



State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON
Director

ADDENDUM #1

Date: April 28, 2009

To: Contractors

From: Michael Ambre, Project Manager, DFCM

Reference: Gunther Trades Building Dance Studio
Utah Valley University – Orem, Utah
DFCM Project No. 08321790

Subject: **Addendum No. 1**

Pages	Addendum	1 page
	Revised Bid Form	2 pages
	<u>Architects Addendum</u>	<u>25 pages</u>
	Total	28 pages

Note: *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1.1 **SCHEDULE CHANGES** – There are no changes to the project schedule.

1.2 **GENERAL** – P+A Architects - Specifications and Drawings.

Revised Bid Form

Additive Alternate No.1 – Mirrors, as per architectural detail and specification.

Utah!
Where ideas connect



Division of Facilities Construction and Management

REVISED BID FORM

NAME OF BIDDER _____ DATE _____

To the Division of Facilities Construction and Management
4110 State Office Building
Salt Lake City, Utah 84114

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Instructions to Bidders", in compliance with your invitation for bids for the **Gunther Trades Building Dance Studio – Utah Valley University – Orem, Utah – DFCM Project No. 08321790** and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: _____

For all work shown on the Drawings and described in the Specifications and Contract Documents, I/we agree to perform for the sum of:

BASE BID:

_____ DOLLARS (\$ _____)
(In case of discrepancy, written amount shall govern)

ADDITIVE ALTERNATE No.1: Mirrors, as per architectural detail and specification on addenda #1.

_____ DOLLARS (\$ _____)
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by August 7, 2009, should I/we be the successful bidder, and agree to pay liquidated damages in the amount of **\$300.00** per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor's Agreement.

This bid shall be good for 45 days after bid opening.

Enclosed is a 5% bid bond, as required, in the sum of _____

The undersigned Contractor's License Number for Utah is _____.

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in the Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract.

The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within the time set forth.

Type of Organization:

(Corporation, Partnership, Individual, etc.)

Any request and information related to Utah Preference Laws:

Respectfully submitted,

Name of Bidder

ADDRESS:

Authorized Signature

ADDENDUM NO. I

Date: April 27th, 2009

PROJECT:

Utah Valley University
Gunther Trades Building
New Dance Studio Interior Remodel
Orem, Utah

ARCHITECT:

P+A ARCHITECTS
821 EAST KENSINGTON AVENUE
SALT LAKE CITY, UT 84105

The original Contract Documents issued for the above noted project are amended as noted in this Addendum. It shall be the sole responsibility of the bidder to appropriately disseminate this information to all concerned prior to the assigned bid time and date, and to coordinate the Addendum with the Contract Documents.

This Addendum consists of a total of Twenty One (21) 8 ½"x11" documents, including this document and a total of Four (4) revised 24"x36" construction documents.

If there are still unresolved questions after examining this addendum, please submit those questions via telephone or facsimile as soon as possible so that an addendum can be issued to clarify those issues in a timely manner.

Architectural:

1. See attached revised specification table of contents.
2. The general contractor shall provide behind the new high / low water coolers a 5'-0" high x 5'-0" wide ceramic tile splash area. The ceramic tile shall be set on 5/8" cementitious tile backer board. Ceramic tile to be Dal-Tile or approved equal price group 1, 2, or 3. General contractor shall use un-sanded tile grout.
3. See attached revised drawing A-EP702 indicating new guard railing design for stair.
4. See attached list of approved steel fabricators to be used for the steel stair construction and fabrication.
5. See attached revised drawing A-EP700 indicating change to diameter of dance barre.

Mechanical:

1. See attached mechanical addenda for removal of existing utility sink.

Electrical:

1. See attached electrical addenda no 1
2. See attached revised electrical drawings E101 and E102.

End of Addendum I

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LOLAPPROVED FABRICATOR LIST FOR 2009

All approvals are site specific. Additional shop locations must be approved individually.

MEDIUM AND HIGH STRENGTH STEEL CATEGORY

<u>Company Name</u>	<u>Address</u>	<u>Certification</u>	<u>Expiration Date</u>
American Building Company 775-887-2900 Fax 775-882-1751 Wayne Thompson QA Supervisor wthompson@americanbuildings.com	2401 Conestoga Drive Carson City NV. 89706	IAS	08-01-2009
AMFAB STEEL SPECIALTIES 801 298-2900 Kathy Jarvie Kathy@amfabsteel.com	787 South 950 West Woods Cross, UT 84087	4 quarterly inspections	12-31-2009
BEHLEN MFG. CO. 402-562-4199 Roland Augspurger, S.E. Director of Engineering roland.augspurger@behlenedge.com	4025 East 23 rd Street PO Box 569 Columbus, NE 68602-0569	SGS (ISO)	12-31-2009
BLUE STAR STEEL 801 908-8302 Jeff Wright Jeff@buestarsteel.com Andre Olsen Andre@bluestarsteel.com	3692 West 500 South Salt Lake City, UT 84104	AISC	10-31-2009
BRAHMA STEEL 801 282-2700 Steve Wendell swendel@tmcorp.us Chelsey Lucero ChelseyL@brahmagroupinc.com	5621 West Wells Park Rd. West Jordan, UT 84088		12-31-2008

<p>CBC STEEL BUILDINGS (A NUCOR COMPANY) 209 983-0910 David Burila dburila@cbcsteelbuildings.com</p>	<p>1700 East Louise Avenue Lathrop, CA 95330</p>	<p>CCDDS-BD</p>	<p>05-19-2009</p>
<p>Ceco Building Systems 319-385-8001 Lee Frankenberger frankenberger@cecobuildings.net</p>	<p>305 North Iris Road Mt. Pleasant, IA 52641</p>	<p>CWB</p>	<p>01-02-2010</p>
<p>CO Building Systems Inc. 435-283-4040 Fax 435-283-8326 Brooks Walk Brooks109@cobuildings.net</p>	<p>320 West 100 North Ephraim, UT 84642</p>	<p>CCDDS-BD</p>	<p>05-19-2009</p>
<p>F & J STEEL FABRICATION, INC 801 295-1079 John Parlett general@fjsteelfabrication.com</p>	<p>PO BOX 540414 No. Salt Lake City, UT 84054</p>	<p>AISC 4 Audits in 2008</p>	<p>12-31-2009</p>
<p>GARCO Building Systems (509) 444-7129 Glen Morris</p>	<p>2714 South Garfield RD. Airway Heights, WA 99001</p>	<p>IAS</p>	<p>12-31-2009</p>
<p>GEM (Golden Empire Manuf.) 435-538-5490 Clark Ellis Clarke@gembuildings.com</p>	<p>1025 North Watery Lane Brigham City, UT 84302</p>	<p>IAS</p>	<p>12-31-2009</p>
<p>HCI Steel Building Systems, Inc 801-201-3857 Fax 435-753-0155 Larry Lefever larryl@hcisteel.com</p>	<p>937 East 320 North Logan, UT 84321</p>	<p>CWB</p>	<p>09-22-2009</p>

JT STEEL (801) 280-3520 Brian Stephensen bstephensen@jtsteel.com	9550South Hawley park Rd West Jordan, UT 84088	CCDDS-BD	03-15-2010
Legacy Steel Fabricators 801-262-3303 Fax 801262-3487 Todd Reed drawings@legacysteel.net	575 West 3615 South Salt Lake City 84115	AISC	10-31-2009
Lundahl Ironworks Company (208) 646-2600 Fax (208) 646-2700 Additional contact: Steel Concepts Craig Eggli (801) 452-6699	102 South 100 West P.O. Box 59 Franklin, Idaho 83237	AISC	09-30-2009
Mark Steel Corp. (801) 303-2036 Jeff W. Eggleston	1230 West 200 South PO. Box 16006 Salt Lake City, UT 84116	CCDDS-BD	4-30-2009
MASCO, INC. 801 295-4695 Louie Coletti Louie1@mcleodusa.net	462 South 675 West Centerville, UT 84014		12-31-2008
NCI Building Systems LP (Metallic Building Systems) 1-800-793-8101 Garry Duke Approved Shops	2612 Gribble St. PO. Box 470 No. Little Rock, AR 72114	IAS	12-31-09
	550 Industry Way Atwater, Ca 95301		
	7301 Fairview Huston, Texas 77041		
	422 Kirby Drive Lexington, Tennessee 77381		

**NUCOR
BUILDING SYSTEMS**
435 919-3185
Scott A. Russell
srussell@nbsut.com

PO BOX 907
1050 North Watery Lane
Brigham City, UT 84302

CWB

07-26-2009

PORTER CORP
616 399-1963
Eric Pelak
ericp@portercorp.com
Utah Representative
Diana Ross
(801) 274-0212
playspace2@earthlink.net

4240 North 136th Avenue
Holland, MI 49424

CCDDS-BD

03-20-2010

Eagle Span
(970) 593-0596
Frank Humbert
fhumbert@eaglespan.com

120 NE Frontage Rd.
Fort Collins, CO

CWB

08-31-2009

S & S STEEL
435 635-9801
Charlie Gubler
charles@sssteelfab.com
or Jeffrey Staples
PLEASE FAX MATERIAL
TO: 435 635-9804

PO BOX 129
2292 West 500 North
Hurricane, UT 84737

AISC

12-31-2009

TECH-STEEL, INC
801 328-2543
Quin Harmon
quin@tech-steel.com

PO BOX 160386
Clearfield, UT 84016

CCDDS-BD

09-30-2009

**UTAH ORNAMENTAL
& IRON WORKS**

801 973-8678

John (Vice Pres.)

utahornjohnjr@qwest.net

Approved Shops

2750 West 900 South
Salt Lake City, UT 84104

2750 West 900 South
Salt Lake City, UT 84104

CCDDS-BD

01-23-2010

568 South Redwood Rd.
Salt Lake City, UT 84104

CCDDS-BD

01-16-2010

VERCO DECKING INC.

