

RFP 2019-CPWD-CONSTRUCTION

**REQUEST FOR PROPOSAL TO  
PROVIDE  
CONSTRUCTION MANAGEMENT AND  
GENERAL CONTRACTOR SERVICES  
  
FOR  
  
THE CENTER FOR PEOPLE WITH  
DISABILITIES  
  
BUILDING REDESIGN**

RELEASE DATE: December 19, 2019

**DUE DATE: January 22, 2020, 5PM**

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## Notice to Construction Managers/General Contractors

### Background

The Center for People With Disabilities (CPWD) is requesting proposals from qualified construction management/general contractor (“CM/GC”) firms to work with CPWD and the architectural firm Lodestone Design Group to renovate an approximate 8,579 square-foot office space. CPWD’s headquarters building is located at 1675 Range Street Boulder, CO 80301.

It is the intent of CPWD to open this request for proposals (“RFP”) for the building renovation to any firm that meets the qualifications outlined in the minimum qualifications section of this RFP.

Services that have been omitted from this RFP, which are clearly necessary for the completion of all work, shall be considered a requirement although not directly specified or called for in the proposal.

This “CM/GC” project includes, renovation of existing office, kitchen, bathroom, classroom, and outdoor multi-use space as outlined in Exhibit A Commercial Remodel Plan.

### Process Information

All RFP documents, including the selection requirements and the selection schedule, will be available **on December 19, 2019**.

Questions regarding this project are due by **January 13, 2020**, please contact Maria Stepanyan, Executive Director, at 303-442-8662 Ext.243, or via email at [maria@cpwd.org](mailto:maria@cpwd.org). No others are to be contacted regarding this project. All questions will be gathered, and responses will be posted at [www.cpwd.org](http://www.cpwd.org) no later than **January 17, 2020**.

Proposals, including a fee proposal, project approach, references and statements of qualifications, must be received by **5:00 p.m.** January 22, 2020 to CPWD, Attn: Maria Stepanyan. Additional information will be required as stated on the Project Schedule. **NOTE:** Submittals must be received by the specified time.

CPWD will enter into a single agreement with the successful Contractor.

CPWD reserves the right to reject any or all proposals, or to waive any formality or technicality in any proposal in the interest of CPWD.

### **Description of Work**

This CM/GC project includes, but is not limited to, construction as described in Exhibit A Commercial Remodel Plan.

The CM/GC must be capable and willing to work closely with the Owner and Design team through the design phase, providing cost estimates, schedules and feedback on constructability of design details and availability of materials selected.

**Construction must be completed, including punch list, within the approved schedule as agreed to at the time of agreement.** The CM/GC must meet this schedule.



## Procurement Process

### 1. Request for Proposal Documents

The Request for Proposal (“RFP”) documents consist of all of the documents listed in the Table of Contents and all said documents are incorporated in this RFP by reference.

### 2. Availability of Requests for Proposals

The RFP will be open to all qualified contractors and is available free of charge.

### 3. Contact Information

Except as authorized by a The Center for People With Disabilities Representative, communications during the selection process shall be in writing directed to **Maria Stepanyan, Executive Director, at 1675 Range Street, Boulder, CO 80301, or via email at maria@cpwd.org.**

In order to maintain the fair and equitable treatment of everyone, Contractors shall not contact or offer gifts or gratuities to owners, users or selection committee members in an effort to influence the selection process or in a manner that gives the appearance of influencing the selection process. This prohibition applies after the RFP is issued as the project is developed and extends through the award of a contract. Failure to comply with this requirement may result in a disqualification in the selection process.

Contractors should be aware that selection committee members may be required to certify that they have not been contacted by any of the Contractors in an attempt to influence the selection process.

### 4. Requests for Information

All requests for information regarding this project shall be in writing and directed to:

The Center for People With Disabilities  
Attention: Maria Stepanyan  
Executive Director  
1675 Range Street  
Boulder, CO 80301  
maria@cpwd.org

### 5. Proposal Schedule

The successful contractor must review and familiarize themselves with the project schedule as it pertains to the performance of their work. Liquidated damages will be assessed upon failure to complete the project on or before the stipulated date in the construction documents. Renovation of CPWD’s building shall be completed by June 2020.

**6. Insurance**

The contractor shall provide insurance as required by in Section 27.

**7. Submittal Due Dates and Times**

All complete proposals must be delivered to, and be received by, CPWD prior to the date and time indicated in the Project Schedule. RFPs received after the specified time, will not be accepted. Please allow adequate time for delivery. If using a courier service, the contractor is responsible for ensuring the delivery will be made directly to the required location.

Any addenda issued prior to the submittal deadline shall become part of the Request for Proposals and any information required shall be included in your proposal.

**8. Minimum Qualifications**

The Center for People With Disabilities is looking for a firm that has completed similar projects of the size and scope of the renovation of CPWD's building. Your firm must meet the following requirements:

- A. Completion of two or more commercial building renovations exceeding five thousand (5,000) square feet during the past ten (10) years;
- B. Completion of three (3) or more building renovations or similar projects exceeding \$100,000.00 in construction costs during the past ten (10) years;
- C. Project Manager/Superintendent with experience managing commercial building renovations;
- D. References from clients or architects on projects meeting criteria;
- E. Proven, documented ability to adhere to project budgets and schedules;
- F. Ability to meet all CPWD insurance coverage requirements;
- G. A valid contractor's license to perform all the work associated with the renovation of the building;
- H. Minimal litigation background over the previous five (5) years.

## **References**

Contractors shall submit reference information on completed projects that meet the minimum qualifications. Projects should be of a similar type.

For each reference, the contractor shall provide the following information:

**Project Name:** Name of the project.

**Contact Name:** Person who will be able to answer any customer satisfaction questions.

**Phone Number:** Phone number of the contact we will be surveying.

**Username:** Name of the Company/Institution that purchased the construction work.

**Date Completed:** Date of substantial completion.

**Address:** Street, City and state where work was performed.

**Size:** Size of the project in square feet and dollar amount.

**Duration:** Duration of the project/construction in months.

**Type:** Type of the project (i.e., Recreation Center, Pool, School, Offices, Warehouse, etc.)

## **9. CM/GC Work Phases**

The CM/GC work for the project consists of two (2) phases: Pre-construction and Construction.

- A. **Pre-construction Phase:** This phase of the work includes, but is not limited to, estimating and cost control, schedule development. The Contractor shall furthermore assist The Center for People With Disabilities (“Owner”) and LODESTONE DESIGN GROUP Architecture (“Architect”) in maintaining the cost of construction within the Guaranteed Maximum Price and the duration of the construction within the project’s schedule.
- B. **Construction Phase:** This phase of the work consists of the Contractor furnishing and installing all work as required in the Contract Documents.

## **10. GMP**

- A. **Guaranteed Maximum Price (“GMP”):** The Guaranteed Maximum Price is the final price that the Contractor agrees to accept in full performance of the Construction Manager/General Contractor Agreement (CM/GC Agreement) and is based on the final contract drawings and specifications. The GMP shall include all fees and percentages required by this RFP, as well as the costs for General Conditions and all work as required in the Contract Documents.

- B. **Allowances & Contingency Funds:** Allowances and contingency funds may be identified during the design and/or construction process by the Owner, architect or CM/GC, all funds in either of these categories shall be approved expenses by the Owner, Architect and CM/GC by signed change order. At the completion of the construction phase any unused allowances or contingency funds previously identified in the construction documents or by the CM/GC shall be retained by Center for People With Disabilities.

## 11. **Fee Proposal, Fees, and Markups**

Before submitting a fee proposal, each Contractor shall carefully examine the RFP; shall visit the site of the work; shall fully inform themselves as to all existing conditions and limitations; and shall include in the proposal the cost of all items required by the RFP. If the contractor observes that portions of the Contract Documents are at variance with applicable law, building codes, rules, regulations or contain obvious erroneous or uncoordinated information, the Contractor shall promptly notify the specified The Center for People With Disabilities Representative and the necessary changes shall be accomplished by Addendum.

The fee proposal, bearing original signatures, must be typed or handwritten in ink on the Fee Proposal Form provided in the procurement documents and submitted in a separate sealed envelope at the location specified below prior to the deadline for submission of fee proposals indicated on the Project Schedule.

All contractors shall furnish the following fees and markups as part of the Fee Proposal:

- A. **Pre-construction Fee:** This lump sum fee consists of all costs for the CM/GC to provide the required services of the Pre-construction Phase. No other reimbursable costs will be allowed or considered in addition to this fee.
- B. **Construction Management Fee:** This lump sum fee shall consist of and include overhead (including all insurance), profit, construction supervision costs and home office personnel who will be managing the project during bidding, construction, and closeout, including the warranty period. This fee does include general conditions.
- C. **Cost of Insurance Premiums:** Shall be included in the Construction Management Fee costs.
- D. **Contractor Change Order Markup:** This is the fixed percentage markup that the Contractor may apply to a change order for scope increase to the CM/GC Agreement.
- E. **Self-Performed Work Markup:** This is a fixed percentage markup that will be applied to the cost for the CM/GC's actual labor plus burden cost, material costs, and equipment costs for self-performed work.

## 12. **Self-Performed Work**

The Contractor will be allowed to self-perform work. This work must be billed for at actual cost incurred, plus the Self Performed Work Markup. Actual costs for self-performed work will be subject to audit. No billing rates will be allowed. The Contractor must bid its self-performed work against a minimum of two (2) additional bidders. The contractor shall identify in their proposal which work they anticipate being self-performed. The Contractor's bid will then be evaluated by the Owner and Architect and must be determined to be the best value bid for the work to be awarded to the Contractor. The cost of any work that is self-performed will

be part of the established GMP.

**13. Project Approach**

As part of the submittal, the contractor shall describe their approach to this project addressing such issues as how to best provide input, how to reduce change orders, how the site will be staged, and scheduling strategies.

**14. Proposals**

The CM/GC shall provide CPWD with three (3) hard copies and an equivalent electronic copy of its proposal. The proposal shall be limited to thirty (30) pages. The proposal shall include all information that the Contractor wants the Selection Committee to consider in making its selection of a CM/GC. At a minimum, the proposal should include the experience and qualifications of the Contractor and the project team key individuals as identified in the management plan. It should include information on similar projects that have been completed by the Contractor and the project team individuals. When listing similar projects, include information to indicate the dates, size, firm worked for at the time and what the responsibility of the individual was on the project. Include the experience and special qualifications of the team that are applicable to this project and/or are part of the project specific selection criteria.

**15. Time**

The Contractor will include in the management plan the schedule for completing the work, including any items required by CPWD or any consultant. A completion date prior to that shown in the RFP schedule is requested, but not mandatory.

It is anticipated that a contract will be given to the Contractor for signature by the date specified in the Project Schedule. The actual notice to proceed will be based on how quickly the Contractor returns the contract as well as the resolution of any issues that may arise in the procurement process. The actual completion date will be based on the Contractor's proposed schedule and the date the Contractor received the contract for signature.

All plans, schedules, and the cost proposals are required to reflect the project construction time. Non-compliance with the schedule will not result in automatic disqualification; it will be evaluated by the selection committee in determining the final selection.

Of particular interest and concern are the management team and the ability of the prime contractors to deliver the project within the construction time. Contractors will need to demonstrate the method of delivery and the competency of the individuals who will manage its successful completion.

**16. Selection Committee**

The Selection Committee will be composed of the Executive Director, Director of Operations, Independent Living Program Manager, Board of Directors Member(s) and others deemed appropriate by CPWD.

**17. Interviews**

Interviews may be conducted with a short-listed group of CM/GC's at the discretion of CPWD. This evaluation will be made using the selection criteria noted below.

The purpose of the interview will be to allow the Contractor to present its qualifications, past performance, project approach, cost containment strategies, schedule and general plan for

constructing the project. It will also provide an opportunity for the selection committee to seek clarification of the Contractor's proposal.

The proposed primary project management personnel, including the project manager and superintendent, should be in attendance. The project manager is the contractor's representative who will be in daily control of the construction site. The project manager has overall job authority, will attend all job meetings, and is authorized by the Contractor to negotiate and sign any and all change orders in the field, if necessary. Unless otherwise noted, the attendance of subcontractors is at the discretion of the Contractor.

If interviews are held, the method of presentation will be at the discretion of the Contractor, and the interviews will be held on the date and at the place specified by CPWD.

**The Owner reserves the right to select a Contractor without the interview process.**

**18. Selection Criteria for CM/GC**

The following criteria will be used in ranking each of the Contractors. The criteria are not listed in any priority order. The selection committee will consider all criteria in performing a comprehensive evaluation of the proposal.

- A. Cost: The Contractor's Fee Proposal will be considered with all other criteria to determine the best value to the project. Submit in separate, sealed envelope.
- B. References: Each construction firm will be evaluated on the past performance of similar projects.
- C. Strength of Contractor's Team: Based on the statements of qualifications and management plan, the selection team shall evaluate the expertise and experience of the construction firm, the project manager, and the superintendent as it relates to this project in size, complexity, quality and duration. Key personnel assigned to which task and their commitment to each phase of the work will be evaluated.
- D. Project Management Approach: Based on the information provided in the construction and management plan, the selection team shall evaluate how each team has planned the project and determined how to construct the project in the location and in the time frames presented. The firm should present how they plan to move material and people into and out of the site, keep the site safe, minimize disruption to the facility and surrounding properties, etc. The Contractor shall also discuss what portions of the project they plan to self-perform. The selection team will also evaluate the degree to which risks to the success of the project have been identified and a reasonable solution has been presented.

**19. Award of Agreement**

The award of the CM/GC Agreement shall be in accordance with the criteria set forth in the RFP. CPWD intends to enter into an agreement with the selected Contractor to construct the project as outlined in this RFP. Individual contractors or alliances between two or more contractors are allowed in this process. However, CPWD will contract with only one legal entity.

**22. Licensure**

The Contractor shall comply with and require all of its subcontractors to comply with the

license laws as required by the State of Colorado and the City/County of Boulder.

**23. Financial Responsibility of Contractors, Subcontractors and Sub-subcontractors**

Contractors shall respond promptly to any inquiry in writing by the Owner to any concern of financial responsibility of the contractor, subcontractor, or sub-subcontractor.

**24. Withdrawal of Proposals**

Proposals may be withdrawn on written request received from proposer until the notice of selection is issued.

**25. Time is of the Essence**

Time is of the essence in regard to all the requirements of the Contract Documents.

**26. Right to Reject Proposals**

CPWD reserves the right to reject any or all proposals.

**27. Insurance**

All insurance requirements shall apply to the Contractor and any subcontractor or supplier that will be providing work or services under the final CM/GC Agreement. The Contractor shall require any subcontractor, supplier, or other person providing services or materials under the CM/GC Agreement to obtain prior to, and maintain the same scope, limits, and terms of coverage running in favor of The Center for People With Disabilities, as required of the Contractor. It shall be the responsibility of the Contractor to assure that each subcontractor or supplier complies with the insurance requirements. All insurance coverage shall be required to continue in full force and effect throughout the construction period and thereafter when the contractor may be correcting and/or removing defective work and during any warranty period, contract extension, or other modification of any provision of the construction contract or the obligations of the contractor, subcontractors or suppliers or other person providing services or materials.

The Contractor will be required to provide:

- General Liability: \$1,000,000 Per Occurrence/\$2,000,000 Aggregate (per project) and \$2,000,000.00 Products/Completed Operations Aggregate (for construction projects, this coverage should be maintained for a minimum of 3 years from the end of the project).
- Automobile: \$1,000,000 Combined Single Limit.
- Professional Liability: \$1,000,000 Per Claim/Aggregate.
- Workers' Compensation: As required under the workers' compensation laws of the State of Colorado, at least \$500,000 Each Accident/Each Employee by Disease/Disease Aggregate.

This section shall not be deemed to limit any insurance provisions of the final construction contract.

**Project Schedule**

<u>RFP 2019-CPWD-CONST</u>				
<b>EVENT</b>	<b>DAY</b>	<b>DATE</b>	<b>TIME</b>	<b>PLACE</b>
Request for Proposals Available	Monday	December 19, 2019	9:00 AM	www.cpwd.org The Center for People With Disabilities 1675 Range Street Boulder, CO 80301
RFP Due	Friday	January 22, 2020	5:00 PM	<a href="mailto:maria@cpwd.org">maria@cpwd.org</a> The Center for People With Disabilities 1675 Range Street Boulder, CO 80301
Short Listing by Selection Committee			TBD	The Center for People With Disabilities 1675 Range Street Boulder, CO 80301
Conduct Interviews (if required)			TBD	The Center for People With Disabilities 1675 Range Street Boulder, CO 80301
Substantial Completion Date		August 2020		
Completion Date		August 2020		



**Fee Proposal Form**

NAME OF PROPOSER \_\_\_\_\_

DATE

The Center for People With Disabilities  
Attention: Maria Stepanyan  
Executive Director  
1675 Range Street  
Boulder, CO 80301  
303-442-8662 Ext.243

The undersigned, responsive to The Center for People With Disabilities' RFP 2019-CPWD-CONST, "Request for Proposal to Provide Construction Management and General Contractor Services for Center for People With Disabilities' Commercial Remodel," proposes fees at the prices stated below. These listed fees and costs are to cover all expenses incurred in performing the services as outlined in our proposal of which this proposal is a part:

A. **Preconstruction Fee:** For all work during the pre-construction period, I/we agree to perform for the lump sum of:

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

B. **Construction Management Fee:** For all work during the construction phase of the contract for the management of the project, I/we agree to perform for the lump sum of:

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

C. **Construction Supervision Cost:** For project supervision and support team costs not covered in the above management fee, I/we agree to perform for the sum of:

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

D. **Contractor Change Order Markup:** For all work added to the contract by change order, I/we agree to add not more than \_\_\_\_\_% to the subcontractor/supplier costs for the additional work.

E. **Self-Performed Work Markup:** For all self-performed work, I/we agree to add no more than \_\_\_\_\_% to our labor and material costs to perform the work. The labor burden, including benefits, adds \_\_\_\_\_% to the labor rate.

I/We guarantee that the Work will be Complete, including punch list items, within the negotiated time frame after receipt of the Notice to Proceed, should I/we be the successful proposer, and agree to pay liquidated damages in the amount of **\$500.00** per day for each day after expiration of the Contract Time.

I/We acknowledge receipt of the following Addenda: \_\_\_\_\_

**With the cooperation of The Center for People With Disabilities and their consultants, the undersigned will continue to work with due diligence to provide a Guaranteed Maximum Price (GMP).**

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

The undersigned Contractor's License Number for Colorado is: \_\_\_\_\_

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within fifteen (15) days, unless a shorter time is specified in the Contract Documents

Type of Organization: \_\_\_\_\_  
(Corporation, Partnership, Individual, etc.)

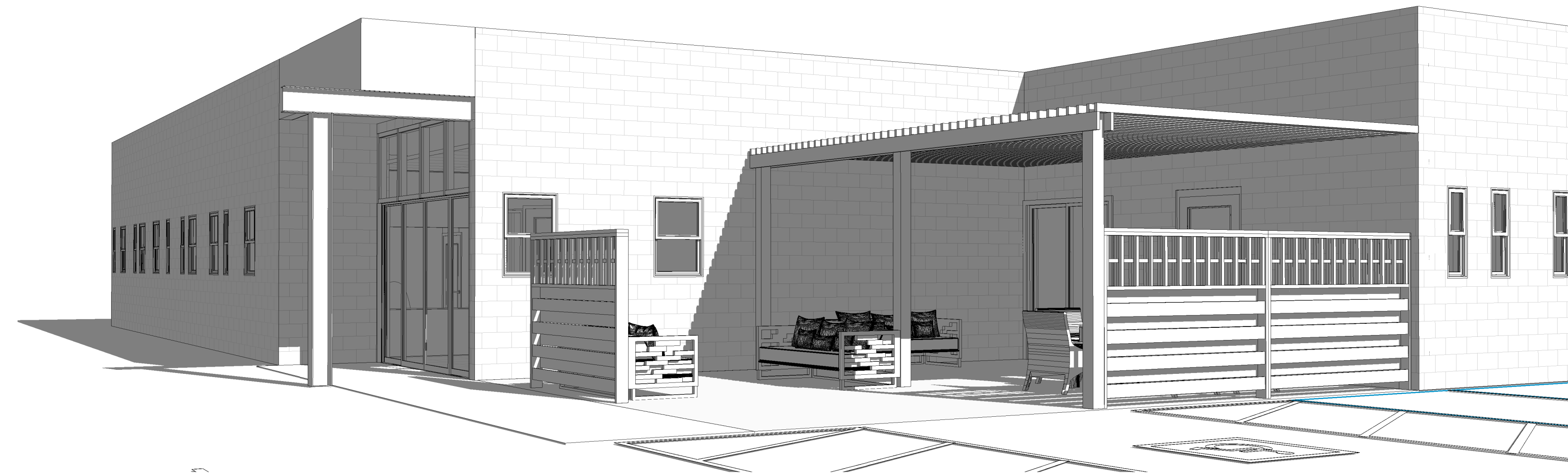
Respectfully submitted,

Name of Proposer:  
ADDRESS:

\_\_\_\_\_  
Authorized Signature

# CENTER FOR PEOPLE WITH DISABILITIES

BOULDER, CO 80301



## SHEET INDEX

C0.0	COVER SHEET
C0.1	GENERAL NOTES & SCHEDULES
A0.0	SITE PLAN/ ROOF PLAN
A1.1	MAIN FLOOR PLAN
A1.2	PATIO PLAN
A1.3	REFLECTED CEILING PLANS
A1.4	FINISH PLAN/SCHEDULE
A2.0	ELEVATIONS
A3.0	SECTIONS
A4.0	RESTROOM DETAILS
A4.1	RESTROOM DETAILS
A4.2	INTERIOR ELEVATIONS

## PARTICIPANTS

**Architect:**  
 Lodestone Design Group  
 701 Delaware St. Suite C  
 Longmont, Colorado 80501  
 P: 303-800-8633  
 Contact: Jeff Van Sambeek

**General Contractor:**  
 TBD

**Structural Engineer:**  
 Glenn Frank Engineering  
 2400 Central Ave. Suite A-1S  
 Boulder, CO 80301  
 P: 303-554-9591  
 Contact: Jesse Sholinsky

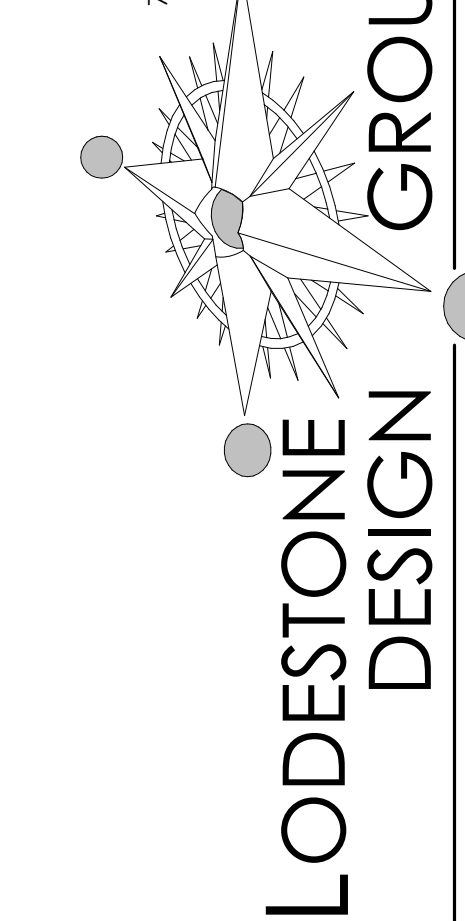
**MEP Engineer:**  
 Reno James Engineering  
 4900 W. 29th Avenue  
 Denver, CO 80212  
 P: 303-800-5105  
 Contact: Dan King

COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH  
 DISABILITIES**  
 1675 RANGE STREET  
 BOULDER, CO 80301

PROJECT #: 19-049		
DRAWING TITLE:		
COVER SHEET		
DATE: 12/12/19		
DRAWN: AMM	CHECKED: JVS	
ISSUE RECORD	DATE	
PERMIT	9/18/19	
BID SET	12/12/19	
#	REVISION	DATE

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LODESTONE DESIGN GROUP  
 701 DELAWARE ST. SUITE C  
 LONGMONT, CO 80501  
 PHONE: 303-800-8633  
 FAX: 303-731-0877  
 mail@lodestonedesign.com  
 www.lodestonedesign.com



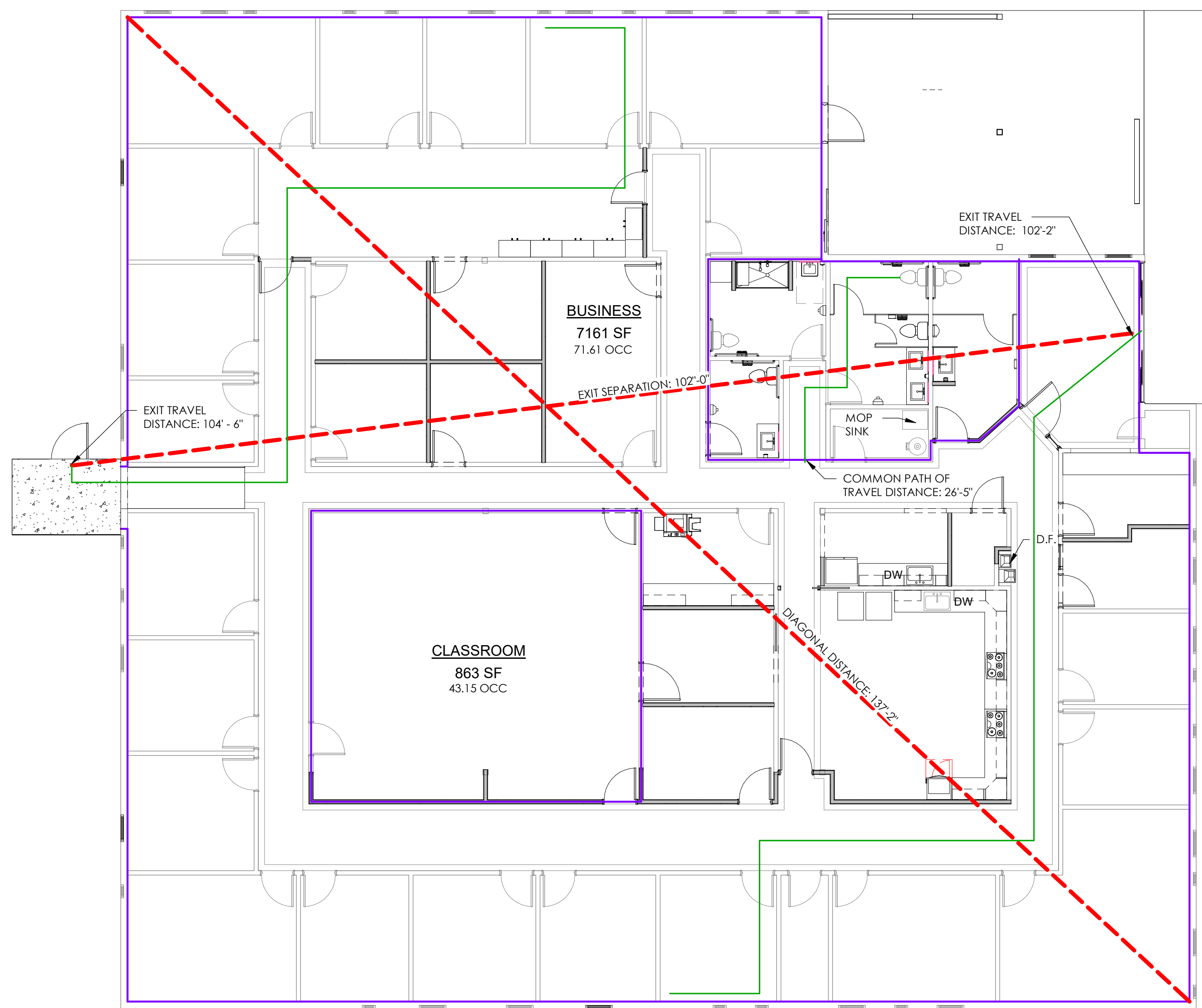
**LODESTONE  
 DESIGN  
 GROUP**  
**C0.0**

## BUILDING DATA - CODE ANALYSIS

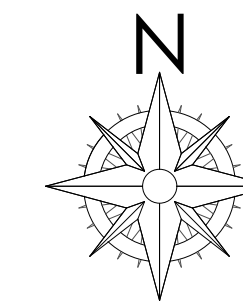
<b>CONSTRUCTION TYPE</b>	II-B
<b>FIRE SUPPRESSION</b>	YES
<b>FIRE ALARM</b>	NONE
<b>OCCUPANCY TYPE</b>	B - BUSINESS (INCLUDING CLASSROOM ASSEMBLY AREA WITH FEWER THAN 50 OCC. AS B OCCUPANCY)
<b>HEIGHT</b>	1 STORY
<b>TOTAL BUILDING FLOOR AREA</b>	8,579 SQUARE FEET
<b>OCCUPANT LOAD:</b>	
BUSINESS	7161 SQUARE FEET @ 1/100 = 71.61
EDUCATIONAL CLASSROOM AREA	863 SQUARE FEET @ 1/20 = 43.15
<b>TOTAL</b>	<b>114.76 = 115 PEOPLE</b>
<b>EXITING REQUIREMENTS:</b>	
MINIMUM EGRESS WIDTH	32" MINIMUM / 144" PROVIDED
MAXIMUM EXIT ACCESS TRAVEL DISTANCE	300' MAXIMUM / 104'-6" PROVIDED
PANIC HARDWARE	REQUIRED AT EXITS AND EXIT ACCESS DOORS

## PLUMBING FIXTURES REQUIRED

<b>USE CATEGORY</b>	B-BUSINESS
<b>TOTAL OCCUPANCY</b>	115 PEOPLE
<b>TOILETS</b>	
BUSINESS	1 PER 25 FOR FIRST 50: 50/25 = 2 REQUIRED 1 PER 50 FOR REMAINDER: 65/50 = 1.3 REQUIRED TOTAL= 4 REQUIRED. PROVIDED: 2 WOMEN / 2 MEN/ 2 UNISEX
<b>LAVATORIES</b>	
BUSINESS	1 PER 40 FOR FIRST 80: 80/40 = 2 REQUIRED 1 PER 80 FOR REMAINDER: 35/80 = .44 REQUIRED TOTAL= 3 REQUIRED. PROVIDED: 2 WOMEN / 1 MEN/ 2 UNISEX
<b>DRINKING FOUNTAIN</b>	1 REQUIRED, 2 PROVIDED (1 STANDARD HEIGHT; 1 ADA HEIGHT)
<b>SERVICE SINK</b>	1 REQUIRED, 1 PROVIDED



**1 CODE ANALYSIS PLAN**  
 SCALE: 1/8" = 1'-0"





# GENERAL NOTES

- Do not scale these drawings.
  - Verify all dimensions and conditions prior to commencing work or ordering materials.
  - Any variation should be brought to the attention of the Owner and Architect.
- Drawing Dimensions
  - All dimensions are to the face of the foundation or framing studs at new walls, face of finish on existing walls, or centerline of rough opening unless noted otherwise.
- Existing Conditions
  - It is the responsibility of the Contractor(s) to examine the existing conditions prior to submitting a bid to the owner as proposals must take into account all such conditions which may affect the work.
  - Discrepancies in the drawings and actual field conditions shall be reported to the Architect. Corrected drawings or instructions shall be issued by the Owner prior to the commencement of the work.
- Code Compliance
  - This project shall comply with current adopted codes including:
    - 2012 International Building Code
    - 2012 International Existing Building Code
    - 2012 International Fuel Gas Code
    - 2012 International Plumbing Code
    - 2012 International Mechanical Code
    - 2012 International Energy Conservation Code
    - 2017 National Electric Code
    - 2012 International Fire Code
    - Local Amendments to any of the above
    - 2017 City of Boulder Energy Conservation Code
  - It is the responsibility of anyone supplying labor, materials, or both to bring to the attention of the Architect and Builder any discrepancies or conflicts between the requirements of these codes or standards and the drawings.
- Utility Connections
  - Contractor shall coordinate and field verify utility connections, their routing, meter locations, hose bibs and other associated items.
- Site Grading & Building Location
  - No site grading is required.
- Manuals and Warranties
  - All manuals and warranties of all materials and equipment are to be furnished to the Owner upon completion of the project.
  - The Contractor shall provide the Owner with a binder listing all of the heating, cooling, water heating, lighting systems, and solar devices installed in the building (as applicable). The binder shall also contain manuals and instructions on how to use and maintain these devices efficiently.

**8. Completeness of Documentation**  
 The details shown are intended to further illustrate the visual design concept and minimum weather protection requirements for this project. The Contractor(s) shall incorporate the requirements of the local building codes, structural considerations, trade association manuals, publications and recommendations and the manufacturer's written instructions for complete construction of details. All possible field conditions that may be encountered are not necessarily described. Field conditions encountered that require clarification shall be brought to the Owner's and Architect's attention.

- Foundation
  - New foundation at Vestibule per Structural.
  - Existing foundation to remain without alteration.
- Concrete and Reinforcement
  - New concrete patio slab to be colored integrally. Color by owner.
  - Existing concrete foundations and interior slabs to remain. Protect as required throughout construction.
  - Repair existing concrete where gouges holes and other deficiencies are discovered during demolition and new construction. Finished concrete to be patched or repaired as required to provide a defect-free solid substrate for finish materials.
  - All wood in direct contact with concrete shall be pressure treated, or provide waterproof and vapor-proof membrane between framing and concrete.
- Typical Floor Assembly
  - Existing floor assembly to remain, without alteration.
  - Finish flooring/treatment per Owner.
- Exterior Walls (Typical)
  - All existing exterior walls to remain, without alteration except at new window and door openings and to the interior finish face.
- Interior walls (Typical)
  - 3 5/8" metal framed walls with studs @ 16" o.c. unless noted otherwise. Provide 2x6 wood blocking in walls at grab bars, all toilet room accessories and any other wall hung elements, typical.
  - Provide acoustic batt insulation in wall cavities around bathrooms.
  - Provide 5/8" gypsum wall board on all finished faces.
  - Gypsum wall board finish level, texture, and paint color/sheen per Owner and finish schedule.
  - Provide 5/8" mold & mildew-resistant gypsum wall board in all bathrooms, except in tub or floor sink surrounds. Finish level, texture, and paint color/sheen per Owner and finish schedule.
  - Provide cement backerboard in all shower/floor sink surrounds as file substrate.
  - Provide FRP to 48" AFF min. on all walls in Utility room.
  - Provide tile to 48" AFF min. on wet walls in restrooms per elevations.

- Windows:
  - Existing windows to remain, without alteration.
  - New windows to be double paned Low-E coated with U = .30 or better. Frame type and color per owner to match existing operable windows.
- Doors
  - Exterior Doors:
    - New front entry door to be a 4-panel center meet automatic sliding door. Provide double paned low-e tempered glazing in all door panels. U=0.30 or better. Provide emergency release and out-swing at both operable door panels.
    - New patio access door to be sliding glass door with double paned low-e tempered glazing. U=0.30 or better.
    - New vestibule exit door to be full light storefront door with double paned low-e tempered glazing. U=0.30 or better. Provide panic hardware, latch and closer.
  - Interior Doors:
    - Provide solid core birch doors, style and brand per Owner. Match existing interior doors.
    - Single bore with ADA Compliant lever hardware (side-hinge doors only).
    - Hollow metal door frames to be painted
  - Door Hardware:
    - All new doors to be equipped with ADA compliant lever door hardware except at building exterior doors and exit access doors.
    - Exterior doors and exit access doors to be equipped with ADA compliant panic hardware and swing in the direction or exit travel. Provide ADA compliant level or pull handle hardware at exterior face of door.
    - Door hardware to be stainless steel or brushed nickel.
    - Hinges to be stainless steel with roller ball bearings.
- Tempered Glazing: Tempered glazing as per 2015 IBC.
- Interior Trim: All interior trim per Owner and finish schedule.
- Roof:
  - Existing roof to remain, without alteration.
  - New skylights to be flashed into existing roofing per roofing manufacturer. Provide double paned Low E coated with U = .30 and SHGC = .75 or better.

- Heating, Ventilation, and Air Conditioning
  - See Mechanical Engineer's plans and notes.
- Appliances & Equipment
  - All new appliances and equipment to be supplied by Tenant/Owner.
- Electrical
  - See Electrical Engineer's plans and notes.
  - All recessed cans to be sealed and I.C. rated.
  - Switch, outlet, and cover plate colors to be determined by Owner.
- Lighting
  - Lighting fixtures to be selected by Owner.
  - See Electrical Engineer's plans and notes.
  - Provide switch at each room near the latch side of door. See Electrical Engineer's plans and notes.
- Plumbing
  - See A1.1 for fixture, hose bib, and gas bib locations.
  - Provide low flow fixtures at all locations except kitchen sinks.
  - Fixtures to be selected by Owner.
  - If chemical dispensing towers are connected to the water supply at the mop sink, the chemical tower must be attached to a separate, dedicated hose bib with hot and cold water and be equipped with appropriate backflow prevention devices.
  - See Plumbing Engineer's plans and notes.
- GENERAL:
  - These plans and details have been designed for construction at one specific location. These plans and details shall not be used at any other building location.
  - Submit all shop drawings for Architect's and Owner's approval.
- SIGNAGE:
  - Exterior signage to comply with IBC 501.21

## DOOR/ HARDWARE SCHEDULE

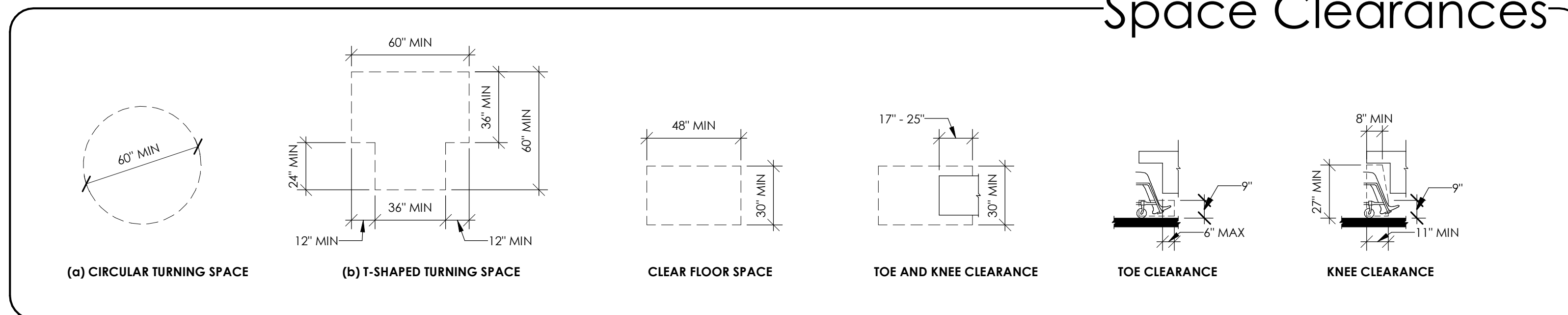
Type Mark	Quantity	Opening Dimensions		Description	Door			Frame		Comments	Door Hardware			
		Width	Height		Thickness	Material	Finish	Frame Type	Frame Finish		Handle	Operation	Features	Stop
1	1	13' - 3"	8' - 0"	CENTER SPLIT SLIDING GLASS		GLASS	TEMPERED	HM		AUTOMATIC SLIDING DOOR				
2	3	3' - 6"	8' - 0"	SINGLE: FULL LIGHT METAL	0' - 2"	GLASS WITH METAL FRAME	TEMPERED	HM			PANIC LEVER	KEY CARD OFFICE	EMERGENCY OPEN HOLD OPEN AT LOBBY	WALL
3	36	3' - 0"	6' - 8"	SINGLE: FULL LIGHT WD	0' - 2"	SOLID CORE/GLASS	STAIN/POLY	HM			LEVER	STOREROOM/ PRIVACY		WALL
4	7	3' - 0"	6' - 8"	SINGLE: FLUSH SLAB	0' - 2"	SOLID CORE WOOD	STAIN/POLY	HM			ADA PADDLE		PRIVACY LOCK AT CONS. LOUNGE	
5	2	3' - 6"	6' - 8"	SINGLE: FLUSH SLAB POCKET	0' - 1 1/2"	SOLID CORE WOOD	STAIN/POLY	HM						
6	1	6' - 0"	8' - 0"	SLIDING GLASS DOOR	0' - 2"	GLASS	TEMPERED	ALLUM.			ADA SGD HANDLE			
7	3	0' - 0"	0' - 0"	CASED OPENING		N/A	N/A	HM			N/A			
8	1	3' - 6"	6' - 8"	SINGLE: FULL LIGHT WD	0' - 2"	SOLID CORE/GLASS	STAIN/POLY	HM			LEVER			
9	1	2' - 0"	6' - 8"	SINGLE: FLUSH SLAB	0' - 2"	SOLID CORE WOOD	STAIN/POLY	HM			LEVER			

## WINDOW SCHEDULE

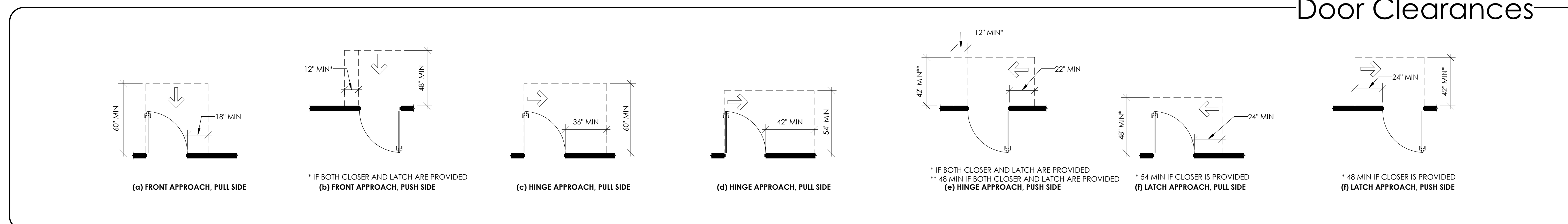
Mark	Width	Height	Head Height	Sill Height	Description	U-Factor	SHGC
A	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
B	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
C	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
D	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
F	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
G	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
H	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
I	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
J	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
K	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
L	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
M	2' - 6 1/2"	3' - 8"	8' - 0"	4' - 4"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
N	2' - 6 1/2"	3' - 8"	8' - 0"	4' - 4"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
O	2' - 6 1/2"	3' - 8"	8' - 0"	4' - 4"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
P	2' - 6 1/2"	3' - 8"	8' - 0"	4' - 4"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
Q	3' - 0"	3' - 6"	8' - 0"	4' - 6"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
R	3' - 0"	3' - 6"	8' - 0"	4' - 6"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
S	2' - 6 1/2"	3' - 8"	8' - 0"	4' - 4"	Vinyl Windows	.45 OR BETTER	.38 OR BETTER
T	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		
U	2' - 4"	3' - 2"			SKYLIGHT	.475 OR BETTER	.38 OR BETTER
V	2' - 4"	3' - 2"			SKYLIGHT	.475 OR BETTER	.38 OR BETTER
W	2' - 6"	3' - 8"	6' - 8"	3' - 0"	SINGLE PANE FIXED IN HM FRAME; TEMPERED		
Y	1' - 6"	8' - 0"	8' - 0"	0' - 0"	SINGLE PANE FIXED IN HM FRAME; TEMPERED		
Z	4' - 0"	1' - 6"	6' - 8"	5' - 2"	SINGLE PANE FIXED IN HM FRAME; TRANSOM		

NOTE: WINDOWS TAGGED "E" ARE EXISTING TO REMAIN. SIZE AND TYPE VARIES.

