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APPEAL SUMMARY

Status: Decision Rendered - Held over from 24691 Item #2 (3/10/21) for additional information

Appeal ID: 24866	Project Address: 1219 SW Park Ave
Hearing Date: 5/12/21	Appellant Name: Joshua Stein
Case No.: B-006	Appellant Phone: 9719986853
Appeal Type: Building	Plans Examiner/Inspector: Kathy Aulwes
Project Type: commercial	Stories: 5 Occupancy: A-1, A-2, A-3, B, S-1, M Construction Type: I-B
Building/Business Name: Portland Art Museum	Fire Sprinklers: Yes - Throughout per NFPA-13
Appeal Involves: Reconsideration of appeal	LUR or Permit Application No.: 19-258855-CO
Plan Submitted Option: pdf [File 1] [File 2] [File 3]	Proposed use: Art Museum

APPEAL INFORMATION SHEET

Appeal item 1

Code Section 2014 OSSC §2902.1, §2902.3.2

Requires OSSC 2902.1 – Minimum number of fixtures: “Plumbing fixtures shall be provided for the type of occupancy or use of space in relation to Table 2902.1 and in the minimum number shown in table 2902.1. Types of occupancies not shown in Table 2902.1 shall be considered individually by the building official and shall reflect the use of the space being served by the fixtures. The number of occupants shall be determined by this code. Occupancy classification and use of space shall be determined in accordance with Chapter 3.”

OSSC 2902.3.2 – Location of toilet facilities in occupancies other than malls: “In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 500 feet.”

Code Modification or Alternate Requested ORIGINAL TEXT:
This appeal requests approval for determining required plumbing fixtures for the Portland Art Museum per Table 2902.1 based on projected actual use limits of the building and associated occupant loads/distribution that the museum can accommodate and control in actual operation.

RECONSIDERATION TEXT:
This appeal requests approval for determining required plumbing fixtures for the Portland Art Museum per Table 2902.1 based on projected actual use and toilet facility location limits of the building and associated occupant loads/distribution that the museum can accommodate and control in actual operation as described on the submitted maximum 10-year event scenario.

Proposed Design ORIGINAL TEXT:
Two existing historic separate buildings (Mark Building and Main Building) will be interconnected by a new addition (Rothko Pavilion). This will allow for a single building consisting of three (3)

separate structures (Main Building, Mark Building, and Rothko Pavilion). The single building can be subdivided by use into a Museum Side (art galleries, auditorium, support spaces) and a Non-Museum Side (Ballrooms, administrative offices, support spaces)

The Rothko Pavilion addition will essentially create a new accessible main entry and accessible circulation spaces to connect the museum galleries at all levels (Level 00-04). This will include new vertical circulation (elevators and stairs) and all-gender toilet rooms that will greatly improve access and wayfinding on the Museum Side of the building. An occupant increase of 20% is projected on the Museum Side, based on current ticketing data, due to this project's improvements.

Public access to event spaces (ballrooms) and the museum are controlled through reservations and ticket sales, respectively, to limit the number and location of occupants within the building. Actual occupancy limits that the building will see are based on maximum permissible occupancy for specific spaces, logistical limits for supporting large occupancy events with available services, and providing a high-quality experience to guests and museum patrons commensurate with a first-class art museum. Historic and projected occupant loads based on this controlled actual use are far lower than code-required occupancy loads and see an uneven distribution per floor, with higher occupancy loads on Levels 00-02 vs. Levels 03-04. (Levels 00-02 contain the main entry, a large auditorium, and special exhibition galleries which see high occupancy loads; Levels 03-04 primarily contain permanent exhibits which have a lower occupancy load. The museum will maintain this arrangement after project completion).

Three (3) scenarios are presented for this appeal to describe projected maximum occupancy events and their respective recurrence (Max/Week, Max/Year, Max/10 Year scenarios) that the museum can reasonably accommodate. Occupant number and distribution for each scenario is based on the projected maximum concurrent use and load within the building that the museum anticipates as an achievable worst-case (max. occupant load) for determining minimum plumbing fixture requirements based on Table 2902.1.

The attached files demonstrate that the project will provide the building with adequate plumbing fixtures and distribution (per OSSC 2902.3.2) for the Max/Week and Max/Year scenarios.

The Max/10 year scenario exceeds the minimum plumbing fixtures required for the total building, but the location of toilet facilities per OSSC 2902.3.2 is not strictly met for Museum Side Levels 02-04. For this low-recurrence event, the typical separation between the Museum Side and Non-Museum Side will be removed on specific floor levels to accommodate the event and allow access to toilet facilities on either side. Permanent wayfinding signage indicating location of public-use toilet facilities will be installed throughout the museum, in addition to brochures/device apps indicating the museum layout and available facilities. Museum staff will also be available throughout to direct occupants to available toilet facilities. Temporary wayfinding signage is also proposed to direct building occupants to floor levels where sufficient toilet facilities are provided (primarily Levels 00 and 1.5). Due to the nature of this museum layout and use, separation between floors is minimized, with access to all levels provided through multiple options, including two new elevators and a new main circulation stair.

RECONSIDERATION TEXT:

[REPLACE PORTION:] ...

One scenario is presented for this appeal to describe the projected maximum occupancy event with a 10 year recurrence (Scenario 3 – Maximum 10 year event) that the museum can reasonably accommodate. Occupant numbers and distribution for this scenario is based on the projected maximum concurrent use and load within the building that the museum anticipates as an achievable worst-case (max. occupant load) for determining minimum plumbing fixture requirements based on Table 2902.1.

The Max/10 year scenario has a 2 WC deficit for males overall, with the location of toilet facilities per OSSC 2902.3.2 not strictly met for Museum Side Levels 02 and 03. For this low-recurrence event, the typical separation between the Museum Side and Non-Museum Side will be removed on floor Levels 01, 03 and 04 to accommodate the event and allow access to toilet facilities on either side. Permanent wayfinding signage indicating location of public-use toilet facilities will be

installed throughout the museum, in addition to brochures/device apps indicating the museum layout and available facilities. Museum staff and docents will also be available throughout the occupied public spaces to direct occupants to available toilet facilities. Temporary wayfinding signage is also proposed on all floor levels showing a deficiency in fixtures to direct building occupants to floor levels where sufficient toilet facilities are provided (primarily Levels 00 and 1.5). Due to the nature of this museum layout and use, separation between floors is minimized, with access to all levels provided through multiple options, including two new elevators and a new main circulation stair.

Reason for alternative ORIGINAL TEXT:

Accessible vertical and horizontal circulation provided by the new Rothko Pavilion addition will greatly improve circulation access and wayfinding to all levels of the Museum Side art galleries. This will allow occupants within the museum to reach all floor levels and the associated toilet facilities provided. The layout for the Museum Side does not restrict access on a per floor basis, with circulation improvements made to connect all levels of the museum galleries to each other with multiple options to move between levels.

New toilet facilities are proposed primarily on Levels 00-02 of the Museum Side where the museum will see the highest frequency occupant loads based on actual use. Levels 00-02 contain the Special Exhibition galleries and Whitsell Auditorium, which historically have the highest occupant loads on the Museum Side. Level 03-04 galleries predominantly contain permanent collections and see a lower actual occupancy load. The Museum intends to maintain this use pattern, with the new project additions providing additional gallery space, improved circulation, new toilet facilities, and select special event spaces equating to a 20% increase in actual occupant load over historic numbers. The Non-Museum side containing Ballrooms and administrative offices will operate in its current capacities, largely unaffected by this project.

2014 OSSC §2902.1 requires minimum plumbing fixtures to be based on code-determined occupant loads. The Portland Art Museum limits building occupancy based on reservations and ticket sales to both meet their operational needs and provide the visiting public with a high quality experience for viewing art and for attending special events. Historic and projected actual occupant loads the museum will accommodate to achieve this are lower than the code-determined occupant loads.

The three maximum event scenarios submitted provide a more accurate occupant load and distribution for how the museum intends to operate after project completion. Providing plumbing fixtures based on actual occupant loads and distribution we feel will provide code intent for meeting minimum plumbing fixtures for the higher frequency events the museum will host.

CONCLUSION:

It is proposed that minimum plumbing fixtures per OSSC 2902.1 be based on actual occupant loads and distribution the building can accommodate as described in the three maximum event scenarios provided.

Support:

The Portland Art Museum limits public occupants through reservations, ticket sales, and the selective opening/closing of spaces within the building. The presented scenarios are based on projected achievable maximum occupant loads and distribution determined through historic reservation/ticketing data and their intended concurrent use of the building spaces that the museum will make available to occupants.

Using code-determined occupancy loads for minimum plumbing fixtures and their location will not result in a fixture number and distribution reflecting actual use patterns and result in a far greater number of plumbing fixtures than what will be needed for areas served.

The new project layout improves vertical circulation between floors allowing for multiple options between floors to access lower-use toilet facilities.

The maximum event scenarios describe how the proposed design will meet minimum plumbing fixtures and location for the weekly and yearly max. occupant loads based on actual use. The Max/10 Year scenario exceeds the minimum plumbing fixtures required for the building, with multiple wayfinding options including museum staff available throughout the public-use areas to direct occupants to underutilized toilet facilities on other floors for this low recurrence event.

Relevant Attachments:

ATTACHMENT 1 – Minimum Plumbing Fixtures – Building Totals
 ATTACHMENT 2 – Proposed Toilet Facilities per Floor
 ATTACHMENT 3 – Scenario 1 Maximum Occupancy Event per Week
 ATTACHMENT 4 – Scenario 2 Maximum Occupancy Event per Year
 ATTACHMENT 5 – Scenario 3 Maximum Occupancy Event per 10 Years

RECONSIDERATION TEXT:

[REPLACE PORTION:]

... The Non-Museum side containing existing Ballrooms and administrative offices will operate in their current capacities and configuration, unaltered by this project...

[REPLACE PORTION:]

... The maximum event scenario submitted provides a more accurate occupant load and distribution for how the museum intends to operate after project completion. Providing plumbing fixtures based on actual occupant loads and distribution we feel will provide code intent for meeting minimum plumbing fixtures for the higher frequency events the museum will host.

