

MINOR PROJECT MODIFICATION

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

Minor Project Modification Number:	03	Date:	1/21/15
Project Title:	CCSF Auxiliary Water Supply System Seismic Upgrade Project		
MEA Case No./Project No.	2009.0568E/CUWAWSAW04		
MPM Prepared By:	Scott MacPherson, Environmental Project Manager		
MPM Triggered By:	<input type="checkbox"/> RFD	<input type="checkbox"/> PCO	<input checked="" type="checkbox"/> Other: SFPUC
Landowner:	<input checked="" type="checkbox"/> SFPUC	<input type="checkbox"/> Other:	
Vegetative Cover/Land Use:	Lawn, existing building	Net Acreage Affected:	.34 acres (w/o building)
Modification From:	<input type="checkbox"/> Mitigation Measure:	<input checked="" type="checkbox"/> Other:	Project Description
	<input type="checkbox"/> Permit:		

Detailed Description of Minor Project Modification:

The San Francisco Public Utilities Commission (SFPUC) proposes the below minor modifications to the City and County of San Francisco Auxiliary Water Supply System Pump Station No. 2 (PS 2). The SFPUC has proposed several modifications to the project as described below.

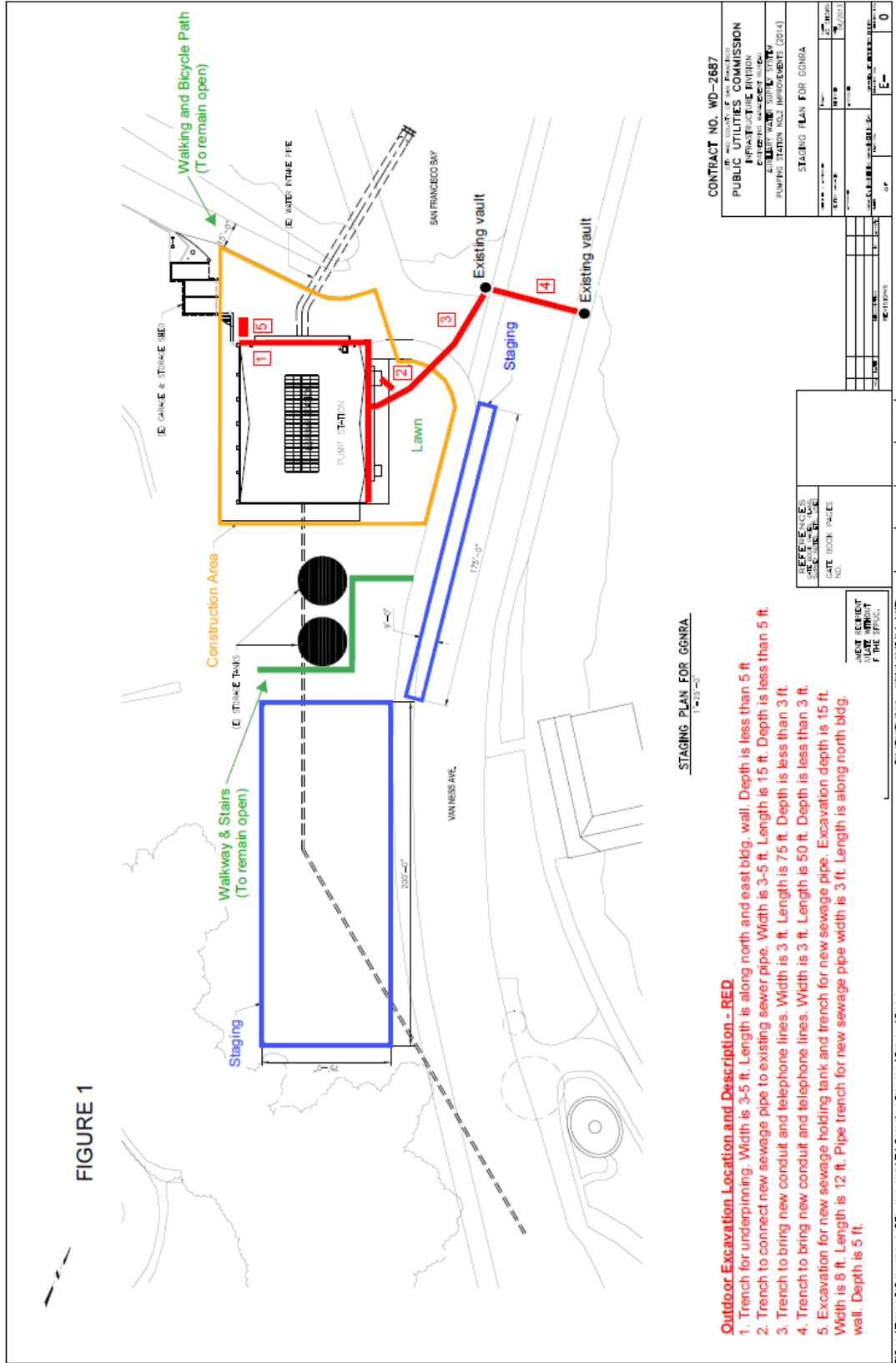
Proposed Revisions to the Project

Construction at this location is now proposed to begin in 2016 (depending on when federal approval is obtained) with a construction duration of approximately 31.5 months. This is longer than the 18 to 24 month construction duration described in the FMND.

