

RUTH HOLLEY LIBRARY- LEARNING LAB PIKES PEAK LIBRARY DISTRICT 685 N. MURRAY BLVD. COLORADO SPRINGS, COLORADO 80915

DRAWING SYMBOLS

| | |
|----------------------------|-----------|
| ROOM NAME AND NUMBER | |
| PLAN NOTE | |
| DETAIL REFERENCE NUMBER | 1 A6.4 |
| SHEET NUMBER | |
| SECTION / ELEVATION NUMBER | 1 A4.2 |
| SHEET NUMBER | |
| REVISION NOTE | |
| FIRE EXTINGUISHER CABINET | FEC |
| WALL TYPE | |

GRAPHIC PLAN SYMBOLS

| | |
|---|--|
| CONTINUOUS SHADED LINE INDICATES (E) WALL PARTITION | |
| DASHED/BROKEN LINE INDICATES WALL TO BE DEMOLISHED | |
| NEW METAL STUD PARTITION | |
| ONE HOUR RATED WALL CONSTRUCTION | |

ABBREVIATIONS

| | | | |
|------|---------------------------------------|------|------------------------|
| ACT | ACOUSTICAL CEILING TILE | NIC | NOT IN CONTRACT |
| AFF | ABOVE FINISH FLOOR | NO. | NUMBER |
| ALUM | ALUMINUM | NTS | NOT TO SCALE |
| ANOD | ANODIZED | OC | ON CENTER |
| ∠ | ANGLE | OD | OVERFLOW DRAIN |
| B.O. | BOTTOM OF | | |
| CJ | CONTROL JOINT | +/- | PLUS OR MINUS |
| CL | CENTER LINE | P.P. | PRECAST PANEL JOINT |
| CMU | CONCRETE MASONRY UNIT | P.R. | PAIR |
| CT | CERAMIC TILE | P.T. | PRESSURE TREATED |
| DIA | DIAMETER | RAD | RADIUS |
| E | EXISTING | RATG | RATING |
| EIFS | EXTERIOR INSULATION AND FINISH SYSTEM | RB | RUBBER BASE |
| EJ | EXPANSION JOINT | RD | ROOF DRAIN |
| ELEV | ELEVATION | RE | REFER TO |
| EQ | EQUAL | R.O. | ROUGH OPENING |
| EW | ELECTRIC WATER COOLER | | |
| FD | FLOOR DRAIN | SIM | SIMILAR |
| F.E. | FIRE EXTINGUISHER CABINET | SPEC | SPECIFICATIONS |
| FMC | FLOOR MATERIAL CHANGE | STL | STEEL |
| FRT | FIRE RETARDANT TREATED | | |
| FV | FIELD VERIFY | TBD | TO BE DETERMINED |
| GA | GAUGE | T.O. | TOP OF |
| GC | GENERAL CONTRACTOR | TS | TUBE STEEL |
| GLZG | GLAZING | TYP | TYPICAL |
| HM | HOLLOW METAL | UNO | UNLESS OTHERWISE NOTED |
| LAM | LAMINATE | VB | VINYL BASE |
| MATL | MATERIAL | VCT | VINYL COMPOSITION TILE |
| MAX | MAXIMUM | | |
| MIN | MINIMUM | WD | WOOD |
| MIRR | MIRROR | | |

GENERAL NOTES

- ALL WORK WILL BE PERFORMED IN STRICT ACCORDANCE WITH ALL LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS OF GOVERNMENT AUTHORITIES HAVING JURISDICTION. CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS.
- FIRE ALARM AND FIRE SPRINKLER SYSTEM SHALL BE MODIFIED ACCORDING TO ALL LOCAL CODES AND THE NFPA. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO, AND OBTAIN NECESSARY PERMITS FROM THE LOCAL FIRE AND BUILDING DEPARTMENT. FIRE ALARM MODIFICATIONS REQUIRED ARE SHOWN ON THE PLANS. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE FIRE SPRINKLER DESIGN AND PERMITS FOR THIS PROJECT.
- PRIOR TO BIDDING CONTRACTOR SHALL VISIT JOB SITE TO REVIEW SCOPE OF WORK AND EXISTING JOB CONDITIONS. THIS INCLUDES ALL DEMOLITION WORK, DIMENSIONS, HVAC, PLUMBING AND ELECTRICAL WORK THAT ARE PART OF THIS CONTRACT.
- CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCHITECT OF ANY CONFLICTS OR OMISSIONS, PRIOR TO THE PERFORMANCE OF THE WORK IN QUESTION.
- CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER FOR A PRELIMINARY WALK-THROUGH AFTER ELECTRICAL AND DATA BOXES HAVE BEEN SET BUT NOT PIPED. OWNER SHALL HAVE THE OPPORTUNITY TO MAKE MINOR REVISIONS TO OUTLET LOCATIONS BEFORE FINISHING OF ROUGH IN WORK.
- WHERE ELECTRICAL WORK IS SPECIFIED IN CONJUNCTION WITH CABINET WORK, LAMPS AND FIXTURES ARE TO BE PROVIDED BY ELECTRICAL CONTRACTOR. CUTOUTS ONLY FOR SWITCHES, OUTLETS ETC. ARE THE RESPONSIBILITY OF THE CABINET CONTRACTOR AND SHOULD BE COORDINATED WITH THE ELECTRICAL CONTRACTOR.
- ALL DIMENSIONS ARE FROM ONE SIDE OF FINISHED WALL UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE ADEQUATE BLOCKING IN WALLS TO RECEIVE ALL ATTACHED EQUIPMENT, PLUMBING FIXTURES, MILLWORK, CASEWORK, ETC. NOTE: ALL FRAMING OR CONCEALED BLOCKING SHALL BE METAL OR FIRE RETARDANT TREATED WOOD.
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN ALL PARTITION LOCATIONS. ALL DOOR AND OPENING LOCATIONS SHALL BE INDICATED ON PLAN. IN CASE OF CONFLICT, NOTIFY THE ARCHITECT. ALL DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES INCLUDING CARPET, PAD, TILE, SHEET VINYL, WAINSCOT, ETC.
- ITEMS INDICATED IN THIS SET OF DOCUMENTS BY OWNER ARE NOT A PART OF THIS CONTRACT, AND ARE TO BE FURNISHED AND INSTALLED BY OWNER UNLESS OTHERWISE NOTED.
- ITEMS INDICATED IN THIS SET OF DOCUMENTS ARE NOT TO BE ALTERED WITHOUT WRITTEN CONSENT FROM THE ARCHITECT OR ENGINEER. IF ALTERATIONS MADE BY THE OWNER OR CONTRACTOR, THE ARCHITECT AND/OR ENGINEER ASSUME NO RESPONSIBILITY FOR SUCH CHANGES.
- ALL WORK SHALL HAVE FINAL INSPECTION BY ARCHITECT AND OWNER. ARCHITECT WILL PREPARE FINAL PUNCH LIST OF DEFICIENT ITEMS THAT MUST BE CORRECTED BEFORE FINAL PAYMENT TO THE CONTRACTOR.

CODE STATEMENT

GOVERNING CODES
 2017 PIKES PEAK REGIONAL BUILDING CODE (PPRBC)
 2015 INTERNATIONAL BUILDING CODE (IBC)
 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
 2015 INTERNATIONAL MECHANICAL CODE (IMC)
 2015 INTERNATIONAL FUEL GAS CODE (IFGC)
 2015 INTERNATIONAL PLUMBING CODE (IPC)
 2017 NATIONAL ELECTRICAL CODE (NEC)
 2009 ICC/ANSI A117.1 ACCESSIBILITY STANDARD
 ASME A17.1, 2013 EDITION, SAFETY CODE FOR ELEVATORS & ESCALATORS
 ASME A17.3, 2011 EDITION, SAFETY CODE FOR EXISTING ELEVATORS & ESCALATORS
 THE 2009 INTERNATIONAL FIRE CODE AND AMENDMENTS AS ADOPTED BY THE COLORADO SPRINGS FIRE DEPARTMENT.

PROJECT DESCRIPTION
 THIS PROJECT IS THE INTERIOR REMODEL OF AN EXISTING LIBRARY TO ENCLOSE STACK SPACE TO CREATE A LEARNING LAB

CODE DATA
 OCCUPANCY CLASSIFICATION: A-3 LIBRARY
 CONSTRUCTION TYPE: V-A
 INTERIOR NON-BEARING WALL: NON-RATED
 FIRE SPRINKLERS: NON-SPRINKLERED-ADJACENT TENANT AND COMMUNITY ROOM IS SPRINKLERED AND SEPARATED FROM STACK SPACE WITH A 2-HR AREA SEPARATION WALL

OVERALL BUILDING AREA: 51,912 SF (INCLUDING ADJACENT TENANTS)
 AREA OF LIBRARY (A-3): 10,262 SF

OCCUPANT LOAD AND EXIT REQUIREMENTS

| | | | |
|----------------------|----------|----------|---------------|
| STACKS: | 3,962SF | 1/100 SF | 40 OCC. |
| CLASSROOM: | 1,291SF | 1/20 SF | 65 OCC |
| OFFICES: | 622 SF | 1/100 SF | 7 OCC |
| LOUNGE: | 315 SF | 1/15 SF | 21 OCC |
| READING: | 1089 SF | 1/50 SF | 22 OCC |
| CONFERENCE: | 1,482 SF | 1/15 SF | 99 OCC |
| STORAGE: | 1,158 SF | 1/300 SF | 4 OCC |
| TOTAL OCCUPANT LOAD: | | | 258 OCCUPANTS |

NO OF EXITS REQUIRED: 2
 NO. OF EXITS PROVIDED: 6

EXITING IS UNAFFECTED BY THE MODIFICATIONS

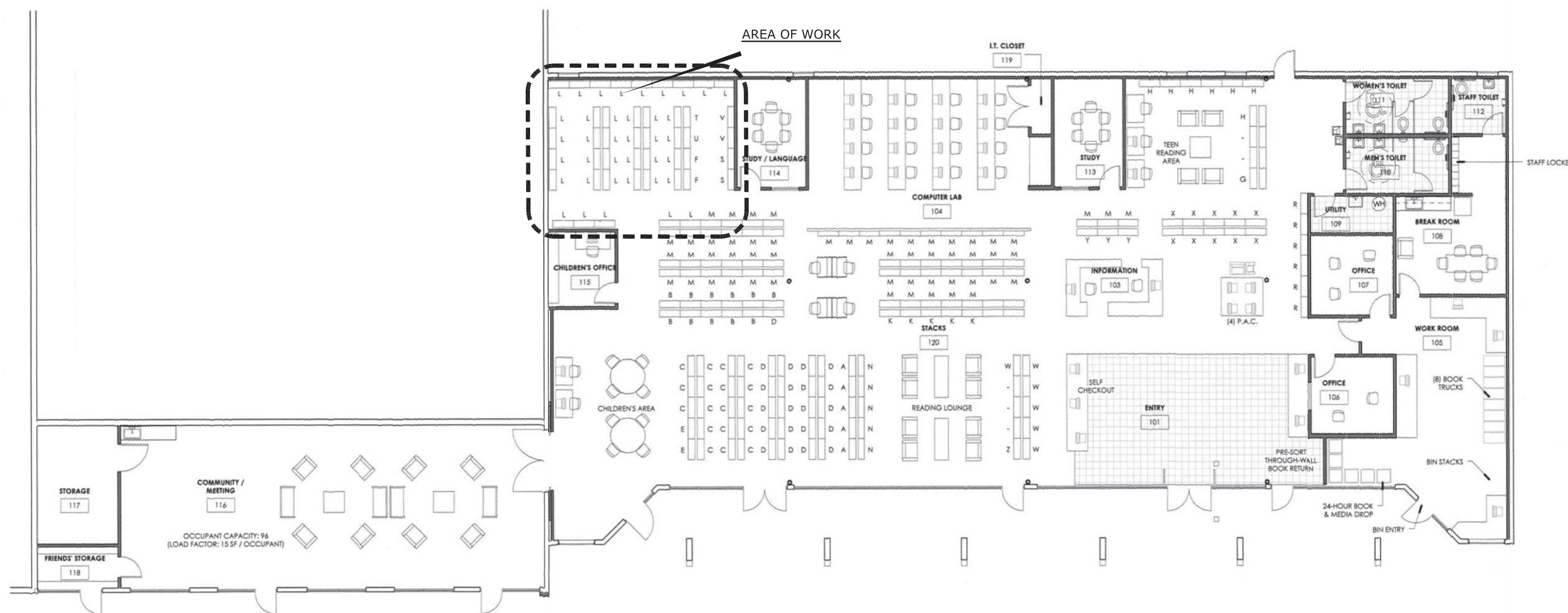
PLUMBING FIXTURE REQUIREMENTS
 EXISTING PLUMBING FIXTURE COUNT IS UNAFFECTED BY THE MODIFICATIONS

DRAWING INDEX

| | |
|----------------------|--|
| COVER SHEET | |
| T1 | PROJECT INFORMATION SHEET |
| SP1 | PROJECT SPECIFICATIONS |
| ARCHITECTURAL | |
| A1.1 | NOTES, DEMOLITION PLAN, FLOOR PLAN, CEILING PLAN |
| A2.1 | DETAILS |
| MECHANICAL | |
| M0.1 | MECHANICAL LEGEND |
| M0.2 | MECHANICAL SPECIFICATIONS |
| M1.1 | MECHANICAL PLANS |
| ELECTRICAL | |
| E0.1 | ELECTRICAL LEGEND |
| E0.2 | ELECTRICAL SPECIFICATIONS |
| E1.1 | ELECTRICAL PLANS |
| E6.0 | ELECTRICAL ONE-LINE DIAGRAM |

KEY PLAN

SCALE = NOT TO SCALE



PARTICIPANTS

BUILDING TENANT
 PIKES PEAK LIBRARY DISTRICT
 CONTACT: GARY SYLING
 TEL: 719.667.6333

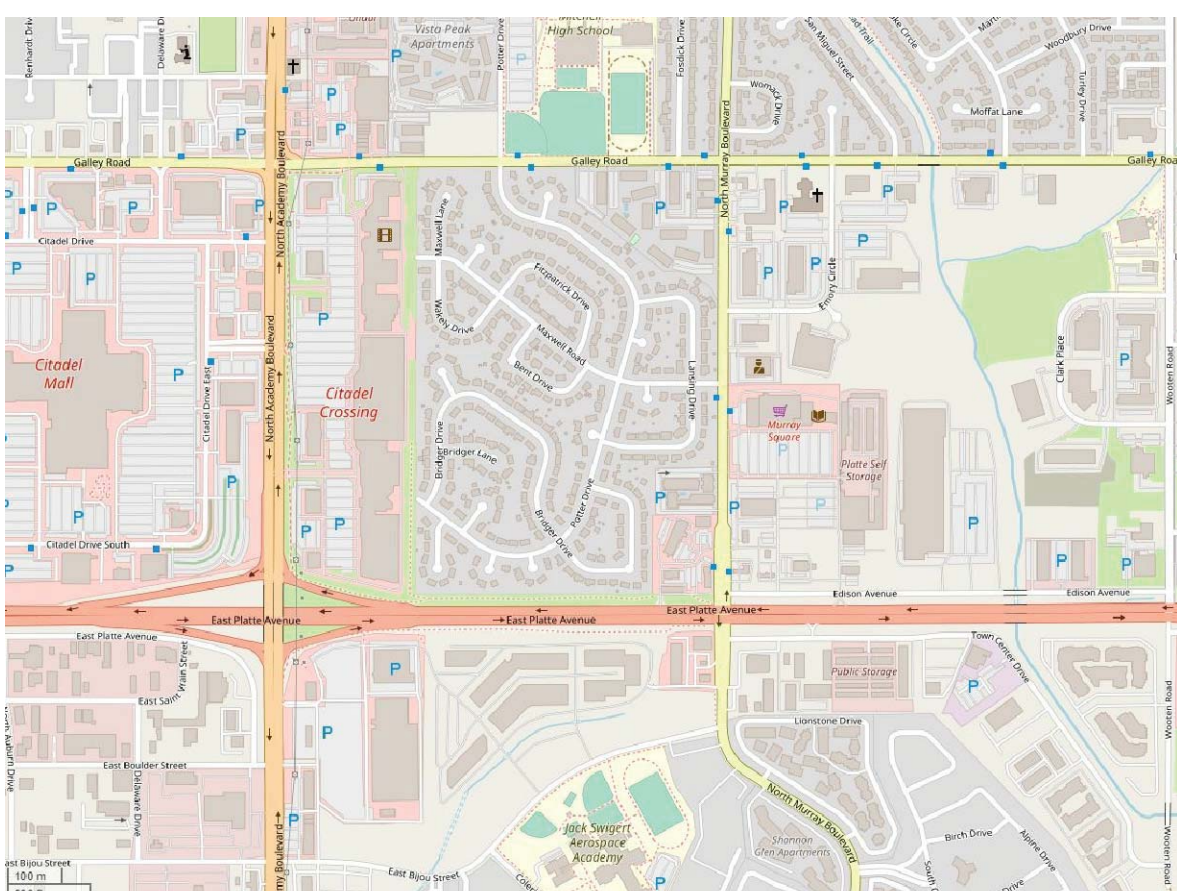
ARCHITECT
 DESIGN EDGE, P.C.
 711 N CASCADE AVE, SUITE 100
 COLORADO SPRINGS, CO 80909
 CONTACT: SWAGATA GUHA, AIA
 TEL: 719.667.1972 X 114

MEP CONSULTANT
 ME ENGINEERS INC.
 3425 AUSTIN BLUFFS PARKWAY, SUITE 201
 COLORADO SPRINGS, CO 80918
 CONTACT: DARRELL LACKEY, P.E.
 TEL: 719.536.0036

RUTH HOLLEY LIBRARY NEW LEARNING LAB

685 N MURRAY BLVD,
COLORADO SPRINGS, CO 80915

DATE: 2/8/2020
 PROJECT MGR: SGT
 PREPARED BY: SGT



| | |
|------------------|--------------|
| ISSUE / REVISION | |
| DATE: | DESCRIPTION: |
| | |
| | |
| | |

SHEET TITLE

PROJECT DATA

SHEET NUMBER

T-1

Division 1 - General Conditions

- 1.1 All work shall conform to the referenced International Building Code and companion codes
- 1.2 Specific notes and details take precedence over general notes and details.
- 1.3 Contractor shall visit the site and study all contract documents prior to commencing the work and shall notify the Architect of any discrepancies or inconsistencies found.
- 1.4 Permits and Fees: Contractor shall obtain and pay for required permits and fees
- 1.5 Submittals, when required by the drawings or specifications, shall be submitted to the Architect for review and approval. Electronic submittals in PDF format are preferred, however at least four (4) printed sets of each submittal are acceptable.
- A. Provide submittals for the following products/divisions only as applicable to this project :
- Millwork
 - Doors, frames, and hardware
 - Operable Partitions
 - All materials and finishes specified in Division 9 (physical samples-must be submitted for approval)
 - Fire protection
 - Plumbing
 - HVAC
 - Electrical
- B. Alternates and/or variations from specified materials/systems must be clearly identified as such as part of the submittal package. In cases where alternates and/or variations are not clearly identified, the General Contractor assumes all responsibility for acceptability and performance.
- 1.6 Contractor is responsible for safety on site and shall comply with all applicable regulations.
- 1.7 Administrative Requirements:
- A. Administration of Contract: Provide administrative requirements for the proper coordination and completion of work including the following:
- Supervisory personnel:
 - Project Manager to serve as point of contact for all project related communication.
 - Full time Site Superintendent
- B. Preconstruction conference.
- C. Project meetings: Two on-site meetings with architect to review items listed below; GC shall prepare and distribute minutes. GC shall confirm with architect 1 week in advance for the completion of work listed below.
- Initial evaluation of layout and introduction.
 - Framing / box walk - to identify rough boxes for power, tele/data boxes, and in-wall blocking, prior to GWB installation.
 - Paint, and miscellaneous items.
 - Over-all evaluation and clarifications.
 - Punch walk - all work including final clean must be completed prior to this meeting.
- D. Work Schedule: Contractor is responsible for preparing and maintaining a written, graphic schedule for the duration of the Project. Acceptable formats include Microsoft Project or FastTrack Schedule. Other formats may be submitted to the Architect for consideration. Project schedule is to be updated to reflect weekly progress.
- E. Schedule of Values: Submit schedule of values following CSI, 16 Division format.
- F. Record Documents: Submit record drawings and specifications; to be maintained and annotated by Contractor as work progresses.
- 1.8 Installation Requirements, General:
- A. Inspect substrates and report unsatisfactory conditions in writing.
- B. Do not proceed until unsatisfactory conditions have been corrected.
- C. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
- D. Install materials in exact accordance with manufacturer's instructions and approved submittals.
- E. Install materials in proper relation with adjacent construction and with proper appearance.
- F. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.
- G. Refer to additional installation requirements and tolerances specified under individual specification sections.
- H. Definitions:
- I. Provide: Furnish and install, complete with all necessary accessories, ready for intended use. Pay for all related costs.
- J. Approved: Acceptance of item submitted for approval. Not a limitation or release for compliance with the Contract Documents or regulatory requirements. Refer to limitations of 'Approved' in General and Supplementary Conditions.
- K. Match Existing: Match existing as acceptable to the Owner.
- L. Intent: Drawings and specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonable implied or necessary for proper performance of the project shall be included.
- 1.9 Substitutions:
- A. Where alternate materials or products are allowed by note or specification and/or the Contractor wishes to propose a substitute, the proposed substitute shall be submitted to the Architect, with sufficient product data, samples, comparative cost information as other materials as needed to evaluate the alternate. Proposed alternates are to be identified as part of bid package. Alternates identified following submittal of bid may not be considered.
- B. Substitution Requests: Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
- Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - Statement indicating why specified material or product cannot be provided.
 - Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - Samples, where applicable or requested.
 - List of similar installations for completed projects with project
 - names and addresses and names and addresses of architects and owners.
 - Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, or manufacturer's letterhead, stating lack of availability or delays in delivery.
 - Cost information, including a proposal of change, if any, in the Contract Sum.
 - Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 3 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 5 days of receipt of request, or 5 days of receipt of additional information or documentation, whichever is later.
 - Form of Acceptance: Architect's Supplemental Information (ASI).
 - Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
- 1.10 Execution Requirements: Substantial Completion:
- A. The following are prerequisites to substantial completion. Provide the following.
- Punch list prepared by Contractor and sub-Contractors as applicable.
 - Supporting documentation.
 - Warranties.
 - Certifications.
 - Occupancy permit.
 - Start-up and testing of building systems.
 - Change-over of locks.
 - Meter readings.
 - Commissioning documentation.
- B. Final Acceptance: Provide the following prerequisites to final acceptance.
- Final payment request with supporting affidavits.

