SECTION 00620

SPECIAL PROVISIONS Recreation Center Locker room remodel Greeley, Colorado

DESCRIPTION OF THE PROJECT:

The bleachers on the pool side of the locker rooms need to be re-configured to make room for the new doors from the locker rooms into the pool area. It is important that the contractor use temporary walls to keep the public from entering the construction zone and dust protection to alleviate as much dust from the build getting into other areas of the building. The drains are accessible from the weight room in the lower level. The weight room equipment will have to be re-located prior to the work starting, once the work is completed the equipment will have to be moved back. This will be done by others. The current locker rooms must remain open, on a limited basis, until the family changing rooms are complete. Once the family changing rooms are completed, they will be used so the locker rooms can be closed for construction. As stated above in the "Goals" section, the current locker rooms will be demolished and rebuilt. Both men and women will have individual showers with benches and doors for more privacy. The shower area will have a hard ceiling and updated lighting. A drop ceiling will be installed in the general locker room. The new locker room walls will be tiled and epoxy grouted. The floor will be epoxy coated, with updated lighting throughout. New vanity solid surface counter tops and under mounted sinks and ADA compliant faucets, hose bibs will be installed under the vanities, these will be used to aid in cleaning. Lockers will be installed at the opposite ends of the room on a concrete type of bench. The architectural firm has been retained to answer RFI's.

LOCATION OF WORK:

All work is located at one location; **Greeley Recreation Center Locker rooms at** 651 10th Avenue

SPECIFICATIONS:

This project subject to the following drawings and specifications: See attached Drawing for a detailed scope of work.

- 1. Construction scheduled time frame for the Recreation Center is May 1st thru August 31st 2024, 120 days.
- 2. Work hours are 7:00 AM to 5:00 pm, unless coordinated with Facilities Division.
- 3. Restroom facilities will be available within the facility.
- 4. All work must be complete by August 31st, 2024
- 5. Parking will be available at facility.

Facility keys will be issued at the front desk for access to the work area. Must be returned upon completion of each work day.

- 6. Electrical and water shutdowns for this project during construction period must be coordinated with Recreation Center. Contact person Brett Ford @ 970/ 371-3758 Contact person for Facilities Division. Terry Griebe @ 970/539-6232 for issues during project.
- 7. Per-bid meeting and walk-through is highly recommended to bid this project.
- 8. Construction work area shall be cleaned up at the end each workday.
- 9. Final cleaning will be done by a professional cleaning service that specialize in construction cleaning.
- 10. The west parking lot will be shared by City staff and contractors
- 11. The contractor is responsible for a Dumpster, it can be placed in the west lot.
- 12. The contractor is responsible for protecting any surface, flooring, walls ,ceiling, doors, windows etc... any damaged done will be fixed at no cost to the owner.
- 13. As stated above that the family changing rooms be done first and then the rest of the locker rooms be remodeled, is but one solution to the problem of trying provide showers and locker rooms to our customers during construction. CPRD will work with the chosen contractor on other possible solutions.

PERMITS:

The Contractor must be licensed with City of Greeley. Contractor will obtain necessary permits for work in public facilities. City will waive permit fees.

CONTRACT TIME, LIQUIDATED DAMAGES, DELAYS:

Work shall be completed within (120) days, calendar days of the Notice to Proceed. The Notice to Proceed will be issued after a meeting with the selected contractor, and that contractor has an opportunity to schedule this work.

Liquidated damages will be withheld from the final payment to the Contractor for each day that the project's substantial completion is delayed beyond the contract completion date (60 calendar days plus any additional time allowed by the City per change orders).

Liquidated damage amount will be \$500.00 per calendar day.

Liquidated damages are based on additional costs to the City of Greeley for delay of project completion and are not a "late penalty".

Additional time will be allowed for formal seasonal "bad weather" days. The Contractor shall provide documentation of weather history as described below when submitting requests for additional time for severe weather. An actual adverse weather day must prevent work for 50 percent or more of the CONTRACTOR'S workday, delay work critical to the timely completion of the project, and must be documented by the CONTRACTOR. The OWNER'S representative observing the construction shall determine on a daily basis whether or not work can proceed or if work is delayed due to adverse weather or the effects thereof. The CONTRACTOR shall notify the OWNER'S representative in writing of any disagreement as to whether or not work can proceed on a given date, within two (2) calendar days of that date. The OWNER'S representative will use the above written notification in determining the number of working days for which work was delayed during each month.

While extensions of time shall be granted for "unusually severe" weather or climate conditions, no monetary compensations shall be made by the OWNER for any costs to the CONTRACTOR arising out of such delays. The CONTRACTOR shall comply with the portions of these contract documents relating to his project schedule and amendments thereto which result from "unusual severe" weather condition.

Work Hours:

The Contractor is limited to working between 7.00 am to 5:00 pm or perdetermined after hours. The work must be coordinated with Terry Griebe@ 970/539-6232 Project Manager or Chris Freeland @ 970/617-6954 Facilities Architect.

MEASUREMENT AND PAYMENTS:

This contract is a Lump sum price for construction, etc. No additional payment for work not described in these documents will be allowed, whether a bid item exists or not. The Contractor shall include the costs of all incidentals of construction, labor, equipment, and materials in the appropriate bid item.

FINAL CLEAN UP:

At the completion of the contract and prior to submittal of final pay request, the Contractor shall clean up all construction material and debris. The Contractor shall notify the City when final cleanup is ready for inspection. A professional cleaning service will be used for the final deep cleaning.

POST CONSTRUCTION INSPECTION AND WARRANTY:

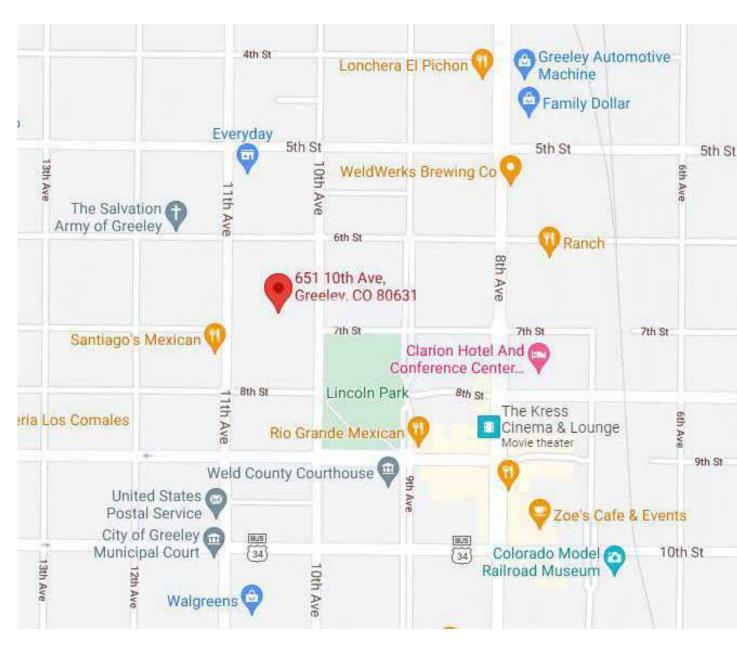
Please see General conditions 501 article 11

END OF SECTION 00620

Greeley Recreation Center Locker Room Remodel

651 10th Ave. Greeley, CO 80631

Revision #4 Issued for Construction



8th S

Vicinity Map Not to Scale

Code Analysis

Project Description

This project contemplates the demolition of existing locker and restrooms and reconfiguration of space for new locker and restrooms. A new family changing area will be added with private rooms for family use. This will also include a private room with an adult changing table that does not include a shower. Each area will have an exit/access point from the existing main corridor, as well as a secure access door to the pool area. To allow for accessibility to/from the pool area, existing bleachers will be reconfigured. No new bleacher seating will be added in the pool area. Existing building exits and other accessible features will remain unchanged. The existing sprinkler system will be modified for reconfigured locker and changing areas. Existing HVAC will be reconfigured for new spaces. New plumbing fixtures will be installed, and internal plumbing will be reconfigured for new layout. Ceiling finishes will be replaced as shown and new light fixtures will be provided in reconfigured locker and storage areas. Existing 45 min. rated wood doors at existing hallway with panic hardware will be replaced with new 45 min. rated wood doors with panic hardware. Existing 90 min. rated steel doors at pool access will be replaced with 90 min. rated steel doors.

Building Floor Areas

Group A-3 Existing Locker Area
Men's Locker = $1, 159$ s.f.
Women's Locker = 1,273 s.f.
Family Area = $3 s.f.$
Storage = 592 s.f.
Accessory (Demising walls, Hallway vestibule, etc.) = 224 s.f.
Total Area = 3,559 s.f.
Group A-4 Existing Pool Area to remain= 13,309 s.f.
Group A-3 New Locker Area
Men's Locker = $1,283$ s.f.
Women's Locker = 1,257 s.f.
Family Area = 479 s.f.
Storage = 129 s.f.
Accessory (Hallway, Vestibule, etc.) = 372 s.f.
Total Area = 3,520 s.f.
Total Building = 69,859 s.f. (per Weld Co. Property Report)
Internetional Building Code

2018 International Building Code

Chapter 3 Occupancy Classification (remodel areas only) Group A-3 Gymnasium Group A-4 Swimming Pool with Spectator Seating

Chapter 6 Types of Construction Assume Type II-B Construction

Chapter 7 Fire Resistance Rated Construction

720.2 Concealed insulation shall have flame spread index <25, smoke index <450 Table 716.1(2) 45 and 90 min. rated doors shall have maximum 100 sq. in. lite

Chapter 8 Interior Finishes

Table 803.13

Groups A-3 and A-4 Rating B for corridors \$ exit access: Flame spread 26-75, Smoke 0-450 Groups A-3 and A-4 Rating C for rooms: Flame spread 76-200, Smoke 0-450

Chapter 10 Means of Egress 1004 Occupant load:

Demolished Locker Area = 3446/50 = 69 occupants (as calculated per 2018 IBC) Men's Locker = 1283/50 (gross) = 26 occupants

Women's Locker = 1257/50 (gross) = 26 occupants

- Family Area = 479/50 (gross) = 10 occupants
- Storage = 129/300 = 1 occupant Total (Remodel area only) = 63 occupants
- Table 1006.2.1 One exit required from each locker room
- Common path of travel from Family Locker |1| hall opening to existing exit vestibule = 73' 1007.1.1 Exits shall be placed not less than one third the diagonal distance of floor area apart
- 1008 Means of egress illumination required with emergency power at exits
- 1010.1.2.1 Doors shall swing in direction of egress travel if occupant load >50 1010.1.5 Doors on an accessible route shall have a floor or landing on each side
- 1010.1.6 Landings shall extend min. 44" in the direction of travel
- 1010.1.9 Egress doors shall be openable from egress side without key or special knowledge
- 1010.1.10 Eqress doors in Group A for spaces with <49 occ. not required to have panic devices 1016.2.1 Egress shall not pass through a room unless accessory and with discernable path to an exit
- 1016.2.3 Exit access shall not pass through a room that can be locked
- 1016.2.5 Egress shall not pass through storage rooms
- Table 1017.2 250' max. sprinklered exit distance

actual exit distance = 140' (worst case from Changing #5) See 1024.2 Exit passageway minimum width = 44", for occ. load >50 or = 36" min. for occ. load 50

Chapter | | Accessibility

- I 104 At least one accessible route shall connect all accessible floors and areas and shall coincide with circulation path
- I I 09.2 Each toilet room shall be accessible, at least one of each type of fixture and accessory shall be accessible
- I 109.2.2 At least one Wheelchair-accessible compartment shall be provided in each restroom 1 109.3 At least one lavatory must be accessible

III Accessible signage required at restrooms and accessible entrances

Chapter 12 Interior Environment

See Mechanical Design for ventilation and temperature requirements

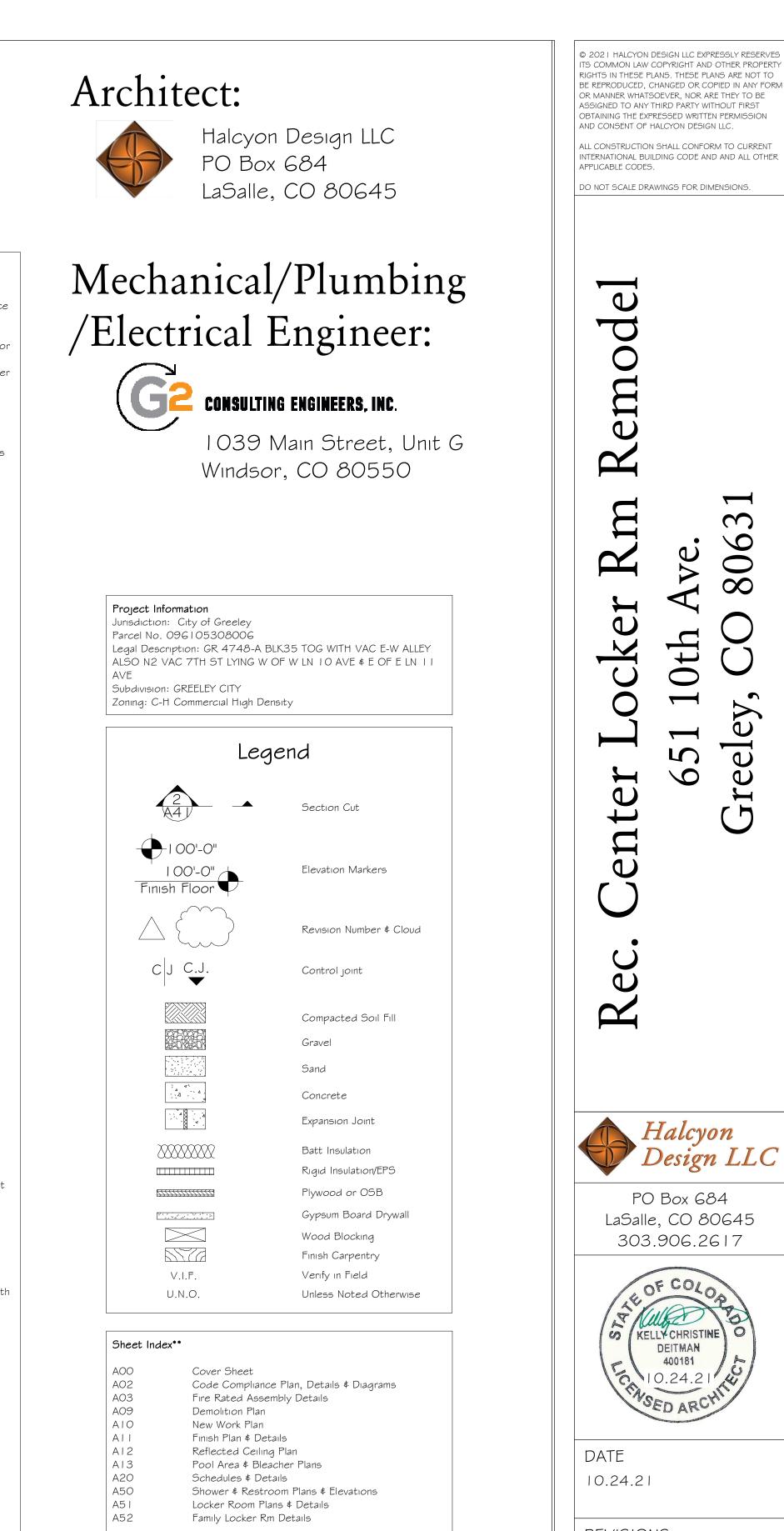
See Electrical Design for lighting requirements 1209.2.2 Walls within 2' of restroom sinks, urinals \$ water closets shall have smooth, hard, nonabsorbent finish, min. 4' a.f.f.

Chapter 29 Plumbing Systems

Fixture Count: Men's Showers: 12 existing, 7 new Men's Water Closets: 2 existing, 2 new Men's Urinals: 2 existing, 2 new Men's Lavatories: 4 existing, 4 new Women's Showers: 6 existing, 10 new Women's Water Closets: 4 existing, 5 new Women's Lavatories: 4 existing, 4 new Family Showers: 2 existing, 4 new Family Water Closets: 1 existing, 5 new Family Lavatories: 2 existing, 5 new

Bid Add Alternates:)

- ³ Provide bid add alternate to repaint entire length of CMU walls in Existing Corridor, and Existing Meeting Rm (east of Family Changing) from top of existing wall base to ceiling. Provide bid add-alternate to remove and replace wall tile behind pool area bleachers along South wall (only). New tile shall be Daltile Color Wheel Collection Classic, 3x6 tiles in color as selected by Architect and Owner, should alternate be selected. Provide bid add-alternate to install painted steel doors in lieu of the prefinished wood doors
- scheduled for Doors 112.1, 113.1, 114.1, 115.1 and 116.1. Provide bid add alternate for adult changing table in Changing #5/116. Unit shall be 55" Pressalit Nursing Bench 1000 for adults, in adjustable height as provided by Patient Safety USA. Provide power as indicated on Electrical Drawings in base bid. G.C. include changing table (only) in bid add-alternate for Owner review prior to purchase. Include wall blocking and electrical power in base bid.



REVISIONS |-||.|6.22 4-9.||.23 2 - 2.14.22 3 - 8.29.23 SHEET TITLE

Project No. 2102

Cover Sheet

SHEET NUMBER

POI

PO2

PO9

PIO

PII

MOT

MO2

M09

MIO

EOI

EO2

EO3

EO9

EIO

F20

E40

∧ / FA-01

| FP-I

Plumbing Index, Legends & Notes

Plumbing Floor Plan - Water & Gas

Plumbing Floor Plan - Waste & Vent

Mechanical Index, Legends & Notes

Mechanical Schedules & Diagrams

Electrical Index, Legend & Notes

Mechanical Demolition Plan

Mechanical Floor Plan

Electrical Specifications

Electrical Panel Schedules

Electrical Demolition Plan

ALALAL

Fire Ålarm Détails & Notes

Fire Sprinkler Plan & Notes

Overall Floor Plan - Electrical

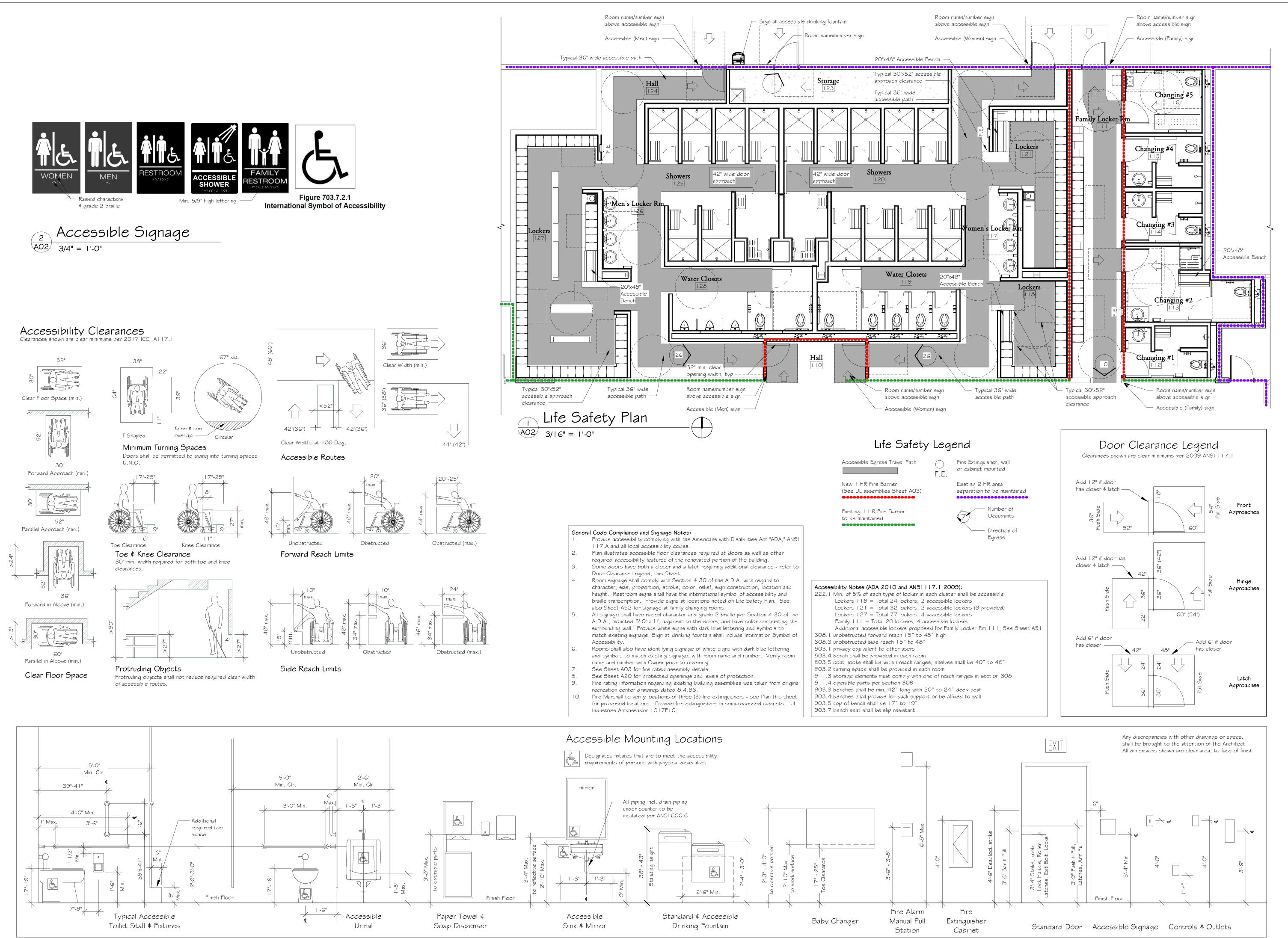
Electrical Floor Plan - Power

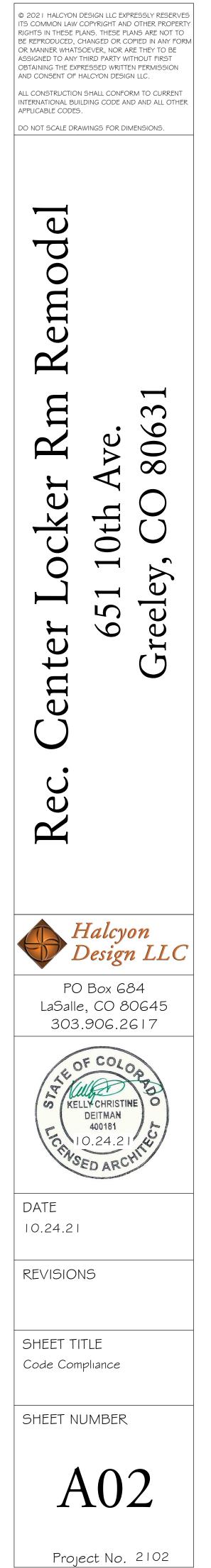
Electrical Ploor/Plan - Lighting

Electrical Floor Plan - Low Voltage

Plumbing Schedules & Diagrams

Plumbing Demolition Plan





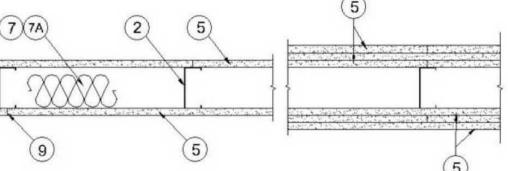


Design No. U423 October 10, 2017

Bearing Wall Ratings - 3/4 Hr, 1, 1-1/2 or 2 Hr (See Items 5 & 7)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used -See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



1. Floor and Ceiling Runners — (Not Shown) — Channel shaped, fabricated from min 0.0329 in., bare metal thickness (No. 20 MSG) corrosion-protected steel, that provide a sound structural connection between steel studs and adjacent assemblies such as floors, ceilings and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. OC.

2. Steel Studs — Min 0.0329 in., bare metal thickness (No. 20 MSG) corrosion-protected steel studs, min 3-1/2 in. wide, cold formed, designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute (AISI). All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing shall not exceed 24 in. OC. Studs attached to floor and ceiling runners with 1/2 in. long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with the AISI specifications.

3. Lateral Support Members — (Not shown) — Where required for lateral support of studs, support shall be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

5. Gypsum Board* — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered when load is reduced to 90 percent of max stud capacity. When load is at 100 percent, horizontal edge joints and horizontal butt joints on opposite sides of studs staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. When used in widths other than 48 in., gypsum panels to be installed horizontally. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr, and 2 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	No. of Layers & Thkns of Panel	% of Design Load	
45 Min	1 layer, 1/2 in. thick	100	
1 hr	1 layer, 5/8 in. thick	100	
1-1/2 hr	2 layers, 1/2 in. thick	100	The such as for
2 hr	2 layers, 5/8 in. thick	80	This option fo 2 HR metal
2 hr@	2 layers, 5/8 in. thick	100	stud partitions
2 hr	3 layers, 1/2 in. thick	100	
2 hr	2 layers, 3/4 in. thick	100	

6. Fasteners — (Not Shown) — For use with Item 5 and 5F - Type S-12 steel screws used to attach panels to runners (Item 1 or 1A) and studs (Item 2 or 2A) or furring channels (Item 8). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 12 in. OC when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in. and 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

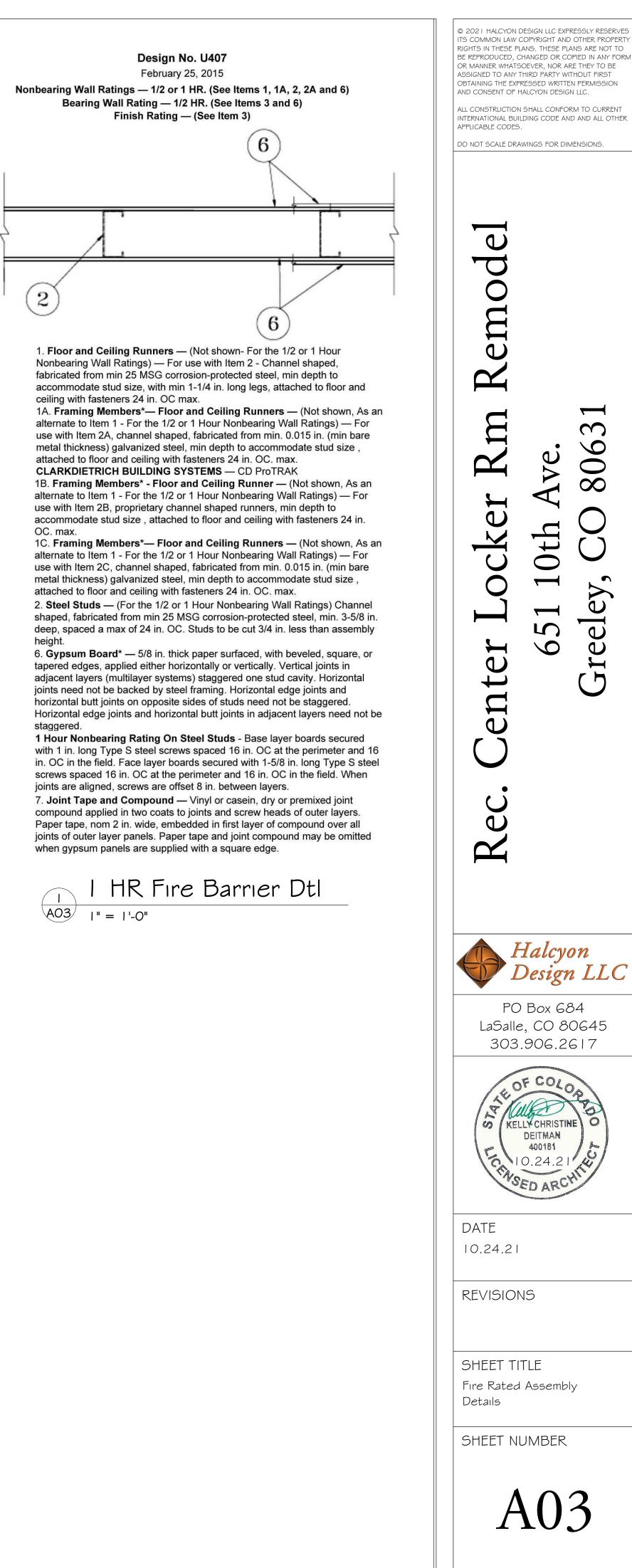
7. Batts and Blankets* — (Required as indicated under Item 5 and 5F) — Nom 2 in. thick mineral wool batts, friction fitted between studs and runners. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

8. Furring Channels — (Optional on one or both sides, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 panhead steel screws. Not for use with type FRX-G gypsum panels and Item 5A or 5C.