After the FMND was approved, further design work for PS 2 (to meet seismic safety criteria) resulted in changes in the preliminary design as described in the FMND. A new site plan is shown in Figure 1.

The modified project consists of the following:

Building Structure—The FMND described a seismic retrofit that included walls and columns being reinforced with shotcrete, while the north, east, and south walls would be fitted with an interior steel moment frame around all of the bay window openings. Further analysis has determined that these seismic improvement measures would not be sufficient. Instead, the modified project would strengthen the building with pile-supported reinforced concrete walls at the corners. The perimeter walls would be strengthened for out-of-plane forces with structural steel on the inside face of the wall, and the roof parapets would be similarly braced with new framing. While the FMND described the steel roof trusses being supplemented with additional steel bracing, the modified project would also require the north cornice roof framing and cross frames be supplemented with steel bracing. Various gusset plate and steel bolts would be replaced with high-strength, modern versions. The west elevation would be modified, with



interior steel frames around areas that could be used as intake and exhaust openings, in the event new diesel engines are installed as a result of future air quality regulations (the existing diesel engines were installed in the 1970's).

Side of boilers—The FMND stated the glazed tile from the boiler side walls would be salvaged and used to reconstruct portions of the side walls. The side walls would not be reconstructed under the modified project due to hazardous materials (including asbestos) within and behind the glazed tiles. The side of an existing boiler is shown in Figure 2.



FIGURE 2 - Side of a boiler showing glazed tiles

Piping—The piping attached to the existing boiler facades, heaters, and one of the feedwater pumps would be seismically braced and remain in their current configuration. The piping interconnecting the boilers and the other feedwater pumps would be demolished. The piping along the north elevation would

be demolished, but most pipes along the south elevation would remain in place. The existing boiler piping and locations where boiler piping would be removed is shown in Figures 3-6.



FIGURE 3 - Piping in front of a boiler (Boilers 5&6)



FIGURE 4 - Tubing above boiler support

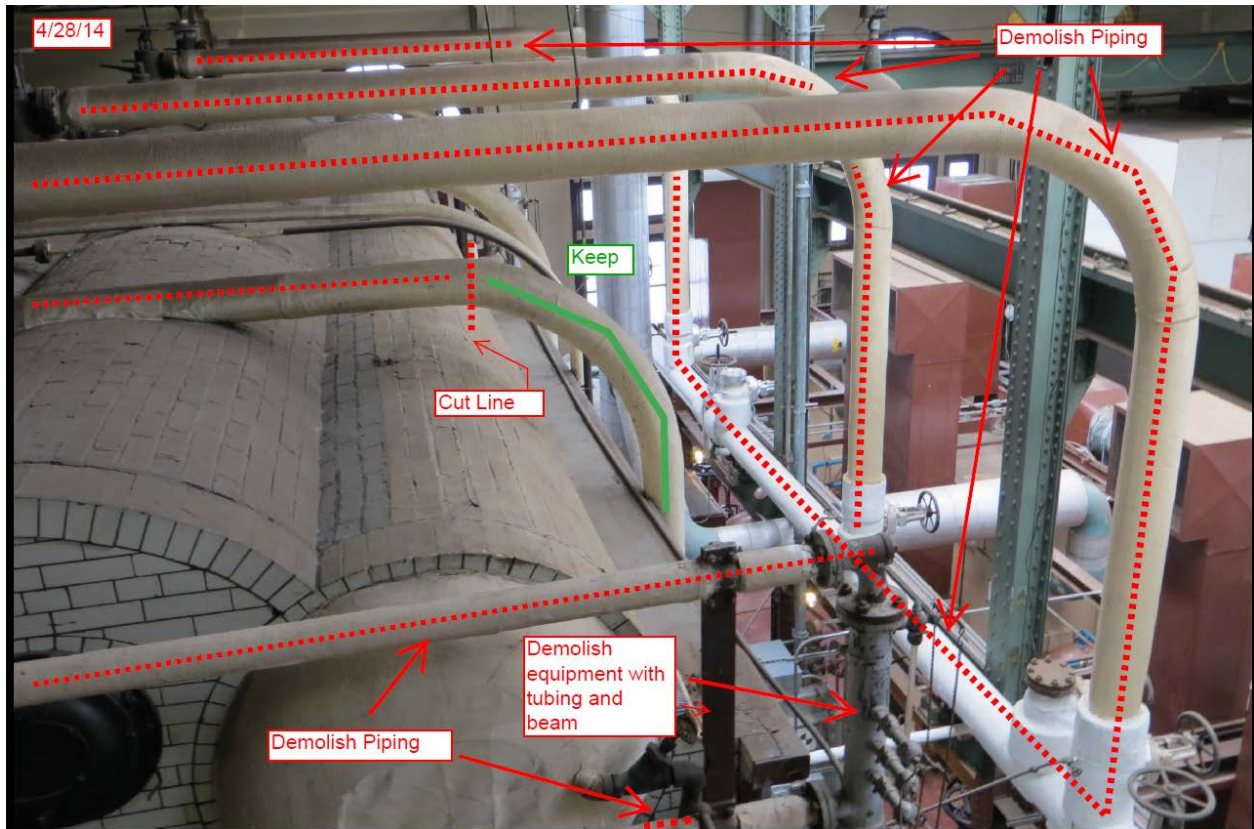


FIGURE 5 - Piping above boiler.



FIGURE 6 - Boiler façade, side.