(602) 272-1347

Approved Shops

4340 N. 42nd Avenue
Phoenix, Arizona 85019
4340 N. 42nd Avenue
Phoenix, Arizona 85019

ICBO

12-31-2009

607 Wilbur Avenue
Antioch, California 94509

8333 Lime Street
Fontana, California 92334

VP Buildings

Travis Lefever

travis@buildingsbydesign.com

2250 Lower Lake Rd.
St. Joseph MO 64504

CWB

02-12-2010

VULCRAFT GROUP

435 734-9433

Bruce F. Brothersen

bbrothersen@Vulcraft-UT.com

1875 West Hwy. 13 South
Brigham City, UT 84302

12-31-2008

MECHANICAL ADDENDUM NO. 1

DATE: April 24, 2009
PROJECT NO: 8557
PROJECT: Gunther Trades Bldg. Dance Studio Improvement

DIVISION - 15

DRAWINGS

SHEET - MD101

1. Remove existing heating water piping as shown x'd. See attached supplemental drawing SD-01 (MD101).

SHEET - M101

1. Provide and install new vibration isolators at all hanging points (approximately 4 locations) of the existing air handler suspended from structure. Field verify existing conditions. See attached supplemental drawing SD-02 (M101).

SPECIFICATIONS

SECTION - 15975 Automatic Temperature Controls

1. Add the following scope of work: Replace existing fan motor and provide new VFD to existing air handler serving Dance Studio 612.
 - A. Replace existing 7.5 hp fan motor with new premium efficiency motor, VFD compatible, 7.5 hp, 460/3. Field verify existing conditions. Motor mounts on exterior of air handler.
 - B. Provide and install new 7.5 hp Variable Frequency Drive (VFD). Replace existing starter with new VFD. Field verify location and conditions.
 - C. Provide control to modulate VFD/fan motor based on space temperature. Replace space sensor as necessary.
 - D. Provide motor, VFD, all mechanical connections, all power connections, power wiring, control wiring, control devices, etc for a complete installation.

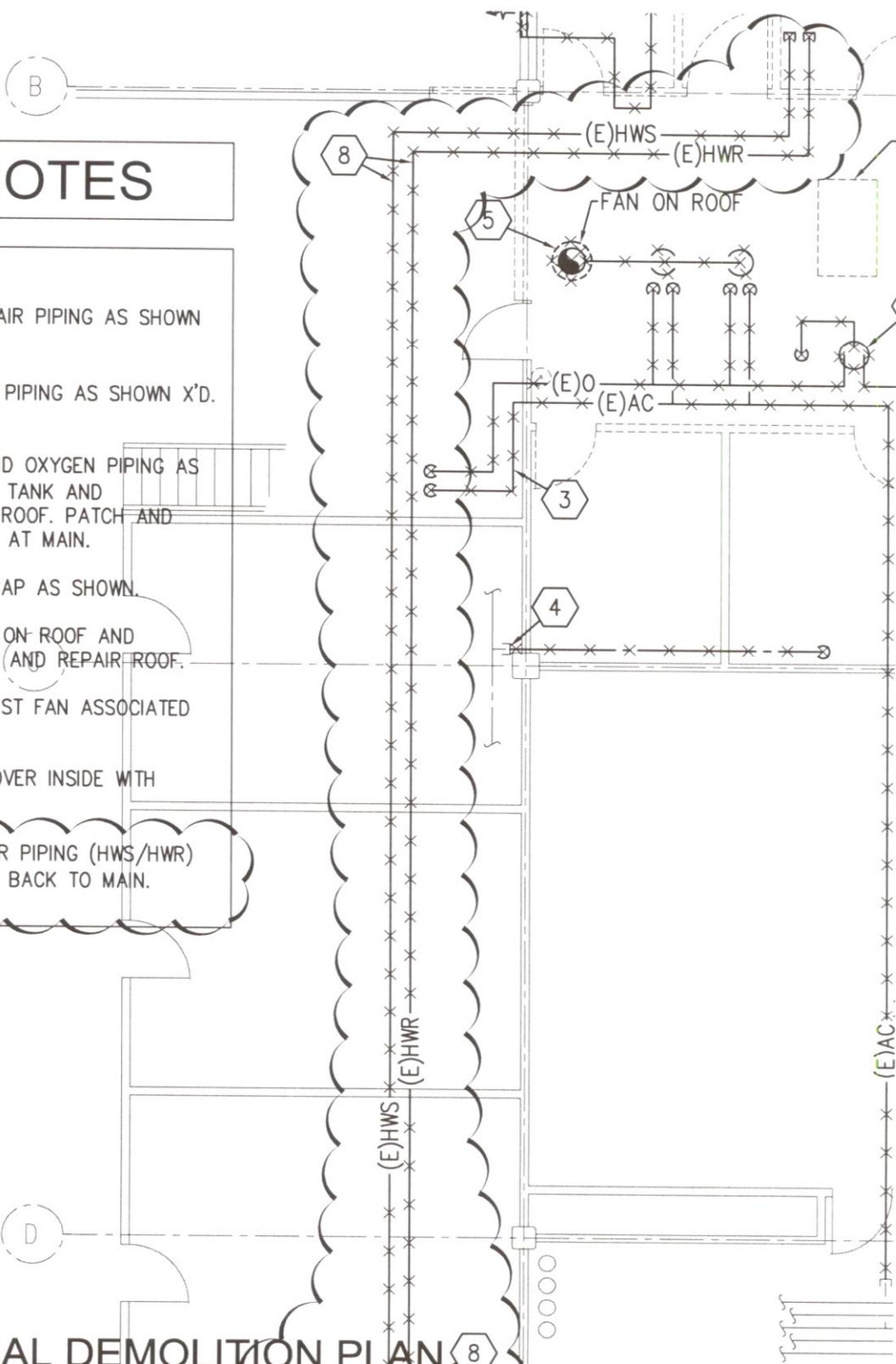
PRIOR APPROVALS

The following manufacturers, trade names and products are allowed to bid on a name brand only basis with the provision that they completely satisfy all and every requirement of the drawings, specifications and all addenda shall conform to the design, quality and standards specified, established and required for the complete and satisfactory installation and performance of the building and all its respective parts.

<u>Item</u>	<u>Manufacturer</u>	<u>Comments</u>
Registers, Grilles and Diffusers	Carnes	Approved

KEYED NOTES

1. REMOVE EXISTING COMPRESSED AIR PIPING AS SHOWN X'D. CAP BACK AT MAIN.
2. REMOVE EXISTING NATURAL GAS PIPING AS SHOWN X'D. CAP BACK AT MAIN.
3. REMOVE EXISTING ACETYLENE AND OXYGEN PIPING AS SHOWN X'D. REMOVE ACETYLENE TANK AND ACCESSORIES AND PIPING THRU ROOF. PATCH AND REPAIR ROOF. CAP PIPING BACK AT MAIN.
4. REMOVE EXISTING WATER LINE. CAP AS SHOWN.
5. REMOVE EXISTING EXHAUST FAN ON ROOF AND ASSOCIATED DUCT WORK. PATCH AND REPAIR ROOF.
6. REMOVE EXISTING INDOOR EXHAUST FAN ASSOCIATED DUCTWORK.
7. EXISTING LOUVER TO REMAIN. COVER INSIDE WITH INSULATION AND SHEET METAL.
8. REMOVE EXISTING HEATING WATER PIPING (HWS/HWR) AS SHOWN X'D. CAP AND VALVE BACK TO MAIN.



