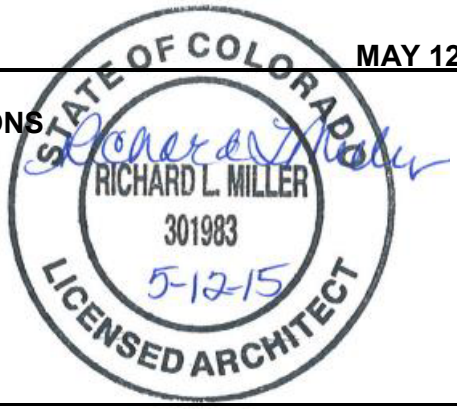
REVISION NO. 3 **MAY 12, 2015**



THE MEDICAL CENTER OF AURORA RENOVATIONS
Aurora, Colorado

EARL SWENSSON ASSOCIATES, INC.
richard l. miller, architect
2100 WEST END AVENUE, SUITE 1200
NASHVILLE, TENNESSEE 37203

ESa PROJECT NO. 14077.00

These revisions form a part of the Contract Documents and modify the original CONSTRUCTION DOCUMENTS, dated December 30, 2014, as outlined here in addition to being shown on the drawings as Indicated Delta REV No. 3, dated May 12, 2015.

CHANGES TO THE DRAWINGS

G1.01 INDEX SHEET
1. Updated current revision listing.

LS.01– FIRST FLOOR OVERALL LIFE SAFETY PLAN
1. Updated plan due to added anesthesia work room.

LS.01E– FIRST FLOOR ENLARGED LIFE SAFETY PLAN
1. Updated plan due to added anesthesia work room.

A1.00– FIRST FLOOR ORIENTATION PLAN
1. Updated plan due to added anesthesia work room.

A1.00B– FIRST FLOOR SOUNDWALL PLAN PART B
1. Updated plan due to added anesthesia work room.

A1.01– PHASE I
1. Adjusted door 1-SS001.
2. Added owner furnished equipment.

A1.02– PHASE II
1. Added anesthesia workroom.
2. Added casework elevation for anesthesia workroom.
3. Adjusted OR ceiling layout due to vendor equipment adjustment.

A1.03– PHASE III
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A1.04– PHASE IV
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A1.05– PHASE V
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A1.06– PHASE VI
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A1.07A– PHASE VII-A
1. Adjusted OR ceiling layout due to Vendor equipment adjustment.

A2.51– ENLARGED PLANS / INTERIOR ELEVATIONS & DETAILS
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A2.52– ENLARGED PLANS / INTERIOR ELEVATIONS & DETAILS
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A5.01A– FIRST FLOOR PART A REFLECTED CEILING PLAN
1. Adjusted OR ceiling layout due to vendor equipment adjustment.

A5.01B– FIRST FLOOR PART B REFLECTED CEILING PLAN
1. Adjusted OR ceiling layout due to vendor equipment adjustment.
2. Added anesthesia workroom.

A6.01– DOOR SCHEDULE
1. Added opening 1-SS012A.
2. Adjusted hardware for opening 1-SS001.

F0.01– FINISH GENERAL NOTES
1. Changed color of IRW-1 to match the submittal selection.

F1.01B – FIRST FLOOR FINISH PLAN PART B
1. Provided finish information for Anes Work.

F2.01A – FIRST FLOOR FLOOR PATTERN PLAN PART A
1. Adjusted SV-1 locations and revised dimensions under OR table due to equipment changes.

F2.01B – FIRST FLOOR FLOOR PATTERN PLAN PART B
1. Adjusted SV-1 locations and revised dimensions under OR table due to equipment changes.

F3.01A – FIRST FLOOR FURNITURE & WALL PROTECTION PLAN PART A
1. Added and adjusted furniture to the furniture plan.

F3.01B– FIRST FLOOR FURNITURE & WALL PROTECTION PLAN PART B
1. Adjusted wall protection at Anes. Work
2. Added and adjusted furniture to the furniture plan.

F4.01B– FIRST FLOOR SIGNAGE PLAN PART B
1. Added and adjusted signage plan due to new Anes. Work

F4.10– SIGNAGE SCHEDULE
1. Added signage for Anes. Work.