Trench Plates—Currently, trenches covered by steel plates exist around the steam boilers. These trenches would be filled in to allow seismic strengthening of the boiler facades. Due to the poor condition of the trench plates, many cannot be removed without destroying them. In these cases, the trench plates would be replaced with new plates to match the existing. See Figure 7 for an example trench plate.



FIGURE 7 - Boiler trench with trench plates removed

Conference Room and Office—While the FMND described new SFFD crew quarters (including a kitchen and two bathrooms) in the west side of the building, a new Americans with Disabilities Act (ADA)-compliant conference room with kitchen and bathroom would be built instead under the modified project (behind the existing boiler facades #1 and #2).

Generator Room—The existing generator room, constructed in the 1970s (see Figure 8), would be demolished and replaced with a larger room in the same location. The existing 1970's era generator would be replaced with a modern generator.



FIGURE 8 - Generator Room

Electrical Panel—The original electrical panel (Figure 9) requires seismic bracing, which requires the removal of equipment behind the panel. The proposed electrical panel support framing plan is shown in Figure 10. Any historically significant equipment behind or above the panel that can be salvaged during construction would be displayed behind the boiler facades. Alternatively, some of the equipment (such as the three large “boxes” on top of the panel) could be displayed in front of the electrical panel. A synchronizer indicator to the north of the panel (Figure 11) would be relocated to the adjacent new office wall. A historic monitor would be present during this equipment removal to determine what can be salvaged and to provide direction on minimizing damage.

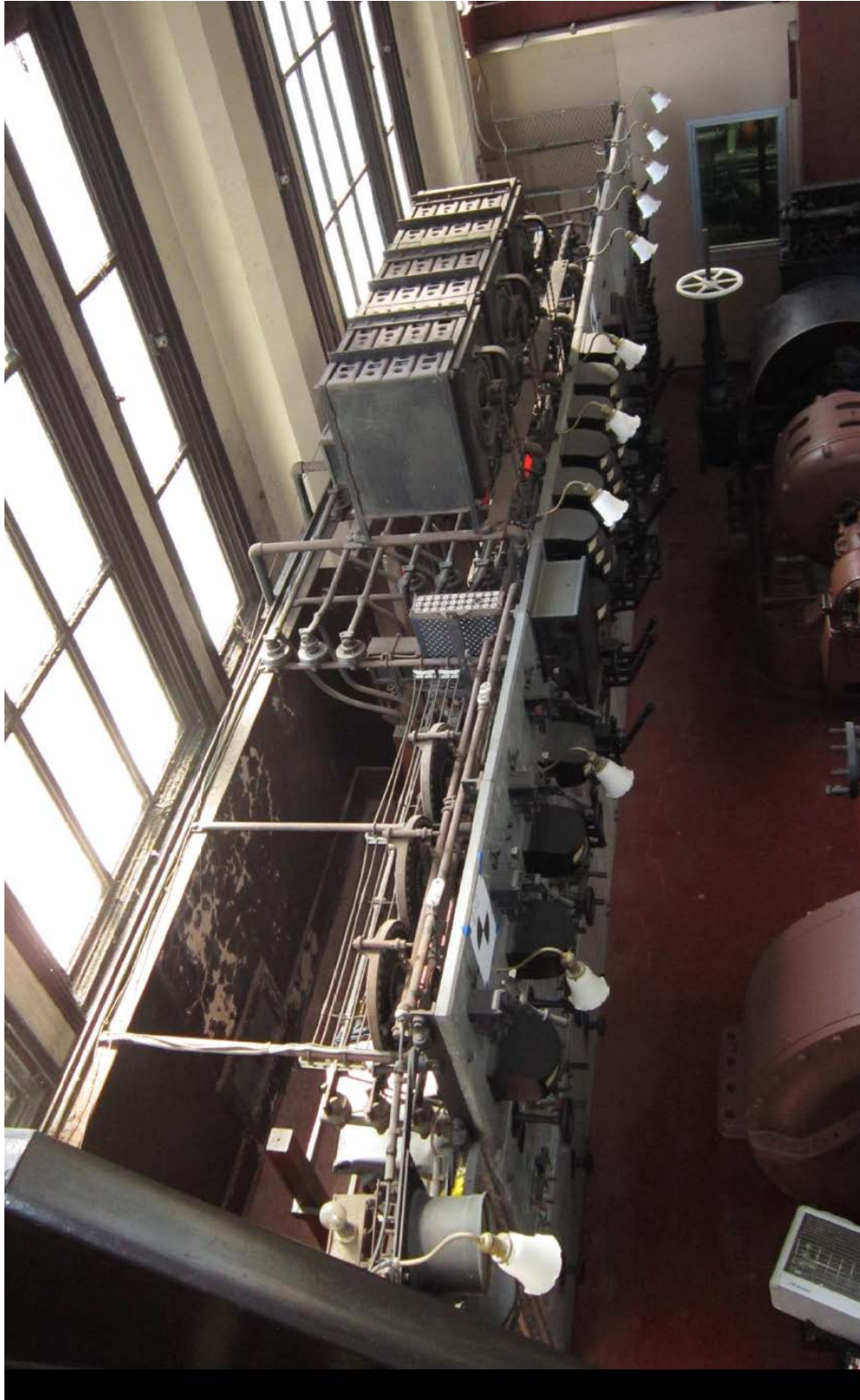
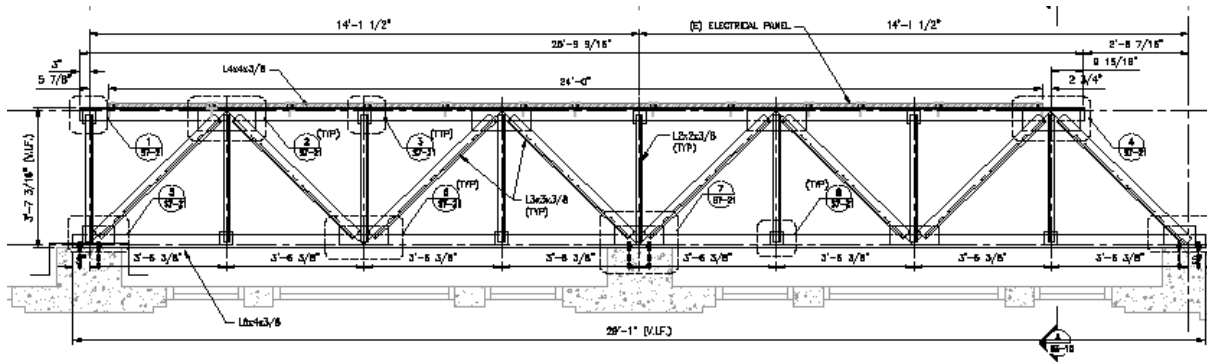