- Completed punch list.
- C. Project Closeout: Provide the following during project closeout.
- As-Built Drawings: Provide a marked-up set of drawings including changes, which occurred during construction.
 - Submission of record documents.
 - Submission of maintenance manuals.
 - Training and turnover to Owner's personnel.
 - Final cleaning and touch-up.
 - Removal of temporary facilities.
- 1.11 Selective Demolition:
- A. Demolition work indicated is approximate. Every effort has been made to fully represent the scope of work involved. However, contractor will visit the site prior to bidding and verify this information and make appropriate adjustments based on field conditions and their plan of work.
- B. Contractor will meet with gsa project manager to discuss salvage and storage of any items to be reused.
- C. Provide containment during demolition to prevent dust from migrating to other areas
- D. Coordinate noisy or dust producing activities with gsa project manager and building manager. Conduct selective demolition so lab operations will not be disrupted.
- E. Notify gsa project manager of discrepancies between existing conditions and drawings before proceeding with selective demolition.
- F. **HAZARDOUS MATERIALS:** It is not expected that hazardous materials will be encountered in the work. If suspected hazardous materials are encountered, do not disturb; immediately notify gsa project manager. Hazardous materials will be removed under a separate contract.
- G. Maintain fire-protection facilities in service during selective demolition operations.
- H. **SITE ACCESS AND TEMPORARY CONTROLS:** Conduct selective demolition and debris-removal operations to ensure minimum interference with hallways, and other adjacent occupied and used facilities.
- I. **TEMPORARY FACILITIES:** Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- J. Demolish and remove existing construction only to the extent required by new construction and as indicated. use methods required to complete the work within limitations of governing regulations and as follows:
- Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - Dispose of demolished items and materials promptly.
- K. Removed and reinstalled items:
- Clean and repair items to functional condition adequate for intended reuse.
 - Pack or crate items after cleaning and repairing. Identify contents of containers.
 - Protect items from damage during transport and storage.
 - Reinstall items in locations indicated. comply with installation requirements for new materials and equipment. provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- L. **EXISTING ITEMS TO REMAIN:** Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by architect, items may be removed to a suitable, protected storage location during selective demolition cleaned and reinstalled in their original locations after selective demolition operations are complete.
- M. Disposal of demolished materials:
- Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain owner's property, remove demolished materials from project site and legally dispose of them in an epa-approved landfill.
 - Do not allow demolished materials to accumulate on-site.remove trash and debris from site daily.
 - Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- N. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
- O. Refer to mechanical, plumbing, & electrical drawings for full extent of demolition work related to those areas
- P. **PROTECTION OF COMMON AREAS:** Lobbies and common corridors shall be provided with flooring protection. Portions of the work may be required on weekends and after normal working hours. Coordinate schedules with the PPLD Project Manager/Facilities Manager listed on the cover page under Project Team. General contractor shall verify and ensure that exit egress is maintained throughout construction. Contractor shall perform the work in a manner that allows any operating facility to maintain a 100% level of operation and cleanliness.

Division 2 - Site Work

No requirements

Division 3 - Concrete

No Requirements

Division 4 - Masonry

No requirements

Division 5 - Miscellaneous Metals

- Provide miscellaneous metal materials and fabrications as shown or as necessary to complete the work.
- Light-gauge steel studs for interior, non-bearing partitions shall be - 3-5/8" studs, 25 gauge, spaced at 24" OC, unless noted otherwise. Provide backing as required for all built-in items, including cabinetry, etc
- All metal stud partitions at designated exit corridors or demising walls shall extend, full-height, to underside of deck. Provide slip track at head of wall, see Details. See reflected ceiling plan.
- All metal stud partitions within the remodel area shall extend a minimum of 6" above the ceiling height and shall be braced to the underside of deck or structure as required to properly stabilize the partition.

Division 6 : Architectural Casework

No requirements

Division 7 - Thermal and Moisture Protection**7.1 SOUND ATTENUATION BATT INSULATION:**

- Manufacturer: Owens-Corning (www.owenscorning.com, 800.4387465), or approved equal.
- Thickness: 3 1/2" in wall and 6" in ceiling
- Location: See drawings

Division 8 - Doors and Windows**8.1 METAL DOOR FRAMES:**

- Manufacturer: Ceco (www.cecodoor.com), or approved equal.
- Style: Fully welded, or in existing openings- knock down hollow metal, standard 18 gauge cold rolled steel.
- Finish: Factory primed, field paint with semi-gloss sheen to match ADJ wall, color to be selected by Architect.

8.2 FLUSH WOOD DOORS:

- Manufacturer: V-T Industries, Inc. (www.vtindustries.com, 800.827.1615), or approved equal.
- Style: Solid particleboard/Agrifiber core
- Face Veneer and Veneer Type: Match existing doors in Suite
- Sizes: See Floor Plan
- Finish: Factory prefinished to match existing

Division 9 - Finishes

- 9.1 Finish Preparation: Provide all surface preparation for the proper installation of finishes per manufacturer's recommendations or, in the absence of available manufacturer's recommendations, follow industry quality standards.

9.2 GYPSUM WALLBOARD

- A. ASTM C 36, in thickness indicated on plans, with manufacturer's standard edges.

- All gypsum wallboard at restroom areas shall be water resistant.
- Finish: Provide smooth, Level 5 finish at all gypsum wallboard walls, unless noted otherwise.

9.4 PAINT:

A. Manufacturer: Sherwin Williams

B. Color: Per Finish Plan

C. Sheen:

- Partitions: Eggshell
- Wood & Steel: Semi-gloss
- Gypsum Wall Board Ceilings: Flat
- Application: Two (2) coats over primer.
- Excess material quantity: Provide one (1) unopened pint of each approved color for future maintenance and/or repair.

9.7 RESILIENT WALL BASE (COIL-TYPE) AND FLOOR TRANSITION STRIPS:

- Manufacturer: Johnsonite, or approved equal
- Material: Rubber
- Color: See Finish Schedule. Transition strips to match wall base color unless noted otherwise.
- Size: 4" Coil Stock, 4" length not acceptable unless otherwise specified.
- Profile: Cove base

9.8 TILE CARPETING

A. MATERIALS:

- Install from Owner Stock. provide all accessories and Adhesives for complete installation.

B. QUALITY ASSURANCE

- Installer Qualifications: An experienced installer who is certified by the Floor Covering Installation Board or who can demonstrate compliance with its certification program requirements.
- Product Options: Products and manufacturers named in Part 2 will be accepted only. NO SUBSTITUTIONS WILL BE CONSIDERED.

D. PROJECT CONDITIONS

- General: Comply with CRI 104, Section 6.1, "Site Conditions; Temperature and Humidity."
- Environmental Limitations: Do not install carpet tile until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- Do not install carpet tile over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- Where demountable partitions or other items are indicated for installation on top of carpet tile, install carpet tile before installing these items.

E. INSTALLATION ACCESSORIES

- Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided by or recommended by carpet tile manufacturer.
- Adhesives: As recommended by carpet tile manufacturer.
- Examine substrates, areas, and conditions for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Verify that substrates and conditions are satisfactory for carpet tile installation and comply with requirements specified.
- Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
 - Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet tile manufacturer.
 - Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
 - Proceed with installation only after unsatisfactory conditions have been corrected.

C. PREPARATION

- General: Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.
- Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.
- Broom and vacuum clean substrates to be covered immediately before installing carpet tile. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

D. INSTALLATION

- General: Comply with CRI 104, Section 13, "Carpet Modules (Tiles)."
- Installation Method: As recommended in writing by carpet tile manufacturer.
- Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
- Install pattern parallel to walls and borders.

E. CLEANING AND PROTECTION

- Perform the following operations immediately after installing carpet tile:
 - Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - Remove yarns that protrude from carpet tile surface.
 - Vacuum carpet tile using commercial machine with face-beater element.
- Protect installed carpet tile to comply with CRI 104, Section 15, "Protection of Indoor Installations."
- Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

PROJECT INFO

RUTH HOLLEY LIBRARY
NEW LEARNING LAB685 N MURRAY BLVD,
COLORADO SPRINGS, CO 80915DATE: 2/8/2020
PROJECT MGR: SGT
PREPARED BY: SGT

SEAL



ISSUE /REVISION

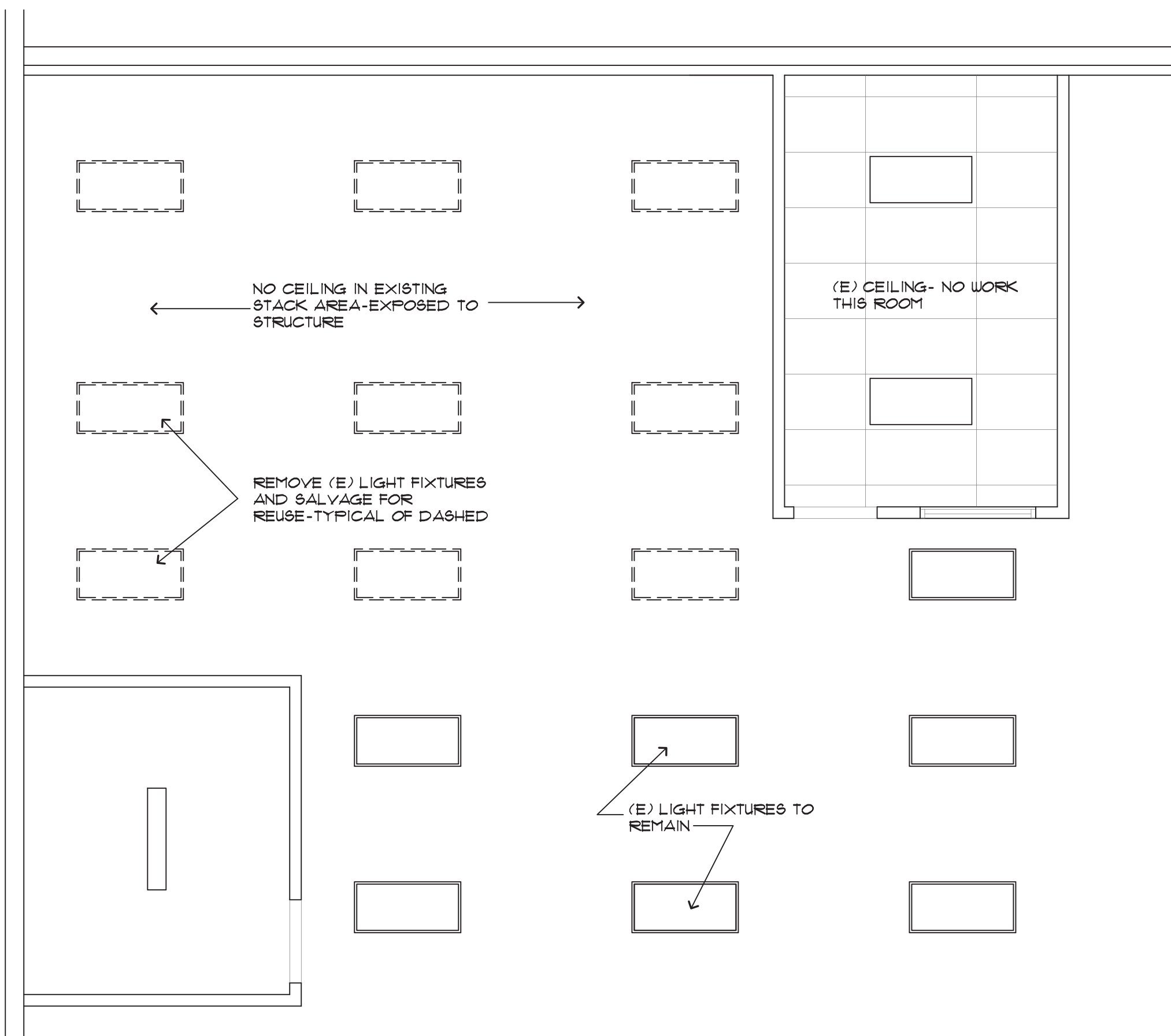
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SHEET TITLE

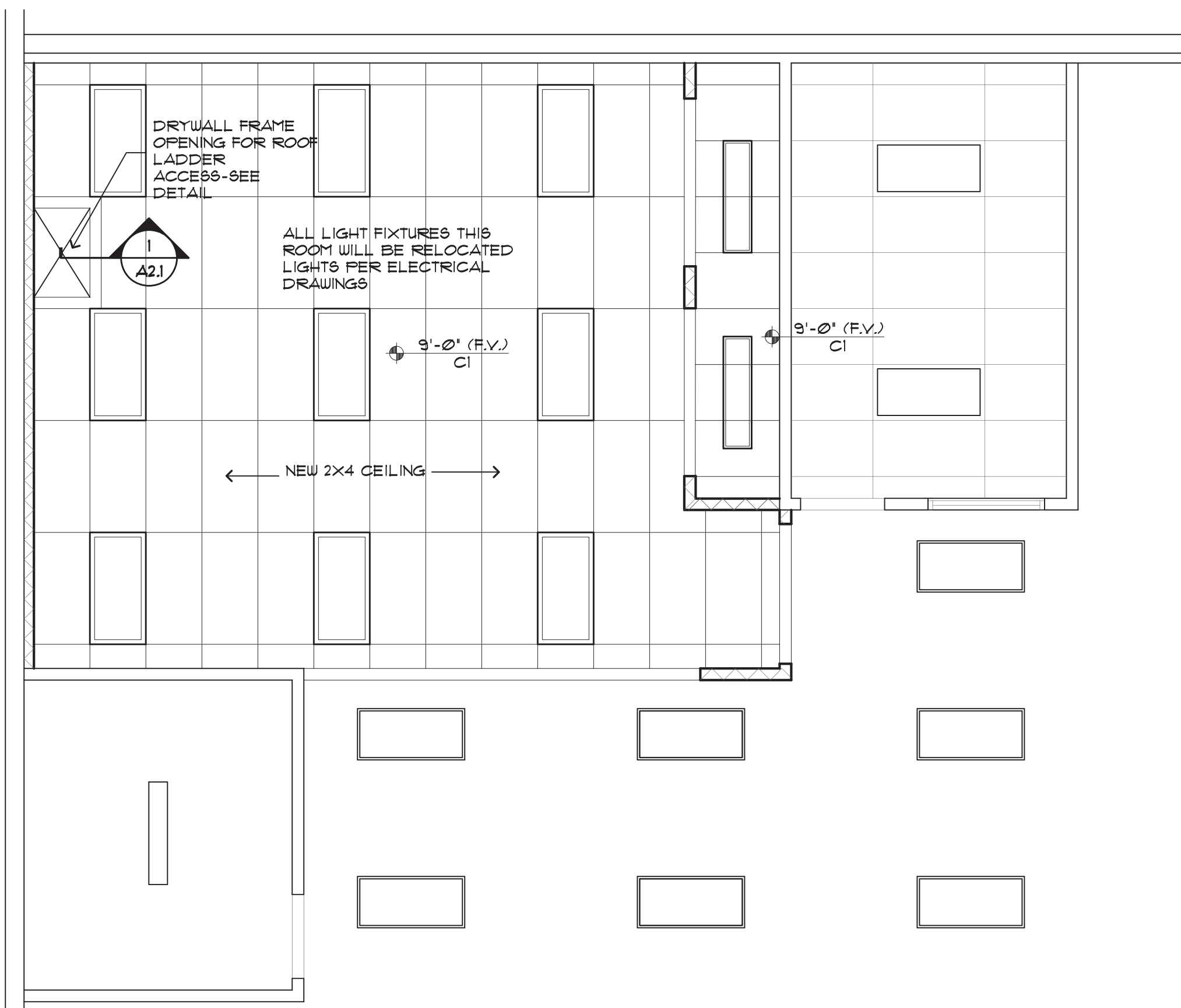
ARCHITECTURAL
SPECIFICATIONS

SHEET NUMBER

SP1



1 DEMOLITION CEILING PLAN
SCALE: 1/4" = 1'-0"



2 NEW WORK CEILING PLAN
SCALE: 1/4" = 1'-0"

NOTE:

- WORK IN ADJACENT SPACE IS SHOWN FOR REFERENCE ONLY.

INTERIOR WALL TYPES

EX EXISTING WALLS

W01 (FULL HEIGHT WALLS)

1 LAYER 3/8" TYPE GWB, EACH SIDE OF 3/8" (6" @91M) FULL HT (TO DECK) METAL STUDS, APPLY GWB FULL HEIGHT TO DECK, PROVIDE SOUND BATT'S IN WALL

W02 (FURR OUT WALLS)

1 LAYER 3/8" TYPE GWB, OVER ROOM SIDE OF 3/8" METAL STUDS, EXTEND METAL STUDS AND GWB 6" ABOVE CEILING

W03 (CLOSET WALLS)

1 LAYER 3/8" TYPE GWB, EACH SIDE OF 3/8"-25 GA. METAL STUDS, EXTEND WALL TO 6" ABOVE CEILING, BRACE WALLS @ 48" O.C. WITH KICKERS TO STRUCTURE, PROVIDE SOUND BATT'S IN WALL

PLAN NOTES

- ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS NOTED OTHERWISE.
- PROVIDE GYP. BOARD CONTROL JOINTS AT WALLS OVER 32'-0" IN LENGTH
- FRAME DOOR OPENINGS 4' FROM FACE OF PERPENDICULAR WALL, ON HINGE SIDE AND 1'-6" FROM FACE OF PERP. WALL ON LATCH SIDE -TYPICAL UNLESS NOTED OTHERWISE.
- ALL WALLS ARE TYPE W01 UNLESS NOTED OTHERWISE.
- ALL WALLS TO HAVE SOUND BATT'S UNLESS NOTED OTHERWISE.
- PROVIDE DOUBLE 20 GA. STUDS (MIN.) AT ALL DOOR JAMBS.
- PAINT ALL WALLS IN NEW LEARNING LAB TO MATCH EXISTING COLORS.
- PAINT DOOR FRAMES TO MATCH EXISTING DOOR FRAMES

DEMOLITION NOTES

- DEMOLITION WORK INDICATED IS APPROXIMATE. EVERY EFFORT HAS BEEN MADE TO FULLY REPRESENT THE SCOPE OF WORK INVOLVED, HOWEVER, CONTRACTOR WILL VISIT THE SITE PRIOR TO BIDDING AND VERIFY THIS INFORMATION AND MAKE APPROPRIATE ADJUSTMENTS BASED ON FIELD CONDITIONS AND THEIR PLAN OF WORK.
- PROVIDE CONTAINMENT DURING DEMOLITION TO PREVENT DUST FROM MIGRATING TO OTHER AREAS
- COORDINATE NOISY OR DUST PRODUCING ACTIVITIES WITH LIBRARY STAFF. CONDUCT SELECTIVE DEMOLITION SO LIBRARY OPERATIONS WILL NOT BE DISRUPTED, AFTER HOURS WORK MAYBE REQUIRED TO MITIGATE EXCESSIVE NOISE CONDITIONS.
- NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION.
- MAINTAIN FIRE-PROTECTION FACILITIES IN SERVICE DURING SELECTIVE DEMOLITION OPERATIONS.
- SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT SELECTIVE DEMOLITION AND DEBRIS REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH HALLWAYS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
- TEMPORARY FACILITIES: PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN.
- REMOVED AND REINSTALLED ITEMS:
 - CLEAN AND REPAIR ITEMS TO FUNCTIONAL CONDITION ADEQUATE FOR INTENDED REUSE.
 - PACK OR CRATE ITEMS AFTER CLEANING AND REPAIRING. IDENTIFY CONTENTS OF CONTAINERS.
 - PROTECT ITEMS FROM DAMAGE DURING TRANSPORT AND STORAGE.
 - REINSTALL ITEMS IN LOCATIONS INDICATED. COMPLY WITH INSTALLATION REQUIREMENTS FOR NEW MATERIALS AND EQUIPMENT. PROVIDE CONNECTIONS, SUPPORTS, AND MISCELLANEOUS MATERIALS NECESSARY TO MAKE ITEM FUNCTIONAL FOR USE INDICATED.
- EXISTING ITEMS TO REMAIN: PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY THE GOVERNMENT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION CLEANED AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.
- DISPOSAL OF DEMOLISHED MATERIALS
 - EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA APPROVED LANDFILL.
 - DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON SITE. REMOVE TRASH AND DEBRIS FROM SITE DAILY.
 - REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
 - REMOVE DEBRIS FROM ELEVATED PORTIONS OF BUILDING BY CHUTE, HOIST, OR OTHER DEVICE THAT WILL CONVEY DEBRIS TO GRADE LEVEL IN A CONTROLLED DESCENT.
- CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE SELECTIVE DEMOLITION OPERATIONS BEGAN.
- REFER TO MECHANICAL, PLUMBING, & ELECTRICAL DRAWINGS FOR FULL EXTENT OF DEMOLITION WORK RELATED TO THOSE AREAS

CEILING PLAN NOTES

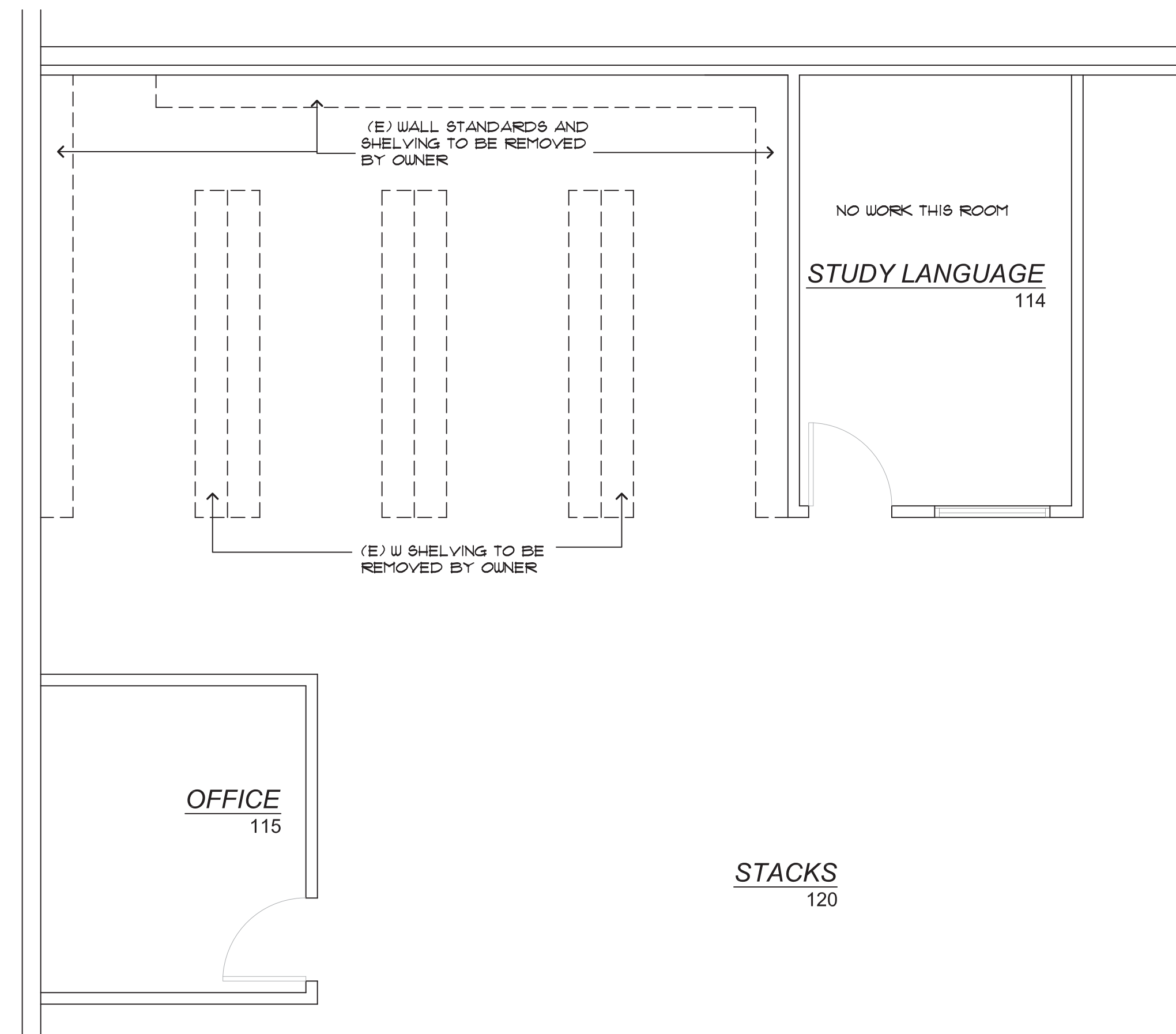
- PROVIDE NEW ACT CEILING TO MATCH EXISTING WITHIN LIBRARY SPACE.
- REFER TO ELECTRICAL PLANS FOR RELOCATED LIGHT FIXTURES, NEW TRIM KIT MAYBE REQUIRED
- REFER TO MECHANICAL PLANS FOR HVAC GRILLE LOCATIONS.
- ALL ACT. CEILING TO BE STANDARD 3/8" WHITE METAL TEE GRID.

