

ADDENDUM NO. 2

Date: March 21, 2024

Project: West Regional Library Renovation
Cary, NC

Bids Due: Thursday, March 28, 2024 at 2:00 pm

Attached and described below are amendments to the original bid documents for this project. Please acknowledge receipt of this addendum on your bid proposal form. Failure to do so may result in the disqualification of your bid.

1. Items below indicated as '**Revised**' are being reissued. Items indicated as '**Refer to**' are not reissued. Items indicated as '**Added**' are additional sheets not previously in the Bid Documents.
2. Individual specification sections and materials that have been revised are attached. Alternatively, a revised Project Manual Volume 1 with these revisions incorporated is available for download.
3. Individual drawings that have been revised are attached. Alternatively, revised drawing sets with these revised sheets incorporated are available for download.

ITEM 1: Question: Please confirm the existing Fire-Alarm vendor for the building.

Response: Provide new per specifications. **Refer to** Specification Section 283111 Digital, Addressable Fire-Alarm System for acceptable manufacturers.

ITEM 2: Question: Please confirm the existing DDC Controls vendor for the building.

Response: The existing Air Handlers, Chiller, VAV Boxes, Exhaust Fans, and Lighting Contactors are currently controlled by Andover Controls System. These controls are being replaced as part of the scope of this project. The Boilers and Hot Water system components were converted to EcoStruxure by Schneider Electric last year and are specified to remain. New Schneider Electric EcoStruxure controls shall be provided as specified and integrated into the existing Schneider Electric EcoStruxure controller as part of this project. **Refer to** sheet M410 for details. Provide new per specifications. **Refer to** Specification Section 230900 Direct Digital Control Systems And Building Automation System.

ITEM 3: Question: Please confirm the existing Security Contractor/Vendor for the building.

Response: The security scope will be bid separately under the allowance to approved vendors. This information will be provided to the contractor once under contract. The electrical work scope supporting security under Allowance No. 3 as shown on drawings SEC-200 and SEC-400 is base bid.

ITEM 4: Question: There is a lump-sum allowance #1 for telecom but sheet SEC-200 says, " DIVISION 26 CONTRACTOR IS RESPONSIBLE FOR POWER AND CONDUIT ONLY. INSTALLATION OF WIRING AND DEVICES WILL BE BY THE DIVISION 27 CONTRACTOR." Can you please clarify what is the scope for Division 27 (Telecommunication) contractors as a part of our base-bid?

Response: There is no Division 27 work as part of the base bid, only in the allowance No. 1. **Refer to** Allowances Specification Section 012100. General Note #2 on Sheet SEC-200 has been **revised** to clarify that installation of wiring and devices will by the Division 28 contractor.

ITEM 5: Question: Can you please clarify the security scope as part of our base-bid? Sheet SEC-200 shows Security Camera Schedule. Can you please confirm if that is part of the base bid or is just provided for reference?

Response: Security Camera Schedule on Sheet SEC-200 is for conduit install reference only.

ITEM 6: Question: Can you please confirm if the access control scope for the card reader is part of our base-bid or already included in the Security Allowance (#3)?

Response: The card reader and access control is part of the Security Allowance. **Refer to** Specification Section 087100 Door Hardware for clarification of door component scope that supports card access in the base bid.

ITEM 7: Question: Is it part of our scope to just provide card-reader or do we have to provide access controls for the same as part of our base-bid?

Response: The card reader and access controls are part of the Security Allowance. **Refer to** Specification Section 087100 Door Hardware for clarification of door component scope in the base bid. **Refer to** drawings SEC-200 and SEC-400 for electrical work supporting security access control and surveillance cameras which is base bid.

ITEM 8: Question: Will Contractor be provided parking spaces for their subs/personnel on-site?

Response: Yes, parking is available for subs and personnel. See zones of contractor staging areas on sheet G000. These areas may be used for parking as well as storing materials.

ITEM 9: Question: Will Contractor be allowed to use toilet facilities in the building or do we have to provide Port-A-Johns for our guys?

Response: Use of Owner's existing toilet facilities will not be permitted. The contractor must provide their own portable toilet facilities for construction personnel. **Refer to** Specification Section 015000 Temporary Facilities and Controls, Part 3 – Execution, 3.2 Temporary Utility Installation, C. Sanitary Facilities.

ITEM 10: Question: Item #23 on A101 reads opposite of alternate #2 on bid form.

Response: **Refer to** Addendum No. 1. Specification Section 012300 "Alternates"

ITEM 11: Can you clarify if a project manager is to be on site 100% of the time, I understand a superintendent will be on site 100% of the time will a project manager also need to be on site at all times.

Response: Paragraph 7.2 has been removed from 008000 Supplementary General Conditions. The Project Manager is not required to be on site 100% of the time. **Refer to** paragraph 7.2 of 007000 General Conditions for superintendent and project manager expectations.

ITEM 12: Question: Please confirm that this job is Davis-Bacon.

Response: There are no Federal funds associated with this project and the Davis-Bacon Act will not apply.

ITEM 13. Question: Are there elevations for 125A?

Response: **Refer to** Interior Partition Types on Sheet G005 for details and wall height for wall type 2.6R1.

ITEM 14: Question: Is there a door schedule showing doors 125AA and 125AB?

Response: **Refer to** Door Schedule on Sheet G005.

ITEM 15: Question: Note 13 on A101 refers to an allowance for new mulch, weed removal and pruning of existing plantings in the flowerbeds. However, this allowance is not shown on the allowance schedule. How much should be carried with this allowance?

Response: Allowance No. 8 has been **added** to Specification Section 012100.

ITEM 16: Question: Do we need to paint the steel over the exterior windows?

Response: No. No painting of exterior window lintels is to be included in the base bid.

ITEM 17: Question: On exterior gates being painted, do they need to be disassembled to paint inside (they have a “sandwich” like construction)? Or just paint exterior and interior of gates?

Response: Exterior gates are to be painted on exterior and interior sides without disassembly.

ITEM 18: New Sheet M503-sheet has been **added** to denote division of work detail as well as outline responsibilities between Div 23 and 26 as it relates to disconnects and final connections.

ITEM 19: Sheet E201-sheet has been **revised** to reflect changes related to the installation of exterior receptacles and installing raceway from exterior planting beds to interior of the building. Cutting and patching notes have been added to certain keynotes as well.

ITEM 20: Sheet E500-sheet has been **revised** to reflect labeling requirements at all existing panelboards as requested by Wake County Inspections.

ITEM 21: Sheet E501- sheet has been **revised** to outline responsibilities between Divisions 23 and 26 as it relates to disconnects and final connections.

ITEM 22: Part 3.06 Lighting Sequence of Operation, Lighting Control has been **added** to Specifications Section 230993 Sequence of Operations to clarify the additional functionality to lighting control sequence.

ITEM 23: Sheets A101 and G005 have been **revised** to clarify the extension of the existing chiller pad in preparation for the new chiller.

ITEM 24: Sheets A121 and A404 have been **revised** to reflect changes in carpet selection and layout at Young Adult Reading Research 119.

END OF ADDENDUM NO. 2

TYPICAL SUPPLEMENTARY GENERAL CONDITIONS

GENERAL

These Supplementary Conditions contain changes and additions to the project "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION", as published herein. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of the Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 1 - DEFINITIONS

Paragraph 1.13: At the end of the existing paragraph, add the following:

The Contract Time is 405 consecutive calendar days, beginning on the Date of Commencement as specified in the written Notice-to-Proceed. The Contract Time will be structured in overlapping phases:

Phase 1: Submittals (building is occupied by Owner, no work allowed on site without written permission from Owner). Phase 1 duration is 60 consecutive calendar days, beginning on the date of commencement as specified in the written Notice-to-Proceed.

Phase 2: Procurement (building is occupied by Owner, no work allowed on site without written permission from Owner before Phase 3 begins). Phase 2 duration is 300 consecutive calendar days beginning 45 consecutive calendar days after the date of commencement.

Phase 3: On-site mobilization for demolition, construction and installation (building is not occupied by Owner). Phase 3 duration is 150 consecutive calendar days, and completion shall align no later than with the completion of the overall Contract Time of 405 consecutive calendar days.

Paragraph 1.18: Delete the last sentence in its entirety and substitute the following in lieu thereof:

“A list of the Drawings is contained in the “Supplementary General Conditions.”

The Drawings applicable to this Contract are as follows:

G000 - COVER
G001 - GENERAL NOTES
G002 - CODE SUMMARY
G003 - LIFE SAFETY PLANS
G004 – UL DETAILS
G005 – WALL LEGEND & DOOR SCHEDULE
D101 - DEMOLITION PLAN
D102 - DEMOLITION REFLECTED CEILING PLAN
A101 - FLOOR PLAN

A111 - REFLECTED CEILING PLAN
A121 - FINISH PLAN
A201 - BUILDING ELEVATIONS
A202 - BUILDING ELEVATIONS
A401 - ENLARGED PLANS, INT. ELEVS. & DETAILS
A402 - ENLARGED PLANS, INT. ELEVS. & DETAILS
A403 - ENLARGED PLANS, INT. ELEVS. & DETAILS
A404 - ENLARGED PLANS, INT. ELEVS. & DETAILS
FP001 - FIRE PROTECTION NOTES AND LEGEND
FP200 – FIRE PROTECTION NEW WORK PLAN
P001 - PLUMBING LEGENDS, NOTES AND SCHEDULE
P200 - PLUMBING NEW WORK PLAN
M001 - MECHANICAL LEGENDS AND NOTES
M002 - MECHANICAL SCHEDULES
M100 - MECHANICAL DEMOLITION PLAN
M110 - MECHANICAL DEMOLITION ENLARGED PLAN
M111 – MECHANICAL DEMOLITION ENLARGED PLAN ALTERNATE
M200 - MECHANICAL NEW WORK PLAN
M300 – ENLARGED MECHANICAL ROOM
M301 – MECHANICAL ROOM ELEVATIONS
M302 – MECHANICAL ROOM RENDERINGS
M400 - MECHANICAL PIPING SCHEMATICS
M410 - MECHANICAL SCHEMATICS
M410 - MECHANICAL SCHEMATICS
M500 – MECHANICAL LEGENDS AND NOTES
M501 – MECHANICAL DETAILS
M502 – MECHANICAL FIRE PENETRATION DETAILS
E001 - ELECTRICAL LEGEND
E002 - GENERAL NOTES & SCHEDULES
E100 - LIGHTING DEMOLITION
E101 - POWER DEMOLITION
E102 - EXIST. UG PATHWAYS/FL. BOX WORK
E200 - LIGHTING PLAN
E201 - POWER PLAN
E300 – ENLARGED PLANS
E400 – ELECTRICAL POWER RISERS
E500 – ELECTRICAL DETAILS
E501 – ELECTRICAL DETAILS
E600 – PANEL SCHEDULES
FA100 - FIRE ALARM DEMOLITION
FA200 - FIRE ALARM NEW WORK
FA400 - FIRE ALARM RISER AND MATRIX
FA401 – FIRE ALARM DETAILS
SEC200 - SECURITY NEW WORK
SEC400 - SECURITY DETAILS

ARTICLE 3. FAMILIARITY WITH WORK, CONDITIONS AND LAWS

Paragraph 3.3: At the end of the existing paragraph, add the following paragraph:

SUPPLEMENTARY GENERAL CONDITIONS (2010 Ed.)

“To ensure compliance with the E-Verify requirements of the General Statutes of North Carolina, all contractors, including any subcontractors employed by the contractor(s), by submitting a bid, proposal or any other response, or by providing any material, equipment, supplies, services, etc., attest and affirm that they are aware and in full compliance with Article 2 of Chapter 64, (NCGS64-26(a)) relating to the E-Verify requirements.”

“By signing this agreement; accepting this contract/purchase order; or submitting any bid, proposal, etc., vendors and contractors certify that as of the date of execution, receipt, or submission they are not listed on the Final Divestment List created by the NC Office of State Treasurer pursuant to NCGS 147 Article 6E, Iran Divestment Act, Iran Divestment Act Certification. Vendors and contractors shall not utilize any subcontractor that is identified on the Final Divestment List.”

“Any organization defined under NCGS 147-86.80(2), Divestment from Companies Boycotting Israel, shall not engage in business totaling more than \$1,000 with any company/business, etc. that boycotts Israel. A list of companies that boycott Israel is maintained by the NC Office of State Treasurer, pursuant to NCGS 147-86.81(a)(1). Any company listed as boycotting Israel is not eligible to do business with any State agency or political subdivision of the State.”

“If the source of funds for this contract is federal funds, the following federal provisions apply pursuant to 2 C.F.R. § 200.326 and 2 C.F.R. Part 200, Appendix II (as applicable): Equal Employment Opportunity (41 C.F.R. Part 60); Davis-Bacon Act (40 U.S.C. 3141-3148); Copeland “Anti-Kickback” Act (40 U.S.C. 3145); Contract Work Hours and Safety Standards Act (40 U.S.C. 3701- 3708); Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387); Debarment and Suspension (Executive Orders 12549 and 12689); Byrd Anti-Lobbying Amendment (31 U.S.C. 1352); Procurement of Recovered Materials (2 C.F.R. § 200.322); and Record Retention Requirements (2 CFR § 200.324).”

“In consideration of signing this Agreement, the Parties hereby agree not to discriminate in any manner on the basis of race, natural hair or hairstyles, ethnicity, creed, color, sex, pregnancy, marital or familial status, sexual orientation, gender identity or expression, national origin or ancestry, marital or familial status, pregnancy, National Guard or veteran status, religious belief or non-belief, age, or disability with reference to the subject matter of this Contract. The Parties agree to comply with the provisions and intent of Wake County Ordinance SL 2017-4. This anti-discrimination provision shall be binding on the successors and assigns of the Parties with reference to the subject matter of this Contract.”

Add the following paragraph:

- “3.5 A Pre-Bid Conference will be held on site at West Regional Library, 4000 Louis Stephens Drive, Cary, NC 27519 at 10:00 am, local prevailing time, on February 29, 2024. Purpose of conference is for prospective Bidders to familiarize themselves with the site and to ask questions pertaining to the Contract Documents. Bidders are reminded that no oral interpretations of meaning of Drawings and Specifications can be made. Conflicts in documents, if any, will be

resolved by written addendum. (Reference “Instructions to Bidders, Paragraph 5 (for formal).”

ARTICLE 5. INSURANCE AND INDEMNITY

Paragraph 5.1.2: In addition to all other endorsements required by the General Conditions, if the Contractor is required to transport, dispose of or otherwise handle hazardous or toxic waste, material, chemicals, compounds or substances, the policy of insurance shall be further endorsed to include the following:

Insurance Service Office (ISO) Form #CA 00 01 06 92 or its equivalent, amending exclusion 11 in the following manner:

- i. Delete section a. (1) a.: (Pollution) "being transported or towed by, or handled for movement into, onto or from, the covered auto."
- ii. Delete section a. (1) b.: "Otherwise in the course of transit by the insured."

The Contractor and transporter must comply with all applicable DOT and EPA requirements.

Paragraph 5.1.4: Add the following Paragraph:

“Pollution Legal Liability (PLL)

A PLL policy must be provided for the Project. Coverage must be sudden and non-sudden, and include:

- a) Bodily injury, sickness, disease, mental anguish, or shock sustained by any person, including death;
- b) property damage including physical injury to or destruction of tangible property including the resulting loss of use thereof, cleanup costs, and the loss of use of tangible property that has not been physically injured or destroyed; and
- c) Defense including costs, charges, and expenses incurred in the investigation, adjustment, or defense of claims for such compensatory damages.

The Owner must be named as Additional Insured, and a Non-Owned Disposal Site Endorsement must be provided, scheduling the appropriate landfill.

Minimum PLL limits of coverage shall be:

Per Loss	\$1,000,000
All Losses	\$2,000,000

ARTICLE 6. OTHER RECORD DOCUMENTS AND SUBMITTALS

Paragraph 6.1: At the end of the existing paragraph, add the following:

“One (1) copy of the Contract Documents will be furnished to the General Contractor.”

Paragraph 6.6: Special requirements for submittal and record document media:

As-Built Documents: (1) electronic copy (pdf) on electronic media (USB)
Record Submittals: One (1) hard copy and one (1) electronic copy (pdf) on electronic media (USB).

ARTICLE 7. CONTRACTOR

Paragraph 7.2: Use this paragraph in lieu of the existing paragraph:

~~“The Contractor shall keep on the Project at all times during its progress a competent Project Manager and a competent Resident Superintendent and necessary assistants who shall not be replaced without prior written approval by the Architect except under extraordinary circumstances, in which event immediate written notice shall be given to the Architect and the Owner. The Project Manager and Resident Superintendent shall each have a minimum of ten (10) years experience on projects of similar scope and complexity with job responsibilities equivalent to those required on this Project. At any time, the Owner, in its sole discretion, may require the Contractor to replace the Project Manager and Resident Superintendent or both with an experienced and competent person or persons upon seven (7) days written notice from the Owner to the Contractor. Such replacement shall be at the Contractor’s expense and at no cost to the Owner. The Project Manager shall be the Contractor’s representative at the Project and shall have full authority to act on behalf of the Contractor and to receive any and all notices or instructions given pursuant to the Contract Documents.”~~

REFER TO STANDARD LANGUAGE OF PARAGRAPH 7.2 IN GENERAL CONDITIONS.

Paragraph 7.13: Amend with the addition of the following paragraph:

“The General Contractor shall secure and pay for all building permits, including plumbing, electrical, HVAC and for the permit from the office of the Fire Marshall. The Cost for the Express Permit Review, if necessary, will be paid by others and is not the responsibility of the Contractor.”

ARTICLE 10. DESIGNER

Add the following paragraphs:

- “10.5 As a part of its Basic Services under the Owner-Designer Agreement, the Designer will conduct a single site visit to determine Substantial Completion of the Work. If, after the performance of said site visit, the Designer determines that the Work is not substantially complete, successive site visits to determine Substantial Completion will be deemed Additional Services under the Owner-Designer Agreement. The Contractor shall be liable to the Owner for any Designer’s fees incurred as a result of any such Additional Services of the Designer. Any funds

due under this paragraph may be deducted by the Owner from the amounts due the Contractor for such additional Designer's fees and paid directly to the Designer. Should the cost for such Additional Services of the Designer exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.

- "10.6 As a part of its Basic Services under the Owner-Designer Agreement, the Designer will conduct a single site visit to determine Final Completion of the Work. If, after the performance of said site visit, the Designer determines that the Work is not complete, successive site visits to determine Final Completion of the Work will be deemed Additional Services under the Owner-Designer Agreement. The Contractor shall be liable to the Owner for any Designer's fees incurred as a result of any such Additional Services of the Designer. Any funds due under this paragraph may be deducted by the Owner from the amounts due the Contractor for such additional Designer's fees and paid directly to the Designer. Should the cost for such Additional Services of the Designer exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess."

ARTICLE 13 - CONTRACT TIME

Paragraph 13.18: Add the following:

"If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents, the Owner shall be entitled to retain or recover from the Contractor, as Step One Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Substantial Completion of the Work:

Seven Hundred Fifty Dollars (\$750) per consecutive calendar day

If the Contractor fails to achieve Final Completion of the Work within thirty (30) consecutive calendar days of the actual date of Substantial Completion of the Work, the Owner shall be entitled to retain or recover from the Contractor, as Step Two Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following the actual date of Substantial Completion and continuing until the actual date of Final Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Final Completion of the Work:

Five Hundred Dollars (\$500) per consecutive calendar day

The Owner may deduct liquidated damages described above from any unpaid amounts then or thereafter due the Contractor under this Agreement. Should the amount of any liquidated damages exceed the amount due or to become due to the

Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.”

ARTICLE 29 – TAXES

Paragraph 29.1: Add the following to the existing paragraph:

“The Contractor is to use the Sales Tax Reporting Form attached to the contract documents for reporting taxes paid.

Add the following paragraph under Article 29

29.3 This project is considered a “Capital Improvement” with respect to Real Property Contracts, and the collection of State sales and use tax, as referenced in North Carolina General Statutes and further clarified in sales and use tax bulletins issued by the North Carolina Department of Revenue. It shall be the responsibility of the Contractor to issue any affidavits of capital improvement to their subcontractors as necessary.

ARTICLE 36. GENERAL

Add the following paragraph:

“36.3 Any specific requirement in this Contract that the responsibilities or obligations of the Contractor also apply to a Subcontractor is added for emphasis and is also hereby deemed to include a Subcontractor of any tier. The omission of a reference to a Subcontractor in connection with any of the Contractor’s responsibilities or obligations shall not be construed to diminish, abrogate, or limit any responsibilities or obligations of a Subcontractor of any tier under the Contract Documents or the applicable subcontract.”

END OF SUPPLEMENTARY GENERAL CONDITIONS

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Unit-cost allowances.
- C. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 2. Section 014000 "Quality Requirements" for procedures governing the use of allowances for field testing by an independent testing agency.

1.3 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials under allowance, and shall include taxes, freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.7 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Lump-Sum Allowance: Include the sum of \$45,000 for Telecom/wiring.
 - 1. This allowance is for manufacturer's invoice cost for material and installation only.
 - 2. Base Bid includes applicable taxes, receiving, handling, delivery, and Contractor overhead and profit.
- B. Allowance No. 2: Lump-Sum Allowance: Include the sum of \$44,000 for signage, including wall decal.
 - 1. This allowance is for manufacturer's invoice cost for material and installation only.
 - 2. Base Bid includes applicable taxes, receiving, handling, delivery, and Contractor overhead and profit.
- C. Allowance No. 3: Lump-Sum Allowance: Include the sum of \$93,000 for security.
 - 1. This allowance is for manufacturer's invoice cost for material and installation only.
 - 2. Base Bid includes applicable taxes, receiving, handling, delivery, and Contractor overhead and profit.
 - 3. Conduit, door hardware and electrical power supporting the security system is part of the Base Bid.
- D. Allowance No. 4: Lump-Sum Allowance: Include the sum of \$15,000 for building permit and unforeseen conditions.
 - 1. The costs of all inspection fees are the responsibility of the General Contractor and are not included in the allowance. Note: the actual cost of the Building Permit will be rectified via change order once the correct amount is known.

- E. Allowance No. 5: Include an allowance for exit signs, including 50 LF of conduit and wiring, material and labor. Allowance Quantity: 2 each.
- F. Allowance No. 6: Include an allowance for horn/strobes, including 50 LF of conduit and wiring, material and labor. Allowance Quantity: 2 each.
- G. Allowance No. 7: Include an allowance for smoke detectors, including 50 LF of conduit and wiring, material and labor. Allowance Quantity: 2 each.
- H. Allowance No. 8: Lump-Sum Allowance: Include the sum of \$5,000 for Entry Courtyard landscaping work for new mulch, weed removal, and pruning of existing plantings.

END OF SECTION 012100

SECTION 230993 SEQUENCE OF OPERATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. General
- B. Air Handling Units
- C. Terminal Units
- D. Chilled Water Systems
- E. Exhaust Fans
- F. Lighting controls

1.02 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including the General Conditions and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
- B. Section 230500 COMMON WORK RESULTS FOR HVAC
- C. Section 230900 - Building Automation System (BAS) General

1.03 SYSTEM DESCRIPTION

- A. The systems to be controlled under work of this section basically comprise of the reinstallation and control of two central station variable speed air handlers serving 32 pinch-down VAV boxes with reheat coils. The system will integrate into an existing BAS installed recently to manage the Hot Water System and Boilers. The scope of this project also includes the control of a new variable speed primary chilled water system.
- B. This Section defines the manner and method by which controls function.

1.04 SUBMITTALS

- A. Refer to Section 230900 and Division 1 for requirements for control shop drawings, product data, Users Manual, etc.
- B. Programming Manual: Provide DDC system programming manual as well as documentation of site-specific programming prior to the start of construction.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

- A. Sequences specified herein indicate the functional intent of the systems operation and may not fully detail every aspect of the programming that may be required to obtain the indicated operation. Contractor shall provide all programming necessary to obtain the sequences/system operation indicated.
- B. Except as specified otherwise, throttling ranges, proportional bands, and cycle differentials shall be centered on the associated setpoint. All modulating feedback control loops shall include the capability of having proportional, integral, and derivative action. Unless the loop is specified “proportional only” or “P+I”, Contractor shall apply appropriate elements of integral and derivative gain to each control loop which shall result in stable operation, minimum settling time, and shall maintain the primary variable within the specified maximum allowable variance.
- C. Provide a real time clock and schedule controller with sufficient scheduling capability to schedule all required controllers and sequences. Set up initial schedules in coordination with Wake County.
- D. Wherever a value is indicated as adjustable (adj.), it shall be modifiable, with the proper password level, from the Operator interface. For these points, it is unacceptable to have to modify programming statements to change the setpoint.
- E. Where “prove operation” of a device (generally controlled by a digital output) is indicated in the sequence, it shall require that the BAS shall, after an adjustable time delay after the device is commanded to operate (feedback delay) , confirm that the device is operational via the status input. If the status point does not confirm operation after the time delay or anytime thereafter for an adjustable time delay (debounce delay) while the device is commanded to run, an alarm shall be enunciated audibly. Upon failure, run command shall be removed and the device shall be locked out until the alarm is manually acknowledged unless specified otherwise.
- F. BAS shall provide for adjustable maximum rates of change for increasing and decreasing output from the following analog output points:
 - 1. Speed control of variable speed drives
 - 2. Control Reset Loop
 - 3. Valve Travel Limit
- G. Wherever a value is indicated to be dependent on another value (i.e.: setpoint plus 5°F) BAS shall use that equation to determine the value. Simply providing a virtual point that the operator must set is unacceptable. In this case three virtual points shall be provided. One to store the parameter (5°F), one to store the setpoint, and one to store the value which is the result of the equation.
- H. VFD Interface: BAS shall monitor the VFD via a direct interface. All available information shall be accessible via the interface for display on the VFD graphic. The VFD Alarm point shall be displayed on the main graphic and shall be alarmed via the BAS. All other points may be displayed on a separate graphic that is selected from this system’s graphic. Ref-

reference the VFD chart on the project plans for additional information on points that should be hardwired versus integrated through a direct interface.