FIGURE 9 - Electrical panel as seen from mezzanine stairs.



ELECTRICAL PANEL UPPER SUPPORT FRAMING PLAN
 3/4\"/>

FIGURE 10 – Proposed electrical panel support framing plan. Framing would be constructed between the panel (top of exhibit) and the eastern wall of the facility (bottom of exhibit).



FIGURE 11 - Synchronizer indicator.

Roof and Roofing System—As the existing concrete roof (Figures 12 and 13) cannot be strengthened, the underlying ribbed-expanded metal, concrete-filled roof deck would be removed and replaced with a cellular steel deck, and the horizontal truss threaded rods would be replaced with structural steel diagonals and supplemented with boundary members along the building perimeter. The unreinforced concrete curbs and endwalls under the skylight would be replaced with steel-framed structural walls.

While the PMND indicated the glass in the skylights (Figure 14) would be replaced, the modified project would replace the skylights completely (both to meet current Building Code requirements, and also because the skylights are integrated within the existing roof). The new skylights would be approximately 10 inches higher, in order to meet fall protection requirements.

The existing ladder would be relocated from the northeast corner of the roof to the northwest, and would include a new roof hatch. Roof penetrations would be made for the heating/ventilation/air conditioning (HVAC) system and condenser, as well as vents for the conference room stove and bathroom.

If determined necessary as the result of an air quality analysis by the RWQCB, diesel particulate filters would be installed on the roof.



FIGURE 12 - Roof deck as seen from the interior.



FIGURE 13 - Detail of roof framing.



FIGURE 14 - Skylight

Basement—The basement would be backfilled and covered with a concrete slab, in order to strengthen the foundation and avoid a structural void. The existing (and unused) equipment in the basement (Figures 15-17) would be relocated behind the boiler facades in a similar alignment.



FIGURE 15 - Basement circuit pump (brown equipment at left) and condenser (silver equipment at right)