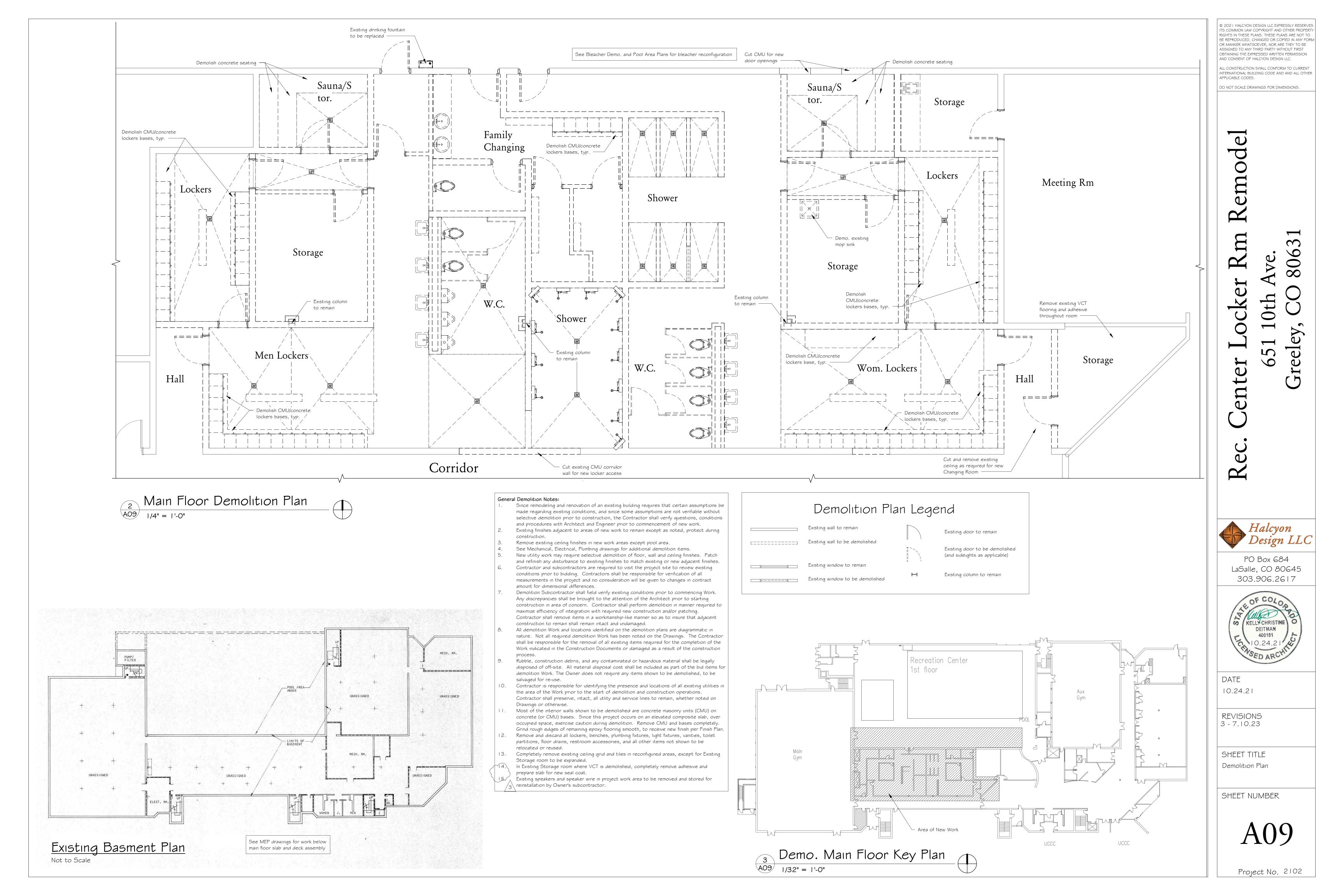
9. Joint Tape and Compound — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layers. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

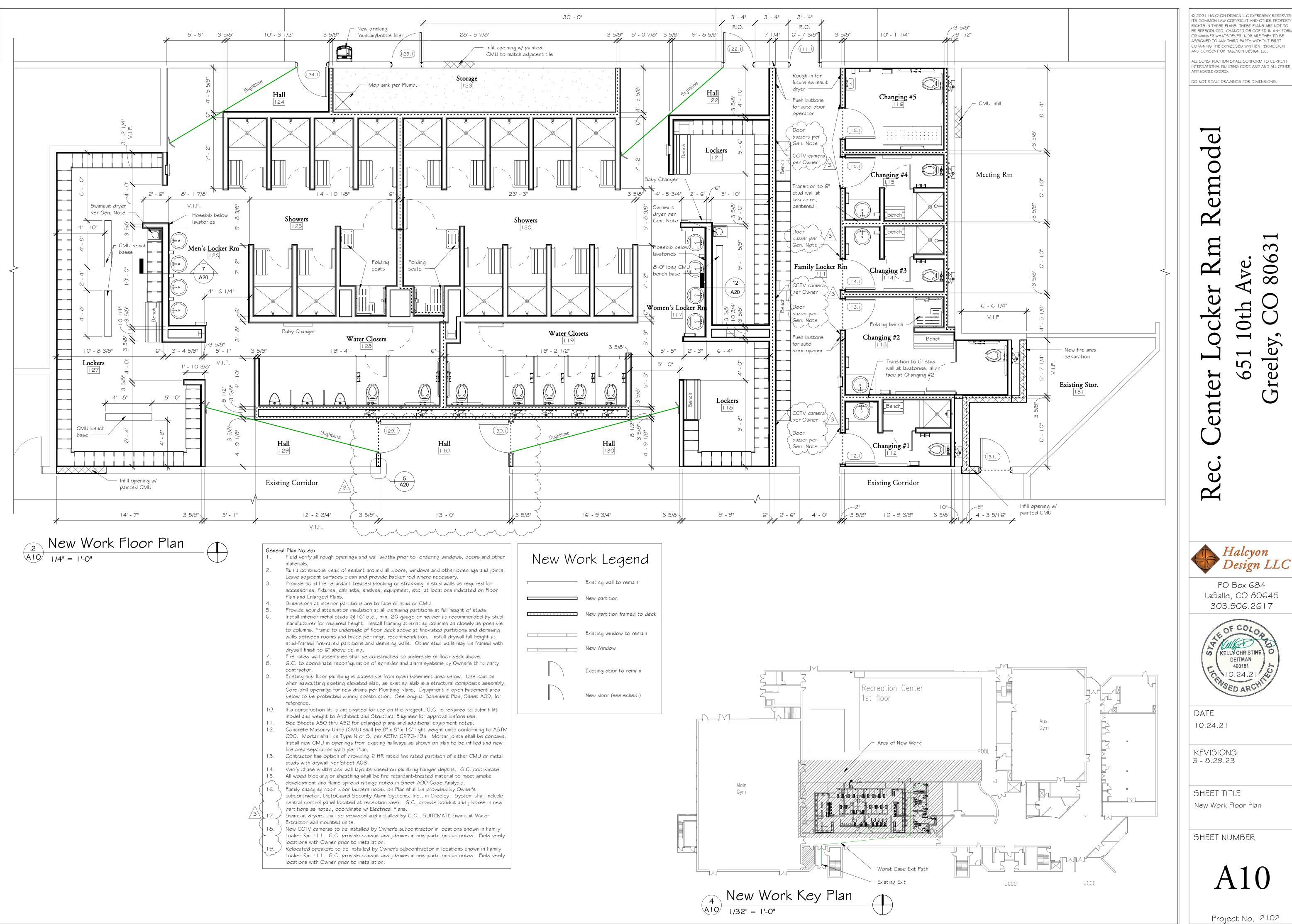


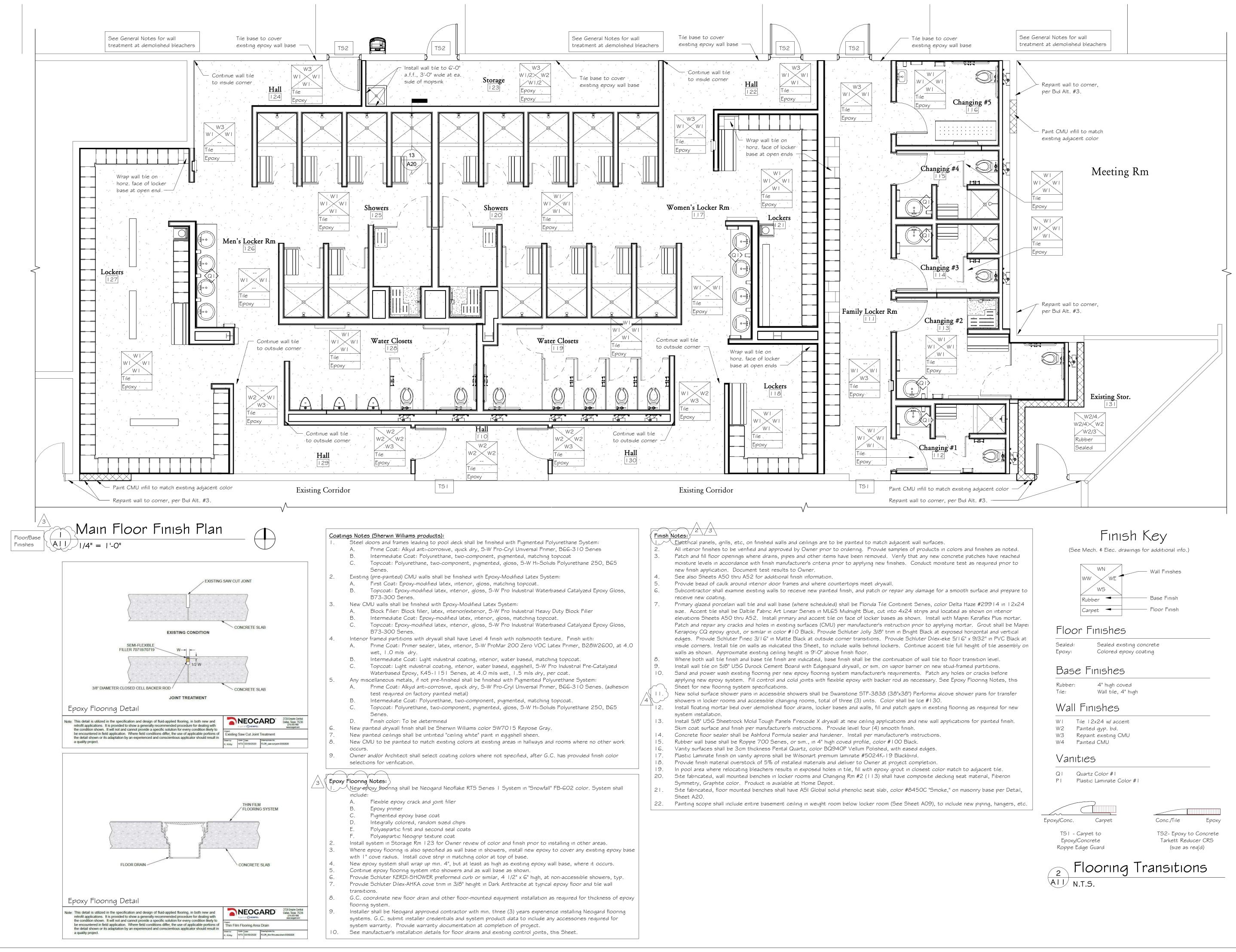
2 HR Fire Barrier - CMU Option

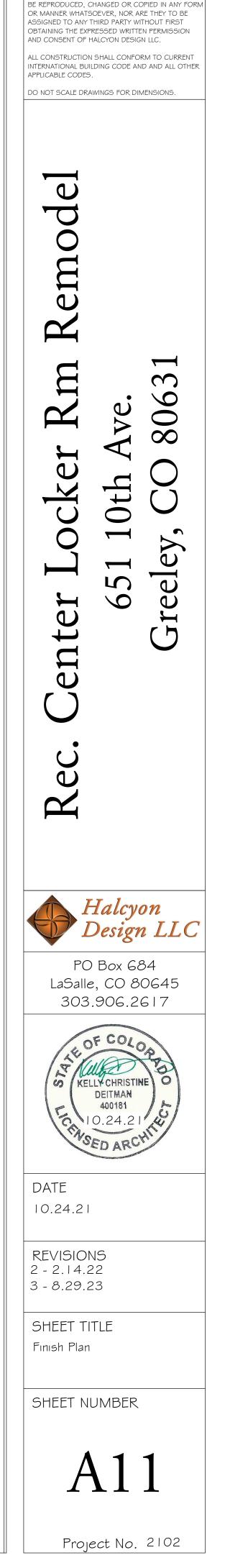


Project No. 2102

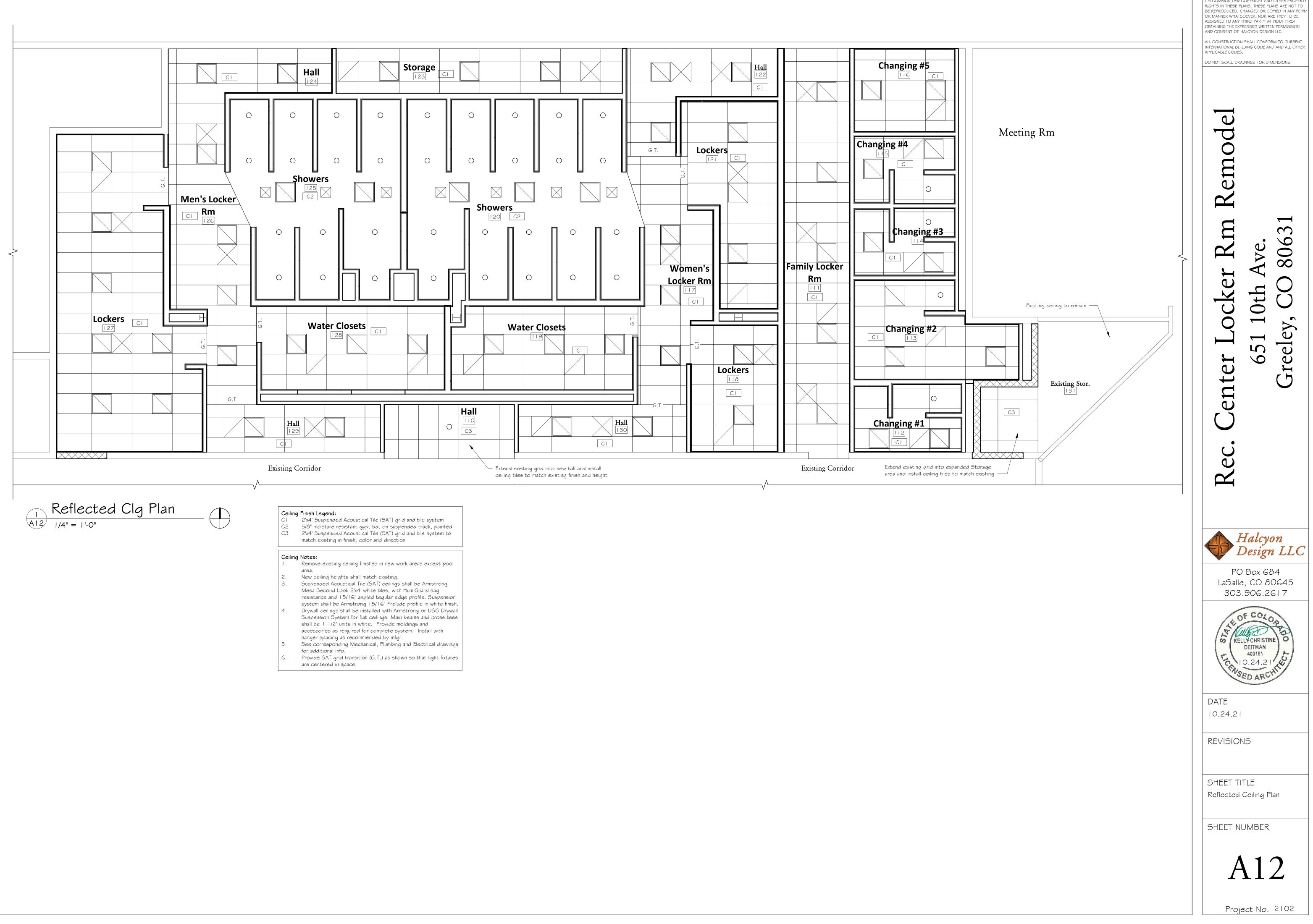




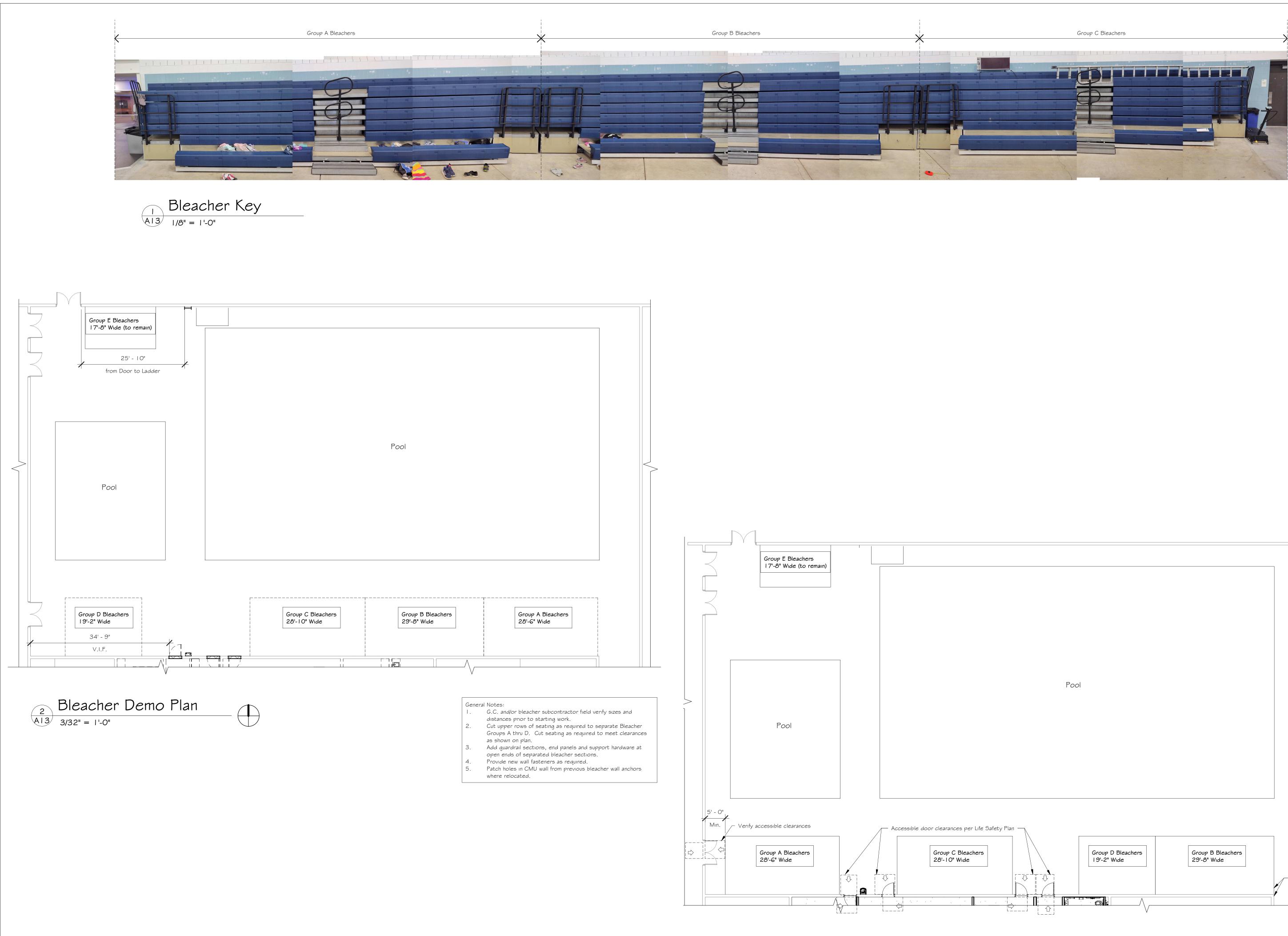




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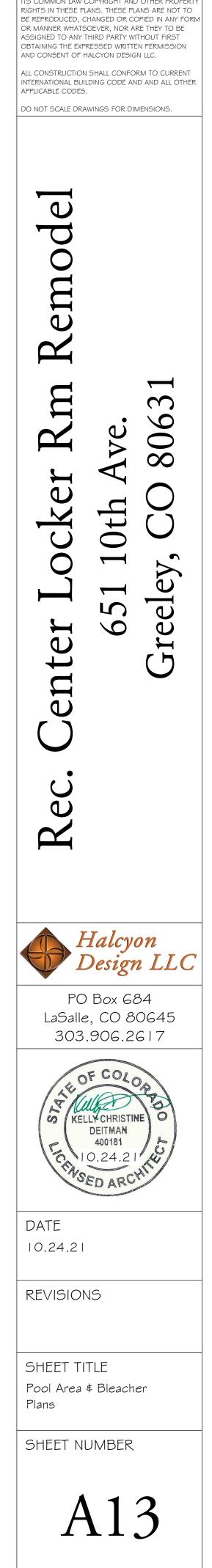


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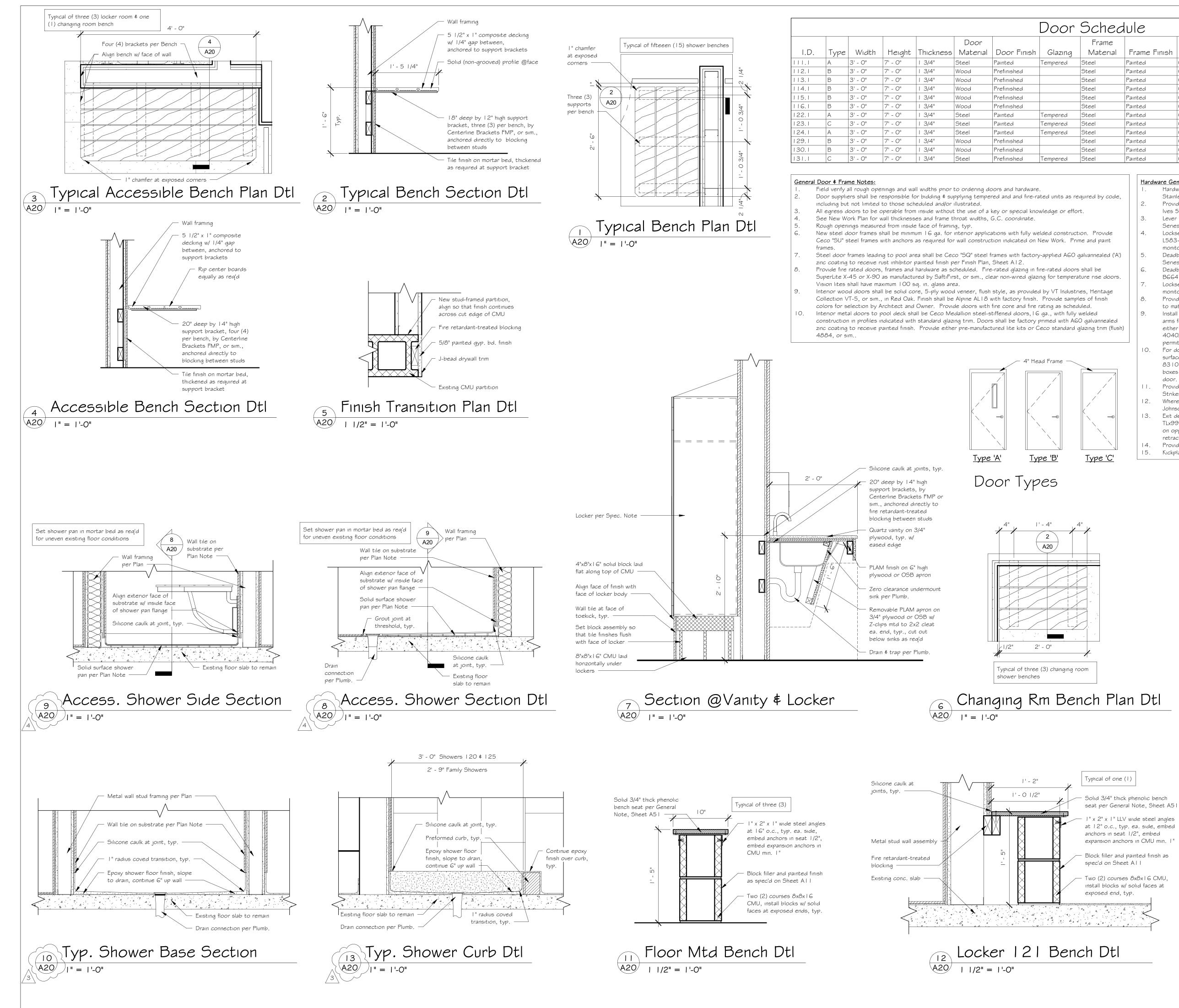


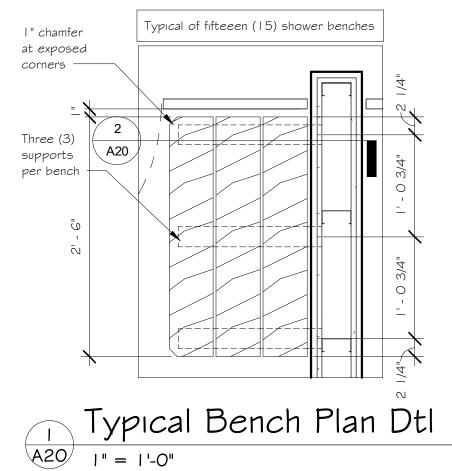
Pool	>
Group D Bleachers 19-2" Wide Align to corner	R 9 9 9



Project No. 2102

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					Door			Frame		Hardware		
I.D.	Туре	Width	Height	Thickness	Material	Door Finish	Glazing	Material	Frame Finish	Set	Fire Rating C	omments
.	A	3' - 0"	7' - 0"	3/4"	Steel	Painted	Tempered	Steel	Painted	05	90 min.	
2.	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	02	45 min.	
113.1	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	06	45 min.	
4.	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	02	45 min.	
115.1	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	02	45 min.	
116.1	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	02	45 min.	
122.1	A	3' - 0"	7' - 0"	3/4"	Steel	Painted	Tempered	Steel	Painted	01	90 min.	
123.1	С	3' - 0"	7' - 0"	3/4"	Steel	Painted	Tempered	Steel	Painted	04	90 min.	
24.	A	3' - 0"	7' - 0"	3/4"	Steel	Painted	Tempered	Steel	Painted	01	90 min.	
129.1	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	03	45 min.	
30.	В	3' - 0"	7' - 0"	3/4"	Wood	Prefinished		Steel	Painted	03	45 min.	
131.1	С	3' - 0"	7' - 0"	3/4"	Steel	Prefinished	Tempered	Steel	Painted	04	90 min.	

Hardware General Notes:

1.	Hardware finish shall be US26D Satin Chrome for interior application, and US32D
	Stainless Steel for doors leading to pool area.
-	

- 2. Provide three (3) hinges for swing doors $4 \frac{1}{2} \times 4 \frac{1}{2}$ heavy duty ball bearing, lves 5BB1HW or sim.
- Lever latchsets shall be Grade 1 cylindrical locks for interior application, Schlage Series or sim., with Rhodes (RHO) lever trim. Lockset for Changing Room #2, Door 113.1 shall be Schlage L9453 Series with L583-363 ADA thumbturn and "occupied" "unoccupied" indicator, and DM deadbolt
- monitor feature. Deadbolts for Family Area Changing Rooms in Group 02 shall be Schlage B500 Series, single cylinder deadbolt with B571 function with thumbturn and indicator. Deadbolts for doors to pool area in Group OI shall be Schlage B600 Series with
- B664 single cylinder function, keyed on pool side of door. Lockset for pool access Door 111.1 shall be Schlage L9465 with DM deadbolt monitor feature and O6 Lever trim.
- Provide Schlage 6-pin interchangeable cores. Keying shall be as directed by Owne to match keying in building.
- Install adjustable closers on interior side of doors as scheduled, with heavy duty arms for parallel applications. Provide closers with stop function to limit swing to either 90 degree or 170 degree opening based on location. Closers shall be LCN 4040XP series for non-automatic operation, or sim.. Hold open feature not permitted on fire-rated doors.
- For doors that require automatic operation, provide LCN 4631-TBWMS x 120 V/ surface closers and compatible accessories. Wall actuators shall be LCN 8310-853T devices in flush mounted boxes in new partitions or surface mounted boxes in existing CMU partitions. See plans for proposed locations, two (2) per door. Field verify actuator locations with Owner prior to installation.
- Provide electric strikes for doors scheduled to receive automatic operators. Strikes shall be Von Duprin #6216 FSE devices in compatible voltage.
- 12. Where overhead stops are specified in conjuntion with closers, provide Glynn-Johnson 1005 units.
- 13. Exit devices shall be Von Duprin 98-RIM-F Series fire-rated rim devices with TLx996L turn lever function. Install exit devices with lever handle style O6 (default on opposite side with deadbolt cylinder. Provide devices with "EL" electric latch retraction and "EPT" electric power transfer where auto operators are scheduled. 14. Provide silicone gasketing, Zero 188S adhesive style, or sim., where scheduled.

Group OI (Doors 122.1, 124.1) Pool Access

Group 02 (Doors 112.1, 114.1, 115.1, 116.1) Changing Rooms

15. Kickplates shall be lves 8400 series, or sim..

Hardware Sets

3 ea Hinges

l ea Deadbolt

l ea Threshold

I ea 🛛 Kickplate

I ea Gasketing

3 ea Hinges

I ea Kickplate

I ea Gasketing

3 ea 🛛 Hinges

l ea Cylinder

I ea Kickplate

I ea Gasketing

3 ea 🛛 Hinges

I ea Cylinder

I ea Kickplate I ea Gasketing

3 ea 🛛 Hinges

l ea Cylinder

I ea Electric strike

I ea Cylinder

I ea Latchset F75 Function

I ea Closer w/ overhead stop

I ea Latchset F75 Function

I ea Closer w/ overhead stop

I ea Exit Device w/ lever function

I ea Closer w/ overhead stop

I ea Lockset F74 Function

I ea Latchset w/ deadbolt

I ea Closer w/ auto opener

l ea Latchset F75 Function

I ea Mortise lock w/ indicator

I ea Closer w/ auto opener

2 ea Actuator, wall mtd

l ea Deadbolt w/ indicator

2 ea Actuator, wall mtd

I ea Overhead stop

I ea Power transfer

l ea Power supply

I ea Electric strike

I ea Kickplate

I ea Gasketing

3 ea 🛛 Hinges

I ea Cylinder

I ea Kickplate

I ea Gasketing

I ea Power transfer

I ea Power supply

I ea Closer w/ overhead stop

Group 03 (Door 129.1, 130.1) Locker Exit

Group 04 (Door 123.1, 131.1) Storage

Group 05 (Door 111.1) Pool Auto Opening, 90 Min. Rated

Group OG (Doors 113.1) Changing Auto Opening

I ea Deadbolt w/ indicator

l ea Electric strike

- Solid 3/4" thick phenolic bench
- I" x 2" x I" LLV wide steel angles at 12" o.c., typ. ea. side, embed anchors in seat 1/2", embed
- Block filler and painted finish as
- Two (2) courses 8x8x16 CMU, install blocks w/ solid faces at

ND ND h mer CN /AC h h	Rec. Center Locker Rm Remodel 651 10th Ave. Greeley, CO 80631
	PO Box 684 LaSalle, CO 80645 303.906.2617
	DATE 10.24.21
	REVISIONS 3 - 8.29.23 4 - 9.11.23
	SHEET TITLE Schedules & Details
	SHEET NUMBER

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OR MANNER WHATSOEVER. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST

OBTAINING THE EXPRESSED WRITTEN PERMISSION

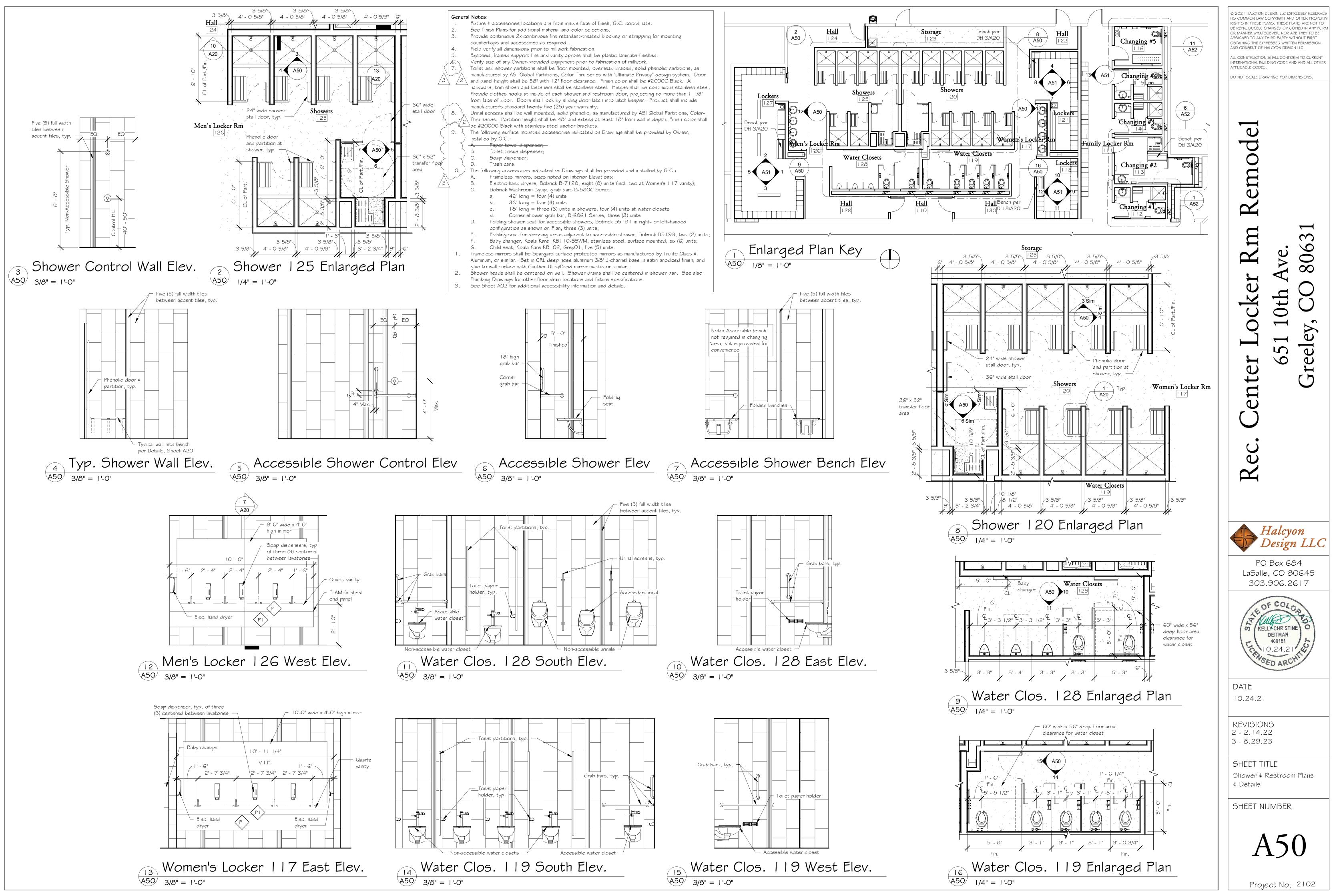
ALL CONSTRUCTION SHALL CONFORM TO CURRENT

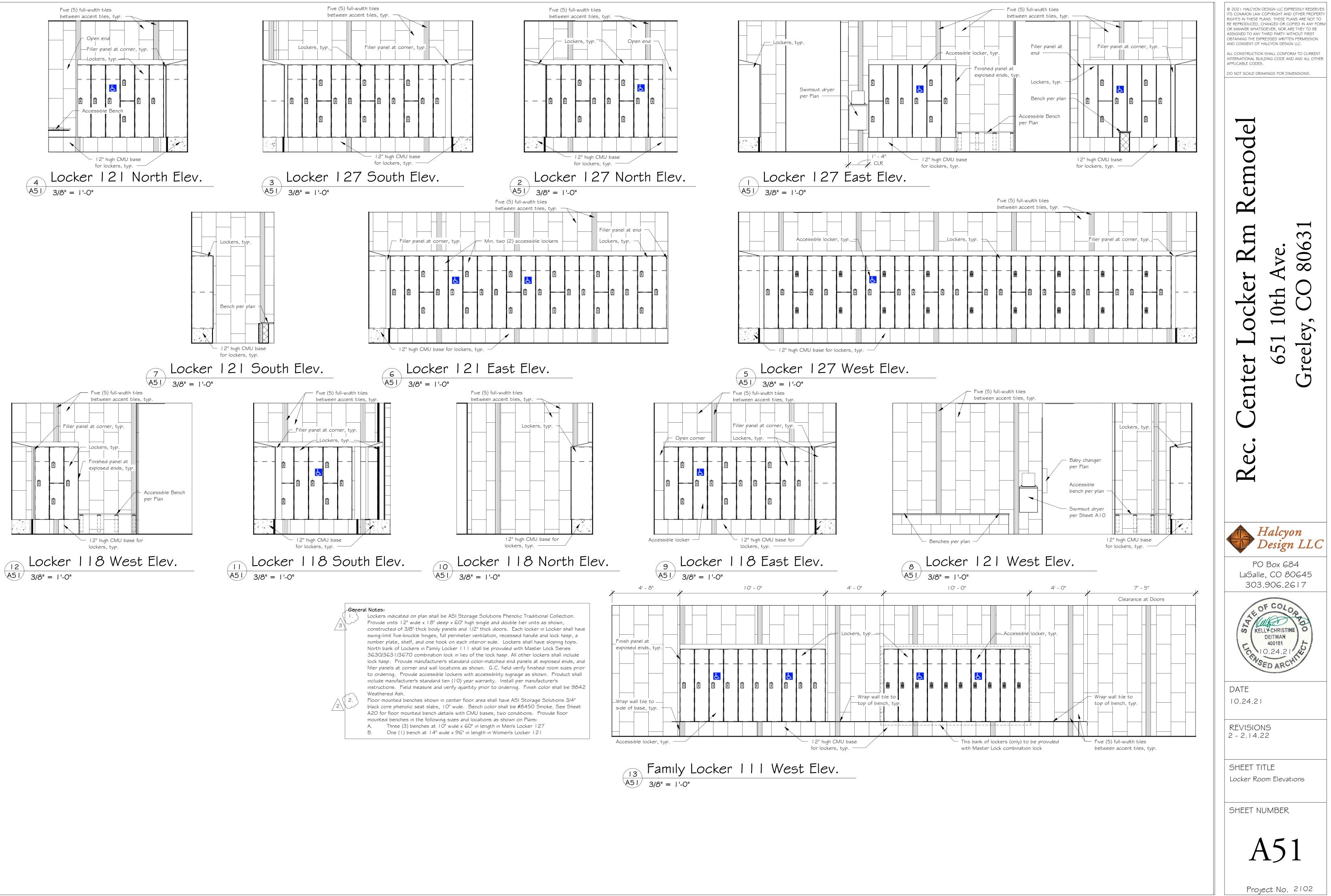
DO NOT SCALE DRAWINGS FOR DIMENSIONS.

INTERNATIONAL BUILDING CODE AND AND ALL OTHER

AND CONSENT OF HALCYON DESIGN LLC.

APPLICABLE CODES.







PLUMBING GENERAL NOTES

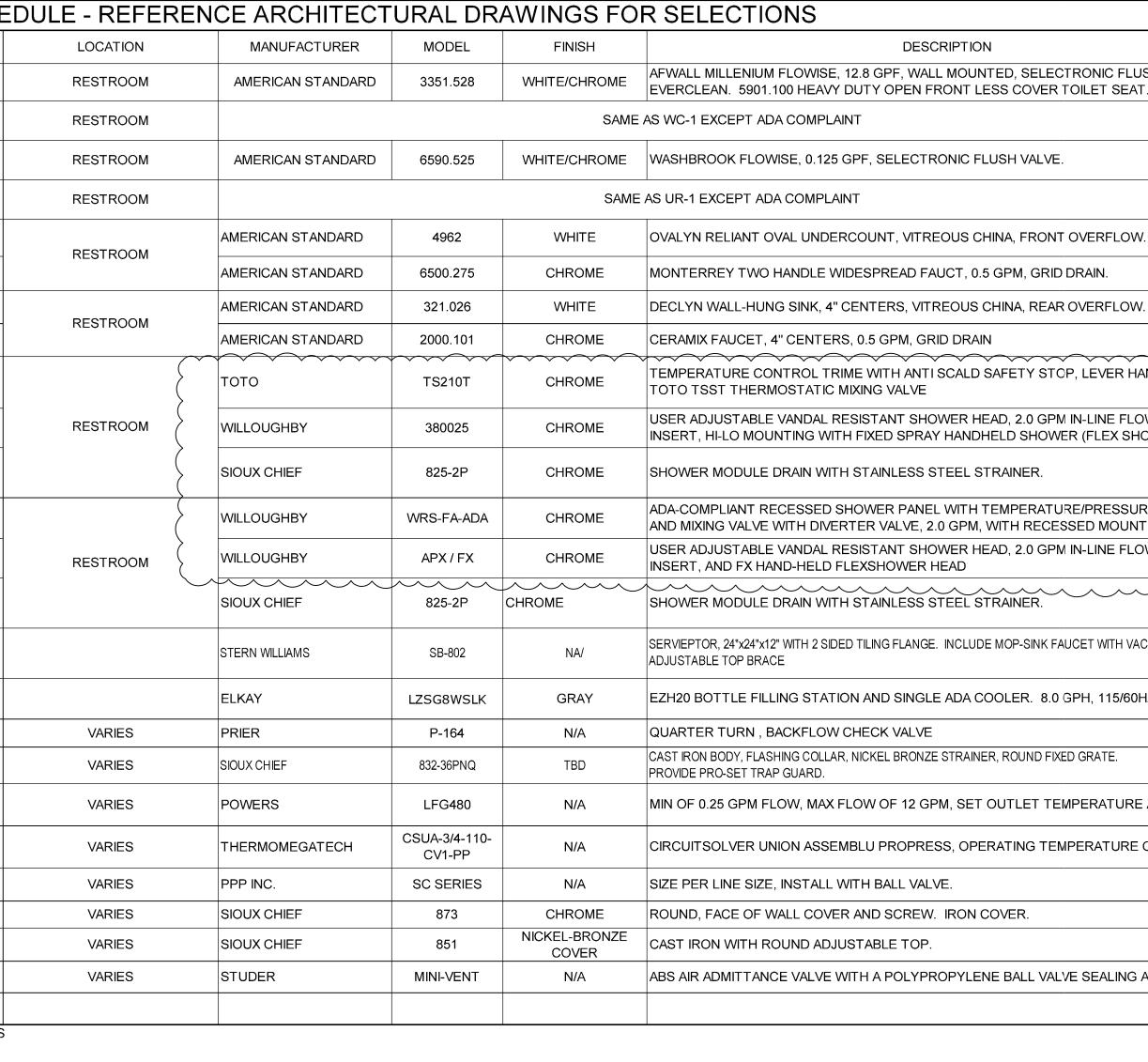
- 1. DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY. WHATEVER IS CALLED FOR IN EITHER IS BINDING AS FOR IN BOTH.
- 2. THE EQUIPMENT SPECIFIED ON THE DRAWINGS HAVE BEEN SELECTED AS THE BASIS OF DESIGN. THE USE OF SPECIFIED EQUALS SHALL BE COORDINATED BY THE CONTRACTOR FOR SPACE REQUIREMENTS, EQUIPMENT D PERFORMANCE.
- 3. ALL WORK SHALL CONFORM WITH ALL APPLICABLE BUILDINGS CODES, FIRE CODES, AND ALL AUTHORITIES HA JURISDICTION.
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- 5. CONTRACTOR SHALL CLOSELY COORDINATE NEW PLUMBING WORK WITH ALL NEW AND EXISTING MECHANICAL ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, AND STRUCTURAL MEMBERS. RELOCATE EXISTING MECHAN AND FIRE PROTECTION WORK AS REQUIRED TO ACCOMMODATE ALL NEW WORK (ARCHITECTURAL, STRUCTURA ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM, LOW VOLTAGE, A/V, ETC.
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND INSTALLING SLEEVES, INSERTS AND SUPPORTS AS THIS SCOPE OF WORK AND/OR CORE DRILL REQUIREMENTS. COORDINATE WITH GENERAL CONTRACTOR AND ENGINEER AS REQUIRED.
- 7. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION UNLESS \$ DIRECTED OTHERWISE.
- 8. THE PLUMBING DIAGRAMS SHALL BE INCORPORATED INTO THE ASSOCIATED WORK AND PROVIDE GENERAL GU THE INSTALLATION INTENT WHETHER REFERENCED TO OR NOT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION, AND INSURE THAT ALL INSTALLATIONS ARE IN ACC THE EQUIPMENT'S MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- 9. CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND INVERT ELEVATIONS OF ALL EXISTING UTILITIES AT TH THE INSTALLATION OF ANY PIPING SYSTEMS.
- 10.ALL SANITARY SEWER PIPING 3" AND LARGER SHALL SLOPE AT 1% OR 1/8" PER FOOT, UNLESS NOTED OTHERW SANITARY SEWER PIPING 2" AND SMALLER SHALL SLOPE AT 2% OR 1/4" PER FOOT.
- 11. ALL WALL AND FLOOR CLEAN OUTS, SERVING 4" AND SMALLER, SHALL BE THE SAME SIZE AS THE PIPING SYSTI CLEAN OUTS SERVING 5" AND 6" PIPE SYSTEMS SHALL BE 4". CLEAN OUTS SERVING 8" PIPING SYSTEMS SHALL OUTS SERVING, 10" AND LARGER, SHALL BE 8".
- 12.PROVIDE TEMPERING VALVES FOR ALL LAVATORIES AND HAND WASHING SINKS. TEMPERING VALVES SHALL (ASSE 1070 (POWERS MODEL LFG480 OR EQUIVALENT).
- 13.PROVIDE WATER HAMMER ARRESTERS AT ALL QUICK CLOSING VALVES WITH ISOLATION VALVE AND WITH ACCE PANEL.
- 14.ALL THREADED HOSE CONNECTIONS TO DOMESTIC WATER SYSTEM SHALL HAVE AN APPROVED VACUUM BREA BIBS, WALL HYDRANTS, SYSTEM DRAINS, EQUIPMENT DRAINS, ETC.
- 15.PROVIDE ACCESS PANELS IN HARD CEILINGS AND WALLS FOR ACCESS TO ALL PLUMBING EQUIPMENT, ISOLATI THIS SHALL INCLUDE ALL NEW AND EXISTING PLUMBING ITEMS REQUIRING ACCESS.
- 16.PROVIDE REDLINE MARKUPS OF ANY FIELD CHANGES OR MODIFICATIONS ON THE CONSTRUCTION DOCUMENTS DRAWINGS SHALL BE REQUIRED WHETHER COORDINATION DRAWINGS ARE REQUIRED OR NOT.
- 17.WHERE PIPING IS TO BE REMOVED TO A POINT, IT SHALL BE CAPPED OFF AND PROTECTED (WHERE APPLICABL CONNECTION TO NEW WORK. INSULATION ON EXISTING PIPING SHALL BE REPAIRED EQUAL TO NEW CONDITION
- 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND PATCHING OF DAMAGED ARCHITECTURAL C REMAIN DURING THE REMOVAL OF THE DESIGNATED SYSTEMS. COORDINATE REPAIR WITH ARCHITECT.
- 19. THE OWNER RESERVES FIRST CHOICE TO KEEP EXISTING EQUIPMENT AND MATERIALS. COORDINATE WITH OW DELIVER DESIGNATED EQUIPMENT AND MATERIALS REMOVED UNDER THIS CONTRACT TO OWNERS DESIGNAT AREA.
- 20. THE LOCATION AND CONDITION OF THE EXISTING PROPERTY AND PLUMBING SYSTEMS WERE TAKEN FROM P CONSTRUCTION DRAWINGS, OBSERVED FIELD CONDITIONS, AND ASSUMED FIELD CONDITIONS. CERTAIN ASS MADE REGARDING EXISTING CONDITIONS BECAUSE THE ASSUMPTION MAY NOT BE VERIFIED WITHOUT DESTRO EXISTING SPACE. CONTRACTOR SHALL VERIFY EXISTING SYSTEMS PRIOR TO SUBMITTING FINAL BIDS, FABRIC SUBMITTALS.

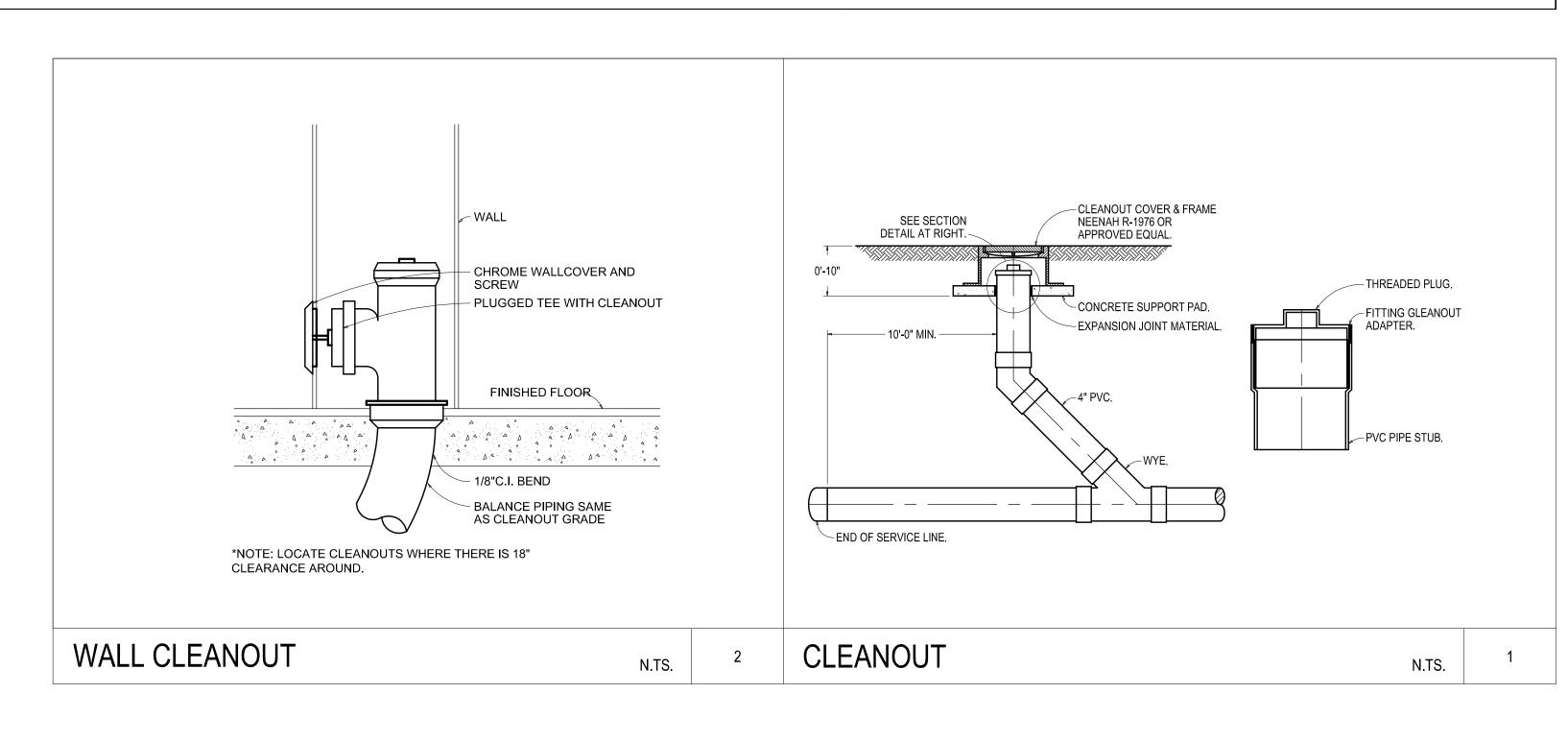
	PLUMBING LEGEND	PLUMBING DRAWING INDEX			
	ALL SYMBOLS IN LEGEND MAY NOT BE USED ON THIS PROJECT.	ISSUED FOR CONSTRUCTION			
THOUGH CALLED	ABBREVIATIONS	ISSUED FOR REFERENCE ONLY			
	AD ACCESS DOOR HR HOUR PD PRESSURE DROP				
REVIEWED OR	AFF ABOVE FINISH FLOOR HZ HERTZ PH PHASE AP ACCESS PANEL IN INCH PRV PRESSURE REDUCING VALVE				
MENSIONS, AND	BAS BUILDING AUTOMATION SYSTEM I.E. INVERT ELEVATION PSI POUND PER SQUARE INCH				
	BOPBOTTOM OF PIPEKWKILOWATTPSIAPOUND PER SQUARE INCH ABS.BHPBRAKE HORSE POWERKWHKILOWATT-HOURPSIGPOUND PER SQUARE INCH GAUGE				
١G	BMSBUILDING MANAGEMENT SYSTEMLBSPOUNDSRPMREVOLUTIONS PER MINUTEBTUBRITISH THERMAL UNITLFLINEAR FEETSQ FTSQUARE FEET	ISSUE			
	CFH CUBIC FEET PER HOUR LWT LEAVING WATER TEMPERATURE TAB TESTING AND BALANCING				
	CFMCUBIC FEET PER MINUTEMBH1000 BRITISH THERMAL UNITS PERTDHTOTAL DEVELOPED HEADCPCONDENSATE PUMPHOURTELTOTAL EQUIVALENT LENGTH	SHEET NUMBER SHEET TITLE			
T OF SYSTEMS. ITIONS ARE	DN DOWN MCA MINIMUM CIRCUIT AMPS TYP TYPICAL	P01 PLUMBING INDEX, LEGENDS, AND NOTES O			
NATION OF ALL	(E) EXISTING MOCP MAXIMUM OVER CURRENT UNO UNLESS NOTED OTHERWISE ET EXPANSION TANK PROTECTION UV ULTRA VIOLET	P02 PLUMBING SCHEDULES AND DIAGRAMS O			
	EWT ENTERING WATER TEMPERATURE NA NOT APPLICABLE V VOLT °F DEGREES FAHRENHEIT NC NORMALLY CLOSED VAV VARIABLE AIR VOLUME	P09 PLUMBING DEMOLITION PLAN O			
	FLA FULL LOAD AMPS NFPA NATIONAL FIRE PROTECTION VD VOLUME DAMPER (MANUAL)	P10 PLUMBING FLOOR PLAN - WATER & GAS O P11 PLUMBING FLOOR PLAN - WASTE & VENT O			
LUMBING, AL, PLUMBING	FPMFEET PER MINUTEASSOCIATIONVFDVARIABLE FREQUENCY DRIVEFPSFEET PER SECONDNICNOT IN CONTRACTVTRVENT THRU ROOF				
MECHANICAL,	FT FEET NO NORMALLY OPEN WC WATER COLUMN FM FORCED MAIN NPSHA NET POSITIVE SUCTION HEAD WH WATER HEATER				
	GAL GALLONS AVAILABLE (N) NEW	TOTAL: 5			
	GPHGALLONS PER HOURNPSHRNET POSITIVE SUCTION HEAD(E)EXISTINGGPMGALLONS PER MINUTEREQUIRED(F)FUTURE				
EQUIRED FOR RUCTURAL	HD HEAD P PUMP (R) RELOCATED				
	HP HORSE POWER PCF POUND PER CUBIC FOOT	DESIGN DATA			
	SYMBOLS AND DESCRIPTIONS	BEGIGIT BATHA			
ECIFICALLY	EQUIPMENT DESIGNATION DOWNSPOUT (DS)	LOCATION: GREELEY ,CO			
DANCE AS TO	$\leftarrow \rightarrow$ EXISTING PIPING TO REMAIN				
ROVIDE ALL RDANCE WITH	CLEANOUT, FINISH FLOOR (FCO)	CODES: 2018 INTERNATIONAL BUILDING CODE 2018 INTERNATIONAL MECHANICAL CODE			
		2018 INTERNATIONAL PLUMBING CODE			
	## SECTION REFERENCE NUMBER. (@-###) SECTION SHEET NUMBER FLOOR SINK	2018 IECC ALL APPLICABLE LOCAL AMENDMENTS			
SITE PRIOR TO					
	# WORK NOTE DESIGNATION. Image: Constraints				
	$\rightarrow \frac{FPWH}{FROST PROOF WALL HYDRANT}$				
E. ALL	POINT OF CONNECTION. $\rightarrow \frac{HB}{HOSE BIB}$	PIPING SYSTEM NOTES			
	NEW TO EXISTING	FIFING STSTEWINOTES			
M THEY SERVE.	O O ROOF DRAIN (RD), OVERFLOW ROOF DRAIN (ORD)		-		
E 6". CLEAN	FIXTURE SUPPORT (WALL CARRIER)	 ALL NEW COLD, HOT AND HOT WATER CIRC WATER PIPING SHALL BE TYPE "L" HARD DRAWN COPPER CONFIRMING TO LEAD-FREE STANDARDS WITH CAST BRONZE OR WROUGHT COPPER FITTINGS, SOLDER JOINT TYPE USING ONLY LEAD FREE SOLDER. 	•		
	PIPING DESIGNATIONS AND FITTINGS				
NFORM WITH		2. PROVIDE 1 1/2" FIBERGLASS INSULATION ON ALL HOT AND HOT WATER CIRC PIPING. CW PIPING DOES NOT REQUIRE INSULATION.			
	CA — COMPRESSED AIR SOLATION VALVE DOMESTIC COLD WATER	3. PIPE INSULATION SHALL BE SNAP-ON TYPE, FIBERGLASS PIPE INSULATION WITH WHITE SELF-SEALING FLAME RETARDANT VAPOR B	BARRIE		
	HW — DOMESTIC COLD WATER	JACKET. ALL VALVES AND FITTINGS SHALL BE INSULATED.			
SS OR ACCESS					
	NP DOMESTIC NON-POTBALE WATER	 PROVIDE CALCIUM SILICATE INSERT AT ALL HANGER LOCATIONS. PROVIDE INSULATION SHIELDS AT ALL HANGERS WITH HANGERS LOCATED UNDER THE INSULATION AND NOT IN CONTACT WITH THE PIPING. 	3		
ER. IE: HOSE	SCW DOMESTIC SOFT COLD WATER				
	SHW DOMESTIC SOFT HOT WATERSHW	5. PROVIDE PIPE MARKERS AND FLOW ARROWS FOR ALL PIPING.			
VALVES, ETC.		 UPON THE COMPLETION OF THE DOMESTIC WATER SUPPLY SYSTEM PIPING SHALL BE TESTED AND PROVED AIR TIGHT UNDER A W PRESSURE TEST NOT LESS THAN THE WORKING PRESSURE OF THE SYSTEM, OR, FOR PIPING SYSTEMS EXCLUDING PLASTIC PIPE. 			
	G GAS PIPING	AIR TEST OF NOT LESS THAN 50 PSIG. PIPING SHALL HOLD PRESSURE FOR A MINIMUM ONE (1) HOUR.	, 81 / 11		
REDLINE	SS				
FOR		DISINFECTION OF POTABLE WATER SYSTEM			
	v vent \Box				
PONENTS TO	CV - CIRCUIT VENT	NEW POTABLE WATER SYSTEMS SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. THE METHOD			
	$ \longrightarrow SD \longrightarrow STORM DRAIN PIPING ABOVE GRADE \qquad \qquad$	FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTION OR, IN THE ABSENC PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652, OR AS DESCRIBED BELOW. THIS REQUIRE			
		SHALL APPLY TO "ON-SITE" OR "IN-PLANT" FABRICATION OF A SYSTEM OR TO A MODULAR PORTION OF A SYSTEM.			
	OVERFLOW STORM DRAIN PIPING	1. THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF			
STORAGE	PIPING NOTATION	OUTLET.			
		 THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/ CHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS F MILLION (50 MG/L) OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED OFF AND ALLOWED TO STAND FOR 24 HO 			
VIOUS	X" PIPE TYPE (XXX) Y Y Y Y Y Y Y Y Y Y <td>OR THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PART</td> <td></td>	OR THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PART			
	XXX = FIXTURE UNITS FOR WATER AND SANITARY PIPING	MILLION (200 MG/L) OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS.			
PTIONS MAY BE ING THE ION, OR	XXX = GPM OF FLOW FOR HWC PIPING + × = + PIPE ANCHOR, ALIGNMENT GUIDE XXX = MBH CONNECTED LOAD FOR GAS PIPING + × = + PIPE ANCHOR, ALIGNMENT GUIDE	 FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINI PURGED FROM THE SYSTEM 			
NG THE		 FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINI PURGED FROM THE SYSTEM. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS PLACED AND ADDRESS AND ADDRESS	-		

	CONSULTING ENGINEERS, INC. 00 GOODMAN STREET UNIT 100 WINDSOR, CO 80550 (970) 460-7400 G2CE.COM G2CE #2021034
Recreation Center Locker Rm Remodel	651 10th Ave. Greeley, CO 80631
	Halcyon Design LLC PO Box 684 Salle, CO 80645
	303.906.2617
DATE	
SHEET PLUMBI AND NC	NG INDEX, LEGENDS,
SHEET	NUMBER

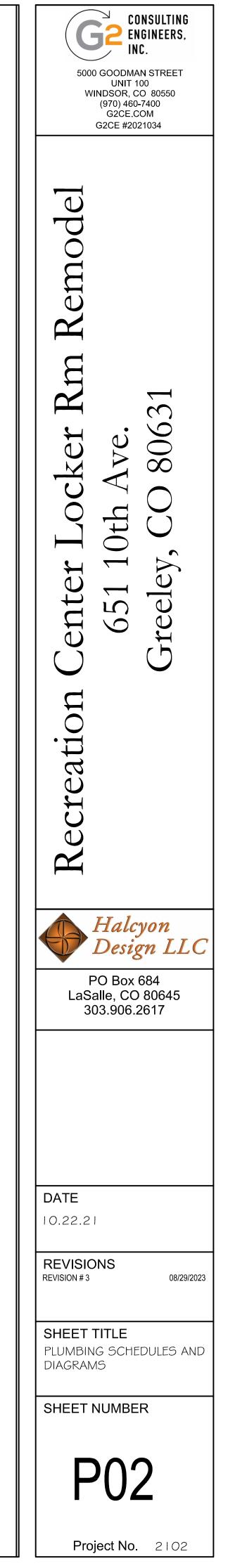
Project No. 2102

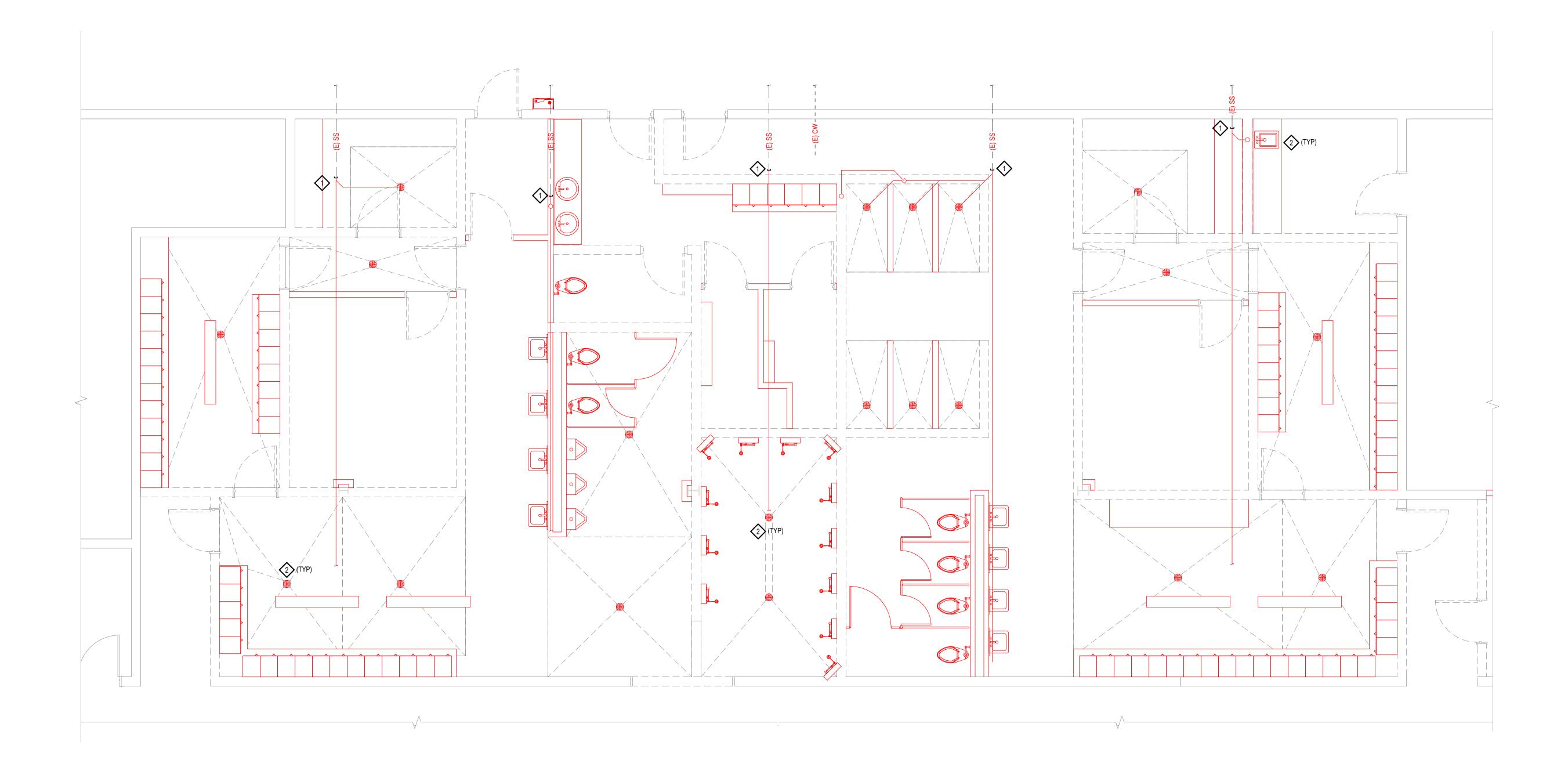
PLUMBING FIXTURE SCHE								
TAG	ITEM							
<u>WC-1</u>	WATER CLOSET							
<u>WC-2</u>	WATER CLOSET							
<u>UR-1</u>	URINAL							
<u>UR-2</u>	URINAL							
1.4	LAVATORY - SINK							
<u>L-1</u>	LAVATORY - FAUCET							
	LAVATORY - SINK							
<u>L-2</u>	LAVATORY - FAUCET							
	SHOWER VALVE							
<u>SH-1</u>	SHOWER HEAD							
	FLOOR DRAIN							
	SHOWER VALVE (ADA)							
<u>SH-2</u>	HAND SHOWER (ADA)							
	FLOOR DRAIN (ADA)							
<u>SS-1</u>	SERVICE SINK							
<u>DF-1</u>	DRINKING FOUNTAIN							
<u>HB-1</u>	HOSE BIBB							
<u>FD-1</u>	FLOOR DRAIN							
<u>TV-1</u>	TEMPERING VALVE (LAV AND HAND SINK)							
<u>CS-1</u>	CIRCUITSOLVER							
SA	SHOCK ABSORBER							
WCO	WALL CLEANOUT							
FCO	FINISH FLOOR CLEANOUT							
<u>AAV-1</u>	AIR ADMITTANCE VALVE							
NOTES:	1) SHALL MEET ADA STANDARDS							