MECHANICAL DEMOLITION PLAN

SCALE 1/8" = 1'-0"



**VAN BOERUM
& FRANK
ASSOCIATES INC.**
CONSULTING ENGINEERS

Salt Lake City · Logan · St. George · Tempe · Pocatello
330 South 300 East 801.530.3148 T
Salt Lake City, UT 84111 801.530.3150 F

UTAH VALLEY UNIVERSITY
GUNTHER TRADES BUILDING
DANCE STUDIO IMPROVEMENTS

VBFA PROJECT # 0857
CHECKED BY: Substandard
DRAWN BY: E.Janz
CURRENT/REV DATE: APRIL 24, 2009
SHEET CONTENTS

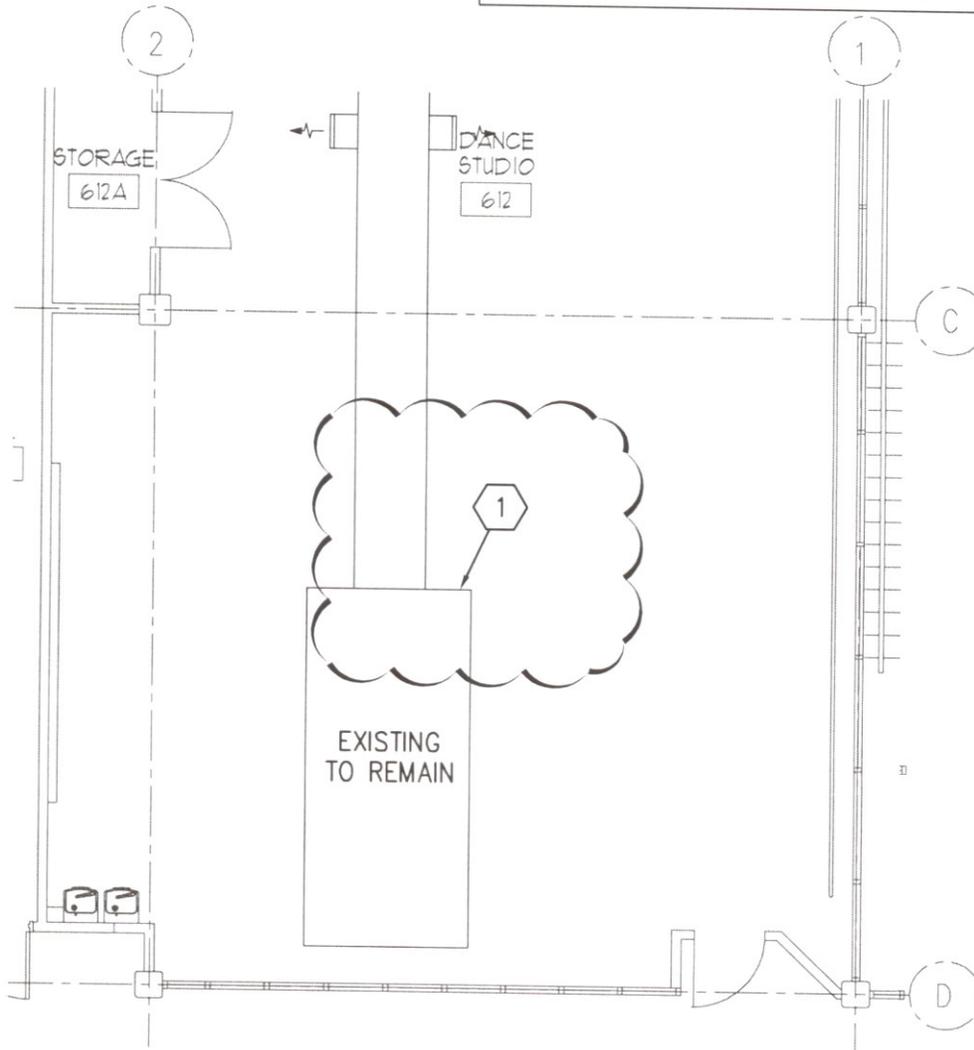
**SHEET DESCRIPTION
MECHANICAL
FLOOR PLAN**

**SD-01
MD101**



KEYED NOTES

1. PROVIDE AND INSTALL NEW VIBRATION ISOLATORS AT ALL HANGING POINTS (APPROX. 4) OF EXISTING AIR HANDLER SUSPENDED FROM STRUCTURE. FIELD VERIFY EXISTING CONDITIONS.



MECHANICAL FLOOR PLAN

SCALE 1/8" = 1'-0"



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Salt Lake City, UT 84111 801.530.3150 F

UTAH VALLEY UNIVERSITY
GUNTHER TRADES BUILDING
DANCE STUDIO IMPROVEMENTS

VBFA PROJECT # 0857
CHECKED BY: Saleghard
DRAWN BY: Elamir
CURRENT/DWG DATE: APRIL 24, 2009
SHEET CONTENTS

SHEET DESCRIPTION
MECHANICAL
FLOOR PLAN

**SD-02
M101**

ELECTRICAL ADDENDUM NO. 1

DATE: April 24, 2009
PROJECT NO: 8557
PROJECT: Gunther Trades Bldg. Dance Studio Improvement

DIVISION - 16

DRAWINGS

SHEET - E101

1. Provide smoke detectors and pull stations UL listed compatible with existing fire alarm system. See attached drawing E101.

SHEET - E102

1. Provide smoke detectors and horn-strobes UL listed compatible with existing fire alarm system. See attached supplemental drawing E102.
2. Do not support electrical from the roof deck without engineering provided to show the deck can support the additional load as directed by keyed note 11.
3. Provide separation of raceways from roof deck as directed by keyed note 8.

SPECIFICATIONS

SECTION - 16074 Vibration and Seismic Controls for Electrical Systems

1. Provide electrical seismic restraint required by IBC 1613.1 as indicated in Section 16074 attached.

SECTION 16074 - VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Isolation pads.
 - 2. Spring isolators.
 - 3. Restrained spring isolators.
 - 4. Channel support systems.
 - 5. Restraint cables.
 - 6. Hanger rod stiffeners.
 - 7. Anchorage bushings and washers.
- B. Related Sections include the following:
 - 1. Division 16 Section "Hangers and Supports for Electrical Systems" for commonly used electrical supports and installation requirements.

1.3 DEFINITIONS

- A. The IBC: International Building Code.
- B. ICC-ES: ICC-Evaluation Service.
- C. OSHPD: Office of Statewide Health Planning and Development for the State of California.

1.4 PERFORMANCE REQUIREMENTS

- A. SEISMIC RESTRAINT
 - 1. The work in this section consists of furnishing engineering and materials necessary for vibration isolation and seismic restraints for equipment contained herein for the project.
 - 2. Other sections of DIVISION 16 form a part of this section. Refer to all sections for a complete description of the work.
 - 3. All electrical equipment .75 HP and over listed in the equipment schedule shall be mounted on vibration isolators to prevent the transmission of objectionable vibration and vibration induced sound to the building structure.
 - 4. All isolation materials, flexible connectors and seismic restraints shall be of the same manufacturer and shall be selected and certified using published or factory certified data. Any

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Gunther Trades Building – New Dance Studio
Division of Facilities Construction Management

variance or non-compliance with these specification requirements shall be corrected by the contractor in an approved manner.

5. The contractor and manufacturer of the isolation and seismic equipment shall refer to the isolator and seismic restraint schedule which lists isolator types, isolator deflections and seismic restraint type. Vibration isolators shall be selected in accordance with the equipment or conduit weight distribution so as to produce reasonably uniform deflections.
6. Unless otherwise specified, all electrical equipment and conduit shall be restrained to resist seismic forces. Restraints shall maintain equipment and conduit in a captive position. Restraint devices shall be designed and selected to meet the seismic requirements as defined in the latest issue of the IBC or local jurisdiction building code.
7. These exceptions are based on IBC 2006. Verify local code is the same. The 2006 IBC requires that electrical components be given an importance factor. This importance factor is used to determine which equipment may or may not be exempt from seismic design force requirements. The component importance factor is determined as follows:

$I_p = 1.5$	Life-safety component is required to function after an earthquake.
$I_p = 1.5$	Component contains hazardous or flammable material.
$I_p = 1.5$	Storage racks in occupancies open to the general public (e.g., warehouse retail stores).
$I_p = 1.0$	All other components.

8. In addition, for structures in Seismic Use Group IV (Buildings having essential facility required for post earthquake recovery, and those containing substantial quantities of hazardous substances as designated by local building officials),

$I_p = 1.5$	For components needed for continued operation of the facility or whose failure could impair the continued operation of the facility. This project shall use an $I_p = 1.5$.
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B. SEISMIC RESTRAINT SHALL NOT BE REQUIRED FOR THE FOLLOWING:

1. Rigidly floor mounted electrical components in all seismic design categories, where $I_p = 1.0$ and flexible connections between the components and associated conduit are provided, that are mounted at 4 feet (1219 mm) or less above a floor level and weight 400 pounds (1780 N) or less and are not critical to the continued operation of the structure. Suspended, wall mounted and flexibly mounted equipment are not included in this exclusion.
2. Hanging, wall mounted, and flexibly supported electrical components that weigh 20 pounds (89 N) or less, where $I_p = 1.0$ and flexible connections are provided between the components and associated conduit.
3. Conduit supported by individual clevis hangers where the distance, as measured from the top of the conduit to the supporting structure, is less than 12 inches (305mm) for the entire conduit run and the conduit can accommodate the expected deflections. Trapeze or double rod hangers where the distance from the top of the trapeze or support to the structure is less than 12 inches for the entire run. Hanger rods shall not be constructed in a manner that would subject the rod to bending moments (swivel, eye bolt, or vibration isolation hanger connection to structure).
4. High deformability conduit (steel, aluminum with screwed connections) designated as having an $I_p = 1.5$ and a nominal size of 1 inch (25 mm) or less where provisions are made to protect the conduit from impact or to avoid the impact of larger conduit, piping or other equipment. Note, any combination of conduit supported on a trapeze where the total weight exceeds 10 lb/ ft. must be braced.
5. High deformability conduit (steel, aluminum with screwed connections) and limited deformability conduit (PVC) designated with an $I_p = 1.0$ and a nominal conduit size of 1 inch and less in the electrical equipment room, or 2" and less outside the electrical equipment room.