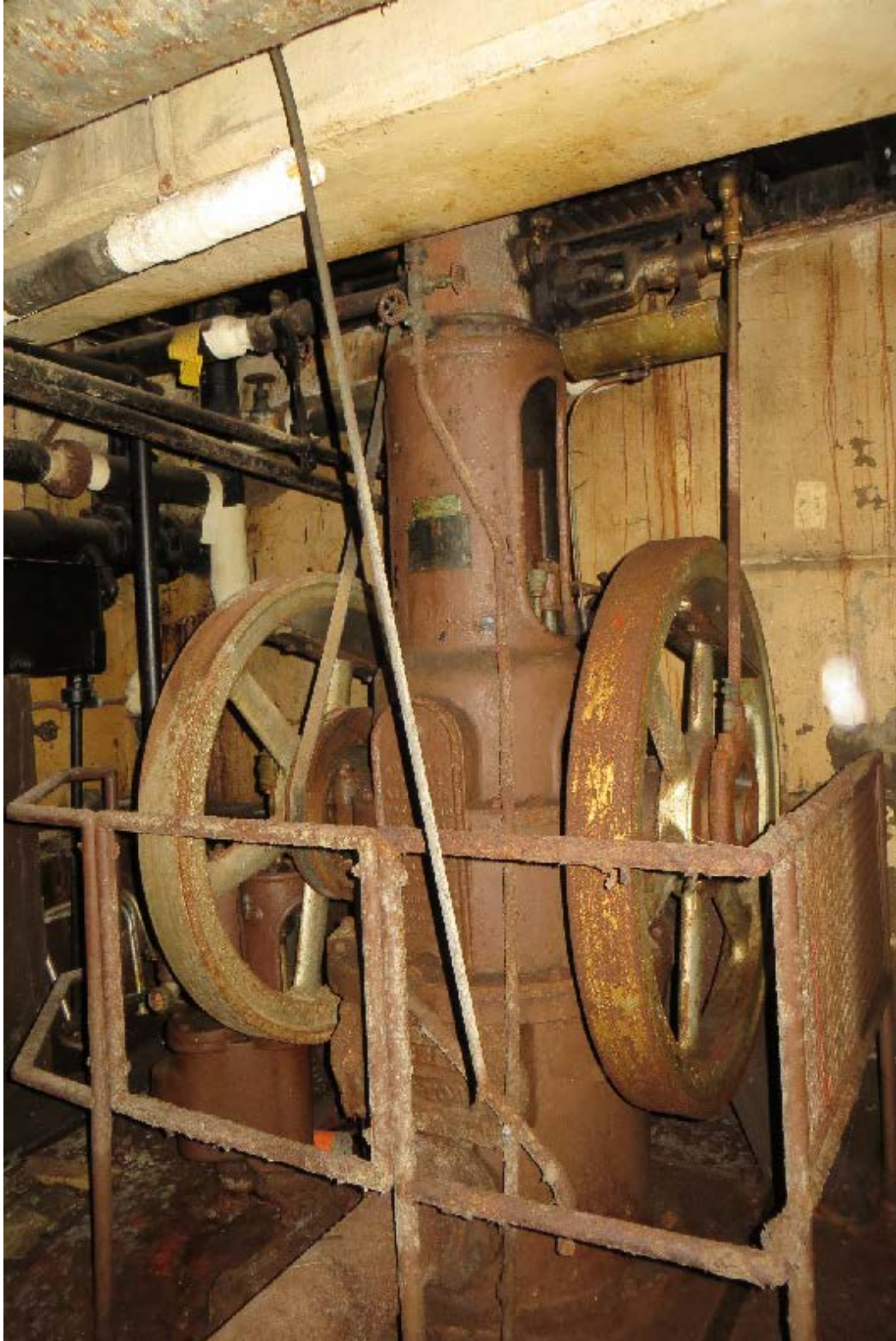


FIGURE 16 - Basement air pump

Sketch - Basement @ PS2

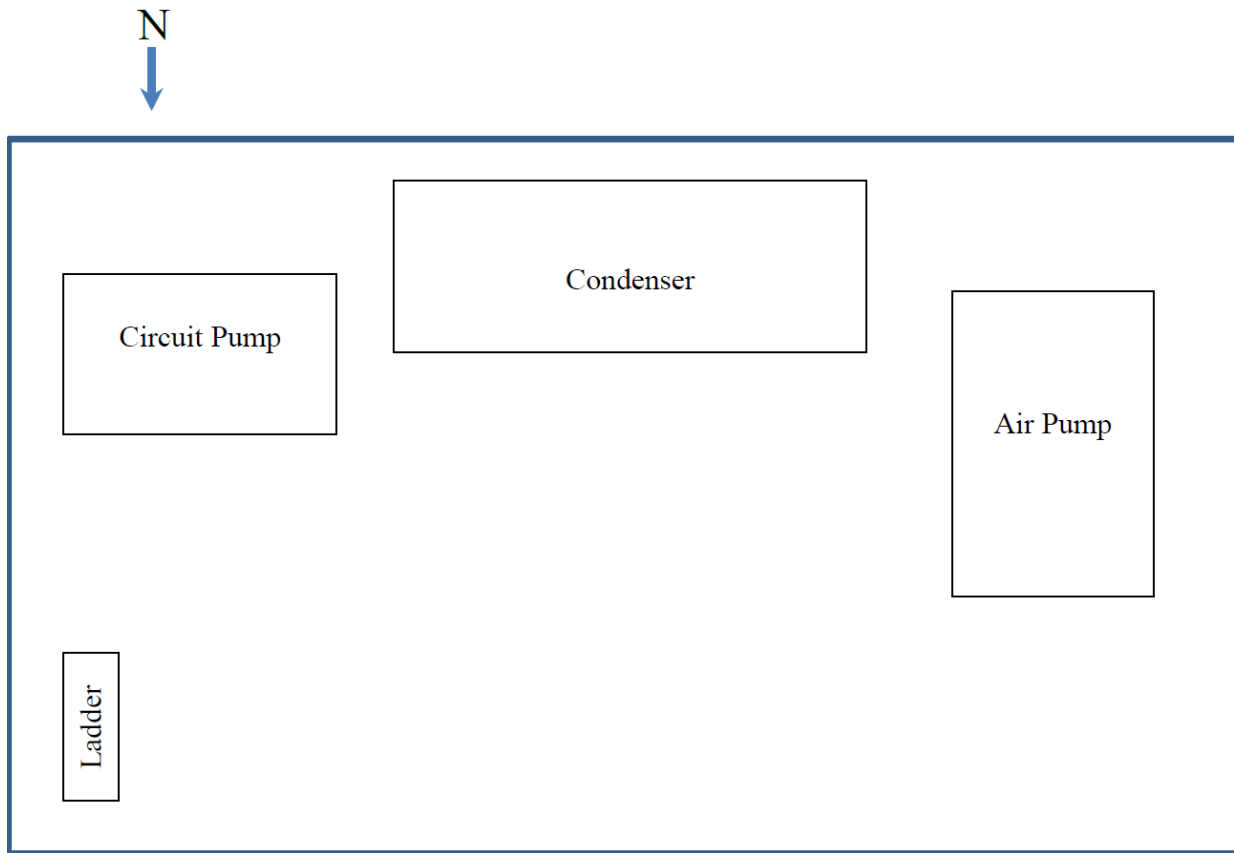


FIGURE 17 – Existing alignment of equipment in basement

Boiler Feed Pump—An unused boiler feed pump would be relocated behind the boiler facades, as its current location conflicts with proposed diagonal bracing (Figure 18).



