File No. 160975 Committee Item No. 3
Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Government Audit and Oversight **Date** April 28, 2017

Board of Supervisors Meeting **Date** _____

Cmte	Board	
☐	☐	**Motion**
☐	☐	**Resolution**
☐	☐	**Ordinance**
☐	☐	**Legislative Digest**
☐	☐	**Budget and Legislative Analyst Report**
☐	☐	**Youth Commission Report**
☒	☐	**Introduction Form**
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☐	☐	**Award Letter**
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OTHER **(Use back side if additional space is needed)**

☒	☐	DBI Memo - 11/29/16
☒	☐	DBI Memo - 10/31/16
☒	☐	Supervisor Peskin Memo to DBI - 11/16/16
☒	☐	Supervisor Peskin Memo to Jack Moehle - 11/16/16
☒	☐	DBI to BIC Memo - 10/27/16
☒	☐	PPT DBI - 09/22/16
☒	☐	2013 San Francisco Building Code AB-082 - AB-083
☒	☐	Senator Feinstein to Mayor Lee Memo - 09/14/16
☒	☐	Mayor Lee to Senator Feinstein Memo - 09/09/16
☒	☐	Senator Feinstein to Mayor Lee Memo - 08/10/16
☒	☐	Supervisor Peskin Memo to Chief Resilience Officer - 09/20/16
☒	☐	Supervisor Peskin Memo to DBI Director Hui - 09/12/16
☒	☐	Oath to Witness - 2/2/17
☒	☐	Jack Moehle Submittal - 2/2/17

Completed by: Erica Major **Date** April 21, 2017
Completed by: _____ **Date** _____

Board of Supervisors
City and County of San Francisco

Government Audit and Oversight Committee

February 2, 2017 ◆ 9:30 a.m.

Prepare to affirm this oath by raising your right hand, and affirm by saying "I do."

"You do solemnly state that the testimony you may give in the hearing now pending before this Government Audit and Oversight Committee, of the San Francisco Board of Supervisors in the City and County of San Francisco, shall be the truth, the whole truth, and nothing but the truth - so help you God."

When recalling the witness:

"Mr. Mohele, I will remind you, you have been previously placed under oath and remain so. Please take the podium, and re-state your name for the record.

Civil Procedure Oath to Witness
(Chapter Law 688, Statutes of 2000)
Dated: February 2, 2017

JPM 1

160975
SUBMITTED BY
JACK NOEHLE
02/02/2017
PG 1/6

MP

MILLENNIUM PARTNERS
735 Market Street, 3rd Floor
San Francisco, CA 94103
415.537.3890 Tel
415.537.3895 Fax
SPatterson@MillenniumPtrs.com

FACSIMILE TRANSMITTAL SHEET

DATE: July 12, 2004

TO: Jack. P. Moehle

FAX NO.: 925-949-7595/415-398-9834

FROM: Steve Patterson SP.

RE: **Contract Acceptance**

TOTAL PAGE(S) 6

☐URGENT	☐FOR YOUR INFORMATION	☐FOR REVIEW / COMMENT
☒PLEASE HANDLE	☐PER YOUR REQUEST	☐FOR YOUR FILES

NOTES/COMMENTS:

See attached.

MILLENNIUM PARTNERS
735 Market Street, 3rd Floor
San Francisco, CA 94103
415.537.3890 Tel
415.537.3895 Fax

July 12, 2004

Jack P. Moehle
Consulting Civil Engineer
3444 Echo Springs Road
Lafayette, CA 94549

RE: **301 Mission Street Project**
Structural Design Review Services

Dear Jack:

I am pleased to accept your proposal to provide Structural Design Review Services for the above mentioned project. As you are aware De-Simone Consulting Engineers are currently designing the concrete structure for the project. Please work directly with them to analyze the structural system they have proposed for this residential high rise tower and keep me informed as your review progresses.

The timing of your review is very important to our design schedule. Should you recommend changes to the structural system, we will need to know as soon as possible so that design development drawings can progress. I would particularly like to know your views on the proposed traditional shear wall core and frame system vs performance design.

Also for your information, I have Webcor Builders on board as my preconstruction contractor, currently working through estimates and constructability issues.

Please call me if you have any questions.

Sincerely,

Steve Patterson

Jack P. Moehle
Consulting Civil Engineer

3444 Echo Springs Road
Lafayette, CA 94549
Ph. (925) 937-5225
FAX (925) 949-7595

12 July 2004

Mr. Steve Patterson, Owner's Representative
Millennium Partners
735 Market Street, 3rd Floor
San Francisco, CA 94103
SPatterson@millenniumptrs.com
Office: (415) 537-3890
Mobile: (415) 902-0523
Fax: (415) 537-3895

RE: Proposed scope of structural design review services
301 Mission Street Project in San Francisco, California
DeSimone Project # 4069B

Dear Mr. Patterson:

At the request of Stephen DeSimone and Ron Polivka of DeSimone, I am pleased to submit my proposal for structural design review services for the above referenced project.

1) DESCRIPTION OF THE PROJECT

301 Mission Street Project is a proposed residential high-rise tower with basement, located at 301 Mission Street in San Francisco, California. The current design shows 60 floors, totalling approximately 600 feet above grade, with several basement levels extending below grade.

The proposed structural system uses cast-in-place reinforced concrete construction. A dual system of cast-in-place concrete shear wall core and frame with mild (nonprestressed) reinforcement resists gravity and lateral loads. Floor slabs may comprise cast-in-place mild or post-tensioned concrete floor slabs. The foundation currently is contemplated to be a concrete mat.

The proposed design is anticipated to satisfy requirements of the applicable Building Code. Special considerations include the relatively tall height in comparison with other similar projects in regions of high seismicity in the US. Some review and discussion of the applicability of Building Code provisions may be required in consideration of the building height, as outlined in the scope of services, below.

2) SCOPE OF SERVICES

a) Review analysis & design assumptions and results. Provide technical suggestions. This review may include but not necessarily be limited to

i) Design methodology and sequence;

ii) Earthquake design basis, including the applicability of design basis earthquake and/or maximum considered earthquake design levels; associated design response spectra and ground motions;

iii) Modeling and analysis methods;

iv) Building strength, stiffness and ductility; proposed R value and stiffness assumptions;

v) Concrete, rebar, and other material acceptance values (e.g., stress and strain limits);

vi) Allowable displacements/drifts and procedures for their determination;

vii) Review analysis results to check reasonableness and consistency with design assumptions and detailing provisions.

b) Review selected structural drawings, with particular attention placed to detailing practices. Provide technical comments and suggestions, including

i) Early identification of special problem areas, considering constructability and force and ductility demands;

ii) Typical reinforcement, confinement and splice details for consistency with design criteria, special details to provide increased toughness for unanticipated loadings and to ensure vertical load integrity;

iii) Quality control / Quality assurance in drawing notes and specifications. Special inspection provisions in drawing notes and specifications.

c) Participate in occasional technical discussion meetings with either members of the DeSimone staff or with the 301 Design Team.

d) Attend as-required meetings with City Officials and other Peer Review Panels.

e) Provide technical assistance in responding to comments from City and Peer Review Panels.

3) CLIENT RESPONSIBILITY

a) Provide all applicable drawings, specifications, and other data, including subsurface and foundation data, geotechnical engineers report & foundation design recommendations, and drawings prepared by the Engineer of Record.

b) Provide copies of all pertinent letters and memoranda pertaining to design of the various disciplines and Owner's requirements.

4) FEES

a) Basic Fee

i) The above-mentioned scope of services will be completed on a timecard basis.

ii) The hourly rate for engineering effort of Jack P. Moehle will be $190 per hour.

iii) Based on the above scope of work, it is estimated that the the effort by Jack P. Moehle can be completed within $25,000. Client will be informed of progress relative to this estimate, and total billing for services will not exceed the estimate without Client's prior approval.

iv) Fees are payable within 60 days of date of invoice.

b) Expenses

i) The following expenses are excluded from, and in addition to, the basic fee and shall be billed at cost:

(1) Travel and out-of-town living and related expenses, long distance telephone calls, fax, courier service and express mail.

5) STANDARD CONDITIONS

The Standard Terms and Conditions for work done by Jack Moehle, which are attached hereto, are made part of the Agreement.

I look forward to your response to my proposal.

Very truly yours,

Jack Moehle

Jack P. Moehle, P.E., Ph.D.

ACCEPTED AND AGREED TO:
Millennium Partners

BY: Steve Patterson

DATE: 7/12/04

TERMS AND CONDITIONS

Consultant and Client will be jointly referred to as "we," or "us."

Services: Consultant will provide the Professional Services contemplated herein in accordance with the standards of competent professionals providing similar services under similar conditions. Consultant does not warrant or guarantee the Services.

Fess for Professional Services: Unless otherwise agreed in writing, Services will be billed on a time-and-materials basis using Consultant's current schedule of fees and costs. Limitations on the amount to be billed are estimates only, and are not an agreement by Consultant that the Services will be completed for the estimated amount. All time, including travel hours, spent on the project by professional, technical, and clerical personnel will be billed.

Reimbursable Expenses: Travel expenses and accommodations necessary for execution of the project including business class air fares, rental vehicles, and highway mileage in company or personal vehicles at going rates are billed directly. Other expenses directly attributable to the project are billed at cost, including telephone and fax charges, postage and freight, printing and reproduction, and computer fees.

Payment: Client will pay Consultant's invoices no later than sixty (60) days after the invoice date. Client will also pay a late payment charge at the rate of 1.5% per month after that date. At Consultant's option, Consultant may suspend or terminate this Agreement if payments are not made when due.

Site Access: Unless the Scope of Services described in this Agreement states otherwise, Client will obtain all necessary authorizations and permits to allow Consultant to have access to the site for the purpose of providing the Services contemplated herein.

Limitation of Liability. Consultant's liability, and the liability of its employees and/or subcontractors, to Client for damages, including cost of defense, arising from Services is limited to an aggregate $25,000 or its fees received under this Agreement, whichever is less. Neither Client nor Consultant will be liable for consequential damages incurred by either party.

Mediation: Prior to any litigation, arbitration, or other proceeding, both parties will attempt to mediate any dispute between them. The American Arbitration Association will conduct the mediation, unless otherwise agreed. Consultant and Client will equally share all fees and costs of the mediation.

Termination: Either Client or Consultant may terminate this Agreement for convenience by giving fourteen (14) days written notice. Either party may terminate this Agreement for cause by giving seven (7) days written notice. If this Agreement is terminated by Client, Client shall pay Consultant, in addition to any other compensation due under this Agreement, any amount incurred by Consultant in performing Services, and in orderly terminating Services.

Full and Final Agreement: This Agreement is the full and final agreement between Client and Consultant, supersedes any prior agreements, and may not be modified except by a writing executed by both parties.

Jack P. Moehle

160975
SUBMITTED BY JACK MOEHLE
08/03/2017
PG 1/14

DESIMONE

Design Criteria, Analysis Methodology, and Peer Review Process

301 Mission Street
San Francisco, CA

Prepared for:
San Francisco Department of Building Inspection
1660 Mission Street 2nd Floor
San Francisco, CA 94103

Prepared by:
DeSimone Consulting Engineers, PLLC
10 United Nations Plaza, Suite 410
San Francisco, CA 94102

DeSimone Project #4069
March 22, 2005

Table of Contents

Project Summary

The 301 Mission Street project consists of two separate structures located on the same site. The western structure (tower) is a 58-story, 605-foot tall building over a single subgrade level. The eastern structure (mid-rise) is a 12-story, 128-foot tall building over five subgrade levels. The two structures are connected at the B1, Ground, 2nd, and 3rd Floors. All portions of the project are being designed in conformance with the 2001 San Francisco Building Code.

Gravity Systems

Both structures are to be of cast-in-place concrete construction. The upper floor levels of both structures will utilize post-tensioning for the floor slabs.

Lateral System - Tower

The tower structure relies on a dual lateral system comprised of concrete shear walls with outriggers, and concrete special moment-resisting frames. This system is "regular" as defined by UBC 1629.5.2. For this reason the forces calculated by UBC 1630.2 have been reduced by 80% as allowed by 1631.5.4.2.

Two drift checks have been performed for the tower:

1. Per UBC. Forces scaled to base shear neglecting both equations (30-6) and (30-7), and including 5% accidental mass eccentricity.

2. Per 2003 NEHRP. Forces scaled to base shear including equation (30-6), but neglecting torsional effects. (Drifts are taken at center of mass). This second approach is widely held as the appropriate check for tall buildings with long periods, and was recommended for use on this project by Professor Jack Moehle of U.C. Berkeley.

Lateral forces in the tower are to be transmitted by the core walls and the columns all the way to the pile cap at B1. The ground floor slab is not required to transfer forces to the perimeter basement walls. This will allow the ground floor slab to be provided with numerous steps, depressions, and openings that are typically needed to accommodate architectural requirements.

Lateral System - Mid-Rise

The mid-rise building relies solely on a concrete shear wall system. Due to the eccentricity of the shear walls relative to the center of mass of the building, the mid-rise building exhibits a slight torsional irregularity. For this reason the base shear cannot be reduced by 80% in accordance with 1631.5.4.2.

The core walls of the mid-rise building, unlike those of the tower, will have the shear shifted to the perimeter basement walls through the ground floor diaphragm.

Materials

Concrete strengths in the tower walls and frames will vary between 7 and 10 ksi. Strengths in the mid-rise walls will be 7 to 8 ksi. All floor slabs will be 5 ksi.

The shear walls in both buildings, as well as the moment frames in the tower, will use Grade 75 reinforcing for bars larger than #8's. All shear wall confinement steel will also be Grade 75 for areas where the concrete strength is 8 ksi and higher.

Foundations

The tower foundation will consists of a 10-foot thick pile cap supported by approximately 950 14-inch square, pre-cast concrete piles. The bottom of the pile cap will be approximately 25' below the existing grade. The initial vertical pile displacement due to slippage required to fully engage the pile is expected to be approximately 1" by the time of project construction completion. Additional long-term pile settlement due to compression of the underlying clay layers is expected to be as much as 5". As the piles are only located directly below the tower footprint, this settlement is expected to occur uniformly over the tower foundation area.

The mid-rise structure will rest on a mat foundation that varies between 6 feet and 8 feet in thickness. The bottom of this excavation will be approximately 63 feet below the existing grade. Tie-downs are required to resist hydrostatic uplift pressures under the portion of the deep excavation that is not directly below the mid-rise building, i.e., the area between the mid-rise and the tower.

Building Separation

As the foundations and lateral systems of the two buildings are completely separate, a joint will be placed between them at the B1, Ground, 2nd, and 3rd Floors. "Hinge slabs" will be detailed to accommodate differential settlement, as well as expected seismic displacements, between the two structures.

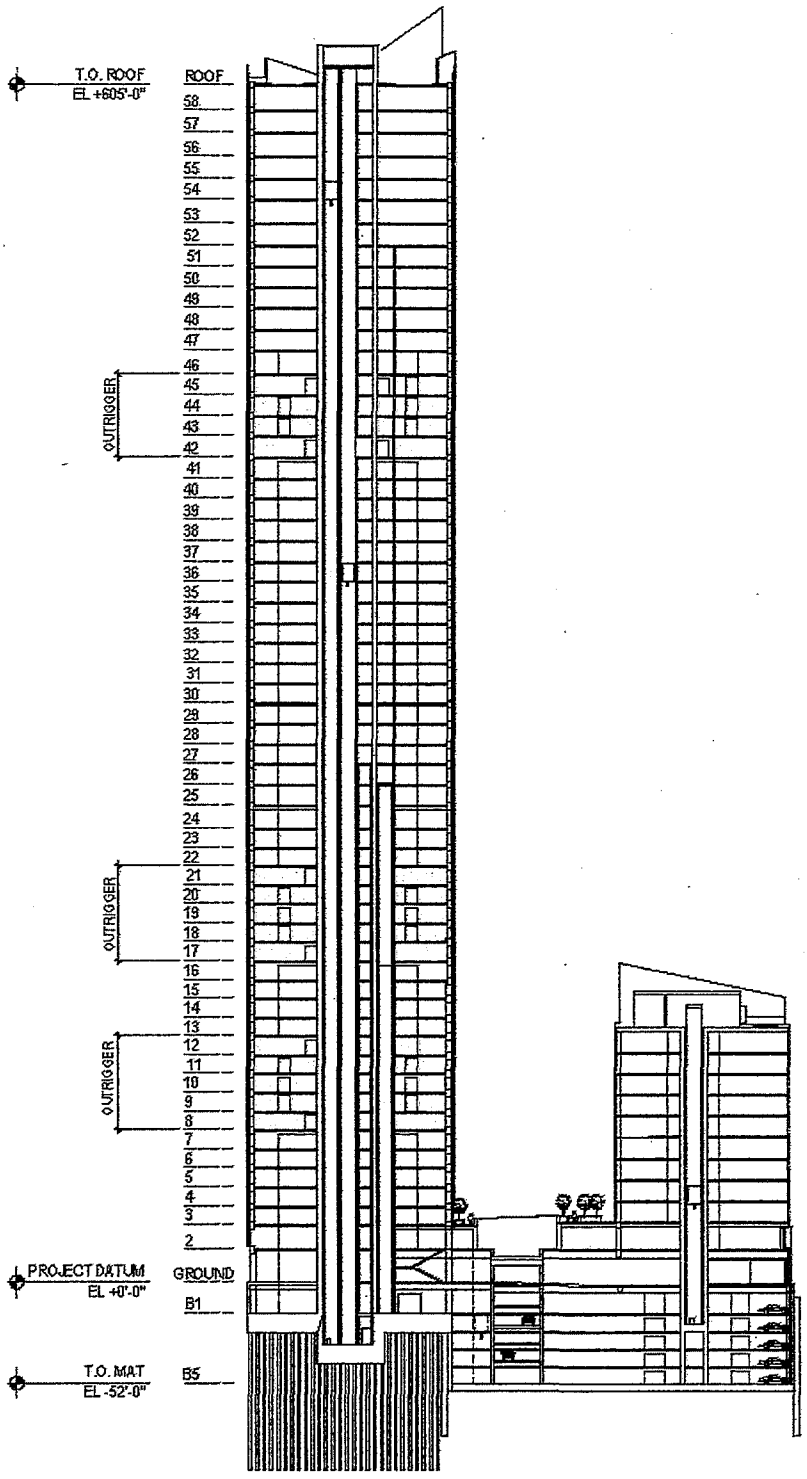


Figure 1. Building Section

Lateral Forces Summary

Tower	220,000
Mid-rise, above grade	47,341
Mid-rise, below grade	37,173

Table 1. Building Weight, kips

	Seismic Forces	Seismic Drift	Wind
Tower			
N-S	8,514	7,040	1,300
E-W			2,000
Midrise, above grade			
N-S	6,514	6,514	750
E-W	5,922	4,100	450

Table 2. Summary of Lateral Forces, kips

Table 3. Tower Base Shear

		N-S		E-W		
Basic Structural System:	R=	**8.5**		**8.5**		Table 16.N
Height of Building	h_n=	**605**	ft	**605**	ft	
Seismic Zone	z=	**0.40**		**0.40**		Table 16.I
Near-Source Factor	N_a=	**1.00**		**1.00**		Table 16-S
Near-Source Factor	N_v=	**1.064**		**1.064**		Table 16-T
Soil Profile Type		**SD**		**SD**		
Seismic Coefficients	Ca=	**0.44**	*N_a	**0.44**	*N_a	Table 16.Q
	=	**0.440**		**0.440**		
	C_v=	**0.64**	*N_v	**0.64**	*N_v	Table 16.R
	=	**0.681**		**0.681**		
	C_t=	**0.020**		**0.020**		
Importance Factor	I=	**1.00**		**1.00**		Table 16-K

Calculate the period of the building using Method A:

$T_A=C_t(h_n)^{3/4}$	T_A=	**2.44**	sec	**2.44**	sec	

Building period from ETABS analysis:

	T_B=	**5.47**		**5.84**		

Maximum period for determining forces:

$T_{MAX} = 1.3 \times T_A$	T_{MAX}=	**3.17**		**3.17**		

Building period to be used for forces:

	T=	**3.17**		**3.17**		

Calculate the design base shear, V, to use for forces:

$V = (C_v * I / (R T)) W$	=	0.0253	*W	0.0253	*W	Eqn 30-4
$V <= (2.5 C_a I W) / R$	=	0.1294	*W	0.1294	*W	Eqn 30-5
$V >= 0.11 C_a I W$	=	0.0484	*W	0.0484	*W	Eqn 30-6
$V >= ((0.8 Z N_v I) / R) W$	=	0.0401	*W	0.0401	*W	Eqn 30-7
V	=	0.0484	*W	0.0484	*W	

Reduce the above by 80% since building is regular:

V	=	**0.0387**	***W**	**0.0387**	***W**	

Calculate the design base shear, V, to use for displacments:

	T_B=	**5.47**		**5.84**		
$V = (C_v * I / (R T)) W$	=	0.0146	*W	0.0137	*W	Eqn 30-4
$V <= (2.5 C_a I W) / R$	=	0.1294	*W	0.1294	*W	Eqn 30-5
$V >= 0.11 C_a I W$	=	N/A	*W	N/A	*W	Eqn 30-6
$V >= ((0.8 Z N_v I) / R) W$	=	0.0401	*W	0.0401	*W	Eqn 30-7
V	=	0.0401	*W	0.0401	*W	

Reduce the above by 80% since building is regular:

V	=	**0.0320**	***W**	**0.0320**	***W**	

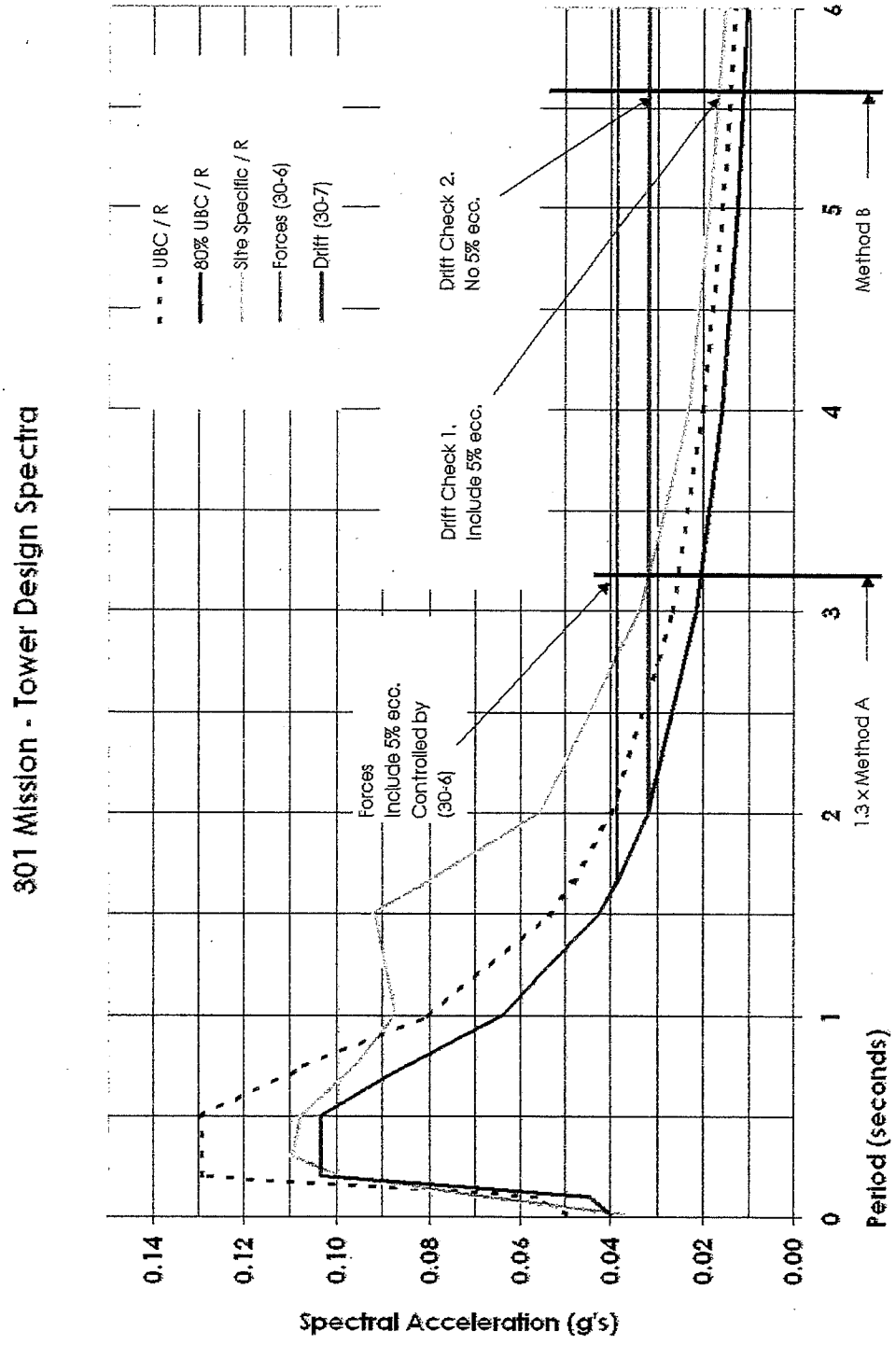


Figure 2. Tower Design Spectra

Table 4. Mid-Rise Base Shear

		N-S		E-W		
Basic Structural System:	R=	**5.5**		**5.5**		Table 16.N
Height of Building	h_n=	**128**	ft	**128**	ft	
Seismic Zone	z=	**0.40**		**0.40**		Table 16.I
Near-Source Factor	N_a=	**1.00**		**1.00**		Table 16-S
Near-Source Factor	N_v=	**1.064**		**1.064**		Table 16-T
Soil Profile Type		**SD**		**SD**		
Seismic Coefficients	Ca=	**0.44**	*N_a	**0.44**	*N_a	Table 16.Q
	=	**0.440**		**0.440**		
	Cv=	**0.64**	*N_v	**0.64**	*N_v	Table 16.R
	=	**0.681**		**0.681**		
	Ct=	**0.020**		**0.020**		
Importance Factor	I=	**1.00**		**1.00**		Table 16-K

Calculate the period of the building using Method A:

$T_A=C_t(h_n)^{3/4}$ T_A= **0.76** sec **0.76** sec

Building period from ETABS analysis:

T_B= **1.43** **0.90**

Maximum period for determining forces:

$T_{MAX} = 1.3 \times T_A$ T_{MAX}= **0.99** **0.99**

Building period to be used for forces:

T= **0.99** **0.90**

Calculate the design base shear, V, to use for forces:

V =	$(C_v * I / (R T))$ W	=	0.1251	*W	0.1376	*W	Eqn 30-4
V <=	$(2.5 C_a I W) / R$	=	0.2000	*W	0.2000	*W	Eqn 30-5
V >=	$0.11 C_a I W$	=	0.0484	*W	0.0484	*W	Eqn 30-6
V >=	$((0.8 Z N_v I) / R) W$	=	0.0619	*W	0.0619	*W	Eqn 30-7
	V	=	**0.1251**	*W	**0.1376**	*W	

Calculate the design base shear, V, to use for displacments:

T_B= **1.43** **0.90**

V =	$(C_v * I / (R T))$ W	=	0.0866	*W	0.1376	*W	Eqn 30-4
V <=	$(2.5 C_a I W) / R$	=	0.2000	*W	0.2000	*W	Eqn 30-5
V >=	$0.11 C_a I W$	=	N/A	*W	N/A	*W	Eqn 30-6
V >=	$((0.8 Z N_v I) / R) W$	=	0.0619	*W	0.0619	*W	Eqn 30-7
	V	=	**0.0866**	*W	**0.1376**	*W	

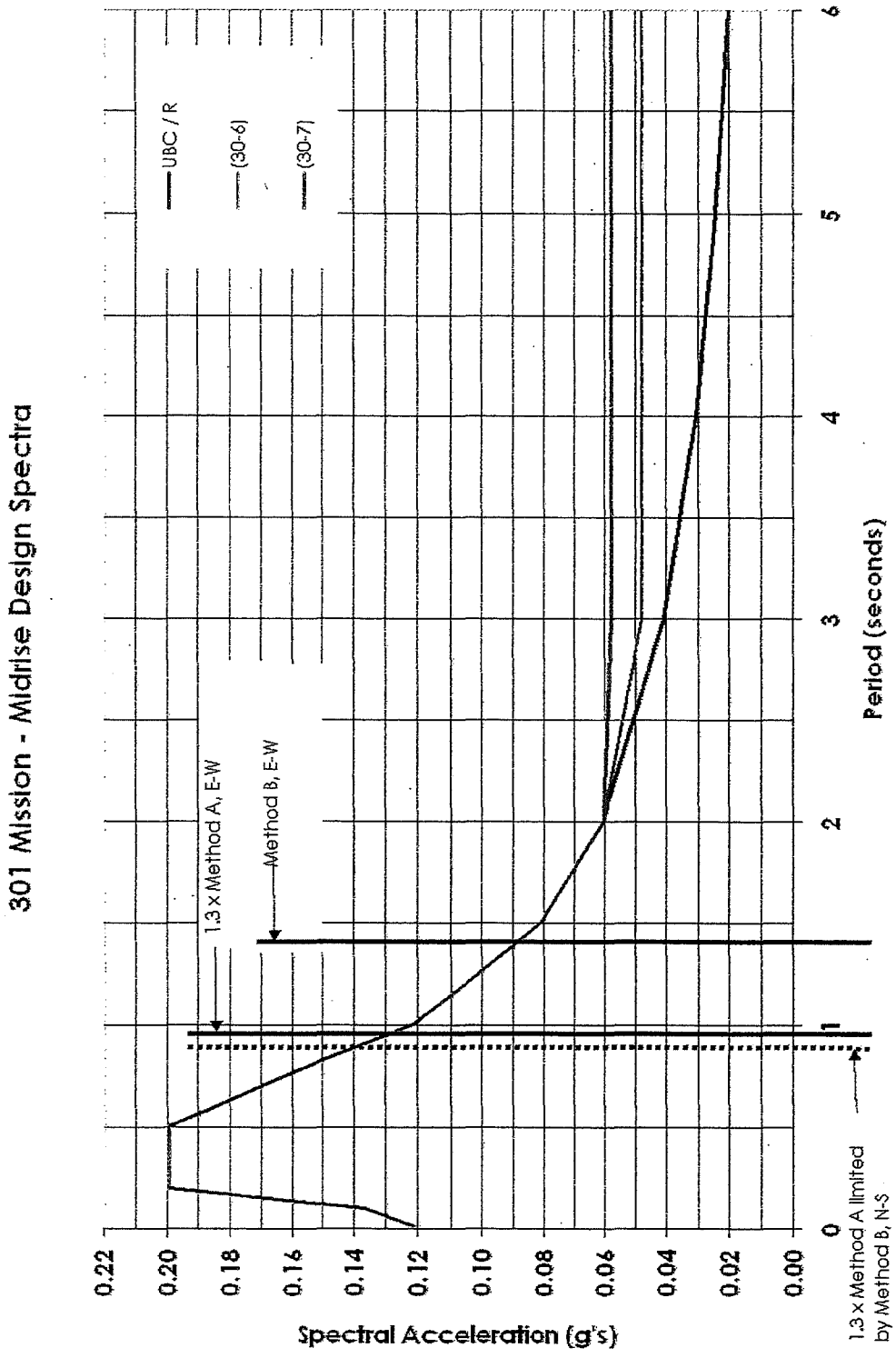


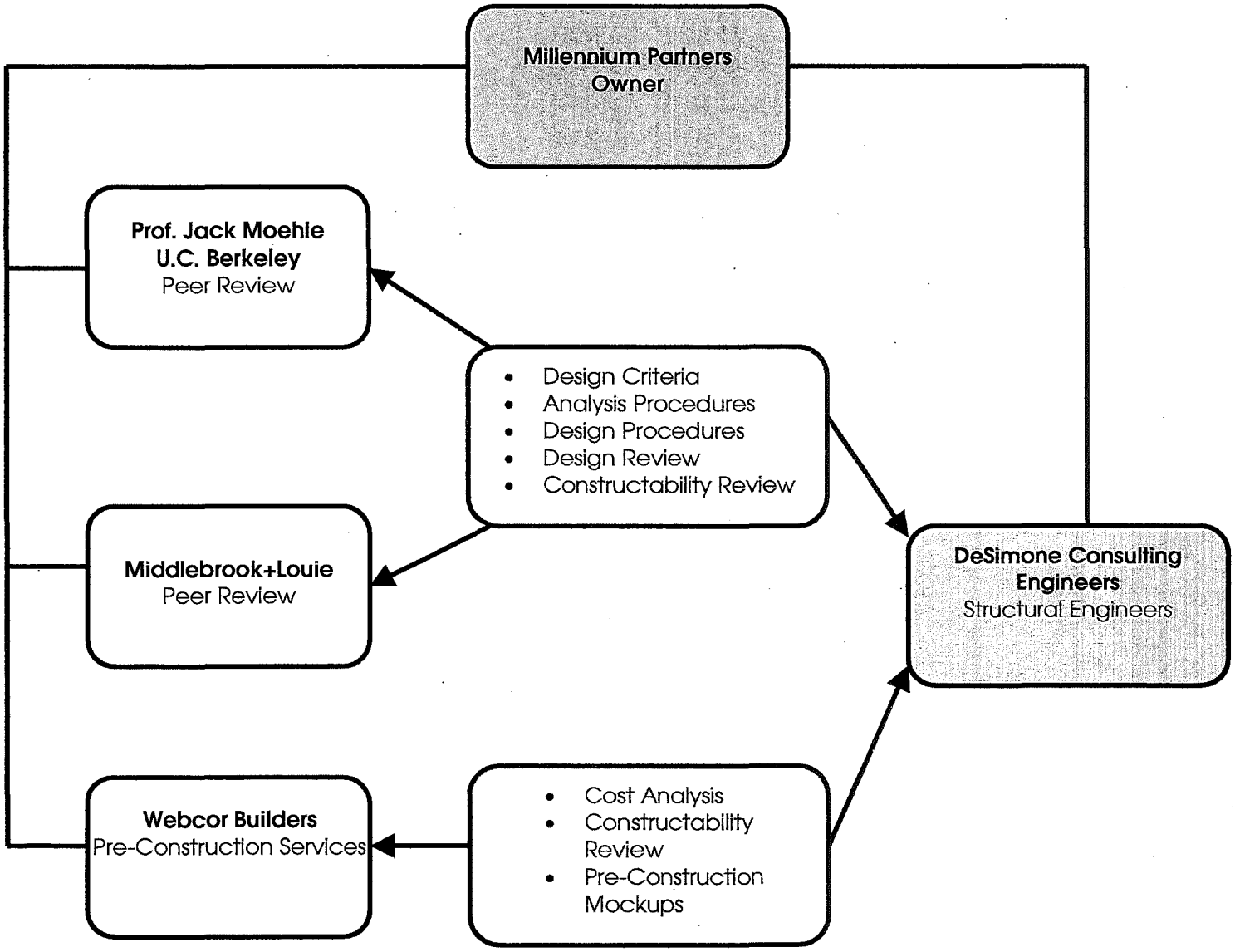
Figure 3. Mid-Rise Design Spectra

Structural Engineering and Peer Review Team

Webcor Builders have been involved in the design process since early in 2004 in order to provide cost estimating and constructability feedback and assistance to the project design team.

Additional technical expertise has been brought to the team by Professor Jack Moehle of U.C. Berkeley, who has been advising on the project since July of 2004.

Middlebrook + Louie of San Francisco are also performing an independent peer review of the entire project design.



Peer Review by
Professor Jack Moehle, U.C. Berkeley

Professor Moehle has consulted with DeSimone on the design of the tower portion of the project since July 2004. His contribution to the design, especially in the area of appropriate analysis assumptions, has been significant. The following summarizes the significant key points of our numerous discussions and meetings:

Regular vs. Irregular

The tower lateral system configuration, which incorporates the combination of concrete outrigger walls and columns acting together with the central core walls, represents a "regular" structure as defined by UBC 1629.5.2.

Force Level

So long as the structure can be classified as "regular", and since site specific design spectra have been provided by the Geotechnical Engineer, it is appropriate to use 80% of the base shear determined in accordance with UBC 1630.2. (See UBC 1631.5.4.2)

Due to the long period, the base shear used for determining all reinforcing, member sizes, etc. will be controlled by 80% of the value obtained with Eq. (30-6).

Drift Limits

UBC 1630.10.3 allows the designer to ignore Eq. (30-6) and Eq. (30-7) when checking building displacements and inter-story drifts. When checking drifts at this lower force level the designer must include 5% accidental torsion per 1630.6.

Professor Moehle recommended a second drift check be performed per the 2003 NEHRP provisions, whereby the higher base shear associated with Eq. (30-7) is used. At this force level the building drifts can be checked at the center of mass, thereby effectively ignoring any contribution to drift resulting from the 5% accidental torsion.

Effective Stiffness

The same effective concrete stiffness modifiers should be used for checking both drifts and forces.

The axial modifiers used for the outrigger columns, as well as those of the moment frames, are the average of tension-only (approx. 0.10) and compression-only (approx. 1.1) values. This averaging is appropriate for modal analysis, since directionality of forces cannot be controlled.

Bending modifiers for the core should range from 0.7 for cracked sections, to 0.9 or even 1.0 for locations where analysis shows sections are un-cracked for a MCE event.

A shear modifier of 0.4 is appropriate for all elements.

Rebar Strength

Use of Grade 75 rebar should be acceptable for use in the lateral system so long as ductility requirements similar to those of ASTM A706 can be obtained.

Concrete Modulus

Modulus of Elasticity of concrete should be computed based on the equation given by ACI 363 for high strength concrete. The equation given by ACI 318 is not appropriate for concrete in the 8 – 10 ksi range planned for use on this project.

Foundation design

A capacity design approach should be used for the pile cap. The capacities of the outrigger columns and the core walls should be used to determine pile cap reinforcing. These forces could be capped at Ω_o times the seismic forces obtained through modal analysis, if combined appropriately with gravity forces.

Shear wall design

The box-shaped area around each of the stairs at the north and south ends of the core will act as solid units and could be designed as such. Doing so would not require any length of wall beyond the code-required 0.25 Lw to be confined as a boundary element.

It is appropriate to consider horizontal wall reinforcing as able to simultaneously resist horizontal shear and provide confinement within boundary element regions.

Outrigger design

A capacity design approach should be used for the outriggers. The single-story height areas where the concrete outrigger walls connect to the columns should be designed as concrete link beams with diagonal reinforcing. The portions of the outriggers between the link beams and the core walls should then be designed for the capacities of the link beams to insure the ductility demand is concentrated in the link beams. The outrigger columns should also be designed for the capacities of the link beams.

Steel Link Beams

The steel beams used to link the wall segments running north-south in the core area should be designed as structural steel eccentrically braced frame (EBF) links. No penetrations should be allowed in these beams.

The use of built-up shapes from plate material should be acceptable so long as the webs are welded to the flanges with complete penetration welds.

Peer Review by Middlebrook + Louie, San Francisco, CA

Middlebrook + Louie of San Francisco are presently engaged in a peer review of the project. The following timeline summarizes the course of related events to date.

- January 24, 2005. M+L was introduced to the project by attending the weekly structural review meeting at DeSimone's office with Webcor and Millenium Partners in attendance.
- January 31, 2005. M+L and DeSimone met independently at DeSimone's office to discuss the basic design criteria and the Schematic Design drawings issued on November 3, 2004.
- February 28, 2005. M+L issued their initial peer review comments.
- March 14, 2005. M+L observed first concrete mockup completed by Webcor. DeSimone, Webcor, and Millennium Partners in attendance.
- March 18, 2005. DeSimone responded to M+L's February 28 comments.

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JPM 3

REVIEW LETTERS

SUBMITTED BY JACK MOEHLE
07/07/2017

JPM 3/9

MIDDLEBROOK + LOUIE
Structural Engineers

One Bush Street
Suite 250
San Francisco, CA 94104
415.477.9000
Fax 415.477.9099
email mlbox@MplusL.com

Jason J.C. Louie, S.E.
Ronald F. Middlebrook, S.E.
Hardip S. Pannu, S.E.
Robert D. McCarley, S.E.
Jeppe Iversen, BR ING, S.E.
Navin R. Amin, S.E.

July 20, 2005

Hanson Tom
City and County of San Francisco
1660 Mission Street, 2nd Floor
San Francisco, CA 94103

RE: 301 Mission Street—Site Permit Only
San Francisco, California
M+L Job #8977

We have reviewed the design criteria prepared by DeSimone Consulting Engineers for the 301 Mission Street project dated July 20, 2005 for the Site Permit Submittal Only and find it to be acceptable. The Structural Peer Review is ongoing at this time and more information will become part of the Design Criteria.

MIDDLEBROOK + LOUIE

Hardip S. Pannu, S.E.
Principal

HSP/mc

HPANNU@MPLUSL.COM
WWW.MPLUSL.COM

(\\MADsss\Jobs\8977\Corres\072005 Tom.doc)

Jack P. Moehle
Consulting Civil Engineer

3444 Echo Springs Road
Lafayette, CA 94549
Ph. (925) 937-5225
FAX (925) 937-5225

25 July 2005

City and County of San Francisco
1660 Mission Street
2nd Floor
San Francisco, CA 94103

Attn: Hanson Tom
Re: 301 Mission Street – Structural Design Criteria

Mr. Tom,

I have reviewed the design criteria prepared by DeSimone Consulting Engineers for the 301 Mission Street project dated July 20, 2005 and find it acceptable for use on the project.

Respectfully,

Jack Moehle

Jack P. Moehle, Ph.D., PE

MIDDLEBROOK + LOUIE
Structural Engineers

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Suite 200
San Francisco, CA 94104
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Jason J.C. Louie, S.E.
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Navin R. Amin, S.E.

1

August 30, 2005
Revised Jan 24th, 2006

Henson Tom
City and County of San Francisco
1660 Mission Street, 2nd Floor
San Francisco, CA 94103

RE: 301 Mission Street – Foundation Permit Only
San Francisco, California
M + L Job #0077

1

We have completed the peer review of the foundation system prepared by DeSimone Consulting Engineers for the 301 Mission Street project dated May 24, 2005 for the Foundation Permit Submittal Only including all the structural drawings listed on sheet S0.01 with following assumptions and exceptions:

The design of the superstructure has not been completed at this time. Our understanding from meetings with DeSimone is that the superstructure's lateral system will be designed to comply with the following:

- The outriggers connecting to the central shear core of the tower contains links connecting to the Special Moment Resisting Frame columns. These links will be designed to remain elastic under the code-prescribed Gravity, Wind and Seismic load combinations; including loads caused by column shortening effects in tall buildings.

- The Special Moment Resisting Frame Columns will be designed to remain elastic under gravity plus loads caused by the yielding of outrigger link. In order to ensure this behavior, the capacities of the outrigger links will be calculated and increased by an over-strength factor. The resulting forces were used as the seismic loads.

- The pile cap under the tower is designed to remain elastic when subjected to the capacities of the Special Moment Resisting Frame/outrigger columns, as well as the expected maximum moment at the base of the shear wall core.

- We were not asked to review the effects of the Transbay Terminal project on this project.

The Structural Peer Review is ongoing at this time for the superstructure portion. It is our understanding that the scope of Middlebrook + Louie's (M + L) review is to provide our professional opinions on the design based on the Building Code design provisions. We also understand that M + L's review is limited to reviewing the structural system concepts and general design approaches for compliance with requirements of the building code. It is not intended for M + L to verify the validity and/or correctness of any particular numerical values in the design calculations.

MIDDLEBROOK + LOUIE

[signature]

Hardip S. Pannu, S.E.
Principal

HSP/rhc
HPANNU@MPLUSL.COM
www.Mplusl.com

Jack P. Moehle
Consulting Civil Engineer

29 January 2006

Hanson Tom
City and County of San Francisco
1660 Mission Street
2nd Floor
San Francisco, CA 94103

Attn: Hanson Tom
Re: 301 Mission Street – Foundation Permit

Mr. Tom,

I have completed my peer review of the foundation system supporting materials prepared by DeSimone Consulting Engineers for the 301 Mission Street Project, including:

- the foundation permit calculations and drawings (dated 24 May 2005), including the 80 drawings listed on S0-010.
- supplemental written clarifications (dated 1 September 2005).

On the basis of my review, it is my opinion that the foundation design is compliant with the principles and requirements of the building code, and that a foundation permit can be issued for this project.

This review is for the purpose of the foundation Permit Submittal only. The structural peer review is ongoing at this time. It is my understanding that the scope of my review is to provide my professional opinion on the design based on the building code provisions, for the sole purpose of advising you in your capacity as the responsible building official. I also understand that my review is limited to the structural system concepts and general design approaches for compliance with the building code. It is not intended that my review verify any particular numerical values in the design calculations. Furthermore, this review in no way accepts responsibility for the building design or the issuance of permits, which remain responsibilities of the Engineer of Record and the San Francisco Department of Building Inspection, respectively.

Respectfully,

Jack P. Moehle, Ph.D., PE

Treadwell&Rollo

21 June 2005
Project 3157.02

Mr. Gary Ho
Department of Building Inspection
City and County of San Francisco
1660 Mission Street, 2nd Floor
San Francisco, California 94103-2414

Subject: Geotechnical Review of Structural Drawings (Application #2002/1023/9696)
301 Mission Street
San Francisco, California

Dear Mr. Ho:

This letter presents the results of a review by Treadwell & Rollo, Inc. of the geotechnical aspects of the structural drawings for the 301 Mission Street project in San Francisco. The architect and structural engineers for the project are Gary E. Handel Architects, Inc. and DeSimone Consulting Engineers, respectively. We previously performed a geotechnical investigation for the project and presented our conclusions and recommendations in a report titled "Geotechnical Investigation, 301 Mission Street, San Francisco, California" dated 13 January 2005.

We reviewed the geotechnical aspects of the following documents:

- Structural Drawings (Foundation Permit Set), Sheets S0.0.10, S0.0.20, S2-0.B5.11, S2-0.B1.11, S3-1.01, S3-1.11, S3-1.12, S3-1.13, S3-1.14, S3-1.15, S3-3.12 and S3-3.13, titled "301 Mission Street, Mission Street Development Partners LLC" prepared by DeSimone Consulting Engineers, dated 24 May 2005.

On the basis of our review, we conclude the geotechnical aspects of the design are in general conformance with the intent of the geotechnical recommendations presented in our 13 January 2005 report.

We trust this letter provides the information requested. If you have any questions, please call.

Sincerely yours,
TREADWELL & ROLLO, INC.

Christopher A. Ridley
Civil Engineer

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER A. RIDLEY C No. C 61378 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

Ramin Golesorkhi
Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER RAMIN GOLESORKHI GE 2951 Exp. 4-30-07 GEOTECHNICAL STATE OF CALIFORNIA

3157020I.CAR

cc: Mr. Steve Patterson – Millennium Partners
Mr. Gerald Sams – Gary E. Handel Architects
Mr. Derrick Roorda – DeSimone Consulting Engineers

Treadwell & Rollo, Inc. *Environmental & Geotechnical Consultants*
555 Montgomery Street, Suite 1300, San Francisco, CA 94111
Telephone (415) 955-9040 Facsimile (415) 955-9041

MIDDLEBROOK + LOUIE
Structural Engineers

Jack P. Moehle
Consulting Civil Engineer

3444 Echo Springs Road
Lafayette, CA 94549
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FAX (925) 949-7595

12 June 2006

Hanson Tom
City and County of San Francisco
1660 Mission Street
2nd Floor
San Francisco, CA 94103

RE: Independent Peer Review - Final
301 Mission Street Project in San Francisco, California

Dear Mr. Tom:

This letter summarizes the structural peer review conducted by the undersigned for the proposed 301 Mission Street project. The review is limited to the highrise tower and that portion of the substructure that is integrally attached to and supporting it; the review excludes the midrise tower. This peer review was conducted by the undersigned in parallel with independent review by engineers from Middlebrook + Louie. This letter documents only the review provided by the undersigned.

As noted on the project construction documents, dated 26 May 2006, this project consists of two separate structures located on the same site. This review is limited to the western structure (tower), which is a 58-story, 605-foot tall building over one sub-grade level. The eastern structure (mid-rise) is a 12-story, 128-foot tall building over five sub-grade levels. The two buildings are completely separate structurally, being connected through joints at the B1, Ground, 2nd, and 3rd floors. The structures are to be of cast-in-place concrete construction. The floor slabs above grade level will be post-tensioned, whereas the lower slabs will use only mild reinforcement. The tower has a dual system comprising concrete shear walls with outriggers, and concrete special moment-resisting frames. The tower foundation consists of a 10-foot thick cap supported by precast concrete piles.

The basic criterion of the review is that it be in accordance with the requirements of the 2001 San Francisco Building Code. The specific elements of the review have included:

1. The structural design concepts proposed by the Engineering of Record and their suitability for this building considering the building code requirements, the building site, and principles of mechanics;
2. The structural design criteria, including appropriate prescriptive criteria of the building code and supplementary design procedures to account for unique components of the lateral force resisting system;
3. The design procedures and verification procedures to meet the code requirements;
4. The project geotechnical report, as a basis for design of foundations and assessing seismic hazards;
5. The architectural design and layout of the building, to develop an understanding of the building configuration and loading;
6. The analytical models used to evaluate compliance with the building code provisions;
7. Summary calculations of dynamic response indicating compliance with the building code provisions;

8. Summary calculations of structural capacity of critical elements including piles, mat foundation, walls, columns, beams, beam-column joints, link beams, and outrigger beams;
9. Detailing of critical elements of the structural system to ensure compliance with the criteria, compatibility with anticipated behavior modes, and constructability;
10. The structural drawings, to confirm that design and modeling assumptions are consistent with the overall structural configuration, design, and detailing;
11. The project specifications, to assure that critical aspects of the design and construction are appropriately portrayed.

In addition to the above, I relied on my own professional judgment derived through many years of professional practice, research, and participation in the development of design codes and standards.

My review was initiated in July of 2004, at which time Millennium Partners (the owners) hired me to review design work and advise them of its progress. Formal peer review work was initiated on 15 July 2005, at which time the San Francisco Department of Building Inspection requested that I act as an independent peer reviewer. In the period since then, I have reviewed several submittals of criteria, calculations, drawings, specifications, and supporting reports submitted by the Engineer of Record. I have met with the design team and with reviewers from Middlebrook + Louie several times to clarify questions, present comments, and reach resolution on the various technical issues that arose in the course of our review. The review process is documented in the document "Peer Review, Volumes 1 and 2," dated 31 May 2006, prepared by DeSimone Consulting Engineers.

I have completed my independent peer review of the above-mentioned project, including the following supporting materials prepared by DeSimone Consulting Engineers for the 301 Mission Street Project:

- The foundation permit calculations and drawings (dated 24 May 2005), including the 80 drawings listed on S0-010;
- Supplemental written clarifications (dated 1 September 2005);
- The superstructure permit submittal (dated 18 November 2005);
- Various clarifications and modifications as documented in the "Peer Review, Volumes 1 and 2," dated 31 May 2006, prepared by DeSimone Consulting Engineers
- Addendums to the Foundation Permit drawings (Addendum-2 Structure, dated 11/18/2005; Addendum 2 Revisions, dated 03/06/2006; and Add2-Rev2 Peer Review, dated 05/26/2006). Review included the 103 sheets listed on the drawing index of sheet S0-0.10 dated 05/26/2006.

On the basis of my review as outlined above, it is my opinion that the tower design is compliant with the principles and requirements of the building code, and that a permit can be issued for its construction.

It is my understanding that the scope of my review is to provide my professional opinion on the design based on the building code provisions, for the sole purpose of advising you in your capacity as the responsible building official. I also understand that my review is limited to the structural system concepts and general design approaches for compliance with the building code. It is not intended that my review verify any particular numerical values in the design calculations. Furthermore, this review in no way accepts responsibility for the building design or the issuance of permits, which remain responsibilities of the Engineer of Record and the San Francisco Department of Building Inspection, respectively.

Respectfully,

Jack P. Moehle, Ph.D., PE

APPROVED
Dept. of Building Insp.
JUL - 7 2006
ACTING DIRECTOR
DEPT. OF BUILDING INSPECTION

Jack P. Moehle
Consulting Civil Engineer

3444 Echo Springs Road
Lafayette, CA 94549
Ph. (925) 937-5225
FAX (925) 949-7595

29 June 2006

Mr. Hanson Tom
Department of Building Inspection
1660 Mission Street, 2nd Floor
San Francisco, CA 94103

Subject: Termination of Post Tensioning Tendons at Core Wall
301 Mission Project

Dear Mr. Tom:

As part of my independent peer review of the structural design of the 301 Mission project, I have investigated the performance of the detail proposed for termination of floor slab post-tensioning tendons that are interrupted by the building's central shear core. The proposed detail consists of terminating the tendons, with a tendon anchor, in the slab a short distance from the exterior face of the wall. The slab is then connected to the core wall using "form saver" dowel inserts within the wall to which dowels are attached, following removal of the wall forms.

In an unrelated project, I have worked with engineers at MKA to test a full-scale laboratory specimen having details closely resembling the subject details of the 301 Mission project. You previously have received a draft test report summarizing test details and the results. Of the two test specimens reported, the second incorporated improved details including use of equal amounts of dowel reinforcement in the top and bottom of the slab and placement of the tendon anchors approximately one slab depth from the face of the wall. It is my opinion that this test specimen performed well within the expectations of the building code.

The details of the aforementioned second test are representative of those proposed for use in the 301 Mission building. In my opinion, results of this test are applicable to the 301 Mission building. Therefore, based on the testing performed, and my understanding of the response of the 301 Mission building, I believe that termination of post tensioning tendons outside the core wall using form-saver type dowel bar inserts to provide gravity and shear attachment of the slab to the wall, as shown on the structural drawings for the 301 Mission building, is acceptable.

Please feel to contact me should you have any questions on this matter.

Respectfully,

Jack Moehle

Jack P. Moehle, Ph.D., PE

cc: Gary Ho
Nic Rodriguez
Derek Roorda
Steve Patterson
Hardip Pannu

APPROVED
Dept. of Building Insp.
JUL - 7 2006
ACTING DIRECTOR
DEPT. OF BUILDING INSPECTION

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF BUILDING INSPECTION

GAVIN NEWSOM, MAYOR
FRANK Y. CHIU, C.B.O., DIRECTOR

160975

JPM 10

SUBMITTED BY JACK MOEHLE
08/02/2017

July 27, 2004

80 Natoma Street

Jack P. Moehle
3444 Echo Springs Road
Lafayette, CA 94549

Leonard Joseph
The Thornton-Tomasetti Group
15892 South Pasadena Avenue
Tustin, CA 92780-5415

Shah Vahdani
Fugro West, Inc.
1000 Broadway, Suite 200
Oakland, CA 94662

Dear Gentlemen:

I wanted to let you know that we have retained Professor Juan Pestana of the UC Berkeley Geo Engineering faculty to do the type of evaluations that Professor Andrew Whittle was doing with respect to the 80 Natoma project. I am enclosing a copy of my letter to Professor Pestana that lists the items that I have sent to him. I would appreciated it if you would each review your files and see if you have any additional items that might be relevant to his work on this project.