LEGEND

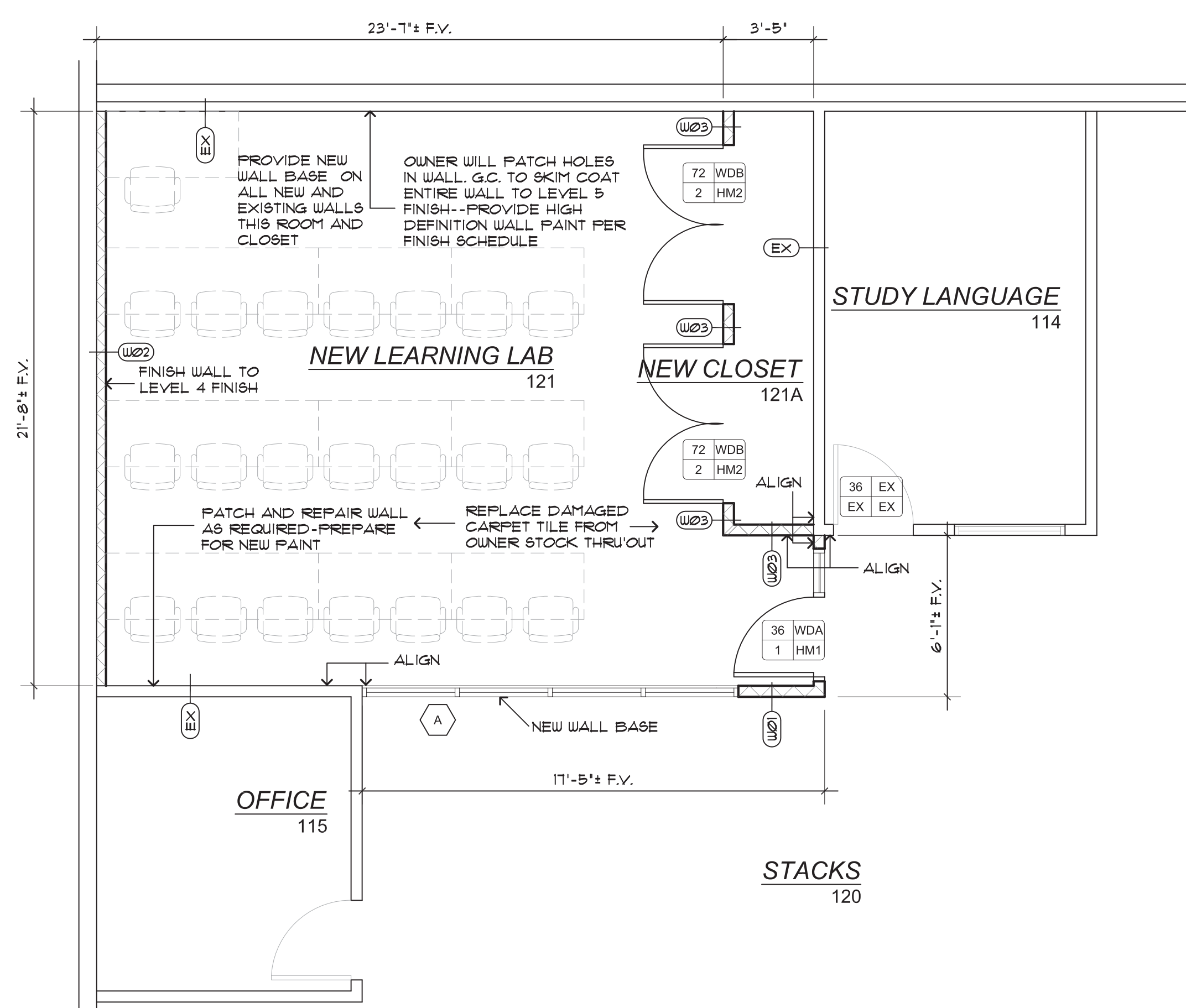
| | |
|--|---|
| | 2'x4' LAY-IN LIGHT FIXTURE |
| | 1'x4' SURFACE MOUNTED LIGHT FIXTURE |
| | SUPPLY GRILLE |
| | RETURN AIR GRILLE |
| | FINISHED CEILING HEIGHT OR HEIGHT TO OPEN STRUCTURE WHERE NOTED |
| | FINISHED CEILING MATERIAL |

CEILING

CI 2'x4' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM - ARMSTRONG FINE FIGURED



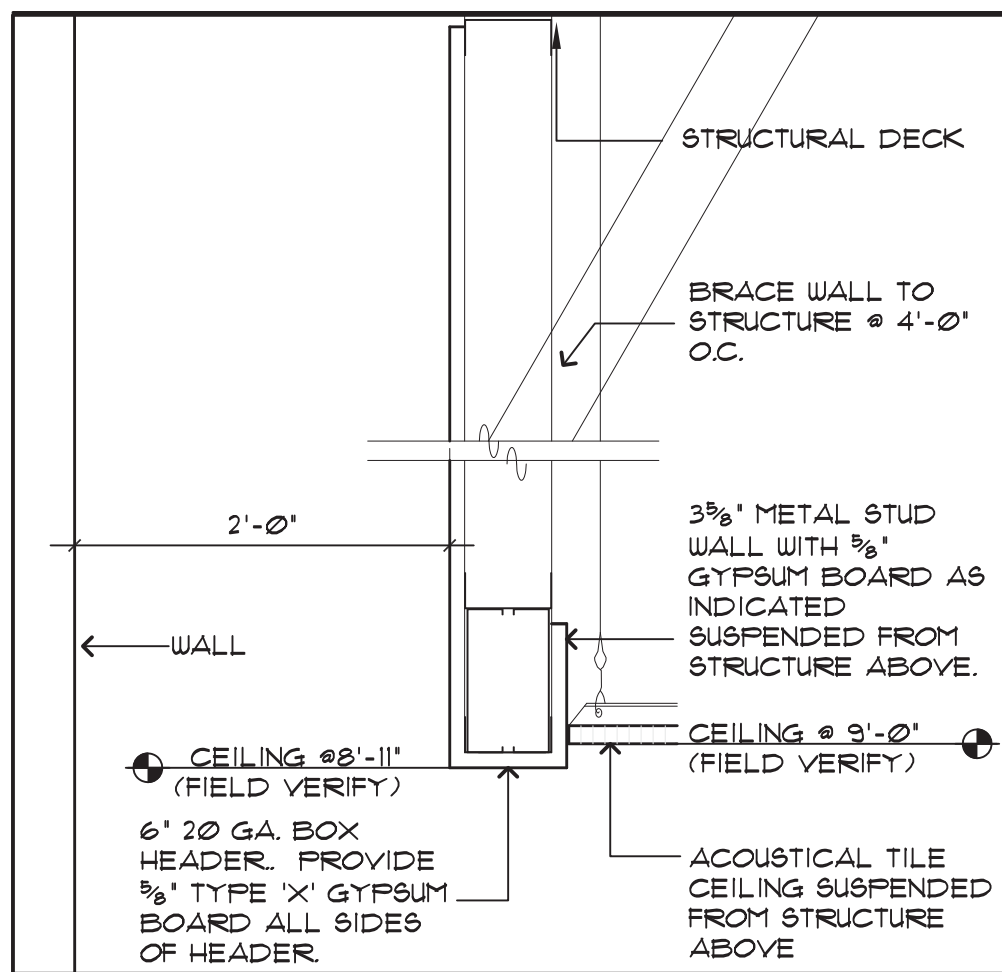
1 DEMOLITION FLOOR PLAN
SCALE: 1/4" = 1'-0"



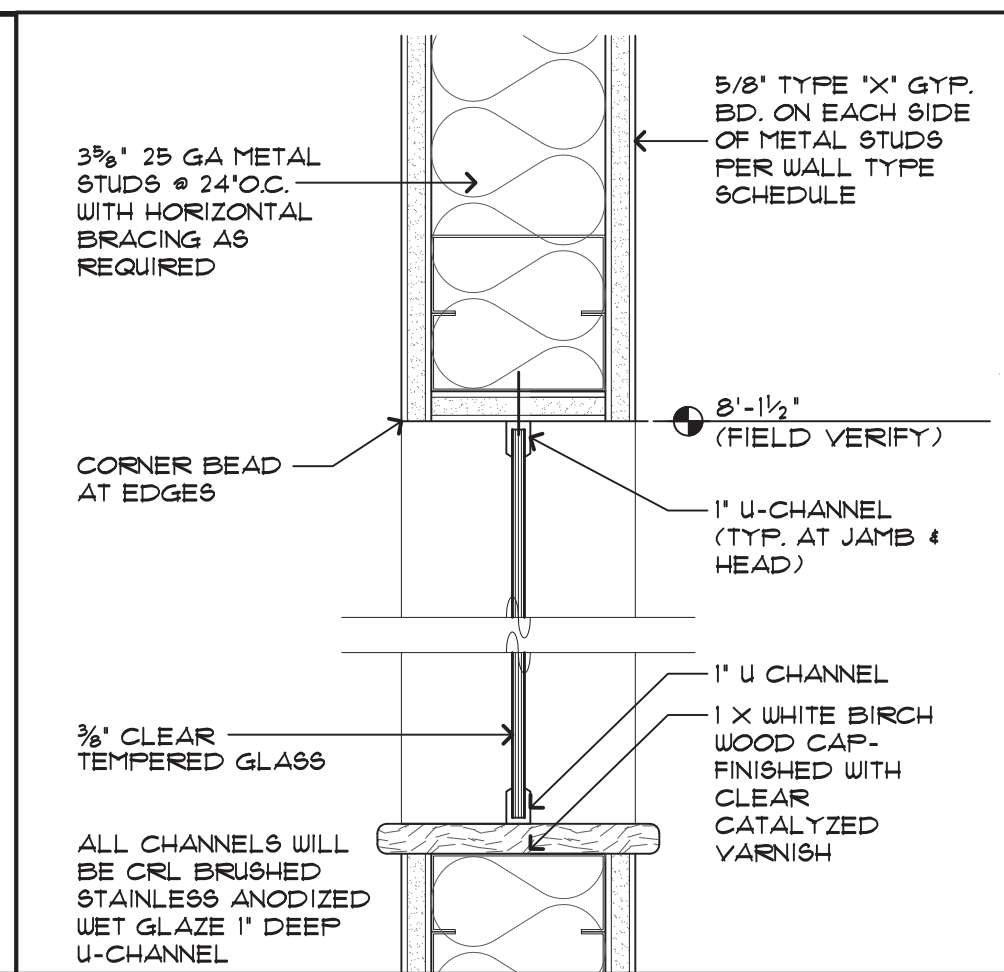
2 NEW WORK FLOOR PLAN
SCALE: 1/4" = 1'-0"



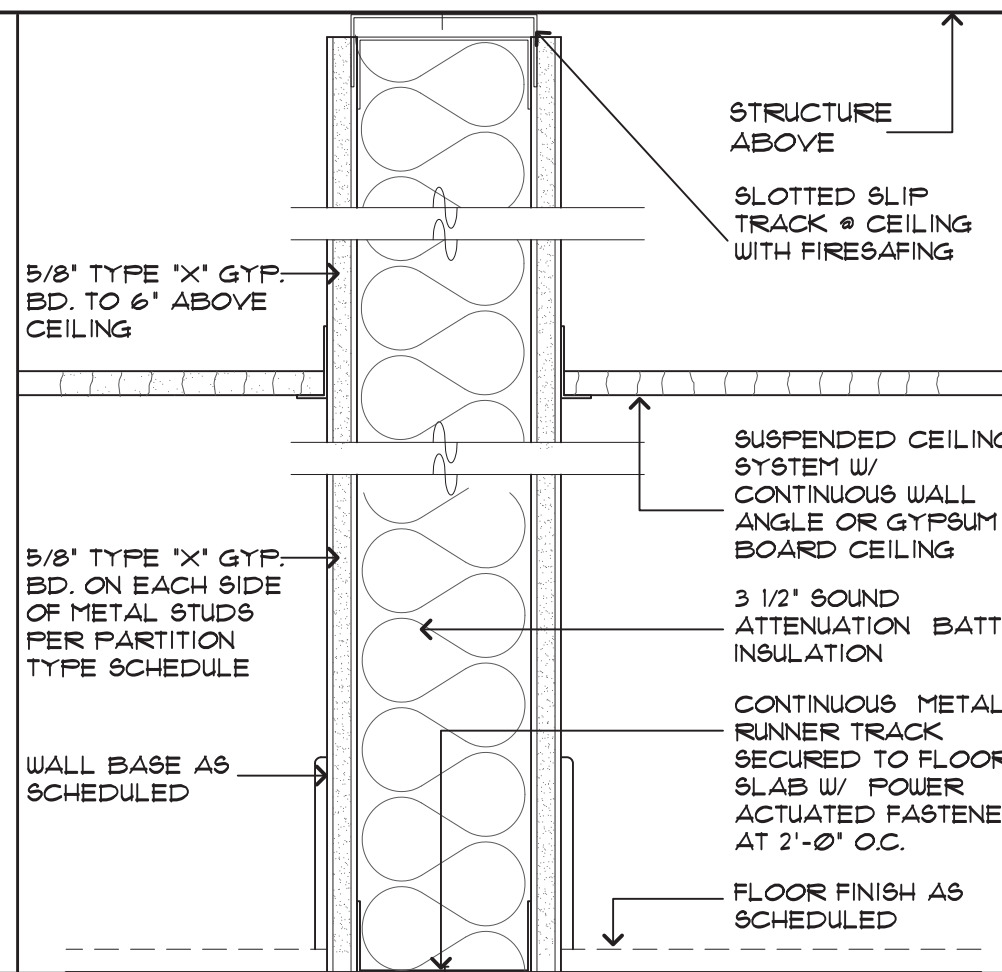
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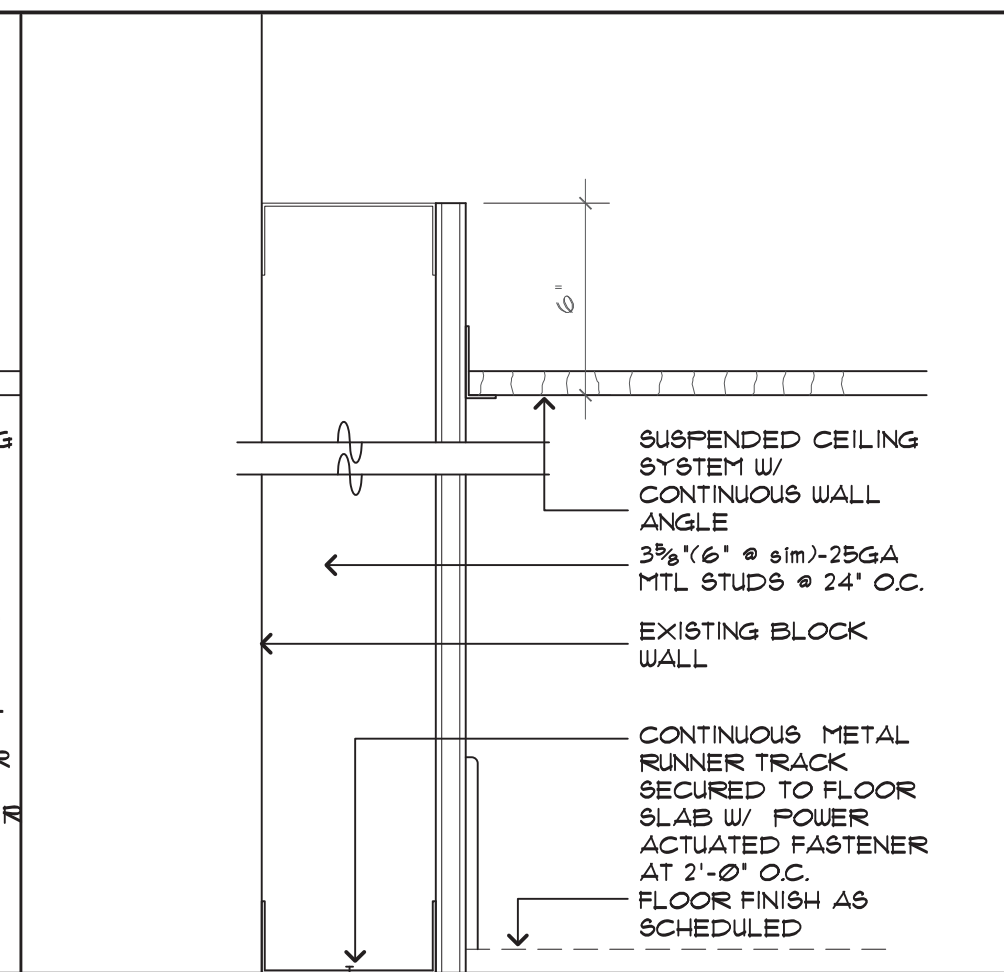
1 SOFFIT DETAIL
 SCALE: 1 1/2" = 1'-0"



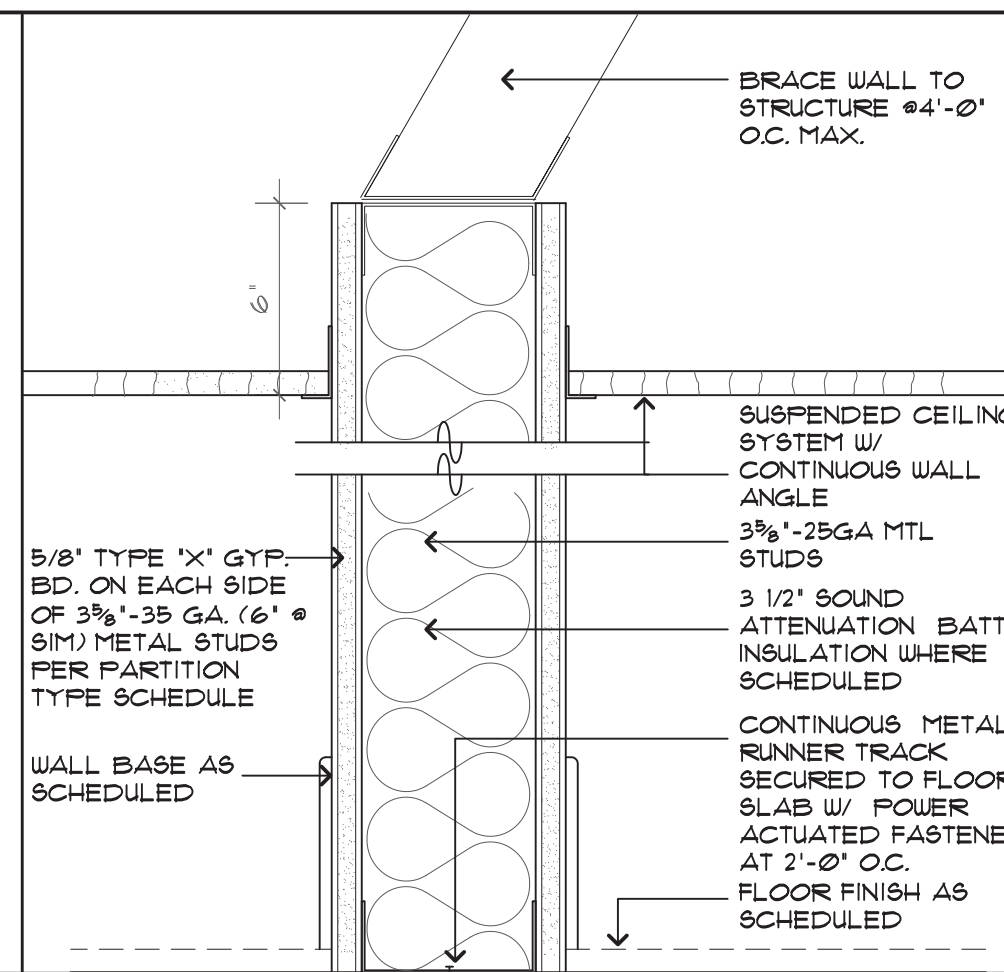
2 WINDOW DETAIL
 SCALE: 1" = 1'-0"



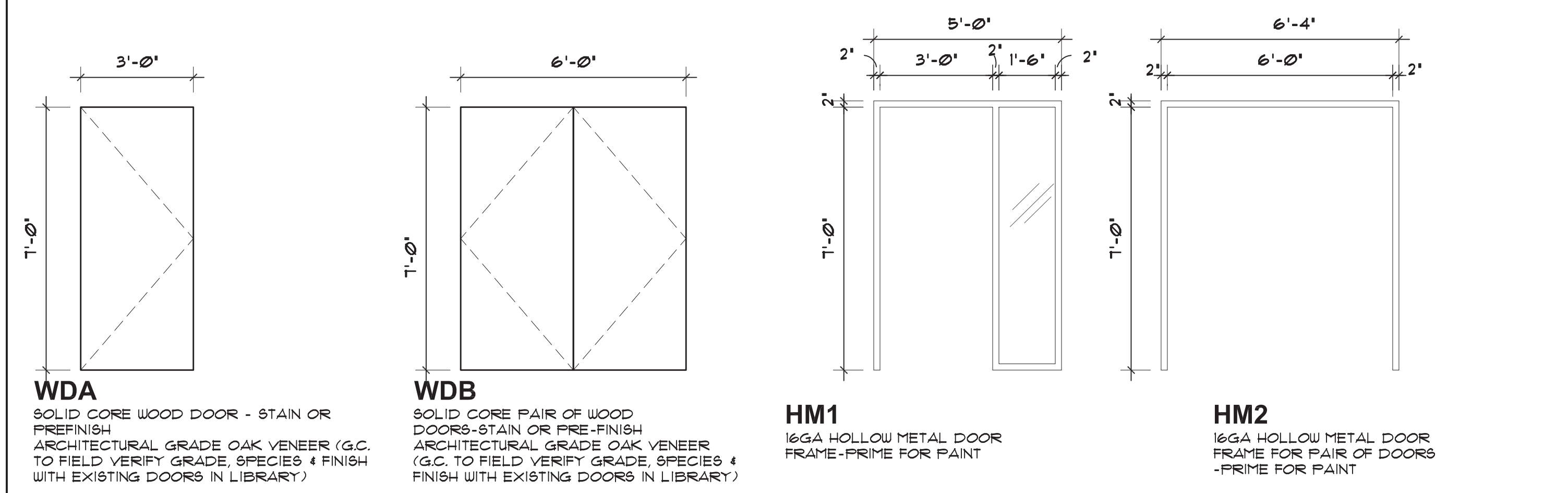
3 WALL TYPE W01
 SCALE: 1" = 1'-0"