- I. All actuators for valves and dampers should be scaled within the controller to operate 0% = closed and 100% = open.
- J. All programming timers should be assigned variables for real-time troubleshooting.
- K. Programming should include adequate comments in order to understand which sections of code perform specific functions.
- L. AHU shall be programming with a separate “AHU Enable” and “Occupancy Mode” points. AHU Enable points shall shut the AHU down without the possibility of operation except life safety operation.
- M. AHU controller should send occupancy points to VAV controllers. AHU should receive schedule command. While in unoccupied mode, AHU should either poll VAV boxes or receive call from VAV boxes to start and maintain setpoints.

3.02 SINGLE DUCT VAV AHU WITH PRE-HEAT & CHILLED WATER COILS, RETURN FAN

- A. AHU Enable: AHU shall have an “AHU Enable” point
 - 1. When the system enable point is on, the AHU shall be able to operate in any of the occupancy modes.
 - 2. When the system enable point is off, all fans will be off, OA dampers shall close, and return air dampers shall open. Cooling coil valves should be closed. Heating coil shall be controlling.
- B. Scheduled Occupancy: BAS shall determine the occupancy modes (occupied, unoccupied, pre-occupancy, and setback) as defined. The following details the common control aspects related to the scheduled occupancy. The BAS shall display the applicable mode on the AHU graphics Reference the BAS control specifications (graphics) for more information on how this should be displayed.
 - a. Occupied Period: [Determined by Schedule] BAS shall energize the AHU during all occupied periods. Minimum OA flow set-point shall be as scheduled on the drawings. Occupied space setpoints shall apply for the connected terminal units.
 - b. Unoccupied Period: [Determined by Schedule] BAS shall deenergize the unit. OA damper position shall be 0% and OA flow setpoint shall be 0 CFM. If during the unoccupied period if there is a request for occupancy override, the occupancy mode shall become active for an adjustable period. Unoccupied space setpoints shall apply for the connected terminal units.
 - c. Setback Period (Night Heating / Night Cooling): [Determined by Temperatures in Unoccupied] During unoccupied period, the BAS shall deenergize the unit except as required to maintain a setback tempera-

- ture. The AHU controller shall poll the temperature of associated VAVs every 5 minutes to determine: If [10%] of the VAV boxes are above the Cooling Setback Setpoint plus half Setback Deadband, or are below the Heating Setback Setpoint minus half Setback Deadband, the AHU shall be energized until all VAV boxes meet the temperature setpoints associated plus/minus half of the setback deadband (Setback Deadband shall be assigned a value of 3°F initially). Variables should be setup for “Boxes above Cooling Setback”, “Boxes below Heating Setback”, “Average VAV space temp”, and “Min VAV space temp”, “Max VAV space temp.” If during the setback period if there is a request for occupancy override, the occupancy mode shall become active for 2 hr (adj).
- d. Preoccupancy (Morning Warm Up / Cool Down): BAS shall energize the AHU continuously during the preoccupancy period. OA flow setpoint shall be 0 CFM. Occupied space setpoints shall apply for the connected terminal units.
- C. Supply Fan: BAS shall control the starting and stopping of the supply fan as follows:
1. Start/Stop: BAS shall command the operation of the supply fan and it shall run continuously whenever the AHU is “energized” as specified in the occupancy modes.
 2. Proof: BAS shall prove fan operation and use the status indication to accumulate runtime. Upon failure of the fan, BAS shall enunciate an alarm.
 3. VFD Control: Whenever the fan is energized, BAS shall control the speed of the VFD to maintain the supply duct static pressure setpoint. On start and stop, the VFD shall ramp to speed and slow down within adjustable acceleration and deceleration limits.
 4. [Optional] Supply Air Static Pressure Setpoint (Reset Control): Reset duct static pressure set point(s) higher or lower between maximum and minimum set points based on BAS optimization logic that uses the terminal unit air damper positions.
 - a. When the AHU is first energized, the initial static pressure setpoint shall be [1.25”]. The final setpoints shall be recommended by the TAB Contractor and approved by the Engineer.
 - b. Setpoint shall be reset between the limits of [0.5”] (adj) to [2”] (adj). The final setpoints shall be recommended by the TAB Contractor and approved by the Engineer.
 - c. BAS shall utilize a Sample and Bump output strategy or other similar loop output or logic to reset the static setpoint. The set point(s) shall be increased/decreased to maintain all terminal damper positions between 90% (adj.) and 95% (adj.). The set points(s) shall be adjusted every 10 minutes (adj.) by a 0.05 “WC (adj.) increment/decrement.
 5. VFD Interface: BAS shall monitor the VFD via a direct interface. All available information shall be accessible via the interface for display on the VFD graphic. The VFD Alarm point shall be displayed on the main graphic and shall be alarmed via the BAS. All other points may be displayed on a separate graphic

that is selected from this system's graphic. Reference the VFD chart on the project plans for additional information on points that should be hardwired versus integrated through a direct interface.

6. Freeze Safety: The freezestat shall be manual reset. Upon a signal from the freezestat, the supply air fan shall stop.
7. VFD Interface: BAS shall monitor the VFD via a direct interface. All available information shall be accessible via the interface for display on the VFD graphic. The VFD Alarm point shall be displayed on the main graphic and shall be alarmed via the BAS. All other points may be displayed on a separate graphic that is selected from this system's graphic. Reference the VFD chart on the project plans for additional information on points that should be hardwired versus integrated through a direct interface.
8. Freeze Safety: The freezestat shall be manual reset. Upon a signal from the freezestat, the return air fan shall stop.

D. Outside Air Damper, Single Damper:

1. When AHU is in Unoccupied or Setback modes the outside air dampers position shall be commanded closed. The outside air flow setpoint shall be set to (and display) 0 CFM.
2. When AHU is in Occupied or Preoccupancy modes the outside air damper position shall be controlled to meet an airflow setpoint unless economizer is available.
 - a. Preoccupancy: OA flow setpoint will be 0 cfm which will close the OA damper unless economizer is available.
 - b. Occupied: OA flow setpoint will be determined by demand control ventilation logic unless economizer is available or the preheat temperature low limits are reached.
 - 1) Demand Control Ventilation: The OA flow setpoint shall be set to "Minimum OA flow setpoint" and "Reduced minimum OA flow setpoint" based on RA CO2 reading.
 - a) When the RA CO2 sensor value is below the RA CO2 low setpoint (600 ppm-adj.) for 30 min. (adj), the OA flow setpoint shall be set to the "Reduced Minimum OA flow setpoint".
 - b) When the RA CO2 sensor value is above the RA CO2 high setpoint (1000 ppm-adj.) for 15 min. (adj.), the OA flow setpoint shall be set to the "Minimum OA flow setpoint."
 - c) The minimum OA and reduced OA ventilation (50% of min OA) requirements shall be specified by the engineer, damper positions established by the air balancer, and BAS programmed by the BAS contractor. Engineer shall ensure that specified minimum and reduced mini-

imum damper position setpoints are adequate to maintain building pressure slightly positive at all times.

- c. Airside Economizer: When economizer is enabled, it shall have priority over the damper position and CO2 control shall not be active. Economizer mode shall remain typical as a PI or PID Loop and be controlled as follows:
 - 1) Economizer mode shall be enabled while:
 - a) The unit is energized, and supply air fan status has been proven for at least 15 seconds (adj.).
 - b) AND, when outside air temperature falls below 60°F (adj.) for 15 minutes
 - c) AND, when outside air temperatures are above 45°F (adj.)
 - d) AND, when outside air enthalpy is less than 26 BTU/lb
 - 2) Economizer mode shall be disabled when:
 - a) when outside air temperature rises above 60°F for 15 minutes
 - b) OR, when outside air temperatures are below 45°F (adj.)
 - c) OR, when outside air enthalpy is greater than 27 BTU/lb
 - 3) Economizer shall modulate the outside damper shall modulate per the higher of
 - a) A direct acting PID loop maintaining the mixed air temperature setpoint. The mixed air setpoint shall be equal to the discharge air temperature setpoint (specified herein) minus 3°F (adj.)
 - b) Minimum outside air flow using the Reduced Minimum OA flow setpoint.
 - d. Preheat Air Low Limit: BAS shall override the signal to the OA damper via a proportional only loop to maintain a minimum preheat temperature. The maximum allowed output of the OA dampers shall drop from 100% to 0% as the preheat air temperature drops from 47°F to 42°F (all values being adjustable).
3. Freeze Safety: Upon a signal from the freezestat, the OA dampers will close.
- E. Outside Air Dampers (Economizer Damper and Minimum OA Damper):
- 1. Economizer Damper:

- a. When AHU is in Unoccupied or Setback modes Minimum OA damper position shall be commanded closed. The minimum outside air flow setpoint shall be set to (and display) 0 CFM.
- b. When AHU is in Occupied or Preoccupancy modes the Economizer damper position shall be controlled to meet a mixed air temperature setpoint as follows:
 - 1) Airside Economizer: Economizer mode shall remain typical as a PI or PID Loop and be controlled as follows:
 - a) Economizer mode shall be enabled while:
 - (1) The unit is energized, and supply air fan status has been proven for at least 15 seconds (adj.).
 - (2) AND, when outside air temperature falls below 60°F (adj.) for 15 minutes
 - (3) AND, when outside air temperatures are above 45°F (adj.)
 - (4) AND, when outside air enthalpy is less than 26 BTU/lb
 - b) Economizer mode shall be disabled when:
 - (1) when outside air temperature rises above 60°F for 15 minutes
 - (2) OR, when outside air temperatures are below 45°F (adj.)
 - (3) OR, when outside air enthalpy is greater than 27 BTU/lb
 - c) Economizer damper shall modulate per a direct acting PID loop maintaining the mixed air temperature setpoint. The mixed air setpoint shall be equal to the discharge air temperature setpoint (specified herein) minus 3°F (adj.)
2. Minimum OA Damper:
 - a. When AHU is in Unoccupied or Setback modes Minimum OA damper position shall be commanded closed. The minimum outside air flow setpoint shall be set to (and display) 0 CFM.
 - b. When AHU is in Occupied or Preoccupancy modes the minimum OA damper position shall be controlled to meet an airflow setpoint unless economizer is available.
 - 1) Preoccupancy: OA flow setpoint will be 0 cfm which will close the OA damper unless economizer is available.

- 2) Occupied: OA flow setpoint will be determined by demand control ventilation logic unless economizer is available or the pre-heat temperature low limits are reached.
 - a) Demand Control Ventilation: The OA flow setpoint shall be set to “Minimum OA flow setpoint” and “Reduced minimum OA flow setpoint” based on RA CO2 reading.
 - (1) When the RA CO2 sensor value is below the RA CO2 low setpoint (600 ppm-adj.) for 30 min. (adj), the OA flow setpoint shall be set to the “Reduced Minimum OA flow setpoint”.
 - (2) When the RA CO2 sensor value is above the RA CO2 high setpoint (1000 ppm-adj.) for 15 min. (adj.), the OA flow setpoint shall be set to the “Minimum OA flow setpoint.”
 - (3) The minimum OA and reduced OA ventilation (50% of min OA) requirements shall be specified by the engineer, damper positions established by the air balancer, and BAS programmed by the BAS contractor. Engineer shall ensure that specified minimum and reduced minimum damper position setpoints are adequate to maintain building pressure slightly positive at all times.
 - b) Economizer: When economizer is enabled, the Minimum OA damper shall modulate per the higher of
 - (1) Economizer Damper Control position
 - (2) Minimum outside air flow using the Reduced Minimum OA flow setpoint.
 - c) Preheat Air Low Limit: BAS shall override the signal to the OA damper via a proportional only loop to maintain a minimum preheat temperature. The maximum allowed output of the OA dampers shall drop from 100% to 0% as the preheat air temperature drops from 47°F to 42°F (all values being adjustable).
3. Freeze Safety: Upon a signal from the freezestat, the OA dampers will close.
- F. Return Air Damper: BAS shall modulate the Return damper inversely proportional to the Outside Air damper
- G. Discharge Temperature: The discharge temperature setpoint shall be set to the lower of the following:

1. The BAS shall utilize one of the two following methods of reset:
 - a. Outside air temperature reset: The upper and lower limits of this reset setpoint shall be 62°F and 55°F (both adjustable), respectively. Based on outside air temperature, the discharge air setpoint shall be linearly reset to the indicated values (all adjustable).

Outside Air Temperature	Discharge Air Temperature
50 F	62 F
70 F	55 F

- b. BAS shall utilize a Sample and Bump output strategy or other similar loop output or logic to reset the discharge air temp setpoint. The upper and lower limits of this reset setpoint shall be 62°F and 55°F (both adjustable), respectively. The initial setpoint shall be 55 F. The setpoint(s) shall be increased/decreased to maintain the average terminal box cooling demand loop to between 80 [adj] and 90 [adj]. The setpoint(s) shall be adjusted every 10 minutes [adj] at a 0.1 °F [adj] increment. This feature shall be able to be enabled/disabled with a GUI toggle.
2. A dehumidification loop shall be a Proportional only loop output reset from 62 °F to 55°F (adj.) as the return air humidity rises from 55% to 65% (both adjustable).

Return Air Humidity	Discharge Air Temperature
55% RH	62 F
65% RH	55 F

3. The resultant temperature output after passing through the two loops (as described above) shall be the effective discharge temperature setpoint. Both loop outputs shall be assigned to a point. Discharge temp setpoint value shall be trended, alarmed (vs actual temperature) and shown on the BAS graphic

H. Preheating Section:

1. HW Heating Valve: Valve shall modulate per the higher of
 - a. a PID loop to maintain a leaving coil temperature at 52°F (adj.), and
 - b. a proportional only loop that is reset from 0 to 100% as the preheat air temperature drops from 48°F (adj.) to 40°F (adj.).

Heating Loops shall remain active even when the AHU is not enabled.

2. Freeze Condition: The freezestat shall be manual reset. Upon a signal from the freezestat, the HW valve shall be commanded to 100% open (adj.)
- I. Cooling Section:
 1. Cooling Coil Valve: Whenever the AHU is energized and status is proven ON, N.C. cooling coil valve shall modulate via a direct acting PID loop to maintain discharge temperature at setpoint.
 2. During setback or morning warm-up modes, the ChW valve shall remain closed.
 3. Whenever the unit is energized and the economizer mode is active, the chilled water valve shall remain closed unless the economizer dampers have been commanded to full open.
 4. Freeze Condition: The freezestat shall be manual reset. Upon a signal from the freezestat the ChW valve shall be commanded to 100% open (adj.)
- J. Occupancy Override: When the Occupancy Override button on any of the room sensors is depressed momentarily, the unit shall be indexed to the Occupied period for 120 min. (adj.)
- K. Freeze Safety: The freezestat shall be manual reset. Upon a signal from the freezestat, the supply air and return air fans shall stop, the OA & EA dampers will close, the RA damper will open and the heating water and chilled water control valves at the air handling unit shall open fully.
- L. Smoke/Fire Safety: Upon indication of smoke or fire by the Fire Alarm system (via a relay provided by the FAS contractor), the BAS shall deenergize the AH via a hard wired interlock. All dampers shall revert to their normal "Off" positions unless specifically indicated otherwise. The BAS shall enunciate the appropriate alarm; then remove and lock out the unit start command until the alarm condition is cleared.
- M. High or Low Pressure Safety: Upon activation of a high or low pressure safety switch, AH shall be deenergized via a hard wired interlock and an indication of the operation shall be indicated at the BAS. The BAS shall enunciate the appropriate alarm; then remove and lock out the unit start command until the alarm condition is cleared.

3.03 SINGLE DUCT VAV BOX WITH REHEAT CONTROL

- A. General: Control shall be pressure independent with minimum, maximum and heating maximum flow setpoints, scheduled occupancy with optimum preoccupancy.
- B. Space Temperature Control: Four setpoints shall apply. Normal Heating (70°F adj.), Normal Cooling (74°F adj.), Setback Heating (68°F (adj.)), and setback cooling (78°F). These three values shall be the only values changed by the operator to adjust space temperature setpoint. All other deadbands, differentials, etc. shall be calculated in the program logic (unless another means is provided to prohibit overlap of the heating and cooling loops and ensure a dead band such as function block templates that restrict the setpoint input).

- C. Zone Damper: Zone damper shall modulate in a PI loop to maintain zone volume setpoint.
 - 1. Cooling: The zone volume setpoint shall be reset between the minimum and the cooling maximum volume settings to maintain the space temperature at the cooling space temperature setpoint via a PID loop output. The zone volume setpoint shall be reset linearly between the minimum and cooling maximum volume setpoints as the loop output increases from 0 to 100%.
 - 2. Heating: The zone volume setpoint shall be reset between the minimum and the heating maximum volume settings to maintain the space temperature at the heating space temperature setpoint via a PID loop output. Note that a common space heating PID loop output will be used to reset the zone volume setpoint (in the heating mode) and the HW reheat valve (see below). The zone volume setpoint shall be reset linearly between the minimum and heating maximum volume setpoints as the loop output increases from 25 to 100% (adj.).
 - 3. Dead band: When the space temperature is between the effective space temperature heating and cooling setpoints (heating and cooling PID outputs are both at 0%), the zone volume setpoint shall remain at the minimum flow setpoint.
 - 4. Zone Volume flow setpoints shall be as scheduled on the drawings.

- D. Hydronic Reheat: Zone reheat coil valve shall modulate in a PID loop output (same loop output that resets the volume setpoint in the heating mode) to maintain the space temperature at the heating setpoint as defined above. The valve shall modulate from 0 to 100% on a PID loop output of 0-75% (adj.). The valve shall be closed whenever ALL the parent air units is off.

- E. Reports:
 - 1. Configure a tabular report using real-time data with the following column headings: VAV TERMINAL DESCRIPTION, ZONE TEMPERATURE, ZONE TEMPERATURE SETPOINT, PRIMARY AIR FLOW, PRIMARY AIR FLOW SETPOINT, DAMPER POSITION (0 to 100% open), REHEAT OUTPUT (0 to 100% heating), DISCHARGE AIR TEMPERATURE.
 - 2. At the top of the table, list building number, floor or area description if applicable, parent air handling unit designation, air handling unit downduct static pressure and air handler discharge air temperature.
 - 3. Reference the requirements for summary service screens in the Controls (graphics section) specification for additional information.

3.04 AIR COOLED CHILLER WITH VARIABLE PRIMARY PUMP

- A. General: BAS shall fully control the chilled water systems and equipment and provide monitoring and diagnostic information for management purposes. BAS shall interface directly with the chiller and all available points shall be monitored and displayed via the operator interface. Refer to the control diagram for additional information.
 - 1. Chilled Water System Enable: Cooling shall be enabled when

- a. Any chilled water valve opens more than 20% continuously for 5 min. (adj.)
- b. AND, the outside air temperature is above 60°F (adj.).

Once enabled, the chilled water system will operate for a minimum of 30 minutes. The chilled water system shall also be enabled whenever manually enabled by the operator at the operator interface.

- 2. Chilled Water System Disable: Cooling shall be disabled when all chilled water valves are less than 5% open continuously for 10 min. (adj.) or the outside air temperature is below 60°F. The chilled water system shall also be disabled whenever manually disabled by the operator at the operator interface.

B. Primary CHW Pump

- 1. The primary pump shall be started via an output from the internal chiller controls whenever the associated chiller is enabled.
- 2. BAS shall monitor the pump status.
- 3. VFD Control: Whenever a pump is energized the BAS shall control the speed of the VFD to maintain the a 12 deg temperature differential between chilled water supply and chilled water return temperatures.

C. Chiller Control

- 1. Enable/Disable: Whenever the Chilled Water System is enabled, AND Either Secondary pump is proven the Chiller shall be enabled after a 1 minute delay (adj.).
- 2. Proof/ Failure assessment: Whenever the chiller is in alarm, the BAS shall enunciate an alarm. BAS shall assess the chiller to be in alarm if:
 - a. chiller status is not proven ON in the first 10 minutes after the chiller is initially enabled.
 - b. OR, any time the chiller alarm point is ON.
- 3. Chilled Water Supply Temperature Reset
 - a. The chiller water supply temperature setpoint via an analog output from the building automation system to boiler.
 - b. The reset shall be as follows:

Outside Air Temperature	Chilled Water Supply Temperature
60 F	55 F
75 F	44 F
Dehum Mode	44 F

3.05 EXHAUST FANS

A. Restroom exhaust fans:

1. Enable/Disable: Exhaust fans should be set up on the AHU schedule and shall be enabled while the building is occupied and disabled when the building is unoccupied, in setback or in preoccupancy.

3.06 LIGHTING SEQUENCE OF OPERATION

A. Interior

1. The interior lights will be set up on a separate schedule.
2. Unless otherwise specified, the schedule will be set up for 2 hours before and 2 hours after scheduled public hours. Confirm schedule with County.

B. Exterior

1. The exterior lights (those that are attached to the building – ie: sconce-type located above entranceways) will be energized at sundown.
2. The lights will be de-energized at sunrise.

- C. Occupancy Override: When the Occupancy Override button on any of the room sensors is depressed momentarily, interior lighting shall be energized for a period for 120 min. (adj.)

END OF SECTION 230993

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SEALS



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01.29.2024

PROJECT

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REVISIONS

No.	Description	Date
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PROJECT DATA

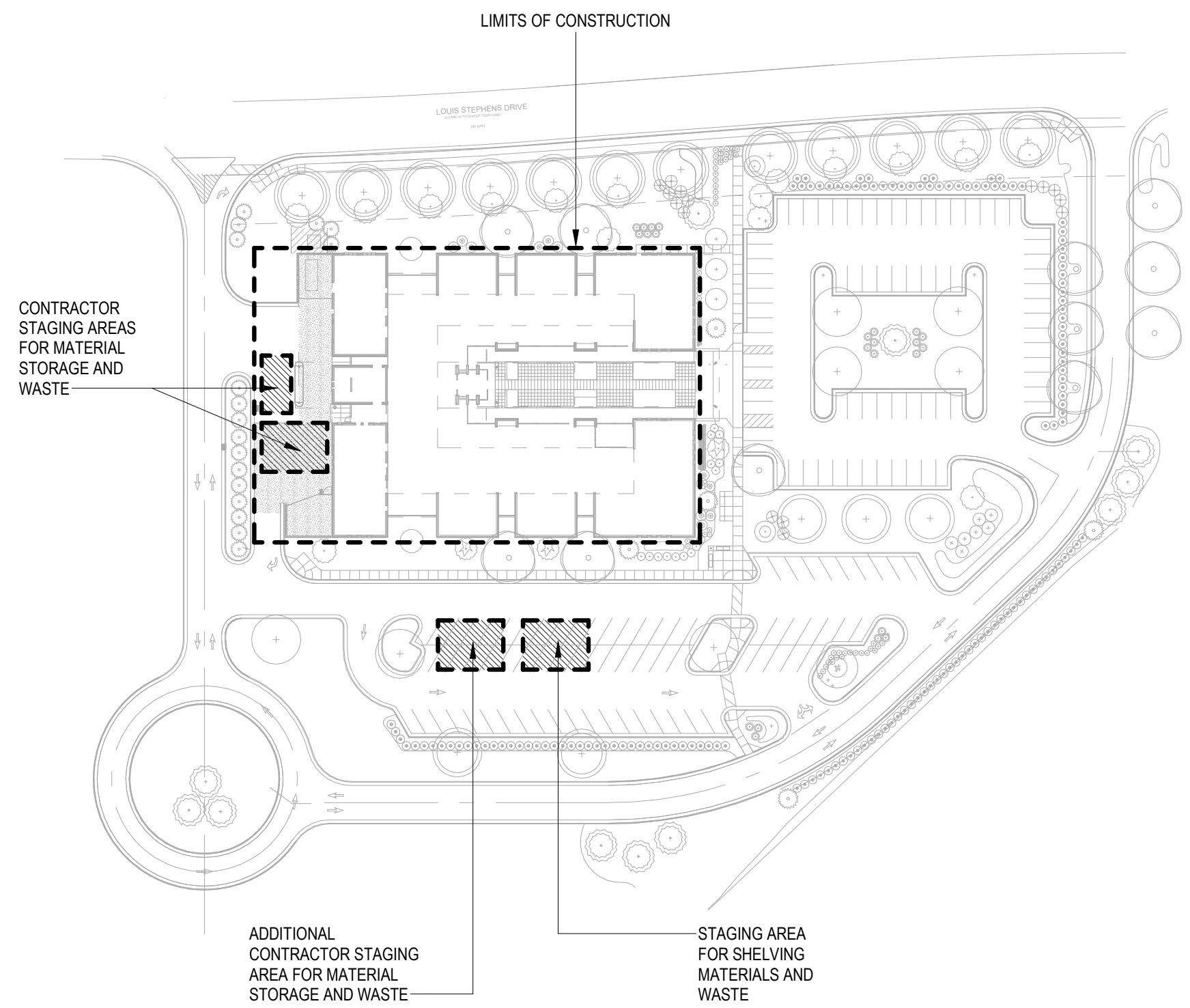
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CHECKED: EMBT
PROJECT NO: 2023_0030
PRINTING: PERMIT SET

SHEET DATA

COVER

SHEET NO.