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Gunther Trades Building – New Dance Studio
Division of Facilities Construction Management

6. Equipment items installed in-line with the mechanical duct system (e.g, fans, heat exchangers and humidifiers) with an operating weight less than 76 pounds (334 N). Equipment must be rigidly attached to duct at inlet and outlet.

C. MANUFACTURER'S RESPONSIBILITIES:

1. Manufacturer of vibration and seismic control products shall have the following responsibilities:
 - a. Determine vibration isolation and seismic restraint sizes and locations.
 - b. Provide conduit and equipment isolation systems and seismic restraints as scheduled or specified.
 - c. Provide installation instructions and shop drawings for all materials supplied under this section of the specifications.
 - d. Provide calculations to determine restraint loads resulting from seismic forces presented in local building code or IBC, Chapter 16 latest edition. Seismic calculations shall be certified by a licensed engineer in the employ of the seismic equipment manufacturer with a minimum 5 years experience. Provide calculations for all floor or roof mounted equipment 400lbs (1780 N) or greater (20lbs (89 N) or greater for $I_p=1.5$), all suspended or wall mounted equipment 20lbs (89 N) or greater, and vibration isolated equipment 20lbs (89 N) or greater.
 - e. Seismic restraint load ratings must be certified and substantiated by testing or calculations under direct control of a registered professional engineer.
 - f. Calculations and restraint device submittal drawings shall specify anchor bolt type, embedment, concrete compressive strength, minimum spacing between anchors, and minimum distances of anchors from concrete edges. Concrete anchor locations shall not be near edges, stress joints, or an existing fracture. All bolts shall be ASTM A307 or better.

1.5 QUALITY ASSURANCE

- A. The isolators and seismic restraint systems manufacturer shall be a member of the Vibration Isolation and Seismic Control Manufacturers Association (VISCMA).
- B. Steel components shall be cleaned and painted with industrial enamel. All nuts, bolts and washers shall be zinc-electroplated. Structural steel bases shall be thoroughly cleaned of welding slag and primed with zinc-chromate or metal etching primer.
- C. All isolators, bases and seismic restraints exposed to the weather shall utilize cadmium-plated, epoxy coat or PVC coated springs and hot dipped galvanized steel components. Nuts, bolts and washers may be zinc-electroplated. Isolators for outdoor mounted equipment shall provide adequate restraint for the greater of either wind loads required by local codes or withstand a minimum of 30 lb. / sq. ft. applied to any exposed surface of the equipment.
- D. Provide a written quality control procedure that outlines complete compliance of attachment of cabling restraints to brackets. For swaged connections, provide a gage to verify swage. For screw/clamp connection, provide torque values for attachment fasteners.

1.6 SUBMITTALS

- A. Submit shop drawings of all isolators, seismic restraints and calculations.
- B. The manufacturer of vibration isolation products shall submit the following data for each piece of isolated equipment: clearly identified equipment tag, quantity and size of vibration isolators and seismic restraints for each piece of rotating isolated equipment. Submittals for mountings and hangers incorporating springs shall include spring diameter and free height, rated deflections, and solid load. Submittals for bases shall

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Division of Facilities Construction Management

clearly identify locations for all mountings as well as all locations for attachment points of the equipment to the mounting base. Submittals shall include seismic calculations signed and checked by a qualified licensed engineer in the employ of the manufacturer of the vibration isolators. Catalog cut sheets and installation instructions shall be included for each type of isolation mounting or seismic restraint used on equipment being isolated.

- C. Submit quality assurance procedures as required under 1.4.4 at time of isolator/seismic submittals. Submittal must be stamped by a registered professional engineer who is responsible for the seismic restraint design. All vibration isolation/seismic submittals not complying with this certification will be rejected.
- D. Provide shop drawings indicating location of all specification SC cable restraints required. Drawings must be stamped by manufacturer's registered professional engineer.
- E. Electrical equipment manufacturers shall provide certification that their equipment is capable of resisting expected seismic loads without failure. Equipment manufacturers shall provide suitable attachment points and/or instructions for attaching seismic restraints.
- F. Provide a certification from the seismic design engineer that the seismic restraints will comply with the applicable code requirements. Certification must be stamped by a registered profession engineer.
- G. Provide a Certificate of Completion from the manufacturer's representative upon completion of the job.

PART 2 - PRODUCTS

2.1 VIBRATION ISOLATORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Amber/Booth Company, Inc.
 - 2. Kinetics Noise Control.
 - 3. Mason Industries.
 - 4. Vibration Mountings & Controls, Inc.
 - 5. Vibro Acoustics
- B. Specification W: a pad type mounting consisting of two layers of ribbed elastomeric pads with a 1/2" poro-elastic vibration absorptive material bonded between them. Pads shall be sized for approximate deflection of 0.10" to 0.18". Pads shall be Amber / Booth Type NRC.
- C. Specification A: an elastomeric mounting having a steel baseplate with mounting holes and a threaded insert at top of the mounting for attaching equipment. All metal parts shall be completely embedded in the elastomeric material. Mountings shall be designed for approximately 1/2" deflection, and incorporate a steel seismic snubber with all directional restraint. Mountings shall be Amber/Booth Type SRVD.
- D. Specification B: an adjustable, freestanding, open spring mounting with combination leveling and equipment fastening bolt. The spring shall be welded to the spring mounting baseplate and compression plate for stability. The isolator shall be designed for a minimum k_x/k_y (horizontal-to-vertical spring rate) of 1.0. An elastomeric pad having a minimum thickness of 1/4" shall be bonded to the baseplate. Nuts, adjusting bolts and washers shall be zinc-electroplated to prevent corrosion. This type isolator must be used with specification SL seismic restraint (section 2.3.1). Isolators shall be Amber/Booth Type SW.
- E. Specification C: a unitized adjustable, stable open spring isolator with a seismic restraint housing which serves as a blocking device during equipment installation. The spring package shall include an

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elastomeric pad for high frequency absorption at the base of the spring. The springs shall be designed for a minimum k_x/k_y (horizontal-to-vertical spring rate) of 1.0. Nuts, adjusting bolts and washers shall be zinc-electroplated to prevent corrosion. The spring assembly shall be removable with equipment in place and shall fit within a welded steel enclosure consisting of a top plate and rigid lower housing. Isolated seismic restraint bolts shall connect top plate to lower housing to resist seismic and wind forces in all directions and limit motion to a maximum of 1/4" movement before engaging. Surfaces that engage under seismic motion shall be cushioned with a resilient elastomeric pad or grommet to protect equipment. Top plate shall have adequate means for fastening to the equipment, and baseplate shall have adequate means for bolting to structure. Entire assembly shall be rated to exceed the applied seismic load (para 1.3.4.). Seismic isolator shall be Amber/Booth Type CTER.

- F. Specification D: an elastomeric hanger consisting of a rectangular steel box capable of 200% minimum overload without visible deformation, 30 degree rod misalignment and an elastomeric isolation element designed for approximately 1/2" deflection. Hangers shall be Amber/Booth Type BRD.
- G. Specification E: a combination spring and elastomeric hanger consisting of a rectangular steel box capable of 200% minimum overload without visible deformation, 30 degree rod misalignment, coil spring, spring retainers and elastomeric element designed for approximately 1/2" deflection. The spring shall be designed for a minimum k_x/k_y (horizontal-to-vertical spring rate) of 1.0. Spring hangers shall be Amber/Booth Type BSRA.
- H. Specification F: a set (two or more) of spring thrust resisting assemblies, which consist of coil springs, spring retainer, isolation washer, angle mounting brackets, and elastomeric tubing for isolating thrust resistor rod from fan discharge. Thrust restraints shall be Amber / Booth Type TRK.
- I. Specification SB: a unitized adjustable open spring isolator and a welded steel housing designed to resist seismic forces in all directions. Restraint surfaces which engage under seismic motion shall be cushioned with a resilient elastomer to protect equipment. Restraints shall allow a maximum of 1/4" movement before engaging and shall allow for the spring to be changed if required. Isolator shall be a stable spring with a minimum k_y/k_y of 1.0. The spring package shall include an elastomeric pad for high frequency absorption at the base of the spring. Nuts and bolts shall be zinc-electroplated to prevent corrosion.
 - 1. Bolting equipment to isolator with bolts smaller than main adjusting bolt will not be allowed.
 - 2. Base plate shall provide means for bolting to the structure. Entire assembly shall be rated to exceed the applied seismic load. Mountings shall be Amber/Booth Type SWSR.