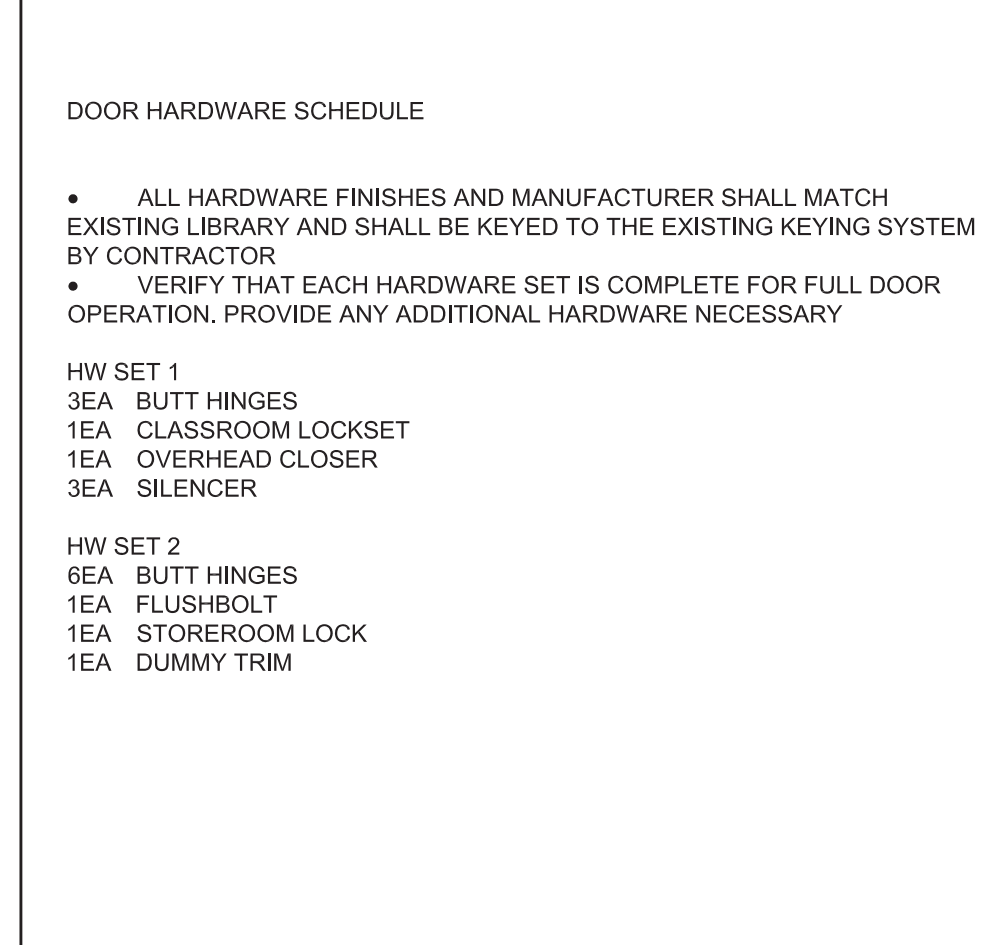
4 WALL TYPE W02
 SCALE: 1" = 1'-0"



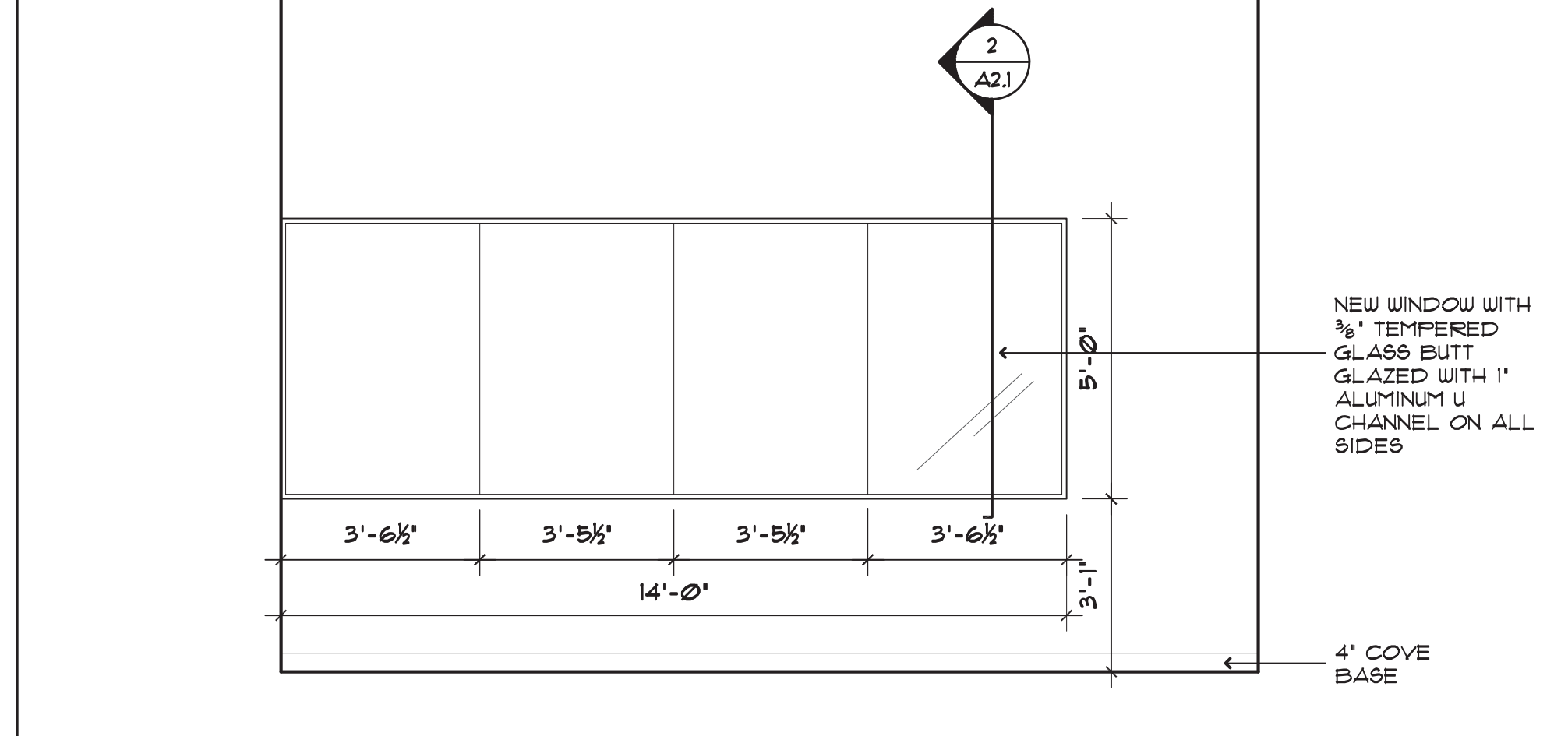
5 WALL TYPE W03
 SCALE: 1" = 1'-0"



7 DOOR AND FRAME TYPES
 SCALE: 3/8" = 1'-0"



10 HARDWARE SCHEDULE
 SCALE: N/A



11 WINDOW "A" ELEVATION
 SCALE: 3/8" = 1'-0"

PROJECT INFO
**RUTH HOLLEY LIBRARY
 NEW LEARNING LAB**

685 N MURRAY BLVD,
 COLORADO SPRINGS, CO 80915

DATE: 2/8/2020
 PROJECT MGR: SGT
 PREPARED BY: SGT



| DATE: | DESCRIPTION: |
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SHEET TITLE
 DETAILS

SHEET NUMBER
A2.1

MECHANICAL LEGEND

(NOT ALL SYMBOLS LISTED BELOW ARE USED IN THIS SET OF MECHANICAL DRAWINGS)

| SYMBOL | | ABBR | DESCRIPTION | SYMBOL | ABBR | DESCRIPTION | SYMBOL | ABBR | DESCRIPTION | SYMBOL | ABBR | DESCRIPTION | ABBREVIATIONS: | | | |
|--------|--------|------|---|--------|------|--|--------|------|--------------------------------|--------|--------|-------------------------------|----------------|------------------------------------|------|-------------|
| DOUBLE | SINGLE | | | | | | | | | | | | ABBR | DESCRIPTION | ABBR | DESCRIPTION |
| | | RA | RETURN DUCT UP | | | SUPPLY DIFFUSER 4-WAY THROW | | P&T | PRESSURE/TEMPERATURE PORT TAPS | | AF | AFTER FILTER | LVG | LEAVING | | |
| | | SA | SUPPLY DUCT UP | | | SUPPLY DIFFUSER 3-WAY THROW | | CR | CONCENTRIC REDUCER | | AFF | ABOVE FINISHED FLOOR | MA | MAKE-UP AIR | | |
| | | OA | OUTSIDE AIR DUCT UP | | | SUPPLY DIFFUSER 2-WAY THROW | | ER | ECCENTRIC REDUCER | | AFG | ABOVE FINISHED GRADE | MAX | MAXIMUM | | |
| | | EA | EXHAUST DUCT UP | | | SUPPLY DIFFUSER 1-WAY THROW | | U | UNION | | AHU | AIR HANDLING UNIT | MCA | MINIMUM CIRCUIT AMPACITY | | |
| | | RA | RETURN DUCT DN | | | SUPPLY SLOT DIFFUSER | | EJ | EXPANSION JOINT | | AL | ALUMINUM | MCC | MOTOR CONTROL CENTER | | |
| | | SA | SUPPLY DUCT DN | | | RETURN AIR GRILLE | | AC | ALIGNMENT GUIDE | | AMB. | AMBIENT | MIN | MINIMUM | | |
| | | OA | OUTSIDE AIR DUCT DN | | | EXHAUST AIR GRILLE | | AN | PIPE ANCHOR | | AP | ACCESS PANEL | MOCOP | MAX OVER CURRENT PROTECTION | | |
| | | EA | EXHAUST DUCT DN | | AP | CEILING ACCESS PANEL | | FC | FLEXIBLE PIPE CONNECTOR | | B | BOILER | MTL | METAL | | |
| | | | ROUND DUCT UP | | | UNDERFLOOR SWIRL DIFFUSER | | FS | FLOW SWITCH | | BHP | BRAKE HORSE POWER | NC | NOISE CRITERIA | | |
| | | | ROUND DUCT DN | | | VALVES: | | PS | PRESSURE SWITCH | | BOD | BOTTOM OF DUCT | (N) | NEW | | |
| | | | ROUND DUCT RISE | | GV | GATE VALVE | | PG | PRESSURE GAUGE W/ GAUGE COCK | | BTUH | BRITISH THERMAL UNIT PER HOUR | NTS | NOT TO SCALE | | |
| | | | ROUND DUCT DROP | | CV | CHECK VALVE | | | STEAM TRAP | | CAV | CONSTANT AIR VOLUME | OA | OUTSIDE AIR | | |
| | | | RADIUS ELBOW DUCT RISE | | PRV | PRESSURE REDUCING VALVE | | | ELBOW UP | | CC | COOLING COIL | O.C. | ON CENTER | | |
| | | | RADIUS ELBOW DUCT DROP | | BLV | BALANCING VALVE | | | ELBOW DN | | CFH | CUBIC FEET PER HOUR | OPNG | OPENING | | |
| | | | MITRED ELBOW DUCT RISE | | GLV | GLOBE VALVE (STRAIGHT PATTERN) | | | TEE UP | | CFM | CUBIC FEET PER MINUTE | P | PUMP | | |
| | | | MITRED ELBOW DUCT DROP | | GLV | GLOBE VALVE (ANGLE PATTERN) | | | TEE DN | | CH | CHILLER | PD | PRESSURE DROP/DIFFERENTIAL | | |
| | | | MITRED ELBOW | | BFV | BUTTERFLY VALVE | | | TEE | | COP | COEFFICIENT OF PERFORMANCE | PF | PRE-FILTER | | |
| | | | VANED ELBOW | | BV | BALL VALVE | | | TEE | | CRU | CONDENSATE RETURN UNIT | PRESS | PRESSURE | | |
| | | | RADIUS ELBOW | | PV | PLUG VALVE | | | TEE | | CV | CONSTANT VOLUME | PSIG | POUNDS PER SQUARE INCH GAUGE | | |
| | | | RECT.-TO-ROUND DUCT TRANSITION | | DV | HOSE END DRAIN VALVE | | | TEE | | dB | DECIBEL | PWL | SOUND POWERLEVEL | | |
| | | | DUCT TRANSITION | | TCV | AUTOMATIC TEMP. CONTROL VALVE, 2-WAY | | | TEE | | DB | DRY-BULB | QTY | QUANTITY | | |
| | | | CAPPED DUCT | | TCV | AUTOMATIC TEMP. CONTROL VALVE, 3-WAY | | | TEE | | DDC | DIRECT-DIGITAL CONTROL | RA | RETURN AIR | | |
| | | | EXISTING DUCT NO CHANGE | | SV | SOLENOID VALVE | | | TEE | | DEFL | DEFLECTION | (R) | RELOCATE | | |
| | | | EXISTING DUCT TO BE REMOVED | | TPR | TEMPERATURE/PRESSURE RELIEF VALVE | | | TEE | | DIA | DIAMETER | REF | REFERENCE | | |
| | | FSD | FIRE SMOKE DAMPER | | STR | STRAINER W/ BLOW-OFF VALVE & CAPPED HOSE END | | | TEE | | DN | DOWN | RF | RETURN FAN | | |
| | | FD | FIRE DAMPER | | FV | FLOW VENTURI | | | TEE | | DP | DISCHARGE PLENUM | RH | RELATIVE HUMIDITY | | |
| | | SD | SMOKE DAMPER | | SD | SUCTION DIFFUSER | | | TEE | | DR | EQUIPMENT DRAIN | RLA | RUNNING LOAD AMPS | | |
| | | MD | MOTORIZED DAMPER | | | | | | TEE | | DWG | DRAWING | RPM | REVOLUTION PER MINUTE | | |
| | | MVD | MANUAL VOLUME DAMPER W/ LOCKING QUADRANT | | | | | | TEE | | EA | EXHAUST AIR | RQD | REQUIRED | | |
| | | | CONICAL SPIN-IN FITTING W/ MANUAL VOLUME DAMPER | | | | | | TEE | | EDR | EFFECTIVE DIRECT RADIATION | SA | SUPPLY AIR | | |
| | | | CONICAL TAP | | | | | | TEE | | EER | ENERGY EFFICIENCY RATIO | SCFM | STANDARD AIR CUBIC FEET PER MINUTE | | |
| | | FC | FLEXIBLE DUCT CONNECTOR | | | | | | TEE | | EF | EXHAUST FAN | SF | SUPPLY FAN | | |
| | | | LOW PRESSURE FLEXIBLE DUCT | | | | | | TEE | | EFF | EFFICIENCY | SHT | SHEET | | |
| | | | | | | | | | TEE | | ENT | ENTERING | SPECS | SPECIFICATIONS | | |
| | | | | | | | | | TEE | | ESP | EXTERNAL STATIC PRESSURE | SP | STATIC PRESSURE | | |
| | | | | | | | | | TEE | | (E) | EXISTING | SQ | SQUARE | | |
| | | | | | | | | | TEE | | *F | DEGREE FAHRENHEIT | SQFT | SQUARE FOOT | | |
| | | | | | | | | | TEE | | FCU | FAN COIL UNIT | SS | STAINLESS STEEL | | |
| | | | | | | | | | TEE | | F.G. | FIBERGLASS | ST | SOUND TRAP | | |
| | | | | | | | | | TEE | | FF | FINAL FILTER | TG | TRANSFER GRILLE | | |
| | | | | | | | | | TEE | | FLA | FULL LOAD AMPS | TOD | TOP OF DUCT | | |
| | | | | | | | | | TEE | | FPI | FINS PER INCH | TSP | TOTAL STATIC PRESSURE | | |
| | | | | | | | | | TEE | | FPM | FEET PER MINUTE | TYP | TYPICAL | | |
| | | | | | | | | | TEE | | FRIC. | FRICTION | UON | UNLESS OTHERWISE NOTED | | |
| | | | | | | | | | TEE | | FT | FLASH TANK | UTR | UP THRU ROOF | | |
| | | | | | | | | | TEE | | FS | FLOOR SINK | VAV | VARIABLE AIR VOLUME | | |
| | | | | | | | | | TEE | | FT. WC | FEET WATER COLUMN | VEL | VELOCITY | | |
| | | | | | | | | | TEE | | GAL | GALLON | VFD | VARIABLE FREQUENCY DRIVE | | |
| | | | | | | | | | TEE | | GPH | GALLONS PER HOUR | VSD | VARIABLE SPEED DRIVE | | |
| | | | | | | | | | TEE | | GPM | GALLONS PER MINUTE | VTR | VENT THRU ROOF | | |
| | | | | | | | | | TEE | | HC | HEATING COIL | WB | WET-BULB | | |
| | | | | | | | | | TEE | | HP | HORSEPOWER | WF | WATER FILTRATION | | |
| | | | | | | | | | TEE | | HU | HUMIDIFIER | W/ | WITH | | |
| | | | | | | | | | TEE | | HZ | HERTZ | W/O | WITHOUT | | |
| | | | | | | | | | TEE | | IN. WC | INCHES WATER COLUMN | | | | |
| | | | | | | | | | TEE | | ISOL. | ISOLATOR | | | | |
| | | | | | | | | | TEE | | KW | KILOWATTS | | | | |
| | | | | | | | | | TEE | | LBS | POUNDS | | | | |
| | | | | | | | | | TEE | | LBS/HR | POUNDS PER HOUR | | | | |
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BASIC MECHANICAL REQUIREMENTS