END OF REVISION NO. 3



REVISION NO. 3
STRUCTURAL NARRATIVE

May 12, 2015

The Medical Center of Aurora Renovations
Aurora, CO

Structural Design Group
220 Great Circle Road, Suite 106
Nashville, TN 37228

ESA Job #14077.00
SDG Job #2014-205.00

This Revision forms a part of the Contract Documents and modifies the original documents dated December 30, 2014.

CHANGES TO THE STRUCTURAL DRAWINGS

S0.01 Structural Notes

1. Revised date on seal to match revision date.

S1.00 Existing Framing Plan/New Mechanical Platform

1. Revised date on seal to match revision date.

S1.01 Mechanical Platform Framing Plan

1. Revised date on seal to match revision date.

S1.02 Existing Bearing Wall Demolition and Framing Plans

1. Revised date on seal to match revision date.

S2.01 Framing Sections and Details

1. Revised date on seal to match revision date.

S2.02 Framing Sections and Details

1. Revised date on seal to match revision date.

END OF NARRATIVE

RSN : 1066039 PERMIT : 15-1028456-LT

REVISION NO. 3

May 12, 2015

THE MEDICAL CENTER OF AURORA
RENOVATINOS

ESA PROJECT NO. 14077.00
ICT PROJECT NO. 140389

I. C. THOMASSON ASSOCIATES, INC.
2950 KRAFT DRIVE, SUITE 500
P. O. BOX 40527
NASHVILLE, TN 37204

The following items are included in Revision No. 3, dated May 12, 2015 and form a part of the contract documents. These modify the original bid documents, dated December 30, 2014, and are outlined as follows:

MECHANICAL

CHANGES TO DRAWINGS

Sheet M0.03
1. Revised airflows for VV-1-6S&R.

Sheet M0.04

1. Added filter schedule for RTU-1, 2, and 3 per cities comments.

Sheet M1.00A

1. Revised duct and diffuser layout per operating room table location change.

Sheet M1.00B

1. Revised duct and diffuser layout per operating room table location change.

Sheet M1.01

1. Added fire dampers at fire rated walls.

Sheet M1.02

1. Revised duct layout for addition of new anesthesia work room.

Sheet M1.03

2. Revised duct and diffuser layout per operating room table location change.

Sheet M1.04

1. Revised duct and diffuser layout per operating room table location change.

Sheet M1.05

1. Revised duct and diffuser layout per operating room table location change.

Sheet M1.06

1. Revised duct and diffuser layout per operating room table location change.

Sheet M1.07A

1. Revised duct and diffuser layout per operating room table location change.

CHANGES TO SPECIFICATIONS

1. Added specification section 23 05 47 Seismic Restraint of mechanical equipment and suspended utilities.

PLUMBING

CHANGES TO DRAWINGS

Sheet P0.01

1. Revised Medical Gas Schedule.

Sheet P1.01

1. Revised Pipe Routing according to phase plans.

Sheet P2.02

1. Revised pipe routing and sizes.

Sheet P2.03

1. Revised pipe routing and sizes.

Sheet P2.03

1. Revised pipe routing and sizes.

Sheet P2.04

1. Revised pipe routing and sizes.

Sheet P2.05A

1. Renamed sheet to P2.05A.

Sheet P2.05B

1. Created new sheet to include Phase 5 Medical Gas Plan.

Sheet P2.06

1. Revised pipe routing and sizes.

Sheet P2.07A

1. Revised pipe routing and sizes.

ELECTRICAL

CHANGES TO DRAWINGS

Sheet E0.03

1. Revised isolation panel names.

Sheet E1.01

1. Added receptacles and associated circuitry for freezers in Equip. Storage 1-SS001.
2. Added junction boxes and associated circuitry for connection to door hardware for door in Corr. 1-SS041.
3. Added notes 4 and 5.

