

PENTERRA PLAZA
8100 East Union Avenue
Denver, Colorado 80237

MECHANICAL AND ELECTRICAL SYSTEMS
OPERATIONS AND MAINTENANCE REPORT

February 10, 2014

Prepared for:
Condominium Association for the
Residences at Penterra Plaza, Inc.
8100 East Union Avenue
Denver, Colorado 80237

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EXECUTIVE SUMMARY

1. Purpose:

The purpose of the attached operations and maintenance (O&M) matrix is to provide the residential management staff with a detailed guideline to perform preventive maintenance on the mechanical systems and equipment and, to a lesser extent, certain components of the electrical systems and equipment installed at the property. The matrix is focused primarily on the mechanical systems since they require by far the most attention for uninterrupted occupant comfort, and they represent a very large component of the original capital cost, replacement cost and annual operating cost. The matrix does not address the systems and equipment that are operated and maintained by the Master Association (Master) since the O&M of these systems is performed by a third party contractor engaged and directed by the Master.

The matrix is organized in a very simple and easy to use format that defines the routine preventive maintenance and monitoring tasks and the frequency of performance. The information provided can be the basis for preparing standardized forms for individual systems and equipment that can be used as checklists for scheduling, performing and documenting the work. It is acknowledged that the task list may be expanded or contracted, and that the frequency of performance, may be modified after implementation, based upon management and maintenance staff on-site experience. Also, it may be appropriate to break down the matrix into a series of smaller matrices for each system or equipment component for interim use.

For the purpose of this report, preventative maintenance is defined as the normal and customary checking, testing and servicing of equipment on a routine and regularly scheduled basis, along with documentation of all activities and data. The matrix document addresses only preventive maintenance. Corrective maintenance is defined as the repair of minor malfunctions, breakdowns and failures that typically can be handled by in-house maintenance personnel. Depending upon the severity of the issues, manufacturer's or other third party specialists may be required. Where appropriate, we have attempted to define within the matrix work that would be more appropriately performed by third party contractors.

2. Scope:

The scope of this O&M matrix has been prepared in accordance with the agreement between Riegel Consulting, Inc. (RCI) and the Condominium Association for the Residences at Penterra Plaza (RHA) dated June 27, 2013 and an amendment to that agreement dated September 3, 2013. During the course of the assignment and through discussions with the RHA designated representative, the assignment became focused on preparation of a task/frequency document rather than an assessment and critique of historical procedures and issues. It is believed that this was an appropriate decision.

The O&M matrix is intended to be a guideline for performing routine inspections, preventive maintenance and periodic testing in accordance with traditional approaches for self performance of preventive maintenance by in-house staff, versus work more appropriately performed by third party outside contractors. The tasks and procedures are based upon equipment manufacturer's recommendations and accepted industry standards. The matrix document does not address means and methods for performing the work or any safety precautions that should be followed in completing the work. The document also does not address corrective maintenance, troubleshooting and replacement work procedures. Some of these procedures may or may not be covered in the respective operating and maintenance manuals (O&Ms) provided originally by the project construction contractors. In the absence of sufficient information in the O & M manuals, equipment manufacturer or their designated local representative or service organizations should be consulted/engaged to assist in resolution of the cause of the failure, appropriate corrective maintenance and/or replacement activities.

3. Summary of Current Operations and Maintenance Procedures:

The O&M procedures for both the residential and Master mechanical and electrical systems were reviewed with the respective staff personnel responsible for each area of the overall project. O&M procedures associated with the office and retail components of the project were not evaluated.

Lance Husted, maintenance superintendent for the residential portion of project shared his documentation for the systems and equipment included in his scope of work. In our opinion, Mr. Husted has a very good understanding of the systems and is very conscientious in the performance of his job. Mr. Husted also accompanied us throughout the process of the recommissioning effort documented in prior reports. His knowledge of the systems was extremely valuable in completing that effort. What was surprising, however, was the absence of documentation relating to routine and periodic preventive maintenance tasks and related reports and logs performed prior to Mr. Husted's employment and/or by third party outside contractors. The files contained some historical documentation of corrective and replacement work only. Moving forward, it is believed that the O&M matrix provided herewith will provide a documented approach to preventive maintenance and record keeping and will complement the current effort.

Similarly, there is very little detailed documentation of routine preventive maintenance performed on the central chilled water plant, central heating plant, domestic water booster pumping system, parking garage, emergency generator, fire pump, etc. Through several interviews and assistance with recommissioning, it is obvious that the Master systems and equipment have received reasonable comprehensive routine preventive maintenance. Unfortunately, other than copies of fairly generic annual contracts, there is limited information on specific tasks and frequency of tasks, and historical maintenance logs were not made available. Certain information on historical corrective maintenance was provided

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however. It is recommended that a documented and detailed preventive maintenance plan, similar to the attached O&M matrix, be prepared for the Master central plant systems and other central equipment that serve the residential component of the project, including the common areas, such as the parking garage and Master lobby located in the residential tower.

APPENDIX:

1. Operations & Maintenance Matrix