G000



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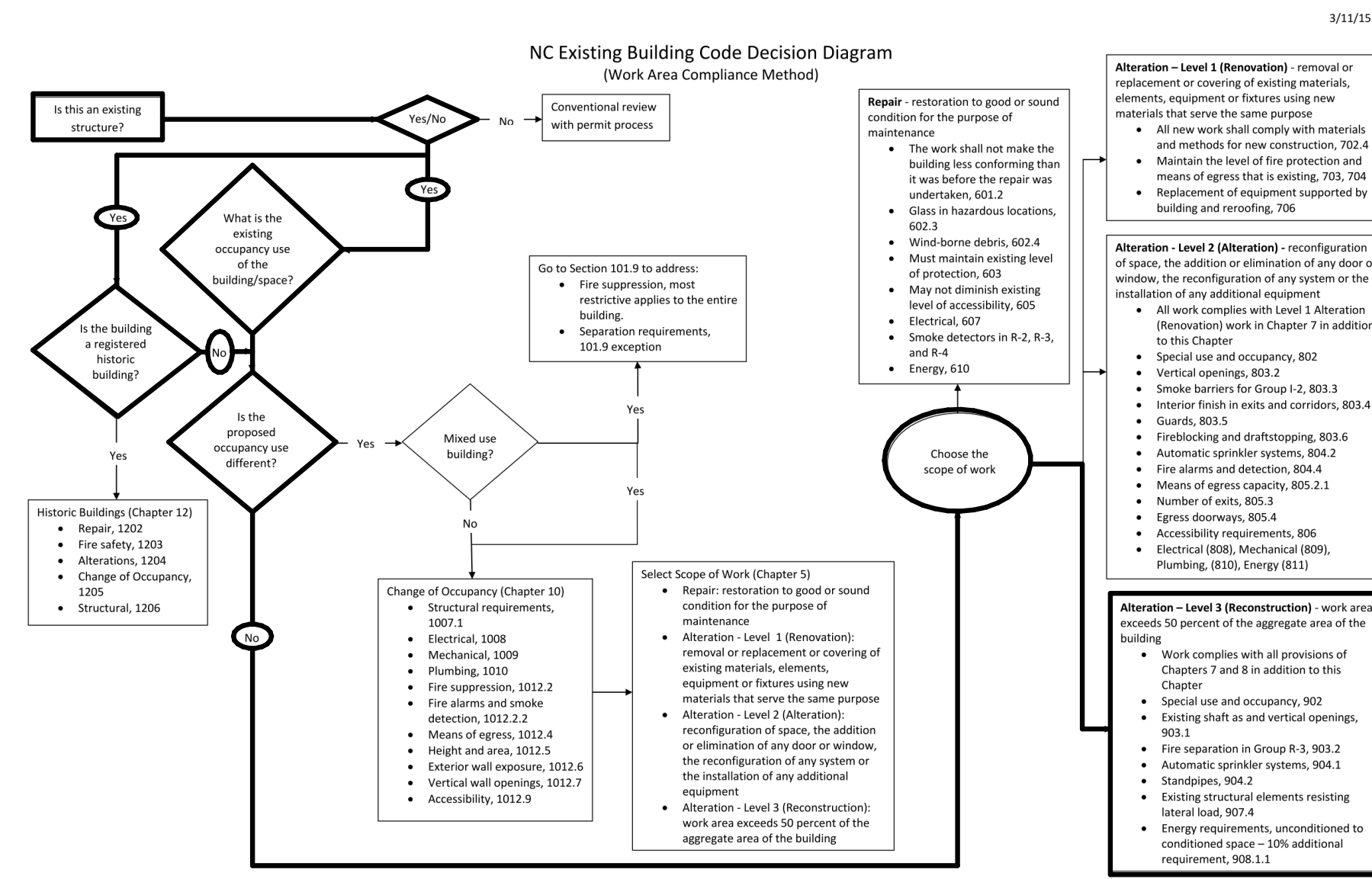
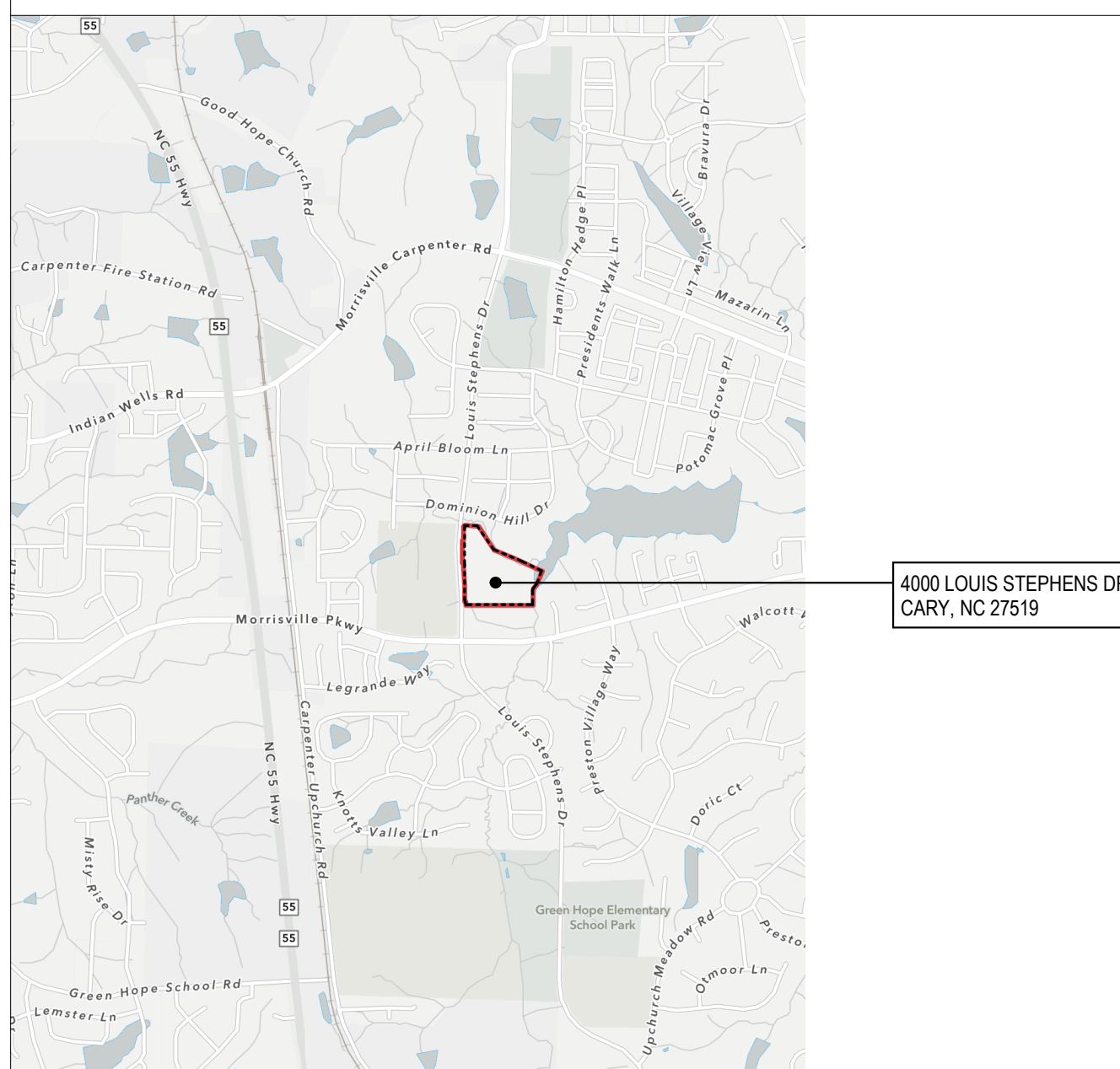
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MECHANICAL/PLUMBING CONTACT: PAUL ROMITI
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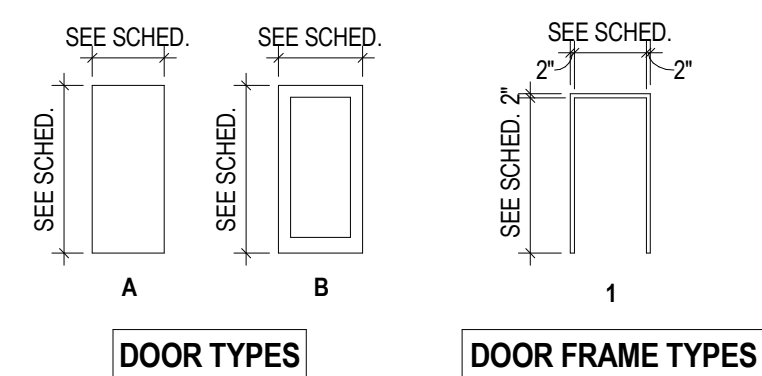
SHEET INDEX

- G000 COVER
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- G002 CODE SUMMARY
- G003 LIFE SAFETY PLANS
- G004 UL DETAILS
- G005 WALL LEGEND & DOOR SCHEDULE
- D101 DEMOLITION PLAN
- D102 DEMOLITION REFLECTED CEILING PLAN
- A101 FLOOR PLAN
- A111 REFLECTED CEILING PLAN
- A121 FINISH PLAN
- A201 BUILDING ELEVATIONS
- A202 BUILDING ELEVATIONS
- A401 ENLARGED PLANS, INT. ELEV. & DETAILS
- A402 ENLARGED PLANS, INT. ELEV. & DETAILS
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- E001 ELECTRICAL LEGEND
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- E201 POWER PLAN
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- E400 ELECTRICAL POWER RISERS
- E500 ELECTRICAL DETAILS
- E501 ELECTRICAL DETAILS
- E600 PANEL SCHEDULES
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- FA200 FIRE ALARM NEW WORK
- FA400 FIRE ALARM RISER AND MATRIX
- FA401 FIRE ALARM DETAILS
- SEC200 SECURITY NEW WORK
- SEC400 SECURITY DETAILS

VICINITY MAP

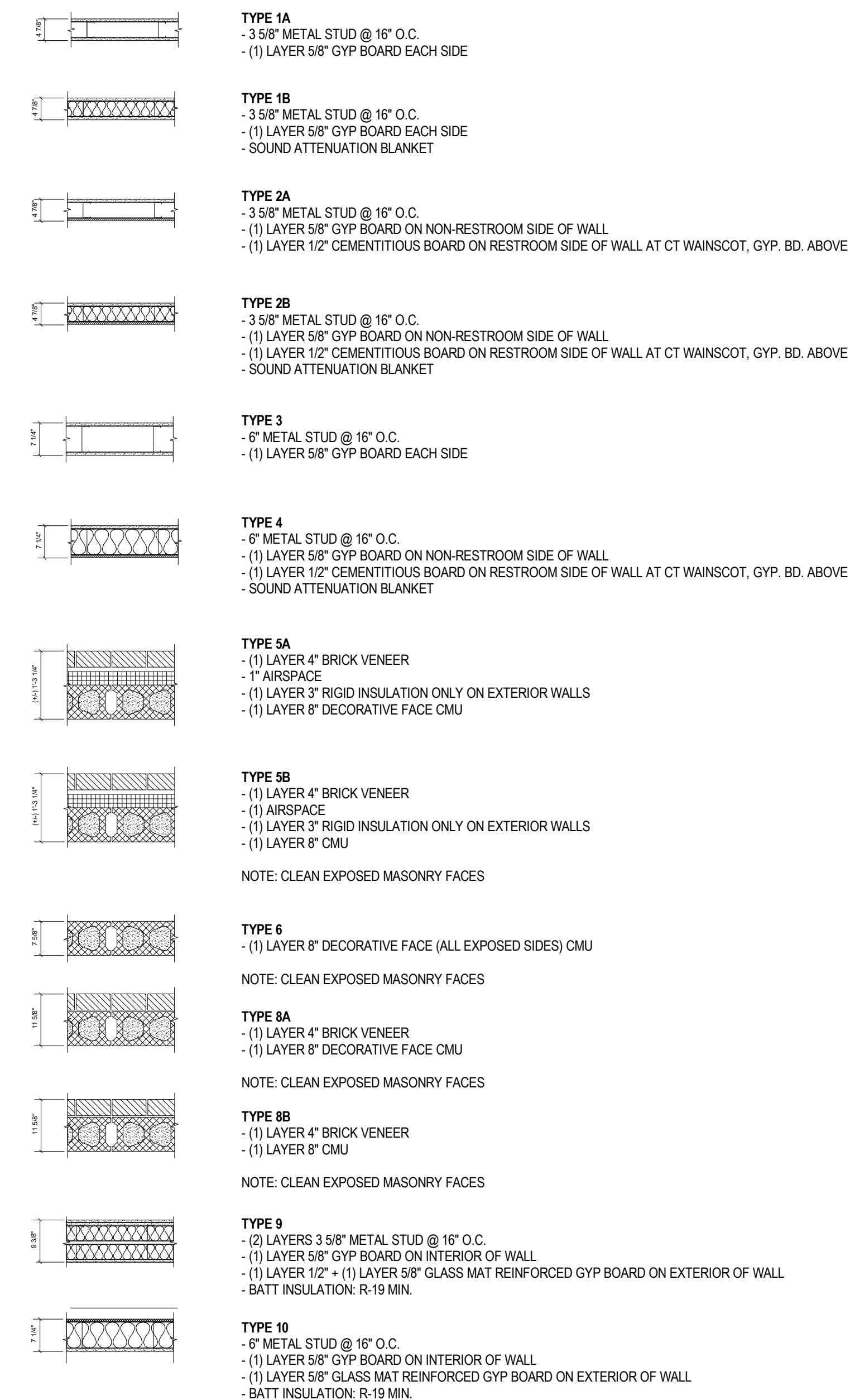


DOOR NUMBER	TO ROOM: NAME	DOOR				FRAME		FINISH DESCRIPTION	FIRE RATING IN MINUTES	HARDWARE SET	NOTES
		TYPE	WIDTH	HEIGHT	MATERIAL	TYPE	MATERIAL				
110	YOUTH SERVICES	B (EXISTING, NO CHANGE)	3'-0"	7'-10"	ALUM., GLASS	STOREFRONT	ALUMINUM (EXISTING, NO CHANGE)	CLEAR ANODIZED (EXISTING, NO CHANGE)	-	EXISTING PANIC HARDWARE TO REMAIN. ADD CARD READER	THE ONLY WORK ON THIS EXISTING DOOR IS PROVIDING A NEW CARD READER.
111		14	3'-0"	6'-0"							
112		14	3'-0"	6'-0"							
113B	YOUTH PROGRAM ROOM	A (EXISTING, NO CHANGE)	3'-0"	7'-10"	SOLID CORE WOOD & GLASS (EXISTING, NO CHANGE)	STOREFRONT	ALUMINUM (EXISTING, NO CHANGE)	CLEAR ANODIZED (EXISTING, NO CHANGE)	-	CLASSROOM LOCK LEVER	THE ONLY WORK ON THIS EXISTING DOOR IS CHANGING THE LEVER HARDWARE. TURN OVER OLD LOCKSET TO OWNER.
113C	YOUTH PROGRAM ROOM	B (EXISTING, NO CHANGE)	3'-6"	7'-10"	SOLID CORE WOOD & GLASS (EXISTING, NO CHANGE)	STOREFRONT	ALUMINUM (EXISTING, NO CHANGE)	CLEAR ANODIZED (EXISTING, NO CHANGE)	-	CLASSROOM LOCK LEVER	THE ONLY WORK ON THIS EXISTING DOOR IS CHANGING THE LEVER HARDWARE. TURN OVER OLD LOCKSET TO OWNER.
113D	STAFF WORKROOM - A	A	3'-0"	7'-10"	SOLID CORE WOOD	1	HOLLOW METAL	PREFINISH: STAIN & SHEEN TO MATCH EXISTING DOORS, PAINT FRAME TO MATCH W12 - SEE FINISH SCHEDULE	-	CLASSROOM LOCK LEVER	
125AA	BOOK RETURN	A	3'-0"	7'-10"	SOLID CORE WOOD	1	HOLLOW METAL	PAINT DOOR & FRAME TO MATCH SURROUNDING GWB WALL COLOR	3/4 HR	180 DEGREE DOOR CLOSER, PASSAGE LEVER, 36" PROTECTION PLATE ON PUSH SIDE	
125AB	BOOK RETURN	A	3'-0"	7'-10"	SOLID CORE WOOD	1	HOLLOW METAL	PAINT DOOR & FRAME TO MATCH SURROUNDING GWB WALL COLOR	3/4 HR	180 DEGREE DOOR CLOSER, PASSAGE LEVER, 36" PROTECTION PLATE ON PUSH SIDE	

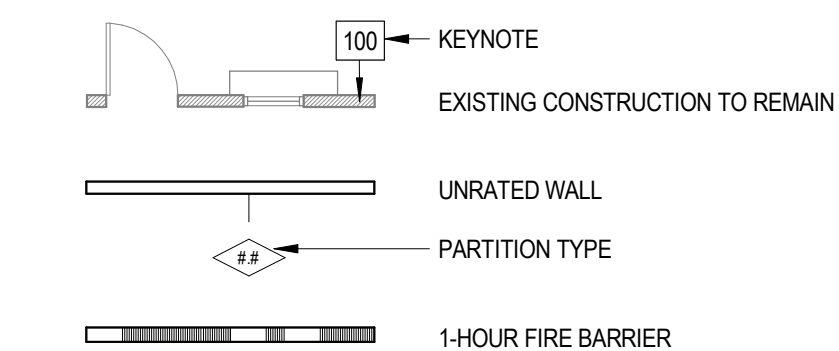


- NOTES:
 1. SEE SECTION 087100 FOR DOOR HARDWARE SCHEDULE
 2. SEE PREFERRED ALTERNATE NO. A FOR PREFERRED DOOR HARDWARE BRANDS

EXISTING WALL TYPES - NOT TO SCALE

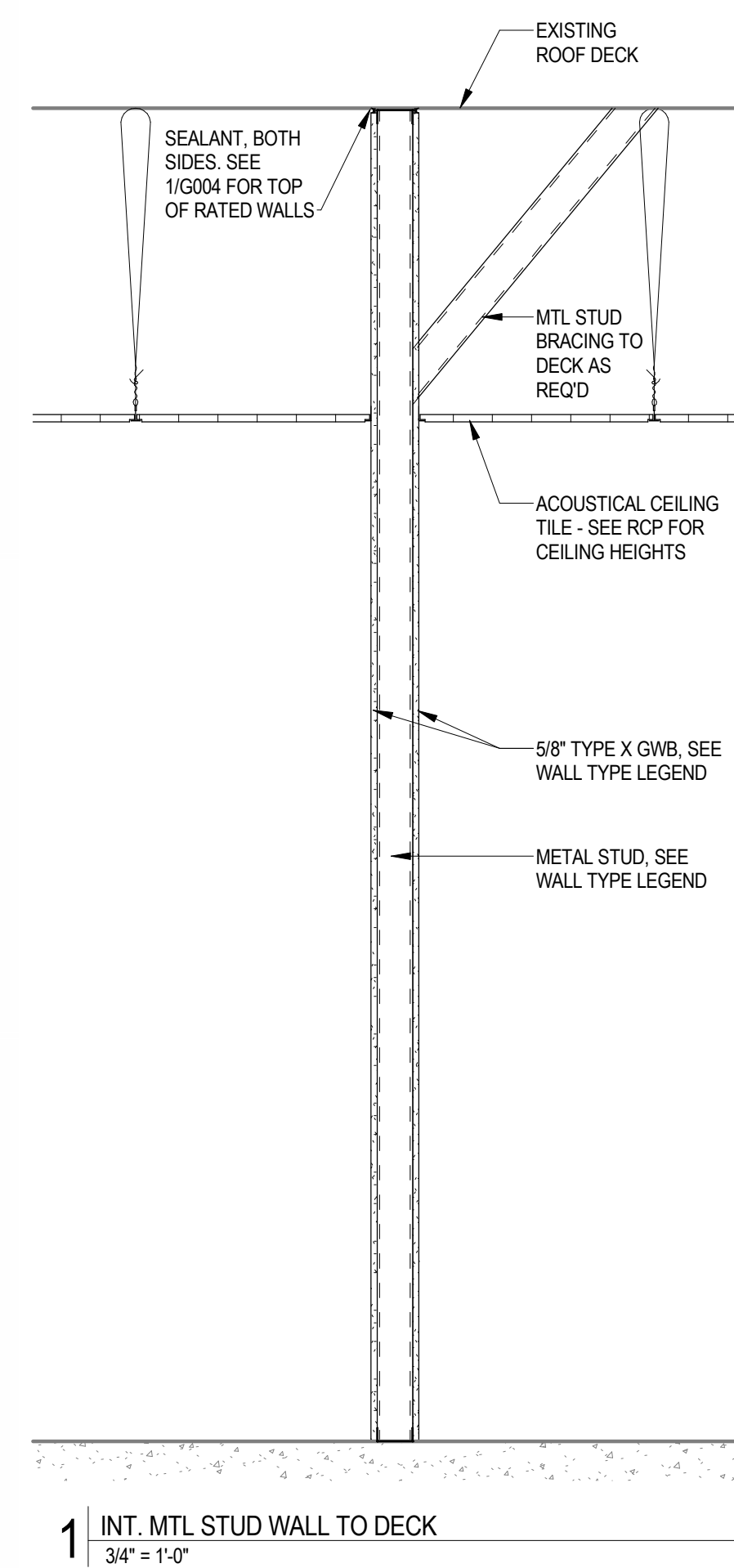


PARTITION LEGEND

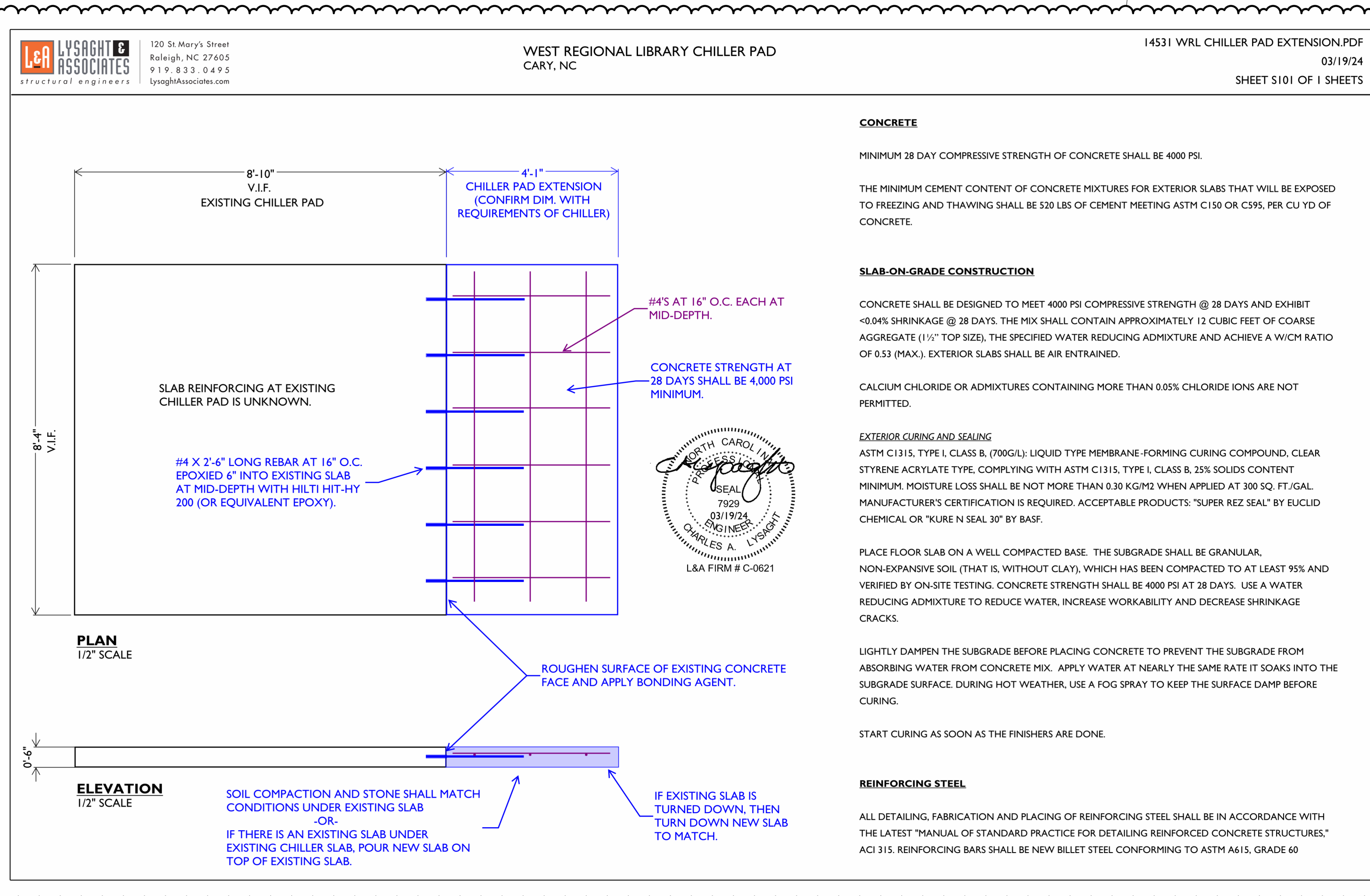


INTERIOR PARTITION TYPES

WALL TAG	DESCRIPTION	CONSTRUCTION		HEAD DETAIL / UL	BASE DETAIL / UL	PLAN IMAGE (NTS)	FIRE PROTECTION	
		THICKNESS	HEIGHT				RATING	UL #
2.3	5/8" TYPE X GWB EA. SIDE, 3-5/8" MTL STUDS @ 16" O.C.	4 7/8"	7'-0"	-	-		0	N/A
2.6R1	5/8" TYPE X GWB EA. SIDE, 6" MTL STUDS @ 16" O.C. W/ 5-1/2" SOUND BATTS	7 1/4"	TO DECK	1/G004	BW-S-0001		1 HOUR	U419



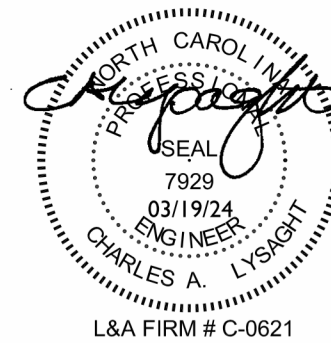
1 INT. MTL STUD WALL TO DECK
 3/4" = 1'-0"



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SEALS



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 01.29.2024

PROJECT

WEST REGIONAL LIBRARY RENOVATION
 4000 LOUIS STEPHENS DR.
 CARY, NC 27519

REVISIONS

No.	Description	Date
1	ADDENDUM NO. 2	3.21.2024

PROJECT DATA

DATE: 01.29.2024
 DRAWN: LP
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SHEET DATA

WALL LEGEND & DOOR SCHEDULE

SHEET NO.