1. CONDITIONS
 - 1.1. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS AND SPECIFICATIONS SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE AND OPERATIONAL HVAC PLUMBING SYSTEMS. CONTRACTOR SHALL FURNISH THESE EVEN IF ITEMS REQUIRED TO ACHIEVE THIS (I.E. OFFSETS, ISOLATION AND BALANCING DEVICES, MAINTENANCE CLEARANCES, ETC.) ARE NOT SPECIFICALLY SHOWN.
 - 1.2. ALL CAPACITIES ARE SCHEDULED AT A JOBSITE ALTITUDE OF 6200 FT ABOVE SEA LEVEL.
2. CODES AND REGULATIONS
 - 2.1. COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES, AND THE LATEST APPLICABLE REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING, MECHANICAL AND ENERGY CONSERVATION CODES, LATEST EDITIONS OF NFPA, IPRBD REGIONAL AMENDMENTS, AND REGULATIONS OF THE UTILITY COMPANY FURNISHING SERVICE AS INTERPRETED BY THE LOCAL INSPECTION AUTHORITY WHO SHALL HAVE FINAL JURISDICTION.
 - 2.2. COMPLY ALSO WITH ALL OSHA REQUIREMENTS AND DIRECTIVES.
3. DEFINITIONS
 - 3.1. DEFINITIONS OF DIVISION 1 AND GENERAL CONDITIONS OF THIS SPECIFICATION ALSO APPLY TO DIVISIONS 21-23 CONTRACT.
 - 3.2. "PROCUREMENT REQUIREMENTS" CONSTITUTE THE SOLICITATION, INSTRUCTIONS FOR PROCUREMENT, AVAILABLE INFORMATION, AND PROCUREMENT FORMS AND SUPPLEMENTS.
 - 3.3. "CONTRACT DOCUMENTS" CONSTITUTE THE CONTRACTING REQUIREMENTS, SPECIFICATIONS, CONTRACT DRAWINGS, PRE-CONTRACT REVISIONS (ADDENDA), CLARIFICATIONS AND PROPOSALS, AND CONTRACT MODIFICATIONS PREPARED BY ARCHITECT FOR CONTRACTOR'S BID OR CONTRACTOR'S NEGOTIATIONS WITH THE OWNER.
 - 3.4. "CONSTRUCTION DOCUMENTS" INCLUDE THE "PROCUREMENT REQUIREMENTS," "CONTRACT DOCUMENTS," AND ANY RESOURCE DRAWINGS.
 - 3.5. "CONSTRUCTION SUBMITTALS" AND SIMILAR TERMS FOR DIVISIONS 21-23 WORK REFER TO SHOP DRAWINGS, COORDINATION DRAWINGS, PRODUCT DATA, SAMPLES, QA/QC SUBMITTALS, INFORMATIONAL SUBMITTALS, AND CONSTRUCTION PHOTOGRAPHS PREPARED BY THE CONTRACTOR THAT CONVEY INFORMATION ABOUT SYSTEMS, EQUIPMENT, MATERIALS, PRODUCTS, AND ADMINISTRATIVE MATTERS, AND ARE NOT CONSIDERED CONSTRUCTION DOCUMENTS.
 - 3.6. "(N)" INDICATES "NEW" EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT.
 - 3.7. "(E)" INDICATES "EXISTING" EQUIPMENT ON SITE WHICH MAY OR MAY NOT NEED TO BE RELOCATED AS A PART OF THIS WORK.
 - 3.8. "(R)" INDICATES EXISTING EQUIPMENT TO BE RELOCATED AS PART OF THIS WORK.
 - 3.9. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.
 - 3.10. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".
 - 3.11. "PROVIDE" MEANS TO "FURNISH AND INSTALL".
 - 3.12. "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE AS DETERMINED BY THE ARCHITECT.
 - 3.13. "WORK BY OTHER(S) DIVISIONS"; "RE..." DIVISION"; AND SIMILAR EXPRESSIONS MEAN WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COORDINATE WORK OF THE CONTRACT BETWEEN HIS/HER SUPPLIERS, SUBCONTRACTORS AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT BEFORE SUBMITTING BID.
 - 3.14. BY INFERENCE, ANY REFERENCE TO A "CONTRACTOR" OR "SUB-CONTRACTOR" MEANS THE ENTITY WHICH HAS CONTRACTED WITH THE OWNER FOR THE WORK OF THE CONTRACT DOCUMENTS.
 - 3.15. "ENGINEER" MEANS THE DESIGN PROFESSIONAL FIRM WHICH HAS PREPARED THESE CONTRACT DOCUMENTS. ALL QUESTIONS, SUBMITTALS, ETC. OF THIS DIVISION SHALL BE ROUTED TO THE ARCHITECT THROUGH PROPER CONTRACTUAL CHANNELS.
4. DRAWINGS AND SPECIFICATIONS
 - 4.1. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHALL NOT BE SCALED. THEY SHOW CERTAIN PHYSICAL RELATIONSHIPS WHICH MUST BE ESTABLISHED WITHIN THE DIVISIONS 21-23 WORK AND ITS INTERFACE WITH OTHER WORK. ESTABLISHING THIS RELATIONSHIP IN THE FIELD IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR. THIS DIVISION SHALL COORDINATE ITS WORK WITH ALL DIVISIONS OF THE WORK AND ADJUST ITS WORK AS REQUIRED BY ACTUAL CONDITIONS OF THE PROJECT.
 - 4.1.1. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT.
 - 4.1.2. CERTAIN SYSTEMS REQUIRE ENGINEERING OF INSTALLATION DETAILS BY CONTRACTOR, UNLESS FULLY DETAILED IN THE CONTRACT DOCUMENTS, SUCH ENGINEERING IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
 - 4.1.3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHERE CLEARANCES ARE LIMITED, AND WHERE INSTALLATION DRAWINGS OR SCHEMATICS, "CONSTRUCTION DRAWINGS"; OR COORDINATION DRAWINGS MAY BE REQUIRED. THE CONTRACTOR SHALL PREPARE ALL SUCH COORDINATION DRAWINGS AS PART OF THE BASE CONTRACT. SUCH DRAWINGS MAY BE SUBMITTED TO THE ARCHITECT FOR RECORD AND COMMENT (AT THE CONTRACTOR'S OPTION).
 - 4.2. REFER TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS, AS A PART OF THIS SET, AND BE RESPONSIBLE FOR ALL INFORMATION CONTAINED THEREIN THAT AFFECTS MECHANICAL WORK.
 - 4.3. LAY OUT ALL WORK IN ADVANCE. DO NOT DEFACE WORK OF OTHER TRADES. SLEEVES AND OPENINGS THROUGH THE ROOF TO BE BY THE BASE BUILDING ROOFING CONTRACTOR.
5. PERMITS
 - 5.1. SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, LICENSES, UTILITY COMPANY CHARGES AND INSPECTIONS IN CONNECTION WITH THE MECHANICAL WORK.
6. COORDINATION
 - 6.1. ORDER THE PROGRESS OF THE WORK TO CONFORM TO THE PROGRESS OF OTHER TRADES. COORDINATE ALL ELECTRICAL INSTALLATION AND ROUGH-IN AS REQUIRED.
7. WORKMANSHIP
 - 7.1. PROVIDE A COMPETENT FOREMAN ON THE JOB AT ALL TIMES. ACCOMPLISH ALL WORK IN A NEAT, WORKMANLIKE, FIRST-QUALITY MANNER COMPATIBLE WITH GOOD COMMERCIAL PRACTICES AND STANDARDS. PROVIDE COMPETENT WORKMEN.
 - 7.2. SHOP DRAWINGS AND MATERIALS LIST
 - 8.1. SUBMIT COMPLETE MANUFACTURER'S SHOP DRAWINGS AND MATERIAL LISTS FOR APPROVAL OR AS REQUIRED IN DIVISION 1. PRIOR TO SUBMITTING THE SHOP DRAWINGS, REVIEW AND CERTIFY SAME AS TO COMPLIANCE WITH THE PLANS AND SPECIFICATIONS AND FOR DIMENSIONAL SUITABILITY FOR THE APPLICATION. ALL PROPOSED DEVIATIONS FROM SPECIFICATIONS MUST BE CLEARLY LISTED UNDER A PROMINENT HEADING ENTITLED "DEVIATIONS". INCLUDE ALL EQUIPMENT, DUCTWORK, VALVES, PIPING, CONTROLS AND APPURTENANCES.
 - 8.1.1. IF PROJECT PERMITS ELECTRONIC SUBMITTALS, SUBMIT ONE (1) HARD COPY OF CONTROLS, INSTALLATION SHOP DRAWINGS, TEST-ADJUST-BALANCE REPORTS, AND FIRE PROTECTION DRAWINGS TO ENGINEER FOR REVIEW IN ADDITION TO ELECTRONIC COPIES.
 - 8.2. PROVIDE MATERIAL AS SPECIFIED. SUBSTITUTIONS MAY BE CONSIDERED BEFORE THE CONTRACT DATE AS LONG AS DEDUCT ALTERNATE IS SUBMITTED AT BID TIME. SUBMIT SUBSTITUTIONS SEPARATELY FOR EACH PRODUCT WITH SUPPORTING DATA, DRAWINGS AND SAMPLES AS APPROPRIATE, INCLUDING:
 - 8.2.1. ITEMIZED COMPARISON OF THE QUALITIES OF THE PROPOSED SUBSTITUTION WITH THAT SPECIFIED.
 - 8.2.2. CHANGES REQUIRED IN OTHER ELEMENTS OF THE WORK BECAUSE OF THE SUBSTITUTION.
 - 8.2.3. COST DATA COMPARING THE PROPOSED SUBSTITUTION WITH THE PRODUCT SPECIFIED.
 - 8.2.4. THE ARCHITECT WILL BE THE JUDGE OF THE ACCEPTABILITY OF THE PROPOSED SUBSTITUTION.
 - 8.2.5. ALL MATERIALS SHALL BE NEW AND BEAR THE UNDERWRITERS' LABORATORIES, INC. APPROVAL, PROVIDED A STANDARD HAS BEEN ESTABLISHED FOR THE MATERIAL.
 - 8.2.6. ALL EQUIPMENT SHALL MEET OR EXCEED MINIMUM REQUIREMENTS OF SMACNA AND ASHRAE.
9. INSTALLATION
 - 9.1. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH INFORMATION AS INDICATED ON THE DRAWINGS AND IN FULL ACCORD WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
10. CUTTING AND PATCHING
 - 10.1. PROVIDE ALL CUTTING, CHANNELING, CHASING, DRILLING, ETC., OPERATIONS AS MAY BE REQUIRED FOR THE MECHANICAL WORK. IN GENERAL, ALL SUCH OPERATIONS SHALL BE HELD TO A MINIMUM.
 - 10.2. ALL PATCHING AND PAINTING SHALL BE DONE BY THE CONTRACTOR.
11. TEMPORARY CONSTRUCTION
 - 11.1. PROVIDE TEMPORARY HEAT AND WATER FOR CONSTRUCTION AS REQUIRED. USE OF EXISTING HEAT AND UTILITIES IS NOT ACCEPTABLE WITHOUT PRIOR WRITTEN PERMISSION OF THE ARCHITECT.
12. INTERRUPTION OF EXISTING SERVICES
 - 12.1. SHUTDOWN, WHEN NECESSARY, SHALL BE SCHEDULED TWO (2) WEEKS IN ADVANCE WITH THE OWNER AND PERFORMED DURING NON-WORKING HOURS (7:00PM - 6:00AM). INTERRUPTION SHALL BE ONLY AT OWNER APPROVED TIMES.
13. GUARANTEE
 - 13.1. GUARANTEE ALL MATERIALS, LABOR, WORKMANSHIP AND THE SUCCESSFUL OPERATION OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AGAINST DEFECTS AND FAULTY WORKMANSHIP.
 - 13.2. REPAIR OR REPLACE, AT NO EXPENSE TO THE OWNER, ALL DEFECTS WHICH MAY ARISE DURING THIS TIME DUE TO INFERIOR OR DEFECTIVE MATERIALS, EQUIPMENT OR WORKMANSHIP.
14. RECORD DRAWINGS
 - 14.1. MAINTAIN A COMPLETE SET OF MECHANICAL DRAWINGS AT THE JOB SITE WITH ALL CHANGES TO CONTRACT DOCUMENTS NEATLY MARKED THEREON IN A CONTRASTING COLOR. THIS SHALL BE A SEPARATE SET OF DRAWINGS NOT USED FOR CONSTRUCTION PURPOSES, WHICH SHALL BE KEPT UP TO DATE AS THE JOB PROGRESSES AND SHALL BE MADE AVAILABLE FOR OBSERVATION BY THE ARCHITECT AT ALL TIMES. SUBMIT A COMPLETE RECORD SET OF DRAWINGS INCORPORATING ALL ADDENDUMS, BULLETINS AND INFORMATION REQUESTS TO THE ARCHITECT UPON COMPLETION OF THE PROJECT. PROVIDE ELECTRONIC CAD AND PDF FILES OF RECORD DRAWINGS ALONG WITH HARD COPY OF DRAWINGS.
15. DEMONSTRATION
 - 15.1. DEMONSTRATE THE OPERATION OF ALL SYSTEMS FOR THE OWNER AT A TIME AS DIRECTED BY THE ARCHITECT. PROVIDE TWO (2) HOURS OF INSTRUCTION.
16. MAINTENANCE MANUALS
 - 16.1. PRIOR TO COMPLETION OF PROJECT, SUBMIT FOUR (4) SETS OF OPERATION AND MAINTENANCE MANUALS IN THREE RING BINDERS.
17. EXISTING BUILDING
 - 17.1. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE EXISTING BUILDING WILL BE OCCUPIED BY THE OWNER DURING CONSTRUCTION. CONTINUED OPERATION OF THE FACILITY SHALL NOT BE HINDERED BY THIS WORK. THE CONTRACTOR SHALL ACCOUNT FOR ALL ADDITIONAL COSTS WHICH MAY BE INCURRED BY HIM DUE TO THE DIFFICULTY OF WORKING OVER AND AROUND EMPLOYEES, DESKS, EQUIPMENT, ETC.; AND DUE TO THE HOURS OF THE DAY IN WHICH AN AREA MAY BE AVAILABLE WHEN SUBMITTING HIS BID.
 - 17.2. CLEAN ALL SUPPLY, EXHAUST, TRANSFER AND RETURN AIR GRILLES BEING REUSED UNLESS OTHERWISE NOTED.
 - 17.3. VISUALLY INSPECT ALL EXISTING FIRE DAMPERS AND SMOKE/FIRE DAMPERS FOR PROPER POSITION AND ACCESS. REPLACE BROKEN LINKAGES AS REQUIRED. REPORT ANY ADDITIONAL DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
 - 17.4. MATCH THE MATERIAL AND CONSTRUCTION METHODS OF ALL RELOCATED PIPE, DUCTWORK, CONDUITS, ETC. WHICH ARE TO BE RELOCATED WITH THAT OF THE ORIGINAL.
 - 17.5. DURING DEMOLITION OPERATIONS, ALL PERSONS AND PROPERTY SHALL BE PROTECTED. THE WORK SHALL PROCEED IN SUCH A MANNER SO AS TO MINIMIZE ANY SPREADING OF DUST, DEBRIS AND FLYING PARTICLES, AND SO THAT ANY RELATED EFFECTS OF THE DEMOLITION DO NOT INTERFERE WITH SURROUNDING EQUIPMENT, PERSONNEL OR THE OPERATION OF THE BUILDING.
 - 17.6. MINIMIZE DISRUPTIONS TO MECHANICAL AND ELECTRICAL SYSTEMS IN OCCUPIED AREAS. COORDINATE ANY REQUIRED SYSTEM OUTAGES WITH THE ARCHITECT IN ADVANCE.
18. TENANT FINISH
 - 18.1. NO INCREASE ON CONTRACT SUM WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS. COORDINATE AND ADJUST ALL WORK BETWEEN TRADES AND EXISTING CONDITIONS IN ORDER TO ACCOMPLISH A NEAT, INTEGRATED AND EFFICIENT INSTALLATION.
 - 18.2. EXAMINE THE CONTRACT DOCUMENTS OF ALL TRADES (E.G., THE ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING PLAN, FIRE PROTECTION PLAN, ETC.).
 - 18.3. COORDINATE NECESSARY EQUIPMENT, DUCTWORK AND PIPING LOCATIONS SO THAT THE FINAL INSTALLATION IS COMPATIBLE WITH THE MATERIALS AND EQUIPMENT OF THE OTHER TRADES.

ELECTRICAL COORDINATION

- 19.1. VERIFY THE ELECTRICAL SERVICE PROVIDED BY THE ELECTRICAL CONTRACTOR BEFORE ORDERING ANY MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. INSTALLATION OR BID OF INCORRECT POWER OR EQUIPMENT SHALL BE REMOVED AND REPLACED WITH CORRECT NEAT AT NO INCREASE ON CONTRACT SUM.
- 19.2. PROVIDE PREMIUM EFFICIENCY MOTORS WITH 1.15 SERVICE FACTOR ON ALL EQUIPMENT 1 HP AND OVER. MOTORS SHALL BE CAPABLE OF OPERATING CONTINUOUSLY AT 10500' UNDER JOBSITE CONDITIONS AND ALTITUDE.
- 19.3. ALL MOTORS ½ HP OR SMALLER SHALL BE PROVIDED 1-PHASE. ALL OTHER MOTORS SHALL BE PROVIDED 3-PHASE UNLESS OTHERWISE NOTED.

BASIC MECHANICAL MATERIALS AND METHODS

PRODUCTS

1. ACCESS PANELS.
 - 1.1.1. REFER TO ARCHITECTURAL DOCUMENTS FOR FINISHES AND PANEL TYPES.
 - 1.1.2. DOORS SHALL BE A MINIMUM OF 16 GAUGE STEEL, UNLESS REQUIRED OTHERWISE FOR FIRE RATING.
 - 1.1.3. PROVIDE WITH CONCEALED OR FLUSH MOUNT LATCHES.
 - 1.1.4. PROVIDE WITH FIRE RATING EQUIVALENT TO CONSTRUCTION WHICH INSTALLED.
2. FIRE-STOPPING MATERIALS.
 - 2.1. PRODUCTS TO BE USED SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ASTM E 814-88, "AND UL 1479 TEST METHOD FOR THROUGH PENETRATIONS", AND BE LISTED IN THE UL FIRE RESISTANCE DIRECTORY.
 - 2.2. PROVIDE FASTENERS, RESTRICTING COLLARS, BACKING MATERIALS, AND PROTECTIVE COATINGS AS REQUIRED TO COMPLY WITH THE UL SYSTEM LISTING
3. APPLICATION
 - 2.1. CUTTING AND PATCHING.
 - 2.1.1. WHERE CUTTING AND PATCHING IS REQUIRED, ARCHITECTURAL REQUIREMENTS GOVERN.
 - 2.1.2. KEEP CUTTING TO A MINIMUM WHERE REQUIRED.
 - 2.1.3. PROVIDE PATCHING TO MATCH EXISTING AT A MINIMUM.
 - 2.1.4. DO NOT CUT OR DRILL THROUGH STRUCTURAL ITEMS WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT.
- 2.2. ACCESS PANELS
 - 2.2.1. FURNISH AND LOCATED BY DIVISIONS 21-23, INSTALLED BY TRADE RESPONSIBLE FOR SURFACE IN WHICH IT IS INSTALLED.
 - 2.2.2. COORDINATE EXACT LOCATION WITH ARCHITECT OR ARCHITECTURAL DRAWINGS.
- 2.3. FIRE-STOPPING
 - 2.3.1. INSTALL FIRESTOPPING MATERIALS IN ACCORDANCE WITH THEIR UL AND ASTM TESTED METHODS.
 - 2.3.2. INSTALL FIRE STOPPING AT ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.

MECHANICAL IDENTIFICATION

1. LABEL ALL NEW PIPING AND EQUIPMENT.
2. PROVIDE FULL BAND OR STRIP TYPE MARKERS AND FLOW ARROWS ON PIPING.
3. PROVIDE ENGRAVED PLASTIC VALVE TAGS WITH VALVE NUMBER AND ATTACH WITH STANDARD CHAIN OR S-HOOKS.
4. PROVIDE LABELS ON CEILINGS UNDER CONCEALED DEVICES.
5. LABEL EQUIPMENT AS TO THE AREA SERVED.
6. PROVIDE LABEL COLORS TO COMPLY WITH ANSI A13.1.

DUCTWORK

1. APPLICATION
 - 1.1. FABRICATE IN ACCORDANCE WITH LATEST EDITION OF SMACNA STANDARDS AND INTERNATIONAL MECHANICAL CODE FOR LOW AND MEDIUM DUCTWORK PRESSURE.
 - 1.2. GALVANIZED STEEL, PITTSBURGH LOCK LONGITUDINAL SEAMS SEALED AIRTIGHT, DUCTMATE, OR T.D.C. SYSTEM.
 - 1.3. EXPOSED DUCT; SPIRAL GALVANIZED WITH "PAINTLOC" FINISH WHERE DUCT WILL BE PAINTED.
 - 1.4. CONCEALED DUCT; ROUND OR RECTANGULAR AS SHOWN ON DRAWINGS.
 - 1.5. DUCT TAPE NOT PERMITTED AS SEALANT.
 - 1.6. FIBERGLASS DUCT SYSTEMS NOT PERMITTED.
 - 1.7. DUCT DIMENSIONS ARE INSIDE CLEAR.
 - 1.8. DIFFUSER NECK SIZE IS SAME AS HARD DUCT SIZE, UNLESS NOTED OTHERWISE.
 - 1.9. UNLESS OTHERWISE NOTED, ALL CHANGES IN DIRECTION SHALL BE MADE WITH RADIUS ELBOWS WITH RADIUS TO CENTERLINE EQUAL TO 1.5 DUCT WIDTH.
 - 1.10. WHERE REQUIRED FOR SPACE CONSTRAINTS, PROVIDE SQUARE THROAT ELBOWS WITH SINGLE WIDTH TURNING VANES WITH TRAILING EDGE.
 - 1.11. FOR DUCT WIDTHS OF 36" OR LESS, PROVIDE MANUFACTURED SINGLE WIDTH TURNING VANES, WITH SPACING IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS FOR "STANDARD SPACING". USE DOUBLE THICKNESS BLADES FOR DUCT WIDTHS GREATER THAN 36" AND INCREASE DUCT SIZE TO MAINTAIN FREE AREA. USE NO TRAILING EDGES.
2. DUCTWORK LINING
 - 2.1. JOHNS-MANVILLE PERMACOTE LINACOUSTIC, NCR OF 0.70 OR HIGHER BASED ON "TYPE A MOUNTING" AND TESTED IN ACCORDANCE WITH ASTM C423. EPA REGISTERED ANTI-MICROBIAL ACRYLIC COATED AGENT, FACTORY APPLIED TO RESIST MICROBIAL GROWTH AS DETERMINED BY ASTM G21 AND G22.

DUCTWORK ACCESSORIES

1. VOLUME DAMPERS SHALL COMPLY WITH SMACNA. DAMPER EACH BRANCH RUNOUT DUCT AND WHERE REQUIRED FOR ADEQUATE BALANCING. WHERE VOLUME DAMPERS ARE NOT READILY ACCESSIBLE, PROVIDE REMOTE OPERATOR.
2. MISCELLANEOUS DUCTWORK ACCESSORIES.
 - 2.1. DUCT ACCESS DOORS
 - 2.1.1. PROVIDE HINGED DUCT ACCESS DOORS WITH GASKETS, AND WITH INSULATION WHERE DUCTWORK IS INDICATED TO BE INSULATED.
 - 2.1.2. CESCO MODEL HAD-HINGED OR APPROVED EQUAL.

DUCT INSULATION

1. MATERIALS:
 - 1.1. FLEXIBLE FACED FIBERGLASS DUCTWORK INSULATION: JOHNS-MANVILLE MICROLITE, WITH FSK FACTORY APPLIED FOIL, SCRIM, KRAFT FACING.
 - 1.2. RIGID FIBERGLASS DUCTWORK INSULATION: JOHNS MANVILLE 800 SERIES, SPIN-GLAS TYPE 814, 3 LB. DENSITY RIGID BOARD WITH FSK JACKET.
 - 1.2.1. FLEXIBLE PLAIN FIBERGLASS DUCTWORK INSULATION: JOHNS MANVILLE MICROLITE 1.0 LB/CU. FT. UNFACED.
 - 1.3. DUCTWORK INSULATION ACCESSORIES: PROVIDE STAPLES, BANDS, WIRES, TAPE, ANCHORS, CORNER ANGLES, AND SIMILAR ACCESSORIES AS RECOMMENDED BY THE INSULATION MANUFACTURER FOR THE APPLICATIONS INDICATED.
2. APPLICATION:
 - 2.1. CONCEALED UNLINED SUPPLY DUCTWORK: 1-1/2" THICK FLEXIBLE FACED FIBERGLASS.
 - 2.2. EXPOSED UNLINED SUPPLY DUCTWORK IN CONDITIONED SPACE: NONE.
 - 2.3. CONCEALED UNLINED RETURN AIR DUCTWORK: 1-1/2" FLEXIBLE FIBERGLASS, WITH OR WITHOUT FACING.
 - 2.4. EXHAUST AIR DUCTWORK WITHIN 30 FEET OF OPENING TO EXTERIOR: 1-1/2" THICK FLEXIBLE FACED FIBERGLASS.

AIR INLETS AND OUTLETS

1. MANUFACTURERS
 - 1.1. PRICE, TITUS, KRUEGER, ACUTHERM THERMAFUSER.
2. PRODUCTS
 - 2.1. REFER TO DRAWINGS AND SCHEDULE FOR TYPE AND ACCESSORIES.
 - 2.2. SUBMIT CATALOG DATA.
 - 2.3. FOR MANUFACTURERS OTHER THAN NAME SCHEDULED, SUBMIT ALSO EACH OUTLET SHOWING NC, THROW AND PRESSURE DROP ALONG WITH ITEMIZED COMPARISON TO SPECIFIED OUTLET.
 - 2.4. PROVIDE PRODUCTS TESTED IN ACCORDANCE WITH AIR DIFFUSION COUNCIL TEST CODES AND BEARING THE ADC SEAL. SUBMIT SUPPORTING DATA THAT SHOWS OUTLETS WERE TESTED IN ADC CERTIFIED LAB.
 - 2.5. PROVIDE ALUMINUM IN ALL LOCKER/TOILET/SHOWER AND ADJACENT AREAS.
3. APPLICATION
 - 3.1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS.
 - 3.2. EXPOSED MOUNTING SCREWS:
 - 3.2.1. USE TAMPER PROOF SCREWS IN COUNTERSUNK HOLES.
 - 3.2.2. PAINT SCREWS TO MATCH FRAME.
 - 3.3. CEILING AIR OUTLETS
 - 3.3.1. ALIGN IN CEILING WITH TILES OR ARCHITECTURAL FEATURES AND LOCATE SYMMETRICALLY.
 - 3.3.2. PROVIDE MINIMUM ONE DIAMETER STRAIGHT DUCT INLET AND FULL RADIUS BEND ON FLEXIBLE DUCT CONNECTION. WHERE CEILING SPACE IS INADEQUATE, PROVIDE INSULATED PLENUM WITH HEIGHT EQUAL TO TWO NECK DIAMETERS AND SIDE INLET TAP NEAR TOP OF PLENUM.
 - 3.3.3. PROVIDE FRAMED OPENING IN HARD-LID CEILINGS SO CEILING AIR OUTLET MOUNTS ON THE FRAME AND IS REMOVABLE SIMILAR TO AN OUTLET IN A LAY-IN CEILING SYSTEM.
 - 3.3.4. RELOCATE DIFFUSERS WITHIN A 2 FOOT RADIUS WHERE CEILING PATTERN IS AT VARIANCE WITH OUTLET LOCATIONS SHOWN.
 - 3.4. SIDEWALL AIR OUTLETS
 - 3.4.1. MOUNT AT HEIGHT AS SHOWN OR AS DIRECTED BY ARCHITECT.
 - 3.4.2. ARRANGE SO LOCATIONS ARE SYMMETRICAL TO AND CONGRUENT WITH ARCHITECTURAL FEATURES.
 - 3.5. BALANCING
 - 3.5.1. DO NOT USE OPPOSED BLADE DAMPERS AT AIR OUTLETS FOR BALANCING. PROVIDE ALL BRANCH DUCTS WITH VOLUME DAMPERS. ONLY WHERE IT IS NOT POSSIBLE TO INSTALL DUCT DAMPERS PROVIDE OPPOSED BLADE KEY-OPERATED DAMPERS DIRECTLY BEHIND THE AIR OUTLET. FURNISH TWO KEYS FOR EACH TYPE OF OPERATOR.