I would also like to schedule a meeting with our DBI staff, the PRP members and Professor Pestana. I have cancelled the vacation I had planned, so I will be here until the end of September. I would appreciate hearing from each of you as to your schedules, so that we can set up a meeting at the earliest convenient date. You can call me at (415) 575-6893 or e-mail me at: ken.harrington@sfgov.org.

I look forward to hearing from you.

Very truly yours,

Kenneth J. Harrington
Office of the Director

cc: Juan Pestana

Kenneth J. Harrington, Special Assistant to the Director
1660 Mission Street, Sixth Floor - San Francisco, CA 94103
Office (415) 575-6893 - FAX (415) 558-6225
www.sfgov.org/dbi - Ken.Harrington@sfgov.org

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF BUILDING INSPECTION

GAVIN NEWSOM, MAYOR
FRANK Y. CHIU, C.B.O., DIRECTOR

July 26, 2004

80 Natoma Street

Professor Juan Pestana
104 Marsha Place
Lafayette, CA 94549

Dear Professor Pestana:

This is a follow-up to our recent conversation, wherein I told you that the Department of Building Inspection wants to retain you as a consultant on a development project at the above address.

You will recall, I informed you that the subject project is a 51-story concrete residential high rise that is planned for construction at 80 Natoma Street, which is near the intersection of 2nd and Mission Streets in downtown San Francisco.

I am enclosing the following items, which will give you an overview of the project and the issues involved:

1. Report of Treadwell & Rollo dated October 24, 2003 with attached report dated September 15, 1998.
2. Report from Jack P. Moehle dated April 2, 2004.
3. Report from T.D. O'Rourke dated May 9, 2004.
4. Report from Youssef Hashash, Ph.D, P.E. dated May 12, 2004.
5. Report from Dennis C. McCarry dated May 14, 2004.
6. Report from Jonathan D. Bray, Ph.D., P.E. dated May 25, 2004.
7. Report from T.D. O'Rourke dated May 31, 2004.
8. Report from Youssef Hashash, Ph.D, P.E. dated June 2, 2004.
9. Report from Charles C. Ladd, Sc.D., P.E. dated June 2, 2004.
10. Report from Ron Klemenic, MKA; Mr. Hadi Yap, Treadwell & Rollo dated June 3, 2004.
11. Report from Andrew J. Whittle dated June 11, 2004.
12. Report from Demetrious C. Koutsoftas, P.E., G.E. dated June 14, 2004.
13. Report from Hadi J. Yap dated June 15, 2004.
14. Report from Hadi J. Yap dated June 17, 2004.
15. Report from Shah Vahdani dated June 24, 2004.

Our department, the Department of Building Inspection, had issued an addendum to begin the installation of piles, that, in retrospect, was premature, due to a great many unresolved questions.

The developer was in the process of installing piles, when we became aware of some questions with regard to the foundation. A number of experts who were retained to assess the construction of a train tunnel adjacent to the building foundation raised these questions. The

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project has been on hold since June 7, 2004 for some permit/entitlement questions, and due to our concern about the foundation as currently designed.

The Department's purpose in retaining you is to have you work with out peer review panel[1] to do the kind of assessment that Andrew Whittle did with respect to the design.

As you can see, there are conflicts among the various experts who have looked at the project. It is the Department's usual practice to hire its own independent consultants where there are such conflicts.

I would appreciate if you would review the enclosed materials and then call me so that we can discuss how we should proceed. I would like to set up a meeting with our peer review panel at your earliest convenience.

I know that I told you that I was going to be in Italy for the next 3 weeks, but I have decided to postpone my vacation because of this 80 Natoma matter, so you can reach me at the office whenever you would like to discuss the matter.

Thank you for agreeing to assist us in this matter.

Very truly yours,

Kenneth J. Harrington
Office of the Director

[1] Jack Moehle, Leonard Joseph and Shah Vahdani.

Received via email
160975 01/27/2017

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

December 16, 2016

Mr. Denis F. Shanagher
Duane Morris LLP
Spear Tower, One Market Plaza, Suite 2200
San Francisco, CA 94105-1127
Via E-mail: dfshanagher@duanemorris.com

Dear Denis:

We understand that you have completed survey activities to determine whether 301 Mission is leaning/tilting and, if so, by how much.

We also understand that the survey activities may not yet be completed. Please send us a status report by December 22, 2016 on the status of such activities, and your schedule for completion of the work.

Also, please send us data measured thus far, as well as a complete report when the survey activities are complete. If you also could provide a timeline for providing the complete report, that would be much appreciated.

Many thanks for your assistance, and for your ongoing cooperation.

Sincerely,

Ron Tom

For Tom Hui, S.E., C.B.O. and Director

cc: Naomi Kelly, City Administrator

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

December 15, 2016

The Honorable Aaron Peskin, San Francisco Supervisor
City Hall, Room 244, San Francisco, CA 94102-4689
Via E-mail: aaron.peskin@sfgov.org

Dear Supervisor Peskin:

Please see below DBI responses to the questions you raised in your letter dated November 16, 2016.

Q. 1 Please produce or explain the absence of the August 30, 2005 letter from Hardip Pannu.
A. We did not retain a hard copy version of the Hardip Pannu August 30, 2005 letter per DBI engineering practice at that time. Plan Review scanned only the final peer review letters into the plan set.

Q. 2 Why is there "...no documentation that DBI formally retained the services of either Mr. Pannu or Professor Moehle specifically as peer review panelists..., or any documentation delineating their anticipated scope of work....."
A. There is no documentation because DBI has never 'retained' a peer review expert. DBI engineering practice in 2005 was to select appropriately skilled experts jointly with the Project Sponsor; the contractual retainer has always been between the peer review expert and the project sponsor.

Q. 3 Why is there no documentation delineating the peer review panelists' anticipated scope of work?
A. As Principal Engineer Hanson Tom explained at the November 17th hearing, the practice in effect in 2005-2006 was to hold a meeting with the project sponsor's engineers of record, and with those engaged as peer review experts, from which a scope of work was determined, with detailed notes taken by the project sponsor's engineer of record. Per the records' retention policy in effect in 2005-2006, DBI did not retain any of these records.

Q. 4 Why is there no letter confirming DBI engineer Hanson Tom directed or requested peer review panelists in 2005-2006 ...to include the Transbay Project in their review and analysis?
A. According to DBI Principal Engineer Hanson Tom, 301 Mission pre-dated the Transbay Project by approximately five years and thus there was no Transbay Project yet to include in any of the 301 Mission peer review and analysis.

Q. 5 Please explain whether Mr. Pannu and Professor Moehle were hired as peer review panelists before or after they did work for DeSimone Consulting Engineers.
A. DBI did not 'hire' Mr. Pannu and Professor Moehle; that contractual relationship was between them and the project sponsor.

Q. 6 Why has DBI not provided you with its copy of "...the four-volume foundation permit application...dated May 24, 2005 and prepared by DeSimone Consulting Engineers for the Department of Building Inspection, referencing Project 4069....."
A. Per the City Attorney-approved departmental retention and destruction policy, DBI retains for its permanent records permit applications, permits, job cards, approved plans and certificates of final completion. We do not retain, per State law, project structural calculations, which we believe were the four-volumes you referenced.

I also would like to clarify Principal Engineer Hanson Tom's statement at the November 17th hearing that DBI's responsibilities "...pretty much stop at the property line...." Per building code section 3307.1, Protection of Adjoining Property, any excavation that adversely affects an adjacent property requires the responsible party to correct immediately any adverse impact caused by such an excavation, and to obtain required permits to perform the repair work. Please see the attached Code Section 3307.1 for specific details. In 2005-2006, the Transit Center area was still a vacant lot and thus this adjacency excavation responsibility was still several years away from actual construction conditions.

Finally, I would like to update you on some of our efforts since the last hearing. Our Inspection Division has completed inspections of 301 Mission's accessible areas. We are preparing a report to share in the near future. Our Commission has requested a presentation on performance-based applications for Tall Buildings and the peer review process at the February 17, 2017 BIC meeting. We also are researching other jurisdictions' performance-based plan checking and peer review process (please see enclosed December 6th letter from President McCarthy).

We are copying this DBI response letter to the Clerk of the Board, and Assistant Clerk Erica Major, and we request, respectfully, that it be made part of the official Board file number 160975.

Thank you for your consideration, and understanding, of these 2005-2006 DBI engineering and plan review practices.

Sincerely,

Tom C-Hui

Tom Hui, S.E., C.B.O. and Director

Enclosures: SF Building Code Section 3307, Protection of Adjoining Property;
December 6, 2016 Letter to Director Hui from President McCarthy, BIC

CC: Members of Board of Supervisors; Members of Building Inspection Commission; City Administrator Naomi Kelly; DEM Director Anne Kronenberg; John Malamut; Randall Parent; Edward Sweeney; Taras Madison; Daniel Lowrey; Ronald Tom; Lily Madjus; William Strawn

BUILDING INSPECTION COMMISSION (BIC)
DEPARTMENT OF BUILDING INSPECTION
1660 Mission Street | San Francisco CA 94103 | Office (415) 558-6164 | Fax (415) 558-6509

December 6, 2016

Director Tom C. Hui
Department of Building Inspection
1660 Mission Street, 6th Floor
San Francisco, CA 94103

Dear Director Hui,

After the events of the past few months, I will be calendaring a meeting in February to review the procedures and policies for performance based applications. Please be prepared to address the points outlined below in great detail. Please have the Department start preparing this report and presentation at your earliest convenience. The report and presentation should address each of the points below.

Process

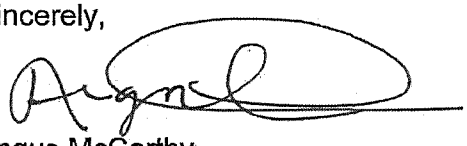
- Which applications are performance based and which are prescriptive based?
- What is the criteria for each? Are the standards for performance and prescriptive the same?
- Provide historical data for the number of applications for each type for the last 10 years.
- Provide a description of a typical building for each type. (Survey and quantify each type.)
- Describe how or if an application could be both performance based and prescriptive based.
- Does the State of California's Code or any law speak to the retention of records for design professionals in the building profession?

Comparison showing Performance Based plan checking & Peer Review in the 2000-2007 era compared to the present day. How does our current system compare to San Diego, Los Angeles, San Jose and Seattle.

- What is the criteria to decide if something was performance based or Code prescribed?
- What is the criteria to qualify for the Peer Review team for the projects and who picked the teams?

- Who paid for the Peer Review and what was the process of payment?
- What is the design/seismic criteria? Do all buildings share the same standards?
- Were there any conflict of interest rules for the Peer Review team?
- What role did special inspections play? Which portions of the process or approval relies upon special inspection, and explain how Chapter 17 of the state Building Code gives priority to the special inspector. Explain how the state Building Code delegates jurisdiction for special inspections and soils reports by others.
- Were the piles part of the special inspection program or does the regular inspector cover pile driving?
- What was the record retention policy for Peer Review?
- How was dewatering reviewed or supervised, and describe the review process?

Sincerely,



Angus McCarthy
Building Inspection Commission President

Chutes, floors, stairways and other places affected shall be watered sufficiently to keep down the dust.

3306.11 Add a section as follows:

3306.11 Falling Debris. Wood or other construction materials shall not be allowed to fall in large pieces onto an upper floor. Bulky materials, such as beams and columns, shall be lowered and not allowed to fall.

3306.12 Add a section as follows:

3306.12 Structure stability. In buildings of wood frame construction, the supporting structure shall not be removed until the parts of the structure being supported have been removed.

In buildings with basements, the first floor construction shall not be removed until the basement walls are braced to prevent overturning, or an analysis acceptable to the Building Official is submitted which shows the walls to be stable without bracing.

SECTION 3307 – PROTECTION OF ADJOINING PROPERTY

3307.1 Insert a note at the end of this section as follows:

3307.1 Protection required. Adjoining public and private property shall be protected from damage during construction, remodeling and demolition work. Protection must be provided for footings, foundations, party walls, chimneys, skylights, and roofs. Provisions shall be made to control water runoff and erosion during construction or demolition activities. The person making or causing an excavation to be made shall provide written notice to the owners of adjoining buildings advising them that the excavation is to be made and that the adjoining buildings should be protected. Said notification shall be delivered not less than 10 days prior to the scheduled starting date of the excavation.

Note: Other requirements for protection of adjacent property of adjacent and depth to which protection is requested are defined by California Civil Code Section 832, and is reprinted herein for convenience.

> **Section 832.** Each coterminous owner is entitled to the lateral and subjacent support which his land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for purposes of construction or improvement, under the following conditions:
>
> 1. Any owner of land or his lessee intending to make or to permit an excavation shall give reasonable notice to the owner or owners of adjoining lands and of buildings or other structures, stating the depth to which such excavation is intended to be made, and when the excavating will begin.
>
> 2. In making any excavation, ordinary care and skill shall be used, and reasonable precautions taken to sustain the adjoining land as such, without regard to any building or other structure which may be thereon, and there shall be no liability for damage done to any such building or other structure by reason of the excavation, except as otherwise provided or allowed by law.
>
> 3. If at any time it appears that the excavation is to be of a greater depth than are the walls or foundations of any adjoining building or other structure, and is to be so close as to endanger the building or other structure in any way, then the owner of the building or other structure must be allowed at least 30 days, if he so desires, in which to take measures to protect the same from any damage, or in which to extend the foundations thereof, and he must be given for the same purposes reasonable license to enter on the land on which the excavation is to be or is being made.
>
> 4. If the excavation is intended to be or is deeper than the standard depth of foundations, which depth is defined to be a depth of nine feet below the adjacent curb level, at the point where the joint property line intersects the curb and if on the land of the coterminous owner there is any building or other structure the wall or foundation of which goes to standard depth or deeper then the owner of the land on which the excavation is being made shall, if given the necessary license to enter on the adjoining land, protect the said adjoining land and any such building or other structure thereon without cost to the owner thereof, from any damage by reason of the excavation, and shall be liable to the owner of such property for any such damage, excepting only for minor settlement cracks in buildings or other structures.

Received via email
11/27/2017

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

160975

Sean Jeffries
Millennium Partners
735 Market Street, Suite 302
San Francisco, CA 94103

December 15, 2016

Dear Mr. Jeffries:

Thank you for providing us with a copy of the report that was prepared by Mr. Ronald Hamburger of Simpson Gumpetz and Heger Inc., dated October 16, 2016. We have reviewed the report and DBI's engineers seek some additional information.

In addition, we have provided copies of the information to a team of consulting engineers retained by the City Administrator. The consultants will be advising the City Administrator and DBI on the safety of your building at 301 Mission.

DBI's Request for Additional Information:

1) We request you provide copies of the following documents referenced in the Hamburger report:

   a. Documents prepared by Treadwell & Rollo listed as items 1 thru 15 in Sect. 2.1 of the report.

   b. Documents prepared by Arup listed as items 1 thru 42 in Sect. 2.2 of the report.

   c. Documents prepared by DeSimone Consulting Engineers listed as items 1 thru 12 in Sect. 2.3 of the report.

2) The conclusion of Mr. Hamburger's report did not provide a prediction on any future settlement related to geotechnical aspects of the site conditions. Please provide us with any information you have on this issue.

3) Do you have a plan to achieve building settlement stabilization and an associated timeline? Please provide us with pertinent information regarding your approach to addressing the settlement issue.

Questions from the City's Consulting Engineers:

Unless otherwise noted, the page and section references cited in these questions pertain to the final Foundation Settlement Investigation report, dated October 3, 2016.

4) Please report the total weight (Dead Load and Superimposed Dead Load) of the building, including the below grade structure. Has an independent check of the building weight been performed to confirm the gravity loads used in the PERFORM and ETABS models?

5) Please report the periods of vibration from the elastic ETABS and nonlinear PERFORM models. Have these been compared to measured periods in the building, e.g., using acceleration data available from CSMIP?

6) The study (Section 4.2.4.1 on page 28) has estimated roof displacements resulting from settlements of 2.7in toward the west and 7.0in toward the north based on the elastic ETABS model:

   a. Please also report initial roof displacements from the nonlinear PERFORM model based on the two methods of applying settlements.

   b. Please discuss how sensitive the predicated building responses are to the assumptions made in Section 4.3.3.1 and Section 5 regarding the portion of the measured total mat settlement that is applied in the analyses.

   c. Please compare the initial out-of-plumb predictions from the analyses to the actual measured lean/tilt of the building so as to validate underlying assumptions.

7) The study has used an elastic ETABS model to identify the impact of the settlements on the building's stability under gravity loads. Several structural elements were identified that experienced high stress levels, some in excess of expected design strengths. Please discuss how the initial states of stresses and deformations under gravity loads and settlement deformations in the nonlinear PERFORM model compare to the stress levels predicted by the elastic ETABS model, and what the effect of any stress redistribution has on the structural collapse safety.

8) The study concludes that the settlements measured through June 2016 have not compromised the building's safety. Please comment on the extent of additional (future) settlements the building can sustain without compromising the building's stability under gravity loads, and the building's expected performance under earthquake loading.

9) There are differences between the observations and conclusions in the 2014 draft report and 2016 final report. For example, the draft report commented on the performance of the building under 'lower intensity earthquakes' in the Conclusions, but this statement was removed in the final version of the Conclusions. Please comment on these differences.

10) There is a lack of specificity in the discussion of the building's performance in Sections 6 and 7 of the final report:

a. Please clarify, in the first paragraph of Section 6, which building elements (including their number and location) experience significantly elevated stresses due to the settlements, the associated 'failure' mode, and what effect this has on the overall performance of the building.

b. Please quantify, in the fourth paragraph of Section 6, the effect of the building's settlements on the ability to resist earthquake shaking.

c. Please clarify, in the fifth and sixth paragraphs of Section 6, which building elements do not meet design criteria, or experience significantly increased demands, and what effect this has on the building's performance.

d. Please clarify, in Section 7, which building elements do not meet "criteria commonly adopted for design of similar new buildings", and how the (substandard?) performance of these elements affects the overall performance of the building.

e. Both the elastic ETABS model and the nonlinear PERFORM model show demands in the outrigger beams that exceed the standard acceptance criteria for these beams (e.g, the high elastic stresses in Figure 28 and large inelastic deformations in Fig. 60). Please describe the implications of these high stress and deformation demands on the performance of the outrigger beams as related to the safety of the building. [Note - Figure 28 of the ETABS model report shows the largest outrigger shears in the south plane of outriggers, whereas the mat dishing is largest below the north plane of outriggers. Please confirm if the plots in Figure 28 are labeled correctly and, if so, describe why the forces are lower away from the dished area of the slab.]

11) The nonlinear PERFORM model has distributed spring supports beneath the grillage model of the mat, which represent the stiffness and settlement of the piles. Please report the following information on the pile loads and performance:

a. Gravity and earthquake forces developed in the pile supports. Please indicate the peak compression forces and tension forces (if any) developed in the pile supports and the locations of these forces. Report forces for both gravity loading alone and gravity plus earthquake loading.

b. Please comment on whether you have considered axial force, shear force and moment demand/capacity ratios in the piles due the effects of gravity and gravity plus earthquake.

c. Please plot axial force versus axial deformation for several representative support points to confirm the gap opening/closing behavior under gravity load and the range of deformations under the input earthquake ground motions.

d. Please confirm the acceptance limit for deformations in the mat and whether this limit is exceeded in the analysis. Table 8 indicates that the CP limit is 1% plastic rotation, whereas the text on page 74 refers to the "1% strength loss limit", which implies a rotation at a strength loss of 1%. Please confirm the definition of acceptance criteria. In addition, in Table 8, demand/capacity ratios of up to 2.627 are reported for the mat foundation, whereas the discussion on page 74 related to Figure 64 indicates that "The demands shown here ... are entirely within acceptable levels". Please provide justification for considering the demand/capacity ratios of 2.627 to be within acceptable levels.

12) MCER Spectra for Ground Motion Scaling: In Section 4.3.3.2 (Pg. 51-52), the input ground motions are scaled to a target spectrum equal to 80% of the standard MCER code spectra, based on the justification that "The Treadwell & Rollo geotechnical report indicates that at long periods, the site-specific spectrum developed for the design of the tower is governed by a building code requirement that site spectra not be taken less than 80% of the standard spectrum defined by the building code." However, as shown in Figure D-4 of Treadwell & Rollo's 2005 report (included below), the probabilistic site-specific spectra developed by Treadwell and Rollo is higher (not lower) than the standard code spectra for all periods longer than about 0.8 seconds. Therefore, this plot in Figure D-4 appears to contradict the justification in the 2016 analysis report for targeting a spectrum that is 20% less than the MCER spectrum. Please confirm.

Thank you for your earliest response to these questions.

Sincerely,

Tom C. Hui

Tom Hui, S.E., C.B.O., and Director

Department of Building Inspection

cc: Naomi Kelly

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November 22, 2016

VIA EMAIL & HAND DELIVERY

Mr. Tom Hui
Director, Department of Building Inspection
City and County of San Francisco
1660 Mission Street, 6th Floor
San Francisco, CA. 94103

Re: 301 Mission Street
Notice No. 201632051

Dear Mr. Hui:

As discussed, this firm represents the Millennium Tower Association (the "Association"), which is in receipt of the above-referenced Notice dated August 26, 2016. Due to the nature of the request, the Association has previously requested an extension of time to respond to the information requests in the Notice. We now provide a response herewith.

The Notice appeared to request an engineering report regarding structural and building life-safety systems. We understand you are in receipt of a copy of the Simpson Gumpertz & Heger "Structural Evaluation of 301 Mission" Report, dated October 3, 2016, which concludes that the total and differential settlements experienced to date have not impaired the Tower's ability to resist dead, live and earthquake-related loading and have not had a significant impact on the building's safety. We have not included a copy of that report with this submission.

The Association has commissioned a Property Survey Assessment by Russell Hoeltzel, Senior Risk Consultant of Hub International, who has analyzed the building's existing risk reduction programs, fire protection systems and major equipment. In a report dated October 26, 2016, the Assessment Summary concluded that building conditions were found to be very good for property-related perils. A copy of the Assessment is attached as **Exhibit A**. Any and all recommendations therein are being implemented.

The Association has retained the forensic engineering firm of Allana Buick & Bers ("ABB") to, among other things, conduct a field investigation and analysis of the utility pipe connections in the building. A progress report from ABB of November 15, 2016 advises that no stresses on utility pipes have been observed to date. There is documentation that certain of the utility pipes were installed with flexible connections in anticipation of building settlement. We are currently working to confirm that all of those flexible connections were installed under the sidewalk and street, and the Association intends to excavate at various locations outside the building for absolute confirmation, and to improve those connections if and as necessary. A copy of the ABB progress report in that regard is attached as **Exhibit B**.

A test for potential leaks from natural gas lines inside or outside the building was conducted on October 20, 2016. No gas leaks were detected. A copy of the report in that regard is attached as **Exhibit C**.

There are three natural gas mains that enter the facility at Level 1 on Beal Street, each with seismic shutoff valve. Additional seismic bracing was recommended for the natural gas main piping that supplies the high-rise Millennium Tower. This seismic upgrade project was completed in December of 2015 pursuant to the plans attached as **Exhibit D**.

The Association has a regular building systems inspection protocol with regard to fire protection systems, emergency generators, elevators, water systems and roofs, among other things. Attached as **Exhibit E** is a spreadsheet that provides details on the type and frequency of testing, the responsible vendor where relevant, and the dates thereof. Please advise if DBI desires more detail on any of the testing.

An example of back-up data for testing are summary reports of the Annual and Semi-Annual Automatic Fire Alarm System Inspections and Certifications that occurred on February 22, 2016 and September 6, 2016, respectively, copies of which are attached as **Exhibit F** and **Exhibit G**.

As noted above, at the direction of the Association, ABB plans to excavate at five locations around the building to inspect approximately 10 utility line connections, including but not limited to storm and sanitary drain, fire, domestic water and natural gas, and make any corrections or repairs as necessary at the time. ABB's scope of work proposal in that regard is attached as **Exhibit H**, which identifies the various locations on Fremont (1), Mission (3) and Fremont (1) Streets. ABB is currently soliciting bids for that work and it is expected that plans and permit submittals to will follow in December, with the expectation of work in January.

DBI has issued a number of Notices of Violation with respect to the garage (lack of permits for repair), ramps (handicap slope) and sidewalks. We understand that Millennium Partners has or is in the process of obtaining the necessary permits for the garage repair work, which is related to an ongoing water intrusion issue arising from faulty below-grade waterproofing. We also understand that Millennium Partners is in the process of preparing plans to address the ramp slope issues for the review and approval of the Association and DBI.

As for the sidewalk repair, given the anticipated excavation work to be undertaken with regard to the utility connections, the Association suggests that that repair be addressed as part of the utility excavation and inspection project discussed above.

Thank you for your consideration in this regard. Please address any questions to the Association regarding building safety systems through this office. We will continue to provide you with information as requested and as it becomes available.

Very truly yours,

Denis F. Shanagher

Exhibits

EXHIBIT

A

EXHIBIT A

PROPERTY MARKETING REPORT

Prepared for:

Millennium Tower Association San Francisco,
The Residences at Millennium Tower A

301 Mission Street
San Francisco, CA 94105

October 26, 2016

Prepared by:

Russell Hoeltzel, PE,
Senior Risk Consultant
Hub Risk Services
4695 MacArthur Ct.
Newport Beach, CA 92660

russell.hoeltzel@hubinternational.com

Table of Contents

Scope

The purpose of this Property Marketing Report is to describe the construction, occupancy, protection and exposures to these facilities. In addition human element programs are described as well as maintenance and testing of fire protection equipment. Major building equipment, HVAC and electrical equipment are addressed. The information provided is based on information provided by the client and from observations during site visits.

It is understood that each facility has its own specific conditions that characterize its design and operating procedures. Generally, national and industry recognized standards are the basis for the evaluation and suggestions. This is not to preclude a consultant's qualified judgment when evaluating the adequacy of existing programs.

Conferred With

Denis F. Shanagher	*Attorney at Law, Duane Morris LLP*
Damon Partridge	*Director of Hospitality Services, Action Property Management, Inc., ACMF*
Antonio Nunez	*Chief Engineer*
Dorothy McCorkindale	*Hub International Insurance Services*

Legal Notice

All consulting services performed by HUB are advisory in nature. All resultant reports are based upon conditions and practices observed by HUB and information supplied by the client. Any such reports may not identify or contemplate all unsafe conditions and practices; others may exist. HUB does not imply, guarantee or warrant the safety of any of the client's properties or operations or that the client or any such properties or operations are in compliance with all federal, state or local laws, codes, statutes, ordinances, standards or recommendations. All decisions in connection with the implementation, if any, of any of HUB's advice or recommendations shall be the sole responsibility of, and made by, the client. The advice and recommendations submitted in this plan constitute neither a warranty of future results nor an assurance against risk. This material represents the best judgment of HUB and is based on information obtained from both open and closed sources.

Executive Summary

A Property Survey Assessment was performed for Millennium Tower Association located in San Francisco, CA on October 26, 2016.

A tour of the premises was conducted along with a review of special hazards present, protective systems, building construction details, management loss control programs and other related aspects of the building.

This report discusses issues with settling and tilting that have been prominently highlighted in the media. This report documents studies, mitigation and discussion of the solution the issues.

A report, from a respected structural engineering firm, was commissioned on behalf of management to determine what effects the settling and tilting may have had on the safety and earthquake resistance of the building. The conclusion, based on extensive analysis of data from instrumentation installed in the building and visual observations are as follows:

"On the basis of our updated analyses of the 301 Mission tower, we conclude that the effect of settlement on most building elements is negligible. Under the influence of Maximum Considered Earthquake shaking together with the settlements that have occurred to date, most building elements continue to meet criteria commonly adopted for design of similar new buildings in the City of San Francisco today. We conclude that the settlements experienced by the 301 Mission tower have not compromised the building's ability to resist strong earthquakes and have not had a significant impact on the building's safety."

Risk Reduction Programs – Overall rated *Excellent.* Written programs are provided for Hot Work, Impairments and there is an excellent emergency plan in place.

Fire Protection – Overall rated *Good.* Fire sprinkler protection is provided throughout all areas.

Major Equipment – Overall rated *Good.* Equipment is well maintained and protected.

Assessment Summary

Overall, conditions were found to be Very *Good* for property-related perils.

Recommendations

No recommendations are being made by Hub. Previous recommendations made by AFM are discussed below.

09-02-002 Improve the fire sprinkler supervision and testing program.

Part A. Lock all sprinkler valves in the open position.
Hub comment: The valves are provided with tamper switches which are monitored 24/7. The valves are located in the stairwells where only residents have access. All valves are checked monthly with results recorded. Management will consider sealing the valves.

Part B. Perform weekly documented inspections of the automatic fire sprinkler control valves.
Hub Comment: This is currently done monthly.

Part D. Conduct quarterly documented waterflow alarm testing.
Hub Comment: This is currently done semiannually, which is the frequency recommended by NFPA 25.

Part E. Conduct documented flow tests for all pressure-reducing valves (PRVS)

There are two types of pressure-reducing valves at the Millennium Tower: direct-acting PRVs (direct PRVs), and pilot-operated PRVs (pilot PRVs). Direct PRVs are located in the stairwells, and pilot PRVs are located in the fire pump configurations. The following tests should be performed in order to ensure the pressure-reducing valves are functioning properly:

- All PRVs should be visually examined weekly.
- All floor PRVs should be physically inspected and operationally tested on a monthly basis.
- All PRVs should be flow tested annually and compared with the manufacturer's performance curves to ensure that they are operating in a satisfactory manner.

Hub Comment: All PRV'S are examined monthly.
All PRVs are flow tested on a 5-year basis. There are approximately 240 PRVs in the Tower. The five year test is the frequency required by NFPA 25.

Part F. Perform all waterflow tests with the fire pumps running.
Hub Comment: Due to the complexity of the high rise system this is not considered practical

09-02-008 Implement the FM Global Hot Work Permit System to manage hot work operations.
Hub Comment: This has been completed

13-04-002 Ensure that all penetrations within electrical rooms are properly sealed with FM approved fire stop.
Hub Comment: This will be completed.

13-04-003 Create a comprehensive emergency plan (ERP) for this location.

Part A. Improve the ERP to include property loss prevention roles.
Part B. Develop a site-specific earthquake ERP.
Hub Comment: Parts A&B have been completed.

09-02-006 Improve Seismic bracing for the automatic fire sprinkler system.
Hub Comment: Management is reviewing this recommendation. Seismic bracing on gas piping was recently completed.

General Information

Description & Occupancy

The Millennium Tower is a fifty-eight-story, 605 ft. tall (645 ft. overall), reinforced concrete tower and adjacent podium. The Podium structure is further divided into a three-story low-rise and a twelve-story mid-rise.

Podium Features

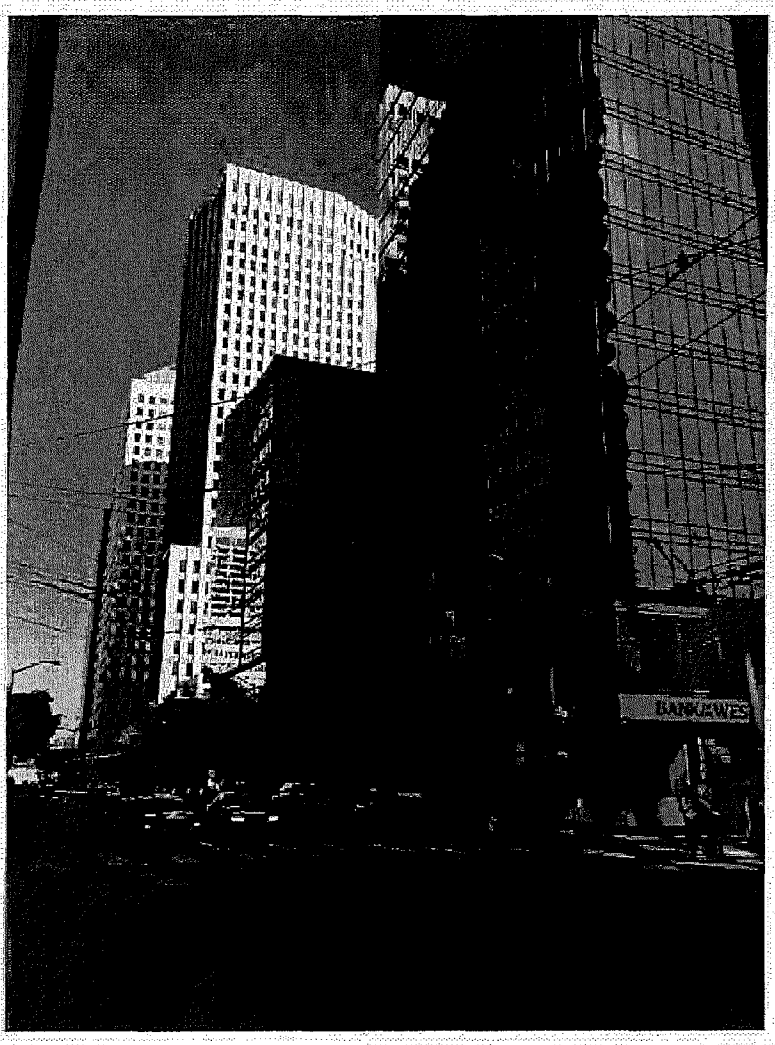
- 21,500 sq. ft. of exclusive common area facilities
- Indoor 75 ft. competition lap pool & expansive outdoor terrace
- Wine tasting room & cellar
- Bar and lounge
- 5,500 sq. ft. Sports Club/LA fitness center
- Children's play & crafts room
- Michael Mina's RN74 Restaurant at ground floor level.

The US$350 million project was developed by Millennium Partners of New York City, designed by Handel Architects, engineered by DeSimone Consulting Engineers and constructed by Webcor Builders. At 645 ft., it is the tallest concrete structure in San Francisco, the fourth tallest building in San Francisco overall. The tower is slender, with each floor containing 14,000 sq. ft. of floor space. In addition to the 58-story tower, there is a 130 ft. tall, 11-story tower on the northeast end of the complex. Between the two towers is a 43 ft. high, two-story glass atrium. In total, the project has 419 units.

The residences are said to be the priciest on the West Coast, with penthouse units on the top two floors selling for around US$12 million. The bottom 25 floors of the main tower are called Residences while the floors from 26 to the top have the name Grand Residences. The 53 units in the separate 12-story tower are called the City Residences. Below street level, there are 339 parking spaces in a five-level subterranean garage located under the Podium. The building is located next to the site of the future Transbay Transit Center. Overall, the tower's design is intended to resemble a translucent crystal, and is a landmark for the Transbay Redevelopment and the southern skyline of San Francisco.

Millennium Tower is also home to RN74, a restaurant and wine bar under the direction of Chef Michael Mina, located on the ground floor. Resident services include a private concierge and exclusive access to the 20,000-square-foot Club Level, featuring an owners' lounge, tasting room and cellar, private dining room (serviced by Chef Michael Mina's RN74), screening room, children's playroom, outdoor terrace, and a 5,500-square-foot fitness center,

Location	Occupancy
Tower	Residences 3-25, Grand Residences 26 - Penthouse
Tower	1st floor lobby/residence lounge, Bank of the West
Tower	Basement – Building Offices, maintenance shop, mechanical rooms
Podium	12 story mid-rise, Club level (Gym meeting private dining rooms) RN74 Restaurant



Buildings and Structures

The Millennium Tower is a fifty-eight-story, reinforced concrete structure developed by Mission Street Development LLC in 2007 for sale as residential condominium units. The building is located at the southeast corner of Mission Street and Fremont Street. The building comprises two separate structures, a fifty-eight-story tower and an adjacent, functionally connected, twelve-story reinforced concrete podium. The Podium structure is further divided into a three-story low-rise and a twelve-story mid-rise. A seismic joint separates the Tower and Podium.

The tower is constructed of flat post-tensioned concrete slabs supported by perimeter reinforced concrete frames (beams and columns) and a centrally located tube comprising reinforced concrete load-bearing walls. It is supported on a single, continuous 10 ft. thick pile cap over 658 14 in. square pre-cast concrete piles. The piles are driven into the Bay Mud and Colma formation 50 to 90 feet below grade. The basement contains a PG&E vault supported on a 3 ft. thick slab cantilevered off of the pile cap. The Tower's lateral (wind and earthquake) resistance is a dual system consisting of concrete special moment frames around the perimeter and a concrete shear wall core with outriggers. The base dimensions are 178 ft. by 100 ft. or 17,800 sq. ft. per floor.

The Podium contains five sub-grade levels supported on a soil-supported mat foundation. Hinge slabs are used to connect the Tower and Podium in certain locations and allow differential movement between the two structures. Tie down anchors located under the low-rise portion of the Podium are used to resist hydraulic uplift pressure. The lateral system for the mid-rise consists solely of concrete shear walls. The base dimensions 170 ft. by 178 or 29,750 sq. ft. per floor for the parking areas and club level. The mid-rise tower is 80 ft. by 178 ft. or 14,240 sq. ft. per floor.

Curbs are provided in mechanical rooms where water piping is present. Most curbs are 6-inch high concrete with one metal curb observed around the metal dryer ducts on the 26th floor.

Metal Curb around Dryer Ducting

Settlement

A building normally settles during and after construction due to a number of factors including the weight of the structure. In the case of the Millennium Tower the structure has settled 16 inches. There has been some differential settling and some tilting. The amout of settling has been documented, analyzed. A detailed study was conducted and deemed safe structurally as well as deemed within earthquake design parameters by a reputable structural engineering firm.

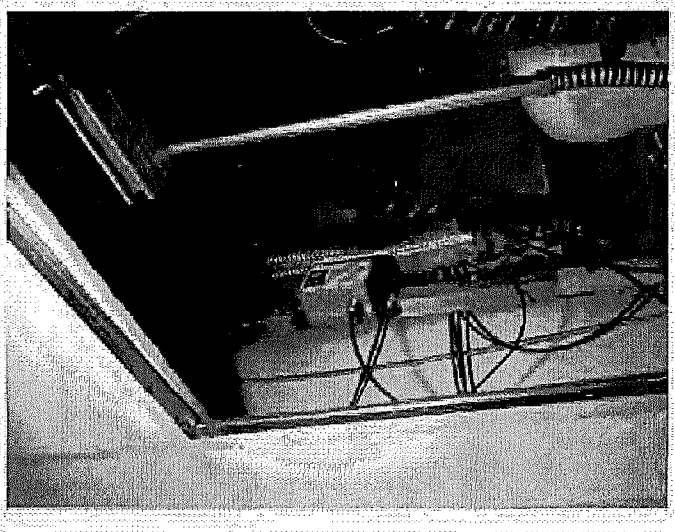
Mitigation

The settling was monitored during construction and measures were added by Architects and Consulting engineers to insure the integrity of piping and other systems. The included:

- Installing utility lines with flexible connections where they cross the seismic joint between the tower and mid-rise podium.
- Installing handrails at hinge slabs between the Podium and Tower to account for the increased slope due to settlement.
- Re-routing utilities. Re-routing utilities.
- Re-designing seismic joint covers at walls, ceilings, and floors.
- Raising interior floor levels or installing new trench drains to prevent water drainage towards entry and exit doors.

The building is monitored with inclinometers and piezometers. The information was initially real time monitoring and was recently restored to real time monitoring. Crack gauges are installed the basement for visual crack monitoring.

Piping is equipped with tiltmeters.



Proposed Mitigation

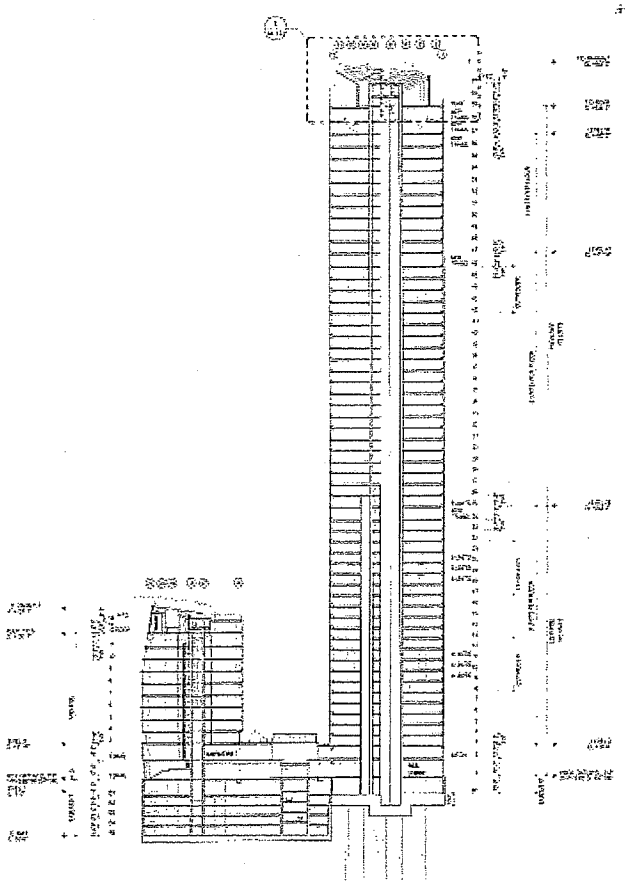
At this time there are discussions taking place to correct settlement and tilting.

A study is scheduled to begin shortly by Alona Buick & Bers to investigate the strain on piping connections to city/utility systems in the street.

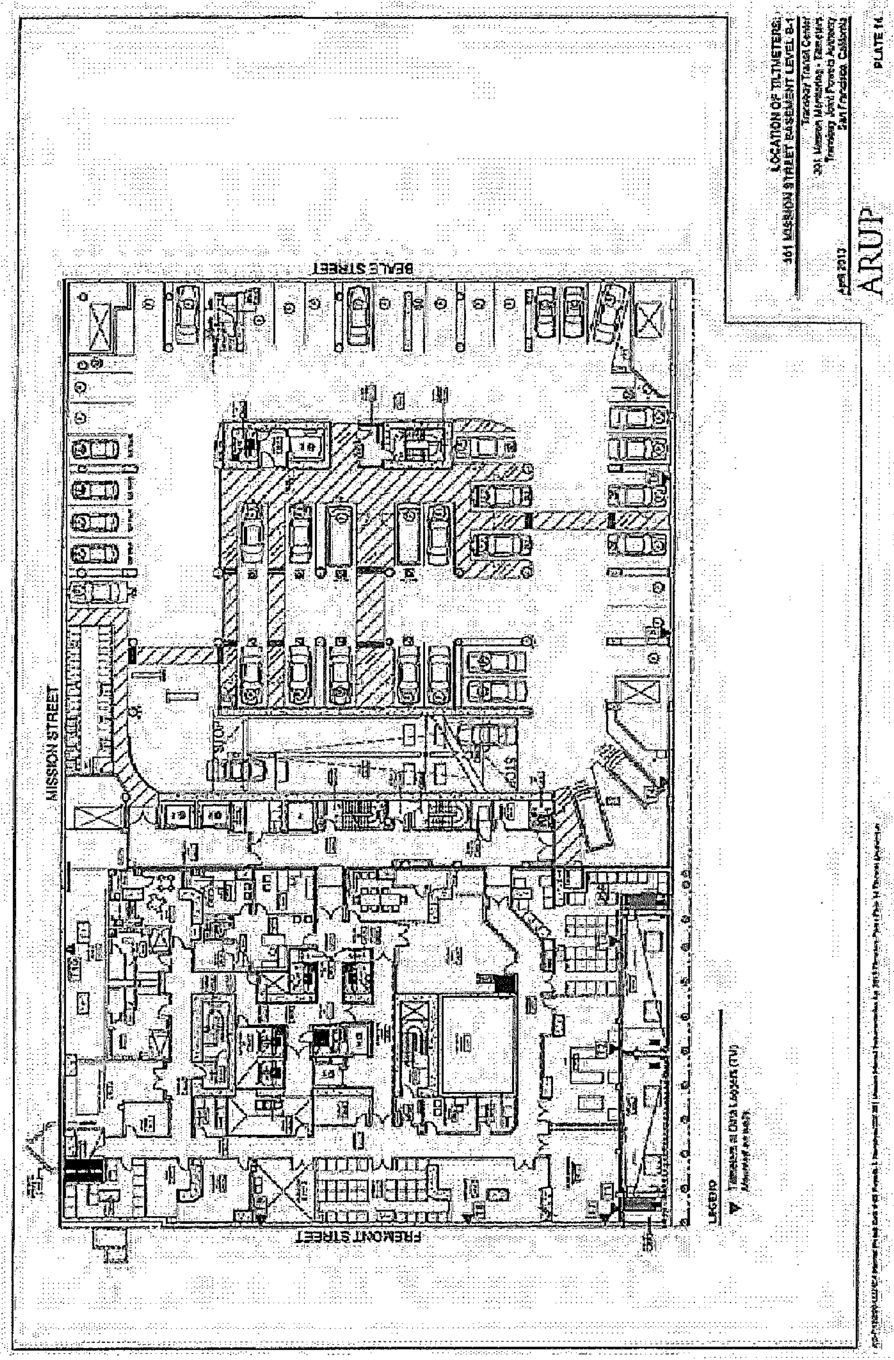
Additional Measures

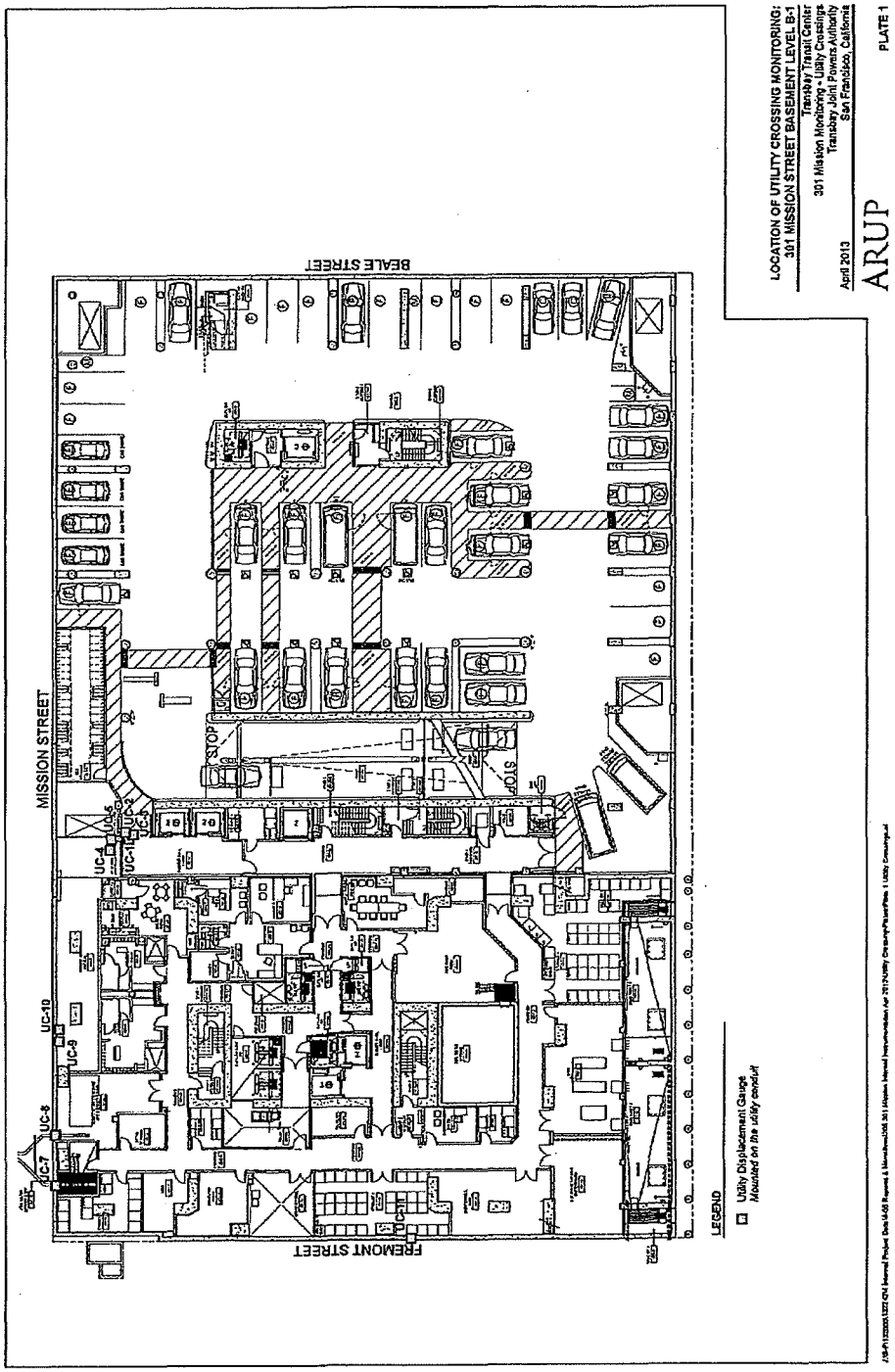
Three borings to bedrock were recently completed. The borings will monitor water level, and movement using piezometers and inclinometers. Monitoring will be real time. There are two borings in Mission Street and one in Fremont Street.

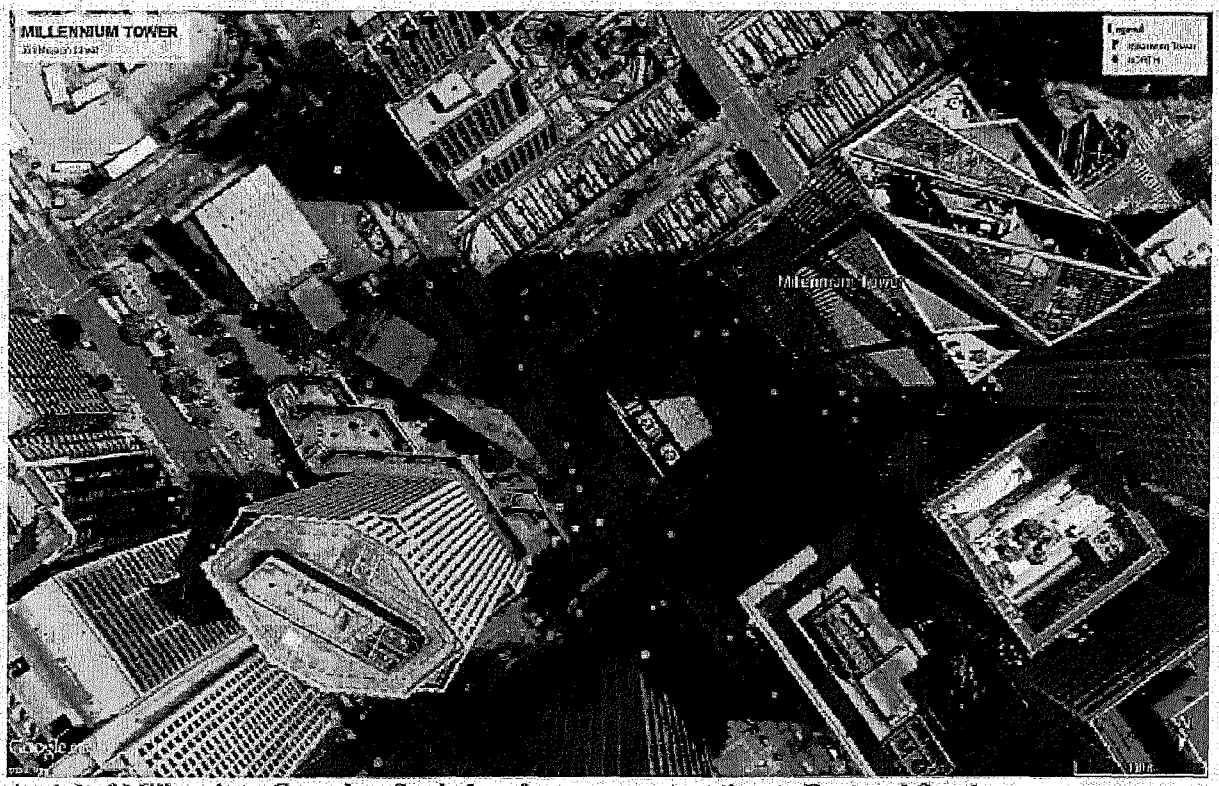
A laser sight was in the process of installation in a Tower elevator shaft for inclination monitoring. The laser will provide real time monitoring.



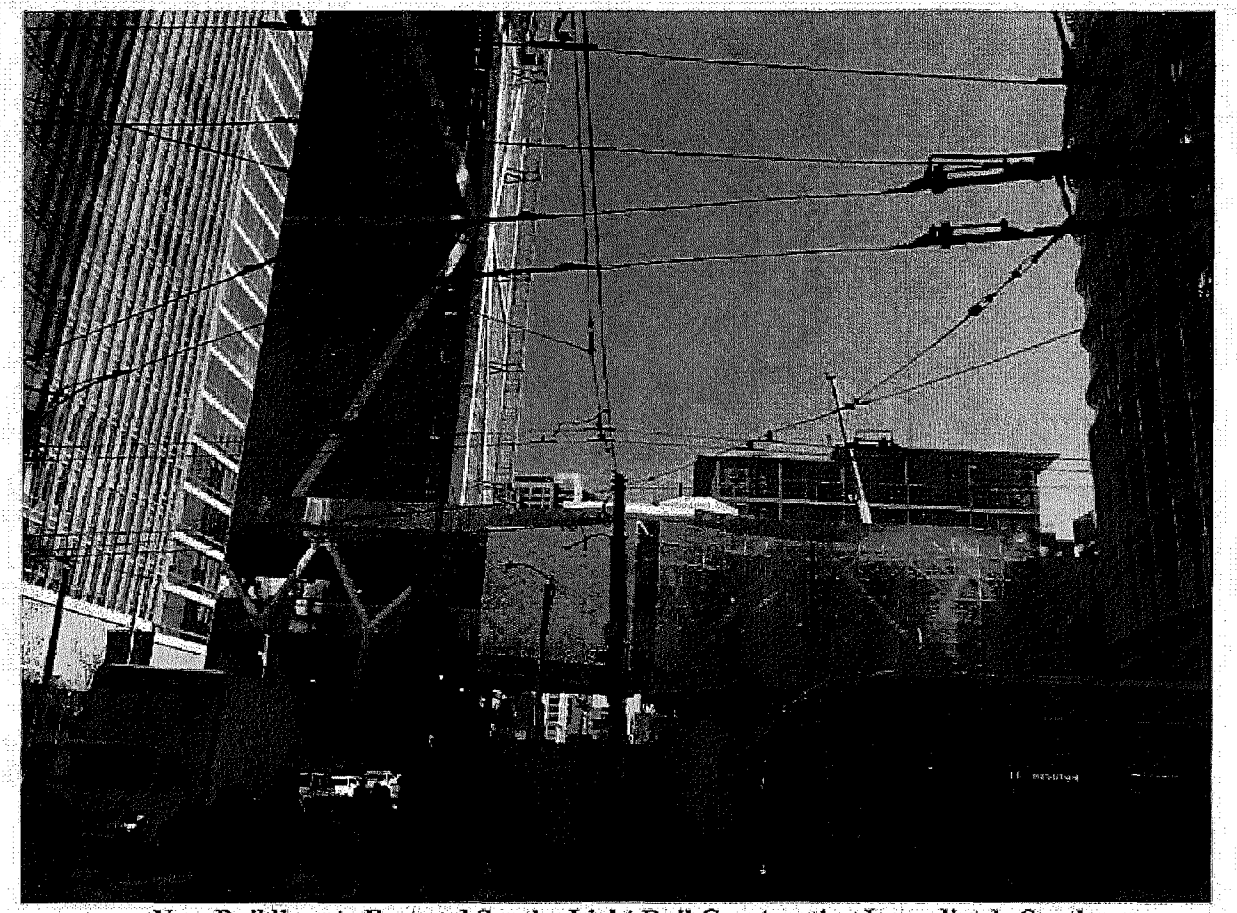
OVERALL SECTION LOOKING SOUTH


LOCATION OF TILTMETERS
361 MISSION STREET BASEMENT LEVEL B-1
PLATE 14
ARUP
BEALE STREET
MISSION STREET
FREMONT STREET
LEGEND


LOCATION OF UTILITY CROSSING MONITORING:
301 MISSION STREET BASEMENT LEVEL B-1
Transbay Transit Center
301 Mission Monitoring - Utility Crossings
Transbay Joint Powers Authority
San Francisco, California
April 2013
ARUP
PLATE 1
BEALE STREET
MISSION STREET
FREMONT STREET
STOP
STOP
UC-1
UC-2
UC-3
UC-4
UC-5
UC-6
UC-7
UC-8
UC-9
UC-10
LEGEND
Utility Displacement Gauge
Mounted on the utility conduit



Aerial of Millennium Complex. See below for new construction to East and South.