CONCLUSION:

It is proposed that minimum plumbing fixtures per OSSC 2902.1 be based on actual occupant load, occupant load distribution, and location of toilet facilities the building can accommodate as described in the maximum ten year event scenario provided (Scenario 3).

Support:

The Portland Art Museum limits public occupants through reservations, ticket sales, and the selective opening/closing of spaces within the building. The presented scenario is based on the projected achievable maximum occupant load and distribution determined through historic reservation/ticketing data and the intended concurrent use of the building spaces that the museum will make available to occupants.

Using code-determined occupancy loads for minimum plumbing fixtures and their location will not result in a fixture number and distribution reflecting actual use patterns and result in a far greater number of plumbing fixtures than what will be needed for areas served.

The new project layout improves vertical circulation between floors allowing for multiple options between floors to access lower-use toilet facilities.

The Max/10 Year scenario describes the required and provided male/female fixtures per floor based on the occupant loads served. Museum staff and docents will be available throughout the public-use areas to direct occupants to underutilized toilet facilities on other floors for this low recurrence event. Temporary signage will also be provided on deficient levels to indicate available toilet facilities on other levels.

[OMIT – NO LONGER APPLICABLE:]

Relevant Attachments:

ATTACHMENT 1 – Minimum Plumbing Fixtures – Building Totals
 ATTACHMENT 2 – Proposed Toilet Facilities per Floor
 ATTACHMENT 3 – Scenario 1 Maximum Occupancy Event per Week
 ATTACHMENT 4 – Scenario 2 Maximum Occupancy Event per Year

[REPLACE:]

Relevant Attachments:

ATTACHMENT 5 – Scenario 3 Maximum Occupancy Event per 10 Years

[ADD:]

Relevant Attachments:

ATTACHMENT 6 – Baseline Code-Required Plumbing Fixtures

ATTACHMENT 7 – Provided Plumbing Fixture Distribution

APPEAL DECISION

Reduction in the minimum number of required plumbing fixtures: Granted as proposed for this tenant.

Note: Occupant loads are to be verified at time of plan review.

The Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health, safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

Scenario 3 :Maximum Concurrent Occupancy Per 10 Year (Max/10 Year)

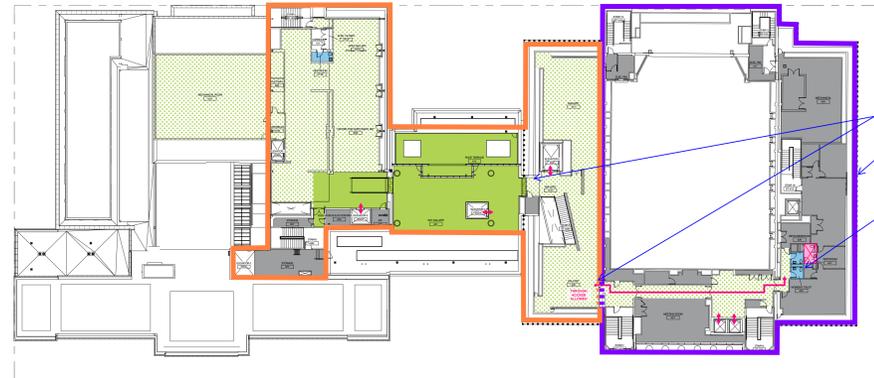
This scenario depicts the maximum concurrent occupancy anticipated once every ten years when the museum hosts a special exhibit concurrent with a large special event related to the exhibit. Under this condition the typical division between the Museum Side and Non-Museum Side is removed, allowing the building to be used for a single purpose with sharing of toilet facilities at certain levels (Levels 01, 03, 04). Scenario 3 assumes the ballrooms, cafe/gift shop, and Level 02/04 roof terraces are supporting special events. Level 04 on the Museum Side will be used for a VIP Event, with select Level 03/04 permanent galleries partially open to better organize access within the building during this highest occupancy event. The museum offices are assumed closed (Excepting the Level 1.5 Security Offices), with staff support (docents) throughout the building at each exhibit/event area. Museum gallery occupancy is anticipated to be larger on Levels 00-02 where the Special Exhibition galleries and most special event areas are located. Temporary signage will be provided at deficient levels to clarify wayfinding to toilet facilities available throughout the building.

Museum Side:

- Whitsell Auditorium Closed
- Museum Galleries Open (Max. occupant load on Levels 00-02 for Special Exhibit; Reduced occupant load on Level 03-04 permanent collection galleries)
- Roof Terraces (Level 02 Special Event use; Level 04 VIP Special Event Use)
- Café/Gift Shop Open (Special Event)
- Museum Offices (Closed)
- Museum docents throughout public spaces for wayfinding assistance

Non-Museum Side:

- Museum Offices – Closed (Except Level 1.5 Security Offices)
- Sunken Ballroom & Lobby (Level 01 - Large Event)
- Grand Ballroom & Lobby (Level 03 – Large Event)
- Access to/from Museum Side on Levels 01, 03, and 04.



LEVEL 04 MUSEUM SIDE USED FOR VIP SPECIAL EVENT WITH VERY LIMITED OCCUPANCY OF LEVEL 04 GALLERIES. EXISTING TOILET FACILITIES AVAILABLE FOR PUBLIC USE ON MARK BUILDING SIDE FOR SCENARIO 3

LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
04	MUSEUM SIDE	10,000	1,000	100
04	NON-MUSEUM SIDE	10,000	1,000	100
04	TOTAL	20,000	2,000	200

7 OCCUPANCY PLAN LEVEL 04 - SCENARIO 3
1/32" = 1'-0"

LEGEND

- Museum Side
- Non-Museum Side
- Available Toilet Facility
- Closed Toilet Facility
- Occupied
- Partially Occupied
- Not Occupied



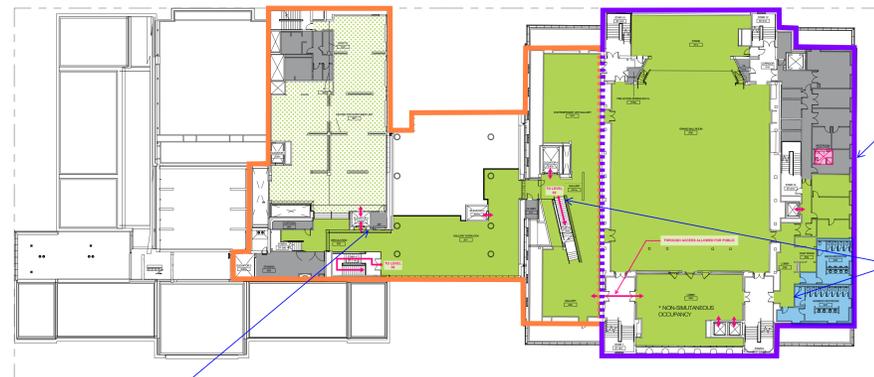
LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
1.5	MUSEUM SIDE	10,000	1,000	100
1.5	NON-MUSEUM SIDE	10,000	1,000	100
1.5	TOTAL	20,000	2,000	200

4 OCCUPANCY PLAN LEVEL 1.5 - SCENARIO 3
1/32" = 1'-0"



LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
01	MUSEUM SIDE	10,000	1,000	100
01	NON-MUSEUM SIDE	10,000	1,000	100
01	TOTAL	20,000	2,000	200

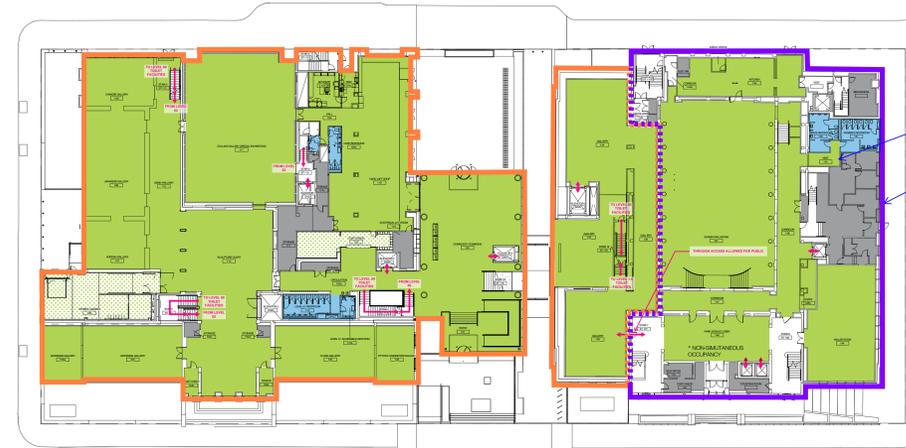
3 OCCUPANCY PLAN 01 MEZZ (MARK) - SCENARIO 3
1/32" = 1'-0"



TEMPORARY SIGNAGE PROVIDED TO INDICATE AVAILABLE TOILET FACILITIES ON OTHER LEVELS.

LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
03	MUSEUM SIDE	10,000	1,000	100
03	NON-MUSEUM SIDE	10,000	1,000	100
03	TOTAL	20,000	2,000	200

6 OCCUPANCY PLAN LEVEL 03 - SCENARIO 3
1/32" = 1'-0"



MOVEMENT BETWEEN MUSEUM SIDE AND NON-MUSEUM SIDE PERMITTED ON MARK BUILDING LEVEL 01

LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
01	MUSEUM SIDE	10,000	1,000	100
01	NON-MUSEUM SIDE	10,000	1,000	100
01	TOTAL	20,000	2,000	200

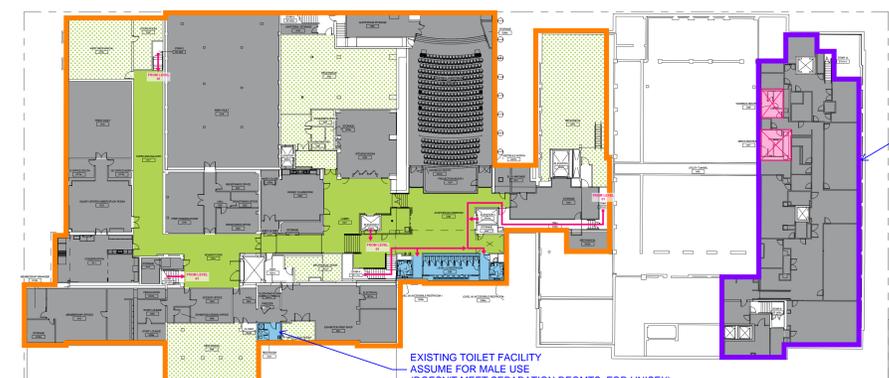
2 OCCUPANCY PLAN LEVEL 01 - SCENARIO 3
1/32" = 1'-0"



TEMPORARY SIGNAGE PROVIDED TO INDICATE AVAILABLE TOILET FACILITIES ON OTHER LEVELS.

LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
02	MUSEUM SIDE	10,000	1,000	100
02	NON-MUSEUM SIDE	10,000	1,000	100
02	TOTAL	20,000	2,000	200

5 OCCUPANCY PLAN LEVEL 02 - SCENARIO 3
1/32" = 1'-0"



EXISTING TOILET FACILITY ASSUME FOR MALE USE (DOESN'T MEET SEPARATION REQMTS. FOR UNISEX)

LEVEL	BUILDING PORTION	AREA OF OCCUPANCY	MAX OCCUPANCY	MAX OCCUPANCY PER 10 YEARS
00	MUSEUM SIDE	10,000	1,000	100
00	NON-MUSEUM SIDE	10,000	1,000	100
00	TOTAL	20,000	2,000	200

1 OCCUPANCY PLAN LEVEL 00 - SCENARIO 3
1/32" = 1'-0"

FOR PERMIT REVIEW ONLY
REGULATORY COMMENTS WILL BE INCORPORATED PRIOR TO ISSUANCE FOR CONSTRUCTION
PROPOSAL AND DESIGN AS APPROVED IN CASE FILE
LU 18-197999 CU AD

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PORTLAND ART MUSEUM
ROTHKO PAVILION
1219 SW PARK AVE
PORTLAND, OR 97205
HEA Project no. 18008
Date: 12/11/19
PERMIT SET
Revisions:

CITY OF PORTLAND
SHEET NO. 001
Drawn by: JJS
Checked by:
Sheet:

SCENARIO 3
(MAX/10 YEAR)

PERMIT SET

S-3

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TOTAL - PER FLOOR - Scenario 3 (Max. Event/10 Years)

Plumbing Fixture Calcs.

Level 00

Level 00 has a separate museum side and non-museum side; fixture totals are shown for each side

Level 00 Non-Museum Side Closed - Toilet facilities within not counted below

Museum side has (11) unisex w.c., (8) unisex lavs, (2) male w.c., and (1) male lav; these are shown distributed to minimize deficits between sexes

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	36,428	176	1	2	1	1
Museum Side - PROVIDED			5	8	5	4
DIFFERENCE (Red = Deficit; Green=Surplus)			4	6	4	3
Non-Museum Side - REQUIRED	8,610	0	0	0	0	0
Non-Museum Side - PROVIDED			0	0	0	0
DIFFERENCE (Red = Deficit; Green=Surplus)			0	0	0	0
	45,038	176				

Level 01

Level 01 has a separate museum side for Main Building and Pavilion; Mark Building museum side and non-museum side combined for Scenario 3;

Museum side has (13) unisex w.c. and (9) unisex lavs; these are shown distributed to minimize deficits between sexes

Level 01 Museum Side galleries in Mark Building combined with Non-Museum Side for Scenario 3 (access between these portions provided)

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side (Main/Pavilion)- REQUIRED	28,385	976	4	7	3	3
Museum Side (Main/Pavilion)- PROVIDED			5	8	4	5
DIFFERENCE (Red = Deficit; Green=Surplus)			1	1	1	2
Museum Side (Mark) - REQUIRED	6,037	202	0.81	1.55	0.51	0.51
Non-Museum Side - REQUIRED	16,838	1,124	7.49	7.49	2.82	2.82
Total - REQUIRED			9	10	4	4
Non-Museum Side - PROVIDED			5	6	3	3
DIFFERENCE (Red = Deficit; Green=Surplus)			-4	-4	-1	-1
	45,223	2,100				

Level 01 - MEZZ

Level 01 Mezzanine only occurs on Non-Museum Side (Mark Building) and is closed

No occupancy/no available toilet facilities for Scenario 3

BUILDING PORTION	AREA SF	OCC Load	Water Closets	Lavatories
			WC_T	LV_T
Non-Museum Side - REQUIRED	1,405	0	0	0
Non-Museum Side - PROVIDED			0	0
DIFFERENCE (Red = Deficit; Green=Surplus)			0	0
	1,405	0		

Level 1.5

Level 1.5 separated between museum side and non-museum side for Scenario 3; Non-museum side is closed except for Security offices which have an available toilet room nearby;

Museum side has (3,33) male w.c., (4) female w.c., (2) male lavs, and (2) female lavs

Non-Museum Side: Fixture requirements for sexes combined - Separate Facilities not required per OSSC 2902.2 Ex. 2

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	8,009	268	2	3	1	1
Museum Side - PROVIDED			3.33	4	2	2
DIFFERENCE (Red = Deficit; Green=Surplus)			1.33	1	1	1
Non-Museum Side - REQUIRED	16,062	8	1		1	
Non-Museum Side - PROVIDED			1		1	
DIFFERENCE (Red = Deficit; Green=Surplus)			0		0	
	24,071	276				

Level 02

Level 02 has a separate museum side and non-museum side; fixture totals are shown for each side

Museum side has (8) unisex w.c. and (6) unisex lavs; these are shown distributed to minimize deficits between sexes

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	31,927	1,092	5	9	3	3
Museum Side - PROVIDED			2	6	3	3
DIFFERENCE (Red = Deficit; Green=Surplus)			-3	-3	0	0
Non-Museum Side - REQUIRED	15,785	0	0	0	0	0
Non-Museum Side - PROVIDED			0	0	0	0
DIFFERENCE (Red = Deficit; Green=Surplus)			0	0	0	0
	47,712	1,092				

Level 03

Level 03 has a non-separate museum side and non-museum side for Scenario 3 (access between these portions provided)

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	12,007	213	0.51	0.97	0.32	0.32
Non-Museum Side - REQUIRED	15,699	1,255	8.37	8.37	3.14	3.14
Total - REQUIRED			9	10	4	4
Total - PROVIDED			7.67	9	4	4
DIFFERENCE (Red = Deficit; Green=Surplus)			-1.33	-1	0	0
	27,706	1,468				

Level 04

Level 04 museum side is only occupied portion; VIP Event separated from other floors for fixture access.

Non-museum side closed, but (2) unisex toilet rooms available for museum-side use for Scenario 3; (1) unisex toilet room on museum side also available;

Unisex toilet rooms shown distributed to minimize deficits between sexes

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	14,328	132	1	2	1	1
Museum Side - PROVIDED			1	2	1	2
DIFFERENCE (Red = Deficit; Green=Surplus)			0	0	0	1
Non-Museum Side - REQUIRED	8,195	0	0	0	0	0
Non-Museum Side - PROVIDED			0	0	0	0
DIFFERENCE (Red = Deficit; Green=Surplus)			0	0	0	0
	22,523	132				

MUSEUM SIDE ONLY - PER FLOOR - Scenario 3 (Max. Event/10 Years)

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):

- Museum Galleries Open (Special Exhibit w/ Event)
- Roof Terraces -Event Use
- Café/Retail - Event Use
- Whitsell Auditorium & Stage_Closed
- Offices - Closed
- Gallery Occupancy = 120% from historic data due to project additions

Level 00

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check
A-1																		
Assembly with fixed seats	2,999	-	0	0.0	125	65	0.00	0.00		0.00		200	200	0.00	0.00		0.00	Whitsell not occupied
Stages and Platforms	445	-	0	0.0	125	65	0.00	0.00		0.00		200	200	0.00	0.00		0.00	Not occupied
	3,444		0				0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
A-3																		
Assembly - (Gallery) Main Building	2,560	30	86	43.0	125	65	0.34	0.66		1.01		200	200	0.22	0.22		0.43	Level 00 Galleries (assume max. occupancy load)
Assembly (Unconcentrated) Main Building	3,610	30*	59	29.5	125	65	0.24	0.45		0.69		200	200	0.15	0.15		0.30	Level 00 Auditorium Commons and Lobbies (1764sf) used as Gallery Function (assume max. occupancy load). *Stevens Room and Kinney Classrooms closed (1846sf)
Assembly (Unconcentrated) New Main Addition	606	30	21	10.5	125	65	0.08	0.16		0.25		200	200	0.05	0.05		0.11	Whitsell Commons - new main addition space (assume max. occupancy load)
	6,776		166				0.66	1.28		1.94	1.94			0.42	0.42		0.83	0.83
B																		
Offices (Typical) - Main Building	7,078	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Museum Offices Closed - (Museum side)
Offices (Unconcentrated) - Main Building	315	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Office Meeting/Conference Rooms Closed - (Museum Side)
Offices (Typical) - New Main Addition	151	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Museum Offices Closed - (Museum side)
	7,544		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
S-1																		
Mechanical/Storage - Main Building	14,925	-	5	2.5	100	100	0.03	0.03		0.05		100	100	0.03	0.03		0.05	'S-1' on Museum side - primarily mechanical rooms; PAM O&M Staff
Mechanical/Storage - Mark Building	3,739	-	5	2.5	100	100	0.03	0.03		0.05		100	100	0.03	0.03		0.05	'S-1' on Museum side - primarily mechanical rooms; PAM O&M Staff
S Total	18,664		10				0.03	0.03		0.05	0.05			0.03	0.03		0.05	0.05
Subtotal (Unrounded)																		
							0.69	1.30		1.99				0.44	0.44		0.88	
TOTAL REQUIRED	36,428		176				1	2				1	1					

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

MUSEUM SIDE ONLY - PER FLOOR - Scenario 3 (Max. Event/10 Years)

