operable sidelights. Basis of Cost: Horton with laminated glass panels and decorative film, inter-layer.
  - b. Provide at the following locations: 1. PreOp/PACU Isolation rooms
- 11. Door Hardware:
  - a. Provide Commercial quality heavy duty door hardware including but not limited to: ball bearing 5 knuckle hinges, electrified hinges electrified locks and electrified exit devices as required below, mortise locksets with interchangeable core cylinders, include interchangeable core cylinders for all specialty doors supplied by other specification sections, automatic openers for up to (quantity TBD) doors with "push plate" actuators. Provide complete trim accessories including electromagnetic hold opens at (quantity TBD) doors, card operated electrified locking hardware at (quantity TBD) doors. Lead lined doors shall be hung on Rixson L147 pivot sets, and all hardware attached to lead lined doors shall be lead lined as required to meet the specified level of shielding. Primary Finish: Satin Stainless Steel, 630. Secondary Finish: Satin chrome plated over nickel on brass or bronze, 626 where 630 is not available. Please refer to Stanford Health Care Standards included in Exhibit 2.