FIGURE 18 - Boiler feed pump. Location of proposed diagonal bracing is shown in green.

Existing Kitchen—A kitchen which was installed in the 1970s, in front of Boilers 1&2, would be removed.

Windows—The ten smaller rectangular recessed windows and window frames on the north and east walls of the building (but not the large, arched multi-pane bay windows) would be relocated approximately seven inches closer to the outside face of the wall, to allow for a new interior sheer wall. The relocated windows would be recessed one inch. These windows would be inoperable as solid walls would be constructed behind them, as described above. The portion of the sheer wall behind these windows would be painted a dark color to minimize any potential for reflection. Figure 19 shows the windows on the eastern façade of the building. The existing interior window trim (Figure 20) would be removed, salvaged and reinstalled on the new structural interior sheer wall.



FIGURE 19 - Eastern side of Pump Station No. 2, showing windows to be replaced at the far right and left, and four sets of Bay windows (to remain) in the center.



FIGURE 20 – Existing window interior trim

The existing windows and frames are metal, while the interior window trim is wood with metal cladding (a style known as “kalamein”). If the existing windows or frames are found to be deteriorated or corroded to the point where they cannot be relocated, repairs would be attempted, if feasible. If the windows or frames cannot feasibly be repaired, then new windows or frames would be fabricated and painted to match the existing windows. Any new replacement windows would match the profiles of the existing windows to the fullest extent possible. Replacement windows would be wood with aluminum cladding and be painted to match the existing windows.

While measures would be taken to protect the bay windows during construction, it is possible that some panes could be broken. If broken panes cannot be replaced because of the severity of corrosion damage of the frames, then the entire frame would be replaced in kind.

Main Door—The main (north) door to the facility would include a new lock, an automatic door opener, and push button to meet ADA access requirements (Figure 21).

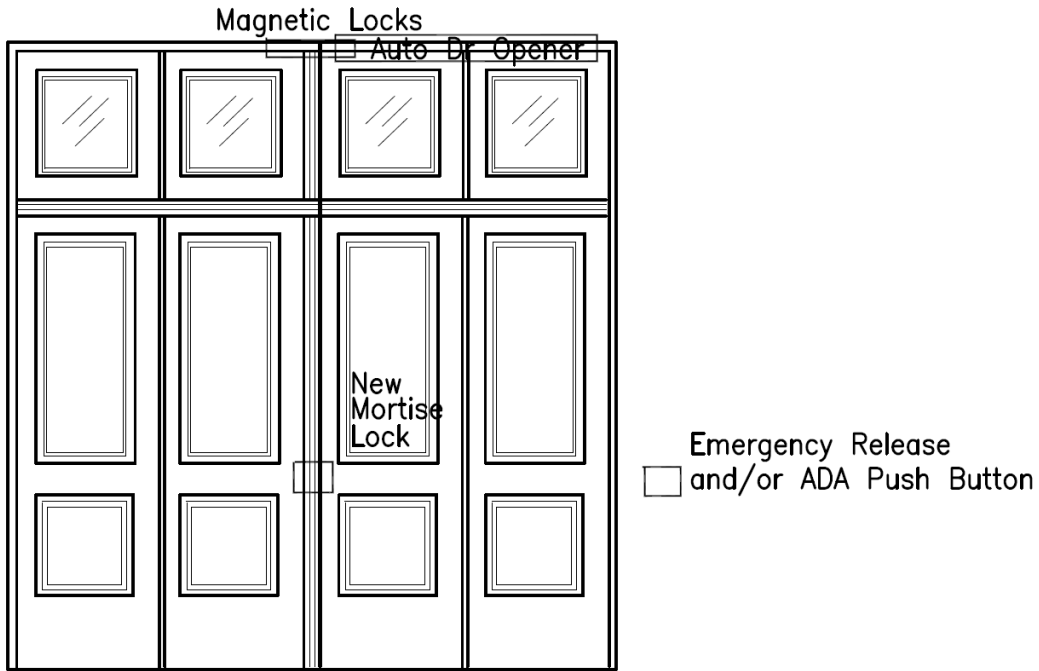


FIGURE 21 - Northern door showing proposed ADA automatic door equipment.

Sump Pump—A sump pump in the southeast corner of the building (Figure 22) would be moved behind the boiler facades. This area would be repurposed for structural reinforcement.

Lighting—Historic lighting fixtures would remain, although they may be inoperable after construction. Non-historical lighting fixtures could be replaced or removed. New lighting would be installed to meet building code requirements.

Fire Alarm—While the FMND described a new sprinkler system, the revised project also includes the installation of fire detectors and an alarm system.

A chemical firefighting system would be connected to the diesel engine enclosures and standby power generator room. The piping would run as high as the existing conduits and utility frame (as can be seen in Figure 23). Portions of the existing firefighting system can be seen in Figure chemical tanks would be placed behind the façade of boilers 3 & 4 once the boilers are removed.



FIGURE 22 - Sump Pump in southeast corner of building.



FIGURE 23 - Existing conduits and utility frame.

The other sprinkler system would be a traditional water system serving the new conference room (northwest portion of the building) and the existing office (northeast). The piping would be anchored to the existing utility frame that surrounds the area around the diesel engine rooms.