New Buildings to East and South. Light Rail Construction Immediately South

Exposures

Latitude	Longitude
37.790543 N	122.395922 W

Earthquake

Earthquake Hazard Category	Risk Rating
Total Earthquake Risk	*10*
Controlling Fault Name	*N San Andreas*
Distance to Controlling Fault	*9 miles*
Soil Type	*Soft Soil*
Liquefaction Susceptibility	*Yes*
MMI Value 100 yr.	*9.25*
MMI Value 250 yr.	*10.14*
MMI Value 500 yr.	*10.77*
Peak Ground Acceleration 100 yr.	*0.62*
Peak Ground Acceleration 250 yr.	*1.15*
Peak Ground Acceleration 500 yr.	*1.78*
PML – 500 Year	*35%*

Key to Earthquake Risk Ratings	
The Modified Mercalli Intensity Scale (MMI) is a qualitative ranking of earthquake intensity as categorized into 12 ratings by the US Geological Survey	
I.	**Vibrations felt only by a few people under very special circumstances.**
II.	**Vibrations felt a few people on upper floors of buildings and in position to observe the swinging of suspended objects.**
III.	**Vibrations felt generally by people indoors but may not be any more intense than those due to a passing vehicle.**
IV.	**Vibrations felt almost all people indoors and some outdoors. Some objects displaced. Sounds produced in structures. Some vehicles perceptibly rocked**
V.	**Vibrations felt by everyone. Some objects rocked off of tables and shelves. Some objects overturned.**
VI.	**Vibrations and motion felt by everyone. Even heavy objects displaced. Some structural damage such as to plaster or wallboard.**
VII.	**Some structures, such as brick chimneys, damaged. Slight damage in other structures such as wood-frame buildings.**
VIII.	**Structural damage to even well-designed structures. Frame structure walls pushed out of shape. Masonry structures destroyed. Heavy objects overturned.**
IX.	**Considerable damage to structures, even partial collapse. Some structures shifted off of foundations.**
X.	**Even wood-frame structures destroyed. Foundations damaged. Rails bent.**
XI.	**Almost all masonry structures destroyed. Wood-frame structures generally damaged and some destroyed. Metal structures such as bridges destroyed and rails severely bent.**
XII.	**Most structures destroyed. Elevation or subsidence of land forms. Some objects thrown into the air.**

Information obtained from RiskMeter

Flood

Information obtained from RiskMeter

Flood Risk Analysis	
Risk Score *(Sliding Scale from 10-100)*	73
Risk Rating	High
Flood Zone	N
Elevation Variance Feet	N/A
Definition: *A variance calculated in feet between the Property Elevation Feet and Water Surface Elevation feet.*	
Property Elevation Feet	12.8
Definition: *Ground elevation in feet of the property using the location coordinates and is component for deriving the Elevation Variance Feet.*	
Water Surface Elevation Feet	N/A
Definition: *Serves as the proxy for the elevation of the 100-year flood and is component for deriving the Elevation Variance Feet.*	
Distance One Hundred Year Flood Plain Feet	
Definition: *Distance in feet between the property and the boundary of the 100-year flood zone located in the same catchment or subwatershed.*	
Notes	N/A
Subwatershed Name	Angel Island- San Francisco Bay Estuaries
Definition: *Name of the subwatershed in which the property is located.*	
Subwatershed Code	180500021001
Definition: *Hydrological Unit Code (HUC) in which the property is located.*	
Community Number	060298
Community Name	SAN FRANCISCO, CITY OF
Map Panel	001
Map Suffix	N
Map Date	
Original FIRM Date	
Participation Status	R
State County FIPS Code	06075
Additional Impact Areas	No additional impact areas found

Wind Probability	
Hurricane Wind Probability Risk Description	Very Low
Hurricane Wind Probability Risk Level	1
Hurricane Wind 100-Year Probability	0
Straight Wind Probability Risk Description	Very Low
Straight Wind Probability Risk Level	1
Straight Wind 10-Year Probability	0.001
Tornado Wind Probability Risk Description	Very Low
Tornado Wind Probability Risk Level	1
Tornado Wind 10-Year Probability	0.026
Is in Special Wind Area	False

External

North	AS High rise building across Mission Street
South	Underground station (partial AS)
East	AS high rise across Beale Street plus 100 feet setback
West	AS high rise across Fremont Street

Risk Reduction Programs

Housekeeping

Excellent with a few minor exceptions.

Hot Work Program

A written hot work permit system is in use. The permit requires a 30 minute fire watch after the completion of any hot work.

Emergency Organization & Pre-Planning

A written comprehensive emergency plan has been prepared for the buildings. The plan includes an emergency plan that is provided for each resident. There is also a plan that includes all emergencies for building management and engineering. The plan is reviewed and updated as necessary.

Organization	Response	Type	Distance	Comments
San Francisco Fire Department	Structural	Paid	0.60 miles	Excellent resources and training. Three Stations within 1.5 miles

There is a formal water mitigation program that includes a response program, pressure regulating valve inspections and every shift back of house inspection. Curbs are provided in mechanical rooms where water piping is present.

Fire Protection System Testing & Maintenance

System	Weekly	Monthly	Quarterly	Six Months	Annual
Extinguishers – Visual		X			
Extinguishers – Maintenance					X
Fire Pump – Inspection/Operation		X			
Fire Pump – Capacity Test					X
Control Valves – Visual Inspection		X			
Control Valves – Maint./Operation					
Valve Tamper Switches				X	
Sprinkler Waterflow Alarms				X	

System	Weekly	Monthly	Quarterly	Six Months	Annual
Fire Alarms				X	
Wet Pipe Systems		X			X
Kitchen Wet Chemical Extinguishing Systems				X	
Hose Stations		X			
Detection Systems and Notification Devices				X	
Fire Doors, Dampers and Penetrations					X

Fire Protection Impairment Handling

Impairments are reported to the insurance carrier and to the fire department.

Fire Protection

Water Supply & Distribution System

Water Supply Description

Water supply is from an 8-inch fire service connected to the city water main in Mission Street. The city supply is reduced to 30 psi at the pressure regulating valve (PRV) valve on the suction side of the low zone fire pumps. The low zone fire pumps supply low zone standpipes and sprinkler systems.

Low zone standpipes supplied from the low zone fire pumps supply the high zone fire pumps. The low zone fire pumps can also take suction from the fire water tank in the basement.

Pump	UL Listed	Driver	Rated Flow	Rated Pressure	Suction Source
01A	Yes	Electric	1000	180	Basement Tank
01B	Yes	Electric	1000	180	Basement Tank
02A	Yes	Electric	750	255	26TH Floor main from Bsmt fire pumps
02B	Yes	Electric	750	255	26TH Floor main from Bsmt fire pumps

Distribution System Description

Testing Results

Driver	Rating			Flow	Suction	Discharge	Press	RPM	Speed Correction	
	GPM	PSI	RPM						Flow	Pressure
LR01A Electric	0	199	3550	0	3	201	198	3550	0	198
	1000	180		1000	3	180	177	3550	1000	177
	1500	144		1500	3	144	139	3550	1500	139
LR01B Electric	0	199	3550	0	3	203	200	3550	0	200
	1000	150		1000	3	184	181	3550	1000	181
	1500	143		1500	3	146	143	3550	1500	143

Driver	Rating			Flow	Suction	Discharge	Press	RPM	Speed Correction	
	GPM	PSI	RPM						Flow	Pressure
HR02A Electric	0	290	3550	0	0	281	281	3550	0	281
	750	255		750	0	252	252	3550	750	252
	1125	217		1125	0	207	207	3550	1125	207
HR02B Electric	0	285	3550	0	0	273	273	3550	0	273
	750	255		750	0	243	24	3550	1000	181
	1500	143		1500	3	146	143	3550	1500	143

Fire Protection Systems & Equipment

Water Based Systems

Area	Design Density/Area	Demand (no hose)	Detection
Wet Pipe Sprinkler Systems			
Retail Areas	0.20/1549	569.9 @ 74.0	
Parking	0.15/1045	624.7 @ 43.4	
Parking	0.15/1540	441.5 @ 79.1	
Parking	0.15/1565	486.3 @ 58.2	
Residences	0.10/1540	123.1 @ 65.6	
Residences	0.10/1552	404.3 @ 77.6	
Residences	0.10/1519	476.7 @ 46.2	

Standpipe and Hose Stations

Standpipe hose outlets are provided in each stairwell on every floor.

Portable Extinguishing Equipment

An adequate number and proper type of portable fire extinguishers are distributed throughout. Residents are required to have extinguishers however there is no annual maintenance recorded or monthly checks

Fire Signaling System

All fire alarms are received at the security center which is occupied 24/7.

Fire Detection Systems

Smoke detection is provided in all areas with the exception of the gym. Residence smoke alarms are not connected to the security center.

Major Equipment

Transformers

Power is supplied by a PG&E owned transformer located in a concrete vault in the basement. Walls and ceiling are rated for 3-hours.

Power is distributed to the main panel, rated at 1200 amperes, in an adjacent room at 480 volt 3-phase power. The power is distributed to other electrical rooms in the Tower and the Podium. An emergency generator is rated at 1,000 KW located in a cut-off room in the Podium and supplies emergency power to selected areas of the buildings through automatic transfer switches.

The fire pumps have separate breakers and transfer switches.

All electrical rooms have fire sprinklers and smoke detection.

An IR survey was conducted on all major electrical panels. Problems found were corrected. The IR survey is currently done on a 5-year basis.

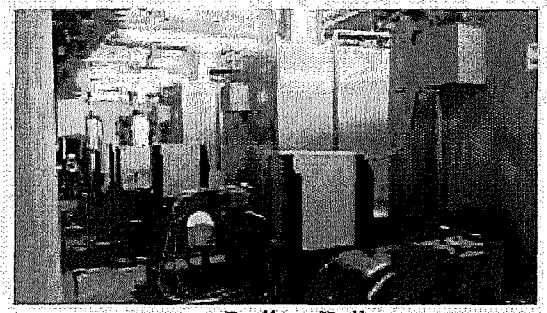
Natural Gas Supply

A 4-inch natural gas main enters the building on Beale Street. The main line splits into three lines with each line provided with a seismic gas shutoff valve. The pipe entering the Tower from the Podium structure side and is provided with welded stainless steel braided flex pieces to provide flexibility to allow for settling and earthquake induced motion. Seismic bracing was recently added to all gas piping to Factory Mutual requirements. Leak testing was recently conducted on main gas lines.

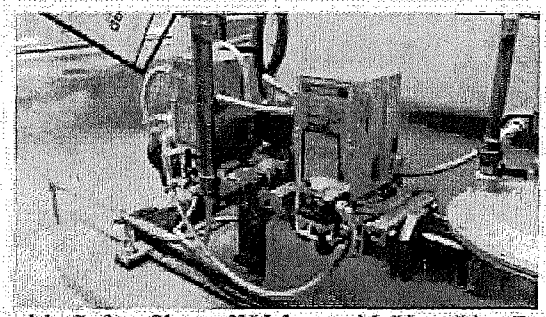
Boilers

There are three natural gas fired hot water boilers in the Tower. The boilers are rated at 2,400,000 btu/hr. input. All are equipped with safety shut-off valves and flame failure.

There are three natural gas fired hot water boilers provided for the common area and the twelve story mid-rise. These boilers are rated at 4,000,000 btu/hr each. All boilers are equipped with flame failure, double block and bleed safety shut-off valves and high and low gas pressure switches. In addition the boilers are provided with low water cut-off.



Podium Boilers



Double Safety Shut-off Valves with Vent Line Between

HVAC

Heating and cooling is provided by heat pumps in residential units.

Package units are provided for the common areas

Two cooling tower is provided on the roof of the Podium Tower. The towers are metal frame with PVC fill. Vibration monitoring is provided for the fans.

Loss History

No property related losses have been reported for this location.

EXHIBIT

B

EXHIBIT B

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ALLANA BUICK & BERS
Making Buildings Perform Better

November 15, 2016

John Gill
Hughes Gill Cochrane
1600 South Main Street, Suite 215
Walnut Creek, California 94596

Denis F. Shanagher
Duane Morris LLP
Spear Tower
One Market Plaza, Suite 2200
San Francisco, CA 94105-1127

Re: The Millennium Tower Site Utilities Connections Investigation
Progress Report - DRAFT

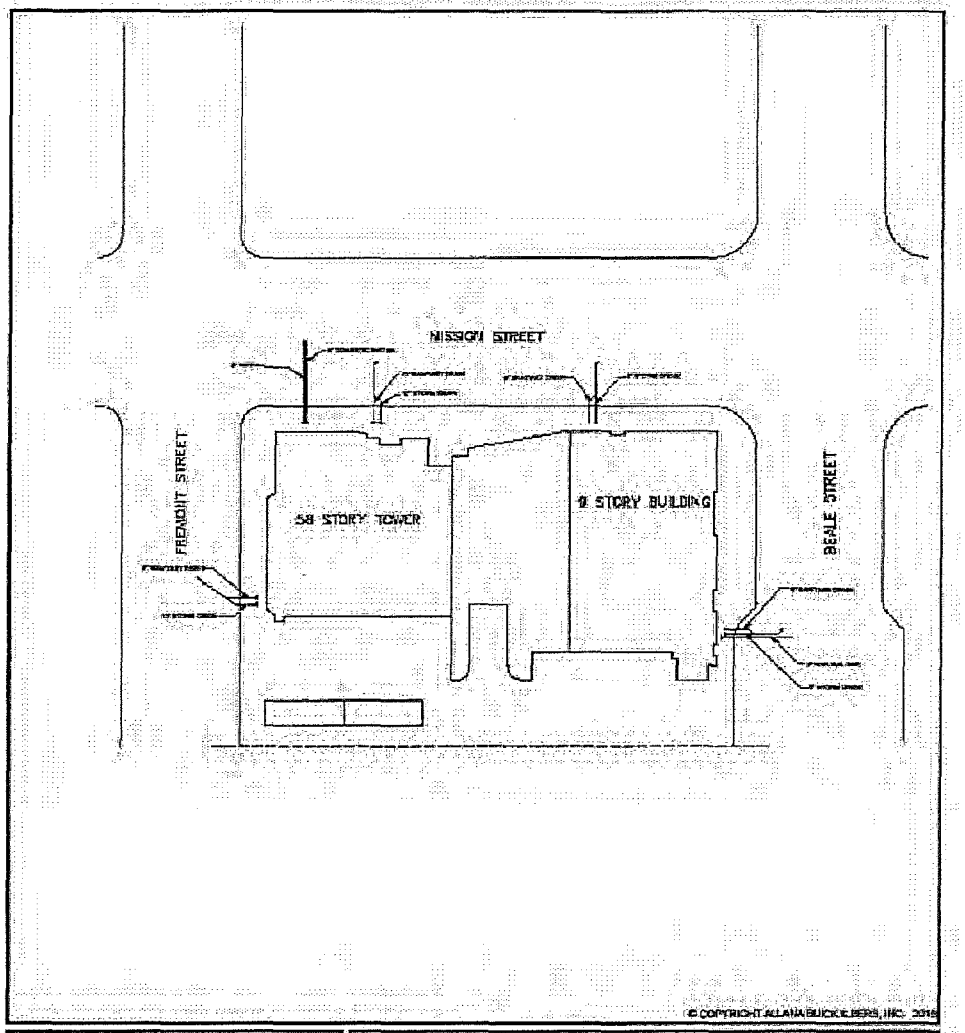
John and Denis,

In accordance with your request, Allana Buick & Bers, Inc. (ABBAE) is in the process of conducting a field investigation and analysis of the site utility pipe connections at The Millennium Tower in San Francisco, CA. We are pleased to present Hughes Gill Cochrane (HGC) with a progress report of our investigation and preliminary findings.

Background

The Millennium Tower site consists of a 58 story multi residential hi-rise and a 9 story lo-rise building, built during 2008 and 2009. Reports of the building sinking 16 inches has caused concern for the status of the building utility connections and their ability to sustain the building's vertical movement of that magnitude relative to the surrounding site. The focus of the investigation will be to report on the existing conditions of the building utility connections and to provide analysis and repair recommendations based on our findings.

- The Millennium Tower site utilities include domestic water service, fire water service, sanitary drain laterals, storm drain laterals, electrical power supply and natural gas supply.
- The Fremont Street building side has set of 8" sanitary drain and a 10" storm drain connections.
- The Mission Street building side has an 8" fire water service connection, an 8" domestic water connection, one set of 10" sanitary drain and 10" storm drain connections and one set of 8" sanitary drain and 8" storm drain connections.
- The Beale Street building side has a set of 8" sanitary drain and 8" storm drain connections and a 3" natural gas supply connection.



ALLANA BUICK & BERS

UTILITY SITE PLAN

MILLENIUM TOWER
UTILITY CONNECTION INVESTIGATION

Huges Gill Cochrane, P.C.
1600 South Main Street, Suite 215, Walnut Creek, CA

PROJECT NO.	DRAWN	CHECKED	SCALE
16-4004.01	TE	EM	NTS

ISSUE: -
DATE: 10/10/2016
DRAWING NO.: -
REF: -

Site Survey

An initial non-destructive site survey was conducted by ABBAE staff on October 3, 2016. The Millennium Tower utility pipes were observed, where each pipe enters the building perimeter at the first level of the parking garage (B1). With the exception of the natural gas supply pipe all the utility pipe penetrations through the basement wall are routed through concrete "cored" openings and sealed with Link-Seal sleeves. The condition of the visible pipe sections in the parking garage level appeared to be in good condition.

The natural gas supply pipe is routed through the perimeter basement wall and encased in concrete and then rises into the gas meter room (facing Beale Street). The gas pipe is therefore not visible until it enters the gas meter room floor. On October 17, 2016 a gas leak test was conducted on site which included these locations:

- Gas meter room at supply pipe floor penetration
- Side walk control joints on Beale street side adjacent to gas meter room
- Natural gas street shutoff valve vault

No gas leaks were detected.

On October 27, 2016, ABBAE staff conducted a site observation of the piping routed through the expansion joint between the high rise and low rise towers at the B1 basement level. Hot water piping, chilled water piping, natural gas piping, domestic water piping that cross the expansion joint are equipped with "expansion loops" made up of flexible fittings and piping offsets. The observed piping joints appeared to be functioning properly. A 4" domestic water supply main, which is routed through the expansion joint, appears to be wedged between an adjacent chilled water line and the bottom of the floor slab. No damage was observed. We recommend further assessment of this site condition.

Construction Period RFI Review

ABBAE has reviewed the record Millennium Tower- Plumbing As-built drawings and the submitted construction period RFIs regarding plumbing issues.

The following is a brief summary of the submitted Webcor RFI's pertaining to the Millennium building utility line entries:

5.4.06 (RFI 222)
Handel Architects recommends the use of flexible connections at building utility line entries (the high rise only), despite Webcor's understanding from Geotech & Structural Engineers opinion that flex connections are not necessary because the building will settle together with the surrounding site.

5.18.06 (RFI 251 R1)
Flack & Kurtz Engineers describe methods of providing flexible connections for building utility line entries:

- Pressure piping (Fire / Domestic Water) – (4) 90 degree ells using ductile iron piping and mechanical couplings
- Drain piping (Storm / Sanitary) – (2) 1/8 bends using cast iron piping with heavy duty couplings

7.7.06 (RFI 354)
Flack & Kurtz Engineers provide details of flexible connection applied to the 8" fire service pipe (Mission St side of building):

- (2) flanged ball joints distanced 36" apart with connector pipe.
- Ball joints to be Hyspan Barco BB31533-68-11 Type N
- Sizing based on **total building settlement** of 6"

10.5.06 (RFI 354 R1)
4.13.07 (RFI 354 R1)
Flack & Kurtz Engineers provide design and specification revisions to flexible connection for the 8" fire service pipe (Mission St side of building):

- Add expansion joint fitting in the connector pipe between the (2) flanged ball joints.
- The expansion joint fitting is to be Hyspan 1501-167-2
- Change Ball joints to be Hyspan Barco BB31533-68-21 Type N
- Sizing based on total building settlement of 6"

7.31.07 (RFI 354 R2)
Flack & Kurtz Engineers confirm that the design and specification revisions to the flexible connection for the 8" fire service pipe (Mission St side of building) will accommodate the two building settlement scenarios: 1)building settles 6" alone 2)building settles 6" with surrounding site.

7.10.08 (RFI 2492)
7.24.08 (RFI 2492 R1)
Due to a 6" settlement of the building, causing back sloping of the storm and sanitary pipes on the Mission Street side , Flack & Kurtz has approved restoring the slope of the drain piping by raising the pipe penetrations through the B1 level foundation wall by 8".

7.25.08 (RFI 2525 R1)
Flack & Kurtz Engineers provides details of flexible connections to be applied to the storm and sanitary service pipes at entry to building:

- (2) flanged ball joints distanced 48" apart with connector pipe.
- Ball joints to be Hyspan Barco

8.4.08 (RFI 2525 R2)
Flack & Kurtz Engineers provides specification revisions to flexible connections applied to the storm and sanitary service pipes at entry to building:

- Ball joints to be Starflex

7.24.08 (RFI 2564)
7.31.08 (RFI 2564 R1)
Due to a 6" settlement of the building, causing back sloping of the storm and sanitary pipes on the Fremont Street side , Flack & Kurtz has approved restoring the slope of the drain piping by raising the pipe penetrations through the B1 level foundation wall by 8".

Preliminary Findings

In review of the Webcor construction RFIs submitted above which pertain to building utility line entries it appears that the design team had addressed the future building settlement with the assumption of a maximum vertical movement of 6 inches. Flexible connections consisting of (2) or (3) pipe ball joints were proposed for the Fire Service main, the storm and sanitary sewers and possibly the domestic water main. It is not clear from these documents if in fact the flexible connection assemblies were installed.
A review of the Plumbing (Broadway Mechanical) and Civil (Telemon Engineering) As-built drawings did not result in finding any detailed reference to the flexible connection assemblies discussed or described in the RFIs.

To date, we have no confirmation as to the actual installation details of the building utility line connections at the perimeter of the building site. We therefore recommend subgrade investigation work to confirm the existing conditions at the utility pipe entries to the building. The purpose of the investigation, going forward, will include the following:

- Verify the existing utility pipe connection methods at each entry location to accommodate building settlement or movement.
- Verify condition and integrity of the subgrade piping at each location.
- Analyze the excavation findings and recommend repair work.

Further Investigation

This next step in the investigation will entail exterior street side excavation at each building utility entry location. This investigation will include observations around storm and sanitary drains, fire, domestic water and natural gas lines. Excavations will need to extend at least 3 feet wider than the marked utility lines and approximately 10 feet away from the building. The entire circumference of the utility lines needs to be exposed in order to assess the condition of the pipes and the construction of any flexible connections to accommodate settlement.

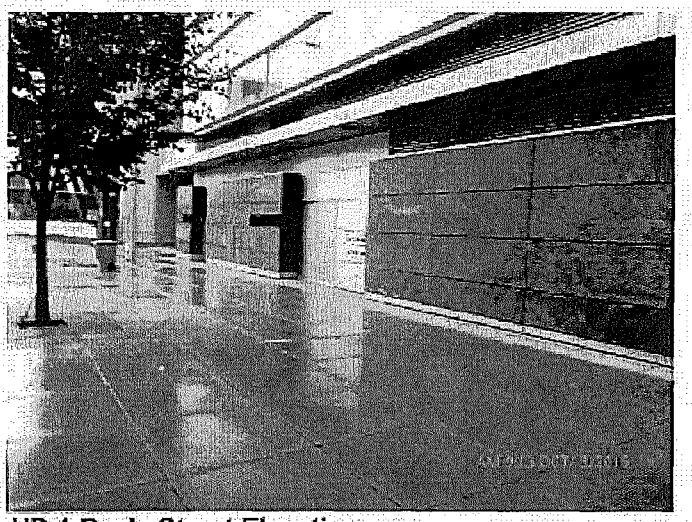
This investigation needs to be coordinated with local building officials, utility companies, telecommunication companies, and trades people that are capable of performing emergency repairs as needed. This investigation should include electrical, plumbing, cabling, fire sprinkler, and sewer. The photo section in this report shows locations of pipe penetrations from the garage and street level.

Sincerely,

Allana Buick & Bers, Inc.

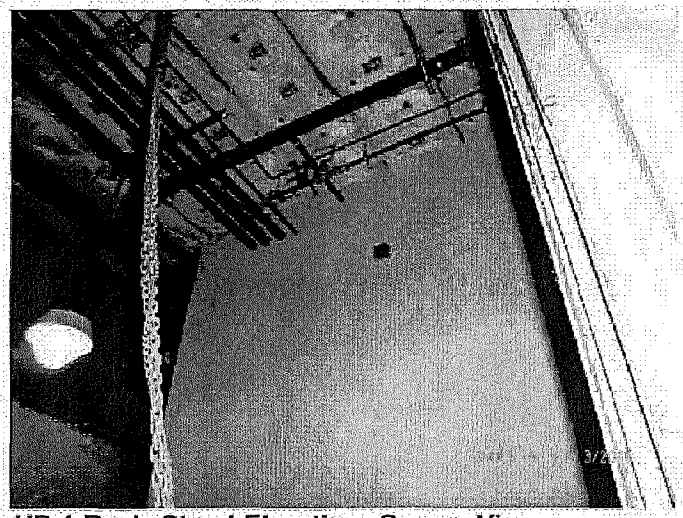
Eli Margalit, P.E., LEED AP
Forensic Mechanical Engineer

Photo Section

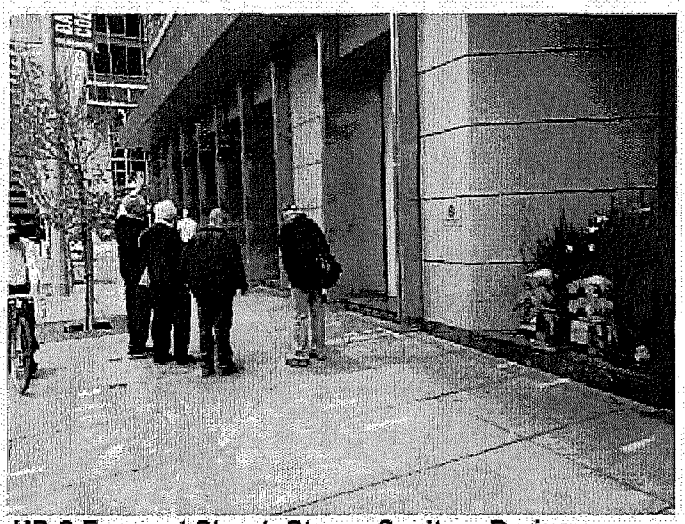


UP-1 Beale Street Elevation

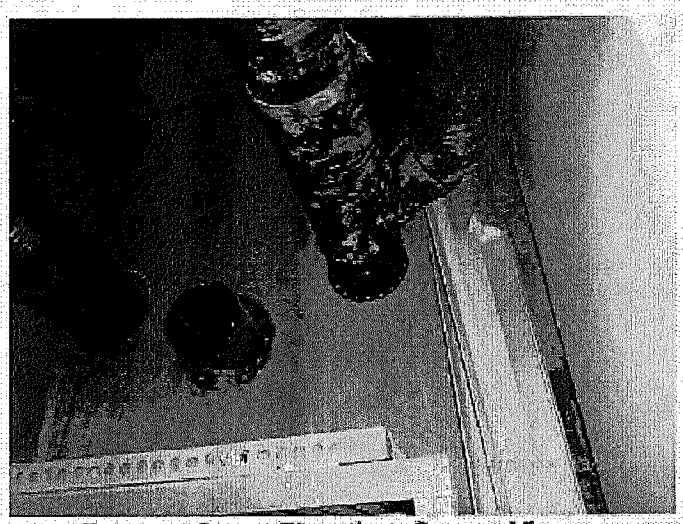
UP-1 Beale Street Elevation: Storm, Sanitary and Natural Gas



UP-1 Beale Street Elevation: Garage View



UP-2 Fremont Street: Storm, Sanitary Drains

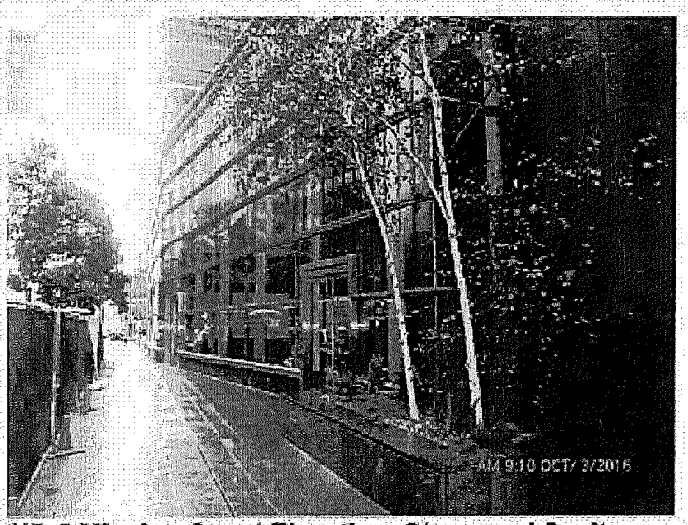


UP-2 Fremont Street Elevation: Garage View

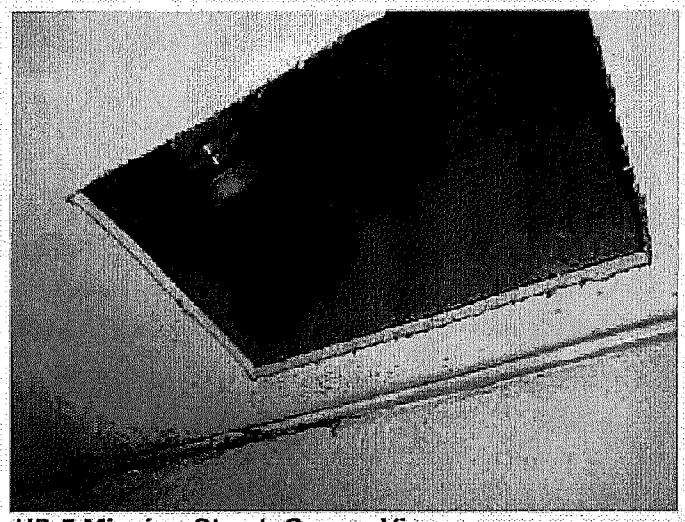
UP-3 Mission Street: Domestic Water and Fire

UP-3 Mission Street: Garage View

UP-4 Mission Street Elevation: Storm, Sanitary



UP-5 Mission Street Elevation: Storm and Sanitary



UP-5 Mission Street: Garage View

EXHIBIT

C

EXHIBIT C

subtronic corp

NULCA - NASSCC - APWA - AWWA - Members

5031 Blum Road
Martinez, California 94553
Telephone (925) 228-8771
Fax No. (925) 228-8737
www.subtronic.com

GAS LEAK INVESTIGATION REPORT

Date: 10/20/2016 **Date of Inspection: 10/17/2016**

Site address: Millennium Tower, 301 Mission Street, San Francisco, CA

Client: Allana, Buick and Bers

990 Commercial Street, Palo Alto CA 94303

Attn: Eli Margalit, 650 543-5605

Reason for Inspection: Check for natural gas leaks on service from gas valve on Beale St to utility room.

Investigations: On 10/17/2016 at 9 am, we arrived at the property on **301 Mission Street in San Francisco** and began an inspection of the area from the PG&E gas valve in the sidewalk to and into the utility room where the gas line comes up to feed the building.

A portable flame irrigation detector (DP4) was used to detect trace amounts of natural gas (down to 1 ppm) by placing its sensor into the gas valve sleeve for 30 seconds with no gas detected. This same 30 second interval was used to check the entire sidewalk area between the valve and the building's exterior as well as the interior of the utility room where the gas supply line comes up to feed the building.

Conclusions: No natural gas was detected outside the building in the vicinity of the service line or inside in the meter room where it rises.

Report Prepared By: Mark Sturdevant

Report QA by: Jon Taylor

EXHIBIT

D

EXHIBIT D

Seismic Upgrade

301 Mission, Garage Floor

Tol-Brace Seismic Calculations

B-Line by EATON

Brace Information | Tolco Brace Components | Assembly Detail | Fastener Information | Load Information

Tol-Brace Seismic Calculations

B-Line by EATON

Brace Information | Tolco Brace Components | Assembly Detail | Fastener Information | Load Information

Tol-Brace Seismic Calculations

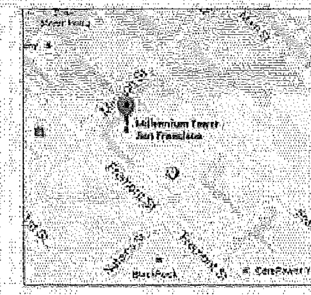
B-Line by EATON

Brace Information | Tolco Brace Components | Assembly Detail | Fastener Information | Load Information

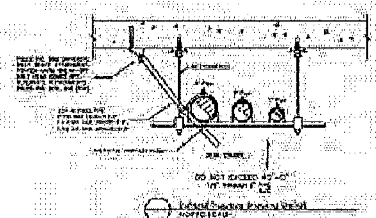
Tol-Brace Seismic Calculations

B-Line by EATON

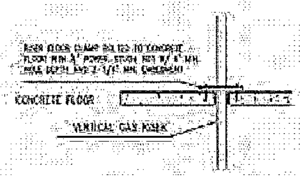
Brace Information | Tolco Brace Components | Assembly Detail | Fastener Information | Load Information



SITE MAP

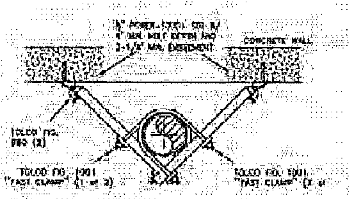


Detail 1



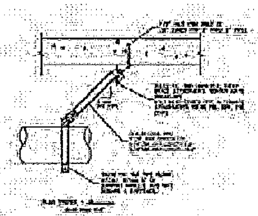
SECURE PIPE CLAMP TO EVERY 4TH FLOOR

Detail 3



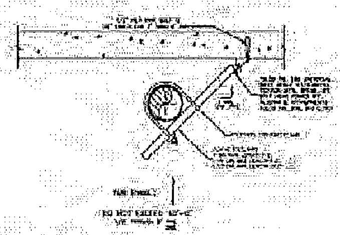
FAST CLAMP RISER BRACE
FOR TOP AND BOTTOM OF VERTICAL RISER(S)

Detail 2



LONGITUDINAL BRACING DETAIL

Detail 4



LATERAL BRACING DETAIL

Detail 5

GENERAL NOTES:

2. All pipe locations and elevations to be verified in the field.

SCOPE OF WORK

SEISMIC UPGRADE FOR GAS PIPING WITHIN THE FACILITY

CODES & REGULATIONS

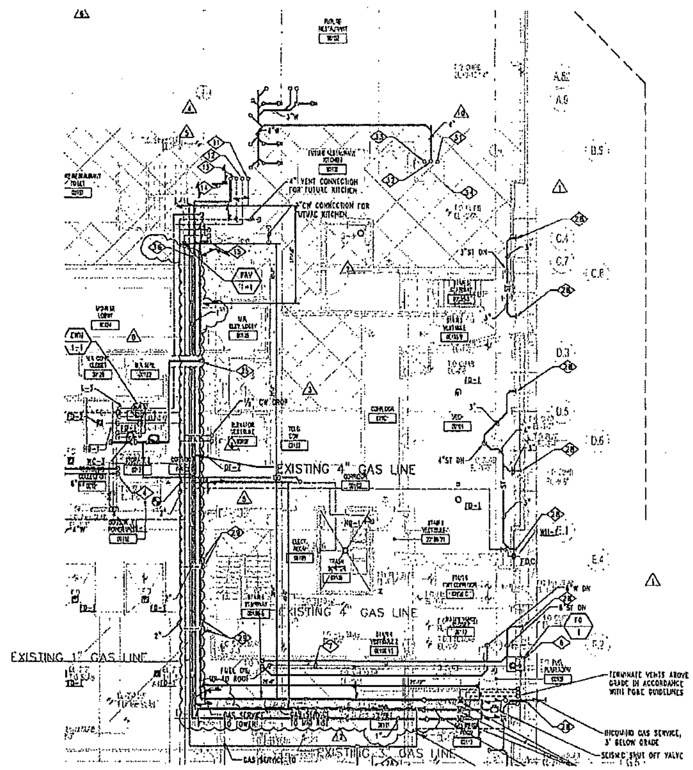
Fire Protection

MILLENNIUM TOWER
301 MISSION ST.

SEISMIC UPGRADE
Millennium Tower
301 Mission St.
San Francisco

COVER SHEET

FP1 1 of 4



LEVEL 1 PIPING PLAN

SCALE: 1/8" = 1'-0"

SUMMARY

- There are three natural gas mains that enter the building on Level 1 on Beale St. that are hanging from a trapeze. Additional seismic bracing is warranted for the natural gas main piping that supplies the high-rise Millennium Tower.

-On Level 1, for the 3" & 4" natural gas pipe, add lateral and longitudinal bracing within 2'-0" of a change in direction. The existing 1" natural gas pipe does not need bracing per FM Global.

-On Level 1, for the 4" natural gas pipe, add lateral bracing there is an existing trapeze. Look to detail 1 on FP-1. Lateral bracing is not to exceed 40'-0" per seismic calculations.

-On Level 1, for the 4" & 3" natural gas pipe, add longitudinal bracing. Look to detail 4 on FP-1. Longitudinal bracing is not to exceed 80'-0".

-On Level 1, for natural gas main riser, add four way bracing within 24 in. of the top and bottom of riser. Look to detail 2 on FP-1.

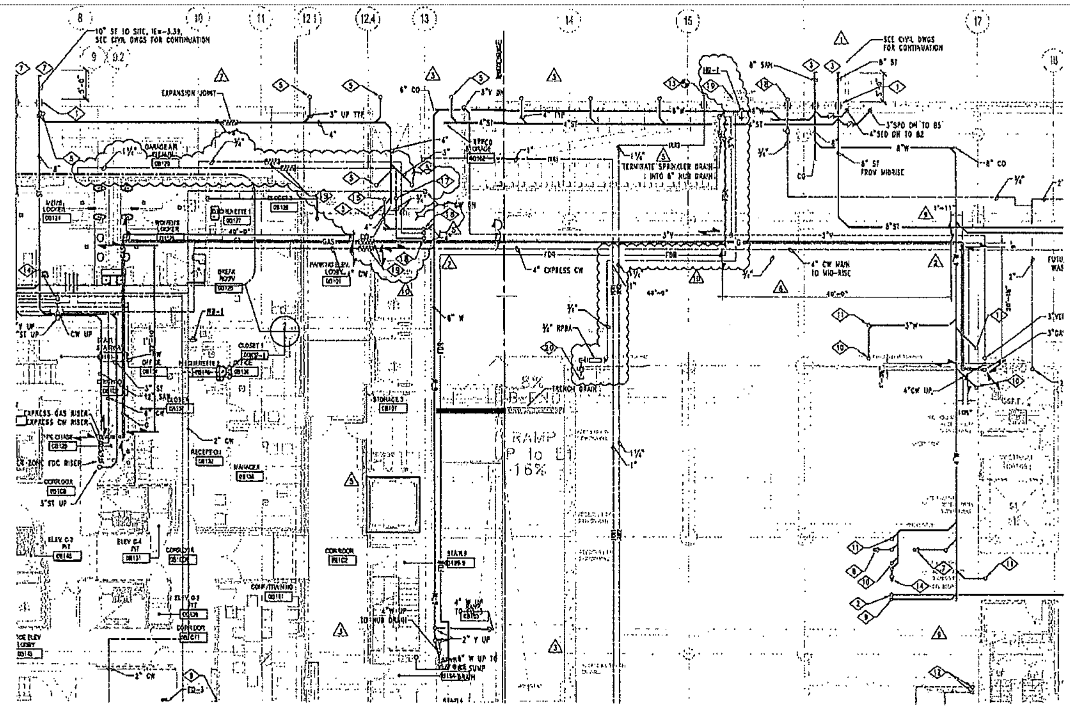
Fire Protection

MILLENNIUM TOWER
301 MISSION ST.
SAN FRANCISCO

SEISMIC UPGRADE
LEVEL 1
301 MISSION ST.
SAN FRANCISCO

Piping Plan

FP-2 2 of 4



BASEMENT LEVEL PIPING PLAN

SCALE: 1/8" = 1'-0"

SUMMARY

- *In the Basement level, for the 4" natural gas pipe, add lateral and longitudinal bracing within 2'-0" of a change in direction.*

-In the Basement Level, for the 4" natural gas pipe, add lateral bracing. Lateral bracing is not to exceed 40'-0" per seismic calculations. Look to detail 5 on FP-1.

-In the Basement level, for the 4" natural gas pipe, add longitudinal bracing. Longitudinal bracing is not the exceed 80'-0" per seismic calculations. Look to Detail 4 on FP-1.

-In the Basement Level, for the 4" natural gas main riser, add four way bracing within 24 in of the top and the bottom of the riser. Look to detail 2 on FP-1.

Fire Protection

SYMBOLS & ABBREVIATIONS

MILLENIUM TOWER

301 MISSION ST.

SAN FRANCISCO

STATUS	DATE

SEISMIC UPGRAD

BASEMENT

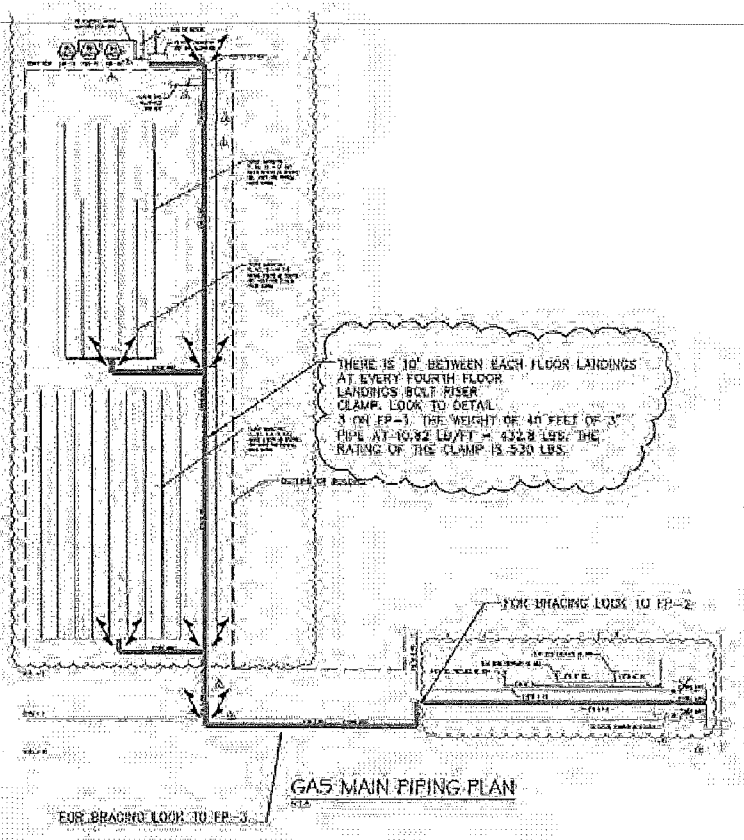
301 MISSION

SAN FRANCISCO

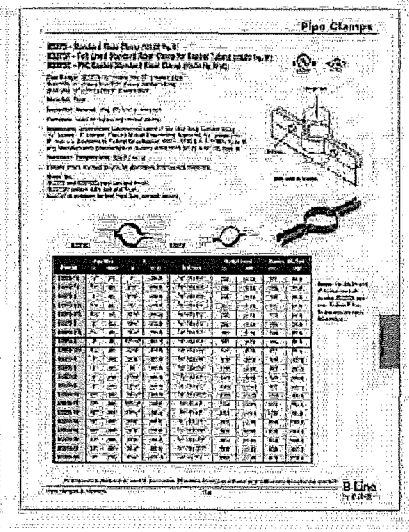
Piping Plan

FP-3

3 of 4



GAS MAIN PIPING PLAN



SUMMARY

- The natural gas riser in the Millennium Tower needs seismic bracing upgrade.
- On natural gas riser, install seismic pipe clamps every 4th floor landings for seismic bracing. Look to detail 3 on FP-1.
- Sections of horizontal branches coming off of the natural gas riser for the high rise Millennium Tower that are later in diameter than 2.5in. are subject to upgrading seismic bracing.
- For the horizontal branches coming off the vertical gas riser, add four way bracing to both ends of pipe as shown.

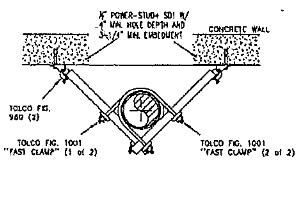
SEISMIC UPGRADE
GAS RISER
301 MISSION
SAN FRANCISCO

PIPING PLAN

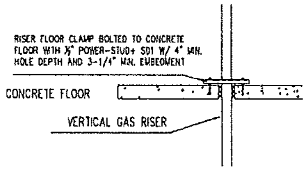
FP-4

Gas Siesmic Upgrade

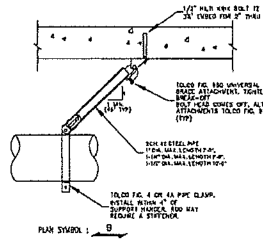
301 Mission, Basement



FAST CLAMP RISER BRACE
FOR TOP AND BOTTOM OF VERTICAL RISER(s)

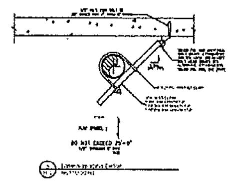


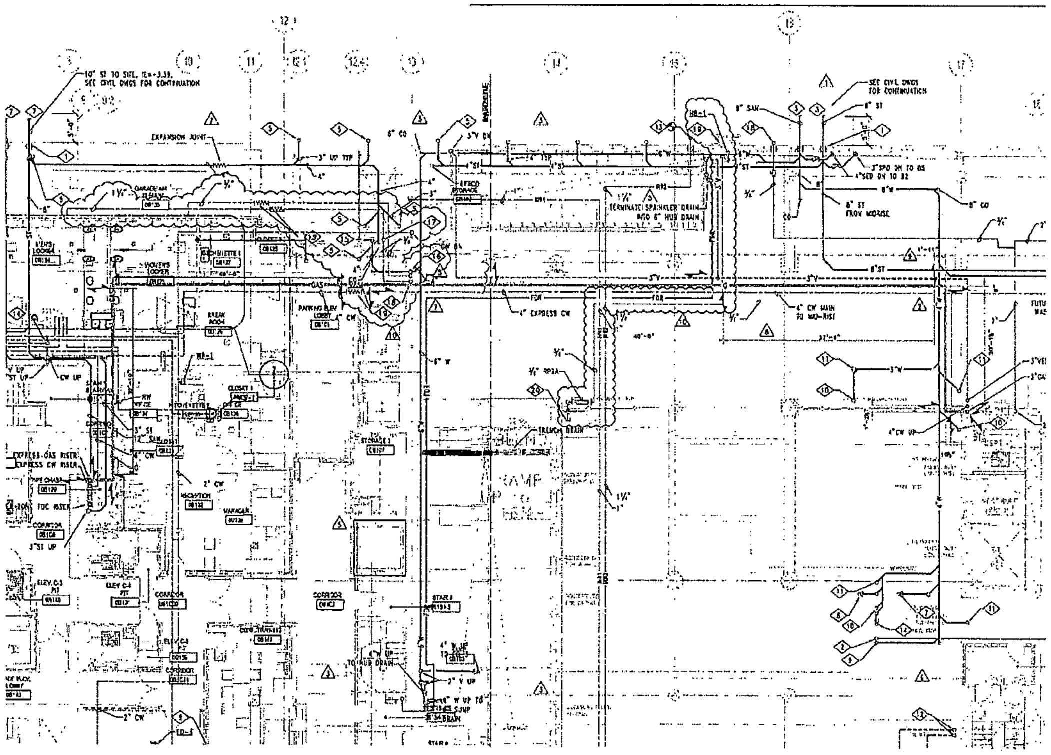
SECURE PIPE CLAMP TO FLOOR



2 WAY LONGITUDINAL RIGID BRACE

LONGITUDINAL BRACING DETAIL
NOT TO SCALE





SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. The new improvements to the existing gas system shall be installed and in accordance with NFPA 13-2013 Edition, Data Sheet 1-11 *Fire Following Earthquake*, Data Sheet 2-8 *Earthquake Protection for Water-Based Fire Protection Systems*, Data Sheet 7-54 *Natural gas and Gas Piping* Per FM Global.
2. All pipe locations and elevations to be verified in the field.
3. Block/ Lot #. 3719/012
4. All piping shall be hydrostatically tested in accordance with requirements of section 24-2.1.1 of NFPA-13
5. Design Data :
   - A. Construction Type: I
   - B. Occupancy Class: B
   - C. # of Floors. 58
   - D. Hazard Classification: N/A
   - E. Remote Area. N/A
   - F. Area of Density: N/A
   - G. Number of Sprinklers Calculated : N/A
   - H. Hose Stream Allowance : 100 (Inside)
   - I. Pipe Type: Black Pipe Sch-40 C=120 (100)
   - J. Fittings : #125 Cast Iron

SCOPE OF WORK

UPGRADE OF THE EXISTING GAS PIPING WITHIN FACILITY

EXCLUSIONS:

1. RELOCATION OF EXISTING MAIN AND BRANCHLINE PIPING DUE TO NEW CONSTRUCTION FRAMING, CEILINGS, HVAC AND ELECTRICAL.
2. SEISMIC/RESTRAINT UPGRADES.
3. CLEANING, PRIMING, OR PAINTING OF PIPE, FITTING, HANGER, ETC.
4. PROTECTION OF SPRINKLERS FROM PAINTING.
5. ELECTRICAL WIRING OF ANY NATURE, INCLUDING ALARM/MONITORING SYSTEM
6. FURRING OR BOXING FOR CONCEALMENT OF PIPE.
7. FIRE EXTINGUISHERS, HAND HOSES AND CABINETS.
8. CUTTING AND PATCHING OF EXISTING FINISHED SURFACES.
9. FIRE STOPPING OF RATED WALL ASSEMBLIES.

CODES & REGULATIONS

THIS PROJECT SHALL BE DESIGNED AND INSTALLED TO COMPLY WITH ALL CODES, STATUTES AND ORDINANCES IN FORCE IN THE CITY AND COUNTY OF SAN FRANCISCO, AND CALIFORNIA ADMINISTRATIVE CODE TITLE-24 INCLUDING:

2013 CALIFORNIA BUILDING CODE (PART 1 OF TITLE 24) and SAN FRANCISCO Code Amendments
2013 CALIFORNIA BUILDING CODE (2009 IBC-PART 2 OF TITLE 24)
2013 CALIFORNIA ELECTRICAL CODE (2008 NEC-PART 3 OF TITLE 24)
2013 CALIFORNIA MECHANICAL CODE (2009 UMC-PART 4 OF TITLE 24)
2013 CALIFORNIA PLUMBING CODE (2009 UPC-PART 5 OF TITLE 24)
2013 CALIFORNIA ENERGY CODE (PART 6 OF TITLE 24)
2013 CALIFORNIA FIRE CODE (2009 IFC = PART 9 OF TITLE 24)
2013 NFPA 13 AS MODIFIED BY THE STATE FIRE MARSHAL and SAN FRANCISCO
2013 NFPA 24 AS MODIFIED BY THE STATE FIRE MARSHAL and SAN FRANCISCO

ALONG WITH ANY OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS AS REFERENCED IN PART 9 OF TITLE 24.