## Space Clearances



## Door Clearances



COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH DISABILITIES**  
 1675 RANGE STREET  
 BOULDER, CO 80301

PROJECT #: 19-049

DRAWING TITLE:

GENERAL NOTES & SCHEDULES

DATE:

12/12/19

DRAWN: AMM CHECKED: JVS

ISSUE RECORD DATE

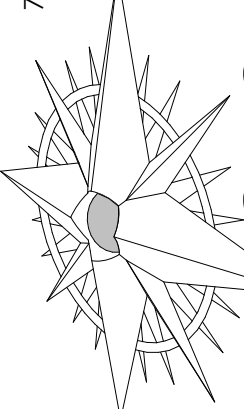
PERMIT 9/18/19

BID SET 12/12/19

# REVISION DATE

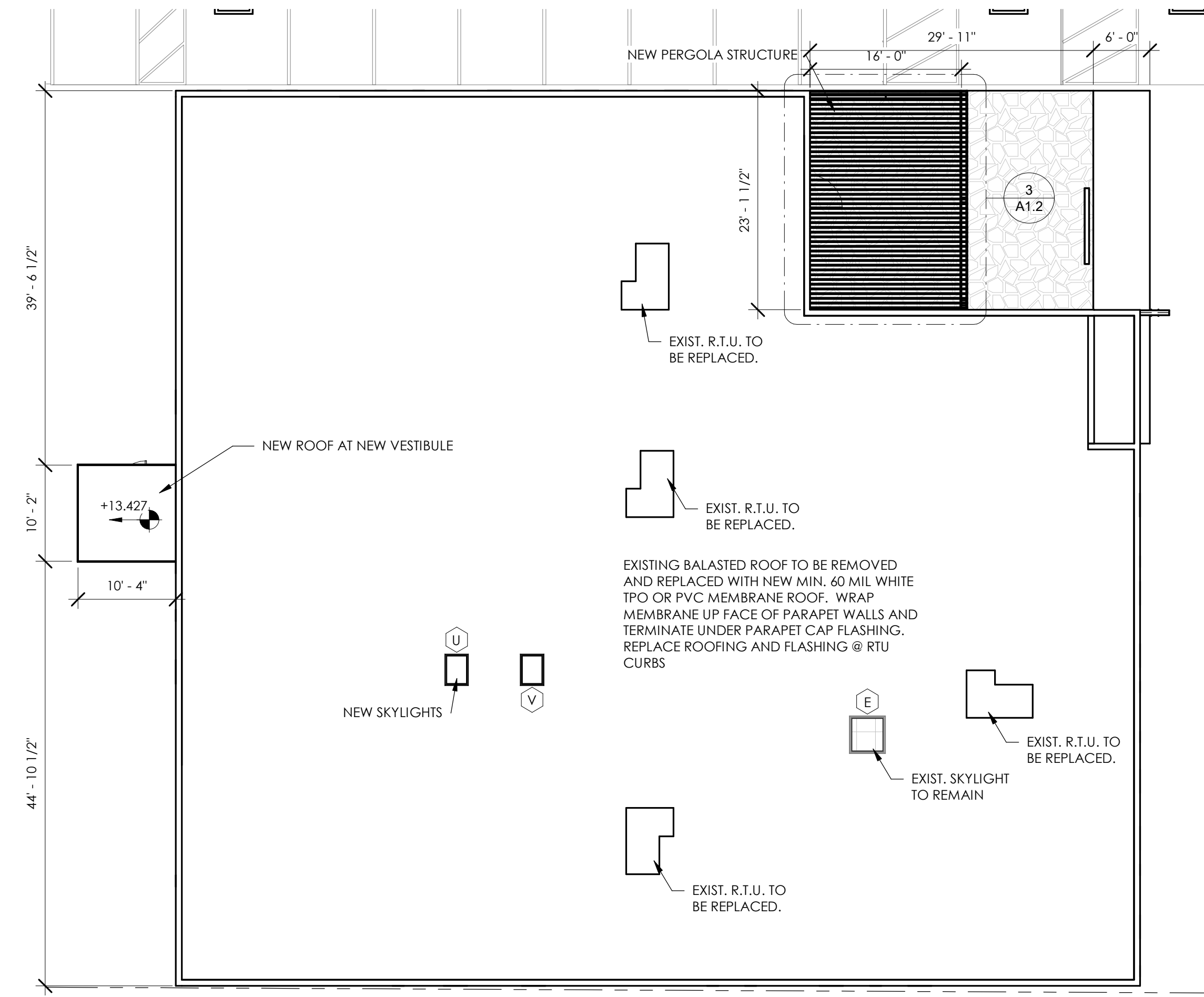
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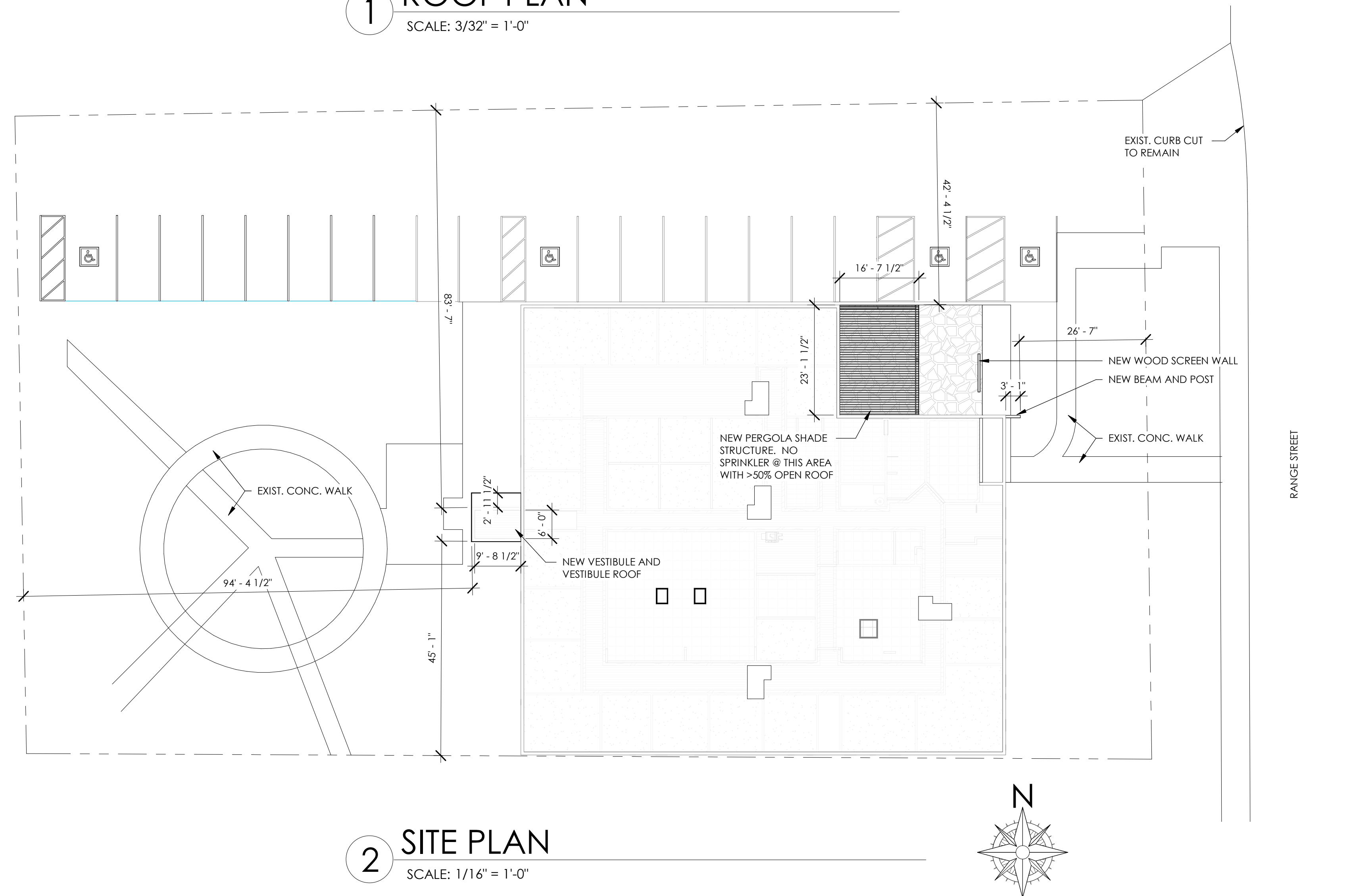


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C0.1



**1** ROOF PLAN  
SCALE: 3/32" = 1'-0"



**2** SITE PLAN  
SCALE: 1/16" = 1'-0"

COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH  
DISABILITIES**  
1675 RANGE STREET  
BOULDER, CO 80301

PROJECT #: 19-049  
DRAWING TITLE:  
SITE PLAN/ ROOF PLAN

DATE: 12/12/19

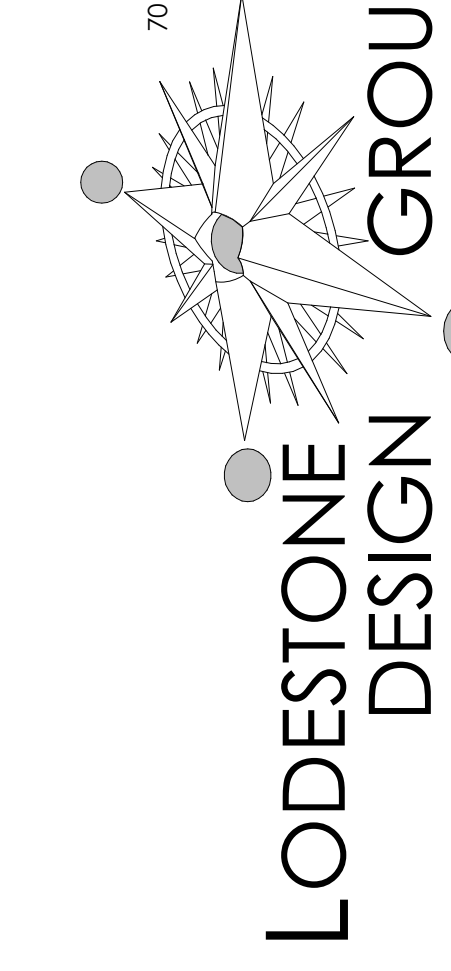
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AMM	JVS

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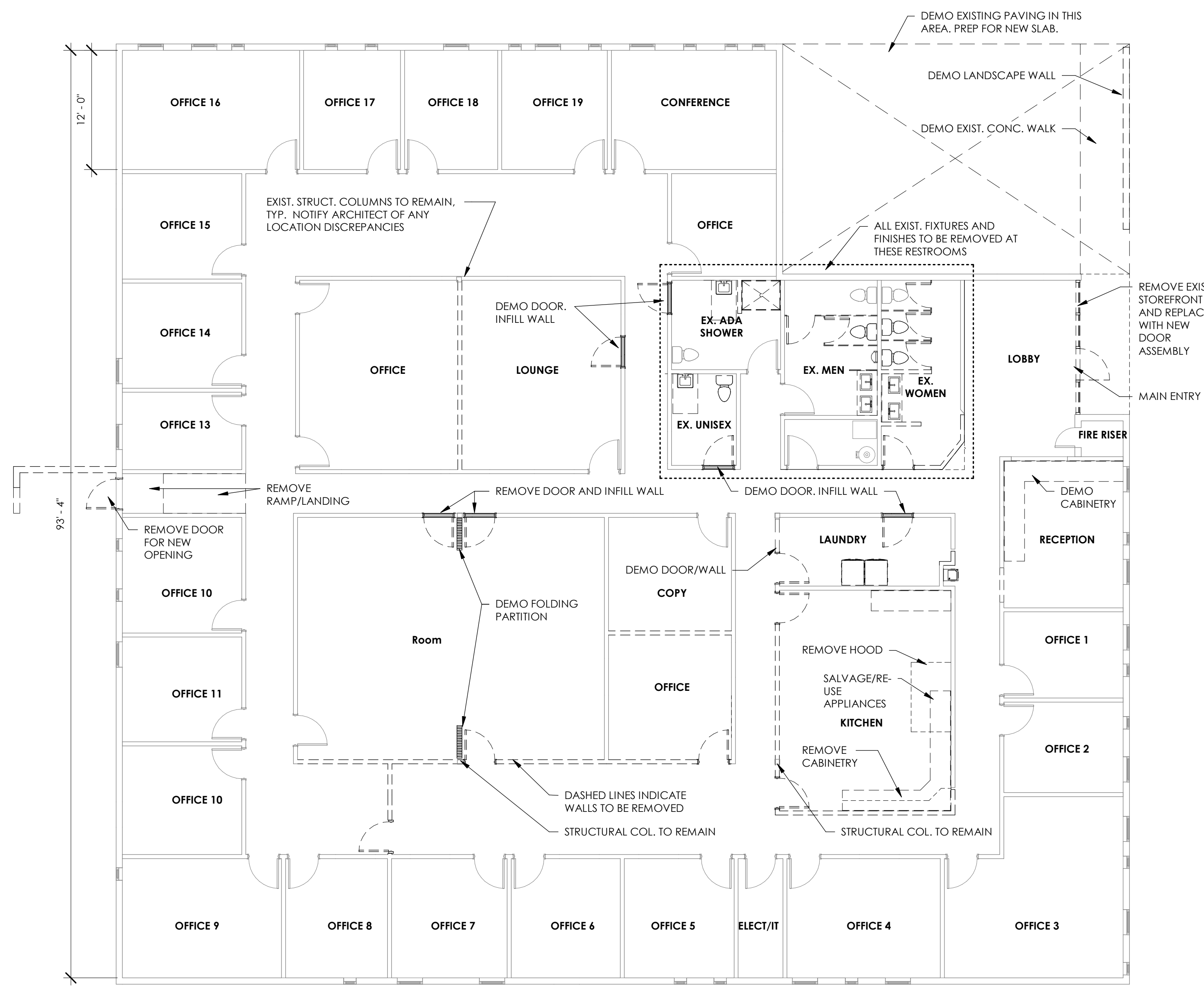
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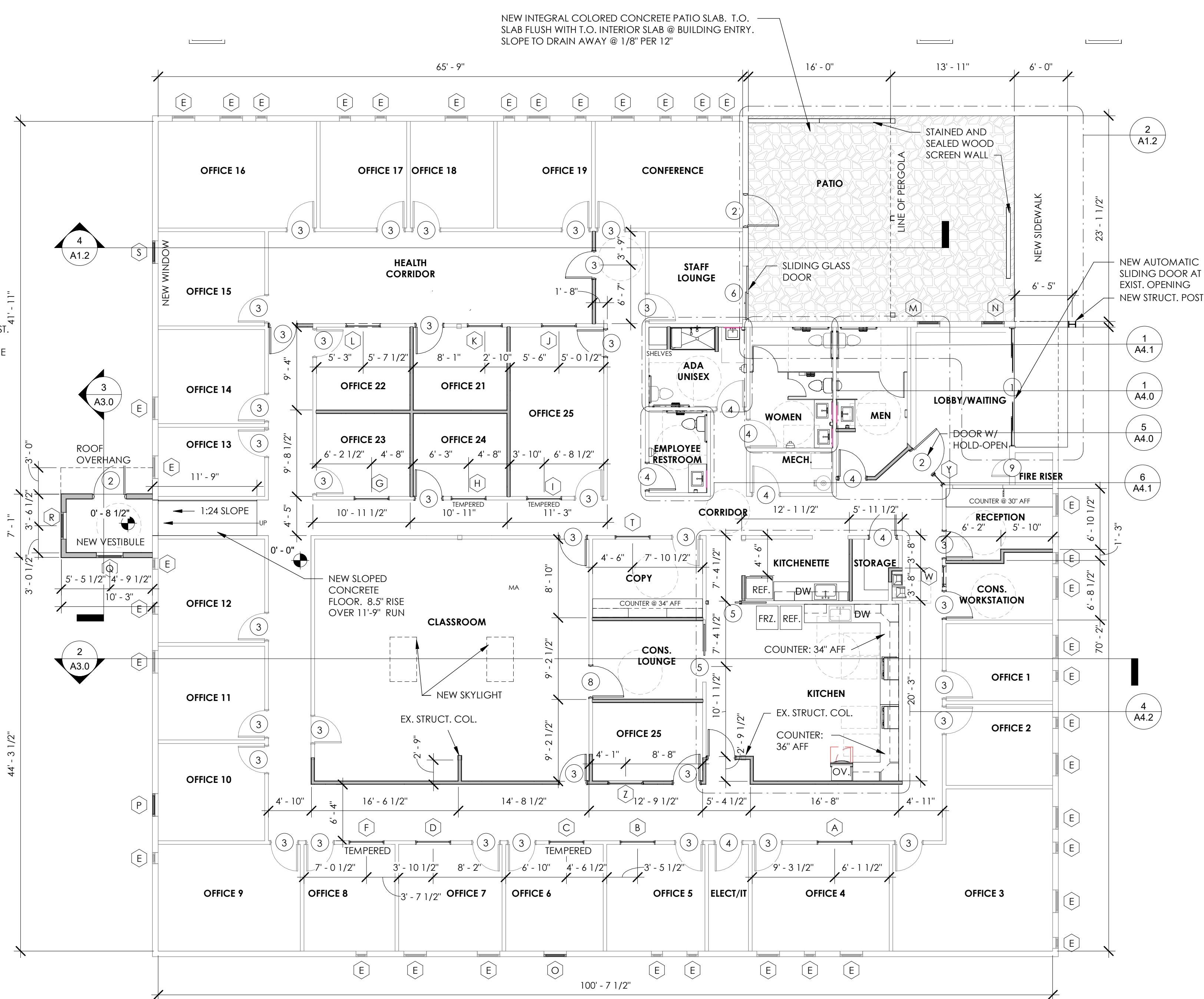






- DEMO NOTES:**
1. SALVAGE DOORS/DOOR FRAMES FOR REUSE OR DONATION
  2. REMOVE ALL EXIST. LVT FLOORING AT HALLS. PREP FLOORS FOR NEW FLOOR FINISH
  3. MOST EXISTING INTERIOR WALLS ARE VINYL FACED STEEL FRAMED PARTITION WALLS.

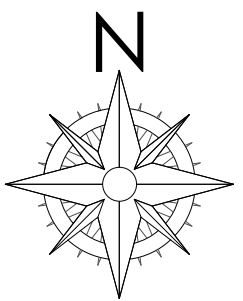
**1 MAIN LEVEL PLAN - EXIST/DEMO**  
SCALE: 1/8" = 1'-0"



- FLOORING NOTES:**
1. LEVEL EXISTING SLAB THROUGHOUT HALLS AND ELIMINATE RIDGES AT CRACKS IN SLAB.

- WALL TYPES:**
1. MOST EXISTING WALLS ARE VINYL FACED STEEL FRAMED PARTITION WALLS FROM FLOOR TO ABV. ACT CEILING.
  2. NEW WALLS TO BE METAL STUD FRAMED WALLS BRACED TO ROOF FRAMING. NEW FINISHED WALLS TO BE GYP. BD. CLAD W/ #4 FINISH.

**2 MAIN LEVEL PLAN**  
SCALE: 1/8" = 1'-0"



COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH  
DISABILITIES**  
1675 RANGE STREET  
BOULDER, CO 80301

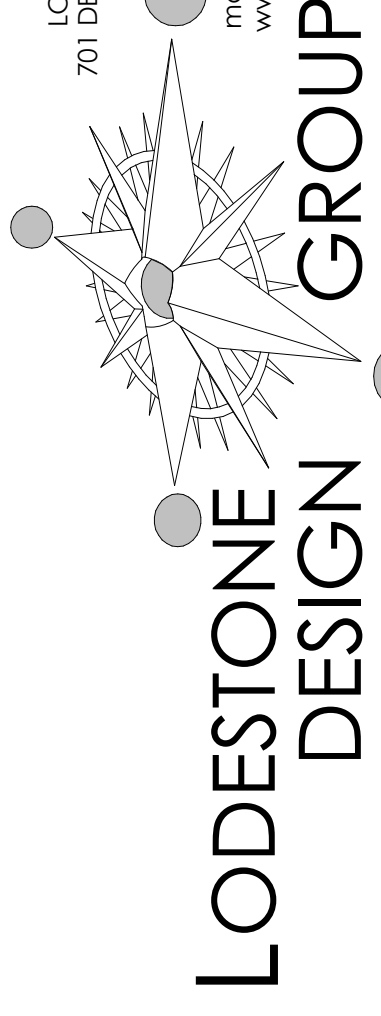
PROJECT #: 19-049  
DRAWING TITLE:  
MAIN FLOOR PLAN

DATE: 12/12/19  
DRAWN: AMM CHECKED: JVS  
ISSUE RECORD DATE  
PERMIT 9/18/19  
BID SET 12/12/19

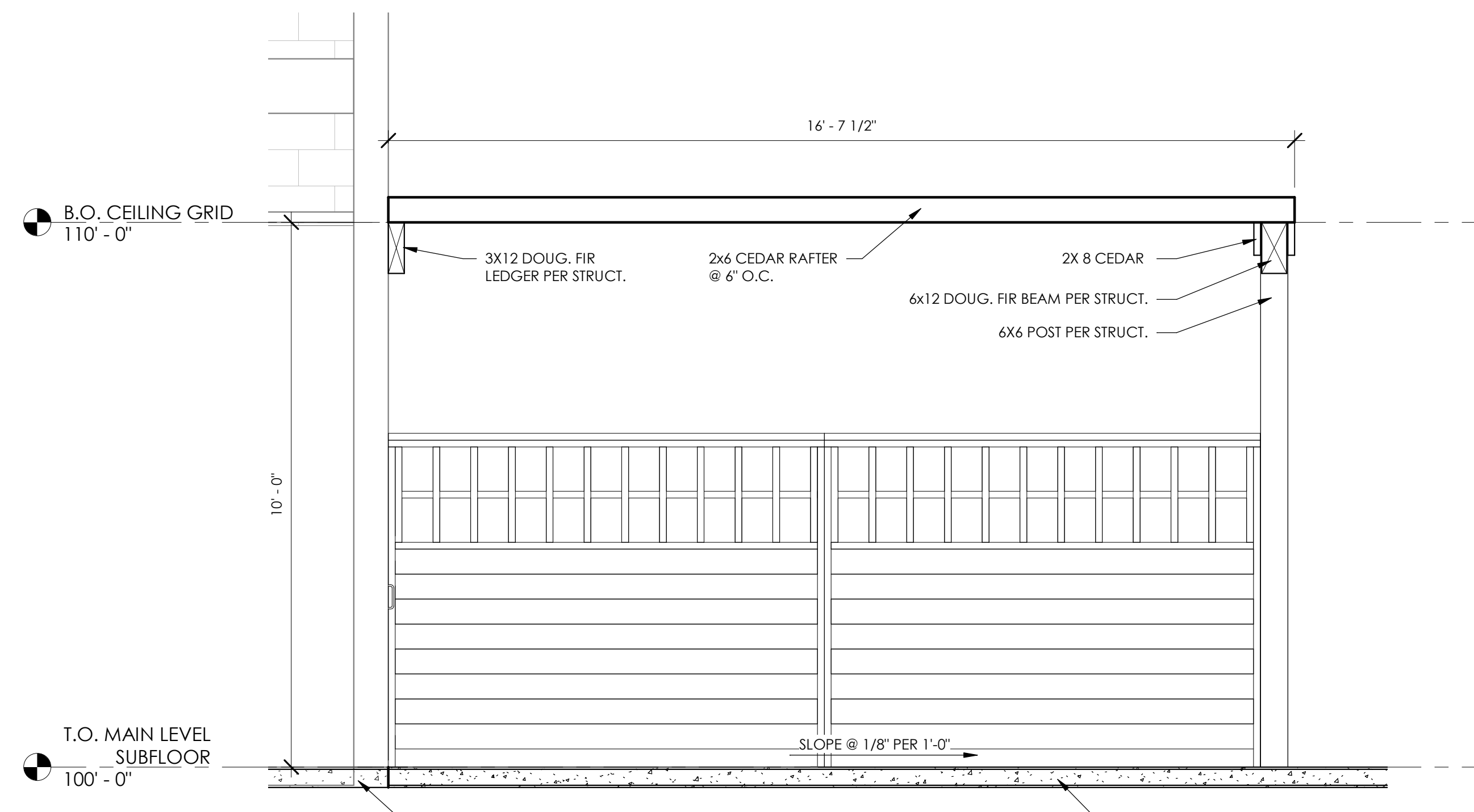
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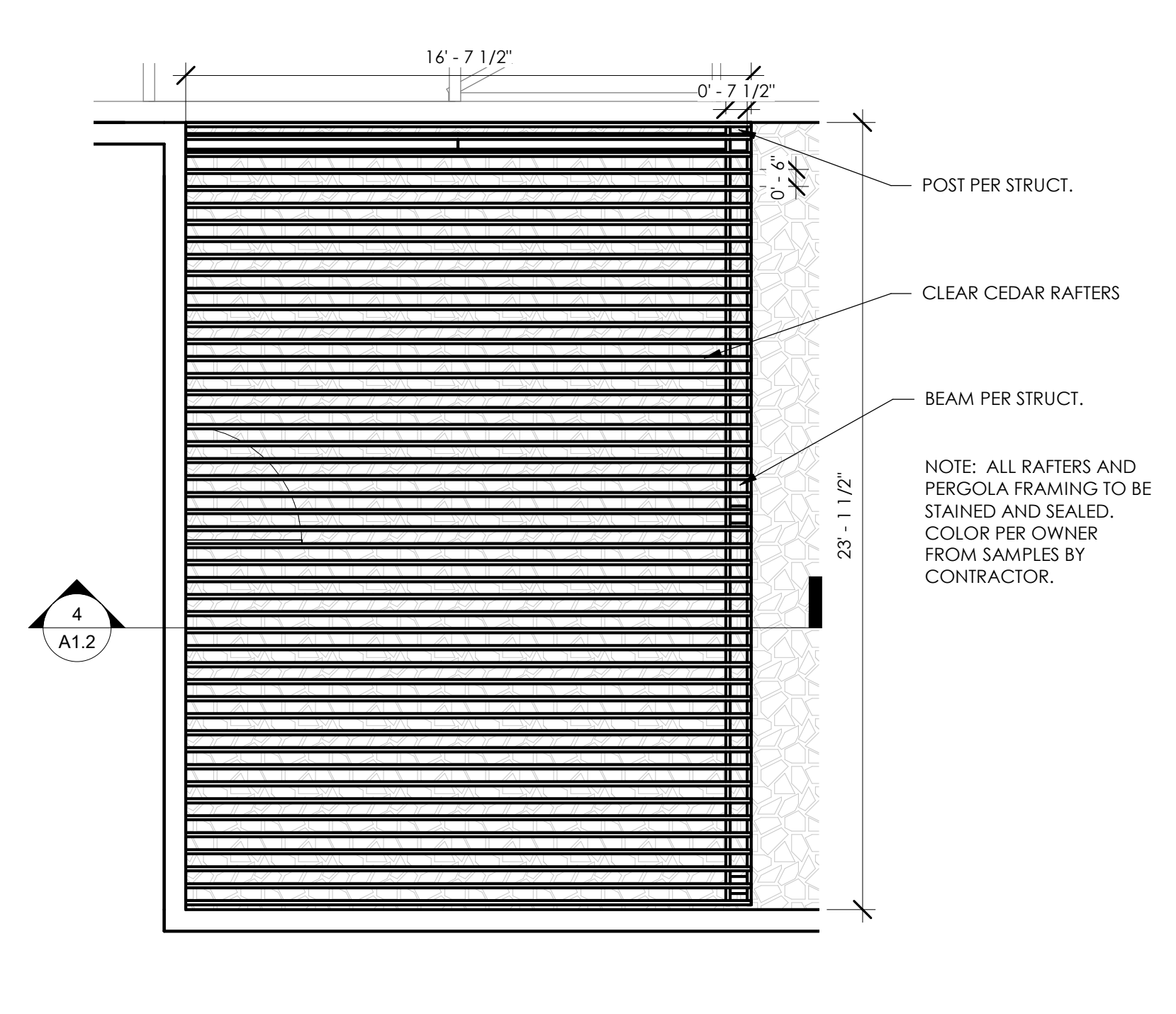
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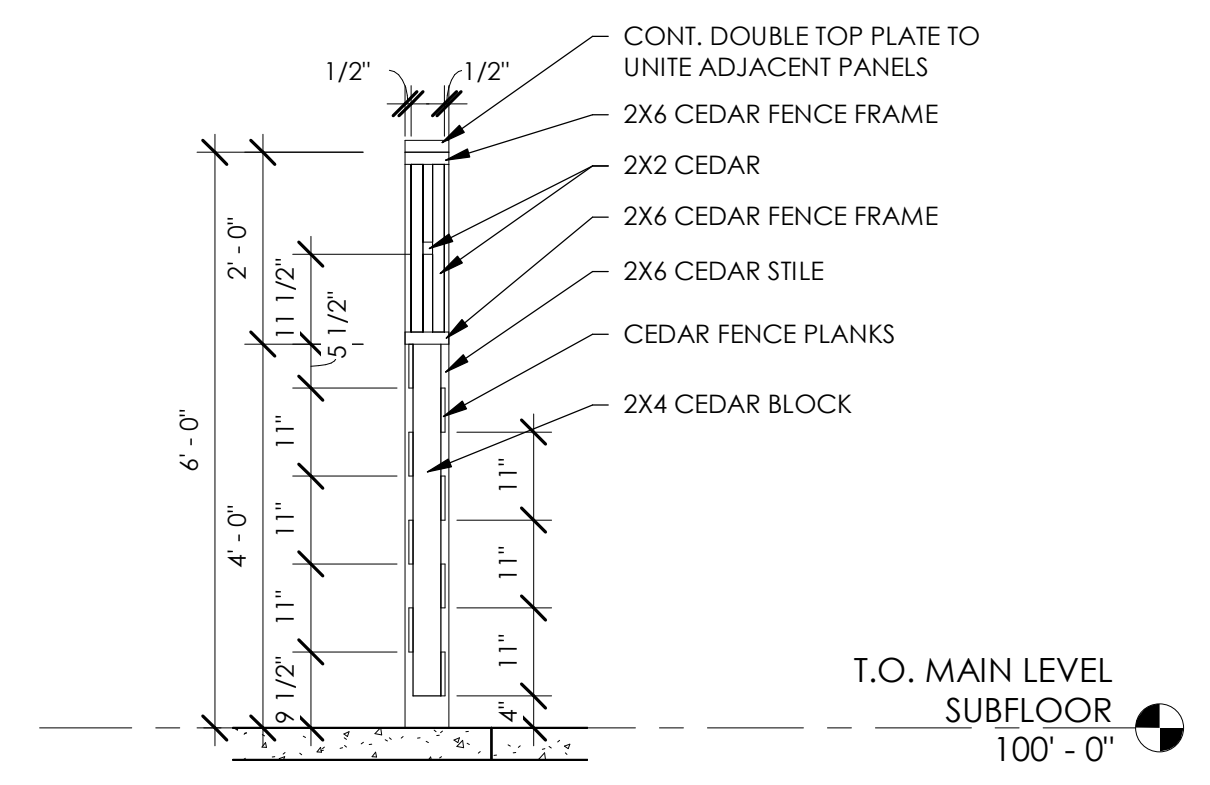




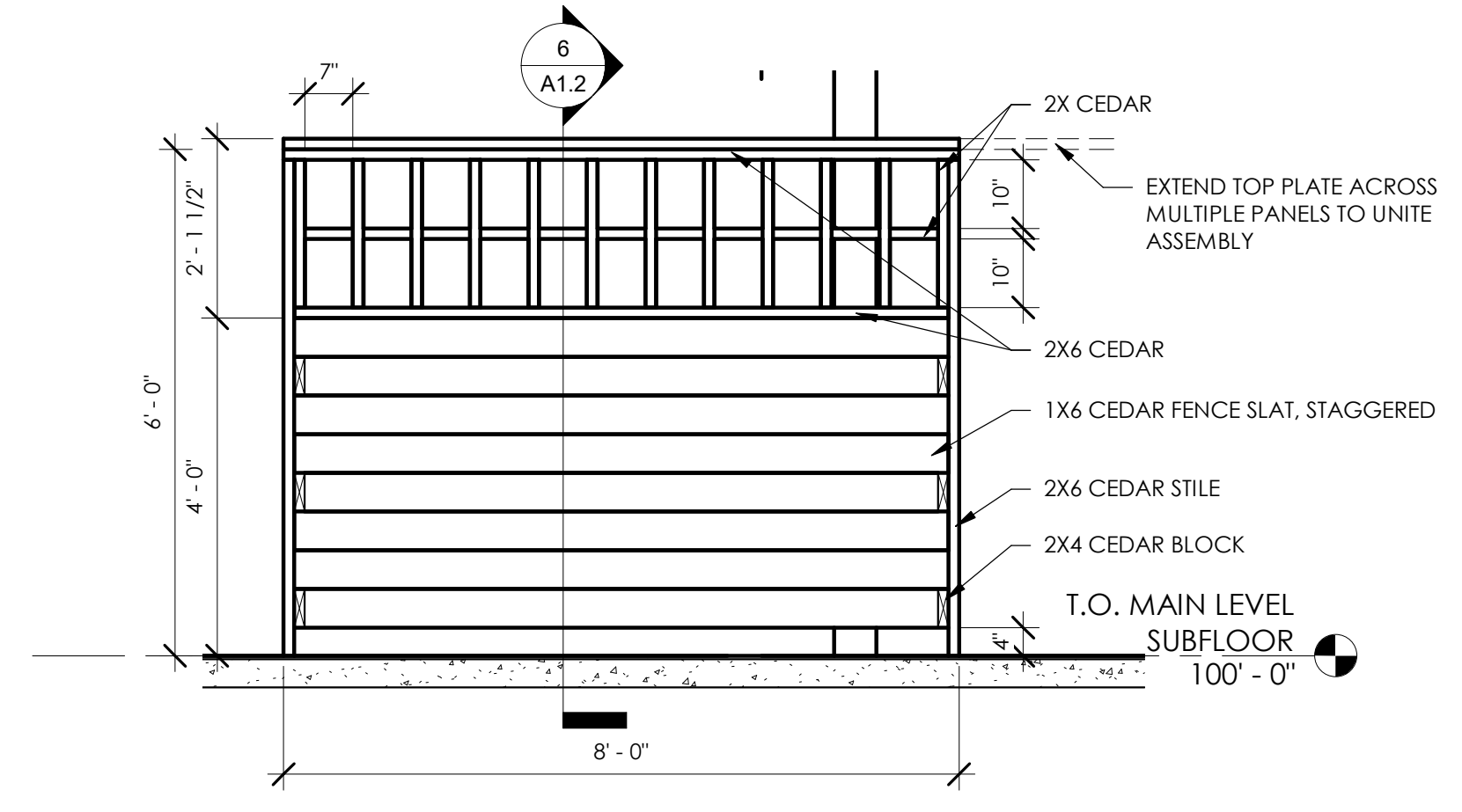
**4 SECTION @ PERGOLA**  
SCALE: 1/2" = 1'-0"



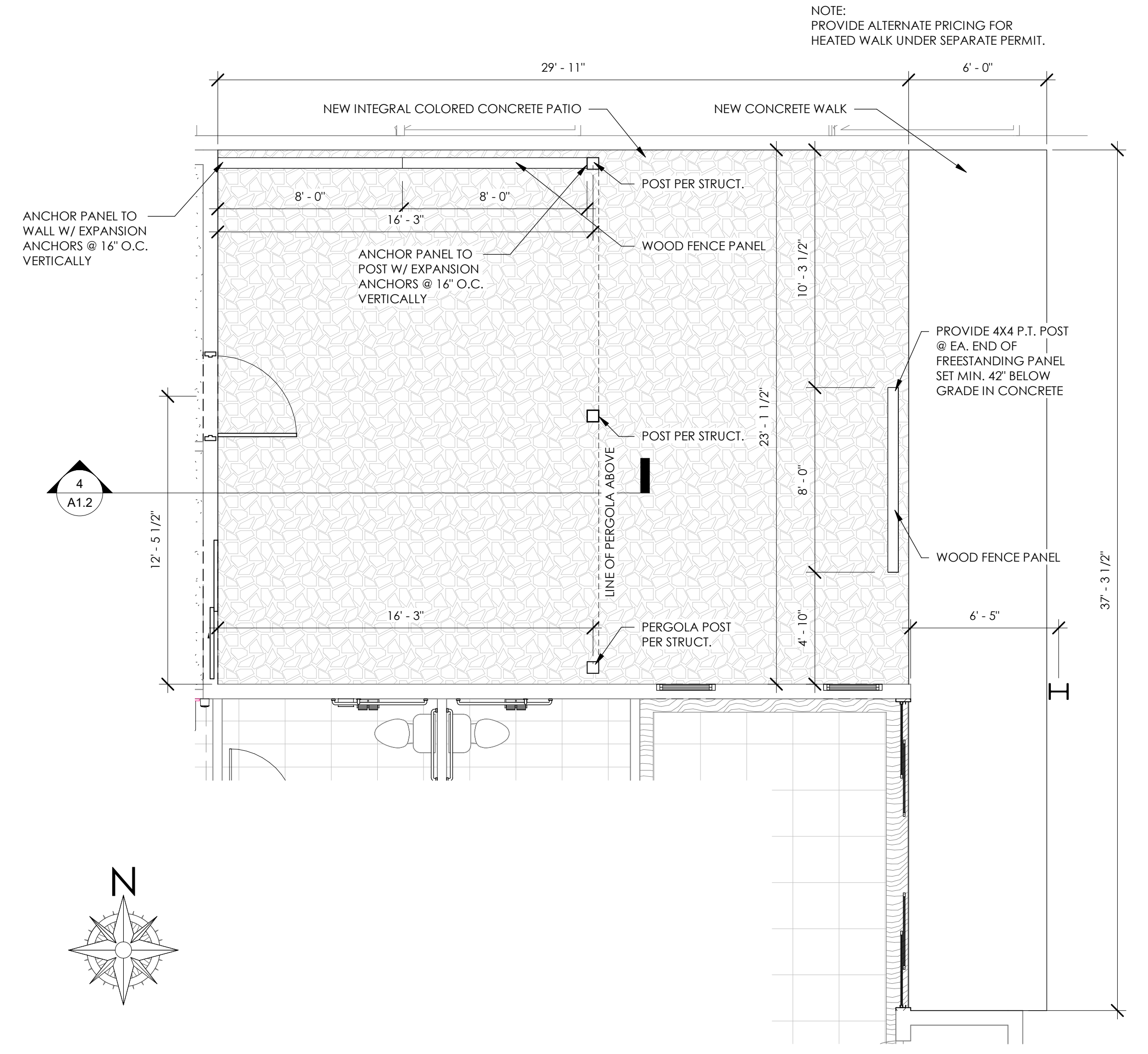
**3 PERGOLA PLAN**  
SCALE: 1/4" = 1'-0"



**6 SECTION @ FENCE PANEL**  
SCALE: 1/2" = 1'-0"



**5 FENCE PANEL**  
SCALE: 1/2" = 1'-0"



**2 PATIO PLAN**  
SCALE: 1/4" = 1'-0"

COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH DISABILITIES**  
1675 RANGE STREET  
BOULDER, CO 80301

PROJECT #: 19-049  
DRAWING TITLE:

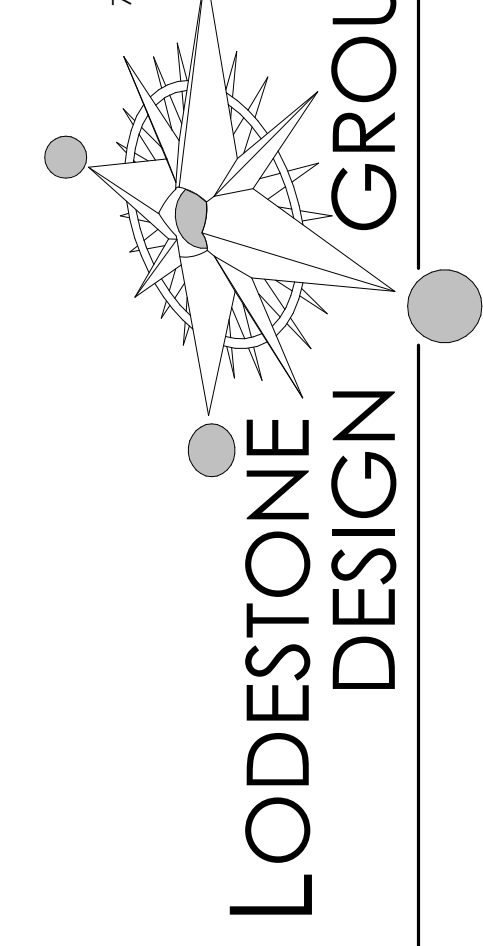
PATIO PLAN

DATE:	12/12/19
DRAWN:	CHECKED:
AMM	JVS
ISSUE RECORD	DATE
PERMIT	9/18/19
BID SET	12/12/19

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**A1.2**

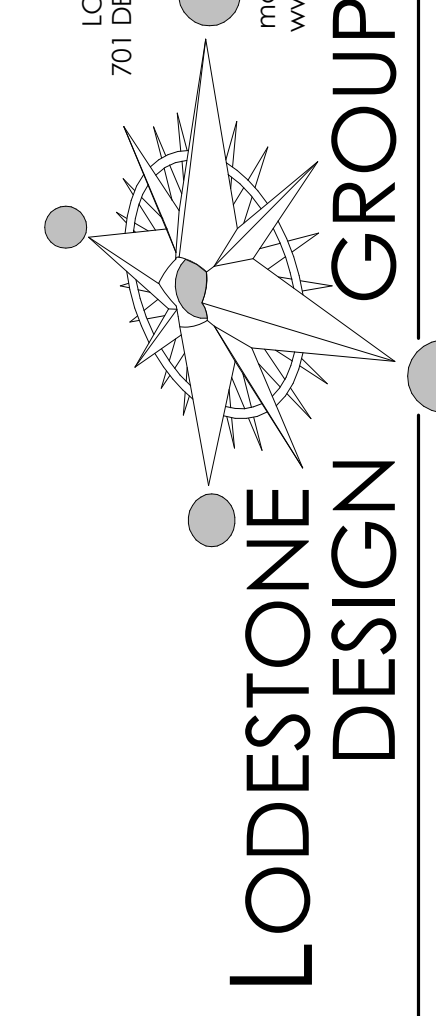
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**CENTER FOR PEOPLE WITH  
 DISABILITIES**  
 1675 RANGE STREET  
 BOULDER, CO 80301

PROJECT #: 19-049  
 DRAWING TITLE:  
 REFLECTED CEILING PLANS  
 DATE:  
 12/12/19  
 DRAWN: AMM CHECKED: JVS  
 ISSUE RECORD DATE  
 PERMIT 9/18/19  
 BID SET 12/12/19

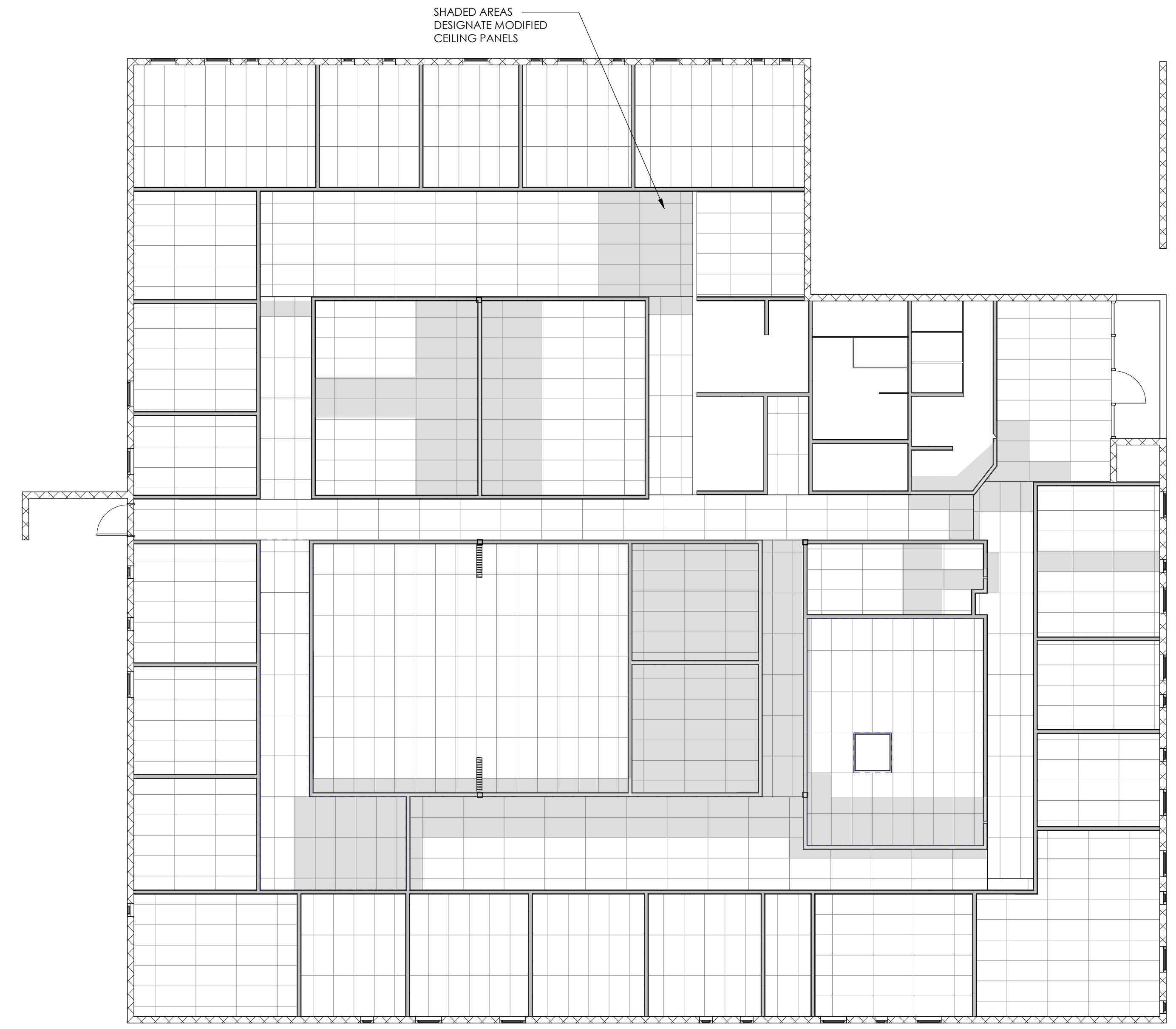
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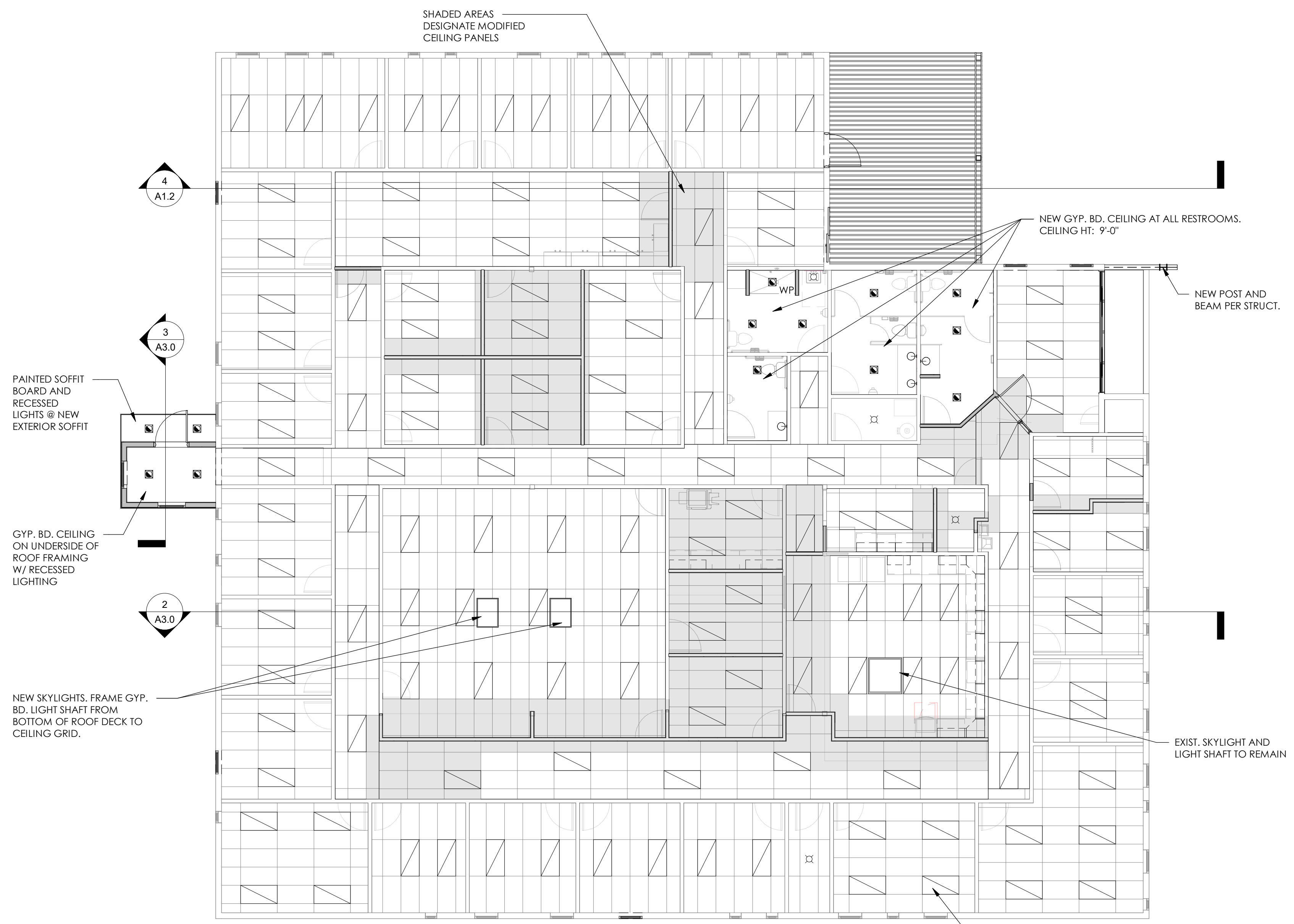
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**A1.3**

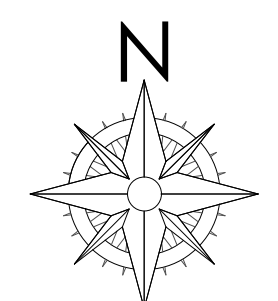


**1** MAIN LEVEL - EXISTING RCP  
 SCALE: 1/8" = 1'-0"



- NOTE:
1. ALL LIGHTING TO BE REPLACED WITH NEW LED LIGHT PANELS.
  2. ALL EXISTING GRID TO BE PAINTED WHITE.
  3. REUSE CEILING TILES WHERE CLEAN AND UNDAMAGED. REPLACE DAMAGED TILES TO MATCH EXISTING.
  4. PROVIDE ALTERNATE PRICING FOR REPLACING ALL CEILING TILES WITH NEW.

**2** MAIN LEVEL - NEW RCP  
 SCALE: 1/8" = 1'-0"





ROOM FINISH SCHEDULE						
Name	Area	Base Finish	Floor Finish	Wall Finish	Ceiling Finish	Comments
ADA UNISEX	96 SF	TILE	TILE	PAINT/TILE	PAINTED GYP. BD.	
CLASSROOM	759 SF	VINYL	LVT 3	PAINT	ACT	
CONFERENCE	199 SF	VINYL	CARPET 2	PAINT		
CONS. LOUNGE	79 SF	VINYL	LVT 3	PAINT		
CONS. WORKSTATION	83 SF	VINYL	LVT 1	PAINT		
COPY	109 SF	VINYL	LVT 1	PAINT		
CORRIDOR	1396 SF	VINYL	LVT1/LVT2	PAINT		
ELECT/IT	54 SF					EXISTING TO REMAIN
EMPLOYEE RESTROOM	60 SF	TILE 2	TILE 1	PAINT/TILE 2 & 3	PAINTED GYP. BD.	
FIRE RISER	15 SF					EXISTING TO REMAIN
HEALTH CORRIDOR	376 SF	VINYL	LVT1/LVT2	PAINT	ACT	
KITCHEN	343 SF	VINYL	LVT 3	PAINT	ACT	
KITCHENETTE	81 SF	VINYL	LVT 3	PAINT	ACT	
LOBBY/WAITING	189 SF	VINYL	LVT 3	PAINT	ACT	
MECH.	43 SF					EXISTING TO REMAIN
MEN	127 SF	TILE 2	TILE 1	PAINT/TILE 2 & 3	PAINTED GYP. BD.	
OFFICE 1	104 SF	VINYL	CARPET 1	PAINT	ACT	
OFFICE 2	109 SF					
OFFICE 3	291 SF					
OFFICE 4	185 SF					
OFFICE 5	132 SF					
OFFICE 6	132 SF					
OFFICE 7	140 SF					
OFFICE 8	123 SF					
OFFICE 9	192 SF					
OFFICE 10	131 SF					
OFFICE 11	126 SF					
OFFICE 12	140 SF					
OFFICE 13	93 SF					
OFFICE 14	127 SF					
OFFICE 15	127 SF					
OFFICE 16	214 SF					
OFFICE 17	117 SF					
OFFICE 18	112 SF					
OFFICE 19	127 SF					
OFFICE 21	49 SF					
OFFICE 22	98 SF					
OFFICE 23	98 SF					
OFFICE 24	49 SF					
OFFICE 25	200 SF					
OFFICE 25	77 SF					
RECEPTION	89 SF	VINYL	LVT 1	PAINT	ACT	
STAFF LOUNGE	109 SF	VINYL	CARPET 1	PAINT	ACT	
STORAGE	32 SF	VINYL	LVT 3	PAINT	ACT	
WOMEN	127 SF	TILE 2	TILE 1	PAINT/TILE 2 & 3	PAINTED GYP. BD.	