Outside Infrastructure—A new sewerage system (under the existing parking spaces and part of the lawn on the east side of the building), including a holding tank and pumps, would connect to the existing sewer line.

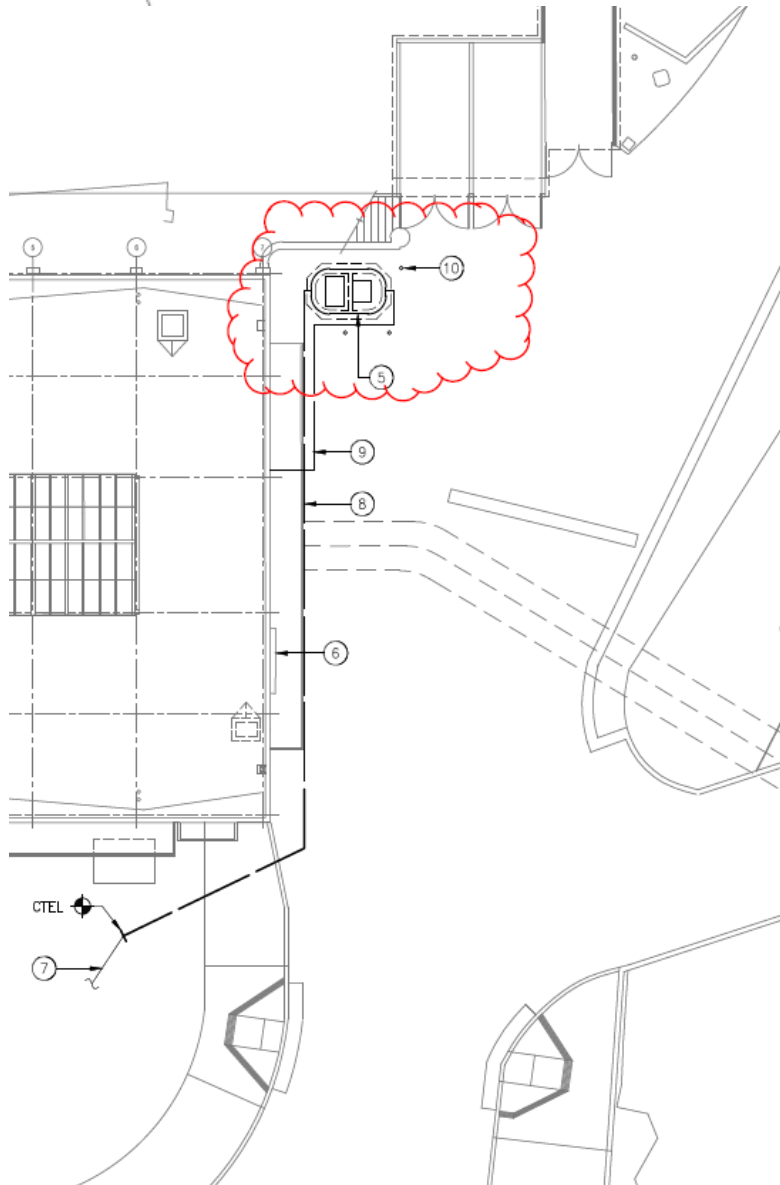
There are two small disconnect switches located in a vault in front northeast corner of the building for the existing sewage holding tank, which will be removed (Figure 24). Due to code requirements, these switches need to be relocated above ground in view of the tank. New disconnect switches would be mounted on the exterior north wall of the Pump Station near the new holding tank, at approximately 48 inches above ground (see Figure 25). A 4-inch pipe would extend up from the ground approximately 3 feet over the new holding tank (currently the site of a parking space), protected by bollards. Figure 26 indicates the position of the bollards in red.



FIGURE 24 – Existing disconnect switches in a vault north of the building. New disconnect switches, to be mounted on the northern façade of the Pump Station (as seen in the next figure) would be similar to the existing switches.



FIGURE 25 – Location of the new disconnect switches on northern façade of building.



SHEET NOTES:

1. EXISTING WATER METER.
2. EXISTING PG&E TRANSFORMER S.E.D.
3. PG&E GAS METER
4. EXISTING SECURITY FENCE.
5. SEWERAGE HOLDING TANK AND PUMPS.
6. TRENCH DRAIN.
7. EXISTING SEWERAGE FORCE MAIN.
8. SEWERAGE DISCHARGE LINE.
9. SANITARY DRAIN FROM BUILDING.
10. BOLLARD. (TYP OF 3).

FIGURE 26 – Location of new bollards and above-ground pipe for new holding tank.

Staging Area—The grass field south of the building (within the San Francisco Maritime National Historical Park) would be used for construction staging (Figure 27). The grass field would be restored to pre-project condition or better at the end of construction.

Conduits—Two 2" conduits would be placed through the eastern wall, below the ground surface. An approximate location can be seen in Figure 1.

Generator Exhaust/Silencer—The new generator described above would require an exhaust pipe with a silencer on the roof. The exhaust pipe for the existing generator would be removed (it can be seen in Figure 19), and the new pipe would be located in approximately the same location. The exhaust pipe/silencer would be 10 feet tall and approximately 6 to 10 inches in diameter, and be painted black. The new pipe would be approximately 4 feet higher than the existing pipe, due to code requirements.