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):

- Museum Galleries Open (Special Exhibit w/ Event)
- Roof Terraces -Event Use
- Café/Retail - Event Use
- Whitsell Auditorium & Stage_Closed
- Offices - Closed
- Gallery Occupancy = 120% from historic data due to project additions

Level 01 (Main Bldg and Pavilion)

Note: Level 01 Mark Galleries not included - they are shown as a separate line item

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-2																			
Assembly (Unconcentrated) Main Building	674	15	45	22.5	75	75	0.30	0.30		0.60		200	200	0.11	0.11		0.23		Café - Special Event (Max. Occupancy)
Kitchens, commercial (Café)	503	200	3	1.3	75	75	0.02	0.02		0.03		200	200	0.01	0.01		0.01		Kitchen - serving Café (Max. Occupancy)
	1,177		48				0.32	0.32		0.63	0.63			0.12	0.12		0.24	0.24	
A-3																			
Assembly - (Gallery) Main Building	17,855	30	599	299.5	125	65	2.40	4.61		7.00		200	200	1.50	1.50		3.00		Main Level 01 Galleries. Does not include Mark Level 01 Galleries, which will use Level 1.5 restrooms. (Max. Occupancy)
Assembly - (Gallery) New Pavilion	3,521	15	235	117.5	125	65	0.94	1.81		2.75		200	200	0.59	0.59		1.18		Community Commons - Rothko Pavilion (Max. Occupancy)
	21,376		834				3.34	6.42		9.75	9.75			2.09	2.09		4.17	4.17	
B																			
Offices (Acc Storage) - New Main Addition	1,412	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00		New Exhibit Loading @ South Addition to Main - Closed
	1,412		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00	
M																			
Mercantile - Ground Floor	2,638	30	88	44.0	500	500	0.09	0.09		0.18		750	750	0.06	0.06		0.12		Museum Gift Shop - Special Event (Max. Occupancy)
	2,638		88				0.09	0.09		0.18	0.18			0.06	0.06		0.12	0.12	
S-1																			
Mechanical/Storage - Main Building	1,782	300	6	3.0	100	100	0.03	0.03		0.06		100	100	0.03	0.03		0.06		Storage for Café/Retail - PAM O&M Staff
S Total	1,782		6				0.03	0.03		0.06	0.06			0.03	0.03		0.06	0.06	
Subtotal (Unrounded)							3.77	6.85		10.62				2.29	2.29		4.59		
TOTAL REQUIRED	28,385		976				4	7						3	3				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Level 01 (Mark Bldg)

Note: Level 01 Mark Galleries will share toilet facilities with Level 01 Non-Museum Side for Scenario 3

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Mark Building - Level 01	6,037	30	202	101.0	125	65	0.81	1.55		2.36		200	200	0.51	0.51		1.01		Level 01 Mark Galleries (Max. Occupancy)
	6,037		202				0.81	1.55		2.36	2.36			0.51	0.51		1.01	1.01	
Subtotal (Unrounded)							0.81	1.55		2.36				0.51	0.51		1.01		
TOTAL REQUIRED	6,037		202				0.81	1.55						0.51	0.51				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Level 01 Mark Building has shared toilet facilities between Museum-side and Non-Museum Side - rounding to occur after both sides are summed.

MUSEUM SIDE ONLY - PER FLOOR - Scenario 3 (Max. Event/10 Years)

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):

- Museum Galleries Open (Special Exhibit w/ Event)
- Roof Terraces -Event Use
- Café/Retail - Event Use
- Whitsell Auditorium & Stage_Closed
- Offices - Closed
- Gallery Occupancy = 120% from historic data due to project additions

Level 1.5

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Mark Building - Level 1.5	8,009	30	268	134.0	125	65	1.07	2.06		3.13		200	200	0.67	0.67		1.34		Level 1.5 Mark Galleries (Max. Occupancy)
	8,009		268				1.07	2.06		3.13	3.13			0.67	0.67		1.34	1.34	
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							1.07	2.06		3.13				0.67	0.67		1.34		
TOTAL REQUIRED	8,009		268				2	3						1	1				

Level 1.5 separated between museum side and non-museum side for Scenario 3; Non-museum side is mostly closed except for Security offices
 Note: 7.33 WCs are shared with the Non-Museum Side (Load from Level 1.5)
 Note: 4 Lavs are shared with the Non-Museum Side (Load from Level 1.5)

Level 02

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Main Building	21,008	30	706	353.0	125	65	2.82	5.43		8.25		200	200	1.77	1.77		3.53		Level 02 Galleries - Main Bldg (Max. Occupancy)
Assembly - (Gallery) Mark Building	3,180	30	107	53.5	125	65	0.43	0.82		1.25		200	200	0.27	0.27		0.54		Level 02 Galleries - Mark Bldg (Max Occupancy)
Assembly - (Gallery) New Main Additoin	1,225	30	41	20.5	125	65	0.16	0.32		0.48		200	200	0.10	0.10		0.21		Level 02 Galleries - Jefferson St. Gallery (Max. Occupancy)
Assembly - (Gallery) New Pavilion	4,945	30	165	82.5	125	65	0.66	1.27		1.93		200	200	0.41	0.41		0.83		Level 02 Galleries - Rothko Pavilion (Max. Occupancy)
Assembly (Unconcentrated) New Pavilion	1,037	15	70	35.0	125	65	0.28	0.54		0.82		200	200	0.18	0.18		0.35		Level 02 Roof Terrace - Rothko Pavilion (Max. Occupancy)
	31,395		1,089				4.36	8.38		12.73	12.73			2.72	2.72		5.45	5.45	
S-1																			
Mechanical/Storage - Main Building	532	300	3	1.5	100	100	0.02	0.02		0.03		100	100	0.02	0.02		0.03		'S-1' on Museum side - mech and storage; PAM O&M Staff
S Total	532		3				0.02	0.02		0.03	0.03			0.02	0.02		0.03	0.03	
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							4.37	8.39		12.76				2.74	2.74		5.48		
TOTAL REQUIRED	31,927		1,092				5	9						3	3				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50
 Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80
 Note: Additional restrooms available on Museum Side Levels 00, 01, 02

MUSEUM SIDE ONLY - PER FLOOR - Scenario 3 (Max. Event/10 Years)

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):

Museum Galleries Open (Special Exhibit w/ Event)

Roof Terraces -Event Use

Café/Retail - Event Use

Whitsell Auditorium & Stage_Closed

Offices - Closed

Gallery Occupancy = 120% from historic data due to project additions

Level 03

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check				
A-3																						
Assembly - (Gallery) Main Building	4,709	-	65	32.5	125	65	0.26	0.50		0.76		200	200	0.16	0.16		0.33		Level 03 Galleries - Main Bldg (reduced load - main occupancy load on Level 00-02 for Scenario 3)			
Assembly - (Gallery) Mark Building	3,616	-	60	30.0	125	65	0.24	0.46		0.70		200	200	0.15	0.15		0.30		Level 03 Galleries - Mark Bldg (reduced load - main occupancy load on Level 00-02 for Scenario 3)			
Assembly - (Gallery) New Pavilion	2,609	30	87	43.5	125	65	0.35	0.67		1.02		200	200	0.22	0.22		0.44		Level 03 Galleries - Rothko Pavilion (Primarily as central circulation - maintain Max. Occupancy)			
	10,934		212				0.50	0.96		1.46	1.46			0.31	0.31		0.63	0.63				
S-1																						
Mechanical/Storage - Main Building	1,073	-	1	0.5	100	100	0.01	0.01		0.01		100	100	0.01	0.01		0.01		'S-1' on Museum side - mech and storage; PAM O&M Staff			
S Total	1,073		1				0.01	0.01		0.01	0.01			0.01	0.01		0.01	0.01				
							WC_M	WC_F								LV_M	LV_F					
							0.51	0.97								0.32	0.32					
Subtotal (Unrounded)							0.51	0.97		1.47				0.32	0.32		0.64					
TOTAL REQUIRED	12,007		213				0.51	0.97						0.32	0.32							

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Note: Additional restrooms available on Museum Side Levels 00, 01, 02

Level 03 has shared toilet facilities between Mark Building Museum-side and Non-Museum Side - rounding to occur after both sides are summed.

Level 04

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check				
A-3																						
Assembly - (Gallery) Main Building	4,554	-	10	5.0	125	65	0.04	0.08		0.12		200	200	0.03	0.03		0.05		Level 04 Galleries - Main Bldg - Mostly closed (minimum load - main occupancy load on Level 00-02 for Scenario 3)			
Assembly - (Gallery) Mark Building	3,472	-	10	5.0	125	65	0.04	0.08		0.12		200	200	0.03	0.03		0.05		Level 04 Galleries - Mark Bldg - Mostly closed (minimum load - main occupancy load on Level 00-02 for Scenario 3)			
Assembly - (Gallery) New Pavilion	2,020	30	60	30.0	125	65	0.24	0.46		0.70		200	200	0.15	0.15		0.30		Level 04 Galleries - Rothko Pavilion. VIP Event (Near Max. Capacity)			
Assembly (Unconcentrated) New Pavilion	873	15	50	25.0	125	65	0.20	0.38		0.58		200	200	0.13	0.13		0.25		Level 04 Roof Terrace - Rothko Pavilion. VIP Event (Near Max. Capacity)			
	10,919		130				0.52	1.00		1.52	1.52			0.33	0.33		0.65	0.65				
S-1																						
Mechanical/Storage - Main Building	3,409	-	2	1.0	100	100	0.01	0.01		0.02		100	100	0.01	0.01		0.02		'S-1' on Museum side - mech and storage; PAM O&M Staff			
S Total	3,409		2				0.01	0.01		0.02	0.02			0.01	0.01		0.02	0.02				
							WC_M	WC_F								LV_M	LV_F					
							0.53	1.01								0.34	0.34					
Subtotal (Unrounded)							0.53	1.01		1.54				0.34	0.34		0.67					
TOTAL REQUIRED	14,328		132				1	2						1	1							

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Note: Additional restrooms available on Museum Side Levels 00, 01, 02