FINISH SCHEDULE:

FLOORING:

LVT 1: MOHAWK; HOT AND HEAVY COLLECTION; STYLE: GROWN UP; SIZE: 9"x60"; COLOR: TBD

LVT 2: MOHAWK; HOT AND HEAVY COLLECTION; STYLE: GROWN UP; SIZE: 9"x60"; COLOR: TBD

LVT 3: MOHAWK; HOT AND HEAVY COLLECTION; STYLE: BOLDER; SIZE: 36"x36"; COLOR: TBD

CARPET 1: CARPET TILE; MANUF AND STYLE: TBD

CARPET 2: CARPET TILE; MANUF AND STYLE: TBD

TILE 1: 12"x24" PORCELAIN; MANUF AND STYLE: TBD

BASE: VINYL ROPPE; 5" COVE; COLOR: TBD

WALLS: PAINT: SHERWIN WILLIAMS OR EQUAL; 1 ACCENT WALL PER OFFICE; COLORS: TBD

TILE 2: 12"x24" PORCELAIN; MANUF AND STYLE: TBD

TILE 3: 6"x12" PORCELAIN; MANUF AND STYLE: TBD

TILE 4: KITCHEN BACKSPLASH; MANUF AND STYLE: TBD



1 MAIN LEVEL FINISH PLAN  
SCALE: 1/8" = 1'-0"

COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH  
DISABILITIES**  
1675 RANGE STREET  
BOULDER, CO 80301

PROJECT #: 19-049

DRAWING TITLE:

FINISH PLAN/SCHEDULE

DATE:

12/12/19

DRAWN: AMM CHECKED: JVS

ISSUE RECORD DATE

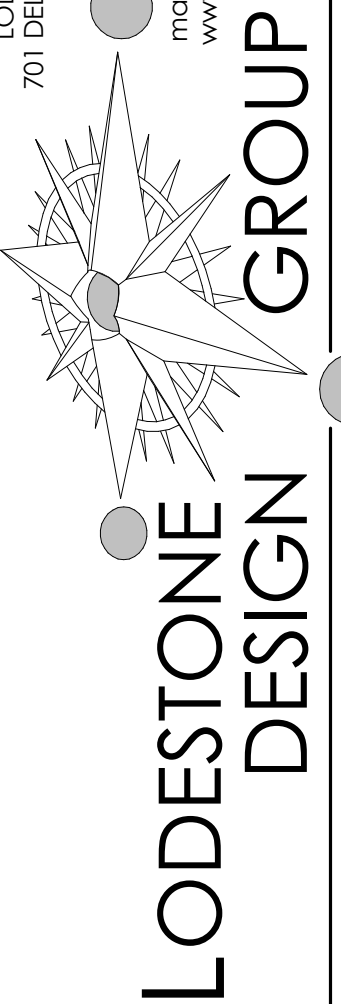
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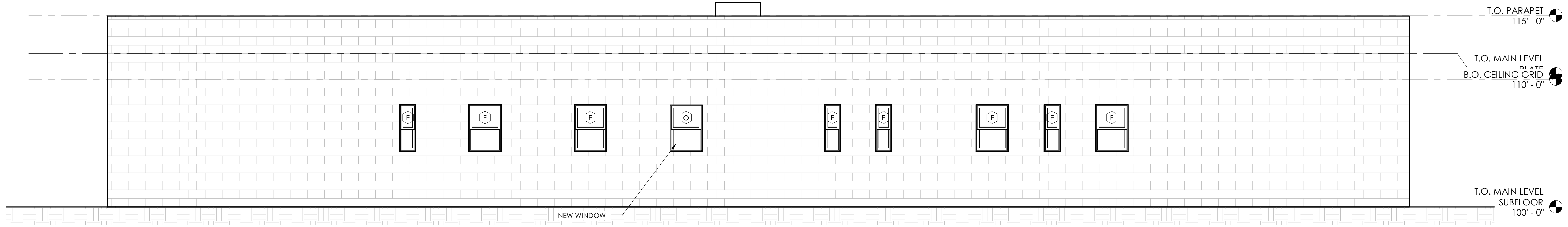
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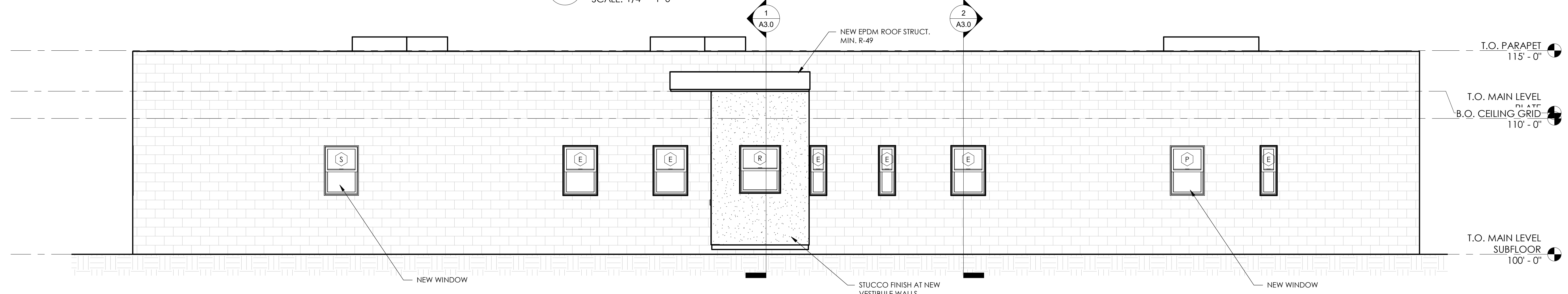
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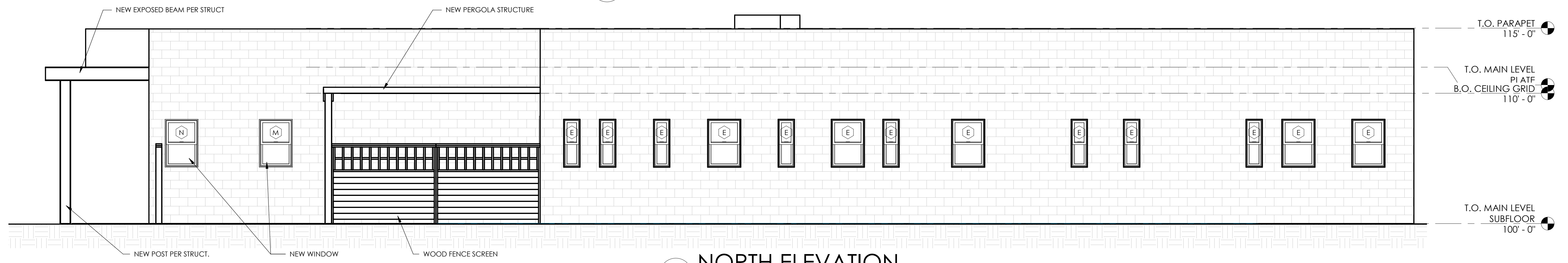




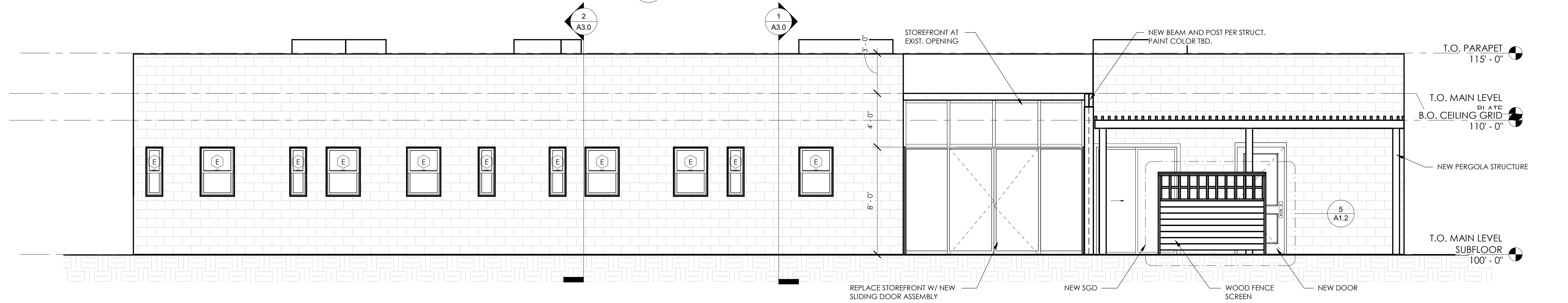
**2 SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**1 WEST ELEVATION**  
SCALE: 1/4" = 1'-0"



**3 NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**4 EAST ELEVATION**  
SCALE: 1/4" = 1'-0"

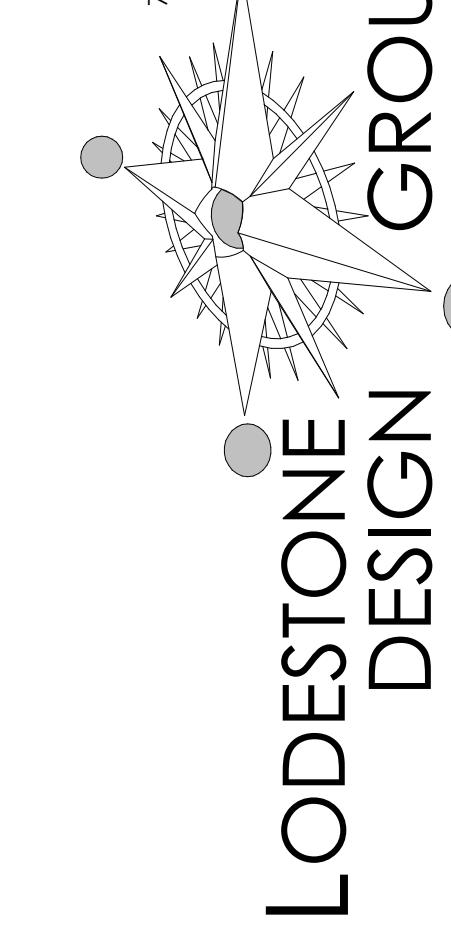
COMMERCIAL REMODEL:  
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1675 RANGE STREET  
BOULDER, CO 80301

PROJECT #: 19-049  
DRAWING TITLE:

ELEVATIONS		
DATE:	12/12/19	
DRAWN:	AMM	CHECKED: JVS
ISSUE RECORD	DATE	
PERMIT	9/18/19	
BID SET	12/12/19	
#	REVISION	DATE

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**A2.0**

COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH  
 DISABILITIES**  
 1675 RANGE STREET  
 BOULDER, CO 80301

PROJECT #: 19-049

DRAWING TITLE:

SECTIONS

DATE: 12/12/19

DRAWN: AMM CHECKED: JVS

ISSUE RECORD DATE

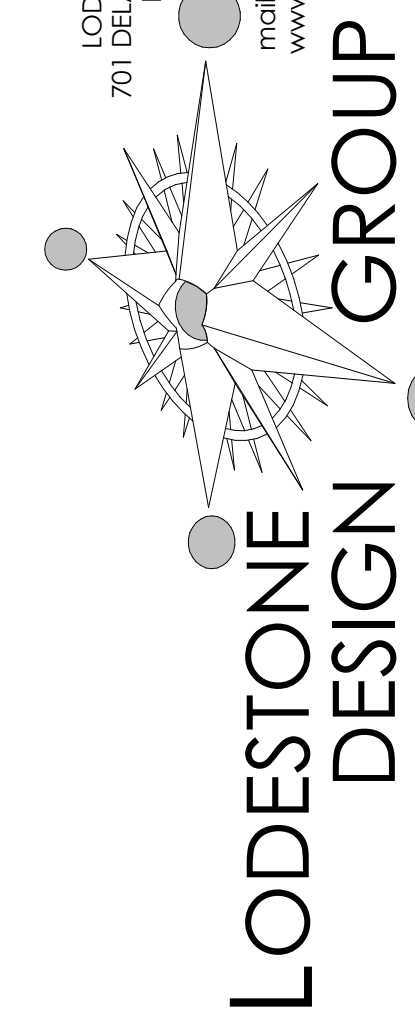
PERMIT 9/18/19

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#	REVISION	DATE

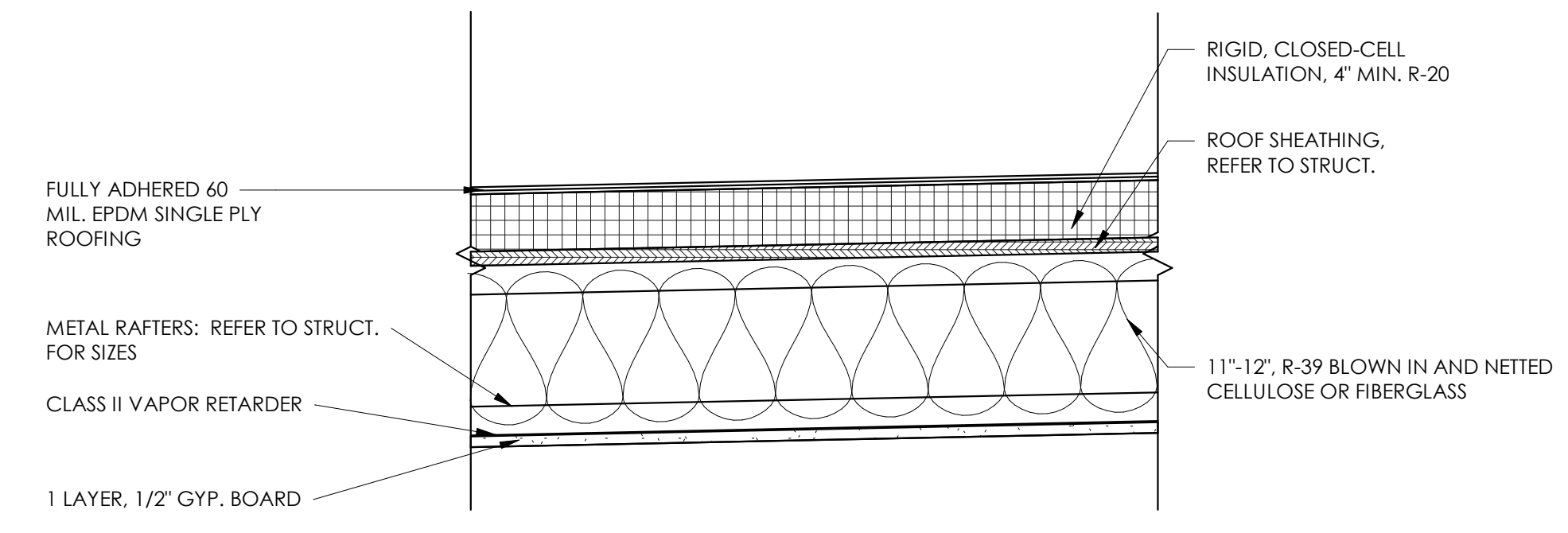
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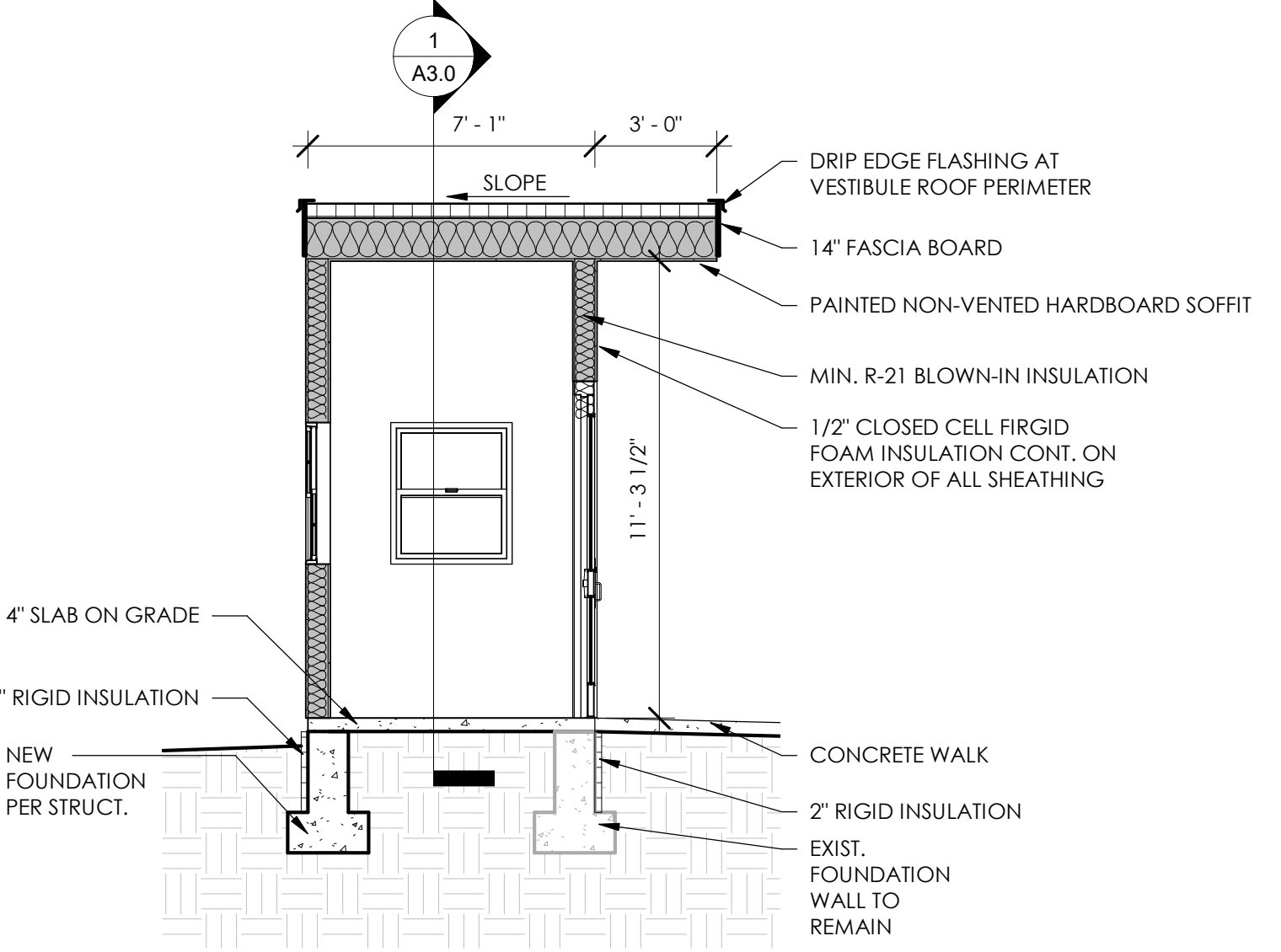


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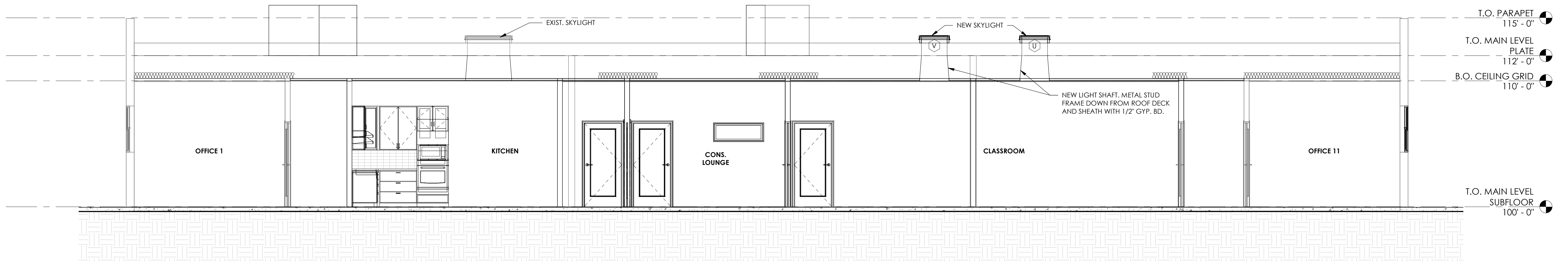
**4** ROOF DETAIL  
 SCALE: 1 1/2" = 1'-0"



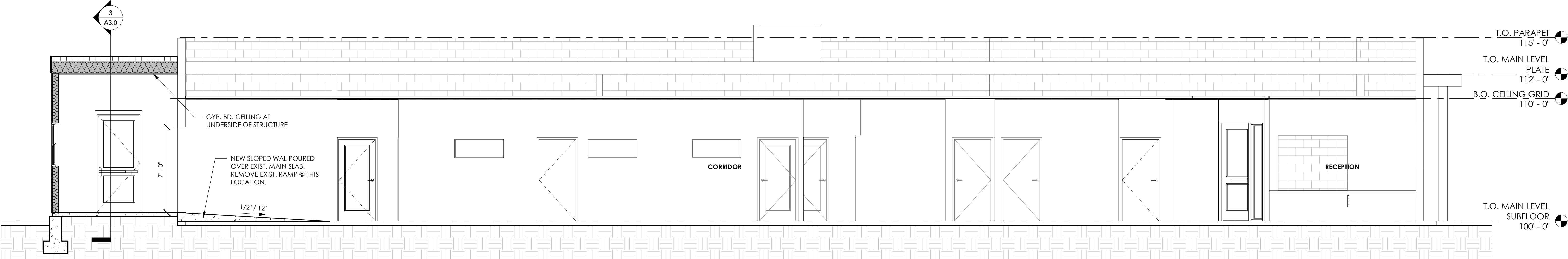
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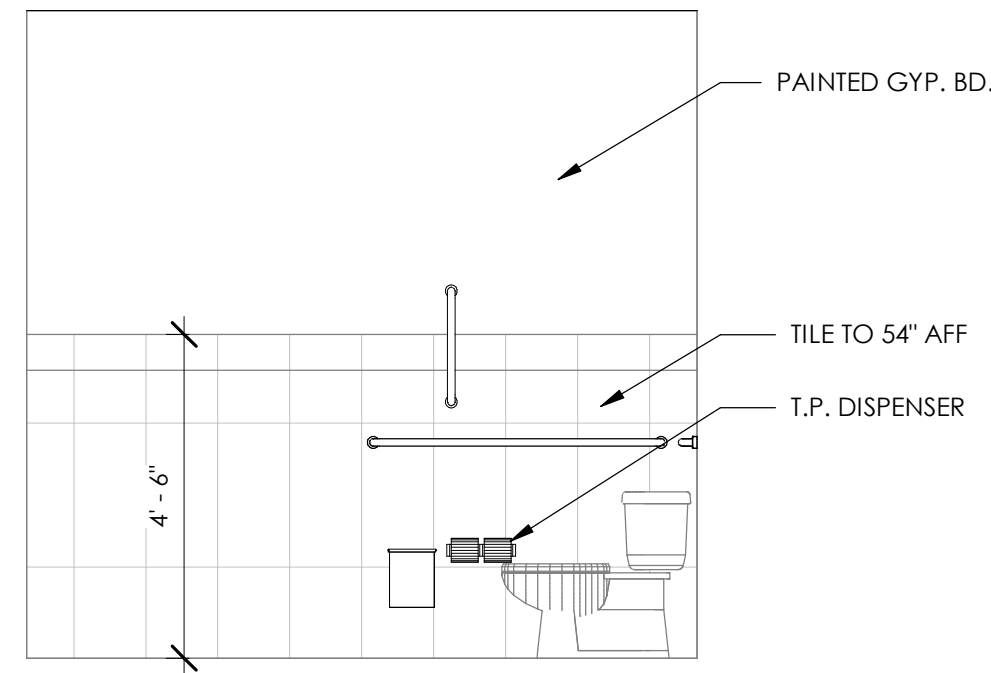
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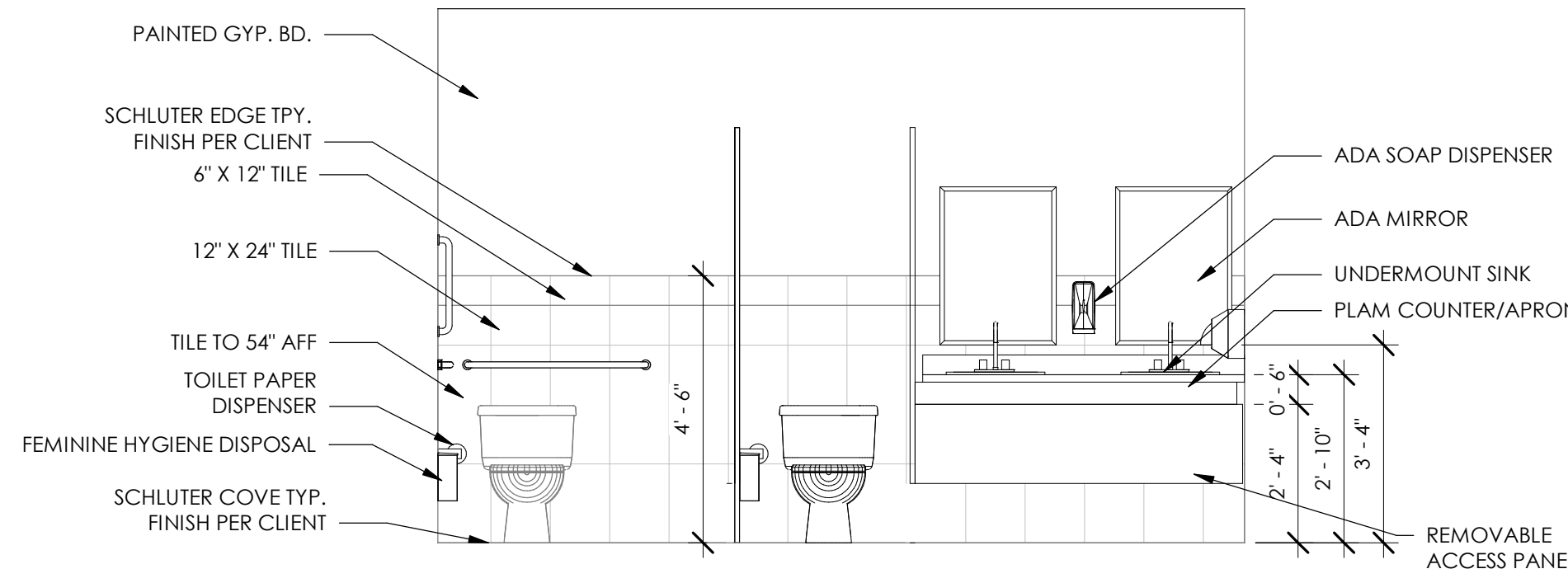
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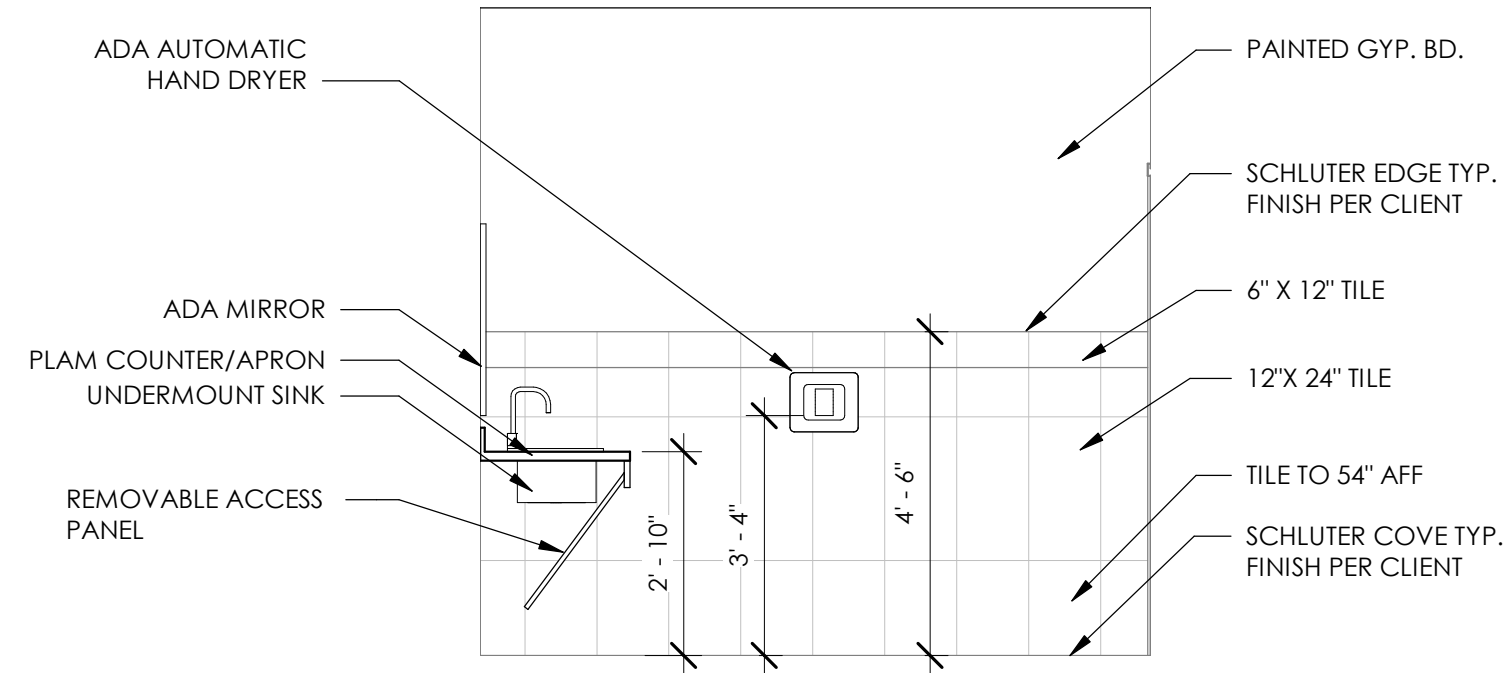




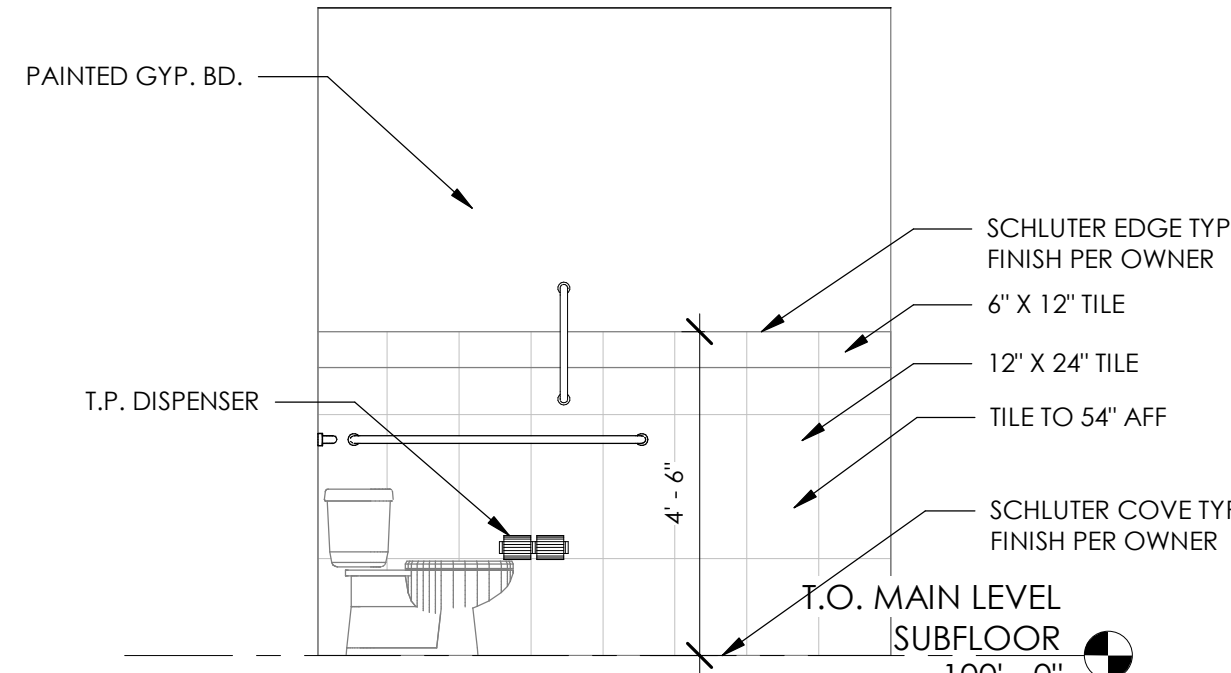
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SCALE: 3/8" = 1'-0"



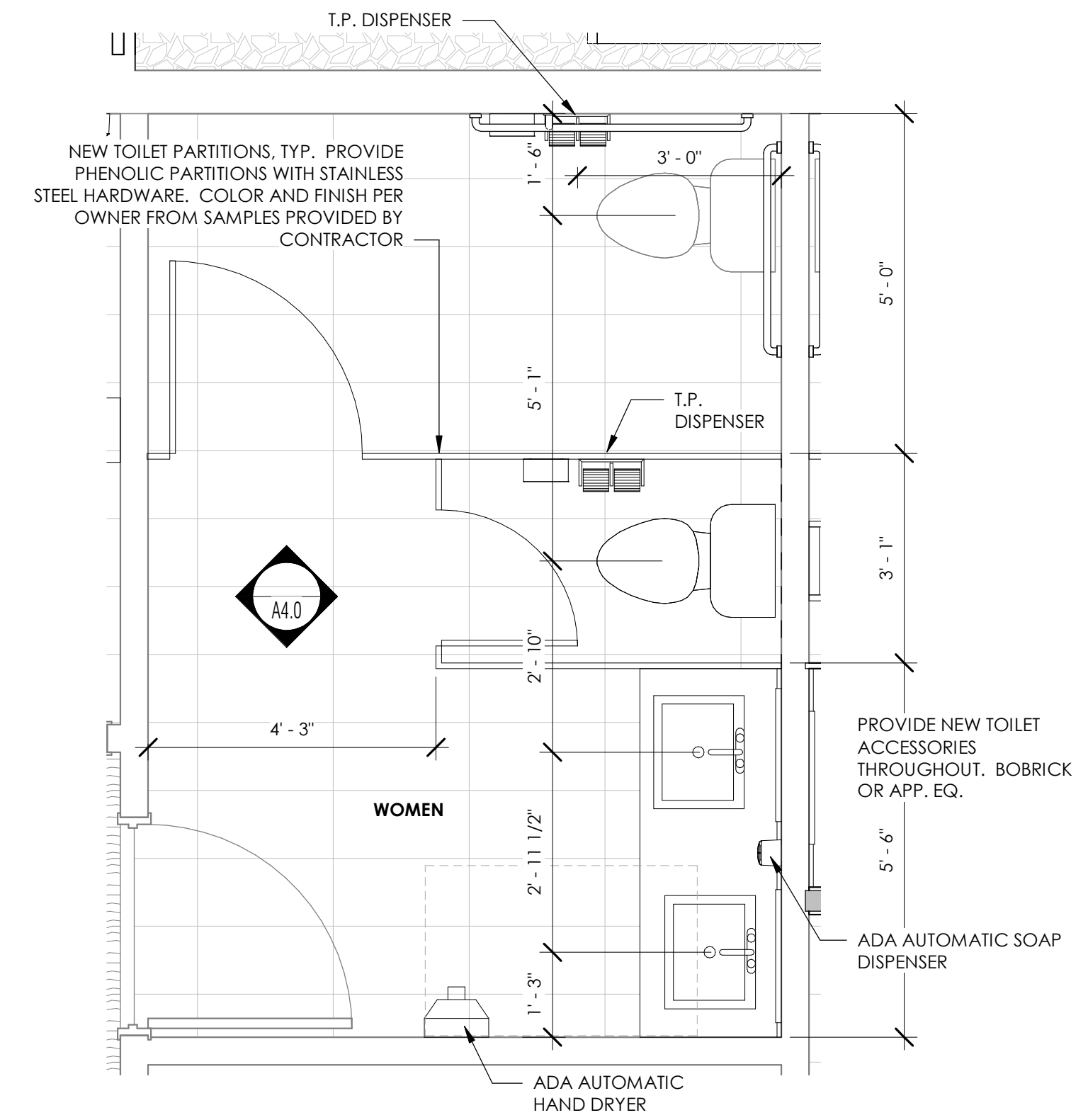
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SCALE: 3/8" = 1'-0"



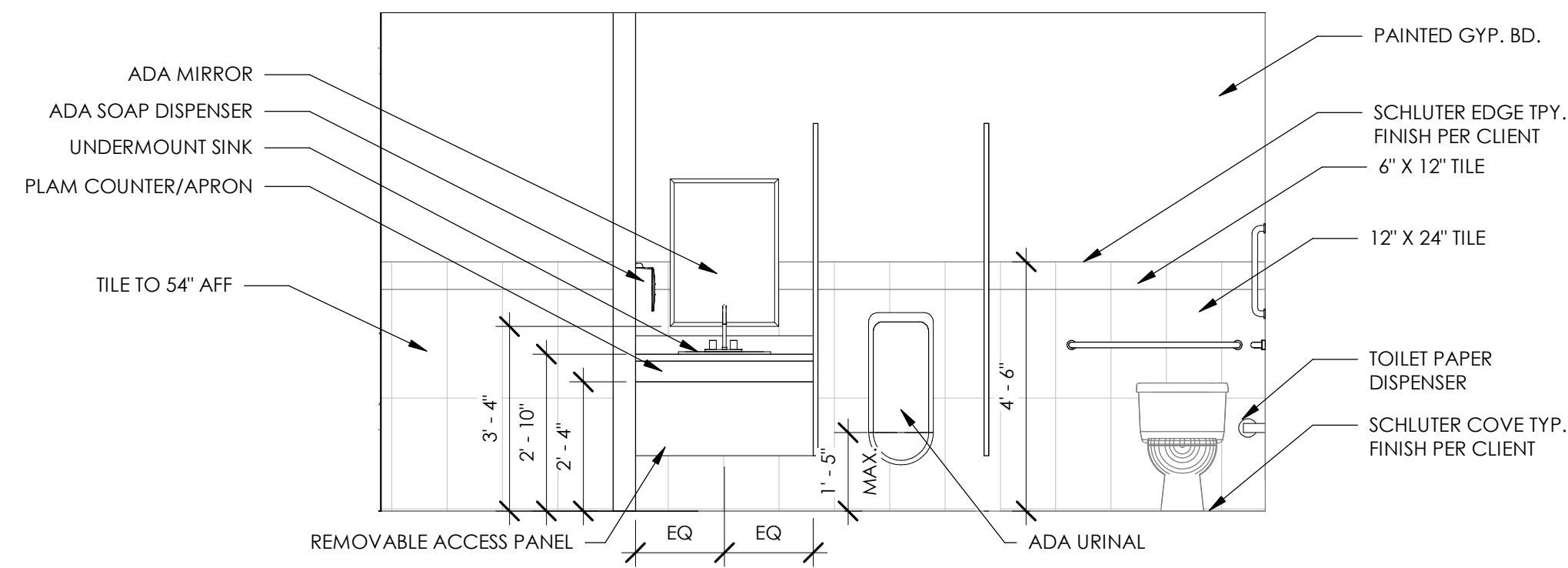
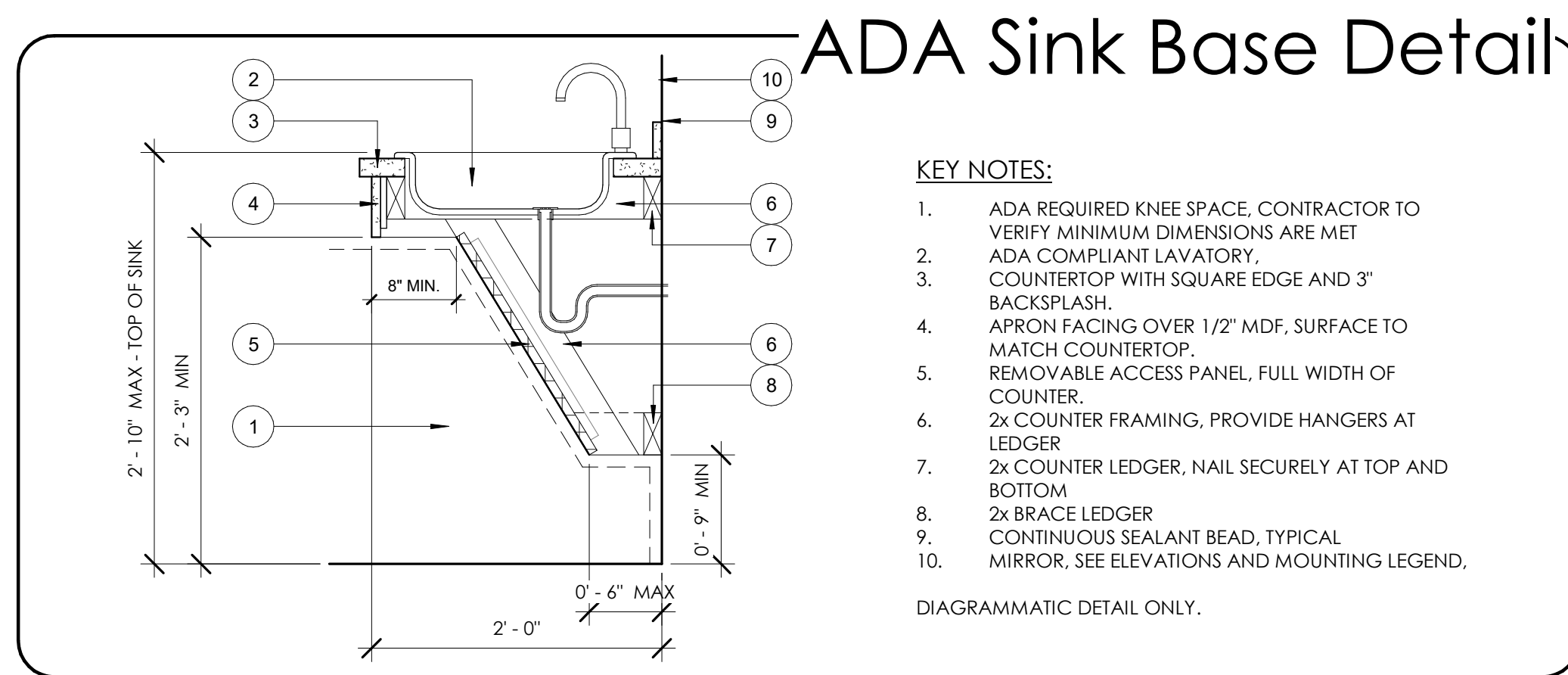
**4 SOUTH ELEVATION @ WOMEN'S RSTRM**  
SCALE: 3/8" = 1'-0"



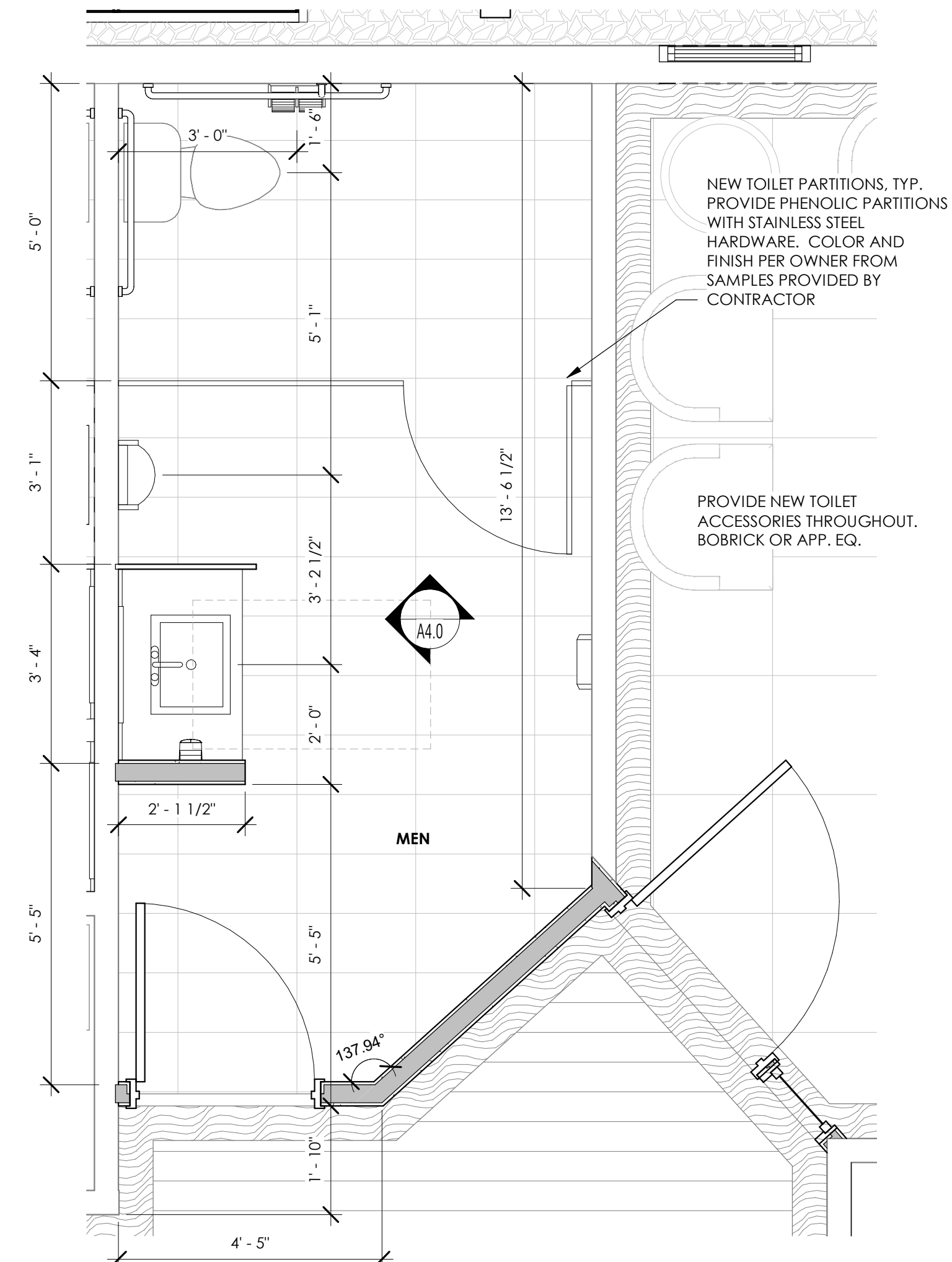
**6 NORTH ELEVATION @ MEN'S RSTRM**  
SCALE: 3/8" = 1'-0"



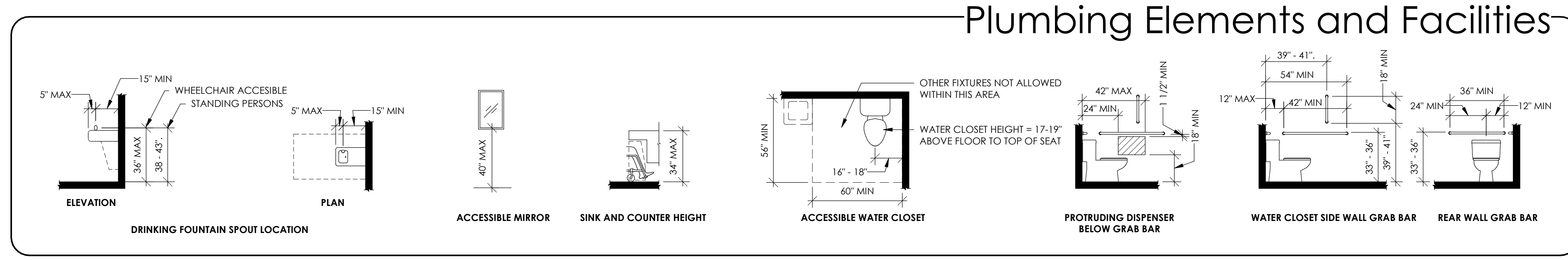
**1 ENLARGED PLAN-WOMEN'S RSTRM**  
SCALE: 1/2" = 1'-0"



**7 WEST ELEVATION @ MEN'S RSTRM**  
SCALE: 3/8" = 1'-0"



**5 ENLARGED PLAN-MEN'S RSTRM**  
SCALE: 1/2" = 1'-0"



COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH DISABILITIES**  
1675 RANGE STREET  
BOULDER, CO 80301