2.2 Bases

- A. Specification G: a welded integral structural steel fan and motor base with NEMA standard motor slide rails and holes drilled to receive the fan and motor slide rails. The steel members shall be adequately sized to prevent distortion and misalignment of the drive, and specifically, shall be sized to limit deflection of the beam on the drive side to 0.05" due to starting torque. Snubbers to prevent excessive motion on starting or stopping shall be furnished if required; however, the snubbers shall not be engaged under steady running conditions. Bases shall be Amber/Booth Type SFB.
- B. Specification H: a welded WF (main member) structural steel base for increasing rigidity of equipment mounted thereon or for unitizing belt driven fans. Fan bases shall have holes drilled to match fan and located to provide required center distance between fan and supplied NEMA standard motor slide rails. The steel members shall have minimum depth of 1/12" of the longest span, but not less than 6" deep. Junior beams and junior channels shall not be used. Cross members shall be provided where necessary to support the equipment or to prevent twisting of the main members. Where height restrictions prevent the use of members having a depth of 1/12 of the longest span, beams of less depth may be used provided they have equal rigidity. Provide height-saving brackets for side mounting of the isolators. Brackets for

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use with Specification type B isolators having 2.5" deflection or greater shall be of the precompression type to limit exposed bolt length. Bases shall be Amber/Booth Type WSB.

- C. Specification J: a concrete inertia base consisting of perimeter structural steel concrete pouring form (CPF), reinforcing bars welded in place, bolting templates with anchor bolts and height-saving brackets for side mounting of the isolators. Brackets for use with Specification type B isolators having 2.5" deflection or greater shall be of the pre-compression type to limit exposed bolt length. The perimeter steel members shall have a minimum depth of 1/12 of the longest span, but not less than 6" deep. The base shall be sized with a minimum overlap of 4" around the base of the equipment and, in the case of belt-driven equipment, 4" beyond the end of the drive shaft. Fan bases are to be supplied with NEMA standard motor slide rails. The bases for pumps shall be sized to support the suction elbow of end suction pumps and both the suction and discharge elbows of horizontal split-case pumps. The bases shall be T-shaped where necessary to conserve space. Inertia bases shall be Amber/Booth Type CPF.

2.3 Seismic Restraints

- A. Specification SL: a restraint assembly for floor mounted equipment consisting of welded steel interlocking assemblies welded or bolted securely to the equipment or the equipment bases and to the supporting structure. Restraint assembly surfaces which engage under seismic motion shall be lined with a minimum 1/4" thick resilient elastomeric pad to protect equipment. Restraints shall be field adjustable and be positioned for 1/4" clearance as required to prevent interference during normal operation. Restraint assembly shall have minimum rating of 2 times the catalog rating at 1 G as certified by independent laboratory test. Restraint shall be Amber/Booth Type ER.
- B. Specification SC: a restraint assembly for suspended equipment or conduit consisting of high strength galvanized steel aircraft cable. Cable must have Underwriters Laboratories listed certified break strength, and shall be color-coded for easy field verification. Secure cable to structure and to braced component through bracket or stake eye specifically designed to exceed cable restraint rated capacity. Cable must be manufactured to meet or exceed minimum materials and standard requirements per AISI Manual for structural applications of steel cables and ASTM A603. Break strengths must be per ASTM E-8 procedures. Safety factor of 1.5 may be used when prestretched cable is used with end connections designed to meet the cable break strength. Otherwise safety factor 3.76 must be used. Cables shall be sized for a force as listed in section 1.3. Cables shall be installed to prevent excessive seismic motion and so arranged that they do not engage during normal operation. Restraint shall be type LRC.

2.4 Conduit Guides and Anchors for Isolated Conduit

- A. Specification M: For conduit Guides where specifically shown on drawings to accommodate expansion loops and compensators, the vibration isolator manufacturer shall provide conduit guides consisting of a telescopic arrangement of two sizes of steel tubing separated by a minimum, half inch thickness of heavy duty neoprene and duck or elastomeric isolation material. Guides shall be Amber/ Booth type AG.
- B. Specification N: For anchors where specifically shown on drawings to accommodate expansion loops and compensators, the vibration isolator manufacturer shall provide all directional acoustical conduit anchors consisting of a telescopic arrangement of two sizes of steel tubing separated by a minimum half inch thickness of heavy duty neoprene and duck or elastomeric isolation material. All-directional anchors shall be Amber/Booth type AG.

PART 3 - EXECUTION

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3.1 EXAMINATION

- A. Examine areas and equipment to receive vibration isolation and seismic-control devices for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

- A. Isolator and seismic restraints shall be installed as recommended by the manufacturer. Isolate and restrain all electrical equipment as required by these specifications.
- B. All floor mounted isolated equipment shall be protected with type SB or type C unitized isolator and restraint or with separate type SL restraints (minimum of 4) in conjunction with type B isolators. For equipment with high center of gravity additional cable restraints shall be furnished, as required by isolation manufacturer, to limit forces and motion caused by rocking.
- C. All suspended isolated equipment and vessels shall be protected with specification SC restraints. Cables shall be installed to prevent excessive seismic motion and so arranged that they do not engage during normal operation.
- D. Rigidly Mounted Equipment:
 - 1. Floor mounted which are exempt shall be protected by properly sized anchor bolts with elastomeric grommets provided by the isolation manufacturer.
 - 2. Suspended equipment shall be protected with type SC bracing.
- E. Conduit:
 - 1. All conduit shall be protected in all planes by SC restraints, designed to accommodate thermal movement as well as restrain seismic motion. (Spring-loaded control rods should be used on flexible connectors in system). Equipment connected conduit shall be restrained independently. Locations shall be as determined by the isolator/seismic restraint supplier and shall include, but not be limited to: (1) At a proximity to protect all drops to equipment connections. (2) At changes in direction of conduit as required to limit over stressing or movement that contacts other building material. (3) At horizontal runs not to exceed the spacing as presented in Amber/Booth design criteria. (4) SMACNA design criteria.
 - 2. Where conduits pass through cored holes, core diameters to be a maximum of 2" larger than conduit O.D. including insulation. Cored holes must be packed with resilient material or firestop as provided by other sections of this specification or local codes. No additional horizontal seismic bracing is required. Restrained isolators type C or SB shall support risers and provide longitudinal restraint at floors where thermal expansion is minimal and will not bind isolator restraints. For risers in pipe shafts, specification SC cable restraints shall be installed at each level in a manner that does not interfere with thermal movement.

3.3 INSTALLATION

- A. Comply with manufacturer's instructions for the installation and load application of vibration isolation materials and products. Adjust to ensure that units do not exceed rated operating deflections or bottom out under loading, and are not short-circuited by other contacts or bearing points. Remove space blocks and similar devices (if any) intended for temporary support during installation or shipping.

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- B. Locate isolation hangers as near the overhead support structure as possible.
- C. Adjust leveling devices as required to distribute loading uniformly on isolators. Shim units as required where leveling devices cannot be used to distribute loading properly.
- D. Install isolated inertia base frames and steel bases on isolator units as indicated so that a minimum of 2 inch clearance below base will result when supported equipment has been installed and loaded for operation.

3.4 ACCOMMODATION OF DIFFERENTIAL SEISMIC MOTION

- A. Install flexible connections in runs of raceways, cables, wireways, cable trays, and busways where they cross seismic joints, where adjacent sections or branches are supported by different structural elements, and where they terminate with connection to equipment that is anchored to a different structural element from the one supporting them as they approach equipment.

3.5 FIELD QUALITY CONTROL

- A. Representative of seismic restraint system manufacturer to walk the project and provide documentation indicating conformance to ISAT shop drawing seismic restraint layout.

3.6 ADJUSTING

- A. Adjust isolators after isolated equipment is at operating weight.
- B. Adjust limit stops on restrained spring isolators to mount equipment at normal operating height. After equipment installation is complete, adjust limit stops so they are out of contact during normal operation.
- C. Adjust active height of spring isolators.
- D. Adjust restraints to permit free movement of equipment within normal mode of operation.

END OF SECTION 16074



- # KEYED NOTES
1. PROVIDE HORN STROBE TO MATCH EXISTING HORN STROBES. TIE INTO EXISTING FIRE ALARM SYSTEM. VERIFY EXISTING CONDITIONS.
 2. PROVIDE 1" CONDUIT FROM VOICE/DATE OUTLET IN WALL UP INTO THE CEILING, THEN STUBBED INTO NEAREST CABLE TRAY. CONDUIT RUN SHALL NOT EXCEED (3) 90 DEGREE BENDS. PROVIDE (1) BLUE MOHAWK CAT 5E CABLE FOR VOICE WITH BLUE/ORANGE PAIR TERMINATED ON JACK 1 AND GREEN/BROWN PAIR ON JACK 2 AND MOUNTED IN THE UPPER LEFT OF FACE PLATE. PROVIDE (2) WHITE SIEMON 10G 6A OR MOHAWK GIGLAND 10 DATA CABLES TERMINATED TO DATA JACKS MOUNTED IN THE LOWER LEFT OF FACE PLATE. ROUTE CABLES FROM VOICE/DATA JACK, THROUGH CONDUIT AND CABLE TRAY, AND TERMINATE IN THE DATA/PHONE ROOM.
 3. PROVIDE PHOTOELECTRIC SMOKE DETECTOR UL LISTED COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM AND CONNECT SMOKE DETECTOR TO EXISTING FIRE ALARM SYSTEM.
 4. PROVIDE MANUAL PULL STATION UL LISTED COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM AND CONNECT MANUAL PULL STATION TO EXISTING FIRE ALARM SYSTEM.