NON-MUSEUM SIDE - PER FLOOR - - Scenario 3 (Max. Event/10 Years)

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):

Offices - Closed (Excepting Security Offices - Level 1.5)

Sunken Ballroom/Lobby_Open - Large Event

Grand Ballroom/Lobby_Open - Large Event

Level 00

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
B																			
Offices (Typical) - Mark Building	8,610	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00		Museum Offices Closed - (Non-Museum side)
	8,610		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00		0.00
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							0.00	0.00		0.00				0.00	0.00		0.00		
TOTAL REQUIRED	8,610		0				0	0						0	0				
							<i>X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50</i>					<i>Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80</i>							

NON-MUSEUM SIDE - PER FLOOR - - Scenario 3 (Max. Event/10 Years)

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):

Offices - Closed (Excepting Security Offices - Level 1.5)

Sunken Ballroom/Lobby_Open - Large Event

Grand Ballroom/Lobby_Open - Large Event

Level 01

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check				
A-2																						
Assembly (Concentrated) Mark Building	7,782	7	1,113	556.5	75	75	7.42	7.42		14.84		200	200	2.78	2.78		5.57		Sunken Ballroom + Lobby - Level 01 (Large Event)			
Kitchens, commercial Mark Building	1,278	200	7	3.5	75	75	0.05	0.05		0.09		200	200	0.02	0.02		0.04		Kitchen open - serving Ballroom; includes servers			
	9,060		1,120				7.47	7.47		14.93	14.93			2.80	2.80		5.60	5.60				
A-3																						
Assembly (Unconcentrated) Mark Building	2,121	-	0	0.0	125	65	0.00	0.00		0.00		200	200	0.00	0.00		0.00		Miller Room (L01) included in Sunken Ballroom occupancy load			
	2,121		0				0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00				
B																						
Offices (Typical) - Mark Building	4,885	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00		Museum Offices Closed - (Non-Museum side)			
	4,885		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00				
S-1																						
Mechanical/Storage - Mark Building	772	300	4	2.0	100	100	0.02	0.02		0.04		100	100	0.02	0.02		0.04		'S-1' on Non-Museum side; PAM O&M Staff			
S Total	772		4				0.02	0.02		0.04	0.04			0.02	0.02		0.04	0.04				
							WC_M	WC_F								LV_M	LV_F					
Subtotal (Unrounded)							7.49	7.49								2.82	2.82	5.64				
TOTAL REQUIRED							7.49	7.49								2.82	2.82					

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Level 01 has shared toilet facilities between Mark Building Museum-side and Non-Museum Side - rounding to occur after both sides are summed.

Level 01 - MEZZ

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check				
B																						
Offices (Typical) - Mark Building	1,033	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00		Museum Offices Closed - (Non-Museum side)			
	1,033		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00				
S-1																						
Mechanical/Storage - Mark Building	372	-	0	0.0	100	100	0.00	0.00		0.00		100	100	0.00	0.00		0.00		'S-1' on Non-Museum side Closed - mech and storage			
S Total	372		0				0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00				
							WC_M	WC_F								LV_M	LV_F					
Subtotal (Unrounded)							0.00	0.00								0.00	0.00	0.00				
TOTAL REQUIRED							0	0								0	0					

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

NON-MUSEUM SIDE - PER FLOOR - - Scenario 3 (Max. Event/10 Years)

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):

Offices - Closed (Excepting Security Offices - Level 1.5)

Sunken Ballroom/Lobby_Open - Large Event

Grand Ballroom/Lobby_Open - Large Event

Level 1.5

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check
B																		
Offices (Typical) - Mark Building	13,677	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Museum Offices Closed - (Non-Museum side)
Offices (Typical) - Mark Building Security Office	1,387	-	5	2.5	X	X	0.10	0.10		0.20		Y	Y	0.06	0.06		0.13	Security Offices Partially Open
Offices (Unconcentrated) - Mark Building	622	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Office Meeting/Conference Rooms Closed - (Non-Museum Side)
Offices (Unconcentrated) - Mark Building Security Office	376	-	3	1.5	X	X	0.06	0.06		0.12		Y	Y	0.04	0.04		0.08	Security Offices Partially Open
	16,062		8	4.0			0.16	0.16		0.32	0.32			0.06	0.06		0.13	0.13
							WC_M	WC_F						LV_M	LV_F			
Subtotal (Unrounded)							0.16	0.16		0.32				0.06	0.06		0.13	
TOTAL REQUIRED	16,062		8				0.16	0.16						0.06	0.06			

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50
 Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80
 Separate Facilities not required per OSSC 2902.2 Ex. 2

Level 02

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check
B																		
Offices (Typical) - Mark Building	12,255	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Museum Offices Closed - (Non-Museum side)
Offices (Unconcentrated) - Mark Building	561	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Office Meeting/Conference Rooms closed - (Non-Museum Side)
	12,816		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
S-1																		
Mechanical/Storage - Mark Building	2,969	-	0	0.0	100	100	0.00	0.00		0.00		100	100	0.00	0.00		0.00	'S-1' on Non-Museum side Closed - mech and storage
S Total	2,969		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
							WC_M	WC_F						LV_M	LV_F			
Subtotal (Unrounded)							0.00	0.00		0.00				0.00	0.00		0.00	
TOTAL REQUIRED	15,785		0				0	0						0	0			

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50
 Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

NON-MUSEUM SIDE - PER FLOOR - - Scenario 3 (Max. Event/10 Years)

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):

Offices - Closed (Excepting Security Offices - Level 1.5)

Sunken Ballroom/Lobby_Open - Large Event

Grand Ballroom/Lobby_Open - Large Event

Level 03

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-2 Assembly (Concentrated) Mark Building	8,780	7	1,255	627.5	75	75	8.37	8.37		16.73		200	200	3.14	3.14		6.28	Grand Ballroom - Level 03 (Large Event)	
Assembly (Concentrated) - (Grand Ballroom Lobby)	1,942																		Grand Ballroom Lobby - Lobby occupied by people normally in other parts of the building - Grand Ballroom Guests (no additional occupancy added for this concurrent use space)
Stages and Platforms	922	-	0	0.0	75	75	0.00	0.00		0.00		200	200	0.00	0.00		0.00	Included in Ballroom occupant load above	
	11,644		1,255				8.37	8.37		16.73	16.73			3.14	3.14		6.28	6.28	
B Offices (Typical) - Mark Building	3,574	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Museum Offices Closed - (Non-Museum side)	
	3,574		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00	
S-1 Mechanical/Storage - Mark Building	481	-	0	0.0	100	100	0.00	0.00		0.00		100	100	0.00	0.00		0.00	'S-1' on Non-Museum side Closed - mech and storage	
S Total	481		0				0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00	
Subtotal (Unrounded)							8.37	8.37		16.73				3.14	3.14		6.28		
TOTAL REQUIRED	15,699		1,255				8.37	8.37						3.14	3.14				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Level 03 has shared toilet facilities between Mark Building Museum-side and Non-Museum Side - rounding to occur after both sides are summed.

Level 04

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check
A-3 Assembly (Unconcentrated) Mark Building	1,052	-	0	0.0	125	65	0.00	0.00		0.00		200	200	0.00	0.00		0.00	Meeting Rm. 437 Closed - Mark Building
	1,052		0				0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
B Offices (Typical) - Mark Building	5,107	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Museum Offices Closed - (Non-Museum side)
Offices (Unconcentrated) - Mark Building	243	-	0	0.0	X	X	0.00	0.00		0.00		Y	Y	0.00	0.00		0.00	Office Meeting/Conference Rooms Closed - (Non-Museum Side)
	5,350		0	0.0			0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
S-1 Mechanical/Storage - Mark Building	1,793	-	0	0.0	100	100	0.00	0.00		0.00		100	100	0.00	0.00		0.00	'S-1' on Non-Museum side Closed - mech and storage
S Total	1,793		0				0.00	0.00		0.00	0.00			0.00	0.00		0.00	0.00
Subtotal (Unrounded)							0.00	0.00		0.00				0.00	0.00		0.00	
TOTAL REQUIRED	8,195		0				0	0						0	0			

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

TOTAL - PER FLOOR - Baseline/Code

Plumbing Fixture Calcs.

Level 00

Level 00 has a separate museum side and non-museum side; fixture totals are shown for each side
 Museum side has (1) unisex w.c., (8) unisex lavs, (2) male w.c., and (1) male lav; these are shown distributed to minimize deficits between sexes

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	36,428	951	6	9	4	4
Museum Side - PROVIDED			5	8	5	4
DIFFERENCE (Red = Deficit; Green=Surplus)			-1	-1	-1	0
Non-Museum Side - REQUIRED	8,610	87	2	2	2	2
Non-Museum Side - PROVIDED			1.67	2	1	1
DIFFERENCE (Red = Deficit; Green=Surplus)			-0.33	0	-1	-1
	45,038	1,038				

Level 01

Level 01 has a separate museum side and non-museum side; fixture totals are shown for each side
 Museum side has (13) unisex w.c. and (9) unisex lavs; these are shown distributed to minimize deficits between sexes
 Level 01 Museum Side galleries in Mark Building not included - to be included in Level 1.5 fixture calculation!