			CTION SIZE		NOTES
	WASTE	VENT	HOT WATER	COLD WATER	NOTES
SH VALVE,	3"	1-1/2"	N/A	1"	
	3"	1-1/2"	N/A	1"	1
	2"	1-1/2"	N/A	3/4"	1
	2"	1-1/2"	N/A	3/4"	
	- 2"	1-1/2"	1/2"	1/2"	1
	- 2"	1-1/2"	1/2"	1/2"	1
NDLE, WITH	2"	1-1/2"	1/2"	1/2"	
E BALANCING ED SOAP DISH V CONTROL	2"	1-1/2"	3/4"	3/4"	1
UUM BREAKER,	3"	1/1/2"	3/4"	3/4"	-
Z	2"	1-1/2"	N/A	1/2"	1
	N/A	N/A	N/A	3/4"	
	2"	1-1/2"	N/A	N/A	-
AT 110 F.	N/A	N/A	1/2"	1/2"	-
)F 110°F	N/A	N/A	3/4"	N/A	-
	N/A	N/A	N/A	N/A	-
	2"	N/A	N/A	N/A	-
	2"	N/A	N/A	N/A	-
SSEMBLY	VARIES	VARIES	N/A	N/A	







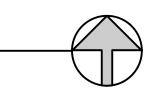
GENERAL NOTES:

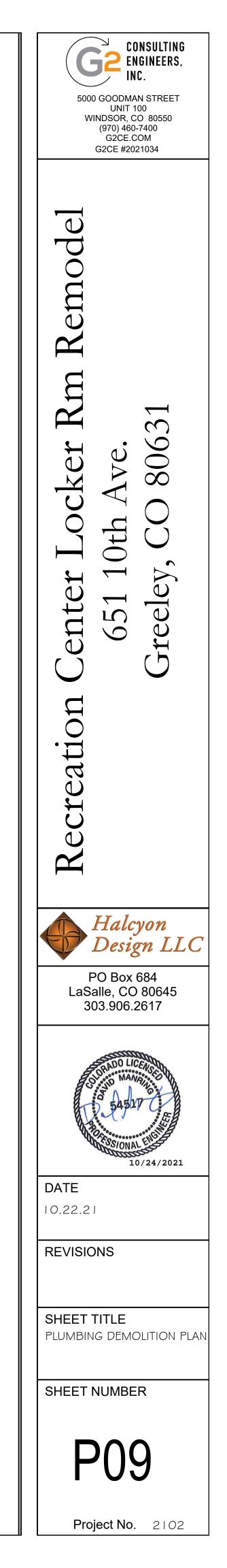
1. XXX

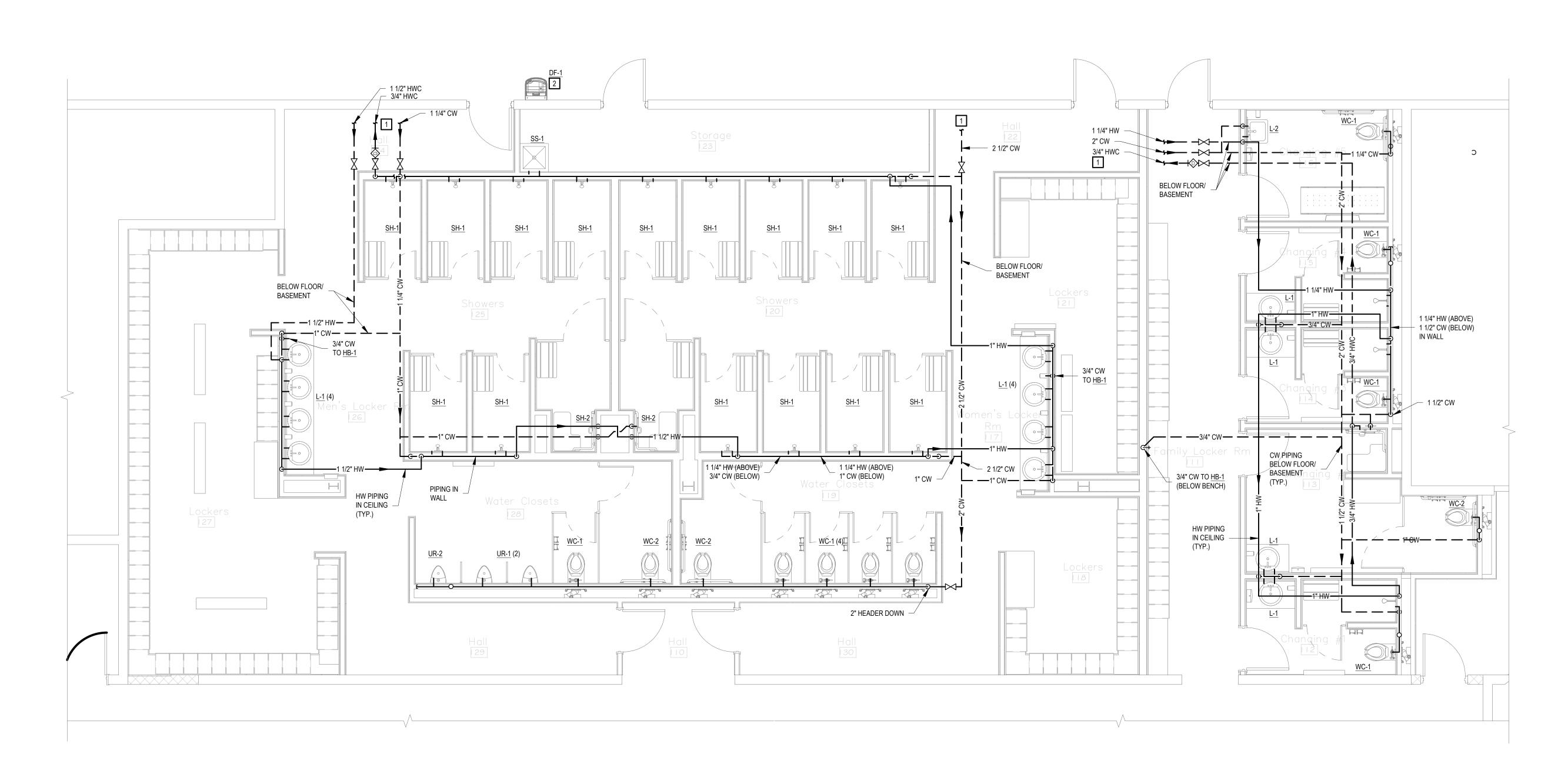


1. CAP AND REMOVE PIPING TO THIS POINT.

2. DEMO FIXTURE AND REMOVED ASSOCIATED PIPING BACK TO MAIN.



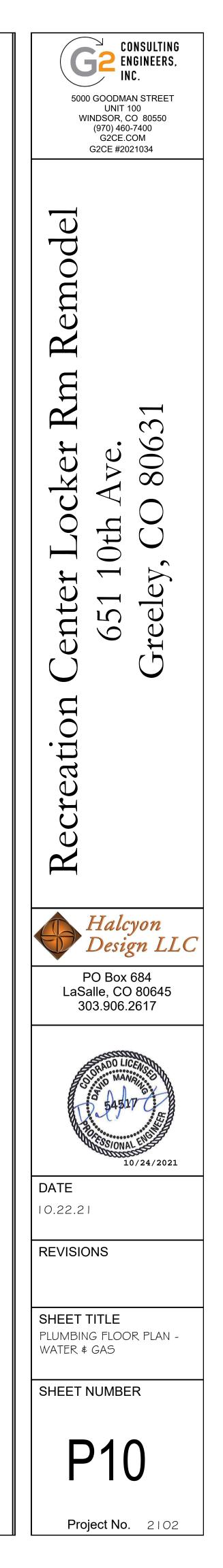


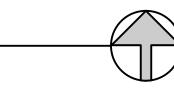


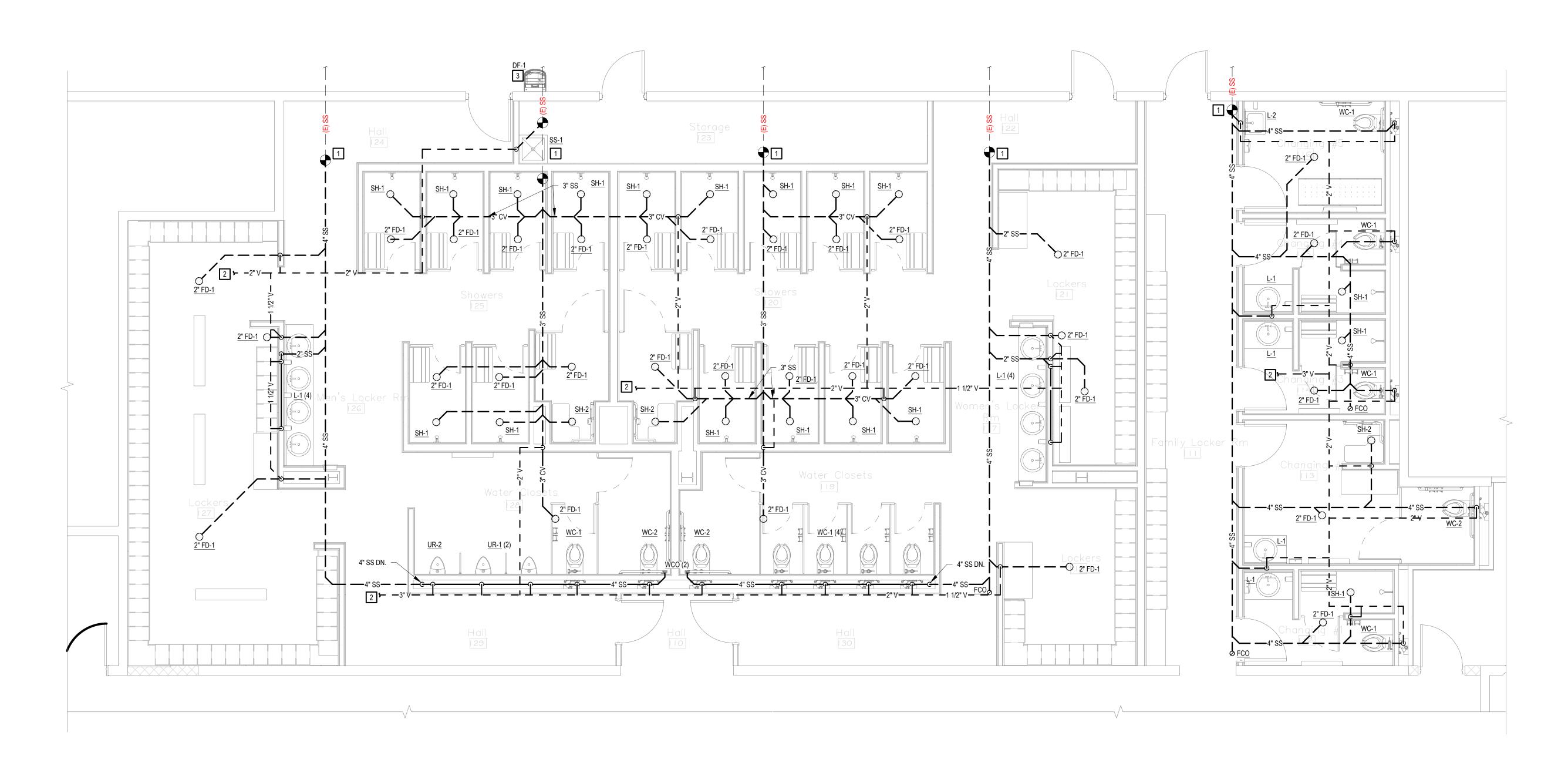


WORK NOTES:

- 1. CONNECT TO EXISTING WATER PIPING. VERIFY EXACT SIZE AND LOCATION.
- 2. RECONNECT NEW DF-1



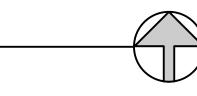


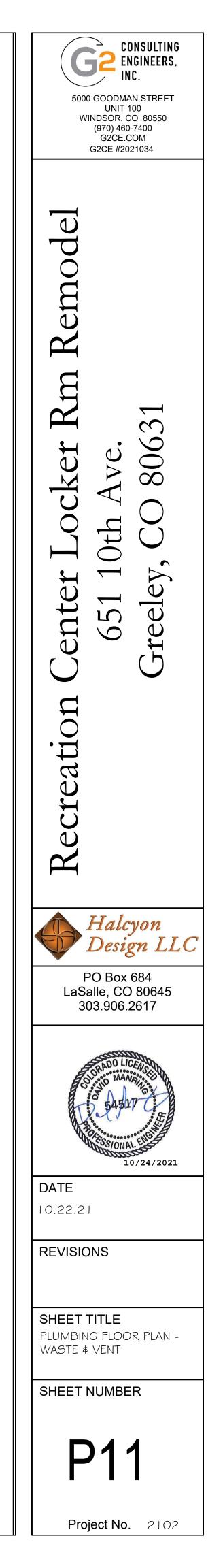




WORK NOTES: **#**

- 1. CONNECT TO EXISTING SEWER PIPING. VERIFY EXACT SIZE AND LOCATION.
- 2. CONNECT TO EXISTING VENT PIPING. EXISTING VENT WILL REQUIRE TO BE SAME SIZE OR LARGER AS NEW VENT. VERIFY EXACT LOCATION.
- 3. RECONNECT NEW DF-1





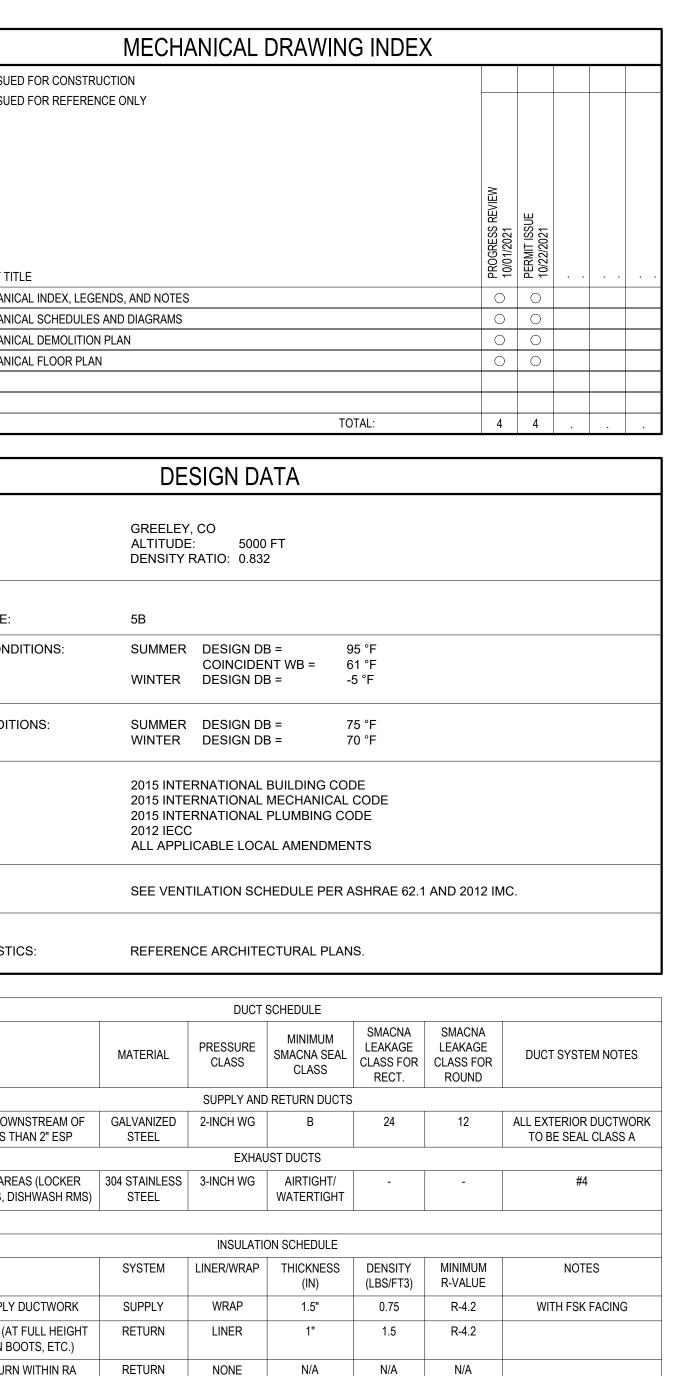
MECHANICAL DUCT SYSTEM NOTES

- 1. DUCT SIZES AS INDICATED ON THE DRAWINGS ARE OUTSIDE SHEET METAL DIMENSIONS. WHERE DUCT LINER IS USED THE DUCTWORK DIMENSIONS ACCOMMODATE THE DUCT LINER.
- 2. CONTRACTOR SHALL CONSTRUCT AND INSTALL DUCTWORK PER SMACNA STANDARDS.
- 3. EXHAUST DUCTWORK CONNECTED TO TYPE II VAPOR EXHAUST HOODS AND EXHAUST GRILLES SHALL HAVE WELDED SEAMS AND EITHER WELDED OR FLANGED JOINTS. FLANGED JOINTS SHALL BE WATERTIGHT WITH EPDM GASKETS. SLOPE DUCTWORK BACK TOWARDS HOOD/EXHAUST GRILLE AT 1% SLOPE.
- 4. BRANCH DUCT CONNECTIONS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.
- 5. SPIN-IN FITTINGS TO DIFFUSERS SHALL BE CONICAL TYPE (EXCEPT LOCATIONS WHERE LISTED DUCT HEIGHT DOES NOT ACCOMMODATE).
- 6. DAMPERS: SINGLE BLADE TYPE VOLUME DAMPERS SHALL BE INSTALLED AT ALL DIFFUSER TAKEOFFS AND WHERE REQUIRED FOR PROPER BALANCING. HANDLE SHALL BE VISIBLE THROUGH INSULATION.
- 7. REMOTE DAMPERS: PROVIDE A REMOTE DAMPER ACTUATOR FOR LOCATIONS WHERE DAMPERS ARE NOT ACCESSIBLE. WHERE REMOTE DAMPER ACTUATORS ARE PROVIDED, COORDINATE LOCATION OF REMOTE DAMPER ESCUTCHEON PLATE AND COVER WITH ARCHITECT.
- 8. PROVIDE A MINIMUM 12" LONG RED RIBBON LOCATOR ON VOLUME DAMPER VALVE HANDLES.
- 9. PROVIDE ACCESS DOOR IN DUCTWORK UPSTREAM OF EACH DUCT-MOUNTED COIL, HUMIDIFIER, SMOKE DETECTOR, AND COMBINATION FIRE/SMOKE DAMPER.
- 10. RECTANGULAR DUCT TURNS/ELBOWS: ALL 90 DEGREE ELBOWS SHALL BE LONG RADIUS ELBOWS OR SHALL HAVE TURNING VANES CONSISTING OF SINGLE BLADE DUCT VANES WITH 2-1/2 INCH BLADE SPACING.
- 11. INSULATED FLEXIBLE DUCT MAY BE USED FOR THE CONNECTION TO SUPPLY AIR OUTLETS/DIFFUSERS PROVIDED THE FLEXIBLE CONNECTION DOES NOT EXCEED 6 LINEAR FEET IN LENGTH. INSTALL DUCTS FULLY EXTENDED. DO NOT INSTALL IN THE COMPRESSED STATE OR USE EXCESS LENGTH.

MECHANICAL GENERAL NOTES

- DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY. WHATEVER IS CALLED FOR IN EITHER IS BINDING AS THOUGH CALLED FOR IN BOTH.
- 2. ALL WORK SHALL CONFORM WITH ALL APPLICABLE BUILDINGS CODES, FIRE CODES, AND ALL AUTHORITIES HAVING JURISDICTION.
- 3. THE EQUIPMENT SPECIFIED ON THE DRAWINGS HAVE BEEN SELECTED AS THE BASIS OF DESIGN. THE USE OF REVIEWED OR SPECIFIED EQUALS SHALL BE COORDINATED BY THE CONTRACTOR FOR SPACE REQUIREMENTS, EQUIPMENT DIMENSIONS, AND PERFORMANCE.
- . DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL DESIGN INTENT, ARRANGEMENT, AND GENERAL EXTENT OF SYSTEMS. DO NOT SCALE DRAWINGS NOR USE AS SHOP DRAWINGS. WHERE ALTERNATIVE ROUTING, OFFSETS, AND TRANSITIONS ARE REQUIRED FOR FIELD COORDINATION OF ALL OTHER TRADES, THIS CONTRACTOR SHALL FIELD COORDINATE WITH ALL OTHER TRADES, AND SHALL MAKE CHANGES WITHOUT ADDITIONAL COSTS.
- 5. CONTRACTOR SHALL CLOSELY COORDINATE NEW MECHANICAL WORK WITH ALL NEW AND EXISTING MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, AND STRUCTURAL MEMBERS. RELOCATE EXISTING MECHANICAL, PLUMBING AND FIRE PROTECTION WORK AS REQUIRED TO ACCOMMODATE ALL NEW WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM, LOW VOLTAGE, A/V, ETC.
- 6. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION UNLESS SPECIFICALLY DIRECTED OTHERWISE.
- COORDINATE ALL DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, FIRE PROTECTION AND ELECTRICAL DRAWINGS.
- INSTALL CONDENSATE DRAINS FOR ALL COOLING COILS WITH TRAP DEPTH EQUAL TO 1.5 TIMES THE UNIT'S TOTAL STATIC PRESSURE. DISCHARGE CONDENSATE TO FLOOR SINK/FLOOR DRAIN UNLESS NOTED OTHERWISE.
- 9. ALL ROOF WORK SHALL BE PER THE ROOFING MANUFACTURE'S INSTALLATION INSTRUCTIONS TO MAINTAIN THE EXISTING ROOF WARRANTY.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND INSTALLING SLEEVES, INSERTS AND SUPPORTS AS REQUIRED FOR THIS SCOPE OF WORK AND/OR CORE DRILL REQUIREMENTS. COORDINATE WITH GENERAL CONTRACTOR AND STRUCTURAL ENGINEER AS REQUIRED.
- 11. CONTRACTOR SHALL FIELD VERIFY ALL MECHANICAL ITEMS PRIOR TO SUBMITTING A BID.
- 12. PROVIDE ACCESS PANELS IN HARD CEILINGS FOR ACCESS TO ALL MECHANICAL EQUIPMENT, FIRE DAMPERS, FIRE/SMOKE DAMPERS, ISOLATION VALVES, ETC. THIS SHALL INCLUDE ALL NEW MECHANICAL ITEMS REQUIRING ACCESS.
- 13. PROVIDE REDLINE MARKUPS OF ANY FIELD CHANGES OR MODIFICATIONS ON THE CONSTRUCTION DOCUMENTS. REDLINE DRAWINGS SHALL BE REQUIRED WHETHER COORDINATION DRAWINGS ARE REQUIRED OR NOT.
- 14. THE MECHANICAL DIAGRAMS SHALL BE INCORPORATED INTO THE ASSOCIATED WORK AND PROVIDE GENERAL GUIDANCE AS TO THE INSTALLATION INTENT WHETHER REFERENCED TO OR NOT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION, AND INSURE THAT ALL INSTALLATIONS ARE IN ACCORDANCE WITH THE EQUIPMENT'S MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- 15. COORDINATE AND VERIFY ACTUAL APPROVED EQUIPMENT DIMENSIONS PRIOR TO POURING CONCRETE EQUIPMENT PADS.
- 16. WHERE PIPING AND/OR DUCTWORK IS TO BE REMOVED TO A POINT, IT SHALL BE CAPPED OFF AND PROTECTED (WHERE APPLICABLE) FOR CONNECTION TO NEW WORK. INSULATION ON EXISTING PIPING AND DUCTWORK SHALL BE REPAIRED EQUAL TO NEW CONDITION.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND PATCHING OF DAMAGED ARCHITECTURAL COMPONENTS TO REMAIN DURING THE REMOVAL OF THE DESIGNATED SYSTEMS. COORDINATE REPAIR WITH ARCHITECT.
- 18. THE OWNER RESERVES FIRST CHOICE TO KEEP EXISTING EQUIPMENT AND MATERIALS. COORDINATE WITH OWNER AND DELIVER DESIGNATED EQUIPMENT AND MATERIALS REMOVED UNDER THIS CONTRACT TO OWNERS DESIGNATED STORAGE AREA.
- 19. THE LOCATION AND CONDITION OF THE EXISTING PROPERTY AND MECHANICAL SYSTEMS WERE TAKEN FROM PREVIOUS CONSTRUCTION DRAWINGS, OBSERVED FIELD CONDITIONS, AND ASSUMED FIELD CONDITIONS. CERTAIN ASSUMPTIONS MAY BE MADE REGARDING EXISTING CONDITIONS BECAUSE THE ASSUMPTION MAY NOT BE VERIFIED WITHOUT DESTROYING THE EXISTING SPACE. CONTRACTOR SHALL VERIFY EXISTING SYSTEMS PRIOR TO SUBMITTING FINAL BIDS, FABRICATION, OR SUBMITTALS.