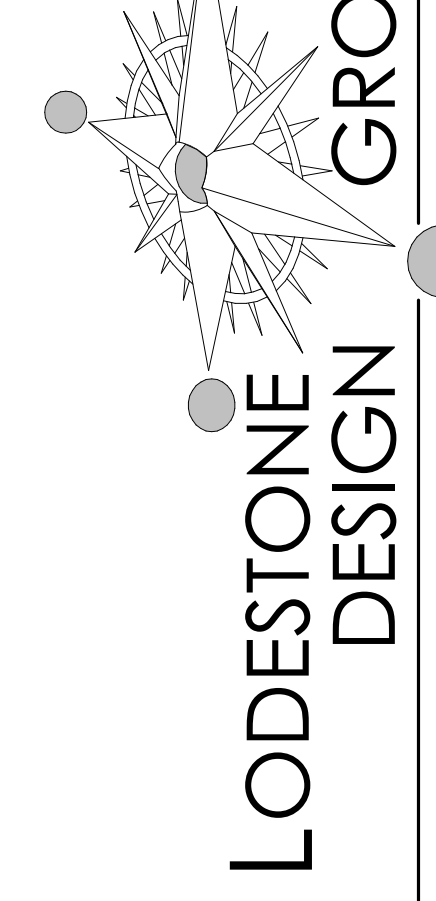
PROJECT #: 19-049  
DRAWING TITLE:  
RESTROOM DETAILS

DATE:	12/12/19
DRAWN:	CHECKED:
AMM	JVS
ISSUE RECORD	DATE
PERMIT	9/18/19
BID SET	12/12/19

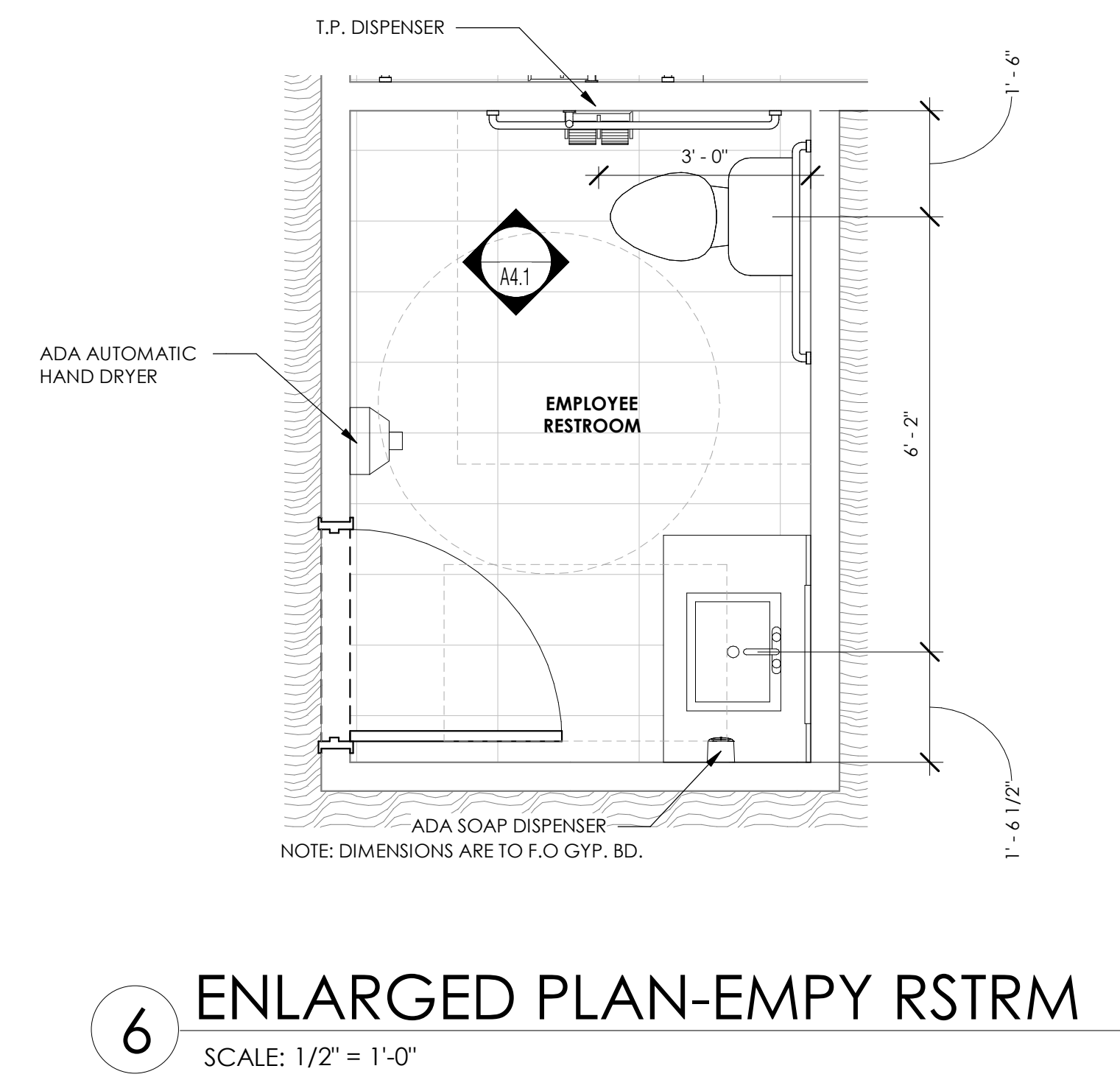
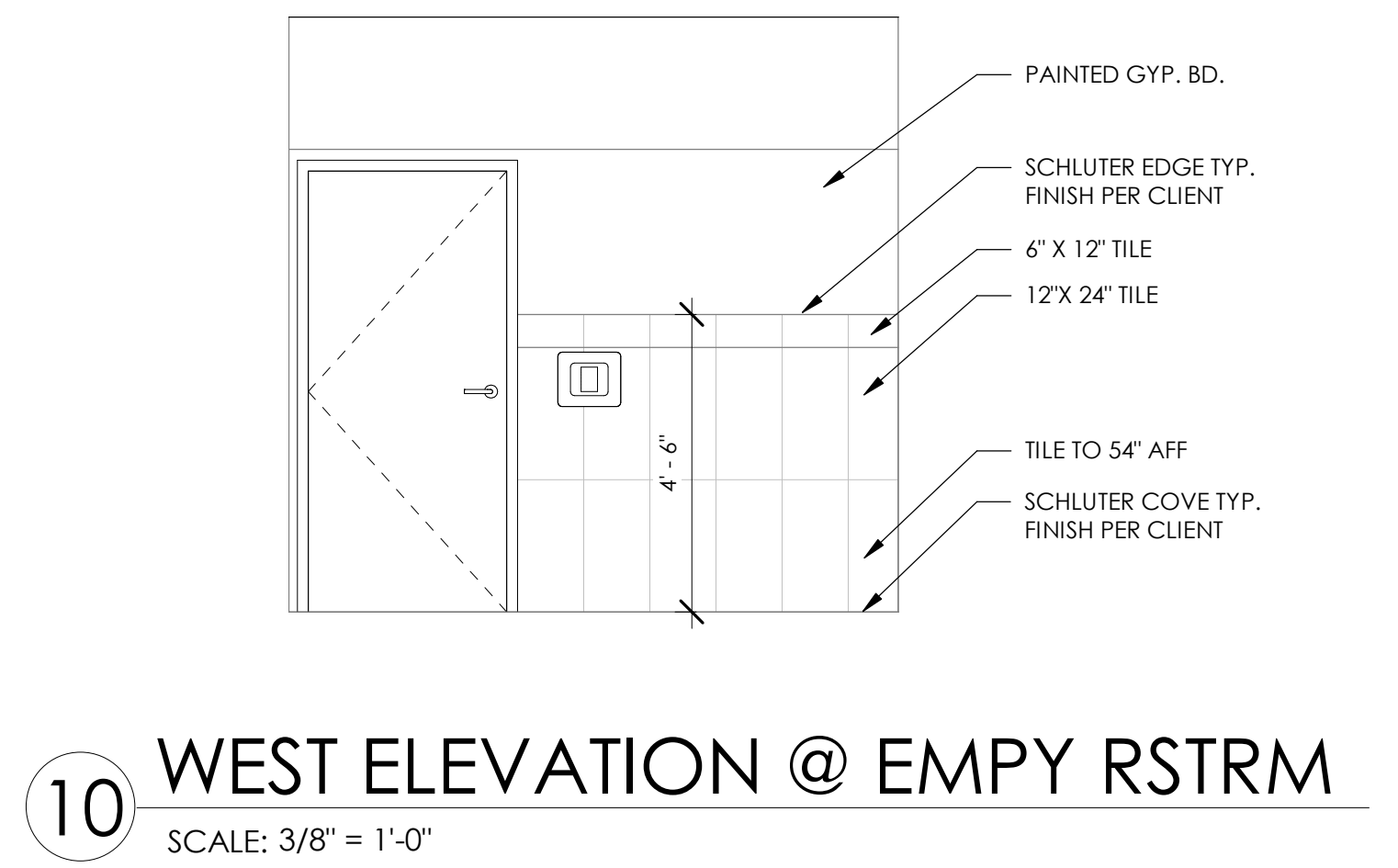
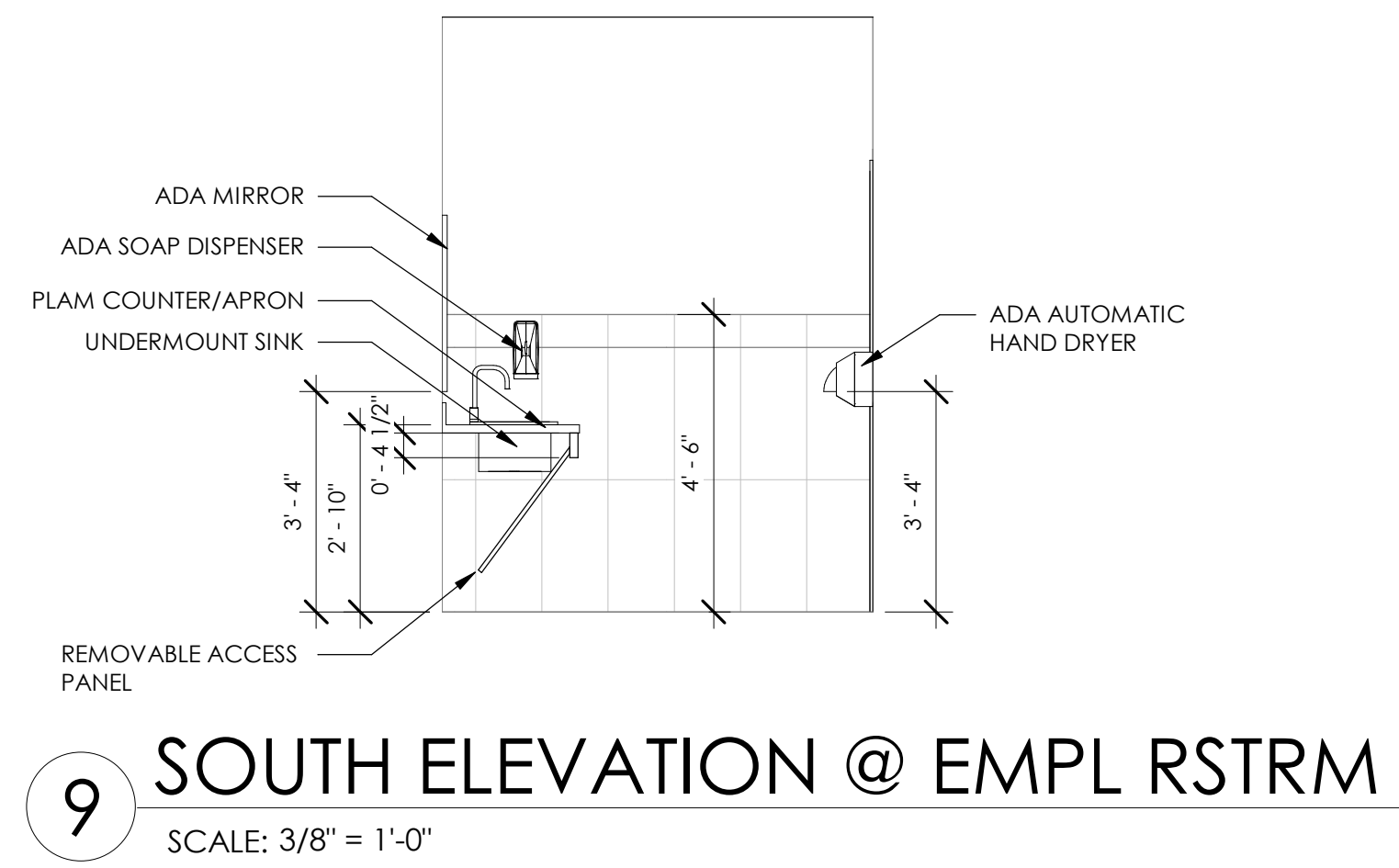
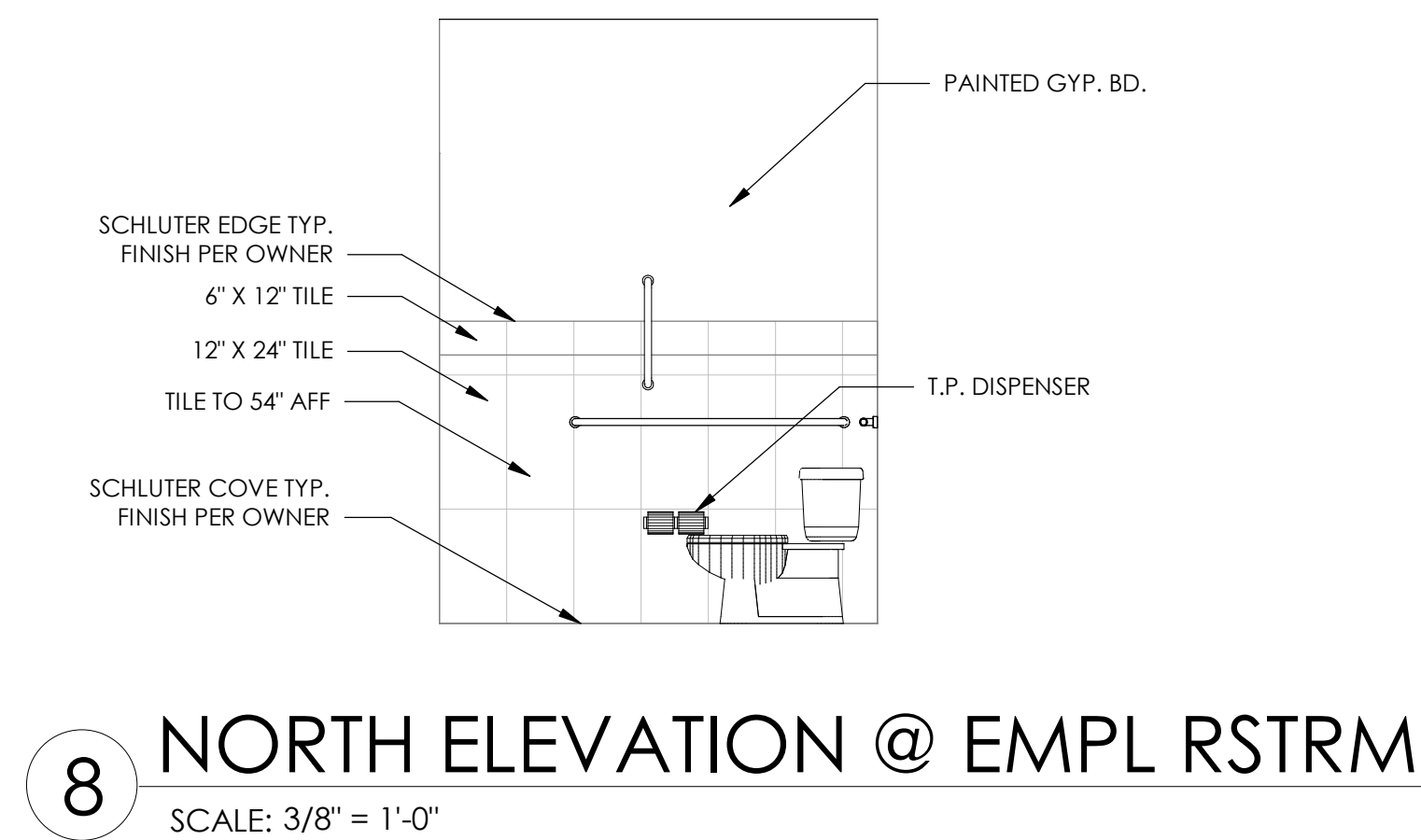
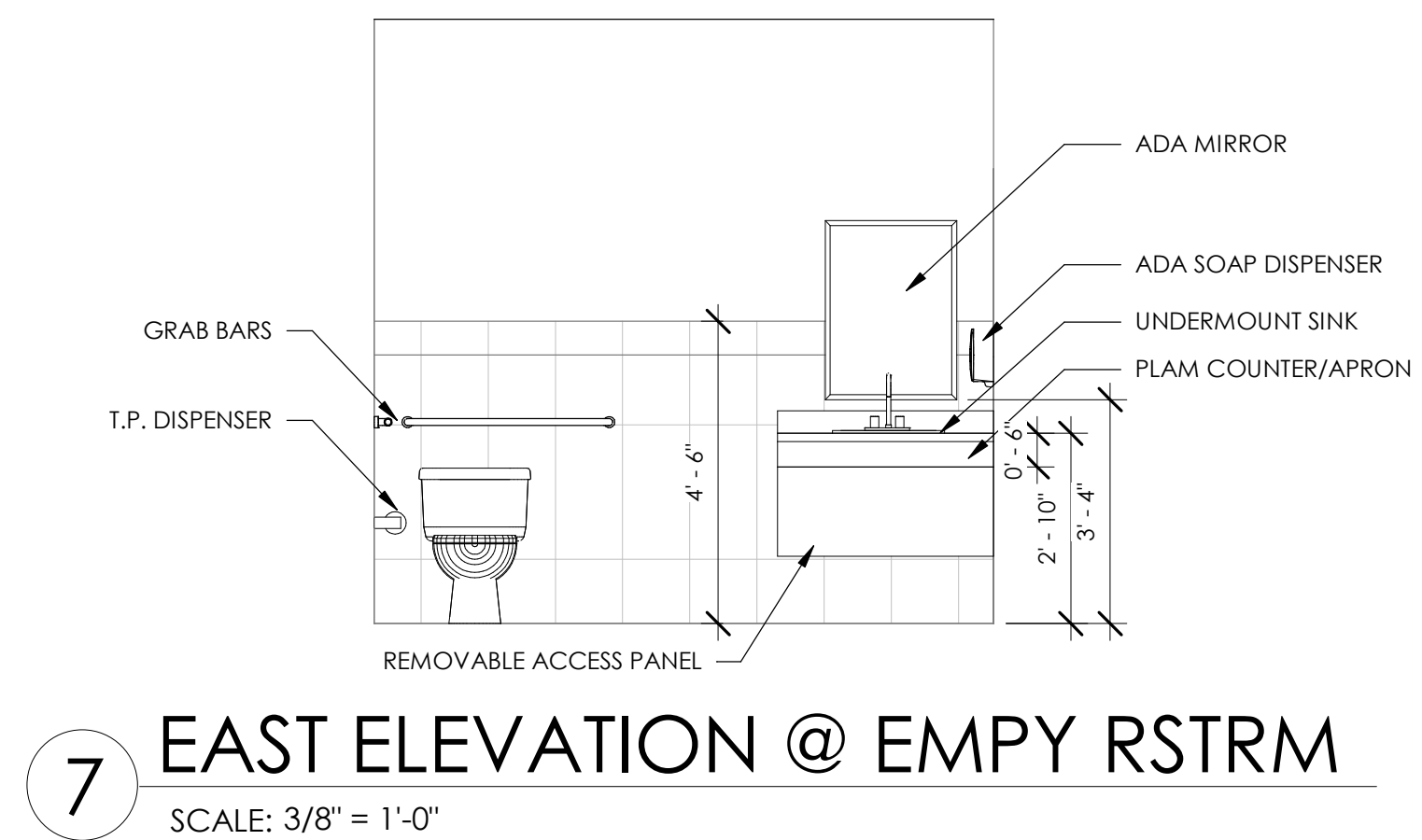
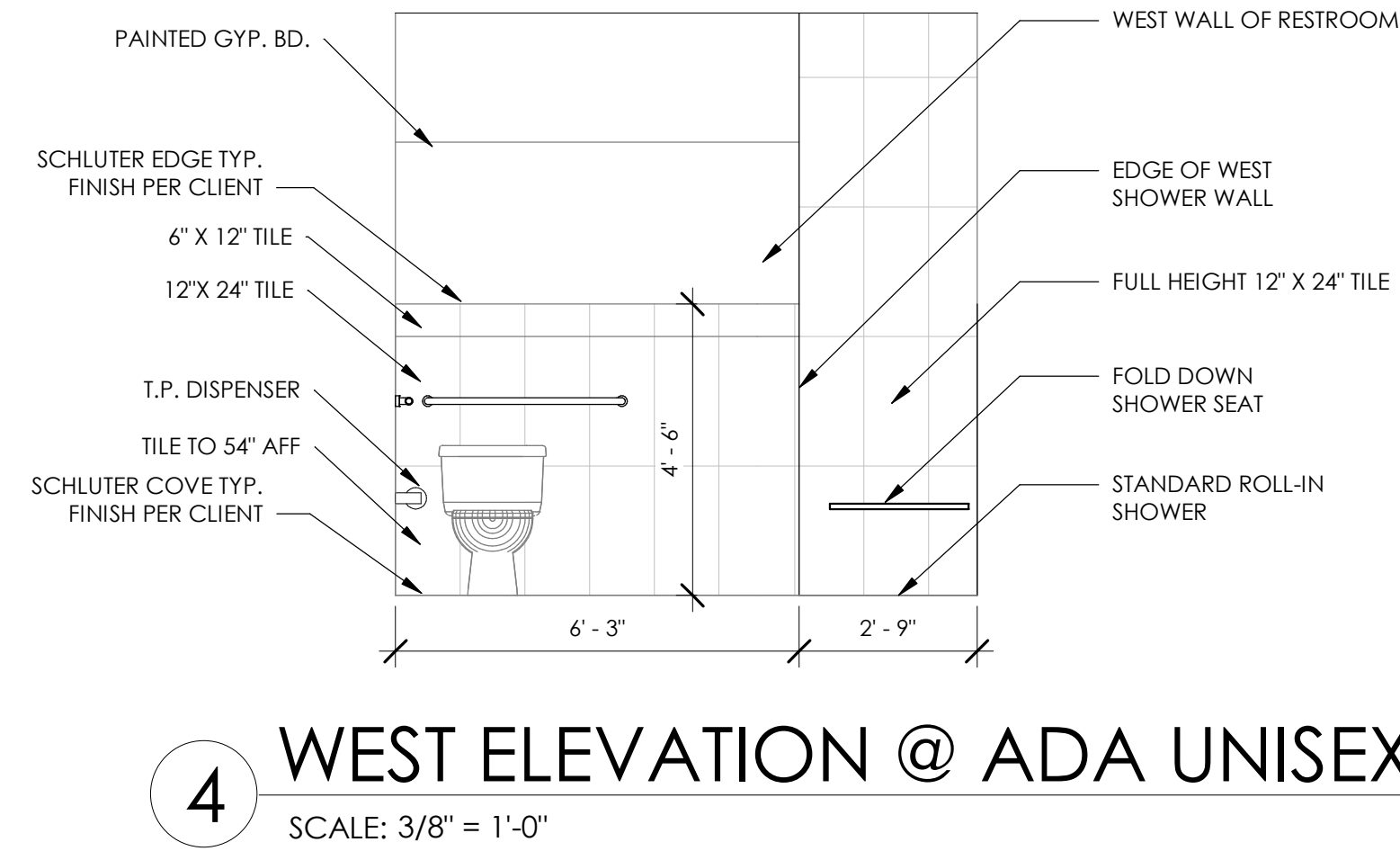
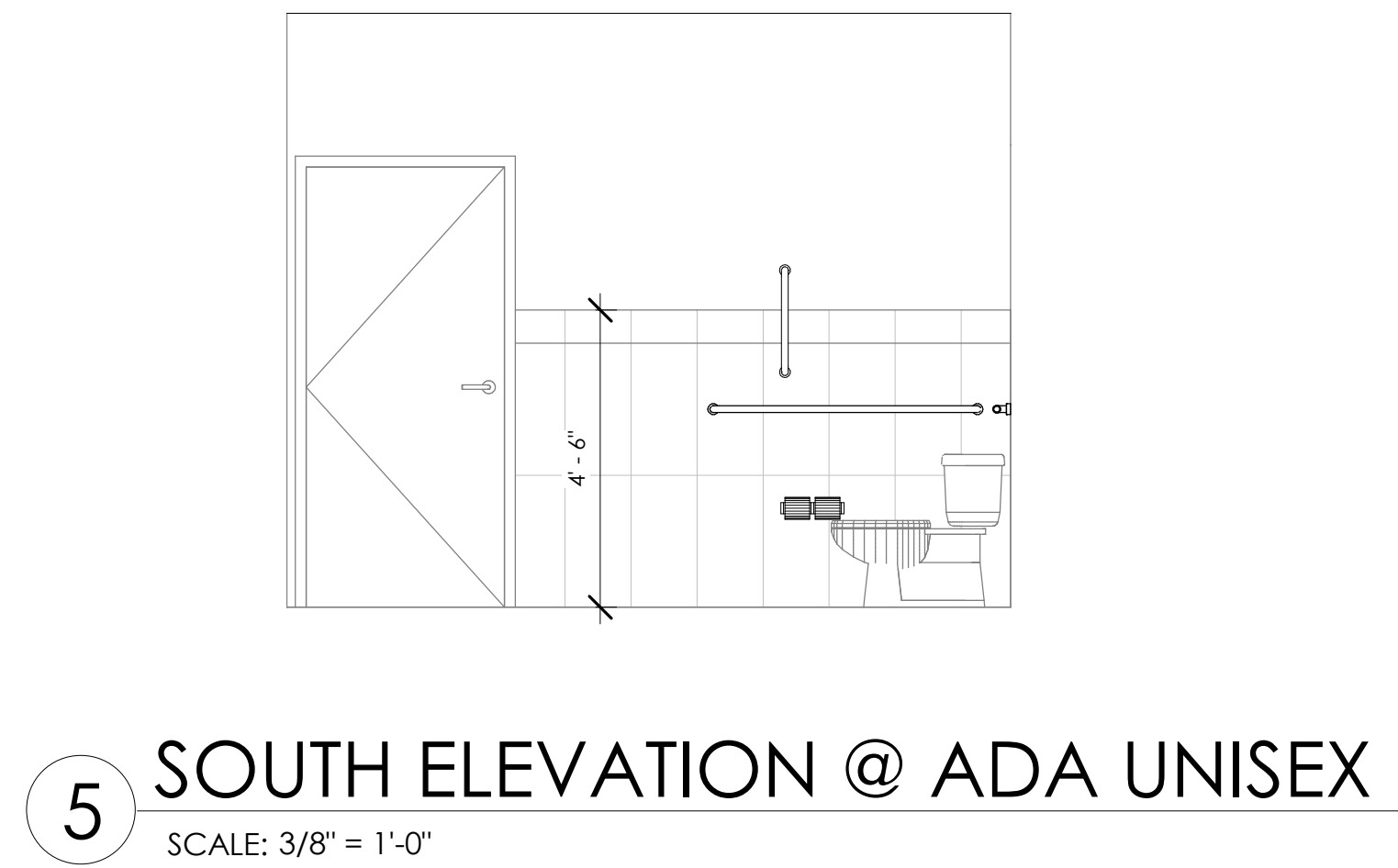
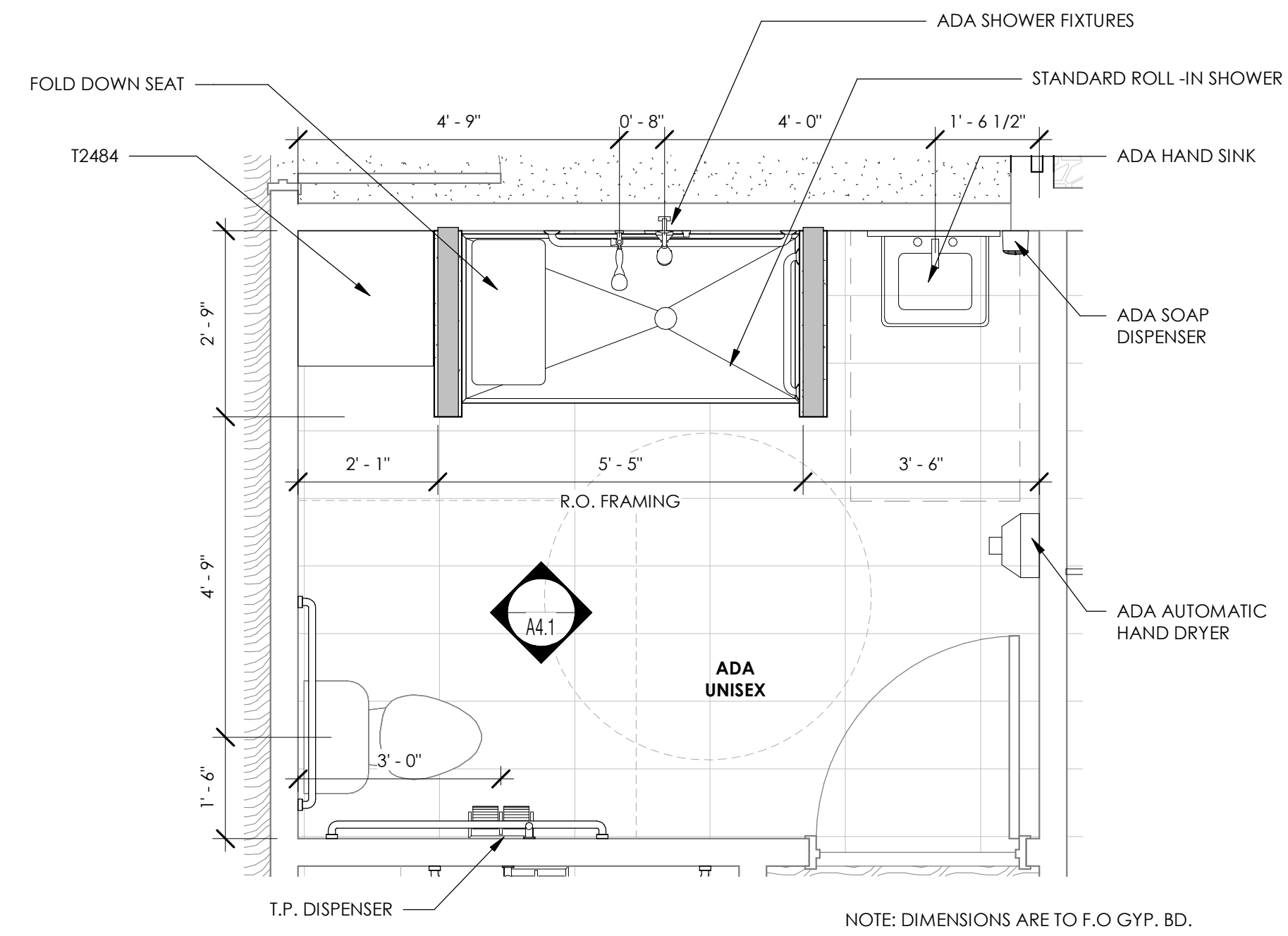
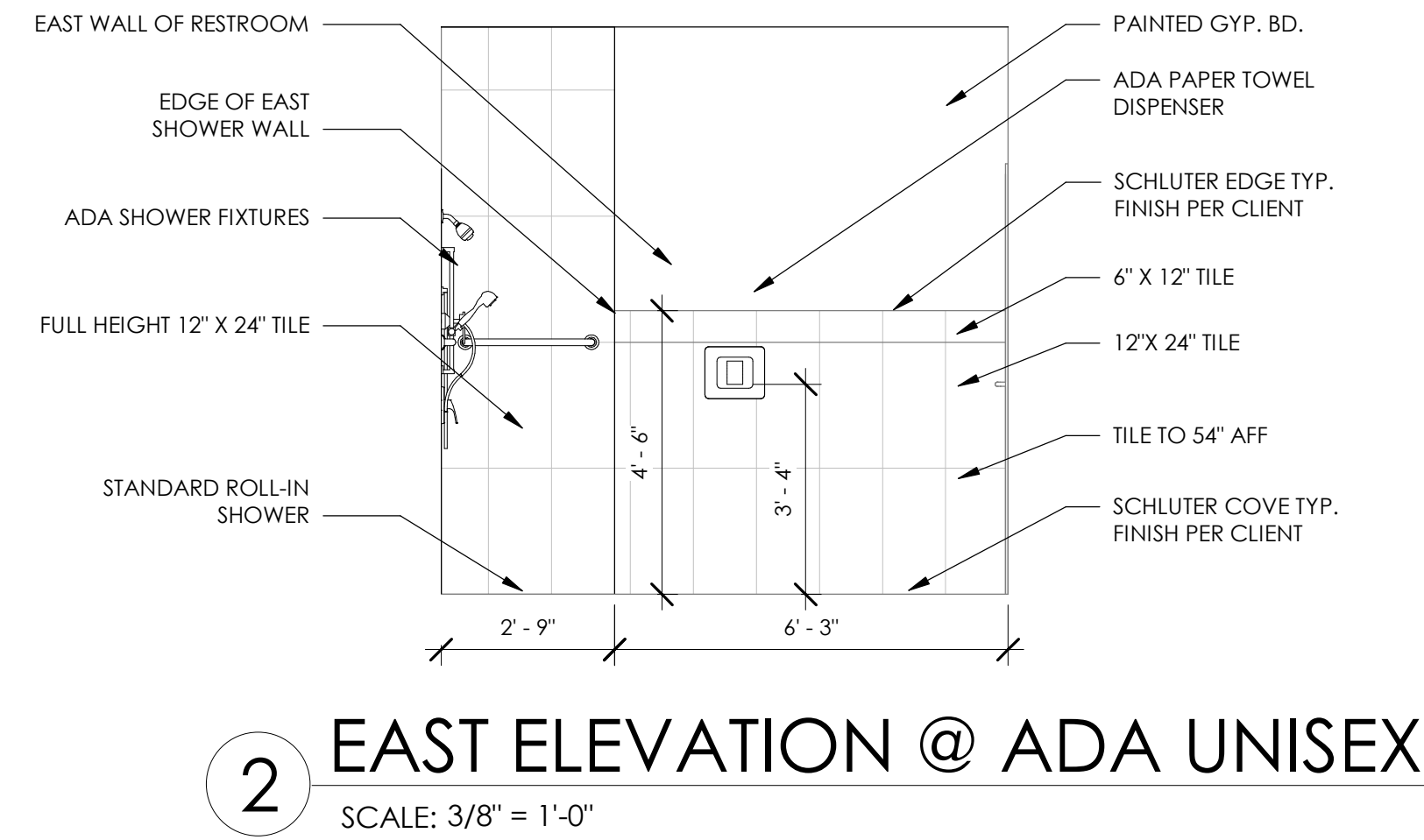
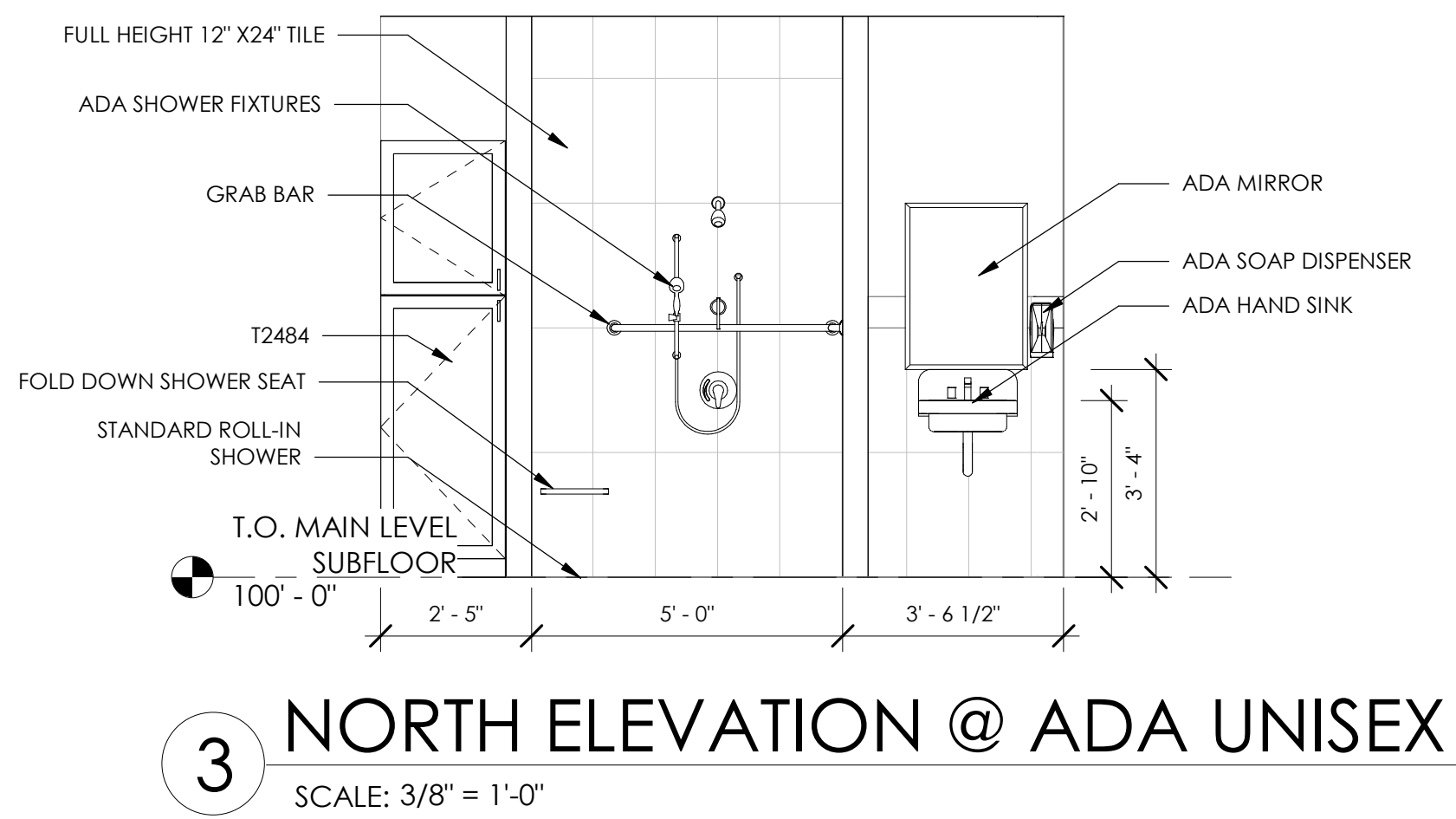
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**A4.0**



COMMERCIAL REMODEL:  
**CENTER FOR PEOPLE WITH  
DISABILITIES**  
1675 RANGE STREET  
BOULDER, CO 80301

PROJECT #: 19-049

DRAWING TITLE:

RESTROOM DETAILS

DATE:

12/12/19

DRAWN: AMM CHECKED: JVS

ISSUE RECORD DATE

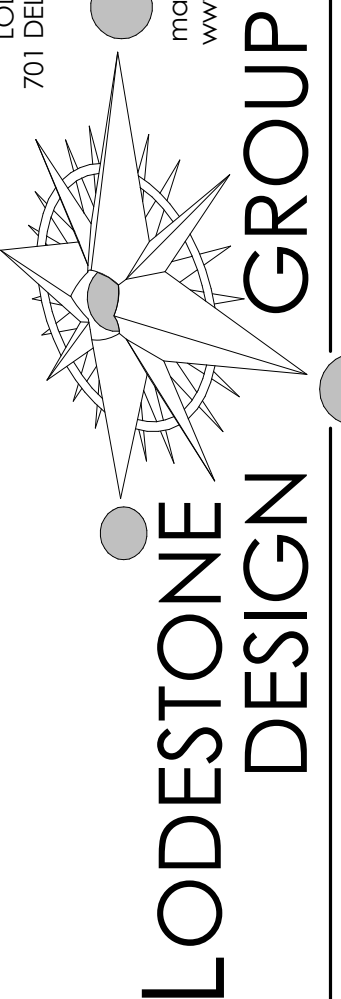
PERMIT 9/18/19

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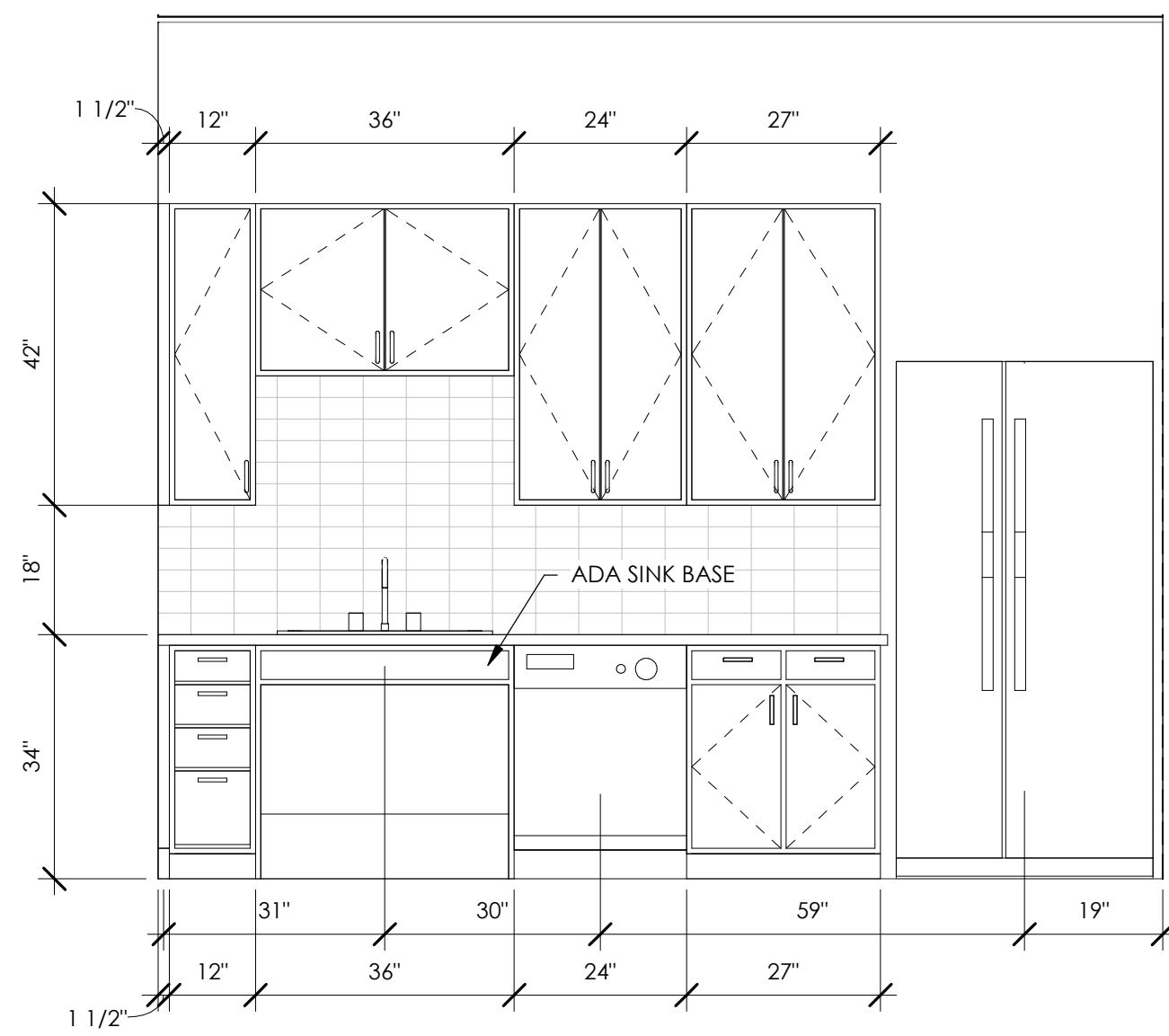
#	REVISION	DATE

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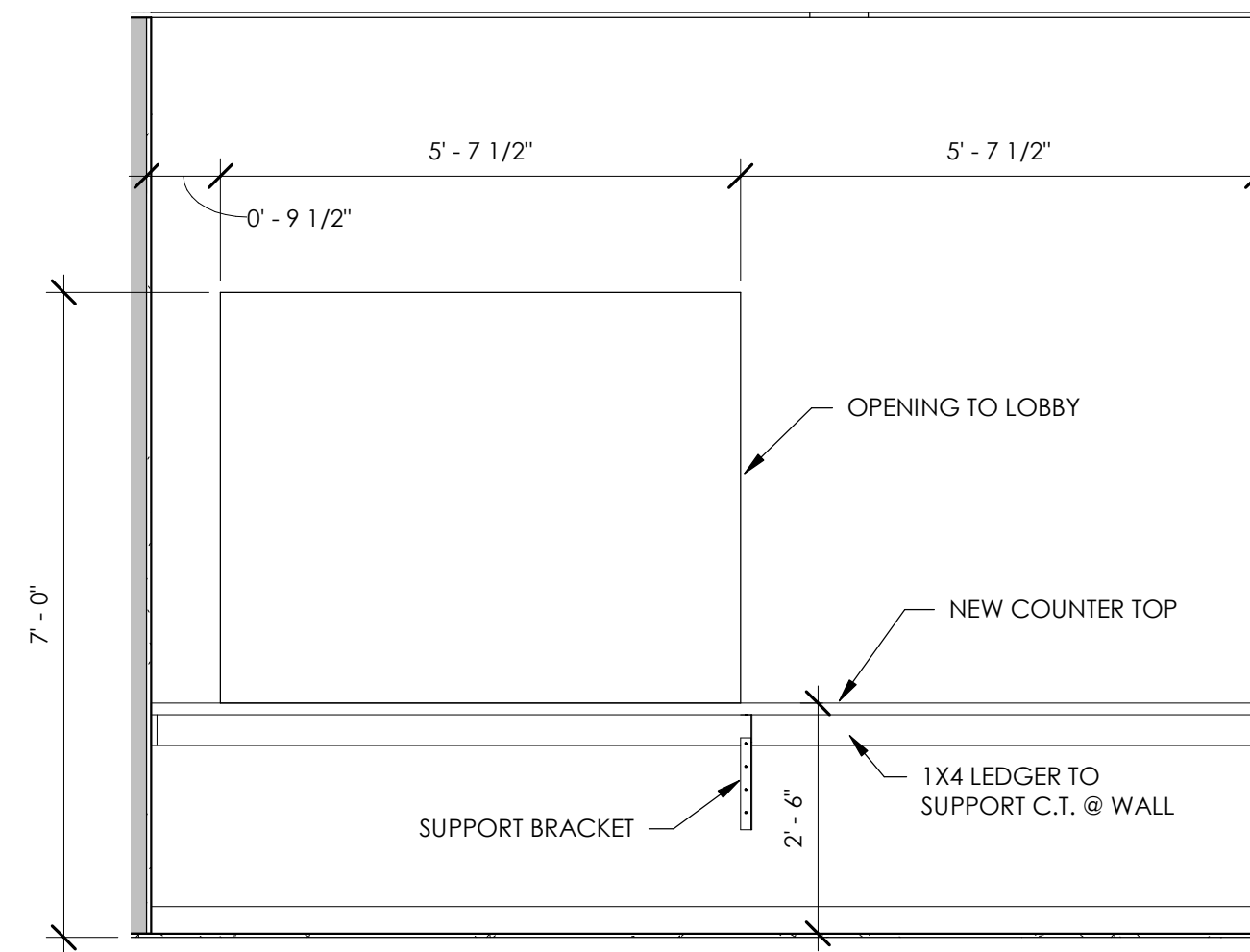
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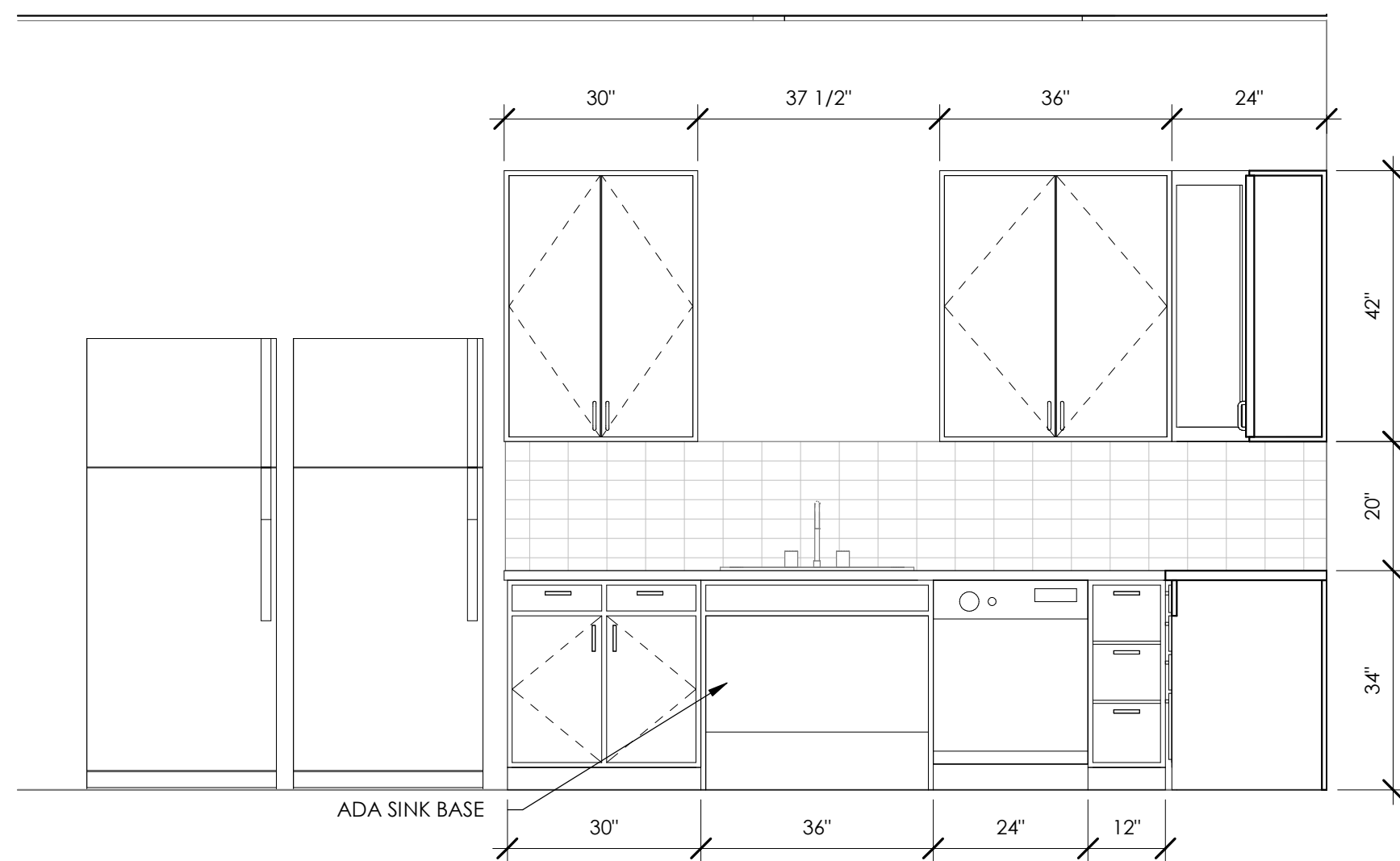
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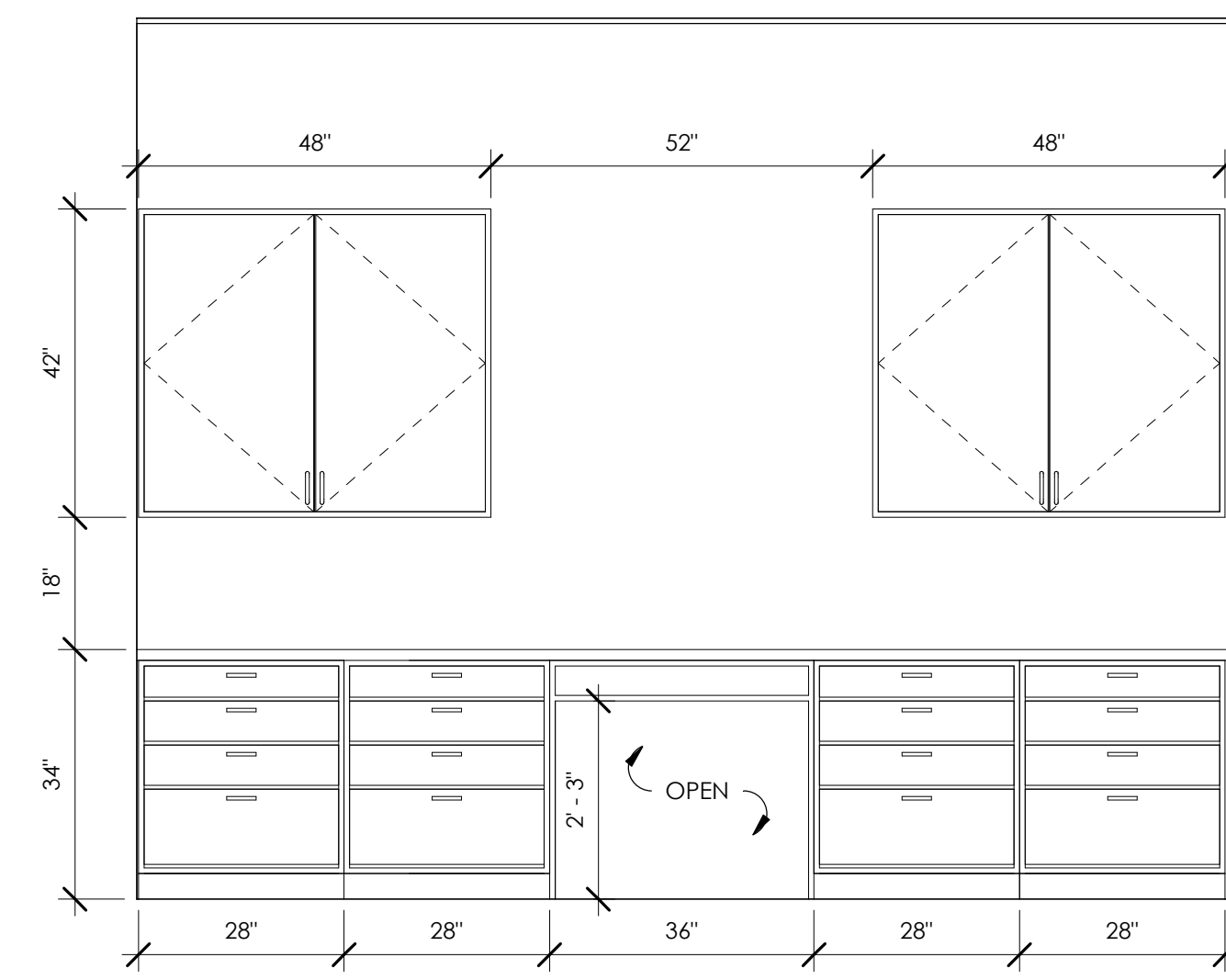
**5 SOUTH ELEVATION @ KITCHENETTE**  
SCALE: 1/2" = 1'-0"