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	28,385	984	4	7	3	3
Museum Side - PROVIDED			5	8	4	5
DIFFERENCE (Red = Deficit; Green=Surplus)			1	1	1	2
Non-Museum Side - REQUIRED	16,838	1,317	10	10	4	4
Non-Museum Side - PROVIDED			5	6	3	3
DIFFERENCE (Red = Deficit; Green=Surplus)			-5.00	-4	-1	-1
	45,223	2,301 *				

*202 occupants moved to Level 1.5 (Mark Building Galleries)

Level 01 - MEZZ

Level 01 Mezzanine only occurs on Non-Museum Side (Mark Building)
 Fixture requirements for sexes combined - Separate Facilities not required per OSSC 2902.2 Ex. 2

BUILDING PORTION	AREA SF	OCC Load	Water Closets	Lavatories
			WC_T	LV_T
Non-Museum Side - REQUIRED	1,405	14	1	1
Non-Museum Side - PROVIDED			1	1
DIFFERENCE (Red = Deficit; Green=Surplus)			0	0
	1,405	14		

Level 1.5

Level 1.5 has shared toilet facilities between the museum side and non-museum side; fixture totals are combined and then rounded
 Level 01 Museum Side galleries in Mark Building included in Level 1.5 fixture calculations

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	14,046	470	1.88	3.62	1.18	1.18
Non-Museum Side - REQUIRED			3.20	3.20	2.75	2.75
Total - REQUIRED			6	7	4	4
Total - PROVIDED	3.33	5	2	3		
DIFFERENCE (Red = Deficit; Green=Surplus)			-2.67	-2	-2	-1
	30,108	690 *				

*202 occupants included from Level 01 (Mark Building Galleries)

Level 02

Level 02 has a separate museum side and non-museum side; fixture totals are shown for each side
 Museum side has (8) unisex w.c. and (6) unisex lavs; these are shown distributed to minimize deficits between sexes:

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	31,927	1,092	5	9	3	3
Museum Side - PROVIDED			2	6	3	3
DIFFERENCE (Red = Deficit; Green=Surplus)			-3	-3	0	0
Non-Museum Side - REQUIRED	15,785	172	3	3	3	3
Non-Museum Side - PROVIDED			2.67	2	2	1
DIFFERENCE (Red = Deficit; Green=Surplus)			-0.33	-1	-1	-2
	47,712	1,264				

Level 03

Level 03 has a separate museum side and non-museum side; fixture totals are shown for each side

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	12,007	370	2	3	1	1
Museum Side - PROVIDED			0	0	0	0
DIFFERENCE (Red = Deficit; Green=Surplus)			-2	-3	-1	-1
Non-Museum Side - REQUIRED	15,699	1,355	10	10	4	4
Non-Museum Side - PROVIDED			8.67	9	5	4
DIFFERENCE (Red = Deficit; Green=Surplus)			-1.33	-1	1	0
	27,706	1,725				

Level 04

Level 04 has a separate museum side and non-museum side; fixture totals are shown for each side

BUILDING PORTION	AREA SF	OCC Load	Water Closets		Lavatories	
			WC_M	WC_F	LV_M	LV_F
Museum Side - REQUIRED	14,328	409	2	4	2	2
Museum Side - PROVIDED			0	1	0	1
DIFFERENCE (Red = Deficit; Green=Surplus)			-2	-3	-2	-1
Non-Museum Side - REQUIRED	8,195	147	2	2	2	2
Non-Museum Side - PROVIDED			1	2	1	2
DIFFERENCE (Red = Deficit; Green=Surplus)			-1.00	0	-1	0
	22,523	556				

MUSEUM SIDE ONLY - PER FLOOR - Baseline/Code

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):
Full Occupancy per Code

Level 00

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-1																			
Assembly with fixed seats	2,999	-	384	192.0	125	65	1.54	2.95		4.49		200	200	0.96	0.96		1.92		Whitsell Auditorium - fixed seats
Stages and Platforms	445	15	30	15.0	125	65	0.12	0.23		0.35		200	200	0.08	0.08		0.15		Whitsell Auditorium Stage
	3,444		414				1.66	3.18		4.84	4.84			1.04	1.04		2.07	2.07	
A-3																			
Assembly - (Gallery) Main Building	2,560	30	86	43.0	125	65	0.34	0.66		1.01		200	200	0.22	0.22		0.43		Level 00 Galleries
Assembly (Unconcentrated) Main Building	3,610	15	242	121.0	125	65	0.97	1.86		2.83		200	200	0.61	0.61		1.21		Kinney Classroom, Stevens Room, Whitsell Commons
Assembly (Unconcentrated) New Main Addition	606	15	41	20.5	125	65	0.16	0.32		0.48		200	200	0.10	0.10		0.21		Whitsell Commons - new main addition space
	6,776		369				1.48	2.84		4.31	4.31			0.92	0.92		1.85	1.85	
B																			
Offices (Typical) - Main Building	7,078	100	74	37.0	X	X	1.48	1.48		2.96		Y	Y	0.93	0.93		1.85		Museum Offices - (Museum side)
Offices (Unconcentrated) - Main Building	315	15	22	11.0	X	X	0.44	0.44		0.88		Y	Y	0.28	0.28		0.55		Office Meeting/Conference Rooms - (Museum Side)
Offices (Typical) - New Main Addition	151	100	2	1.0	X	X	0.04	0.04		0.08		Y	Y	0.03	0.03		0.05		Museum Offices - (Museum side)
	7,544		98	49.0			1.96	1.96		3.92	3.92			1.20	1.20		2.40	2.40	
S-1																			
Mechanical/Storage - Main Building	14,925	300	56	28.0	100	100	0.28	0.28		0.56		100	100	0.28	0.28		0.56		'S-1' on Museum side - primarily mechanical rooms
Mechanical/Storage - Mark Building	3,739	300	14	7.0	100	100	0.07	0.07		0.14		100	100	0.07	0.07		0.14		'S-1' on Museum side - primarily mechanical rooms
S Total	18,664		70				0.28	0.28		0.56	0.56			0.28	0.28		0.56	0.56	
Subtotal (Unrounded)							5.37	8.26		13.64				3.44	3.44		6.88		
TOTAL REQUIRED	36,428		951				6	9						4	4				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

MUSEUM SIDE ONLY - PER FLOOR - Baseline/Code

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):
Full Occupancy per Code

Level 01

Note: Level 01 Mark Galleries not included - to be included in Level 1.5 for restroom access

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-2																			
Assembly (Unconcentrated) Main Building	674	15	45	22.5	75	75	0.30	0.30		0.60		200	200	0.11	0.11		0.23		Café
Kitchens, commercial (Café)	503	200	3	1.3	75	75	0.02	0.02		0.03		200	200	0.01	0.01		0.01		Kitchen - serving Café
	1,177		48				0.32	0.32		0.63	0.63			0.12	0.12		0.24	0.24	
A-3																			
Assembly - (Gallery) Main Building	17,855	30	599	299.5	125	65	2.40	4.61		7.00		200	200	1.50	1.50		3.00		Main Level 01 Galleries. Does not include Mark Level 01 Galleries, which will use Level 1.5 restrooms. (Mark L01 galleries are separated from the other L01 galleries due to exterior pedestrian passageway)
Assembly - (Gallery) New Pavilion	3,521	15	235	117.5	125	65	0.94	1.81		2.75		200	200	0.59	0.59		1.18		Community Commons - Rothko Pavilion
	21,376		834				3.34	6.42		9.75	9.75			2.09	2.09		4.17	4.17	
B																			
Offices (Acc Storage) - New Main Addition	1,412	300	5	2.5	X	X	0.10	0.10		0.20		Y	Y	0.06	0.06		0.13		New Exhibit Loading @ South Addition to Main
	1,412		5	2.5			0.10	0.10		0.20	0.20			0.06	0.06		0.13	0.13	
M																			
Mercantile - Ground Floor	2,638	30	88	44.0	500	500	0.09	0.09		0.18		750	750	0.06	0.06		0.12		Museum Gift Shop
	2,638		88				0.09	0.09		0.18	0.18			0.06	0.06		0.12	0.12	
S-1																			
Mechanical/Storage - Main Building	1,782	300	9	4.5	100	100	0.05	0.05		0.09		100	100	0.05	0.05		0.09		Storage for Café/Retail
S Total	1,782		9				0.05	0.05		0.09	0.09			0.05	0.05		0.09	0.09	
Subtotal (Unrounded)																			
							3.89	6.97		10.85				2.37	2.37		4.74		
TOTAL REQUIRED	28,385		984				4	7						3	3				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Level 1.5

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Mark Building - Level 1.5	8,009	30	268	134.0	125	65	1.07	2.06		3.13		200	200	0.67	0.67		1.34		Level 1.5 Mark Galleries
Assembly - (Gallery) Mark Building - Level 01	6,037	30	202	101.0	125	65	0.81	1.55		2.36		200	200	0.51	0.51		1.01		Level 01 Mark Galleries
	14,046		470				1.88	3.62		5.50	5.50			1.18	1.18		2.35	2.35	
Subtotal (Unrounded)																			
							1.88	3.62		5.50				1.18	1.18		2.35		
TOTAL REQUIRED	14,046		470				1.88	3.62						1.18	1.18				

Level 1.5 has shared toilet facilities between Museum-side and Non-Museum Side - rounding to occur after both sides are summed.

Note: 7.33 WCs are shared with the Non-Museum Side (Load from Level 1.5)

Note: 4 Lavs are shared with the Non-Museum Side (Load from Level 1.5)

MUSEUM SIDE ONLY - PER FLOOR - Baseline/Code

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):
Full Occupancy per Code

Level 02

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Main Building	21,008	30	706	353.0	125	65	2.82	5.43		8.25		200	200	1.77	1.77		3.53		Level 02 Galleries - Main Bldg
Assembly - (Gallery) Mark Building	3,180	30	107	53.5	125	65	0.43	0.82		1.25		200	200	0.27	0.27		0.54		Level 02 Galleries - Mark Bldg
Assembly - (Gallery) New Main Additoin	1,225	30	41	20.5	125	65	0.16	0.32		0.48		200	200	0.10	0.10		0.21		Level 02 Galleries - Jefferson St. Gallery
Assembly - (Gallery) New Pavilion	4,945	30	165	82.5	125	65	0.66	1.27		1.93		200	200	0.41	0.41		0.83		Level 02 Galleries - Rothko Pavilion
Assembly (Unconcentrated) New Pavilion	1,037	15	70	35.0	125	65	0.28	0.54		0.82		200	200	0.18	0.18		0.35		Level 02 Roof Terrace - Rothko Pavilion
	31,395		1,089				4.36	8.38		12.73	12.73			2.72	2.72		5.45	5.45	
S-1																			
Mechanical/Storage - Main Building	532	300	3	1.5	100	100	0.02	0.02		0.03		100	100	0.02	0.02		0.03		'S-1' on Museum side - mech and storage
S Total	532		3				0.02	0.02		0.03	0.03			0.02	0.02		0.03	0.03	
							WC_M	WC_F					LV_M	LV_F					
Subtotal (Unrounded)							4.37	8.39	12.76				2.74	2.74	5.48				
TOTAL REQUIRED							31,927	1,092					3	3					