Sheet E1.02

1. Revised lighting layout and receptacle layout in Equip Storage to reflect base plan changes.

Sheet E1.03

1. Revised lighting layout in O.R. 7 and O.R. 8 to reflect ceiling plan changes.

Sheet E1.06

1. Revised lighting layout in Cysto OR 1-SS129 to reflect base plan changes.

Sheet E1.07A

1. Revised lighting layout in O.R. 4 to reflect ceiling plan changes.

Sheet E3.00

1. Updated panel schedules.

TELECOMMUNICATIONS

CHANGES TO DRAWINGS

Sheet T1.02

1. Revised telecommunications outlet locations to reflect base plan changes.

END OF REVISION



SECTION 230547 - SEISMIC RESTRAINT OF MECHANICAL EQUIPMENT AND SUSPENDED UTILITIES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide engineered seismic restraint systems for suspended and base mounted Mechanical Piping HVAC Duct Mechanical Equipment utilities compliant with the 2006 International Building Code (IBC) with local building code amendments.

B. All equipment manufacturer's shall submit, as part of the equipment submittal, compliance certifications. Contractor to be responsible for equipment anchorage details.

C. At seismic restraint installation locations, provide vertical support systems engineered to accommodate dead load plus seismic force reactions.

1.2 RELATED SPECIFICATION SECTIONS

A. Mechanical Piping

B. HVAC Duct

C. Mechanical Equipment

1.3 REFERENCES

A. Publications, codes and standards listed below form a part of this specification to the extent referenced.

1. 2006 International Building Code (IBC)

   a. Chapter 16 - Structural Design
   b. Chapter 17 – Structural Tests And Special Inspections

2. ASCE 7-05, Chapter 13, Minimum Design Loads For Buildings and Other Structures, American Society of Civil Engineers (ASCE).
3. ACI 318, Building Code Requirements for Structural Concrete, American Concrete Institute (ACI).

1.4 COMPONENT IMPORTANCE FACTOR

A. In order to identify systems requiring seismic restraint and to define those from which restraints may be excluded, utility components are assigned an ASCE 7 Importance Factor (Ip) on the basis of the following:

B. Ip = 1.5

1. Occupancy Category III or IV, essential facilities required for post earthquake recovery – all "Designated Seismic Systems" per IBC Chapter 17 required for the continued operation of the facility.
2. Life-safety component which is required to function after a seismic event including fire protection sprinkler systems.
3. Components that contain hazardous or flammable materials.

C. Ip = 1.0: All other components.

1.5 SUBMITTALS

A. Equipment Certification.

1. Equipment manufacturer to provide certificate of compliance for 2006 IBC proxing on line capability for the project use group and seismic design category. Provide certifications for the following equipment: variable frequency motor, vibration isolators, controllers, air conditioning single zone units on emergency power, equipment support curbs, chillers, cooling towers, indoor air handlers, rooftop air handlers, exhaust fans, control panels, above ground tanks. Equipment manufacturer certification to be based on shake table or three dimensional shock testing or experience data as required by ASCE/SEI 7-05.
2. The following equipment is considered rugged and does not require a certificate of compliance: pumps, valves, motors, air compressors, and underground tanks.

B. Contractor to identify and convey each overhead deck condition to which seismic attachments will be made. Information to include type and density of concrete, concrete thickness, size and gage of metal deck and any point load limitations or restrictions.

C. Provide Seismic Design Force calculations per ASCE 7- 05, Formulas 13.3-1 thru 13.3-3 stamped by a registered design professional qualified civil or structural engineer licensed to practice in the State where project is located. For multi-story projects, provide calculated Seismic Design Force for each floor.

D. Submit seismic restraint layouts stamped by a registered design professional qualified civil or structural engineer licensed to practice in the State where project is located. Seismic restraint layouts to show:

1. All vertical support and seismic brace locations.
2. All anchorage connections to structure. Anchor brand, type, quantity and size.

3. Vertical support and brace reaction point load at all connections to structure. For review by engineer of record in checking suitability of the building structure to accommodate imposed loads.
4. Plan set sheets showing appropriate installation details reflecting actual job site conditions.

E. Include cover sheet with Seismic Restraint Bracing Legend delineating:

1. Maximum Allowable Size or Utility Weight (Lbs/Lf).
2. Minimum Vertical Support Rod Diameter.
3. Support Rod Total Vertical Load.
4. Maximum Allowable Transverse Brace Spacing.
5. Transverse Brace Reaction.
6. Maximum Allowable Longitudinal Brace Spacing.
7. Longitudinal Brace Reaction.
8. Minimum Required Seismic Restraint Brace Arm Assembly.
9. Minimum Required Seismic Restraint Anchorage To Overhead Structure.
10. Installation Detail Drawing References.