			ANICAL LE		01507			1
	ALL SY		ND MAY NOT BE US		UJECT.			 ISSUED FOR CO ISSUED FOR RE
AD	ACCESS DOOR	FLA	ULL LOAD AMPS	<u> </u>	Р	PUMP		
AFF AFMS	ABOVE FINISH FLOOR AIR FLOW MEASURING STATION	FPS	EET PER MINUTE		PCF PD	POUND PER CUBIC FOOT PRESSURE DROP		
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY		EET GALLONS		PH PPM	PHASE PARTS PER MILLION		
AHU (AH) AP	AIR HANDLING UNIT ACCESS PANEL		GALLONS PER HOUF GALLONS PER MINU		PRV PSI	PRESSURE REDUCING VALVE POUND PER SQUARE INCH		
BAS BOD	BUILDING AUTOMATION SYSTEM BOTTOM OF DUCT		IEAD IORSE POWER		PSIA PSIG	POUND PER SQUARE INCH ABS. POUND PER SQUARE INCH GAUGE		
BOP BHP	BOTTOM OF PIPE BRAKE HORSE POWER		iour Iertz		RA RH	RETURN AIR RELATIVE HUMIDITY	SHEET NUMBER	SHEET TITLE
BMS BTU	BUILDING MANAGEMENT SYSTEM BRITISH THERMAL UNIT		NCH NVERT ELEVATION		RPM RTU	REVOLUTIONS PER MINUTE ROOFTOP UNIT	M01	
CFH CFM	CUBIC FEET PER HOUR CUBIC FEET PER MINUTE		(ILOWATT (ILOWATT-HOUR		SEER	SEASONAL ENERGY EFFICIENCY RATIO	M02 M09	MECHANICAL SCHE
CO CO2	CARBON MONOXIDE CARBON DIOXIDE		EAVING AIR TEMPE OUNDS	RATURE	SA SP	SUPPLY AIR STATIC PRESSURE	M10	MECHANICAL FLOO
COP CU	COEFFICIENT OF PERFORMANCE CONDENSING UNIT		INEAR FEET EAVING WATER TE	MPERATURE	SQ FT TAB	SQUARE FEET TESTING AND BALANCING		
CV CWP	CONSTANT VOLUME CONDENSER WATER PUMP	MAT	/IXED AIR TEMPERA 000 BRITISH THERN		TDH TEL	TOTAL DEVELOPED HEAD TOTAL EQUIVALENT LENGTH		
DB dB	DRY BULB TEMPERATURE DECIBEL		IOUR /INIMUM CIRCUIT A	MPS	TSP TYP	TOTAL STATIC PRESSURE TYPICAL		
DDC DN	DIRECT DIGITAL CONTROL DOWN	MERV	/INIMUM EFFICIENC		UNO UV	UNLESS NOTED OTHERWISE ULTRA VIOLET		
DP DS	DIFFERENTIAL PRESSURE DUCT SUMP	MOCP	AXIMUM OVER CUI	RRENT	V VAV	VOLT VARIABLE AIR VOLUME		
DX (E)	DIRECT EXPANSION EXISTING	NA	NOT APPLICABLE	1	VD VFD	VOLUME DAMPER (MANUAL) VARIABLE FREQUENCY DRIVE	LOCA	FION:
EA EAT	EXHAUST AIR ENTERING AIR TEMPERATURE	NFPA	ATIONAL FIRE PRO		VTR WB	VENT THRU ROOF WET BULB TEMPERATURE		
EER EFF	ENERGY EFFICIENCY RATIO	NIC	NOT IN CONTRACT		WC WPD	WATER COLUMN WATER PRESSURE DROP	ASHR	AE
ESP ET	EXTERNAL STATIC PRESSURE EXPANSION TANK	NPSHA	NET POSITIVE SUCT	ION HEAD	(N) (E)	NEW EXISTING	CLIMA	TE ZONE:
EWT °F	ENTERING WATER TEMPERATURE DEGREES FAHRENHEIT	NPSHR	NET POSITIVE SUCT	ION HEAD	(E) (F) (REL)	FUTURE RELOCATED	OUTD	OOR CONDITIONS:
FCU (FC)	FAN COIL UNIT		OUTSIDE AIR			RELOCATED		
		SYMBOL	S AND DESCR	IPTIONS			INDOC	OR CONDITIONS:
	EQUIPMENT DESIGNATIO	N.			(-ХХ-Н	TERMINAL UNIT TAG		
, V	← EXISTING DUCTWORK / P		N			REHEAT DESIGNATION BOX DESIGNATION	CODE	S:
≻						AHU OR MAU DESIGNATION		
4444	EXISTING DUCTWORK / P	IPING TO BE RE	MOVED.			WORK NOTE DESIGNATION.		
			ER.		(#)	DEMOLITION NOTE DESIGNATION.		
NECK SIZE	@-### SECTION SHE				Ð	POINT OF CONNECTION. NEW TO EXISTING	VENTI	ILATION:
DEVICE TYP	PE A 8"Ø AIR DEVICE D	ESIGNATION			Θ	HUMIDITY SENSOR	ENVE	
SLOT LENG					\bigcirc	TEMPERATURE SENSOR. TEMPERATURE TRANSMITTER	CHAR	ACTERISTICS:
	$(A) \frac{41 \text{ Lo 0}}{200} \text{ LINEAR SLOT}$	DESIGNATION			\bigcirc	CARBON MONIXIDE SENSOR.		
AIRFLOW -	REB 200 REBALANCE E	EXISTING DIFFU	SER		$\overline{\odot}$	CARBON DIOXIDE SENSOR.		
		ID REBAI ANCE	EXISTING DIFFUSEF	2		INDOOR AIR QUALITY SENSOR.		
	200 RELOCATE A		. FITTINGS AND		(<u>)</u> IT	OCCUPANCY SENSOR.		
	<u> </u>							AM AND DOWNSTREAM
	SUPPLY AIR DIFFUSER			DUCT TRAN	ISITION		FANS	WITH LESS THAN 2" ES
	RETURN AIR GRILLE		\$\$	DUCT TRAN	ISITION			OISTURE AREAS (LOCK
	EXHAUST AIR GRILLE			SQUARE TO	ROUND I	DUCT TRANSITION	RMS, SHO	WER RMS, DISHWASH
	LINEAR SLOT DIFFUSER		>	AIRFLOW - S				
\ge	SUPPLY DUCT UP		<u>\</u>	MANUAL VC		DR EXHAUST MPFR		
	SUPPLY DUCT DOWN		©			MPER WITH REMOTE OPERATION	ALL OT	HER SUPPLY DUCTWO
	RETURN DUCT UP		69	COMBINATI	ON FIRE/S	SMOKE DAMPER.	TRANSFE	R DUCTS (AT FULL HEI
	RETURN DUCT DOWN		Ð	FIRE DAMPI				S, RETURN BOOTS, ETC
	EXHAUST DUCT UP		®	SMOKE DAN MOTORIZEI				HER RETURN WITHIN F
	EXHAUST DUCT DOWN			MOTORIZE	0011110		Al	LL OTHER EXHAUST
			IGNATIONS AN					
——HWS — —HWF	HEATING WATER SUPPLY HEATING WATER RETURI		<u>بــــ</u>			TION VALVE		
	HEAT RECOVERY SUPPLY		\$		CHECI	< VALVE		
HRF			\$		PLUG	VALVE		
——CHW — —CHW			\$		DYNA	MIC VALVE		
	CONDENSER WATER SUF		\$		TWO-V	VAY CONTROL VALVE		
— — CWF	R—— CONDENSER WATER RET	URN	\$		THREE	E-WAY CONTROL VALVE		
	LOW PRESSURE STEAM		5		BALAN	ICING VALVE		
	STEAM (CONDENSATE) R REFRIGERANT LIQUID	ETURN	y		PRES	SURE REDUCING VALVE		
	REFRIGERANT SUCTION		.		STRAI			
	G REFRIGERANT HOT GAS		• TF	· >'				
CD			بآبي	s	TEST	PORT, UNION		
	PUMPED CONDENSATE D RADIANT HEATING	IN]	_			
	SNOWMELT		تے آت		THER	MOMETER, PRESSURE GAUGE		
	ARROW IN LINE INDICATE	S	رں ا ر		WELL	MANUAL AIR VENT		
	DIRECTION OF FLOW		 س د			OOWN AND PIPE TEE DOWN		
	PIPING NOTATION							
			· ·		·			
	- X" PIPE TYPE (XXX)		<u>۶</u>	-0 5-0-5		IP AND PIPE TEE UP		
	- X" PIPE TYPE (XXX)		ss	-0 \$-0\$ -3 \$1		IP AND PIPE TEE UP CAP, BLIND FLANGE		



N/A

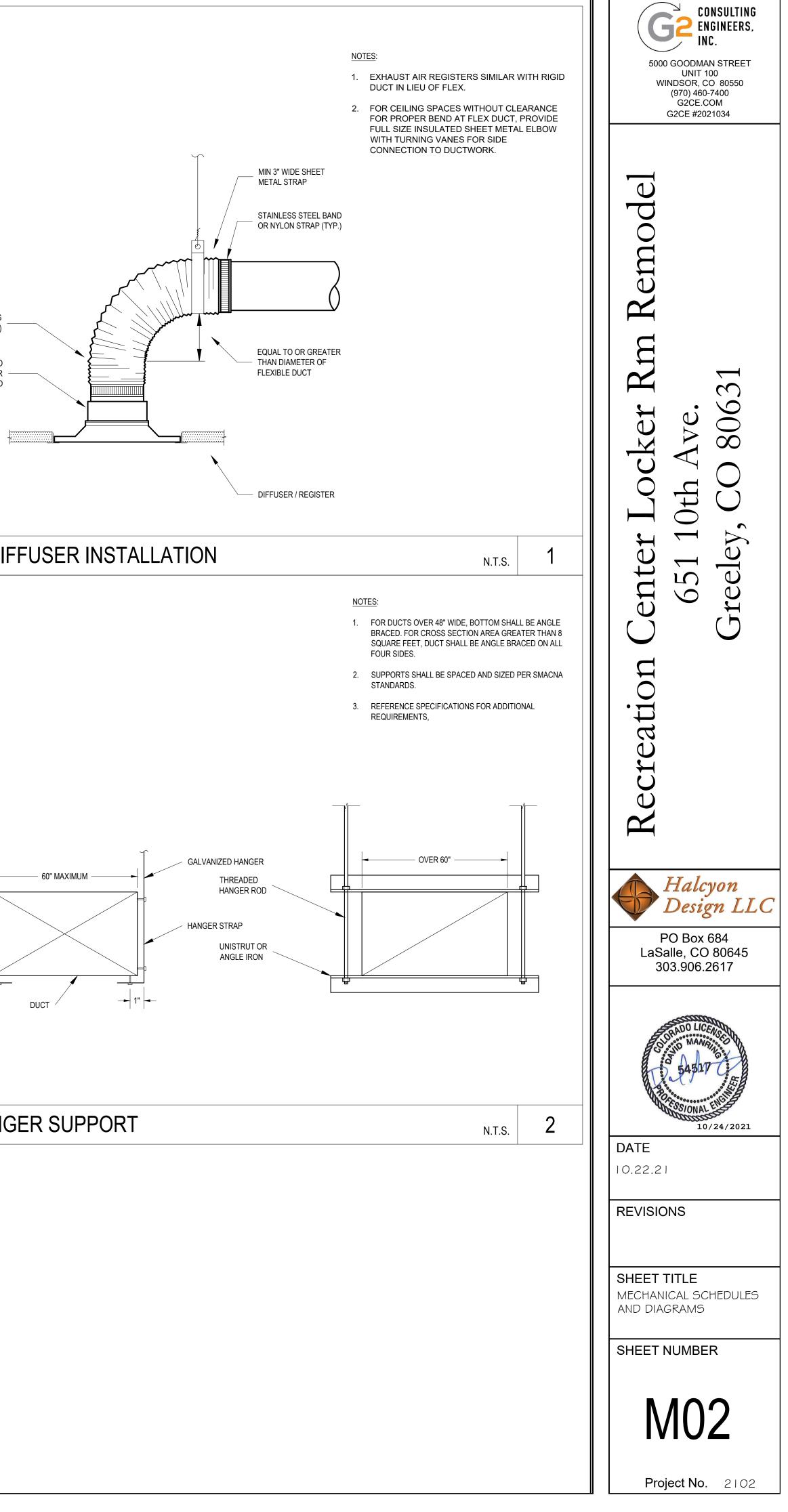
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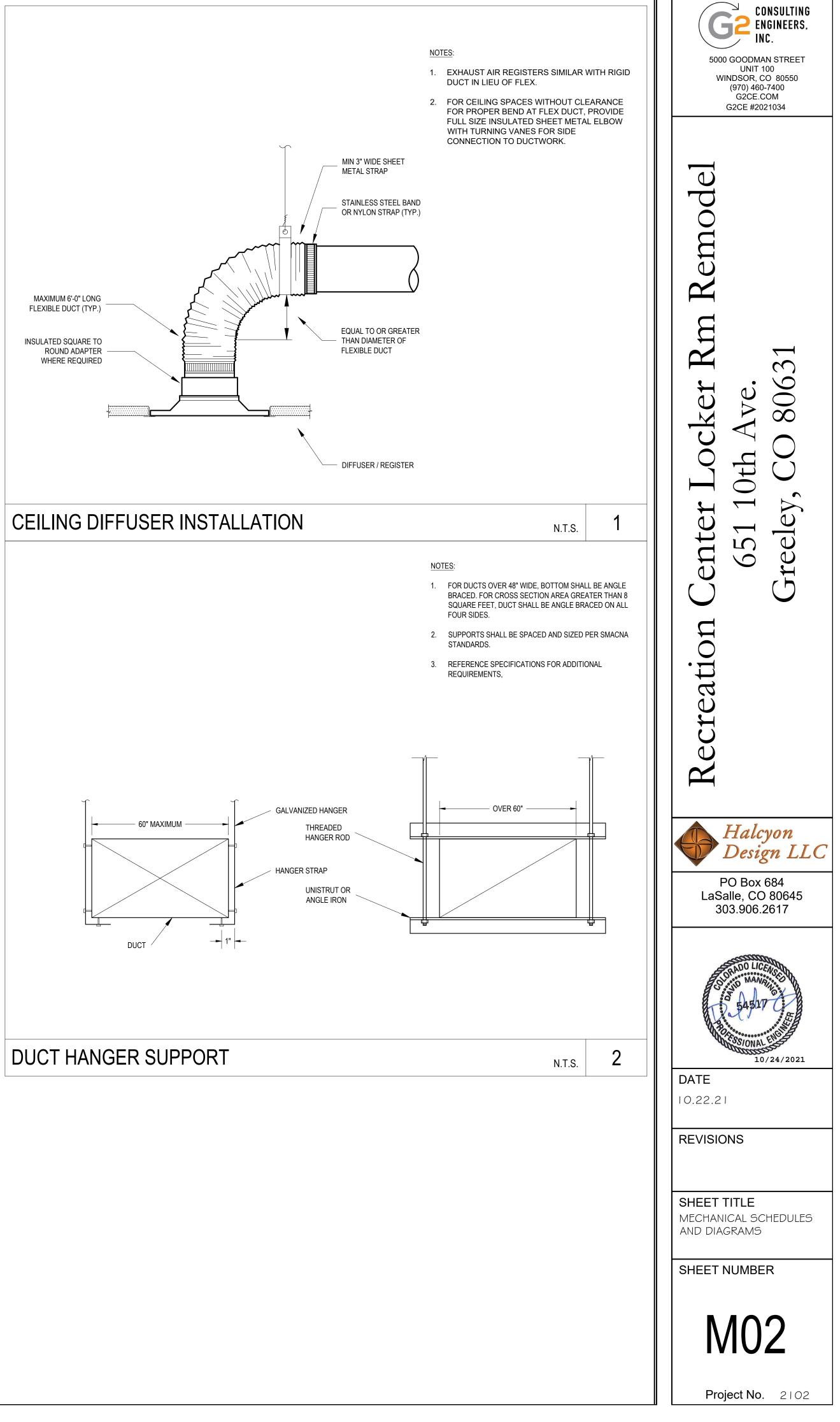
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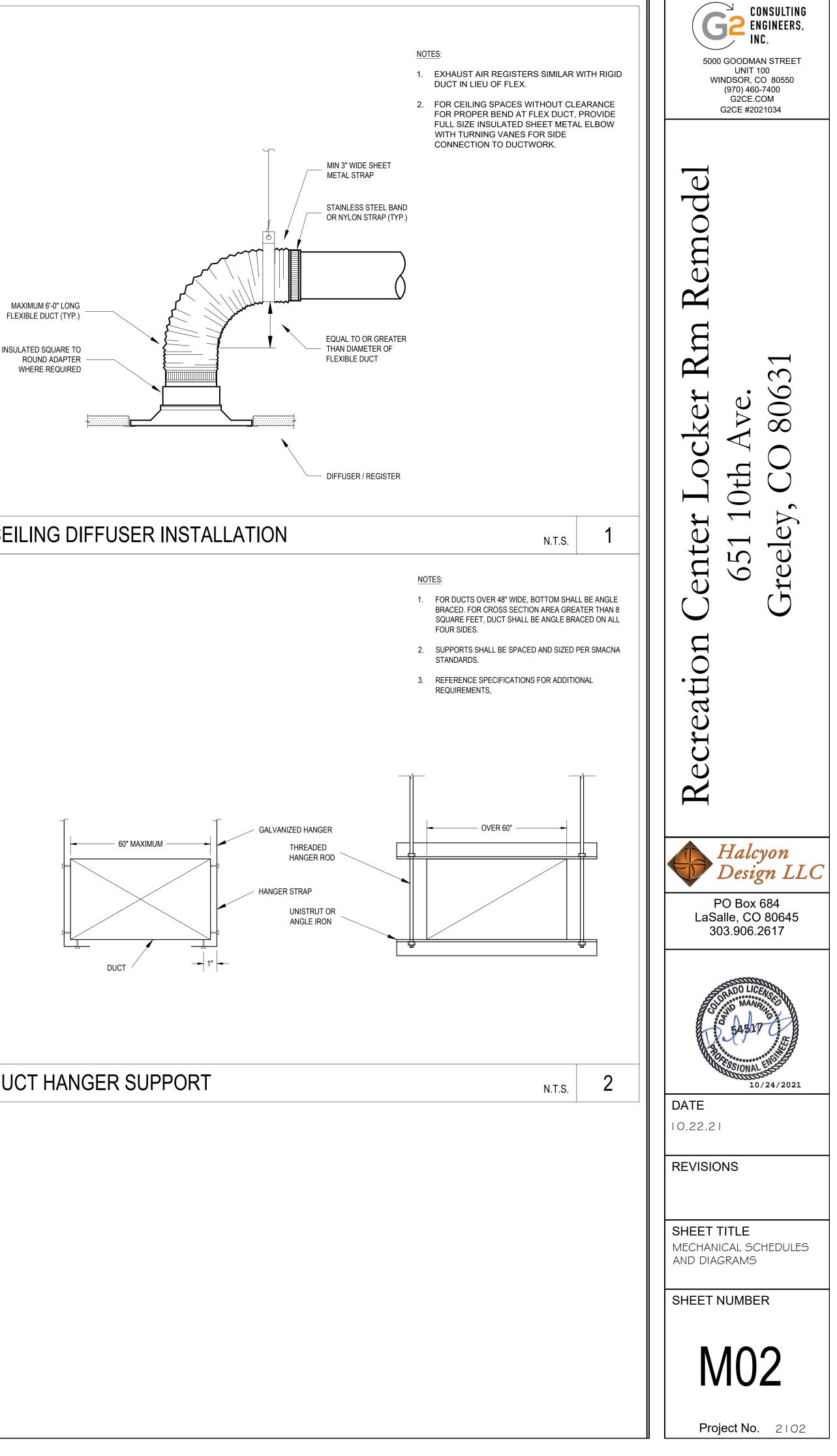
EXHAUST NONE

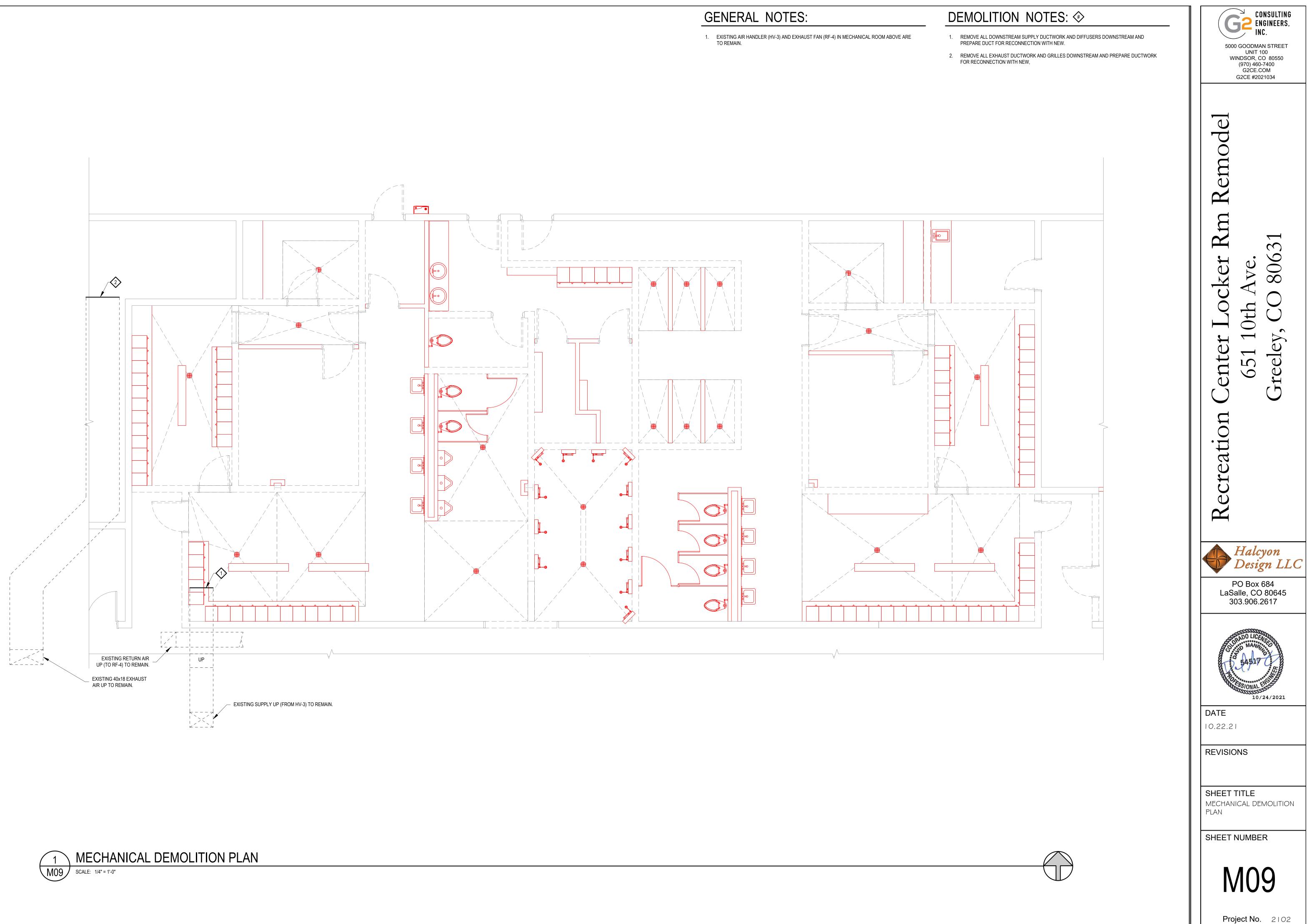
	CONSULTING ENGINEERS, INC. 5000 GOODMAN STREET UNIT 100 WINDSOR, CO 80550 (970) 460-7400 G2CE.COM G2CE #2021034							
Recreation Center Locker Rm Remodel	651 10th Ave.	Greeley, CO 80631						
F	PO Box							
	alle, CC)3.906.2	0 80645 2617						
AND	SUDRADO LICENCO SUDRADO LICENCO SA 54 547 C							
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SHEET MECHAN LEGENDS	ICAL INE	-						
SHEET	NUMBE	R						
	/10	1						
Proi	iect No.	2102						

TAG	MANUF	MODEL	SYSTEM	SIZE	DESCRIPTION	CONSTRUCTION	OBD	FINISH	NOTES
А	TITUS	OMNI	SUPPLY	24x24	ARCHITECTURAL SQUARE PLAQUE FACE.	ALUMINUM	N	2	A, B, C, D
В	TITUS	PXP-AA	EXHAUST	24x24	PERFORATED FACE.	ALUMINUM	Ν	2	A, B, C
С	TITUS	350-RL	EXHAUST	VARIES	3/4" SPACING, 35 DEG. DEFLECTION.	ALUMINUM	Y	2	A, B, C, D
D	TITUS	PXP-AA	RETURN	24x24	PERFORATED FACE.	ALUMINUM	N	1, 2	A, B, C, D
) FACTORY FINISH STANDARD OFF WHITE FOR NON A) SE PUBLIC / BOH AREAS, B) PR) DIFFUSER TO BE FIELD PAINTED IN PUBLIC AREAS, C) RE					NOTES: A) SEE DRAWINGS FOR NECK SIZE AND AIR QUANTITY, B) PROVIDE FRAME COMPATIBLE WITH CEILING TYPE, C) REFERENCE ARCHITECTURAL PLANS FOR FINAL DIFFUSER LOCATIONS, D) PROVIDE SQUARE-TO-ROUND TRANSITION AT DIFFUSER CONNECTION AS REQUIRED,				

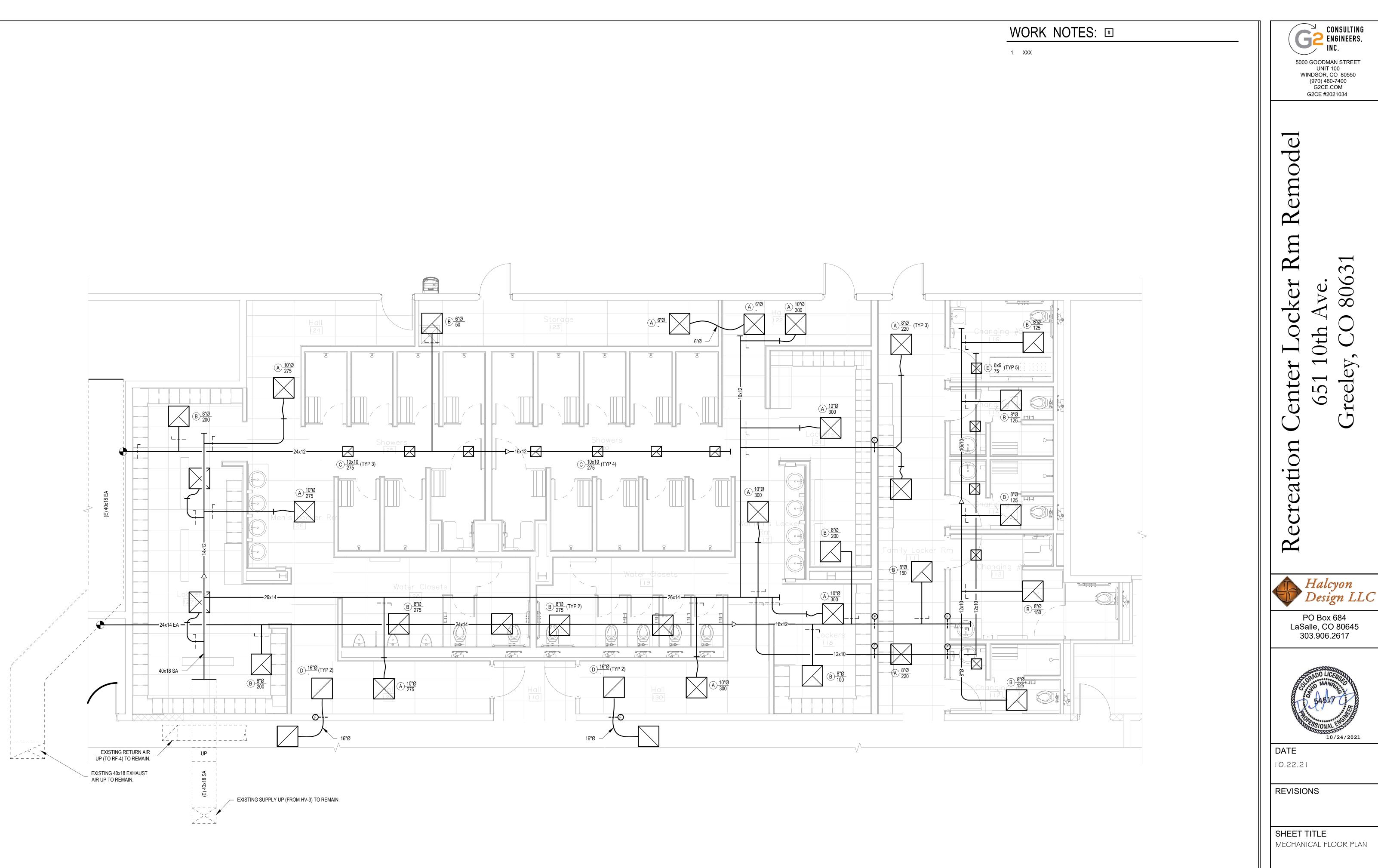










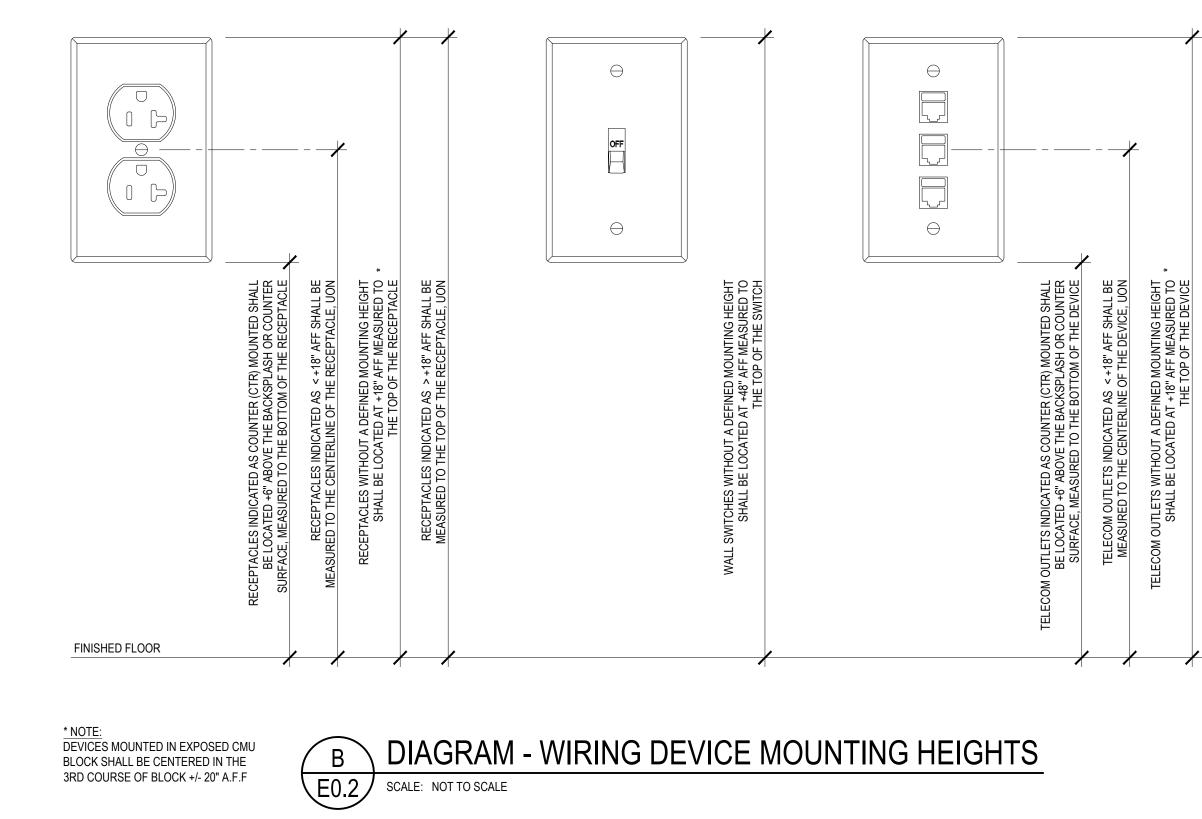


MECHANICAL FLOOR PLAN 1 M10 SCALE: 1/4" = 1'-0"

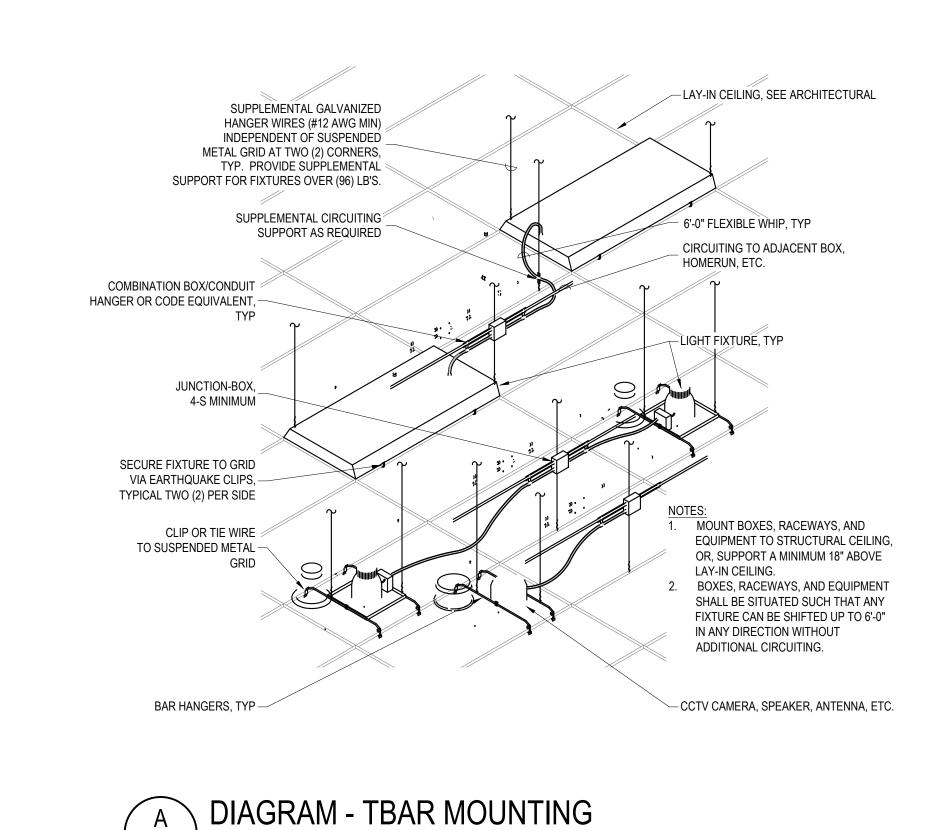
SHEET NUMBER

M10

FIXTURE	DESCRIPTION	M	ANUFACTURER INFORMATION	MOUNTING	LAMP	WATTAGE	VOLTAGE	NOTES
DESIGNATION	DESCRIPTION	NAME	CAT ALOG NUMBER	WOUNTING	LAWF	WATTAGE	VOLTAGE	
A1	2x2 LAY IN, LED PANEL, 5000LM, 80 CRI, 4000K, PRISMATIC LENS, 0-10V DRIVER,	LITHONIA	CPX-2X2-5000LM-80-40K-A12-MIN10-ZT-MVOLT	LAY-IN	LED	32	MVOLT	
B1	4" DIAMETER, LED, SHOWER LENS, FLOOD DISTRIBTUION, 4000K, 80CRI, ELV DRIVER.	AMERLUX	HDL-HP-R-NC-A17-T-13-120/277-LE/TE HDL-HP-RPASHW-A17-TMW-FL-10	RECESSED	LED	13	MVOLT	
X1	SINGLE FACE, LED, EXIT SIGN, RED LETTER, THERMOPLASTIC HOUSING	LITHONIA	LQM-S-W-3-R-MVOLT-ELN-SD	SURFACE	LED	2	MVOLT	