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Note: Additional restrooms available on Museum Side Levels 00, 01, 02

Level 03

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Main Building	4,709	30	157	78.5	125	65	0.63	1.21		1.84		200	200	0.39	0.39		0.79		Level 03 Galleries - Main Bldg
Assembly - (Gallery) Mark Building	3,616	30	121	60.5	125	65	0.48	0.93		1.41		200	200	0.30	0.30		0.61		Level 03 Galleries - Mark Bldg
Assembly - (Gallery) New Pavilion	2,609	30	87	43.5	125	65	0.35	0.67		1.02		200	200	0.22	0.22		0.44		Level 03 Galleries - Rothko Pavilion
	10,934		365				1.11	2.14		3.25	3.25			0.70	0.70		1.39	1.39	
S-1																			
Mechanical/Storage - Main Building	1,073	300	5	2.5	100	100	0.03	0.03		0.05		100	100	0.03	0.03		0.05		'S-1' on Museum side - mech and storage
S Total	1,073		5				0.03	0.03		0.05	0.05			0.03	0.03		0.05	0.05	
							WC_M	WC_F					LV_M	LV_F					
Subtotal (Unrounded)							1.14	2.16	3.30				0.72	0.72	1.44				
TOTAL REQUIRED							12,007	370					1	1					

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Note: Additional restrooms available on Museum Side Levels 00, 01, 02

MUSEUM SIDE ONLY - PER FLOOR - Baseline/Code

5/4/2021

Plumbing Fixture Calcs.

Assumptions (Museum Side):
Full Occupancy per Code

Level 04

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3																			
Assembly - (Gallery) Main Building	4,554	30	152	76.0	125	65	0.61	1.17		1.78		200	200	0.38	0.38		0.76		Level 04 Galleries - Main Bldg
Assembly - (Gallery) Mark Building	3,472	30	116	58.0	125	65	0.46	0.89		1.36		200	200	0.29	0.29		0.58		Level 04 Galleries - Mark Bldg
Assembly - (Gallery) New Pavilion	2,020	30	68	34.0	125	65	0.27	0.52		0.80		200	200	0.17	0.17		0.34		Level 04 Galleries - Rothko Pavilion
Assembly (Unconcentrated) New Pavilion	873	15	59	29.5	125	65	0.24	0.45		0.69		200	200	0.15	0.15		0.30		Level 04 Roof Terrace - Rothko Pavilion
	10,919		395				1.58	3.04		4.62	4.62			0.99	0.99		1.98	1.98	
S-1																			
Mechanical/Storage - Main Building	3,409	300	14	7.0	100	100	0.07	0.07		0.14		100	100	0.07	0.07		0.14		'S-1' on Museum side - mech and storage
S Total	3,409		14				0.07	0.07		0.14	0.14			0.07	0.07		0.14	0.14	
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							1.65	3.11		4.76				1.06	1.06		2.12		
TOTAL REQUIRED	14,328		409				2	4						2	2				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Note: Additional restrooms available on Museum Side Levels 00, 01, 02

NON-MUSEUM SIDE - PER FLOOR - - Baseline/Code

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):
Full Occupancy per Code

Level 00

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
B																			
Offices (Typical) - Mark Building	8,610	100	87	43.5	X	X	1.74	1.74		3.48		Y	Y	1.09	1.09		2.18		Museum Offices - (Non-Museum side)
	8,610		87	43.5			1.74	1.74		3.48	3.48			1.09	1.09		2.18	2.18	
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							1.74	1.74		3.48				1.09	1.09		2.18		
TOTAL REQUIRED	8,610		87				2	2						2	2				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

NON-MUSEUM SIDE - PER FLOOR - - Baseline/Code

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):
Full Occupancy per Code

Level 01

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-2																			
Assembly (Concentrated) Mark Building	7,782	7	1,113	556.5	75	75	7.42	7.42		14.84		200	200	2.78	2.78		5.57		Sunken Ballroom + Lobby - Level 01
Kitchens, commercial Mark Building	1,278	200	7	3.5	75	75	0.05	0.05		0.09		200	200	0.02	0.02		0.04		Kitchen - serving Ballrooms in Mark Bldg
	9,060		1,120				7.47	7.47		14.93	14.93			2.80	2.80		5.60	5.60	
A-3																			
Assembly (Unconcentrated) Mark Building	2,121	15	142	71.0	125	65	0.57	1.09		1.66		200	200	0.36	0.36		0.71		Miller Room (L01)
	2,121		142				0.57	1.09		1.66	1.66			0.36	0.36		0.71	0.71	
B																			
Offices (Typical) - Mark Building	4,885	100	51	25.5	X	X	1.02	1.02		2.04		Y	Y	0.64	0.64		1.28		Museum Offices - (Non-Museum side)
	4,885		51	25.5			1.02	1.02		2.04	2.04			0.64	0.64		1.28	1.28	
S-1																			
Mechanical/Storage - Mark Building	772	300	4	2.0	100	100	0.02	0.02		0.04		100	100	0.02	0.02		0.04		'S-1' on Non-Museum side - mech and storage
S Total	772		4				0.02	0.02		0.04	0.04			0.02	0.02		0.04	0.04	
Subtotal (Unrounded)							9.07	9.60		18.67				3.81	3.81		7.63		
TOTAL REQUIRED	16,838		1,317				10	10						4	4				
							<i>X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50</i>					<i>Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80</i>							

Level 01 - MEZZ

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
B																			
Offices (Typical) - Mark Building	1,033	100	12	6.0	X	X	0.24	0.24		0.48		Y	Y	0.15	0.15		0.30		Museum Offices - (Non-Museum side)
	1,033		12	6.0			0.24	0.24		0.48	0.48			0.15	0.15		0.30	0.30	
S-1																			
Mechanical/Storage - Mark Building	372	300	2	1.0	100	100	0.01	0.01		0.02		100	100	0.01	0.01		0.02		'S-1' on Non-Museum side - mech and storage
S Total	372		2				0.01	0.01		0.02	0.02			0.01	0.01		0.02	0.02	
Subtotal (Unrounded)							0.25	0.25		0.50				0.16	0.16		0.32		
TOTAL REQUIRED	1,405		14				0.25	0.25						0.16	0.16				
							<i>X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50</i>					<i>Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80</i>							

Separate Facilities not required per OSSC 2902.2 Ex. 2

NON-MUSEUM SIDE - PER FLOOR - - Baseline/Code

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):
Full Occupancy per Code

Level 1.5

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
B																			
Offices (Typical) - Mark Building	15,064	100	151	75.5	X	X	2.51	2.51		5.02		Y	Y	1.89	1.89		3.78		Museum Offices - (Non-Museum side)
Offices (Unconcentrated) - Mark Building	998	15	69	34.5	X	X	1.38	1.38		2.76		Y	Y	0.86	0.86		1.73		Office Meeting/Conference Rooms - (Non-Museum Side)
	16,062		220	110.0			3.20	3.20		6.40	6.40			2.75	2.75		5.50	5.50	
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							3.20	3.20		6.40				2.75	2.75		5.50		
TOTAL REQUIRED	16,062		220				3.20	3.20						2.75	2.75				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

Level 1.5 has shared toilet facilities between Museum-side and Non-Museum Side - rounding to occur after both sides are summed.

Note: 7.33 WCs are shared with the Museum galleries (Load from Level 01 & 1.5)

Note: 4 Lavs are shared with the Museum galleries (Load from Level 01 & 1.5)

Level 02

FUNCTION OF SPACE	AREA SF	AREA/ OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
B																			
Offices (Typical) - Mark Building	12,255	100	123	61.5	X	X	2.23	2.23		4.46		Y	Y	1.54	1.54		3.08		Museum Offices - (Non-Museum side)
Offices (Unconcentrated) - Mark Building	561	15	38	19.0	X	X	0.76	0.76		1.52		Y	Y	0.48	0.48		0.95		Office Meeting/Conference Rooms - (Non-Museum Side)
	12,816		161	80.5			2.61	2.61		5.22	5.22			2.01	2.01		4.03	4.03	
S-1																			
Mechanical/Storage - Mark Building	2,969	300	11	5.5	100	100	0.06	0.06		0.11		100	100	0.06	0.06		0.11		'S-1' on Non-Museum side - mech and storage
S Total	2,969		11				0.06	0.06		0.11	0.11			0.06	0.06		0.11	0.11	
							WC_M	WC_F						LV_M	LV_F				
Subtotal (Unrounded)							2.67	2.67		5.33				2.07	2.07		4.14		
TOTAL REQUIRED	15,785		172				3.00	3.00						3.00	3.00				

X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80

NON-MUSEUM SIDE - PER FLOOR - - Baseline/Code

Plumbing Fixture Calcs.