G005

FLOOR PLAN / REFLECTED CEILING PLAN GENERAL NOTES

- 1-1. THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.
- 1-2. THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OWNERS VENDORS INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATIONS, AUDIO/VISUAL AND SECURITY SYSTEMS. ANY CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS AND THE OWNERS VENDORS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.
- 1-3. EXISTING CONDITIONS FOR THE BUILDING AND/OR SITE AS REPRESENTED IN THE CONTRACT DOCUMENTS ARE NOT GUARANTEED. PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION, THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INVESTIGATING AND VERIFYING THE EXISTENCE AND LOCATION OF EXISTING CONSTRUCTION AFFECTING THE WORK INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, EXISTING BUILDING SYSTEMS, FLOOR ELEVATIONS, AND OTHER STRUCTURAL OR BUILDING DATUMS.

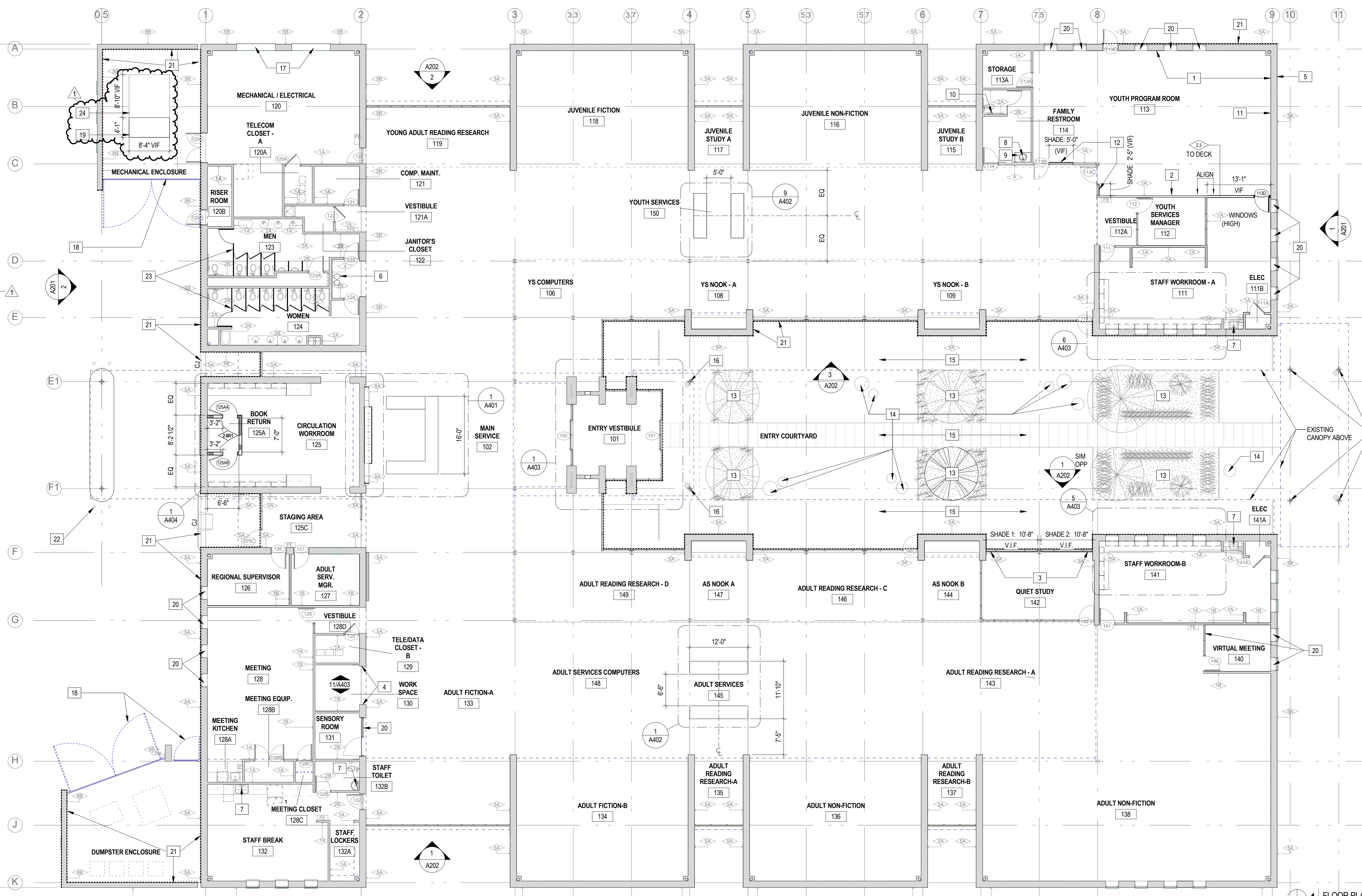
- 2-1. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED.
- 2-2. WALLS SHOWN TO ALIGN ARE TO HAVE FINISHED FACES ALIGN UNLESS NOTED OTHERWISE.
- 2-3. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
- 2-4. LOCATIONS OF ALL DEVICES AND FIXTURES DIMENSIONED, NOTED OR OTHERWISE DESCRIBED ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.
- 2-5. ANY DIMENSIONS OF OR TYING INTO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED PRIOR TO COMMENCEMENT OF WORK. VERIFY WITH ARCHITECT.
- 3-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.
- 3-2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND/OR DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION. ANY UTILITY LINES, PIPING, EQUIPMENT, FINISHES, OR ANY OTHER PORTIONS OF THE EXISTING BUILDING OR NEW CONSTRUCTION DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT THE ARCHITECT'S DIRECTION AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR.
- 3-3. THE GENERAL CONTRACTOR IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL- AND CEILING-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, GRAB BARS, CABINETS AND OTHER CASEWORK, EQUIPMENT, OWNER- AND/OR VENDOR-PROVIDED ITEMS, ETC. BLOCKING IS TO BE FIRE-RETARDANT WOOD OR 20ga METAL WITH A FLAME SPREAD AND SMOKE DEVELOPMENT RATING ≤ 25 IF THE PROJECT IS IDENTIFIED AS A TYPE 1 OR TYPE 2 BUILDING IN THE CODE SUMMARY.

- 3-4. CONDUIT, WIRING, OR PIPING SHALL BE ROUTED SUCH THAT IT MAY BE CONCEALED WHEREVER POSSIBLE UNLESS SPECIFICALLY NOTED OTHERWISE. ANY CONDUIT, WIRING, OR PIPING THAT CANNOT BE ROUTED IN A CONCEALED MANNER MUST BE IDENTIFIED BY THE GENERAL CONTRACTOR AND REVIEWED AND COORDINATED WITH ARCHITECT PRIOR TO COORDINATION DRAWINGS (IF REQUIRED) OR INSTALLATION (IF COORDINATION DRAWINGS ARE NOT REQUIRED).
- 3-5. IN AREAS OF HARD CEILING, BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT REQUIRING ACCESS.
- 3-6. ALL FRAMING, SOUND ATTENUATION, AND GYP BOARD FOR NON-RATED SOUND-ATTENUATED WALLS SHALL CONTINUE TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, DUCT, OR WIRING PENETRATIONS SHALL BE SEALED AS DESCRIBED ABOVE.
- 3-7. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ACT CEILING GRIDS SHALL BE CENTERED WITHIN EACH ROOM OR SPACE WITH NO CUT PERIMETER TILES TO BE 6.

- 3-8. ALL ELECTRICAL, CATV, AND TELEDATA OUTLETS TO MATCH EXISTING HEIGHT ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL FIXTURES AT KITCHEN COUNTERTOPS AND BATHROOM VANITIES TO BE LOCATED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL SWITCHES, THERMOSTATS, AND OTHER CONTROL DEVICES TO BE CENTERED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
- 3-9. UNLESS DIMENSIONED OR OTHERWISE NOTED, SET THE NEAREST EDGE OF SWITCH-PLATES 24" FROM THE CENTER OF DOOR OPENINGS. AT ALL LOCATIONS WHERE MULTIPLE SWITCHES ARE SHOWN, THEY SHOULD BE GANGED UNLESS SPECIFICALLY NOTED OTHERWISE. IN ANY LOCATIONS WITH MULTIPLE DEVICES (ELECTRICAL OUTLETS, ELECTRICAL SWITCHES, HORN/STROBES, EMERGENCY LIGHTS, ETC), ALL DEVICES ARE TO BE CENTERED ON A VERTICAL AXIS UNLESS SPECIFICALLY NOTED OTHERWISE.
- 3-10. ACOUSTICAL INSULATION NOT SHOWN FOR CLARITY. REFER TO PARTITION TYPES FOR LOCATION OF ACOUSTICAL INSULATION.
- 3-11. ALL HINGE SIDE DOOR JAMBS TO BE LOCATED 4" FROM ADJACENT WALL U.N.O.
- 4-1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS

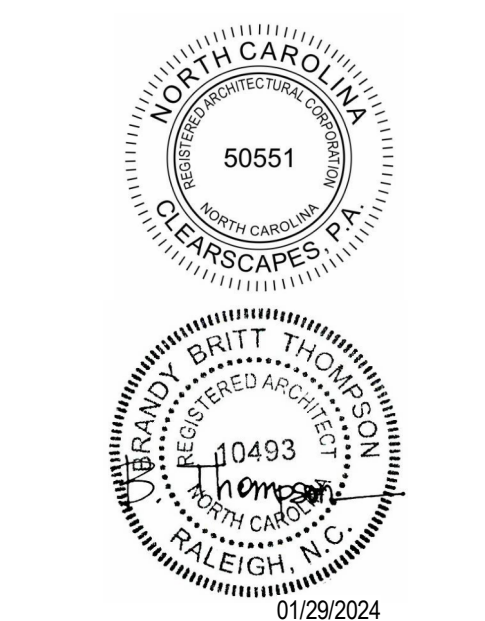
KEYNOTES - FLOOR PLAN

NO.	DESCRIPTION
1	PATCH & REPAIR EXISTING CMU WALL AT LOCATIONS OF DEMOLISHED STAGE BENCH/RAMP. TO MATCH APPEARANCE OF SURROUNDING EXISTING FINISH.
2	PATCH, REPAIR, AND REPAINT EXISTING GWB WALL. PROVIDE LEVEL 5 GWB FINISH UNDER NEW VINYL WALLCOVERING ENTIRE WALL (BOTH EXISTING & NEW PORTIONS).
3	(2) NEW SOLAR ROLLER SHADES, BASIS OF DESIGN: HUNTER DOUGLAS ARCHITECTURAL, GLACIERS SCREEN BASKETWEAVE, 3% OPENING, BEADED LOOP CONTROL, COLOR: WHITE/GREY
4	CLEAN, PATCH, AND REPAIR EXISTING BRICK/CMU WALL AT AREAS OF DEMOLISHED STOREFRONT TO MATCH APPEARANCE OF SURROUNDING EXISTING FINISH.
5	BUILDING EXTERIOR TO BE WASHED, ALL ELEVATIONS TYP. W/ LOW-PRESSURE MILD DETERGENT.
6	NEW WATER COOLER - SEE PLUMBING DRAWINGS. ALTER WALL FRAMING AS NEEDED TO ADJUST EXISTING ROUGH-INS, & REPAIR FINISHES AS REQUIRED.
7	NEW FAUCET ON EXISTING SINK/LAVATORY - SEE PLUMBING DRAWINGS.
8	NEW SINK & FAUCET - SEE PLUMBING DRAWINGS.
9	NEW COUNTER - SEE FINISH PLAN.
10	PROVIDE NEW 18" VERTICAL GRAB BAR. SEE G001, ELEVATION OF ACCESSIBLE WATER CLOSET SIDE FOR MOUNTING LOCATION.
11	REINSTALL EXISTING PROJECTOR SCREEN.
12	NEW PRIVACY ROLLER SHADES, BASIS OF DESIGN: HUNTER DOUGLAS ARCHITECTURAL, GLACIERS SCREEN BASKETWEAVE, 1% OPENING, BEADED LOOP CONTROL, COLOR: WHITE/GREY
13	EXISTING LANDSCAPE BEDS. PROVIDE ALLOWANCE FOR NEW MULCH, WEED REMOVAL, & PRUNING OF EXISTING PLANTINGS.
14	EXISTING ART SCULPTURES.
15	EXISTING CONCRETE PAVEMENT. POWER WASH.
16	EXISTING COLUMN.
17	EXISTING LOUVERED OPENINGS.
18	EXISTING STEEL SCREENING/GATE SYSTEM - PAINT W/ HIGH PERFORMANCE COATING TO MATCH PAINTED ARCHITECTURAL EXPOSED STRUCTURAL STEEL.
19	EXPAND EXISTING CHILLER PAD PER NEW CHILLER DIMENSIONAL REQUIREMENTS. DIMENSIONS SHOWN IN PLAN ARE BASED ON SPECIFIED CHILLER IN MECHANICAL DRAWINGS. VERIFY EXISTING DIMENSIONS. SEE STRUCTURAL DRAWING ON G005 FOR NEW CHILLER PAD DESIGN.
20	EXISTING WINDOW TREATMENTS TO BE REMOVED, STORED, AND REINSTALLED.
21	REPLACE EXISTING JOINT SEALANTS BETWEEN SIDEWALK PAVEMENT AND BUILDING WALLS, INCLUDING MECHANICAL YARDS, TYP. (DOTTED LINE - GC TO CONFIRM EXTENT ON SITE).
22	PROVIDE NEW BOLLARD SLEEVES AT EXISTING BOLLARDS, TYP. BASIS OF DESIGN: RELIANCE FOUNDRY CO. PLASTIC BOLLARD COVER. REPLACE BOLLARDS IF NECESSARY.
23	REPLACE EXISTING TOILET PARTITIONS & URINAL SCREENS IN MEN 123 AND WOMEN 124 - MATCH EXISTING LAYOUT & HEIGHT. BASIS OF DESIGN: BRADLEY SERIES 400 SOLID HOPE TOILET PARTITION OVERHEAD BRACED & FLOOR-ANCHORED, COLOR: STARRY NIGHT S225. GC TO PROVIDE SANITARY NAPKIN DISPOSAL. OWNER TO PROVIDE TOILET PAPER DISPENSER TO BE INSTALLED BY GC. ALTERNATE NO. 2: EXISTING TOILET COMPARTMENTS TO REMAIN AS EXISTING.
24	EXISTING CHILLER PAD TO REMAIN.



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CARY, NC 27519

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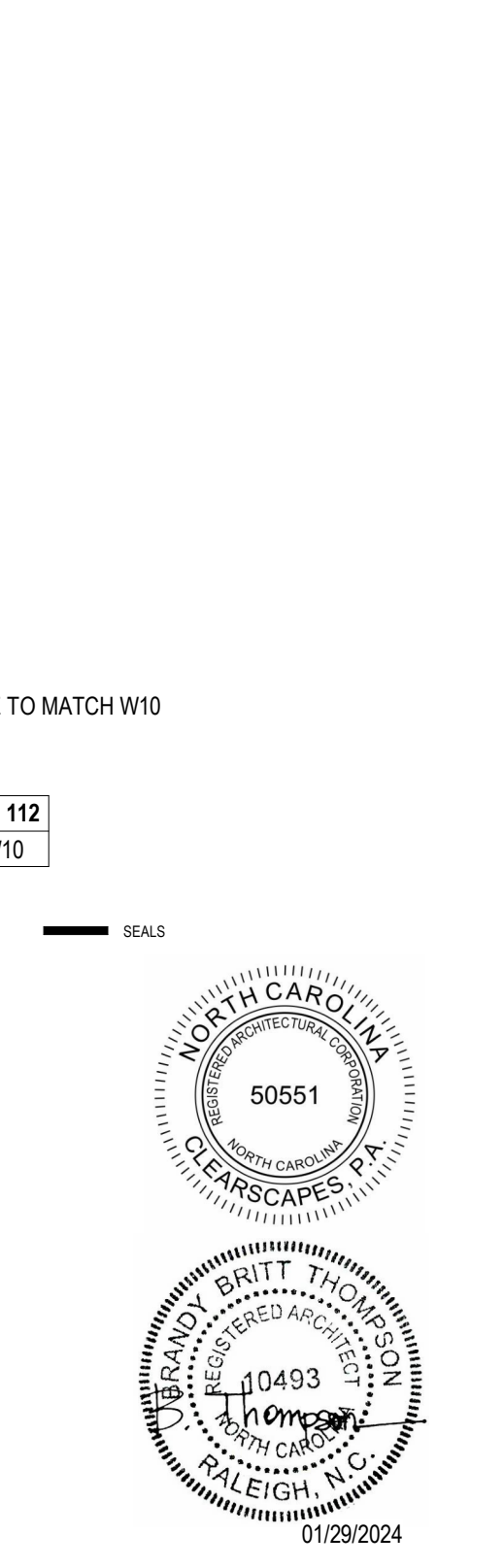
No.	Description	Date
1	ADDENDUM NO. 2	3.21.2024

PROJECT DATA
DATE: 01.29.2024
DRAWN: LP
CHECKED: EMBT
PROJECT NO: 2023_0030
PRINTING: PERMIT SET

SHEET DATA
FLOOR PLAN

SHEET NO.
A101

FLOOR PLAN
3/32" = 1'-0"



PERMIT SET
01.29.2024
PROJECT
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4000 LOUIS STEPHENS DR.
CARY, NC 27519

REVISIONS

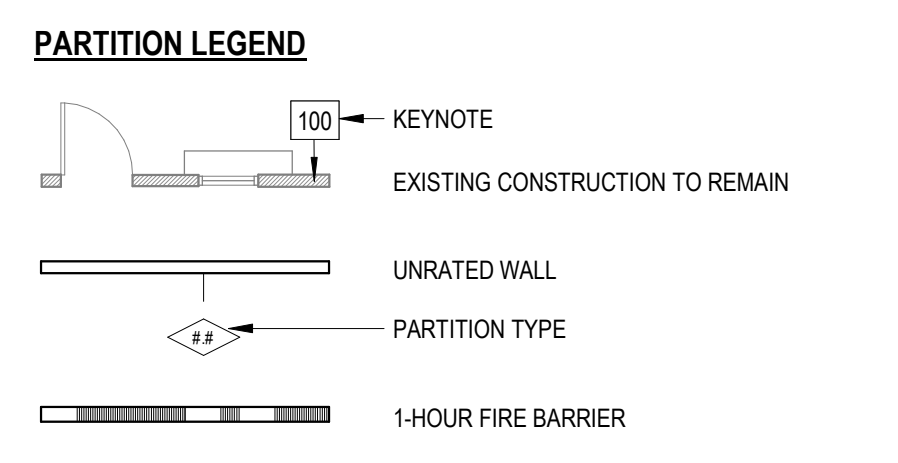
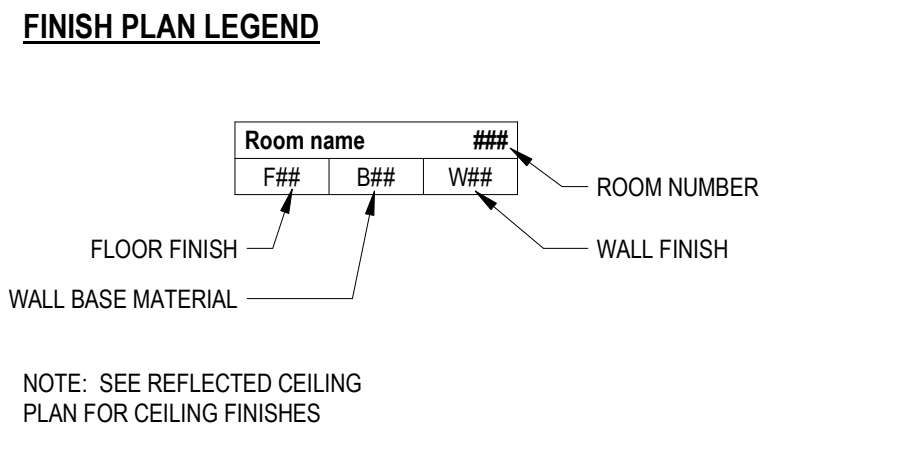
No.	Description	Date
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PROJECT DATA
DATE: 01.29.2024
DRAWN: LP
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PROJECT NO: 2023_0030
PRINTING: PERMIT SET

SHEET DATA
FINISH PLAN

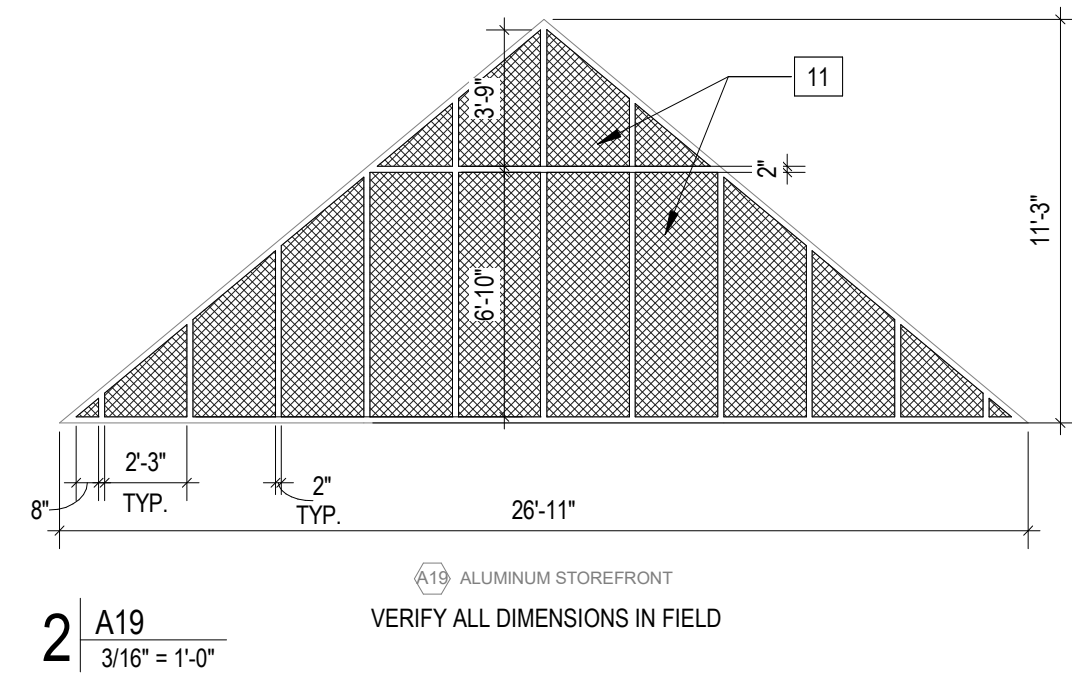
SHEET NO.
A121

- ### FINISH PLAN NOTES
- SEE 001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS.
 - HOLLOW METAL FRAMES AND DOORS TO RECEIVE SEMI-GLOSS FINISH U.N.O.
 - METAL YARD FRAMES AND DOORS TO RECEIVE SEMI-GLOSS FINISH U.N.O.
 - BOLLARDS TO RECEIVE SEMI-GLOSS FINISH U.N.O.
 - IF NOT DIMENSIONED, ALIGN FLOOR MATERIALS AT ARCHITECTURAL ELEMENTS WHERE SHOWN ON FINISH PLAN. I.E. AT EDGE OF WALL.
 - ALL PAINT FINISHES TO BE EGGSHELL U.N.O.
 - ALL NEW PAINTED CONDUIT & DUCTWORK TO BE SEMI-GLOSS FINISH. IF MATCHING EXISTING, CONFIRM EXISTING FINISH.
 - SEE DOOR SCHEDULE FOR FRAME AND DOOR COLORS.
 - ALL CMU AND BRICK ON THE PROJECT TO REMAIN ITS NATURAL APPEARANCE (NO PAINT).
 - ALL SPACES REQUIRE CLASS C FLAME SPREAD INDEX AT A MINIMUM PER TABLE 803.11.
 - SEE INTERIOR ELEVATIONS FOR CLARIFICATION OF EXTENT OF FINISH MATERIALS.
 - ALL GWB CEILINGS AND SOFFITS TO BE PAINTED W10 U.N.O. ON CEILING PLANS.
 - PROVIDE ADDITIONAL 10% ATTIC STOCK OF ALL CARPET TILE TYPES.
 - PROVIDE MOCKUP SAMPLES OF EACH PAINT/STAIN SYSTEM INDICATED AND EACH COLOR AND FINISH SELECTED TO VERIFY PRELIMINARY SELECTIONS. ARCHITECT TO SELECT ONE SURFACE TO REPRESENT SURFACES AND CONDITIONS FOR EACH SYSTEM. APPLY AFTER PERMANENT LIGHTING AND OTHER ENVIRONMENTAL SERVICES HAVE BEEN ACTIVATED.
 - DO NOT PROVIDE WALL BASE AT EXPOSED BRICK WALL FINISH. FLOORING TO BE TIGHT TO WALL AT THOSE LOCATIONS.
 - PROTECT ALL FINISHES TO REMAIN.