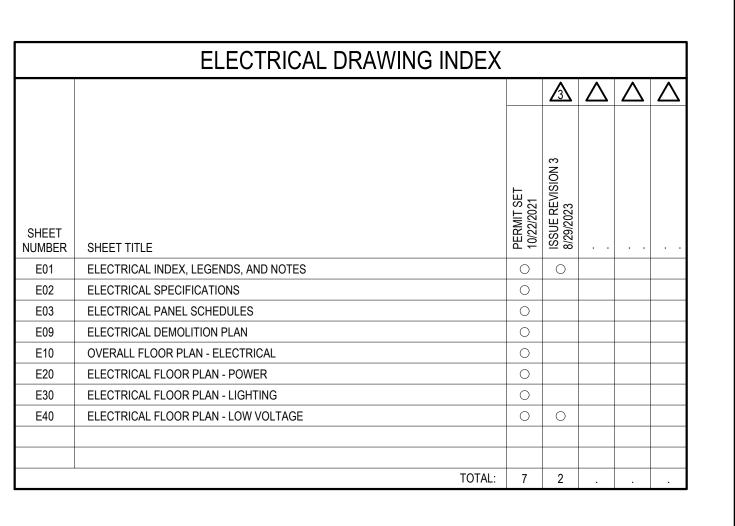


	TELECOM SYM	BOLS	LIST
	(NOT ALL SYMBOLS MAY APPEA	R IN THESE D	DRAWINGS)
\bigtriangledown	TELECOM OUTLET: PROVIDE FLUSH MOUNT	(S)	CEILING MOUNT SPEAKER
	4S JUNCTION BOX WITH 2-GANG OPENING AND MUD-RING. ROUTE (1) 3/4" CONDUIT TO	l©,	WALL MOUNT SPEAKER
D2	ACCESSIBLE ABOVE CEILING SPACE COMPLETE WITH PULLSTRING. FUTURE CABLING BY OTHERS.	WAP	WIRELESS ACCESS POINT
∇ V2 ∇	TELECOM OUTLET COMPLETE WITH CABLING/, JACKS, CONVENTIONS AS FOLLOWS: D = DATA	©<	CCTV SYSTEM CAMERA
D1/V1 V	V = VOICE P = POINT-OF-SALE	$ \forall \rangle$	VOLUME CONTROL STATION
	# = QUANTITY OF CABLES/RJ45 JACKS, EACH	$\langle \nabla \rangle$	A/V SYSTEM SCREEN OUTLET
	FLUSH FLOOR TELECOM OUTLET	$\vdash \mathbb{M}$	MICROPHONE INPUT JACK
	TELECOM RACK, 2-POST, 45U, UON		PLYWOOD MOUNTING BACKBOARD,
	TELECOM RACK, 4-POST, 45U, UON		3/4" THICK, 8'-0" TALL, WIDTH AS DRAWN, WHITE FIRE RETARDANT
N	TELECOM CABINET, FLUSH MOUNT		PAINT FINISH, #6 CU GROUND WIRE
	TELECOM CABINET, SURFACE MOUNT	ER	EQUIPMENT ROOM
AVI	A/V SYSTEM INTERFACE TOUCHPAD, +48" AFF UON	TR	TELECOM ROOM
Ю	CLOCK OUTLET	CR	CARD READER, +48" AFF UON
HÔ	WALL MOUNT PUBLIC ADDRESS	IC	INTERCOMM
Ū	SYSTEM SPEAKER	Ŕ	WALL MOUNT BELL
ввѺ	DOOR BUZZER	₽Вᠿ	PUSH BUTTONS



E0.2 SCALE: NOT TO SCALE

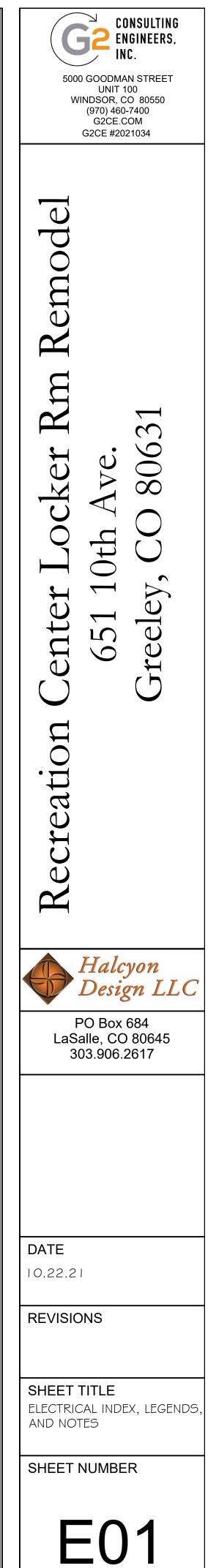
DAS > -TOP OF



ELECTRICAL SYMBOLS LIST (NOT ALL SYMBOLS MAY APPEAR IN THESE DRAWINGS)

	RECESSED MOUNTED LINEAR	\$ ^a
0	SURFACE MOUNTED LINEAR	a ₃ \$
0	FLANGED MOUNTED LINEAR	ф ^а
••	SUSPENDED MOUNTED LINEAR	a ₃ \$
$\vdash \rightarrow$	LINEAR STRIP	\$ ^M
	WALL MOUNTED LINEAR	φ ^a
Ю	WALL BRACKET	OC
0	OPEN DOWNLIGHT, SURFACE OR RECESSED	_
θ	RECESSED ADJUSTABLE DOWNLIGHT	DS
Φ	IN-GRADE DOWNLIGHT	ю
••	POLE MOUNTED LIGHT	0 d
Φ	BOLLARD LIGHT FIXTURE	-
	TRACK AND TRACK HEAD	ф
0	DECORATIVE FIXTURE	•
LCS	LIGHTING CONTROL STATION (\Im = WIRELESS)	b
$\overline{\otimes}$	EXIT SIGN, SINGLE FACE, CHEVRONS AS	⊕ • ⊥
\otimes	EXIT SIGN, DUAL FACE, CHEVRONS AS	Ф
*	EXIT SIGN, SINGLE FACE, CHEVRONS AS INDICATED, INTEGRAL EMERGENCY LIGHT	⊌₩ ₩₩
ম	EXIT SIGN, LOW-LEVEL	÷÷
ЮО	SHADING INDICATES WIRING DEVICES ON EMERGENCY POWER SOURCE	Ø
€	TWIN-HEAD EMERGENCY LIGHT	Ю
HHH LA-1,3,5	HOMERUN: (6) #12 AWG + (1) #12 AWG GRD, CU, TO PANEL 'LA' CIRCUITS 1, 3, 5 - 3/4"C	SIGN
کے	CIRCUITING IN WALL OR ABOVE CEILING	
<u> </u>	CIRCUITING IN FLOOR OR BELOW GRADE	- L
}∦ }	CIRCUITING WITH ISOLATED GROUND CONDUCTOR	Ē
FCU 1	MECHANICAL/PLUMBING EQUIPMENT DESIGNATION	
	PANELBOARD, FLUSH MOUNT	PC
	PANELBOARD, SURFACE MOUNT	VFD
#	POWER/TELECOM RISER	FSD
CTR	COUNTER	Т
GRD	GROUND	O/H
(R)	RELOCATED	TYP
(X)	EXISTING TO BE REMOVED	UON
HP	HORSEPOWER	NL
(E)	EXISTING TO REMAIN	FPEN
WP	WEATHER-PROOF	(E/R)
U/C	UNDERCOUNTER	FBO

THESE DF	RAWINGS)
a	SWITCH, SINGLE POLE
¹ 3	SWITCH, THREE POLE
¢ ^a	DIMMER SWITCH, SINGLE POLE
¹ 3 \$	DIMMER SWITCH, THREE POLE
\$ ^M	SWITCH, MANUAL MOTOR STARTER
¢a	OCCUPANCY SWITCH, SINGLE POLE, DUAL-TECHNOLOGY, UON
00	CEILING MOUNTED OCCUPANCY SWITCH, SINGLE POLE, DUAL-TECHNOLOGY, UON () = WIRELESS)
OS	CEILING MOUNTED DAYLIGHT SENSOR, 0-10V UON () → WIRELESS)
•	CONTROL STATION
D	JUNCTION BOX
Ь	DUPLEX RECEPTACLE
╞	DOUBLE DUPLEX RECEPTACLE
6	DUPLEX RECEPTACLE, GFCI
6	DUPLEX RECEPTACLE, HALF-SWITCHED
₽	DUPLEX RECEPTACLE, ISOLATED GROUND
þ	SPECIALTY RECEPTACLE (NEMA/IEC)
₩ ₩	50% CONTROLLED RECEPTACLE (DUPLEX, DOUBLE DUPLEX, ETC.) 100% CONTROLLED RECEPTACLE (DUPLEX, DOUBLE DUPLEX, ETC.)
€	DUPLEX RECEPTACLE - CEILING MOUNTED
Þ	FLUSH FLOOR DUPLEX RECEPTACLE
Ð	RECESSED CLOCK RECEPTACLE
GN GN	ILLUMINATED SIGNAGE
<u>ъ</u> ч	COMBINATION DISCONNECT/MOTOR STARTER, 30 AMP, SIZE '1' UON
ЧИ	DISCONNECT SWITCH, NON-FUSED, HEAVY-DUTY, 30 AMP, UON
Ēh	DISCONNECT SWITCH, FUSED, HEAVY DUTY, 30 AMP, UON
\square	CONTACTOR
20	PHOTOCELL
FD	VARIABLE FREQUENCY DRIVE
SD	FIRE-SMOKE DAMPER
Т	DISTRIBUTION TRANSFORMER
)/H	OVERHEAD
YP	TYPICAL
ON	UNLESS OTHERWISE NOTED
NL	NIGHT LIGHT (UNSWITCHED)
PEN	FUSE PER EQUIPMENT NAMEPLATE
/R)	EXISTING TO BE RELOCATED
BO	FURNISHED BY OTHERS



PART 2 - PRODUCTS A. GENERAL

1.

- 3

GENERAL Α. GENERAL CONDITIONS, SPECIAL REQUIREMENTS, OR GENERAL REQUIREMENTS OF THE PROJECT SPECIFICATIONS MANUAL (WHERE PROVIDED) ARE MADE PART OF THIS SPECIFICATION AND HAVE THE SAME FORCE AND EFFECT AS IF COMPLETELY REPRODUCED. DEFINITIONS: THE WORD "WORK" SHALL MEAN LABOR AND ANY INCIDENTAL ITEMS OR SERVICES NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS NOTED ON THESE DRAWINGS AND ASSOCIATED SPECIFICATIONS. THE WORD "PROVIDE" SHALL MEAN FURNISH, INSTALL, FEED, MAKE FINAL CONNECTIONS, COMMISSION AND LEAVE IN AN APPROVED COMPLETE OPERATING CONDITION. WORK SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE APPLICABLE NATIONAL ELECTRICAL CODE (NEC), INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL ENERGY CONSERVATION CODE (IECC), NFPA 110, AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING AMENDMENTS. OBTAIN AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS REQUIRED FOR THIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS INDICATED ON THE DRAWINGS, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK. THE WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES INCLUDING CONTRACT DOCUMENTS, SHOP DRAWINGS, AND EXISTING SYSTEMS (WHERE APPLICABLE). DO NOT SCALE DRAWINGS AS THEY ARE DIAGRAMMATIC AND SCHEMATIC IN NATURE. CONTRACTOR SHALL PROVIDE NECESSARY ITEMS TO COMPLETE THE WORK ACCORDING TO INDUSTRY STANDARDS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL OUT FOR FINISHED WORK, TESTED AND READY FOR OPERATION. ARRANGEMENT OF EQUIPMENT AND ROUTING OF RACEWAYS INDICATED ON DRAWINGS SHALL BE ROUTED PLUMB AND AT RIGHT ANGLES TO BUILDING STRUCTURE. INSTALLATION OF SYSTEMS MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS. VERIFY ALL SIZES DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATIONS OR ISSUES SHALL BE TRANSMITTED TO THE ARCHITECT FOR REVIEW. CONTRACTOR SHALL SUBMIT A BID BASED ON MANUFACTURER NAMES LISTED UNLESS "OR EQUAL" IS INDICATED. SUBSTITUTION REQUESTS WILL BE REVIEWED BY THE ENGINEER PROVIDED THEY ARE SUBMITTED A MINIMUM OF SEVEN (7) BUSINESS DAYS PRIOR TO THE BID DATE. CLOSING ACCEPTABILITY OF SUBSTITUTION WILL BE SOLELY DETERMINED BY THE OWNER. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. 10. EXAMINATION OF BIDDING DOCUMENTS: EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND, NOT LATER THAN 11.1. SEVEN (7) DAYS PRIOR TO THE DATE OF RECEIPT AND SHALL MAKE WRITTEN REQUEST TO THE ARCHITECT FOR INTERPRETATION OR CORRECTION OF ANY DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR THEREIN WHICH HE MAY DISCOVER. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED AS AN ADDENDUM BY THE ARCHITECT. ONLY A WRITTEN INTERPRETATION OR CORRECTION BY ADDENDUM SHALL BE BINDING, NO BIDDER SHALL RELY UPON INTERPRETATIONS OR CORRECTIONS GIVEN BY ANOTHER METHOD. IF DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR ARE NOT COVERED BY ADDENDUM OR WRITTEN DIRECTIVE, CONTRACTOR SHALL INCLUDE IN HIS BID, LABOR, MATERIALS AND METHODS OF CONSTRUCTION RESULTING IN HIGHER COST. AFTER AWARD OF CONTRACT, NO ALLOWANCE OR EXTRA COMPENSATION WILL BE MADE IN BEHALF OF THE CONTRACTOR DUE TO HIS FAILURE TO MAKE THE WRITTEN REQUESTS AS DESCRIBED ABOVE. 11.2. THE COMPANY/CONTRACTOR SUBMITTING THE REQUEST WILL BE RESPONSIBLE FOR ITS PROMPT DELIVERY. FAILURE TO SO REQUEST CLARIFICATION OF ANY INADEQUACY, OMISSION, OR CONFLICT WILL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY. THE SIGNING OF THE CONTRACT WILL BE AS CONSIDERED AS IMPLICITLY DENOTING THAT THE CONTRACTOR HAS A THOROUGH COMPREHENSION OF THE FULL INTENT AND SCOPE OF THE WORKING DRAWINGS AND SPECIFICATIONS. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT. 12 13 GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNERS ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TEST SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION. SYSTEMS SHALL BE PROVIDED COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATIONS. 16. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE. ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL). IN INSTANCES WHERE THE PROJECT DOES NOT INCLUDE AN ARCHITECT, THE ENGINEER SHALL RECEIVE 18. ALL CORRESPONDENCE AS DIRECTED HEREIN. B. SUBMITTALS

PART 1 - GENERAL

- CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR EQUIPMENT AND MATERIALS SPECIFIED. THE ENGINEER SHALL REVIEW SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ISSUE A WRITTEN ASSESSMENT TO THE OWNER PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL IDENTIFY ANY DEVIATIONS IN THE SHOP DRAWINGS FROM THE DESIGN DOCUMENTS.
- SUBSTITUTIONS SHALL BE SUBMITTED TO THE ARCHITECT FOR CONSIDERATION PRIOR TO BIDDING. SUBSTITUTIONS SHALL BE PRE-APPROVED IN WRITING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIREMENTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT OR MATERIALS WITH OTHER BUILDING TRADES. CONTRACTOR SHALL IDENTIFY AND ANNOTATE REVISED REQUIREMENTS PER BUILDING TRADE ON THE SHOP DRAWINGS. CONTRACTOR SHALL ALSO IDENTIFY COST DEBITS OR CREDITS IN WRITING FOR THE PROPOSED CHANGES PER BUILDING TRADE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING FEES NECESSARY TO CHANGE PERMIT DOCUMENTS BASED ON ALTERNATE SUBMITTAL PACKAGES/EQUIPMENT SUBSTITUTIONS. PRESENT SHOP DRAWING SUBMITTAL DATA AT ONE TIME, IN ELECTRONIC PORTABLE DOCUMENT FORMAT (.PDF) IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO LIGHTING FIXTURES, SWITCHGEAR, PANELBOARDS, WIRING DEVICES, SAFETY SWITCHES, FUSES, MOTOR CONTROLLERS, LAMPS, CONDUIT, FITTINGS, TRANSFORMERS AND LIGHTING CONTROLS.
- CONTRACTORS FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS OR EQUIPMENT.

D. DRAWINGS

CONTRACTOR SHALL MAINTAIN, TWO (2) SETS OF WHITE PRINTS OF DRAWINGS PERTAINING TO THE WORK. ONE (1) SET OF PRINTS SHALL BE KEPT ON SITE AND CHANGES OR DEVIATIONS FROM THE CONTRACT DRAWINGS SHALL BE CAREFULLY NOTED AS CHANGES OR DEVIATIONS ARE MADE.

OPERATING AND MAINTENANCE INSTRUCTIONS

- CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF MANUFACTURERS OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT AND SYSTEM. COPIES SHALL BE COMPILED IN SETS AND PLACED IN A HARD COVER THREE RING BINDER WITH INDEX PAGE AND INDEX TABS. ALL NAME TAG INFORMATION SUCH AS THE MANUFACTURER, TYPE, SIZE, CAPACITY, SERIAL NUMBER, ETC. SHALL BE INCLUDED AS PART OF THE MANUAL.
- PROVIDE WRITTEN OPERATING INSTRUCTIONS WITH DIAGRAMS FOR ELECTRICAL EQUIPMENT. OPERATING AND MAINTENANCE MANUALS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.

	WIRE AND CABLE
	WIRE SHALL BE COPPER, 75°C RATED FOR GENERAL US INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE CO ARE FOR INSTALLATION IN A MAXIMUM 30°C AMBIENT. O HIGHER AMBIENT INSTALLATIONS.
	RACEWAYS AND FITTINGS
1. 2. 3.	ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC R BELOW GRADE SHALL BE SCHEDULE 40 PVC, WITH PVC V STEEL ELBOWS AT BENDS AND TRANSITIONS FROM BEL STEEL. CONNECTORS SHALL BE INSULATED THROAT TY RGS OR IMC SHALL BE USED IN ALL AREAS SUBJECT TO ALL CIRCUITING SHALL BE CONCEALED. WHERE CONCE APPROVAL FROM THE ARCHITECT, SURFACE RACEWAY MATCH ADJACENT SURFACES. METAL-CLAD (TYPE MC) CABLE MAY BE USED IN THE FOI 6'-0" MAXIMUM LIGHT FIXTURE WHIPS. DEAD-END RUNS TO THE LAST WIRING DEVICU IN AREAS CONSIDERED "TIGHT" WITHIN MILLW TYPE ENT RACEWAY IS NOT ALLOWED. NON-METALLIC AND FLEXIBLE METAL CONDUITS SHALL BE CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.
	DISTRIBUTION EQUIPMENT
	SWITCHBOARDS, DISTRIBUTION BOARDS, PANELBOARDS, CENTERS, ETC. SHALL BE FURNISHED BY SQUARE D (SC CUTLER HAMMER, OR SIEMENS. FLOOR MOUNTED EQUI HOUSEKEEPING PADS. TRANSFORMERS SHALL BE COPPER WOUND, 115° RISE RUBBER-IN-SHEAR ISOLATORS. MANUFACTURERS SHAL ELECTRIC, EATON CUTLER HAMMER, OR SIEMENS. INST PROVIDE ENGRAVED NAMEPLATES MECHANICALLY FAS ALL SWITCHBOARDS, PANELBOARDS DISCONNECT SWIT TRANSFORMERS, ETC. INDICATING EQUIPMENT DESIGN/ VOLTAGE, AND SOURCE. EXAMPLE: "PANEL HPA, SERVE DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE. I FUSES ONLY AND REJECT OTHERS. INSTALL DISCONNE CHANNELS DRILLED AND BOLTED TO HVAC UNIT FRAME W/HVAC MANUFACTURER TO AVOID WARRANTY INFRAC CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND FUSE CIRCUIT BREAKERS SHALL BE FULLY RATED IN EXCESS RATING OF EQUIPMENT IS PROHIBITED. WIRE TERMINATION PROVISIONS FOR PANELBOARDS, C OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SI ALL EQUIPMENT SUCH AS SWITCHBOARDS, DISTRIBUTIO TRANSFORMERS AND PANELBOARDS SHALL BE BY THE SHALL BE OF THE SAME MANUFACTURER. PROVIDE HANDLE TIES OR MULTI-POLE CIRCUIT BREAKER MULTI-WIRE BRANCH CIRCUITS. PROVIDE ARC-FLASH LABELING ON ALL DISTRIBUTION EN
	WIRING DEVICES
	WIRING DEVICES SHALL BE SPECIFICATION GRADE AND SHALL BE LEXAN OR NYLON UNLESS OTHERWISE NOTED COVERPLATES SHALL BE AS DIRECTED BY THE ARCHITE SMOKE-DETECTORS SHALL BE SELF-CONTAINED WITH A

- NFPA STANDARD 72. INTERCONNECT DETECTORS WITH COMMON ALARM. ALL 120 VOLT 15- AND 20-AMPERE RECEPTACLES LOCAT SUITES, AND CHILD CARE FACILITIES SHALL BE TAMPER
- LIGHT SWITCHES IN PUBLIC AREAS SHALL BE SPECIFICA 4. SWITCHES IN BACK OF HOUSE AREAS SHALL BE SPECIF

BOXES F.

1.

2.

FLUSH FLOOR OUTLETS SHALL BE CAST IRON, QUANTITY OF GANGS AND CONDUIT ENTRIES AS REQUIRED. PROVIDE BRASS COVERPLATE FOR THE OUTLET TYPES INDICATED. PROVIDE CARPET OR TILE FLANGE TO MATCH FLOOR FINISH. 2. BOXES SHALL BE A MINIMUM OF 4" SQUARE WITH REQUIRED EXTENSIONS AND PLASTER OR TILE RINGS.

G. LIGHT FIXTURES

RECESSED FIXTURES INSTALLED INDOORS SHALL BE THERMALLY PROTECTED. THE EMERGENCY LEG OF A GENERATOR POWER SYSTEM IN LIEU OF BATTERY POWER.

PART 3 - EXECUTION

A. GENERAL

1. FINAL CONNECTIONS AND ROUGH-IN REQUIREMENTS TO EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED INCLUDING ALL RACEWAYS, BOXES, WIRING, WIRING DEVICES, ETC. CONTRACTOR SHALL PROVIDE CONTROLS, INTERLOCKS, ACCESSORIES, ETC. AS REQUIRED FOR MOTOR 2. CONTROL. EACH STARTER SHALL CONTAIN 120V CONTROL TRANSFORMER, LED PILOT LIGHT, AND PUSHBUTTONS OR SELECTOR SWITCH AS REQUIRED, IN ADDITION TO OTHER ITEMS (AUXILIARY CONTACTS, DOOR SWITCHES, RELAYS, ETC.) REQUIRED. REFER TO CONTROL DRAWINGS AND CONTROL

ELECTRICAL SPECIFICATIONS

ELEGIRIGA		GATIONS
RT 2 - PRODUCTS		DIAGRAMS FOR ADDITIONAL CONDUIT, WIRE, RELAYS, TRANSFORMERS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
	3.	EMPTY RACEWAY SYSTEMS SHALL HAVE A #12 PULLWIRE OR EQUAL AND SHALL BE IDENTIFIED AT
GENERAL		JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.
PROVIDE EQUIPMENT AS SPECIFIED AND/OR SCHEDULED AND IN ACCORDANCE WITH MANUFACTURERS		STUB CONDUIT OUT 6" INTO AN ACCESSIBLE AREA. CAP OPEN ENDS NOT TERMINATED IN A JUNCTION BOX.
PUBLISHED INSTALLATION INSTRUCTIONS. EQUIPMENT SHALL OPERATE ACCORDING TO THE	4. 5.	VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN. RECEPTACLES WHICH ARE SHOWN WALL MOUNTED ON THE ELECTRICAL DRAWINGS ON WALLS WHICH, ON
MANUFACTURERS "OWNERS OPERATING AND MAINTENANCE MANUAL" TROUBLE-FREE.	5.	THE ARCHITECTURAL DRAWINGS AND ELEVATIONS ARE SHOWN AS GLASS OR PARTITIONS, SHALL BE FLUSH FLOOR DUPLEX RECEPTACLES MOUNTED ADJACENT TO BASE OR WALLS. COORDINATE MOUNTING
WIRE AND CABLE		HEIGHTS AND LOCATIONS OF OUTLETS AND DEVICES WITH ARCHITECTURAL MILLWORK DRAWINGS AND INTERIOR ELEVATIONS.
WIRE SHALL BE COPPER, 75°C RATED FOR GENERAL USE. FOR HID FIXTURES AND WIRING WITHIN 3	6. 7.	PROVIDE SEPARATE NEUTRAL CONDUCTOR FOR EACH ARC-FAULT, GROUND FAULT, OR DIMMED CIRCUIT. PROVIDE MAINTENANCE RECEPTACLE WITHIN 25'-0" OF ALL MECHANICAL, MOTORIZED, OR REFRIGERATION
INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER MINIMUM 90°C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30°C AMBIENT. CONDUCTOR AMPACITY SHALL DERATED FOR	7. 8.	EQUIPMENT. WHERE MECHANICAL EQUIPMENT IS INSTALLED ABOVE A GYPSUM BOARD CEILING REQUIRING ACCESS
HIGHER AMBIENT INSTALLATIONS.	0.	THROUGH AN ACCESS PANEL, PROVIDE A RECEPTACLE, SWITCH, AND LIGHT IN THE CEILING SPACE AT THE ACCESS LOCATION.
	9.	RECESSED LIGHT FIXTURES INSTALLED IN GYPSUM BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER
RACEWAYS AND FITTINGS	10.	FRAMES INSTALLED PRIOR TO THE CEILING MATERIAL. MULTI-BALLSTED OR DRIVER FLUORESCENT OR LED FIXTURES SHALL BE DUAL-SWITCHED UNLESS NOTED
ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. RACEWAYS IN SLAB-ON-GRADE OR		
BELOW GRADE SHALL BE SCHEDULE 40 PVC, WITH PVC WRAPPED (OR EQUIVALENT PROTECTION) RIGID STEEL ELBOWS AT BENDS AND TRANSITIONS FROM BELOW TO ABOVE GRADE. EMT FITTINGS SHALL BE	11.	LIGHT FIXTURES RECESSED IN T-BAR CEILING SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SYSTEM WITH A MINIMUM OF TWO (2) #12 HANGAR WIRES UP TO STRUCTURE. SECURE HANGAR WIRES TO
STEEL. CONNECTORS SHALL BE INSULATED THROAT TYPE.		CORNERS OF FIXTURE. CLIP FIXTURE TO GRID ON TWO (2) SIDES WITH FACTORY-FURNISHED CLIPS. FINAL
RGS OR IMC SHALL BE USED IN ALL AREAS SUBJECT TO WEATHER OR MECHANICAL DAMAGE.		CONNECTION TO FIXTURE SHALL BE MADE WITH A FLEXIBLE U.L. APPROVED ASSEMBLY.
ALL CIRCUITING SHALL BE CONCEALED. WHERE CONCEALMENT IS IMPRACTICAL, AND WITH THE SPECIFIC	12.	CONTRACTOR SHALL REFER TO FOOD SERVICE DRAWINGS FOR EXACT LOCATIONS AND ADDITIONAL
APPROVAL FROM THE ARCHITECT, SURFACE RACEWAY AND OUTLETS MAY BE INSTALLED, FINISHED TO MATCH ADJACENT SURFACES.		ELECTRICAL REQUIREMENTS. PROVIDE JUNCTION BOXES, RECEPTACLES, CONNECTIONS, CONDUITS (TO
METAL-CLAD (TYPE MC) CABLE MAY BE USED IN THE FOLLOWING LIMITED LOCATIONS:		INCLUDE SODA AND LIQUOR DISPENSING SYSTEMS), WIRE, INTERLOCKS, CONTROLS, ETC. AS REQUIRED BY THE FOOD SERVICE EQUIPMENT SUPPLIER.
1. 6'-0" MAXIMUM LIGHT FIXTURE WHIPS.	13.	SEE DIVISION 23 DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND
2. DEAD-END RUNS TO THE LAST WIRING DEVICE ON A CIRCUIT.		CONNECT EQUIPMENT AS REQUIRED. PROVIDE FUSES OR HACR-TYPE CIRCUIT BREAKERS FOR AIR
 IN AREAS CONSIDERED "TIGHT" WITHIN MILLWORK AND CASEWORK INSTALLATIONS. TYPE ENT RACEWAY IS NOT ALLOWED. 		CONDITIONING EQUIPMENT SIZED IN ACCORDANCE WITH MANUFACTURERS NAMEPLATE. WHERE
NON-METALLIC AND FLEXIBLE METAL CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING		FACTORY-PROVIDED DISCONNECT SWITCHES ARE UTILIZED, THEY SHALL BE RATED TO EXCEED THE AVAILABLE FAULT CURRENT AT THE EQUIPMENT.
CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.	14.	HVAC CONTROLS: PROVIDE LINE VOLTAGE WIRING, RACEWAYS, AND POWER CONNECTIONS AS REQUIRED
		TO ACCOMMODATE HVAC CONTROL SYSTEMS. COORDINATE REQUIREMENTS WITH TEMPERATURE
		CONTROL, MECHANICAL, PLUMBING, AND GENERAL CONTRACTORS PRIOR TO BID. NO EXTRAS WILL BE
DISTRIBUTION EQUIPMENT		ALLOWED FOR FAILURE TO COMPLY WITH THIS REQUIREMENT. LOW VOLTAGE HVAC CONTROL RACEWAY SYSTEMS SHALL BE PER THE TEMPERATURE CONTROLS CONTRACTOR. THESE DOCUMENTS DO NOT
SWITCHBOARDS, DISTRIBUTION BOARDS, PANELBOARDS, DISCONNECT SWITCHES, MOTOR CONTROL		INDICATE ALL CONNECTION POINTS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
CENTERS, ETC. SHALL BE FURNISHED BY SQUARE D (SCHNEIDER ELECTRIC), GENERAL ELECTRIC, EATON	15.	PANEL DIRECTORIES SHALL BE REMOVABLE. ROOM NAMES AND NUMBERS SHALL BE AS DIRECTED BY
CUTLER HAMMER, OR SIEMENS. FLOOR MOUNTED EQUIPMENT SHALL INSTALLED ATOP 4" HIGH CONCRETE HOUSEKEEPING PADS.	16.	OWNER. DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS. PROVIDE DYMO-TAPE TAG PRINTED LABEL INSIDE COVER OF EACH FUSIBLE SWITCH, INDICATING SIZE AND
TRANSFORMERS SHALL BE COPPER WOUND, 115° RISE WITH 220°C INSULATION. MOUNT ON		TYPE OF FUSES PROVIDED.
RUBBER-IN-SHEAR ISOLATORS. MANUFACTURERS SHALL BE SQUARE D (SCHNEIDER ELECTRIC), GENERAL	17.	PROVIDE TWO (2) SETS OF THREE (3) SPARE FUSES FOR EACH SIZE AND TYPE PROVIDED ON THIS
ELECTRIC, EATON CUTLER HAMMER, OR SIEMENS. INSTALL ATOP 4" HIGH CONCRETE HOUSEKEEPING PAD. PROVIDE ENGRAVED NAMEPLATES MECHANICALLY FASTENED WITH A MINIMUM OF TWO (2) SCREWS ON		PROJECT. INSTALL FUSES IN A HINGED DOOR, SHEET METAL STORAGE CABINET EQUIPPED WITH CLIPS OR CUBICLES, EACH MARKED WITH THE SIZE AND TYPE OF FUSE STORED THEREIN. PROVIDE NAMEPLATE
ALL SWITCHBOARDS, PANELBOARDS DISCONNECT SWITCHES, MOTOR CONTROL CENTERS,	18.	"SPARE FUSES". INSTALL IN LOCATIONS AS DIRECTED BY OWNER. PROVIDE 4" HIGH CONCRETE EQUIPMENT PADS FOR FLOOR MOUNTED EQUIPMENT SUCH AS
TRANSFORMERS, ETC. INDICATING EQUIPMENT DESIGNATION (OR DESIGNATION OF EQUIPMENT SERVED), VOLTAGE, AND SOURCE. EXAMPLE: "PANEL HPA, SERVED FROM SWITCHBOARD 'MSB', 480/277V, 3PH, 4W".	10.	SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, ETC. COORDINATE WITH DISTRIBUTION
DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE. FUSIBLE SWITCHES SHALL ACCEPT CLASS 'R' FUSES ONLY AND REJECT OTHERS. INSTALL DISCONNECT SWITCH ON TWO (2) 24" LONG UNITSTRUT		EQUIPMENT TO ENSURE ALL SWITCH AND CIRCUIT BREAKER HANDLES ARE BELOW 6'-6" TO THE HIGHEST POINT.
CHANNELS DRILLED AND BOLTED TO HVAC UNIT FRAME WHERE POSSIBLE (COORDINATE LOCATION W/HVAC MANUFACTURER TO AVOID WARRANTY INFRACTIONS). SILICONE SEAL ALL HOLES IN UNIT.	19.	CONTRACTOR SHALL PROVIDE NEW UPDATED TYPE WRITTEN PANEL DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF THIS PROJECT.
CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND FUSES SHALL BE BUSSMAN OR APPROVED EQUIVALENT.	20.	FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING AND/OR ROTATING
CIRCUIT BREAKERS SHALL BE FULLY RATED IN EXCESS OF AVAILABLE FAULT CURRENT LEVELS. SERIES		EQUIPMENT SHALL BE MADE WITH SEAL-TITE FLEXIBLE FLEXIBLE CONDUIT WITH APPROVED FITTINGS (3"0" MAXIMUM LENGTH). DO NOT SECURE CONDUITS OR DEVICES TO DUCTWORK OR OTHER MECHANICAL
RATING OF EQUIPMENT IS PROHIBITED. WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, AND ALL		EQUIPMENT.
OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75°C.	21.	DEVICES INSTALLED IN FIRE-RATED WALLS SHALL HAVE NELSON FSP PUTTY PADS INSTALLED TO MAINTAIN
ALL EQUIPMENT SUCH AS SWITCHBOARDS, DISTRIBUTION BOARDS, DISCONNECT SWITCHES,		FIRE INTEGRITY - ONE PAD PER HOUR OF RATING. CONDUIT PENETRATING FIRE-RATED WALLS SHALL
TRANSFORMERS AND PANELBOARDS SHALL BE BY THE SAME MANUFACTURER. ALL FUSES PROVIDED SHALL BE OF THE SAME MANUFACTURER.		COMPLY WITH THE REQUIREMENTS OF U.L. SYSTEM 147A FOR SINGLE CONDUITS OR U.L. SYSTEM 322 FOR MULTIPLE CONDUITS. DEVICES INSTALLED IN SOUND-RATED WALLS SHALL HAVE NELSON FSP (STC 54)
PROVIDE HANDLE TIES OR MULTI-POLE CIRCUIT BREAKERS FOR SIMULTANEOUS OPERATION OF ALL		SOUND RATED PUTTY PADS INSTALLED TO MAINTAIN THE SOUND INTEGRITY OF THE WALL.
MULTI-WIRE BRANCH CIRCUITS.	22.	RECEPTACLES INSTALLED OUTSIDE, ON THE BUILDING EXTERIOR OR ROOF, IN KITCHENS OR WITHIN 6'-0"
PROVIDE ARC-FLASH LABELING ON ALL DISTRIBUTION EQUIPMENT.		MEASURED HORIZONTALLY FROM A SINK OR DRINKING FOUNTAIN UNLESS LOCATED BELOW A COUNTER OR OTHERWISE PROTECTED SHALL BE GFCI TYPE OR PROTECTED BY A GFI CIRCUIT BREAKER.
	23.	COORDINATE THE LOCATION OF LIGHTING FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING
WIRING DEVICES	24.	PLAN. UNLESS VERIFIED IN WRITING THE REFLECTED CEILING PLAN LOCATIONS SHALL GOVERN. COORDINATE THE LOCATION OF WALL MOUNTED EQUIPMENT WITH THE ARCHITECTURAL INTERIOR AND
WIRING DEVICES SHALL BE SPECIFICATION GRADE AND RATED AT 20 AMPERES. THE DEVICE PLATES		EXTERIOR ELEVATIONS. UNLESS OTHERWISE VERIFIED IN WRITING THE ARCHITECTURAL DRAWINGS SHALL GOVERN.
SHALL BE LEXAN OR NYLON UNLESS OTHERWISE NOTED. THE COLOR OF THE DEVICES AND COVERPLATES SHALL BE AS DIRECTED BY THE ARCHITECT.		
SMOKE-DETECTORS SHALL BE SELF-CONTAINED WITH AUDIBLE ALARM, UL LISTED AND COMPLY WITH NFPA STANDARD 72. INTERCONNECT DETECTORS WITHIN A DWELLING UNIT OR GUESTROOM TO SOUND A		
COMMON ALARM. ALL 120 VOLT 15- AND 20-AMPERE RECEPTACLES LOCATED IN DWELLING UNITS, GUEST ROOMS AND		
SUITES, AND CHILD CARE FACILITIES SHALL BE TAMPER-RESISTANT TYPE.		
LIGHT SWITCHES IN PUBLIC AREAS SHALL BE SPECIFICATION GRADE ROCKER TYPE, UON. LIGHT SWITCHES IN BACK OF HOUSE AREAS SHALL BE SPECIFICATION GRADE TOGGLE TYPE, UON.		RT 4 - DESIGN-BUILD FIRE ALARM AND DETECTION STEM PERFORMANCE CRITERIA
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BOXES	Δ	GENERAL