Design, Installation, Inspection, and Repair of Fire Sprinkler Systems

Fire Protection

SYMBOLS & ABBREVIATIONS

MILLENIUM TOWER

301 MISSION ST.

SAN FRANCISCO

FIRE SPRINKLER DESCRIPTIONS

STATUS

DATE

SEISMIC UPGRAD
BASEMENT
301 MISSION
SAN FRANCISCO

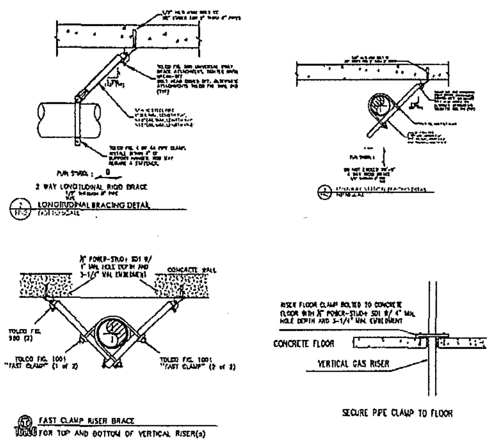
PIPING PLAN

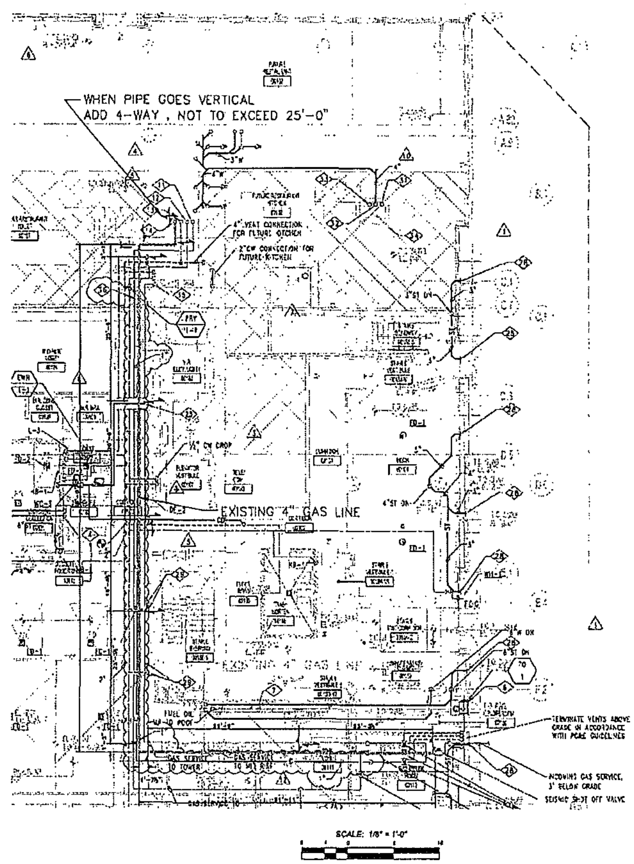
FP1

1 of 1

Seismic Upgrade

301 Mission, Garage Floor





GENERAL NOTES:

1. The new improvements to the existing gas system shall be installed and in accordance with NFPA 13-2013 Edition, Data Sheet 1-11 *Fire Following Earthquake*, Data Sheet 2-8 *Earthquake Protection for Water-Based Fire Protection Systems*, Data Sheet 7-54 *Natural gas and Gas Piping* Per FM Global.
2. All pipe locations and elevations to be verified in the field.
3. Block/ Lot #: 3719/312
4. All piping shall be hydrostatically tested in accordance with requirements of section 24-2.1.1 of NFPA-13
5. Design Data :
   - A. Construction Type. I
   - B. Occupancy Class: B
   - C. # of Floors: 58
   - D. Hazard Classification: N/A
   - E. Remote Area: N/A
   - F. Area of Density: N/A
   - G. Number of Sprinklers Calculated : N/A
   - H. Hose Stream Allowance : 100 (Inside)
   - I. Pipe Type: Black Pipe Sch-40 C=120 (100)
   - J. Fittings : #125 Cast Iron

SCOPE OF WORK

SEISMIC UPGRADE FOR GAS PIPING WITHIN THE FACILITY

EXCLUSIONS:

1. RELOCATION OF EXISTING MAIN AND BRANCHLINE PIPING DUE TO NEW CONSTRUCTION FRAMING, CEILINGS, HVAC AND ELECTRICAL
2. CLEANING, PRIMING, OR PAINTING OF PIPE, FITTING, HANGER, ETC.
3. PROTECTION OF SPRINKLERS FROM PAINTING.
4. ELECTRICAL WIRING OF ANY NATURE, INCLUDING ALARM/MONITORING SYSTEM.
5. FURRING OR BOXING FOR CONCEALMENT OF PIPE.
6. FIRE EXTINGUISHERS, HAND HOSES AND CABINETS.
7. CUTTING AND PATCHING OF EXISTING FINISHED SURFACES.
8. FIRE STOPPING OF RATED WALL ASSEMBLIES.

CODES & REGULATIONS

THIS PROJECT SHALL BE DESIGNED AND INSTALLED TO COMPLY WITH ALL CODES, STATUTES AND ORDINANCES IN FORCE IN THE CITY AND COUNTY OF SAN FRANCISCO, AND CALIFORNIA ADMINISTRATIVE CODE TITLE-24 INCLUDING:

2013 CALIFORNIA BUILDING CODE (PART 1 OF TITLE 24) and SAN FRANCISCO Code Amendments
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2013 CALIFORNIA FIRE CODE (2009 IFC - PART 9 OF TITLE 24)
2013 NFPA 13 AS MODIFIED BY THE STATE FIRE MARSHAL and SAN FRANCISCO
2013 NFPA 24 AS MODIFIED BY THE STATE FIRE MARSHAL and SAN FRANCISCO

ALONG WITH ANY OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS AS REFERENCED IN PART 9 OF TITLE 24.

Fire Protection

MILLENNIUM TOWER
301 MISSION ST.
SAN FRANCISCO

SEISMIC UPGRADE
GAS LINE, LEVEL ONE
301 MISSION ST.
SAN FRANCISCO

COVER SHEET

FP1

1 of 1

EXHIBIT

E

EXHIBIT E

NAME OF TEST	VENDOR RESPONSIBLE	FREQUENCY OF TEST	DATE OF RENEWAL	COST	NOTES	AGENCY OVERSIGHT
Fire Sprinkler System Test 5yr	RLH/ Eng	every 5 years	2019		done 2014	$23,000
Fire Sprinkler System Test	RLH/Eng	1X per year	March		visual in units needed	$11,674
Fire Alarm/life safety testing	redhawk/eng	2X per year	March/oct		testing in units needed	$19,809
SFFD Inspection	SFFD/Eng	1X per year	SFFD		dates by SFFD	$15,000
Fire Extinguisher Testing	Coast Fire Equipment	1X per year	November			$2,050
Fire Extinguisher Testing/6yr	Coast Fire Equipment	every 6 years	2020		6 yr service done oct 2014	
Fire Extinguisher Testing/12yr	Coast Fire Equipment	every 12 years	2020		Hydro test at 12 yrs	
Fire System Inspection	Engineering	3x daily			Daily rounds	
Fire system Monitoring	Engineering	3x daily			on line with Red Hawk	
Fire Pump Test	Engineering Dept.	weekly			in house run test	
Fire pump annual Test	RLH/eng	1x per year	march			
Fire Pump inspection	Engineering Dept.	3x daily			walk through inspt	
Fire Drill	Engineering Dept.	1X per year	August		building wide drill	
Life Safety Systems Checks	Engineering Dept.	Monthly			standpipe pressure cks	
Fire Safety System Training	Engineering Dept.	Monthly			review with security	
smoke detector cleaning	Engineering Dept.	2x per year				
Fire place inspections	Attractions services	Annually	call		cl indoor and outdoor	$1,500
Fire place inspections	Engineering Dept.	3x daily			cl indoor and outdoor	
Emer Generator Test/Maintenance	Cummins/Eng	Quarterly/Annually				$7,135
Emer Generator Test	Engineering Dept.	Monthly			in house run/load test	
Emer Generator Inspection	Engineering Dept.	3x daily			walk through inspt	
Elevator Testing/Maintenance	Mitsubishi/Eng	1X per year	March		run with emerg power	$228,889
Elevator Testing 5yr	Mitsubishi/Eng	every 5 years	2019		5 yr load test done 2014	
Elevator Testing	Mitsubishi	Monthly			Firemen safety test	
Elevator License Renewal	Mitsubishi/Eng	Annually	May			
Elevators C1-C6 Cosmetic Maint./CL	Interior Wood	Quarterly			all cars and cl lounge area	$9,580
Man lift Test/Service	Cromer	Monthly			B1-b5 garage	$2,700
Man lift Test	Engineering Dept.	Weekly			B1-b5 garage	
Manntech Inspection	AC3	Annually	September		Tower window rig	$2,000
Spider/Sky rider Inspection	AC3	Annually	April		Midrise window rig	$6,000
Manntech Rope change	AC3	every 5 years	2020		Tower window rig	$31,340
Manntech/sky rider preuse	AC3	as needed			Tower/midrise	$1,000
Mains Drain Maintenance	Impressive Plumbing	Quarterly			Jet all mains	$2,400
Domestic PRV Inspection	Engineering Dept.	Annually	July		Rebuild all prvs as necessary	
Circuit setter maintenance	Engineering Dept.	every 5 years	2020		access and clean all strainers	
Backflow Testing/certification	Backflow Prevention Specialists	Annually	March			
Expansion Tanks Checks/refill	Engineering Dept.	Annually	June		Domestic tanks	
Rn74 Jetting	Impressive Plumbing	Semi-Annually			Jet all mains in RN74	RN74 Covers
Planter box drain Maintenance	Engineering Dept.	Quarterly			Snake all drains	
Domestic water PSI check	Engineering Dept.	Bi-weekly			ck pressure all loops	
Drain clearing @ units 301&305	Engineering Dept.	Quarterly			inspect and clean	

Ci and 3rd fl drain check	Engineering Dept.	every 2 weeks			inspect and clean	
Eyewash station maintenance	Engineering Dept.	Semi-Annually				
All HVAC/boilers PM	Downing/ENG	Quarterly/annually				$61,971
BMS system PM	Automated Controls	Quarterly			BMS systems CK	$7,160
Boiler Permits	Downing/ENG	Annually	June		City of SF plumbing div	
Thermo Graphic Survey	Thermotest inc	Every 5 years	2018		done 2013	$8,000
Expansion Tanks Checks/refill	Engineering Dept.	Annually	June		Closed loop tanks	
Midrise Primary Loop Bleed	Engineering Dept.	Monthly				
Closed loops Chem Supply /testing	Garratt-Callahan	Monthly			all 7 loops	$10,800
Closed loops Chem testing	Engineering Dept.	Weekly			all 7 loops	
A/C T2 + T3 prefilter media	Engineering Dept.	monthly			inspect/replace	
FSD prefilter media	Engineering Dept.	Quarterly			inspect/replace	
Steam Generator PM	Engineering Dept.	Daily			Blowdown/inspect	
All HVAC/boilers inspections	Engineering Dept.	3x Daily			Daily Rounds	
Pool Inspections	Hills Pool	Daily			chemical testing/cleaning	
Pool Inspections	Engineering Dept.	3X Daily			Daily Rounds	
Pool floor scrubbing	Engineering Dept.	3x per week			Install pool machine	
Pool Inspections	Engineering Dept.	every 2 weeks			Chemical testing	
Roll-up door PM's	CA Door and glass	Quarterly			garage in/out	
Roll-up door PM's	CA Door and glass	Semi-Annually			Loading dock	
Roll up doors Barrel Change	CA Door and glass	1x per 3 years	Jul-18	10K (5K each door)	garage in/out	
Trash chute testing	Engineering Dept.	Daily				
Trash chute vent clearing	Engineering Dept.	Quarterly				
Trash Room exhaust checks	Engineering Dept.	Bi-Weekly				
Hazardous Material registration	Engineering Dept.	Annually	January	~$1,000	SF Health Dept	
Defibrillator Battery	Engineering Dept.	Annually	January		New Battery install	
Pest Control	EcoLab	Monthly			inspect/maintain	$4,920
Rn74 bag filters hood	Engineering Dept.	Bi-weekly			Change filters	
Rn74 charcoal filters hood	Engineering Dept.	Quarterly			Change filters	
Roof Inspection	AL Cal	Annually			inspection	$2,115
Metal/Marble	Marble West					
Exercise Equipment	Club Care	Monthly			service	$2,460

EXHIBIT

F

EXHIBIT F

RED HAWK
Fire & Security

AUTOMATIC FIRE ALARM SYSTEM INSPECTION/CERTIFICATION

Job Name: MILLENNIUM TOWER
Address: 301 MISSION ST
City: SAN FRANCISCO State: CA Zip: 94105
Tech. Name: DARWIN
Central Station Name: RED HAWK
Central Station Account #: 04-050
Central Station Phone #: 408-629-4414

Date: 2/22/2016
Work Order #: 3212232

Preliminaries

Building Personnel Advised:	Name: ANTONIO	Time: 6:30 AM	By:DA
Central Station off-Line:	Operator: GABRIEL	Time: 6:45 AM	By:DA
Pretest Status	☐ Normal	☒ Abnormal (Explain) 27 DISABLED POINTS	
Disconnect Aux & NAC Function Type:	DISABLED BUTTONS	☒ Disconnect after tested	
Location of As-Built Drawings	ENGINEERING		
Original Certification ☐	Periodic System Inspection ☒		

Inspection Type

- ☒ Fire Alarm
- ☐ Sprinkler
- ☐ Preaction
- ☐ FM200
- ☐ Exit/ Emergency Lights
- ☐ Fire Extinguisher
- ☐ Other

Service Performed

- ☐ Monthly Inspection
- ☐ Bi-Monthly Inspection
- ☐ Quarterly Inspection
- ☐ Semi-Annual Inspection
- ☒ Annual Inspection
- ☐ Service
- ☐ Fire Drill

Scope of Work Performed

- ☒ Full Inspection
- ☐ Water Flow Inspection
- ☐ Battery Load Testing
- ☐ 10% Trouble Testing
- ☐ NAC Testing
- ☐ Service Repair
- ☐ Monitoring Install /Programming

% of Device Tested:

- ☐ 10%
- ☐ 25%
- ☐ 50%
- ☒ 100%
- ☐ 1 Device/Zone
- ☐ Other

Basic Information

Local Alarm	Yes ☐
Central Station	Yes ☒
Municipal	Yes ☐
Proprietary	Yes ☐
Voice	Yes ☐
System Model	: EST-3

Qty of Zones or Loops: 10 LOOPS

Wired: ☐ A ☒ B

Qty of Active NAC Circuits: 137

Wired: ☐ A ☒ B

4384 Enterprise Place, Fremont, CA 94538
Phone: 510-438-1300 / Fax 510-438-1350

C10 License # 713099

RED HAWK
Fire & Security

CONTROL PANEL TEST				COMMENTS:
Visual Display	☐N/A	☒Pass	☐Fail	NODE 1 (MAIN FIRE PANEL)
AC Power On – LED	☐N/A	☒Pass	☐Fail	
Alarm Silence – LED	☐N/A	☒Pass	☐Fail	
Program Fault – LED	☐N/A	☒Pass	☐Fail	
Alarm – LED	☐N/A	☒Pass	☐Fail	
System Trouble – LED	☐N/A	☒Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☐N/A	☒Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☐N/A	☒Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☐N/A	☒Pass	☐Fail	
Alarm Silence Resound	☐N/A	☒Pass	☐Fail	
Reset/Lamp Test	☐N/A	☒Pass	☐Fail	
Panel Sounder	☐N/A	☒Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☐Pass	☒Fail	AC DISCONNECT NOT LABELED
AC Breaker Locked On	☐N/A	☐Pass	☒Fail	UNABLE TO VERIFY IF CKT HAS A LOCK
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.0 V.		PASS	
Battery Voltage (AC On)	26.5 V.		PASS	
Battery Voltage (AC Off)	26.3 V.		PASS	
System Voltage (AUX)	26.3 V.		PASS	
Battery Load Test (end V)	12.4 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	75 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

VOICE EVAC. SYSTEM				COMMENTS:
Model Number	☐N/A	☒Pass	☐Fail	3-ASU/FT
Manufactuer Name	☐N/A	☒Pass	☐Fail	EST-3
Number of Amps	☐N/A	☒Pass	☐Fail	(80) 3-ZA20B; (13) 3-ZA40 B
Amp. Model Number	☐N/A	☒Pass	☐Fail	3-ZA20B, 3-ZA40B
Number of Speaker Zones	☐N/A	☒Pass	☐Fail	17
Number of Phone Zones	☐N/A	☒Pass	☐Fail	27
Test all Speakers	☐N/A	☒Pass	☐Fail	
Short Test	☐N/A	☒Pass	☐Fail	
Open Test	☐N/A	☒Pass	☐Fail	
Ground Test	☐N/A	☒Pass	☐Fail	
Test all Handsets	☐N/A	☒Pass	☐Fail	BUILT-IN EVAC SYSTEM (SHARES AC AND DC WITH MAIN
Test all Phone Jacks	☐N/A	☒Pass	☐Fail	FIRE PANEL)
Battery Load Test (end V)	NAV.			
Battery Size	NA AH.			
Expiration Date	NA			
Batteries labeled	NA			

4384 Enterprise Place, Fremont, CA 94538
Phone: 510-438-1300 / Fax 510-438-1350

C10 License # 713099

RED HAWK
Fire & Security

Page
Of

NODE PANEL				COMMENTS:
Location 1	FACP RM			
Number of node tested	NODE 2			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	ELP-TCLA / CKT 13 (CL ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.1 V.		PASS	
Battery Voltage (AC On)	26.5 V.		PASS	
Battery Voltage (AC Off)	26.4 V.		PASS	
System Voltage (AUX)	26.5 V.		PASS	
Battery Load Test (end V)	12.3 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	B3 LEVEL ELEC. RM			
Number of node tested	NODE 3			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP B2A/ CKT 20 (B2 ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Windcw	☐N/A	☒Pass	☐Fail	
AC Voltage	119.3 V.		PASS	
Battery Voltage (AC On)	26.8 V.		PASS	
Battery Voltage (AC Off)	26.6 V.		PASS	
System Voltage (AUX)	26.8 V.		PASS	
Battery Load Test (end V)	12.5 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	10/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	L LEVEL (MID RISE) ELEC. RM			
Number of node tested	NODE 4			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP-M3 / CKT 2 (3RD ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.1 V.		PASS	
Battery Voltage (AC On)	26.8 V.		PASS	
Battery Voltage (AC Off)	26.7 V.		PASS	
System Voltage (AUX)	26.7 V.		PASS	
Battery Load Test (end V)	12.6 V.		PASS	
Charging Current	.03. A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	10/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	10TH FLR (MID RISE) ELEC. RM			
Number of node tested	NODE 5			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP 12B, CKT 4 (12TH ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	119.8 V.		PASS	
Battery Voltage (AC On)	26.7 V.		PASS	
Battery Voltage (AC Off)	26.6 V.		PASS	
System Voltage (AUX)	26.7 V.		PASS	
Battery Load Test (end V)	12.3 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	8/2016			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	11TH FLR (TOWER) ELEC. RM			
Number of node tested	NODE 6			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP-TCLA/ CKT 7 (CL ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.0 V.		PASS	
Battery Voltage (AC On)	26.8 V.		PASS	
Battery Voltage (AC Off)	26.7 V.		PASS	
System Voltage (AUX)	26.8 V.		PASS	
Battery Load Test (end V)	12.3 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	21ST FLR (TOWER) ELEC. RM			
Number of node tested	NODE 7			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP-T16A/ CKT 2 (15TH ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.4 V.		PASS	
Battery Voltage (AC On)	26.6 V.		PASS	
Battery Voltage (AC Off)	26.5 V.		PASS	
System Voltage (AUX)	26.6 V.		PASS	
Battery Load Test (end V)	12.4 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DARWIN	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	30TH FLR (TOWER) ELEC. RM			
Number of node tested	NODE 8			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP-T28A/ CKT 11 (28TH ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.2 V.		PASS	
Battery Voltage (AC On)	26.8 V.		PASS	
Battery Voltage (AC Off)	26.6 V.		PASS	
System Voltage (AUX)	26.7 V.		PASS	
Battery Load Test (end V)	12.6 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	39TH FLR (TOWER) ELEC. RM			
Number of node tested	NODE 9			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP T28A/ CKT 13 (28TH ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.5 V.		PASS	
Battery Voltage (AC On)	26.8 V.		PASS	
Battery Voltage (AC Off)	26.7 V.		PASS	
System Voltage (AUX)	26.8 V.		PASS	
Battery Load Test (end V)	12.5 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	10/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	49TH FLR (TOWER) ELEC. RM			
Number of node tested	NODE 10			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP-T43A/ CKT 4 (43RD ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.5 V.		PASS	
Battery Voltage (AC On)	26.9 V.		PASS	
Battery Voltage (AC Off)	26.8 V.		PASS	
System Voltage (AUX)	26.8 V.		PASS	
Battery Load Test (end V)	12.3 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	9/2016			PASS
Batteries labeled	YES			PASS

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

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NODE PANEL				COMMENTS:
Location 1	56TH FLR (TOWER) ELEC. RM			
Number of node tested	NODE 11			
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☐N/A	☒Pass	☐Fail	ELECTRICAL
Positive Ground Fault	☐N/A	☒Pass	☐Fail	
Negative Ground Fault	☐N/A	☒Pass	☐Fail	
Signal Circuit-Short	☐N/A	☒Pass	☐Fail	
Signal Circuit-Open	☐N/A	☒Pass	☐Fail	
Subsequent Alarm/Trouble	☐N/A	☒Pass	☐Fail	
Point Dis/Reconnect	☐N/A	☒Pass	☐Fail	
AC Disconnect Labeled	☐N/A	☒Pass	☐Fail	PANEL ELP T43A/ CKT 2 (43RD ELEC. RM)
AC Breaker Locked On	☐N/A	☒Pass	☐Fail	
Clean Door & Window	☐N/A	☒Pass	☐Fail	
AC Voltage	120.4 V.		PASS	
Battery Voltage (AC On)	26.7 V.		PASS	
Battery Voltage (AC Off)	26.6 V.		PASS	
System Voltage (AUX)	26.6 V.		PASS	
Battery Load Test (end V)	12.3 V.		PASS	
Charging Current	.030 A.		PASS	
Battery Size (AH)	55 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

Tech Name: DARWIN	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

Modified on : 04/03/2011

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY — **COMMENTS:**

Location 1	FCC RM				
Number booster tested	PS5				
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒P	☐Fail		
Ground Trouble	☐N/A	☒P	☐Fail		
A/C Voltage	☐N/A	☒P	☐Fail	120.1	
Battery Voltage	☐N/A	☒P	☐Fail	27.2	
Battery Load Test	☐N/A	☒P	☐Fail	12.3	
Operate w/ no a/c	☐N/A	☒P	☐Fail		
Trouble w/ no a/c	☐N/A	☒P	☐Fail		
Battery A/H	☐N/A	☒P	☐Fail	35	
Battery Labeled	☐N/A	☒P	☐Fail		
Battery Expires	☐N/A	☒P	☐Fail	4/2018	
Location 2	B3 LEVEL ELEC. RM				
Number booster tested	BPS 1				
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒Pass	☐Fail		
Ground Trouble	☐N/A	☒Pass	☐Fail		
A/C Voltage	☐N/A	☒Pass	☐Fail	119.2	
Battery Voltage	☐N/A	☒Pass	☐Fail	26.3	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.2	
Operate w/ no a/c	☐N/A	☒Pass	☐Fail		
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	8	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018	
Location 3	B3 LEVEL ELEC. RM				
Number booster tested	BPS 2				
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒Pass	☐Fail		
Ground Trouble	☐N/A	☒Pass	☐Fail		
A/C Voltage	☐N/A	☒Pass	☐Fail	119.2	
Battery Voltage	☐N/A	☒Pass	☐Fail	25.3	
Battery Load Test	☐N/A	☐Pass	☒Fail	11.7 (FAILED)	
Operate w/ no a/c	☐N/A	☒Pass	☐Fail		
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	7.2	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	6/2016	
Location 4	B3 LEVEL ELEC. RM				
Number booster tested	BPS 3				
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒Pass	☐Fail		
Ground Trouble	☐N/A	☒Pass	☐Fail		
A/C Voltage	☐N/A	☒Pass	☐Fail	119.2	
Battery Voltage	☐N/A	☒Pass	☐Fail	26.4	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.2	
Operate w/ no a/c	☐N/A	☒Pass	☐Fail		
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	8	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018	

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RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	L LEVEL (MID RISE) ELEC. RM			
Number booster tested	BPS 4			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒P	☐Fail	
Ground Trouble	☐N/A	☒P	☐Fail	
A/C Voltage	☐N/A	☒P	☐Fail	119.8
Battery Voltage	☐N/A	☒P	☐Fail	26.4
Battery Load Test	☐N/A	☒P	☐Fail	12.3
Operate w/ no a/c	☐N/A	☒P	☐Fail	
Trouble w/ no a/c	☐N/A	☒P	☐Fail	
Battery A/H	☐N/A	☒P	☐Fail	8
Battery Labeled	☐N/A	☒P	☐Fail	
Battery Expires	☐N/A	☒P	☐Fail	4/2018

Location 2	L LEVEL (MID RISE) ELEC. RM			
Number booster tested	BPS 5			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒Pass	☐Fail	
Ground Trouble	☐N/A	☒Pass	☐Fail	
A/C Voltage	☐N/A	☒Pass	☐Fail	119.8
Battery Voltage	☐N/A	☒Pass	☐Fail	26.3
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4
Operate w/ no a/c	☐N/A	☒Pass	☐Fail	
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018

Location 3	L LEVEL (MID RISE) ELEC. RM			
Number booster tested	BPS 6			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒Pass	☐Fail	
Ground Trouble	☐N/A	☒Pass	☐Fail	
A/C Voltage	☐N/A	☒Pass	☐Fail	119.8
Battery Voltage	☐N/A	☒Pass	☐Fail	26.3
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4
Operate w/ no a/c	☐N/A	☒Pass	☐Fail	
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018

Location 4	CL LEVEL (MID RISE) ELEC. RM			
Number booster tested	BPS 7			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒Pass	☐Fail	
Ground Trouble	☐N/A	☒Pass	☐Fail	
A/C Voltage	☐N/A	☒Pass	☐Fail	119.7
Battery Voltage	☐N/A	☒Pass	☐Fail	26.4
Battery Load Test	☐N/A	☒Pass	☐Fail	12.3
Operate w/ no a/c	☐N/A	☒Pass	☐Fail	
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer: ☒Yes

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	B1 LEVEL (TOWER) ELEC. RM			
Number booster tested	BPS 8			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒P	☐Fail	
Ground Trouble	☐N/A	☒P	☐Fail	
A/C Voltage	☐N/A	☒P	☐Fail	120.2
Battery Voltage	☐N/A	☒P	☐Fail	26.3
Battery Load Test	☐N/A	☒P	☐Fail	12.2
Operate w/ no a/c	☐N/A	☒P	☐Fail	
Trouble w/ no a/c	☐N/A	☒P	☐Fail	
Battery A/H	☐N/A	☒P	☐Fail	7.5
Battery Labeled	☐N/A	☒P	☐Fail	
Battery Expires	☐N/A	☒P	☐Fail	1/2017
Location 2	L LEVEL (TOWER) ELEC. RM			
Number booster tested	BPS 9			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒Pass	☐Fail	
Ground Trouble	☐N/A	☒Pass	☐Fail	
A/C Voltage	☐N/A	☒Pass	☐Fail	120.0
Battery Voltage	☐N/A	☒Pass	☐Fail	26.4
Battery Load Tesl	☐N/A	☒Pass	☐Fail	12.4
Operate w/ no a/c	☐N/A	☒Pass	☐Fail	
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	6
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 3	CL LEVEL (TOWER) ELEC. RM			
Number booster tested	BPS 10			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒Pass	☐Fail	
Ground Trouble	☐N/A	☒Pass	☐Fail	
A/C Voltage	☐N/A	☒Pass	☐Fail	120.2
Battery Voltage	☐N/A	☒Pass	☐Fail	26.3
Battery Load Test	☐N/A	☒Pass	☐Fail	12.3
Operate w/ no a/c	☐N/A	☒Pass	☐Fail	
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 4	L LEVEL (MID RISE) RESTAURANT STORAGE			
Number booster tested	BPS 11			
Short NAC Trouble	☐N/A	☒Pass	☐Fail	
Open NAC Trouble	☐N/A	☒Pass	☐Fail	
Ground Trouble	☐N/A	☒Pass	☐Fail	
A/C Voltage	☐N/A	☒Pass	☐Fail	118.7
Battery Voltage	☐N/A	☒Pass	☐Fail	26.5
Battery Load Test	☐N/A	☐Pass	☒Fail	11.6 (FAILED)
Operate w/ no a/c	☐N/A	☒Pass	☐Fail	
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	7.2
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	6/2016

Tech Name: DA	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	PH2 (TOWER) ELEC. RM				
Number booster tested	BPS 12				
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒P	☐Fail		
Ground Trouble	☐N/A	☒P	☐Fail		
A/C Voltage	☐N/A	☒P	☐Fail	119.8	
Battery Voltage	☐N/A	☒P	☐Fail	26.7	
Battery Load Test	☐N/A	☒P	☐Fail	12.5	
Operate w/ no a/c	☐N/A	☒P	☐Fail		
Trouble w/ no a/c	☐N/A	☒P	☐Fail		
Battery A/H	☐N/A	☒P	☐Fail	7.5	
Battery Labeled	☐N/A	☒P	☐Fail		
Battery Expires	☐N/A	☒P	☐Fail	3/2019	
Location 2	NA				
Number booster tested					
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒Pass	☐Fail		
Ground Trouble	☐N/A	☒Pass	☐Fail		
A/C Voltage	☐N/A	☒Pass	☐Fail		
Battery Voltage	☐N/A	☒Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail		
Operate w/ no a/c	☐N/A	☒Pass	☐Fail		
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail		
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail		
Location 3	NA				
Number booster tested					
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒Pass	☐Fail		
Ground Trouble	☐N/A	☒Pass	☐Fail		
A/C Voltage	☐N/A	☒Pass	☐Fail		
Battery Voltage	☐N/A	☒Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail		
Operate w/ no a/c	☐N/A	☒Pass	☐Fail		
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail		
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail		
Location 4	NA				
Number booster tested					
Short NAC Trouble	☐N/A	☒Pass	☐Fail		
Open NAC Trouble	☐N/A	☒Pass	☐Fail		
Ground Trouble	☐N/A	☒Pass	☐Fail		
A/C Voltage	☐N/A	☒Pass	☐Fail		
Battery Voltage	☐N/A	☒Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail		
Operate w/ no a/c	☐N/A	☒Pass	☐Fail		
Trouble w/ no a/c	☐N/A	☒Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail		
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail		

Tech Name: DARWIN	Date: 2/22/2016	Review deficiencies with Customer: ☒ Yes

Modified on : 12/5/12

RED HAWK
Fire & Security

DACT PERIODIC TESTING

Job: MILLENNIUM TOWERS
Address: 301 MISSION ST. SF, CA 94105

Date: 2-22-16
Tech Name: DA

FACP Type: EST-3 DACT Type: MOD COM Format: 4+2 (4+2 etc)

Take system off-line with Central Station: ☐N/A ☒P ☐F Acct Number: 04-050

Request zone schedule from Central Station and list below: ☐N/A ☒P ☐F

1. ALARM	2. SUPERVISORY
3. TROUBLE	4.
5.	6.
7.	8.
Additional Information:	BUILT-IN DIALER (SHARES AC AND DC W/ MAIN FIRE PANEL)

AC Voltage: NA	DC Voltage: NA	Load Test: NA	Battery Expiration: NA

Primary Phone Line				Secondary Phone Line			
Manual zone trip	☒N/A	☐P	☐F	Manual zone trip	☒N/A	☐P	☐F
Correct trip and restoral? (@ CS)	☐N/A	☒P	☐F	Correct trip and restoral? (@ CS)	☐N/A	☒P	☐F
<90 sec. End-to-End Transmission	☐N/A	☒P	☐F	<90 sec. End-to-End Transmission	☐N/A	☒P	☐F
Proper DACT zone trip	☐N/A	☒P	☐F	Proper DACT zone trip	☐N/A	☒P	☐F
Primary phone disconnected	☐N/A	☒P	☐F	Primary phone disconnected	☐N/A	☒P	☐F
Local trouble signal (within 4 min)?	☐N/A	☒P	☐F	Local trouble signal (within 4 min)?	☐N/A	☒P	☐F
Primary Line Trouble (within 4 min)?	☐N/A	☒P	☐F	Primary Line Trouble (within 4 min)?	☐N/A	☒P	☐F
Reconnect primary, and RJ31X Jack Proper Line Seizure?	☐N/A	☒P	☐F	Reconnect primary, and RJ31X Jack Proper Line Seizure?	☐N/A	☒P	☐F

ELEVATOR PHONE MONITORING TESTING

CS Name: NA

Elevator Location	Acct#	Caller I.D.#	Pass	Fail	CS Operator	Remarks
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

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RED HAWK
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REMOTE DISPLAY				COMMENTS:
Visual Display	☐N/A	☒Pass	☐Fail	LOCATED AT:
AC Power LED – ON	☐N/A	☒Pass	☐Fail	- (ANN 14) B1 MAINTENACE OFFICE / ENGINEERING
Alarm Silence – LED	☐N/A	☒Pass	☐Fail	- (ANN 16) B1 RECEPTION / MANAGEMENT OFFICE
Program Fault – LED	☐N/A	☒Pass	☐Fail	- (ANN 15) L LEVEL SECURITY
Alarm – LED	☐N/A	☒Pass	☐Fail	
Alarm/Trouble Acknowledge	☐N/A	☒Pass	☐Fail	
Alarm Silence Resend	☐N/A	☒Pass	☐Fail	
Reset/Lamp Test	☐N/A	☒Pass	☐Fail	
Panel Sounder	☐N/A	☒Pass	☐Fail	

REMOTE ANNUNCIATOR				
Power On Lamp	☐N/A	☒Pass	☐Fail	GANN 12 (GRAPHIC ANN.)
Trouble Buzzer	☒N/A	☐Pass	☐Fail	LOCATED AT FACP (TOWER L LEVEL)
Signal Silence Lamp	☒N/A	☐Pass	☐Fail	
Lamp Test	☐N/A	☒Pass	☐Fail	
Reset (Remote)	☒N/A	☐Pass	☐Fail	
Alarm Lamp Operation Qty	☐N/A	☒Pass	☐Fail	
Alarm Lamp Labeled	☐N/A	☒Pass	☐Fail	
Signal Silence	☒N/A	☐Pass	☐Fail	

NOTIFICATION APPLIANCES		COMMENTS:
NAC's Tested	☐N/A	
	☒Yes	TESTED: 3/8/16 & 3/9/16
	☐No	
Synchronization Verified	☐N/A	
	☒Pass	
	☐Fail	

FINAL SYSTEM SUMMARY				COMMENTS:
Note all Deficiencies	☐N/A	☒Yes	☐No	SEE DEFICIENCY PAGE
Reconnect All Aux Functions	☐N/A	☒Yes	☐No	
Reconnect Signal Circuits	☐N/A	☒Yes	☐No	
Place System Online	☐N/A	☒Yes	☐No	
Appropriate field devices have been tested for proper out puts and recorded on Device Data Sheets	☐N/A	☒Yes	☐No	
Program Disk is on Site	☐N/A	☒Yes	☐No	

Work Complete/Building Management Notified: Time: 3:00 PM
Central Station Notified: Time: 3:00 PM Operator #: GABRIEL

THIS TESTING WAS PERFORMED IN ACCORDANCE WITH APPLICABLE NFPA 2010 EDITION STANDARDS.

Inspection Completed by(Tech Name): DA Date: 2-22-16

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RED HAWK
Fire & Security

Inspection Deficiencies Sheet

Job Name	Site Address	Work Order	Page
MILLENNIUM TOWERS	301 MISSION ST. SF, CA 94105	3212232	1 Of 1

Ranking Explanation
(1) Critical Life Safety System Issue (2) Life Safety Functional Issue (3) Untested (4) Non-Required Recommendation

Scope of work explanation
(A) Coordinate w/Red Hawk (B) Facilities to coordinate w/additional vendor

Rank: 2	Scope: A	Device Type: BOOSTER BATTERIES	Add/Zone: NA
Make/Model: BAT12V-7.5		Loc./Desc.: SEE BELOW	
Deficiency Desc.:	BATTERIES FAILED THE LOAD TEST: - L LEVEL (MID RISE) RESTAURANT STORAGE BPS 11 - B3 LEVEL ELEC. RM BPS 2 completed under WO#3220424 COMPLETED		
Recommendation	COORDINATE W/ RED HAWK SERVICE DEPT. TO REPLACE FAILED BATTERIES.		

Rank: 2	Scope: A	Device Type: SMOKE DETECTOR	Add/Zone: 01020022
Make/Model: EST SIGA-PS		Loc./Desc.: B1 LEVEL MAINT. SHOP SMOKE DETECTOR	
Deficiency Desc.:	SMOKE DETECTOR HAS WRONG DESCRIPTION. SHOULD SAY "B1 LEVEL STORAGE RM B1-D SMOKE DETECTOR", NOT INSIDE B1 MAINTENANCE SHOP. COMPLETED		
Recommendation	COORDINATE W/ RED HAWK SERVICE DEPT. TO REPROGRAM THE SMOKE DETECTOR DESCRIPTION. completed under WO#3220424		

Rank: 2	Scope: A	Device Type: FIRE PHONE JACK	Add/Zone: SEE BELOW
Make/Model: 6833-1		Loc./Desc.: SEE BELOW	
Deficiency Desc.:	FIRE PHONES FAILED TO CONNECT TO THE MAIN FIRE PANEL: completed under WO#3220424 - 23RD FLR STAIR #2 - 31ST FLR STAIR #1 COMPLETED		
Recommendation	COORDINATE W/ RED HAWK SERVICE DEPT. TO REPLACE BAD PHONE JACKS.		

Rank: Please Select	Scope: Please Select	Device Type:	Add/Zone:
Make/Model:		Loc./Desc.:	
Deficiency Desc.:	NA		

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RED HAWK
Fire & Security

Recommendation	NA

Tech Name: DARWIN	Date: 2/22/2016	Review deficiencies with Customer ☒ Yes

Modified on : 12/5/12

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RED HAWK
Fire & Security

Fire Alarm System Points List

Name: MILLENNIUM TOWERS — DARWIN
Address: 301 MISSION ST — 2-22-16
City: SF — State: CA — Zip: 94105
Notes: 30/2010

Address	Message	Device	Test	Trbl	Visual	Annun	Remarks
01020001	B1 LEVEL TELCO ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020002	B1 LEVEL HOUSEKEEPING SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020003	B1 LEVEL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020004	B1 LEVEL COMPUTER RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020005	B1 LEVEL STORAGE RM 6 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020006	B1 LEVEL TELCC/ SEC. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020007	B1 LEVEL STORAGE RM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020008	B1 LEVEL DOMESTIC H2O ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020009	B1 LEVEL STORAGE RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020010	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020011	B1 LEVEL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020012	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020013	B1 LEVEL SERVICE ELEV LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020014	B1 LEVEL SERVICE ELEV LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020015	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020016	B1 LEVEL FIRE PUMP RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020017	B1 LEVEL ELEV S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
01020018	B1 LEVEL SERVICE ELEV LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020019	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020020	B1 LEVEL MAINT. OFFICE SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020021	B1 LEVEL STORAGE RM 5 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020022	B1 LEVEL MAINT. SHOP SMOKE DETECTOR	SD	X		X	X	WRONG DESCRIPTION, SHOULD SAY "B1 LEVEL STORAGE RM B1-D SMOKE DETECTOR"
01020023	B1 LEVEL MAINT. SHOP SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020024	B1 LEVEL EMERG ELECT. ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020025	B1 LEVEL EMERG ELECT. ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020026	B1 LEVEL EMERG ELECT. ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020027	B1 LEVEL SWITCHGEAR ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020028	B1 LEVEL SWITCHGEAR ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020029	B1 LEVEL SWITCHGEAR ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020030	B1 LEVEL FIRE PUMP RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020031	B1 LEVEL STORAGE RM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020032	B1 LEVEL STORAGE RM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020033	B1 LEVEL STORAGE RM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020034	B1 LEVEL STORAGE RM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020035	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020036	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020037	B1 LEVEL FAN ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020038	B1 LEVEL ELEVATOR F1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
01020039	B1 LEVEL NEAR ELEV P1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020040	B1 LEVEL ELEV P1 & P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
01020041	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020042	B1 LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020043	B1 LEVEL FSD TB1-9 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020044	B1 LEVEL FSD TB1-3 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020045	B1 LEVEL FSD TB1-5 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020046	B1 LEVEL FSD TB1-4 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020047	L LEVEL BANK FAN HP-1 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
01020048	B1 LEVEL FSD TB1-15 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020049	B1 LEVEL FSD TB1-2 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16

01020050	B1 LEVEL FSD TB1-17 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020051	B1 LEVEL FSD TB1-10 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020052	B1 LEVEL FSD TB1-6 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020053	B1 LEVEL FAN SF TB1-4 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020054	B1 LEVEL FSD TB1-1 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020055	B1 LEVEL FAN SF TB1-3 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020056	L LEVEL FIRE CONTROL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020057	L LEVEL ELEV P1 & P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
01020058	L LEVEL SECURITY RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020059	L LEVEL HIRISE LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020060	L LEVEL ELEV C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
01020061	L LEVEL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020063	L LEVEL HIRISE LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020064	L LEVEL ELEV S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
01020065	L LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020066	L LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020068	L LEVEL AT ELEVATOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020069	L LEVEL ELEV C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
01020070	L LEVEL FSD L-5 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
01020071	L LEVEL FSD L-4 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
01020072	L LEVEL BANK SERVER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020073	L LEVEL BANK ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020074	L LEVEL BANK ELECTRIC ROOM DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
01020075	B1 LEVEL FSD B1-18 DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
01020076	L LEVEL BANK FAN HP-2 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
01020077	L LEVEL BANK FAN HP-3 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
01020078	CL LEVEL OUTSIDE AIR BANK DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020079	CL LEVEL MECH. ROOM BANK DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020124	B1 LEVEL STORAGE RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
01020125	B1 LEVEL ELEV P1 & P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
01020126	B1 LEVEL TELCO ROOM DOOR HOLDER RELAY	CR	X				TESTED: 3/9/16
01020127	B1 LEVEL HP TB1-12 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020128	B1 LEVEL HP TB1-5 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020129	B1 LEVEL HP TB1-6 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020130	B1 LEVEL HP TB1-9 FSD B1-6,7,14 RELAY	CR	X				TESTED: 2/24/16
01020131	B1 LEVEL HP TB1-7 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020132	B1 LEVEL ACU TB1-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020133	B1 LEVEL HP TB1-8 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020134	B1 LEVEL FSD TB1-4 CONTROL RELAY	CR	X				TESTED: 2/24/16
01020135	B1 LEVEL HP TB1-3 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020136	B1 LEVEL HP TB1-4 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020137	B1 LEVEL HP TB1-10 SUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020138	B1 LEVEL HP TB1-11 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020139	B1 LEVEL HP TB1-2 FSD TB1-10 RELAY	CR	X				TESTED: 2/24/16
01020140	B1 LEVEL ACU TB1-2 FSD TB1-8,9 RELAY	CR	X				TESTED: 2/24/16
01020141	B1 LEVEL HP TB1-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020142	B1 LEVEL ELEVATOR F1 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
01020143	B1 LEVEL FIRE PUMP RM PUMP B1-2 PHASE REV.	CT	X			X	TESTED: 3/3/16
01020144	B1 LVL MAIN FIRE SVC SHUTOFF VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5 (MULTIPLE VALVES W/ SAME ADDRESS)
01020145	L LEVEL STAIR 1 VON DUPRIN LOCK RELEASE	CR	X				TESTED: 3/9/16
01020146	L LEVEL STAIR 1 VEST VON DUPRIN RELEASE	CR	X				TESTED: 3/9/16
01020147	MR L LEVEL RESTAURANT STROBE PANEL TROUBLE	CC	X				TESTED: 3/9/16
01020149	B1 LEVEL FSD TB1-2 CONTROL MODULE	CR	X				TESTED: 2/24/16
01020150	B1 LEVEL FSD TB1-17 CONTROL MODULE	CR	X				TESTED: 2/24/16
01020151	B1 LEVEL FIRE PUMP RM PUMP B1-1 RUNNING	CT	X			X	TESTED: 3/3/16
01020152	B1 LEVEL FIRE PUMP RM PUMP B1-1 TROUBLE	CT	X			X	TESTED: 2/29/16
01020153	B1 LEVEL FIRE PUMP RM PUMP B1-1 PHASE REV.	CT	X			X	TESTED: 3/3/16
01020154	B1 LEVEL FIRE PUMP RM PUMP B1-2 RUNNING	CT	X			X	TESTED: 3/3/16
01020155	B1 LEVEL FIRE PUMP RM PUMP B1-2 TROUBLE	CT	X			X	TESTED: 2/29/16
01020157	B1 LEVEL FIRE PUMP RM SPARE CIRCUIT	WF	#				(STRAPPED OUT)
01020158	B1 LEVEL FIRE PUMP RM VALVE TAMPERS	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5 (MULTIPLE VALVES W/ SAME ADDRESS)
01020159	B1 LEVEL FIRE PUMP WATER TANK HIGH	CT	X			X	TESTED: 3/3/16

01020160	B1 LEVEL FIRE PUMP WATER TANK LOW	CT	X			X	TESTED: 3/3/16
01020161	L LEVEL FSD L-1-7,9 DAMPER CONTROL RELAY	CR	X				TESTED: 2/24/16
01020162	L LEVEL FCC ROOM PS-5 PANEL TROUBLE	CT	X			X	TESTED: 2/22/16
01020163	L LEVEL BANK ELECTRIC ROOM FSD RELAY	CR	X				TESTED: 2/24/16
01020165	L LEVEL FCC ROOM PULL STATION	PS	X		X	X	TESTED: 3/8/16
01020166	STAIR #1 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020167	STAIR #2 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020168	ELEV C4&C5 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020169	ELEV C1-C3 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020170	ELEV S1 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020171	FIRE PUMP ROOM FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020172	STAIR #1 SPEAKER CIRCUIT	CC	X				TESTED: 3/8/16
01020173	STAIR #2 SPEAKER CIRCUIT	CC	X				TESTED: 3/8/16
01020174	B1 LEVEL TELCO ROOM STROBE PANEL TROUBLE	CC	X				TESTED: 3/8/16
01020175	L LEVEL TELECOM ROOM STROBE PANEL TROUBLE	CC	X				TESTED: 3/8/16
01020176	CL LEVEL ELECTRIC RM STROBE PANEL TROUBLE	CC	X				TESTED: 3/8/16
01020177	MR L LVL ELECTRIC RM STROBE PANEL TROUBLE	CC	X				TESTED: 3/9/16
01020178	MR CL LVL ELECTRIC RM STROBE PANEL TROUBLE	CC	X				TESTED: 3/9/16
01020179	MR B3 LVL STORAGE RM STROBE PANEL TROUBLE	CC	X				TESTED: 3/9/16
01020180	B1 LEVEL FSD TB1-3 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020181	B1 LEVEL FSD TB1-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020182	B1 LEVEL FSD TB1-15 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020183	B1 LEVEL FSD TB1-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020184	B1 LEVEL FSD B1-3, 5 B1-19,20 RELAY	CR	X				TESTED: 2/24/16
01020185	L LEVEL ELEV P1 & P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
01020186	B1 LEVEL ELEV P1 & P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
01020187	B1 LEVEL STAIR 1 RISER VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01020188	B1 LEVEL STAIR 2 RISER VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01020189	B1 LEVEL FIRE PUMP RM VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01020192	B1 LEVEL FAN SF TB1-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
01020193	B1 LEVEL FAN SF TB1-4 'ON' MODULE	CT	X				TESTED: 2/24/16
01020194	B1 LEVEL FAN SF TB1-4 'OFF' MODULE	CT	X				TESTED: 2/24/16
01020195	L LEVEL BANK FAN HP-1 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
01020196	L LEVEL BANK FAN HP-2 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
01020197	L LEVEL BANK FAN HP-3 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
01020205	MR L LVL ELECTRIC RM STROBE PANEL TROUBLE	CC	X				TESTED: 3/9/16
01020243	B1 LEVEL FAN SF TB1-3 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
01020244	B1 LEVEL ELEV C4-C5 SHUNT POWER TROUBLE	CT	X				TESTED: 3/14/16
01020245	B1 LEVEL C1-C3 S1-S2 SHUNT POWER TROUBLE	CT	X				TESTED: 3/15/16
01020246	ELEV P1-P2 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020247	ELEV F1 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
01020248	L LEVEL ELECTRIC RM DOOR HOLDER RELAY	CR	X				TESTED: 3/9/16
01020249	B1 LEVEL B1-1, 15 DAMPER CONTROL RELAY	CR	X				TESTED: 2/24/16
01020251	CL LEVEL ELECTRIC RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020252	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020253	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020254	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020255	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020256	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020257	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020258	CL LEVEL FAN ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020259	CL LEVEL FAN ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020260	CL LEVEL MECH ROOM 3 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020261	CL LEVEL MECH ROOM 3 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020262	CL LEVEL MECH ROOM 3 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020263	CL LEVEL ELEV P1 & P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16
01020264	CL LEVEL MECH ROOM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020265	CL LEVEL MECH ROOM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020266	CL LEVEL MECH ROOM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020267	CL LEVEL FAN ROOM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020268	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020269	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020270	CL LEVEL FAN ROOM 1 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020271	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020272	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020273	CL LEVEL MECH ROOM 2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16

01020275	CL LEVEL ELEV S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
01020276	CL LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020277	CL LEVEL ELEV C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
01020278	CL LEVEL ELEV C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
01020279	CL LEVEL FSD CL-36 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020280	CL LEVEL FSD CL-56 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020281	CL LEVEL FSD CL-4 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020282	CL LEVEL FSD CL-46 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020283	CL LEVEL FSD CL-47 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020284	CL LEVEL FSD CL-33 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020285	CL LEVEL FSD CL-35 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020286	CL LEVEL FSD CL-34 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020287	CL LEVEL FSD CL-39 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020288	CL LEVEL FSD CL-40 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020289	CL LEVEL FSD CL-41 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020290	CL LEVEL FSD CL-37 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020291	CL LEVEL FSD CL-38 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020292	CL LEVEL FSD CL-50 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020293	CL LEVEL AC TCL-3 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020294	CL LEVEL AC TCL-2 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020295	CL LEVEL SF TCL-1 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020296	CL LEVEL AC TCL-1 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020297	CL LEVEL AC TCL-4 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020298	CL LEVEL SF TCL-2 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020299	CL LEVEL FSD CL-2 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020301	3FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020302	3FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020303	3FL CORRIDOR AT #3J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020304	3FL CORRIDOR AT #3H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020305	3FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
01020306	3FL CORRIDOR AT #3E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020307	3FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020308	3FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
01020309	3FL CORRIDOR AT #3D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020310	4FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020311	4FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020312	4FL CORRIDOR AT #4J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020313	4FL CORRIDOR AT #4H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020314	4FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
01020315	4FL CORRIDOR AT #4E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020316	4FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020317	4FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
01020318	4FL CORRIDOR AT #4D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020319	4FL CORRIDOR AT #4C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020320	CL LEVEL FSD CL-52 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020321	CL LEVEL FSD CL-53 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020322	CL LEVEL A/V CLOSET SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020323	CL TOWER SCREENROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
01020324	CL LEVEL FAN AC TCL-2 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020325	CL LEVEL FAN AC TCL-3 DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
01020376	CL LEVEL RES. EXH F-J FSD CONTROL RELAY	CR	X				TESTED: 2/24/16
01020379	CL LEVEL AC TCL-3 SHUTDOWN RELAY	CR	X		X	X	TESTED: 3/7/16
01020381	CL LEVEL FSD CL-4, 56&TRASH RM RISER RELAY	CR	X				TESTED: 2/24/16
01020383	CL LEVEL FAN AC TCL-1 SHUTDOWN RELAY	CR	X		X	X	TESTED: 3/7/16
01020386	CL LEVEL FAN AC TCL-4 SHUTDOWN RELAY	CR	X		X	X	TESTED: 3/7/16
01020389	CL LEVEL EXHAUST FANS SHUTDOWN RELAY	CR	X		X	X	TESTED: 3/7/16
01020390	CL LEVEL RES. EXH A-D FSD CONTROL RELAY	CR	X				TESTED: 2/24/16
01020391	CL LEVEL SUPPLY FSD STAIR 2 RISER RELAY	CR	X				TESTED: 2/24/16
01020393	CL LEVEL FAN AC TCL-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
01020394	CL LEVEL FAN EF TCL24 POWER DISCONNECT	CT	X				TESTED: 3/3/16
01020395	CL LEVEL FSD TCL-4 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020397	CL LEVEL FAN SF TCL-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
01020398	CL LEVEL FAN SF TCL-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
01020399	CL LEVEL FSD TCL-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020401	CL LEVEL FAN AC TCL-2 'ON' RELAY	CT	X				TESTED: 2/24/16
01020402	CL LEVEL FAN AC TCL-2 'OFF' RELAY	CT	X				TESTED: 2/24/16

01020403	CL LEVEL FAN EF TCL24 'ON' MODULE	CT	X				TESTED: 2/24/16
01020404	CL LEVEL FAN EF TCL24 'OFF' MODULE	CT	X				TESTED: 2/24/16
01020405	CL LEVEL FAN SF TCL-1 'ON' MODULE	CT	X				TESTED: 2/24/16
01020406	CL LEVEL FAN SF TCL-1 'OFF' MODULE	CT	X				TESTED: 2/24/16
01020407	CL LEVEL FAN SF TCL-2 'ON' MODULE	CT	X				TESTED: 2/24/16
01020408	CL LEVEL FAN SF TCL-2 'OFF' MODULE	CT	X				TESTED: 2/24/16
01020409	3FL SUPPLY FSD T3-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020410	3FL SUPPLY FSD T3-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020411	3FL EXHAUST FSD T3-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
01020412	4FL SUPPLY FSD T4-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020413	4FL SUPPLY FSD T4-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020414	4FL EXHAUST FSD T4-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
01020415	CL LEVEL FSD TCL-46 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020416	CL LEVEL FSD TCL-47 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020417	CL LEVEL FSD TCL-33 CLOSED STATUS	CT	X				TESTED: 2/24/16
01020419	CL LVL EXH FSD TCL-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
01020420	CL LEVEL ELEV P1 & P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
01020422	CL LEVEL A/V CLOSET A/V SHUTDOWN RELAY	CR	X				TESTED: 3/9/16
01020423	CL LEVEL A/V ROOM A/V SHUTDOWN RELAY	CR	X				TESTED: 3/9/16
01020492	L LEVEL ELEV LOBBY DOOR HOLDER RELAY	CR	X				TESTED: 3/9/16
01020495	CL LVL FSD TCL-67 CONTROL MODULE	CR	X				TESTED: 2/24/16
01020496	CL LEVEL ELEV C4-C5 DOOR HOLDER RELAY	CR	X				TESTED: 3/9/16
01020497	CL LEVEL FSD TCL-66, 30-41, 46-47, 51-57	CR	X				TESTED: 2/24/16
01020498	CL LEVEL ELEV DOOR DOOR HOLDER RELAY	CR	X				TESTED: 3/9/16
01020499	4FL ELECTRIC ROOM DOOR HOLDER RELAY	CR	X				TESTED: 3/8/16
01030001	CL LEVEL STAIR 1 FSD CL-1 DUCT DET	DD	X		X	X	TESTED: 3/7/16
01030126	L LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030127	L LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030128	CL LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030129	CL LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030130	3FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030131	3FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030132	4FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030133	4FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030134	5FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030135	5FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030136	6FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030137	6FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030138	7FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030139	7FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030140	8FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030141	8FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030142	9FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030143	9FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030144	10FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030145	10FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030146	11FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030147	11FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030148	12FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030149	12FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030150	14FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030151	14FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030152	15FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030153	15FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030154	16FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030155	16FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030156	17FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030157	17FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030158	18FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030159	18FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030160	19FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030161	19FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030162	20FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030163	20FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030164	21FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030165	21FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5