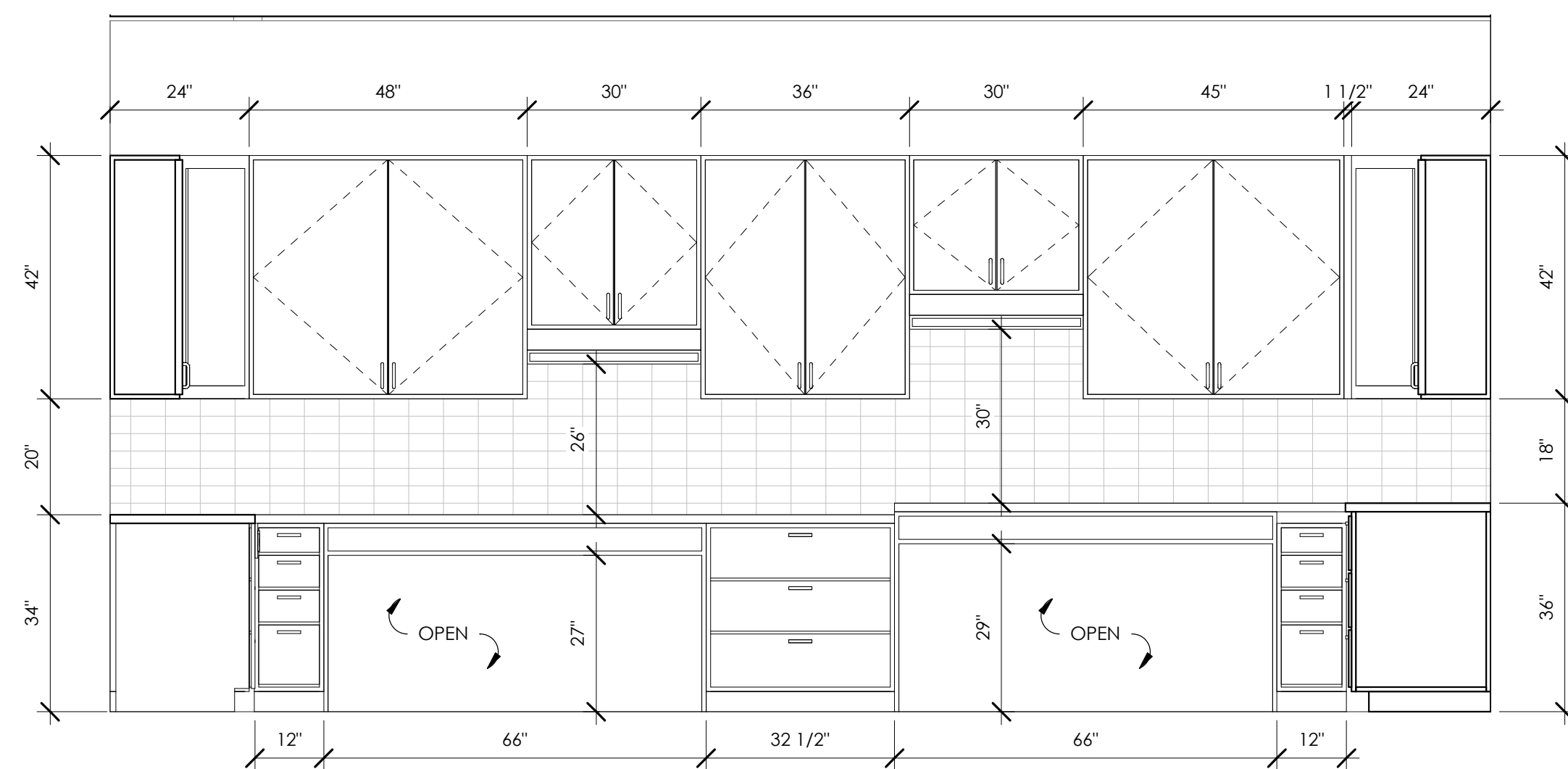
**7 RECEPTION COUNTER**  
SCALE: 1/2" = 1'-0"



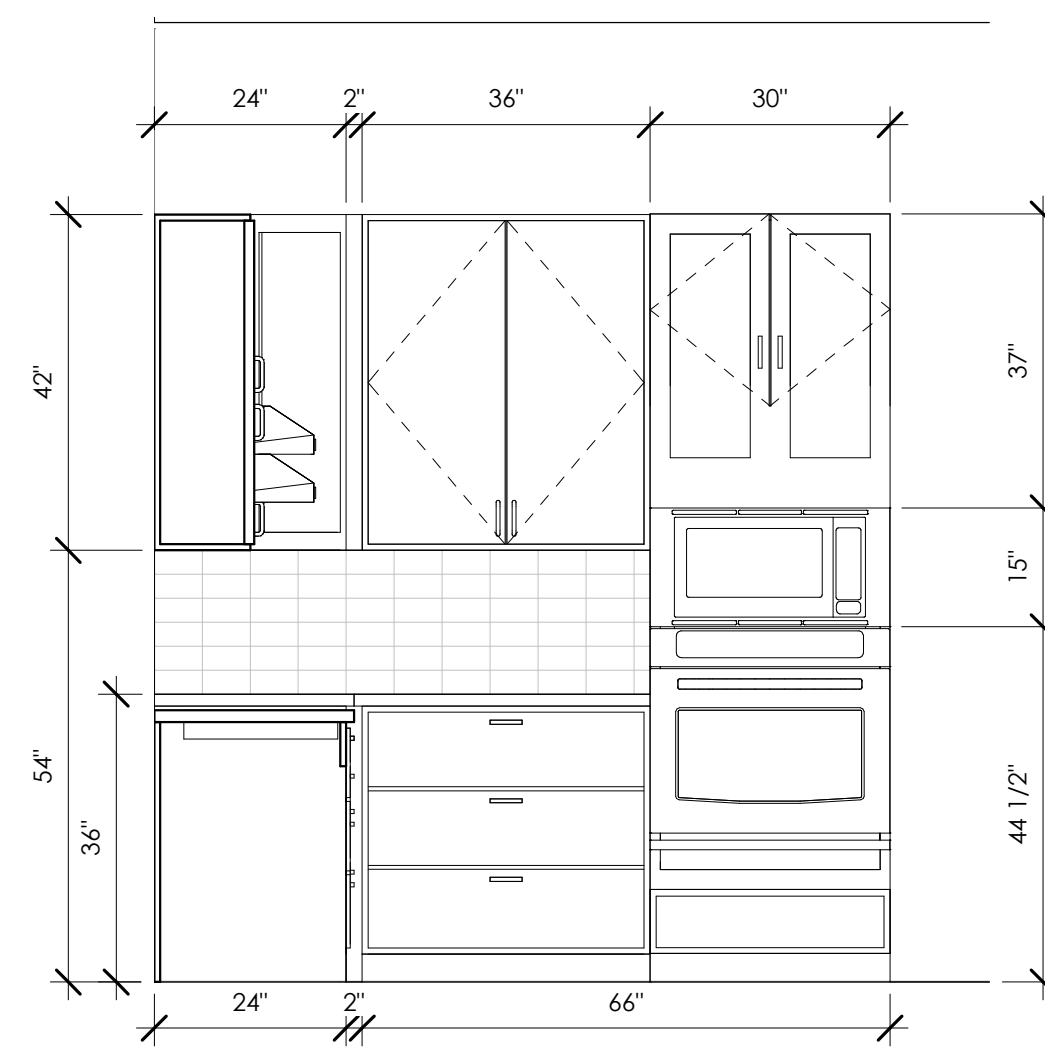
**2 NORTH WALL @ KITCHEN**  
SCALE: 1/2" = 1'-0"



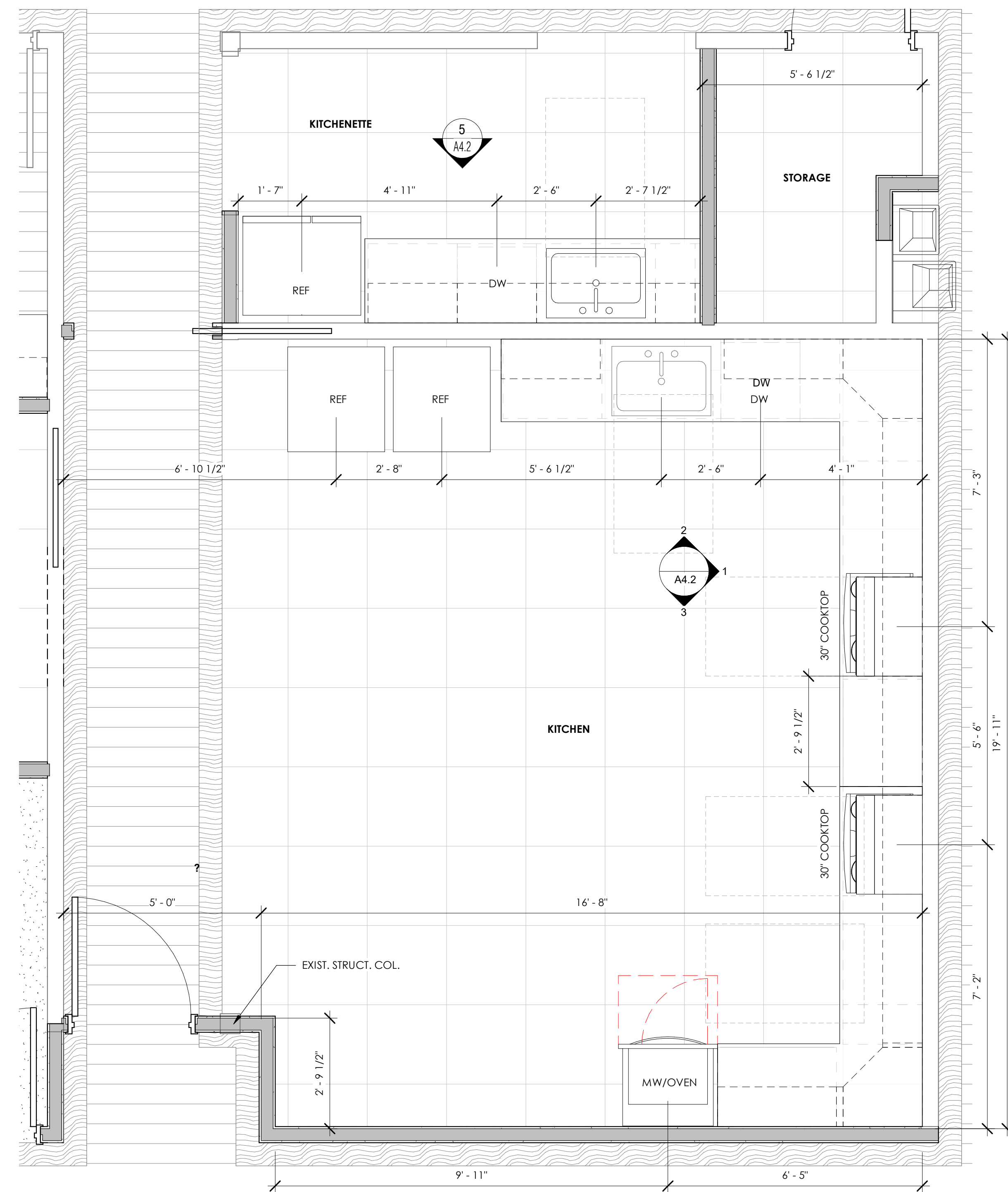
**6 COPY ROOM**  
SCALE: 1/2" = 1'-0"



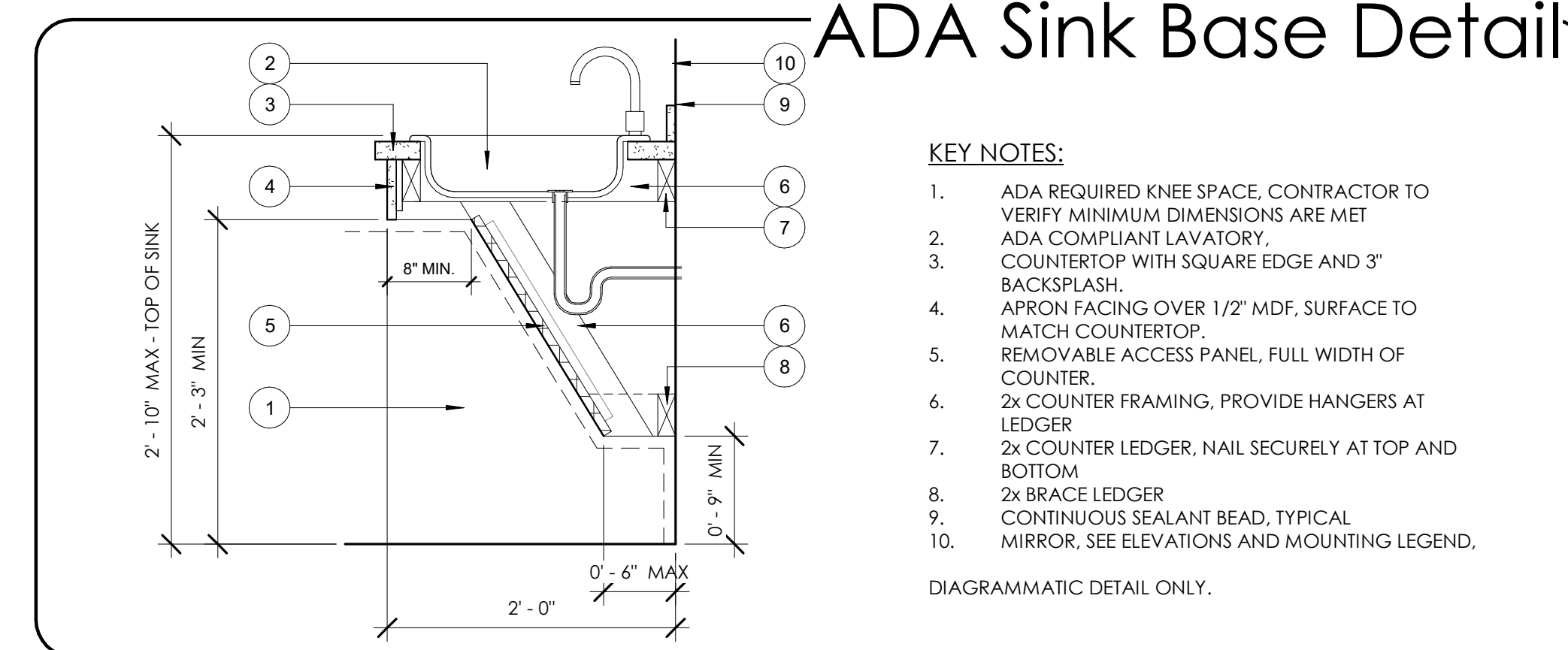
**1 EAST WALL @ KITCHEN**  
SCALE: 1/2" = 1'-0"



**3 SOUTH WALL @ KITCHEN**  
SCALE: 1/2" = 1'-0"



**4 KITCHEN ENLARGED PLAN**  
SCALE: 1/2" = 1'-0"



**ADA Sink Base Detail**

- KEY NOTES:**
1. ADA REQUIRED KNEE SPACE, CONTRACTOR TO VERIFY MINIMUM DIMENSIONS ARE MET
  2. ADA COMPLIANT LAVATORY, COUNTERTOP WITH SQUARE EDGE AND 3\"/>

DIAGRAMMATIC DETAIL ONLY.

COMMERCIAL REMODEL:  
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1675 RANGE STREET  
BOULDER, CO 80301

PROJECT #: 19-049

DRAWING TITLE:

INTERIOR ELEVATIONS

DATE: 12/12/19

DRAWN: AMM CHECKED: JVS

ISSUE RECORD DATE

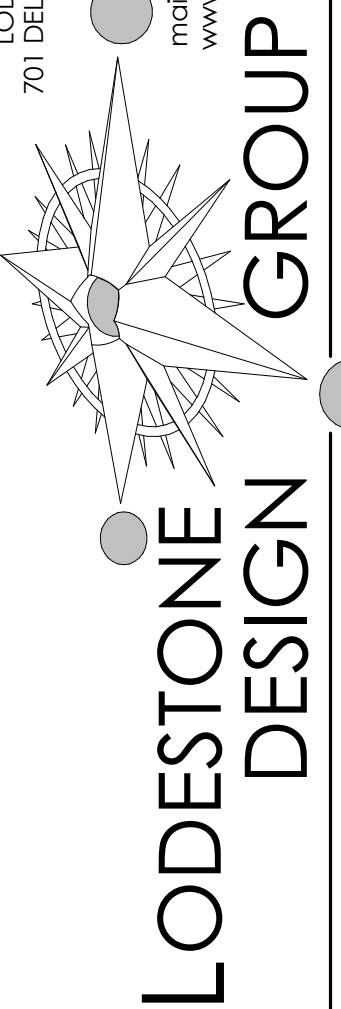
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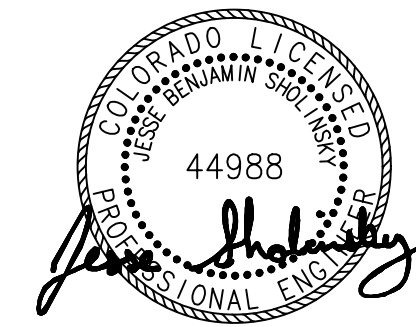
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**A4.2**





9-9-19

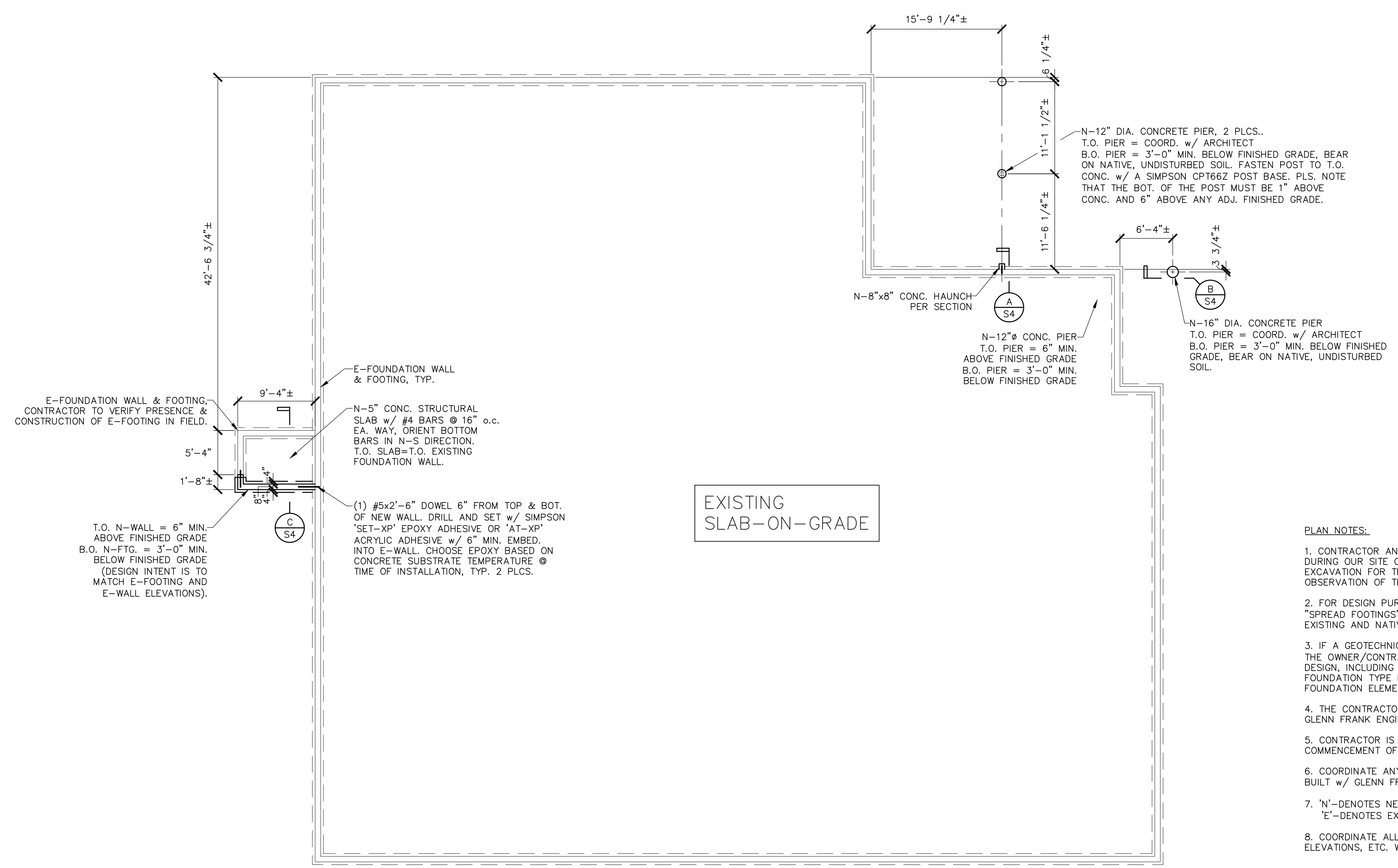
**Glenn Frank Engineering, Inc.**  
 2400 Central Ave Suite A-1 South Boulder, Colorado 80301  
 Telephone 303-554-9591 Fax 303-554-9592

**Commercial Remodel**  
 1675 Range Street  
 Boulder, Colorado 80301

ISSUE  
 DATE 9/9/19  
 Permit Set

SHEET

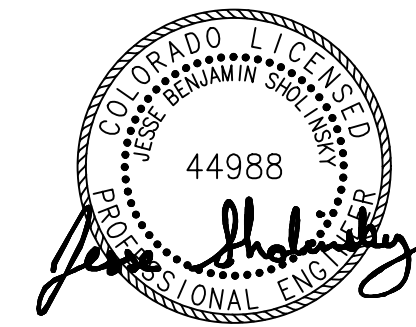
**S1**



EXISTING  
 SLAB-ON-GRADE

- PLAN NOTES:**
- CONTRACTOR AND OWNER ARE TO NOTE THAT THE EXISTING FOUNDATION WAS NOT VERIFIED DURING OUR SITE OBSERVATION. THE EXISTING FOUNDATION IS TO BE VERIFIED DURING EXCAVATION FOR THE NEW FOUNDATION. CONTACT GLENN FRANK ENGINEERING FOR AN OBSERVATION OF THE EXISTING FOUNDATION WALL AND FOUNDATION DURING EXCAVATION.
  - FOR DESIGN PURPOSES WE ASSUMED THAT THE EXISTING FOUNDATION IS SUPPORTED BY "SPREAD FOOTINGS" AND ALL NEW FOUNDATION ELEMENTS HAVE BEEN DESIGNED TO BEAR ON EXISTING AND NATIVE SOILS WITH A MAXIMUM BEARING PRESSURE OF 1500 PSF.
  - IF A GEOTECHNICAL ENGINEER IS NOT RETAINED TO EVALUATE THE DESIGN ASSUMPTIONS, THE OWNER/CONTRACTOR MUST ASSUME ALL RISKS ASSOCIATED WITH A SPREAD FOOTING DESIGN, INCLUDING SETTLEMENT AND HEAVING. IF THE CONTRACTOR UNCOVERS A DIFFERENT FOUNDATION TYPE BELOW THE EXISTING EXTERIOR WALLS, SUCH AS DRILLED PIERS, THE NEW FOUNDATION ELEMENTS MAY NEED TO BE RE-DESIGNED.
  - THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EITHER THE BUILDING DEPARTMENT OR GLENN FRANK ENGINEERING FOR AN OBSERVATION OF THE NEW STRUCTURE.
  - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
  - COORDINATE ANY DISCREPANCIES BETWEEN WHAT SHOWN ON THE PLAN AND WHAT IS BEING BUILT w/ GLENN FRANK ENG.
  - 'N'-DENOTES NEW CONSTRUCTION.  
'E'-DENOTES EXISTING CONSTRUCTION.
  - COORDINATE ALL FINISHED FLOOR ELEVATIONS, EXTERIOR GRADING, SLAB-ON-GRADE ELEVATIONS, ETC. WITH THE ARCHITECT.

**FOUNDATION PLAN**  
 SCALE: 1/8" = 1'-0"



9-9-19

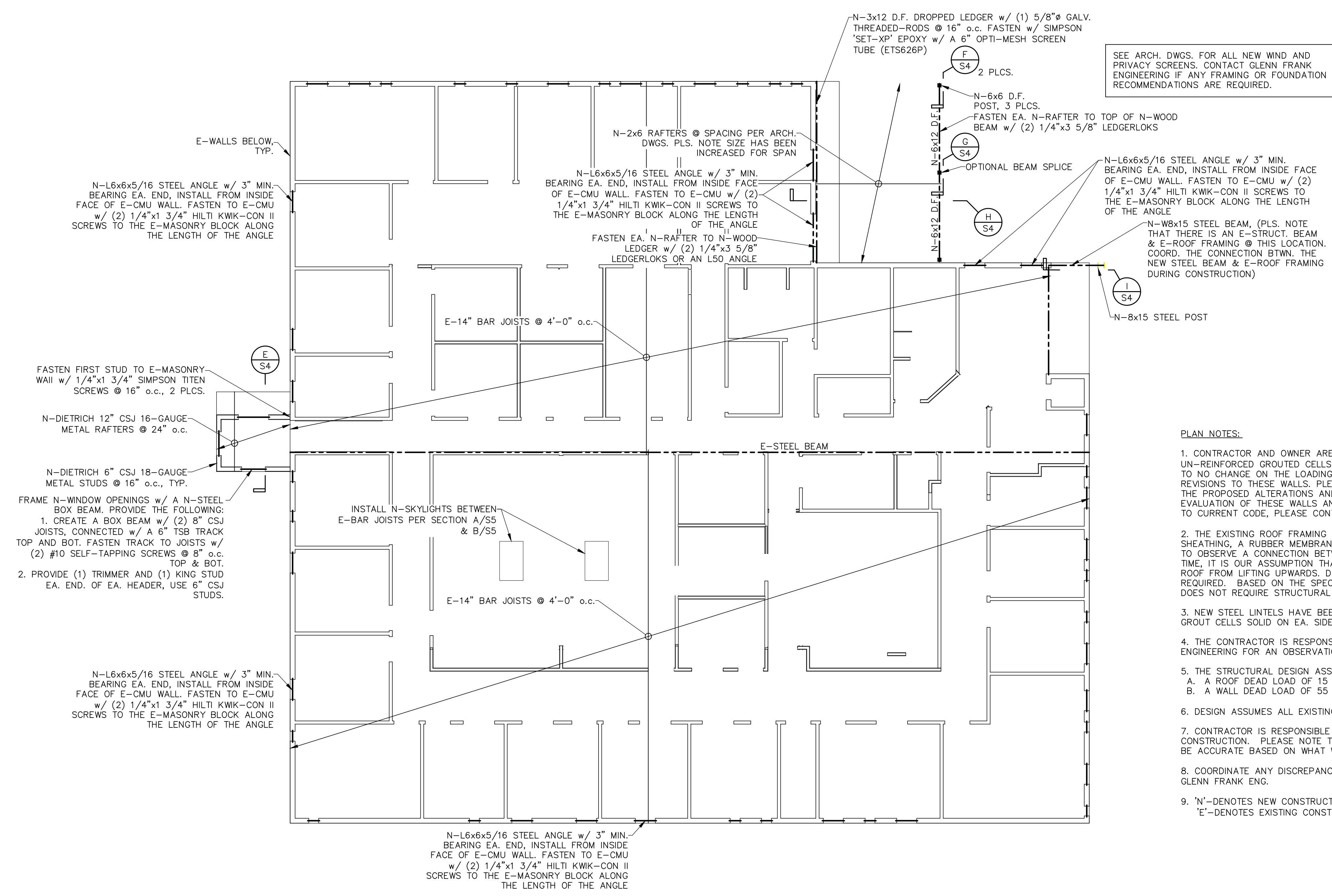
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Telephone 303-554-9591 Fax 303-554-9592

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ISSUE: Permit Set  
DATE: 9/9/19

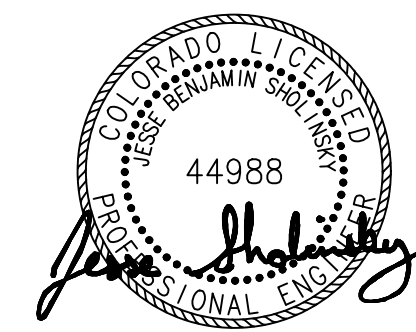
SHEET

S2



**ROOF FRAMING PLAN**  
SCALE: 1/8" = 1'-0"



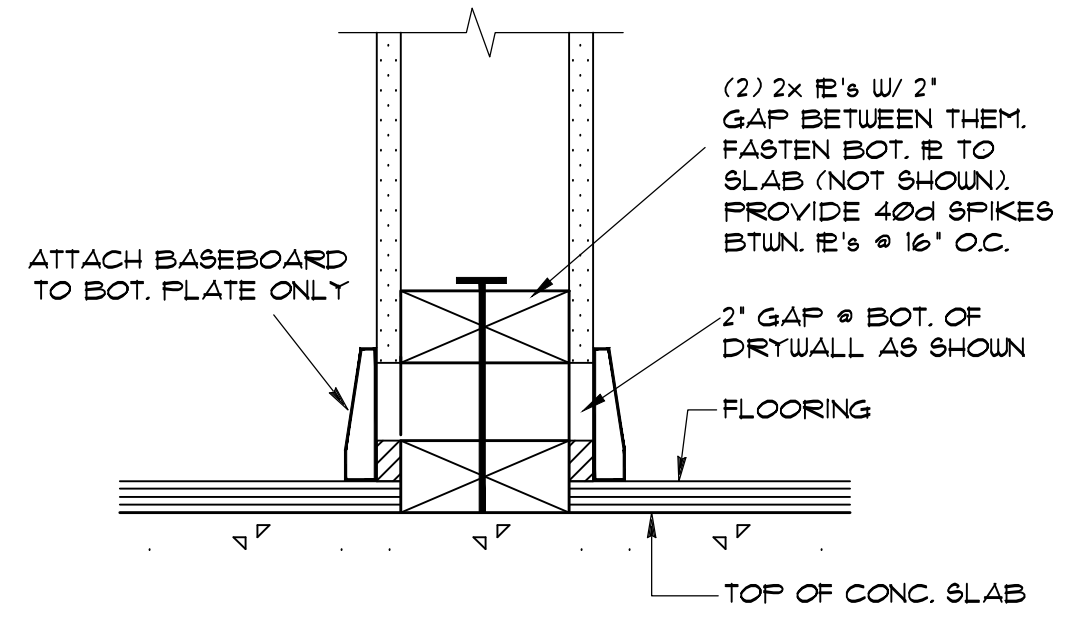


## GENERAL NOTES

- General requirements:
    - All construction shall comply with the 2012 International Building Code, or latest edition adopted by the governmental jurisdiction, and all other pertinent governmental codes, ordinances and regulations. (Note: It is beyond the scope of these General Notes to list all of the requirements of the governing codes. The contractor is responsible for complying with detailed requirements affecting installation procedures, inspections and quality control, whether or not they are listed in the General Notes or on the drawings.)
    - Live Loads Used in Design:
      - Roof . . . . . 30 psf
      - Floors . . . . . 100 psf
      - Wind . . . . . 120 mph Exposure C (Allowable)  
154 mph Exposure C (Ultimate)
    - Seismic . . . . . Design Category B
  - Special inspections, where indicated below, shall be performed by a testing agency employed by the owner. Reports shall be forwarded to the building official, the structural engineer, and the owner.
  - Where the term "approved" or similar language is used in the notes, the plans or specifications, it shall mean approved in advance in writing by the engineer.
  - Sections and details shown or noted apply to similar conditions elsewhere not specifically shown or noted.
  - Shop drawing review or jobsite observations performed by the architect or structural engineer are provided as a courtesy to the owner and contractor, but do not constitute acceptance of work that is defective or in noncompliance with the drawings, specifications, building codes or manufacturer's recommendations.
  - The structural drawings remain the property of the architect or structural engineer, and may not be reproduced, reused or altered without the structural engineer's permission.
  - Where there is a disagreement or conflict between the architectural drawings, the structural drawings or the specifications, as to the size or spacing of structural members, the most stringent requirements shall apply.
  - All dimensions on the structural drawings shall be checked against the architectural drawings. Notify engineer of any discrepancies. Do not scale dimensions off the drawings. Contact architect for needed dimensions which are not numerically shown.
  - Structural engineer's approval must be secured for all substitutions, prior to purchase or installation.
- Foundations:
    - Design is based on an existing spread footing structure to match the existing foundation. The contractor is responsible for verifying the existing structure prior to the commencement of construction.
    - It is the recommendation of Glenn Frank Engineering that a Geotechnical Engineer be retained to verify the foundation design assumptions. If a Geotechnical Engineer is not retained, the owner and contractor must assume all risks associated with the foundation design, including settlement and heaving.
    - Maximum bearing pressure used in new design = 1,500 psf
    - Equivalent fluid pressure used in new design = 45 pcf
    - Slope perimeter grade away from building and provide 6" from finished grade to top of existing foundation.
  - Concrete:
    - All concrete shall comply with the latest editions of the ACI Specifications for Structural Concrete, ACI 301, and ACI Building Code Requirements for Reinforced Concrete, ACI 318.
    - All concrete shall be made using Type II cement. Mix designs shall include the following properties:
 

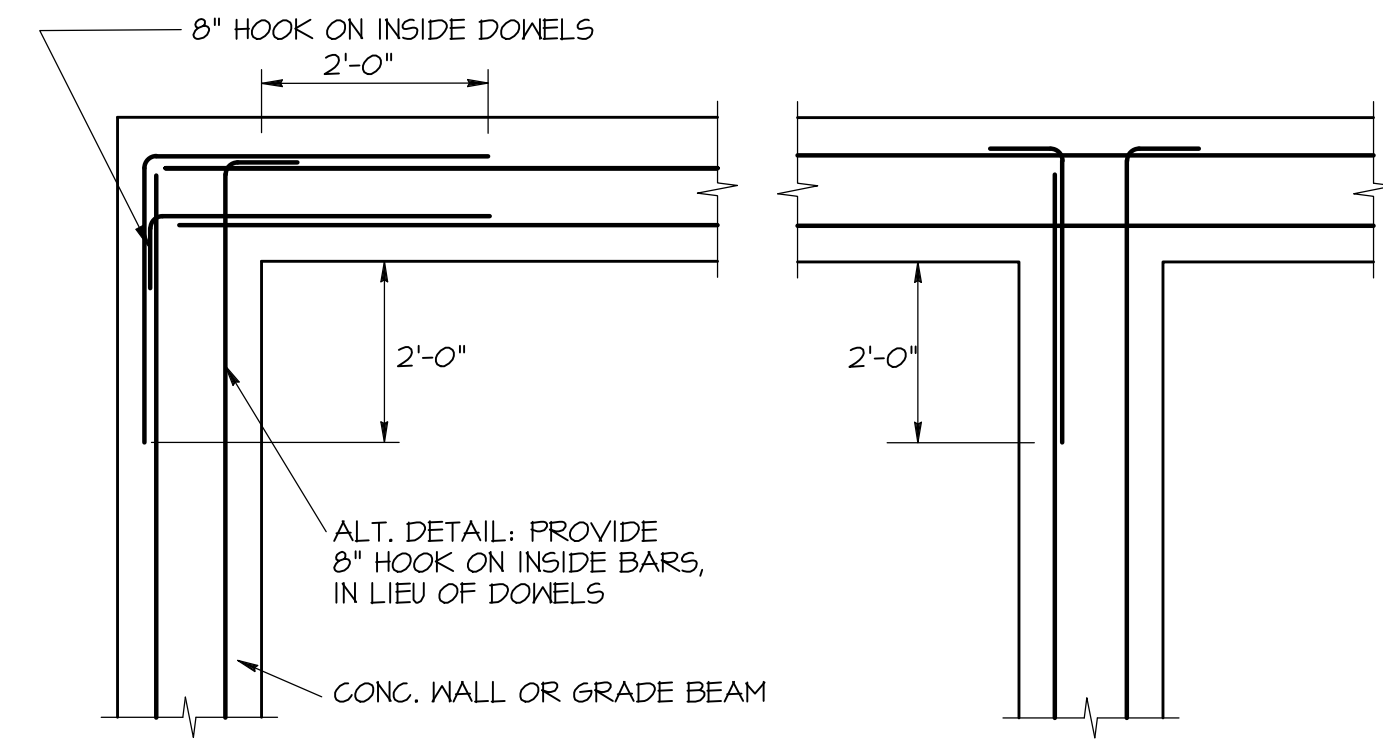
Maximum water/cement ratio	0.50
Entrained air	5% to 7%

 Slump: 4" to 6" at foundations, 3" to 5" at slabs
    - All concrete shall be made with stone aggregate and shall have the following minimum 28-day compressive strengths:
      - Cast-in-place walls, grade beams, foundations, footings, etc. . . . . 3500 psi
      - Slabs and sidewalks . . . . . 4000 psi
    - Water added to concrete at the site shall not exceed the amount permitted by the batch ticket. Concrete at placement time which does meet the specified slump or air content (based on the approved mix designs) shall be refused by the contractor.
    - All reinforcing steel shall be ASTM A615-Grade 60, (including #4 and #5 bars unless otherwise noted). Welded wire fabric shall conform to ASTM A185. Headed studs shall conform to ASTM A108.
    - Reinforcing steel shall be fabricated and placed in accordance with the ACI Manual of Standard Practice.
    - Concrete protection for reinforcement:
      - Concrete placed against earth . . . . . 3"
      - Concrete placed in forms and exposed to earth, weather or water . . . . . 1 1/2"
      - Slabs and walls . . . . . 1 1/2"
    - No splices or welding of reinforcement shall be made except as detailed or authorized by the structural engineer. Lap splices, where permitted shall be Class B splices, except as noted. Welded wire fabric shall be lapped one full mesh plus 2", but not less than 6", and shall be wired together.
    - Detail bars in accordance with the latest editions of the ACI Detailing Manual and ACI Building Code Requirements for Reinforced Concrete. Provide all accessories necessary to support reinforcing at the positions shown on the plans or as noted above.
    - Contractor shall provide protection and insulation of concrete against moisture, premature curing, hot weather, freezing temperatures, etc. Frozen concrete shall be replaced at the contractor's expense.
    - Engineer's Jobsite Observation is required for placement of reinforcing steel.
    - Contractor shall contact the structural engineer inspection of reinforcing bar placement, prior to placement of concrete in foundations and structural slabs.
    - Continuous top and bottom bars in grade beams and foundations shall be placed a maximum of 3" from top and bottom of wall.
    - Continuous horizontal bars in walls, beams and grade beams shall be spliced at mid span for top bars and over supports for bottom bars. Lap splice 42 bar diameters at bottom bars and 60 bar diameters at top bars.
    - Provide corner bars at all wall intersections. Size and spacing of bars shall match horizontal wall reinforcing. Do not place corner bars from "inside face to inside face". Provide three corner bars typical for double mat walls at 90 degree corners.
    - Slabs, beams and walls shall not have joints in a horizontal plane. Any stop in concrete work shall be made at center of span with vertical bulkheads and horizontal keys, unless otherwise shown. All construction joints shall be as detailed or approved by the structural engineer.

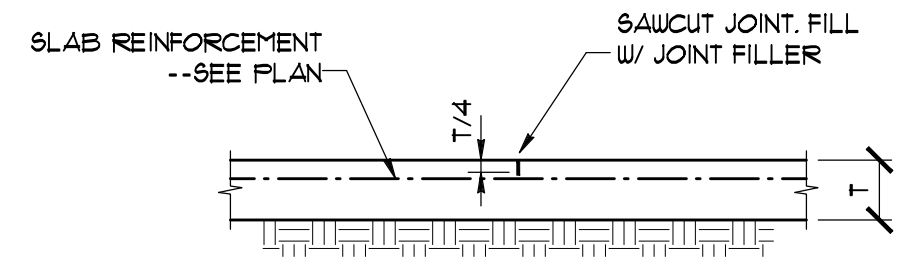


NOTE: PROVIDE THIS TYPICAL SLIP CONNECTION AT BOTTOM OF ALL INTERIOR NONBEARING STUD WALLS IN THE BASEMENT.

TYP. BASEMENT STUD WALL BASE

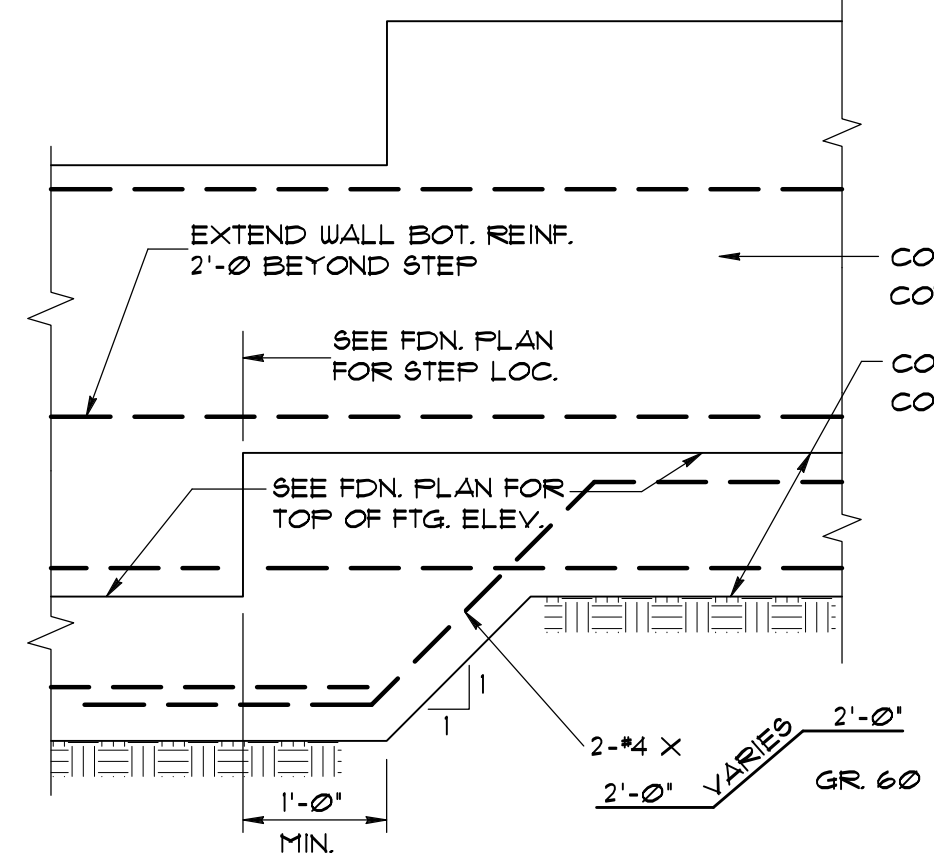


TYP. CONC. INTERSECTION DETAILS



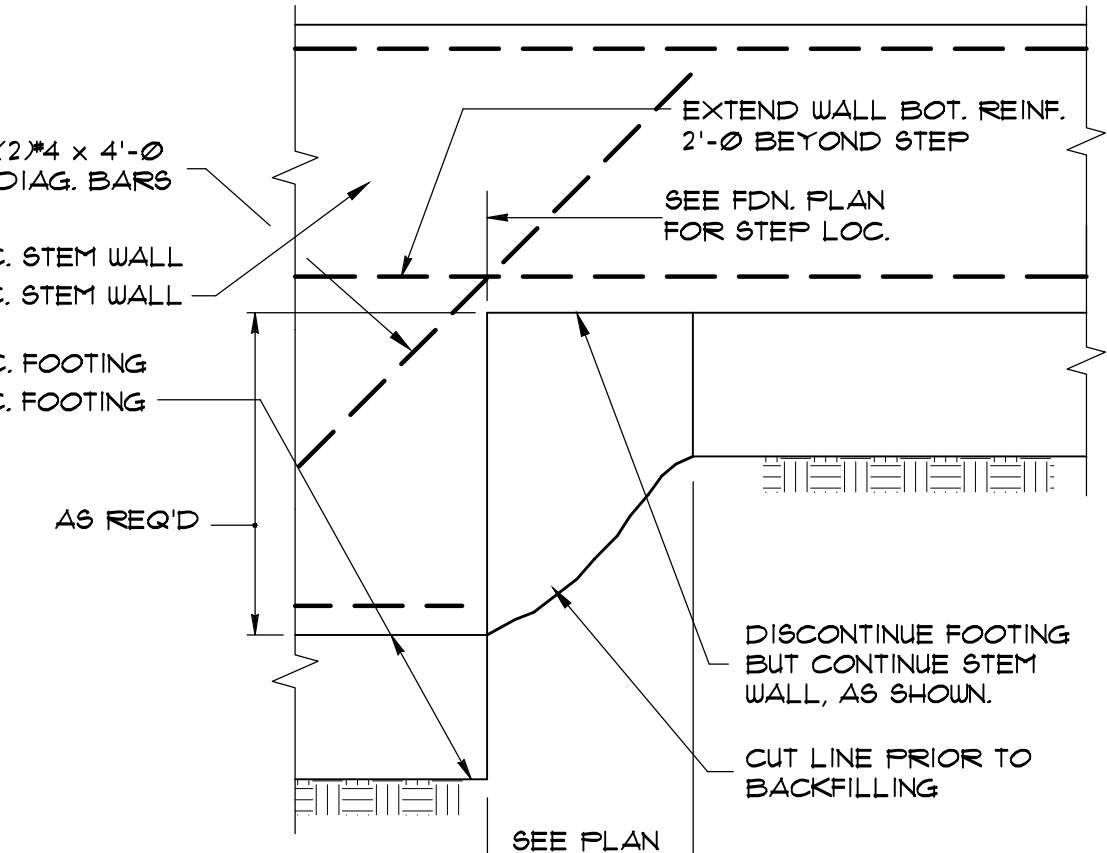
TYPICAL CRACK CONTROL JOINT

SEE FOUNDATION PLAN FOR LOCATIONS.