KEYNOTES - FINISH PLAN

NO.	DESCRIPTION
1	EXISTING WOOD VENEER CABINET FRONTS TO BE CLEANED, SANDED & REFINISHED WITH CLEAR WATERPROOF SEAL, SATIN SHEEN.
2	EXISTING WALL FINISH TO REMAIN
3	EXISTING CHAIR RAIL TO REMAIN. PRIME AND PAINT TO MATCH WALL COLOR.
4	PROVIDE ADA COMPLIANT TRANSITION STRIP AT CARPET/RESILIENT FLOORING CONDITION. SEE A404.
5	PROVIDE ADA COMPLIANT TRANSITION STRIP AT CARPET/VCT CONDITION. SEE A404.
6	PROVIDE ADA COMPLIANT TRANSITION STRIP AT CARPET/CONCRETE CONDITION. SEE A404.
7	CONFIRM EXISTING MARBLE THRESHOLD IS ADA COMPLIANT W/ INSTALLATION OF NEW RESILIENT FLOORING IN VESTIBULE. IF EXISTING THRESHOLD IS NOT ADA COMPLIANT, REPLACE WITH NEW ADA COMPLIANT THRESHOLD.
8	PROVIDE ADA COMPLIANT TRANSITION STRIP AT CARPET/TILE CONDITION. SEE A404.
9	EXPOSED STEEL COLUMN (INTERIOR), PAINT W11, TYP.
10	CONFIRM EXISTING MARBLE THRESHOLD IS ADA COMPLIANT W/ INSTALLATION OF NEW CARPET
11	NEW CUSTOM FIXED WINDOW TREATMENT (INTERIOR); VELCRO FIXED PANELS WITH ATTACHED HEMBAR ALONG BOTTOM. BASIS OF DESIGN PANEL FABRIC: MERMET E SCREEN, 10% OPENING, COLOR: 002007 WHITE/PEARL
12	STAINLESS STEEL CORNER GUARD



FLOOR FINISH SCHEDULE

KEY	FLOOR MATERIAL
F10	CARPET A: INTERFACE VERTICALS, STYLE: 138880AK00, CUSTOM COLOR: A+B THREADS: 104009 PRINCIPAL, C+D THREADS: 104008 ZENITH, INSTALLATION: ASHLAR
F11	CARPET B: INTERFACE WOVEN GRADIENCE, STYLE: WG100, COLOR: 108061 NAVY, INSTALLATION: QUARTER TURN
F12	CARPET C: INTERFACE VIVA COLORES, STYLE: 1465002500, COLOR 1: 106030 MAR TURQUESA, COLOR 2: 101138 AZUL VERDOSO, & COLOR 3: 106031 AGUA; INSTALLATION: SEE A404
F13	CARPET D: INTERFACE WOVEN GRADIENCE, STYLE: WG100, COLOR 1: 108061 NAVY COLOR 2: 108059 CARIBBEAN, & COLOR 3: 108048 LINEN; INSTALLATION: SEE A404
F20	RESILIENT FLOORING: INTERFACE MESHED VINYL SHEET, COLOR: A03003 PUTTY (COORDINATING WELD ROD COLOR: 1123365)
F30	VCT: ARMSTRONG EXCELON SDT E - COLOR: 51957 RIDGE
F31	VCT: ARMSTRONG IMPERIAL TEXTURE - COLOR: 51903 BLUE/GRAY
F40	EXISTING FLOOR FINISH TO REMAIN - PROTECT FROM DAMAGE

COUNTERTOP SURFACE SCHEDULE

KEY	SURFACE MATERIAL
S01	QUARTZ - CAMBRIA WEYBOURNE MATTE
S02	EXISTING COUNTERTOP TO REMAIN
S03	QUARTZ - CAMBRIA FIELDSTONE MATTE

P-LAM SCHEDULE

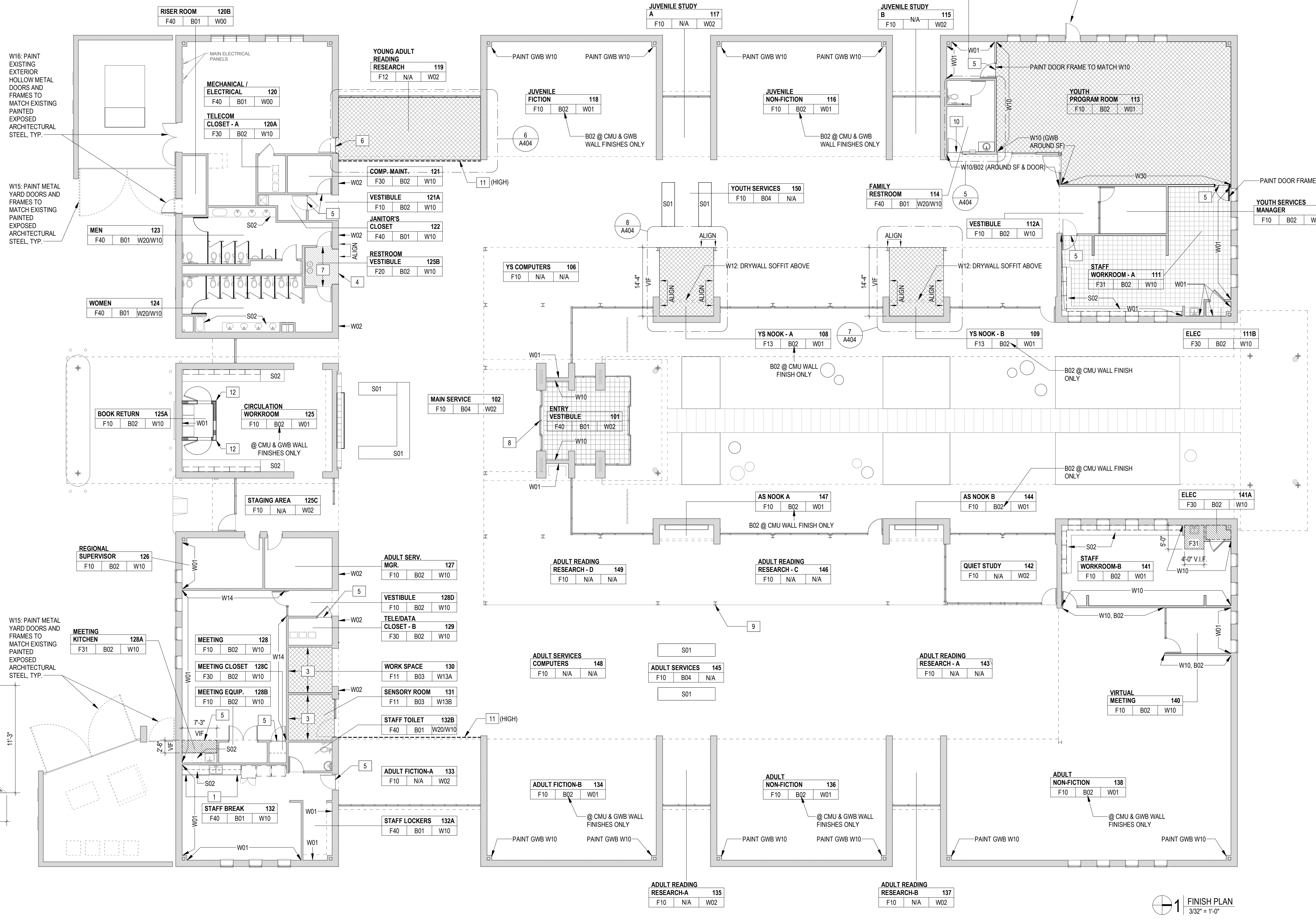
KEY	LAMINATE MATERIAL
PLAM1	PIONITE FOLKSTONE GRAY, SG241, TEXTURED/SUEDE FINISH
PLAM2	PIONITE INDIGO BLUE, SB006 S0, TEXTURED/SUEDE FINISH
PLAM3	PIONITE FRENCH BLUE, SB005M2, METALZ FINISH
PLAM4	PIONITE STORM GRAY, HP565, TEXTURED/SUEDE FINISH
PLAM5	PIONITE SUGAR MAPLE II, WM115, TEXTURED/SUEDE FINISH

WALL BASE SCHEDULE

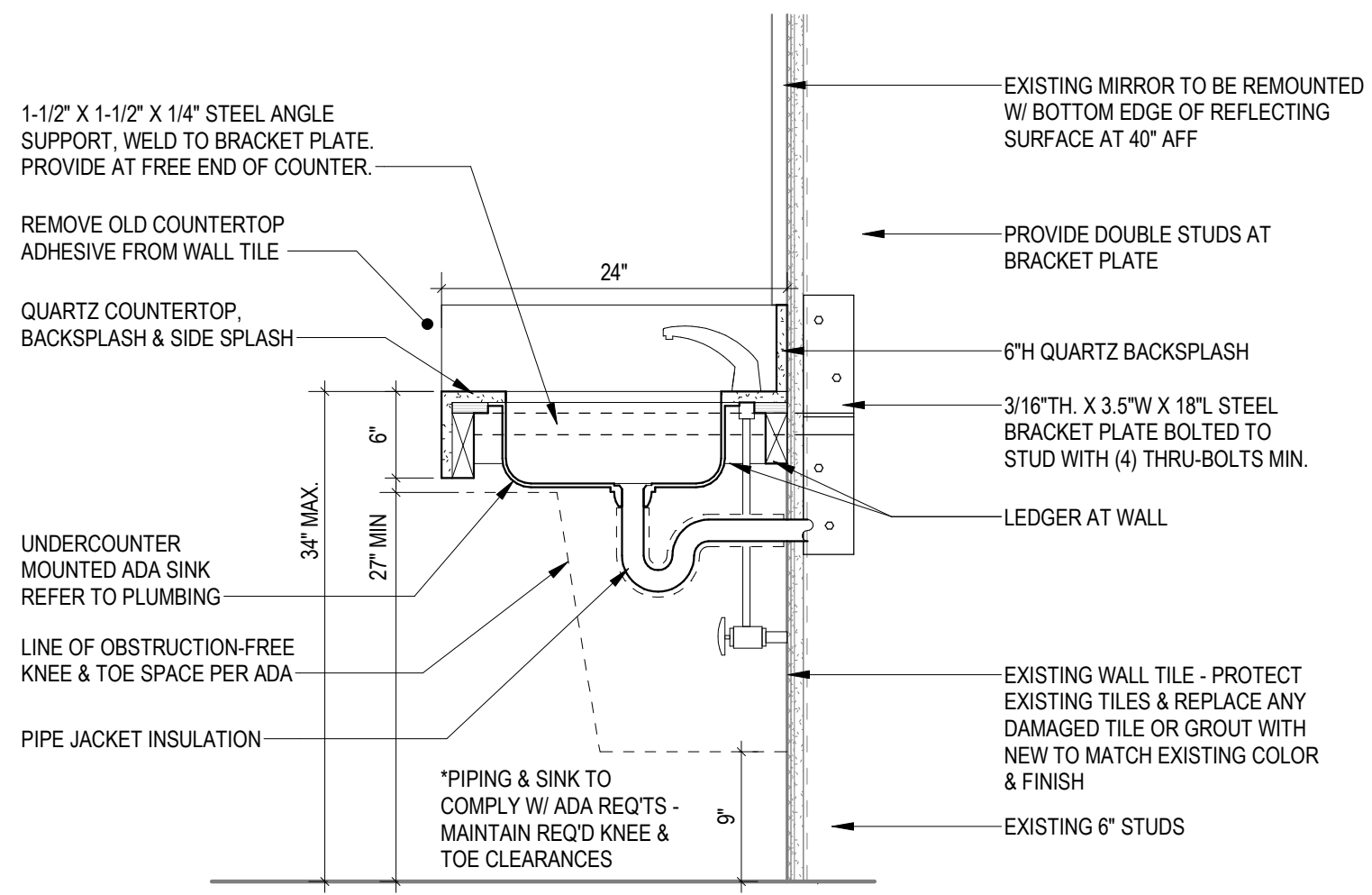
KEY	BASE MATERIAL
B01	EXISTING WALL BASE TO REMAIN
B02	4" RUBBER COVE BASE: ROPPE 129 CHARCOAL
B03	4" RUBBER COVE BASE: ROPPE 139 DEEP NAVY
B04	4" RUBBER STRAIGHT BASE AT SERVICE DESKS: ROPPE 129 CHARCOAL

WALL FINISH SCHEDULE

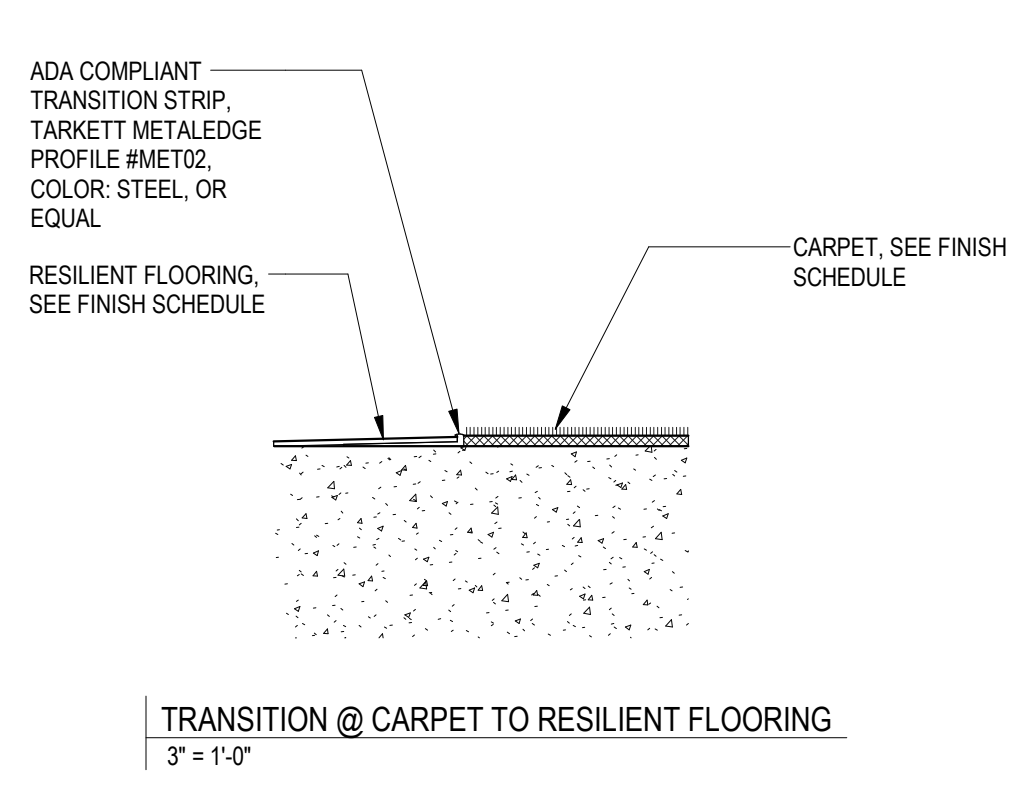
KEY	WALL MATERIAL
W00	EXISTING WALL FINISH TO REMAIN
W01	EXISTING DECORATIVE FACE CMU TO REMAIN
W02	EXISTING BRICK VENEER TO REMAIN
W10	PAINT: SHERWIN WILLIAMS, COLOR: CITY LOFT 7631
W11	PAINT: SHERWIN WILLIAMS, COLOR: CITYSCAPE 7067 - VERIFY MATCH EXISTING PAINT COLOR AND SHEEN
W12	PAINT: SHERWIN WILLIAMS, COLOR: FRENCH MOIRE 9056
W13A	PAINT: SHERWIN WILLIAMS, COLOR: DISTANCE 6243 - WALL ACCENT COLOR UP TO 4'-0" AFF, THEN W10 ABOVE
W13B	PAINT: SHERWIN WILLIAMS, COLOR: DISTANCE 6243 - WALL COLOR FULL HEIGHT
W14	PAINT: SHERWIN WILLIAMS, COLOR: SECRET COVE 9058
W15	HIGH PERFORMANCE PAINT (EXTERIOR): MATCH EXISTING PAINTED EXPOSED ARCHITECTURAL STEEL
W16	HIGH PERFORMANCE PAINT (EXTERIOR HOLLOW METAL DOORS AND FRAMES): MATCH EXISTING PAINTED EXPOSED ARCHITECTURAL STEEL
W20	EXISTING TILE TO REMAIN
W30	VINYL WALLCOVERING: MANUFACTURER: LEVEL, DESIGN #: L14-1004, NAME: SPRINGTIME BLOOMS, COLOR: SUMMER GARDEN, PROVIDE LEVEL 5 GWB FINISH UNDER NEW VINYL WALLCOVERING ENTIRE WALL (BOTH EXISTING & NEW PORTIONS).



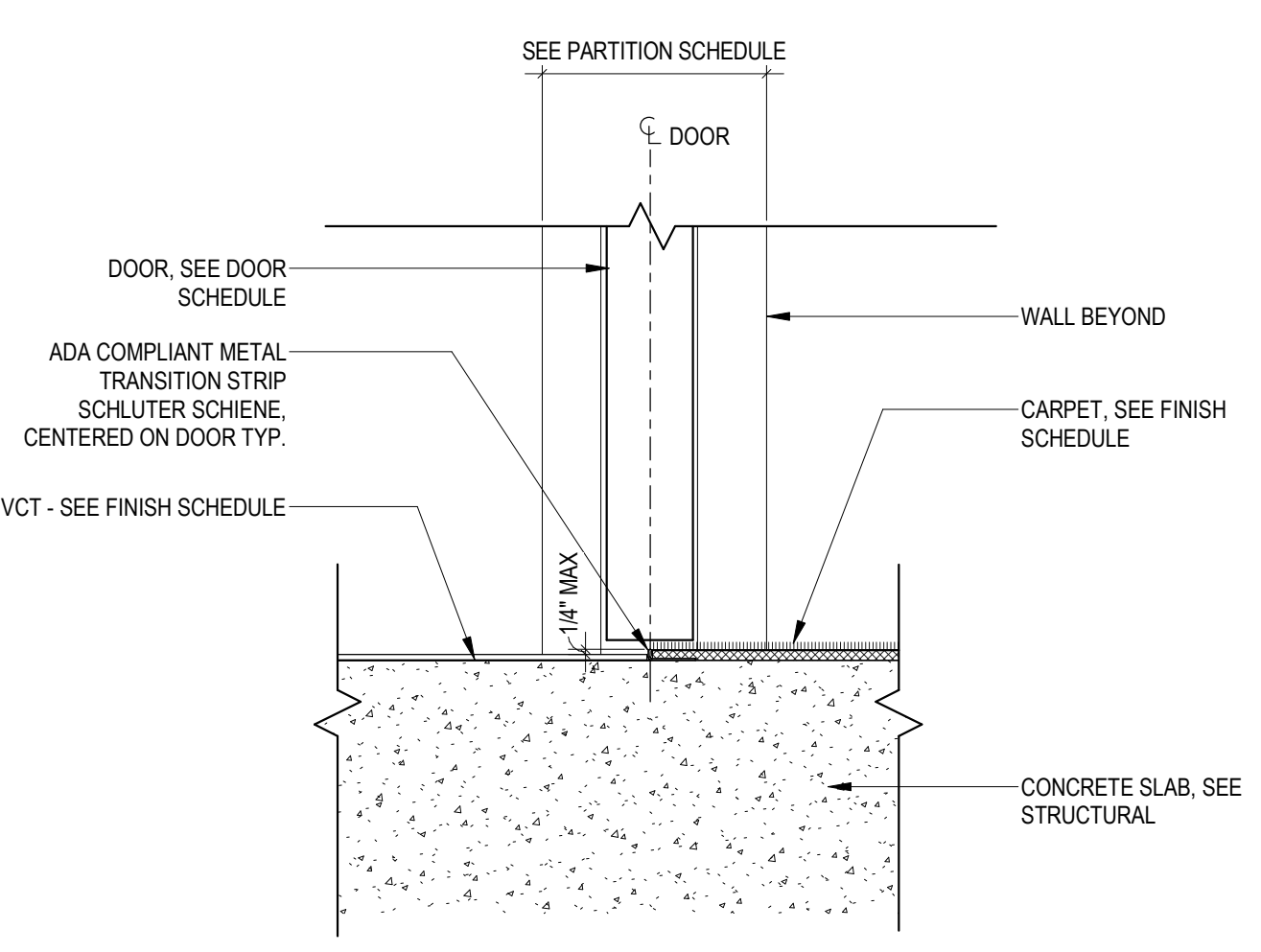
1/12 FINISH PLAN
3/32" = 1'-0"



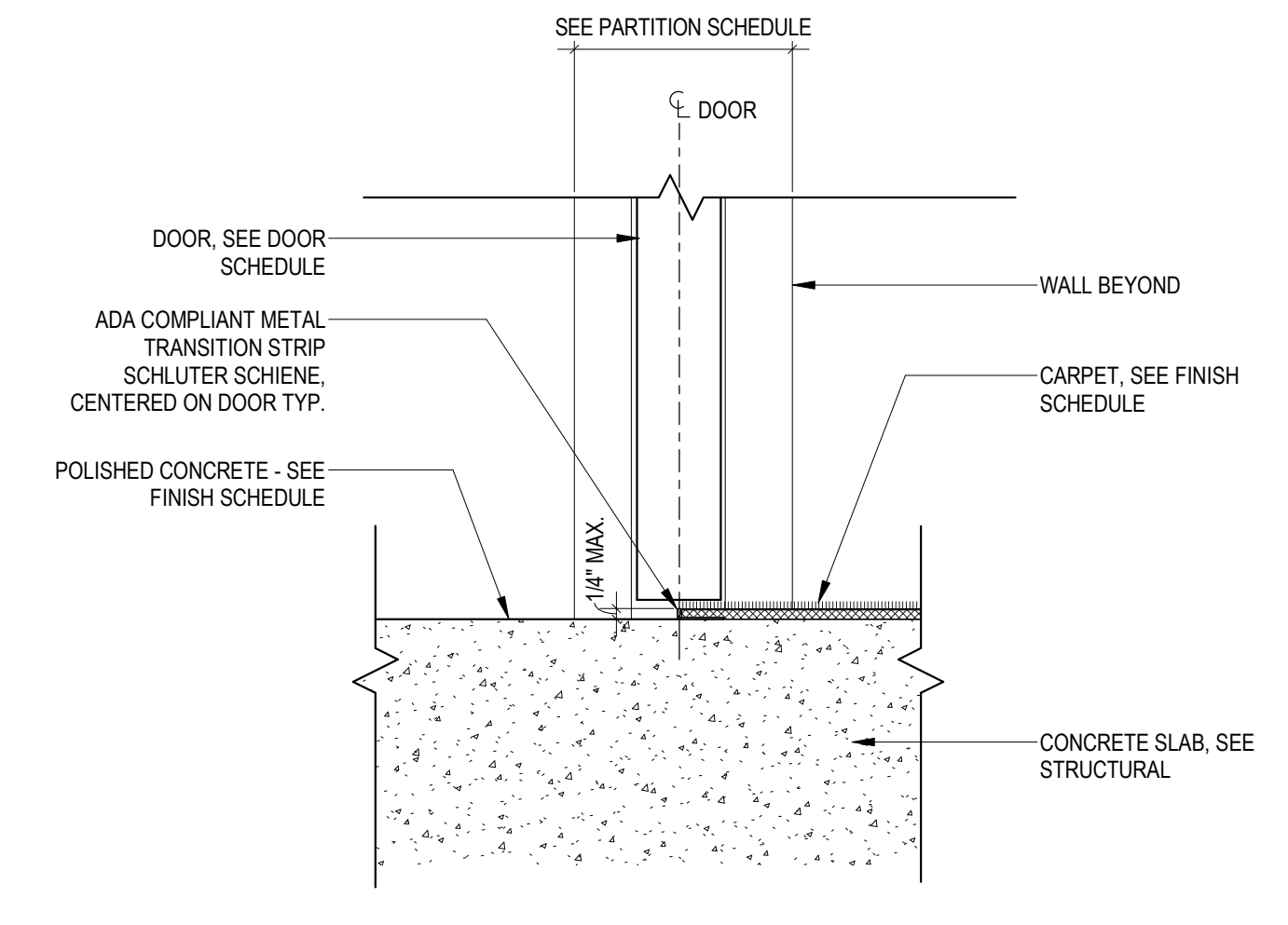
10 SECTION - FAMILY RESTROOM SINK COUNTER
1/4\"/>