A. GENERAL

- 1. CONTRACTOR SHALL PROVIDE, INSTALL, TEST, AND COMMISSION A FULLY OPERATIONAL, APPROVED, FIRE ALARM AND DETECTION SYSTEM.
- 2. FIRE ALARM AND DETECTION SYSTEM SHALL BE PROVIDED BY THIS CONTRACTOR, PERFORMED UNDER A DESIGN-BUILD DELIVERY METHOD.
- 3. FIRE ALARM AND DETECTION SYSTEM SHALL BE IN FULL COMPLIANCE WITH ALL LOCAL, STATE, FEDERAL, AND ADA REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE SUBMITTALS. SUBMITTAL REQUIREMENTS: 4.
- SUBMITTALS SHALL BE APPROVED BY AUTHORITIES HAVING JURISDICTION PRIOR TO 4.1. SUBMITTING THEM TO THE ARCHITECT. 4.2. SHOP DRAWINGS SHALL BE PREPARED BY PERSONS WITH THE FOLLOWING QUALIFICATIONS: 4.2.1. TRAINED AND CERTIFIED BY MANUFACTURER IN FIRE-ALARM SYSTEM DESIGN. NICET-CERTIFIED, FIRE ALARM TECHNICIAN; LEVEL III MINIMUM. 4.2.2. 4.2.3. LICENSED OR CERTIFIED BY AUTHORITIES HAVING JURISDICTION. 4.3. DELEGATED-DESIGN: FOR NOTIFICATION APPLIANCES AND SMOKE AND HEAT DETECTORS, IN ADDITION TO THE SUBMITTALS LISTED ABOVE, INDICATE COMPLIANCE WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. 4.3.1. DRAWINGS SHOWING THE LOCATION OF EACH NOTIFICATION APPLIANCE AND SMOKE AND HEAT DETECTOR, RATINGS OF EACH, AND INSTALLATION DETAILS AS NEEDED TO COMPLY WITH LISTING CONDITIONS OF THE DEVICE. 4.3.2. DESIGN CALCULATIONS: CALCULATE REQUIREMENTS FOR SELECTING THE SPACING AND SENSITIVITY OF DETECTION, COMPLYING WITH NFPA 72. CALCULATE SPACING AND INTENSITIES FOR STROBE SIGNALS AND SOUND-PRESSURE LEVELS FOR AUDIBLE APPLIANCES. 4.3.3. INDICATED AUDIBLE APPLIANCES REQUIRED TO PRODUCE SQUARE WAVE SIGNAL PER NFPA 72. EXISTING FIRE ALARM EQUIPMENT (WHERE APPLICABLE) SHALL BE MAINTAINED AND FULLY OPERATIONAL 5.
- UNTIL NEW EQUIPMENT PROVIDED UNDER THIS PROJECT HAS BEEN TESTED AND ACCEPTED. NEW COMPONENTS SHALL BE COMPATIBLE WITH, AND OPERATE AS AN EXTENSION OF, EXISTING SYSTEM. PROVIDE SYSTEM MANUFACTURERS CERTIFICATION THAT ALL COMPONENTS PROVIDED HAVE BEEN TESTED AS, AND WILL OPERATE AS, A SYSTEM.
- WARRANTY: CONTRACTOR SHALL AGREE TO REPAIR OR REPLACE FIRE ALARM SYSTEM EQUIPMENT AND 6. COMPONENTS THAT FAIL IN MATERIALS OR WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- COMPLY WITH NFPA 72, NFPA 101, AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR 7. INSTALLATION AND TESTING OF FIRE-ALARM EQUIPMENT. INSTALL ALL ELECTRICAL WIRING TO COMPLY

HEA 2.2. 2.3. FLAM 2.4. 2.5. 2.6. CAF 2.7 2.8. 2.9. 2.10. 2.11. 2.12. 2.13. 2.14. 3.1. 3.2. 3.3. 3.4. 3.5. 3.6. 3.7 3.8.

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AUT PRE FIRE FIR יאס FIR FIRE-ALARM S CON IDE TRA UNI REL ACT SW MO ACT SM AC 3.9 3.10. CLO 3.11. ACT 3.12. RF(3.13. ACT 3.14. ACT 3.15. ACT 3.16. RE(3.17. REC 3.18. IND SUPERVISORY VAL 42 HIG ALE 4.3 4.4. ELE\ 4.5. FIR 4.6. FIR 4.7. FIR 48 4.9. USEF 4.10. LOSS SYSTEM TROUE ACTIONS: OPEN 5.1. 5.2. OPEN SIGN 5.3. LOS MOI LOS 5.4 5.5. GRO 5.6. ABN BRF 5.8. FAIL ABN VOICE HOS

4.

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5.9. 5.10. 5.11. SYSTEM SUPER INIT IDF 6.2. REC 6.3. AFT 6.4. SUPE TRAN 6.5. 6.6. DISPL

FIXTURES INDICATED AS BEING EMERGENCY SHALL BE PROVIDED WITH BATTERY POWERED INVERTER UNIT MOUNTED IN, OR ADJACENT TO, FIXTURE. PROVIDE UNIT WITH FULLY AUTOMATIC TWO-RATE CHARGER, NICKEL CADMIUM BATTERY, AC "ON" PILOT LIGHT, AND TEST SWITCH. DESIGN AND WIRE UNIT TO AUTOMATICALLY TRANSFER TO BATTERY SUPPLY UPON LOSS OF NORMAL AC POWER AND TO OPERATE ONE LAMP AT 1300 LUMENS MINIMUM FOR LINEAR LAMPS, 700 LUMENS FOR COMPACT LAMPS FOR A MINIMUM OF 90-MINUTES. LED LUMEN LEVELS VARY, AND SHALL BE AS SPECIFIED. ALL EMERGENCY LIGHTING UNITS SHALL BE CONNECTED TO AN UNSWITCHED SOURCE. IN LOCATIONS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, EMERGENCY LIGHTING MAY BE CONNECTED TO

			CONSULTING ENGINEERS,	
	WITH REQUIREMENTS IN NFPA 70 INCLUDING, BUT NOT LIMITED TO, ARTICLE 760, "FIRE ALARM SYSTEMS."		5000 GOODMAN STREET	
	SYSTEM DESCRIPTION		UNIT 100 WINDSOR, CO 80550 (970) 460-7400	
	NONCODED, UL-CERTIFIED ADDRESSABLE SYSTEM, WITH MULTIPLEXED SIGNAL TRANSMISSION AND VOICE/STROBE EVACUATION MEETING AUDIBILITY AND INTELLIGIBLE REQUIREMENTS.		G2CE.COM G2CE #2021034	
	AUTOMATIC SENSITIVITY CONTROL OF CERTAIN SMOKE DETECTORS. ALL COMPONENTS PROVIDED SHALL BE LISTED FOR USE WITH THE SELECTED SYSTEM.			
	ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.			
	OPERATIONAL DESCRIPTION			
	NOTE: THE FOLLOWING DESCRIPTIONS REPRESENT A MASTER LIST. NOT ALL DEVICES, SYSTEMS, AND FUNCTIONS LISTED HEREIN MAY BE REPRESENTED ON THIS PROJECT. APPLICABILITY SHALL BE			
	DETERMINED BY QUALIFIED SYSTEM DESIGN PROFESSIONAL. FIRE-ALARM SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES AND SYSTEMS:		Ř I	
•	MANUAL STATIONS. HEAT DETECTORS.			
	FLAME DETECTORS. SMOKE DETECTORS.			
).). ,	DUCT SMOKE DETECTORS. AIR-SAMPLING SMOKE-DETECTION SYSTEM (VESDA). CARBON MONOXIDE DETECTORS.			
	COMBUSTIBLE GAS DETECTORS. AUTOMATIC SPRINKLER SYSTEM WATER FLOW.			
0. 1.	PREACTION SYSTEM. FIRE-EXTINGUISHING SYSTEM OPERATION.		K K K	
2. 3.	FIRE STANDPIPE SYSTEM. DRY SYSTEM PRESSURE FLOW SWITCH.			
4.	FIRE PUMP RUNNING. FIRE-ALARM SIGNAL SHALL INITIATE THE FOLLOWING ACTIONS:		80 80	
	CONTINUOUSLY OPERATE ALARM NOTIFICATION APPLIANCES. IDENTIFY ALARM AND SPECIFIC INITIATING DEVICE AT FIRE-ALARM CONTROL UNIT. TRANSMIT AN ALARM SIGNAL TO THE REMOTE ALARM RECEIVING STATION.			
•• ••	UNLOCK ELECTRIC DOOR LOCKS IN DESIGNATED EGRESS PATHS. RELEASE FIRE AND SMOKE DOORS HELD OPEN BY MAGNETIC DOOR HOLDERS.			
	ACTIVATE VOICE/ALARM COMMUNICATION SYSTEM. SWITCH HEATING, VENTILATING, AND AIR-CONDITIONING EQUIPMENT CONTROLS TO FIRE-ALARM		C T I	
	MODE. ACTIVATE SMOKE-CONTROL SYSTEM (SMOKE MANAGEMENT) AT FIREFIGHTERS'			
	SMOKE-CONTROL SYSTEM PANEL. ACTIVATE STAIRWELL AND ELEVATOR-SHAFT PRESSURIZATION SYSTEMS.			
0. 1.	CLOSE SMOKE DAMPERS IN AIR DUCTS OF DESIGNATED AIR-CONDITIONING DUCT SYSTEMS. ACTIVATE PREACTION SYSTEM.		nt 555	
2. 3. 4.	RECALL ELEVATORS TO PRIMARY OR ALTERNATE RECALL FLOORS. ACTIVATE ELEVATOR POWER SHUNT TRIP. ACTIVATE EMERGENCY LIGHTING CONTROL.		et 6	
4. 5. 6.	ACTIVATE EMERGENCY ENGLIGHTING CONTROL. ACTIVATE EMERGENCY SHUTOFFS FOR GAS AND FUEL SUPPLIES. RECORD EVENTS IN THE SYSTEM MEMORY.			
7. 8.	RECORD EVENTS BY THE SYSTEM PRINTER. INDICATE DEVICE IN ALARM ON THE GRAPHIC ANNUNCIATOR.			
	SUPERVISORY SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES AND ACTIONS: VALVE SUPERVISORY SWITCH.		ō	
	HIGH- OR LOW-AIR-PRESSURE SWITCH OF A DRY-PIPE OR PREACTION SPRINKLER SYSTEM. ALERT AND ACTION SIGNALS OF AIR-SAMPLING DETECTOR SYSTEM. ELEVATOR SHUNT-TRIP SUPERVISION.			
	FIRE PUMP RUNNING. FIRE-PUMP LOSS OF POWER.		ca	
	FIRE-PUMP POWER PHASE REVERSAL. INDEPENDENT FIRE-DETECTION AND -SUPPRESSION SYSTEMS.			
). 0.	USER DISABLING OF ZONES OR INDIVIDUAL DEVICES. LOSS OF COMMUNICATION WITH ANY PANEL ON THE NETWORK.			
	SYSTEM TROUBLE SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES AND ACTIONS: OPEN CIRCUITS, SHORTS, AND GROUNDS IN DESIGNATED CIRCUITS.			
	OPENING, TAMPERING WITH, OR REMOVING ALARM-INITIATING AND SUPERVISORY SIGNAL-INITIATING DEVICES.			
	LOSS OF COMMUNICATION WITH ANY ADDRESSABLE SENSOR, INPUT MODULE, RELAY, CONTROL MODULE, REMOTE ANNUNCIATOR, PRINTER INTERFACE, OR ETHERNET MODULE.		A Halmon	
	LOSS OF PRIMARY POWER AT FIRE-ALARM CONTROL UNIT. GROUND OR A SINGLE BREAK IN INTERNAL CIRCUITS OF FIRE-ALARM CONTROL UNIT.		Halcyon Design LLC	
	ABNORMAL AC VOLTAGE AT FIRE-ALARM CONTROL UNIT. BREAK IN STANDBY BATTERY CIRCUITRY. FAILURE OF BATTERY CHARGING.			
0.	ABNORMAL POSITION OF ANY SWITCH AT FIRE-ALARM CONTROL UNIT OR ANNUNCIATOR. VOICE SIGNAL AMPLIFIER FAILURE.		PO Box 684 LaSalle, CO 80645	
1.	HOSE CABINET DOOR OPEN. SYSTEM SUPERVISORY SIGNAL ACTIONS:		303.906.2617	
	INITIATE NOTIFICATION APPLIANCES. IDENTIFY SPECIFIC DEVICE INITIATING THE EVENT AT FIRE-ALARM CONTROL UNIT.		Alteración	
	RECORD THE EVENT ON SYSTEM PRINTER. AFTER A TIME DELAY OF 200 SECONDS (OR PER AHJ REQUIREMENTS), TRANSMIT A TROUBLE OR SUPERVISORY SIGNAL TO THE REMOTE ALARM RECEIVING STATION.		SOLADO LICENS	
-	TRANSMIT SYSTEM STATUS TO BUILDING MANAGEMENT SYSTEM. DISPLAY SYSTEM STATUS ON GRAPHIC ANNUNCIATOR.		0050028	
			10/24/2021	
			DATE	
			10.22.21	
			REVISIONS	
			SHEET TITLE	
			ELECTRICAL SPECIFICATIONS	
			SHEET NUMBER	
			E02	
		I II	1	

	PANELBOARD SCHEDU	JLE:	PANI	EL 'P	1B' (E	EXIST	ING)		105						
							-	_MAIN FL			•			PANEL LOCATION:	
		3	PHASE	4	WIRE			_MAIN BF	REAKER					GYM STORAGE	
	225 AMP MAIN BUS					Х	MAIN LU	JGS			•			FEEDER CABLE:	
	1 NEMA ENCLOSURE	•	200% NE	UTRAL			SUB-FE	ED LUGS	5		MOUNT:	:		EXISTING	
	(E) AIC RATING	•		D GRD	BUS		- ISUB-FE		KER		Х	SURFAC	CE	SOURCE:	
			COPPER					IEUTRAL				FLUSH		EXISTING	
CIRCUIT	[VA LOAD		LOAD	C.B.		C.B		LOAD		VA LOAD	<u> </u>		CIRCU
	SERVICE	A	B	С	TYPE	TRIP	POLE	TRIP	POLE	TYPE	Δ	B		SERVICE	NUMB
1	(E) LOAD	1000		U	R	20		20	F OLL	R	1000	Б	U	(E) LOAD	2
•	(E) LOAD	1000	1000		R	20		20	1	R	1000	1000	1	(E) LOAD	4
	(E) LOAD		1000	1000	R	20		20	1	R		1000	1000	(E) LOAD	6
	(E) LOAD	1000	1 ^I	1000	R	20	1	20	1	R	1000	1		(E) LOAD	8
9	(E) LOAD		1000		R	20		20	1	R	1000	1000	1	(E) LOAD	10
	(E) LOAD			1000	R	20	2	20	1	R			1000	(E) LOAD	10
	(E) LOAD	1000] [R	-	-	20	1	R	1000]		(E) LOAD	14
	(E) LOAD		1500		R	30	2	30	2	R		1000]	(E) LOAD	16
	(E) LOAD			1500	R	-	-	-	-	R			1000	(E) LOAD	18
19	(E) LOAD	1000] '		R	20	1	20	1	R	1000		L	(E) LOAD	20
21	(E) LOAD		1000		R	20	1	20	1	R		1000]	(E) LOAD	22
	(E) LOAD		L	1000	R	20	1	20	1	R			1000	(E) LOAD	24
25	(N) PANEL 'L1BA'] `			60	3	20	1	R	1000			(E) LOAD	26
27	"					-	-	20	1	R		1000]	(E) LOAD	28
29	"					-	-	20	1	R			1000	(E) LOAD	30
31	(E) LOAD	1000			R	20	1	20	1	R	1000			(E) LOAD	32
33	(E) LOAD		1000		R	20	1	20	1	R		1000		(E) LOAD	34
35	(E) LOAD			1000	R	20	1	20	1	R		-	1000	(E) LOAD	36
		5000	5500	5500							6000	6000	6000		
	CONNECTED VA/PH (LESS FEED		,		11000		В-	11500			11500				
	CONNECTED VA/PH FROM FEED T						B -			C-					
		CONNECTE			11000			11500			11500				
	LOAD TYPE		CODE D	EMAND	REQUIR	EMENTS	5	CONNECTED			DEMANI	D VA		MIN. CODE VA (1.25 x CONT.)	
								THIS	SUB	TOTAL				(NEC 210.19 & 215.2)	
								PANEL							
	LIGHTING (NEC 220.42)		125%					0	0	0		0		0	
	RECEPTACLES (NEC 220.44)		·		2 x REMA	AINING		34000	2880	36880		23440		23440	
	LARGEST MOTOR (NEC 430.24)		1.25 x LA					0	0	0		0		0	
	REMAINING MOTORS (NEC 430.24)			MAININ	G MOTOF	۲S		0	0	0		0		0	
			100%					0	0	0		0		0	
	KITCHEN EQUIPMENT (NEC 220.56)			(SEE CO	DE SEC	I ION)		0	0	0		0		0	
	WATER HEATER (NEC 210.19 & 215.2)		100%					0	0	0		0		0	
	MISC. (NEC 210.19 & 215.2)		100%					0	3920	3920		3920		3920	
	SPARE		0	x CODE	MIN.VA				I	I				0	
	TOTAL LOADS							34000	6800	40800		27360		27360	

	PANELBOARD SCHEDUL	_E:	PAN	EL 'P	'1BA'	(NEV	V)										
			. /	•		(1	MAIN FL	JSE					PANEL LOCATION:			
	120/208 VOLTAGE	3	PHASE	4	WIRE	•	۱	- Main Bf	REAKER		•	I		GYM STORAGE			
	100 AMP MAIN BUS					X	MAIN LU	-			•	I		FEEDER CABLE:			
	1 NEMA ENCLOSURE		200% NE										RE: SINGLE LINE				
			-		BUIG	SUB-FEED BREAKER						_	~ _				
	10KAIC RATING			ATED GRD BUS										SOURCE:			
			COPPEF	RBUSSI	NG		SOLID N	IEUTRAL				FLUSH		PANEL P1B			
CIRCUIT			VA LOAD		LOAD	C.B.		C.B		LOAD		VA LOAE)		CIRCUIT		
NUMBER	SERVICE	A	В	С	TYPE	TRIP	POLE	TRIP	POLE	TYPE	A	В	С	SERVICE	NUMBER		
1	MENS LOCKER REC.	720			R	20	1	20	1	МІ	1000			CHANGING RMS SWIMSUIT DRYER	2		
3	MENS LOCKER SWIMSUIT DRYER		960		MI	20	1	20	1	R		360]	CHANGING RM 5 REC.	4		
5	WOMENS LOCKER REC.			720	R	20	1	20	1	R	4		720	CHANGING RM 3, 4 REC.	6		
7	WOMENS LOCKER SWIMSUIT DRYER	960] `		MI	20	1	20	1	R	360]		CHANGING RM 1, 2 REC.	8		
9	DRINKING FOUNTIAN		1000		MI	20	1]	SPACE	10		
11	SPACE										1			SPACE	12		
13	SPACE													SPACE	14		
15	SPACE													SPACE	16		
	SPACE											_		SPACE	18		
19	SPARE					20	1	20	1				-	SPARE	20		
21	SPARE					20	1	20	1					SPARE	22		
23	SPARE					20	1	20	1					SPARE	24		
		1680	1960	720			1			I	1360	360	720				
	CONNECTED VA/PH (LESS FEED TI		,	A -	3040			B - 2320		C-	1440						
	CONNECTED VA/PH FROM FEED THR			A -			B -			C-							
	TOTAL CC	DNNECTE		A -	3040		B -	2320		C-	1440						
	LOAD TYPE		CODE D	EMAND	REQUIRI	EMENTS	6		INECTEL	-	DEMAN	D VA		MIN. CODE VA (1.25 x CONT.)			
								THIS	SUB PNLS	TOTAL				(NEC 210.19 & 215.2)			
	LIGHTING (NEC 220.42)		125%					0		0		0		0			
	RECEPTACLES (NEC 220.44)		1st 10,00	0VA + 1/	2 x REMA	INING		2880		2880		2880		2880			
	LARGEST MOTOR (NEC 430.24)		1.25 x LA	RGEST	FLA			0		0		0		0			
	REMAINING MOTORS (NEC 430.24)		100% RE	MAININ	G MOTOF	RS		0		0		0		0			
	HEATING (NEC 220.51)		100%					0		0		0		0			
	KITCHEN EQUIPMENT (NEC 220.56)		VARIES	(SEE CO	DDE SEC	TION)		0		0		0		0			
	WATER HEATER (NEC 210.19 & 215.2)		100%					0		0		0		0			
	MISC. (NEC 210.19 & 215.2)		100%					3920		3920		3920		3920			
	SPARE 0 × CODE MIN.V													0			
	TOTAL LOADS							6800	0	6800		6800		6800			
					SIZING	ΟΔΠ		1 0000	10	AMPS	1						

		PANELBOARD SCHEDUL	E:	PAN	EL 'E	M1' (I	EXIST	ING)			
			3	PHASE	4	WIRE					
		100 AMP MAIN BUS					X	MAIN LU			
		1 NEMA ENCLOSURE		200% NE	UTRAL			SUB-FE			
		(E) AIC RATING	•	SOLATE	D GRD I	BUS		SUB-FE			
				COPPER	BUSSI	١G		SOLID N			
	CIRCUIT			VA LOAD		LOAD	C.B.				
	NUMBER	SERVICE	A	В	С	TYPE	TRIP	POLE			
	1	(E) EMERGENCY LIGHTING	2000	•		L	20	1			
	3	(E) EMERGENCY LIGHTING		2000		L	20	1			
1	5	EMERGENCY LIGHTING			884	L	20	1			
	7	(E) EMERGENCY LIGHTING	1500			L	15	1			
	9	SPACE	-				-				
	11	(E) EMERGENCY LIGHTING		, [1500	L	15	1			
	13			4500			-	-			
	15	(E) EMERGENCY LIGHTING	-	1500		L	15	1			
	17 19	SPACE (E) EMERGENCY LIGHTING	1500	, l			- 15	- 1			
	19		5000	3500	2384		10				
		CONNECTED VA/PH (LESS FEED TH			A -	8000		B -			
		CONNECTED VA/ITH (LESSTEED THRU CONNECTED VA/PH FROM FEED THRU			A -	0000		B-			
		TOTAL COL									
		LOAD TYPE		CODE DEMAND REQUIREMENTS							
		LIGHTING (NEC 220.42)		125%							
		RECEPTACLES (NEC 220.44)		1st 10,000VA + 1/2 x REMAINING							
		LARGEST MOTOR (NEC 430.24)		1.25 x LA	RGEST	FLA					
		REMAINING MOTORS (NEC 430.24)		100% RE	MAININ	<u> G MOTOF</u>	RS				
		HEATING (NEC 220.51)		100%							
		KITCHEN EQUIPMENT (NEC 220.56)			SEE CC	DE SEC	TION)				
		WATER HEATER (NEC 210.19 & 215.2)		100%							
		MISC. (NEC 210.19 & 215.2)		100%							
				0	x CODE	MIN.VA					
		TOTAL LOADS				0171010					
						SIZING I	LUAD				

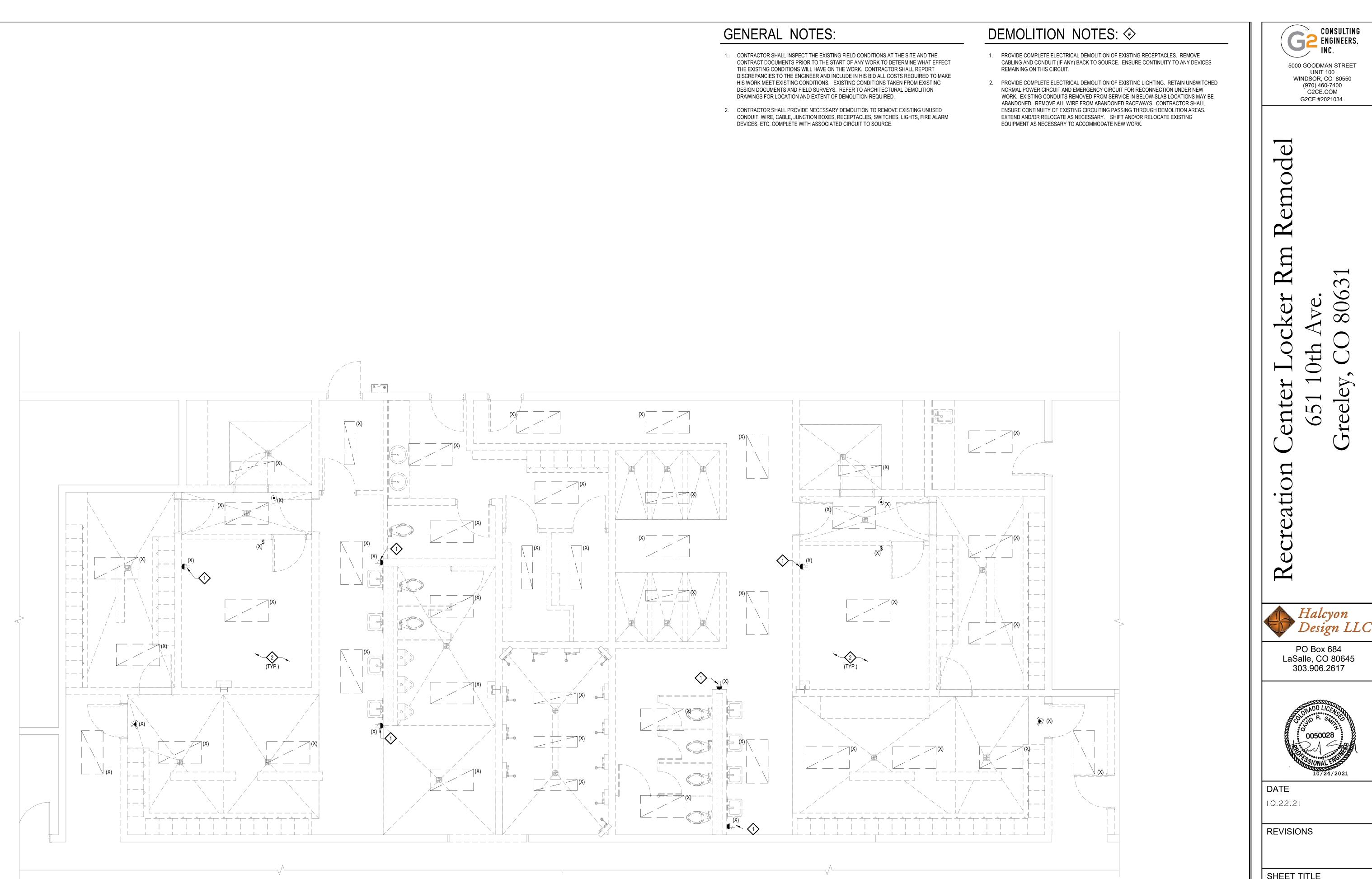
WORK NOTES: 🗷

1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING DISTRIBUTION EQUIPMENT. MATCH EXISTING MANUFACTURER AND AIC RATING.