01030166	22FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030167	22FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030168	23FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030169	23FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030170	24FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030171	24FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030172	25FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030173	25FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030174	26FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030175	26FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030176	27FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030177	27FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030178	28FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030179	28FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030180	29FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030181	29FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030182	30FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030183	30FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030184	31FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030185	31FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030186	32FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030187	32FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030188	33FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030189	33FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030190	34FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030191	34FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030192	35FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030193	35FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030194	36FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030195	36FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030196	37FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030197	37FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030198	38FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030199	38FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030200	39FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030201	39FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030202	40FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030203	40FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030204	41FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030205	41FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030206	42FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030207	42FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030208	43FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030209	43FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030210	45FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030211	45FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030212	46FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030213	46FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030214	47FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030215	47FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030216	48FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030217	48FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030218	49FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030219	49FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030220	50FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030221	50FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030222	51FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030223	51FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030224	52FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030225	52FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030226	53FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030227	53FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030228	54FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030229	54FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030230	55FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030231	55FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5

01030232	56FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030233	56FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030234	57FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030235	57FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030236	PH1 STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030237	PH1 STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030238	PH2 STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030239	PH2 STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030240	GPH LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030241	GPH LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030242	59FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030243	59FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030244	26FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030245	CL LEVEL SUPPLY FSD STAIR 1 RISER RELAY	CR	X				TESTED: 2/24/16
01030246	CL LEVEL FSD TCL-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
01030247	59FL STAIR 1 RELIEF DAMPER STATUS	CT	X				TESTED: 2/24/16
01030248	59FL STAIR 1 RELIEF FSD CONTROL RELAY	CR	X				TESTED: 2/24/16
01030249	B1 LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030250	B1 LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
01030376	CL LEVEL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030377	CL LEVEL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030378	3FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030379	3FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030380	4FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030381	4FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030382	5FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030383	5FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030384	6FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030385	6FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030386	7FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030387	7FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030388	8FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030389	8FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030390	9FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030391	9FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030392	10FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030393	10FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030394	11FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030395	11FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030396	12FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030397	12FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030398	14FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030399	14FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030400	15FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030401	15FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030402	16FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030403	16FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030404	17FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030405	17FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030406	18FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030407	18FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030408	19FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030409	19FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030410	20FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030411	20FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030412	21FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030413	21FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030414	22FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030415	22FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030416	23FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030417	23FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030418	24FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030419	24FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030420	25FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030421	25FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030422	26FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC

01030423	26FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030424	27FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030425	27FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030426	28FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030427	28FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030428	29FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030429	29FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030430	30FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030431	30FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030432	31FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030433	31FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030434	32FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030435	32FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030436	33FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030437	33FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030438	34FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030439	34FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030440	35FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030441	35FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030442	36FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030443	36FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030444	37FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030445	37FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030446	38FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030447	38FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030448	39FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030449	39FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030450	40FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030451	40FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030452	41FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030453	41FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030454	42FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030455	42FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030456	43FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030457	43FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030458	45FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030459	45FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030460	46FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030461	46FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030462	47FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030463	47FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030464	48FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030465	48FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030466	49FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030467	49FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030468	50FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030469	50FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030470	51FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030471	51FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030472	52FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030473	52FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030474	53FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030475	53FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030476	54FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030477	54FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030478	55FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030479	55FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030480	56FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030481	56FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030482	57FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030483	57FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030484	PH1 STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 3/1/16 TIME: < 90 SEC
01030485	PH1 STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030486	PH2 STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030487	PH2 STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030488	GPH LEVEL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC

01030489	GPH LEVEL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030490	59FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030491	59FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030492	59FL STAIR 2 RELIEF DAMPER STATUS	CT	X				TESTED: 2/24/16
01030493	59FL STAIR 2 RELIEF FSD CONTROL RELAY	CR	X				TESTED: 2/24/16
01030494	26FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030495	B1 LVL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030496	B1 LVL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030497	L LVL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030498	L LVL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01030499	60FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 2/29/16 TIME: < 90 SEC
01030500	60FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 2/29/16 TURNS: < 2.5
01040126	CL LEVEL FSD CL-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040127	CL LEVEL FSD CL-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040128	CL LEVEL FSD CL-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040130	CL LEVEL FSD CL-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040131	CL LEVEL FSD CL-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040132	CL LEVEL FSD CL-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040133	CL LEVEL FSD CL-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040134	3FL UNIT 3A FSD T3-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040136	3FL UNIT 3C FSD T3-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040137	3FL UNIT 3D FSD T3-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040138	4FL UNIT 4A FSD T4-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040139	4FL UNIT 4B FSD T4-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040140	4FL UNIT 4C FSD T4-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040141	4FL UNIT 4D FSD T4-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040142	5FL UNIT 5A FSD T5-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040143	5FL UNIT 5B FSD T5-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040144	5FL UNIT 5C FSD T5-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040145	5FL UNIT 5D FSD T5-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040146	6FL UNIT 6A FSD T6-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040147	6FL UNIT 6B FSD T6-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040148	6FL UNIT 6C FSD T6-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040149	6FL UNIT 6D FSD T6-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040150	7FL UNIT 7A FSD T7-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040151	7FL UNIT 7B FSD T7-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040152	7FL UNIT 7C FSD T7-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040153	7FL UNIT 7D FSD T7-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040154	8FL UNIT 8A FSD T8-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040155	8FL UNIT 7B FSD T8-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040156	8FL UNIT 8C FSD T8-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040157	8FL UNIT 8D FSD T8-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040158	9FL UNIT 9A FSD T9-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040160	9FL UNIT 9C FSD T9-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040161	9FL UNIT 9D FSD T9-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040162	10FL #10A FSD T10-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040164	10FL #10C FSD T10-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040165	10FL #10D FSD T10-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040166	11FL #11A FSD T11-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040168	11FL #11C FSD T11-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040169	11FL #11D FSD T11-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040170	12FL #12A FSD T12-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040171	12FL #12B FSD T12-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040172	12FL #12C FSD T12-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040173	12FL #12D FSD T12-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040174	14FL #14A FSD T14-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040175	14FL #14B FSD T14-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040176	14FL #14C FSD T14-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040177	14FL #14D FSD T14-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040178	15FL #15A FSD T15-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040179	15FL #15B FSD T15-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040180	15FL #15C FSD T15-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040181	15FL #15D FSD T15-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040182	16FL #16A FSD T16-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040183	16FL #16B FSD T16-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040184	16FL #16C FSD T16-7 CLOSED STATUS	CT	X				TESTED: 2/24/16

01040185	16FL #16D FSD T16-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040186	17FL #17A FSD T17-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040187	17FL #17B FSD T17-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040188	17FL #17C FSD T17-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040189	17FL #17D FSD T17-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040190	18FL #18A FSD T18-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040191	18FL #18B FSD T18-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040192	18FL #18C FSD T18-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040193	18FL #18D FSD T18-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040194	19FL #19A FSD T19-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040196	19FL #19C FSD T19-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040197	19FL #19D FSD T19-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040198	20FL #20A FSD T20-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040200	20FL #20C FSD T20-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040201	20FL #20D FSD T20-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040202	21FL #21A FSD T21-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040204	21FL #21C FSD T21-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040205	21FL #21D FSD T21-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040206	22FL #22A FSD T22-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040207	22FL #22B FSD T22-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040208	22FL #22C FSD T22-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040209	22FL #22D FSD T22-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040210	23FL #23A FSD T23-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040211	23FL #23B FSD T23-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040212	23FL #23C FSD T23-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040213	23FL #23D FSD T23-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040214	24FL #24A FSD T24-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040215	24FL #24B FSD T24-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040216	24FL #24C FSD T24-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040217	24FL #24D FSD T24-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040218	25FL #25A FSD T25-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040219	25FL #25B FSD T25-6 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040220	25FL #25C FSD T25-7 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040221	25FL #25D FSD T25-8 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040376	CL LEVEL FSD CL-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040377	CL LEVEL FSD CL-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040378	CL LEVEL FSD CL-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040380	CL LEVEL FSD CL-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040381	CL LEVEL FSD CL-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040383	CL LEVEL FSD CL-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040384	CL LEVEL FSD CL-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040386	3FL UNIT 3E FSD T3-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040387	3FL UNIT 3G FSD T3-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040388	3FL UNIT 3F FSD T3-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040389	3FL UNIT 3J FSD T3-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040390	3FL UNIT 3H FSD T3-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040391	4FL UNIT 4E FSD T4-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040392	4FL UNIT 4G FSD T4-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040393	4FL UNIT 4F FSD T4-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040394	4FL UNIT 4J FSD T4-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040395	4FL UNIT 4H FSD T4-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040396	5FL UNIT 5E FSD T5-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040397	5FL UNIT 5G FSD T5-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040398	5FL UNIT 5F FSD T5-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040399	5FL UNIT 5J FSD T5-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040400	5FL UNIT 5H FSD T5-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040401	6FL UNIT 6E FSD T6-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040402	6FL UNIT 6G FSD T6-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040403	6FL UNIT 6F FSD T6-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040404	6FL UNIT 6J FSD T6-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040405	6FL UNIT 6H FSD T6-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040406	7FL UNIT 7E FSD T7-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040407	7FL UNIT 7G FSD T7-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040408	7FL UNIT 7F FSD T7-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040409	7FL UNIT 7J FSD T7-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040410	7FL UNIT 7H FSD T7-13 CLOSED STATUS	CT	X				TESTED: 2/24/16

01040411	8FL UNIT 8E FSD T8-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040412	8FL UNIT 8G FSD T8-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040413	8FL UNIT 8F FSD T8-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040414	8FL UNIT 8J FSD T8-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040415	8FL UNIT 8H FSD T8-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040416	9FL UNIT 9E FSD T9-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040417	9FL UNIT 9G FSD T9-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040418	9FL UNIT 9F FSD T9-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040419	9FL UNIT 9J FSD T9-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040420	9FL UNIT 9H FSD T9-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040421	10FL #10E FSD T10-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040422	10FL #10G FSD T10-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040423	10FL #10F FSD T10-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040424	10FL #10J FSD T10-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040425	10FL #10H FSD T10-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040426	11FL #11E FSD T11-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040427	11FL #11G FSD T11-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040428	11FL #11F FSD T11-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040429	11FL #11J FSD T11-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040430	11FL #11H FSD T11-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040431	12FL #12E FSD T12-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040432	12FL #12G FSD T12-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040433	12FL #12F FSD T12-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040434	12FL #12J FSD T12-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040435	12FL #12H FSD T12-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040436	14FL #14E FSD T14-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040437	14FL #14G FSD T14-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040438	14FL #14F FSD T14-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040439	14FL #14J FSD T14-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040440	14FL #14H FSD T14-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040441	15FL #15E FSD T15-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040442	15FL #15G FSD T15-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040443	15FL #15F FSD T15-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040444	15FL #15J FSD T15-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040445	15FL #15H FSD T15-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040446	16FL #16E FSD T16-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040447	16FL #16G FSD T16-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040448	16FL #16F FSD T16-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040449	16FL #16J FSD T16-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040450	16FL #16H FSD T16-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040451	17FL #17E FSD T17-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040452	17FL #17G FSD T17-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040453	17FL #17F FSD T17-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040454	17FL #17J FSD T17-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040455	17FL #17H FSD T17-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040456	18FL #18E FSD T18-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040457	18FL #18G FSD T18-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040458	18FL #18F FSD T18-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040459	18FL #18J FSD T18-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040460	18FL #18H FSD T18-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040461	19FL #19E FSD T19-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040462	19FL #19G FSD T19-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040463	19FL #19F FSD T19-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040464	19FL #19J FSD T19-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040465	19FL #19H FSD T19-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040466	20FL #20E FSD T20-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040467	20FL #20G FSD T20-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040468	20FL #20F FSD T20-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040469	20FL #20J FSD T20-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040470	20FL #20H FSD T20-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040471	21FL #21E FSD T21-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040472	21FL #21G FSD T21-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040473	21FL #21F FSD T21-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040474	21FL #21J FSD T21-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040475	21FL #21H FSD T21-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040476	22FL #22E FSD T22-9 CLOSED STATUS	CT	X				TESTED: 2/24/16

01040477	22FL #22G FSD T22-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040478	22FL #22F FSD T22-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040479	22FL #22J FSD T22-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040480	22FL #22H FSD T22-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040481	23FL #23E FSD T23-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040482	23FL #23G FSD T23-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040483	23FL #23F FSD T23-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040484	23FL #23J FSD T23-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040485	23FL #23H FSD T23-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040486	24FL #24E FSD T24-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040487	24FL #24G FSD T24-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040488	24FL #24F FSD T24-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040489	24FL #24J FSD T24-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040490	24FL #24H FSD T24-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040491	25FL #25E FSD T25-9 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040492	25FL #25G FSD T25-10 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040493	25FL #25F FSD T25-11 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040494	25FL #25J FSD T25-12 CLOSED STATUS	CT	X				TESTED: 2/24/16
01040495	25FL #25H FSD T25-13 CLOSED STATUS	CT	X				TESTED: 2/24/16
03020001	MR B5 LVL ELEV P1-P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
03020002	MR B5 LVL ELEV P1-P2 MACH RM SMOKE DET.	SD	X		X	X	TESTED: 3/10/16, RECALLED
03020003	MR B5 LVL MECH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
03020004	MR B5 LVL ELEV P1-P2 MACH RM HEAT DET.	HD	X		X	X	TESTED: 3/10/16, SHUNTED
03020005	MR B5 LVL ELECTRIC RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
03020006	MR B4 LVL ELEV P1-P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
03020007	MR B4 LVL ELECTRIC RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
03020125	MR B5 LVL ELEV P1-P2 MACH RM HEAT DET.	HD	X		X	X	TESTED: 3/10/16, SHUNTED
03020126	MR B5 LVL ELEV P1-P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
03020127	MR B5 LVL ELEV P1-P2 PRIMARY RECALL	CR	X				TESTED: 3/10/16
03020128	MR B5 LVL ELEV P1-P2 ALTERNATE RECALL	CR	X				TESTED: 3/10/16
03020129	MR B5 LVL ELEV P1-P2 FIRE HAT OUTPUT	CR	X				TESTED: 3/10/16
03020130	MR B5 LVL ELEV P1-P2 MACH RM FSD RELAY	CR	X				TESTED: 2/25/16
03020131	MR B5 LVL FAN SF B5-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020132	MR B5 LVL FAN SF B5-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020133	MR B5 LVL FAN EF B5-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020134	MR B5 LVL FAN EF B5-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020135	MR B5 LVL FAN EF B5-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020136	MR B5 LVL FAN EF B5-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020137	MR B5 LVL FAN SF B5-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020138	MR B5 LVL FAN SF B5-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020139	MR B5 LVL STAIR 4 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020140	MR B5 LVL STAIR 4 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020141	MR B5 LVL FAN SF B5-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020142	MR B5 LVL FAN SF B5-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020143	MR B5 LVL FAN SF B5-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020144	MR B5 LVL FAN SF B5-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020145	MR B5 LVL FAN EF B5-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020146	MR B5 LVL FAN EF B5-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020147	MR B5 LVL FAN EF B5-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020148	MR B5 LVL FAN EF B5-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020149	MR B5 LVL FAN EF B5-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020150	MR B5 LVL FAN EF B5-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020151	MR B5 LVL FAN EF B5-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020152	MR B5 LVL FAN EF B5-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020153	MR B5 LVL FAN SF B5-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020154	MR B5 LVL FAN SF B5-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020155	MR B5 LVL FAN SF B5-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020156	MR B5 LVL FAN SF B5-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020158	MR B4 LVL ELEV P1-P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
03020159	MR B4 LVL FAN SF B4-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020160	MR B4 LVL FAN SF B4-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020161	MR B4 LVL FAN EF B4-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020162	MR B4 LVL FAN EF B4-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020163	MR B4 LVL FAN EF B4-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020164	MR B4 LVL FAN EF B4-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020165	MR B4 LVL FAN SF B4-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16

03020166	MR B4 LVL FAN SF B4-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020167	MR B4 LVL STAIR 4 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020168	MR B4 LVL STAIR 4 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020169	MR B4 LVL FAN SF B4-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020170	MR B4 LVL FAN SF B4-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020171	MR B4 LVL FAN SF B4-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020172	MR B4 LVL FAN SF B4-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020173	MR B4 LVL FAN EF B4-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020174	MR B4 LVL FAN EF B4-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020175	MR B4 LVL FAN EF B4-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020176	MR B4 LVL FAN EF B4-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020177	MR B4 LVL FAN EF B4-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020178	MR B4 LVL FAN EF B4-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020179	MR B4 LVL FAN EF B4-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020180	MR B4 LVL FAN EF B4-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020181	MR B4 LVL FAN SF B4-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020182	MR B4 LVL FAN SF B4-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020183	MR B4 LVL FAN SF B4-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020184	MR B4 LVL FAN SF B4-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020185	MR B5 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020186	MR B5 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020187	MR B4 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020188	MR B4 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020189	MR B3 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020190	MR B3 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020191	MR B2 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020192	MR B2 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020193	MR B1 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020194	MR B1 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020195	MR L LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020196	MR L LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020197	MR CL LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020198	MR CL LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020199	MR 3FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020200	MR 3FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020201	MR 4FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020202	MR 4FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020203	MR 5FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020204	MR 5FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020205	MR 6FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020206	MR 6FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020207	MR 7FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020208	MR 7FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020209	MR 8FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020210	MR 8FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020211	MR 9FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020212	MR 9FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020213	MR 10FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020214	MR 10FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020215	MR PH LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020216	MR PH LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020217	MR 12FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020218	MR 12FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020219	MR B5 LVL ELEV P1-P2 DOOR HOLDER RELAY	CR	X				TESTED: 3/10/16
03020241	MR L LEVEL VON DUPRIN CORR LOCK RELEASE	CR	X				TESTED: 3/9/16
03020242	MR L LEVEL VON DUPRIN STAIR 6 DOOR RELEASE	CR	X				TESTED: 3/9/16
03020243	MR B5 LVL ELEV P1 CAR BATTERY SHUNT	CR	X				TESTED: 3/10/16
03020244	MR B5 LVL ELEV P2 CAR BATTERY SHUNT	CR	X				TESTED: 3/10/16
03020245	MR B3 LVL STAIR #4 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020246	MR B3 LVL STAIR #4 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020247	MR B2 LVL STAIR #4 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020248	MR B2 LVL STAIR #4 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020249	B1 LVL STAIR #4 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
03020250	B1 LVL STAIR #4 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
03020251	MR B3 LVL STORAGE RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
03020252	MR B3 LVL ELEV P1-P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED

03020253	MR B2 LVL ELECTRIC RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
03020254	MR B2 LVL ELEV P1-P2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
03020255	MR B2 LVL ELEVATOR F1 MACH RM SMOKE DET.	SD	X		X	X	TESTED: 3/10/16, RECALLED
03020256	MR B2 LVL MECH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
03020257	MR B2 LVL ELEVATOR F1 HEAT DETECTOR	HD	X		X	X	TESTED: 3/10/16, SHUNTED
03020259	MR B1 LVL ELEVATOR S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
03020260	MR B1 LVL ELEVATOR S4 MACH RM SMOKE DET.	SD	X		X	X	TESTED: 3/10/16, RECALLED
03020261	MR B1 LVL ELEVATOR S4 MACH RM HEAT DET.	HD	X		X	X	TESTED: 3/10/16, SHUNTED
03020263	B1 LEVEL FAN MUA-1 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
03020265	B1 LEVEL FAN TF-1 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
03020376	MR B3 LVL ELEV P1-P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
03020377	MR B3 LVL FAN SF B3-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020378	MR B3 LVL FAN SF B3-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020379	MR B3 LVL FAN EF B3-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020380	MR B3 LVL FAN EF B3-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020381	MR B3 LVL FAN EF B3-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020382	MR B3 LVL FAN EF B3-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020383	MR B3 LVL FAN SF B3-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020384	MR B3 LVL FAN SF B3-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020387	MR B3 LVL FAN SF B3-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020388	MR B3 LVL FAN SF B3-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020389	MR B3 LVL FAN SF B3-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020390	MR B3 LVL FAN SF B3-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020391	MR B3 LVL FAN EF B3-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020392	MR B3 LVL FAN EF B3-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020393	MR B3 LVL FAN EF B3-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020394	MR B3 LVL FAN EF B3-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020395	MR B3 LVL FAN EF B3-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020396	MR B3 LVL FAN EF B3-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020397	MR B3 LVL FAN EF B3-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020398	MR B3 LVL FAN EF B3-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020399	MR B3 LVL FAN SF B3-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020400	MR B3 LVL FAN SF B3-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020401	MR B3 LVL FAN SF B3-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020402	MR B3 LVL FAN SF B3-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020403	STAIR 5 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020404	STAIR 6 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020405	ELEV C6&S3 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020406	STAIR 4 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020409	ELEV P1-P2 CAB FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020410	ELEV F1 CAB FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020411	ELEV S4 LOBBY FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020412	ELEV S4 CAB FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
03020413	STAIR 5 SPEAKER TRBL CIRCUIT A81	CC	X				TESTED: 3/8/16
03020414	STAIR 6 SPEAKER TRBL CIRCUIT A82	CC	X				TESTED: 3/8/16
03020415	STAIR 4.SPEAKER TRBL CIRCUIT A80	CC	X				TESTED: 3/8/16
03020416	ELEV P1-P2 SPKR TRBL CIRCUIT A83	CC	X				TESTED: 3/8/16
03020417	ELEV F1 SPEAKER TRBL CIRCUIT A84	CC	X				TESTED: 3/8/16
03020418	ELEV S4 SPEAKER TRBL CIRCUIT A94	CC	X				TESTED: 3/8/16
03020419	MR B2 LVL ELEV P1-P2 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
03020420	MR B2 LVL ELEV F1 MACH RM FSD RELAY	CR	X				TESTED: 2/25/16
03020421	MR B2 LVL ELEVATOR F1 PRIMARY RECALL	CR	X				TESTED: 3/10/16
03020422	MR B2 LVL ELEVATOR F1 ALTERNATE RECALL	CR	X				TESTED: 3/10/16
03020423	MR B2 LVL ELEVATOR F1 FIRE HAT OUTPUT	CR	X				TESTED: 3/10/16
03020424	MR B2 LVL FAN SF B2-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020425	MR B2 LVL FAN EF B2-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020426	MR B2 LVL FAN EF B2-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020427	MR B2 LVL FAN EF B2-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020428	MR B2 LVL FAN EF B2-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020429	MR B2 LVL FAN SF B2-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020432	MR B2 LVL FAN SF B2-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020433	MR B2 LVL FAN SF B2-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020434	MR B2 LVL FAN EF B2-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020435	MR B2 LVL FAN EF B2-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020436	MR B2 LVL FAN EF B2-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020437	MR B2 LVL FAN EF B2-4 'OFF' MODULE	CT	X				TESTED: 2/25/16

03020438	MR B2 LVL FAN EF B2-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020439	MR B2 LVL FAN EF B2-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020440	MR B2 LVL FAN EF B2-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020441	MR B2 LVL FAN EF B2-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020442	MR B2 LVL FAN SF B2-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020443	MR B2 LVL FAN SF B2-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020444	MR B2 LVL ELEVATOR F1 SHUNT POWER TROUBLE	CT	X				TESTED: 3/10/16
03020445	MR B1 LVL ELEVATOR S4 PRIMARY RECALL	CR	X				TESTED: 3/10/16
03020446	MR B1 LVL ELEVATOR S4 ALTERNATE RECALL	CR	X				TESTED: 3/10/16
03020447	MR B1 LVL ELEVATOR S4 FIRE HAT OUTPUT	CR	X				TESTED: 3/10/16
03020448	MR B1 LVL ELEVATOR S4 MACH ROOM FSD RELAY	CR	X				TESTED: 2/25/16
03020449	MR B1 LVL FAN EF B1-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020450	MR B1 LVL FAN EF B1-4 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020451	MR B1 LVL FAN EF B1-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020452	MR B1 LVL FAN EF B1-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
03020453	MR B1 LVL ELEVATOR S4 SHUNT POWER TROUBLE	CT	X				TESTED: 3/10/16
03020454	MR B1 LVL FAN EF B1-3 'ON' MODULE	CT	X				TESTED: 2/25/16
03020455	MR B1 LVL FAN EF B1-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020456	MR B1 LVL FAN EF B1-4 'ON' MODULE	CT	X				TESTED: 2/25/16
03020457	MR B1 LVL FAN EF B1-4 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020458	MR B1 LVL FAN EF B1-2 'ON' MODULE	CT	X				TESTED: 2/25/16
03020459	MR B1 LVL FAN EF B1-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020460	MR B1 LVL FAN EF B1-1 'ON' MODULE	CT	X				TESTED: 2/25/16
03020461	MR B1 LVL FAN EF B1-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
03020462	MR B1 LVL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
03020463	MR B1 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5
03020465	MR L LVL FAN MUA-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
03020466	MR L LVL FAN TF-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
03020467	MR L LVL FAN MUA-1 DAMPER RELAY	CR	X				TESTED: 2/25/16
03020469	MR L LVL FAN TF-1 DAMPER RELAY	CR	X				TESTED: 2/25/16
03020498	MR B1 LVL ELEV S4 CAR BATTERY SHUNT	CR	X				TESTED: 3/10/16
03020499	MR B2 LVL ELEV F1 CAR BATTERY SHUNT	CR	X				TESTED: 3/10/16
03020500	MR B5 LVL ELEV P1&P2 SHUNT POWER TROUBLE	CT	X				TESTED: 3/10/16
04020001	MR L LVL ELECTRIC RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020002	MR L LVL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020003	MR L LVL MECH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020004	MR L LVL MECH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020005	MR L LVL ELEVATOR S4 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
04020007	MR L LVL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020008	MR L LVL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020009	MR L LVL CORR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020010	MR L LVL ELEVATOR S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
04020012	MR L LVL TOILET 122 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020013	MR L LVL MR LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020014	MR L LVL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
04020015	MR L LVL LOADING DOCK SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020016	MR L LVL FUEL PUMP RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020017	MR L LVL SCISSOR LIFT ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020018	MR L LVL LOADING DOCK SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020019	MR L LVL RECYCLING RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020020	MR L LVL STORAGE ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020021	MR L LVL LOADING DOCK SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020022	MR L LVL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020023	MR L LVL POOL EQUIP ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020024	MR L LVL ELEVATOR F1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
04020025	MR L LVL FSD L-22 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020026	MR L LVL FSD L-25 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020028	MR L LVL FSD L-19 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020029	MR L LVL FSD L-15 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020030	MR L LVL FSD L-17 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020031	MR L LVL FSD L-16 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020032	MR L LVL FAN AC ML-2 DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020033	MR L LVL FAN AC ML-1 DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020034	MR CL LVL ELECTRIC RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020035	MR CL LVL TELECOM RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020036	MR CL LVL ELEV C6& S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED

04020037	MR CL LVL ELEVATOR S4 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/10/16, RECALLED
04020038	MR CL LVL TASTING RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020039	MR CL LVL HALLWAY 221 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020040	MR CL LVL POOL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020041	MR CL LVL HALLWAY 221 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020042	MR CL LEVEL CORRIDOR SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020043	MR CL LVL FSD CL-63 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020044	MR CL LVL FSD CL-62 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020045	MR CL LVL FSD CL-61 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020046	MR CL LVL FSD CL-42 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020047	MR CL LVL FSD CL-43 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020048	MR CL LVL FSD CL-45 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020049	MR CL LVL FSD CL-44 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020052	MR 3FL ELECTRICAL RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020053	MR 3FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020054	MR 3FL CORRIDOR @ 304 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020055	MR 3FL CORR @ TERRACE SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020056	MR 3FL CORRIDOR @ 303 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020057	MR 3FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
04020058	MR 3FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020059	MR 3FL CORRIDOR @ 302 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020060	MR 4FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020061	MR 4FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020062	MR 4FL CORRIDOR @ 404 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020063	MR 4FL CORRIDOR @ 403 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020064	MR 4FL ELEV C6& S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
04020065	MR 4FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020066	MR 4FL CORRIDOR @ 402 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020067	MR 5FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020068	MR 5FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020069	MR 5FL CORRIDOR @ 504 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020070	MR 5FL CORRIDOR @ 503 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020071	MR 5FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
04020072	MR 5FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020073	MR 5FL CORRIDOR @ 502 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020074	MR 6FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020075	MR 6FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020076	MR 6FL CORRIDOR @ 604 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020077	MR 6FL CORRIDOR @ 603 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020078	MR 6FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
04020079	MR 6FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020080	MR 6FL CORRIDOR @ 602 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
04020083	MR CL LVL FSD CL-66 FSD DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020086	MR L LEVEL ELEV F1 SHAFT SMOKE DETECTOR	SD	X				TESTED: 3/10/16, RECALLED
04020087	MR L LEVEL ELEV F1 SHAFT HEAT DETECTOR	HD	X				TESTED: 3/10/16, SHUNTED
04020091	MR L LEVEL RESTAURANT STORAGE RM SMOKE DE	SD	X		X	X	TESTED: 2/25/16
04020092	MR L LEVEL RESTAURANT MECH. ROOM DUCT DET.	DD	X		X	X	TESTED: 3/15/16
04020093	MR L LEVEL RESTAURANT HP-3 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
04020094	MR L LEVEL RESTAURANT HP-2 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
04020095	MR L LEVEL RESTAURANT HP-1 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
04020096	MR L LEVEL RESTAURANT HP-4 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/16
04020098	MR CL LVL FSD CL-64 DUCT DETECTOR	DD	X		X	X	TESTED: 3/15/16
04020100	MR L LVL SECURITY OFFICE SMOKE DETECTOR	SD	X		X	X	TESTED: 2/25/16
04020113	MR L LEVEL RESTAURANT HP-5 DUCT DETECTOR	DD	X		X	X	TESTED: 3/17/15
04020126	MR L LVL FAN AC ML-2 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
04020127	MR L LVL FAN AC ML-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
04020128	MR L LEVEL ELECT. RM DOOR RELEASE RELAY	CR	X				TESTED: 3/9/16
04020129	MR L LVL ELEVATOR S4 DOOR RELEASE RELAY	CR	X				TESTED: 3/9/16
04020130	MR L LVL FSD L-15,25,L-32-33,19,20-23	CR	X				TESTED: 2/25/16
04020131	MR L LVL FSD L-16-17,L-12-14,26,	CR	X				TESTED: 2/25/16
04020132	MR L LVL TELECOM ROOM SECURITY INTERFACE	CR	X				TESTED: 3/9/16
04020133	MR 1FL LVL KITCHEN FRYER ANSUL	CT	X			X	TESTED: 3/3/16 (SHORTED MODULE ONLY)
04020134	MR CL LEVEL POOL ROOM FSD CONTROL RELAY	CR	X				TESTED: 2/25/16
04020135	MR CL LVL FSD CL-63 CONTROL RELAY	CR	X				TESTED: 2/25/16
04020136	MR CL LVL FSD CL-42, 43,44,45,64,65 RELAY	CR	X				TESTED: 2/25/16

04020137	MR CL LVL FSD CL-62 CONTROL RELAY	CR	X				TESTED: 2/25/16
04020138	MR CL LVL TELCO ROOM SECURITY INTERFACE	CR	X				TESTED: 3/9/16
04020140	MR CL LVL FIREPLACE GAS SHUTDOWN RELAY	CR	X				TESTED: 3/9/16
04020142	MR 3FL SUP FSD M3-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
04020143	MR 3FL EXH FSD M3-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
04020144	MR 4FL SUP FSD M4-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
04020145	MR 4FL EXH FSD M4-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
04020146	MR 5FL SUP FSD M5-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
04020147	MR 5FL EXH FSD M5-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
04020148	MR 6FL SUP FSD M6-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
04020149	MR 6FL EXH FSD M6-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
04020150	MR L LVL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020151	MR L LVL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020152	MR CL LVL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020153	MR CL LVL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020154	MR 3FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020155	MR 3FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020156	MR 4FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020157	MR 4FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020158	MR 5FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020159	MR 5FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020160	MR 6FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020161	MR 6FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020162	MR 7FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020163	MR 7FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020164	MR 8FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020165	MR 8FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020166	MR 9FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020167	MR 9FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020168	MR 10FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020169	MR 10FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020170	MR PH STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 3/2/16 TIME: < 90 SEC
04020171	MR PH STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 3/2/16 TURNS: < 2.5
04020174	MR L LVL ELEVATOR F1 DOOR RELEASE RELAY	CR	X				TESTED: 3/10/16
04020178	MR L LEVEL RESTAURANT MECH. ROOM FSD RELAY	CR	X				TESTED: 2/25/16
04020179	MR L LEVEL RESTAURANT HP-3 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
04020180	MR L LEVEL RESTAURANT HP-2 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
04020181	MR L LEVEL RESTAURANT HP-1 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
04020182	MR L LEVEL RESTAURANT HP-4 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
04020184	MR L LEVEL RESTAURANT MUSIC SHUTDOWN RELA	CR	X				TESTED: 3/9/16
04020185	MR L LEVEL RESTAURANT KITCHEN HOOD ANSUL	CT	X			X	TESTED: 3/3/16 (SHORTED MODULE ONLY)
04020189	MR L LEVEL RESTAURANT HP-5 SHUTDOWN RELAY	CR	X				TESTED: 3/17/16
04020242	MR L LEVEL RESTAURANT SMOG HOG ANSUL	CT	X			X	TESTED: 3/3/16 (SHORTED MODULE ONLY)
04020243	MR L LEVEL FAN EFM1-5 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
04020244	MR L LEVEL FAN EFM1-6 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
04020246	MR L LEVEL FAN EFM1-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
04020246	MR L LVL STAIR 5 VON DUPRIN LOCK RELEASE	CR	X				TESTED: 3/9/16
04020247	MR CL LEVEL FSD CL-68 CONTROL RELAY	CR	X				TESTED: 2/25/16
04020248	MR 12FL FUEL FILL LEAK DETECTION	CT	X			X	TESTED: 3/3/16
04020249	MR L LVL FUEL PUMP RM LEAK DETECTION	CT	X			X	TESTED: 3/3/16
04020250	MR 3FL SUPPLY FSD RISER CONTROL RELAY	CR	X				TESTED: 2/25/16
05020001	MR 7FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020002	MR 7FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020003	MR 7FL CORRIDOR @ 704 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020004	MR 7FL CORRIDOR @ 703 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020005	MR 7FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
05020006	MR 7FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020007	MR 7FL CORRIDOR @ 702 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020008	MR 8FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020009	MR 8FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020010	MR 8FL CORRIDOR @ 804 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020011	MR 8FL CORRIDOR @ 803 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020012	MR 8FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
05020013	MR 8FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16

05020014	MR 8FL CORRIDOR @ 802 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020015	MR 9FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020016	MR 9FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020017	MR 9FL CORRIDOR @ 904 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020018	MR 9FL CORRIDOR @ 903 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020019	MR 9FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
05020020	MR 9FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020021	MR 9FL CORRIDOR @ 902 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020022	MR 10FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020023	MR 10FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020024	MR 10FL CORR. @ 1004 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020025	MR 10FL CORR. @ 1003 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020026	MR 10FL ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
05020027	MR 10FL TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020028	MR 10FL CORR. @ 1002 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020029	MR PH ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020030	MR PH TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020031	MR PH CORRIDOR @ PH4 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020032	MR PH CORRIDOR @ PH3 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020033	MR PH ELEV C6 & S3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
05020034	MR PH TELECOM ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020035	MR PH CORRIDOR @ PH2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020036	MR 12FL FAN ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020037	MR 12FL EMERGENCY ELECTRIC RM SMOKE	SD	X		X	X	TESTED: 2/24/16
05020038	MR 12FL ELECTRIC ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020039	MR 12FL MECHANICAL RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020040	MR 12FL MECHANICAL RM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020041	MR 12FL BOILER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020042	MR 12FL BOILER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020043	MR 12FL BOILER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020044	MR 12FL BOILER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020045	MR 12FL BOILER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020046	MR 12FL FAN ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020047	MR 12FL BOILER ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
05020048	MR 12FL FAN SF M12-3 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
05020049	MR 12FL FAN SF M12-4 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
05020050	MR 12FL FAN SF M12-2 FAN DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
05020051	MR 13FL ELEV MACH RM SMOKE DETECTOR	SD	X		X	X	TESTED: 3/9/16, RECALLED
05020053	MR 13FL ELEV MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/9/16, SHUNTED
05020055	MR 13FL ELEV MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/9/16, SHUNTED
05020057	MR 13FL ELEV MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/9/16, SHUNTED
05020124	MR 12FL FAN AC M12-1 DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
05020125	MR 13FL ELEV MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/9/16, SHUNTED
05020126	MR 7FL SUP FSD M7-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
05020127	MR 7FL EXH FSD M7-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
05020128	MR 8FL SUP FSD M8-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
05020129	MR 8FL EXH FSD M8-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
05020130	MR 9FL SUP FSD M9-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
05020131	MR 9FL EXH FSD M9-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
05020132	MR 10FL SUP FSD M10-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
05020133	MR 10FL EXH FSD M10-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
05020134	MR PH SUP FSD MPH-1 CLOSED STATUS	CT	X				TESTED: 2/25/16
05020143	MR PH EXH FSD MPH-2 CONTROL MODULE	CR	X				TESTED: 2/25/16
05020144	MR 12FL EXHAUST FANS LOW SPEED RELAY	CR	X				TESTED: 2/25/16
05020151	MR 12FL FAN SF M12-3 POWER DISCONNECT	CT	X				TESTED: 3/3/16
05020152	MR 12FL FAN AC M12-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
05020153	MR 12FL GENERATOR LOW FUEL LEVEL	CT	X			X	TESTED: 3/3/16
05020154	MR 12FL FAN EF M12-19 POWER DISCONNECT	CT	X				TESTED: 3/3/16
05020155	MR 12FL FAN SF M12-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
05020156	MR 12FL GENERATOR IS RUNNING	CT	X			X	TESTED: 3/3/16
05020157	MR 12FL GENERATOR IS IN TROUBLE	CT	X			X	TESTED: 3/3/16
05020158	MR 12FL FAN SF M12-3 'ON' MODULE	CT	X				TESTED: 2/25/16
05020159	MR 12FL FAN SF M12-3 'OFF' MODULE	CT	X				TESTED: 2/25/16
05020160	MR 12FL FAN AC M12-1 'ON' MODULE	CT	X				TESTED: 2/25/16
05020161	MR 12FL FAN AC M12-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
05020162	MR 12FL FAN EF M12-19 'ON' MODULE	CT	X				TESTED: 2/25/16

05020163	MR 12FL FAN EF M12-19 'OFF' MODULE	CT	X				TESTED: 2/25/16
05020164	MR 12FL FAN SF M12-2 'ON' MODULE	CT	X				TESTED: 2/25/16
05020165	MR 12FL FAN SF M12-2 'OFF' MODULE	CT	X				TESTED: 2/25/16
05020167	MR 13FL ELEV MACH RM PRIMARY RECALL	CR	X				TESTED: 3/9/16
05020168	MR 13FL ELEV MACH RM ALTERNATE RECALL	CR	X				TESTED: 3/9/16
05020169	MR 13FL ELEV MACH RM FIRE HAT OUTPUT	CR	X				TESTED: 3/9/16
05020171	MR 13FL ELEV C6 & S3 SHUNT POWER TROUBLE	CT	X				TESTED: 3/9/16
05020172	ELEV C6 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
05020173	ELEV S3 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
05020174	ELEV CAB C6 SPEAKER TROUBLE A92	CC	X				TESTED: 3/8/16
05020175	ELEV CAB S3 SPEAKER TROUBLE A93	CC	X				TESTED: 3/8/16
05020176	GENERATOR ROOM FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
05020178	MR 12FL FAN SF M12-1 'ON' MODULE	CT	X				TESTED: 2/25/16
05020179	MR 12FL FAN SF M12-1 'OFF' MODULE	CT	X				TESTED: 2/25/16
05020180	MR 12FL FAN SF M12-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
05020246	MR 12FL GENERATOR RUPTURE BASIN	CT	X			X	TESTED: 3/3/16
05020247	MR 12FL STAIR5 RELIEF FSD CONTROL RELAY	CR	X				TESTED: 2/25/16
05020248	MR 12FL STAIR5 RELIEF FSD OPEN STATUS	CT	X				TESTED: 2/25/16
05020249	MR 12FL STAIR6 RELIEF FSD OPEN STATUS	CT	X				TESTED: 2/25/16
05020250	MR 12FL STAIR6 RELIEF FSD CONTROL RELAY	CR	X				TESTED: 2/25/16
06020001	5FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020002	5FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020003	5FL CORRIDOR AT #5J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020004	5FL CORRIDOR AT #5H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020005	5FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020006	5FL CORRIDOR AT #5E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020007	5FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020008	5FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020009	5FL CORRIDOR AT #5D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020010	5FL CORRIDOR AT #5C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/24/16
06020011	6FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020012	6FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020013	6FL CORRIDOR AT #6J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020014	6FL CORRIDOR AT #6H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020015	6FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020016	6FL CORRIDOR AT #6E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020017	6FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020018	6FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020019	6FL CORRIDOR AT #6D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020020	6FL CORRIDOR AT #6C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020021	7FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020022	7FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020023	7FL CORRIDOR AT #7J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020024	7FL CORRIDOR AT #7H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020025	7FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020026	7FL CORRIDOR AT #7E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020027	7FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020028	7FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020029	7FL CORRIDOR AT #7D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020030	7FL CORRIDOR AT #7C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020031	8FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020032	8FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020033	8FL CORRIDOR AT #8J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020034	8FL CORRIDOR AT #8H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020035	8FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020036	8FL CORRIDOR AT #8E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020037	8FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020038	8FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020039	8FL CORRIDOR AT #8D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020040	8FL CORRIDOR AT #8C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020041	9FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020042	9FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020043	9FL CORRIDOR AT #9J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020044	9FL CORRIDOR AT #9J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020045	9FL CORRIDOR AT #9H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020046	9FL CORRIDOR AT #9H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16

06020047	9FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020048	9FL CORRIDOR AT #9E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020049	9FL CORRIDOR AT ELEV. SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020050	9FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020051	9FL CORRIDOR AT #9D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020052	9FL CORRIDOR AT #9D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020053	10FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020054	10FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020055	10FL CORRIDOR AT #10J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020056	10FL CORRIDOR AT #10J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020057	10FL CORRIDOR AT #10H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020058	10FL CORRIDOR AT #10H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020059	10FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020060	10FL CORRIDOR AT #10E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020061	10FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020062	10FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020063	10FL CORRIDOR AT #10D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020064	10FL CORRIDOR AT #10D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020065	11FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020066	11FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020067	11FL CORRIDOR AT #11J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020068	11FL CORRIDOR AT #11J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020069	11FL CORRIDOR AT #11H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020070	11FL CORRIDOR AT #11H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020071	11FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020072	11FL CORRIDOR AT #11E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020073	11FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020074	11FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020075	11FL CORRIDOR AT #11D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020076	11FL CORRIDOR AT #11D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020077	12FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020078	12FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020079	12FL CORRIDOR AT #12J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020080	12FL CORRIDOR AT #12H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020081	12FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020082	12FL CORRIDOR AT #12E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020083	12FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020084	12FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020085	12FL CORRIDOR AT #12D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020086	12FL CORRIDOR AT #12C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020087	14FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020088	14FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020089	14FL CORRIDOR AT #14J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020090	14FL CORRIDOR AT #14H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020091	14FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
06020092	14FL CORRIDOR AT #14E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020093	14FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020094	14FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020095	14FL CORRIDOR AT #14D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020096	14FL CORRIDOR AT #14C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020097	15FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020098	15FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020099	15FL CORRIDOR AT #15J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020100	15FL CORRIDOR AT #15H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020101	15FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020102	15FL CORRIDOR AT #15E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020103	15FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020104	15FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
06020105	15FL CORRIDOR AT #15D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020106	15FL CORRIDOR AT #15C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
06020126	5FL SUPPLY FSD 5-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020127	5FL SUPPLY FSD 5-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020128	5FL EXHAUST FSD 5-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020129	6FL SUPPLY FSD 6-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020130	6FL SUPPLY FSD 6-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020131	6FL EXHAUST FSD 6-3 CONTROL MODULE	CR	X				TESTED: 2/24/16

06020132	7FL SUPPLY FSD 7-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020133	7FL SUPPLY FSD 7-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020134	7FL EXHAUST FSD 7-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020135	8FL SUPPLY FSD 8-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020136	8FL SUPPLY FSD 8-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020137	8FL EXHAUST FSD 8-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020138	9FL SUPPLY FSD 9-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020139	9FL SUPPLY FSD 9-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020140	9FL EXHAUST FSD 9-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020141	10FL SUPPLY FSD 10-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020142	10FL SUPPLY FSD 10-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020143	10FL EXHAUST FSD 10-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020144	11FL SUPPLY FSD 11-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020145	11FL SUPPLY FSD 11-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020146	11FL EXHAUST FSD 11-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020147	12FL SUPPLY FSD 12-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020148	12FL SUPPLY FSD 12-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020149	12FL EXHAUST FSD 12-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020150	14FL SUPPLY FSD 14-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020151	14FL SUPPLY FSD 14-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020152	14FL EXHAUST FSD 14-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
06020153	15FL SUPPLY FSD 15-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020154	15FL SUPPLY FSD 15-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
06020155	15FL EXHAUST FSD 15-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020001	16FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020002	16FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020003	16FL CORRIDOR AT #16J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020004	16FL CORRIDOR AT #16H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020005	16FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020006	16FL CORRIDOR AT #16E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020007	16FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020008	16FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020009	16FL CORRIDOR AT #16D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020010	16FL CORRIDOR AT #16C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020011	17FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020012	17FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020013	17FL CORRIDOR AT #17J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020014	17FL CORRIDOR AT #17H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020015	17FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020016	17FL CORRIDOR AT #17E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020017	17FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020018	17FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020019	17FL CORRIDOR AT #17D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020020	17FL CORRIDOR AT #17C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020021	18FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020022	18FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020023	18FL CORRIDOR AT #18J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020024	18FL CORRIDOR AT #18H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020025	18FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020026	18FL CORRIDOR AT #18E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020027	18FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020028	18FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020029	18FL CORRIDOR AT #18D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020030	18FL CORRIDOR AT #18C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020031	19FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020032	19FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020033	19FL CORRIDOR AT #19J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020034	19FL CORRIDOR AT #19A SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020035	19FL CORRIDOR AT #19H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020036	19FL CORRIDOR AT #19G SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020037	19FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020038	19FL CORRIDOR AT #19E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020039	19FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020040	19FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020041	19FL CORRIDOR AT #19D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020042	19FL CORRIDOR AT #19C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16

07020043	20FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020044	20FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020045	20FL CORRIDOR AT #20J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020046	20FL CORRIDOR AT #20A SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020047	20FL CORRIDOR AT #20H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020048	20FL CORRIDOR AT #20G SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020049	20FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020050	20FL CORRIDOR AT #20E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020051	20FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020052	20FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020053	20FL CORRIDOR AT #20D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020054	20FL CORRIDOR AT #20C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020055	21FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020056	21FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020057	21FL CORRIDOR AT #21J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020058	21FL CORRIDOR AT #21A SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020059	21FL CORRIDOR AT #21H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020060	21FL CORRIDOR AT #21G SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020061	21FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020062	21FL CORRIDOR AT #21E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020063	21FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020064	21FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020065	21FL CORRIDOR AT #21D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020066	21FL CORRIDOR AT #21C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020067	22FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020068	22FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020069	22FL CORRIDOR AT #22J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020070	22FL CORRIDOR AT #22H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020071	22FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020072	22FL CORRIDOR AT #22E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020073	22FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020074	22FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020075	22FL CORRIDOR AT #22D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020076	22FL CORRIDOR AT #22C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020077	23FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020078	23FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020079	23FL CORRIDOR AT #23J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020080	23FL CORRIDOR AT #23H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020081	23FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020082	23FL CORRIDOR AT #23E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020083	23FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020084	23FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020085	23FL CORRIDOR AT #23D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020086	23FL CORRIDOR AT #23C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020087	24FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020088	24FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020089	24FL CORRIDOR AT #24J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020090	24FL CORRIDOR AT #24H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020091	24FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020092	24FL CORRIDOR AT #24E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020093	24FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020094	24FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020095	24FL CORRIDOR AT #24D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020096	24FL CORRIDOR AT #24C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020097	25FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020098	25FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020099	25FL CORRIDOR AT #25J SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020100	25FL CORRIDOR AT #25H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020101	25FL ELEVATOR S1 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
07020102	25FL CORRIDOR AT #25H SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020103	25FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020104	25FL ELEVATOR C4 & C5 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
07020105	25FL CORRIDOR AT #25D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020106	25FL CORRIDOR AT #25C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
07020126	16FL SUPPLY FSD 16-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020127	16FL SUPPLY FSD 16-2 CLOSED STATUS	CT	X				TESTED: 2/24/16

07020128	16FL EXHAUST FSD 16-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020129	17FL SUPPLY FSD 17-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020130	17FL SUPPLY FSD 17-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020131	17FL EXHAUST FSD 17-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020132	18FL SUPPLY FSD 18-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020133	18FL SUPPLY FSD 18-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020134	18FL EXHAUST FSD 18-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020135	19FL SUPPLY FSD 19-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020136	19FL SUPPLY FSD 19-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020137	19FL EXHAUST FSD 19-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020138	20FL SUPPLY FSD 20-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020139	20FL SUPPLY FSD 20-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020140	20FL EXHAUST FSD 20-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020141	21FL SUPPLY FSD 21-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020142	21FL SUPPLY FSD 21-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020143	21FL EXHAUST FSD 21-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020144	22FL SUPPLY FSD 22-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020145	22FL SUPPLY FSD 22-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020146	22FL EXHAUST FSD 22-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020147	23FL SUPPLY FSD 23-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020148	23FL SUPPLY FSD 23-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020149	23FL EXHAUST FSD 23-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020150	24FL SUPPLY FSD 24-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020151	24FL SUPPLY FSD 24-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020152	24FL EXHAUST FSD 24-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
07020153	25FL SUPPLY FSD 25-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020154	25FL SUPPLY FSD 25-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
07020155	25FL EXHAUST FSD 25-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020001	26FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020002	26FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020003	26FL CORRIDOR AT #26F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020004	26FL CORRIDOR AT #26E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020005	26FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020006	26FL CORRIDOR AT #26D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020007	26FL MECHANICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020008	26FL PUMP ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020009	26FL MECHANICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020010	26FL MECHANICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020011	26FL MECHANICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020012	27FL ELEVATOR C4 & C5 MACH ROOM HEAT DET.	HD	X		X	X	TESTED: 3/14/16, SHUNTED
08020013	26FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020014	26FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020015	26FL CORRIDOR AT #26B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020016	27FL ELEVATOR C4 & C5 MACH ROOM SMOKE DET.	SD	X		X	X	TESTED: 3/14/16, RECALLED
08020017	27FL ELEVATOR C4 & C5 MACH ROOM SMOKE DET.	SD	X		X	X	TESTED: 3/14/16, RECALLED
08020018	27FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020019	27FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020020	27FL CORRIDOR AT #27F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020021	27FL CORRIDOR AT #27E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020022	27FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020023	27FL CORRIDOR AT #27D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020024	27FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020025	27FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020026	27FL CORRIDOR AT #27B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020027	27FL ELEVATOR C4 & C5 MACH ROOM HEAT DET.	HD	X		X	X	TESTED: 3/14/16, SHUNTED
08020028	27FL ELEVATOR C4 & C5 MACH ROOM HEAT DET.	HD	X		X	X	TESTED: 3/14/16, SHUNTED
08020030	28FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020031	28FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020032	28FL CORRIDOR AT #28F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020033	28FL CORRIDOR AT #28E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020034	28FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
08020035	28FL CORRIDOR AT #28C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020036	28FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020037	28FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
08020038	28FL CORRIDOR AT #28B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020039	29FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16

08020040	29FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020041	29FL CORRIDOR AT #29F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020042	29FL CORRIDOR AT #29E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020043	29FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020044	29FL CORRIDOR AT #29C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020045	29FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020046	29FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020047	29FL CORRIDOR AT #29B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020048	30FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020049	30FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020050	30FL CORRIDOR AT #30F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020051	30FL CORRIDOR AT #30E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020052	30FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020053	30FL CORRIDOR AT #30C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020054	30FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020055	30FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020056	30FL CORRIDOR AT #30B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020057	31FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020058	31FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020059	31FL CORRIDOR AT #31F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020060	31FL CORRIDOR AT #31E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020061	31FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020062	31FL CORRIDOR AT #31C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020063	31FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020064	31FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020065	31FL CORRIDOR AT #31B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020066	32FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020067	32FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020068	32FL CORRIDOR AT #32F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020069	32FL CORRIDOR AT #32E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020070	32FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020071	32FL CORRIDOR AT #32C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020072	32FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020073	32FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020074	32FL CORRIDOR AT #32B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020075	33FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020076	33FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020077	33FL CORRIDOR AT #33F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020078	33FL CORRIDOR AT #33E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020079	33FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020080	33FL CORRIDOR AT #33C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020081	33FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020082	33FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
08020083	33FL CORRIDOR AT #33B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020084	34FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020085	34FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020086	34FL CORRIDOR AT #34F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020087	34FL CORRIDOR AT #34E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020088	34FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020089	34FL CORRIDOR AT #34C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020090	34FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020091	34FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
08020092	34FL CORRIDOR AT #34B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
08020126	26FL ELECTRICAL ROOM DOOR HOLDER RELAY	CR	X				TESTED: 3/8/16
08020127	26FL FIRE PUMP ROOM ACU 26-2 SHUTDOWN	CR	X				TESTED: 3/14/16
08020128	26FL ELEV MACH ROOM ACU T26-1 SHUTDOWN	CR	X				TESTED: 3/14/16
08020129	26FL SUPPLY FSD T26-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020130	26FL SUPPLY FSD T26-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020131	26FL FAN SF T26-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
08020132	26FL FSD T26-5 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020133	26FL EXHAUST FSD 26-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020134	26FL FAN SF T26-1 'ON' MODULE	CT	X				TESTED: 2/24/16
08020135	26FL FAN SF T26-1 'OFF' MODULE	CT	X				TESTED: 2/24/16
08020136	26FL FSD T26-4, T26-5 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020137	26FL FIRE PUMP T26-1 IS RUNNING	CT	X			X	TESTED: 3/3/16
08020138	26FL FIRE PUMP T26-1 IS IN TROUBLE	CT	X			X	TESTED: 2/29/16