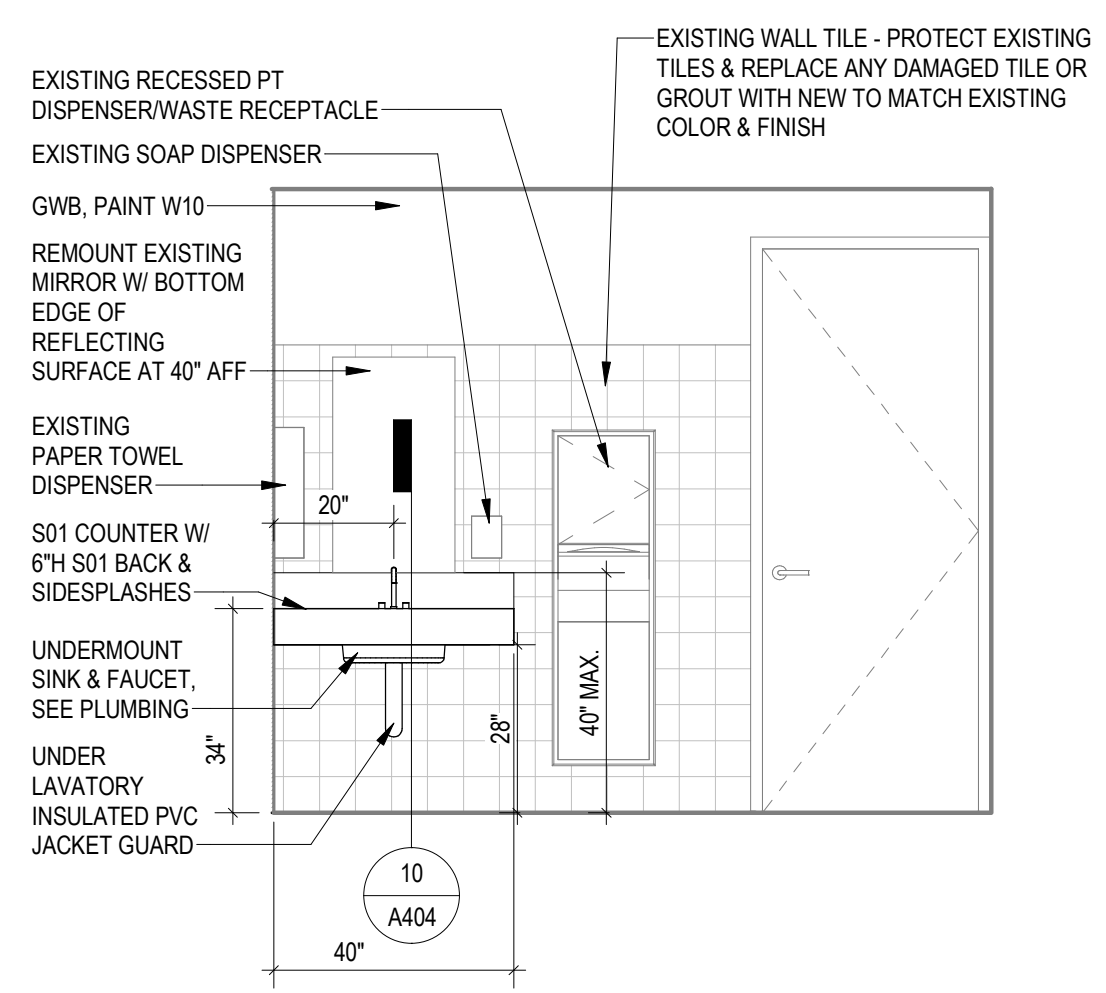
TRANSITION @ CARPET TO RESILIENT FLOORING
3\"/>



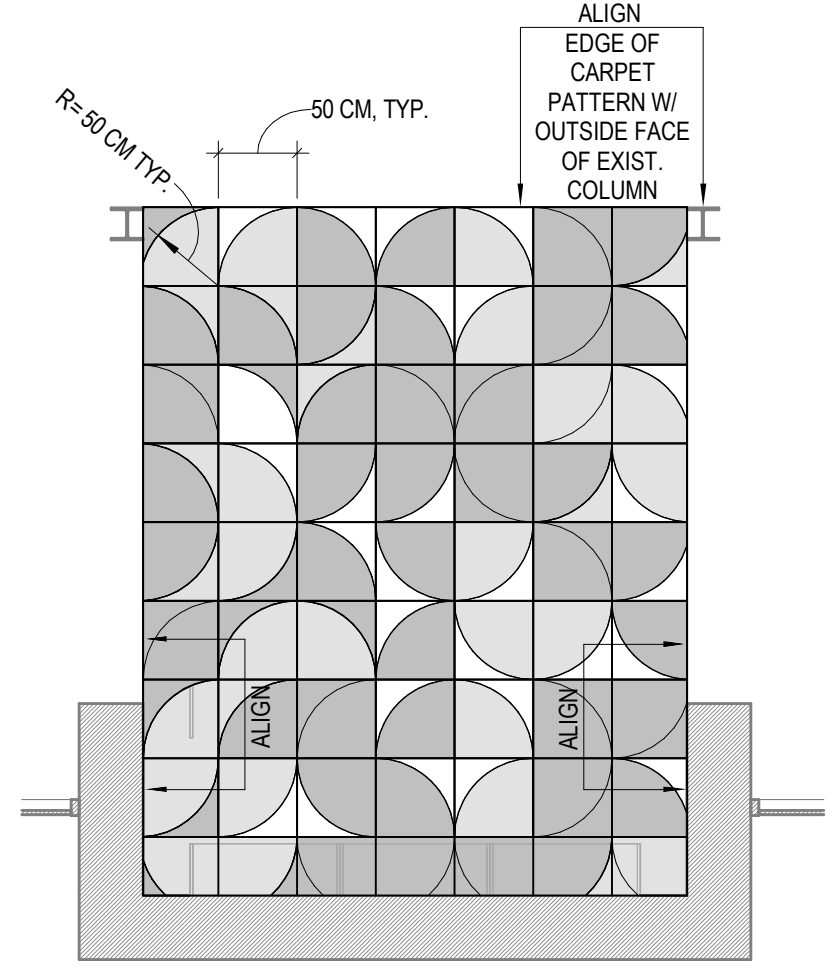
THRESHOLD @ CARPET TO VCT
3\"/>



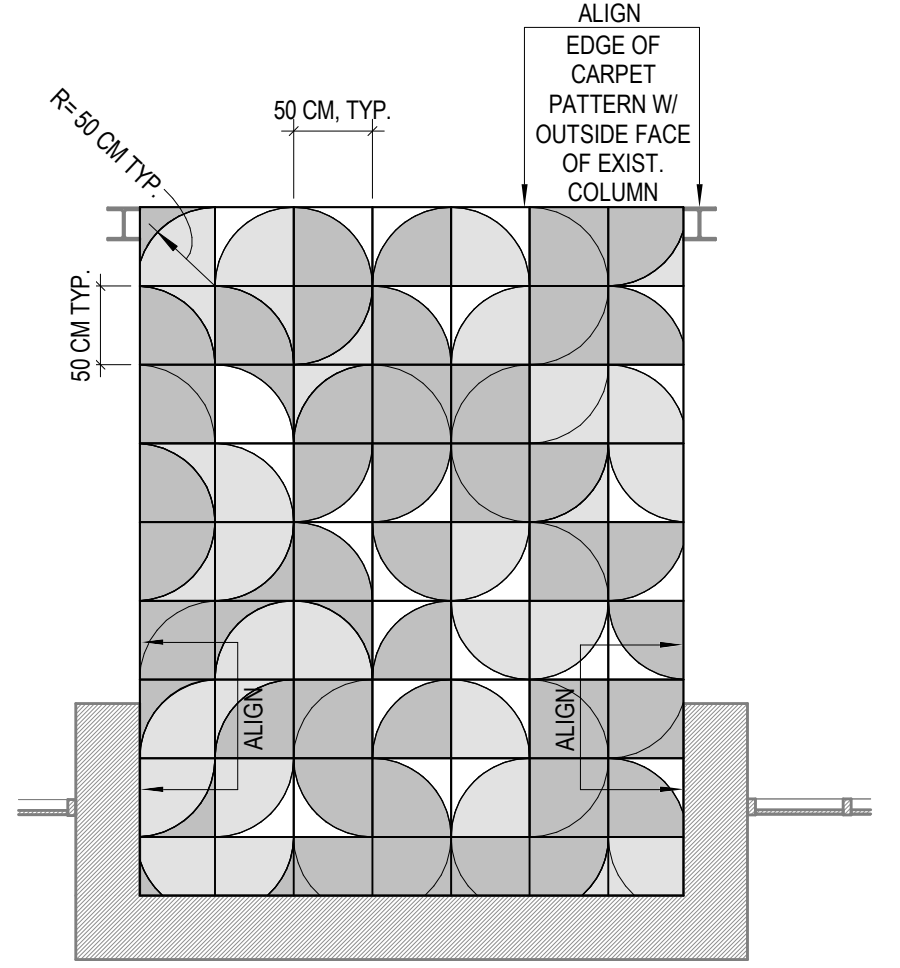
THRESHOLD @ CARPET TO CONCRETE
3\"/>



9 FAMILY RESTROOM 114 - SINK WALL
3/8\"/>



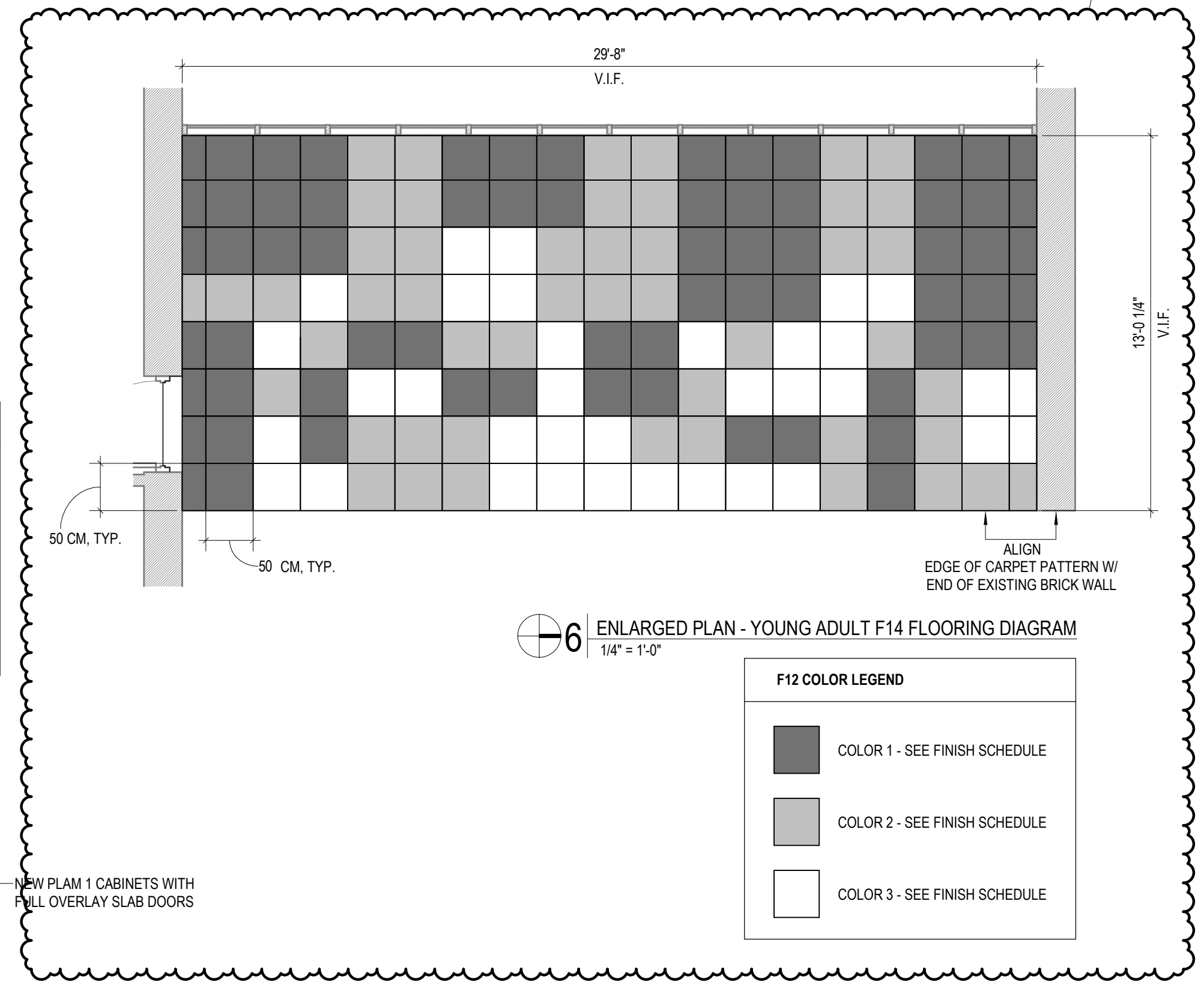
8 ENLARGED PLAN - YS NOOK A F13 FLOORING DIAGRAM
1/4\"/>



7 ENLARGED PLAN - YS NOOK B F13 FLOORING DIAGRAM
1/4\"/>

F13 COLOR LEGEND

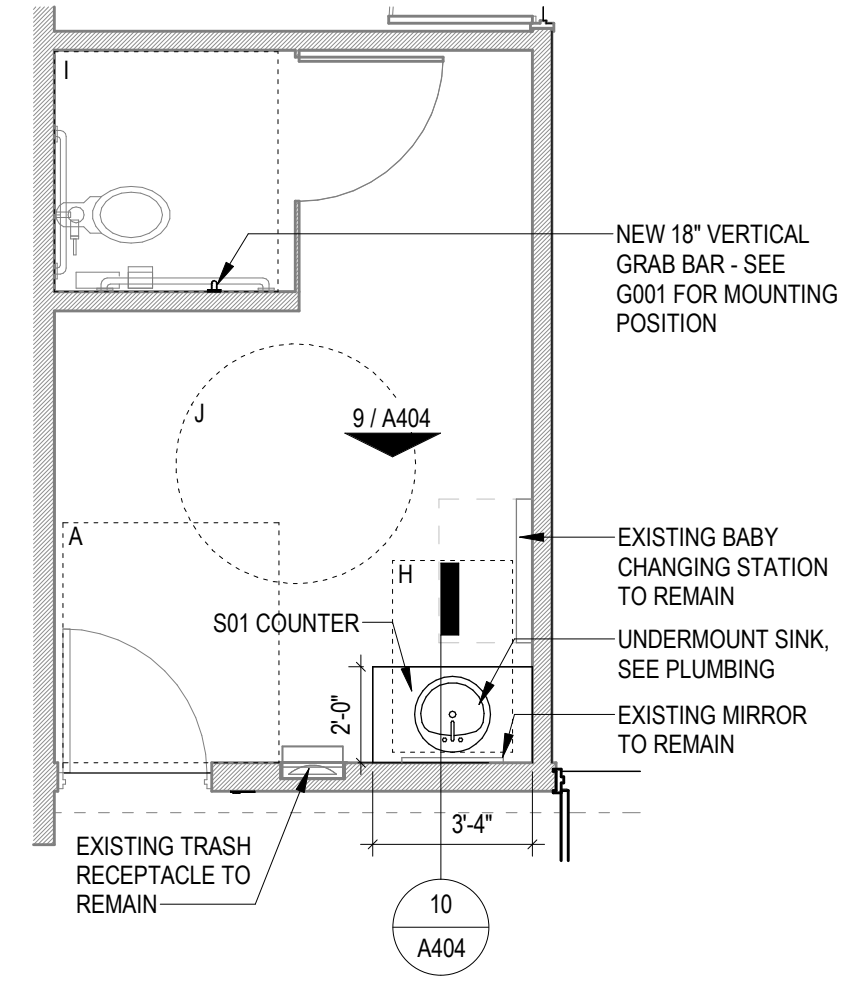
[Dark Gray Box]	COLOR 1 - SEE FINISH SCHEDULE
[Medium Gray Box]	COLOR 2 - SEE FINISH SCHEDULE
[Light Gray Box]	COLOR 3 - SEE FINISH SCHEDULE



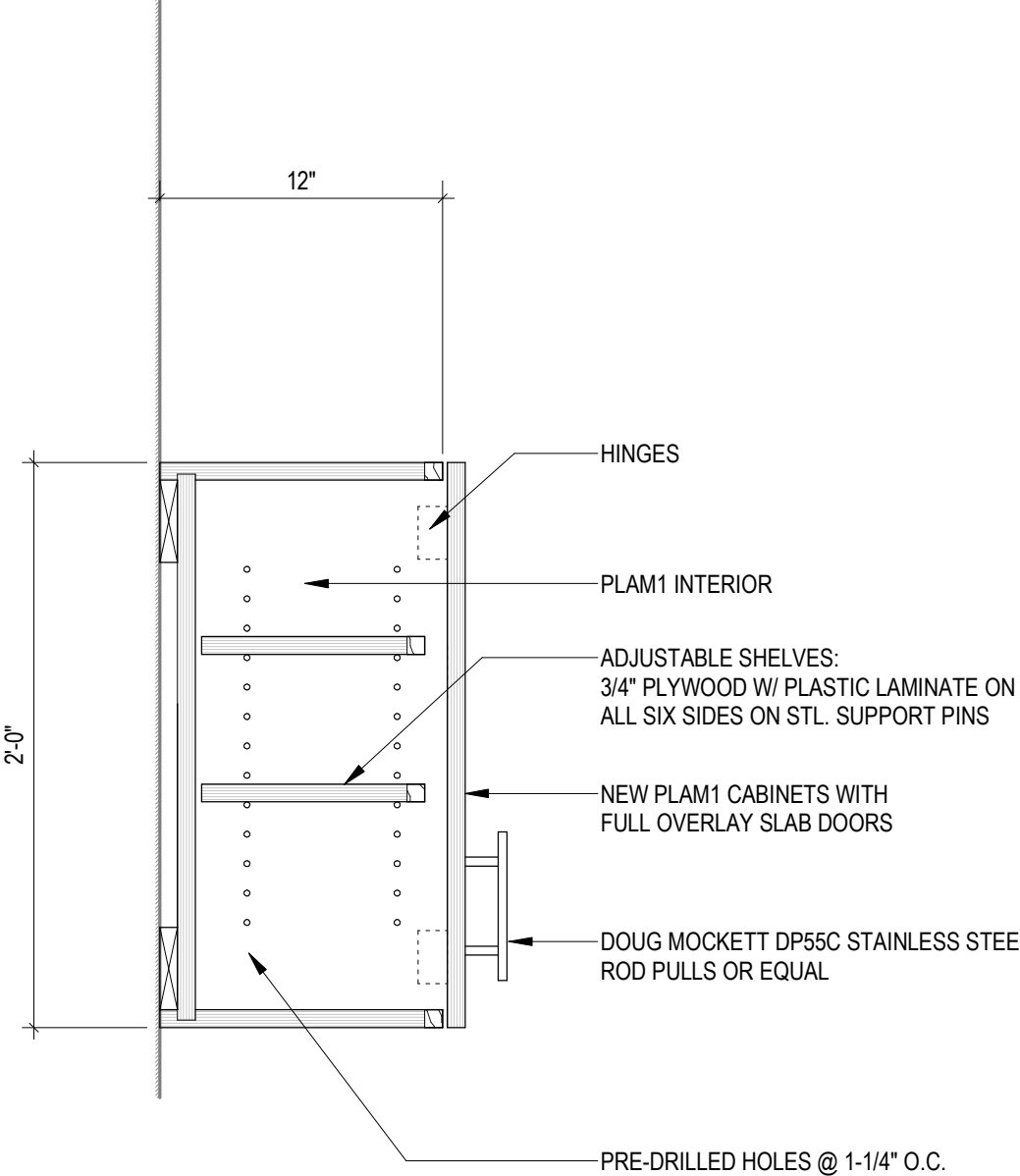
6 ENLARGED PLAN - YOUNG ADULT F14 FLOORING DIAGRAM
1/4\"/>

F12 COLOR LEGEND

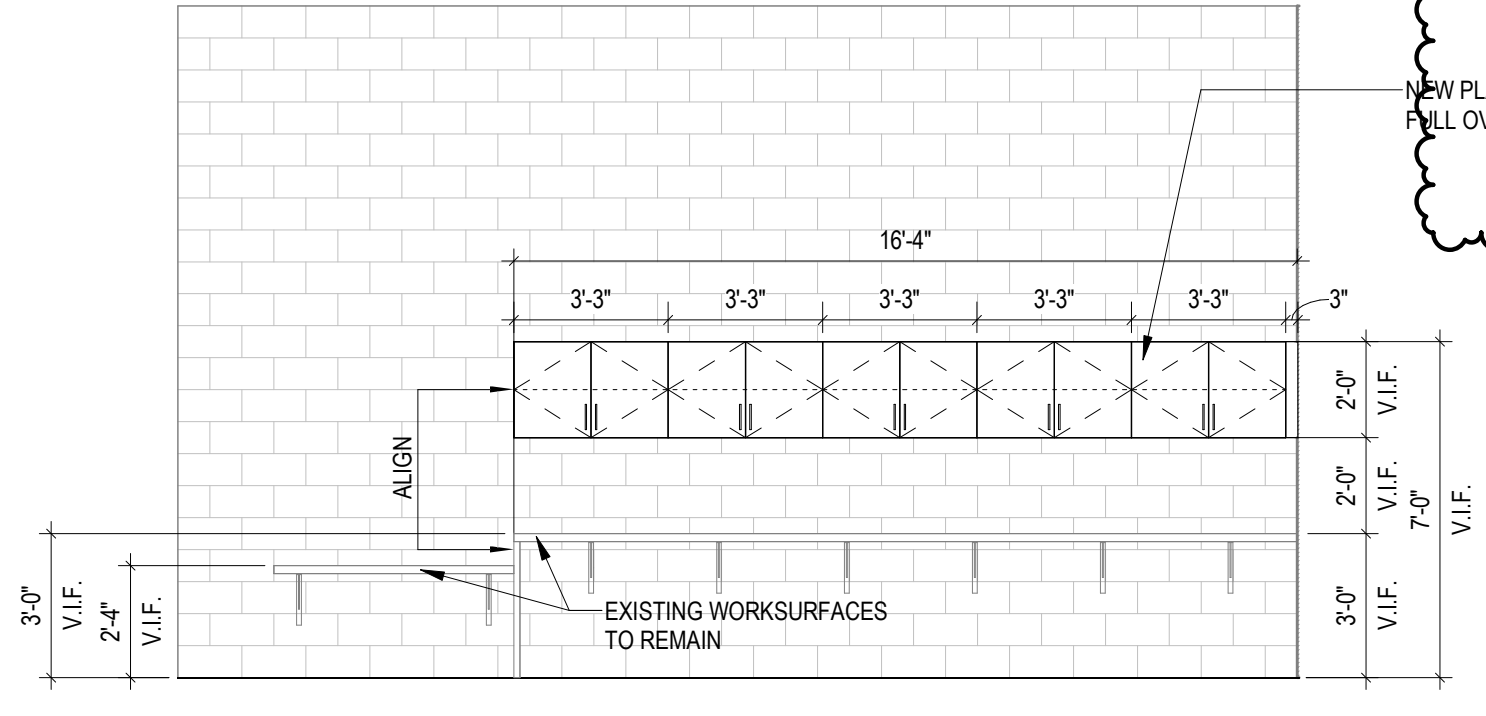
[Dark Gray Box]	COLOR 1 - SEE FINISH SCHEDULE
[Medium Gray Box]	COLOR 2 - SEE FINISH SCHEDULE
[Light Gray Box]	COLOR 3 - SEE FINISH SCHEDULE



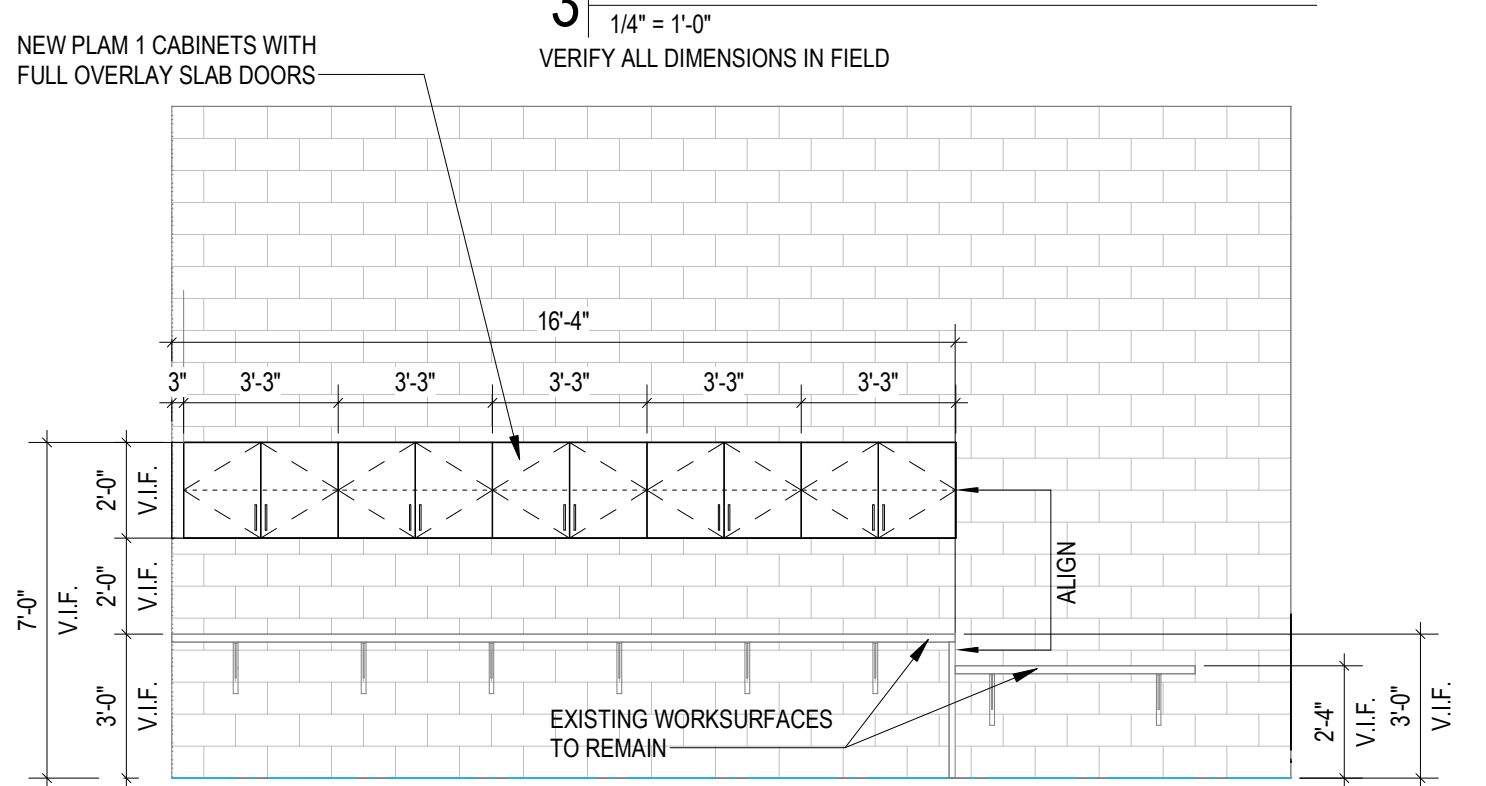
5 ENLARGED PLAN - FAMILY RESTROOM
1/4\"/>