TYPICAL STEPPED FOOTING DETAIL - TYPE 1

NOTE: VERT. REINF. NOT SHOWN. SEE SECTIONS, TYP.



TYPICAL STEPPED FOOTING DETAIL - TYPE 2

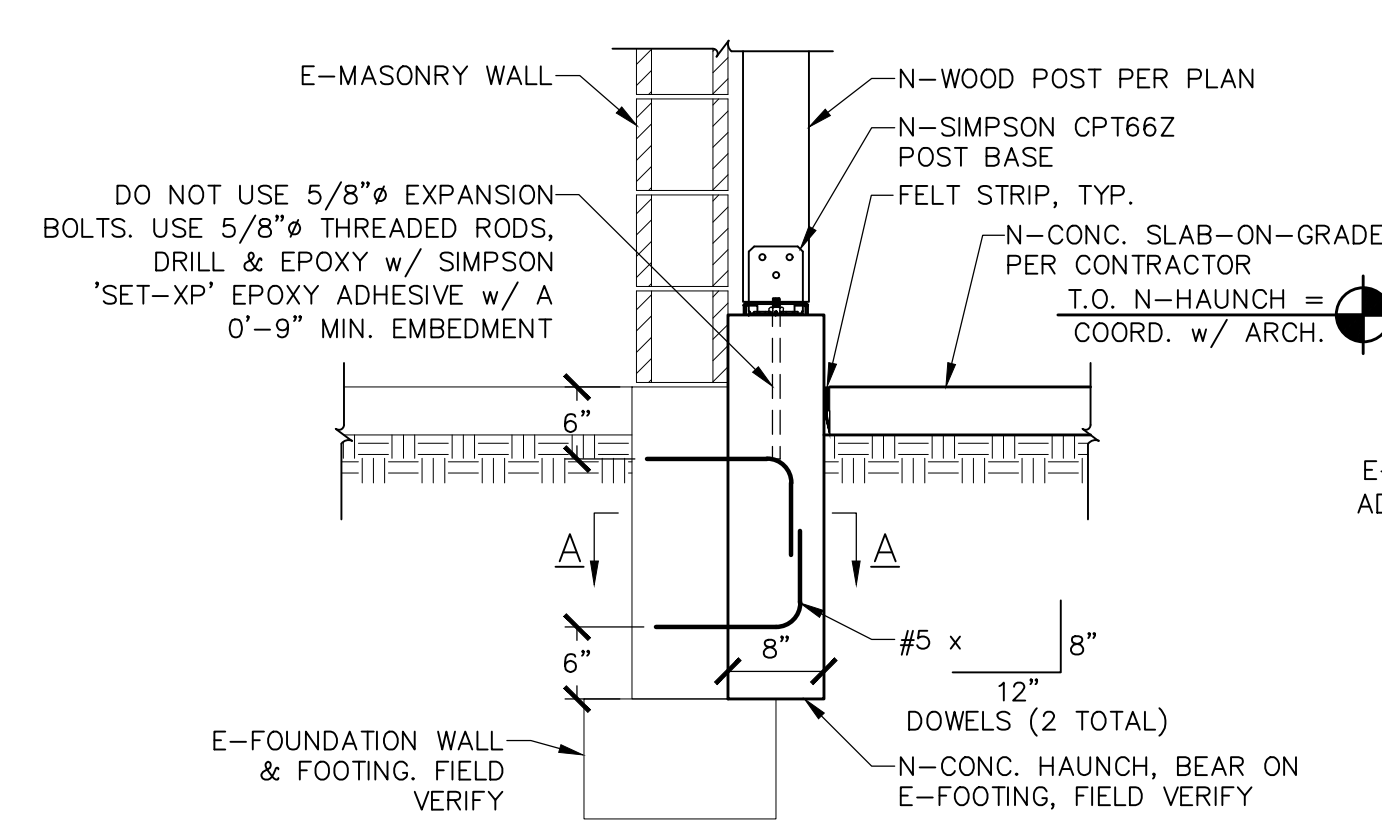
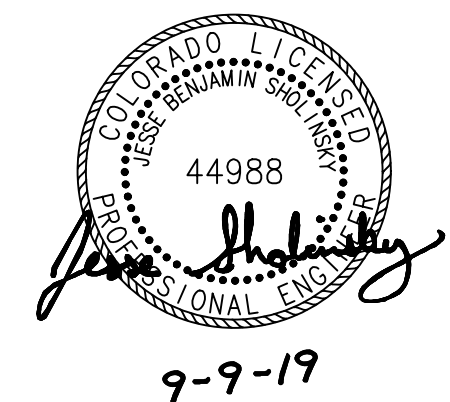
NOTE: VERT. REINF. NOT SHOWN. SEE SECTIONS, TYP.

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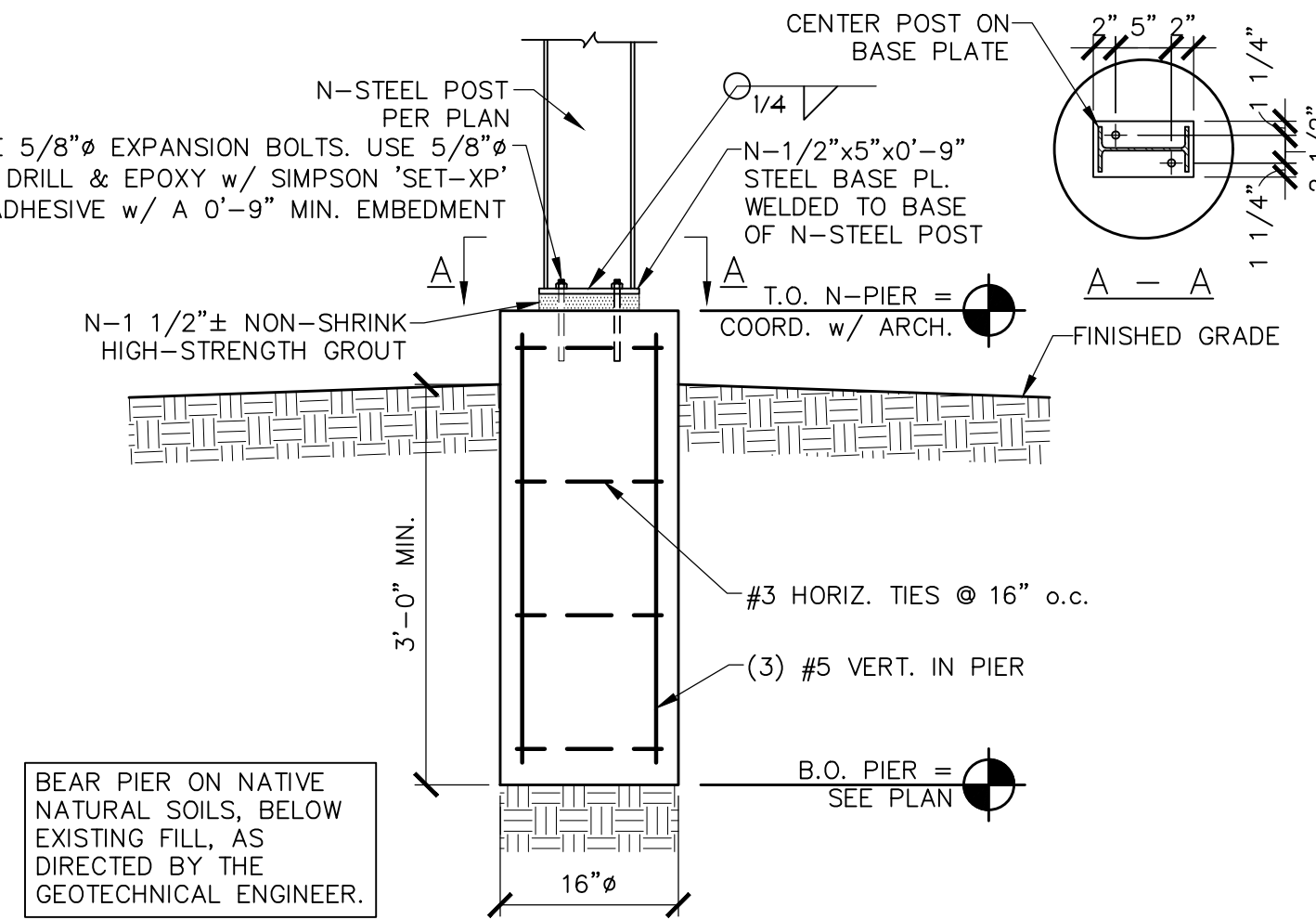
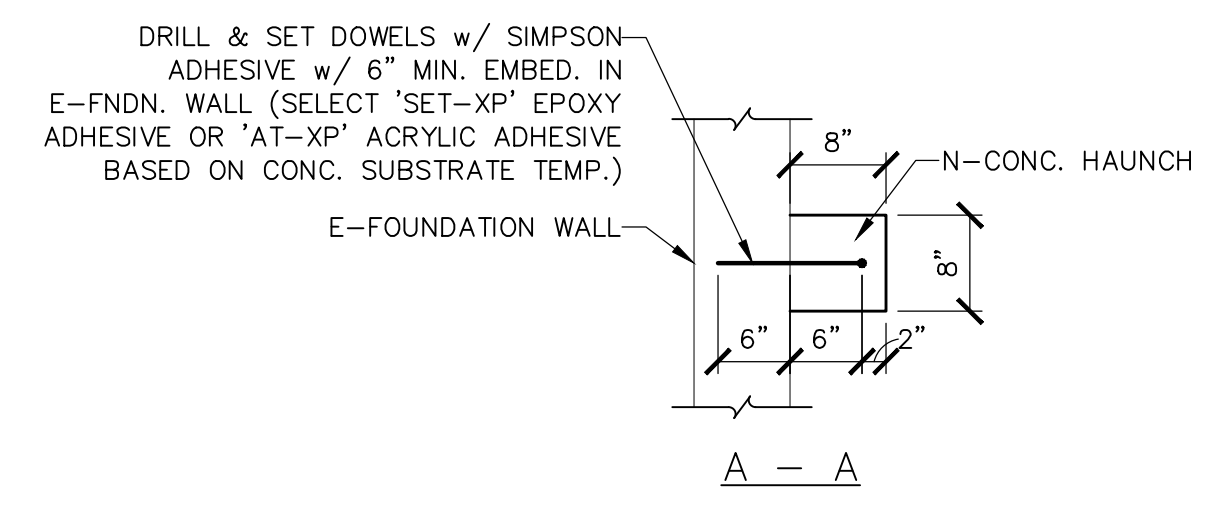
**Commercial Remodel**  
 1675 Range Street  
 Boulder, Colorado 80301

ISSUE	Permit Set
DATE	9/9/19

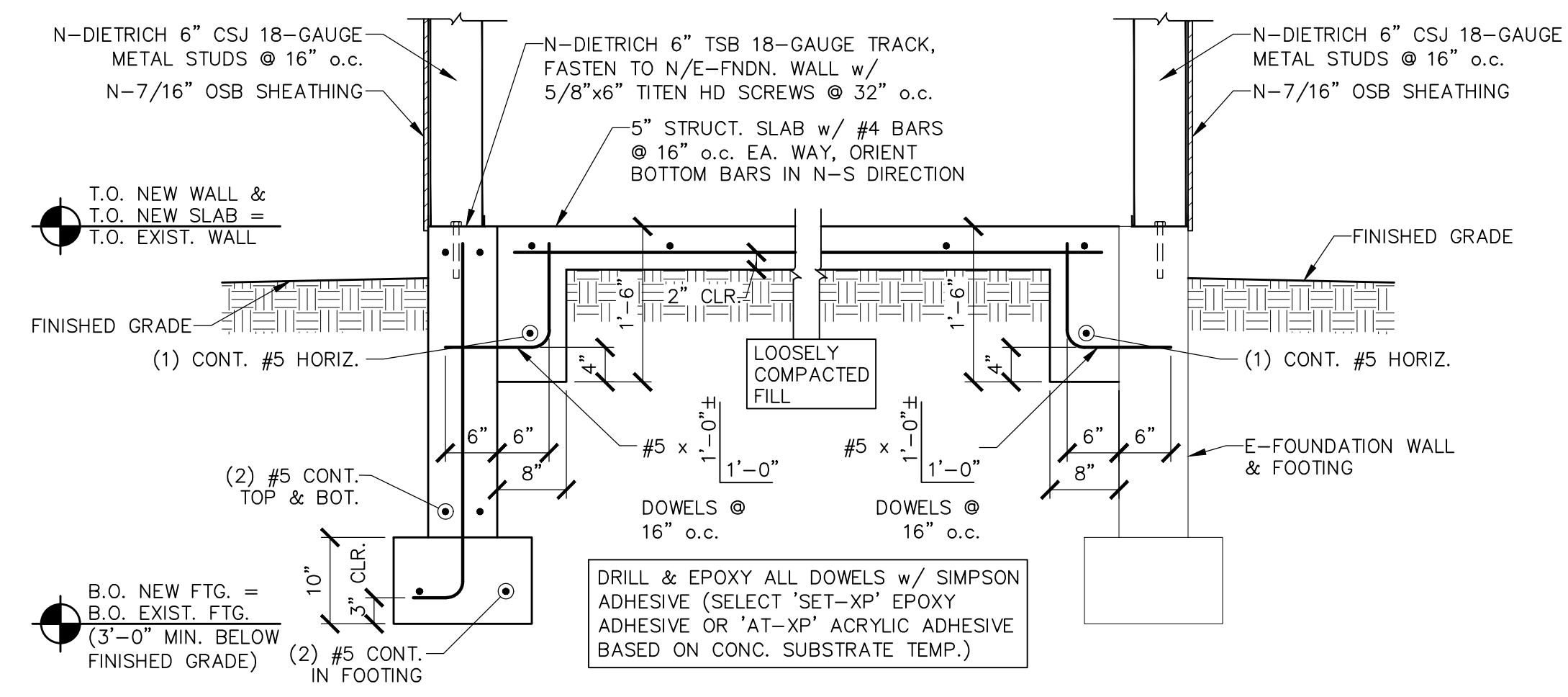
SHEET



**A**  
FOUNDATION SECTION  
3/4"=1'-0"



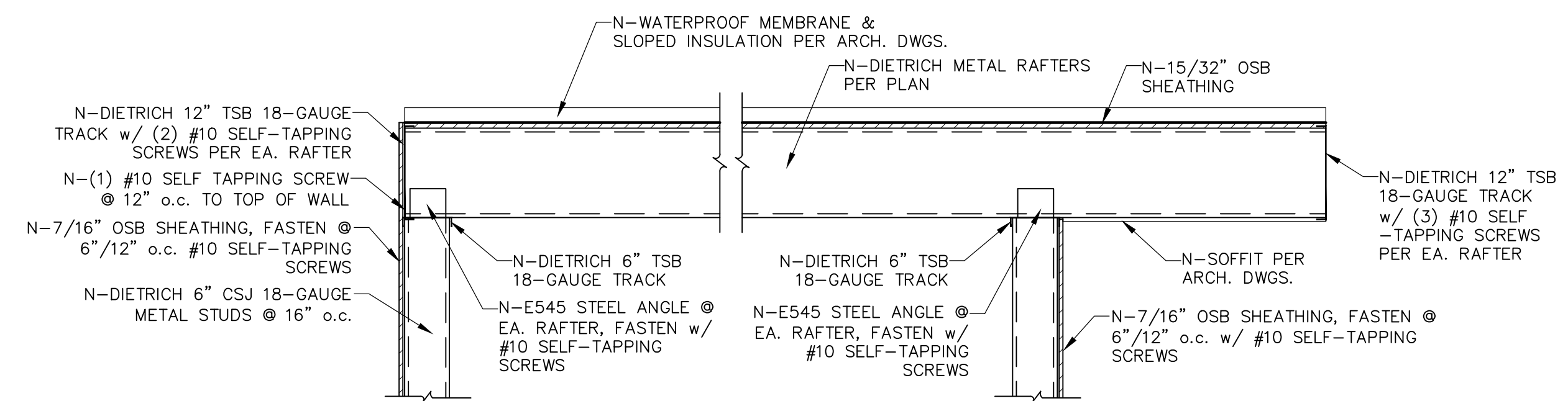
**B**  
FOUNDATION SECTION  
3/4"=1'-0"



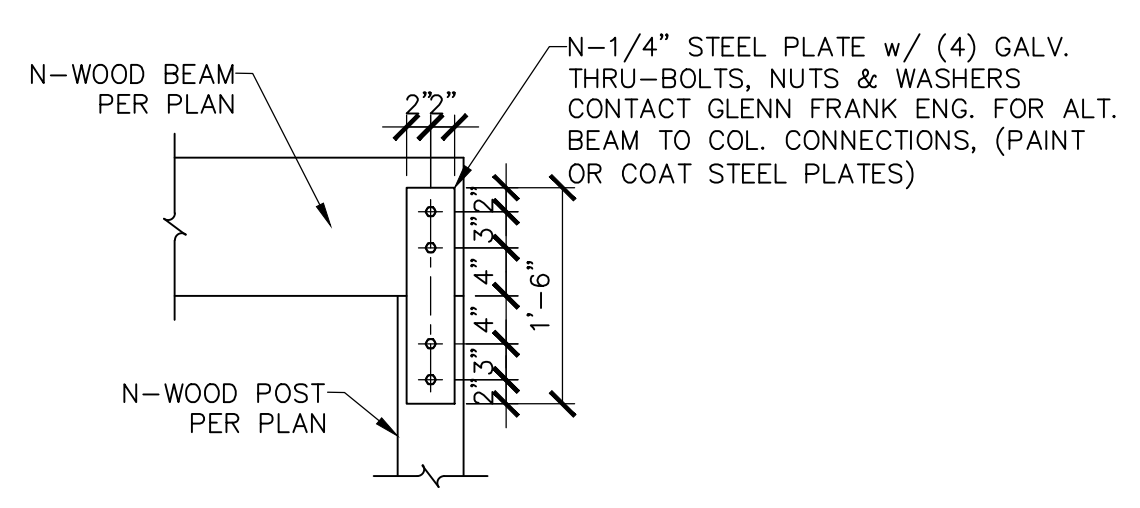
**C**  
FOUNDATION SECTION  
3/4"=1'-0"



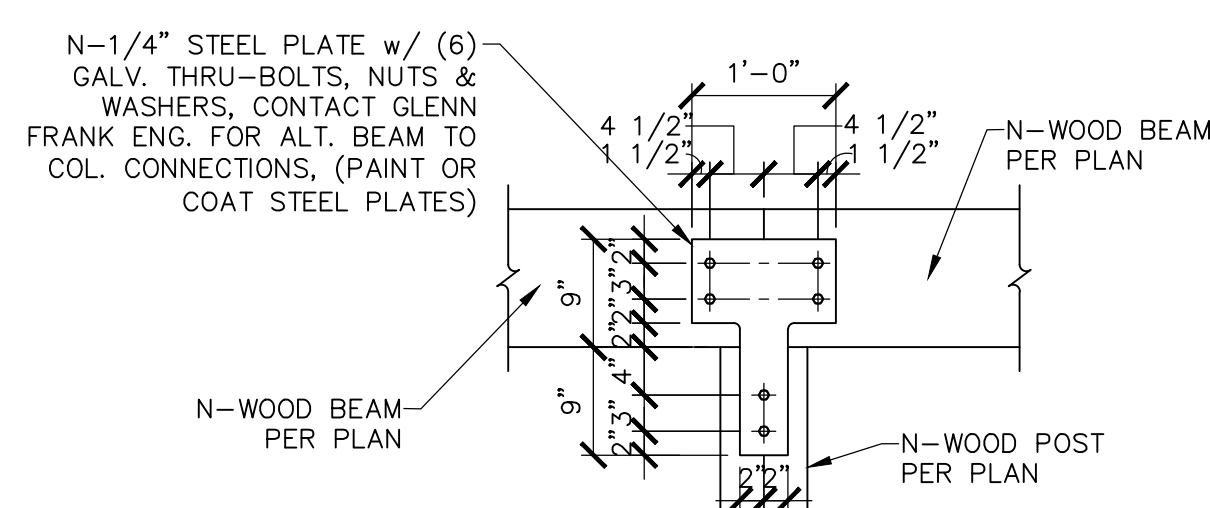
**D**  
FOUNDATION SECTION  
3/4"=1'-0"



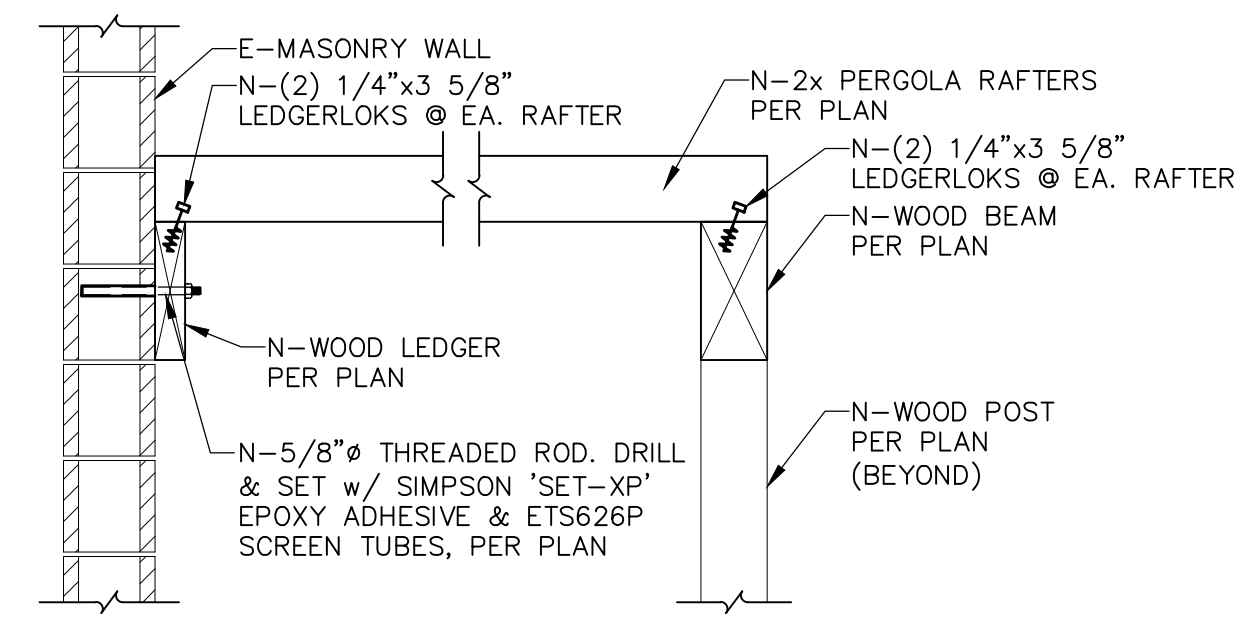
**E**  
ROOF FRAMING SECTION  
3/4"=1'-0"



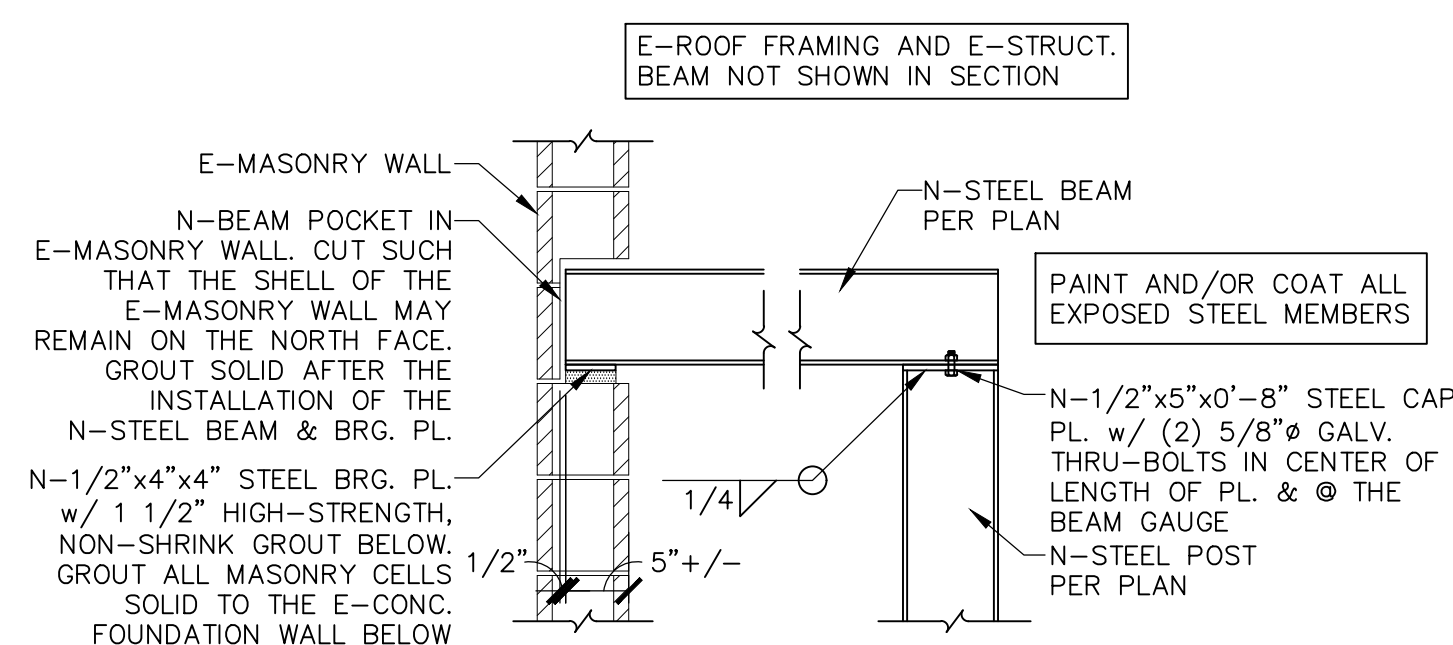
**F**  
PERGOLA FRAMING SECTION  
3/4"=1'-0"



**G**  
PERGOLA FRAMING SECTION  
3/4"=1'-0"



**H**  
PERGOLA FRAMING SECTION  
3/4"=1'-0"



**I**  
ROOF FRAMING SECTION  
3/4"=1'-0"

**Glenn Frank Engineering, Inc.**  
2400 Central Ave Suite A-1 South Boulder, Colorado 80301  
Telephone 303-554-9591 Fax 303-554-9592

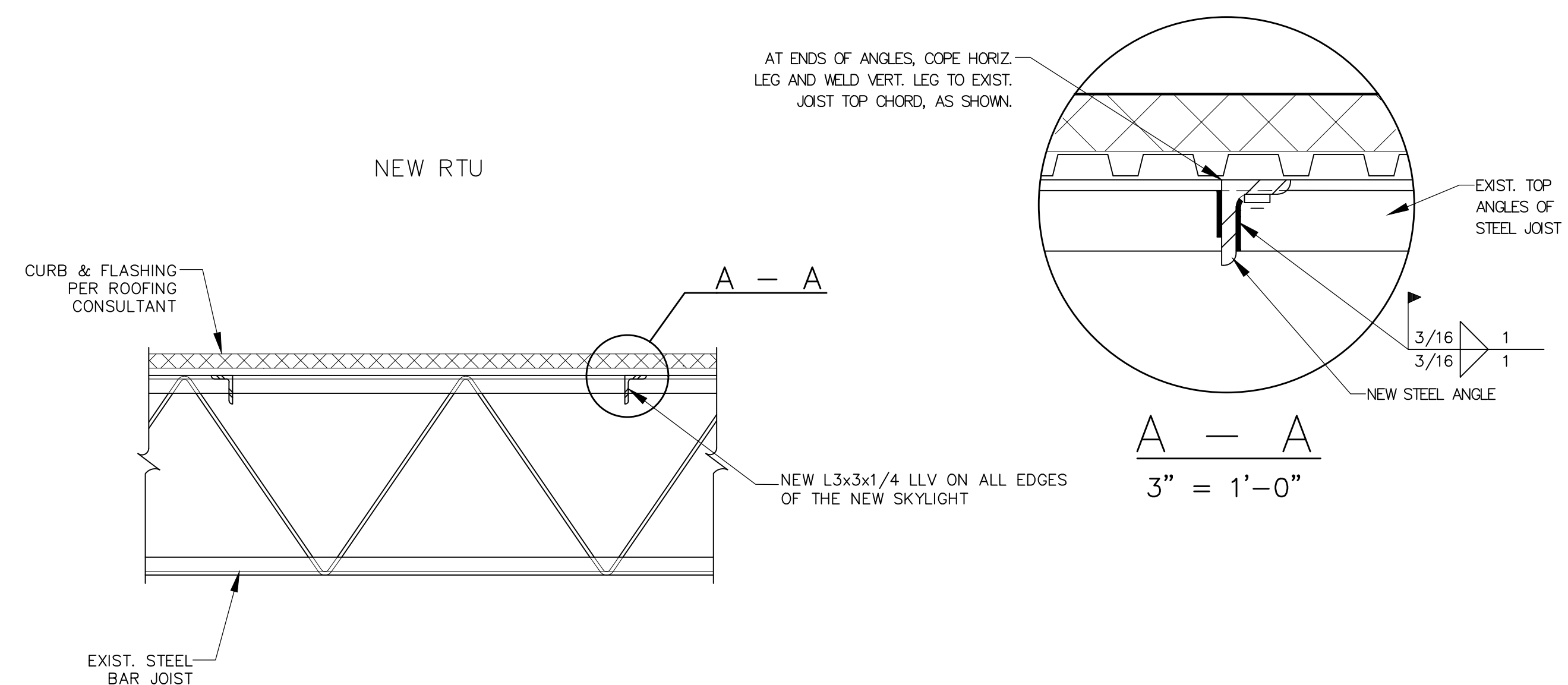
**Commercial Remodel**  
1675 Range Street  
Boulder, Colorado 80301

ISSUE	Permit Set
DATE	9/9/19

SHEET  
**S4**

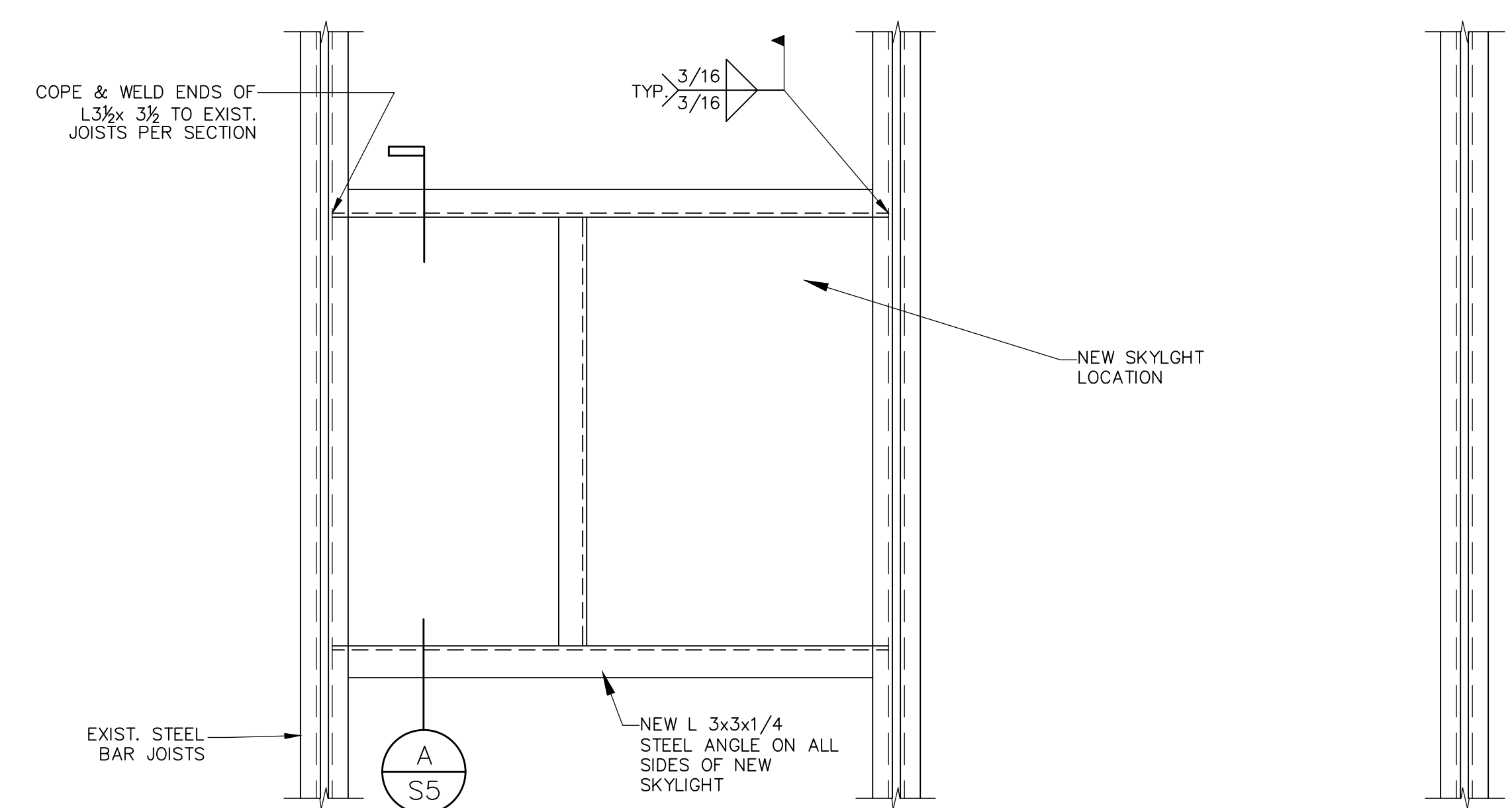


9-9-19



A  
S5

NEW STEEL FRAMING AT NEW RTU UNIT  
3/4" = 1'-0"



B  
S5

PLAN VIEW OF SUPPORTS FOR NEW RTU  
3/4" = 1'-0"

**Glenn Frank Engineering, Inc.**  
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 Telephone 303-554-9591 Fax 303-554-9592

**Commercial Remodel**  
 1675 Range Street  
 Boulder, Colorado 80301

ISSUE  
 Permit Set

DATE  
 9/9/19

SHEET  
**S5**

HEATING & ENVELOPE CALCULATIONS						
ALL HEATING (HT) AND COOLING (AC) LOADS ARE BTUHR						
DESIGN OUTDOOR, HT	DEG F DB					
DESIGN OUTDOOR, AC	100					
DESIGN INDOOR (HT)	68					
DESIGN INDOOR (AC)	72					
ADJ SPACE TEMP, HT	70					
ADJ SPACE TEMP, CL	90					
GROUND TEMP	50					
<b>ENVELOPE LOSSES/GAINS</b>						
ENVELOPE	LENGTH (FT)	HEIGHT (FT)	AREA	R VALUE	HT LOAD	COOLING
N. WALL	102	18	1836	10	12,485	-5,141
W. WALL	95	18	1710	10	11,628	-4,788
S. WALL	102	18	1836	10	12,485	-5,141
E. WALL	95	18	1710	10	11,628	-4,788
ROOF			8500	15	38,533	-15,867
GLAZING	100	4	400	1	27,200	-11,200
DOORS			60	4	1,020	-420
AREA	8500 SQFT					
CEILING HEIGHT	10 FT					
<b>TOTAL</b>					<b>113,959</b>	<b>-47,344</b>
<b>OUTSIDE AIR LOSSES/GAINS</b>						
	1,600 = FRESH AIR REQD.		99,008		-40,768	
<b>INFILTRATION LOSSES/GAINS</b>						
	TIGHT = 0.5					
	MEDIUM = .85					
	LOOSE = 1.3					
	ACH	CFM	87,663		-41,253	
	1.00	1417				
<b>ELECTRICAL LOSSES/GAINS</b>						
	Watts/SF	Sqft				
	3.0	8500			-86,955	
<b>OCCUPANT LOSSES/GAINS</b>						
	Btu/Occupant	Occupants				
	425	74			-31,450	
<b>GRAND TOTAL HEATING/COOLING LOAD</b>						
	REQ: 300,630				-247,771	
	HEATING				COOLING	

Commercial (HVAC ONLY)						
Mandatory Measures Checklist						
Applies to: All New Buildings, Additions, Alterations and Repairs which require a permit from the City.						
Project Address: 1675 Range St, Boulder CO 80301						
Date: 9/9/2019						
DIRECTIONS: Compliance with these Mandatory Measures is required whether the project is demonstrating compliance through the Performance or Prescriptive Path. Please complete this checklist and include it on an "Energy Conservation Code" sheet within the plans being submitted for permit application.						
Code Section	Focus Area	Code Description	Plan Drawing or Reference # to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. # "N/A" Please explain why requirement does not apply or is not demonstrated on plans/specs)	Plans Examiner Notes (in office use)	
<b>HEATING, VENTILATING, AND AIR CONDITIONING</b>						
C403.2.1	Load Calculations	Heating and cooling system design loads for the purpose of sizing systems and equipment shall be determined in accordance with ANSI/ASHRAE/ACCA Standard 90.1-2010, Peak Cooling and Heating Load Calculations in Buildings Except Low-Rise Residential Buildings.	Reference #1	See attached sheet for load calculations.		<input type="checkbox"/> Field Verify
C403.2.2	Equipment and system sizing	The output capacity of heating and cooling equipment and systems shall not exceed the load calculated in accordance with Section C403.2.1. A single piece of equipment providing both heating and cooling shall satisfy this provision for one function with the capacity for the other functions as small as possible, within available equipment options.	Reference #1	Sizing of equipment to cooling needs. Lowest gas input on RTR in 112 MBH natural gas.		<input type="checkbox"/> Field Verify
C403.2.3	Equipment efficiencies	Equipment shown in Tables C403.2.3(1) through C403.2.3(6) shall have a minimum performance at the specified rating conditions when tested in accordance with the specified test procedure. Where multiple rating conditions or performance requirements are provided, the equipment shall satisfy all stated requirements, unless otherwise exempted by footnotes in the table.	ME	<b>TABLE REQUIRED BY CODE, 14.8 SEER NEW RTUS CALLED OUT. THE 14.8 SEER UNIT REQUIRED BY CODE, RTUS 14.8 SEER UNITS CALLED OUT.</b>		<input type="checkbox"/> Field Verify
C403.2.4.1	Zone Thermostatic Controls	The supply of heating and cooling energy to each zone shall be individually controlled by thermostatic controls responding to temperature within the zone.	ME	Refer to M1 sheet, thermostat locations specified on mechanical plan.		<input type="checkbox"/> Field Verify
C403.2.4.2	Dead Band	Where used to control both heating and cooling, zone thermostatic controls shall be capable of providing a temperature range or dead band of at least 5°F within which the supply of heating and cooling energy to the zone is shut off or reduced to a minimum.	ME	Honeywell TR800 thermostat specified complies.		<input type="checkbox"/> Field Verify
C403.2.4.3	Off-hour Controls - Automatic Shutdown	HVAC systems shall be equipped with at least one of the following: (a) Controls that can start and stop the system under different time schedules for seven different day types per week, are capable of retaining programming and time setting during loss of power for a period of at least ten hours, and include an accessible manual override, or equivalent function, that allows temporary operation of the system for up to two hours; (b) An occupancy sensor that is capable of shutting the system off when no occupancy is sensed for a period of up to 30 minutes; (c) A manually operated timer capable of being adjusted to operate the system for up to two hours; (d) An interlock to a security system that shuts the system off when the security system is activated.	ME	Honeywell TR800 thermostat specified complies with (a).		<input type="checkbox"/> Field Verify
C403.2.4.3.1	Off-Hour Controls - Setback controls	Heating systems located in climate zones 2-8 shall be equipped with controls that have the capability to automatically restart and temporarily operate the system as required to maintain zone temperatures above a heating setpoint adjustable down to 55°F or lower. Cooling systems	ME	Honeywell TR800 thermostat specified complies.		<input type="checkbox"/> Field Verify
C403.2.4.5	HVAC System Shut-off	Directly conditioned spaces with operable wall or roof or overhead door openings shall have controls that, except during delays, prevent supplementary heat operation where the heat pump can meet the heating load, and disable or reset the temperature setpoint for mechanical heating and cooling.	N/A	No wall or roof or overhead door openings		<input type="checkbox"/> Field Verify
C403.2.5	Ventilation	Natural or mechanical ventilation shall be provided in accordance with Chapter 4 of the International Mechanical Code. Demand control ventilation required for conditioned spaces larger than 500 ft <sup>2</sup> with an average occupancy of 25 people/1,000 ft <sup>2</sup> . Exceptions apply.	N/A	Mechanical ventilation provided to space. No space has an average occupancy of 25 persons per 1000 square feet.		<input type="checkbox"/> Field Verify
C403.2.6	Energy Recovery Ventilation	Where supply air flow rates exceed values in Table C403.2.6, heating energy recovery is required.	N/A	Airflow rates do not exceed values in Table C403.2.6		<input type="checkbox"/> Field Verify
C403.2.4.1.1	Heat Pump Auxiliary Heat Control	Heat pumps having supplementary electric resistance heat shall have controls that, except during delays, prevent supplementary heat operation where the heat pump can meet the heating load.	N/A	No heat pumps.		<input type="checkbox"/> Field Verify
C403.2.4.1	Humidification and Dehumidification	Where a zone is served by a system or systems with both humidification and dehumidification capability, means such as limit switches, mechanical stops, or, for DDC systems, software programming shall be provided capable of preventing simultaneous operation of humidification and dehumidification equipment.	N/A	No dehumidifiers and humidifiers.		<input type="checkbox"/> Field Verify
C403.2.7	HVAC Systems Construction and Installation - Duct and Plenum Insulation	All supply and return air ducts and plenums shall be insulated with a minimum of R-6 insulation where located in unconditioned spaces and a minimum of R-8 insulation where located outside the building. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by a minimum of R-8 insulation.	ME	Refer to Mechanical General Notes #11.		<input type="checkbox"/> Field Verify
C403.2.7.1	Duct Construction	Ductwork shall be constructed and erected in accordance with the International Mechanical Code.	ME	Refer to updated Mechanical General Notes.		<input type="checkbox"/> Field Verify
C403.2.7.1.1	Low and Medium Pressure duct systems	All longitudinal and transverse joints, seams and connections, less than or equal to 2 inches water gauge (e.g. 1500Pa) shall be securely fastened and sealed with seals, gaskets, mastic (adhesives), mastic plus embedded fabric systems or tapes installed in accordance with the manufacturer's installation instructions. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the International Mechanical Code. All ducts and plenums designed to operate at a static pressure greater than 2 inches water gauge (e.g. 1500Pa) but less than 3 inches w.g. (750Pa) shall be insulated and sealed in accordance with Section C403.2.7. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the International Mechanical Code.	ME	Refer to updated Mechanical General Notes.		<input type="checkbox"/> Field Verify
C403.2.7.1.2	High pressure ducts	Ductwork that is designed to operate at static pressures in excess of 3 in. w.c. and all ductwork located outdoors shall be leak tested according to industry-accepted test procedures (see Informative Appendix E). Representative sections totaling no less than 20% of the total installed duct area for the designated pressure class shall be tested. All sections shall be selected by the building owner or the designated representative of the building owner. Positive pressure leakage testing is acceptable for negative pressure ductwork. The maximum permitted duct leakage shall be UMMA-CLV065.	N/A	No high pressure ductwork proposed		<input type="checkbox"/> Field Verify
C403.2.8	Piping Insulation	Piping shall be thermally insulated in accordance with Table C403.2.8.	P1	Refer to piping insulation schedule on P1.		<input type="checkbox"/> Field Verify
C403.2.8.1	Protection of Piping Insulation	Piping insulation exposed to weather shall be protected from damage, including that due to sunlight, moisture, equipment maintenance and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesives tape shall not be permitted.	P1	Refer to Plumbing General Notes #56 AND #14.		<input type="checkbox"/> Field Verify
C403.2.8.1	Radiant Floor Heating	The bottom surfaces of floor structures incorporating radiant heating shall be insulated with a minimum of R-3.5. Adjacent envelope insulation counts toward this requirement.	N/A	No floors incorporating radiant heating.		<input type="checkbox"/> Field Verify
C403.2.10	Fan Power	Each HVAC system having a total fan system motor horsepower exceeding 5 hp shall meet the provisions of C403.2.10.	N/A	No fan motors called out in excess of 5 hp.		<input type="checkbox"/> Field Verify
C403.2.11	Outside Heating	Systems installed to provide heating outside a building shall be radiant systems and shall be controlled by an occupancy sensing device or timer switch.	N/A	No systems installed to provide outside heating.		<input type="checkbox"/> Field Verify
<b>SYSTEM COMMISSIONING</b>						
C407.2	Mechanical System Commissioning and Completion Requirements	Prior to passing the final mechanical inspection, the registered design professional shall provide evidence of mechanical systems commissioning and completion in accordance with the provisions of this section.	N/A	C407.2 exception #1 applies to this space. Total mechanical cooling capacity is less than 40,000 Btu/h and mechanical heating capacity is less than 500,000 Btu/h.	Documentation Required <input type="checkbox"/> Commissioning Report <input type="checkbox"/> System Balancing Report	<input type="checkbox"/> Field Verify
<b>ADDITIONAL SUSTAINABILITY MEASURES</b>						
IPC Table 904.4	Water Efficiency	Revised plumbing code fixture flow rates: Lavatory, private 1.5 gpm at 60 psi Lavatory, public (metering) 0.25 gallon per metering cycle Lavatory, public (no metering) 0.5 gpm at 60 psi Shower head 2.0 gpm at 80 psi Sink faucet 1.5 gpm at 80 psi Urinal 1.0 gpm per flushing cycle Water Closet 1.28 gallons per flushing cycle	P1	All plumbing fixtures comply with revised plumbing code fixture flow rates, see Plumbing Equipment Schedule.		<input type="checkbox"/> Field Verify

Commercial (HVAC Only)						
Prescriptive Measures Checklist						
Applies to: New Buildings and Additions with a construction valuation of \$500,000; Alterations and Repairs are determined by construction valuations and should refer to Table C403.2.2.						
Project Address: 1675 Range St, Boulder CO 80301						
Date: 9/9/2019						
DIRECTIONS: Compliance with these measures is required if the project uses the Prescriptive Compliance Path. Please complete this checklist and include it on an "Energy Conservation Code" sheet within the plans being submitted for permit application. Projects complying prescriptively also must meet Mandatory Measures and should include the Mandatory Measures Checklist as well.						
Code Section	Focus Area	Code Description	Plan Drawing or Reference # to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. # "N/A" Please explain why requirement does not apply or is not demonstrated on plans/specs)	Plans Examiner Notes (in office use)	
<b>HEATING, VENTILATING, AND AIR CONDITIONING - SAMPLE SYSTEMS</b>						
C403.3.1	Required for cooling systems > 233,000 Btu/h	Fixed dry bulb Differential dry bulb Electronic Enthalpy Differential enthalpy Dry-point and dry bulb temperatures Fixed enthalpy control	ME	TDA > 7°F TDA > 18A TDA, RH(A) > A HDA > HBA DPOA > SPT or TDA > 5°F Prohibited	Refer to units specified in mechanical equipment schedule.	<input type="checkbox"/> Field Verify
C403.3.1.1.3	Controls HIGH LIMIT Shut-off		ME		Refer to units specified in mechanical equipment schedule.	<input type="checkbox"/> Field Verify
C403.3.1.1.2	Control Signal	Economizer dampers capable of sequencing with the mechanical cooling equipment and shall not be controlled by any mixed air temperature.	ME		Refer to units specified in mechanical equipment schedule.	<input type="checkbox"/> Field Verify
C403.3.1.1.1	Capacity	System is capable of modulating DA and RA dampers to provide up to 100 percent of the design supply air as outdoor air.	ME		Refer to units specified in mechanical equipment schedule.	<input type="checkbox"/> Field Verify
C403.3.1.1.4	Relief Damper	System equipped with relief mechanism	ME		Refer to units specified in mechanical equipment schedule.	<input type="checkbox"/> Field Verify
C403.4.1.1	Water Side Economizer	Capacity	N/A	No water economizer system used.		<input type="checkbox"/> Field Verify
C403.4.1.3	Integration	Integrated with the mechanical cooling system and be capable of providing partial cooling to supplement mechanical cooling.	N/A			<input type="checkbox"/> Field Verify
C403.4.2	VAVs	Individual VAV fans with motors of 7.5 horsepower (5.6 kW) or greater shall be: 1. Driven by a mechanical or electrical variable speed drive; 2. Driven by a variable speed fan with variable speed blades; or 3. The fan shall have controls or devices that will result in fan motor demand of no more than 30 percent of their design wattage at 50 percent of design airflow when static pressure set points equal one-third of the total design static pressure, based on manufacturer's certified fan data.	N/A	No VAVs used.		<input type="checkbox"/> Field Verify
C403.4.2.1	Static Pressure Sensor	Static pressure sensors placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. For sensors installed downstream of major duct splits, at least one sensor shall be located in each major branch to ensure that static pressure can be maintained in each branch.	N/A			<input type="checkbox"/> Field Verify
C403.4.3	Hydronic heating systems	Hydronic heating systems comprised of a single boiler and greater than 500,000 Btu/h (146,500 W) input design capacity shall include either a multistaged or modulating burner.	N/A	No hydronic system.		<input type="checkbox"/> Field Verify
C403.4.3.1	Three pipe system	Hydronic systems that use a common return system for both hot water and chilled water are prohibited.	N/A			<input type="checkbox"/> Field Verify
C403.4.3.2	Heat rejection	If an open- or closed-circuit cooling tower is used, a separate heat exchanger shall be provided to isolate the cooling tower from the heat pump loop, and heat loss shall be controlled by shutting down the circulation pumps on the cooling tower loop and providing an automatic valve to stop the flow of fluid.	N/A			<input type="checkbox"/> Field Verify
C403.4.3.3	Two position valve	Each hydronic heat pump on the hydronic system having a total pump system power	N/A			<input type="checkbox"/> Field Verify
C403.4.3.4	Part load control	Systems > 300,000 Btu/h must have capacity to reduce system pump flow by at least 50 percent of design flow rate using adjustable speed drives (on pumps), or multiple staged pumps where at least one-half of the total pump horsepower is capable of being automatically varied or control valves designed to modulate or step down, and close, as a function of load, or other approved means.	N/A			<input type="checkbox"/> Field Verify
C403.4.3.4	Pump isolation	Chilled water plants including more than one chiller shall have the capability to reduce flow automatically through the chiller plant when a chiller is shut down. Chillers piped in series for the purpose of increased temperature differential shall be reconfigured as one chiller.	N/A			<input type="checkbox"/> Field Verify
C403.4.3.5	Boiler plants	Boiler plants including more than one boiler shall have the capability to reduce flow automatically through the boiler plant when a boiler is shut down.	N/A			<input type="checkbox"/> Field Verify
C403.4.4	Heat rejection equipment fan speed control	Fan fans powered by a motor of 7.5 hp (5.6 kW) or larger shall have the capability to operate that fan at two-thirds of full speed or less, and shall have controls that automatically change the fan speed to control the leaving fluid temperature or condensing temperature/pressure of the heat rejection device.	N/A			<input type="checkbox"/> Field Verify
C403.4.5	Multi-Zone System	Supply air system	N/A	No VAVs used.		<input type="checkbox"/> Field Verify
C403.4.5.1	Single duct VAV	Single duct VAV systems shall use terminal devices capable of reducing the supply of primary supply air before reheating or recirculating takes place.	N/A			<input type="checkbox"/> Field Verify
C403.4.5.2	Dual Duct VAV	Systems that have one warm air duct and one cool air duct shall use terminal devices which are capable of reducing the flow from one duct to a minimum before mixing of air from the other duct takes place.	N/A			<input type="checkbox"/> Field Verify
C403.4.5.3	Single fan dual duct and mixing VAV systems	Individual dual duct or mixing heating and cooling systems with a single fan and with total capacities greater than 90,000 Btu/h (7.5 tons) shall NOT be equipped with air economizers.	N/A			<input type="checkbox"/> Field Verify
C403.4.6	Heat recovery for service water heating	Condenser heat recovery shall be installed for heating or reheating of service hot water provided the facility operates 24 hours a day, the total installed heat capacity of water-cooled systems exceeds 5,000,000 Btu/h of heat rejection, and the design service water heating load exceeds 1,000,000 Btu/h. The required heat recovery system shall have the capacity to provide the smaller of: 1. Sixty percent of the peak heat rejection load at design conditions; or 2. The preheating required to raise the peak service hot water draw to 80°F (29°C).	N/A			<input type="checkbox"/> Field Verify
C403.4.7	Hot gas bypass	Limitation Maximum Capacity	N/A	No proposed hot gas bypass. Cooling systems shall not use hot gas bypass or other evaporator pressure control systems unless the system is designed with multiple steps of unloading or continuous capacity modulation. ≤ 240,000 Btu/h 50% of total capacity > 240,000 Btu/h 25% of total capacity		<input type="checkbox"/> Field Verify

ISSUE:	BUILDING DEPT. ISSUE	09.09.19

CUSTOMER  
MARIA STEPANYAN  
Center for People with Disorders  
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**MECHANICAL PLAN**  
1675 RANGE STREET  
BOULDER, COLORADO

OFFICE TENANT IMPROVEMENT

ENGINEERING COMPANY

**RENO JAMES**  
ENGINEERING

4800 W. 29TH AVENUE  
DENVER, CO 80212

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ENGINEERS STAMP

CHECKED BY: DRK

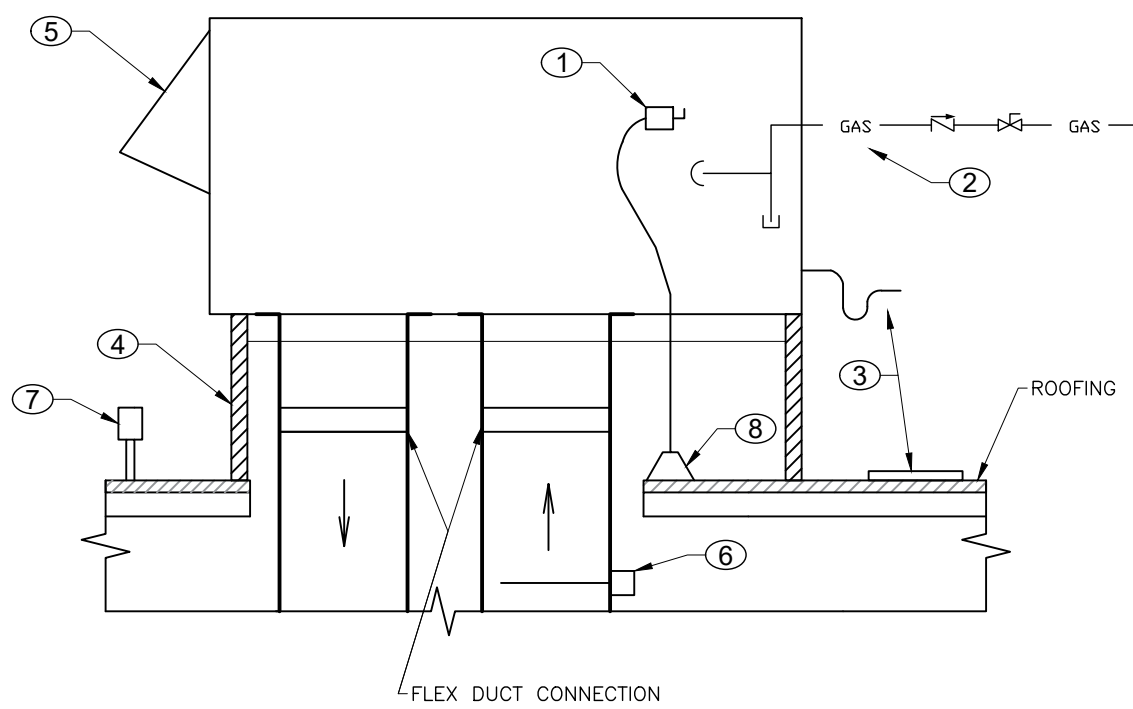
DRAWN BY: SMS

RENO JAMES PROJECT NUMBER: 19196

SHEET NO.