1.6 QUALITY ASSURANCE

A. Registered design professional who completed seismic submittal to check suitability of structure to accommodate applied seismic loads.

B. Registered design professional who completed seismic submittal is to provide a “Statement of Special Inspections” in conformance with 2006 IBC, Chapter 17.

C. Each contractor responsible for the construction of a “Designated Seismic System” shall submit to the building official and owner prior to the commencement of work on the system or component a written “statement of responsibility” per IBC Chapter 17.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Seismic restraint hardware and engineering by International Seismic Application Technology (ISAT), Mason Industries, Tolco, or approved equal.

B. Vertical support and seismic restraint anchorages to utilize Cast-In Place Deck Inserts, or Post Installed Anchors. All deck inserts or post installed anchors to have a valid ICC ESR evaluation report (or equal) substantiating the insert or anchor capacity.

C. Vertical support and seismic restraint connections to structural steel are to utilize fixed Beam Clamp connections or Welded or bolted connections.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Roof mounted equipment: All roof mounted equipment is to be positively attached to roof support curb or isolators by bolting or welding. All support curbs to resist compressive, shear, tension, and rotational loads (including seismic loads) and translate these loads to building structure. The design of all support curbs shall be performed by an engineer licensed in the project state. Curb design to minimize rotational loads to structure and be positively attached to building structure by bolting or welding.

B. For conditions not covered within pre-engineered drawings, the required engineering is to be performed by a registered Engineer.

C. Manufacturer shall provide field installation training prior to commencement of install.

D. Field relocation of any seismic installation points away from that shown on the furnished shop drawing layouts shall be coordinated with registered design professional who completed seismic submittal.

E. Consult Registered design professional who completed seismic submittal when field conditions prohibit compliance with the supplied installation details.

F. In order to satisfy ASCE 7 minimum yield strength requirements, the allowable brace spacing for non-ductile systems (eg. cast iron, plastic and glass pipe) shall be no more than half that for ductile systems.

3.2 EQUIPMENT CONNECTIONS

A. Where seismic bracing is allowed to be omitted due to size or proximity to overhead deck, all terminations to fixed equipment, panels, etc. or to other portions of the system requiring seismic restraint are to utilize flexible connectors.

B. Where seismic bracing is allowed by code to be omitted due to size or proximity to overhead deck, contractor shall be responsible for assuring that damaging impact or vertical support failure cannot occur.

3.3 SPECIAL INSPECTION

A. Special Inspection Requirements: All Designated Seismic Systems are subject to Special Inspection per IBC Chapter 17.

B. Special inspection for mechanical components shall be provided as follows:

1. For all Designated Seismic Systems within seismic design categories D, E or F.

2. Periodic special inspection during the installation for flammable, combustible or highly toxic piping systems and their associated mechanical units in Seismic Design Categories C, D, E or F.
3. Periodic special inspection during the installation of HVAC ductwork that will contain hazardous materials in Seismic Design Categories C, D, E or F.
4. Periodic special inspection during the installation of vibration isolation systems where the construction documents indicate a maximum clearance (air gap) between the equipment support frame and restraint less than or equal to 1/4 inch.

C. Install identification tags at all seismic brace locations. Tags to include the following information:

1. Specific seismic forces (g-force) the location was designed to resist.
2. Maximum brace reaction at connection to structure.
3. For single hung items, the maximum pipe/conduit size the brace location was designed to accommodate.
4. For trapeze supported items, the maximum weight (lbs/lf) the brace location was designed to accommodate.
5. For suspended equipment, the maximum unit operating weight (lbs) the brace location was designed to accommodate.
6. Location identifier cross matched to that on plan set layout.
7. Company name of installing contractor.

D. Upon completion of construction a Quality Assurance Representative of registered design professional who completed seismic submittal shall review the installation of the seismic-force-resisting system and provide documentation indicating general conformance to seismic restraint layout drawing.

END OF SECTION 230547