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 JOHNNS
 04/24/09
 NUMBER
 5246941
 STATE OF UTAH

PROJECT TITLE:
 UTAH VALLEY UNIVERSITY
 OREM, UTAH

GUNTHER TRADES BUILDING
 DANCE STUDIO
 IMPROVEMENTS

MARK	DATE	DESCRIPTION
1	04/24/09	REVISION & ADENDA #1

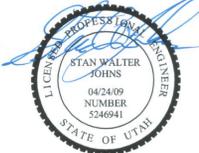
ISSUE TYPE: CONSTRUCTION DOCUMENTS

ISSUE DATE: 21st APRIL, 2009

DFCM PROJECT NO: 08321790
 CAD PROJECT NO:
 CAD DWG FILE:
 DRAWN BY: VBFA
 CHK'D BY: VBFA
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SHEET TITLE
**MAIN FLOOR
 POWER
 PLAN**

SHEET NUMBER
E101



MARK	DATE	DESCRIPTION
1	04/24/09	REVISION & ADENDA #1

ISSUE TYPE: CONSTRUCTION DOCUMENTS

ISSUE DATE: 21st APRIL, 2009

DFCM PROJECT NO: 08321790
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CAD DWG FILE:
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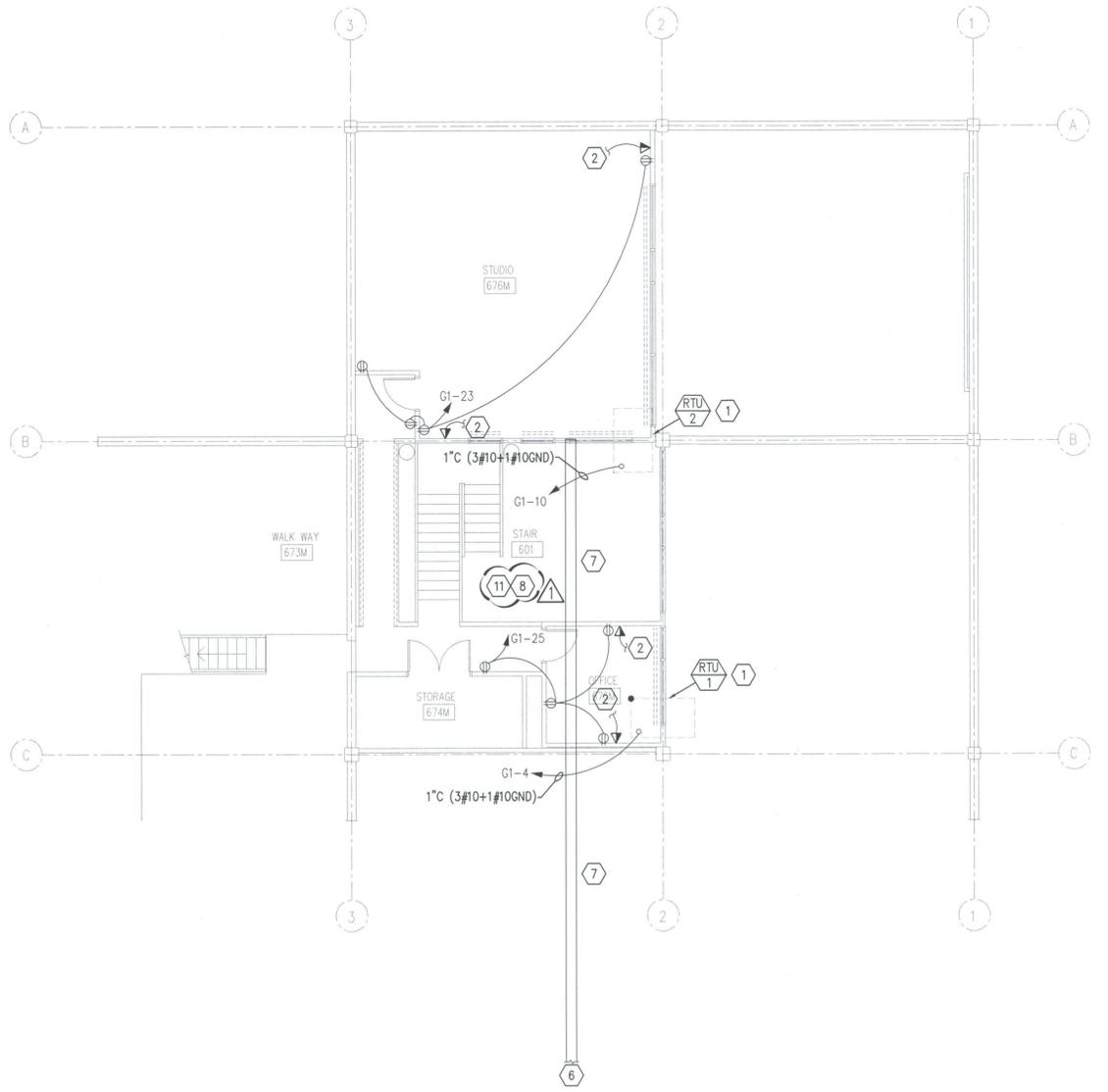
SHEET TITLE
**MEZZANINE LEVEL
LIGHTING AND
POWER/DATA PLAN**