M0





- KEYED NOTES**
- ELECTRICAL DISCONNECT SWITCH; IF MOUNTED ON UNIT, MUST BE ON APPROPRIATE SPOT/NOT BLOCK SERVICE
  - NATURAL GAS PIPING TO UNIT WITH SHUTOFF VALVE, REGULATOR IF OVER 7" WC, AND DRIP LEG
  - PVC CONDENSATE WITH TRAP AND SPLASH BLOCK; UNLESS NOTED OTHERWISE, APPROVED ALTERNATE IS DRAIN INSIDE TO SANITARY SEWER
  - MOUNT ONTO EXISTING INSULATED CURB, 14" UNLESS NOTED OTHERWISE
  - ECONOMIZER, MUST BE AT LEAST 10' AWAY FROM ANY EXHAUST
  - SMOKE DUCT DETECTOR IN RETURN AIR DUCT
  - CONVENIENCE REC. WITHIN 25', WEATHER PROTECTED GFCI
  - ELECTRICAL CONDUIT THROUGH ROOF WHERE REQUIRED WITH APPROVED FLASHING/BOOT

**ROOFTOP UNIT DETAIL**  
SCALE: NOT TO SCALE

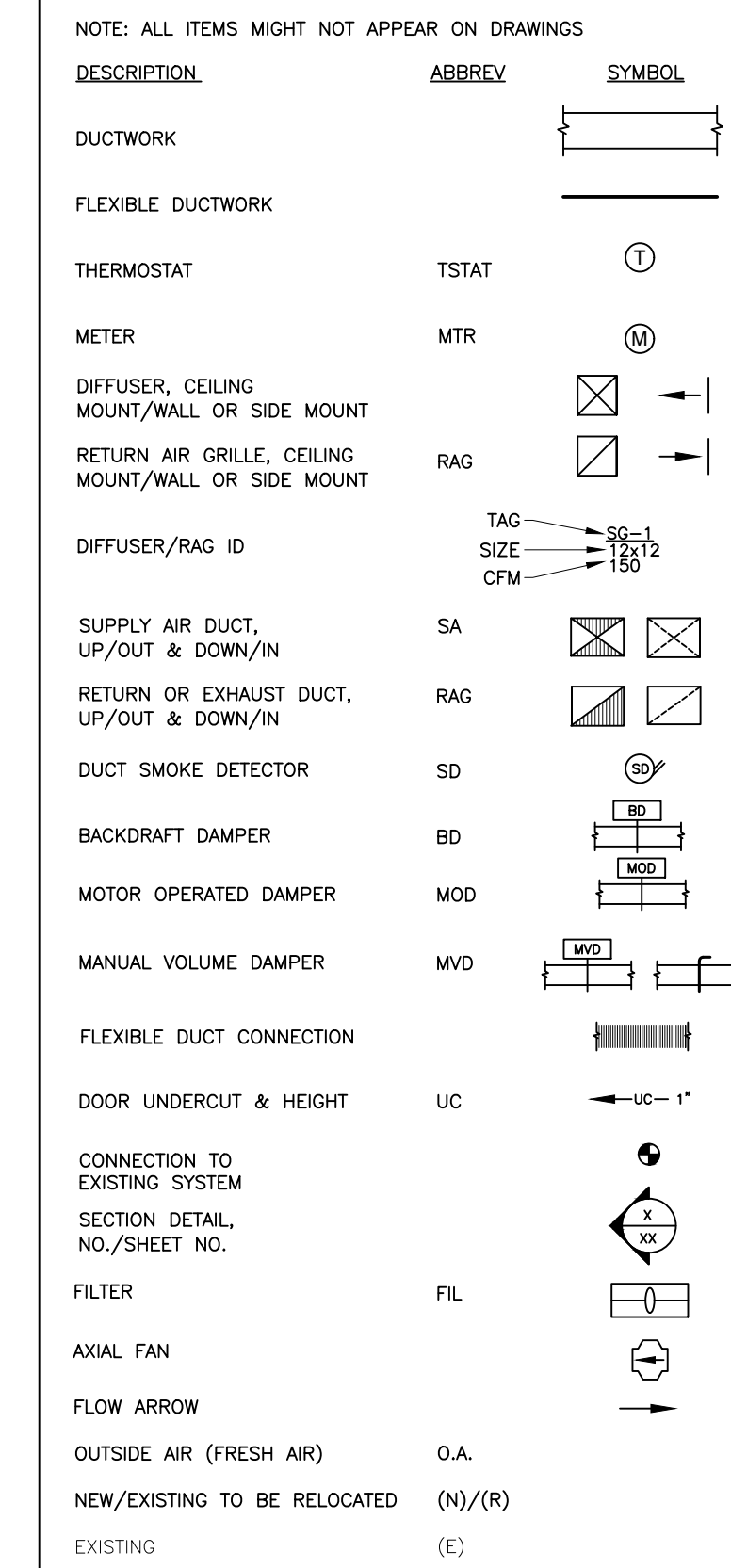
**SCOPE OF WORK:**

- REPLACE THREE EXISTING ROOF TOP UNITS WITH NEW RTUS OF EQUAL COOLING, HEATING, ELECTRICAL, AND WEIGHT CHARACTERISTICS, BUT WITH CONTEMPORARY ENERGY EFFICIENCY REQUIREMENTS OF THE JURISDICTION. THE SPECIFICATION OF EXISTING RTUS TO BE REPLACED MUST BE VERIFIED IN FIELD; ENGINEER NOT PROVIDED ACCESS TO ROOF. CONSULT WITH ENGINEER IF THERE IS ANY CONFUSION OR DISCREPANCIES IN THE FIELD; WE WANT TO REVIEW AND APPROVE YOUR SUBMITTALS.
- REPLACE EXISTING T-STATS WITH NEW HONEYWELL T8000 OR APPROVED EQUALS.
- VERIFY WITH CUSTOMER THE LOCATION AND UNITS TO BE REPLACED.
- PROVIDE NEW DUCTWORK TO NEW OFFICE SPACES, CLASSROOM, AND KITCHEN. BALANCE TO CFM SHOWN ON PLANS.
- PROVIDE THREE (3) NEW RANGE HOODS RH-1 OVER COOKING APPLIANCES IN KITCHEN AREA.
- ROUTE RH-1 EXHAUST 10' OR FURTHER FROM ALL AIR INTAKES.
- PROVIDE NEW EXHAUST FANS FOR REMODELED BATHROOM AREA.
- ROUTE NEW DUCTWORK AS NEEDED TO NEWLY REMODELED BATHROOM AREA.

**MECHANICAL EQUIPMENT SCHEDULE**

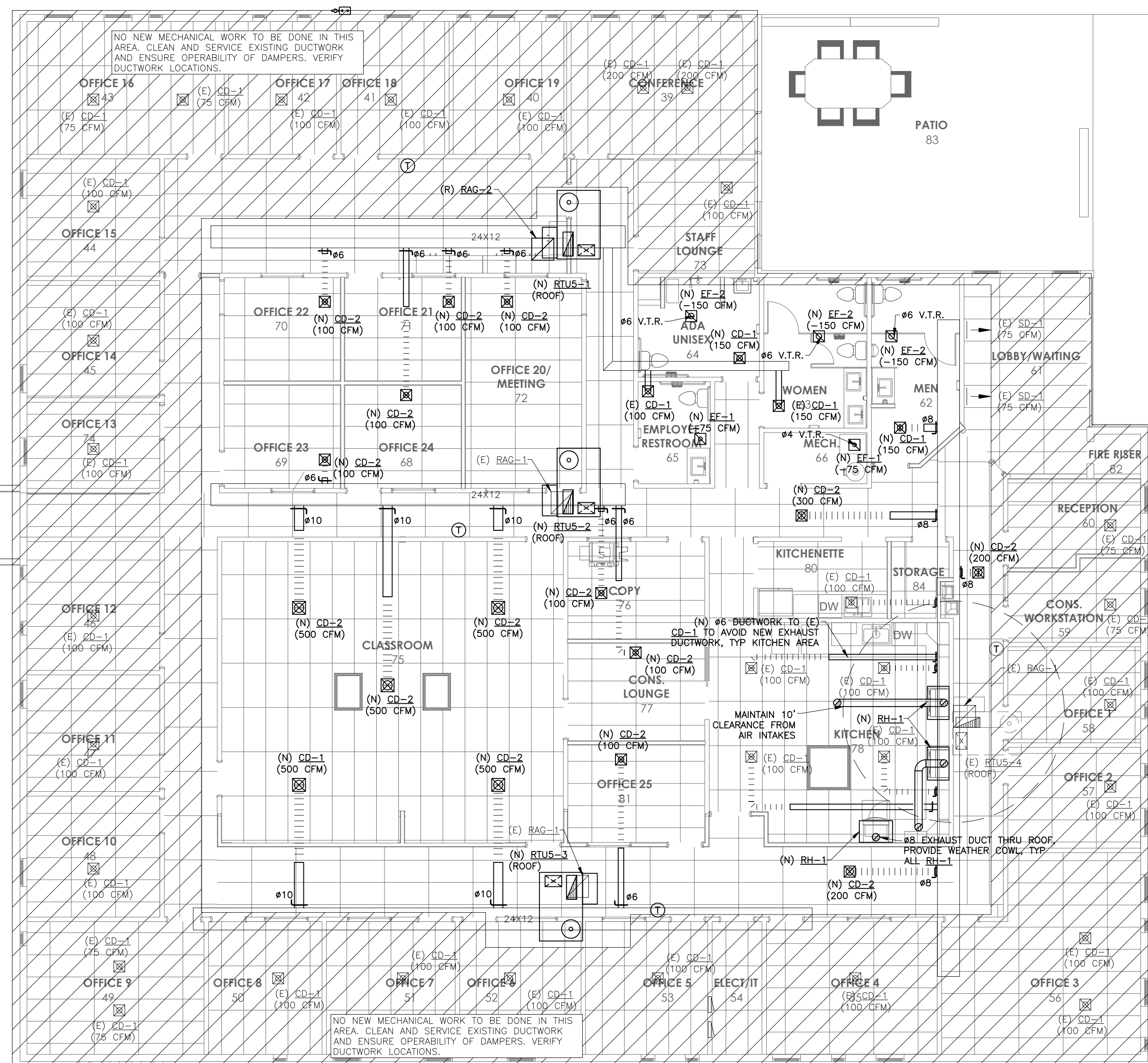
NEW EQUIPMENT	DESCRIPTION
RTUS-1	NEW ROOFTOP UNIT TO REPLACE EXISTING, YORK MODEL ZQ906E1, 5 TONS NOMINAL COOLING, 14 SEER, 112 MBH NATURAL GAS INPUT, 81% AFUE, 2000 CFM, 208V-3-60, 41.2 MCA, 50A MOCP, 795 LBS ESTIMATED TOTAL INSTALLED WEIGHT, PROVIDE RA SMOKE DETECTORS, ECONOMIZER, COMMERCIAL PROGRAMMABLE T-STAT, OR APPROVED EQUAL. DIRECT REPLACEMENT OF OLDER 5-TON UNITS, USE EXISTING CURB, ATTACH TO EXISTING DUCTWORK. PROVIDE NEW DUCTWORK TO CONNECT AS NEEDED, VERIFY ELECTRICAL REQUIREMENTS BEFORE PURCHASE. VERIFY ALL SPECIFICATIONS OF EXISTING UNIT ENSURE REPLACEMENT UNIT HAS SAME COOLING AND HEATING CAPACITIES, SAME ELECTRICAL PHASE, AND SAME OR LESS WEIGHT.
RTUS-2	SAME AS RTUS-1. ASSUMED 208V-1-60 BASED ON BREAKER THAT APPEARS TO BE SERVING UNIT. VERIFY BEFORE PURCHASE. PROVIDE NEW OVERCURRENT PROTECTION AND FEEDERS AS REQUIRED. VERIFY ALL SPECIFICATIONS OF EXISTING UNIT ENSURE REPLACEMENT UNIT HAS SAME COOLING AND HEATING CAPACITIES, SAME ELECTRICAL PHASE, AND SAME OR LESS WEIGHT.
RTUS-3	SAME AS RTUS-2
RH-1	NEW FIRE READY RANGE HOOD, ACCUREX MODEL XRRS-W-36, 36"X24", UL300A LISTED, 120V-1-60, EXTERNAL FAN, 500 CFM EXHAUST, 8" EXHAUST DUCT THRU ROOF. PROVIDE WEATHER COWL, PROVIDE ELECTRIC SHUT OFF ASSEMBLY BOX, ENSURE EXHAUST TERMINATION 10' OR MORE FROM ALL AIR INTAKES, INSTALL PER MFR INSTRUCTIONS.
EF-1	NEW BATHROOM EXHAUST FAN, BROAN MODEL A80, 75 CFM @ 0.1", 120V-1-60, 27W, 4" ROUND DUCT DISCHARGE WITH BACKDRAFT DAMPER, 10LBS OR APPROVED EQUAL.
EF-2	NEW BATHROOM EXHAUST FAN, BROAN MODEL OXIE150, 150 CFM @ 0.1", 120V-1-60, 43W, 6" ROUND DUCT DISCHARGE W/ BACKDRAFT DAMPER, 13.1 LBS, OR APPROVED EQUAL.
RAG-2	EXISTING RETURN AIR GRILLE TO BE RELOCATED, ROUTE NEW DUCTWORK FROM RTUS-1 CURB, CLEAN AND ENSURE OPERABILITY.
CD-2	NEW CEILING DIFFUSER, MATCH TO EXISTING IF POSSIBLE, ASSUMED SHOEMAKER MODEL 100-0, MULTIPLE CFMS SHOWN ON PLANS, 6X6 DUCT SIZE 0.131 SF EFFECTIVE AREA, 100 CFM @ 900 FPM, 8X8 DUCT SIZE 0.238 SF EFFECTIVE AREA, 200 CFM @ 900 FPM, 10X10 DUCT SIZE 0.576 SF EFFECTIVE AREA, 300 CFM @ 900 FPM, 12X12 DUCT SIZE 0.546 SF EFFECTIVE AREA, 500 CFM @ 900 FPM, OR APPROVED EQUALS.
EXISTING EQUIPMENT	DESCRIPTION
RTUS-4	EXISTING ROOFTOP UNIT, ASSUMED YORK MODEL 5 TONS NOMINAL COOLING, ASSUMED 208V-3-60 SERVED BY PANEL A, ASSUMED 120 MBH NATURAL GAS INPUT, VERIFY ASSUMPTIONS IN FIELD, INSPECT AND CLEAN DUCTWORK AS NEEDED, VERIFY POWER SUPPLY, TONNAGE AND ROOMS SERVED.
CD-1	EXISTING CEILING DIFFUSER TO REMAIN, MULTIPLE CFMS SHOWN ON PLANS, CLEAN AND SERVICE, PROVIDE DAMPERS IF NECESSARY, ENSURE OPERABILITY ESPECIALLY IN OFFICE 12, 14.
RAG-1	EXISTING RETURN AIR GRILLE TO REMAIN, CLEAN AND SERVICE.

**MECHANICAL LEGEND**



**MECHANICAL GENERAL NOTES**

- INSTALLATION IS TO BE COMPLETE AND OPERATIONAL AND IS TO BE IN ACCORDANCE WITH BUILDING DEPARTMENT REQUIREMENTS, COORDINATE INSTALLATION IN EVERY RESPECT WITH WORK OF OTHER TRADES, EXISTING INSTALLATION, UTILITY COMPANY SERVICES AND STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS.
- COMPLY WITH STATE AND LOCAL CODES AND UTILITY COMPANY REGULATIONS.
- CUTTING AND PATCHING SHALL BE IN AN APPROVED MANNER, PATCH TO MATCH ADJACENT SURFACE. NEW ROOF OPENINGS ARE TO BE COORDINATED WITH STRUCTURE. MAINTAIN REQUIRED CLEARANCE BETWEEN O.A. INTAKES AND EXHAUSTS, GAS VENTS, AND PLUMBING VENTS.
- OBTAIN, PAY FOR, AND MAINTAIN PERMITS, LICENSES, CERTIFICATES OF INSPECTION, AND LIABILITY INSURANCE.
- FIELD CHECK EXISTING CONDITIONS AND INCLUDE ALL COSTS IN BID REQUIRED TO ACCOMMODATE EXISTING CONDITIONS AND TO PROVIDE A COMPLETE INSTALLATION.
- USE CONICAL SPIN IN FITTINGS WITH MANUAL DAMPERS ON EACH BRANCH LINE (WHERE POSSIBLE).
- PROVIDE EXCAVATING AND BACKFILLING FOR MECHANICAL WORK. PROTECT ACCORDING TO OSHA STANDARDS.
- VERIFY ALL ELECTRICAL CHARACTERISTICS PRIOR TO ORDERING MECHANICAL EQUIPMENT.
- ALL INSULATION SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 OR A SMOKE DEVELOPED INDEX OF 50.
- ACOUSTIC LINER SHALL BE 1-1/2LB GLASS FIBERGLASS WITH BLACK COATED MAT SURFACE. LINER SHALL BE MANVILLE "LINACOUSTIC".
- ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND A MINIMUM OF R-12 INSULATION WHEN LOCATED OUTSIDE THE BUILDING, WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-12 INSULATION.
- BALANCE AIR SYSTEMS IN ACCORDANCE WITH STANDARDS OF NEBB. SUBMIT BALANCE INFORMATION ON STANDARD FORMS PREPARED BY NEBB OR EQUIVALENT.
- BRANCH DUCT TAKE-OFFS: CHAMFER MIN OF 1.33 TIMES BRANCH DUCT WIDTH IN THE DIRECTION OF FLOW, MINIMUM OF 4 INCHES.
- PROVIDE FLEXIBLE DUCT CONNECTORS BETWEEN DUCTWORK AND MECHANICAL EQUIPMENT WHERE VIBRATION TRANSMISSION MAY RESULT.
- FLEXIBLE DUCTWORK SHALL BE MADE OF A SPRING STEEL HELIX SUPPORTING A PLASTIC CORE, INSULATED WITH 1" FIBERGLASS, IN A COPOLYMER VAPOR BARRIER JACKET, AND LIMITED TO A MAXIMUM LENGTH OF 10'.
- FLUE PIPING SHALL BE UL-LISTED, TYPE B, DOUBLE WALL, GAS VENT PIPING. ALL FLUES SHALL TERMINATE IN A ROOF CAP, THE FLUE VENT PIPING SHALL BE MANUFACTURED BY METALBESTOS, HART & COOLEY, DURAVENT, OR APPROVED EQUIVALENT.
- MANUAL VOLUME DAMPERS TO BE DOWCO SERIES AVM OR EQUAL AS MANUFACTURED BY RUSON CREATIVE METALS.
- DUCTWORK SHALL BE GALVANIZED STEEL METAL CONSTRUCTED AND INSTALLED ACCORDING TO THE LATEST ASHRAE AND SMACNA STANDARDS. DUCTWORK SHALL BE SEALED WITH MON-ECO INDUSTRIES ECO DUCT SEAL 44-50 TO SMACNA CLASS "C" STANDARDS. PROVIDE DUCTS, CONNECTIONS, DAMPERS, TURNING VANES, AND GASKETED ACCESS DOORS. CHANGES IN DIRECTION AND SHAPE OF DUCTS SHALL BE GRADUAL. ALL DUCTWORK SIZES SHOWN ON PLANS ARE INSIDE DIMENSIONS UNLESS NOTED OTHERWISE.
- EXPOSED ROUND DUCTWORK SHALL PRE-MANUFACTURED COMMERCIAL GRADE SPIRAL DUCT, STANDARD ROUND FORMED GALVANIZED SHEET METAL IS NOT BE AN ACCEPTABLE BUILDING MATERIAL.
- ALL EXPOSED DUCTWORK SHALL BE CONSTRUCTED WITH THE HIGHEST QUALITY WORKMANSHIP. ALL TAKE-OFFS, FITTINGS, TRANSITIONS, ETC. SHALL BE SEALED FROM INSIDE THE DUCTWORK MINIMIZING EXPOSED SEALANT AND INSTALLATION HARDWARE. CONNECTIONS SHALL BE SLIP JOINTS OR FLANGE-TO-FLANGE JOINTS UNLESS NOTED OTHERWISE.
- FILTERS SHALL BE 2" RIGID, PLEATED, DISPOSABLE TYPE, AND 30% EFFICIENT. FILTERS SHALL BE FARR 30-30. PROVIDE THREE COMPLETE SETS OF FILTERS: CONSTRUCTION, REPLACEMENT AT BALANCING, AND REPLACEMENT SET TO OWNER.
- TEES, 90° ELBOWS UP TO 18" WIDE AND 45° ELBOWS SHALL CONSIST OF AN INSIDE RADIUS GREATER THAN HALF THE DUCT WIDTH, OR BE FURNISHED WITH DUCT TURNING VANES. TEES AND 90° ELBOWS GREATER THAN 18" SHALL BE EQUIPPED WITH AIR FOLLY TYPE DUCT VANES. BRANCH TAKEOFFS OF MAIN SHALL BE "WYE" TYPE WHERE POSSIBLE.
- IF LEAKAGE IN EXCESS OF 5% OF THE SYSTEM DESIGN FLOW IS INDICATED AFTER BALANCING, RESEAL TO ELIMINATE EXCESS LEAKAGE.
- PROVIDE A COMPLETE SYSTEM OF AUTOMATIC TEMPERATURE CONTROLS, INCLUDING ALL EQUIPMENT, ACCESSORIES, AND APPURTENANCES REQUIRED. THE TEMPERATURE CONTROL CONTRACTOR MAY BE THE MECHANICAL CONTRACTOR OR APPROVED SUB-CONTRACTOR. ACCEPTABLE AUTOMATIC TEMPERATURE CONTROL EQUIPMENT MANUFACTURERS SHALL BE POWERS, HONEYWELL, JOHNSON CONTROLS, OR CONTROLS FURNISHED BY THE SPECIFIC EQUIPMENT MANUFACTURER. ALL CONTROL WIRING (LINE VOLTAGE OR LOW VOLTAGE) REQUIRED TO COMPLETE THE TEMPERATURE CONTROL SYSTEM SHALL BE INSTALLED BY THE TEMPERATURE CONTROL SUBCONTRACTOR.
- FURNACE UNIT THERMOSTATS SHALL BE PROGRAMMABLE, ELECTRONIC, AUTOMATIC HEATING/COOLING: HONEYWELL T8000 OR EQUIVALENT BY UNIT MANUFACTURER.
- DUCT DETECTORS SHALL BE INSTALLED IN THE RETURN AIR PLENUM IN ALL SYSTEMS GREATER THAN 2000 CFM. COORDINATE DETECTORS WITH FIRE CONTRACTOR IF APPLICABLE. DETECTORS SHALL CONTAIN AN IONIZATION TYPE DETECTOR WITH SAMPLING TUBES EXTENDING THROUGH THE WIDTH OF THE AIR DUCT. ALARM STATUS INDICATING LIGHTS SHALL BE VISIBLE ON THE FRONT OF THE DETECTOR. KEY CONTROLLER TEST AND RESET SWITCHES PLUS AN EASILY ACCESSIBLE TEST JACK SHALL BE PROVIDED, INCLUDING REMOTE STATION S, WHERE DETECTORS ARE NOT READILY ACCESSIBLE, THEY SHALL INCLUDE ALARM CONTACTS (DPDT) RATED A FIVE (5) AMPERES AT 210 VAC OR 28 VDC RESISTIVE. UNIT SHALL HAVE SELF CONTAINED POWER SUPPLY REQUIRING 120/240V POWER.
- SEQUENCE OF OPERATIONS: HVAC UNITS SHALL EACH BE CONTROLLED BY A HEATING/COOLING THERMOSTAT. TOILET EXHAUST FANS SHALL BE CONTROLLED MANUALLY BY WALL SWITCH, AND TURN ON WITH BATHROOM LIGHT IF SHOWN OR AS INSTRUCTED BY ARCHITECT OR ENGINEER. KITCHEN HOOD EXHAUST FANS SHALL BE INTERLOCKED WITH THE MAKEUP AIR UNIT FOR SIMULTANEOUS OPERATION. ACTIVATION OF DUCT DETECTOR SHALL SHUT DOWN ITS RESPECTIVE HVAC UNIT.
- A "COMFORT BALANCE" SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR, TO DISTRIBUTE UNIFORMLY THROUGHOUT THE SPACE. A DISPROPORTIONATE AMOUNT OF AIR SHOULD BE ROUTED TO AREAS WITH SIGNIFICANT AMOUNT OF GLASS, OR HIGH INTERNAL GAINS. BID SHOULD ALLOW ONE ADDITIONAL BALANCE OF THE SYSTEM TO SATISFY THE REQUIREMENTS OF THE OWNER/TENANT.



**MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**FRESH AIR VENTILATION SCHEDULE**

ROOM	ZONE	O.A.	NOM CFM	%O.A.	Az	Pz	Rp	Ra	Vbz	Ex	Voz (OA REQ'D)	EXH REQ'D	CFM PROVIDED	OA CFM PROVIDED	KEYED NOTE
LOBBY	(E) RTU-1	1600	8000	20%									150	30	7
CORRIDOR	(E) RTU-2				189	2	0	0.06	21	0.8			137	700	140
RECEPTION	(E) RTU-2				89	1	5	0.06	10	0.8			13	75	15
WORKSTATION	(E) RTU-2				83	1	5	0.06	10	0.8			12	75	15
OFFICE 1	(E) RTU-4				104	1	5	0.06	11	0.8			14	100	20
OFFICE 2	(E) RTU-4				109	1	5	0.06	12	0.8			14	100	20
OFFICE 3	(E) RTU-4				291	2	5	0.06	27	0.8			34	200	40
OFFICE 4	(E) RTU-4				185	1	5	0.06	16	0.8			20	100	20
ELECT/IT	(E) RTU-4				54	0	0	0	0	0.0			0	0	0
OFFICE 5	(E) RTU-4				132	1	5	0.06	13	0.8			16	100	20
OFFICE 6	(E) RTU-4				132	1	5	0.06	13	0.8			16	100	20
OFFICE 7	(E) RTU-4				140	1	5	0.06	13	0.8			17	100	20
OFFICE 8	(E) RTU-4				123	1	5	0.06	12	0.8			15	100	20
OFFICE 9	(E) RTU-4				192	1	5	0.06	17	0.8			21	150	30
OFFICE 10	(E) RTU-4				131	1	5	0.06	13	0.8			16	100	20
OFFICE 11	(E) RTU-4				126	1	5	0.06	13	0.8			16	100	20
OFFICE 12	(E) RTU-4				140	1	5	0.06	13	0.8			17	100	20
OFFICE 13	(E) RTU-4				93	1	5	0.06	11	0.8			13	100	20
OFFICE 14	(E) RTU-4				127	1	5	0.06	13	0.8			16	100	20
OFFICE 15	(E) RTU-4				127	1	5	0.06	13	0.8			16	100	20
OFFICE 16	(E) RTU-4				214	2	5	0.06	23	0.8			29	150	30
OFFICE 17	(E) RTU-4				117	1	5	0.06	12	0.8			15	100	20
OFFICE 18	(E) RTU-4				112	1	5	0.06	12	0.8			15	100	20
OFFICE 19	(E) RTU-4				127	1	5	0.06	13	0.8			16	100	20
OFFICE 20/CONF	(E) RTU-4				185	1	5	0.06	16	0.8			20	100	20
OFFICE 21	(E) RTU-4				98	1	5	0.06	11	0.8			14	100	20
OFFICE 22	(E) RTU-4				98	1	5	0.06	11	0.8			14	100	20
OFFICE 23	(E) RTU-4				98	1	5	0.06	11	0.8			14	100	20
OFFICE 24	(E) RTU-4				98	1	5	0.06	11	0.8			14	100	20
OFFICE 25	(E) RTU-4				97	1	5	0.06	11	0.8			14	100	20
CONFERENCE	(E) RTU-4				199	10	5	0.06	62	0.8			77	400	80
STAFF LOUNGE	(E) RTU-4				109	1	5	0.06	12	0.8			14	100	20
JADA UNS/EX	(E) RTU-4				96	0	0	0	0	0.0			0	140	30
EMPLOYEE RR	(E) RTU-4				60	0	0	0	0	0.0			0	70	100
WOMEN	(E) RTU-4				127	0	0	0	0	0.0			0	140	30
MEN	(E) RTU-4				127	0	0	0	0	0.0			0	140	30
MECH	(E) RTU-4				43	0	0	0	0	0.0			0	0	0
CLASSROOM	(E) RTU-4				830	30	10	0.12	400	0.8			500	2500	500
COPY	(E) RTU-4				97	1	5	0.06	11	0.8			14	100	20
LOUNGE	(E) RTU-4				97	1	5	0.06	11	0.8			14	100	20
KITCHEN	(E) RTU-4				415	0	0	0	0	0.0			0	400	80
KITCHENETTE	(E) RTU-4				84	1	5	0.06	10	0.8			13	100	20
STORAGE	(E) RTU-4				32	0	0	0.12	4	0.8			5	50	10
TOTAL					7927			75					1246	8000	1600

NOTES  
Az = Zone area in square feet  
Pz = people per zone, using IMC occupant load specification per 403.3  
Rp = Rate of fresh air per person required, in CFM  
Ra = rate of fresh air required per square foot of space  
Effectiveness (Ez) of 0.8 USED THROUGHOUT BECAUSE USE CLG SUPPLY OF WARM AIR WHEN HEATING & CLG RETURN

KEYED NOTES  
1. RESTROOM, Rp = 0, Ra = 0, OCC/1000 = 0, 50CFM PER WC OR UR, OPERATED CONTINUOUSLY WHILE OCCUPIED.  
2. OFFICE/BREAKROOM, Rp = 5, Ra = 06, OCC/1000 = 5  
3. CORRIDOR, Rp = 0, Ra = 06, OCC/1000 = 0  
4. CONFERENCE, Rp = 5, Ra = 06, OCC/1000 = 50  
5. STORAGE, Rp = 0, Ra = 12, OCC/1000 = 0  
6. CLASSROOM, Rp = 10, Ra = 12, OCC/1000 = 35  
7. MAIN ENTRY LOBBIES, Rp = 5, Ra = 06, OCC/1000 = 10  
8. NO FRESH AIR REQUIRED  
9. COPY ROOM, Rp = 5, Ra = 06, OCC/1000 = 4  
10. KITCHEN, Rp = 0, Ra = 0, OCC/1000 = 0, EX = 0.7 CFM/SF

ISSUE: BUILDING DEPT. ISSUE 09.09.19

CUSTOMER: MARIA STEPANYAN  
Center for People with Disorders  
1675 Range Street  
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**MECHANICAL PLAN**  
1675 RANGE STREET  
BOULDER, COLORADO  
OFFICE TENANT IMPROVEMENT

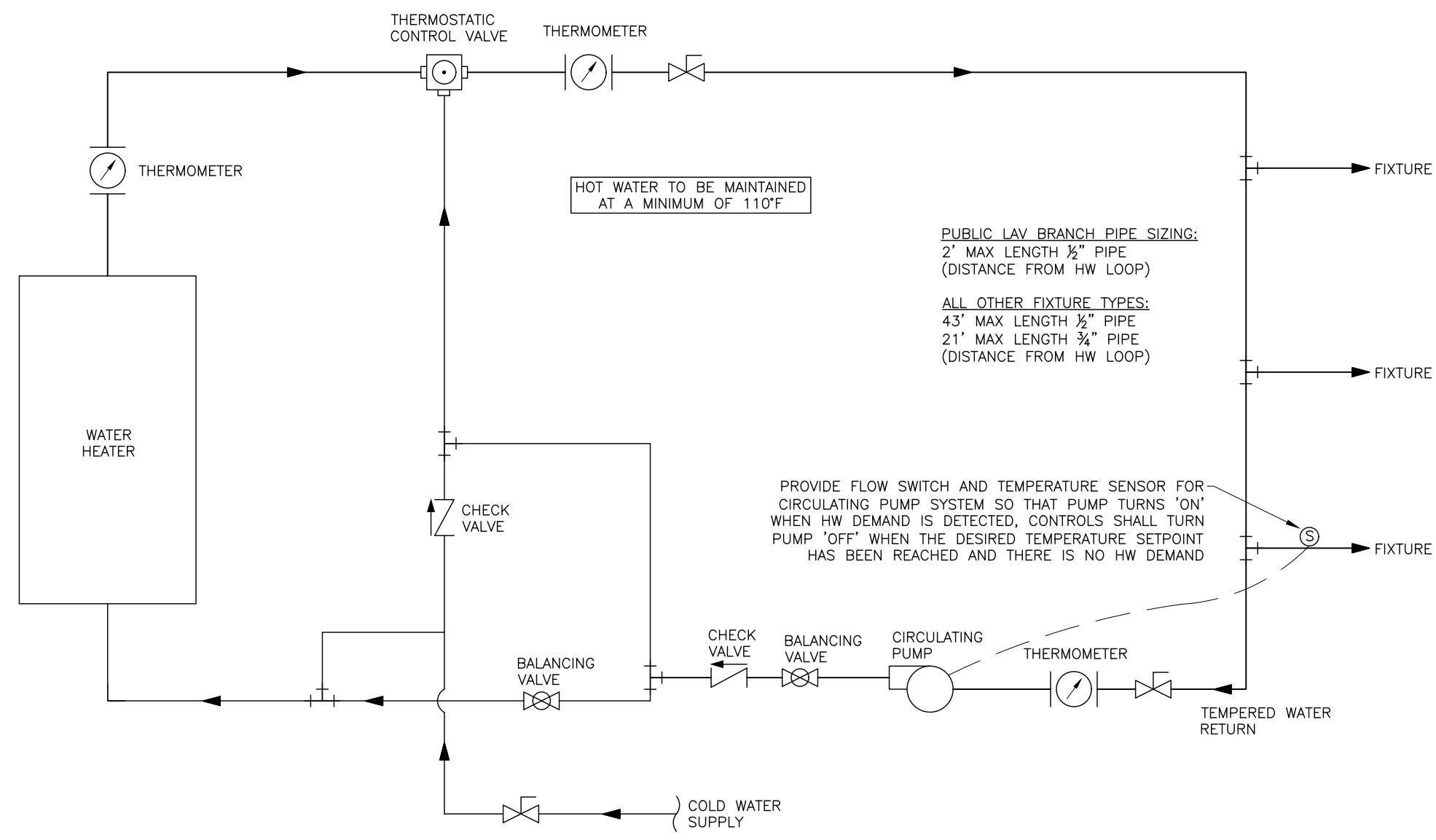
ENGINEERING COMPANY: **RENO JAMES ENGINEERING**  
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ENGINEERS STAMP

CHECKED BY: DRK  
DRAWN BY: SMS  
RENO JAMES PROJECT NUMBER: 19196  
SHEET NO.: M1





FUEL GAS PIPING CALCULATIONS	
SYSTEM PRESSURE	7.00 IN H2O"
MIN EO INLET P	6.00
ALLOWABLE DROP	1.00

EQUIP	MBH
RTU5-1	112
RTU5-2	112
RTU5-3	112
RTU5-4	120
<b>TOTAL</b>	<b>456</b>

PIPE SECTION	MBH	CFH	PIPE SIZE	REQ'D	PROPOSED
MAIN 1	456	530	1.40	1 1/2"	2"
RTU5-1	112	130	0.82	1"	1"
MAIN 1-1	344	400	1.26	1 1/2"	1 1/2"
MAIN 1-2	232	270	1.08	1 1/4"	1 1/4"
RTU5-4	120	140	0.84	1"	1"

FLUID TYPE	NOMINAL PIPE DIAMETER			
	<1"	1"-1 1/2"	1 1/2"-4"	>4"
HOT WATER (140°F MAX)	1"	1"	1.5"	1.5"
STEAM (k=0.29 MINIMUM)	3"	4"	4.5"	4.5"
CHILLED WATER, REFRIGERANT SUCTION	1"	1"	1"	1"
REFRIGERANT HOT GAS / LIQUID	1.5"	1.5"	2"	2"
CONDENSATE DISPOSAL	0.5"	0.5"	0.5"	0.5"
ROOF DRAINS (UNHEATED AREAS)	0.5"	0.5"	0.5"	0.5"

CONDENSATE DRAIN SIZING	
EQUIPMENT CAPACITY	MIN. PIPE DIAMETER (INCH)
UP TO 20 TONS OF REFRIGERATION	3/4"
OVER 20 TONS TO 40 TONS OF REFRIGERATION	1"
OVER 40 TONS TO 90 TONS OF REFRIGERATION	1 1/4"
OVER 90 TONS TO 125 TONS OF REFRIGERATION	1 1/2"
OVER 125 TONS TO 250 TONS OF REFRIGERATION	2"

PLUMBING LEGEND		
SYMBOL	ABV.	DESCRIPTION
---	CW	POTABLE COLD WATER
---	HW	POTABLE HOT WATER
---	SS	SANITARY SEWER (ABOVE FLOOR)
---	SS	SANITARY SEWER (BELOW FLOOR)
---	GAS	GAS (LOCATION AS NOTED)
---	GW	GREASE WATER (BELOW GRADE)
---	C	CONDENSATE
---	FS	FIRE SPRINKLER
---	CWS	CHILLED WATER SUPPLY
---	CWR	CHILLED WATER RETURN
---	S	STEAM
---	ST	STORM WATER
---	CA	COMPRESSED AIR
---	VAC	VACUUM
---	O2	OXYGEN (MEDICAL)
---	NO2	NITROUS OXIDE (MEDICAL)
---	REG	PRESS. REDUCING VALVE/REGULATOR
---	GV	GATE VALVE
---	BV	BALL VALVE
---	RPBP	RED. PRESS. BACKFLOW PREV.
---	CV	CHECK VALVE
---	BV	BALL VALVE
---		FLEXIBLE CONNECTOR
---		WCO
---		WACO
---		MTR/SM
---		FD
---		FS
---		RD
---		FA
---		POC
(N)		NEW
(E)		EXISTING TO REMAIN
(R)		EXISTING TO BE RELOCATED
(ER)		EXISTING TO BE REPLACED
(ED)		EXISTING TO BE DEMOLISHED
NC		NORMALLY CLOSED

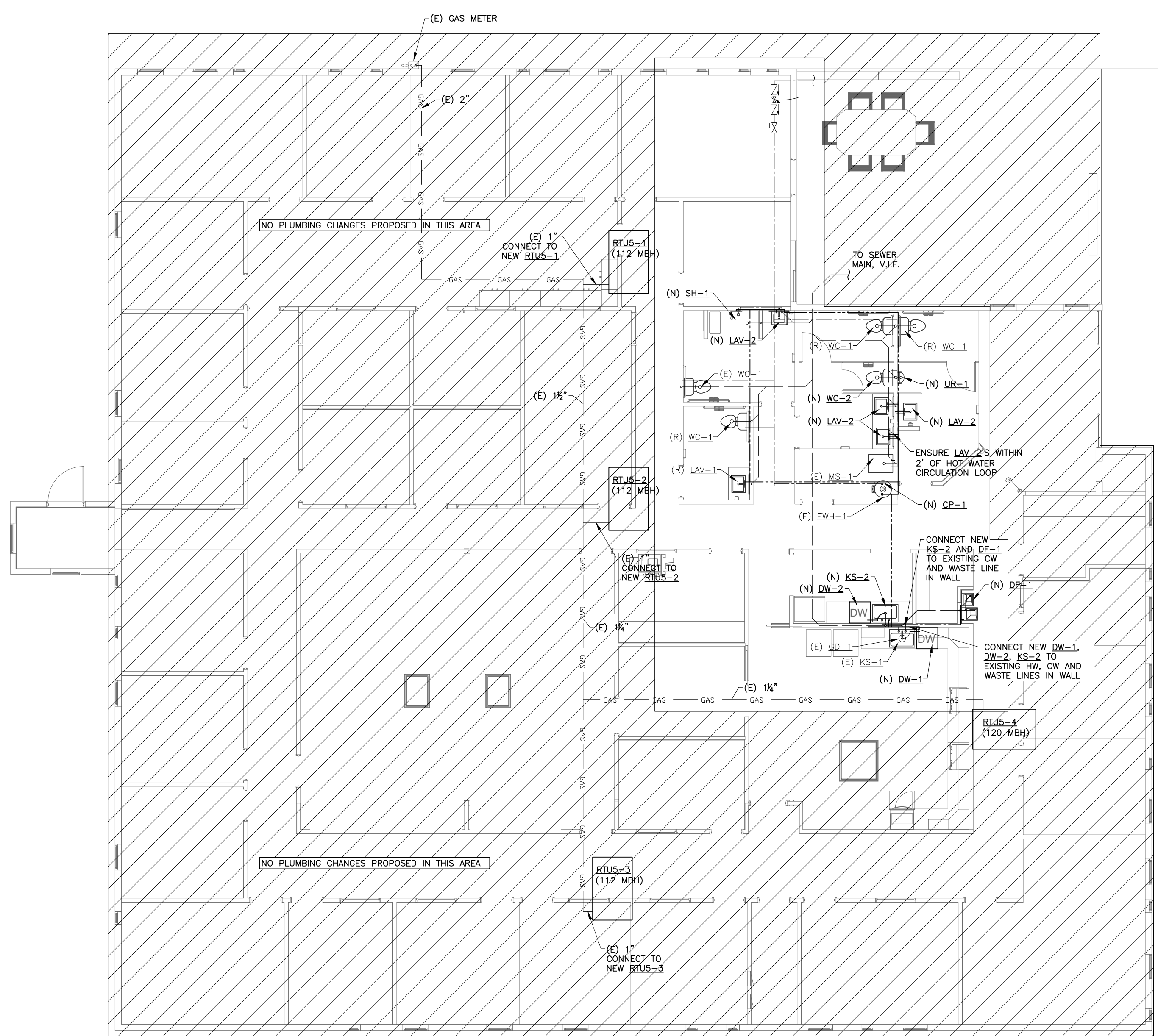
- ### PLUMBING GENERAL NOTES
- WORK SHALL CONFORM TO ADOPTED CODES OF THE AUTHORITY HAVING JURISDICTION, THE INTERNATIONAL PLUMBING CODE, AND APPLICABLE LOCAL STANDARDS.
  - INSTALLATION IS TO BE COMPLETE AND OPERATIONAL AND IS TO BE IN ACCORDANCE WITH BUILDING DEPARTMENT REQUIREMENTS. COORDINATE INSTALLATION IN EVERY RESPECT WITH WORK OF OTHER TRADES, EXISTING INSTALLATION, UTILITY COMPANY SERVICES AND STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS.
  - CUTTING AND PATCHING SHALL BE IN AN APPROVED MANNER, PATCH TO MATCH ADJACENT SURFACE. NEW ROOF OPENINGS ARE TO BE COORDINATED WITH STRUCTURE. MAINTAIN REQUIRED CLEARANCE BETWEEN O.A. INTAKES AND EXHAUSTS, GAS VENTS, AND PLUMBING VENTS.
  - OBTAIN, PAY FOR, AND MAINTAIN PERMITS, LICENSES, CERTIFICATES OF INSPECTION, AND LIABILITY INSURANCE.
  - FIELD CHECK EXISTING CONDITIONS AND INCLUDE ALL COSTS IN BID REQUIRED TO ACCOMMODATE EXISTING CONDITIONS AND TO PROVIDE A COMPLETE INSTALLATION.
  - PIPING MATERIAL SHALL BE AS FOLLOWS:
    - WASTE AND VENT ABOVE GRADE: CAST IRON WITH NO-HUB FITTINGS; DW COPPER WITH SOLDER JOINTS; PVC PLASTIC PIPE AND FITTINGS (PVC USE IS LIMITED TO APPLICATIONS APPROVED BY BUILDING DEPT). SOLVENT MUST BE A CONTRASTING COLOR TO THE PIPE COLOR. ABS IS ALLOWED IF APPROVED BY BUILDING DEPARTMENT.
    - WASTE AND VENT BELOW GRADE: CAST IRON WITH HUB AND SPIGOT FITTINGS; PVC PLASTIC PIPE AND FITTINGS.
    - DOMESTIC WATER ABOVE GRADE: ASTM B88, TYPE L COPPER WITH LEAD FREE SOLDER JOINTS.
    - DOMESTIC WATER BELOW GRADE: ASTM B88, TYPE K COPPER WITH LEAD FREE SOLDER JOINTS.
    - NATURAL GAS ABOVE GRADE: SCHEDULE 40 BLACK STEEL: 2" AND SMALLER ASTM A53, TYPE F WITH LARGED ASTM A53, CONCEALED TO BE WELDED; 2-1/2" AND LARGER ASTM A53, GRADE B, TYPE E, WITH WELDED JOINTS.
  - DRAIN LINES: DW COPPER WITH SOLDER JOINTS.
  - PIPE INSULATION: SEE PIPE INSULATION SCHEDULE
  - PROVIDE GAS REGULATORS AT GAS FIRED APPLIANCES AS REQUIRED TO PROVIDE CORRECT INLET GAS PRESSURE.
  - PROVIDE SPECIAL ORIFICES OR EQUIPMENT REQUIRED FOR GAS APPLIANCES TO OPERATE AT 5000 FT ABOVE SEA LEVEL.
  - PROVIDE PLUMBING FIXTURES WITH STOPS, CARRIERS, TRIM, BOLTS, CAPS, ETC. ALL FITTINGS AND APPURTENANCES SHALL BE CHROME PLATED BRASS UNLESS OTHERWISE NOTED. RUN ALL PIPING ON WARM SIDE OF THE BUILDING INSULATION.
  - PROVIDE ESCUTCHEON PLATES AS REQUIRED, ALL SHALL BE ATTACHED TO WALL WITH SILICON AND WHEN PROVIDED WITH A SCREW, THE SCREW SHALL BE LOCATED IN THE DOWN OR "6 O'CLOCK" POSITION.
  - PROVIDE 16 GAUGE CARBON STEEL STRIKER PLATES AT EACH STUD WITH GAS PIPING PENETRATION FOR PUNCTURE PROTECTION OF GAS PIPING IN THE WALL.
  - PROVIDE PIPE SUPPORTS AND EXPANSION LOOPS AS REQUIRED.
  - ALL EXPOSED PIPING IN PUBLIC AREAS SHALL BE ATTACHED AS CLOSE AS POSSIBLE TO THE STRUCTURE.
  - PAINT ALL EXPOSED GAS PIPING WITH A ZINC RICH PRIMER TO HELP PREVENT CORROSION.
  - PROVIDE CONDENSATE PIPING FOR ALL CONDENSATE PRODUCING EQUIPMENT. CONDENSATE PIPING SHALL BE MINIMUM 3/4" PVC AT UNIFORM SLOPE, 1" PER FT MINIMUM. PROVIDE CONDENSATE PUMPS AS REQUIRED.
- ADVANCED C & R INC  
720-495-9639  
WWW.ADVANCEDCANDR.COM

### HOT WATER CIRCULATION DETAIL NOT TO SCALE

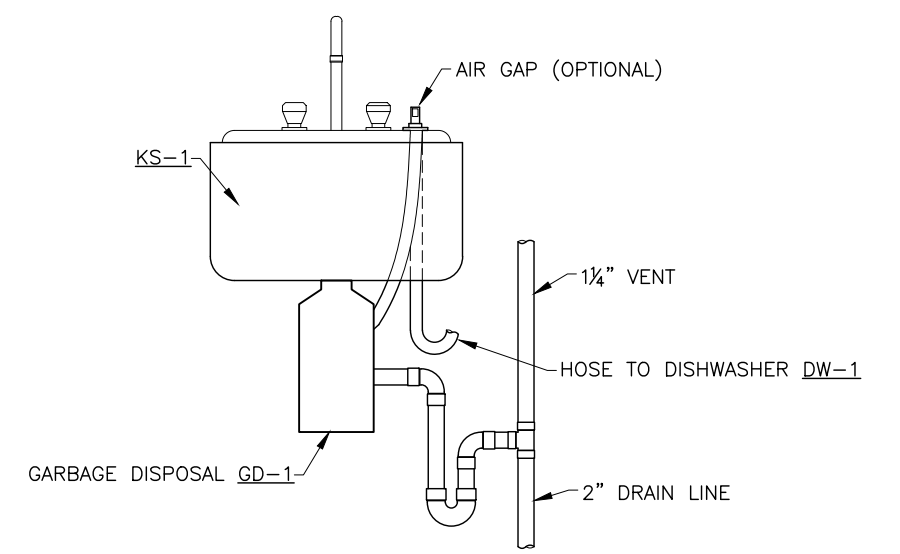
NO INCREASE OR CHANGE TO FIXTURE COUNT.