BUILDING MANAGEMENT AND AUTOMATIC TEMPERATURE CONTROL SYSTEMS

1. MANUFACTURERS
 - 1.1. MATCH EXISTING
2. APPLICATION
 - 2.1. LABEL ALL DEVICES.
 - 2.2. ALL DEVICES AND INSTALLATION SHALL BE WARRANTED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF JOB ACCEPTANCE BY THE OWNER. ANY EQUIPMENT, SOFTWARE, OR LABOR FOUND TO BE DEFECTIVE DURING THIS PERIOD SHALL BE REPAIRED OR REPLACED WITHOUT EXPENSE TO THE OWNER. FACTORY AUTHORIZED WARRANTY SERVICE SHALL BE AVAILABLE WITHIN 75 MILES OF JOBSITE.
3. SEQUENCE OF OPERATIONS
 - 3.1. COMMISSION EXISTING TO VERIFY PROPER OPERATION.
 - 3.2. MAINTAIN SAME CONTROL SEQUENCE AS EXISTING IF OWNER SATISFIED WITH EXISTING.

TEST-ADJUST-BALANCE

1. TEST-ADJUST-BALANCE OF ALL AIR SYSTEMS SHALL BE BY A NEBB, AABC OR TABB CERTIFIED INDEPENDENT CONTRACTOR HIRED BY GENERAL CONTRACTOR. PROCEDURE IN ACCORDANCE WITH ASSOCIATED AIR BALANCE COUNCIL (AABC), NEBB OR TABB.
2. PRE-BALANCE EXISTING SYSTEMS AFFECTED BY WORK PRIOR TO STARTING WORK TO DOCUMENT EXISTING FLOWS. SUBMIT REPORT.
3. NOTIFY THE CONTRACTOR OF CONDITIONS DETRIMENTAL TO THE PROPER COMPLETION OF THE TEST-ADJUST-BALANCE WORK PRIOR TO THE START OF BALANCING. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
4. ADJUST AIRFLOWS TO WITHIN -5% TO +5% OF SCHEDULED VALUES AND OUTSIDE AIR AT THE UNIT 0% TO +5%.
5. SUBMIT COMPLETE BALANCE REPORTS TO THE ARCHITECT AND TO THE BUILDING DEPARTMENT.
6. SUBMIT APPROVED BALANCE REPORT TO INSPECTOR AT TIME OF FINAL INSPECTION.
7. PATCH HOLES IN INSULATION AND DUCTWORK THAT HAVE BEEN DRILLED OR CUT FOR TEST PURPOSES IN A MANNER RECOMMENDED BY THE ORIGINAL INSTALLER.

PROJECT INFO

**RUTH HOLLEY LIBRARY
 NEW LEARNING LAB**

685 N MURRAY BLVD,
 COLORADO SPRINGS, CO 80915

DATE: 02/07/2020
 PROJECT MGR: DRL
 PREPARED BY: CTK

SEAL



ISSUE / REVISION

| DATE: | DESCRIPTION: |
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| | |

SHEET TITLE

MECHANICAL SPECIFICATIONS

SHEET NUMBER

DESIGN EDGE

711 N. CASCADE AVE. SUITE 10
 COLORADO SPRINGS, CO 80903
 TELEPHONE: (719) 667-1972

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 ACTION.

- GENERAL NOTES:**
- FIELD VERIFY EXACT LOCATION AND CONDITION OF ALL EXISTING EQUIPMENT, DUCTWORK, AND GRD'S PRIOR TO BEGINNING WORK.
 - DIFFUSER DUCT CONNECTIONS ARE SCHEDULED NECK SIZE UNLESS NOTED OTHERWISE.
 - CLEAN ALL GRD'S BEING REUSED.
 - TAKE AIR BALANCE READINGS OF ALL EXISTING GRD'S PRIOR TO BEGINNING WORK ON THE AFFECTED RTU. SUBMIT REPORT. REBALANCE TO INDICATED CFM UPON COMPLETION OF WORK. ADD DUCT VOLUME DAMPERS WHERE NEEDED.
 - PROVIDE BALANCE REPORT TO MECHANICAL INSPECTOR AT TIME OF FINAL INSPECTION.
 - ALL MATERIALS IN RETURN AIR PLENUM SHALL HAVE A MAXIMUM RATING OF 25 FLAME/50 SMOKE.
 - MOUNT THERMOSTAT +48" AFF TO THE TOP. RECALIBRATE THERMOSTAT.
 - COORDINATE LOCATION OF THERMOSTATS WITH LIGHT SWITCHES. ARRANGE IN ORDERLY FASHION.
 - CONTRACTOR SHALL NOTIFY ARCHITECT, IN RFI FORM, OF ANY DISCREPANCIES OR QUESTIONS PRIOR TO PROCEEDING WITH WORK.

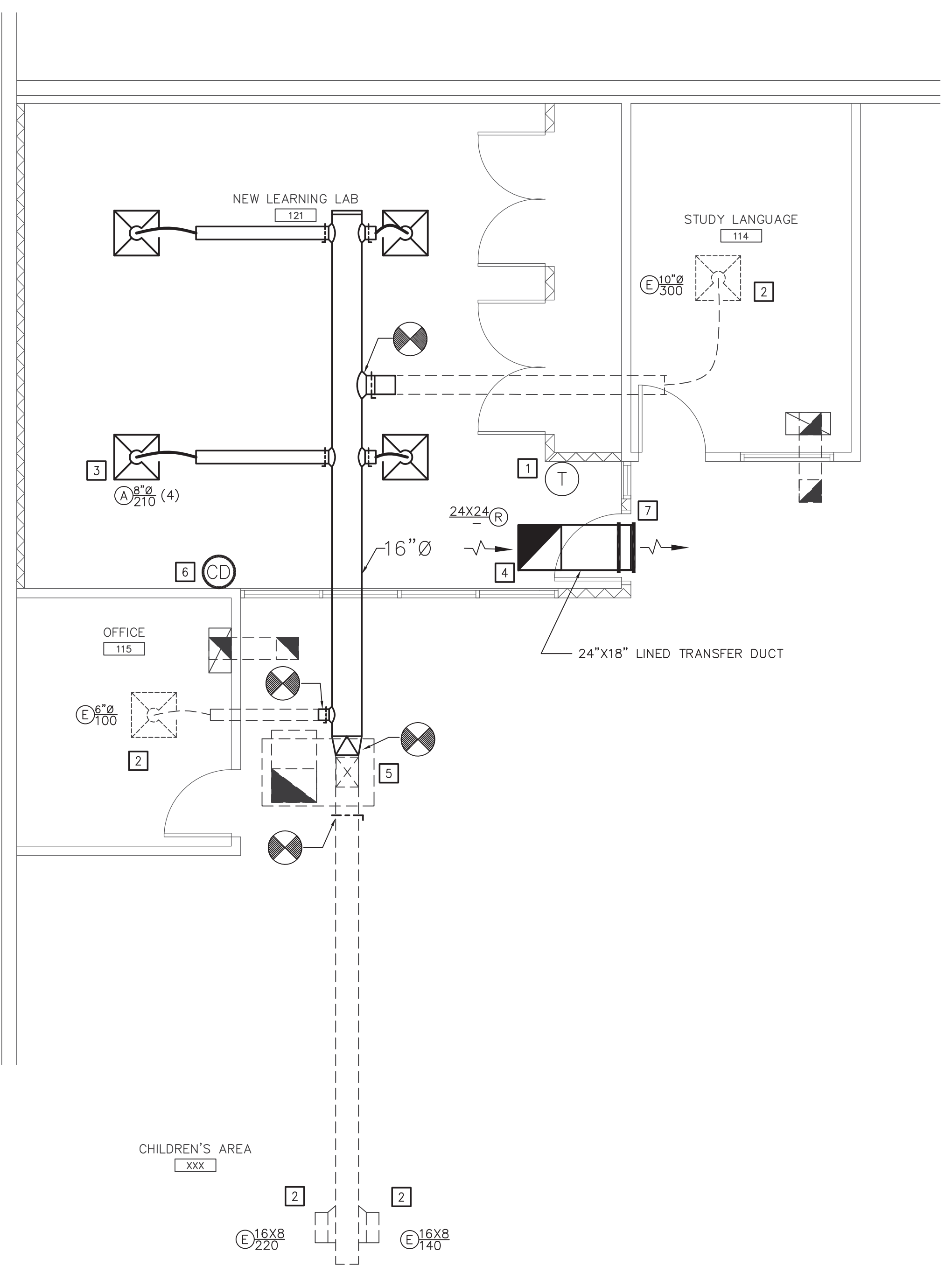
- DEMO KEYED NOTES:**
- A** DUCTS UP TO EXISTING RTU-6 AND EXISTING MECHANICAL EQUIPMENT TO REMAIN. SERVICE AND REPLACE FILTERS.
 - B** REMOVE EXISTING THERMOSTAT AND PREP FOR RELOCATION. NEW LOCATION ON NEW WORK PLAN.

- NEW KEYED NOTES:**
- RELOCATED THERMOSTAT. RECALIBRATE.
 - BALANCE EXISTING AIR DEVICES AS INDICATED.
 - PROVIDE (N) LOUVER FACE SUPPLY DIFFUSER, PRICE SCD OR EQUAL. NECK SIZE AS INDICATED.
 - PROVIDE (N) TRANSFER GRILLE, PRICE PDDR OR EQUAL, 24"x24" PERFORATED, NECK SIZE AS INDICATED.
 - (E) RTU-6, ON ROOF. - 1600 CFM SA, 620 CFM OA, CARRIER MODEL 48TFF005-A-511.
 - ADD W7220 JADE CONTROLLER TO INTERFACE WITH ECONOMIZER TO MAINTAIN 800 PPM CO2. MODIFY ECONOMIZER CONTROLS TO ACCEPT SENSOR SIGNAL.
 - NEW PRICE 530 TRANSFER GRILLE, 24"x18", ON END OF 1" ACOUSTICALLY LINED TRANSFER BOOT.

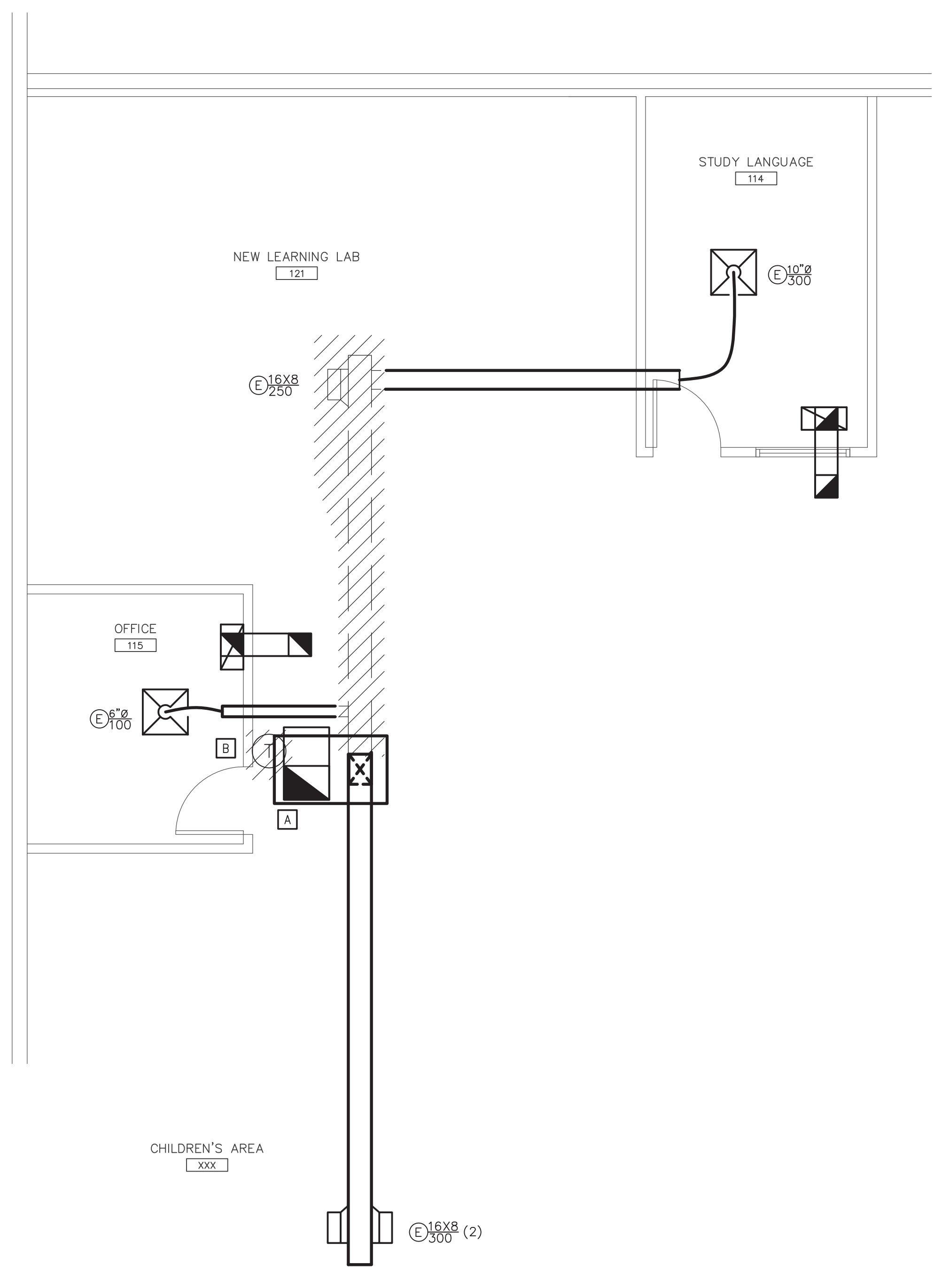
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1 MECHANICAL NEW WORK
 1/4" = 1'-0"
 NORTH



1 MECHANICAL DEMO PLAN
 1/4" = 1'-0"
 NORTH

| EXISTING RTU 6 VENTILATION SCHEDULE | | | | | | | | |
|--|------------------------|------------------|--------------------------------|-------------------------|-----------------------------------|--------------------------------|----------------------------|-------------------------------|
| 1. Summary | | | | | | | | |
| Ventilation Sizing Method | ASHRAE Std 62.1-2013 | | | | | | | |
| Design Condition | Minimum flow (heating) | | | | | | | |
| Total Zone Occupancy | 36 | | | | | | | |
| Occupant Diversity | 1 | | | | | | | |
| Design Ventilation Airflow Rate | 615 CFM | | | | | | | |
| 2. Space Ventilation Analysis Table | | | | | | | | |
| Zone Name / Space Name | Supply Air (CFM) | Floor Area (ft²) | Required Outdoor Air (CFM/ft²) | Time Averaged Occupancy | Required Outdoor Air (CFM/person) | Air Distribution Effectiveness | Required Outdoor Air (CFM) | Uncorrected Outdoor Air (CFM) |
| RTU-6 (EXISTING) | 1600 | | | | | | | |
| New Learning Lab 121 | 840 | 522 | 0.12 | 22.00 | 10.00 | 0.80 | 353 | 283 |
| Study Language 114 | 300 | 153 | 0.12 | 6.00 | 10.00 | 0.80 | 98 | 78 |
| Office 115 | 100 | 106 | 0.06 | 1.00 | 5.00 | 0.80 | 14 | 11 |
| Stacks 120 | 360 | 706 | 0.12 | 7.00 | 5.00 | 0.80 | 150 | 120 |
| Totals (incl. Space Multipliers) | 1,600 | 1,487 | | 36 | | | 615.1 | 492.08 |
| GENERAL NOTES: | | | | | | | | |
| 1. UNCORRECTED CATEGORY IS THE SUM OF THE OA REQUIRED FOR PEOPLE AND OA REQUIRED FOR SPACE. | | | | | | | | |
| 2. REQUIRED OUTDOOR AIR CATEGORY IS UNCORRECTED DIVIDED BY THE AIR DISTRIBUTION EFFECTIVENESS. | | | | | | | | |
| 3. Zp = REQUIRED OAMIN SUPPLY CFM | | | | | | | | |
| 4. SYSTEM VENTILATION EFFICIENCY IS CALCULATED USING ASHRAE 62 APPENDIX A. | | | | | | | | |

ABBREVIATIONS

| | |
|-----------|--|
| A,AMP | AMPERE |
| AC | ABOVE COUNTER OR ALTERNATING CURRENT |
| ADA | AMERICANS WITH DISABILITIES ACT |
| AF | AMPERE FUSE/FRAME |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AIC | AMPERE INTERRUPTING CAPACITY |
| AL | ALUMINUM |
| ALT | ALTERNATE |
| ANN | ANNUNCIATOR |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE |
| AS | AMPERE SWITCH |
| AT | AMPERE TRIP |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AUTO | AUTOMATIC |
| AUX | AUXILIARY |
| AWG | AMERICAN WIRE GAUGE |
| BC | BARE COPPER |
| BFC | BELOW FINISHED CEILING |
| BFG | BELOW FINISHED GRADE |
| BKR | BREAKER |
| BLDG | BUILDING |
| C | CONDUIT |
| CATV | COMMUNITY ANTENNA TV (CABLE TV) |
| CAB | CABINET |
| CAM | CAMERA |
| CB | CIRCUIT BREAKER |
| CBM | CERTIFIED BALLAST MANUFACTURERS |
| CCTV | CLOSED CIRCUIT TELEVISION |
| CFCI | CONTRACTOR FURNISHED, CONTRACTOR INSTALLED |
| CFL | COMPACT FLUORESCENT LAMP |
| CKT | CIRCUIT |
| CLG | CEILING |
| CO | CONDUIT ONLY |
| COAX | COAXIAL |
| COMB | COMBINATION |
| COND | CONDUCTOR |
| CONT | CONTRACTOR OR CONTINUATION |
| CT | CURRENT TRANSFORMER |
| CU | COPPER |
| dB | DECIBEL |
| DB | DIRECT BURIAL |
| DC | DIRECT CURRENT |
| DEMARC | DEMARICATION |
| DISC | DISCONNECT |
| DIST | DISTRIBUTION |
| DL | DAMP LABEL |
| DVR | DIGITAL VIDEO RECORDER |
| DWG | DRAWING |
| E | EXISTING TO REMAIN |
| EA | EACH |
| EC | ELECTRICAL CONTRACTOR OR EMPTY CONDUIT |
| ECC | EQUIPMENT GROUNDING CONDUCTOR |
| EH | ELECTRICALLY HELD |
| ELEC | ELECTRIC OR ELECTRICAL |
| ELEV | ELEVATOR |
| EM | EMERGENCY |
| EMT | ELECTRIC METALLIC TUBING |
| EOL | FIRE ALARM END OF LINE RESISTOR |
| EPO | EMERGENCY POWER OFF |
| EQUIP | EQUIPMENT |
| FR | EXISTING TO BE RELOCATED |
| EWC | ELECTRIC WATER COOLER |
| F | FUSE |
| FA | FIRE ALARM |
| FACP | FIRE ALARM CONTROL PANEL |
| FAAP | FIRE ALARM ANNUNCIATOR PANEL |
| FBO | FURNISHED BY OTHERS |
| FC | FOOTCANDLES |
| FDR | FEEDER |
| FLA | FULL LOAD AMPERES |
| FLEX | FLEXIBLE CONDUIT |
| FLR | FLOOR |
| FLUOR | FLUORESCENT |
| FO | FIBER OPTIC |
| FATC | FIRE ALARM TERMINAL CABINET |
| FU | FUSE OR FUSED |
| G, GND | GROUND |
| GA | GAUGE |
| GALV | GALVANIZED |
| GC | GENERAL CONTRACTOR |
| GEN | GENERATOR |
| GFI, GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GRC | GALVANIZED RIGID CONDUIT |
| HC | HORIZONTAL CROSS CONNECT |
| HD | HEAVY DUTY |
| HH | HAND HOLE |
| HID | HIGH INTENSITY DISCHARGE |
| HOA | HAND-OFF-AUTOMATIC |
| HP | HORSEPOWER |
| HPF | HIGH POWER FACTOR |
| HPS | HIGH PRESSURE SODIUM |
| HZ | HERTZ (CYCLES/SECOND) |
| IC | INTERCOM OR INTERMEDIATE CROSS-CONNECT |
| ID | INSIDE DIAMETER |
| IDF | INTERMEDIATE DISTRIBUTION FRAME |
| IG | ISOLATED GROUND |
| IMC | INTERMEDIATE GRADE METALLIC CONDUIT |
| INCAND | INCANDESCENT |
| J-BOX | JUNCTION BOX |
| KMIL | THOUSAND OF CIRCULAR MILLS |
| KV | KILOVOLT |
| KVA | KILOVOLT-AMPERE |
| KW | KILOWATT |
| KWH | KILOWATT-HOUR |
| LAN | LOCAL AREA NETWORK |
| LCL | LONG CONTINUOUS LOAD |
| LED | LIGHT EMITTING DIODE |
| LFC | LIQUIDTIGHT FLEXIBLE CONDUIT |
| LML | LARGEST MOTOR LOAD |
| LPF | LOW POWER FACTOR |
| LTG | LIGHTING |
| LV | LOW VOLTAGE |