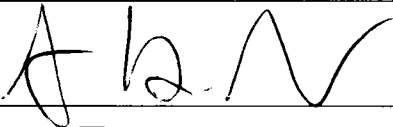
FIGURE 27 – Staging area as seen from Van Ness.

Attachments:			
Biological <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Cultural <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Photos <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Resources:			
Biological	<input checked="" type="checkbox"/> No Resources Present	<input type="checkbox"/> Resources Present	<input type="checkbox"/> NA
Previous Biological Survey Report Reference:			
Cultural	<input type="checkbox"/> No Resources Present	<input checked="" type="checkbox"/> Resources Present	<input type="checkbox"/> Within Project APE
	<input type="checkbox"/> NA (no ground disturbance)		
Previous Cultural Survey Report Reference: FMND, Section E4, Cultural and Paleontological Resources, City and County of San Francisco, December 2009			
Conditions of Approval or Reasons for Denial			
Implementation of MND Mitigation Measures referred to in this Minor Project Modification			

SFPUC Required Signatures for Environmental Approval:			
EPM	Scott MacPherson	Digitally signed by Scott MacPherson DN: cn=Scott MacPherson, o=SFPUC, ou=BEM, email=smacpherson@sfwater.org, c=US Date: 2015.01.21 11:52:56 -08'00'	Date: 1/21/15
<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved with Conditions (see conditions above) <input type="checkbox"/> Denied			

SFPUC agrees that Contractor will abide by the mitigation measures detailed in the CEQA document and project permit requirements and have appropriate Specialty Environmental Monitors present where required.

Environmental Planning (EP) Required Signatures for Approval:			
Signee:		Date:	1/21/15
<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved with Conditions (see conditions above) <input type="checkbox"/> Denied			

CEQA SECTION	Applicable	(Y) Define Potential Impact or (N) Briefly Explain Why CEQA Section isn't Applicable
Geology and Soils	<input type="checkbox"/> Y	No significant geology and soils impacts were identified in the FMND. The only work outside of the building would consist of minimal utility relocation. As a result, impacts would be consistent with the FMND and remain less than significant.
	<input checked="" type="checkbox"/> N	
Hazardous Materials and Waste	<input checked="" type="checkbox"/> Y	As described in the FMND, a variety of hazardous materials would be routinely used, encountered or transported to the site during construction. Hazardous materials mitigation measures would be implemented per Mitigation Measures M-HZ-1 through 3. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant after mitigation.
	<input type="checkbox"/> N	
Hydrology and Water Quality	<input type="checkbox"/> Y	With the exception of minor utility relocation and replacement of the existing sewerage system, all construction would occur inside the existing building. No new impervious surfaces would be created and disturbance to groundwater is not expected to occur. As a result, impacts would be consistent with the FMND and remain less than significant. While the FMND states stormwater runoff would flow into a combined wastewater/stormwater system, at PS 2 stormwater flows to the bay. However, this would not lead to any hydrology or water quality impacts as construction would still need to follow regulatory requirements on stormwater designed to reduce or eliminate any pollutants in stormwater runoff. As a result, there would be no new impacts beyond those identified in the FMND.
	<input checked="" type="checkbox"/> N	
Cultural and Paleo. Resources	<input checked="" type="checkbox"/> Y	Pump Station No. 2 is listed on the NRHP as an individual property and is a contributor to both the Aquatic Park and Fort Mason Historic Districts. All mitigation measures, such as Mitigation Measure M-CP-1 (comply with Secretary of the Interior Standards for the Treatment of Historic Properties), would be implemented. In addition, Mitigation Measures M-CP-4, Protection of Historic Character-Defining Features, would require approval of the plan for interior construction by the San Francisco Planning Department. Minor trenching would be required on areas that have already been disturbed, but the FMND did not find evidence of any archeological resources adjacent to PS 2. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant after mitigation.
	<input type="checkbox"/> N	
Traffic and Circulation	<input type="checkbox"/> Y	The FMND describes the frequency of vehicle trips by construction-related vehicles between six and 15 trips a day, and the revised project would fall within these parameters. No street closures are planned. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant.
	<input checked="" type="checkbox"/> N	
Air Quality	<input type="checkbox"/> Y	As the same construction equipment and vehicles would be used for the revised project, construction air quality impacts would remain less than significant. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant.
	<input checked="" type="checkbox"/> N	

Noise	<input type="checkbox"/> Y	Construction noise would be consistent with the San Francisco Noise Ordinance. No additional operational noise is expected – if new diesel engines are required by the BAAQMD, it would be expected that the more efficient modern equipment would run quieter, and in any case new engines would run inside the building, reducing any noise impact. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant.
	<input checked="" type="checkbox"/> N	
Aesthetics	<input checked="" type="checkbox"/> Y	While the FMND anticipated seismic retrofitting of the roof and a new sealer for the concrete roof, the revised project would replace the concrete roof and skylights entirely, replace various windows, and replace an exhaust pipe. While the changes could be noticeable if compared with the existing structure (the roof is visible from the footpath to the north), the new roof/skylight and windows would appear similar and would not substantially degrade the existing visual character or quality of the site and its surroundings. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant.
	<input type="checkbox"/> N	
Biological Resources	<input type="checkbox"/> Y	The project site contains a grass lawn. There is no natural habitat remaining on or next to the project site. As a result, there would be no new impacts beyond those identified in the FMND and would remain less than significant.
	<input checked="" type="checkbox"/> N	