OLD FIXTURES BEING REPLACED AND RELOCATED ONLY.

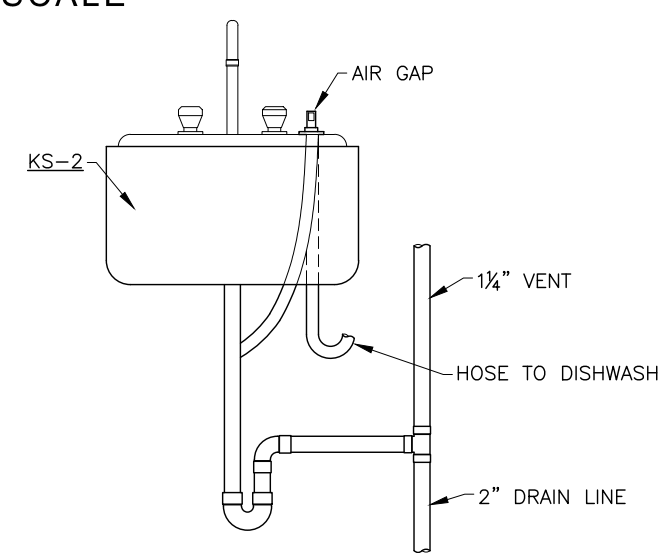
ALL NEW FIXTURES HAVE SAME OR LESSER WATER CONSUMPTION.



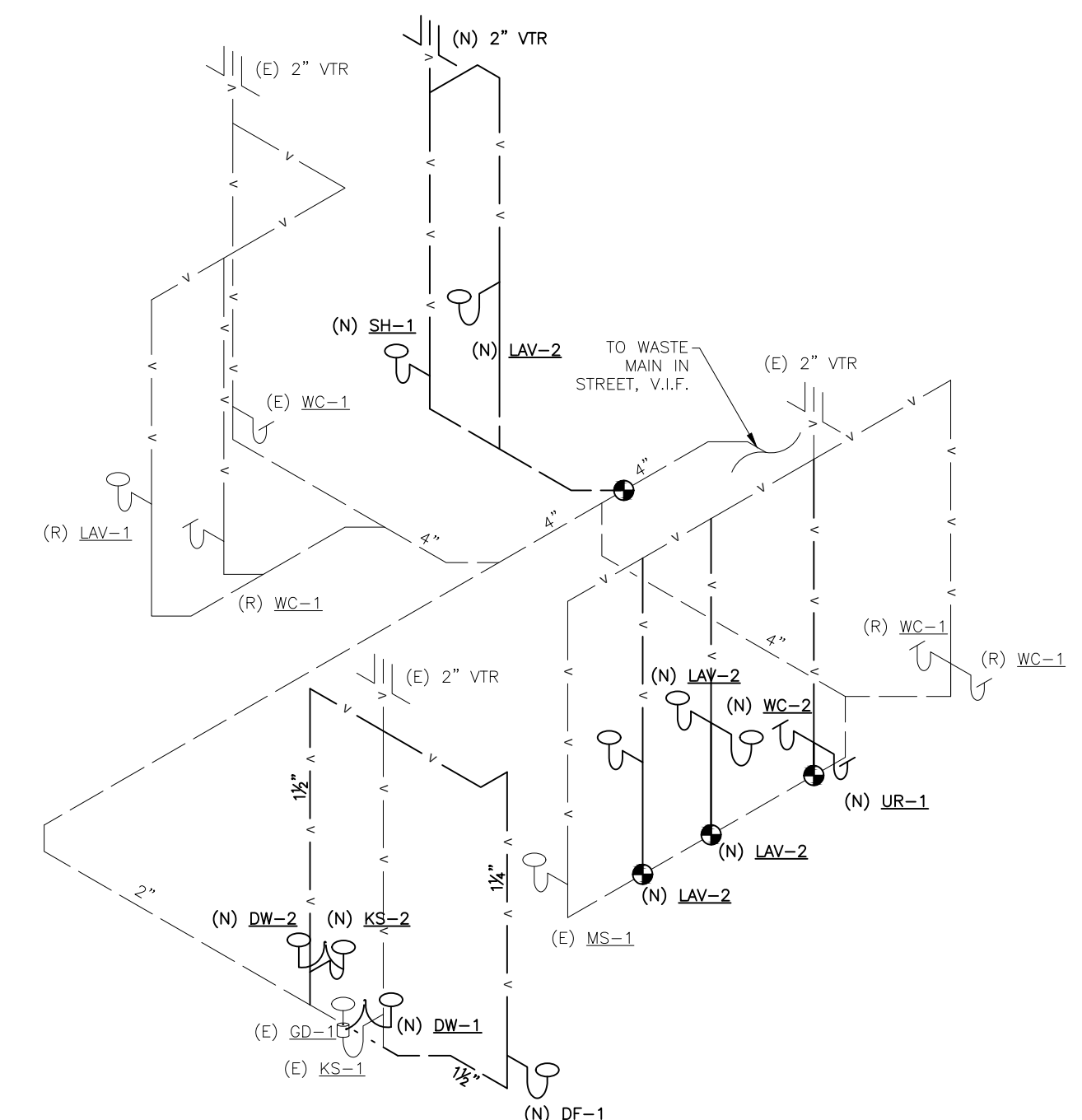
MECHANICAL PLAN  
SCALE: 1/8" = 1'-0"



DISHWASHER WASTE DETAIL NOT TO SCALE



DISHWASHER WASTE DETAIL NOT TO SCALE



WASTE & VENT PIPING ISOMETRIC NOT TO SCALE

BUILDING DEPT. ISSUE 09.09.19

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**PLUMBING PLAN**  
1675 RANGE STREET  
BOULDER, COLORADO  
OFFICE TENANT IMPROVEMENT

ENGINEERING COMPANY  
**RENO JAMES ENGINEERING**  
4900 W. 29TH AVENUE  
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ENGINEERS STAMP

CHECKED BY DRK  
DRAWN BY SMS  
RENO JAMES PROJECT NUMBER 19196  
SHEET NO.

**Commercial (Lighting ONLY)  
Mandatory Measures Checklist**

Applies to: All New Buildings, Additions, Alterations and Repairs which require a permit from the City.

Project Address: 1675 Range St, Boulder CO 80301

Date: 9/9/2019

DIRECTIONS: Compliance with these Mandatory Measures is required whether the project is demonstrating compliance through the Performance or Prescriptive Path. Please complete this checklist and include it on an "Energy Conservation Code" sheet within the plans being submitted for permit application.

Code Section	Focus Area	Code Description	Plan Drawing or Reference # to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on plans/specs)	Plans Examiner Notes (in office use)
<b>LIGHTING</b>					
C405.2.1	Lighting Control	Controls shall meet the provisions of C405.2.1-C405.2.4. Manual lighting controls are required for interior spaces and must be located within the area served by the controls or be a remote switch that identifies the lights served and indicates their status.	E1		<input type="checkbox"/> Field Verify
C405.2.1.2	Light Reduction Controls	Each area that is required to have a manual control shall also allow the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern by at least 50 percent. Lighting reduction shall be achieved by one of the following or other approved method: 1) Controlling all lamps or luminaires; 2) Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps; 3) Switching the middle lamp luminaires independently of the outer lamps; or 4) Switching each luminaire or each lamp.	E1		<input type="checkbox"/> Field Verify
C405.2.2.1	Automatic Lighting Shutoff	Automatic time switch controls shall be installed to control lighting in all areas of the building. The automatic time switch control device shall include an override switching device that complies with the following: 1. The override switch shall be in a readily accessible location; 2. The override switch shall be located where the lights controlled by the switch are visible; or the switch shall provide a mechanism which announces the area controlled by the switch; 3. The override switch shall permit manual operation; 4. The override switch, when initiated, shall permit the controlled lighting to remain on for a maximum of 2 hours; and 5. Any individual override switch shall control the lighting for a maximum area of 5,000 square feet	E1		<input type="checkbox"/> Field Verify
CA405.2.2.2	Occupancy Sensor/Space Control	Occupancy sensors shall be installed in all classrooms, conference/meeting rooms, employee lunch and break rooms, private offices, restrooms, storage rooms and janitorial closets, and other spaces 300 square feet or less enclosed by floor-to-ceiling height partitions. These automatic control devices shall be installed to automatically turn off lights within 30 minutes of all occupants leaving the space, and shall either be manual on or shall be controlled to automatically turn the lighting on to not more than 50 percent power.	E1		<input type="checkbox"/> Field Verify
<b>LIGHTING Continued</b>					
C405.2.2.3	Daylight Zone Control	Daylight zones shall be designed such that lights in the daylight zone are controlled independently of general area lighting and are controlled in accordance with C405.2.2.3.1 or C405.2.2.3.2.	N/A	Daylight zones contain lighting less than 150W.	<input type="checkbox"/> Field Verify
C405.2.2.3.3	Multi-level Control	Where multi-level controls are required, the general lighting in the daylight zone shall be separately controlled by at least one multi-level lighting control to reduce power to no greater than 35% of its rated power.	N/A	Multi-level controls are not required.	<input type="checkbox"/> Field Verify
C405.2.3	Additional Control	Display, accent lighting and Display case lighting shall be controlled by a dedicated control. Hotel and motel sleeping units shall have a master control device at the main room entry. Supplemental task lighting shall have a control device integral to the luminaires or be controlled by a wall mounted device. Lighting for nonvisual applications, such as plant growth and food warming shall be controlled by a dedicated control. Lighting equipment for sale or demo shall be controlled by a dedicated control.	N/A	No display lighting or any other lighting needing additional controls present.	<input type="checkbox"/> Field Verify
C405.2.4	Exterior Lighting Control	Lighting not designed for dusk to dawn operation shall be controlled by a combo of photosensor and time switch or an astronomical time switch or photosensor. Dusk to dawn lighting shall be controlled by an astronomical time switch or photosensor.	N/A	No exterior lighting proposed, site lighting by building owner.	<input type="checkbox"/> Field Verify
C405.3	Tandem Wiring	Fluorescent luminaires equipped with one, three or odd numbered lamp configurations, that are recess mounted within 10 ft center to center or that are pendant or surface mounted within 1 ft edge to edge must be tandem wired.	N/A	No odd numbered lamp configurations proposed.	<input type="checkbox"/> Field Verify
C405.4	Exit Signs	Internally illuminated exit signs shall not exceed 5 W per side.	E1		<input type="checkbox"/> Field Verify
C405.6.1	Exterior Building Grounds Lighting	All exterior building grounds luminaires that operate at greater than 100 watts shall contain lamps having a minimum efficacy of 60 lumens per watt unless the luminaire is controlled by a motion sensor or qualifies for one of the exceptions under Section C405.6.2.	N/A	No exterior lighting proposed, site lighting by building owner.	<input type="checkbox"/> Field Verify
C405.6.2	Exterior Building Lighting Power	Total exterior lighting power allowance for all exterior applications is the sum of the base site allowance plus the individual allowances for areas that are to be illuminated per Table C405.6.2(2). Tradeoffs are allowed only among exterior lighting applications listed in the Table.	N/A	No exterior lighting proposed, site lighting by building owner.	<input type="checkbox"/> Field Verify
<b>SYSTEM COMMISSIONING</b>					
C407.3	Lighting System Functional Testing	Controls for automatic lighting systems shall comply with Section C407.3		Commissioning to be completed and comply with C407.3	<input type="checkbox"/> Field Verify

**Commercial (Lighting ONLY)  
Prescriptive Measures Checklist**

Applies to: New Buildings and Additions with a construction valuation of <\$500,000; Alterations and Repairs are determined by construction valuations and should refer to Table C401.2.2.

Project Address: 1675 Range St, Boulder CO 80301

Date: 9/9/2019

DIRECTIONS: Compliance with these measures is required if the project uses the Prescriptive Compliance Path. Please complete this checklist and include it on an "Energy Conservation Code" sheet within the plans being submitted for permit application. Projects complying prescriptively also must meet Mandatory Measures and should include the Mandatory Measures Checklist as well.

Code Section	Focus Area	Code Description	Plan Drawing or Reference # to demonstrate compliance (N/A if not applicable)	Submitter Notes (e.g. if "N/A" Please explain why requirement does not apply or is not demonstrated on plans/specs)	Plans Examiner Notes (in office use)					
<b>INTERIOR LIGHTING</b>										
C405.5	Interior Lighting Power	Total connected lighting power calculated under Section C405.5.1 must be no greater than the interior lighting power calculated under Section C405.5.2.				<input type="checkbox"/> Field Verify				
		ROOM NAME	COBECC Space Description	Space SQ FT	COBECC Allowed LPD	Fixture Type	Number of Fixtures	Watts per Fixture	Total Watts per Room	Designed LPD (W/SF)
		LOBBY	LOBBY	189	0.9	LED troffer	3	32	96	0.51
		CORRIDOR	CORRIDOR	1800	1	LED troffer	30	32	960	0.53
		RECEPTION	OFFICE (E)	89	1.05	LED troffer	2	32	64	0.72
		WORKSTATION	OFFICE (E)	83	1.05	LED troffer	2	32	64	0.77
		OFFICE 1	OFFICE (E)	104	1.05	LED troffer	2	32	64	0.62
		OFFICE 2	OFFICE (E)	109	1.05	LED troffer	2	32	64	0.59
		OFFICE 3	OFFICE (E)	291	1.05	LED troffer	5	32	160	0.55
		OFFICE 4	OFFICE (E)	185	1.05	LED troffer	4	32	128	0.69
		ELECT/IT	EQUIPMENT RM	54	0.74	LED A-lamp	1	10	10	0.19
		OFFICE 5	OFFICE (E)	132	1.05	LED troffer	2	32	64	0.48
		OFFICE 6	OFFICE (E)	132	1.05	LED troffer	2	32	64	0.48
		OFFICE 7	OFFICE (E)	140	1.05	LED troffer	2	32	64	0.46
		OFFICE 8	OFFICE (E)	123	1.05	LED troffer	2	32	64	0.52
		OFFICE 9	OFFICE (E)	192	1.05	LED troffer	4	32	128	0.67
		OFFICE 10	OFFICE (E)	131	1.05	LED troffer	2	32	64	0.49
		OFFICE 11	OFFICE (E)	126	1.05	LED troffer	2	32	64	0.51
		OFFICE 12	OFFICE (E)	140	1.05	LED troffer	2	32	64	0.46
		OFFICE 13	OFFICE (E)	93	1.05	LED troffer	2	32	64	0.69
		OFFICE 14	OFFICE (E)	127	1.05	LED troffer	2	32	64	0.50
		OFFICE 15	OFFICE (E)	127	1.05	LED troffer	2	32	64	0.50
		OFFICE 16	OFFICE (E)	214	1.05	LED troffer	4	32	128	0.60
		OFFICE 17	OFFICE (E)	117	1.05	LED troffer	2	32	64	0.55
		OFFICE 18	OFFICE (E)	112	1.05	LED troffer	2	32	64	0.57
		OFFICE 19	OFFICE (E)	127	1.05	LED troffer	2	32	64	0.50
		OFFICE 20/CONF	OFFICE (E)	185	1.05	LED troffer	4	32	128	0.69
		OFFICE 21	OFFICE (E)	98	1.05	LED troffer	2	32	64	0.65
		OFFICE 22	OFFICE (E)	98	1.05	LED troffer	2	32	64	0.65
		OFFICE 23	OFFICE (E)	98	1.05	LED troffer	2	32	64	0.65
OFFICE 24	OFFICE (E)	98	1.05	LED troffer	2	32	64	0.65		
OFFICE 25	OFFICE (E)	97	1.05	LED troffer	2	32	64	0.66		
CONFERENCE	OFFICE (O)	199	0.93	LED troffer	3	32	96	0.48		
STAFF LOUNGE	LOUNGE	109	0.62	LED troffer	2	32	64	0.59		
ADA UNISEX	RESTROOM	96	0.98	LED A-lamp	2	10	20	0.21		
EMPLOYEE RR	RESTROOM	60	0.98	LED A-lamp	1	10	10	0.17		
WOMEN	RESTROOM	127	0.98	LED A-lamp	3	10	30	0.24		
MEN	RESTROOM	127	0.98	LED A-lamp	3	10	30	0.24		
MECH	RESTROOM	43	0.98	LED A-lamp	1	10	10	0.23		
CLASSROOM	CLASSROOM	830	1.05	LED troffer	12	32	384	0.46		
COPY	OFFICE (E)	97	1.05	LED troffer	2	32	64	0.66		
LOUNGE	LOUNGE	97	0.63	LED troffer	2	32	64	0.66		
KITCHEN	FOOD PREP	415	1.20	LED troffer	8	32	256	0.62		
KITCHENETTE	FOOD PREP	84	1.20	LED troffer	3	32	96	1.14		
STORAGE	STORAGE	32	0.63	LED A-lamp	1	10	10	0.31		
Totals		7927	1.00				4280	0.54		

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**ELECTRICAL PLAN**  
1675 RANGE STREET  
BOULDER, COLORADO  
OFFICE TENANT IMPROVEMENT

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CHECKED BY DRK  
DRAWN BY SMS  
RENO JAMES PROJECT NUMBER 19186  
SHEET NO.

E0

(E) PANEL "A"															
VOLTS:		120/208V 3P4W										*VERIFY SPECIFICATIONS IN FIELD*		MTG. SURFACE NEMA 1	
MAIN AMPS:		150										A.I.C.: 10k			
MAIN BREAKER:		150													
DESCRIPTION	CODE	KVA	DkVA	BKR	CKT#	A	B	C	CKT#	BKR	DkVA	KVA	CODE	DESCRIPTION	
MAIN		150A3P			1	X			2	50A2P	4.38	4.38	4	RTU5-3	
					3		X		4		4.38	4.38	4		
					5			X	6	20A1P	1.05	0.84	1	RESTROOMS	
RTU5-2	4	4.38	4.38	50A2P	7	X			8	20A1P	0.80	0.64	1	LIGHTS	
	4	4.38	4.38		9		X		10	20A1P	1.12	0.90	1	LIGHTS	
LIGHTS	1	0.74	0.92	20A1P	11			X	12	20A1P	1.56	1.25	1	LIGHTS	
BLANK					13	X			14	20A1P				SPARE	
REC.	2	0.18	0.18	20A1P	15		X		16	20A1P	0.36	0.36	2	OFFICE REC.	
	2	0.18	0.18	20A1P	17			X	18	20A1P	0.54	0.54	2	RECEPTION REC.	
KITCHEN REC.	2	0.36	0.36	20A1P	19	X			20	20A1P				SPARE	
KITCHEN REC.	2	0.36	0.36	20A1P	21		X		22	20A1P	1.14	1.14	2	(E) GARBAGE DISPOSAL	
KITCHEN REC.	2	0.36	0.36	20A1P	23			X	24	20A1P	1.20	1.20	2	(N) DISHWASHER	
COOK TOP	7	2.81	1.96	30A2P	25	X			26	20A1P				SPARE	
	7	2.81	1.96		27		X		28	20A1P	0.36	0.36	2	OFFICE REC.	
COOK TOP	7	3.54	2.48	50A2P	29		X		30	20A1P	1.00	1.00	2	(N) DRINKING FOUNTAIN	
	7	3.54	2.48		31	X			32	20A1P				SPARE	
220V REC.	2	0.18	0.18	20A2P	33		X		34	20A1P				SPARE	
	2	0.18	0.18		35		X		36	20A1P	1.20	1.20	2	(N) DISHWASHER	
RTU5-4	4	3.12	3.12	40A3P	37	X			38	20A1P				SPARE	
	4	3.12	3.12		39		X		40	20A1P				SPARE	
	4	3.12	3.12		41			X	42	20A1P	0.64	0.64	2	LIGHTS	
Description	Code	Demand	Conn.	Dem.	Load Summary			KVA	Demand KVA	Demand Amps per Ph					
Lighting	1	125%	4.365	5.456	Ph A		19.2	17.5		146					
Receptacles up to 10kW	2	100%	8.24	8.24	Ph B		18.2	17.5		146					
Receptacles over 10kW	3	50%	0	0	Ph C		14.8	14.4		120					
Motor	4	100%	26.88	26.88	TOTAL		52.2	49.5							
Largest motor	5	125%	0	0	Connected			145 Amps							
Heater	6	125%	0	0	Code Demand			137 Amps							
FIVE (5) KITCHEN EQUIP NEC	7	70%	12.68	8.879											
Subpanel	8	100%	0	0											

(E) PANEL "B"															
VOLTS:		120/208V 3P4W										*VERIFY SPECIFICATIONS IN FIELD*		MTG. SURFACE NEMA 1	
MAIN AMPS:		150										A.I.C.: 10k			
MAIN BREAKER:		150													
DESCRIPTION	CODE	KVA	DkVA	BKR	CKT#	A	B	C	CKT#	BKR	DkVA	KVA	CODE	DESCRIPTION	
MAIN		150A3P			1	X			2	150A3P				MAIN	
					3		X		4						
					5			X	6						
OUTSIDE	2	0.36	0.36	20A1P	7	X			8	20A1P	0.36	0.36	2	NW OFFICE REC	
OUTSIDE	2	0.36	0.36	20A1P	9		X		10	20A1P	0.18	0.18	2	OFFICE REC	
IT REC	2	0.50	0.50	20A1P	11			X	12	20A1P	0.36	0.36	2	NW CORNER REC	
SERVICE REC	2	0.18	0.18	20A1P	13	X			14	30A2P	1.98	1.98	4	DRYER	
OFFICE REC	2	0.36	0.36	20A1P	15		X		16		1.98	1.98	4		
OFFICE REC	2	0.36	0.36	20A1P	17			X	18	20A1P	0.36	0.36	2	REC	
CLASSROOM REC.	2	0.54	0.54	20A1P	19	X			20	20A1P	0.36	0.36	2	EAST REC	
CLASSROOM REC.	2	0.54	0.54	20A1P	21		X		22	40A2P	1.96	2.80	7	OVEN	
CLASSROOM REC.	2	0.36	0.36	20A1P	23			X	24		1.96	2.80	7		
OFFICE REC	2	0.54	0.54	20A1P	25	X			26	20A1P				SPARE	
OFFICE REC	2	0.54	0.54	20A1P	27		X		28	20A1P	0.90	0.90	2	N.W CORNER REC	
OFFICE REC.	2	0.90	0.90	20A1P	29		X		30	20A1P	0.90	0.90	2	REC	
OFFICE REC.	2	0.90	0.90	20A1P	31	X			32	20A1P	0.36	0.36	2	OFFICE REC	
OUTSIDE LIGHTS	1	0.35	0.44	20A1P	33		X		34	20A1P	0.54	0.54	2	COPY REC	
PUMP	4	0.45	0.45	20A1P	35		X		36	20A1P	0.50	0.50	2	COPY REC	
OFFICE REC	2	0.36	0.36	20A1P	37	X			38	20A1P	0.90	0.90	2	N.E REC	
220V WEST REC	2	0.18	0.18	20A2P	39		X		40	20A2P	0.18	0.18	2	220V REC	
	2	0.18	0.18		41			X	42		0.18	0.18	2		
Description	Code	Demand	Conn.	Dem.	Load Summary			KVA	Demand KVA	Demand Amps per Ph					
Lighting	1	125%	0.35	0.438	Ph A		6.8	6.8		57					
Receptacles up to 10kW	2	100%	13.24	13.24	Ph B		8.9	8.2		68					
Receptacles over 10kW	3	50%	0	0	Ph C		7.8	7.0		58					
Motor	4	100%	4.402	4.402	TOTAL		23.6	22.0							
Largest motor	5	125%	0	0	Connected			65 Amps							
Heater	6	125%	0	0	Code Demand			61 Amps							
FIVE (5) KITCHEN EQUIP NEC	7	70%	5.595	3.917											
Subpanel	8	100%	0	0											

**EXTERIOR LIGHTING REQUIREMENTS**

EXTERIOR LIGHTING TO BE SUPPLIED WITH EQUIPMENT TO MEET THE FOLLOWING REQUIREMENTS PER IECC C405.2.5:

-EXTERIOR LIGHTING TO AUTOMATICALLY SHUT OFF AS A FUNCTION OF AVAILABLE DAYLIGHT

-WHERE LIGHTING THE BUILDING FACADE OR LANDSCAPE, THE LIGHTING SHALL HAVE CONTROLS TO AUTOMATICALLY SHUT OFF THE LIGHTING AS A FUNCTION OF DAWN/DUSK AND A SET OPENING AND CLOSING TIME.

-WHERE NOT COVERED IN ITEM 2, THE LIGHTING SHALL HAVE CONTROLS CONFIGURED TO REDUCE THE CONNECTED LIGHTING POWER BY NOT LESS THAN 30 PERCENT FROM NOT LATER THAN MIDNIGHT TO 6 A.M., FROM ONE HOUR AFTER BUSINESS CLOSING TO ONE HOUR BEFORE BUSINESS OPENING OR DURING ANY PERIOD WHEN ACTIVITY HAS NOT BEEN DETECTED FOR A TIME OF LONGER THAN 15 MINUTES.

**ELECTRICAL SYMBOL LEGEND**

	RECESSED FLUORESCENT
	STRIP FLUORESCENT
	WALL MOUNTED LIGHT
	CEILING MOUNTED LIGHT
	BATTERY PACK EMERGENCY LIGHT
	BATTERY PACK EXIT LIGHT W/ ARROW
	COMBINATION EXIT/ EMERGENCY LIGHT
	DUPLEX RECEPTACLE 120V, 15A OR 20A
	QUADPLEX RECEPTACLE 120V, 15A OR 20A
	RECEPTACLE 240V, 40A
	SPECIAL USE RECEPTACLE
	GROUND FAULT CIRCUIT INTERRUPTER
	WEATHER PROTECTED
	FLOOR RECEPTACLE
	PANELBOARD
	DISCONNECT SWITCH
	CIRCUIT BREAKER/DISCONNECTING MEANS
	SWITCH SINGLE POLE
	DIMMER SWITCH
	SWITCH THREE WAY
	TIME SWITCH
	SWITCH SPEED CONTROL
	MOTION/OCCUPANCY SENSOR SWITCH
	TELEPHONE/DATA PORT
	TRANSFORMER
	WATTOUR METER
	TIME CLOCK
	EQUIPMENT DESIGNATION
	JUNCTION BOX
	HOMERUN, ARROWS INDICATE NO. CIRCUITS
	CIRCUIT RUN, IN WALLS & ABOVE CEILING
	CIRCUIT RUN, UNDERGROUND OR IN FLOOR
	(N) ITEMS SHOWN HEAVY AND/OR DENOTED WITH (N) ARE NEW UNLESS OTHERWISE NOTED
	(R) ITEMS SHOWN HEAVY AND DENOTED WITH (R) ARE EXISTING TO BE RELOCATED
	(E) ITEMS SHOWN LIGHT AND/OR DENOTED WITH (E) ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED
	ITEMS SHOWN DASHED ARE EXISTING TO BE DEMOUSHED UNLESS OTHERWISE NOTED

**ELECTRICAL GENERAL NOTES**

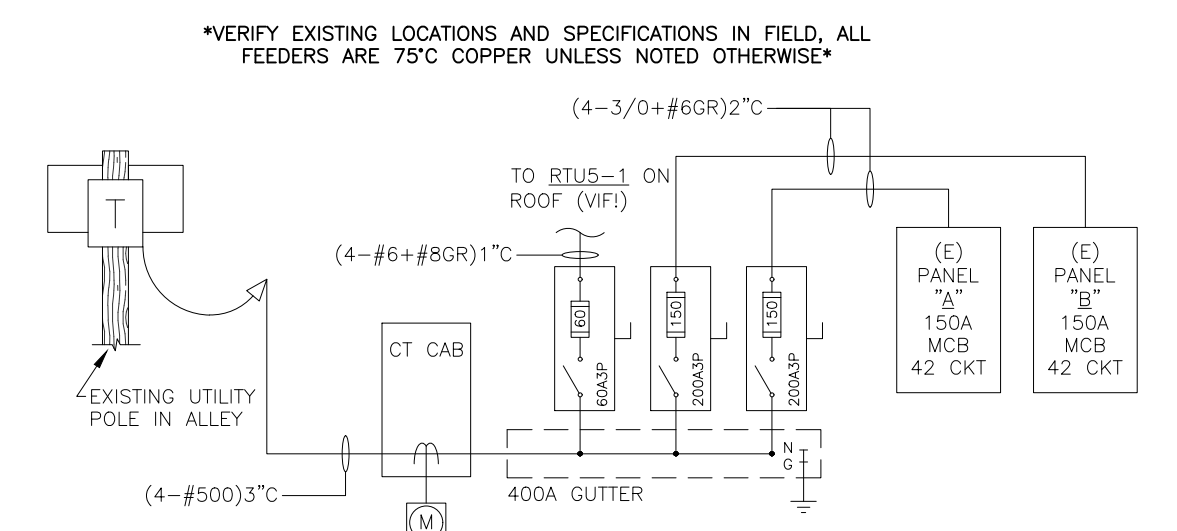
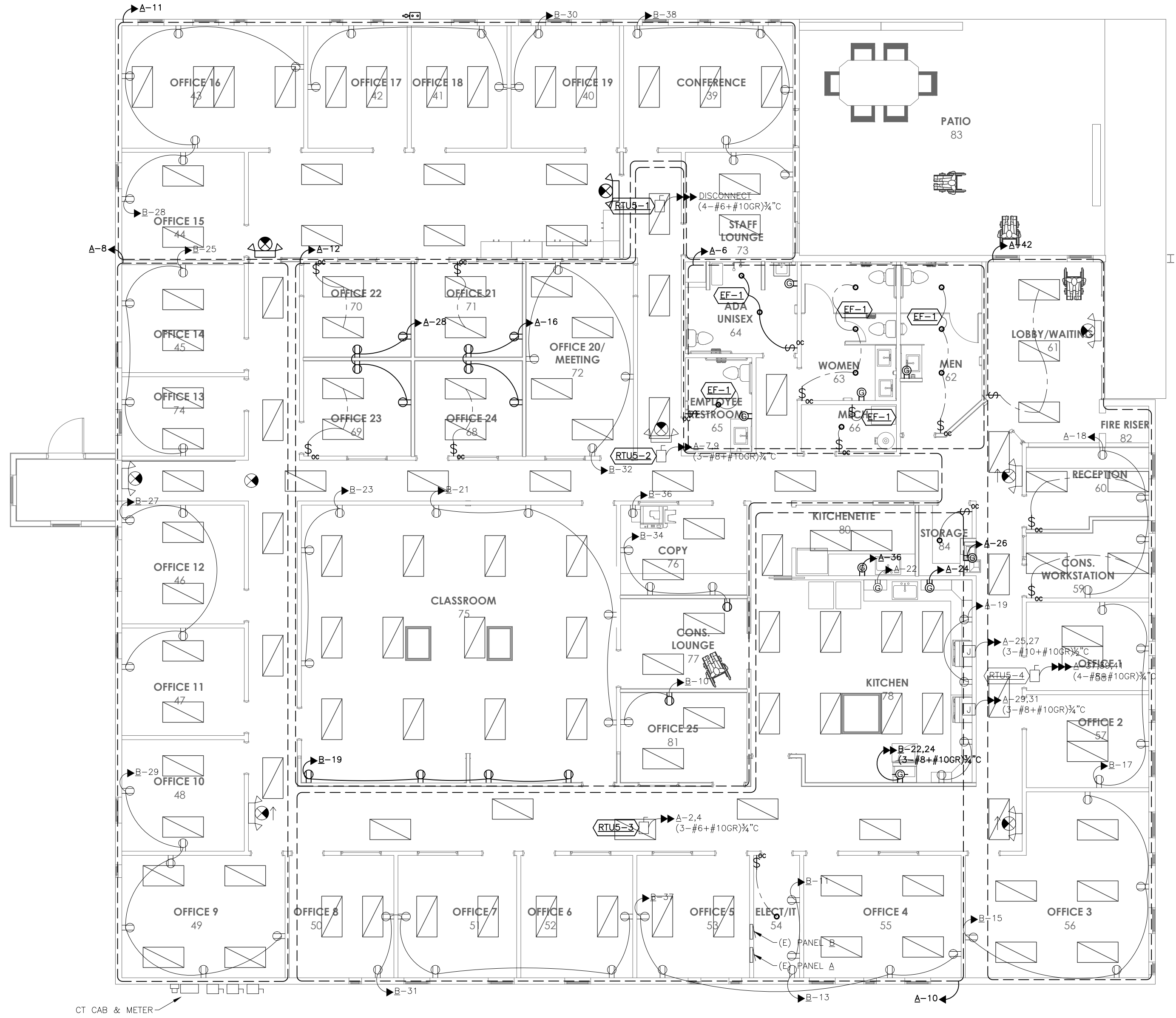
- PROVIDE ALL EQUIPMENT AND SERVICES NECESSARY TO INSTALL THE COMPLETE SYSTEMS DESCRIBED BY THE CONTRACT DOCUMENTS AND SPECIFIED BELOW. THE DRAWINGS ILLUSTRATE THE GENERAL DESIGN AND LOCATIONS OF PERFORMANCE REQUIRED. ALL DIMENSIONS AND LOCATIONS SHALL BE TAKEN FROM THE ARCHITECTURAL DRAWINGS.
- COMPLY WITH STATE AND LOCAL CODES, UTILITY COMPANY REGULATIONS, AND THE APPLICABLE AND ADOTTED CODES OF THE AUTHORITY HAVING JURISDICTION.
- EQUIPMENT AND MATERIALS SHALL BE NEW, UL OR ETL RATED, OR A RATED BY STANDARDS ORGANIZATION APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ELECTRICAL SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ELECTRICAL EQUIPMENT INSTALLED.
- PROTECT EXCAVATING AND BACKFILLING FOR ELECTRICAL WORK. PROTECT ACCORDING TO OSHA STANDARDS.
- SUPPORT CONDUIT AND EQUIPMENT FROM THE STRUCTURE TO PREVENT SAGGING, POCKETING, SWAYING, AND VIBRATING.
- PROVIDE SLEEVES AND INSERTS FOR ALL ELECTRICAL CONDUIT. SEAL ALL PIPING AND CONDUIT PASSING THROUGH FIRE RATED ASSEMBLIES BY APPROVED METHODS TO MAINTAIN THE FIRE RATING OF THE ASSEMBLY.
- PROVIDE COMPLETE SYSTEMS OF CONDUCTORS AND RACEWAYS USING CONDUIT AND/OR CABLE ASSEMBLIES APPROPRIATE FOR AND TO THE FUNCTION AND LOCATION AS SPECIFIED IN CHAPTER THREE OF THE NATIONAL ELECTRIC CODE. CONDUCTORS MUST BE DERATED PER CODE. LOAD BALANCE THE ENTIRE SYSTEM TO WITHIN 15% PER PHASE. PROVIDE A COMPLETE GROUNDING SYSTEM IN ACCORDANCE WITH N.E.C. SECTION 250.
- THE FOLLOWING CONDUIT ARE APPROVED FOR USE ON THIS PROJECT, WHERE APPROVED BY THE N.E.C.:  
EMT: ELECTRICAL METAL TUBING, GALVANIZED  
PVC: POLYVINYL CHLORIDE CONDUIT, SCHEDULE 40
- METAL CLAD (MC) CABLE ASSEMBLIES MAY BE USED IN THE POWER DISTRIBUTION SYSTEM, WHERE CONCEALED OR WHERE NOT EXPOSED TO PHYSICAL DAMAGE, AND WHERE APPROVED BY N.E.C.
- PROVIDE GALVANIZED STEEL OUTLET AND JUNCTION BOXES. EXCEPT WHERE OTHERWISE NOTED, BOXES SHALL BE A MINIMUM 4" SQUARE OR OCTAGONAL AND AS DEEP AS REQUIRED. PROVIDE WEATHERPROOF TYPE CAST BOXES WITH GASKET AND CAST COVERPLATE FOR WET LOCATIONS. THROUGH THE WALL BOXES ARE NOT PERMITTED. PROVIDE PLASTER OR TILE RINGS FOR ALL FLUSH OUTLETS INSTALLED WHERE REQUIRED.
- PROVIDE SPECIFICATION GRADE IVORY COLORED DEVICES THROUGHOUT UNLESS NOTED OTHERWISE OR SPECIFIED BY ARCHITECT. SWITCHES AND DUPLEX RECEPTACLES SHALL BE COMMERCIAL GRADE. PROVIDE COVERPLATES FOR UNUSED OUTLETS. OUTLET PLATES MUCH MATCH SIZE OF MULTIGANG BOXES.
- ALL WIRE IS COPPER UNLESS OTHERWISE NOTED, OR ALUMINUM OF APPROVED EQUAL RATING. ALL CONDUCTORS SHALL BE RATED FOR 800V. ALL FEEDERS SHALL BE THHN, THWN, OR EQUAL. THE CONDUCTORS AND ALL LUGS SHALL COMPLY TO THE 75°C RATING UNLESS OTHERWISE NOTED.
- ALL WIRING FOR 20A CIRCUITS SHALL BE AWG #12 THHN/THWN COPPER WIRE, HOMERUNS OVER 75' SHALL BE AWG #10 THHN/THWN COPPER WIRE.
- USE PVC IN EARTH OR IN SLABS IN CONTACT WITH EARTH. DIRECT BURIAL WIRING SHALL NOT BE USED. OUTSIDE THE BUILDING, INSTALL AT A MINIMUM OF 30" BELOW FINISHED GRADE. WHERE DAMAGE MAY OCCUR, USE GALVANIZED RIGID STEEL OR INTERMEDIATE METAL CONDUIT.
- MAXIMUM NUMBER OF CONDUCTORS IN A CONDUIT FOR A 3Ø SYSTEM SHALL BE THREE (3), (1Ø, 1Ø, 1Ø), NOT INCLUDING NEUTRALS AND GROUND UNLESS OTHERWISE NOTED.
- POWER WIRING COLOR CODE: FOR 120/208 AND 240V 3Ø  
PHASE A BLACK  
PHASE B RED  
PHASE C BLUE  
NEUTRAL GRAY, WHITE, OR 3 WHITE STRIPES  
GROUND GREEN
- NO CONDUIT SMALLER THAN 1/2" SHALL BE USED.
- EXPOSED CONDUIT IS ALLOWABLE, BUT DO NOT INSTALL IN AREAS OPEN TO PUBLIC. EXPOSED CONDUIT MAY BE INSTALLED AT SURFACE MOUNTED EQUIPMENT AND AT OTHER LOCATIONS ACCEPTABLE TO THE ARCHITECT. SUPPORT CONDUIT PER N.E.C. RUN EXPOSED CONDUIT TO AND AT RIGHT ANGLES TO BUILDING LINES.
- PROVIDE CIRCUIT BREAKER TYPE LOAD CENTERS AS SHOWN ON THE DRAWINGS. BREAKERS SHALL BE FULL WIDTH, THERMAL MAGNETIC, PLUG-IN TYPE. PROVIDE MULTIPOLAR BREAKERS WITH COMMON TRIP AND SINGLE OPERATING HANDLE. PROVIDE SEPARATE GROUND BUS. PROVIDE A TYPED PANEL SCHEDULE IN PANEL DOOR.
- PROVIDE NORMAL DUTY, ENCLOSED, FUSIBLE, AND NON-FUSIBLE SAFETY SWITCHES IN ENCLOSURES SUITABLE FOR THE SURROUNDING AREA AND CONDITIONS. LABEL SWITCHES FOR FEEDER OR MOTOR SUPPLIED.
- PROVIDE BRANCH CIRCUITS, FEEDERS, JUNCTION BOXES, DISCONNECT SWITCHES AS REQUIRED FOR A COMPLETE SYSTEM. MAKE POWER CONNECTIONS TO MOTORS AND CONTROLS FOR HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OWNER FURNISHED EQUIPMENT AS REQUIRED.
- EXTERIOR LIGHTING FIXTURES, RACEWAYS, BALLASTS, AND EQUIPMENT SHALL BE WEATHERPROOF AND SUITABLE FOR TEMPERATURES DOWN TO -20°F.
- IF HIGH LEG SYSTEM, HIGH LEG PHASE TO BE PHASE "B" MIDDLE BUS AND BE MARKED ORANGE THROUGHOUT SYSTEM.
- ALL 120V RECEPTACLES ARE 18" AFF AND SWITCHES ARE 48" AFF UNLESS OTHERWISE NOTED, OR AS SPECIFIED BY CUSTOMER.
- EGRESS LIGHTING SHALL HAVE GREEN LETTERING ON A CONTRASTING COLOR, 90-MINUTE BATTERY BACKUP, AND BE WIRED TO UN-SWITCHED HOT LEG OF NEAREST LIGHTING CIRCUIT.
- ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE ONE LINE DIAGRAM PRIOR TO BIDDING AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.

**SCOPE OF WORK:**

- CONNECT NEW RTU5-1, RTU5-2, RTU5-3 TO THEIR EXISTING POWER SUPPLIES AND PROVIDE NEW BREAKERS IF EXISTING ARE OVER 50A. RE-USE EXISTING WIRES IF POSSIBLE.
- VERIFY RTU5-4 IS POWERED BY PANEL A-37,39,41.
- PROVIDE CIRCUITS FOR NEW DW-1, DW-2, DF-1.
- RELOCATE OR PROVIDE NEW CIRCUITS FOR CLASSROOM RECEPTACLES ON NEW WALL.
- RELOCATE OR PROVIDE NEW CIRCUITS FOR OFFICES 20-24.
- RELOCATE EXISTING POWER FOR OVEN TO NEWLY SHOWN LOCATION.
- REPLACE ALL EXISTING FLUORESCENT TROFFER LIGHTING WITH LED TROFFERS.
- REPLACE EXISTING LIGHT SWITCHES IN ALL ROOMS WITH WALL SWITCHES WITH MOTION DETECTOR. MAINTAIN EXISTING CIRCUITING.
- REUSE EXISTING HALLWAY LIGHT SWITCHES.
- PROVIDE NEW EGRESS LIGHTING WHERE SHOWN. MATCH TO EXISTING EGRESS LIGHTING AND CKTD TO NEAREST LIGHTING CKT.

**LIGHT FIXTURE LEGEND**

	NEW 2'x4' T-GRID-RECESSED FIXTURE TO REPLACE ALL EXISTING FLUORESCENT FIXTURES, DECO GLED MODEL, 120V, 32W.
	NEW RECESSED CAN, ARCH/CONTRACTOR SELECT, LED A-LAMP, 10W, 120V.
	EGRESS LIGHT, LED, 4W, 120V, 90 MINUTE BATTERY BACKUP, DUAL LAMP, GREEN LETTERING



**ONELINE DIAGRAM**  
NOT TO SCALE

**ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"

ISSUE: BUILDING DEPT. ISSUE 09.09.19

CUSTOMER: MARIA STEPANYAN, Center for People with Disorders, 1675 Range Street, margaret@cmwd.org, 303.442.8662 ext. 243

**ELECTRICAL PLAN**  
1675 RANGE STREET  
BOULDER, COLORADO

OFFICE TENANT IMPROVEMENT

ENGINEERING COMPANY: **RENO JAMES ENGINEERING**, 4800 W. 29TH AVENUE, DENVER, CO 80212

ENGINEER: DAN KING, P.E., 4800 W. 29th Ave, Denver, CO 80212, 303-800-5106, dkng@renojames.com

ENGINEERS STAMP

CHECKED BY: DRK  
DRAWN BY: SMS  
RENO JAMES PROJECT NUMBER: 19196  
SHEET NO