SHEET NUMBER

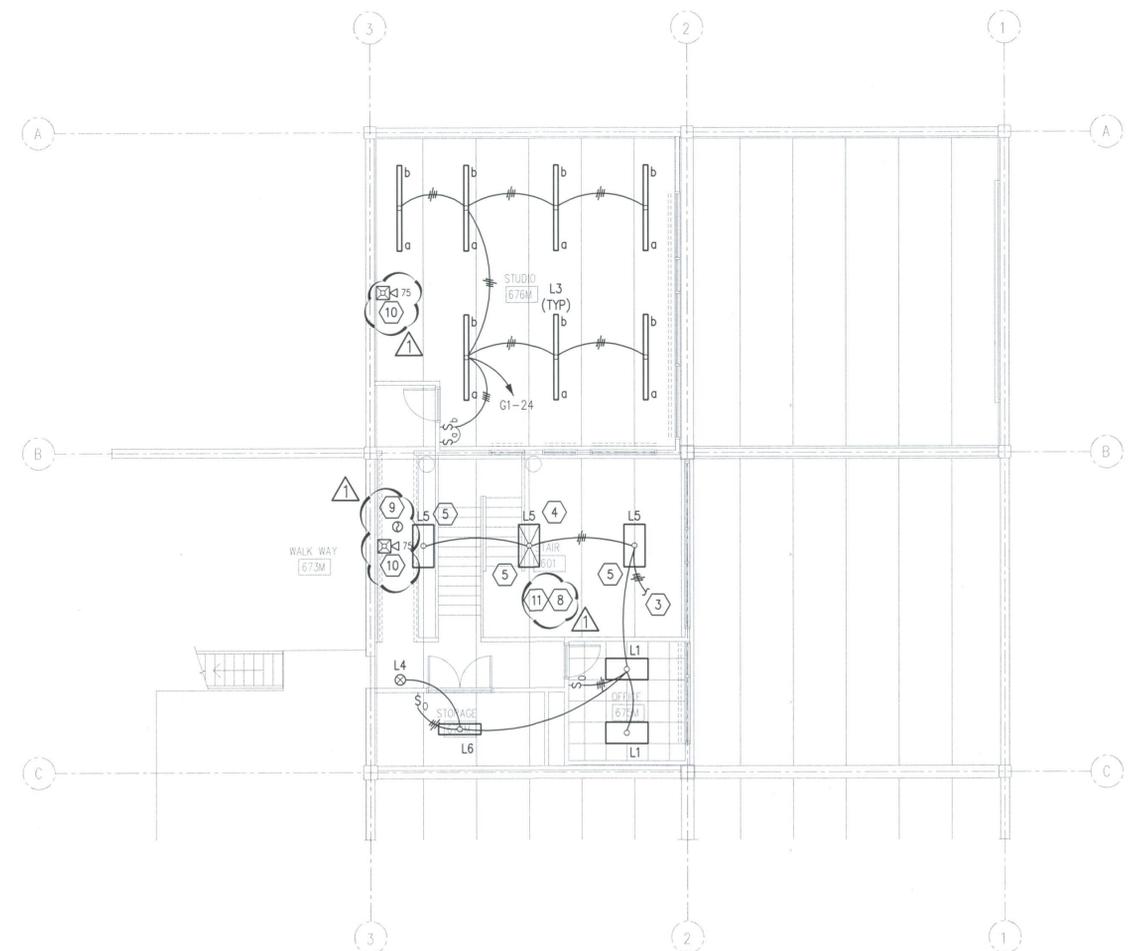
E102

- # KEYED NOTES CONT
- ANY CONDUIT INSTALLED UNDER THE ROOF DECKING SHALL BE INSTALLED AND SUPPORTED SO THAT THE OUTSIDE SURFACE OF THE CONDUIT IS GREATER THAN 1 1/2" FROM THE NEAREST SURFACE OF THE ROOF DECKING AS REQUIRED BY NEC 300.
 - CONNECT SMOKE DETECTOR TO EXISTING FIRE ALARM SYSTEM.
 - PROVIDE HORN STROBE TO MATCH EXISTING HORN STROBES. CONNECT TO EXISTING FIRE ALARM SYSTEM.
 - STEEL ROOF DECK SHALL NOT BE USED TO SUPPORT LOADS FROM PIPING OR EQUIPMENT, UNLESS NOTED OTHERWISE. HANGER LOADS LESS THAN 50 LBS. MAY BE HUNG FROM THE STEEL ROOF DECK IN CASES WHEN HANGING FROM THE STEEL ROOF DECK CANNOT BE AVOIDED. THE ATTACHMENT METHOD MUST DISTRIBUTE THE LOAD ACROSS THE DECK AS APPROVED BY THE STRUCTURAL ENGINEER.

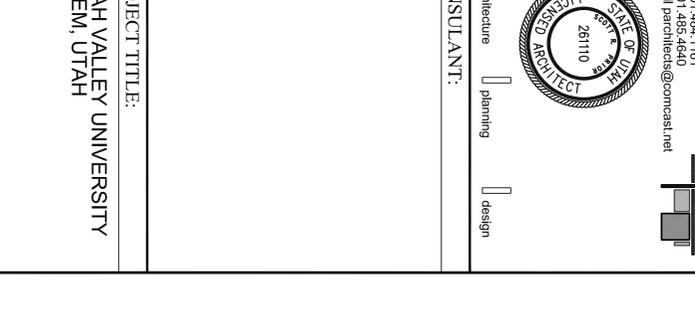
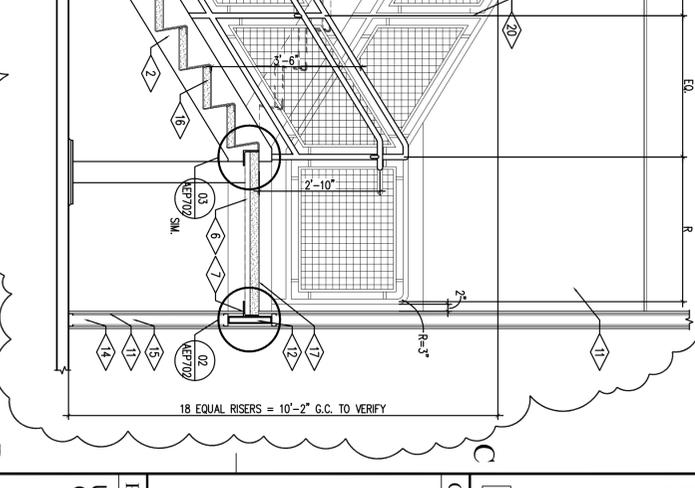
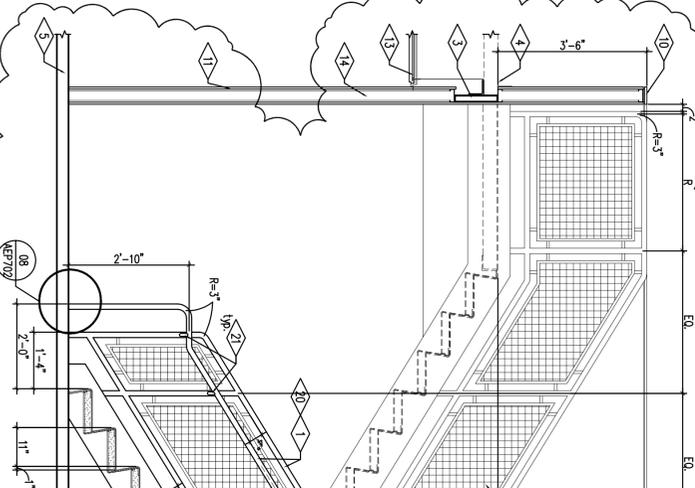
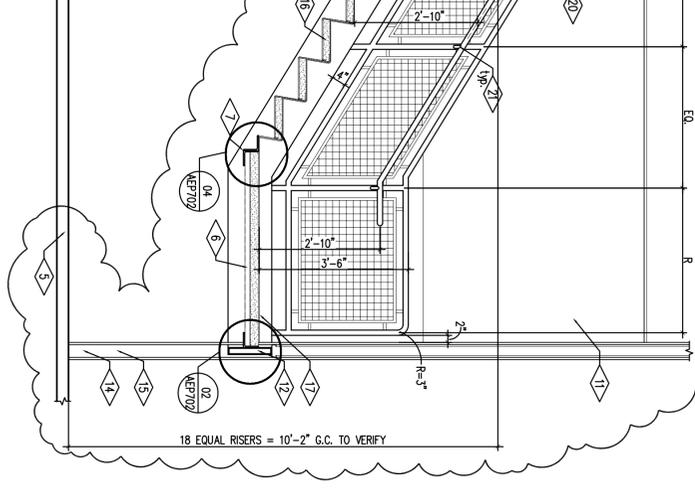
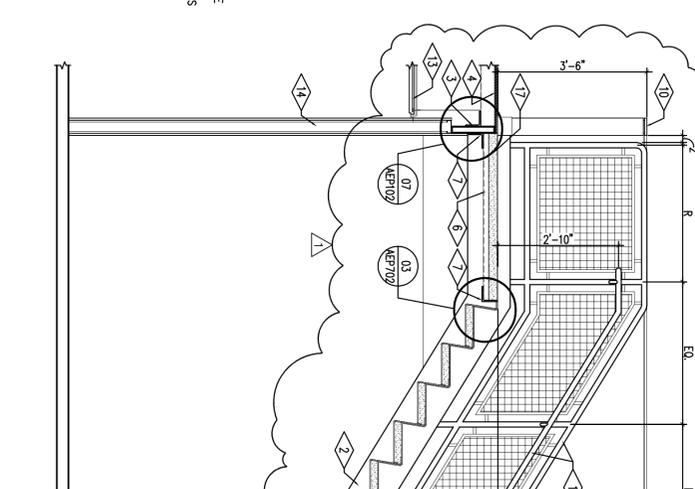
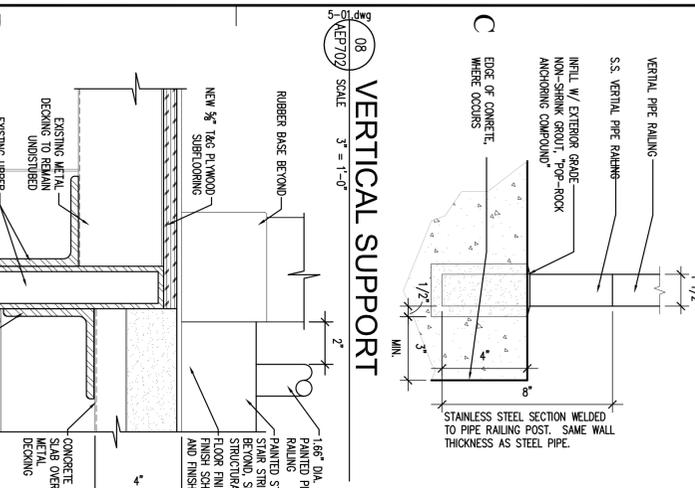
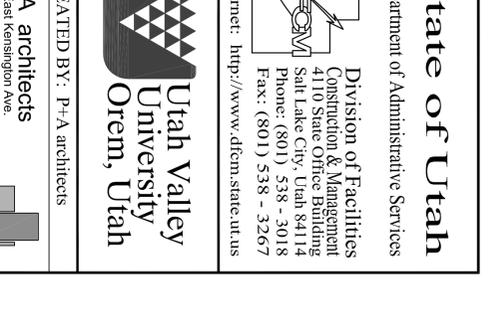
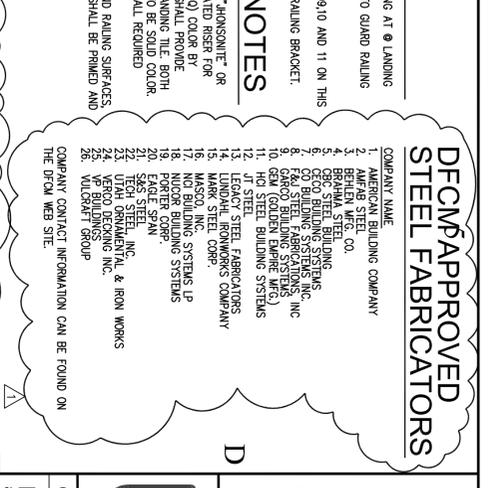
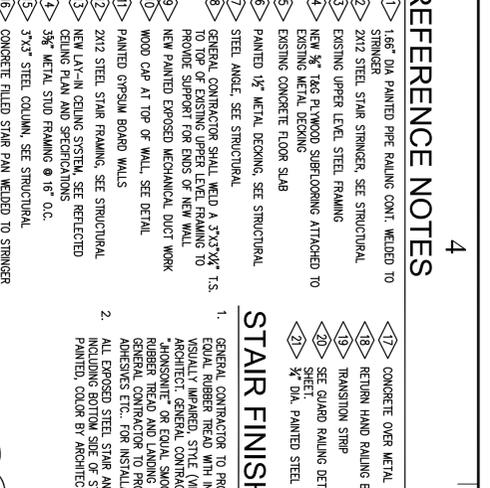
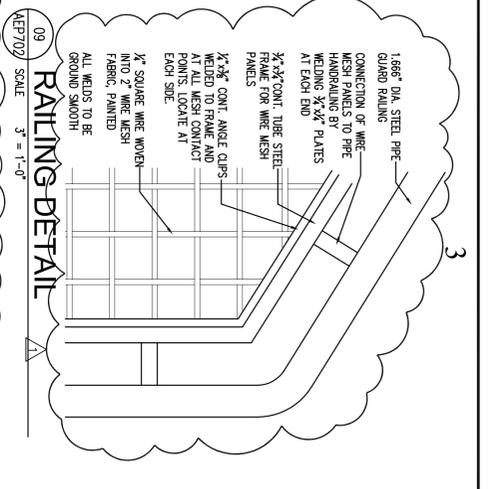
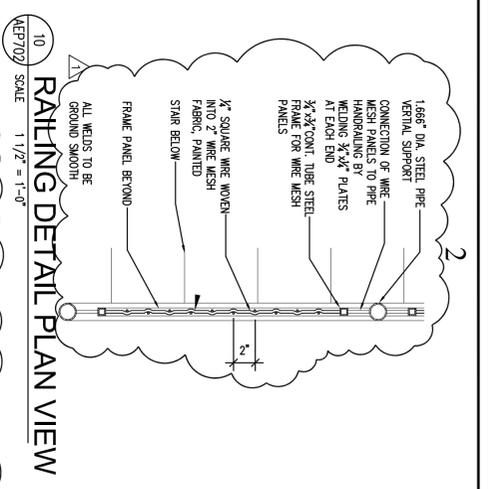
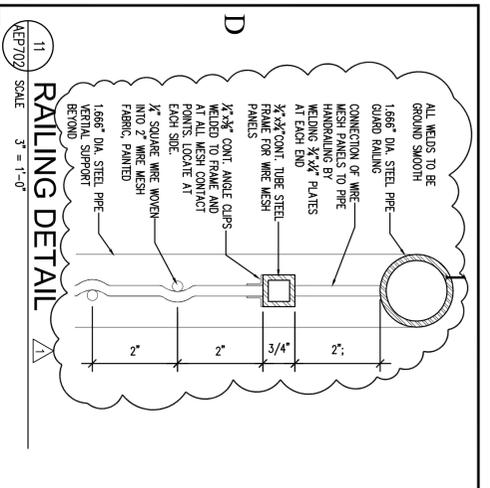
- # KEYED NOTES
- LOCATED ON ROOFTOP.
 - PROVIDE 1" CONDUIT FROM VOICE/DATA OUTLET IN WALL, UP INTO THE CEILING, THEN STUBBED TO NEAREST CABLE TRAY. CONDUIT RUN SHALL NOT EXCEED (3) 90 DEGREE BENDS. PROVIDE (1) BLUE MOHAWK CAT 5E CABLE FOR VOICE WITH BLUE/ORANGE PAIR TERMINATED ON JACK 1 AND GREEN/BROWN PAIR ON JACK 2 AND MOUNTED IN THE UPPER LEFT OF FACE PLATE. PROVIDE (2) WHITE SIEMON 10G GA OR MOHAWK GIGALAND 10 DATA CABLES TERMINATED TO DATA JACKS MOUNTED IN THE LOWER LEFT OF FACE PLATE. INSTALL CABLES FROM VOICE/DATA JACK, THROUGH CONDUIT AND CABLE TRAY, AND TERMINATE IN THE DATA/PHONE ROOM. FIELD CONFIRM EXISTING CONDITIONS.
 - SWITCH WITH HALLWAY FIXTURES ON MAIN FLOOR. SEE E100.
 - NIGHT LIGHT. DO NOT SWITCH. PROVIDE REMOTE EMERGENCY BALLAST AND MAKE CONNECTION TO ONE LAMP IN THIS FIXTURE.
 - EXISTING FIXTURE TO BE LOCATED AS SHOWN. CLEAN, RELAMP, AND RECIRCUIT. ALIGN WITH ROOF JOIST SYSTEM AND SECURE TO ROOF JOIST SYSTEM.
 - THE NEW CABLE TRAY INTO EXISTING CABLE TRAY LOCATED THE HALLWAY AT GRID LINE D, SEE SHEET E101.
 - PROVIDE 4"x12" LADDER TYPE CABLE TRAY MOUNTED TO BOTTOM OF ROOF STRUCTURE.