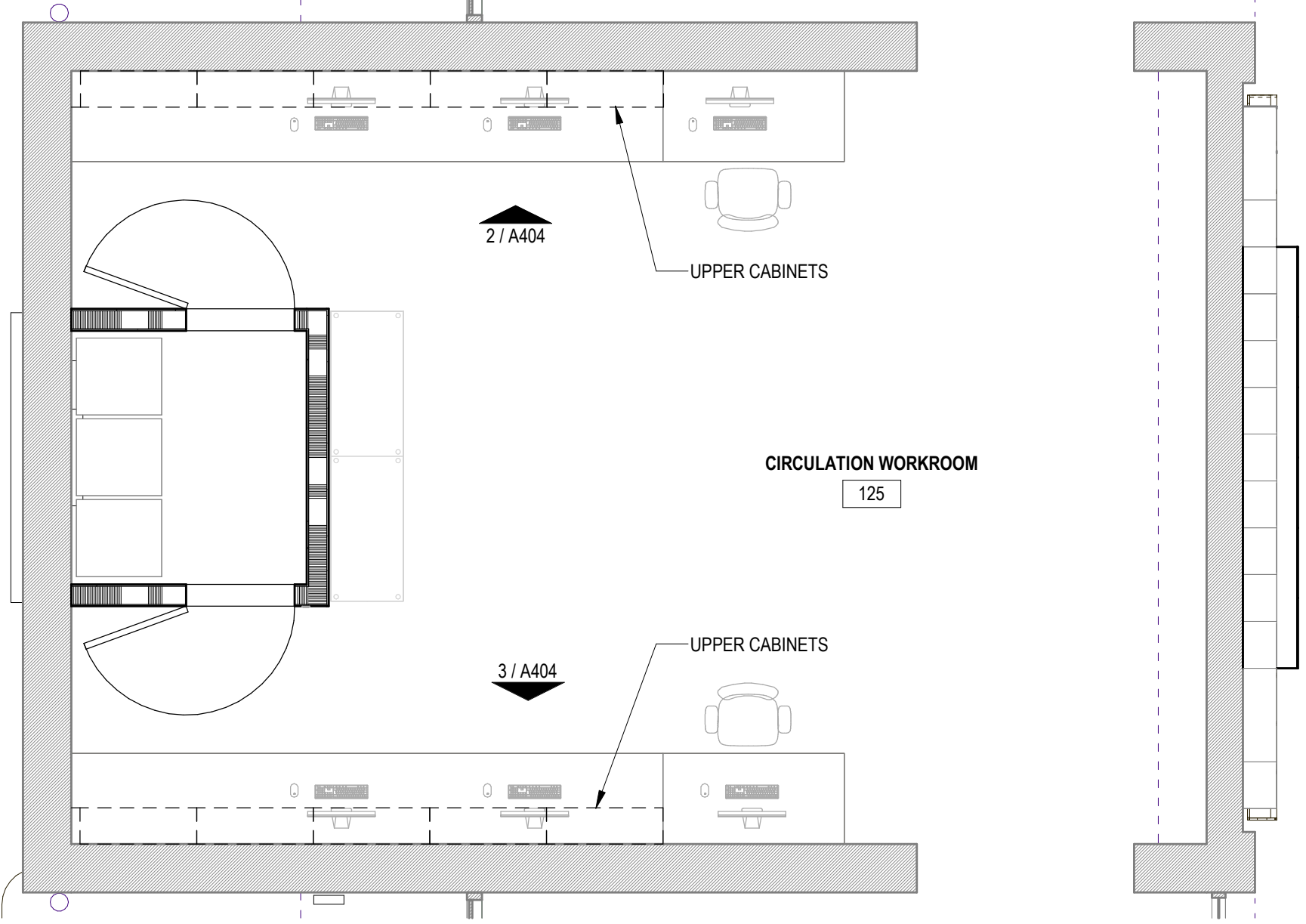
4 TYP. DETAIL AT CIRC. WORKROOM UPPER CABINETS
1 1/2\"/>



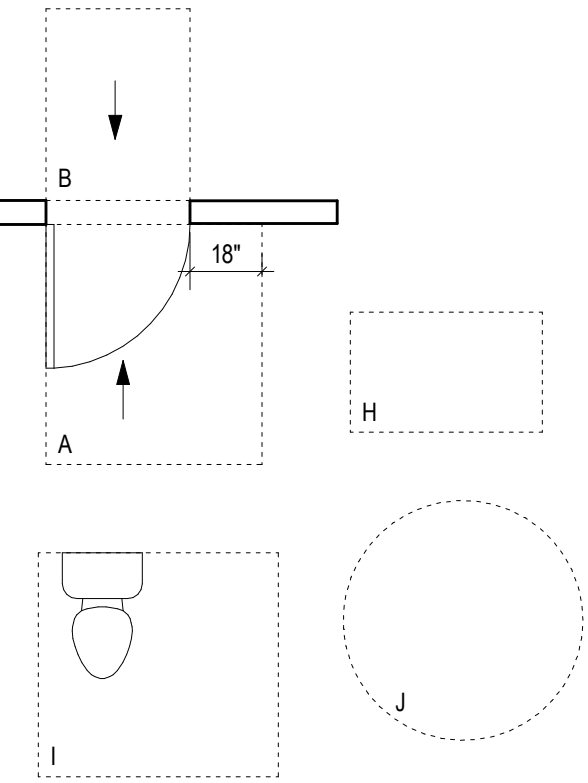
3 CIRCULATION WORKROOM - UPPER CABINETS EAST
1/4\"/>



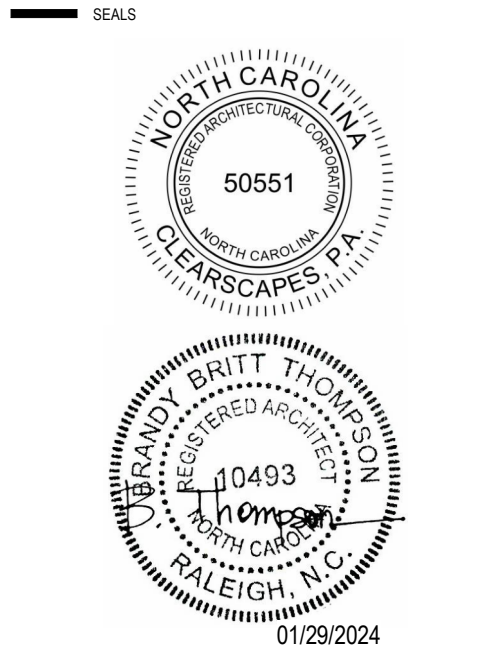
2 CIRCULATION WORKROOM - UPPER CABINETS WEST
1/4\"/>



1 ENLARGED PLAN - CIRCULATION WORKROOM
1/4\"/>



- CLEAR FLOOR SPACE LEGEND**
- A. DOOR - 60" X 54" FRONT APPROACH - PULL SIDE
 - B. DOOR - 48" X 36" FRONT APPROACH - PUSH SIDE
 - H. 30" X 48" CLEAR FLOOR SPACE (CENTER ON FIXTURES U.N.O.)
 - I. TOILET - 56" X 60" CLEAR SPACE
 - J. 60" DIAMETER TURNING CIRCLE



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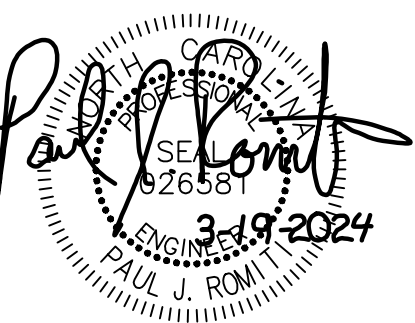
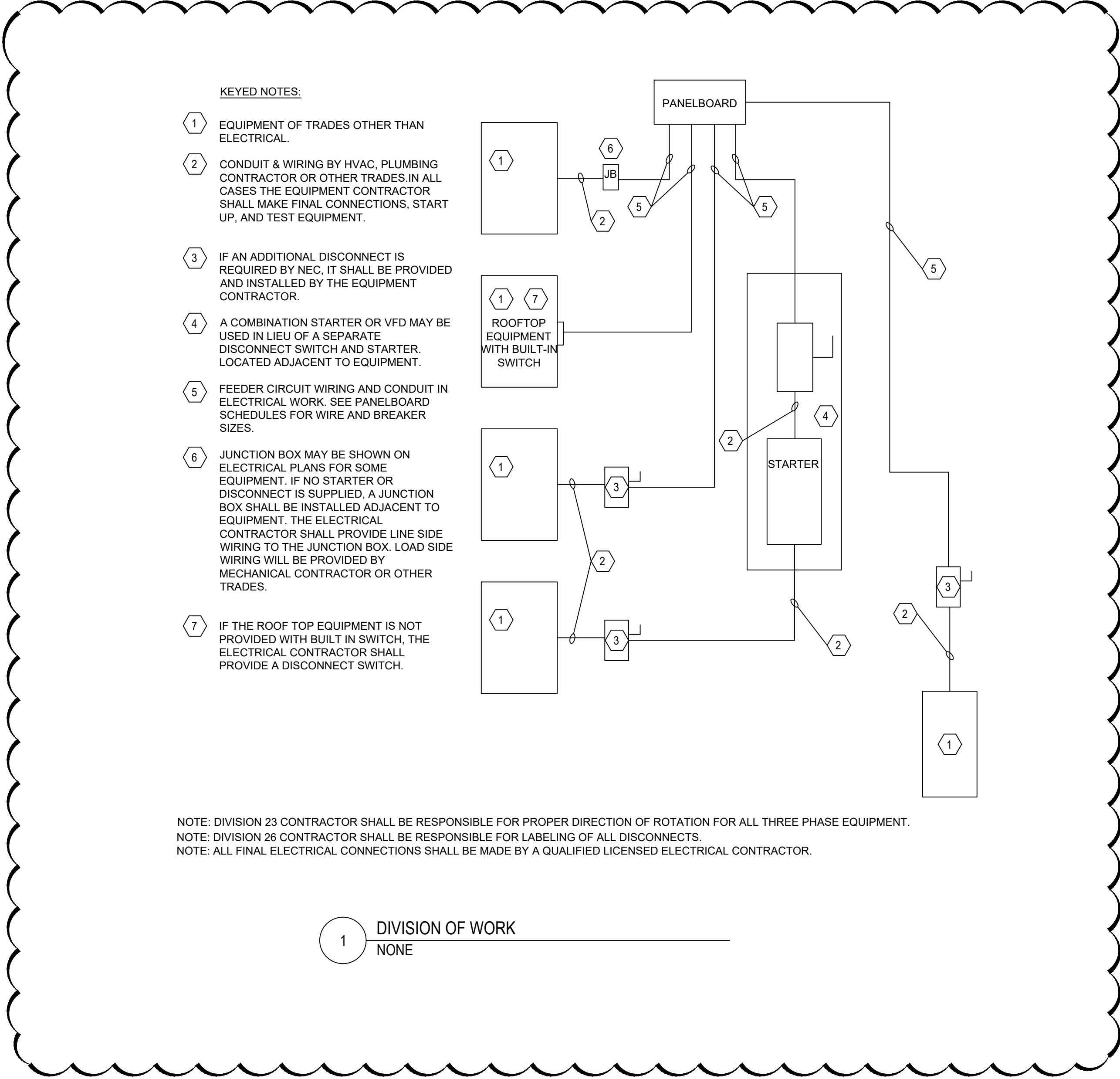
REVISIONS

No.	Description	Date
1	ADDENDUM NO. 2	3.21.2024

PROJECT DATA
DATE: 01.29.2024
DRAWN: LP
CHECKED: EMBT
PROJECT NO: 2023_0030
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SHEET DATA
ENLARGED PLANS, INT. ELEV. & DETAILS
SHEET NO.

A404



PERMIT SET
01.29.2024

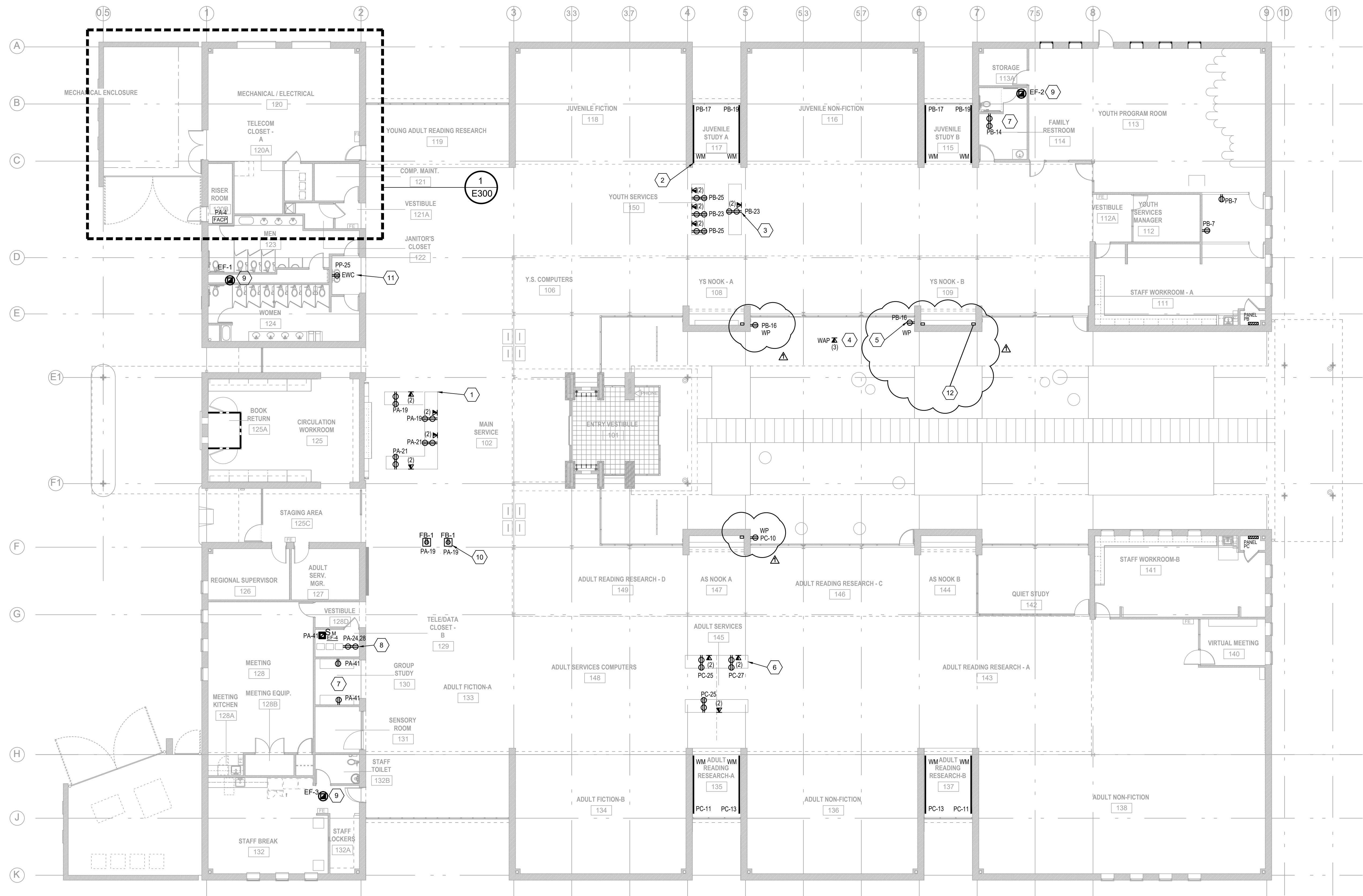
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No.	Description	Date
1	Addendum 2	3/21/2024

DATE: 01.29.2024
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CHECKED: PJR
PROJECT NO: 2023_0030
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MECHANICAL DIVISION OF WORK DETAIL

M503



NEW POWER PLAN
3/32" = 1'-0"

RATED PARTITIONWALL LEGEND
- - - - - 1-HR RATED WALL

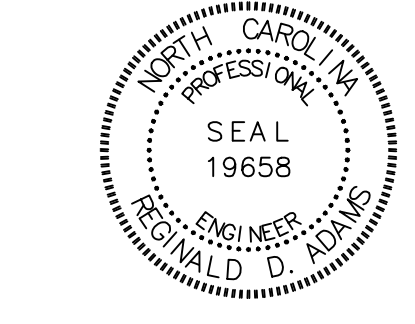
GENERAL NOTES:

- REFER TO SHEET E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
- PATCH ALL EXISTING FINISHES AS REQUIRED BY EXTENT OF NEW WORK.
- DIVISION 26 CONTRACTOR IS RESPONSIBLE FOR POWER AND CONDUIT ONLY FOR TELECOM SYSTEMS. INSTALLATION OF WIRING AND DEVICES WILL BE BY THE DIVISION 27 TELECOM CONTRACTOR.**

KEYED NOTES:

- PROVIDE QUAD RECEPTACLES AND TELECOM OUTLETS AT NEW SERVICE DESK. TELECOM WIRING SHALL BE PROVIDED IN 1.25" CONDUIT. COORDINATE CUTTING/PATCHING OF FLOOR WITH G.C. INTERCEPT EXISTING CONDUITS FROM KEYNOTE #6B, E101 AND PROVIDE NEW WIRING AS NECESSARY.
- PROVIDE HORIZONTAL WIREMOLD AT 34" AFF. BASIS OF DESIGN: WIREMOLD AL5200. PROVIDE WITH 20 AMPERE OUTLETS 18" ON CENTER. TYPICAL EIGHT (8) LOCATIONS. REFERENCE 3/E501. WIRE AS SHOWN.
- PROVIDE QUAD RECEPTACLES AND TELECOM OUTLETS AT NEW SERVICE DESK. WIRING FOR OUTLETS SHALL BE AS SHOWN. ANY NEW CONDUIT FOR TELECOM SHALL BE 1.25". PROVIDE NEW TURN UPS IN EXISTING CONDUIT TO FURNITURE. REFERENCE KEYNOTE #7, E101 FOR ADDITIONAL INFORMATION.
- PROVIDE JUNCTION BOX FOR WIRELESS ACCESS POINT IN EXTERIOR SOFFIT. PROVIDE 1-1/2" FROM BOX TO ROOM 128A.
- PROVIDE NEW GFCI OUTLET IN LOCKABLE METAL WEATHERPROOF COVER. PROVIDE LEGRANDE AL3300 RACEWAY ON INTERIOR OF EXTERIOR WALL AND PROVIDE FROM FLOOR TO CEILING BEHIND RECEPTACLE ON EXTERIOR WALL. WIRE AS SHOWN. TYPICAL.
- PROVIDE QUAD RECEPTACLES AND TELECOM OUTLETS AT NEW SERVICE DESK. WIRING FOR OUTLETS SHALL BE AS SHOWN. ANY NEW CONDUIT FOR TELECOM SHALL BE 1.25" PROVIDED BELOW SLAB. COORDINATE CUTTING/PATCHING OF FLOOR WITH G.C. PROVIDE NEW TURN UPS IN EXISTING CONDUIT
- TO FURNITURE. REFERENCE KEYNOTE #7, E101 FOR ADDITIONAL INFORMATION. PROVIDE NEW RECEPTACLES IN SPACE AS SHOWN. MT DEVICES HORIZONTALLY AT 42" AFF. DEVICES AND PLATES TO BE BLACK IN THIS AREA ONLY.
- PROVIDE QUAD RECEPTACLES MOUNTED ON EXISTING LADDER RACK (OR AS DIRECTED BY DESIGNER) FOR NEW TELECOM RACK PROVIDED BY DIVISION 27.
- COORDINATE RECONNECTION OF NEW EXHAUST FANS TO EXISTING WIRING WITH DIVISION 23.
- PROVIDE NEW TWO (2) GANG ON-GRADE FLOOR BOX. BASIS OF DESIGN LEGRANDE RFB-20G. PROVIDE WITH TWO (2) 20-AMPERE OUTLETS (NO LOW VOLTAGE REQUIRED). COVER TO BE LEGRAND CAT#FP-C-TC-NK. PROVIDE NEW CONDUIT AND WIRING AS SHOWN.
- PROVIDE NEW OUTLET AND REPLACE EXISTING 20 AMPERE BREAKER SERVING CURRENT EWC WITH A NEW 20 AMPERE GFCI BREAKER.
- PROVIDE 6"X6"X6" IN-GROUND BOX IN PLANTING BED. PROVIDE LEGRANDE AL3300 RACEWAY ON INTERIOR OF EXTERIOR WALL AND PROVIDE FROM FLOOR TO CEILING AT POINT OF EXTERIOR CONDUIT ENTRY (AS LOW AS POSSIBLE). PROVIDE 1-1/2" FROM RACEWAY TO MECH/ELEC ROOM 120.