EXISTING BREAKERS SHALL BE RELOCATED WITH-IN PANEL AS NECESSARY TO ACCOMMODATE NEW BREAKER.

)													
	MAIN FU	ISE					PANEL LOCATION:						
	- Main Bf	REAKER		•	I		GYM STORAGE						
l	JGS			•	I		FEEDER CABLE:						
	ED LUGS	;		MOUNT	:		EXISTING						
	ED BREA			X	SURFAC	CF	SOURCE:						
					FLUSH	~ _	EXISTING						
1 \				L	J' 20011								
	C.B		LOAD		VA LOAD)		CIRCUIT					
	TRIP	POLE	TYPE	A	В	С	SERVICE	NUMBER					
	-					-	SPACE	2					
	15	1	L		1500		(E) EMERGENCY LIGHTING	4					
	-				-		SPACE	6					
	15	1	L	1500		-	(E) EMERGENCY LIGHTING	8					
	-						SPACE	10					
	15	1	L		1	1500	(E) EMERGENCY LIGHTING	12					
	-					1	SPACE	14					
	15	1	L		1500		(E) EMERGENCY LIGHTING	16					
	-				1		SPACE	18					
	15	1	L	1500			(E) EMERGENCY LIGHTING	20					
			-	3000	3000	1500							
	6500		C-	3884									
	0500		C-	0004									
	6500	NEATER	C-	3884									
	<u> </u>			DEMAN	D VA		MIN. CODE VA (1.25 x CONT.)						
	THIS PANEL	SUB PNLS	TOTAL				(NEC 210.19 & 215.2)						
	18384	TINLO	18384		18384		22980						
	0		0		0		0						
	0		0		0		0						
	0		0		0		0						
	0		0		0		0						
	0		0		0		0						
	0		0		0		0						
	0		0		0		0						
							0						
	18384	0	18384		18384		22980						
	10004		AMPS		10004		22000						

G C ONSULTING ENGINEERS, **INC**. 5000 GOODMAN STREET UNIT 100 WINDSOR, CO 80550 (970) 460-7400 G2CE.COM G2CE #2021034 el emode K Rm 80631 Jocker VC K th \bigcirc \bigcirc \frown enter $\overline{}$ $\mathbf{\Sigma}$ reele 651 \mathcal{O} ecreation K Halcyon Design LLC PO Box 684 LaSalle, CO 80645 303.906.2617 005002 10/24/2021 DATE 10.22.21 REVISIONS SHEET TITLE ELECTRICAL PANEL SCHEDULES SHEET NUMBER E03 Project No. 2102

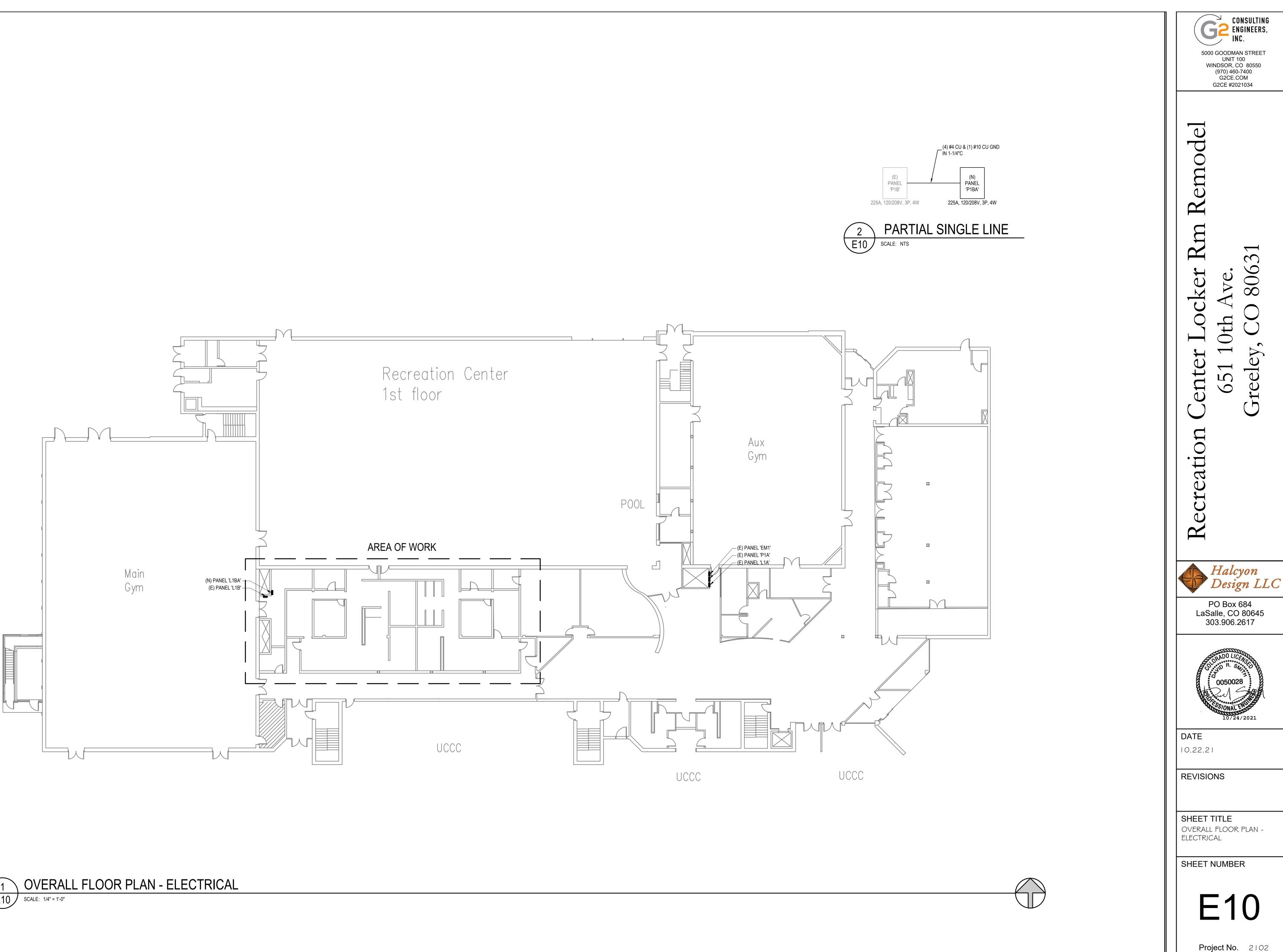




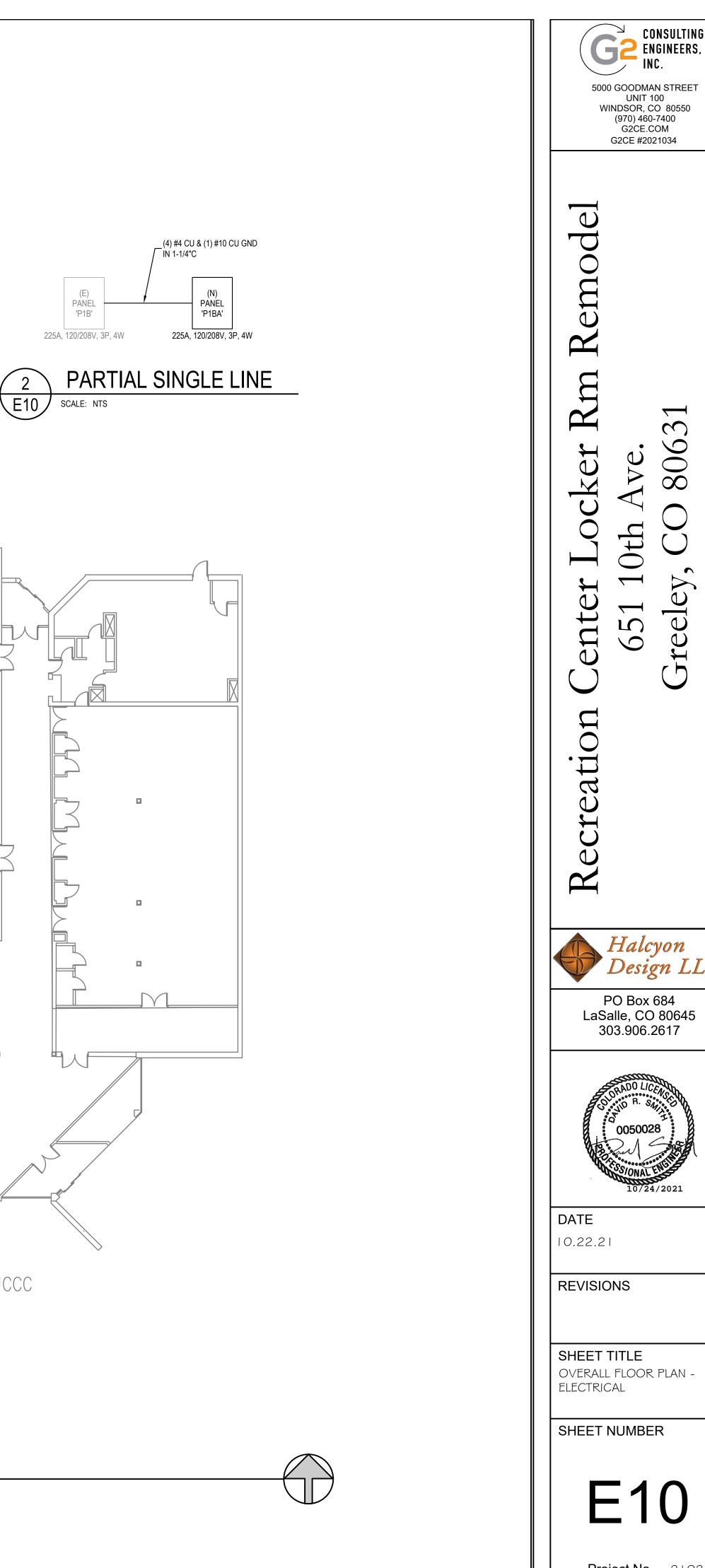
SHEET TITLE ELECTRICAL DEMOLITION PLAN

SHEET NUMBER

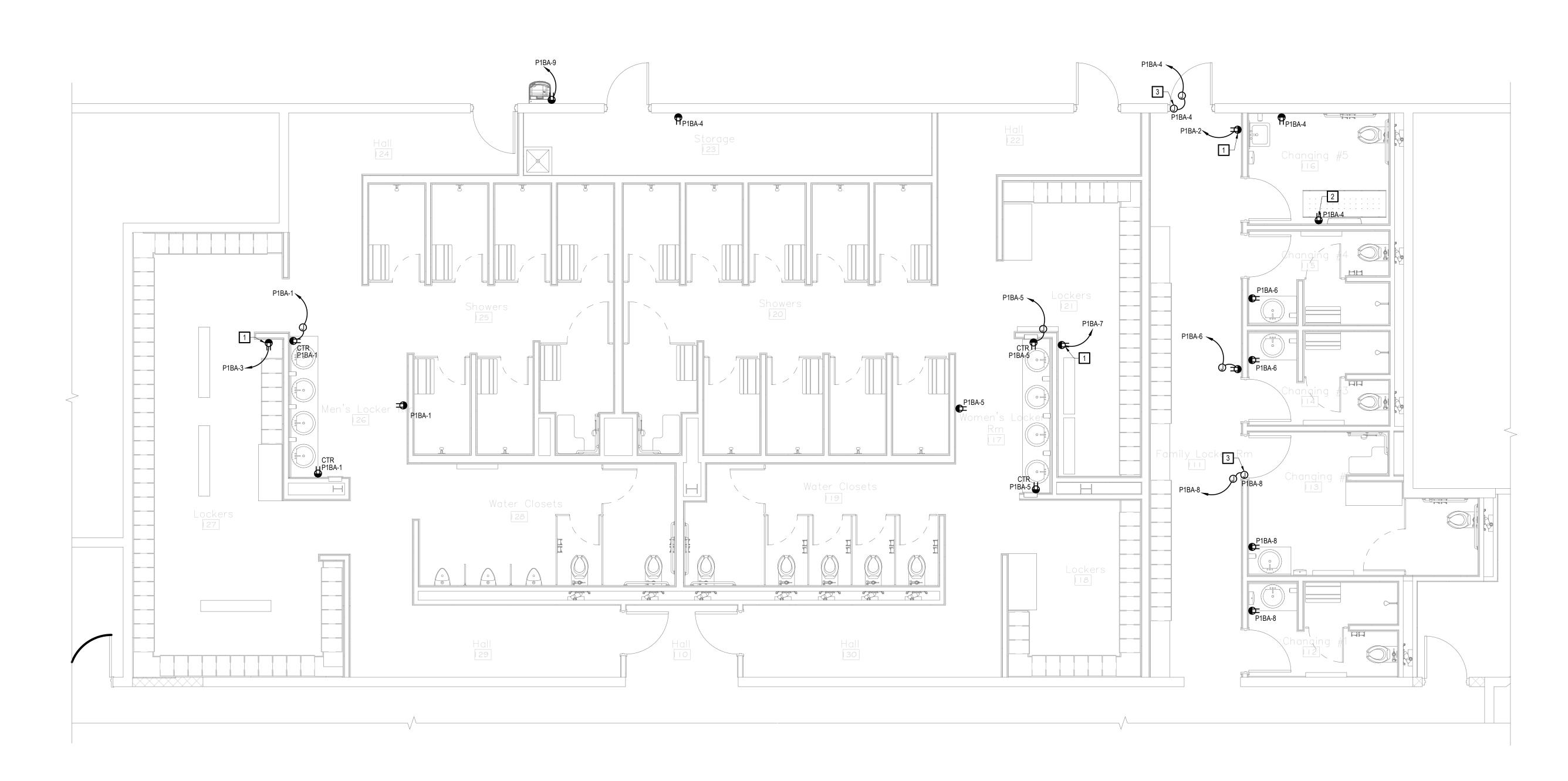










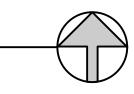


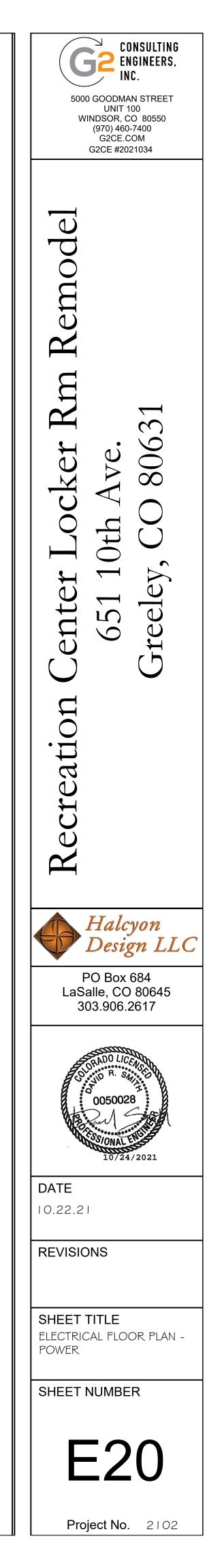
GENERAL NOTES:

1. LABEL ALL DEVICE'S CIRCUIT NUMBER ON ALL FACEPLATES.

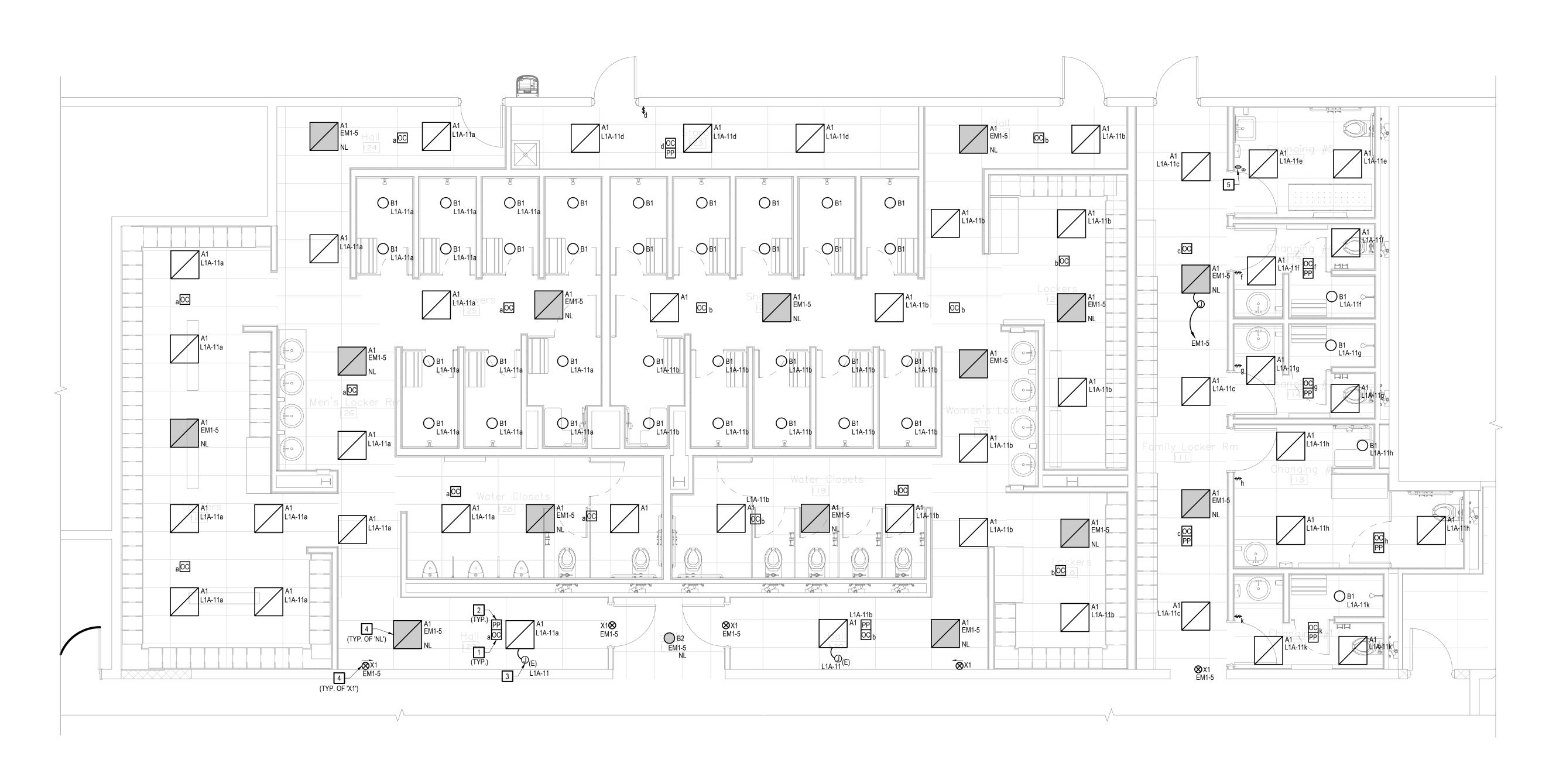
WORK NOTES:

- 1. PROVIDE POWER FOR FUTURE SWIMSUIT DRYER.
- 2. PROVIDE POWER FOR ADULT CHANGING TABLE. COORDINATE CONNECTION ROUGH IN REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
- PROVIDE POWER FOR AUTOMATIC DOOR OPERATOR. PROVIDE CONDUIT AND CONTROL WIRING TO PUSH BUTTON. COORDINATE PUSH BUTTON ROUGH IN LOCATION WITH ARCHITECTURAL PLANS.



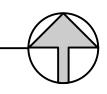


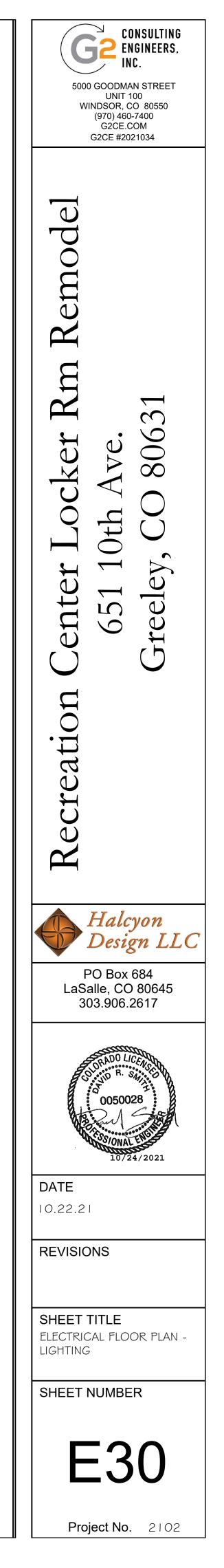




WORK NOTES: I

- CEILING MOUNTED OCCUPANCY SENSOR, LOW VOLTAGE, DUAL TECHNOLOGY, 360° FOV, 120/277 VOLT RATED. PROVIDE LOW VOLTAGE WIRING AS NECESSARY FOR A COMPLETE INSTALLATION.
- 2. POWER PACK FOR ON/OFF CONTROL OF FIXTURES AND INTERCONNECTION OF OCCUPANCY SENSORS, 120/277 INPUT VOLTAGE, 24VDC SECONDARY VOLTAGE.
- 3. CONNECT TO EXISTING LIGHTING CIRCUIT RETAINED DURING DEMOLITION. CONTRACTOR SHALL FIELD VERIFY CIRCUIT. NOTIFY ENGINEER OF ANY DISCREPANCY.
- 4. ROUTE UN-SWITCHED CIRCUIT TO EMERGENCY LIGHTING AND NIGHT LIGHTING.
- 5. WALL SWITCH OCCUPANCY SENSOR, DUAL-TECHNOLOGY, LINE VOLTAGE, SINGLE-RELAY, 120/277 VOLT RATED.





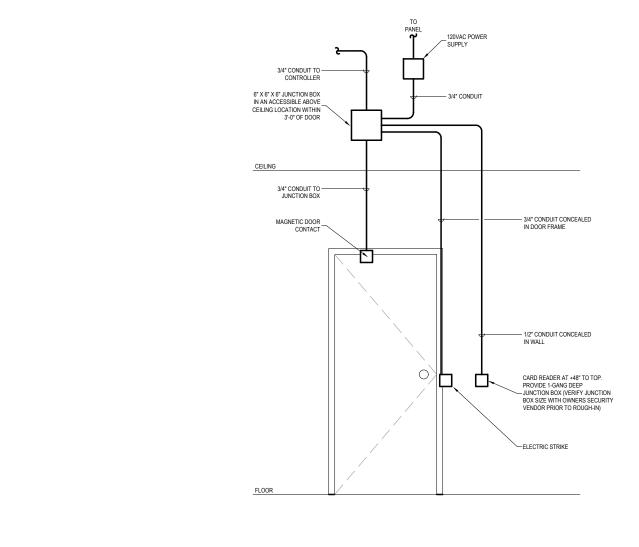
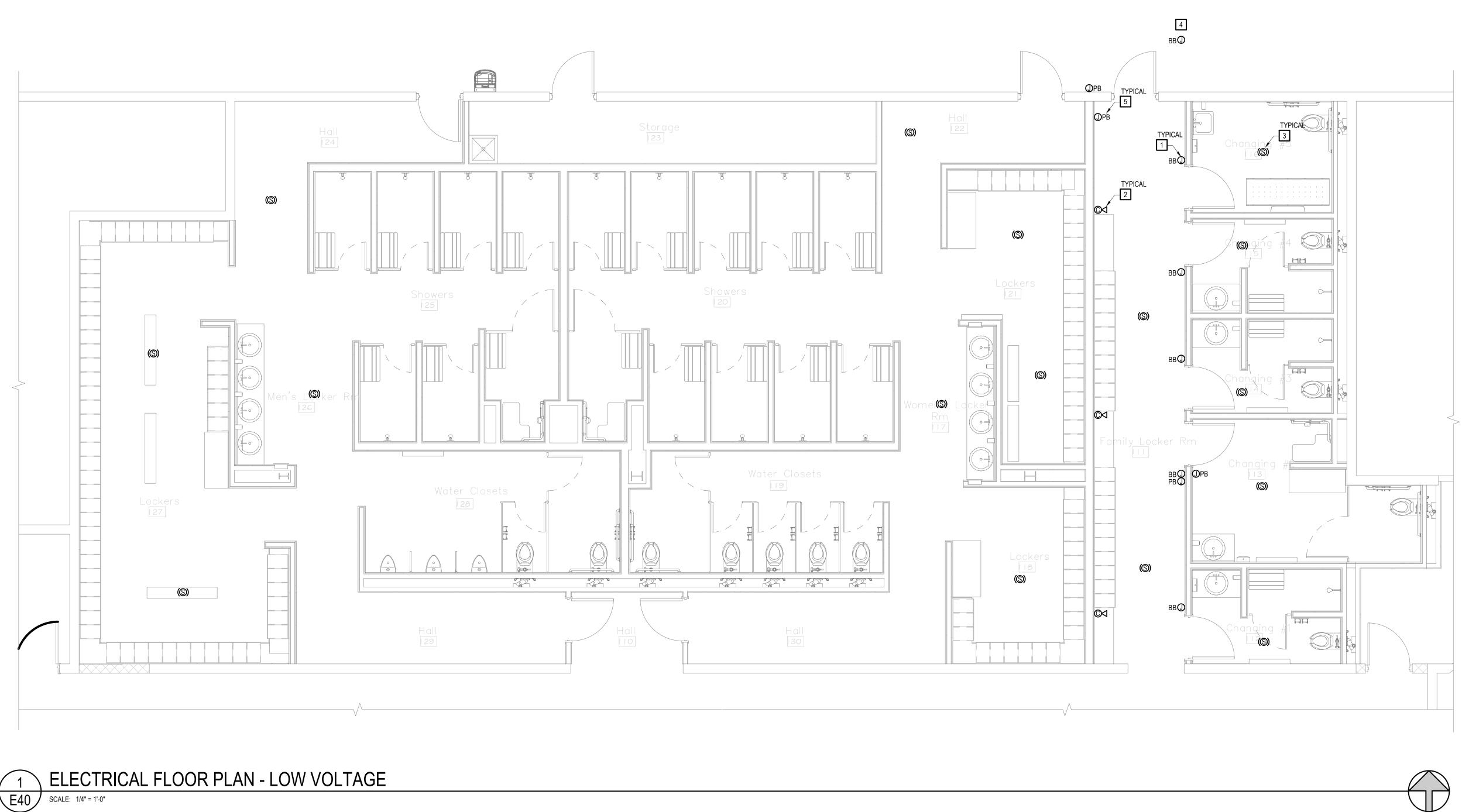




DIAGRAM IS FOR REFERENCE ONLY: REFER TO OWNER'S SHOP DRAWINGS.



GENERAL NOTES:

- 1. CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND THE CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE WHAT EFFECT THE EXISTING CONDITIONS WILL HAVE ON THE WORK. CONTRACTOR SHALL REPORT DISCREPANCIES TO THE ENGINEER AND INCLUDE IN HIS BID ALL COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS. EXISTING CONDITIONS TAKEN FROM EXISTING DESIGN DOCUMENTS AND FIELD SURVEYS. REFER TO ARCHITECTURAL DRAWINGS.
- 2. CONTRACTOR TO PROVIDE ALL RACEWAYS, BACK BOXES, MUD-RINGS, J-HOOKS, ETC. FOR A COMPLETE TELECOM PATHWAY SYSTEM. ALL DEVICES, CABLING, EQUIPMENT, ETC. BY OTHERS.
- 3. REFER TO SYSTEM SHOP DRAWINGS.

WORK NOTES:

- 1. REFER TO ARCHITECTURAL SHEET A10 FOR ADDITIONAL INFORMATION: PROVIDE SINGLE GANG RECESSED JUNCTION BOX AND ³/₄" CONDUIT TO ABOVE ACCESSIBLE CEILING FOR USE WITH NEW DOOR BUZZER.
- 2. REFER TO ARCHITECTURAL SHEET A10 FOR ADDITIONAL INFORMATION: PROVIDE SINGLE GANG RECESSED JUNCTION BOX AND ³/₄" RACEWAY FOR NEW CCTV CAMERA INSTALLATION. REFER TO SHOP DRAWINGS FOR CONDUIT ROUTING INFORMATION. PROVIDE WITH PULL STRING.
- 3. REFER TO ARCHITECTURAL SHEET A10 FOR ADDITIONAL INFORMATION: PROVIDE SINGLE GANG BACK BOX FOR SPEAKER INSTALLATION FLUSH AT CEILING. REFER TO EQUIPMENT DOCUMENTS FOR ANY RACEWAY REQUIREMENTS.
- 4. COORDINATE MOUNTING FOR NEW CENTRAL CONTROL PANEL FOR DOOR BUZZER SYSTEM AT RECEPTION DESK. PROVIDE 120V FROM LOCAL SOURCE, UPS PROTECTED OR EMERGENCY IF AVAILABLE. PROVIDE FOR RACEWAY TO ACCESSIBLE CEILING ABOVE RECEPTION FOR INTERCONNECTION OF LOW VOLTAGE CABLING.
- 5. REFER TO ARCHITECTURAL SHEET A10 FOR ADDITIONAL INFORMATION: PROVIDE SINGLE GANG RECESSED JUNCTION BOX AND ³/₄" RACEWAY FOR NEW AUTO DOOR OPERATOR PUSH BUTTON.

5000 GOODMAN STREET UNIT 100 WINDSOR, CO 80550 (970) 460-7400 G2CE.COM G2CE #2021034 U d \bigcirc Ħ K Ħ R $\overline{}$ \mathcal{O} 806 ker U \bigcirc C \bigcirc te G L tc 9 \mathbf{O} Ţ tio σ \mathbf{O} \rightarrow GC K Halcyon Design LLC PO Box 684 LaSalle, CO 80645 303.906.2617 DATE 10.22.21 REVISIONS 3 8/29/2023 SHEET TITLE ELECTRICAL FLOOR PLAN -LOW VOLTAGE SHEET NUMBER E40 Project No. 2102

G2 CONSULTING ENGINEERS, INC.

INC.

CONSULTING