MEZZANINE LEVEL POWER/DATA PLAN
SCALE: 1/8" = 1'-0"
0' 8' 16'



MEZZANINE LEVEL LIGHTING PLAN
SCALE: 1/8" = 1'-0"
0' 8' 16'



- ### REFERENCE NOTES
- 1.66" DIA. PAINTED PIPE RAILING CONT. WELDED TO STRINGER
 - 2X12 STEEL STAR STRINGER, SEE STRUCTURAL
 - EXISTING UPPER LEVEL STEEL FRAMING
 - NEW 3/4" X 1/2" PLYWOOD SUBFLOORING ATTACHED TO EXISTING METAL DECKING, SEE STRUCTURAL
 - EXISTING 1/2" METAL DECKING, SEE STRUCTURAL
 - STEEL ANGLE, SEE STRUCTURAL
 - GENERAL CONTRACTOR SHALL WELD A 3/4" X 3/4" X 1/8" T.S. TO TOP OF EXISTING UPPER LEVEL FRAMING TO PROVIDE SUPPORT FOR ENDS OF NEW WALL
 - NEW PAINTED EXPOSED MECHANICAL DUCT WORK WOOD CAP AT TOP OF WALL, SEE DETAIL
 - PAINTED Gypsum BOARD WALLS
 - 2X12 STEEL STAR RAILING, SEE STRUCTURAL
 - NEW 1/4" X 1/2" Gypsum BOARD, SEE REFLECTED CEILING PLAN AND SPECIFICATIONS
 - 3/8" METAL STUD FRAMING @ 16" O.C.
 - CONCRETE FILLED STAR PAW WELDED TO STRINGER

- ### STAIR FINISH NOTES
- GENERAL CONTRACTOR TO PROVIDE "HONSQUITE" OR VISUALLY IMPAIRED STEEL (AMER-SO) COLOR BY ARCHITECT. GENERAL CONTRACTOR SHALL PROVIDE "HONSQUITE" OR EQUAL SMOOTH LANDING TILE BOTH RUBBER TREAD AND LANDING TILE TO BE SOLID COLOR. GENERAL CONTRACTOR TO PROVIDE ALL REQUIRED ADHESIVES ETC., FOR INSTALLATION
 - ALL EXPOSED STEEL STAR AND HAND RAILING SURFACES, INCLUDING BOTTOM SIDE OF STAIR, SHALL BE PRIMER AND PAINTED. COLOR BY ARCHITECT!

DFCMA APPROVED STEEL FABRICATORS

COMPANY NAME

1. AMERICAN BUILDING COMPANY
2. AMF&B STEEL CO.
3. BRYANA STEEL
4. C&G STEEL BUILDING
5. C&G STEEL BUILDING SYSTEMS, INC
6. F&B STEEL FABRICATORS, INC
7. F&B STEEL FABRICATORS, INC
8. F&B STEEL FABRICATORS, INC
9. HO STEEL BUILDING SYSTEMS
10. J1 STEEL
11. LEICHT STEEL FABRICATORS
12. M&W STEEL CORP.
13. MASCO, INC.
14. NCI BUILDING SYSTEMS LP
15. PORTER CORP.
16. PORTER CORP.
17. PORTER CORP.
18. PORTER CORP.
19. PORTER CORP.
20. PORTER CORP.
21. PORTER CORP.
22. PORTER CORP.
23. PORTER CORP.
24. PORTER CORP.
25. PORTER CORP.
26. PORTER CORP.

GENERAL CONTRACT INFORMATION CAN BE FOUND ON THE DRAWING SET.

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