08020139	26FL FIRE PUMP T26-1 PHASE REVERSAL	CT	X			X	TESTED: 3/3/16
08020140	26FL FIRE PUMP T26-2 IS RUNNING	CT	X			X	TESTED: 3/3/16
08020141	26FL FIRE PUMP T26-2 IS IN TROUBLE	CT	X			X	TESTED: 2/29/16
08020142	26FL FIRE PUMP T26-2 PHASE REVERSAL	CT	X			X	TESTED: 3/3/16
08020143	26FL FIRE PUMP ROOM MAIN WATERFLOW	CT	#				(STRAPPED OUT)
08020144	26FL FIRE PUMP ROOM VALVE TAMPERS	VT	X		X	X	TESTED: 3/1/16 TURNS: < 2.5 (MULTIPLE VALVES W/ SAME ADDRESS)
08020145	27FL ELEVATOR C4 & C5 PRIMARY RECALL	CR	X				TESTED: 3/14/16
08020146	27FL ELEVATOR C4 & C5 ALTERNATE RECALL	CR	X				TESTED: 3/14/16
08020147	27FL ELEVATOR C4 & C5 FIRE HAT OUTPUT	CR	X				TESTED: 3/14/16
08020148	27FL SUPPLY FSD T27-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020149	27FL SUPPLY FSD T27-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020150	27FL EXHAUST FSD 27-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020152	27FL ELEV C4& MACH RM FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
08020153	27FL ELEV C5 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
08020154	26FL FIRE PUMP RM FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
08020155	ELEV CAB C4 SPEAKER TROUBLE A85	CC	X				TESTED: 3/8/16
08020156	ELEV CAB C5 SPEAKER TROUBLE A86	CC	X				TESTED: 3/8/16
08020157	28FL SUPPLY FSD T28-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020158	28FL SUPPLY FSD T28-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020159	28FL EXHAUST FSD 28-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020160	29FL SUPPLY FSD 29-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020161	29FL SUPPLY FSD 29-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020162	29FL EXHAUST FSD 29-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020163	30FL SUPPLY FSD 30-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020164	30FL SUPPLY FSD 30-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020165	30FL EXHAUST FSD 30-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020166	31FL SUPPLY FSD 31-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020167	31FL SUPPLY FSD 31-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020168	31FL EXHAUST FSD 31-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020169	32FL SUPPLY FSD 32-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020170	32FL SUPPLY FSD 32-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020171	32FL EXHAUST FSD 32-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020172	33FL SUPPLY FSD 33-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020173	33FL SUPPLY FSD 33-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020174	33FL EXHAUST FSD 33-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020175	34FL SUPPLY FSD 34-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020176	34FL SUPPLY FSD 34-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
08020177	34FL EXHAUST FSD 34-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
08020179	26FL SUPPLY FSD RISER STAIR 2 RELAY	CR	X				TESTED: 2/24/16
08020180	26FL SUPPLY FSD RISER STAIR 1 RELAY	CR	X				TESTED: 2/24/16
08020182	26FL EXHAUST FANS LOW SPEED RELAY	CR	X				TESTED: 2/24/16
09020001	35FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020002	35FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020003	35FL CORRIDOR AT #35F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020004	35FL CORRIDOR AT #35E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020005	35FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
09020006	35FL CORRIDOR AT #35C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020007	35FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020008	35FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020009	35FL CORRIDOR AT #35C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020010	36FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020011	36FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020012	36FL CORRIDOR AT #36F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020013	36FL CORRIDOR AT #36E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020014	36FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020015	36FL CORRIDOR AT #36C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020016	36FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020017	36FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020018	36FL CORRIDOR AT #36B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020019	37FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020020	37FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020021	37FL CORRIDOR AT #37F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020022	37FL CORRIDOR AT #37E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020023	37FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED

09020024	37FL CORRIDOR AT #37C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020025	37FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020026	37FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020027	37FL CORRIDOR AT #37B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020028	38FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020029	38FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020030	38FL CORRIDOR AT #38F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020031	38FL CORRIDOR AT #38E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020032	38FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020033	38FL CORRIDOR AT #38C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020034	38FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020035	38FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
09020036	38FL CORRIDOR AT #38B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020037	39FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020038	39FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020039	39FL CORRIDOR AT #39F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020040	39FL CORRIDOR AT #39E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020041	39FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020042	39FL CORRIDOR AT #39C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020043	39FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020044	39FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020045	39FL CORRIDOR AT #39B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020046	40FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020047	40FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020048	40FL CORRIDOR AT #40F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020049	40FL CORRIDOR AT #40E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020050	40FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020051	40FL CORRIDOR AT #40C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020052	40FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020053	40FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020054	40FL CORRIDOR AT #40B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020055	41FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020056	41FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020057	41FL CORRIDOR AT #41F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020058	41FL CORRIDOR AT #41E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020059	41FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
09020060	41FL CORRIDOR AT #41C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020061	41FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020062	41FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020063	41FL CORRIDOR AT #41B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020064	42FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020065	42FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020066	42FL CORRIDOR AT #42F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020067	42FL CORRIDOR AT #42E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020068	42FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020069	42FL CORRIDOR AT #42C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020070	42FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020071	42FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020072	42FL CORRIDOR AT #42B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020073	43FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020074	43FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020075	43FL CORRIDOR AT #43F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020076	43FL CORRIDOR AT #42E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020077	43FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020078	43FL CORRIDOR AT #43C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020079	43FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020080	43FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
09020081	43FL CORRIDOR AT #43B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020082	45FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020083	45FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020084	45FL CORRIDOR AT #45F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020085	45FL CORRIDOR AT #45E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020086	45FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
09020087	45FL CORRIDOR AT #45C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020088	45FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020089	45FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED

09020090	45FL CORRIDOR AT #45B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
09020126	35FL SUPPLY FSD 33-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020127	35FL SUPPLY FSD 35-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020128	35FL EXHAUST FSD 35-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020129	36FL SUPPLY FSD 36-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020130	36FL SUPPLY FSD 36-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020131	36FL EXHAUST FSD 36-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020132	37FL SUPPLY FSD 37-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020133	37FL SUPPLY FSD 37-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020134	37FL EXHAUST FSD 37-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020135	38FL SUPPLY FSD 38-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020136	38FL SUPPLY FSD 38-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020137	38FL EXHAUST FSD 38-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020138	39FL SUPPLY FSD 39-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020139	39FL SUPPLY FSD 39-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020140	39FL EXHAUST FSD 39-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020141	40FL SUPPLY FSD 40-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020142	40FL SUPPLY FSD 40-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020143	40FL EXHAUST FSD 40-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020144	41FL SUPPLY FSD 41-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020145	41FL SUPPLY FSD 41-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020146	41FL EXHAUST FSD 41-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020147	42FL SUPPLY FSD 42-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020148	42FL SUPPLY FSD 42-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020149	42FL EXHAUST FSD 42-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020150	43FL SUPPLY FSD 43-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020151	43FL SUPPLY FSD 43-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020152	43FL EXHAUST FSD 43-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
09020153	45FL SUPPLY FSD 45-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020154	45FL SUPPLY FSD 45-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
09020155	45FL EXHAUST FSD 45-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020001	46FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020002	46FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020003	46FL CORRIDOR AT #46F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020004	46FL CORRIDOR AT #46E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020005	46FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020006	46FL CORRIDOR AT #46C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020007	46FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020008	46FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020009	46FL CORRIDOR AT #46B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020010	47FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020011	47FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020012	47FL CORRIDOR AT #47F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020013	47FL CORRIDOR AT #47E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020014	47FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020015	47FL CORRIDOR AT #47C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020016	47FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020017	47FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020018	47FL CORRIDOR AT #47B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020019	48FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020020	48FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020021	48FL CORRIDOR AT #48F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020022	48FL CORRIDOR AT #48E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020023	48FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
10020024	48FL CORRIDOR AT #48C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020025	48FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020026	48FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020027	48FL CORRIDOR AT #48B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020028	49FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020029	49FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020030	49FL CORRIDOR AT #49F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020031	49FL CORRIDOR AT #49E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020032	49FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020033	49FL CORRIDOR AT #49C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020034	49FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020035	49FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED

10020036	49FL CORRIDOR AT #49B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020037	50FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020038	50FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020039	50FL CORRIDOR AT #50F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020040	50FL CORRIDOR AT #50E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020041	50FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020042	50FL CORRIDOR AT #50C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020043	50FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020044	50FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020045	50FL CORRIDOR AT #50B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
10020046	51FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020047	51FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020048	51FL CORRIDOR AT #51F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020049	51FL CORRIDOR AT #51E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020050	51FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
10020051	51FL CORRIDOR AT #51C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020052	51FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020053	51FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020054	51FL CORRIDOR AT #51B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020055	52FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020056	52FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020057	52FL CORRIDOR AT #52F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020058	52FL CORRIDOR AT #52E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020059	52FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020060	52FL CORRIDOR AT #52C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020061	52FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020062	52FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020063	52FL CORRIDOR AT #52B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020064	53FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020065	53FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020066	53FL CORRIDOR AT #53F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020067	53FL CORRIDOR AT #53E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020068	53FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020069	53FL CORRIDOR AT #53C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020070	53FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020071	53FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020072	53FL CORRIDOR AT #53B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020073	54FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020074	54FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020075	54FL CORRIDOR AT #54F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020076	54FL CORRIDOR AT #54E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020077	54FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020078	54FL CORRIDOR AT #54C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020079	54FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020080	54FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
10020081	54FL CORRIDOR AT #54B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020082	55FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020083	55FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020084	55FL CORRIDOR AT #55F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020085	55FL CORRIDOR AT #55E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020086	55FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020087	55FL CORRIDOR AT #55C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020088	55FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020089	55FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020090	55FL CORRIDOR AT #55B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020091	56FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020092	56FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020093	56FL CORRIDOR AT #56F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020094	56FL CORRIDOR AT #56E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020095	56FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020096	56FL CORRIDOR AT #56C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020097	56FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020098	56FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
10020099	56FL CORRIDOR AT #56B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
10020126	46FL SUPPLY FSD 46-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020127	46FL SUPPLY FSD 46-2 CLOSED STATUS	CT	X				TESTED: 2/24/16

10020128	46FL EXHAUST FSD 46-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020129	47FL SUPPLY FSD 47-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020130	47FL SUPPLY FSD 47-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020131	47FL EXHAUST FSD 47-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020132	48FL SUPPLY FSD 48-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020133	48FL SUPPLY FSD 48-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020134	48FL EXHAUST FSD 48-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020135	49FL SUPPLY FSD 49-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020136	49FL SUPPLY FSD 49-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020137	49FL EXHAUST FSD 49-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020138	50FL SUPPLY FSD 50-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020139	50FL SUPPLY FSD 50-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020140	50FL EXHAUST FSD 50-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020141	51FL SUPPLY FSD 51-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020142	51FL SUPPLY FSD 51-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020143	51FL EXHAUST FSD 51-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020144	52FL SUPPLY FSD 52-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020145	52FL SUPPLY FSD 52-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020146	52FL EXHAUST FSD 52-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020147	53FL SUPPLY FSD 53-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020148	53FL SUPPLY FSD 53-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020149	53FL EXHAUST FSD 53-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020150	54FL SUPPLY FSD 54-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020151	54FL SUPPLY FSD 54-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020152	54FL EXHAUST FSD 54-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020153	55FL SUPPLY FSD 55-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020154	55FL SUPPLY FSD 55-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020155	55FL EXHAUST FSD 55-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020156	56FL SUPPLY FSD 56-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020157	56FL SUPPLY FSD 56-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
10020158	56FL EXHAUST FSD 56-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020159	48FL FSD T48-4 CONTROL MODULE	CR	X				TESTED: 2/24/16
10020249	48FL SUPPLY FSD RISER T41-2 THRU T59-2 RLY	CR	X				TESTED: 2/24/16
10020250	48FL SUPPLY FSD RISER T41-1 THRU T59-1 RLY	CR	X				TESTED: 2/24/16
11020001	57FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020002	57FL TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020003	57FL CORRIDOR AT #57F SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020004	57FL CORRIDOR AT #57E SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020005	57FL ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/14/16, RECALLED
11020006	57FL CORRIDOR AT #57C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020007	57FL CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020008	57FL ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
11020009	57FL CORRIDOR AT #57B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020010	PH1 ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020011	PH1 TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020012	PH1 CORRIDOR AT #PH1A SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020013	PH1 CORRIDOR AT #PH1D SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020014	PH1 ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
11020015	PH1 CORRIDOR AT #PH1C SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020016	PH1 CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020017	PH1 ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
11020018	PH1 CORRIDOR AT #PH1B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020019	PH2 ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020020	PH2 TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020021	PH2 CORRIDOR AT #PH2A SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020022	PH2 CORRIDOR AT #PH2B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020023	PH2 ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
11020024	PH2 CORRIDOR AT #PH2B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020025	PH2 CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020026	PH2 ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
11020027	PH2 CORRIDOR AT #PH2A SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020028	GPH ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020029	GPH TRASH ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020030	GPH CORRIDOR AT #GPHA SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020031	GPH CORRIDOR AT #GPHB SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020032	GPH ELEVATOR S1 & S2 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED

11020033	GPH CORRIDOR AT #GPHB SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020034	GPH CORRIDOR AT ELEV SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020035	GPH ELEVATOR C1-C3 LOBBY SMOKE DETECTOR	SD	X		X	X	TESTED: 3/16/16, RECALLED
11020036	GPH STE A ENTERANCE SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020037	59FL BOILER ROOM #2 SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
11020038	59FL ELECTRICAL ROOM SMOKE DETECTOR	SD	X		X	X	TESTED: 2/23/16
11020039	59FL FAN SF T59-2 DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
11020040	59FL FAN SF T59-1 DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
11020041	60FL ELEVATOR MACH RM SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
11020042	60FL ELEVATOR MACH RM SMOKE DETECTOR	SD	X		X	X	TESTED: 3/15/16, RECALLED
11020043	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020044	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020045	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020046	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020047	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020048	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020049	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020050	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020051	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020052	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020053	60FL ELEVATOR MACH RM HEAT DETECTOR	HD	X		X	X	TESTED: 3/15/16, SHUNTED
11020054	PH2 CORRIDOR AT #PH2B SMOKE DETECTOR	SD	X		X	X	TESTED: 2/22/16
11020055	PH2B DUCT DETECTOR FAN HP-4	DD	X		X	X	TESTED: 3/17/16
11020056	PH2B DUCT DETECTOR FAN HP-5	DD	X		X	X	TESTED: 3/17/16
11020057	PH2B DUCT DETECTOR FAN HP-6	DD	X		X	X	TESTED: 3/17/16
11020125	59FL FAN AC T59-1 DUCT DETECTOR	DD	X		X	X	TESTED: 3/7/16
11020126	57FL SUPPLY FSD 57-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020127	57FL SUPPLY FSD 57-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020128	57FL EXHAUST FSD 57-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
11020129	PH1 SUPPLY FSD PH1-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020130	PH1 SUPPLY FSD PH1-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020131	PH1 EXHAUST FSD PH1-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
11020132	PH2 SUPPLY FSD PH1-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020133	PH2 SUPPLY FSD PH2-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020134	PH2 EXHAUST FSD PH2-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
11020135	GPH SUPPLY FSD GPH-1 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020136	GPH SUPPLY FSD GPH-2 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020137	GPH EXHAUST FSD GPH-3 CONTROL MODULE	CR	X				TESTED: 2/24/16
11020138	GPHB A/V CLOSET FSD AND SF-1 SHUTDOWN RLY	CR	X				TESTED: 2/24/16
11020139	PH2B CONTROL RELAY AUDIO SHUTDOWN	CR	X				TESTED: 3/8/16
11020144	59FL SUPPLY FSD T32 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020145	59FL SUPPLY FSD T31 CLOSED STATUS	CT	X				TESTED: 2/24/16
11020146	59FL FAN SF T59-2 POWER DISCONNECT	CT	X				TESTED: 3/3/16
11020147	59FL FAN EF-T59-26 POWER DISCONNECT	CT	X				TESTED: 3/3/16
11020148	59FL FAN SF T59-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
11020149	59FL FAN AC T59-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
11020150	59FL FAN SF T59-2 'ON' MODULE	CT	X				TESTED: 2/24/16
11020151	59FL FAN SF T59-2 'OFF' MODULE	CT	X				TESTED: 2/24/16
11020152	59FL FAN EF T59-26 'ON' MODULE	CT	X				TESTED: 2/24/16
11020153	59FL FAN EF T59-26 'OFF' MODULE	CT	X				TESTED: 2/24/16
11020154	59FL FAN SF T59-1 'ON' MODULE	CT	X				TESTED: 2/24/16
11020155	59FL FAN SF T59-1 'OFF' MODULE	CT	X				TESTED: 2/24/16
11020156	59FL FAN AC T59-1 'ON' MODULE	CT	X				TESTED: 2/24/16
11020157	59FL FAN SF T59-1 'OFF' MODULE	CT	X				TESTED: 2/24/16
11020160	ELEV CAB C1 & MACH RM FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
11020161	ELEV CAB C2 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
11020162	ELEV CAB C3 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
11020163	ELEV CAB S1 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
11020164	ELEV CAB S2 FIREFIGHTER'S PHONE	CC	X				TESTED: 3/4/16
11020165	ELEVATOR CAB C1 SPEAKER TROUBLE	CC	X				TESTED: 3/8/16
11020166	ELEVATOR CAB C2 SPEAKER TROUBLE	CC	X				TESTED: 3/8/16
11020167	ELEVATOR CAB C3 SPEAKER TROUBLE	CC	X				TESTED: 3/8/16
11020168	ELEVATOR CAB S1 SPEAKER TROUBLE	CC	X				TESTED: 3/8/16
11020169	ELEVATOR CAB S2 SPEAKER TROUBLE	CC	X				TESTED: 3/8/16
11020170	60FL ELEV MACH RM S2 PRIMARY RECALL	CR	X				TESTED: 3/15/16
11020171	60FL ELEV MACH RM S2 ALTERNATE RECALL	CR	X				TESTED: 3/15/16

11020172	60FL ELEV MACH RM S1 PRIMARY RECALL	CR	X				TESTED: 3/14/16
11020173	60FL ELEV MACH RM S1 ALTERNATE RECALL	CR	X				TESTED: 3/14/16
11020174	60FL ELEV MACH RM C1-C3 PRIMARY RECALL	CR	X				TESTED: 3/15/16
11020175	60FL ELEV MACH RM C1-C3 ALTERNATE RLY	CR	X				TESTED: 3/15/16
11020176	60FL HEAT PUMP T60-2 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
11020177	60FL HEAT PUMP T60-1 SHUTDOWN RELAY	CR	X				TESTED: 3/15/16
11020178	61FL FAN SF T61-1 'ON' MODULE	CT	X				TESTED: 2/24/16
11020179	61FL FAN SF T61-1 'OFF' MODULE	CT	X				TESTED: 2/24/16
11020180	61FL FAN SF T61-1 POWER DISCONNECT	CT	X				TESTED: 3/3/16
11020181	PH2B CONTROL RELAY FAN HP-1 SHUTDOWN	CR	X				TESTED: 3/17/16
11020182	PH2B CONTROL RELAY FAN HP-2 SHUTDOWN	CR	X				TESTED: 3/17/16
11020183	PH1 UNIT FSD PH1-4 CONTROL MODULE	CR	X				TESTED: 2/24/16
11020184	PH1 UNIT FSD PH1-5 CONTROL MODULE	CR	X				TESTED: 2/24/16
11020185	PH2A SPEAKER CIRCUIT	CC	X				TESTED: 3/8/16
11020186	PH2B SPEAKER CIRCUIT	CC	X				TESTED: 3/8/16
11020187	PH2 LEVEL PH2B DOOR HOLDER RELAY	CR	X				TESTED: 3/8/16
11020188	PH2B STROBE TROUBLE CHECK BOOSTER PANEL	CC	X				TESTED: 3/8/16
11020189	PH2B SUPERVISORY CO2 / SMOKE DETECTOR	CT	X		X	X	TESTED: 3/17/16
11020190	PH2B SUPERVISORY FIREPLACE CO2 SENSORS	CT	X		X	X	TESTED: 3/17/16
11020191	PH2B CONTROL RELAY GAS SHUTOFF SOLINOID	CR	X				TESTED: 3/8/16
11020192	PH2B CONTROL RELAY FAN HP-4 SHUTDOWN	CR	X				TESTED: 3/17/16
11020193	PH2B CONTROL RELAY FAN HP-5 SHUTDOWN	CR	X				TESTED: 3/17/16
11020194	PH2B CONTROL RELAY FAN HP-3 SHUTDOWN	CR	X				TESTED: 3/17/16
11020195	PH2B CONTROL RELAY FAN HP-6 SHUTDOWN	CR	X				TESTED: 3/17/16
11020248	59FL EXH FAN RELAY E-EXH FANS LOW SPEED	CR	X				TESTED: 2/24/16
11020249	59FL EXH FAN RELAY EXH FANS LOW SPEED	CR	X				TESTED: 2/24/16
11020250	59FL FAN T59-26 POWER DISCONNECT	CT	X				TESTED: 3/3/16

EXHIBIT

G

EXHIBIT G

RED HAWK
Fire & Security

AUTOMATIC FIRE ALARM SYSTEM INSPECTION/CERTIFICATION

Job Name: MILLENNIUM TOWER
Address: 301 MISSION ST
City: SAN FRANCISCO State: CA Zip: 94105
Tech. Name: DARWIN ALVAREZ
Central Station Name: RED HAWK
Central Station Account #: 04-050
Central Station Phone #: 408-629-4414

Date: 9/6/2016
Work Order #: 3219865

Preliminaries

Building Personnel Advised:	Name: ANTONIO	Time: 6:30 AM	By:DA
Central Station off-Line:	Operator: BRITNEY	Time: 6:40 AM	By:DA
Pretest Status	☐ Normal	☒ Abnormal (Explain) PANEL DISABLED	
Disconnect Aux & NAC Function Type:	DISABLE BUTTONS	☒ Disconnect after tested	
Location of As-Built Drawings	NA		
Original Certification ☐	Periodic System Inspection ☒		

Inspection Type

- ☒ Fire Alarm
- ☒ Sprinkler
- ☐ Preaction
- ☐ FM200
- ☐ Exit/ Emergency Lights
- ☐ Fire Extinguisher
- ☐ Other

Service Performed

- ☐ Monthly Inspection
- ☐ Bi-Monthly Inspection
- ☐ Quarterly Inspection
- ☒ Semi-Annual Inspection
- ☐ Annual Inspection
- ☐ Service
- ☐ Fire Drill

Scope of Work Performed

- ☒ Full Inspection
- ☐ Water Flow Inspection
- ☐ Battery Load Testing
- ☐ 10% Trouble Testing
- ☐ NAC Testing
- ☐ Service Repair
- ☐ Monitoring Install /Programming

% of Device Tested:

- ☐ 10%
- ☐ 25%
- ☐ 50%
- ☒ 100%
- ☐ 1 Device/Zone
- ☒ Other VALVE TAMPERS

Basic Information

Local Alarm	Yes ☐
Central Station	Yes ☒
Municipal	Yes ☐
Proprietary	Yes ☐
Voice	Yes ☐
System Model	: EST-3

Qty of Zones or Loops: NA

Wired : ☐ A ☒ B

Qty of Active NAC Circuits: NA

Wired: ☐ A ☒ B

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CONTROL PANEL TEST				COMMENTS:
Visual Display	☒N/A	☐Pass	☐Fail	
AC Power On – LED	☒N/A	☐Pass	☐Fail	
Alarm Silence – LED	☒N/A	☐Pass	☐Fail	
Program Fault – LED	☒N/A	☐Pass	☐Fail	
Alarm – LED	☒N/A	☐Pass	☐Fail	
System Trouble – LED	☒N/A	☐Pass	☐Fail	
Check all Fuse Ratings	☒N/A	☐Pass	☐Fail	
Set Time/Date	☒N/A	☐Pass	☐Fail	
Walk Test Silent	☒N/A	☐Pass	☐Fail	
Print Log	☒N/A	☐Pass	☐Fail	
Print Detector Sensitivity	☒N/A	☐Pass	☐Fail	
Cancel Access	☒N/A	☐Pass	☐Fail	
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail	
Alarm Silence Resound	☒N/A	☐Pass	☐Fail	
Reset/Lamp Test	☒N/A	☐Pass	☐Fail	
Panel Sounder	☒N/A	☐Pass	☐Fail	
Ground Type	☒N/A	☐Pass	☐Fail	
Positive Ground Fault	☒N/A	☐Pass	☐Fail	
Negative Ground Fault	☒N/A	☐Pass	☐Fail	
Signal Circuit-Short	☒N/A	☐Pass	☐Fail	
Signal Circuit-Open	☒N/A	☐Pass	☐Fail	
Subsequent Alarm/Trouble	☒N/A	☐Pass	☐Fail	
Point Dis/Reconnect	☒N/A	☐Pass	☐Fail	
AC Disconnect Labeled	☒N/A	☐Pass	☐Fail	
AC Breaker Locked On	☒N/A	☐Pass	☐Fail	
Clean Door & Window	☒N/A	☐Pass	☐Fail	
AC Voltage	NA V.			
Battery Voltage (AC On)	NA V.			
Battery Voltage (AC Off)	NA V.			
System Voltage (AUX)	NA V.			
Battery Load Test (end V)	12.4 V.		PASS	
Charging Current	NA A.			
Battery Size (AH)	75 AH.		PASS	
Expiration date	4/2018			PASS
Batteries labeled	YES			PASS

VOICE EVAC. SYSTEM				COMMENTS:
Model Number	☒N/A	☐Pass	☐Fail	
Manufactuer Name	☒N/A	☐Pass	☐Fail	
Number of Amps	☒N/A	☐Pass	☐Fail	
Amp. Model Number	☒N/A	☐Pass	☐Fail	
Number of Speaker Zones	☒N/A	☐Pass	☐Fail	
Number of Phone Zones	☒N/A	☐Pass	☐Fail	
Test all Speakers	☒N/A	☐Pass	☐Fail	
Short Test	☒N/A	☐Pass	☐Fail	
Open Test	☒N/A	☐Pass	☐Fail	
Ground Test	☒N/A	☐Pass	☐Fail	
Test all Handsets	☒N/A	☐Pass	☐Fail	
Test all Phone Jacks	☒N/A	☐Pass	☐Fail	
Battery Load Test (end V)	V.			
Battery Size	AH.			
Expiration Date				
Batteries labeled				

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RED HAWK
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NAC BOOSTERS/POWER SUPPLY					COMMENTS:
Location 1	FACP RM				
Number booster tested	PS5				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐P	☐Fail		
Ground Trouble	☒N/A	☐P	☐Fail		
A/C Voltage	☒N/A	☐P	☐Fail		
Battery Voltage	☒N/A	☐P	☐Fail		
Battery Load Test	☐N/A	☒P	☐Fail	12.3	
Operate w/ no a/c	☒N/A	☐P	☐Fail		
Trouble w/ no a/c	☒N/A	☐P	☐Fail		
Battery A/H	☐N/A	☒P	☐Fail	35	
Battery Labeled	☐N/A	☒P	☐Fail		
Battery Expires	☐N/A	☒P	☐Fail	4/2018	
Location 2	B3 ELEC. RM				
Number booster tested	BPS 1				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐Pass	☐Fail		
Ground Trouble	☒N/A	☐Pass	☐Fail		
A/C Voltage	☒N/A	☐Pass	☐Fail		
Battery Voltage	☒N/A	☐Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail		
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	8	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018	
Location 3	B3 ELEC. RM				
Number booster tested	BPS 2				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐Pass	☐Fail		
Ground Trouble	☒N/A	☐Pass	☐Fail		
A/C Voltage	☒N/A	☐Pass	☐Fail		
Battery Voltage	☒N/A	☐Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail	12.8	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail		
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	7.5	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	6/2020	
Location 4	B3 ELEC. RM				
Number booster tested	BPS 3				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐Pass	☐Fail		
Ground Trouble	☒N/A	☐Pass	☐Fail		
A/C Voltage	☒N/A	☐Pass	☐Fail		
Battery Voltage	☒N/A	☐Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail		
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	8	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018	

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RED HAWK
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NAC BOOSTERS/POWER SUPPLY

Location 1	L (MID RISE) ELEC. RM			
Number booster tested	BPS 4			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐P	☐Fail	
Ground Trouble	☒N/A	☐P	☐Fail	
A/C Voltage	☒N/A	☐P	☐Fail	
Battery Voltage	☒N/A	☐P	☐Fail	
Battery Load Test	☐N/A	☒P	☐Fail	12.4
Operate w/ no a/c	☒N/A	☐P	☐Fail	
Trouble w/ no a/c	☒N/A	☐P	☐Fail	
Battery A/H	☐N/A	☒P	☐Fail	8
Battery Labeled	☐N/A	☒P	☐Fail	
Battery Expires	☐N/A	☒P	☐Fail	4/2018
Location 2	L (MID RISE) ELEC. RM			
Number booster tested	BPS 5			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.3
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 3	L (MID RISE) ELEC. RM			
Number booster tested	BPS 6			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.3
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 4	CL (MID RISE) ELEC. RM			
Number booster tested	BPS 7			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.3
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018

Tech Name: DARWIN	Date: 9/6/2016	Review deficiencies with Customer	☒ Yes

Modified on : 12/5/12

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	B1 (TOWER) ELEC. RM			
Number booster tested	BPS 8			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐P	☐Fail	
Ground Trouble	☒N/A	☐P	☐Fail	
A/C Voltage	☒N/A	☐P	☐Fail	
Battery Voltage	☒N/A	☐P	☐Fail	
Battery Load Test	☐N/A	☐P	☒Fail	11.6 (FAILED), REPLACED BY DA 9/9/16
Operate w/ no a/c	☒N/A	☐P	☐Fail	
Trouble w/ no a/c	☒N/A	☐P	☐Fail	
Battery A/H	☐N/A	☒P	☐Fail	7.5
Battery Labeled	☐N/A	☒P	☐Fail	
Battery Expires	☐N/A	☒P	☐Fail	1/2017
Location 2	L (TOWER) ELEC. RM			
Number booster tested	BPS 9			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 3	CL (TOWER) ELEC. RM			
Number booster tested	BPS 10			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.5
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	8
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 4	L (MID RISE) RESTAURANT STORAGE			
Number booster tested	BPS 11			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.8
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	7.5
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	6/2020

Tech Name: DARWIN	Date: 9/6/2016	Review deficiencies with Customer ☒ Yes

Modified on : 12/5/12

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	FACP RM			
Number booster tested	NODE 2			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐P	☐Fail	
Ground Trouble	☒N/A	☐P	☐Fail	
A/C Voltage	☒N/A	☐P	☐Fail	
Battery Voltage	☒N/A	☐P	☐Fail	
Battery Load Test	☐N/A	☒P	☐Fail	12.4
Operate w/ no a/c	☒N/A	☐P	☐Fail	
Trouble w/ no a/c	☒N/A	☐P	☐Fail	
Battery A/H	☐N/A	☒P	☐Fail	55
Battery Labeled	☐N/A	☒P	☐Fail	
Battery Expires	☐N/A	☒P	☐Fail	4/2018
Location 2	B3 ELEC. RM			
Number booster tested	NODE 3			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.6
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	55
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	10/2018
Location 3	L (MID RISE) ELEC. RM			
Number booster tested	NODE 4			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.6
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	55
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☐Pass	☒Fail	10/2018
Location 4	10TH (MID RISE) ELEC. RM			
Number booster tested	NODE 5			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☒N/A	☐Pass	☐Fail	EXPIRED (REPLACED BY DA 9/9/16)
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	55
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☐Pass	☒Fail	EXPIRED (REPLACED BY DA 9/9/16)

Tech Name: DARWIN	Date: 9/8/2016	Review deficiencies with Customer	☒ Yes

Modified on : 12/5/12

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	11TH (TOWER) ELEC. RM				
Number booster tested	NODE 6				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐P	☐Fail		
Ground Trouble	☒N/A	☐P	☐Fail		
A/C Voltage	☒N/A	☐P	☐Fail		
Battery Voltage	☒N/A	☐P	☐Fail		
Battery Load Test	☐N/A	☒P	☐Fail	12.3	
Operate w/ no a/c	☒N/A	☐P	☐Fail		
Trouble w/ no a/c	☒N/A	☐P	☐Fail		
Battery A/H	☐N/A	☒P	☐Fail	55	
Battery Labeled	☐N/A	☒P	☐Fail		
Battery Expires	☐N/A	☒P	☐Fail	4/2018	
Location 2	21ST (TOWER) ELEC. RM				
Number booster tested	NODE 7				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐Pass	☐Fail		
Ground Trouble	☒N/A	☐Pass	☐Fail		
A/C Voltage	☒N/A	☐Pass	☐Fail		
Battery Voltage	☒N/A	☐Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail		
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	55	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018	
Location 3	30TH (TOWER) ELEC. RM				
Number booster tested	NODE 8				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐Pass	☐Fail		
Ground Trouble	☒N/A	☐Pass	☐Fail		
A/C Voltage	☒N/A	☐Pass	☐Fail		
Battery Voltage	☒N/A	☐Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail	12.5	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail		
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	55	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018	
Location 4	39TH (TOWER) ELEC. RM				
Number booster tested	NODE 9				
Short NAC Trouble	☒N/A	☐Pass	☐Fail		
Open NAC Trouble	☒N/A	☐Pass	☐Fail		
Ground Trouble	☒N/A	☐Pass	☐Fail		
A/C Voltage	☒N/A	☐Pass	☐Fail		
Battery Voltage	☒N/A	☐Pass	☐Fail		
Battery Load Test	☐N/A	☒Pass	☐Fail	12.5	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail		
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail		
Battery A/H	☐N/A	☒Pass	☐Fail	55	
Battery Labeled	☐N/A	☒Pass	☐Fail		
Battery Expires	☐N/A	☐Pass	☒Fail	10/2018	

Tech Name: DARWIN	Date: 9/6/2016	Review deficiencies with Customer	☒ Yes

RED HAWK
Fire & Security

NAC BOOSTERS/POWER SUPPLY

Location 1	49TH (TOWER) ELEC. RM			
Number booster tested	NODE 10			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐P	☐Fail	
Ground Trouble	☒N/A	☐P	☐Fail	
A/C Voltage	☒N/A	☐P	☐Fail	
Battery Voltage	☒N/A	☐P	☐Fail	
Battery Load Test	☒N/A	☐P	☐Fail	EXPIRED (REPLACED BY DA 9/9/16)
Operate w/ no a/c	☒N/A	☐P	☐Fail	
Trouble w/ no a/c	☒N/A	☐P	☐Fail	
Battery A/H	☐N/A	☒P	☐Fail	55
Battery Labeled	☐N/A	☒P	☐Fail	
Battery Expires	☐N/A	☐P	☒Fail	EXPIRED (REPLACED BY DA 9/9/16)
Location 2	56TH (TOWER) ELEC. RM			
Number booster tested	NODE 11			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.4
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	55
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	4/2018
Location 3	PH2 (TOWER) ELEC. RM			
Number booster tested	BPS 12			
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	12.5
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	7.5
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	3/2019
Location 4	NA			
Number booster tested				
Short NAC Trouble	☒N/A	☐Pass	☐Fail	
Open NAC Trouble	☒N/A	☐Pass	☐Fail	
Ground Trouble	☒N/A	☐Pass	☐Fail	
A/C Voltage	☒N/A	☐Pass	☐Fail	
Battery Voltage	☒N/A	☐Pass	☐Fail	
Battery Load Test	☐N/A	☒Pass	☐Fail	
Operate w/ no a/c	☒N/A	☐Pass	☐Fail	
Trouble w/ no a/c	☒N/A	☐Pass	☐Fail	
Battery A/H	☐N/A	☒Pass	☐Fail	
Battery Labeled	☐N/A	☒Pass	☐Fail	
Battery Expires	☐N/A	☒Pass	☐Fail	

Tech Name: DARWIN	Date: 9/6/2016	Review deficiencies with Customer ☒ Yes

Modified on : 12/5/12

RED HAWK
Fire & Security

DACT PERIODIC TESTING

Job: MILLENNIUM TOWER
Address: 301 MISSION ST, SF, CA 94105

Date: 9-6-16
Tech Name: DARWIN

FACP Type: EST-3 DACT Type: MOD COM Format: NA (4+2 etc)

Take system off-line with Central Station: ☒N/A ☐P ☐F Acct Number: 04-050

Request zone schedule from Central Station and list below: ☒N/A ☐P ☐F

1. NA	2.
3.	4.
5.	6.
7.	8.
Additional Information:	BUILT-IN DIALER

AC Voltage: NA	DC Voltage: NA	Load Test: NA	Battery Expiration: NA

Primary Phone Line				Secondary Phone Line			
Manual zone trip	☒N/A	☐P	☐F	Manual zone trip	☒N/A	☐P	☐F
Correct trip and restoral? (@ CS)	☒N/A	☐P	☐F	Correct trip and restoral? (@ CS)	☒N/A	☐P	☐F
<90 sec. End-to-End Transmission	☒N/A	☐P	☐F	<90 sec. End-to-End Transmission	☒N/A	☐P	☐F
Proper DACT zone trip	☒N/A	☐P	☐F	Proper DACT zone trip	☒N/A	☐P	☐F
Primary phone disconnected	☒N/A	☐P	☐F	Primary phone disconnected	☒N/A	☐P	☐F
Local trouble signal (within 4 min)?	☒N/A	☐P	☐F	Local trouble signal (within 4 min)?	☒N/A	☐P	☐F
Primary Line Trouble (within 4 min)?	☒N/A	☐P	☐F	Primary Line Trouble (within 4 min)?	☒N/A	☐P	☐F
Reconnect primary, and RJ31X Jack Proper Line Seizure?	☒N/A	☐P	☐F	Reconnect primary, and RJ31X Jack Proper Line Seizure?	☒N/A	☐P	☐F

ELEVATOR PHONE MONITORING TESTING

CS Name: NA

Elevator Location	Acct#	Caller I.D.#	Pass	Fail	CS Operator	Remarks
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

4384 Enterprise Place, Fremont, CA 94538
Phone: 510-438-1300 / Fax 510-438-1350

C10 License # 713099

RED HAWK
Fire & Security

REMOTE DISPLAY — COMMENTS:

Visual Display	☒N/A	☐Pass	☐Fail
AC Power LED – ON	☒N/A	☐Pass	☐Fail
Alarm Silence – LED	☒N/A	☐Pass	☐Fail
Program Fault – LED	☒N/A	☐Pass	☐Fail
Alarm – LED	☒N/A	☐Pass	☐Fail
Alarm/Trouble Acknowledge	☒N/A	☐Pass	☐Fail
Alarm Silence Resend	☒N/A	☐Pass	☐Fail
Reset/Lamp Test	☒N/A	☐Pass	☐Fail
Panel Sounder	☒N/A	☐Pass	☐Fail

REMOTE ANNUNCIATOR

Power On Lamp	☒N/A	☐Pass	☐Fail
Trouble Buzzer	☒N/A	☐Pass	☐Fail
Signal Silence Lamp	☒N/A	☐Pass	☐Fail
Lamp Test	☒N/A	☐Pass	☐Fail
Reset (Remote)	☒N/A	☐Pass	☐Fail
Alarm Lamp Operation Qty	☒N/A	☐Pass	☐Fail
Alarm Lamp Labeled	☒N/A	☐Pass	☐Fail
Signal Silence	☒N/A	☐Pass	☐Fail

NOTIFICATION APPLIANCES — COMMENTS:

NAC's Tested	☒N/A	
	☐Yes	
	☐No	
Synchronization Verified	☒N/A	
	☐Pass	
	☐Fail	

FINAL SYSTEM SUMMARY — COMMENTS:

Note all Deficiencies	☐N/A	☒Yes	☐No	SEE DEFICIENCY PAGE
Reconnect All Aux Functions	☐N/A	☒Yes	☐No	
Reconnect Signal Circuits	☐N/A	☒Yes	☐No	
Place System Online	☐N/A	☒Yes	☐No	
Appropriate field devices have been tested for proper out puts and recorded on Device Data Sheets	☐N/A	☒Yes	☐No	
Program Disk is on Site	☐N/A	☒Yes	☐No	

Work Complete/Building Management Notified: Time: 3:00 PM
Central Station Notified: Time: 3:00 PM Operator #: RICK

THIS TESTING WAS PERFORMED IN ACCORDANCE WITH APPLICABLE NFPA 2010 EDITION STANDARDS.

Inspection Completed by(Tech Name): DARWIN ALVAREZ Date: 9-6-16

4384 Enterprise Place, Fremont, CA 94538
Phone: 510-438-1300 / Fax 510-438-1350

C10 License # 713099

RED HAWK
Fire & Security

Inspection Deficiencies Sheet

Job Name	Site Address	Work Order	Page
MILLENNIUM TOWER	301 MISSION ST. SF, CA 94105	3219865	1 Of 1

Ranking Explanation
(1) Critical Life Safety System Issue (2) Life Safety Functional Issue (3) Untested (4) Non-Required Recommendation

Scope of work explanation
(A) Coordinate w/Red Hawk (B) Facilities to coordinate w/additional vendor

Rank: 2	Scope: A	Device Type: NODE BATTERIES	Add/Zone: NA
Make/Model: BAT12V-55 (2 EACH)		Loc./Desc.: SEE BELOW	
Deficiency Desc.:	EXPIRED BATTERIES: - 10TH FLR (MID RISE) ELEC RM. NODE 5 - 49TH FLR (TOWER) ELEC. RM NODE 10		
Recommendation	BATTERIES REPLACED DURING INSPECTION ON 9/916		

Rank: 2	Scope: A	Device Type: BOOSTER BATTERIES	Add/Zone: NA
Make/Model: BAT12V-7.5 (2 EACH)		Loc./Desc.: B1 ELEC. RM (BPS 8)	
Deficiency Desc.:	BATTERIES FAILED LOAD TEST.		
Recommendation	BATTERIES REPLACED DURING INSPECTION ON 9/916		

Rank: Please Select	Scope: Please Select	Device Type:	Add/Zone:
Make/Model:		Loc./Desc.:	
Deficiency Desc.:	NA		
Recommendation	NA		

Rank: Please Select	Scope: Please Select	Device Type:	Add/Zone:
Make/Model:		Loc./Desc.:	
Deficiency Desc.:	NA		
Recommendation	NA		

4384 Enterprise Place, Fremont, CA 94538
Phone: 510-438-1300 / Fax 510-438-1350

C10 License # 713099

RED HAWK
Fire & Security

Tech Name: DARWIN A	Date: 9/6/2016	Review deficiencies with Customer ☒ Yes

Modified on : 12/5/12

4384 Enterprise Place, Fremont, CA 94538
Phone: 510-438-1300 / Fax 510-438-1350

C10 License # 713099

RED HAWK
Fire & Security

Fire Alarm System Points List

Name: MILLENNIUM TOWER
Address: 301 MISSION ST
City: SAN FRANCISCO | State: CA | Zip: 94105
Notes: TECH: DA DATE: 9/6/16 126/159

Address	Message	Device	Test	Trbl	Visual	Annun	Remarks
01020144	B1 LVL MAIN FIRE SVC SHUTOFF VALVE TAMPER	VT	X		X	X	TESTED: 9/9/16 TURNS: < 2.5 MULTIPLE VALVES W/ SAME ADDRESS
01020152	B1 LEVEL FIRE PUMP RM PUMP B1-1 TROUBLE	CT	X			X	TESTED: 9/7/16
01020155	B1 LEVEL FIRE PUMP RM PUMP B1-2 TROUBLE	CT	X			X	TESTED: 9/7/16
01020158	B1 LEVEL FIRE PUMP RM VALVE TAMPERS	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5 MULTIPLE VALVES W/ SAME ADDRESS
01020187	B1 LEVEL STAIR 1 RISER VALVE TAMPER	VT	X		X	X	TESTED: 9/9/16 TURNS: < 2.5
01020188	B1 LEVEL STAIR 2 RISER VALVE TAMPER	VT	X		X	X	TESTED: 9/9/16 TURNS: < 2.5
01020189	B1 LEVEL FIRE PUMP RM VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030126	L LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030127	L LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030128	CL LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030129	CL LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030130	3FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030131	3FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030132	4FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030133	4FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030134	5FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030135	5FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030136	6FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030137	6FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030138	7FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030139	7FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030140	8FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030141	8FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030142	9FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030143	9FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030144	10FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030145	10FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030146	11FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030147	11FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030148	12FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030149	12FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030150	14FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030151	14FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030152	15FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030153	15FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030154	16FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030155	16FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030156	17FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030157	17FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030158	18FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030159	18FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030160	19FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030161	19FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030162	20FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC

01030163	20FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030164	21FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030165	21FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030166	22FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030167	22FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030168	23FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030169	23FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030170	24FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030171	24FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030172	25FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030173	25FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030174	26FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030175	26FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030176	27FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030177	27FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030178	28FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030179	28FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030180	29FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030181	29FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030182	30FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030183	30FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030184	31FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030185	31FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030186	32FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030187	32FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030188	33FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030189	33FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030190	34FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030191	34FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030192	35FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030193	35FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030194	36FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030195	36FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030196	37FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030197	37FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030198	38FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030199	38FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030200	39FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030201	39FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030202	40FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030203	40FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030204	41FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030205	41FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030206	42FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030207	42FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030208	43FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030209	43FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030210	45FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030211	45FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030212	46FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030213	46FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030214	47FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030215	47FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030216	48FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030217	48FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030218	49FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030219	49FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030220	50FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030221	50FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030222	51FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030223	51FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030224	52FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030225	52FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5

01030226	53FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030227	53FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030228	54FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030229	54FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030230	55FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030231	55FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030232	56FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030233	56FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030234	57FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030235	57FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030236	PH1 STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030237	PH1 STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030238	PH2 STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030239	PH2 STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030240	GPH LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030241	GPH LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030242	59FL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030243	59FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030244	26FL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030249	B1 LEVEL STAIR 1 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030250	B1 LEVEL STAIR 1 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030376	CL LEVEL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030377	CL LEVEL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030378	3FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030379	3FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030380	4FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030381	4FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030382	5FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030383	5FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030384	6FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030385	6FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030386	7FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030387	7FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030388	8FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030389	8FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030390	9FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030391	9FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030392	10FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030393	10FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030394	11FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030395	11FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030396	12FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030397	12FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030398	14FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030399	14FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030400	15FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030401	15FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030402	16FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030403	16FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030404	17FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030405	17FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030406	18FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030407	18FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030408	19FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030409	19FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030410	20FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030411	20FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030412	21FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030413	21FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030414	22FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030415	22FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030416	23FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030417	23FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5

01030418	24FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030419	24FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030420	25FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030421	25FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030422	26FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030423	26FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030424	27FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030425	27FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030426	28FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030427	28FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030428	29FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030429	29FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030430	30FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030431	30FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030432	31FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030433	31FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030434	32FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030435	32FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030436	33FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030437	33FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030438	34FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030439	34FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030440	35FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030441	35FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030442	36FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030443	36FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030444	37FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030445	37FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030446	38FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030447	38FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030448	39FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030449	39FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030450	40FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030451	40FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030452	41FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030453	41FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030454	42FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030455	42FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030456	43FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030457	43FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030458	45FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030459	45FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030460	46FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030461	46FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030462	47FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030463	47FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030464	48FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030465	48FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030466	49FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030467	49FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030468	50FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030469	50FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030470	51FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030471	51FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030472	52FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030473	52FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030474	53FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030475	53FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030476	54FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030477	54FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030478	55FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030479	55FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030480	56FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC

01030481	56FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030482	57FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030483	57FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030484	PH1 STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030485	PH1 STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030486	PH2 STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030487	PH2 STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030488	GPH LEVEL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030489	GPH LEVEL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030490	59FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030491	59FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030494	26FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
01030495	B1 LVL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030496	B1 LVL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030497	L LVL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/7/16 TIME: < 90 SEC
01030498	L LVL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5
01030499	60FL STAIR 2 WATERFLOW	WF	X		X	X	TESTED: 9/6/16 TIME: < 90 SEC
01030500	60FL STAIR 2 VALVE TAMPER	VT	X		X	X	TESTED: 9/6/16 TURNS: < 2.5
03020139	MR B5 LVL STAIR 4 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020140	MR B5 LVL STAIR 4 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020167	MR B4 LVL STAIR 4 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020168	MR B4 LVL STAIR 4 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020185	MR B5 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020186	MR B5 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020187	MR B4 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020188	MR B4 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020189	MR B3 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020190	MR B3 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020191	MR B2 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020192	MR B2 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020193	MR B1 LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020194	MR B1 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020195	MR L LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020196	MR L LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020197	MR CL LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020198	MR CL LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020199	MR 3FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020200	MR 3FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020201	MR 4FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020202	MR 4FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020203	MR 5FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020204	MR 5FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020205	MR 6FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020206	MR 6FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020207	MR 7FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020208	MR 7FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020209	MR 8FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020210	MR 8FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020211	MR 9FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020212	MR 9FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020213	MR 10FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020214	MR 10FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020215	MR PH LVL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020216	MR PH LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020217	MR 12FL STAIR 6 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020218	MR 12FL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020245	MR B3 LVL STAIR #4 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020246	MR B3 LVL STAIR #4 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020247	MR B2 LVL STAIR #4 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020248	MR B2 LVL STAIR #4 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020249	B1 LVL STAIR #4 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
03020250	B1 LVL STAIR #4 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
03020462	MR B1 LVL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/9/16 TURNS: < 2.5

03020463	MR B1 LVL STAIR 6 VALVE TAMPER	VT	X		X	X	TESTED: 9/9/16 TURNS: < 2.5
04020150	MR L LVL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020151	MR L LVL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020152	MR CL LVL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020153	MR CL LVL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020154	MR 3FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020155	MR 3FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020156	MR 4FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020157	MR 4FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020158	MR 5FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020159	MR 5FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020160	MR 6FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020161	MR 6FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020162	MR 7FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020163	MR 7FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020164	MR 8FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020165	MR 8FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020166	MR 9FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020167	MR 9FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020168	MR 10FL STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020169	MR 10FL STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
04020170	MR PH STAIR 5 WATERFLOW	WF	X		X	X	TESTED: 9/8/16 TIME: < 90 SEC
04020171	MR PH STAIR 5 VALVE TAMPER	VT	X		X	X	TESTED: 9/8/16 TURNS: < 2.5
08020138	26FL FIRE PUMP T26-1 IS IN TROUBLE	CT	X			X	TESTED: 9/7/16
08020141	26FL FIRE PUMP T26-2 IS IN TROUBLE	CT	X			X	TESTED: 9/7/16
08020144	26FL FIRE PUMP ROOM VALVE TAMPERS	VT	X		X	X	TESTED: 9/7/16 TURNS: < 2.5 MULTIPLE VALVES W/ SAME ADDRESS

EXHIBIT

H

EXHIBIT H

Allana Buick & Bers, Inc.
990 Commercial Street
Palo Alto, CA 94303
t 650.543.5600
f 650.543.5625
www.abbae.com
ALLANA BUICK & BERS
Making Buildings Perform Better

November 15, 2016

John Gill
Hughes Gill Cochrane
1600 South Main Street, Suite 215
Walnut Creek, CA 94596

Denis F. Shanagher
Duane Morris LLP
Spear Tower
One Market Plaza, Suite 2200
San Francisco, CA 94105-1127

Re: **Site Excavation at Utilities – DRAFT Scope**
The Millennium Tower
301 Mission St.
San Francisco, CA 94105

JN: 16-4094.01

Dear Mr. Gill and Mr. Shanagher,

In accordance with your request, **Allana Buick & Bers, Inc. (ABBAE)** is pleased to provide a description of the testing scope for excavation around utilities at the Millennium Towers, located at 301 Mission Street in San Francisco, CA. The description of the services is intended as a general outline of services that will be performed on site; further investigation may be required. All additional services will be discussed between the attorneys' representative, testing contractor, and ABBAE managerial staff to discuss the extent of investigation. Please distribute testing protocol to the management and contractor in efforts to assist them with their notices for testing.

Destructive testing projected date. (Subject to change)

1. **DT and water testing is currently scheduled for TBA**
2. **Workday Schedule:**
   - 7:30 am set-up for DT
   - 8:00 am – 4:15 pm DT (1-hour break for lunch)
   - 4:15 pm – 5:00 pm temporarily close up all DT areas.

GENERAL SCOPE

Contractor to provide access and control to all building components scheduled for testing. Prior to start of the testing, a responsible contractor's representative will meet with owner's representative to identify general test locations, review testing and forensic investigation requirements, and schedule arrival and set up of all necessary equipment prior to the first day of testing. Testing includes access to building exterior at the ground level.

1. Contractor is to coordinate testing locations and procedures with building management.
2. Provide equipment for investigation as required to demolish concrete sidewalk, excavate dirt, provide shoring, remove or store dirt as necessary.
3. Effectively communicate with local building officials to secure the necessary permits required for testing and repairs. This includes the excavation, street access, pedestrian traffic, build-back and any other items included in this scope of work. Coordinate with PG&E as needed.
4. Contractor to have a USA inspection performed prior to the start of the excavation to accurately map out the utility lines.
5. Coordinate with retail tenants that will be affected prior to your start date.
6. Contractor to provide proper debris protection for all personal property including vehicles.
7. Provide all necessary materials to properly repair and restore all work areas to match existing sidewalks.
8. Contractor to perform under the direction of the consultant at each respective location.
9. Contractor needs to be aware of all utility shut-offs prior to excavation. This includes gas, electrical, fire sprinkler, irrigation, water, etc.
10. Prepare trades (i.e., electrical, plumbing, telecommunication) that will be available for any possible emergency repairs that may be needed during or after the excavation.
11. Temporarily close and protect testing locations at the end of each workday prior to leaving the site.