ABBREVIATIONS

| | |
|--------|---|
| MAG | MAGNETIC |
| MAX | MAXIMUM |
| MC | MECHANICAL CONTRACTOR OR MAIN CROSS CONNECT |
| MCB | MAIN CIRCUIT BREAKER |
| MCC | MOTOR CONTROL CENTER |
| MCP | MOTOR CIRCUIT PROTECTOR |
| MDF | MAIN DISTRIBUTION FRAME |
| MDP | MAIN DISTRIBUTION PANEL |
| MECH | MECHANICAL |
| MFR | MANUFACTURER |
| MG | MOTOR GENERATOR |
| MH | MANHOLE OR METAL HALIDE |
| MIN | MINIMUM |
| MLO | MAIN LUGS ONLY |
| MMFO | MULTIMODE FIBER OPTIC |
| MPOE | MAIN POINT OF ENTRY |
| MSB | MAIN SWITCHBOARD |
| MTB | MAIN TERMINAL BOARD |
| MTD | MOUNTED |
| MTG | MOUNTING HEIGHT |
| MTR | MOTOR |
| MV | MEDIUM VOLTAGE |
| N | NEUTRAL |
| NC | NORMALLY CLOSED |
| NEC | NATIONAL ELECTRICAL CODE |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NF | NON-FUSED |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| NL | NIGHT LIGHT |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| OFI | OWNER FURNISHED, CONTRACTOR INSTALLED |
| OFI | OWNER FURNISHED, OWNER INSTALLED |
| OSHA | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| OSP | OUTSIDE PLANT |
| P | POLE |
| PA | PUBLIC ADDRESS |
| PB | PUSH BUTTON OR PULL BOX |
| PBX | PRIVATE BRANCH EXCHANGE |
| PE | PHOTOELECTRIC |
| PF | POWER FACTOR |
| PH | PHASE |
| PNL | PANEL |
| PR | PAIRS |
| PRI | PRIMARY |
| PROX | PROXIMITY |
| PT | POTENTIAL TRANSFORMER |
| PTZ | PAN, TILT, ZOOM CAMERA |
| PVC | POLYVINYL CHLORIDE |
| PWR | POWER |
| QR | QUARTZ RESTRIKE |
| R | EXISTING TO BE REMOVED |
| RE | RELOCATED EXISTING |
| REC | RECEPTACLE |
| REQ'D | REQUIRED |
| RGS | RIGID GALVANIZED STEEL |
| RM | ROOM |
| RMC | RIGID METALLIC CONDUIT |
| RNC | RIGID NON-METALLIC CONDUIT |
| RPM | REVOLUTIONS PER MINUTE |
| SCA | SHORT-CIRCUIT AMPERES |
| SCCR | SHORT-CIRCUIT CURRENT RATING |
| SCP | SECURITY CONTROL PANEL |
| SEC | SECONDARY OR SECOND SECTION |
| SECT | SECTION |
| SHT | SHEET |
| SMFO | SINGLE-MODE FIBER OPTIC |
| SP | SERVICE PROVIDER |
| SPD | SURGE PROTECTION DEVICE |
| SPDT | SINGLE POLE, DOUBLE THROW |
| SPST | SINGLE POLE, SINGLE THROW |
| ST | SHUNT TRIP |
| STP | SHIELDED TRIP |
| STD | STANDARD |
| SYS | SYSTEM |
| SW | SWITCH |
| SWBD | SWITCHBOARD |
| TBB | TELECOMMUNICATIONS BONDING BACKBONE |
| TC | TIME CLOCK |
| TEL | TELEPHONE |
| TELCO | TELEPHONE COMPANY |
| TELCOM | TELECOMMUNICATIONS |
| TEMP | TEMPORARY OR TEMPERATURE |
| TGB | TELECOMMUNICATIONS GROUND BUS |
| TMGB | MAIN TELECOMMUNICATIONS GROUND BUS |
| TO | THERMAL OVERLOAD |
| TR | TAMPER RESISTANT OR TELECOMMUNICATIONS ROOM |
| TS | TIME SWITCH |
| TTB | TELEPHONE TERMINAL BOARD |
| TTC | TELEPHONE TERMINAL CABINET OR CLOSET |
| TV | TELEVISION |
| TYP | TYPICAL |
| UC | UNDER COUNTER |
| UG | UNDER GROUND |
| UL | UNDERWRITER LABORATORIES |
| UN | UNLESS OTHERWISE NOTED |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| UTP | UNSHIELDED TWISTED PAIR |
| V | VOLT |
| VA | VOLT-AMPERE |
| VAR | REACTIVE VOLT-AMPERES |
| VFD | VARIABLE FREQUENCY DRIVE |
| VP | VAPOR PROOF |
| W | WATT |
| W/ | WITH |
| W/O | WITHOUT |
| WCR | WITHSTAND CURRENT RATING |
| WH | WATT HOUR |
| WHM | WATT HOUR METER |
| WP | WEATHERPROOF |
| WPL | WEATHERPROOF LOCKABLE ENCLOSURE |
| WT | WATERTIGHT |
| XFMR | TRANSFORMER |
| XP | EXPLOSION PROOF |

ONE-LINE SYMBOLS

| SYMBOL | DESCRIPTION |
|--------|---|
| | PROVISION FOR UTILITY METER |
| | GROUND |
| | FEEDER IDENTIFIER SYMBOL |
| | NON-FUSED DISCONNECT SWITCH |
| | FUSED DISCONNECT SWITCH W/ AMP FUSE AND AMP FRAME |
| | CIRCUIT BREAKER DISCONNECT |

POWER DEVICES

| SYMBOL | DESCRIPTION |
|--------|--|
| | DUPLEX RECEPTACLE |
| | FOURPLEX RECEPTACLE |
| | TELEVISION OUTLET |
| | JUNCTION BOX |
| | SINGLE POLE THERMAL OVERLOAD SWITCH |
| | NON-FUSED DISCONNECT SWITCH |
| | FUSED DISCONNECT SWITCH |
| | PANEL BOARD |
| | LIGHTING CONTROL PANEL / CONTROL PANEL |
| | PAD MOUNTED TRANSFORMER |

ANNOTATION LEGEND

| SYMBOL | DESCRIPTION |
|--------|---|
| | KEYED NOTE TAG |
| | EQUIPMENT NAME TAG |
| | DETAIL TAG |
| | MECHANICAL EQUIPMENT TAG |
| | IDENTIFIES SINGLE OR MULTIWIRE BRANCH CIRCUITS (THREE CIRCUITS SHOWN) IN HOMERUN TO PANEL AA. |

RACEWAY LEGEND

| SYMBOL | DESCRIPTION |
|--------|--|
| | BRANCH CIRCUIT HOMERUN TO PANELBOARD NUMBER OF ARROWS INDICATE NUMBER OF PANEL LEGS. NUMERAL INDICATES CIRCUIT BREAKER NUMBER. |
| | CONCEALED CONDUIT IN WALL OR CEILING |
| | CONDUIT CAP |
| | CONDUIT CONTINUATION |

GENERAL ELECTRICAL REQUIREMENTS

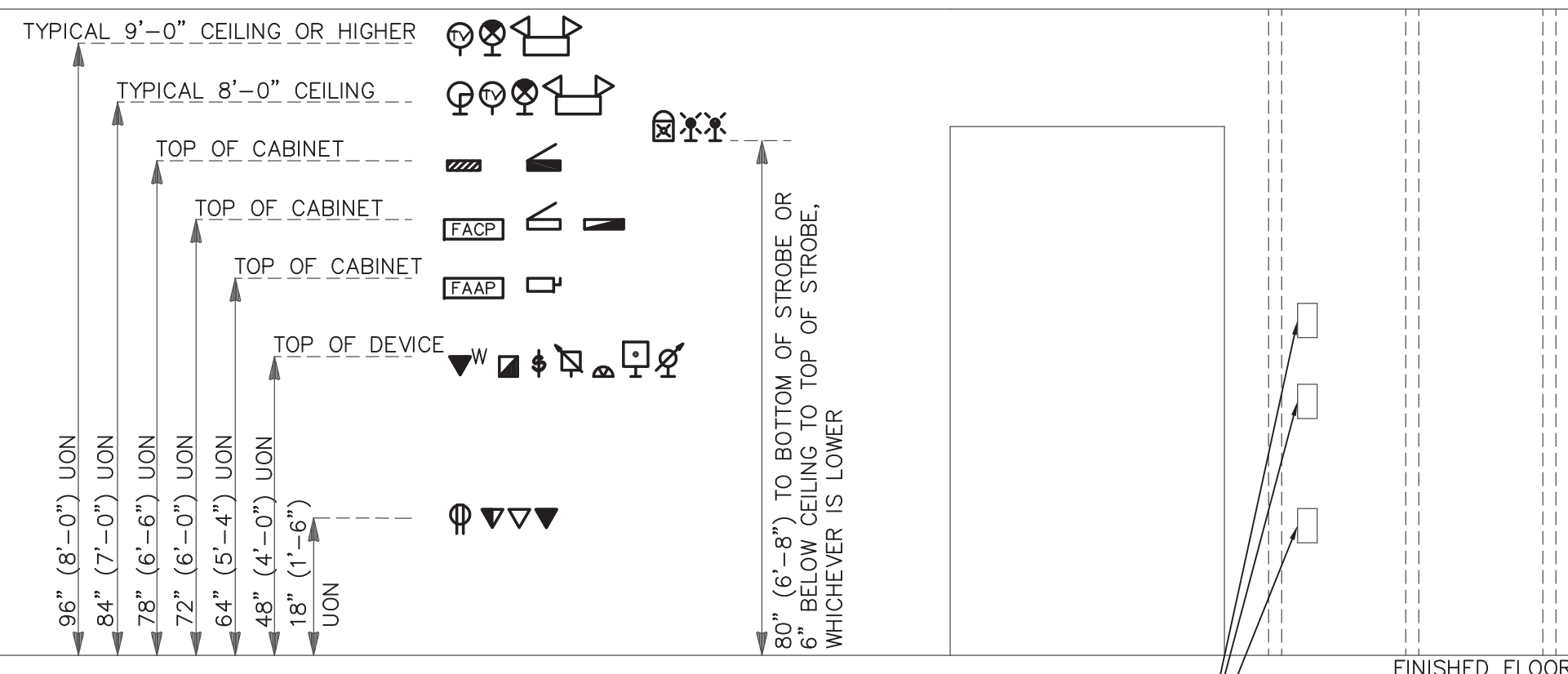
- THE DISCONNECTING MEANS FOR ALL MECHANICAL EQUIPMENT SHALL BE ACCESSIBLE AND HAVE THE CLEARANCE IN FRONT AS REQUIRED BY NEC AMENDMENTS.
- ALL CEILING ATTACHED OBJECTS SHALL BE INSTALLED IN ACCORDANCE WITH SUPPORTING OBJECTS FOR SEISMIC ZONE AS REQUIRED BY STATE AND LOCAL CODES AND PER STRUCTURAL ENGINEERS RECOMMENDATIONS.
- DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO ACTUAL CONDITIONS AT THE BUILDINGS. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. HOWEVER THIS DOES NOT RELIEVE ANY SUB-CONTRACTOR FROM COORDINATING WORK WITH ALL OTHER TRADES AND FROM ADJUSTING WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING COSTS TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT.
- COORDINATE AND ADJUST ALL WORK BETWEEN TRADES AND EXISTING CONDITIONS IN ORDER TO ACCOMPLISH A NEAT, INTEGRATED AND EFFICIENT INSTALLATION WHICH INCLUDE BUT ARE NOT LIMITED TO:
 - EXAMINE THE CONTRACT DOCUMENTS OF ALL TRADES (IE. THE ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL HVAC DRAWINGS, ELECTRICAL LIGHTING PLAN, FIRE PROTECTION PLAN, ETC.).
 - COORDINATE NECESSARY EQUIPMENT, FIXTURES, ETC. SO THAT THE FINAL INSTALLATION IS COMPATIBLE WITH THE MATERIALS AND EQUIPMENT OF THE OTHER TRADES.
 - THE ELECTRICAL DRAWINGS INDICATE THE ELECTRICAL REQUIREMENTS FOR A SIGNIFICANT PORTION OF THE MECHANICAL AND PLUMBING SYSTEMS. ADDITIONAL MECHANICAL AND PLUMBING EQUIPMENT IS INDICATED ON THE MECHANICAL AND PLUMBING DRAWINGS. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE COMPLETE WIRING AND FUSIBLE DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT UNLESS OTHERWISE NOTED.
- DEFINITIONS:
 - "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.
 - "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".
 - "PROVIDE" MEANS TO "FURNISH AND INSTALL".
 - "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE DETERMINED BY THE ENGINEER.
 - "WORK BY OTHER(S) (CONTRACTOR): "RE-____ DIVISION", AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN HIS/HER SUPPLIERS, SUBCONTRACTORS, AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT BEFORE START OF WORK.
- ALL ELECTRICAL CONDUIT CROSSING BUILDING SEISMIC SEPARATION OR EXPANSION JOINTS SHALL BE PROVIDED WITH APPROVED FLEXIBLE CONNECTORS. REFER TO THE ARCHITECTURAL PLANS FOR ALL EXPANSION JOINT LOCATIONS.
- WHERE DISCONNECTS ARE INDICATED ON DRAWINGS CONTRACTOR SHALL PROVIDE FINAL CONNECTION TO EQUIPMENT BEING SERVED BY DISCONNECT.

GENERAL NOTES FOR REMODEL

- THE INFORMATION ON THE DEMOLITION DRAWINGS REGARDING EXISTING CONDITIONS WAS OBTAINED LARGELY FROM FIELD OBSERVATIONS AND DISCUSSIONS WITH FACILITY PERSONNEL. PROVIDE A SURVEY OF THE EXISTING BUILDING, AND VERIFICATION OF THE EXISTING CONDITIONS.
- REFER TO THE ARCHITECTURAL DEMOLITION FLOOR PLANS AND REFLECTED CEILING PLANS, TO ESTABLISH THE COMPLETE SCOPE OF WORK.
- PROVIDE THE REQUIRED NEW CONDUIT, CONDUIT INTERCEPTIONS, JUNCTION BOXES, PULL BOXES, NEW CONDUCTORS, ETC. TO ACCOMPLISH THE WORK, INTEGRATE THE NEW WORK WITH THE EXISTING WHERE INDICATED. MAINTAIN THE CONTINUITY AND OPERATION OF THE EXISTING SYSTEMS IN THE AREAS ADJACENT TO THE REMODELED AREAS.
- EXISTING BRANCH CIRCUIT CONDUITS MAY BE REUSED FOR THE NEW WORK. UNDER THESE CONDITIONS, PROVIDE ALL NEW CONDUCTORS. CONDUCTOR FILL PER CODE. IN CEILING SPACES, REMOVE ANY EXISTING CONDUITS THAT ARE NOT REUSED.
- WHERE THE ARCHITECTURAL DRAWINGS INDICATE THAT AN EXISTING PARTITION IS TO BE REMOVED, DISCONNECT AND REMOVE EXISTING ELECTRICAL AND SIGNAL DEVICES, OUTLET BOXES, CONDUIT AND CONDUCTORS. REMOVE CONDUCTORS BACK TO THE LAST ELECTRICAL OR SIGNAL DEVICE TO REMAIN ACTIVE. REFER TO THE DEMO AND MODERNIZATION DRAWINGS FOR THE SCOPE OF THIS WORK.
- ALL REMOVED LIGHTING FIXTURES, RECEPTACLE OUTLETS, SECURITY, PUBLIC ADDRESS AND FIRE ALARM DEVICES SHALL BE RETURNED TO THE OWNER AS DIRECTED.
- CLEAN AND RE-LAMP ALL RELOCATED LIGHTING FIXTURES TO MATCH THE COLOR SPECIFIED DURING CONSTRUCTION.
- WHERE THE ELECTRICAL DRAWINGS INDICATE THAT A DEVICE, OF ANY TYPE, IS TO BE REMOVED FROM A PARTITION THAT REMAINS, DISCONNECT AND REMOVE THE DEVICE AND OUTLET BOX. REMOVE THE CONDUCTORS BACK TO THE LAST DEVICE TO REMAIN ACTIVE. CAP THE CONDUIT IN THE PARTITION AND ABANDON. AT THE TOP OF THE PARTITION, INTERCEPT AND CAP THE CONDUIT IN THE CEILING SPACE AT THE FIRST ACCESSIBLE COUPLING.
- WHERE THE DRAWINGS INDICATE THAT AN EXISTING CONDUIT (BRANCH CIRCUIT OR FEEDER) IS TO BE INTERCEPTED, FOR PURPOSES OF EXTENDING TO A NEW LOCATION, ALWAYS REMOVE THE EXISTING CONDUCTORS AND PROVIDE NEW CONDUCTORS BETWEEN POINTS OF CONNECTION. WHEN THIS WORK REQUIRES REMOVING AN EXISTING WIRING DEVICE (RECEPTACLE OR SWITCH) AT A LOCATION THAT REMAINS, PROVIDE A NEW WIRING DEVICE AND PLATE.
- VERIFY ALL EXISTING FIXTURES TO BE REUSED ARE FUNCTIONAL PRIOR TO BIDDING. PROVIDE NEW LAMPS AT ALL REUSED FIXTURES.

LIGHTING

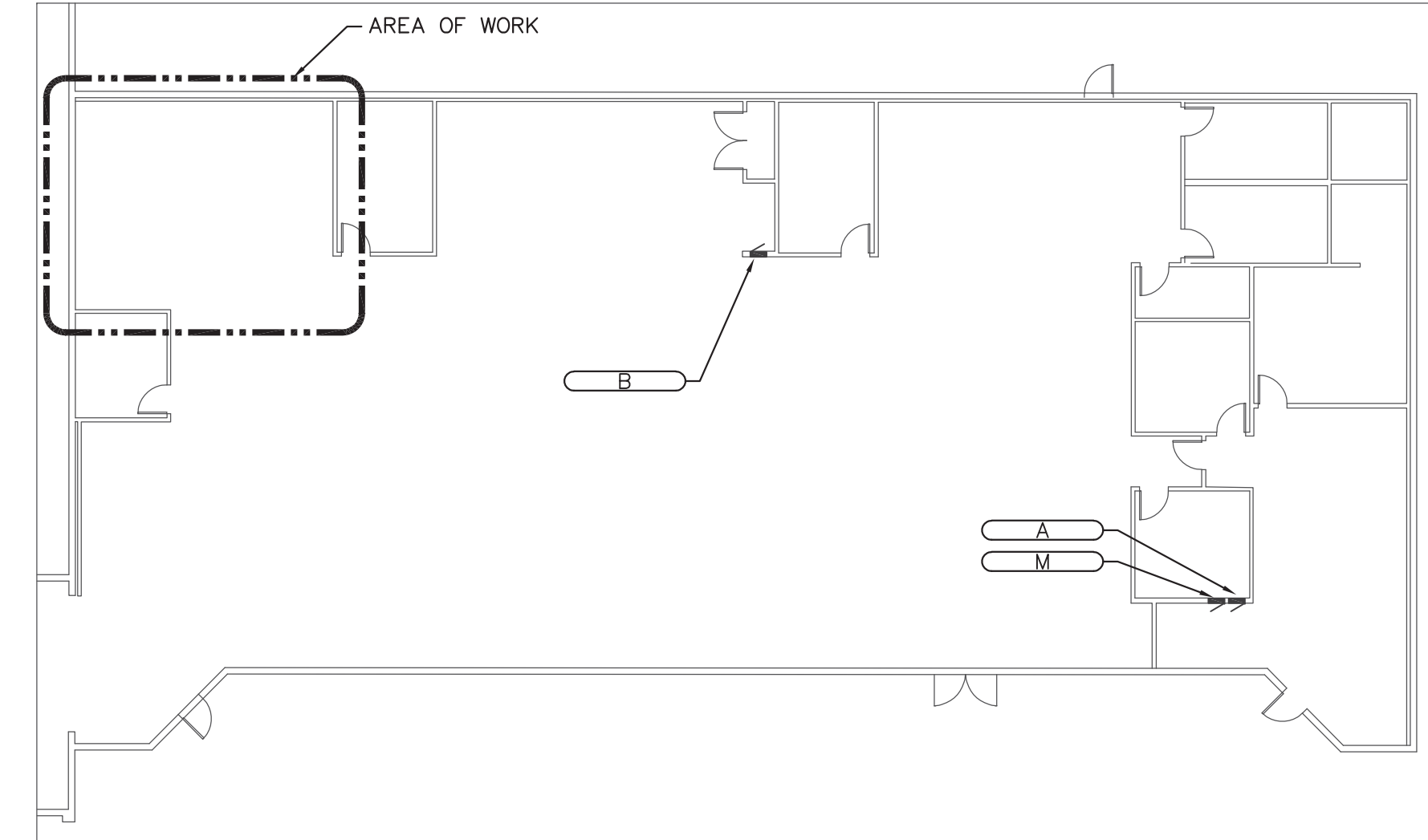
| SYMBOL | DESCRIPTION |
|--------|--|
| | 2'x4' FLUORESCENT FIXTURE (RECESSED) |
| | STRIP LIGHT |
| | SINGLE POLE TOGGLE SWITCH (LOWER CASE LETTERS DENOTES MULTIPLE SWITCHES) |
| | CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR |
| | SHADED SYMBOLS DENOTE EMERGENCY FIXTURES |



TYPICAL DEVICE MOUNTING HEIGHTS
SCALE: NONE

- NOTES:
- HEIGHTS SHOWN ARE TYPICAL TO CENTERLINE OF BOX UNLESS OTHERWISE NOTED.
 - MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
 - CONTRACTOR SHALL ENSURE THAT MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
 - WHEREVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE.
 - ALL ABOVE COUNTER (DESIGNATED BY "AC") DEVICES

NOTE: ALL DEVICES INDICATED TO BE INSTALLED AT DIFFERENT MOUNTING HEIGHTS AND LOCATED WITHIN ONE STUD SPACE FROM EACH OTHER SHALL ALIGN VERTICALLY, ON THE SAME SIDE OF THE STUD. WHERE WALL MOUNTED TELEPHONES OCCUR OVER LIGHT SWITCHES, VOLUME CONTROLS, ETC. OFFSET ONE STUD SPACE.