Designed by
Mr. Reginald D. Adams
61070000P02423



3/18/2024

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01.29.2024

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1	Addendum 2	3/21/2024

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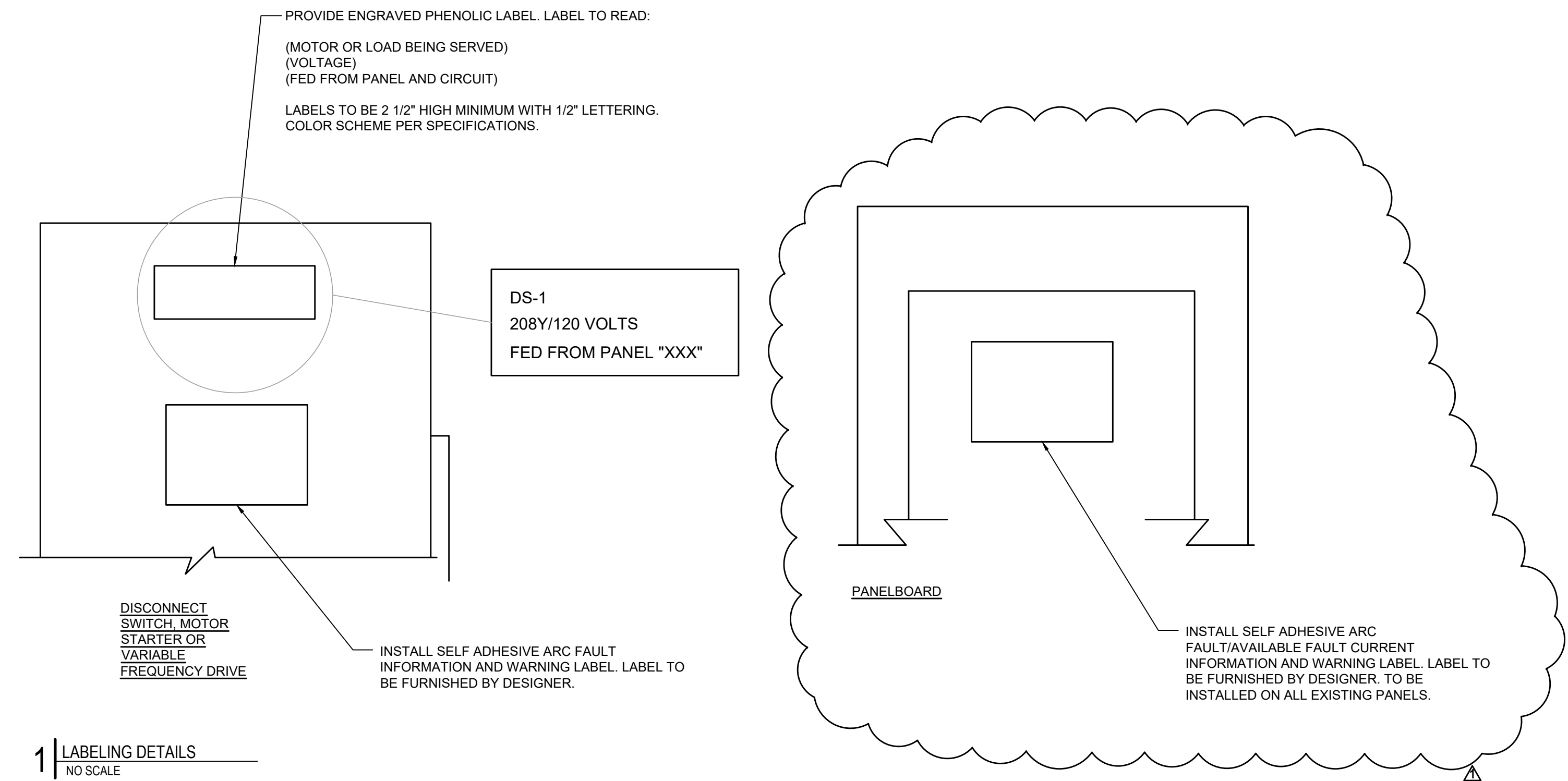
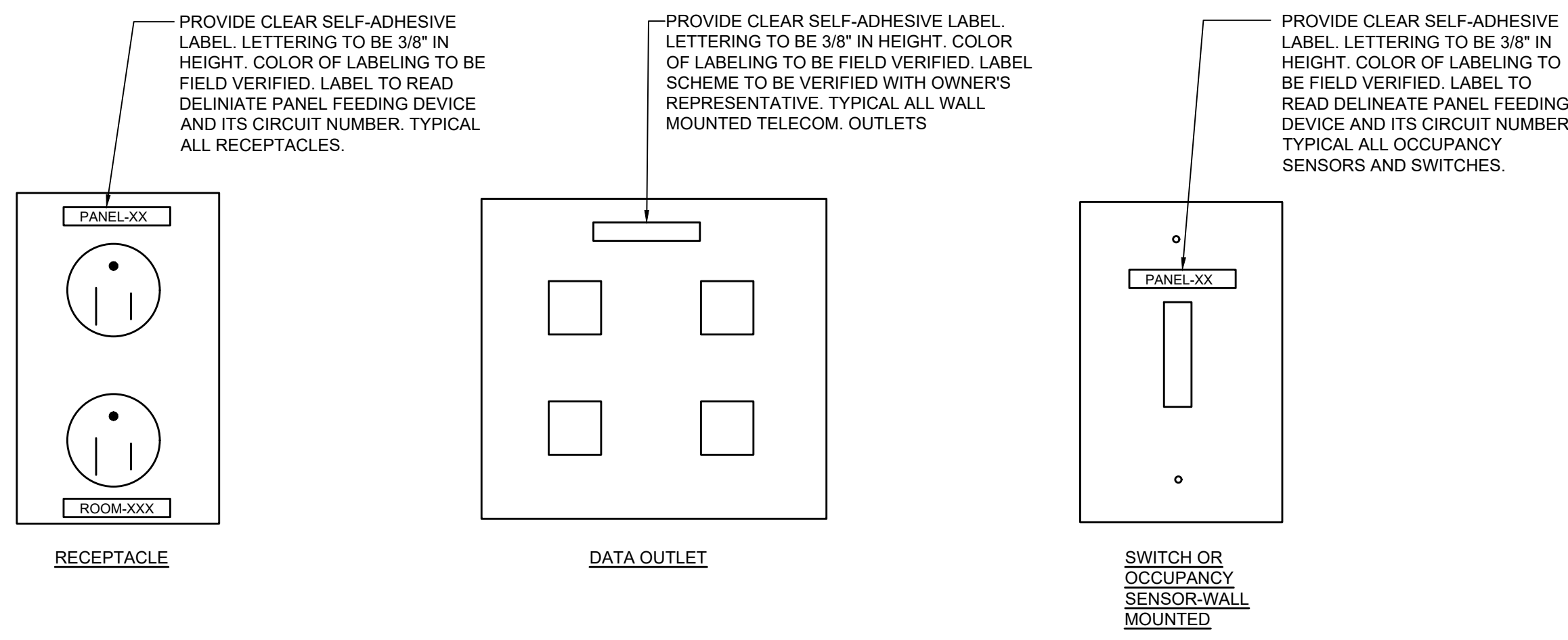
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PROJECT NO: 2023_0030
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SHEET DATA

POWER PLAN

SHEET NO.

E201



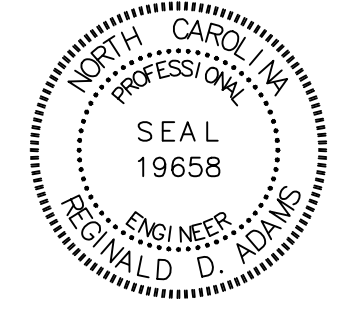
1 LABELING DETAILS
NO SCALE

Conduit Box and Color Scheme Standards

System	Junction Box and Cover	Conduit Color	Raceway Labels	Comments
208Y/120 V Equipment	Galvanized	Galvanized		
480Y/277 V Equipment	Black	Galvanized		
Fire Alarm	Bright Red	Red	White	
Emergency Systems	Green	Green		
Telephone Systems	Orange	Orange		
Data Systems	Brown	Orange		
Paging	White	Orange		
TV Systems	Purple	Orange		
Audio Visual	Blue	Galvanized		
HVAC Controls	Gvanized	Blue		
Communications (Security)	Galvanized	Yellow	Orange	Intercom System
Security Control	Galvanized	Yellow	Green	Card Reader System
Video Surveillance	Galvanized	Yellow	Blue	Camera System
Network - Security	Galvanized	Yellow	Yellow	Security Backbone

2 CONDUIT/BOX COLOR CODES
NO SCALE

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#10760008FA2424



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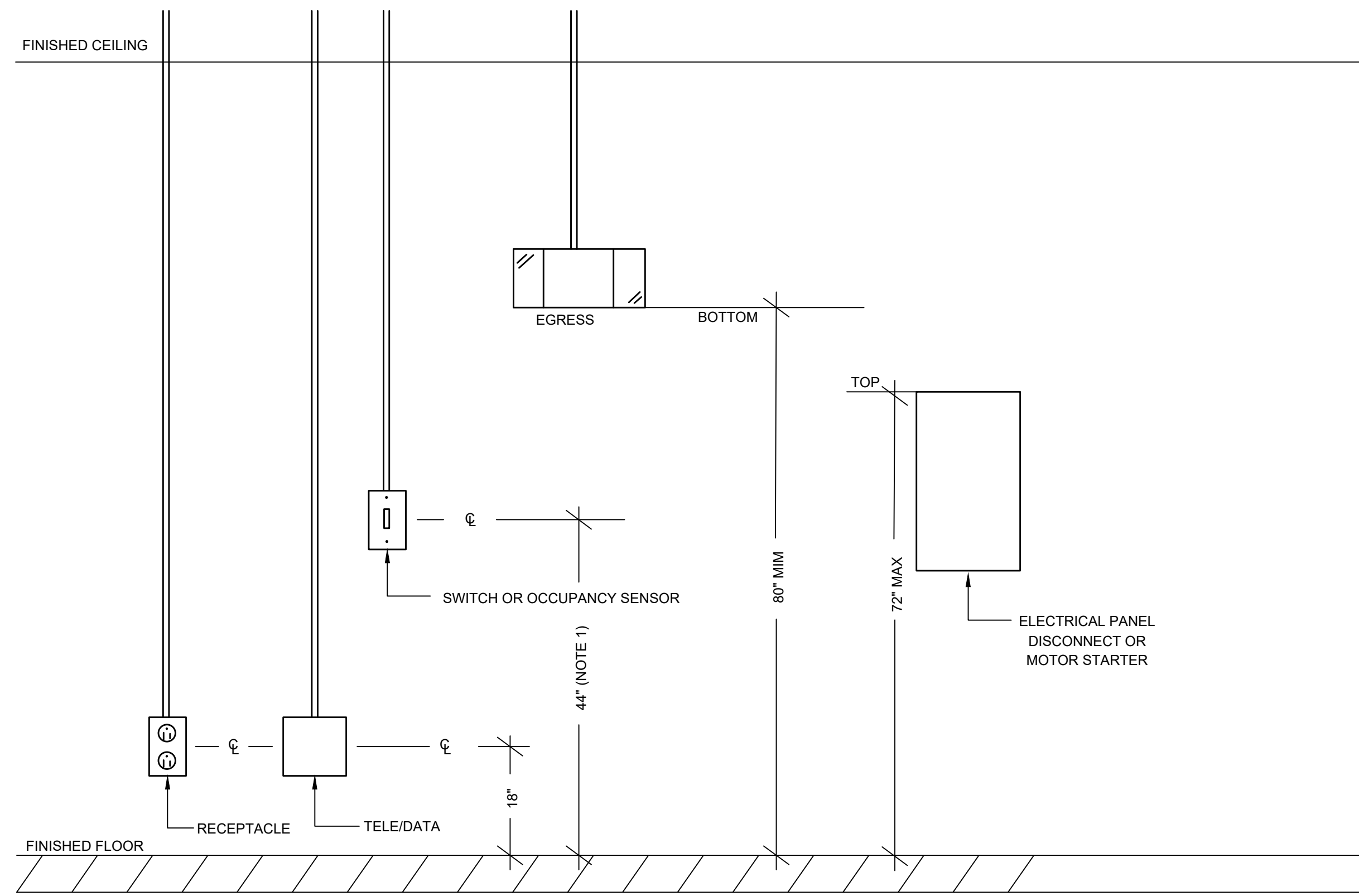
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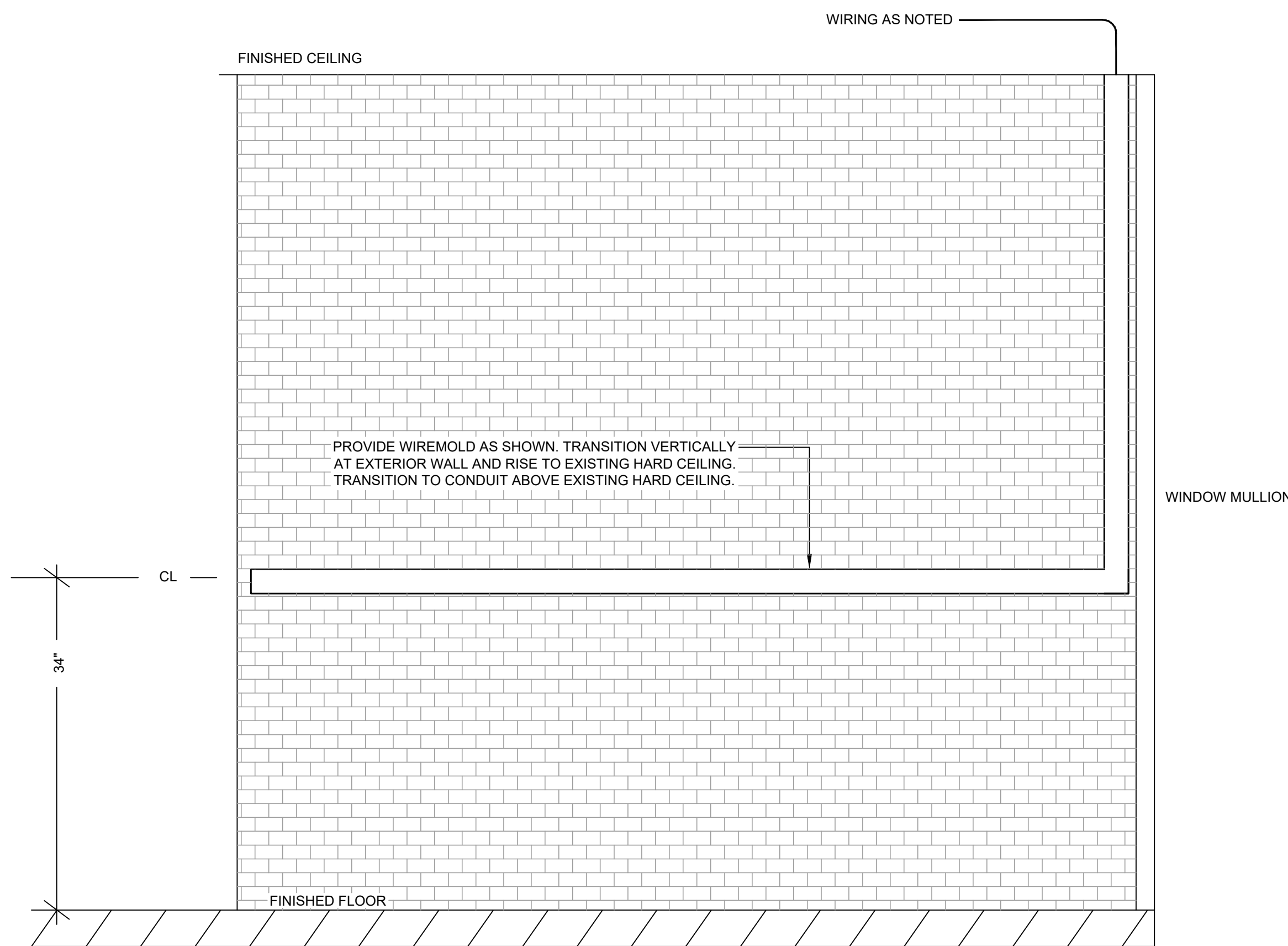
SHEET DATA
ELECTRICAL DETAILS

SHEET NO.
E500



NOTE:
1. IF MOUNTED TO ADJACENT SECURITY DEVICES SUCH AS CARD READERS, ALIGN THOSE DEVICES WITH SWITCHES.

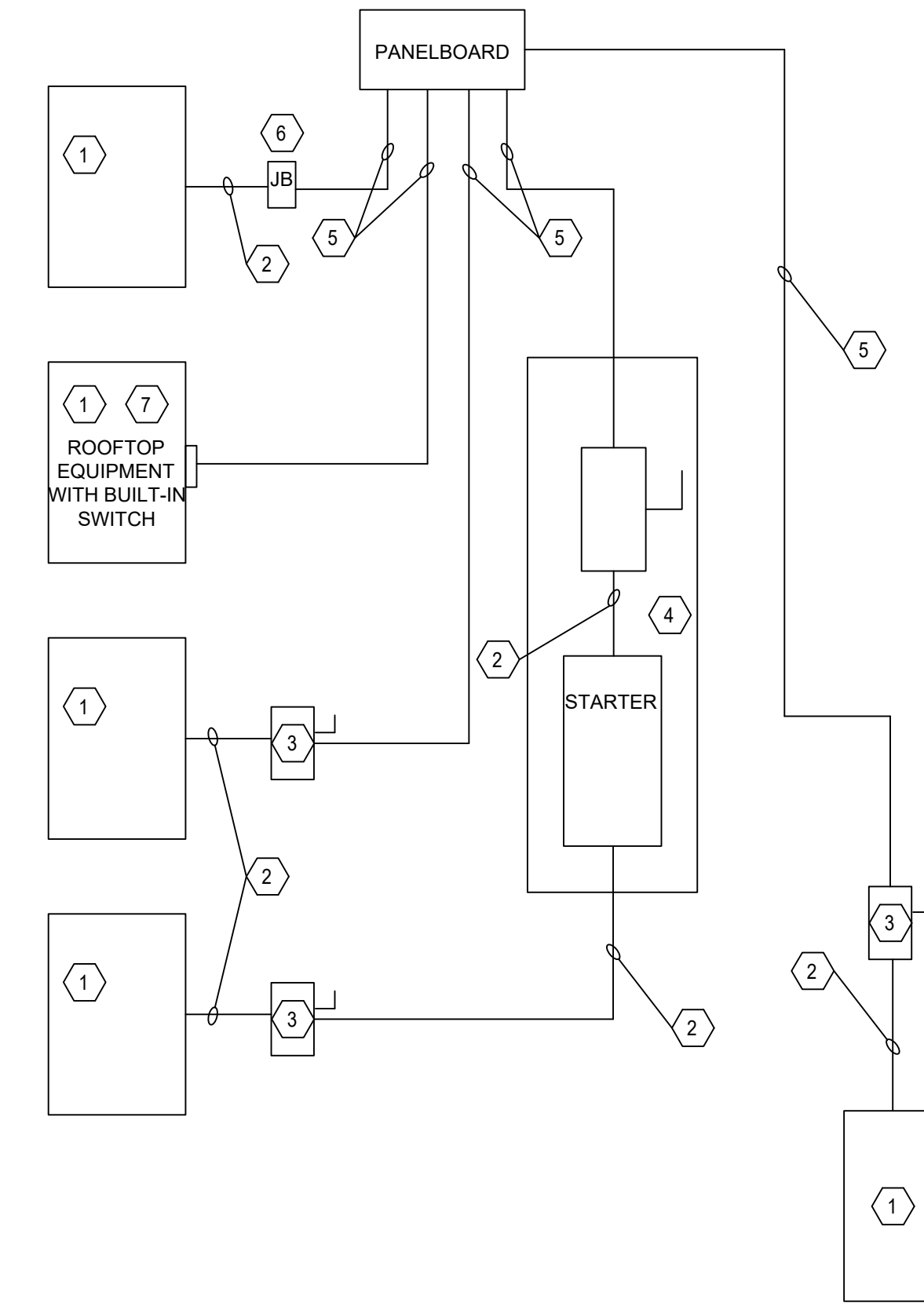
1 | MOUNTING DETAILS-NEW WORK
NO SCALE



3 | WIREMOLD INSTALL DETAIL
NO SCALE

KEYED NOTES:

- 1 EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
- 2 CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
- 3 IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
- 4 A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATED ADJACENT TO EQUIPMENT.
- 5 FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
- 6 JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
- 7 IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.



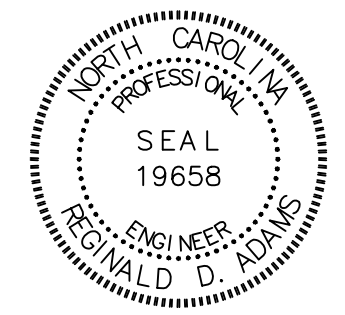
NOTE: DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OR ROTATION FOR ALL THREE PHASE EQUIPMENT.
NOTE: DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR LABELING OF ALL DISCONNECTS.
NOTE: ALL FINAL ELECTRICAL CONNECTIONS SHALL BE MADE BY A QUALIFIED LICENSED ELECTRICAL CONTRACTOR.

2 | DIVISION OF WORK
NO SCALE

CLEARSCAPES
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Raleigh, NC 27601
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CONSULTANTS
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SEALS
DocuSigned by:
Mr. Reginald D. Adams
61D76006FA2424



3/18/2024

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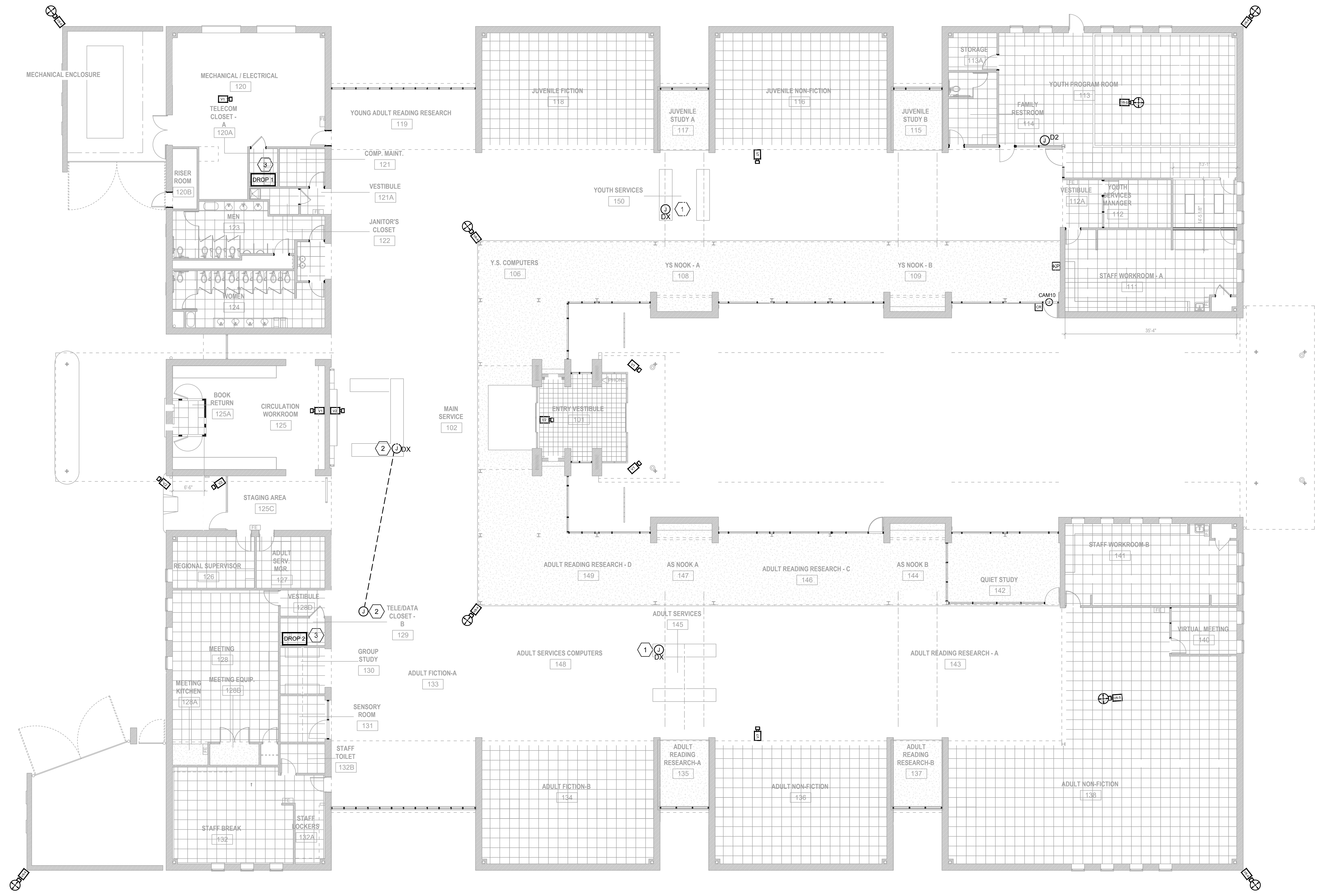
SHEET DATA
ELECTRICAL DETAILS

SHEET NO.

E501

REVISIONS

No.	Description	Date
1	Addendum 2	3/21/2024



GENERAL NOTES:

- REFER TO SHEET E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES. REFERENCE SEC400 FOR RISER INFORMATION.
- DIVISION 26 CONTRACTOR IS RESPONSIBLE FOR POWER AND CONDUIT ONLY. INSTALLATION OF WIRING AND DEVICES WILL BE BY THE DIVISION 28 (SECURITY) CONTRACTOR.**
- TO THE EXTENT POSSIBLE, ALL CONDUIT SHALL BE CONCEALED. WHERE IT IS NECESSARY TO PROVIDE CONDUIT IN OPEN CEILING AREAS, CONDUIT SHALL BE INSTALLED ABOVE OR ADJACENT TO EXISTING SPIRAL HVAC DUCT WORK. "ADJACENT" SIDE SHALL BE DETERMINED IN FIELD WITH DESIGNER.**
- ALL CAMERA ROUGH-IN LOCATIONS WILL BE FIELD COORDINATED WITH THE DESIGNER PRIOR TO BEGINNING ROUGH-IN.**

KEYED NOTES:

- REFERENCE KEYNOTE #9, E101 RE-WORK EXISTING DURESS BUTTON CONDUIT. PROVIDE STUB-UP AT LOCATION DESIGNATED BY DIVISION 28 SECURITY CONTRACTOR.
- RE-WORK EXISTING DURESS BUTTON CONDUIT NOTED IN KEYNOTE #9, E101. PROVIDE STUB-UP AT LOCATION DESIGNATED BY DIVISION 28 SECURITY CONTRACTOR.
- LOCATIONS OF EXISTING TELECOM. ROOMS. ROUTE CONDUITS TO THOSE SPACES AS SHOWN ON SHEET SEC400.

CAMERA ID	TYPE	MODEL	VIEW	Device Description	LOCATION	DROP	NOTES
C1	V8-4	P3727-PLF	360	Corner mount-Mult Sensor	Exterior-NW Corner	120A	
C2	V8-5	M-4318-PLVE	Fisheye	Ceiling-Fisheye	Youth Program Room	120A	
C3	V7	P3807-PVE	180	Wall mount-180	Juvenile Study A	120A	
C4	V8-4	P3727-PLF	360	Corner mount-Mult Sensor	Youth Side Computers	120A	
C5	V1	P3167-LV	Fixed	Ceiling mount - Fixed	Exterior- Main Entrance Youth side	120A	
C6	V2	P3167-LV	Fixed	Wall mount- Fixed	Vestibule Entrance	120A	
C7	V2	P3167-LV	Fixed	Wall mount- Fixed	Main Reception Desk	120A	
C8	V1	P3167-LV	Fixed	Ceiling mount - Fixed	Circulation Workroom	120A	
C9	V1	P3167-LV	Fixed	Ceiling mount - Fixed	Mechanical/Electrical	120A	
C10	V8-4	P3727-PLF	360	Corner mount-Mult Sensor	Exterior-SW Corner	120A	
C11	V2	P3167-LV	Fixed	Wall mount- Fixed	Back entrance door	129	
C12	V2	P3167-LV	Fixed	Wall mount- Fixed	Exterior-Vehicle drop off	129	
C13	V8-4	P3727-PLF	360	Corner mount-Mult Sensor	Exterior-SE Corner	129	
C14	V8-4	P3727-PLF	360	Corner mount-Mult Sensor	Interior-Adult Fiction-A	129	
C15	V1	P3167-LV	Fixed	Ceiling mount - Fixed	Exterior- Main Entrance Adult side	129	
C16	V7	P3807-PVE	180	Wall mount- 180	Adult Reading/Research-A	129	
C17	V8-5	M-4318-PLVE	Fisheye	Ceiling-Fisheye	Adult Non-Fiction	129	
C18	V8-4	P3727-PLF	360	Corner mount-Mult Sensor	Exterior-NE Corner	129	