Assumptions (Non-Museum Side):
Full Occupancy per Code

Level 03

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check		
A-2 Assembly (Concentrated) Mark Building	8,780	7	1,255	627.5	75	75	8.37	8.37		16.73		200	200	3.14	3.14		6.28		Grand Ballroom - Level 03	
Assembly (Concentrated) - (Grand Ballroom Lobby)	1,942																			Grand Ballroom Lobby - Lobby occupied by people normally in other parts of the building - Grand Ballroom Guests (no additional occupancy added for this concurrent use space)
Stages and Platforms	922	15	62	31.0	75	75	0.41	0.41		0.83		200	200	0.16	0.16		0.31		Grand Ballroom Stage	
	11,644		1,317				8.78	8.78		17.56	17.56			3.29	3.29		6.59	6.59		
B Offices (Typical) - Mark Building	3,574	100	36	18.0	X	X	0.72	0.72		1.44		Y	Y	0.45	0.45		0.90		Museum Offices - (Non-Museum side)	
	3,574		36	18.0			0.72	0.72		1.44	1.44			0.45	0.45		0.90	0.90		
S-1 Mechanical/Storage - Mark Building	481	300	2	1.0	100	100	0.01	0.01		0.02		100	100	0.01	0.01		0.02		'S-1' on Non-Museum side - mech and storage	
S Total	481		2				0.01	0.01		0.02	0.02			0.01	0.01		0.02	0.02		
Subtotal (Unrounded)							9.51	9.51		19.02				3.75	3.75		7.51			
TOTAL REQUIRED	15,699		1,355				10	10						4	4					
							<i>X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50</i>					<i>Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80</i>								

Level 04

FUNCTION OF SPACE	AREA SF	AREA/OCC	OCC Load	Load/50	WC/OCC M	WC/OCC F	WC_M	WC_F	WC_U	WC_Total	WC Check	LV Load_M	LV Load_F	LV_M	LV_F	LV_U	LV_Total	LV Check	
A-3 Assembly (Unconcentrated) Mark Building	1,052	15	71	35.5	125	65	0.28	0.55		0.83		200	200	0.18	0.18		0.36		Meeting Rm. 437 - Mark Building
	1,052		71				0.28	0.55		0.83	0.83			0.18	0.18		0.36	0.36	
B Offices (Typical) - Mark Building	5,107	100	52	26.0	X	X	1.04	1.04		2.08		Y	Y	0.65	0.65		1.30		Museum Offices - (Non-Museum side)
Offices (Unconcentrated) - Mark Building	243	15	17	8.5	X	X	0.34	0.34		0.68		Y	Y	0.21	0.21		0.43		Office Meeting/Conference Rooms - (Non-Museum Side)
	5,350		69	34.5			1.38	1.38		2.76	2.76			0.86	0.86		1.73	1.73	
S-1 Mechanical/Storage - Mark Building	1,793	300	7	3.5	100	100	0.04	0.04		0.07		100	100	0.04	0.04		0.07		'S-1' on Non-Museum side - mech and storage
S Total	1,793		7				0.04	0.04		0.07	0.07			0.04	0.04		0.07	0.07	
Subtotal (Unrounded)							1.70	1.96		3.66				1.08	1.08		2.15		
TOTAL REQUIRED	8,195		147				2	2						2	2				
							<i>X = 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50</i>					<i>Y = 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80</i>							

FIXTURE DISTRIBUTION - WATER CLOSETS (WCs)

	MAIN (South Building Portion)						PAVILION (Center)						MARK (North Building Portion)						Notes	TOTAL				
	Urinal	Male (2/3)	Male	Female	Unisex	Total	Urinal	Male (2/3)	Male	Female	Unisex	Total	Urinal	Male (2/3)	Male	Female	Unisex	Total						
EXISTING	Water Closets																							
	Level	Urinal	Male (2/3)	Male	Female	Unisex	Total						Urinal	Male (2/3)	Male	Female	Unisex	Total		Total				
	Basement	5	3.333333	4	6		13.33						1	0.666667	1	2		3.67		5.67 Private (Main/Mark)	17.00			
	Level 01					2	2.00						3	2	3	6		11.00			13.00			
	Level 01 M (Mark)																1	1.00		1 Private (Mark)	1.00			
	Level 02 (1.5)	2	1.333333	1	4		6.33						2	1.333333	2	4	1	8.33		1 Private (Mark)	14.67			
	Level 02 M												1	0.666667	1	2	1	4.67		4.67 Private (Mark)	4.67			
	Level 03	2	1.333333	1	4		6.33						4	2.666667	5	9	1	17.67		1 Private (Mark)	24.00			
Level 04					1	1.00								1	1	1	3.00		3 Private (Mark)	4.00				
Total	9	6	6	14	3	29.00						11	7.333333	13	24	5	49.33			78.33				
DEMO	Water closets																							
	Level	Urinal	Male (2/3)	Male	Female	Unisex	Total						Urinal	Male (2/3)	Male	Female	Unisex	Total		Total				
	Basement	-5	-3.333333	-2	-6		-11.33												0.00		-11.33			
	Level 01					-2	-2.00												0.00		-2.00			
	Level 01 M (Mark)																		0.00		0.00			
	Level 02	-2	-1.333333	-1	-4		-6.33												0.00		-6.33			
	Level 02 M																		0.00		0.00			
	Level 03	-2	-1.333333	-1	-4		-6.33												0.00		-6.33			
Level 04						0.00												0.00		0.00				
Total	-9	-6	-4	-14	-2	-26.00						0	0	0	0	0	0	0.00		-26.00				
PROPOSED	Water closets																							
	Level	Urinal	Male (2/3)	Male	Female	Unisex	Total	Unisex	Total		Urinal	Male (2/3)	Male	Female	Unisex	Total			Male	Female	Unisex	Total		
	Level 00	0	0	2	0	0	2.00	11	11.00		1	0.666667	1	2	0	3.67			5.67 Private (Main/Mark)	3.666667	2	11	16.67	
	Level 01					4	4.00	9	9.00		3	2	3	6	0	11.00				5	6	13	24.00	
	Level 01 M (Mark)								0.00		0	0	0	0	1	1.00			1 Private (Mark)	0	0	1	1.00	
	Level 1.5	0	0	0	0		0	0	0.00		2	1.333333	2	4	1	8.33			1 Private (Mark)	3.333333	4	1	8.33	
	Level 02							8	8.00		1	0.666667	1	2	1	4.67			4.67 Private (Mark)	1.666667	2	9	12.67	
	Level 03	0	0	0	0		0	0	0.00		4	2.666667	5	9	1	17.67			1 Private (Mark)	7.666667	9	1	17.67	
Level 04					1	1	0	0.00		0	0	1	1	1	3.00			3 Private (Mark)	1	1	2	4.00		
Total	0	0	2	0	5	7.00	28	28.00		11	7.333333	13	24	5	49.33				22.33	24.00	38.00	84.33		

SUMMARY - W.C. FIXTURE DISTRIBUTION PROVIDED

		Water Closets - Summary by Side							
	Level	Urinal	Male (2/3)	Male	Female	Unisex	Total		
MUSEUM SIDE	Level 00			2		11	13.00		
	Level 01					13	13.00		
	Level 01 M (Mark)						-		
	Level 1.5	2	1.333333	2	4		7.33	7.33 WCs Shared with Non-Museum Side	
	Level 02					8	8.00		
	Level 03						0.00		
	Level 04					1	1.00		
	Total	2	1.333333	4	4	33	42.33		
NON-MUSEUM SIDE	Level 00	1	0.666667	1	2	0	3.67		
	Level 01	3	2	3	6		11.00		
	Level 01 M (Mark)					1	1.00		
	Level 1.5	2	1.333333	2	4	1	8.33	7.33 WCs Shared with Museum Side	
	Level 02	1	0.666667	1	2	1	4.67		
	Level 03	4	2.666667	5	9	1	17.67		
	Level 04					3	3.00		
	Total	11	7.333333	12	23	7	49.33		

FIXTURE DISTRIBUTION - LAVATORIES (LVs/LAVs)

		MAIN (South Building Portion)				PAVILION (Center)				MARK (North Building Portion)				TOTAL							
		Lavatories																			
EXISTING	Level	Male	Female	Unisex	Total					Male	Female	Unisex	Total					Male	Female	Unisex	Total
	Basement	8	7		15					1	1		2								
	Level 01			2	2					3	3		6								
	Level 01 M (Mark)											1	1								
	Level 02 (1.5)	3	4		7					2	2	1	5								
	Level 02 M									1	1	1	3								
	Level 03	3	4		7					4	4	1	9								
	Level 04			1	1							3	3								
Total	14	15	3	32					11	11	7	29								61.00	

		Lavatories																			
DEMO	Level	Male	Female	Unisex	Total					Male	Female	Unisex	Total					Male	Female	Unisex	Total
	Basement	-7	-7		-14								0								-14.00
	Level 01			-2	-2								0								-2.00
	Level 01 M (Mark)												0								0.00
	Level 02	-3	-4		-7								0								-7.00
	Level 02 M												0								0.00
	Level 03	-3	-4		-7								0								-7.00
	Level 04				0								0								0.00
Total	-13	-15	-2	-30					0	0	0	0								-30.00	

		Lavatories															
PROPOSED	Level	Male	Female	Unisex	Total	Unisex	Total	Male	Female	Unisex	Total	Male	Female	Unisex	Total		
	Level 00	1	0	0	1	8	8	1	1	0	2	2.00	1	8	11.00		
	Level 01	0	0	3	3	6	6	3	3	0	6	3.00	3	9	15.00		
	Level 01 M (Mark)	0	0	0	0			0	0	0	1	0.00	0	1	1.00		
	Level 1.5	0	0	0	0			2	2	1	5	2.00	2	1	5.00		
	Level 02	0	0	0	0	6	6	1	1	1	3	1.00	1	7	9.00		
	Level 03	0	0	0	0	0	0	4	4	1	9	4.00	4	1	9.00		
	Level 04	0	0	1	1	0	0	0	0	3	3	0.00	0	4	4.00		
Total	1	0	4	5	20	20	11	11	7	29	12.00	11.00	31.00	54.00			

SUMMARY - LAV FIXTURE DISTRIBUTION PROVIDED

Lavatories - Summary by Side					
MUSEUM SIDE	Level	Male	Female	Unisex	Total
	Level 00	1	0	8	9.00
	Level 01	0	0	9	9.00
	Level 01 M (Mark)	-	-	-	-
	Level 1.5	2	2	0	4.00
	Level 02	0	0	6	6.00
	Level 03	0	0	0	0.00
	Level 04	0	0	1	1.00
	Total	3	2	24	29.00

4 Lavs Shared with Non-Museum Side

NON-MUSEUM SIDE	Level	Male	Female	Unisex	Total
	Level 00	1	1	0	2.00
	Level 01	3	3	0	6.00
	Level 01 M (Mark)	0	0	1	1.00
	Level 1.5	2	2	1	5.00
	Level 02	1	1	1	3.00
	Level 03	4	4	1	9.00
	Level 04	0	0	3	3.00
Total	11	11	7	29.00	

4 Lavs Shared with Museum Side