OVERALL KEYPLAN
SCALE: NTS

DESIGN EDGE

711 N. CASCADE AVE. SUITE 10
COLORADO SPRINGS, CO 80903
TELEPHONE: (719) 667-1972

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PROJECT INFO

RUTH HOLLEY LIBRARY NEW LEARNING LAB

685 N MURRAY BLVD,
COLORADO SPRINGS, CO 80915

DATE: 02/07/2020
PROJECT MGR: ELE
PREPARED BY: BMT

SEA



ISSUE / REVISION

DATE DESCRIPTION

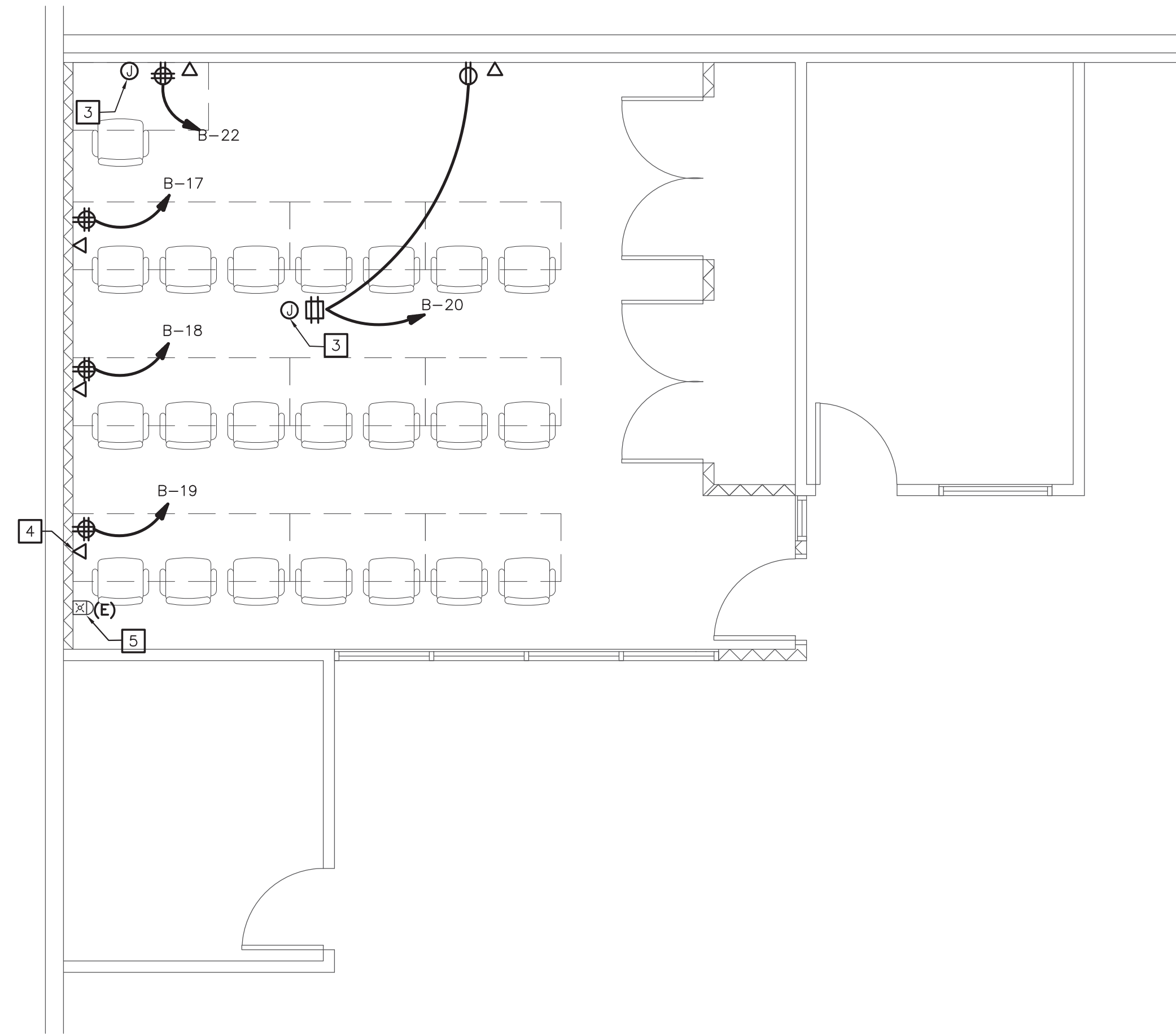
SHEET TITLE

ELECTRICAL LEGEND

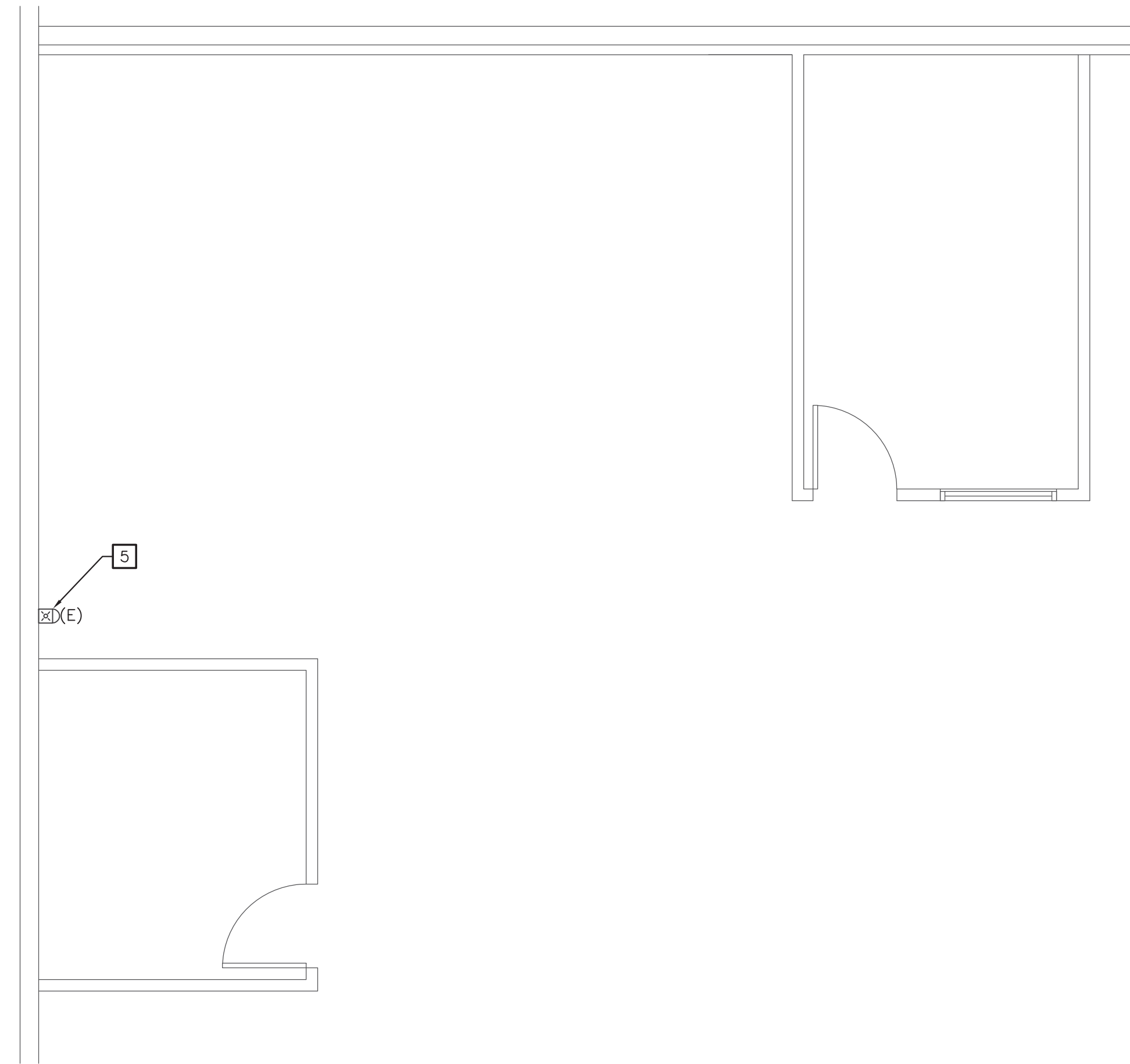
SHEET NUMBER

me engineers
ME Engineers, Inc.
3425 austin bluffs pkwy, ste 201
colorado springs, co 80918
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www.me-engineers.com

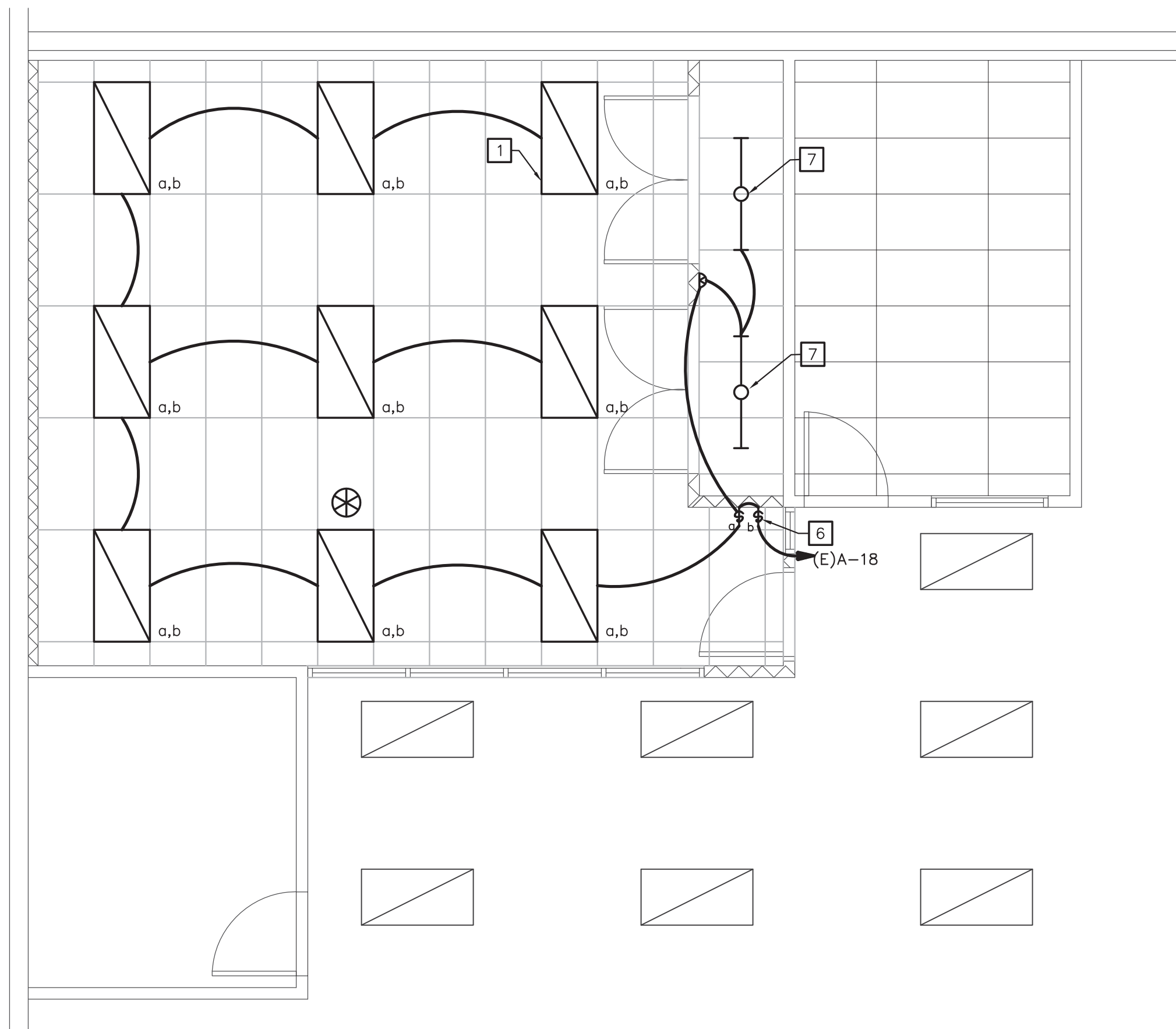
E0.1



2 NEW WORK POWER PLAN
SCALE: 1/4" = 1'-0"



1 DEMOLITION POWER PLAN
SCALE: 1/4" = 1'-0"



4 NEW WORK LIGHTING PLAN
SCALE: 1/4" = 1'-0"



3 DEMOLITION LIGHTING PLAN
SCALE: 1/4" = 1'-0"



GENERAL NOTES:

- ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH ENGINEER AND ARCHITECT PRIOR TO INSTALLATION. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT.
- ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.
- DATA IS ROUGH-IN ONLY AT EACH DATA LOCATION PROVIDE J-BOX WITH 1" C TO ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED. PROVIDE RACEWAY PATHWAY WHERE EXPOSED BACK TO IT CLOSET.

DESIGN EDGE

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PROJECT INFO
**RUTH HOLLEY LIBRARY
NEW LEARNING LAB**

685 N MURRAY BLVD,
COLORADO SPRINGS, CO 80915

DATE: 02/07/2020
PROJECT MGR: ELE
PREPARED BY: BMT

KEY NOTES:

- RELOCATE EXISTING FIXTURE. RECONNECT TO EXISTING LIGHTING CIRCUIT AND REVISE SWITCHING AS INDICATED. TYPICAL OF 9.
- CEILING RECEPTACLE FOR PROJECTOR, COORDINATE EXACT LOCATION WITH EQUIPMENT PRIOR TO ROUGH-IN.
- PROVIDE 1-1/2" FROM PROJECTOR TO TEACHER DESK LOCATION FOR RUNNING AV CABLES.
- PROVIDE 1-1/4" FROM BOX TO ABOVE ACCESSIBLE CEILING FOR DATA ROUGH-IN.
- EXISTING FIRE ALARM HORN STROBE TO REMAIN.
- NEW SWITCHING FOR SPACE SHALL SWITCH IN-BOARD AND OUT-BOARD LAMPS OF FIXTURES SEPARATELY.
- PROVIDE 4' LED LENSED STRIPLIGHT 120V, 2491 LUMEN OUTPUT, 3500K COLUMBIA MPS OR EQUAL.



| ISSUE / REVISION | |
|------------------|-------------|
| DATE | DESCRIPTION |
| | |
| | |
| | |

SHEET TITLE
ELECTRICAL FLOOR PLANS

SHEET NUMBER

(EXISTING)

SUITE 165 BRIARGATE PLAZA
 LOCATION: ELEC RM 109
 MOUNTING: SURFACE
 RATING: 10K AIC

A

M-E ENGINEERS, INC.
 208Y120V, 3PH-4W+GND
 MLO
 225A BUS

| N # | DESCRIPTION | TYPE | BRKR | VA | | | BRKR | TYPE | DESCRIPTION | # | N |
|----------------------------|---------------------|------|-------|---------|---------|---------|-------|------|--------------------|----|---|
| | | | | PHASE A | PHASE B | PHASE C | | | | | |
| 1 | REC. RM 105 | R | 20A1P | 1680 | 1000 | | 20A1P | EQ | STORE FRON SIGN | 2 | |
| 3 | REC. FOOF | R | 20A1P | | 360 | 600 | 20A1P | EQ | FACP | 4 | |
| 5 | REC. RM 101 | R | 20A1P | | | 1000 | 20A1P | LT | LIGHTING RM 101 | 6 | |
| 7 | REC. RM 108 | R | 20A1P | 1680 | 1600 | | 20A1P | LT | LIGHTING RM 120 | 8 | |
| 9 | REFRIGERATOR | R | 20A1P | | 320 | 1500 | 20A1P | LT | LIGHTING RM 115 | 10 | |
| 11 | BREAK RM | R | 20A1P | | | 1180 | 20A1P | LT | LIGHTING RM 116 | 12 | |
| 13 | BREAK RM | R | 20A1P | 1000 | 1300 | | 20A1P | LT | LIGHTING RM 103 | 14 | |
| 15 | REC. RM 109 | R | 20A1P | | 1260 | 1300 | 20A1P | LT | LIGHTING RM 104 | 16 | |
| 17 | EWC | EQ | 20A1P | | | 1200 | 20A1P | LT | LIGHTING RM 114 | 18 | 1 |
| 19 | REC. RM 107 | R | 20A1P | 1800 | 800 | | 20A1P | LT | LIGHTING EM | 20 | |
| 21 | SECURITY GATES | EQ | 20A1P | | 540 | 1800 | 20A1P | LT | LIGHTING RM 105 | 22 | |
| 23 | AUTO DOORS | EQ | 20A1P | | | 300 | 20A1P | LT | LIGHTING RM 107 | 24 | |
| 25 | REC. POWER POLE | R | 20A1P | 1000 | 800 | | 20A1P | LT | LIGHTING RM 108 | 26 | |
| 27 | REC. READING LOUNGE | R | 20A1P | | 1260 | 1400 | 20A1P | EQ | WOMEN'S HAND DRYER | 28 | |
| 29 | REC. CHILDRENS AREA | R | 20A1P | | | 1500 | 20A1P | EQ | MEN'S HAND DRYER | 30 | |
| 31 | REC. RM 116 | R | 20A1P | 1080 | | | 20A1P | | SPARE | 32 | |
| 33 | REC. RM 116 | R | 20A1P | | 720 | | 20A1P | | SPARE | 34 | |
| 35 | REC. RM 116 | R | 20A1P | | | 1000 | 20A1P | | SPARE | 36 | |
| 37 | REC. RM 116 | R | 20A1P | 1000 | | | 20A1P | | SPARE | 38 | |
| 39 | UNKNOWN LOAD | EQ | 20A1P | | 1000 | | 20A1P | | SPARE | 40 | |
| 41 | DDC | EQ | 20A1P | | | 300 | 20A1P | | SPARE | 42 | |
| TOTAL CONNECTED PHASE LOAD | | | | 14740 | 11860 | 13960 | VA | | | | |
| | | | | 122.8 | 98.8 | 116.3 | AMPS | | | | |

| | KVA | AMPS |
|----------------------------------|-------|-------|
| TOTAL CONNECTED LOAD | 40.56 | 112.6 |
| LONG CONTINUOUS LOADS * 25% | 3.75 | 10.4 |
| LARGEST MOTOR LOAD * 25% | | |
| (RECEPTACLE LOADS - 10KVA) * 50% | -3.92 | -10.9 |
| KITCHEN LOADS * 0% | | |
| TOTAL LOAD | 40.39 | 112.1 |

OPTIONS:
 * ALL LOADS ARE EXISTING U.O.N.

NOTES:
 1. REVISED LOAD ON EXISTING CIRCUIT.

LOAD ADDED TO PANEL IS 80VA(0.2A AT 208V, 3 PHASE).

(EXISTING)

SUITE 165 BRIARGATE PLAZA
 LOCATION: SURFACE
 MOUNTING: SURFACE
 RATING: 10K AIC

B

M-E ENGINEERS, INC.
 208Y120V, 3PH-4W+GND
 LUG MCB
 100A BUS

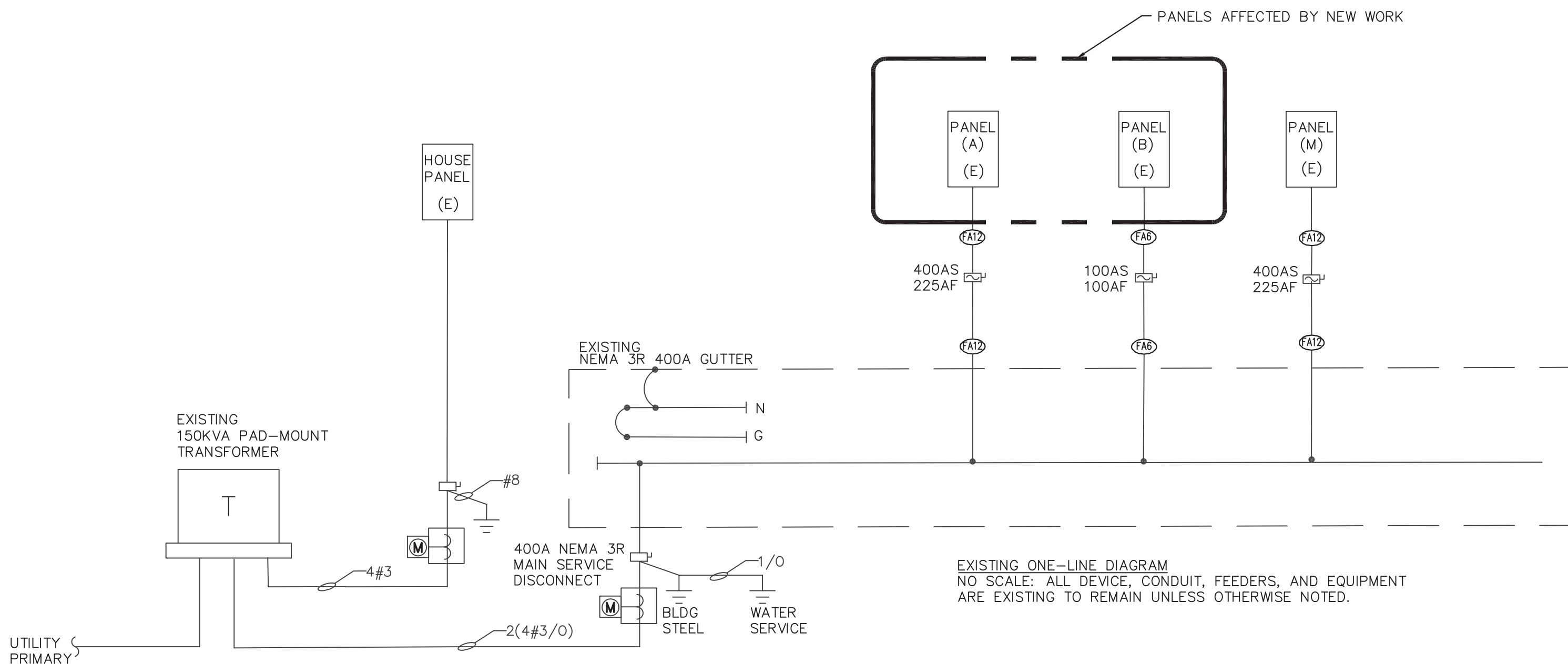
| N # | DESCRIPTION | TYPE | BRKR | VA | | | BRKR | TYPE | DESCRIPTION | # | N |
|----------------------------|----------------------|------|-------|---------|---------|---------|-------|------|--------------------------|----|---|
| | | | | PHASE A | PHASE B | PHASE C | | | | | |
| 1 | REC. RM 104 | R | 20A1P | 1300 | 1800 | | 20A1P | R | REC POWER POLE | 2 | |
| 3 | REC. RM 104 | R | 20A1P | | 1300 | 1000 | 20A1P | R | REC POWER POLE | 4 | |
| 5 | REC. RM 104 | R | 20A1P | | | 1680 | 20A1P | R | REC POWER POLE | 6 | |
| 7 | REC. RM 104 | R | 20A1P | 180 | 1260 | | 20A1P | EQ | WIRELESS GUB J-BOXES | 8 | |
| 9 | REC. RM 104 | R | 20A1P | | 500 | 500 | 20A1P | LT | STUDY LTS & LANGUAGE LTS | 10 | |
| 11 | REC. RM 104 | R | 20A1P | | | 1300 | 20A1P | EQ | HOT WATER HEATER | 12 | |
| 13 | REC. RM 113 | R | 20A1P | 1200 | 1000 | | 20A1P | R | IT CLOSET REC. | 14 | |
| 15 | COPIER (NEW) | R | 20A1P | | 1200 | 1200 | 20A1P | R | COPIER FRONT ENT. | 16 | |
| 1 | 17 REC. LEARNING LAB | R | 20A1P | | | 600 | 20A1P | R | REC LEARNING LAB | 18 | 1 |
| 1 | 19 REC. LEARNING LAB | R | 20A1P | 600 | 800 | | 20A1P | EQ | PROJECTOR(LEARNING LAB) | 20 | 1 |
| 21 | SPACE | | | | 600 | | 20A1P | R | REC LEARNING LAB | 22 | 1 |
| 23 | SPACE | | | | | | | | SPACE | 24 | |
| 25 | SPACE | | | | | | | | SPACE | 26 | |
| 27 | SPACE | | | | | | | | SPACE | 28 | |
| 29 | SPACE | | | | | | | | SPACE | 30 | |
| TOTAL CONNECTED PHASE LOAD | | | | 8140 | 6300 | 7080 | VA | | | | |
| | | | | 67.8 | 52.5 | 59.0 | AMPS | | | | |

| | KVA | AMPS |
|----------------------------------|-------|-------|
| TOTAL CONNECTED LOAD | 21.52 | 59.7 |
| LONG CONTINUOUS LOADS * 25% | 0.13 | 0.3 |
| LARGEST MOTOR LOAD * 25% | | |
| (RECEPTACLE LOADS - 10KVA) * 50% | -3.78 | -10.5 |
| KITCHEN LOADS * 0% | | |
| TOTAL LOAD | 17.87 | 49.6 |

OPTIONS:
 * ALL LOADS ARE EXISTING U.O.N.

NOTES:
 1. PROVIDE NEW BREAKER MATCH EXISTING.

LOAD ADDED TO PANEL IS 2000VA(5.5A AT 208V, 3 PHASE).



LOAD SUMMARY FOR EXISTING 400A, 208V, 3PHASE SERVICE GUTTER

| | |
|---------------------------|-------------|
| EXISTING CALCULATED LOAD. | 325.9 AMPS. |
| LOAD ADDED FROM NEW WORK | 5.7 AMPS. |
| FINAL LOAD ON SERVICE. | 331.6 AMPS. |

| FEEDER SCHEDULE | | | | |
|-----------------|------|-----------------------|-----|---------|
| KEY | SETS | CONDUCTOR SIZE & QTY. | GND | CONDUIT |
| FA6 | 1 | 4#3 | #8 | 1-1/4" |
| FA12 | 1 | 4#4/0 | #4 | 2-1/2" |

PROJECT INFO

**RUTH HOLLEY LIBRARY
 NEW LEARNING LAB**

685 N MURRAY BLVD,
 COLORADO SPRINGS, CO 80915

DATE: 02/07/2020
 PROJECT MGR: ELE
 PREPARED BY: BMT



| ISSUE / REVISION | |
|------------------|-------------|
| DATE | DESCRIPTION |
| | |
| | |
| | |
| | |

SHEET TITLE

**ELECTRICAL ONE-LINE
 AND SCHEDULES**

SHEET NUMBER

E6.0