EXCAVATION AT EXISTING UTILITIES

ABBAE will observe excavations at 5 areas around the perimeter of the building, which includes approximately 10 individual utility lines. These lines include storm and sanitary drain, fire, domestic water, and natural gas. Contractor is responsible for making all the necessary arrangements in order to perform all excavations in a timely fashion. Excavations will need to extend at least 3 feet wider than the marked utility lines and approximately 10 feet away from the building. The contractor should be prepared to excavate approximately 8 feet deep, depending on the location of the utility lines. The entire circumference of the utilities needs to be exposed. Below is a map of the utilities and photos that show the garage and street views at the testing locations:

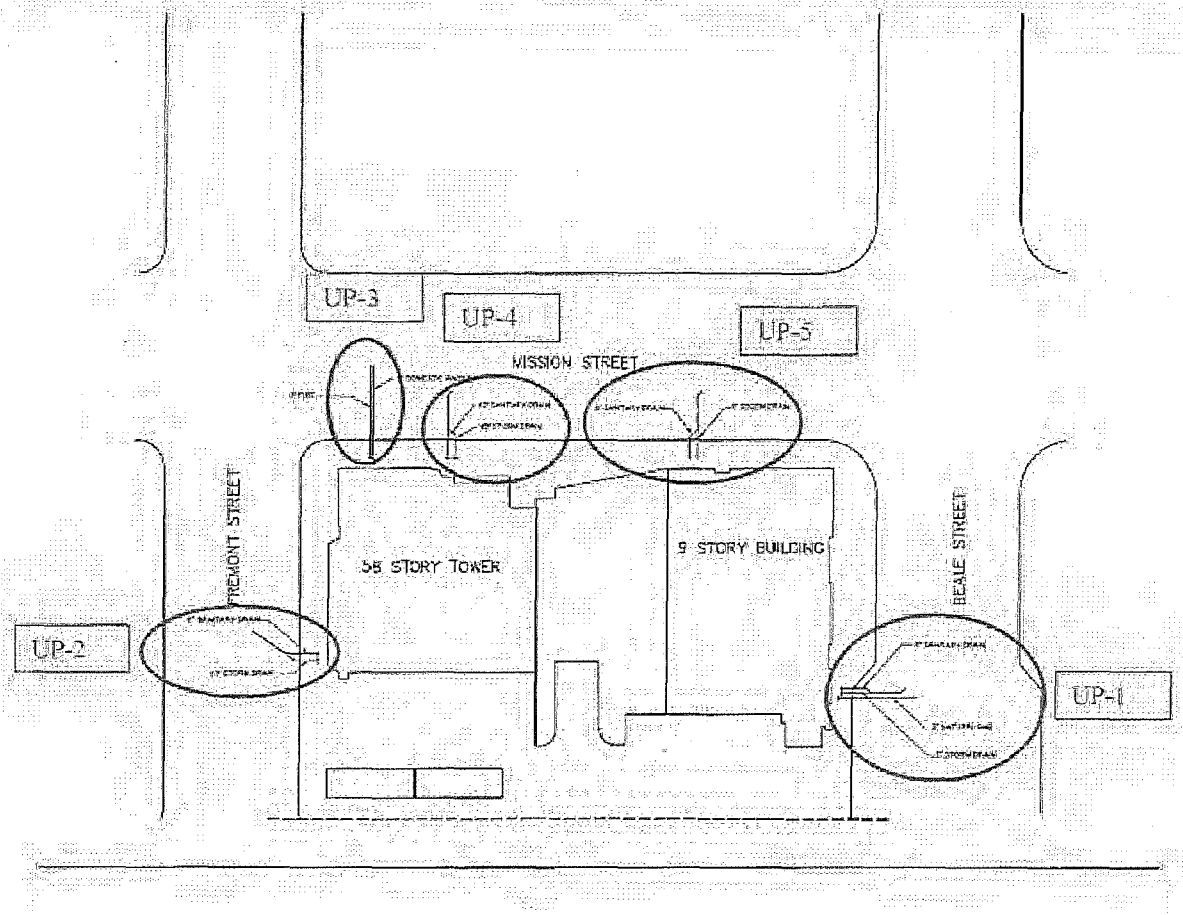
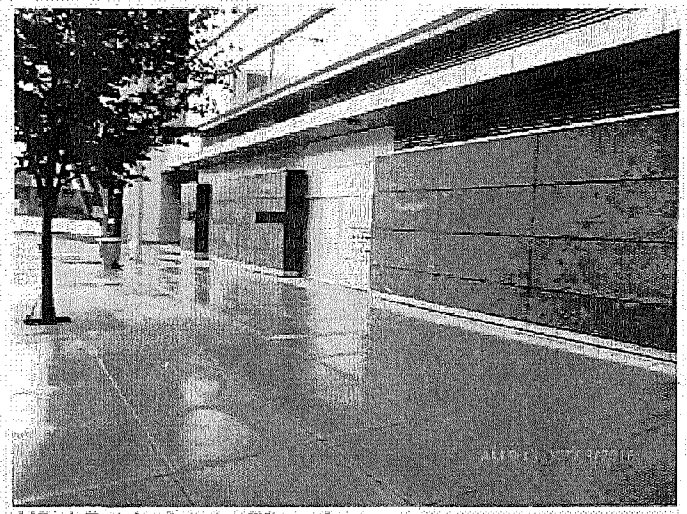
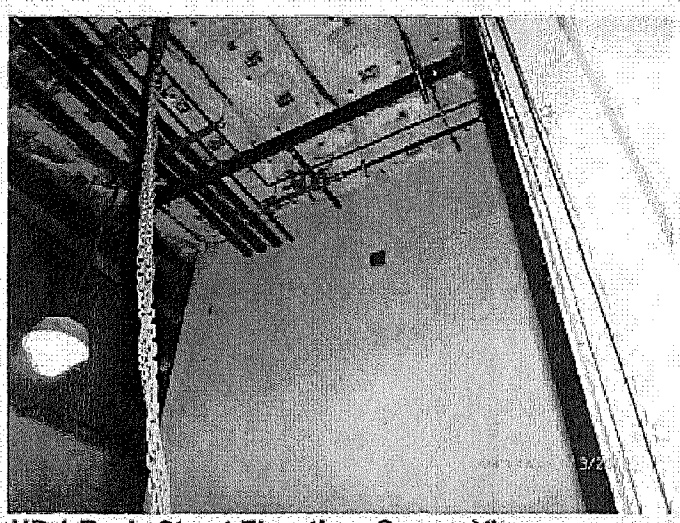

UP-3
UP-4
UP-5
MISSION STREET
FREMONT STREET
55 STORY TOWER
9 STORY BUILDING
BEALE STREET
UP-2
UP-1

Photo Section

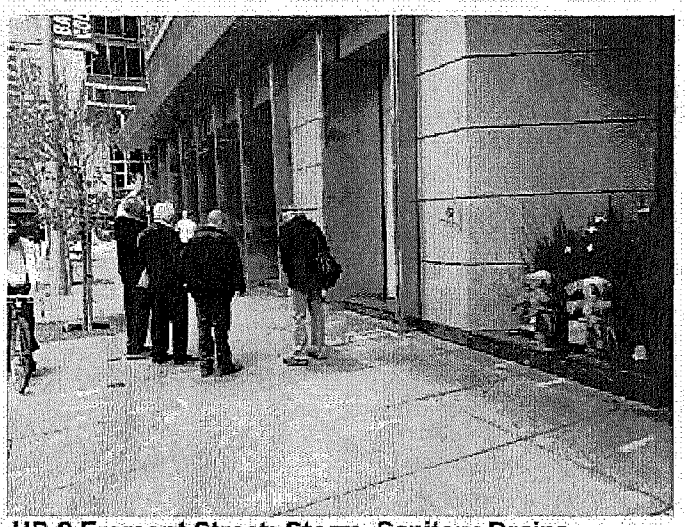


UP-1 Beale Street Elevation

UP-1 Beale Street Elevation: Storm, Sanitary and Natural Gas



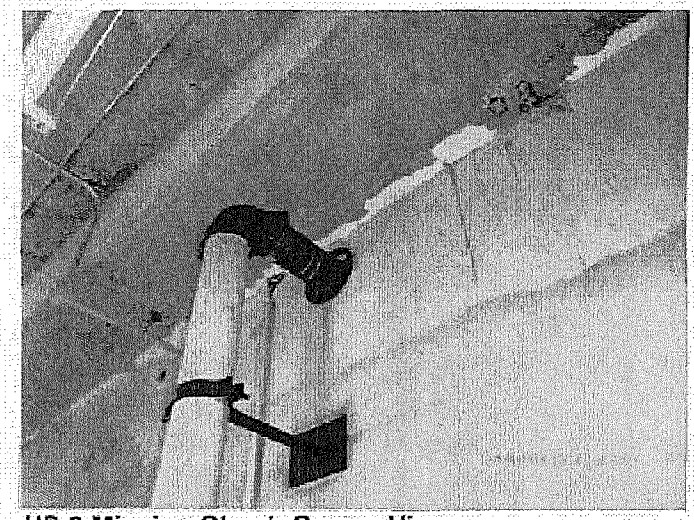
UP-1 Beale Street Elevation: Garage View



UP-2 Fremont Street: Storm, Sanitary Drains

UP-2 Fremont Street Elevation: Garage View

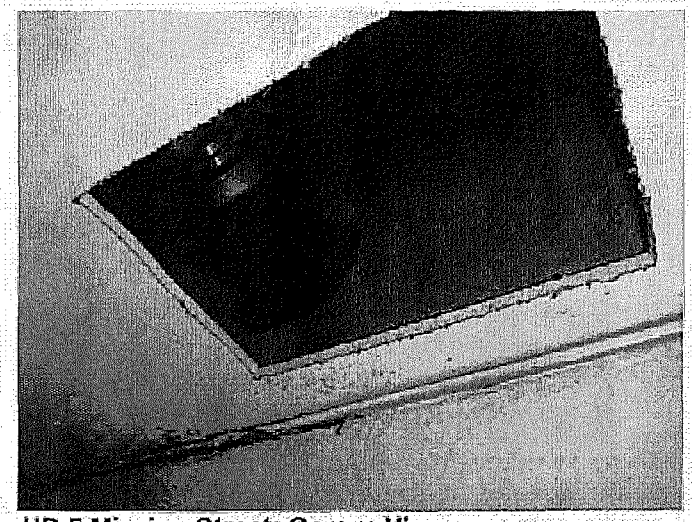
UP-3 Mission Street: Domestic Water and Fire



UP-3 Mission Street: Garage View

UP-4 Mission Street Elevation: Storm, Sanitary

UP-5 Mission Street Elevation: Storm and Sanitary



UP-5 Mission Street: Garage View

Please don't hesitate to contact me if there are any questions.

Sincerely,

Allana Buick & Bers, Inc.

Roberto Hernandez
Forensic Services Manager

CC: Karim Allana
Eugene Buick

Khoo, Arthur (BOS)

From: Yuri KUMAZAWA <kumazawa_yuri@hotmail.com>
Sent: Sunday, January 29, 2017 5:51 PM
To: Board of Supervisors, (BOS)
Subject: Why a statue of comfort women in San Francisco?

Dear sir/madame,

I am writing to you concerning a discussion building a memorial for "comfort women" in San Francisco Park. I guess you have been receiving messages from Japan asking to decline the plan to set a statue of Comfort Women in San Francisco. I am also one of Japanese women writting to you on the same subject.

I beleive majority of American people only learn the history of comfort women from point of view of Koreans which is based only on the testimonies of "comfort women" while the findings and evidences on the documentary studies done by Japanese researchers did not seems to be considered. I would request you to check the fact again as I do not want the American public park to have a statue created from "false stories" which is really an ashame...

UNITED STATES OFFICE OF WAR INFORMATION Psychological Warfare Team Attached to U.S. Army Forces India-Burma Theater Japanese Prisoner of War Interrogation Report No. 49

http://www.sdh-fact.com/CL02_4/8_S1.pdf

Changes in Lee Yong-Soo Testimonies
http://bit.ly/2gjijQV

Anyway the issue of comfort women is a very controversial, sensitive issue and indeed a point of political contest between Japan and Korea as of today. And I do not understand why Americans have to be part of the game. I also see the proposal of building the statue is deviding the migrants from Korea and Japan, provocking hate crimes. Idon't see any point of creating such problems in the communities. Problems should be and can be solved by much positive ways.

I request you not to accept the proposal of setting the statue. Thank you very much for your consieration.

Sincerely yours
Yuri KUMAZAWA

Aichi Japan

Khoo, Arthur (BOS)

From: Matthew Heckert <info@actionnetwork.org>
Sent: Sunday, January 29, 2017 1:43 PM
To: Mar, Eric (BOS); Farrell, Mark (BOS); Peskin, Aaron (BOS); Tang, Katy (BOS); BreedStaff, (BOS); Yee, Norman (BOS); Campos, David (BOS); Cohen, Malia (BOS); Avalos, John (BOS); Board of Supervisors, (BOS)
Subject: Support Free City College appropriation

City Council,

I commend and thank the Board of Supervisors for pledging to make City College FREE for San Franciscans. I urge you to support the next crucial step in this process by voting yes on Supervisor Kim's ordinance to appropriate $9 million of Real Property Transfer Tax in FY2016-2017 to fund the Community College Fund and make City College of San Francisco tuition-free for all San Francisco residents starting in 2017. This budget appropriation is a critical step to fulfill the wishes of the overwhelming majority of San Francisco voters who supported Proposition W on November 8th. Thank you in advance for your support of this important effort to expand access to higher education for all San Franciscans.

Matthew Heckert
guzzimatt@gmail.com
5933 MacCall st
Oakland, California 94609

January 27, 2017

BY EMAIL AND U.S. MAIL

San Francisco Police Commission
Police Commission Office
1245 3rd Street
San Francisco, California 94158
sfpd.commission@sfgov.org

Dear Commissioners:

We, the undersigned, are leaders, members, and allies of the lesbian, gay, bisexual, transgender, and queer (LGBTQ) community of San Francisco. The LGBTQ community is a vibrant patchwork of many communities, including people who are Arab, Middle Eastern, Muslim, South Asian (AMEMSA), and people who are undocumented. People in the AMEMSA community and undocumented people are our friends, neighbors, partners, and colleagues.

In that spirit, we write to join our colleagues at the Asian Law Caucus, ACLU of Northern California, and Council on American-Islamic Relations San Francisco Bay Area Office in urging you to fully implement the 2012 Safe San Francisco Civil Rights Ordinance and to protect the integrity of our Sanctuary City law.[1]

The Safe San Francisco Civil Rights Ordinance forbids any SFPD officers working with the FBI on the Joint Terrorism Task Force from participating in any work that targets people—without reasonable suspicion of criminal behavior—based solely or partially on their religion or national origin. Our Sanctuary City law prohibits SFPD officers from participating in efforts to identify undocumented people in our City.

President Donald J. Trump campaigned on the promise that he would target members of the AMEMSA community and people who are undocumented. If this Ordinance is not effectively enforced, and if SFPD officers are not fully trained to understand and follow its requirements, those local officers will become entangled in the implementation of Trump's policies, which our City's leadership and residents have unequivocally rejected. Our City put the Ordinance in place to make sure that this doesn't happen. Similarly, the Sanctuary City law was put in place to prevent our local law enforcement officers from being used by federal agencies to target undocumented people.

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[1] *See* ALC, CAIR, and ACLU Letter to Police Commission, Jan. 05, 2017, *available at* https://ca.cair.com/sfba/wp-content/uploads/2017/01/2017.01.05_ALC-CAIR-ACLU-NC-Ltr-re-SFPD-Participation-in-JTTF.pdf.

We respect and value the important role of law enforcement—local, state, and federal—in protecting residents from crime, including terrorism. But fighting crime should never mean targeting a community as if all of its members were criminals. As members and leaders of communities who have historically been subject to monitoring, surveillance, and intelligence-gathering due to our First Amendment activities, we refuse to forget our history and our struggle for freedom in this country.

Before the Ordinance passed, SFPD officers on FBI-led cases could answer only to Washington—not to California and San Francisco laws and leaders. In a 2010 Human Rights Commission hearing, Asian Law Caucus attorney Veena Dubal reported:

> "I have clients who are small business owners, American citizens who are regularly visited by the FBI at their place of work, in San Francisco. I have clients who are university students who are visited by FBI right outside of campus; I know an educator who is regularly visited by FBI agents. What do all these people have in common? Nothing, except that they are all innocent Americans who pay taxes, contribute to their community and the economy and who have immaculate criminal records, no criminal records --- they just happen to be Muslims."[2]

Other attorneys at the hearing warned that without additional backing, SFPD officers would face "pressure" to not comply with San Francisco laws protecting First Amendment activity. The hearing's findings were published in a 2011 report,[3] and the Board of Supervisors passed a unanimous resolution urging action.[4]

The Ordinance was supposed to answer to these concerns, but now—nearly five years later—the work remains unfinished. The Office of Citizen Complaints held in August 2016 that there had been a training failure, and that SFPD officers were not aware of their obligations. In the five years of the Ordinance being in effect, not one authorization has been sought or retained (despite the fact that SFPD

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[2] San Francisco Human Rights Commission, "Community Concerns of Surveillance, Racial and Religious Profiling of Arab, Middle Eastern, Muslim, and South Asian Communities," (report adopted February 24, 2011) ("SF HRC Report"), at p. 18.

[3] *Id.*

[4] Resolution No. 160-11, "Endorsing Community Concerns of Surveillance, Racial, and Religious Profiling," (April 5, 2011).

officers have been involved in dozens of Joint Terrorism Task Force operations). In addition, we have reason to believe that SFPD Joint Terrorism Task Force officers, in conjunction with the FBI, conducted "U.S. person checks" regarding some of the targets of these operations, in violation of the Sanctuary City Law.

To this end, we request the following:

1) That the SFPD provides its officers working with the FBI's Joint Terrorism Task Force clear instruction and specific training on the requirements of the Ordinance as soon as possible;

2) That all SFPD officers assigned to the Joint Terrorism Task Force refrain from making database inquiries about any individual's "U.S. person status" during their JTTF activities so they will be in compliance at all times with our Sanctuary City law; and

3) That SFPD officers obtain the necessary written supervisory approvals, that the approvals are documented and retained, and that "reasonable suspicion" is properly shown before SFPD officers participate in any Joint Terrorism Task Force work, going forward.

Mayor George Moscone and Supervisor Harvey Milk fought hard for our San Francisco values. Moscone led the fight to enshrine the right to privacy in our state constitution. Milk made community oversight of police a top priority and pushed hard to get an LGBT person appointed to the Police Commission.

Good police work doesn't require racial profiling and unaccountability. To maintain a city that prides itself on welcoming people of all sexual orientations, gender identities, races, religions, and nationalities, we'd do well to remember George Moscone and Harvey Milk's legacy and enforce the Safe San Francisco Civil Rights Ordinance.

Respectfully,

Kate Kendell
Executive Director
National Center for Lesbian Rights

Hon. David Campos
Fmr. Supervisor
San Francisco Board of Supervisors

Hon. Peter Keane
Fmr. Commissioner
San Francisco Police Commission

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Hon. Gwenn Craig
Fmr. Commissioner
San Francisco Police Commission

Rebecca Prozan
Fmr. Prosecutor
San Francisco District Attorney's Office

Daniel Redman
Attorney

CC: Mayor Edwin M. Lee
Supervisor Sandra Lee Fewer
Supervisor Mark Farrell
Supervisor Aaron Peskin

Supervisor Katy Tang
Supervisor London Breed, President of the Board
Supervisor Jane Kim
Supervisor Norman Yee
Supervisor Jeff Sheehy
Supervisor Hillary Ronen
Supervisor Malia Cohen
Supervisor Ahsha Safai
San Francisco Chief of Police William Scott
Joyce Hicks, Executive Director, Department of Police Accountability

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

November 29, 2016

Mr. Denis F. Shanagher, Partner
Duane Morris LLP
Spear Tower
One Market Plaza, Suite 2200
San Francisco, CA 94105-1127

Via E-mail: dfshanagher@duanemorris.com

Dear Mr. Shanagher:

Please transmit a copy of all monitoring data obtained to date by Patrick Shires through his geotechnical investigation at 301 Mission Street to DBI Principal Engineer Hanson Tom by December 1, 2016. As you know, Mr. Shires agreed in his September 29, 2016, letter to Director Hui to provide such reports on a monthly basis. To date DBI has not received any of the promised monthly monitoring reports.

Thank you for offering to have Mr. Shires come to DBI to discuss the status of his geotechnical investigation, preliminary findings, and other data and findings related to building safety on December 14 at 10 a.m. We will schedule the meeting for the proposed date and time at DBI. Please note that a meeting or meetings, while useful, do not take the place of the promised monthly written reports.

Thank you in advance for your much appreciated continuing efforts to work cooperatively with the Department of Building Inspection on its 301 Mission Street investigations.

Sincerely,

Tom C. Hui

Tom C. Hui, S.E., C.B.O.
Director

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Email: Tom.Hui@sfgov.org

Member, Board of Supervisors
District 3

City and County of San Francisco

AARON PESKIN

November 16, 2016

Professor Jack P. Moehle
Civil and Environmental Engineering
University of California Berkeley
775 Davis Hall, Berkeley CA

Dear Prof. Moehle:

Thank you for your initial willingness to participate in tomorrow's hearing at the Government Audit and Oversight Committee. As you know, the details of the review and approval process of both the 80 Natoma and 301 Mission projects have profound implications not only for the safety and habitability of existing high-rises in our downtown core, but also for future developments in this seismically vulnerable area.

I understand that you are no longer willing to attend the hearing. As I relayed to you in our phone conversation earlier this week, I have directed our City Attorney to draft legislation allowing the Board of Supervisors to subpoena you and any related documents in your possession relative to the 80 Natoma and 301 Mission projects, including correspondence with peer review panelists, as a result.

I believe that your institutional knowledge of both of these projects, as well as your familiarity with the civil and environmental engineering requirements necessary to ensure state-of-the-art building standards are critical for the City to consider as we move forward with our own policy reforms.

I hope that you will reconsider the valuable role that you can play in assisting the City with these reforms, and I look forward to eventually working with you toward that end.

Best,

Aaron Peskin
San Francisco Supervisor
District 3

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Member, Board of Supervisors
District 3

City and County of San Francisco

AARON PESKIN

November 16, 2016

Tom C. Hui
Department of Building Inspection, Director
1660 Mission Street, Sixth Floor
San Francisco, CA 94103
CC: William Strawn; Lily Madjus; Erica Major

Dear Director Hui,

Thank you again for your cooperation thus far in the ongoing hearings on San Francisco building standards in seismic zones, as well as the specific safety review process for the 301 Mission Street project, otherwise known as the Millennium Tower.

In preparation for tomorrow's hearing, I wanted to follow up on any progress that the Department of Building Inspection (DBI) has made relative to securing and compiling relevant documents from key points in the 301 Mission vetting and approval process.

I have reviewed a screen shot of a revised January 2006 letter written by Hardip Pannu, one of the experts tapped to review the structural safety of the 301 Mission project. A reference to correspondence dated August 30, 2005 is included therein, but this 2005 correspondence is not included in the previous data dumps that you have transmitted, to the best of my knowledge. Please produce this or explain its absence.

I am curious as to why there is no documentation that DBI formally retained the services of either Mr. Pannu or Professor Moehle specifically as peer review panelists (as opposed to consultants) or any documentation delineating their anticipated scope of work. I am also curious as to why there is no letter confirming that DBI engineer Hanson Tom directed or requested peer review panelists Mr. Pannu and Professor Moehle to include the Transbay project in their review and analysis, as indicated in Mr. Pannu's January 2006 revision of the August 30, 2005 letter? By way of understanding the review timeline, please explain whether Mr. Pannu and Professor Moehle were hired before or after they did work for DeSimone Consulting Engineers?

Finally, I am still waiting for the four volume foundation permit application for the 301 Mission project, dated May 24, 2005 and prepared by DeSimone Consulting Engineers for the Department of Building Inspection, referencing Project 4069. At our last hearing, we touched on the practice of keeping original hard copies of key documents like permits, charge letters and permit applications, much like marriage or business license applications. I wanted to confirm in writing what the Department's practice has been with respect to these documents and whether or not you have retained the actual letters themselves, as required.

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Please let my staff know if we can expect these documents or written responses to these questions within the next week.

Thank you again for your cooperation,

Aaron Peskin
San Francisco Supervisor
District 3

City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

MEMORANDUM

DATE: October 31, 2016

TO: Naomi Kelly, City Administrator

FROM: Tom C. Hui, S.E., C.B.O.
Director

SUBJECT: **301 Mission Peer Review**

Given the many questions Supervisor Peskin directed to DBI at last Friday's hearing on when we may be able to inform him that we have the technical peer review experts onboard we need for the independent peer review work, I am writing to ask you to expedite this process.

Even if we might be able to recruit immediately only some of the peer review expertise fields, I urge you to move forward so that we might begin, for example, review of at least some building safety aspects of the newly-released Hamburger Report. Perhaps the first thing we can get the peer reviewers to do –once they are on contract with the City – is to focus on what they need to reach an initial conclusion about general building safety (vs. imminent public safety threat), and focus their first efforts on this.

While I do understand the complexities involved, and the time these types of consultant contracts can take, I do hope we can speed up this process ASAP – and let the Supervisors know as soon as we have a definite date.

Thank you, as always, for your support and assistance.

cc: Mayor Ed Lee
President London Breed and Members of the Board of Supervisors
Department of Emergency Management Director Anne Kronenberg
Ron Tom, Assistant Director
Ed Sweeney, Deputy Director, Permit Services
Dan Lowrey, Deputy Director, Inspection Services
Taras Madison, Deputy Director, Administrative Services
Hanson Tom, Principal Engineer
Gary Ho, Structural Engineer
Lily Madjus, Communications Officer
William Strawn, Legislative and Public Affairs Manager

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City and County of San Francisco
Department of Building Inspection

Edwin M. Lee, Mayor
Tom C. Hui, S.E., C.B.O., Director

160975

October 27, 2016

Angus McCarthy
President, Building Inspection Commission
1660 Mission Street, Suite 600
San Francisco, CA 94103

Dear President McCarthy and Members of the Commission:

Per the discussion at last week's regular Building Inspection Commission meeting, where you requested more details on what DBI has been doing to address the settlement issues at 301 Mission Street, please note the following:

Generally, as you know, DBI's overall mission is to oversee the effective, efficient, fair and safe enforcement of the City and County of San Francisco's Building, Housing, Plumbing, Electrical and Mechanical Codes, along with Disability Access regulations, as applied to the more than 200,000 residential and commercial buildings in the City. Through a long-established complaint process, any San Francisco citizen can contact DBI with a concern, which may trigger an immediate inspection of any alleged building code violation and related life safety hazards.

Our housing code protects renters and homeowners from a wide range of reported habitability issues. Our building safety work includes responding to structural integrity and imminent public safety hazards from possible structure collapse following severe fires, as well as being among the City's 'First Responders' following an earthquake and/or natural disaster.

In addition to these broad building safety responsibilities, DBI's core services includes oversite of building code compliance through three specific activities: (1) to review plans and designs developed and stamped by licensed, registered architects and engineers hired by project sponsors for compliance with building code provisions in effect at the time the plans are submitted for review; (2) to conduct site inspections to verify that the performance of construction work is in accordance with approved plans; and (3) to address code compliance issues raised through complaints submitted by San Francisco residents.

301 Mission Street's Building Permit Process (2002-2009)

DBI provided a careful and thorough review of the 301 Mission Street building's permit application from 2002 to 2005, checking to ensure that the plans conformed to the requirements of the 1998-2001 San Francisco Building Code – the code in effect at the time the original project application was filed at DBI. This project consisted of a 12-story mixed-use building, tied to a 58-story concrete tower of more than 400 residential condo units, with a mat-slab foundation and piles that go down approximately 90 feet into Bay mud. After DBI's issuance of the

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Certificate of Final Completion (CFC) and occupancy for the 301 Mission project in 2009, the project's immediate neighbor, the Transbay Joint Powers Authority (TJPA), as part of its construction of the Transbay Transit Center, installed an impermeable wall around the entire Transit Center site that reaches down into the clay layer substrate. In addition, along its property boundary line with 301 Mission Street, the TJPA constructed an approximately 30-foot wide buttress wall that goes down to bedrock, approximately 200-feet below grade.

The engineer of record submitted plans for this project as a code-prescriptive design building, which meant the project would adhere strictly adhering to design and construction requirements set forth in the 1998 SF Building code (SFBC). The SFBC provides the minimum code requirements –though more restrictive than State codes to help manage the City's unique geography, topography and location adjacent to major earthquake faults -- developers must follow when constructing their buildings. DBI's role in this process is to ensure they do this by reviewing the plans and addenda submitted during the plan review process.

At the time DBI was reviewing 301 Mission, DBI did not have the authority to require the developer to retain a geotechnical engineer as prescriptive code requirements –the design submitted for this project—did not require it; however, DBI did negotiate with the developer and persuaded the engineer of record to retain a third-party structural engineer, and a highly respected academic with seismic expertise, to review and approve the addenda produced by the developer's retained licensed experts.

The peer-review panel members were: (1) Jack P. Moehle, Ph.D., PE, a nationally recognized U.C. Berkeley engineering professor with expertise in the design and behavior of structures with emphasis on seismic performance of concrete buildings and infrastructure; and (2) Hardip S. Pannu, S.E., a Principal in the engineering firm of Middlebrook & Louie. The developer's engineer of record rejected DBI's explicit request to fund the addition of a geotechnical engineer to this peer-review panel. Nonetheless, Professor Moehle issued a letter to DBI dated January 29, 2006, stating: "On the basis of my review, it is my opinion that the foundation design is compliant with the principles and requirements of the building code, and that a foundation permit can be issued for this project."

From January 2006 (project construction start) to August 2009 (certificate of final completion issuance), DBI conducted more than 500 visual site inspections, in addition to hundreds of special inspections conducted by third-party experts hired by the project sponsors to review Building Code-compliant installations of specific technical building components. The purpose of all of these inspections was to ensure that the general contractor's construction activities were in accordance with the various Building Codes and DBI-permitted, and approved, plans and specifications.

On February 2, 2009, based on concerns of settlement at the site, DBI's Deputy Director Raymond Lui sent a letter to the projects Engineer of Record, DeSimone Consulting Engineers, raising specific questions about larger than anticipated amount of settlement that the 301 Mission building experienced. Mr. Lui asked pointed questions about the settlement of the building, including the actual amount and rate of settlement, deferential settlement, reasons for

the settlement, how the existing settlement might affect the structural safety of the building then and in the future.

The Engineer of Record DeSimone Consulting Engineers; the Geotechnical Engineer of Record, Treadwell & Rollo; and the project Architect, Handel Architects, provided written responses in a letter from DeSimone dated February 25, 2009. DeSimone wrote:

> The original project design by DeSimone and Handel Architects accommodated 6 inches of total settlement under the Tower... No differential settlements between the adjacent walls/columns are expected and none have been reported to DeSimone...Since settlement of the Tower was anticipated and planned for during design, it has created no known problems for the Tower or Mid-rise Structures... It is our professional opinion that the structures are safe.

Treadwell & Rollo's response stated:

> The actual settlement of the Tower is 8.3 inches... The results of our latest evaluations indicate that approximately two to four inches of additional settlement could occur in the future...Treadwell & Rollo, Inc., as the geotechnical engineer of record has been aware of the settlement of the Tower and continues to evaluate the results of monitoring... While the settlement of the Tower is greater than originally anticipated, this settlement should not pose issues with foundation support for the Tower.

Handel Architects offered the following additional information:

> We are aware that additional settlement has occurred, and may continue to occur, and we have taken these conditions into account with modifications to the original design where necessary... Utility lines have been designed and installed with flexible connections (allowing for horizontal and vertical movement...to avoid possible interference from future anticipated settlement.

In short, these responses from 301 Mission's engineers of record made it very clear to DBI that the building was stable and safe for occupancy even though the building had settled more than originally estimated. DBI engineers were satisfied with these explanations and the assurances of overall building safety. In addition, DBI's site inspections for all critical building systems and design showed that the design team and general contractor had achieved code compliance in the building's construction. In reliance on the information, assurances, and professional opinions expressed by DeSimone, Treadwell & Rollo, and Handel Architects, DBI issued a certificate of final completion (CFC) in August 2009 upon construction completion. The CFC allowed occupation of the building by homeowners and other tenants.

Millennium Tower was one of the first high-rise buildings constructed in the downtown neighborhood. Since then, DBI has expanded the breadth of its peer-review process to apply to any buildings built over 240 feet high and to buildings using performance-based design, which uses an alternative method of construction and differs greatly from a code-prescriptive design building. Based in part on DBI's experience with 301 Mission and other tall building projects being proposed at that time, DBI issued in March 2008 two new Administrative Bulletins (AB), Numbers 082 and 083, requiring peer review of any proposed "performance-based" designs by a geotechnical specialist, a structural specialist, and by an academic professor with expertise in seismic safety elements. This expansion of required peer review by DBI was regarded as 'cutting edge' in 2008, and is now used by other major cities throughout the U.S. These 2008 AB technical guidelines and requirements added an extra dimension of building safety scrutiny – and continue to help DBI staff review the complex designs of tall buildings.

New Concerns Surface over Additional Settlement at Millennium Tower (July 2016 to Present)

Until DBI received a phone inquiry from SF Chronicle reporter Andy Ross in July 2016, DBI had been unaware of ongoing settlement issues at 301 Mission Street. DBI records show that DBI did not receive a single homeowner or citizen complaint, or information from any source expressing concern from 2009 until this contact from the SF Chronicle about possible settlement impact on any of the building's essential systems, or any impact on any residents' homes, such as plumbing or electrical problems, a non-functioning elevator, etc.

Once DBI heard about the settlement concerns from the Chronicle and other media in mid-July, 2016, DBI Director Tom Hui also heard from a representative of Millennium Partners about a draft engineering report. Millennium Partners then delivered to DBI on July 20, 2016 a Draft copy of a 2014 report by Structural Engineer, Ronald Hamburger, of Simpson, Gumpertz & Heger, who had been retained by Millennium Partners. DBI also requested and received some settlement monitoring data from ARUP Engineers, one of the Transbay Joint Powers Authority's consultants, who had been tracking settlement data from equipment installed inside the basement of 301 Mission Street. After reviewing this information, Director Hui directed staff to perform an informal visual site inspection, pull together all relevant building records, and draft a preliminary report on the status of the 301 Mission buildings based upon the still limited available data. DBI staff conducted the informal site visit on July 20, 2016 and, on August 4, 2016, DBI engineering staff completed a draft preliminary engineering report relying upon available information in its possession at that time. Having been told by Mr. Hamburger that he was continuing to work on updating his review and analysis, DBI decided to await the arrival of requested additional engineering updates before finalizing and releasing its draft August 4th preliminary report.

Mr. Hamburger's final and signed report was recently issued on October 3, 2016. This report concludes, "...On the basis of our updated analysis of the 301 Mission tower, **we conclude that the effect of settlement on most building elements is negligible...We conclude that the settlements experienced by the 301 Mission tower have not compromised the building's ability to resist strong earthquakes and have not had a significant impact on the building's safety.**" DBI has performed a preliminary review of this report and, based upon this report and other evidence such as site visits from City staff representing DBI, Fire and PUC,

concludes that the building is currently safe for occupancy. DBI is awaiting the input of a peer review team of experts the City is in the process of hiring before it will issue a final opinion on the conclusions reached in this report and any other reports or information directly related to the safety of the 301 Mission Street buildings.

In addition to Mr. Hamburger's signed 2016 report, DBI also requested updated engineering reports from the Homeowners' Association by the end of September 2016, per a Correction Notice a DBI inspector issued on August 26, 2016 in response to a 311 complaint and site inspection on August 19, 2016. The HOA has engaged a geotechnical engineer, Mr. Patrick Shires, to conduct extensive tests and analyses that began on September 26th. Consequently, the HOA asked DBI for a time extension in producing its engineering report, which DBI granted with the stipulation that the engineer of record keep DBI updated monthly on findings and results. DBI also has been provided over 140 data records -- with thousands of pages of data -- from Millennium Partners and is in the process of reviewing these records.

In summary, DBI professionals did exactly what they were supposed to do with respect to the 301 Mission plan review and approvals from submittal in 2002, to multiple inspections performed over several years during the building construction by building inspectors, fire inspectors, and Special Inspectors, up to the issuance of the Certificate of Final Completion in August 2009. As noted above, and based upon reports provided to DBI to date by the owners' engineering experts, and upon our own inspectors' observations during recent visits, the building remains safe for occupancy.

DBI staff members and other affected City departments are continuing to monitor the building's settlement situation closely, especially with respect to any possible impact upon the building's life-safety systems. We are obtaining, and reviewing carefully, updated technical studies by the owners' technical teams that also will be given to the expert peer review panel once that panel is engaged by the City.

DBI Next Steps

We also have initiated a number of immediate action steps to consider more stringent construction requirements for tall buildings over 240 feet located on soft soils, including:

- Changing immediately the selection process for peer review experts, as announced at the October 17, 2016 Building Inspection Commission, whereby DBI will make these appointments without participation by the project sponsor.

- Reviewing and modifying ABs 082 and 083 to reflect best engineering practices and to benefit from 'lessons learned' for the 301 Mission settlement issues.

- Working closely with the City Administrator to identify, and engage, independent peer review experts and establish an effective process for obtaining highly skilled professionals on an as-needed basis to ensure we have the expertise required to review and approve highly complex tall building construction.

- Taking immediate steps to improve DBI's records' retention process, including making certain that all engineering letters related to tall building construction projects are retained, and made more readily retrievable.

I will continue to provide you with periodic updates on the 301 Mission settlement situation as new information becomes available to DBI. Please call me directly if I may answer any questions on this important, and highly complicated, building safety matter.

Sincerely,

Tom C. Hui

Tom C. Hui, S.E., C.B.O.
Director

cc: Mayor Ed Lee
President London Breed and Members of the Board of Supervisors
City Administrator Naomi Kelly
Department of Emergency Management Director Anne Kronenberg
Ed Sweeney, Deputy Director, Permit Services
Dan Lowrey, Deputy Director, Inspection Services
Hanson Tom, Principal Engineer
Gary Ho, Structural Engineer
Lily Madjus, Communications Officer
William Strawn, Legislative and Public Affairs Manager

ADMINISTRATIVE BULLETIN

NO. AB-082 :

DATE : March 25, 2008 (Updated 1/1/14 for code references)

SUBJECT : Permit Processing and Issuance

TITLE : **Guidelines and Procedures for Structural Design Review**

PURPOSE : The purpose of this Administrative Bulletin is to present guidelines and procedures for Structural Design Review. Structural Design Review may be required by the San Francisco Building Code, by another Administrative Bulletin, or at the request of the Director of the Department of Building Inspection.

REFERENCES : 2013 San Francisco Building Code

- Section 101A.2, Purpose
- Section 104A.2, Powers and Duties of Building Official
- Section 104A.2.8, Alternate materials, design, and methods of construction
- Section 105A.6, Structural Advisory Committee
- Chapter 16, Structural Design

ASCE 7-10

- Section 16.2.5 Design Review, Seismic Response History Procedures
- Section 17.7 Design Review, Seismically Isolated Structures
- Section 18.8 Design Review, Structures with Damping Systems

DISCUSSION :

1. STRUCTURAL DESIGN REVIEWER

The Director may request the assistance of a Structural Design Reviewer to provide additional and specialized expertise to supplement the Department of Building Inspection plan review. The Structural Design Reviewer is distinct from a Structural Advisory Committee, which is a formal, public body that the Director may convene regarding matters pertaining to special features or special design procedures. The Structural Design Reviewer meets with the Engineer of Record and with Department of Building Inspection staff as the need arises throughout the design process, providing the Director with a report of its findings after completion of their work.

Review by the Structural Design Reviewer is not intended to replace quality assurance measures ordinarily exercised by the Engineer of Record in the structural design of a building. Responsibility for the structural design remains solely with the Engineer of Record, and the burden to demonstrate conformance of the structural design to the letter and intent of San Francisco Building Code provisions resides solely with the Engineer of Record. The responsibility for conducting the structural review for the plan check resides with the Director and any plan review consultants.

The San Francisco Building Code (through reference to ASCE 7) requires design review by independent registered design professionals in several cases. These include use of seismic response history procedures, use of seismic isolation, and use of seismic dampers. The Structural Design Reviewer will provide this review where required by the San

Francisco Building Code. The Structural Design Reviewer will also provide review as required by other Department of Building Inspection Administrative Bulletins and when otherwise deemed necessary by the Director. Structural Design Review, as discussed herein, and design review, as discussed in ASCE 7, are equivalent.

Qualifications and Selection of Structural Design Reviewer

The Structural Design Reviewer shall be a recognized expert in relevant fields such as structural engineering, earthquake engineering, performance-based earthquake engineering, nonlinear response history analysis, building design, earthquake ground motion, geotechnical engineering, geological engineering, and other areas of knowledge and experience relevant to the project.

The Structural Design Reviewer shall be selected by the Project Sponsor from a project specific list provided by the Director. The Project Sponsor may then engage a Structural Design Reviewer as a consultant for assistance as appropriate. The Structural Design Reviewer shall bear no conflict of interest with respect to the project and shall not be considered part of the design team for the project. The responsibility of the Structural Design Reviewer is to assist the Department of Building Inspection in ensuring compliance of the structural design with the San Francisco Building Code. While the Structural Design Reviewer will contract with the Project Sponsor, their responsibility is to the Department of Building Inspection.

The Structural Design Reviewer shall be registered as a Professional Engineer in California. The Structural Design Reviewer shall sign all written communication to the Director.

Administration of Structural Design Review

The Project Sponsor is responsible for the payment of hourly fees and other expenses for the professional services of the Structural Design Reviewer. The Structural Design Reviewer shall provide to the Department of Building Inspection a written copy of a proposed scope of work of their contract with the Project Sponsor. The proposed scope of services in the contract and any changes proposed to be made thereto shall be approved by the Director.

2. PROJECTS REQUIRING STRUCTURAL DESIGN REVIEW

The Director may require Structural Design Review for any project at his discretion. The following types of projects will generally require Structural Design Review:

1. Projects incorporating non-prescriptive or performance-based design.
2. Projects incorporating building heights that exceed 240 feet.
3. Projects incorporating seismic response-history analyses per Chapter 16 of ASCE 7.*
4. Projects incorporating seismic isolation per Chapter 17 of ASCE 7.*
5. Projects incorporating seismic damping per Chapter 18 of ASCE 7.*
6. Projects with irregular and unusual configurations or systems.

Project Sponsors are strongly encouraged to contact the Department of Building Inspection early in the design to determine Structural Design Review requirements.

*Note: To the extent design review is required under ASCE 7-10, Sections 16.2.5, 17.7 or 18.8, such review process shall be conducted in accordance with the specific requirements of the Building Code and all applicable law."

3. SCOPE OF STRUCTURAL DESIGN REVIEW SERVICES

The scope of services for the Structural Design Reviewer shall be indicated by the Director to provide required expertise to supplement the Department of Building Inspection plan review. It may, therefore, be only for specific portions or structural elements of a project. This scope of services may include, but shall not be limited to, review of the following:

1. Earthquake hazard determination.
2. Site-specific ground motion characterization.
3. Seismic performance goals.
4. Basis of design, design methodology and acceptance criteria.
5. Mathematical modeling and simulation.

6. Interpretation of results of analysis.
7. Member selection and design.
8. Detail concepts and design.
9. Construction Documents, including drawings and specifications.
10. Isolator or damper testing requirements and quality control procedures.
11. At the discretion of the Director, the scope of services for the Structural Design Reviewer may include the review of other building aspects, including design for wind resistance, design of special foundation or earth retaining systems, or the design of critical non-structural elements.

4. STRUCTURAL DESIGN REVIEW PROCESS

The Structural Design Reviewer should be engaged as early in the structural design phase as practicable. This affords the Structural Design Reviewer an opportunity to evaluate fundamental design decisions, which could disrupt design development if addressed later in the design phase. Early in the design process, the Engineer of Record and the Structural Design Reviewer should jointly establish the frequency and timing of Structural Design Reviewer review milestones, and the degree to which the Engineer of Record anticipates the design will be developed for each milestone.

The Structural Design Reviewer shall provide written comments to the Engineer of Record, and the Engineer of Record shall prepare written responses thereto. The Structural Design Reviewer shall maintain a log that summarizes Structural Design Reviewer comments, Engineer of Record responses to comments, and resolution of comments. The Structural Design Reviewer shall make the log available to the Engineer of Record as requested. The Structural Design Reviewer may also issue interim reports as appropriate relative to the scope and project requirements. At the conclusion of the review the Structural Design Reviewer shall submit to the Director a written report that references the scope of the review, includes the comment log and supporting documents, and indicates the professional opinions of the Structural Design Reviewer regarding the design's general conformance to the requirements and guidelines in this bulletin.

Commentary:: None of the reports or documents from the Structural Design Reviewer are Construction Documents. Under no circumstances should letters or other documents from the Structural Design Reviewer be put into the Engineer of Record's drawings or reproduced in any other way that makes Structural Design Reviewer documents appear to be part of the Construction Contract Documents. The Engineer of Record is solely responsible for the Construction Contract Documents. Documents from the Structural Design Reviewer will be retained as part of the Department of Building Inspection's project files.

5. DISPUTE RESOLUTION

The Engineer of Record and the Structural Design Reviewer shall work in a collegial manner, as independent and reasonable professionals. The Structural Design Reviewer shall prepare comments in a respectful manner and shall make reasonable requests of the Engineer of Record for additional analyses or backup information. The Engineer of Record shall address the Structural Design Reviewer comments cordially and respond directly and clearly.

The Engineer of Record and the Structural Design Reviewer shall attempt to develop a consensus on each issue raised by the Structural Design Reviewer. If the Engineer of Record and the Structural Design Reviewer are unable to resolve particular comments, the Structural Design Reviewer shall report the impasse to the Director.

The Director, as Building Official, shall make final decisions concerning all permits. The Director, should the need arise, may address differences of opinion between the Engineer of Record and the Structural Design Reviewer in whatever method he deems appropriate. The Director also may engage additional outside experts to assist in issue resolution.

Originally signed by:

Isam Hasenin, P.E., C.B.O.,Director
Department of Building Inspection

Approved by the Building Inspection Commission on March 19, 2008

ADMINISTRATIVE BULLETIN

NO. AB-083 :

DATE : March 25, 2008 (Updated 01/01/14 for code references)

SUBJECT : Permit Processing and Issuance

TITLE : **Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures**

PURPOSE : The purpose of this Administrative Bulletin is to present requirements and guidelines for the seismic structural design and submittal documents for building permits for new tall buildings in San Francisco that use non-prescriptive seismic design procedures.

REFERENCES :

2013 San Francisco Building Code, Section 104A.2.8 Alternate materials, design and methods of construction

SEAONC, 2007, *Recommended Administrative Bulletin on the Seismic Design & Review of Tall Buildings Using Non-Prescriptive Procedures*, prepared by Structural Engineers Association of Northern California (SEAONC) AB-083 Tall Buildings Task Group

ASCE, 2011, *Minimum Design Loads for Buildings and Other Structures* (ASCE/SEI 7-10, Prepared by the Structural Engineering Institute of the American Society of Civil Engineers

2003 NEHRP Recommended Provisions For New Buildings And Other Structures Part 1: Provisions and Part 2: Commentary (FEMA 450)

SEAONC, 1999, *Contractual Provisions to Address the Engineer's Liability when Using Performance-Based Seismic Design*, Structural Engineers Association of Northern California

SEAOC, 2001, "Seismology Committee Background and Position Regarding 1997 UBCEq. 30-7 and Drift," Structural Engineers Association of California (http://www.seaoc.org/seismpdfs/UBC/30_7.pdf)

DISCUSSION :

1. SCOPE

This bulletin presents requirements and guidelines for seismic structural design and submittal documents for building permit for new tall buildings in San Francisco that use non-prescriptive seismic design procedures.

Commentary: It is intended that buildings designed to the requirements and guidelines of this bulletin will have seismic performance at least equivalent to that intended of code-prescriptive seismic designs, consistent with the San Francisco Building Code sections indicated below. To demonstrate that a building design is capable of providing code equivalent seismic performance, a three-step procedure shall be performed as specified in Section 4 of this Administrative Bulletin. Intended code seismic performance can be found in the commentary of FEMA 450.

This bulletin intentionally contains both requirements, which are stated in mandatory language (e.g., "shall") and guidelines, which use non-mandatory language.

This bulletin is not written to cover essential facilities.

For the purposes of this Administrative Bulletin, a non-prescriptive seismic design is one that takes exception to one or more of the prescriptive requirements of the San Francisco Building Code and Chapter 12 of ASCE/SEI 7-05 and the standards referenced therein, by invoking San Francisco Building Code, Section 104A.2.8, which allows alternative materials and methods of construction as approved by the Building Official.

For the purposes of this bulletin, tall buildings are defined as those with *hn* greater than 160 feet above average adjacent ground surface.

The height, *hn* is defined in the San Francisco Building Code as the height of Level *n* above the average level of the ground surface adjacent to the structure. Level *n* is permitted to be taken as the roof of the structure, excluding mechanical penthouses and other projections above the roof whose mass is small compared with the mass of the roof.

Procedures other than those presented herein may be acceptable pursuant to the approval of the Director of the Department of Building Inspection.

Commentary: ASCE/SEI 7-10 Sections that discuss non-prescriptive or "alternative" seismic design procedures are reproduced below:

11.1.4 Alternate Materials and Methods of Construction. Alternate materials and methods of construction to those prescribed in the seismic requirements of this standard shall not be used unless approved by the authority having jurisdiction. Substantiating evidence shall be submitted demonstrating that the proposed alternate, for the purpose intended, will be at least equal in strength, durability, and seismic resistance.

12.1.1 Basic Requirements. ...An approved alternative procedure shall not be used to establish the seismic forces and their distribution unless the corresponding internal forces and deformations in the members are determined using a model consistent with the procedure adopted.

San Francisco Building Code sections that discuss non-prescriptive or "alternative" seismic design procedures are reproduced below:

104A.2.8 Alternate materials, design and methods of construction. The provisions of this code are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this code, provided any alternate has been approved and its use authorized by the building official.

The building official may approve any such alternate, provided the building official finds that the proposed design is satisfactory and complies with the provisions of this code and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

1604.4 Analysis. Any system or method of construction to be used shall be based on a rational analysis in accordance with well-established principles of mechanics. Such analysis shall result in a system that provides a complete load path capable of transferring all loads and forces from their point of origin to the load-resisting elements.

2. STRUCTURAL DESIGN REVIEW

Structural Design Review shall be in accordance with AB-082. At the conclusion of the review, the Structural Design Reviewer shall provide a written statement that, in their professional opinion, the building elements under their review are equivalent in strength, durability, and seismic resistance of the building to those of a building designed according to the prescriptive provisions of the San Francisco Building Code.

3. SUBMITTAL REQUIREMENTS

Project submittal documents shall be in accordance with the San Francisco Building Code and Department of Building Inspection interpretations, Administrative Bulletins, and policies. In addition, documents relevant to the Structural Design Review shall be submitted by the Engineer of Record to the Director and to the Structural Design Reviewer.

As early as practicable, the Engineer of Record shall submit to the Director an initial Seismic Design Criteria along with a description and initial drawings of the structure. The Seismic Design Criteria shall be consistent with the requirements of this bulletin, and shall be updated to incorporate issues resolved during the Structural Design Review process.

The Seismic Design Criteria shall describe the proposed building and structural system, proposed analysis methodology, and acceptance criteria. The Seismic Design Criteria shall include any proposed exceptions to the prescriptive provisions of the San Francisco Building Code, modeling parameters, material properties, drift limits, element force capacities and deformation capacities. The Seismic Design Criteria shall identify all exceptions to the San Francisco Building Code prescriptive requirements that the Engineer of Record proposes. The Seismic Design Criteria shall be subject to review by the Structural Design Reviewer and approval by the Director. A summary of the Engineer of Record's final Seismic Design Criteria shall be included in the general notes of the structural drawings.

4. SEISMIC DESIGN REQUIREMENTS

The Engineer of Record shall evaluate the structure at the levels of earthquake ground motion as indicated in the subsections below.

If nonlinear response is anticipated under any of the Maximum Considered Earthquake (MCE) ground motions specified in Section 4.3, the Engineer of Record shall apply capacity design principles and design the structure to have a suitable ductile yielding mechanism, or mechanisms, under nonlinear lateral deformation. The code-level analysis shall be used to determine the required strength of the yielding actions. The Engineer of Record shall include in the Seismic Design Criteria all assumptions and factors used in the application of capacity design principles.

Commentary: The purpose of each level of seismic evaluation is as follows:

The code-level evaluation of Section 4.1 is used to identify the exceptions being taken to the prescriptive requirements of the San Francisco Building Code and to define the minimum required strength and stiffness for earthquake resistance. Minimum strength is defined according to San Francisco Building Code minimum base shear equations, with a response modification coefficient *R*, proposed by the Engineer of Record, reviewed by the Structural Design Reviewer, and approved by the Director Minimum stiffness is defined by requiring the design to meet San Francisco Building Code-specified drift limits, using traditional assumptions for effective stiffness. Providing a non-prescriptive seismic design with minimum strength and stiffness comparable to code- prescriptive designs helps produce seismic performance at least equivalent to the code. Minimizing the number of exceptions to prescriptive requirements also helps achieve this aim.

As indicated in Section 4.2, a service-level evaluation is required by this bulletin to demonstrate acceptable seismic performance for moderate earthquakes.

The MCE-level evaluation of Section 4.3 is intended to verify that the structure has an acceptably low probability of collapse under severe earthquake ground motions. The evaluation uses nonlinear response-history analysis to demonstrate an acceptable mechanism of nonlinear lateral deformation and to determine the maximum forces to be considered for structural elements and actions designed to remain elastic.

4.1 Code-Level Evaluation

The seismic structural design shall be performed in accordance with the prescriptive provisions of the San Francisco Building Code, except for those provisions specifically identified by the Engineer of Record in the Seismic Design Criteria as Code Exceptions.

Commentary: Code exceptions that have typically been taken for non-prescriptive designs of tall buildings in high seismic design categories include exceeding the height limitations of ASCE/SEI 7-10 Table 12.2.1. Other exceptions, including provisions related to *R*, , *0*, limitations on *T*, and various detailing requirements, may be considered at the discretion of the Director. The Engineer of Record is required to justify all exceptions to prescriptive code provisions. The scope of structural design review shall include all proposed code exceptions.

The lower limit of ASCE/SEI 7-10 Eq. 12.8-5 and 12.8-6 for the calculation of the Seismic Response Coefficient applies to the scaling process of ASCE/SEI 7-05 Section 12.9. The value of *R* used shall be indicated in the SeismicDesign Criteria, and shall not be greater than 8.5.

The Engineer of Record shall demonstrate that the structure meets the story drift ratio limitations of the San Francisco Building Code using a code-level response-spectrum analysis and the following requirements:

a) The design lateral forces used to determine the calculated drift need not include the minimum base shear limitation of ASCE/SEI 7-10 eq. 12.8-5 and 12.8-6.

b) Stiffness properties of non-prestressed concrete elements shall not exceed 0.5 times gross-section properties.

c) Foundation flexibility shall be considered, using recommendations provided by the Geotechnical Engineerof Record that are defined in the Seismic Design Criteria.

d) The analysis shall account for P-delta effects.

Commentary: ASCE/SEI 7-10 requires the consideration of the minimum base shear of Eq. 12.8-5 and 12.8-6 for checking design story drifts relative to allowable story drifts. However, the consensus of SEAONC's AB-083Task Group for this Administrative Bulletin, approved by the SEAONC Board, is that UBC Formula 30-7 (equivalent to ASCE/SEI 7-10 Eq. 12.8-6) need not be applied to the check of drift limits for tall buildings designed according to this bulletin, because the MCE-level Evaluation of Section 4.3 includes a check of drift for site-specific ground motions. Such ground motions are required to take account of near-fault and directivity effects. The consensus of the task group is that this is an appropriate and more explicit way of addressing the intended purpose of applying Formula 30-7 to the check of drift limits.

Actual concrete stiffness properties may vary significantly from the value of 0.5 times gross-section properties referenced for the code-level check of story drift limits. This assumption is specified to provide a consistent requirement for minimum building stiffness. This requirement is intended to lead to earthquake serviceability performance related to story drift that is at least comparable to that expected of prescriptively-designed tall buildings designed to the San Francisco Building Code.

For the deformation compatibility evaluation of critical non-structural elements, such as exterior curtain wall and cladding systems and egress stairways, the drift ratio demand shall be calculated using the minimum base shear limitations of ASCE/SEI 7-10 Eq. 12.8-5 and 12.8-6. In lieu of this requirement, these critical non-structural elements may be designed for drift ratios at the MCE-level.

4.2 Service-Level Evaluation

A service-level evaluation of the primary structural system is required to demonstrate acceptable, essentially elastic seismic performance at the service-level ground motion.

Commentary: To ensure code-equivalent seismic performance, the Director is requiring a service-level evaluation for new tall buildings utilizing non-prescriptive design procedures.

There are circumstances where there is a reason to believe that the serviceability performance of the design wouldbe worse than that anticipated for a code-prescriptive design. Some of these circumstances have been identified as follows:

a) Where the Engineer of Record has taken any exception to code-prescriptive requirements for non- structural elements (ASCE/SEI 7-10, Chapter 13)

b) Where the stiffness representation of any structural element in the code-level evaluation is significantly less than the effective linear-elastic stiffness described in applicable research

c) For a structure that exhibits disproportionably large drift or accelerations for ground motions less than the San Francisco Building Code Design Basis Ground Motion (not reduced by *R*).

While this bulletin does not require checking all non-structural elements at the service-level evaluation, it is expected that the building cladding will remain undamaged and that egress from the building will not be impeded when the building is subjected to the service-level ground motion.

For the purposes of this bulletin, the service-level ground motion shall be that having a 43-year mean return period (50% probability of exceedance in 30 years).

Structural models used in the service-level evaluation shall incorporate realistic estimates of stiffness and damping considering the anticipated levels of excitation and damage. The evaluation shall demonstrate that the elements being evaluated exhibit serviceable behavior.

Commentary: While essentially elastic performance is required in the service-level ground motion, it is not the intent of this bulletin to require that a structure remain fully linear and elastic. It is permissible for the analysis to indicate minor yielding of ductile elements of the primary structural system, provided such results do not suggest appreciable permanent deformation in the elements, strength degradation, or significant damage to the elements requiring more than minor repair. It is permissible for the analysis to indicate minor and repairable cracking of concrete elements.

Where numerical analysis is used to demonstrate serviceability, the analysis model should represent element behavior that is reasonably consistent with the expected performance of the elements. In typical cases it may be suitable to use a linear response spectrum analysis, with appropriate stiffness and damping, and with the earthquake demands represented by a linear response spectrum corresponding to the service-level ground motion. Where response history analysis is used, the selection and scaling of ground motion time series should comply with the requirements of ASCE/SEI 7-10, Section 16.1.3, with the service-level response spectrum used instead of the design basis earthquake response spectrum, and with the design demand represented by the mean of calculated responses for not less than seven appropriately selected and scaled time series.

As expressed by SEAONC [1999], it should be understood "that the current state of knowledge and available technology is such that the design profession's ability to accurately predict the earthquake performance of a specific building is limited and subject to a number of uncertainties." Actual performance may differ from intended performance.

4.3 Maximum Considered Earthquake-Level Evaluation

Ground Motion: The ground motion representation for this evaluation shall be the Maximum Considered Earthquake(MCE) as defined in ASCE/SEI 7-10, Chapter 21.

A suite of not less than seven pairs of appropriate horizontal ground motion time series shall be used in the analyses. The selection and scaling of these ground motion time series shall comply with the requirements of ASCE/SEI 7-10, Chapter 16, with the following modifications:

a) The MCE response spectrum shall be the basis for ground motion time series scaling instead of the design response spectrum.

b) Either amplitude-scaling procedures or spectrum-matching procedures may be used.

c) Where applicable, an appropriate number of the ground motion time series shall include near fault and directivity effects such as velocity pulses producing relatively large spectral ordinates at relatively long periods.

Commentary: The procedures for selecting and scaling ground motion records, as presented here, represent the current state of practice. The procedures are written to retain some flexibility so that engineering judgment can be used to identify the best approach considering the unique characteristics of the site and the building.

Selection and scaling of earthquake ground motion records for design purposes is a subject of much current research. The Engineer of Record may wish to consider alternative approaches recently proposed; however, some of the proposed approaches have not been adequately tested on tall buildings so their adoption should only be considered with caution. Aspects of particular concern include the long vibration period of many tall buildings and the contributions of multiple vibration "modes" to key response quantities.

At near-fault sites, the average fault-normal response spectrum usually is larger than the average fault-parallel response spectrum due to the presence of a rupture directivity pulse in the fault-normal component of the ground motion. It is important to include in the suite of ground motions an appropriate number of motions that include near-fault and directivity effects so that design drift demands are appropriately determined, especially considering that Section 4.1 permits the design to be exempt from applying Equations 12.8-5 and 12.8-6 to drift calculations. If spectral matching is used, individual ground motion components should account for the distinction between fault-normal and fault-parallel hazard.

Mathematical Model: The three-dimensional mathematical analysis model of the structure shall conform to ASCE/SEI 7-10 Section 12.7.3.

The analyses shall consider the interaction of all structural and non-structural elements that materially affect the linear and nonlinear response of the structure to earthquake motions, including elements not designated as part of the lateral-force-resisting system in the code-level analysis (Section 4.1).

Commentary: This requires explicit modeling of those parts of the structural and non-structural systems that affect the dynamic response of the building. In addition, the effect of building response on all materially affected parts of the building must be evaluated.

The stiffness properties of reinforced concrete shall consider the effects of cracking and other phenomena on initial stiffness.

Commentary: In addition to cracking, effective stiffness can be affected by other phenomena. These include bond slip, yield penetration, tension-shift associated with shear cracking, panel zone deformations, and other effects.

The effective initial stiffness of steel elements embedded in concrete shall include the effect of the embedded zone. For steel moment frame systems, the contribution of panel zone (beam-column joint) deformations shall be included.

The Engineer of Record shall identify any structural elements for which demands for any of the response-history runs are within a range for which significant strength degradation could occur, and shall demonstrate that these effects are appropriately considered in the dynamic analysis.

Commentary: For typical situations, element strength degradation of more than 20% of peak strength should be considered significant.

P- effects that include all the building dead load shall be included explicitly in the nonlinear response history analyses.

Documentation submitted for Structural Design Reviewer review shall clearly identify which elements are modeled linearly and which elements are modeled nonlinearly. For elements that are modeled as nonlinear elements, submitted documentation shall include suitable laboratory test results or analyses that justify the hysteretic propertiesrepresented in the model.

The properties of elements in the analysis model shall be determined considering earthquake plus expected gravity loads. In the absence of alternative information, gravity load shall be based on the load combination $1.0D + Lexp$, where D is the service dead load and $Lexp$ is the expected service live load.

Commentary: In typical cases it will be sufficient to take $Lexp = 0.2L$, where L is the code-prescribed live loadwithout live load reduction.

The foundation strength and stiffness contribution to the building seismic response shall be represented in the model. The foundation strength and stiffness characterization shall be consistent with the strength and stiffness properties of the soils at the site, considering both strain rate effects and soil deformation magnitude.

Analysis Procedure: Three-dimensional nonlinear response history (NLRH) analyses of the structure shall be performed. Inclusion of accidental torsion is not required. When the ground motion components represent site- specific fault-normal ground motions and fault-parallel ground motions, the components shall be applied to the three- dimensional mathematical analysis model according to the orientation of the fault with respect to the building. When the ground motion components represent random orientations, the components shall be applied to the model at orientation angles that are selected randomly; individual ground motion pairs need not be applied in multiple orientations.

Commentary: Three-dimensional analyses are required to represent the inherent torsional response of the building to earthquake ground shaking. This is done by including in the NLRH model the actual locations and distribution of the building mass, stiffness, and strength. Accidental torsion is not required to be included in the NLRH analyses. (Accidental torsion is required for the code-level analysis of Section 4.1.)

The Engineer of Record shall report how damping effects are included in the NLRH analyses. The equivalent viscous damping level shall not exceed 5%, unless adequately substantiated by the Engineer of Record.

Commentary: The effects of damping in an analysis depend on the type of damping model implemented. Some models may over-damp higher modes or have other undesirable effects.

For each horizontal ground motion pair, the structure shall be evaluated for the following load combination:

$$1.0D + Lexp + 1.0E$$

Alternative load combinations, if used, shall be adequately substantiated by the Engineer of Record.

Demands for ductile actions shall be taken not less than the mean value obtained from the NLRH. Demands for low-ductility actions (e.g., axial and shear response of columns and shear response of walls) shall consider the dispersion of the values obtained from the NLRH.

Commentary: In typical cases the demand for low-ductility actions can be defined as the mean plus one standard deviation of the values obtained from the NLRH. Procedures for selecting and scaling ground motions, and for defining the demands for low-ductility actions, should be defined and agreed to early in the review process.

Acceptance Criteria: Calculated force and deformation demands on all elements required to resist lateral and gravityloads shall be checked to ensure they do not exceed element force and deformation capacities. This requirement applies to those elements designated as part of the lateral-force-resisting system in the code-level analysis (Section 4.1), as well as those elements not designated as part of the lateral-force-resisting system in the code-level analysis but deemed to be materially affected.

Commentary: Elements not designated as part of the lateral-force-resisting system in the code-level analysis (gravity systems) may be subjected to substantial deformations and forces, including axial forces accumulated over many stories, as they interact with the primary lateral-force-resisting system. Non-structural elements such as cladding are evaluated according to code requirements. This bulletin does not require checking non-structural elements at the MCE level.

The Engineer of Record shall identify the structural elements or actions that are designed for nonlinear seismic response. All other elements and actions shall be demonstrated by analysis to remain essentially elastic.

Commentary: Essentially elastic response may be assumed for elements when force demands are less than design strengths. Design strengths for non-ductile behaviors (e.g., shear and compression) of these essentially elastic elements are defined as nominal strengths, based on specified material properties, multiplied by strength reduction factors as prescribed in the SFBC. Design strengths for ductile behaviors of these essentially elastic elements are defined as nominal strengths, based on expected material properties, multiplied by ϕ=1.0. Alternative approaches to demonstrating essentially elastic response may be acceptable where appropriately substantiated by the Engineer of Record.

For structural elements or actions that are designed for nonlinear seismic response, the Engineer of Record shall evaluate the adequacy of individual elements and their connections to withstand the deformation demands. Force and deformation capacities shall be based on applicable documents or representative test results, or shall be substantiated by analyses using expected material properties.

The average result, over the NLRH analyses, of peak story drift ratio shall not exceed 0.03 for any story.

All procedures and values shall be included in the Seismic Design Criteria and are subject to review by the Structural Design Reviewer and approval by the Director.

Originally signed by:

Isam Hasenin, P.E., C.B.O.,
Director
Department of Building Inspection

Approved by the Building Inspection Commission on March 19, 2008

OFFICE OF THE MAYOR
SAN FRANCISCO

EDWIN M. LEE
MAYOR

September 9, 2016

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Feinstein:

Thank you for your letter regarding seismic safety of high-rise buildings in San Francisco. As you know, earthquake resilience has been a key priority of mine stretching back to my days as DPW Director and City Administrator.

You asked for more information about the Millennium Tower at 301 Mission Street. Specifically, the building permit approval process for this building commenced in 2002 under the 2001 California Building Code, and the Department of Building Inspection initiated a peer review process from a panel of experts, as they typically do for high-rise construction that employs a design-based approach. 301 Mission Street went through that process and was designed and constructed to the approved plans, building codes and standards in place at the time. That said, the Department of Building Inspection has suggested the Homeowners' Association make corrective actions to improve the joints, plumbing, and other operational parts of the building.

More broadly, you also expressed concern about the potential number of buildings in San Francisco that are not anchored to bedrock. Modern high rises typically employ a performance-based design to ensure that the building meets the structural requirements of the current code. To this end, the Department of Building Inspection has already enhanced and clarified their process for having skyscrapers peer-reviewed by a panel of experts prior to approval to begin construction.

As all Mayors of San Francisco know so deeply, earthquake preparedness is always a first priority, and we must strive for continual improvement. In my time as City Administrator and Mayor, I led and initiated my 30-year Earthquake Safety Implementation Plan (ESIP), a multi-point program to evaluate and retrofit seismically vulnerable buildings and to pass new laws to make our City more resilient. I'm proud of the progress my Administration has made thus far which includes the retrofit of more than 5,000 dangerous soft story buildings by 2020, evaluating all of the City's private schools for earthquake risks by 2017 and tougher regulations requiring façade inspections of every building in San Francisco more than five stories in height. We have also successfully passed $812 million in Earthquake Safety & Emergency Response general obligation bonds.

To address the specific issue in your letter about high-rise resiliency, I am requesting the Department of Building Inspection's Code Advisory Structural Subcommittee immediately

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SAN FRANCISCO, CALIFORNIA 94102-4681
TELEPHONE: (415) 554-6141

review ground failure mitigation measures for buildings in geologically hazardous areas and make recommendations to the Building Inspection Commission.

As a further result of your writing, I have directed the Department of Building Inspection and the Office of Resilience & Recovery to amend our 30-year ESIP plan to expedite the safety of new and existing high-rise buildings. Specifically, I have ordered immediate inclusion into this year's work plan of:

- Reviewing ground failure mitigation measures for buildings in geologically hazardous areas (ESIP Task B.6.c)
- Mandatory earthquake evaluations at the time of sale (ESIP Tasks A.2.a and B.2.c)
- Mandatory evaluation and retrofit of buildings with more than 300 occupants (ESIP Task C.2.c)
- Mandatory evaluation and retrofit of other low performing buildings (ESIP Task C.2.e)

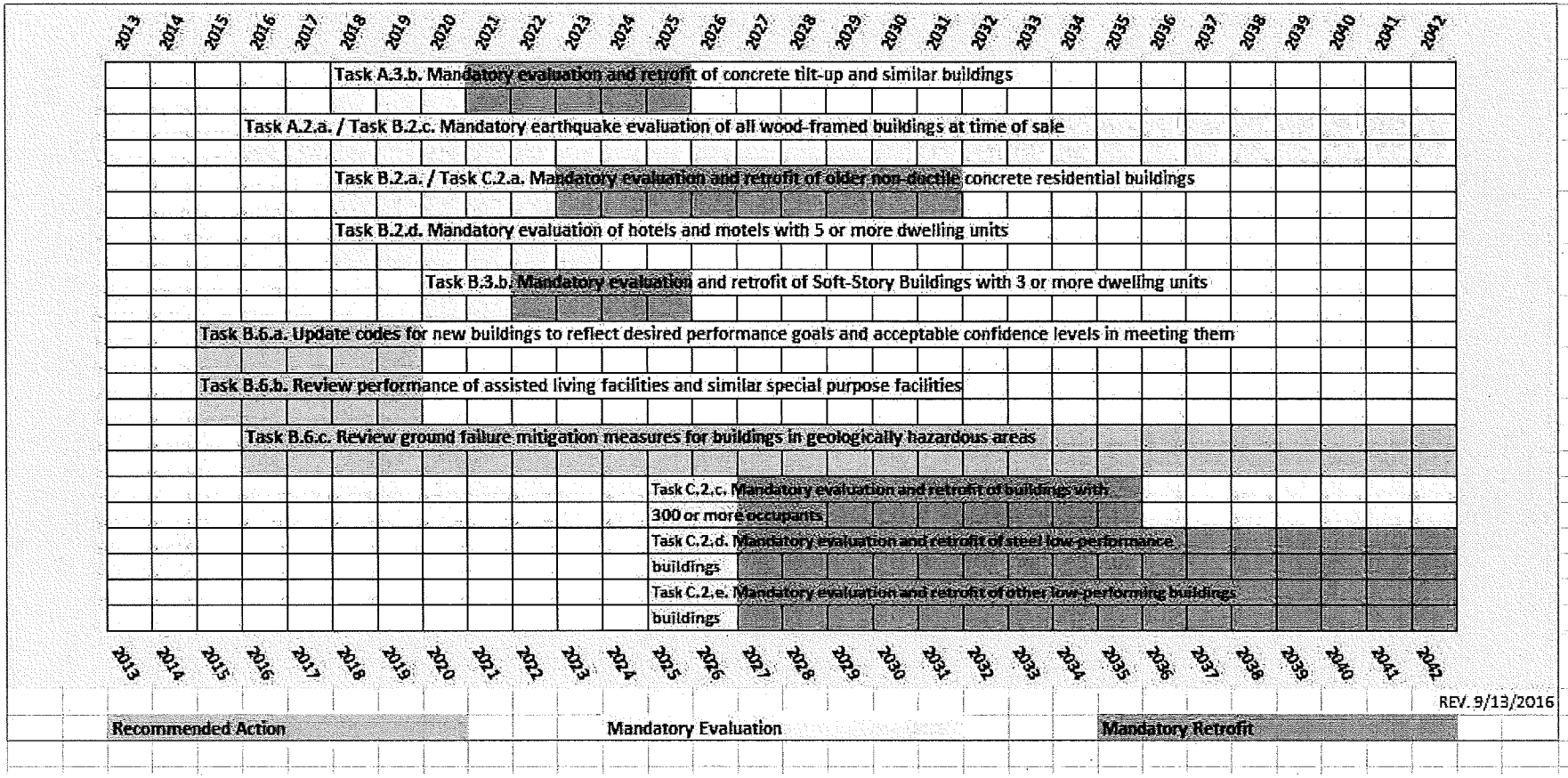
Previously, several of these tasks were spread over the next 25 years. As a result of your letter, and my direction to staff, we're starting this work right away.

I appreciate your attention to this issue, and I always welcome your continued guidance on protecting San Francisco.

Sincerely,

Edwin M. Lee
Mayor, City & County of San Francisco

2016-2017 Earthquake Safety Implementation Committee (ESIC) Tasks



From: Otellini, Patrick (ADM)
Sent: Wednesday, September 21, 2016 11:16 AM
To: Peskin, Aaron (BOS); Angulo, Sunny (BOS)
Cc: Major, Erica (BOS); Calvillo, Angela (BOS); Elliott, Jason (MYR); Elliott, Nicole (MYR); Kelly, Naomi (ADM)
Subject: RE: Letter of Inquiry in advance of Thursday's hearing
Attachments: 160909 MEL Feinstein Letter.pdf; 2016.2017 ESIC Tasks.pdf

Good morning Supervisor Peskin,

In reference to your letter and in anticipation of tomorrow's hearing I am happy to provide this response to your request regarding the building located at 301 Mission Street. Our office has not issued any official responses in the form of letters, emails, memorandums or bulletins in reference to this project. We provided guidance to the Mayor's office in responding to Senator Feinstein's letter by advising on the following items from the City's 30 Year Earthquake Safety Implementation Program that could be accelerated and added to our current policy agenda for the coming year:

- Reviewing ground failure mitigation measures for buildings in geologically hazardous areas (ESIP Task B.6.c)
  – This task is already underway by the Department of Building Inspection and they will be directing their Structural Subcommittee of the Code Advisory Committee to review this issue and make recommendations to the Building Inspection Commission per the Mayor's letter to Senator Feinstein (Mayor's letter attached).

- Mandatory earthquake evaluations at the time of sale (ESIP Tasks A.2.a and B.2.c)
- Mandatory evaluation and retrofit of buildings with more than 300 occupants (ESIP Task C.2.c)
- Mandatory evaluation and retrofit of other low performing buildings (ESIP Task C.2.e)
  – These three existing tasks from the City's 30 Year ESIP plan have been included in this year's legislative work plan. The second attached file shows the existing identified policy initiatives from the larger 30 year timeline that we are actively working on now through the Earthquake Safety Implementation Committee.

Your letter also mentioned the work I do as the City's Chief Resilience Officer. In addition to overseeing the City's 30 year ESIP plan, our office also recently released Resilient San Francisco – Stogner Today, Stronger Tomorrow which is a strategy on building greater resilience in San Francisco and includes much of our work on earthquake safety but also brings the issues of climate change and sea level rise and other hazards that an uncertain future will most certainly bring to our City. I look forward to the opportunity to brief you and your staff on this strategy as well as review the status and development of our current programs such as the Mandatory Soft Story Retrofit Program, the Private School Earthquake Evaluation Program and our new Façade Maintenance Program.

Thank you and please don't hesitate to contact myself or my staff with any additional questions.

Best,

Patrick Otellini
Chief Resilience Officer
Director, Office of Resilience and Recovery
City and County of San Francisco
Office of the City Administrator

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City Hall, Room 362
San Francisco, CA 94102
Direct: (415) 554-5404 | E-Mail: Patrick.otellini@sfgov.org
www.sfgov.org/orr

From: Peskin, Aaron (BOS)
Sent: Tuesday, September 20, 2016 7:09 PM
To: Otellini, Patrick (ADM) <patrick.otellini@sfgov.org>; Elliott, Nicole (MYR) <nicole.elliott@sfgov.org>
Cc: Calvillo, Angela (BOS) <angela.calvillo@sfgov.org>; Major, Erica (BOS) <erica.major@sfgov.org>; Angulo, Sunny (BOS) <sunny.angulo@sfgov.org>
Subject: Letter of Inquiry in advance of Thursday's hearing

Mr. Otellini and Ms. Elliott:

Attached, please find a letter of inquiry in the furtherance of this Thursday's hearing objectives. Please transmit responses to me and my staff, Sunny Angulo, before Thursday.
I look forward to your response.

Best,

Aaron

****
Aaron Peskin
District 3 Supervisor
415.554.7450 – VOICE
Aaron.Peskin@sfgov.org

From: Elliott, Nicole (MYR)
Sent: Wednesday, September 21, 2016 11:20 AM
To: Peskin, Aaron (BOS); Otellini, Patrick (ADM)
Cc: Calvillo, Angela (BOS); Major, Erica (BOS); Angulo, Sunny (BOS)
Subject: RE: Letter of Inquiry in advance of Thursday's hearing
Attachments: 8.10.16 Feinstein.pdf; 9.9.16 Lee.pdf; 9.14.16 Feinstein.pdf

Good afternoon Supervisor Peskin,

Please find the following letters attached:

1) August 10th letter from Senator Feinstein to Mayor Lee
2) September 9th letter from Mayor Lee to Senator Feinstein
3) September 14th letter from Senator Feinstein to Mayor Lee

Please feel free to be in touch if you have questions related to these letters.

Best,
Nicole

Nicole A. Elliott
Director, Legislative & Government Affairs
Office of Mayor Edwin M. Lee
(415) 554-7940

From: Peskin, Aaron (BOS)
Sent: Tuesday, September 20, 2016 7:09 PM
To: Otellini, Patrick (ADM) <patrick.otellini@sfgov.org>; Elliott, Nicole (MYR) <nicole.elliott@sfgov.org>
Cc: Calvillo, Angela (BOS) <angela.calvillo@sfgov.org>; Major, Erica (BOS) <erica.major@sfgov.org>; Angulo, Sunny (BOS) <sunny.angulo@sfgov.org>
Subject: Letter of Inquiry in advance of Thursday's hearing

Mr. Otellini and Ms. Elliott:

Attached, please find a letter of inquiry in the furtherance of this Thursday's hearing objectives. Please transmit responses to me and my staff, Sunny Angulo, before Thursday.
I look forward to your response.

Best,

Aaron

****

Aaron Peskin
District 3 Supervisor
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Aaron.Peskin@sfgov.org

DIANNE FEINSTEIN
CALIFORNIA

SELECT COMMITTEE ON INTELLIGENCE - VICE CHAIRMAN
COMMITTEE ON APPROPRIATIONS
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION

United States Senate
WASHINGTON, DC 20510-0504
http://feinstein.senate.gov

August 10, 2016

The Honorable Edwin Lee
Mayor
City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA, 94102

Dear Mayor Lee:

I have been reading with increasing alarm the recent stories about the Millennium Tower and its reported sinking and tilting. As you know, I have had great concern, generally, with the recent residential and commercial density increase in San Francisco, as well as concern about the City's preparedness for a large scale seismic event. Now, to add to that mix of concern, I am left wondering if the City's building code played any role in allowing this sinking and tilting to happen, and whether or not other approved buildings are suffering the same fate.

The fact most alarming to me is that the Millennium's engineers constructed the building only over a thick concrete slab, supported by piles roughly 80 feet into dense sand **as opposed to drilling piles into the bedrock 200 feet down**. While I was always under the impression that buildings needed to be anchored to bedrock, I have learned that there are numerous buildings throughout San Francisco (e.g. the Embarcadero buildings, AT&T Park, Moscone Center) that have used a similar type of foundation.

I met recently with Patrick Otellini, your Chief Resiliency Officer, who spoke at great length about the work you are leading to keep the City safe in the event of a large seismic event. Thank you for that work. However, I believe answering the

question of the seismic stability of these new high buildings, other such buildings currently in the construction or review phase, and whether or not they can sufficiently survive a large scale earthquake without being anchored into bedrock should become a top priority for you.

I suggest reaching out to leaders in the world of academia to solicit their guidance and input, as opposed to current geotechnical engineers currently practicing in the field in order to avoid any appearance of conflict of interest. Consider forming a "Mayoral Seismic Safety Advisory Committee," or other panel of independent experts who can advise you and the Department of Building Inspection thoroughly and independently. If I can be of any help to you in this endeavor, please know I am at your service.

Sincerely,

Dianne Feinstein
United States Senator

OFFICE OF THE MAYOR
SAN FRANCISCO

EDWIN M. LEE
MAYOR

September 9, 2016

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Feinstein:

Thank you for your letter regarding seismic safety of high-rise buildings in San Francisco. As you know, earthquake resilience has been a key priority of mine stretching back to my days as DPW Director and City Administrator.

You asked for more information about the Millennium Tower at 301 Mission Street. Specifically, the building permit approval process for this building commenced in 2002 under the 2001 California Building Code, and the Department of Building Inspection initiated a peer review process from a panel of experts, as they typically do for high-rise construction that employs a design-based approach. 301 Mission Street went through that process and was designed and constructed to the approved plans, building codes and standards in place at the time. That said, the Department of Building Inspection has suggested the Homeowners' Association make corrective actions to improve the joints, plumbing, and other operational parts of the building.

More broadly, you also expressed concern about the potential number of buildings in San Francisco that are not anchored to bedrock. Modern high rises typically employ a performance-based design to ensure that the building meets the structural requirements of the current code. To this end, the Department of Building Inspection has already enhanced and clarified their process for having skyscrapers peer-reviewed by a panel of experts prior to approval to begin construction.

As all Mayors of San Francisco know so deeply, earthquake preparedness is always a first priority, and we must strive for continual improvement. In my time as City Administrator and Mayor, I led and initiated my 30-year Earthquake Safety Implementation Plan (ESIP), a multi-point program to evaluate and retrofit seismically vulnerable buildings and to pass new laws to make our City more resilient. I'm proud of the progress my Administration has made thus far which includes the retrofit of more than 5,000 dangerous soft story buildings by 2020, evaluating all of the City's private schools for earthquake risks by 2017 and tougher regulations requiring façade inspections of every building in San Francisco more than five stories in height. We have also successfully passed $812 million in Earthquake Safety & Emergency Response general obligation bonds.

To address the specific issue in your letter about high-rise resiliency, I am requesting the Department of Building Inspection's Code Advisory Structural Subcommittee immediately

1 DR. CARLTON B. GOODLETT PLACE, ROOM 200
SAN FRANCISCO, CALIFORNIA 94102-4681
TELEPHONE: (415) 554-6141

review ground failure mitigation measures for buildings in geologically hazardous areas and make recommendations to the Building Inspection Commission.

As a further result of your writing, I have directed the Department of Building Inspection and the Office of Resilience & Recovery to amend our 30-year ESIP plan to expedite the safety of new and existing high-rise buildings. Specifically, I have ordered immediate inclusion into this year's work plan of:

- Reviewing ground failure mitigation measures for buildings in geologically hazardous areas (ESIP Task B.6.c)
- Mandatory earthquake evaluations at the time of sale (ESIP Tasks A.2.a and B.2.c)
- Mandatory evaluation and retrofit of buildings with more than 300 occupants (ESIP Task C.2.c)
- Mandatory evaluation and retrofit of other low performing buildings (ESIP Task C.2.e)

Previously, several of these tasks were spread over the next 25 years. As a result of your letter, and my direction to staff, we're starting this work right away.

I appreciate your attention to this issue, and I always welcome your continued guidance on protecting San Francisco.

Sincerely,

Edwin M. Lee
Mayor, City & County of San Francisco

DIANNE FEINSTEIN
CALIFORNIA

SELECT COMMITTEE ON INTELLIGENCE - VICE CHAIRMAN
COMMITTEE ON APPROPRIATIONS
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION

United States Senate

WASHINGTON, DC 20510-0504
http://feinstein.senate.gov

September 14, 2016

Dear Mayor Lee:

Thank you for your September 9, 2016 response to my August 10, 2016 letter to you raising concerns about the reported "sinking and tilting" of the Millennium Tower. I am very encouraged by your response detailing your commitment to moving forward action items within the City's Earthquake Safety Implementation Plan for high rise buildings. Your letter makes clear you remain steadfast, as you have throughout your public service career, to ensuring the seismic safety of San Francisco – thank you!

Specifically to the Millennium Tower, I also appreciate your response summarizing the building permit approval process prior to the construction of the Tower. Moving forward, what role will the City play in addressing the continued "sinking and tilting" of the building? What role can you play as Mayor to ensure that all impacted City Departments stand at the ready to assist the developer, the homeowner's association, and other impacted parties, as they formulate a plan to fix the problem? Most importantly, what can you do to ensure the residents of San Francisco that its City government is on top of the issue?

As always, I am more than pleased to offer any assistance I can to the City of San Francisco.

Sincerely,

The Honorable Edwin Lee
Mayor
City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA, 94102

Member, Board of Supervisors
District 3

City and County of San Francisco

AARON PESKIN

September 20, 2016

Patrick Otellini, Chief Resilience Officer
Office of the City Administrator, Room 362

Nicole Elliott, Director of Legislative & Government Affairs
Office of Mayor Edwin M. Lee, Room 200

Mr. Otellini and Ms. Elliott:

Thank you for making yourself available to participate in the hearing this Thursday, September 22, 2016 at 10:00am at the Government Audit and Oversight Committee (GAO).

I understand that you are the world's first Chief Resilience Officer, and I am eager to know more about your office and the specific work you have undertaken to address resiliency and recovery efforts here in San Francisco. I also understand that you have considerable experience after spending a decade in the private sector dealing with building code compliance issues, so I appreciate the guidance you have been giving the City on these issues since assuming your post.

The GAO committee members will be using the recent revelations around 301 Mission Street as a case study in the first of a series of hearings on buildings standards in seismic zones, and I am requesting your assistance in providing any and all letters, emails, memorandums or bulletins that you have submitted to city staff or drafted for the Mayor or any of his staff in your role as the City's resident expert as to the condition and seismic safety and sustainability of the 301 Mission Street project.

Ms. Elliott, the September 13, 2016 *SF Magazine* article "Millennium Tower Goes on Trial" includes a letter from Mayor Lee to Senator Dianne Feinstein dated September 9, 2016. Please provide any correspondence that triggered Mayor Lee's official response on behalf of the City.

Thank you both in advance for your help in facilitating this hearing by transmitting these documents in advance of this Thursday. Please feel free to contact my staff, Sunny Angulo, with further questions.

Best,

Aaron Peskin

City Hall • 1 Dr. Carlton B. Goodlett Place • Room 244 • San Francisco, California 94102-4689 • (415) 554-7450
Fax (415) 554 - 7454 • TDD/TTY (415) 554-5227 • E-mail: aaron.peskin@sfgov.org

Member, Board of Supervisors
District 3

AARON PESKIN

City and County of San Francisco

September 20, 2016

Tom C. Hui
Department of Building Inspection, Director
1660 Mission Street, Sixth Floor
San Francisco, CA 94103

Dear Director Hui:

Thank you for working to prepare for this Thursday's Government Audit and Oversight hearing. In addition to the questions we transmitted on September 12, 2016, please be advised of the following questions, as well:

- What other projects have been built on friction piles in the city? Out of those projects, which friction piles go into clay and which go into sand? Please provide a list for the hearing and indicate whether the buildings are constructed out of steel or concrete.
- Please provide an overview of the dewatering and drilling preparation work that happened at 301 Mission Street prior to 2010.
- How many permit expeditors were involved with the 301 Mission project over the course of its vetting and approval process?
- How many inspectors does the Department of Building Inspection (DBI) employ and how many are necessary to evaluate projects over 120 feet? How many inspectors were assigned to evaluate the seismic safety and structural soundness of 301 Mission Street?
- What is the relationship of Consolidation Engineering Laboratories (CEL) to the 301 Mission Street project and any other projects since? What about Construction Testing Service (CTS) Inspection Company?
- Who signs off on Requests for Information from engineers within DBI typically? Who signed off on any Requests for Information on the 301 Mission Street project, as well as any inspection punch lists?
- Has the successful performance of tower buildings on pads in a seismic zone (particularly on poor quality soil deposits) been proven?

Thank you for your attention to these inquiries, and I look forward to the September 22 hearing.

Aaron Peskin

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Member, Board of Supervisors
District 3

City and County of San Francisco

AARON PESKIN

September 12, 2016

Tom C. Hui
Department of Building Inspection, Director
1660 Mission Street, Sixth Floor
San Francisco, CA 94103
CC: Angela Calvillo; William Strawn; Lily Madjus

Dear Director Hui:

Thank you for copying me on the public records request regarding 301 Mission Street. After review of the documents, I have asked the Clerk of the Board to transmit this letter of inquiry in order to obtain further information and to give the Department of Building Inspection official notice that I am convening a special meeting of the Government Audit and Oversight Committee to hear File #160975 on Thursday, September 22, 2016 at 10:00am.

I request the following individuals to be present: William Strawn, Daniel Lowrey, Gary Ho and former staff and Acting Director Amy Lee.

The documents responsive to the NBC Investigative Unit's disclosure request seem woefully incomplete. Please identify what documents were not turned over and why.

Additional questions in advance of the September 22nd hearing:

- In 2005, geotechnical engineers, Treadwell & Rollo wrote that the project's structural engineer would determine the depth of the piles, yet there are no documents identifying this review or approval process. Please provide this written determination.
- The 2006 correspondence between the Department of Building Inspection and the lead at DeSimone Consulting Engineers focuses primarily on DBI concerns with the proposed BauGrid® reinforcement system installed at 301 Mission. All but one of of these 22 pages of documents deal with these prefabricated joints, which received review and approval by the structural review panel consisting of Mr. Hardip Pannu and Professor Jack Moehle. Oddly, the subject of the structural foundation was *not* covered in the correspondence, leading me to inquire whether or not there was peer review of this critical aspect of the project.
- What is the Department of Building Inspection's current policy on performance-based peer review of structural foundations for projects over 120 ft? Has this policy always been in place, or did it come about at a certain time? Why was it changed or created?
- Why does the Department of Building Inspection have an inquiry in 2009 regarding the larger than expected settlements of the high-rise and mid-rise buildings at 301 Mission, but no response included in its disclosure? Please provide the response from DeSimone Consulting Engineers.
- The DeSimone Consulting Engineers letter from February 2009 states that they *do not* expect differential settlement to occur. What was the Department's response to this

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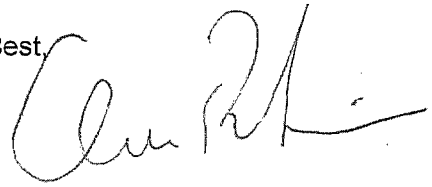
assertion and was this the understanding when the Certificates of Occupancy were issued, that no differentiated settlement had been noticed to any oversight agency?

- In 2008 negotiations appear to have been ongoing to expedite life safety inspections in order to obtain a temporary occupancy for the 60 story residential high rise at 301 Mission. On what basis did the city feel it should expedite the issuance of temporary occupancy permits? Who was the permit expediter for the 301 Mission project?
- Why does the City have an unsigned report put together by an independent structural engineer, with no responses or follow-up from Department officials? The Draft Foundation Settlement investigation by Ronald Hamburger identifies a number of issues, including aggressive dewatering during construction (even *before* additional dewatering as a result of the Transbay project), as well as projected sinkage over the anticipated norm.
- As stated prior, the DeSimone Consulting Engineers 2009 report stipulated to no differential settlement but that marginal shift can be expected. Yet the Hamburger report later identified foundational cracking as a serious concern. Please explain this information and assessment gap. Whose responsibility is it to notify the City when new verifiable concerns are flagged or found to be substantive? Did the Hamburger report cause the City concern and are there any additional geotechnical structural reviews that have additional information warranting analysis that we have not been made aware of?
- According to the Hamburger report, the pile drives were built into mud clay *not* dense sand. Does this sediment create enough "friction" for friction piles to maintain their depth and stability and not sink? Was this evaluated before approval?
- Please also submit a complete list in advance of the hearing of projects within the waterfront, Transbay and Rincon Hill neighborhood plan areas that have opted to drill down to bedrock and those that have not, along with their height and whether they utilized performance-based design with peer review.
- Please provide a comparison of the structural analysis and approval standards required in Section 1701 of the San Francisco Building Code, the California Uniform Building Code and the federal requirements, including whether peer review of project foundations is required or encouraged as a best practice.
- What are the implications of the existing aggravated lean at 301 Mission Street on the seismic sustainability of the adjacent Transbay project and what steps is the City undertaking to ensure we protect our investment in this public project, given the new information?
- How many Certificates of Occupancy has the Department of Building Inspection issued since 301 Mission Street in the Transbay and Rincon neighborhoods?
- What steps is the Department undertaking to remediate the issues that have been uncovered at 301 Mission and the potential projects in the surrounding neighborhood? What recommendations can you offer that we must pursue immediately?

Please work with my staff to transmit this information in advance of the September 22 hearing and be prepared to discuss it as a part of our collective efforts to ensure the appropriate standards for our city-approved projects moving forward.

Thank you for your cooperation.

Best,



Aaron Peskin

Millennium Litigation Group
930 Montgomery Street, Suite 600
San Francisco, CA 94133
Tel: (415) 433-3475
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www.millenniumlitigation.com

Re: Item 160975, Special Meeting September 22, Government Audit and Oversight Committee

We represent the homeowners of the Millennium Tower in a Class Action - Superior Court Of The State of California City and County Of San Francisco, case number: Ct CGC -16-553574. For more information you may see www.Millenniumlitigation.com

We thank the Government Audit and Oversight Committee, and particularly Supervisor Peskin, for the good work they are doing to probe the background of 301 Mission, and better understand the challenges of erecting high-rise, and skyscraper structures on precarious soil conditions in San Francisco. Their concerns to establish whether there was political pressure, or corruption involved in the approvals is commendable. While it is very important to understand and learn from the history of this building, and what may have gone wrong along the way, it is far, far more important to fully understand what public safety issues are posed by its present condition, and how it may further be detrimentally impacted by future causes.

As the various stakeholders position their interests to pursue litigation, they have each retained experts to opine on what the causes of the sinking and tilting may be. Each party and their experts, will for obvious reasons, spin, and nuance the opinions to advance their ultimate agenda, laying blame at the feet of others. Additionally, the various experts' opinions will not be made known until years from now when depositions will be taken before trial. During the course of litigation, the investigation results and conclusions, which are considered attorney work product, will be shielded from public scrutiny, and even from the homeowners by their own HOA experts. The various stakeholders have financial interests in assuaging the homeowners and the city, with opinions that the building is currently safe. However, such opinions must be viewed with suspicion. There currently is no independent, unbiased review of the life safety condition of Millennium Tower, and it is unlikely with pending complex litigation that there will be any such reliable independent, unbiased opinion in the near future.

It is without dispute that the Millennium Tower skyscraper currently stands in a compromised state, as it continues to sink and lean. There is very serious life safety concern by all, for the homeowners, the other buildings in the vicinity (including the Transbay Terminal), and the citizens of San Francisco. The failure of the Millennium Tower could potentially cause catastrophic damage to property, and life, unlike anything this city has previously experienced.

There are allegations that the foundation was improperly designed, and/or has been adversely impacted by changes in the water table brought about by construction activities. There has been no independent investigation to date, to determine how much of a life safety hazard this massive skyscraper is currently posing, or may cause in the future. Many factors may have the potential to turn this magnificent structure, the crown jewel of the Transbay Terminal, into an instrument of mass destruction. Earthquakes, changes in the water table, either man made or through natural causes such as the rising sea level, or a prolonged drought in California, are just a few obvious factors to investigate and consider. This building may be totally safe for a long time in the future, or may be a ticking time bomb, resulting in a catastrophe of epic proportions. It is critical that the City and County of San Francisco act immediately to protect the homeowners, and the public. A complete independent investigation into the current and future public safety condition of the building must be implemented immediately.

The appropriate agencies of the San Francisco government, who have the power to do so, should immediately implement a full investigation by well qualified, unbiased experts, under their public supervision, who owe no loyalty to any of the stakeholders in this conflict. Such work product and findings should be transparent and made public to avoid any bias and maintain integrity.

We hope and trust that the Honorable Mayor, Board of Supervisors, Senator Diane Feinstein who has expressed interest, and appropriate city officials, will agree that such an investigation is urgently needed, and will take immediate steps to bring it about.

Sincerely,

Millennium Litigation Group

www.millinniumlitigation.com
Mark M. Garay, Esq.
Law Offices Of Mark M. Garay

SFPUC Batch Discharge Program

Tomio Takeshita

Manager of the SFPUC Pretreatment Program

January 12, 2017

160975

SUBMITTED PRESENTATION IN COMMITTEE

Regulatory Requirement

- Environmental Protection Agency regulations require San Francisco to have a Pretreatment Program

- San Francisco Public Works Code - Article 4.1 (Sewer Use Ordinance) requires that we regulate all discharges into the sewage system

San Francisco Public Works Code: Article 4.1

- Article 4.1 approved in 1992.
- Purpose of Article 4.1 and Pretreatment Program:
  - Protect human health, the environment, the sewage system, and wastewater treatment plants
  - Prevent the discharge of pollutants into sewage system that would:
    - obstruct or damage the system;
    - interfere with, inhibit or disrupt treatment facilities;
    - harm or threaten to harm human health or the environment; or
    - contribute to violations of regulatory requirements imposed on the City.
- Dischargers shall pay sewer service charges.

Batch Wastewater Discharge Permit Program

- The purpose of the permit program is to protect our wastewater infrastructure by regulating the quality and quantity of dischargers.
- All periodic discharges to the sewage system must obtain a Batch Wastewater Discharge Permit.
- Federal regulatory requirement of EPA that SFPUC regulate periodic discharges.

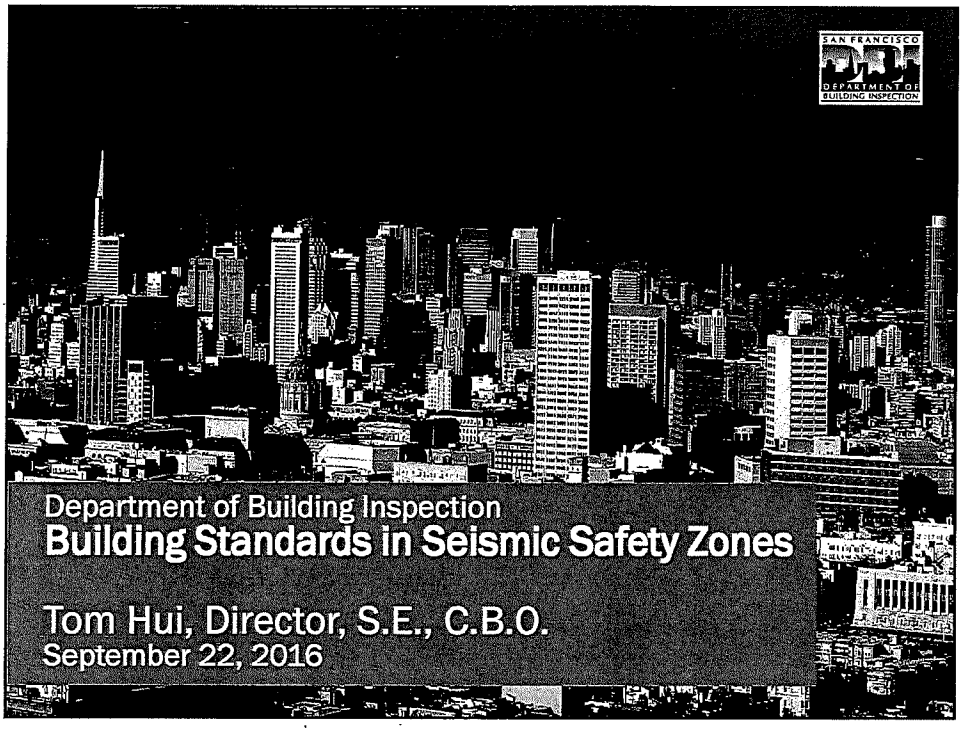
Who Must Comply

- Any activity that generates periodic discharges to the sewage system:
  - Construction sites;
  - Well water testing and pumping;
  - Auxiliary water supply testing; and
  - Any other activity that generates non-routine discharges.

SFPUC Batch Discharge Permit Requirements

- May require discharger to install water meters to report quantity discharged.
- May require discharger to sample water and submit water quality reports.
- May require the removal of pollutants prior to discharge; pretreatment.
- Dischargers shall pay sewer service charges.

Questions?



Role of DBI in Construction Process

- Review plans and designs developed by architects and engineers hired by project sponsor to verify compliance with code in force at time plans are submitted for review.
- Conduct site inspections to verify that construction is in accordance with approved plans.
- Address code compliance issues raised through complaints submitted by San Francisco residents.

301 Mission - General Project Information

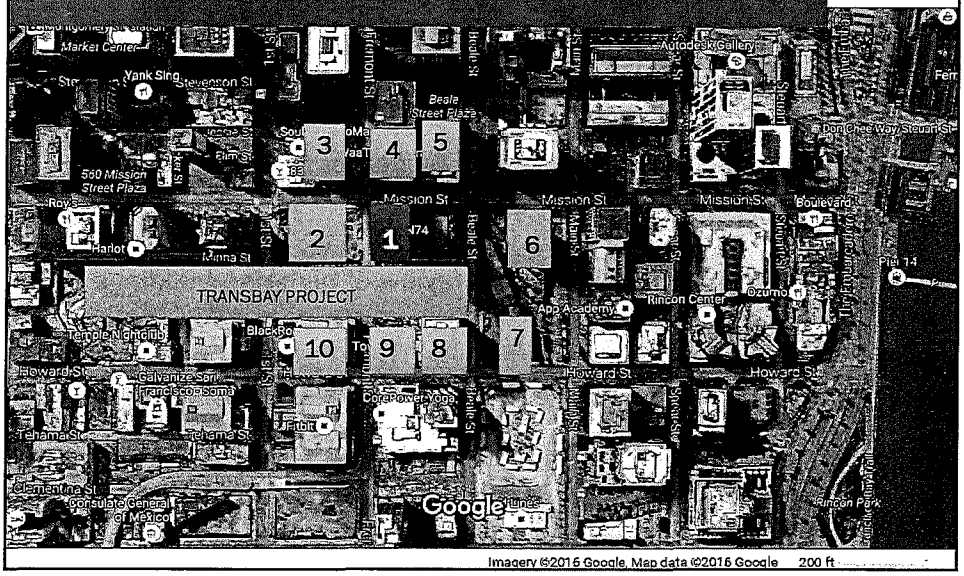
Permit Application	200210239696
Project Description	Erect 58-story 420 residential units
Type of Construction	Type I (Concrete)
Project Valuation	$175M
Foundation Type	Mat slab with 900+ 14 inch square piles driven down 66-91 feet
Building Code In Effect	2001 CA Building Code

301 Mission Permit Issuance & CFC Timeline

Permit Filed	October 2002
Permit Issued	September 2005
TCOs	March 19/May 8, 2009
CFC Issued	August 2009

- DBI issues a TCO only after verifying that life safety components are installed in accordance with plans and are functional (plumbing, electrical, building, and fire).
- DBI inspected project site regularly from Jan 2006 – Aug 2009 and found no signs of settlement.

Map of Surrounding Buildings



Building Foundation Types

Number	Address	Stories	Sub	Foundation	Building Permit Issuance	Type of Construction
1	301 Mission Residential Tower	58	1	Tower: Mat w/ 14 insq piles 66ft-91ft		Concrete
	Retail	12	5	Retail: Mat w/o piles	2006	
2	415 Mission	61	3	Bedrock	2013	Concrete
3	50 Fremont	42	1	Piles: 49 feet long	1981	Steel
4	350 Mission	30	4	Mat w/ no piles	2012	Concrete
5	50 Beale	23	1	Piles: 55 feet long	1967	Steel
6	201 Mission	30	1	Piles: 95 feet piles	1979	Steel
7	250 Howard	45	2	4 to 6'0 pier into bedrock	Currently in review: foundation permit issued 2015	Concrete
8	199 Fremont	27	3	Matt no piles	2001	Steel
9	181 Fremont	56	5	5'0 pier into bedrock	2013	Steel
10	400 Howard	10	2	43 feet piles	2006	Concrete

Current Policies for Tall Buildings

- Use of Administrative Bulletins (adopted in March 8, 2008) for Tall Buildings:
  1. **AB 082** – Guidelines and Procedures for Structural Design Review and
  2. **AB 083** – Requirements & Guidelines for the Seismic Design of New Tall Buildings Using Non-Prescriptive Seismic Design Procedures.
- Mandatory structural design review of high-rise buildings over 240 ft. in height
- Any performance based design building structure will require AB 082 review.
- These ABs have been used as a model by other jurisdictions

Status

1. DBI is investigating reports of settlement at 301 Mission.
2. DBI has requested a final, signed copy of the 2014 Foundation Settlement Investigation report and a copy of the 2016 updated report by Simpson Gumpertz & Heger on behalf of project sponsor.
3. DBI has issued a request to the building owners and its engineering and technical teams to keep DBI informed specifically about any observed effects on the building's life safety systems that may be connected to the settlement, and to provide us with an updated engineering report by the end of September.

160975
11/17/2016
Gov Meeting

Hello Supervisors and others:

My name is Janet Campbell, I am an architect with an MBA in Real Estate, and have 38 years' experience in Architecture and Real Estate Development.

I came here today to help shed some light on what I have seen over the past 17 years of working to have clients' projects approved within the Planning, Building and other departments.

In 49 states, the blurring of lines of responsibility to produce plans is not allowed. Architects, Structural Engineers and Contractors are not allowed to practice each others' professions. They are to use a standard of due care particular to their professions for the good of the life, safety and welfare of the public, including financial, with regards to those who hold loans on such properties.

And in of all places, earthquake country, those lines have been blurred.

Further, while the license laws are clear as to who can and cannot practice architecture and engineering, time and again, we see "Paper napkin-like" drawings allowed to be taken in against License Laws and then approved - on commercial spaces or residential properties with multiple units on them.

Against the law. And in multiple Departments.

Why and How does this happen?

We see time and again glad-handing "expediters" who discuss issues of properties with Planning, Building and other Department personnel, representing clients - against license laws.

We see restaurants built out without plans and the appropriate permits. And contractors "crowing" in emails about how they "got 'er done".

The affect has been brutal on a number of my clients. Because of illegal units, at least two of my clients are stuck in a round hell of having based buying prices through clueless realtors with mortgages on the income from those units.

In one case the illegal units were approved by Planning against their codes and bought later by my clients, having now been to Director's Hearings and now with a lien against their property, and unable to sell or refinance.

Another client found herself represented by an expediter, who also represented the landlord. She signed a commercial lease prior to hiring me, and when I got into the project, found no way to accommodate a necessary second exit. She lost her investment, around $250,000.

I have prevented a number of other clients from similar mistakes - IF they get to me soon enough, before the realtors, landlords and expediters get to them.

Other clients decide to steal architect's drawings, to use expediters. Recently, one walked off with much of 7 months' work, and is using it, to employ expediters to "get around the rules" and put things through Planning and Building much faster.

Another recently had a contractor who acts as an "expediter machine" with employees to take my drawings in, sign them as if he was myself, until an honest plan reviewer alerted me. Building tried to get me to take a payment from the expediter, then tried to get the City Attorney to prosecute him for fraud, and the City Attorney refused.

Even in Planning, there is a Design Team where one member told me a couple of years ago, "You sit down, Shut Up, We Design It and you detail it after it gets to Building."

They are not architects nor the architect-of-record, with certain duties and responsibilities, and do not understand the import of what they are doing, at the risk of the clients and those holding mortgages.

Despite attempts to get a planner to read a survey and understand that the two lots were two lots, I watched a client go belly-up, the Planner deliberately yelling us down and put him through a three-year "lot split" that finally took six months through the Assessor Recorder's Offices and DPW to prove that it was as recorded and surveyed, two lots. An architect in their position would never have done so.

And in the past month alone, I have caught three persons practicing on paper as architects and engineers, unlicensed.

When will it end?

In Summary:

ONLY When you:

1. Enforce the License Laws.

2. Separate all Disciplines into reviewing only their Disciplines.

3. Have clear Processes to go through, on Charts publicly available, without personnel interpretations allowed.

4. Have the appropriately trained Personnel, with licenses in those professions and at least 10-20 years experience, in Management and reviewing plans - in every department that has to review them in the city. At Planning, Building, Fire, Health, DPW/BSM, MOD and etc.

For instance:

Architects do Architectural, including all Zoning, Design, Exiting, ADA and Health Code issues in all Departments reviewing plans.
Structural Engineers review Structural Engineering - only - at Building.
Geologists and GeoTechnical Engineers should at least be consulting at Buidling.
Civil Engineers should and are reviewing plans at DPW.

5. Have only the Architect or Engineer of Record pulling the plans through, or their direct employees

"Under their supervision" - as an employee, not consultant - is what the license law dictates.

6. Have Clear and Unchanged Standards on Plans, laid out in great detail, that all have to go through.

No personal interpretations should be allowed by Staff.

In Conclusion:

Familiarity and other methods used by expediters, plying the unlicensed and inappropriate employees reviewing plans in order to get a favorable interpretation, further erodes application of the codes and standards that matter to all of us.

It repeatedly has and is destroying the life, safety, health and welfare of the public - as seen in the Millenium Towers.

– Janet C. Campbell, Architect
November 17, 2016

IN SUMMARY

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BOARD of SUPERVISORS

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TDD/TTY No. 554-5227

MEMORANDUM

TO: Tom Hui, Director, Department of Building Inspection

FROM: Erica Major, Assistant Clerk, Government Audit and Oversight Committee, Board of Supervisors

DATE: September 12, 2016

SUBJECT: HEARING MATTER INTRODUCED

The Board of Supervisors' Government Audit and Oversight Committee has received the following hearing request, introduced by Supervisor Peskin on September 6, 2016:

File No. 160975

Hearing on existing building standards in seismic safety zones, including infill and waterfront neighborhoods; and requesting the Department of Building Inspection to report.

If you have any comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

cc:
William Strawn, Department of Building Inspection
Carolyn Jayin, Department of Building Inspection

Print Form

Introduction Form

By a Member of the Board of Supervisors or the Mayor

Time stamp
or meeting date

I hereby submit the following item for introduction (select only one):

☐ 1. For reference to Committee. (An Ordinance, Resolution, Motion, or Charter Amendment)

☐ 2. Request for next printed agenda Without Reference to Committee.

☒ 3. Request for hearing on a subject matter at Committee.

☐ 4. Request for letter beginning "Supervisor [ ] inquires"

☐ 5. City Attorney request.

☐ 6. Call File No. [ ] from Committee.

☐ 7. Budget Analyst request (attach written motion).

☐ 8. Substitute Legislation File No. [ ]

☐ 9. Reactivate File No. [ ]

☐ 10. Question(s) submitted for Mayoral Appearance before the BOS on [ ]

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative Form.

Sponsor(s):

Aaron Peskin

Subject:

Hearing on Building Standards in Seismic Safety Zones

The text is listed below or attached:

Hearing at the Government Audit and Oversight Committee to receive presentations by the Department of Building Inspections on existing building standards in seismic safety zones, including infill and waterfront neighborhoods.

Signature of Sponsoring Supervisor: _____

For Clerk's Use Only: