The Medical Center of Aurora

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

ISSUE DATE: JULY 15, 2016
PROJECT #: 16-018

ISSUE FOR CONSTRUCTION

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Facility

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MPE

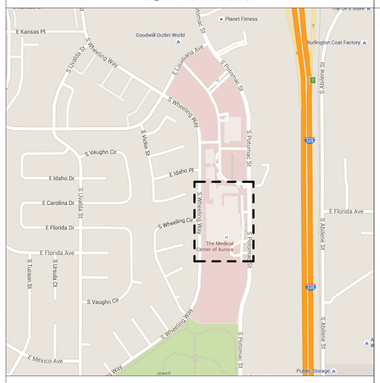
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Greenwood Village, CO 80111
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tylerf@ccrd.com

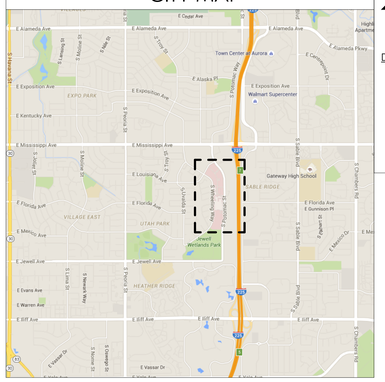
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VICINITY MAP



CITY MAP



GENERAL SYMBOLS LEGEND

COLUMN GRID DESIGNATION



NEW GRID



EXISTING GRID

BUILDING SECTION TAG



WALL SECTION TAG



DETAIL CALLOUT TAG



NOTE TAGS

1 NOTE BY NUMBER

XX.XXX SPECIFICATION NOTE

DOOR TAG

GL-X GLAZING DESIGNATION PER SPECIFICATIONS

GLAZING TAG

GL-X GLAZING DESIGNATION PER SPECIFICATIONS

ARCHITECTURAL WOODWORK

24" CABINET WIDTH
A1 CABINET TYPE

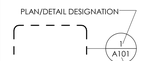
EXTERIOR ELEVATION TAG



INTERIOR ELEVATION TAG



ENLARGED PLAN / CALLOUT TAG



GENERAL PROJECT NOTES

1. REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR APPLIACABLE NOTES, ABBREVIATIONS, AND SYMBOLS
2. DO NOT SCALE THE DRAWING. IF DIMENSIONS ARE IN QUESTION, OBTAIN CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING.
3. DIMENSIONS SHOWN ON THE FLOOR PLANS FOR NEW CONSTRUCTION ARE TO THE FACE OF FINISH OF INTERIOR WALLS, TO CENTER LINE OF COLUMNS, AND TO FACE OF CONCRETE OR MASONRY WALLS, UNLESS OTHERWISE INDICATED. DIMENSIONS IN RENOVATED AREAS ARE FROM FINISH FACE OF EXISTING WALLS AND TO FINISH FACE OF NEW STUD WALLS, UNLESS OTHERWISE INDICATED.
4. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS. COORDINATE WITH THE OWNER ON DELIVERY AND INSTALLATION OR OF/CI EQUIPMENT. MINIMUM REQUIRED OPENINGS AND ACCESSIBLE ROUTES TO THE INSTALLATION AREA SHALL BE COORDINATED WITH THE SUPPLIER.
5. FINISH FLOOR ELEVATIONS ARE TO TOP OF FINISHED FLOORING PRODUCT, OFTEN NOTED BY AFF (ABOVE FINISH FLOOR) UNLESS OTHERWISE NOTED.
6. COORDINATE EXACT SIZE AND PLACEMENT OF EQUIPMENT BASE AND HOUSEKEEPING PADS WITH EQUIPMENT TO BE PROVIDED.
7. WHERE NEW GYPSUM BOARD PARTITIONS ARE A CONTINUTION OF AN EXISTING PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE NEW GYPSUM BOARD SHALL BE AUGNED WITH THE FACE OF THE EXISTING SURFACE. WHERE A ONE HOUR PARTITION IS SHOWN AS A CONTIUNATION OF A TWO-HOUR PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE GYPSUM BOARD SHALL BE OFFSET AS REQUIRED TO PROVIDE FACE ALIGNMENT OF GYPSUM BOARD ON BOTH SIDES.
8. LEVEL FLOORS SO THAT THEY DO NOT EXCEED A 1/4" VARIANCE IN A 10'-0" RADIUS.
9. PIPING LOCATED ABOVE GRADE AND INSIDE THE BUILDING SHALL BE CONCEALED IN FURRED SPACES WITH THE EXCEPTION OF PIPING IN STAIRWAYS, EQUIPMENT ROOMS, AND POWERHOUSE. COORDINATE WITH OTHER TRADES TO PROVIDE FURRING FOR PIPING INSTALLED IN FINISHED AREAS.
10. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.
11. ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.
12. SEALANTS EXPOSED TO VIEW SHALL BE CUSTOM COLOR AS SELECTED BY THE ARCHITECT.
13. COORDINATE LOCATION OF SEALANT AND COMPATIBILITY OF SEALANTS WITH ADJACENT WORK, INCLUDING MATERIALS AND OTHER CONTIGUOUS SEALANTS
14. CAULK AT JUNCTURE OF INTERIOR FACES OF DOOR FRAMES, VIEW WINDOW FRAMES, EXTERIOR WINDOW FRAMES, AND CABINET WORK WITH ADJACENT MATERIALS. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.

PROJECT DESCRIPTION

THE PROJECT IS PRIMARILY A FINISH RENOVATION CONSISTING OF FIVE EMERGENCY DEPARTMENT ROOMS, AN ADJACENT RESTROOM AND A NURSE STATION. THE AREA OF SCOPE IS 1,500 SF.

PROJECT DATA

- **ADOPTED CODES / LAWS:**

CITY OF AURORA:
2015 INTERNATIONAL BUILDING CODE (IBC)
2015 INTERNATIONAL EXISTING BUILDING CODE
2014 NATIONAL ELECTRICAL CODE (NEC)
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL PLUMBING CODE
2015 INTERNATIONAL FIRE CODE
2015 INTERNATIONAL FUEL AND GAS CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE
2009 ICC/ANSI A117.1 ACCESSIBLE USABLE BUILDINGS AND FACILITIES

STATE OF COLORADO:
2012 NFPA 101 - LIFE SAFETY CODE
2009 CO DEPARTMENT OF HEALTH AND ENVIRONMENT - HOSPITAL LICENSING RULES

FEDERAL:
2010 AMERICANS WITH DISABILITIES ACT GUIDELINES

- **OCCUPANCY CLASSIFICATION:**
2015 IBC - GROUP I-2 (SECTION 308)
CMS - 2012 NFPA 101 - NEW HEALTHCARE OCCUPANCY (CHAPTER 18)
STATE OF COLORADO - 2012 NFPA 101 - NEW HEALTHCARE OCCUPANCY CHAPTER 18

- **PRINCIPAL OCCUPANCY TYPE:** HEALTHCARE

- **CONSTRUCTION TYPE:**

EXISTING: SBC - TYPE 1A, UNRESTRAINED, FULLY SPRINKLERED

NEW: 2015 IBC - TYPE 1A, FULLY SPRINKLERED

ABBREVIATIONS LEGEND

ACC	ACCESSIBLE	NIC	NOT IN CONTRACT
AFF	ABOVE FINISHED FLOOR	NTS	NOT TO SCALE
APPROX	APPROXIMATE	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
ARCH	ARCHITECTURAL	OFOI	OWNER FURNISHED, OWNER INSTALLED
B.O.___	BOTTOM OF ___	OPP	OPPOSITE
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	PERP	PERPENDICULAR
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED	PLBG	PLUMBING
CL	CENTER LINE	PLYWD	PLYWOOD
CLG	CEILING	RE:	REFER TO _
CLR	CLEAR	REF	REFRIGERATOR
CMU	CONCRETE MASONRY UNIT	REINF	REINFORCE, REINFORCING
COORD	COORDINATE	RO	ROUGH OPENING
CORR	CORRIDOR	ROW	RIGHT OF WAY
DBL	DOUBLE	SCHED	SCHEDULE
DEMO	DEMOLISH, DEMOLITION	SF	SQUARE FOOT(FEET)
EA	EACH	SIM	SIMILAR
ELEC	ELECTRIC(AL)	SPEC	SPECIFICATION
ELEV	ELEVATOR	STC	SOUND TRANSMISSION CLASS
EQ	EQUAL	STD	STANDARD
(E), EXST	EXISTING	STL	STEEL
FF	FINISH FACE	STRUCT	STRUCTURAL
FF EL	FINISHED FLOOR ELEVATION	T	TREAD
FLR	FLOOR	T&G	TONGUE & GROOVE
FO	FINISHED OPENING	TEMP	TEMPORARY
FP	FIRE PROTECTION	T.O.	TOP OF ___
FV	FIELD VERIFY	TOPO	TOPOGRAPHY, TOPOGRAPHIC
GALV	GALVANIZED	TYP	TYPICAL
GYP BD	GYPSUM BOARD	UL	UNDERWRITER'S LABORATORIES
GYP PLAS	GYPSUM PLASTER	UNFIN	UNFINISHED
INSUL	INSULATION	UNO	UNLESS NOTED OTHERWISE
LAV	LAVATORY	W/	WITH
LVR	LOUVER	W/O	WITHOUT
MAX	MAXIMUM	WC	WATER CLOSET
MECH	MECHANICAL	WD	WOOD
MFR	MANUFACTURER	X	BY
MIN	MINIMUM		
MISC	MISCELLANEOUS		

DRAWING NUMBER KEY

DISCIPLINE

A	ARCHITECTURAL
C	CIVIL
L	LANDSCAPE
M	MECHANICAL
E	ELECTRICAL
P	PLUMBING
S	STRUCTURAL
K	KITCHEN
R	RADIOLOGY

XX/A.XXX

NUMBER OF PLAN, DETAIL, ETC. ON SHEET

DRAWING SERIES

SEPARATE FIRE ALARM PERMIT REQUIRED:
Due to the proposed work the general contractor is required to obtain the services of a fire alarm contractor to determine if a separate alarm permit is required. If it is determined that the spacing of the fire alarm devices is not in compliance, then a separate fire alarm permit is required. Approval of the documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be issued by the Building Division without this fire protection system. **2015 IFC, Section 105.7.6.**

SEPARATE FIRE SPRINKLER PERMIT REQUIRED:
Due to the proposed work the general contractor is required to obtain the services of a fire sprinkler contractor to determine if a separate sprinkler permit is required. If it is determined that the spacing of the fire sprinkler heads is not in compliance, then a separate fire sprinkler permit is required. Approval of the documents is required prior to system installation or any request for inspection. A certificate of occupancy or final approval cannot be issued by the Building Division without this fire protection system. **2015 IFC, Section 105.7.1.**

Provide U.L. Class 2A10BC minimum rating fire extinguishers at a maximum 50'-0" travel distance prior to the Certificate of Occupancy Issuance 2015 IFC Table 906.3[1] and 2013 NFPA 10

City of Aurora Building Division
Project: ***1,500 SQ. FT. AREA REMODEL***
Address: ***1501 S. POTOMAC STREET***
Occupancy Group: ***IBC I-2***
Construction Type: ***UBC I FR SPR***
RSN: ***1142272***
Permit: ***2016-1162878 LT***

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

This plan was reviewed for adopted codes and **NOT** reviewed for *compliance with **ADA** or **FHA** accessibility. Contact 800-949-4232 **(ADA)** and 303-894-7822x325**(FHA)** for federal accessibility requirements that apply to your project.*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: ***Craig Macy***
Date: ***Sep 01, 2016***
2015 INTERNATIONAL CODES & 2014 NEC

2245 Curtis Street, Suite 100
Denver, CO 80205

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Fax: 303.534.5215
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www.path21arch.com

Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date
1	ADD 01	07.25.16
2	ADD 02	08.17.16

STATE OF COLORADO
JOHN MENNO NAP
401729
LICENSED ARCHITECT
08/17/16

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	SW
Checked by	JMN

Sheet Title:
COVER & DRAWING INDEX

Sheet Number
G.101

CONTRACT & PROJECT DOCUMENTS

8/18/16 2:17:08 PM

SECTION 011000 - SUMMARY

1.1 PROJECT INFORMATION
A. Project Identification: Peds ED Renovation, The Medical Center of Aurora, Aurora, Colorado, Architect's Project No. 16-003 MCOA Cath Lab Renovation.
1. 1501 S Potomac St, Aurora, CO, 80012.
B. Owner: The Medical Center of Aurora.
C. Architect: PATH21 Architecture, 2245 Curtis Street, Suite 100, Denver, Colorado 80205.

1.2 WORK COVERED BY CONTRACT DOCUMENTS
A. This project is primarily a finish renovation consisting of five emergency department rooms, an adjacent restroom, and a nurse station. Scope of project 1,500 SF.
B. Project will be constructed under a single prime contract.
C. Owner Furnished Products: Refer to Drawings.

1.3 ACCESS TO SITE
A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Limits: Confine construction operations to areas indicated.
2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.4 COORDINATION WITH OCCUPANTS
A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.
B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.5 WORK RESTRICTIONS
A. Work Restrictions, General: Comply with restrictions on construction operations.
1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
1. Patient Areas of Medical Care Facilities: 24 hours per day, seven days a week.
2. Weekend Hours: 8:00 a.m. to 5:00 p.m.
3. Early Morning or Late Night Hours: Coordinate with Owner.
4. Hours for Utility Shutdowns: Coordinate with Owner.
5. Hours for Noisy Activities: Coordinate with Owner.
C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
1. Notify Owner not less than three days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.
D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
1. Notify Owner not less than three days in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.
E. Nonsmoking Building: Smoking is not permitted on this campus.
F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
G. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.
H. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
I. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
1. Maintain list of approved screened personnel with Owner's representative.
J. Refer to Owner's "Requirements for Contractors Performing Construction" attached to this section.

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

1.1 SUMMARY
A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
1. General project coordination procedures.
2. Administrative and supervisory personnel.
3. Coordination drawings.
4. Requests for Information (RFIs).
5. Project meetings.
B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.1 COORDINATION
A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
1. Schedule construction operations in sequence required where installation of one part of the Work depends on installation of other components.
B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work.
1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-installation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.
10. Structural Penetrations: Indicate penetrations and openings required for all disciplines.

1.2 REQUESTS FOR INFORMATION (RFIs)
A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. All RFIs should be sent directly to the Architect via email.
B. RFI Forms: Software-generated form acceptable to Architect. Sketches or other necessary documents should be attached to email in PDF format.
C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow 7 business days for Architect's response for each RFI.
D. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties.

1.3 PROJECT MEETINGS
A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
B. Pre-construction Conference: Schedule and conduct a pre-construction conference before starting construction but no later than 15 days after execution of the Agreement.
C. Pre-Installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
D. Progress Meetings: Conduct progress meetings at regular intervals.
E. Coordination Meetings: Conduct Project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

SECTION 013300 - SUBMITTAL PROCEDURES

1.1 SUBMITTAL ADMINISTRATIVE REQUIREMENTS
A. Architect's Digital Data Files: Electronic copies of CAD Drawings will be provided by Architect for Contractor's use in preparing coordination submittals.
B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals. Submittals received after 1:00 pm will be considered to have been received the following day.
1. Allow 10 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
D. Identification and Information: Identify and incorporate information in each electronic submittal file.
1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
E. Options: Identify options requiring selection by the Architect.
F. Deviations: Identify deviations from the Contract Documents on submittals.
G. Use for Construction: Use only final submittals that are marked with 'Reviewed' , 'Furnish as Corrected' notation from Architect's action stamp. , or with approval notation from alternate reviewer.
1.2 SUBMITTAL PROCEDURES
A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email or upload electronic submittals as PDF electronic files directly to Architect.
H. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
I. Shop Drawings: Prepare Project-specific information, drawn accurately to scale.
J. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
K. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
L. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
M. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
1.3 CONTRACTOR'S REVIEW
N. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
O. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
1.4 ARCHITECT'S ACTION
C. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
O. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
1. Reviewed
2. Revise and Resubmit
3. Rejected
4. Furnish As Corrected
5. No Action Taken.
P. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
Q. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
R. Incomplete submittals are not acceptable, will be considered non-responsive, and will be returned without review.
S. Submittals not required by the Contract Documents may not be reviewed and may be discarded.
T. Material safety data sheets shall not be submitted to the architect for review.

SECTION 017300 – EXECUTION

1.1 SECTION INCLUDES
A. Installation of the Work.
B. Cutting and patching.
C. Progress cleaning.
D. Protection of installed construction.

1.1 DEFINITIONS
A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.2 QUALITY ASSURANCE
A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from the Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.3 INSTALLATION
A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

1.4 CUTTING AND PATCHING
A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
B. Temporary Support: Provide temporary support of work to be cut.
C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of Division 01 Section "Summary."
E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.
G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or re-hang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather-tight condition.
H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

1.5 PROGRESS CLEANING
A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
4. Utilize containers intended for holding waste materials of type to be stored.
5. Coordinate progress cleaning for joint-use areas where more than one installer has worked.
B. Site: Maintain Project site free of waste materials and debris.
C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire area, as appropriate.
D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls." Division 01 Section "Construction Waste Management and Disposal."
H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

1.6 PROTECTION OF INSTALLED CONSTRUCTION
A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
B. Comply with manufacturer's written instructions for temperature and relative humidity.

1.7 CORRECTION OF THE WORK
A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
B. Restore permanent facilities used during construction to their specified condition.
C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

SECTION 017700 – CLOSEOUT PROCEDURES

1.1 SUBSTANTIAL COMPLETION
A. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.1 FINAL COMPLETION
A. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected. Include cost for re-inspection based on incomplete work of the Contractor.

1.2 LIST OF INCOMPLETE ITEMS (PUNCHLIST)
A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A attached or form provide by Contractor and approved by Architect.

1.3 WARRANTIES
A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1.4 FINAL CLEANING
A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

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SECTION 017823 – OPERATION AND MAINTENANCE DATA

1.1 CLOSEOUT SUBMITTALS
A. Manual Content: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1.1 MANUALS
A. Emergency manuals.
B. Operation Manuals.
C. Product maintenance manuals.
D. Systems and equipment maintenance manuals.

SECTION 017839 – PROJECT RECORD DOCUMENTS

1.1 CLOSEOUT SUBMITTALS
A. Record drawings.
B. Record specifications.
C. Record product data.
D. Miscellaneous record submittals.

1.1 SUBMITTALS
A. Provide product record documents in electronic format.

SECTION 024129 – SELECTIVE DEMOLITION

1.1 SECTION INCLUDES
A. Demolition and removal of selected portions of building or structure.
B. Salvage of existing items to be reused or recycled.

1.1 MATERIALS OWNERSHIP
A. Unless otherwise indicated, demolition and waste products become property of Contractor.

1.2 FIELD CONDITIONS
A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
1. Maintain fire-protection facilities in service during selective demolition operations.

1.3 PERFORMANCE REQUIREMENTS
A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.4 EXAMINATION
A. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
B. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
2. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.
C. Survey of Existing Conditions: Record existing conditions by use of measured drawings and preconstruction photographs or preconstruction videos.
1. Comply with requirements specified in Section 01 32 33 "Photographic Documentation."
2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

1.5 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS
A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

1.6 PREPARATION
A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1.7 SELECTIVE DEMOLITION
A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.
B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.
F. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.

1.8 DISPOSAL OF DEMOLISHED MATERIALS
A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1.9 CLEANING
A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

SECTION 061053 – MISCELLANEOUS ROUGH CARPENTRY

1.1 WOOD PRODUCTS, GENERAL
A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
2. Provide dressed lumber, S4S, unless otherwise indicated.

1.1 WOOD-PRESERVATIVE-TREATED MATERIALS
A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground.
B. Marking: Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
C. Application: Treat all rough carpentry unless otherwise indicated.

1.2 FIRE-RETARDANT-TREATED MATERIALS
A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
1. Use treatment that does not promote corrosion of metal fasteners.
2. Exterior Type: Treated materials shall comply with requirements specified below for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
C. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
D. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
E. Application: Treat items indicated on Drawings, and the following:
1. Framing for raised platforms.
2. Concealed blocking.
3. Roof framing and blocking.
4. Wood cants, nailers, curbs, equipment support bases, blocking, and similar operations.
5. Plywood backing panels.

1.1 MISCELLANEOUS LUMBER
A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
B. For items of dimension lumber size, provide No. 2 grade lumber and any of the following species:
1. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
C. For blocking not used for attachment of other construction, Utility, Stud, or No. 2 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

1.3 PLYWOOD BACKING PANELS
A. Equipment Backing Panels: DOC PS 1, Exterior, AC, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

1.4 INSTALLATION
A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.]
E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
F. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
3. Fire block concealed spaces between fixer sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
G. Securely attach carpentry work to substrate by anchoring and fastening

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

1.1 SUMMARY
A. This Section includes the following:
1. Plastic-laminate cabinets.
2. Plastic-laminate countertops.
3. Shop finishing of interior woodwork.
4. Cabinet hardware.
5. Interior finish carpentry including standing and running trim.
B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.1 QUALITY ASSURANCE
A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program.
B. Installer Qualifications: Certified participant in AWI's Quality Certification Program.
C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
D. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1.2 DELIVERY, STORAGE, AND HANDLING
A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

1.3 PROJECT CONDITIONS
A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.4 COORDINATION
A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

1.5 MATERIALS
A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
B. Wood Products: Comply with the following:
1. Hardboard: Tempered, AHA A135.4.
2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
a. Type A (standard): MDF, MR10 – ANSI A208.2, Grade 130.
b. Type B (where additional moisture resistance is needed): MDF, MR30 – ANSI A208.2, Grade 155.
c. Type C (near sinks, splashes, and other high humidity locations): MDF, MR50 – ANSI A208.2, Grade 150
3. Softwood Plywood: DOC PS 1, Medium Density Overlay.
C. Thermoset Decorative Laminate (melamine): Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
1. Provide PVC or polyester edge banding complying with LMA EDG-1 on components with exposed or semi-exposed edges. Color to match face material.
D. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

1.6 CABINET HARDWARE AND ACCESSORIES
A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 08 Section "Door Hardware (Scheduled by Describing Products)."
B. Frameless Concealed Hinges (European

SECTION 079210 – INTERIOR JOINT SEALANTS

1.1 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
   1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
   2. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

1.1 WARRANTY

A. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: 20 years from date of Substantial Completion for silicone sealants.

1.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
   1. Architectural Sealants: 250 g/L.
   2. Sealant Primers for Nonporous Substrates: 250 g/L.
   3. Sealant Primers for Porous Substrates: 775 g/L.

C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
   1. Suitability for Immersion in Liquids: Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

E. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

1.3 SILICONE JOINT SEALANTS

A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant(S-S:) ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. BASF Building Systems; Omniplus.
      b. Dow Corning Corporation; 786 Mildew Resistant.
      c. GE Advanced Materials - Silicones; Sanitary SCS1700.
      d. Tremco Incorporated; Tremsil 200 Sanitary.

1.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant (AL): Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. BASF Building Systems; Sonolac.
      b. Bostik, Inc.; Chem-Calk 600.
      c. May National Associates, Inc.
      d. Pecora Corporation; AC-20+.
      e. Tremco Incorporated; Tremflex 834.

1.5 ACOUSTICAL JOINT SEALANTS (AC)

A. Acoustical Joint Sealant: Manufacturer's standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Pecora Corporation; AC-20 FTR .
      b. USG Corporation; SHEETROCK Acoustical Sealant.

1.6 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

1.7 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   1. Do not leave gaps between ends of sealant backings.
   2. Do not stretch, twist, puncture, or tear sealant backings.
   3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
   1. Remove excess sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
   3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
   4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.

F. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

1.8 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
   1. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
      a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   2. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

1.9 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

1.10 JOINT-SEALANT SCHEDULE

A. Sealant Schedule:
   1. Interior Joints:
      a. Wall and ceiling joints subject to movement: Designation U-MC.
      b. Wall and ceiling joints not subject to movement: Designation AL.
      c. Wall and ceiling joints between frames and their rough opening: Designation AL.
      d. Wall and ceiling joints between frames and adjoining surfaces: Designation AL.
      e. Interior Sanitary Joints; Joints Between Plumbing Fixtures and Adjoining Floor, Wall, and Ceiling Surfaces; Joints Between Shower Door Enclosure Components and Adjacent Finish Surfaces; Joints in Dietary and Food Preparation Areas, Kitchens, Food Storage Areas, and Areas Subject to Frequent Wet Cleaning, including joints between walls and floors, Joints Between Back Splashes and Wall Substrates: Designation S-S.

SECTION 08 11 14 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes hollow-metal work.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.

B. Shop Drawings: Include the following:
   1. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
   2. Locations of reinforcement and preparations for hardware.
   3. Details of each different wall opening condition.
   4. Details of anchorages, joints, field splices, and connections.
   5. Details of accessories.
   6. Details of moldings, removable stops, and glazing.
   7. Details of conduit and preparations for power, signal, and control systems.

C. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.6 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.

B. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
   1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Amweld International, LLC.
   2. Ceco Door Products; an Assa Abloy Group company.
   3. Curries Company; an Assa Abloy Group company.
   4. Steelcraft; an Ingersoll-Rand company.

B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS

A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
   1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

B. Fire-Rated, Borrowed-Light Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR FRAMES

A. Construct interior frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Frames: SDI A250.8, Level 3.
   1. Physical Performance: Level A according to SDI A250.4.
   2. Frames:
      a. Materials: Uncoated, steel sheet, minimum thickness of 0.053 inch.
      b. Construction: Full profile welded.
   3. Exposed Finish: Prime.
   4. At lead lined frames, sheet steel thickness shall be 14 GA.

2.4 FRAME ANCHORS

A. Jamb Anchors:
   1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
   2. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:
   1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.5 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
   1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.

G. Glazing: Comply with requirements in Section 08 80 00 "Glazing."

H. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.6 FABRICATION

A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
   1. Sidelight Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
   2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
   3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
   4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
   5. Jamb Anchors: Provide number and spacing of anchors as follows:
      a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
         1) Three anchors per jamb up to 60 inches high.
         2) Four anchors per jamb from 60 to 90 inches high.
         3) Five anchors per jamb from 90 to 96 inches high.
         4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
      b. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.
   6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
      a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
      b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

C. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.

D. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
   1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
   2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

E. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.
   1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
   2. Provide fixed frame moldings on secure side of interior frames.
   3. Provide loose stops and moldings on inside of hollow-metal work.
   4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
   1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.8 ACCESSORIES

A. Mullions: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Drill and tap frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.

B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
   1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
      a. At fire-rated openings, install frames according to NFPA 80.
      b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
      c. Install frames with removable stops located on secure side of opening.
      d. Install door silencers in frames before grouting.
      e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
      f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
      g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
   2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
      a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
   3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
   4. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
   5. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
      a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
      b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
      c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
      d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Glazing: Comply with installation requirements in Section 08 80 00 "Glazing" and with hollow-metal manufacturer's written instructions.
   1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow-metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

1.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.1 FRAMING SYSTEMS

A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
   1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
   2. Protective Coating: ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized unless otherwise indicated.

B. Studs and Runners: Comply with ASTM C 645.
   1. Steel Studs and Runners: Minimum base-metal thickness:
      a. 25 gage unless indicated otherwise on Drawings or below.
      b. Interior Metal Stud/Gypsum Board Assemblies, Typical Locations: Withstand lateral loading (air pressure) of 5 psf with deflection limit not more than L/240 of partition height.
      c. Interior Metal Stud/Gypsum Board Assemblies at Atriums, Lobbies, Service Corridors, Exit Corridors, Elevator Lobbies, Vertical Shafts, and walls receiving plaster veneer: Withstand lateral loading (air pressure) of 7.5 psf with deflection limit not more than L/360 of partition height
      d. Interior Metal Stud/Gypsum Board Assemblies at Locations with Ceramic Tile or Other Hard Surface Finishes: Withstand typical lateral loading (air pressure) with deflection limit not more than L/360 of partition height
      e. Where wall mounted equipment, woodwork, and casework items are indicated or elsewhere as shown on Drawings, provide minimum 16 gage studs
      f. At partitions scheduled to receive tile backing panels or ceramic tile finish, provide minimum 22 gage studs
      g. At jambs of openings provide two minimum 20 gage studs
      h. Refer to Division 5 for stud framing for studs carrying heavy vertical loads (manufactured stone masonry, stone tile thicker than ¾ inch, etc)
      i. Depth: As indicated on Drawings.

C. Head Joints: Provide one of the following at all partitions that extend to underside of structure:
   1. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
      a. Products: Subject to compliance with requirements, provide one of the following:
      b. Manufacturer's standard deep leg track for non fire rated partitions.
      c. Dietrich Metal Framing; SLP-TRK Slotted Deflection Track (for non-rated partitions)
      d. Fas Track, CEMCO (for fire rated partitions only).

D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
   1. Minimum Base-Metal Thickness: 0.012 inch.

E. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-metal thickness, with minimum 1/2-inch- wide flanges.
   1. Depth: As indicated on Drawings.
   2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch- thick, galvanized steel.

F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
   1. Minimum Base-Metal Thickness: 0.018 inch.
   2. Depth: 7/8 inch

G. Resilient Furring Channels: 1/2-inch- deep, steel sheet members designed to reduce sound transmission.
   1. Configuration: Asymmetrical.

H. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.
   1. Depth: 3/4 inch
   2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.0312 inch
   3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch-diameter wire, or double strand of 0.048-inch- diameter wire.

1.2 SUSPENSION SYSTEMS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

B. Hanger Attachments to Concrete:
   1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.
      a. Type: Post-installed, expansion anchor.
   2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by an independent testing agency.

C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.1055 inch in diameter.

D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch and minimum 1/2-inch- wide flanges, ASTM A653-A (653M), G40 hot dipped galvanized coating.
   1. Depth: 2-1/2 inches

E. Furring Channels (Furring Members):
   1. Cold-Rolled Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch- wide flanges, 3/4 inch deep.
   2. Hat-Shaped, Rigid Furring Channels: ASTM C645, 7/8 inch deep.
      a. Minimum Base-Metal Thickness: 0.018 inch
   3. Resilient Furring Channels: 1/2-inch- deep members designed to reduce sound transmission.
      a. Configuration: Asymmetrical.

F. Grid Suspension System for Gypsum Board Ceilings: ASTM C645, direct-hung system composed of main beams and cross-furring members that interlock.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Armstrong World Industries, Inc.; Drywall Grid Systems.
      b. Chicago Metallic Corporation; Drywall Grid System.
      c. USG Corporation; Drywall Suspension System.

1.3 AUXILIARY MATERIALS

A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Isolation Strip at Exterior Walls: Provide the following:
   1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

1.4 INSTALLATION, GENERAL

A. Installation Standard: ASTM-C754.
   1. Gypsum Board Assemblies: Also comply with requirements in ASTM-C840 that apply to framing installation.

B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

C. Install bracing at terminations in assemblies.

D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

1.5 INSTALLING FRAMED ASSEMBLIES

A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

1.6 INSTALLING SUSPENSION SYSTEMS

A. Install suspension system components according to spacing indicated, but not greater than spacing required by referenced installation standards for assembly types.
   1. Hangers: 48 inches o.c.
   2. Carrying Channels (Main Runners): 48 inches o.c.
   3. Furring Channels (Furring Members): 16 inches o.c.

B. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

C. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

D. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

SECTION 092900 - GYPSUM BOARD

1.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119, UL, or by an independent testing agency as indicated on Drawings.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency as indicated on Drawings.

1.1 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

1.2 INTERIOR GYPSUM BOARD

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. USG Corporation.

B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
   1. Thickness: 5/8 inch.
   2. Long Edges: Tapered.

C. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces
   1. Core: 5/8 inch, Type X or as otherwise indicated on partition type Drawings.
   2. Long edges tapered.
   3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274

1.3 TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M, with manufacturer's standard edges.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. USG Fiberrock Aqua-Tough Tile Backer Board.
   2. Core: 5/8 inch, Type X.
   3. Mold Resistance: ASTM D 3273, score of 10.

1.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047
   1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.

B. Specialty Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
   1. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, Alloy 6063-T5.

1.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

1.6 AUXILIARY MATERIALS

A. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
   1. Laminating adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
   1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
   2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
   1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

D. Acoustical Joint Sealant: Manufacturer's standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. USG Corporation; SHEETROCK Acoustical Sealant.
   2. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1.7 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C840, GA-216-2007

1.8 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations (unless noted otherwise):
   1. Type X: Vertical surfaces unless otherwise indicated.
   2. Flexible Type: Apply in double layer as required by project conditions at curved assemblies.
   3. Abuse-Resistant Type: As indicated on Drawings.
   4. Moisture- and Mold-Resistant Type: Within 36" of and surrounding damp locations where tile backer board is not used.
   5. Glass-Mat Interior Type: at damp locations such as tub, individual shower, kitchens and utility rooms. Cement Backer Board: At critical areas of high humidity, including hot tubs, steam rooms, indoor pools, saunas, and gang showers.

1.9 APPLYING TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Panels: Comply with manufacturer's written installation instructions. Install with 1/4-inch gap where panels abut other construction or penetrations.

1.10 INSTALLING TRIM ACCESSORIES

A. Control Joints: Install control joints at locations indicated on Drawings, and according to ASTM C 840 and in specific locations approved by Architect for visual effect, and as follows:

B. Wall: Control joints shall be installed where a wall or partition runs in an uninterrupted straight plane exceeding 30 linear feet, or 900 ft2

C. Ceiling with Perimeter relief: Control joints in interior ceilings with perimeter relief shall be installed so that linear dimensions between control joints do not exceed 50 ft or 2500 sq. ft

D. Ceiling, without perimeter relief: Control joints in interior ceilings without perimeter relief shall be installed so that linear dimensions between control joints do not exceed 30 ft

E. At acoustical or fire rated walls: Where a control joint occurs in an acoustical or fire rated system, blocking shall be provided behind the control joint by using a backing material such as 5/8 in. type X gypsum panel products, mineral fiber, or other tested equivalent

F. Interior Trim: Install in the following locations:
   1. Cornerbead: Use at outside corners.
   2. LC-Bead: Use at exposed panel edges.
   3. L-Bead: Use where indicated.
   4. Curved-Edge Cornerbead: Use at curved openings.

G. Aluminum Trim: Install in locations indicated on Drawings.

1.11 FINISHING GYPSUM BOARD

A. Prefill open joints, rounded or beveled edges, and damaged surface areas.

B. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

C. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
   1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
   2. Level 2: Warehouse storage areas.
   3. Level 3: Beneath wall covering.
   4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
      a. Primer and its application to surfaces are specified in other Division 09 Sections.
   5. Level 5: Where indicated on Drawings.
      a. Primer and its application to surfaces are specified in other Division 09 Sections.

END OF SECTION

SECTION 093000 – TILING

1.1 SECTION INCLUDES

A. Tile for floor and wall applications.

B. Ceramic trim.

C. Non-ceramic trim.

1.2 SUBMITTALS

A. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

B. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 x 18 inches in size illustrating pattern, color variations, and grout joint size variations.

D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Extra Tile: 1 percent of each size, color, and surface finish combination , but not less than 1 box of each type.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing tile installation, with minimum of 5 years of documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.5 FIELD CONDITIONS

A. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

1.6 TILE

A. As scheduled.

1.7 TRIM AND ACCESSORIES

A. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
   1. Applications: Use in the following locations:
      a. Open Edges: Bullnose.
      b. Inside Corners: Jointed.
      c. Floor to Wall Joints: Cove base.
   2. Manufacturer: Same as for tile.

B. Non-Ceramic Trim: Anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.
   1. Manufacturers and Products: As scheduled.

C. Metal Edge Strips: L-shaped profile with 1/8 inch wide top section and vertical wall section that together form the visible surface, integrated trapezoid-perforated anchoring leg, and integrated grout joint spacer.
   1. Material and Finish:
      a. E - Stainless Steel Type 304 = V2A
   2. Height: Match tile and setting bed thickness.
   3. Basis of Design: Schluter; SCHIENE.

1.8 SETTING MATERIALS

A. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.
   1. Application(s): Use this type of bond coat where indicated and where no other type of bond coat is indicated.
   2. Products:
      a. Custom Building Products; MegaLite: www.custombuildingproducts.com.
      b. LATICRETE International, Inc ; LATICRETE 254 Platin

SECTION 095113 – ACOUSTICAL PANEL CEILINGS

1.1 QUALITY ASSURANCE
A. Source Limitations:
1. Acoustical Ceiling Panel: Obtain each type through one source from a single manufacturer.
2. Suspension System: Obtain each type through one source from a single manufacturer.
B. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system through one source from a single manufacturer.
C. Fire-Test-Response Characteristics: Provide acoustical panel ceilings that comply with the following requirements:
1. Surface-Burning Characteristics: Provide acoustical panels with the following surface-burning characteristics complying with ASTM E 1264 for Class A materials as determined by testing identical products per ASTM E 84:
a. Smoke-Developed Index: 450 or less.

1.1 ACOUSTICAL PANELS, GENERAL
A. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.
1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface per ASTM E 795.
B. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.
1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.
C. Broad Spectrum Antimicrobial Fungicide and Bactericide Treatment: Provide acoustical panels treated with manufacturer's standard antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274 or ASTM G 21.

1.2 METAL SUSPENSION SYSTEMS, GENERAL
A. Metal Suspension System Standard: Provide manufacturer's standard direct-hung metal suspension system of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635.
B. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturer's standard factory-applied finish for type of system indicated.
C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
1. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing and inspecting agency.
D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
2. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- diameter wire.
E. Hold-Down Clips: Where indicated, and at exterior locations, and with 10 feet of an exterior door, provide manufacturer's standard hold-down clips spaced 24 inches o.c. on all cross tees.
F. Clean-Room Gasket System: Where indicated in schedule, provide manufacturer's standard system, including manufacturer's standard gasket and related adhesives, tapes, seals, and retention clips, designed to seal out foreign material from and maintain positive pressure in clean room.

1.3 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING
A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
1. Armstrong World Industries, Inc.
2. Certainteed.
3. Chicago Metallic Corporation.
4. USG Interiors, Inc.
B. Unless noted otherwise in schedule, provide Wide-Face, Double-Web,Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 coating designation, with prefinished 15/16-inch- wide metal caps on flanges.
1. Structural Classification: Intermediate -duty system.
2. End Condition of Cross Runners: Override (stepped) or butt-edge type.
3. Face Design: Flat, flush.
C. Aluminum Grid: For use in MRI rooms.

1.4 ACOUSTICAL SEALANT
A. Products: Subject to compliance with requirements, provide one of the following:
1. Acoustical Sealant for Exposed and Concealed Joints:
a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
b. USG Corporation; SHEETROCK Acoustical Sealant.
B. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard non-sag, paintable, non-staining latex sealant, with a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), complying with ASTM C 834 and effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
C. Acoustical Sealant for Concealed Joints: Manufacturer's standard nondrying, non-hardening, non-skinning, non-staining, gunnable, synthetic-rubber sealant, with a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), recommended for sealing interior concealed joints to reduce airborne sound transmission.

1.5 INSTALLATION
A. General: Install acoustical panel ceilings to comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

1.1 RESILIENT BASE
A. Resilient Base Standard: ASTM F 1861.
1. Material Requirement: Type TS (rubber, vulcanized thermoset).
2. Manufacturing Method: Group I (solid, homogeneous).
3. Style: Cove (base with toe) at hard surfaces; straight (flat or toeless) at carpet.
B. Minimum Thickness: 0.125 inch.
C. Lengths: Coils in manufacturer's standard length.
D. Outside Corners: Job formed.
E. Inside Corners: Job formed.
F. Finish: Satin.

1.1 RESILIENT MOLDING ACCESSORY
A. Description: Cap for cove resilient floor covering, Carpet edge for glue-down applications, Reducer strip for resilient floor covering, Joiner for tile and carpet, Transition strips.
B. Material: Rubber.

1.2 INSTALLATION MATERIALS
A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
a. Cove Base Adhesives: Not more than 50 g/L.
b. Rubber Floor Adhesives: Not more than 60 g/L.
C. Floor Polish: Provide protective liquid floor polish products as recommended by resilient stair tread manufacturer.

1.3 RESILIENT BASE INSTALLATION
A. Comply with manufacturer's written instructions for installing resilient base.
B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

1.4 RESILIENT ACCESSORY INSTALLATION
A. Comply with manufacturer's written instructions for installing resilient accessories.

1.5 CLEANING AND PROTECTION
A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
B. Perform the following operations immediately after completing resilient product installation:
1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.
C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from resilient stair treads before applying liquid floor polish.
1. Apply two coat(s).
E. Cover resilient products until Substantial Completion.

SECTION 096516 - RESILIENT SHEET FLOORING

1.1 QUALITY ASSURANCE
A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor covering installation and seaming method indicated.
1. Engage an installer who employs workers for this Project who are trained or certified by floor covering manufacturer for installation techniques required.

1.1 VINYL SHEET FLOOR COVERING
A. Unbacked Vinyl Sheet Floor Covering: ASTM F 1913, 0.080 inchthick, as indicated by product designations.
B. Vinyl Sheet Floor Covering with Backing: ASTM F 1303, as indicated by product designations.
1. Type (Binder Content): Type I, minimum binder content of 90 percent.
2. Wear-Layer Thickness: Grade 1.
3. Overall Thickness: As standard with manufacturer.
C. Wearing Surface: Smooth.
D. Sheet Width: As standard with manufacturer.
E. Seaming Method: Heat welded.

1.2 INSTALLATION MATERIALS
A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit floor covering and substrate conditions indicated.
1. Use adhesives that have a VOC content of not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
C. Seamless-Installation Accessories:
1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.
1) Color: Match floor covering.
D. Integral-Flash-Cove-Base Accessories: As indicated in Master Schedule.
1. Cove Strip: 1-inch radius product or approved by manufacturer.
2. Cap Strip: Square metal, vinyl, or rubber cap provided or approved by manufacturer.
3. Corners: Metal inside and outside corners and end stops provided or approved by manufacturer.
E. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

1.3 PREPARATION
A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of floor coverings.
B. Concrete Substrates: Prepare according to ASTM F 710.
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft.in 24 hours.
b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
D. Do not install floor coverings until they are same temperature as space where they are to be installed.
1. Move floor coverings and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
E. Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation.

1.4 FLOOR COVERING INSTALLATION
A. Comply with manufacturer's written instructions for installing floor coverings.
B. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
C. Install floor coverings on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of floor coverings installed on covers and adjoining floor covering. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
D. Adhere floor coverings to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
E. Seamless Installation:
1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and use welding bead to permanently fuse sections into a seamless floor covering. Prepare, weld, and finish seams to produce surfaces flush with adjoining floor covering surfaces.
F. Integral-Flash-Cove Base: Cove floor coverings up vertical surfaces a dimension as indicated. Support floor coverings at horizontal and vertical junction by cove strip. Butt at top against cap strip.
1. Install metal corners at inside and outside corners.

1.5 CLEANING AND PROTECTION
A. Comply with manufacturer's written instructions for cleaning and protection of floor coverings.
B. Perform the following operations immediately after completing floor covering installation:
1. Remove adhesive and other blemishes from floor covering surfaces.
2. Sweep and vacuum floor coverings thoroughly.
3. Damp-mop floor coverings to remove marks and soil.
C. Protect floor coverings from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor covering before applying liquid floor polish. Apply two coats.

SECTION 096519 - RESILIENT TILE FLOORING

1.1 SOLID VINYL FLOOR TILE
A. Tile Standard: ASTM F 1700.
1. Class: As indicated by product designations.
2. Type: Type A, smooth surface.
B. Thickness: 0.080 inch minimum.
C. Size: As scheduled.
D. Seaming Method: Standard.

1.1 RUBBER FLOOR TILE
A. Tile Standard: ASTM F 1344, Class I-A, homogeneous rubber tile, solid color.
B. Hardness: Not less than 85 as required by ASTM F 1344, measured using Shore, Type A durometer per ASTM D 2240.
C. Wearing Surface: Smooth.
1. Molded-Pattern Figure: As scheduled.
D. Thickness: 0.125 inch
E. Size: As scheduled.
F. Seaming Method: Standard.

1.2 VINYL COMPOSITION FLOOR TILE
A. Tile Standard: ASTM F 1066, Class 2, through-pattern tile.
B. Wearing Surface: Smooth.
C. Thickness: 0.125 inch.
D. Size: 12 by 12 inches.

1.3 VINYL PLANKS
A. Vinyl Plank Flooring: Meeting ASTM F 1700.
1. Class: As indicated by product designations.
2. Type: Type B, embossed surface.
3. Thickness: 0.080 inch minimum.
4. Size: 3 by 36 inches.

1.4 INSTALLATION MATERIALS
A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
a. VCT and Asphalt Tile Adhesives: Not more than 50 g/L.
b. Rubber Floor Adhesives: Not more than 60 g/L.
C. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

1.5 PREPARATION
A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
B. Concrete Substrates: Prepare according to ASTM F 710.
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft.in 24 hours.
b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75% relative humidity level measurement.
C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
D. Do not install floor tiles until they are same temperature as space where they are to be installed.
1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

1.6 FLOOR TILE INSTALLATION
A. Comply with manufacturer's written instructions for installing floor tile.
B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
1. Lay tiles in pattern indicated on Drawings.
C. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
D. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

1.7 CLEANING AND PROTECTION
A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
B. Perform the following operations immediately after completing floor tile installation:
1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.
C. Protect floor tile products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor tile surfaces before applying liquid floor polish.
1. Apply per manufacturer's recommendation.
E. Cover floor tile until Substantial Completion.

SECTION 098116 – ACOUSTICAL BLANKET INSULATION

1.1 QUALITY ASSURANCE
A. Source Limitations: Obtain each type of building insulation through one source.
B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
1. Surface-Burning Characteristics: ASTM E 84.
2. Fire-Resistance Ratings: ASTM E 119.
3. Combustion Characteristics: ASTM E 136.

1.1 ACOUSTICAL INSULATION
A. Unfaced Mineral-Fiber Blanket Insulation (in walls): ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
B. Unfaced, Flexible Glass-Fiber Board Insulation (above ceilings): ASTM C 612, Type IA; ASTM C 553, Types I, II, and III; or ASTM C 665, Type I; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; and of the following properties:
1. Nominal density of 1.0 lb/cu. ft., thermal resistivity of 3.7 deg F x h x sq. ft./Btu x in. at 75 deg F.
2. Nominal density of not less than 1.5 lb/cu. ft. nor more than 1.7 lb/cu. ft., thermal resistivity of 4 deg F x h x sq. ft./Btu x in. at 75 deg F.
3. Combustion Characteristics: Passes ASTM E 136.

1.2 INSTALLATION
A. Install mineral-fiber blankets in cavities formed by framing members according to the following requirements:
1. Use blanket widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping stapling flanges to flanges of metal studs.

SECTION 099100 - PAINTING

1.1 QUALITY ASSURANCE
A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with 3 years experience.
B. Applicator: Company specializing in commercial painting and finishing with 2 years experience.
C. Product Labels: Include manufacturer's name, type of paint, stock number, color and label analysis on label of containers.

1.1 REGULATORY REQUIREMENTS
A. Conform to applicable building code for flame spread/fuel contribution/smoke development rating requirements for finishes.
B. Comply with applicable city, county, state, and federal requirements and ordinances regarding maximum VOC (Volatile Organic Compound) content of all coatings.

1.2 TESTS
A. Provide periodic testing with Wet Film Thickness gage to verify that proper thickness of finish coatings are being applied.

1.3 FIELD SAMPLES
A. Provide field sample panel, 96 inches long by 96 inches wide, illustrating each coating color, texture, and finish intended for use.
B. Locate where directed.
C. Accepted sample may remain as part of the Work.

1.4 MANUFACTURERS
A. Acceptable Manufacturers: Subject to compliance with requirements indicated, provide products of one of the following:
1. Basis of Design: Sherwin-Williams.
B. Materials selected for coating systems for each type surface shall be product of a single manufacturer unless otherwise specified. Secondary products such as linseed oil, turpentine and shellacs shall be first quality products of a reputable manufacturer.

1.5 MATERIALS
A. Coatings: Ready mixed. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating with good flow and brushing properties; capable of drying or curing free of streaks or sags.
B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
C. Patching Materials: Latex filler.

1.6 INTERIOR PAINT SCHEDULE
A. Gypsum Board:
1. Sherwin-Williams Latex, Semi-gloss finish.
a. Primer: Sherwin Williams ProMar 200 0-VOC Interior Latex Primer
b. Second Coat: Sherwin Williams ProMar 200 0-VOC Interior Latex Semi-gloss
c. Third Coat: Same as second.
B. Shop Primed Ferrous Metal: (Interior door and Window Casings)
1. Sherwin-Williams, Pro Classic Interior Acrylic Latex, Semi-gloss.
a. Primer: Sherwin Williams Pro Classic Interior Acrylic Latex Semi-Gloss
b. Second Coat: Sherwin Williams Pro Classic Interior Acrylic Latex Semi-Gloss
c. Top Coat: Same as second.

1.7 PREPARATION
A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
B. Correct minor defects and clean surfaces which affect work of this Section. Remove existing coatings which exhibit loose surface defects.
C. Shellac and seal marks which may bleed through surface finishes.
D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
F. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
G. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid- alkali balance is achieved. Allow to dry.
H. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.
I. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
J. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
K. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
L. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
M. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
N. Aluminum with Alodine Finish: Clean by lightly scuff with sandpaper. Remove all dust.
O. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
P. Interior Wood Items Schedule to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.
Q. Shop Finished Items: Finish in accordance with AWI standards and guide lines.
R. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

1.8 SURFACE PREPARATION OF PREVIOUSLY COATED SURFACES
A. General:
1. Remove cracked and deteriorated sealants and calking.
2. Remove chalk deposits and loose, blistered, peeling, scaling, or crazed finish to bare base material or sound substrate by scraping and sanding.
3. Wash surfaces with solution of TSP to remove wax, oil, grease, and other foreign material; rinse, and allow to dry. Exercise caution that TSP solution does not soften existing coating.
4. Abrade glossy surfaces by sanding or wiping with liquid de-glosser.
5. Remove mildew as specified above.
6. Test compatibility of existing coatings by applying new coating to small, inconspicuous area. If new coatings lift or blister existing coatings, request recommendation from Architect.
7. Apply specified primer to surfaces scheduled to receive coatings.
B. Gypsum Wallboard:
1. Fill cracks and voids with spackling compound.
2. Apply primer over bare surfaces and newly applied texture coatings.
C. Metal:
1. Remove rust from surfaces to bare metal in accordance with SP3 "Power Tool Cleaning".
2. Exercise care not to remove galvanizing.
3. Complete preparation as specified for new work.

1.9 APPLICATION
A. The intent of these Specifications is to produce the highest quality appearance of paint and finish surfaces. Employ skilled mechanics only. The proper preparation of all surfaces will be strictly enforced and wherever finished surfaces show any defects due to improper preparation, workmanship, etc., the defects shall be removed and the work refinished at the expense of the Contractor.
B. Apply products in accordance with manufacturer's instructions. Final finish coats shall have visual evidence of solid hiding and uniform appearance, and shall be free and smooth of brush marks, streaks, sags, runs, laps, or skipped areas.

1.10 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT
A. Paint shop primed equipment. Paint shop prefinished items where exposed to view in finished spaces. In mechanical rooms, repair shop pre-finished coatings which have been scratched or otherwise damaged with identical touch-up paint. Sand prior to touching up as required.
B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
C. Paint grilles, registers, diffusers, and speaker grilles to match adjacent wall and ceiling surfaces, except that factory pre-finished items need not be painted if installed in a suspended acoustical ceiling system where the acoustical panels match the mechanical or electrical item color.
D. In finished spaces, prime and paint exposed pipes, conduit, boxes, ducts, hangers, brackets, collars and supports. Paint to match adjacent surfaces.
E. Repair or replace identification markings on mechanical or electrical equipment when painted accidentally.
F. Paint interior surfaces of air ducts and convectors that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and convector to match face panels.
G. Paint surfaces of plywood backboards for electrical and telephone equipment before installing equipment.
H. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
I. Paint exposed air handlers, roof ventilators, goose necks, exhaust fans and other items on the roof with 2 coats exterior enamel. Prepare surfaces in accordance with the base metal or primer as specified herein.
J. Paint concrete support bases with gray floor deck enamel.
K. Pipe hangers and other supports need not be painted except where installed in crawl spaces, where they shall be painted with a thick coat of asphaltic paint.

SECTION 102600 - WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.1 SUMMARY
A. Section Includes:
1. Corner guards.
2. Protective wall coverings.

1.2 QUALITY ASSURANCE
A. Surface-Burning Characteristics: Provide impact-resistant, plastic wall protection units with surface-burning characteristics as determined by testing identical products per ASTM E 84, NFPA 255, or UL 723 by UL or another qualified testing agency.

PART 2 - PRODUCTS

2.1 MATERIALS
A. PVC Plastic: ASTM D 1784, Class 1, textured, chemical- and stain-resistant, high-impact-resistant PVC or acrylic-modified vinyl plastic with integral color throughout; extruded and sheet material, thickness as indicated.
1. Impact Resistance: Minimum 25.4 ft-lb/f/in. of notch when tested according to ASTM D 256, Test Method A.
2. Chemical and Stain Resistance: Tested according to ASTM D 543.
3. Self-extinguishing when tested according to ASTM D 635.
4. Flame-Spread Index: 25 or less.
5. Smoke-Developed Index: 450 or less.
B. Polycarbonate Plastic Sheet: ASTM D 6098, S-PC01, Class 1 or 2, abrasion resistant; with a minimum impact-resistance rating of 15 ft-lbf/in. of notch when tested according to ASTM D 256, Test Method A.
C. Fasteners: Aluminum, nonmagnetic stainless-steel, or other non-corrosive metal screws, bolts, and other fasteners compatible with items being fastened. Use security-type fasteners where exposed to view.
D. Adhesive: As recommended by impact-resistant plastic wall protection manufacturer and with a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.2 CORNER GUARDS
A. Surface-Mounted, Resilient, Plastic Corner Guards [Insert drawing designation]: Assembly consisting of snap-on plastic cover installed over continuous retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition.
1. Cover: Extruded rigid plastic, minimum 0.100-inch wall thickness; as follows:
a. Profile, Color, Texture, Height: As scheduled.
b. Basis of Design: As scheduled.
2. Retainer: Minimum 0.060-inch- thick, one-piece, extruded aluminum.
3. Retainer Clips: Manufacturer's standard impact-absorbing clips.
4. Top and Bottom Caps: Prefabricated, injection-molded plastic; color matching cover; field adjustable for close alignment with snap-on cover.
B. Surface-Mounted, Metal Corner Guards: Fabricated from one-piece, formed or extruded metal with formed edges; with 90- or 135-degree turn to match wall condition.
1. Material: Stainless steel, Type 304.
a. Thickness: Minimum 0.0500 inch.
b. Finish: Directional satin, No. 4.
2. Wing Size: Refer to Finish Legend.
3. Corner Radius: 1/8 inch.
4. Mounting: Flat-head, countersunk screws through factory-drilled mounting holes.

2.3 IMPACT-RESISTANT WALL COVERINGS
A. Impact-Resistant Sheet Wall Covering: Fabricated from plastic sheet wall-covering material.
1. Size: 48 by 120 inches for roll.
2. Sheet Thickness: 0.060 inch.
3. Color, Texture, Height: As scheduled.
4. Trim and Joint Moldings: Extruded rigid plastic that matches sheet wall covering color.
5. Mounting: Adhesive.

2.4 FABRICATION
A. Fabricate components with tight seams and joints with exposed edges rolled. Provide surfaces free of wrinkles, chips, dents, uneven coloration, and other imperfections. Fabricate members and fittings to produce flush, smooth, and rigid hairline joints.

PART 3 - EXECUTION

3.1 INSTALLATION
A. General: Install impact-resistant wall protection units level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
1. Install impact-resistant wall protection units in locations and at mounting heights indicated on Drawings.
B. Impact-Resistant Wall Covering: Install top and edge moldings, corners, and divider bars as required for a complete installation.

END OF SECTION

SECTION 123661 – SIMULATED STONE COUNTERTOPS

1.1 SECTION INCLUDES
A. Countertops

1.2 QUALITY ASSURANCE
B. Fabricator Qualifications: Company specializing in fabricating engineered stone surfacing material with minimum 5 years experience.
C. Fire-Test-Response Characteristics: Provide surfacing material with the following surface-burning characteristics (if required by code) as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
1. Class 1 per ASTM E 84 including:
a. Flame Spread: 25 or less.

1.3 WARRANTY
D. Manufacturer's 10 year warranty for materials and labor to repair or replace defective materials.

1.4 MATERIALS
E. Solid Surfacing: Nonporous surfacing material composed of a unique blend of natural minerals and high-performance acrylic meeting the following criteria:
1. Wear and Cleanability: Passes per ASI Z124.3.
2. Abrasion Resistance: No loss of pattern per NEMA LD3-3.01 and ANSI Z 124.3; weight loss, 1,000 cycles, 0.2 gm; wear, 10,000 cycles, 0.008 inches.
3. Boiling Water Surface Resistance: No change per NEMA LD3-3.05.
4. High Temperature Resistance: No change per NEMA LD3-3.06.
5. Conductive Heat Resistance: No change per NEMA LD3-3.08.
6. Impact Resistance, Notched Izod: 0.28 ft-lbs/in of notch per ASTM D 256, Method A.
7. Impact Resistance, Ball Drop: 3/4 inch thick sheet, 36 inches with 1/2 pound ball, no failure per NEMA LD3-3.03.
8. Stain Resistance: Passes, Rating-41, modified with additional stains used, per ANSI Z124.3.
9. Weatherability: No change, 1000 hours, per ASTM D 1499.
10. Fungi and Bacteria: No attack per ASTM G 21, G 22.
11. Water Absorption: 3/4 inch sheet, 0.04 percent after 24 hours, 0.94 percent long term, per ASTM D 570.
12. Flammability: Solid colors per ASTM E 84.
a. Flame Spread: Less than 5.
b. Smoke Developed: Less than 15.
c. Class Rating: 1.
13. Thickness: 1/2 inch unless noted or scheduled otherwise.
14. Colors, Sheen, and Basis of Design: As scheduled.

1.5 MISCELLANEOUS MATERIALS
F. Adhesives and Cements: Non-staining, type as recommended by engineered stone manufacturer.
1. Waterproof, permanent material which will not induce mildew and fungus growth.
G. Joint Sealants: Two part color matched polyester knife grade adhesive.

1.6 FABRICATIONS
H. Assemble work at shop and deliver to job ready for installation. Manufacture in largest practical lengths with seams in least conspicuous locations.
I. Fabricate work square and to required lines.
J. Recess and conceal fasteners, connections, and reinforcing.
K. Design construction and installation details to allow for expansion and contraction of materials. Properly frame material with tight, hairline joints held rigidly in place.
L. Comply with adhesive manufacturer's recommendations for adhesive shelf life, pot life, working life, mixing, spreading, assembly time, time under pressure and ambient temperatures.
M. Fabricate countertops with backsplash and side splashes to profiles indicated or detailed.
N. Fabricate items to profiles shown with connections and supports as detailed or as required for proper installation per manufacturer's recommendations.
O. Provide cut-outs for plumbing fixtures and trim, washroom accessories, appliances, and related items. Confirm layout with manufacturer's cut-outs templates before beginning work. Round corners of cut outs and sand edges smooth.
P. Do not exceed manufacturer's recommended unsupported overhang distances.
Q. Finish exposed surfaces smooth and polish to a sheen indicated.
R. Radius corners and edges.

1.7 INSTALLATION
S. Install in accordance with manufacturer's printed instructions and approved shop drawings. Provide templates and rough in measurements.
T. Install surfacing true in line and plane, level, rigid and solidly adhered to substrate.
U. Pre-fit items: Adjust supports to make fit. Align joints over support framing.
1. Provide intermediate supports to that material will not span more than 3 feet in any direction.
2. Cantilevers shall not exceed 12 inches without supplementary support.
V. Apply dabs of sealtic on supports; place items on supports and attach.
W. Install with minimum number of joints practical, using full-length pieces from maximum lengths available. Cope at returns and square at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Radius cutouts with minimum 3/8 inch corner radius.
X. Install splashes using adhesive. Apply adhesive to back surface only. Place thin bead of seam adhesive along edge where splashes seat.

1.8 TOLERANCES
Y. Variation in Component Size: Plus or minus 1/8 inch over 10'-0" length.
Z. Location of Openings: Plus or minus 1/8 inch from indicated location.
AA. Install countertops level to within 1/8 inch in 10 feet.
AB. Allow minimum 1/16 inch clearance between edges of countertops and adjacent walls.
AC. Maximum Offset From True Position: 1/8 inch.

This sheet of drawings has not been reviewed for code compliance.

RSN: *1142272*
Permit #: *2016-1162878 LT*

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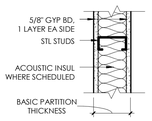
No.	Description	Date

STATE OF COLORADO
JOHN MENNO HACKETT
401729
REGISTERED ARCHITECT
07/15/16

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

Issue	FOR C



A

NOTE:
1. STC IS PREDICTED USING THE "INSUL" COMPUTER PROGRAM.
2. STC IS MODIFIED FROM THE REFERENCE.
3. STC IS BASED ON 0.018" THICK (25 GA) STUDS
4. * WHERE AN * NEXT TO THE PARTITION TAG, PROVIDE 3/4" PLYWOOD BEHIND THE GYP BD ON THE STORE ROOM SIDE.

	A1_	STC	A2_	STC	A3_	STC	A4_	STC
1-HR RATED WITH GYP BD TO STRUCTURE ABOVE			A20	46	A30	39 *	A40	47 *
NON-RATED WITH GYP BD TO STRUCTURE ABOVE (SMOKE RESIST)	A11	39	A21	46	A31	39	A41	47
NON-RATED WITH GYP BD TO 6" ABOVE CEILING	A12		A22		A32		A42	
NON-RATED WITH STUDS & GYP BD TO FINISHED CEILING	A13		A23		A33		A43	
PARTIAL HEIGHT PARTITION, SEE FLOOR PLANS FOR HEIGHTS.	A14		A24		A34		A44	
STUD SIZE	2 1/2"		2 1/2"		3 5/8"		3 5/8"	
BASIC PARTITION THICKNESS	3 3/4"		3 3/4"		4 7/8"		4 7/8"	
ACOUSTICAL INSULATION THICKNESS	-		2"		-		3"	
ACOUSTICAL TEST NUMBER	SIM USG 860808		SIM SA 831001		SIM USG 860808		SIM USG 870717	
FIRE TEST NUMBER (WHERE APPLICABLE)	-		UL DES U419		UL DES U465		UL DES U465	



D

NOTE:

1. STC'S ARE PREDICTED USING THE "INSUL" COMPUTER PROGRAM.

2. STC'S ARE BASED ON 0.018" THICK (25 GA) STUDS.

3. REFER TO A.500 SERIES FOR BRACING.

	D0_	STC	D1_	STC	D3_	STC	D4_	STC
NON-RATED WITH GYP BD TO STRUCTURE ABOVE	D01		D11	27	D31	27	D41	30
NON-RATED WITH GYP BD TO 6" ABOVE CEILING	D02		D12		D32		D42	
NON-RATED WITH STUDS & GYP BD TO FINISHED CEILING	D03		D13		D33		D43	
STUD SIZE	1 5/8"		2 1/2"		3 5/8"		3 5/8"	
BASIC PARTITION THICKNESS	2 1/4"		3 1/8"		4 1/4"		4 1/4"	
ACOUSTICAL INSULATION THICKNESS	-		-		-		3"	
ACOUSTICAL TEST NUMBER	-		NOTE 1		NOTE 1		NOTE 1	
FIRE TEST NUMBER (WHERE APPLICABLE)								

FLOOR PLAN GENERAL NOTES

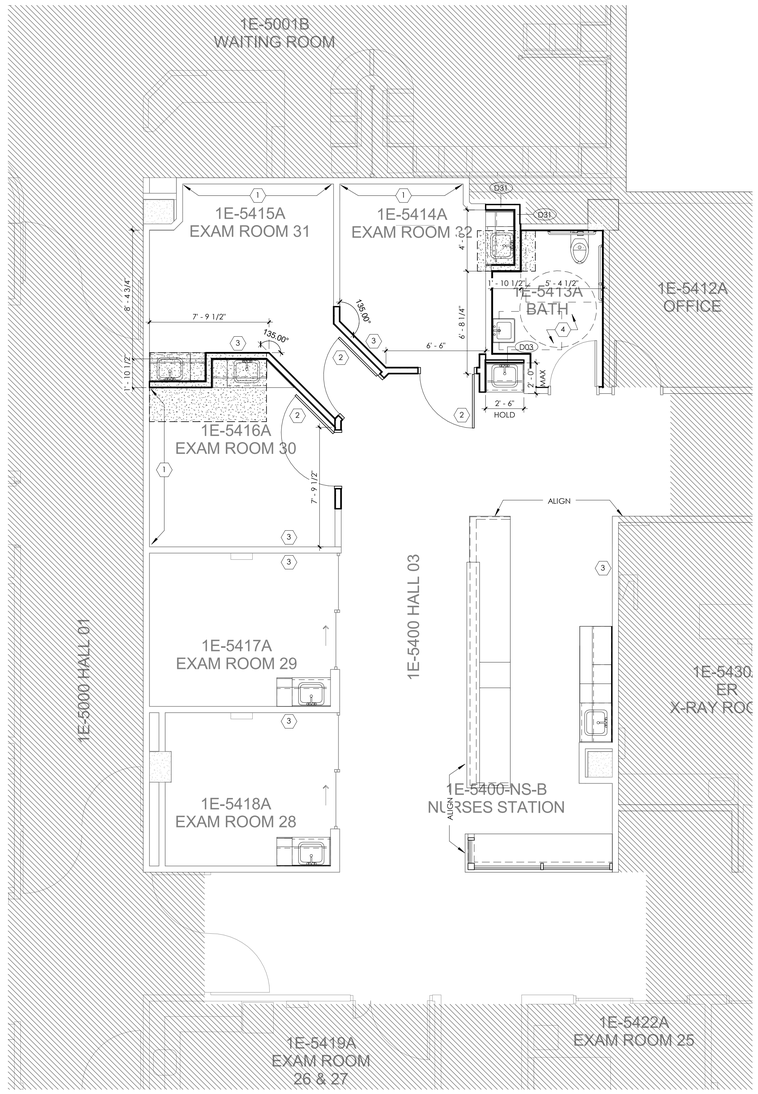
1. REFER TO SHEET G.101 FOR ADDITIONAL GENERAL NOTES.
2. ALL PARTITIONS ARE TYPE "A41" UNLESS OTHERWISE NOTED.
3. DIMENSIONS SHOWN ON THE FLOOR PLANS FOR NEW CONSTRUCTION ARE TO THE FACE OF FINISH OF INTERIOR WALLS, TO CENTER LINE OF COLUMNS AND TO THE FACE OF CONCRETE OR MASONRY WALLS, UNLESS OTHERWISE INDICATED. DIMENSIONS IN RENOVATED AREAS ARE FROM FINISH FACE OF EXISTING WALLS TO FINISH FACE OF NEW STUD WALL, UNLESS OTHERWISE INDICATED.
4. WHERE NEW GYPSUM BOARD PARTITIONS ARE A CONTINUATION OF AN EXISTING PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE NEW GYPSUM BOARD SHALL BE ALIGNED WITH THE FACE OF THE EXISTING SURFACE. WHERE A ONE HOUR PARTITION IS SHOWN AS A CONTINUATION OF A TWO-HOUR PARTITION OR COLUMN ENCASEMENT, THE FACE OF THE GYPSUM BOARD SHALL BE ALIGNED. STUDS SHALL BE OFFSET AND ADDITIONAL LAYERS OF GYPSUM BOARD SHALL BE PROVIDED AS REQUIRED TO PROVIDE FACE ALIGNMENT OF GYPSUM BOARD.
5. LAVATORIES AND SINKS SHALL BE ACCOMPANIED BY A PAPER TOWEL DISPENSER "TAD/S" AND SOAP DISPENSER "TAB" UNLESS OTHERWISE NOTED ON THE FLOOR PLANS. UNITS ARE OFCI.
6. REFER TO THE A.530 SERIES FOR MISCELLANEOUS DETAILS.
7. PROVIDE MINIMUM 1'-0" CLEAR FLOOR SPACE AT THE PUSH SIDE OF EVERY DOOR WITH A CLOSER. PROVIDE MINIMUM 1'-6" CLEAR AT THE PULL SIDE OF EVERY DOOR (EXCLUDING PATIENT BEDROOMS), UNLESS SPECIFICALLY DIMENSIONED, NOTED OR SHOWN OTHERWISE.
8. REFER TO THE A.210 SERIES, 'EQUIPMENT PLANS' FOR WALL PROTECTION LOCATIONS.

FLOOR PLAN LEGEND

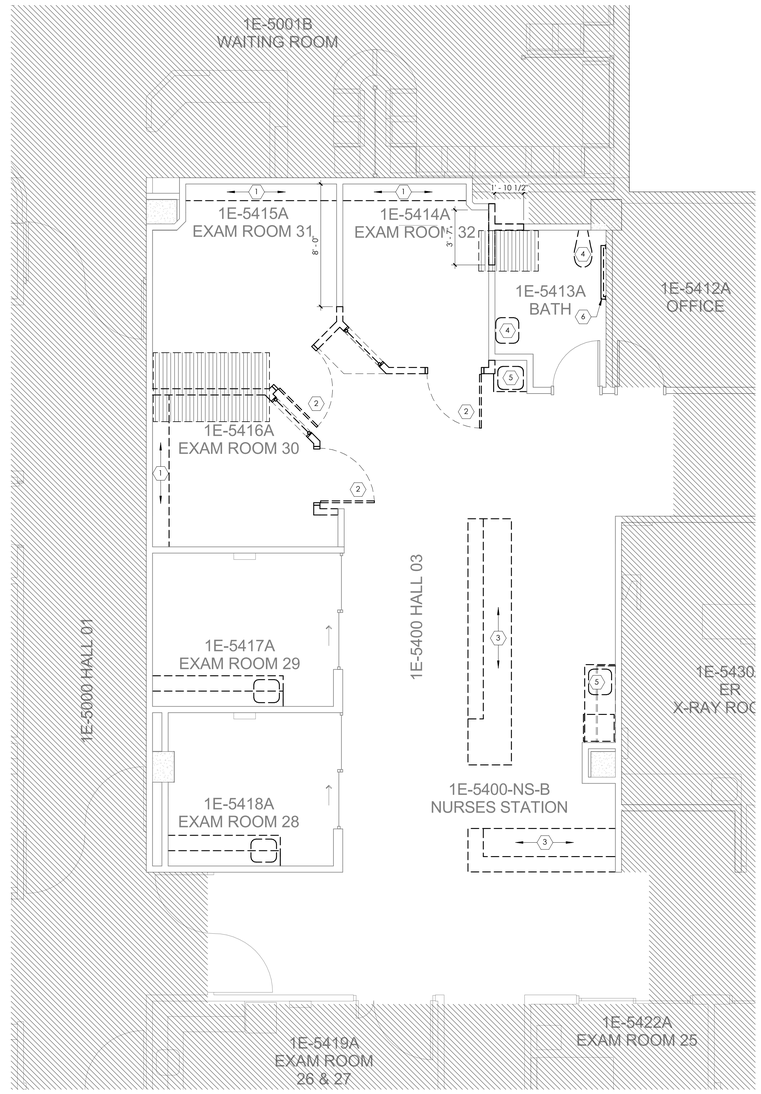
- NEW CONSTRUCTION
- EXISTING TO REMAIN
- A41 — PARTITION TAG REF. A.XXX FOR TYPE CHARTS
- RECOMPACT FILL TO 95% COMPACTION FOLLOWING PLUMBING INSTALLATION. INSTALL #4 REINFORCING AT 18" O.C. AND POUR BACK WITH 3500 PSI CONCRETE.
- OUT OF SCOPE

FLOOR PLAN KEYNOTES

1. PATCH ALL PENETRATIONS AND GYPSUM BOARD AT HEADWALL.
2. PROVIDE NEW DOOR FRAME TO MATCH EXISTING SALVAGED DOOR AND HARDWARE. INSTALL EXISTING DOOR AND HARDWARE SALVAGED DURING DEMOLITION.
3. INSTALL BLOCKING IN WALL FOR NEW TV LOCATION. COORDINATE BLOCKING WITH POWER AND DATA OR FOR COMPUTER MONITOR.
4. PATCH OR REPAIR ALL GYPSUM BOARD DAMAGED IN THIS ROOM. INSTALL TILE BACKER BOARD AT ALL TILE LOCATIONS.



02 - FLOOR PLAN - LEVEL 01
1/4" = 1'-0"



01 - DEMOLITION PLAN - LEVEL 01
1/4" = 1'-0"

DEMOLITION GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR INTERIM LIFE SAFETY MEASURES.
2. CONSTRUCT TEMPORARY PARTITIONS AS REQUIRED BY PHASING TO MINIMIZE THE SPREAD OF DUST AND NOISE.
3. THESE DRAWINGS HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS WHICH MAY NOT REFLECT ACTUAL FIELD CONDITIONS. VERIFY THESE DRAWINGS WITH EXISTING FIELD CONDITIONS AND NOTIFY THE ARCHITECT IMMEDIATELY OF INCONSISTENCIES BETWEEN THEM AND ACTUAL CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.
4. REMOVE EXISTING CONSTRUCTION AS INDICATED. TYPICAL WALL REMOVAL INCLUDES FINISHES AND MECHANICAL PLUMBING AND ELECTRICAL SYSTEMS CONTAINED THEREIN. REMOVE DOORS, CASEWORK, WINDOWS, FRAMES, AND OTHER FIXTURES AS REQUIRED. AFTER REMOVAL OF PIPE CHASES, PATCH HOLES IN EXISTING FLOORS OR WALLS TO REMAIN TO MEET ORIGINAL FIRE PROTECTION AND STRUCTURAL REQUIREMENTS. PATCH ADJOINING WALLS.
5. WHERE NEW FINISHES ARE TO BE INSTALLED ON EXISTING SURFACES, REMOVE THE EXISTING FINISH AND PREPARE SURFACE TO RECEIVE THE NEW FINISH.
6. COORDINATE WITH THE OWNER ANY ITEMS TO BE STORED AND/OR RELOCATED.
7. SEE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR DEMOLITION OF UTILITIES.
8. FOR EXTENT AND LOCATION OF CHANNELING OF EXISTING FLOOR SLABS REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS. IF EXISTING PIPING OR CONDUIT WORK (OTHER THAN THE DESIRED CONNECTION) IS ENCOUNTERED WHILE CHANNELING, NOTIFY THE ARCHITECT BEFORE CONTINUING.
9. VERIFY THAT EXIT EGRESS IS MAINTAINED FOR ALL OCCUPIED AREAS OF THE BUILDING THROUGHOUT CONSTRUCTION.
10. DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND AS SET FORTH BY ALL GOVERNING AUTHORITIES.
11. BRACE ALL EXISTING STRUCTURES OR STRUCTURAL ELEMENTS AS NECESSARY DURING DEMOLITION.
12. DO NOT CUT ANY STRUCTURAL WORK WITHOUT PRIOR APPROVAL FROM THE DESIGN TEAM.
13. REPLACE OR REPAIR ANY EXISTING TO REMAIN FINISHES WHICH ARE DAMAGED DURING DEMOLITION (I.E. - CEILING GRID, CEILING TILE, WALL COVERING, FLOOR COVERING, ETC.
14. NOTIFY THE ARCHITECT IMMEDIATELY IF THE REMOVAL OF MECHANICAL EXISTING TO REMAIN ELECTRICAL, PLUMBING SYSTEMS OR COMPONENTS WILL ADVERSELY AFFECT THE OPERATION OF MEP SYSTEM OUTSIDE THE LIMIT OF EXISTING TO BE REMOVED - RE: NOTE 5 OF DEMOLITION GENERAL NOTES.
15. SCHEDULE ALL DEMOLITION WITH THE OWNER.

DEMOLITION LEGEND

- EXISTING PARTITION TO REMAIN
- EXISTING PARTITION TO BE REMOVED
- EXISTING FLOOR SLAB TO BE REMOVED WITHIN AREA INDICATED
- EXISTING FLOOR, WALL, AND CEILING FINISHES ONLY, TO BE REMOVED WITHIN AREA INDICATED.
- EXISTING FLOOR AND WALL FINISHES ONLY, TO BE REMOVED WITHIN AREA INDICATED.
- AREA OUT OF SCOPE

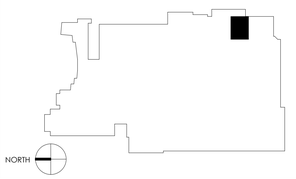
DEMOLITION KEYNOTES

1. REMOVE RECEPTACLE AND MED GAS SECURITY ENCLOSURE AND ALL ASSOCIATED FRAMING TO CEILING.
2. REMOVE DOOR, FRAME AND HARDWARE. SALVAGE DOOR AND HARDWARE FOR REUSE IN NEW FRAME.
3. REMOVE EXISTING NURSE STATION. MAINTAIN ELECTRICAL AND DATA FEEDS TO THIS LOCATION FOR REUSE IN NEW SYSTEM. REFER TO ELECTRICAL.
4. REMOVE ALL EXISTING FIXTURES FOR REUSE AFTER FINISH REMODEL.
5. REMOVE EXISTING PLUMBING FIXTURE AND PREPARE FOR NEW FIXTURES. SEE PLUMBING FOR FURTHER INFORMATION.
6. REMOVE EXISTING GRAB BARS AND SALVAGE FOR REUSE.

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



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No.	Description	Date

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07/15/16

TMCA Peds ED

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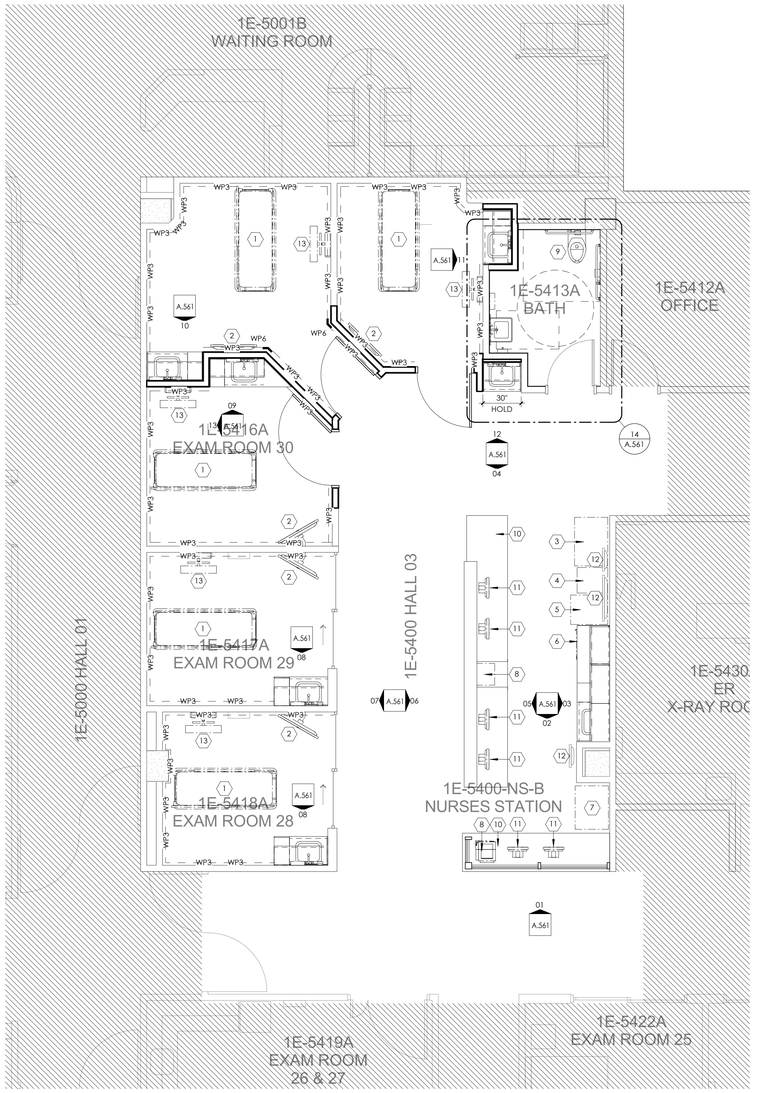
Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	SW
Checked by	JMN

Sheet Title:
DEMOLITION PLAN - FLOOR PLAN

Sheet Number
A.201

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01 - EQUIPMENT PLAN - LEVEL 01
1/4" = 1'-0"

EQUIPMENT PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE CLEAR DIMENSIONS REQUIRED FOR OWNER FURNISHED EQUIPMENT THAT IS LOCATED WITHIN OR ADJACENT TO BUILT IN CABINETS.
2. ALL GLOVE DISPENSERS ARE TO BE OWNER FURNISHED CONTRACTOR INSTALLED.
3. CONTRACTOR SHALL PROVIDE BLOCKING/STRAPPING FOR ALL MOUNTING BRACKETS OF WALL HUNG EQUIPMENT. COORDINATE FURNISHED EQUIPMENT REQUIREMENTS AND VENDOR DRAWINGS.
4. ALL SINKS ARE TO RECEIVE TA3 PAPER TOWEL DISPENSER AND A TA8 SOAP DISPENSER UNLESS NOTED OTHERWISE.
5. ALL CEILING AND/OR WALL MOUNTED EQUIPMENT SHALL BE MOUNTED AT 80" CLEAR ABOVE FINISH FLOOR.
6. CONTRACTOR SHALL COORDINATE WITH THE OWNER ON THE DELIVERY AND INSTALLATION OF OWNER FURNISHED EQUIPMENT.

EQUIPMENT PLAN LEGEND

- OUT OF SCOPE
- CONTRACTOR FURNISHED EQUIPMENT/ITEM
- OWNER FURNISHED EQUIPMENT/ITEM
- WP1—WP1– SHEET/RAIL WALL PROTECTION RE: DETAILS ON SHEET I.201
- WP3—WP3 SHEET/RAIL WALL PROTECTION RE: DETAILS ON SHEET I.201 TYPICAL FOR PROFILE
- WP6 WALL PROTECTION CORNER GUARD RE: DETAILS ON SHEET I.201
- A.100 INTERIOR ELEVATION TAG
- TA00 TOILET ACCESSORY TAG
- COMPUTER WORKSTATION
- **MHO/DEL** MAGNETIC HOLD OPEN/ DELAYED EGRESS
- **MHO** MAGNETIC HOLD OPEN
- **DEL** DELAYED EGRESS
- **OHO** OVERHEAD HOLD OPEN

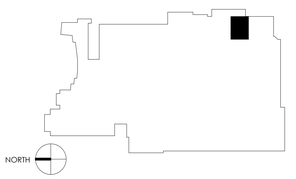
EQUIPMENT PLAN KEYNOTES

1. E.D. STRETCHER BED, OFOI
2. PATIENT TV AND BRACKET, OFCI
3. CRASH CART, OFOI
4. FULL PRINTER, OFOI
5. MEDS DISPENSER, OFOI
6. UNDER COUNTER MEDICATION REFRIGERATOR, OFOI
7. SUPPLY CART, OFOI
8. PRINTER, OFOI
9. REINSTALL GRAB BARS AT REAR AND SIDE OF TOILET. PROVIDE 18" VERTICAL GRAB BAR AT TOILET SIDE. INSTALL NEW TOILET PAPER DISPENSERS PER ADA/ANSI 117.1.
10. UNDER COUNTER SHREDDER BIN
11. COMPUTER MONITOR, OFOI
12. FACILITY PATIENT TRACKING MONITORS, OFOI
13. ENOVATE CABINET, OFCI

RSN: *1142272*
Permit #: *2016-1162878 LT*

This sheet of drawings has not been reviewed for code compliance.

KEY PLAN



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No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAY
401729
LICENSED ARCHITECT
07/15/16

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	SW
Checked by	JMN

Sheet Title:
EQUIPMENT PLANS

Sheet Number
A.211

CONTRACT & SPECIFICATION DOCUMENTS

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REFLECTED CEILING PLAN GENERAL NOTES

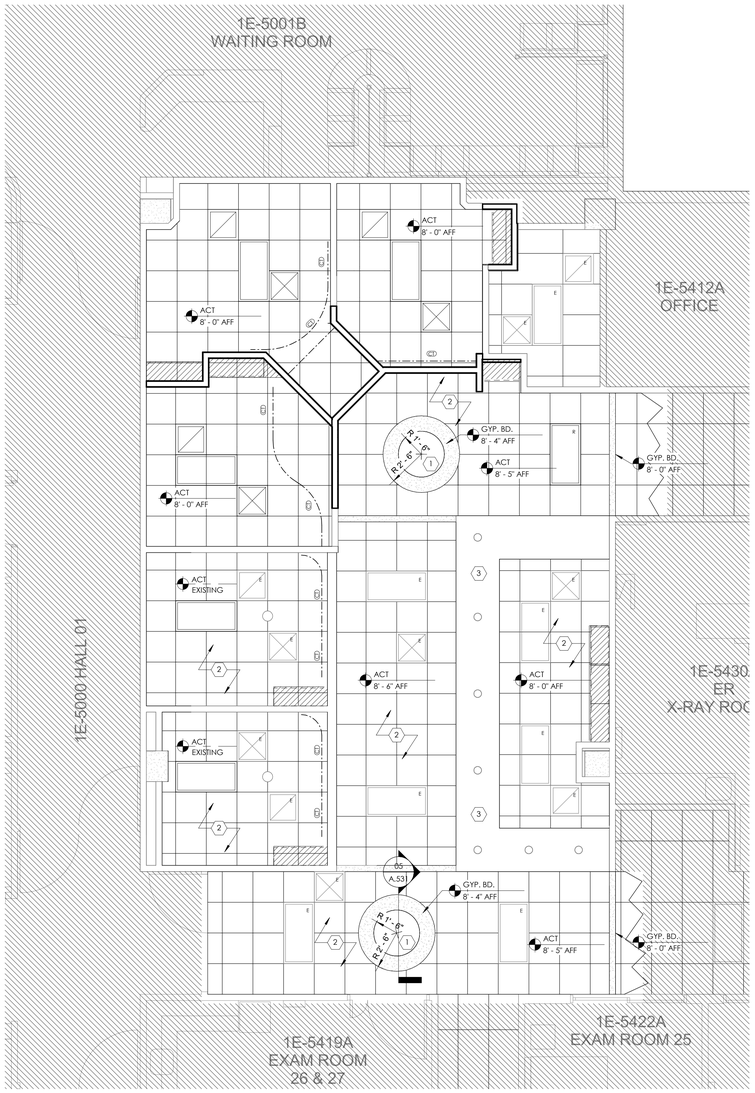
1. THE CONTRACTOR SHALL COMPARE THIS REFLECTED CEILING PLAN WITH ELECTRICAL LIGHTING PLANS, MECHANICAL SUPPLY, RETURN, AND EXHAUST PLANS. THE CONTRACTOR SHALL REPORT ANY OMISSIONS OR INCONSISTENCIES TO THE ARCHITECT.
2. SEE ELECTRICAL DRAWINGS FOR THE LOCATIONS OF CEILING MOUNTED SMOKE DETECTORS, SPEAKERS, EXIT SIGNAGE, FIRE ALARM DEVICES, WALL MOUNTED EXIT LIGHTS, ETC.
3. COORDINATE GYPSUM BOARD FURR DOWN HEIGHTS WITH FULL HEIGHT CABINETS AND INTERIOR ELEVATIONS.
4. SPRINKLER HEAD LOCATIONS ARE NOT SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.
5. 18" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE BOTTOM OF EXTENDED SPRINKLER HEADS AND THE TOP OF ANY FILES, SHELVING, LOCKERS, ETC.
6. THE CONTRACTOR SHALL VERIFY THAT ACCESS PANELS OF TYPE SPECIFIED ARE INSTALLED IN NON-ACCESSIBLE TYPE CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, OR ELECTRICAL ITEMS MAY BE REQUIRED. ACCESS PANELS SHALL BE THE FIRE RATED TYPE EQUAL TO THE RATING OF THE CEILING IN WHICH THEY OCCUR.
7. RELOCATE SUPPLY DRAIN AND VENT PIPES TO MAINTAIN SCHEDULED CEILING HEIGHTS. COORDINATE RELOCATIONS WITH MEP ENGINEERS.
8. WHERE EXISTING LAY-IN CEILINGS ARE TO REMAIN, THE CONTRACTOR SHALL REPLACE ANY TILE THAT HAS BEEN DAMAGED WITH MATERIALS THAT MATCH THE EXISTING FOR COLOR, TEXTURE, PATTERN, ETC. IF UNIFORMITY CANNOT BE ACHIEVED, THE CONTRACTOR SHALL REPLACE THE ENTIRE CEILING WITHIN THE SPACE WITH NEW MATERIAL.

REFLECTED CEILING PLAN LEGEND

- SUSPENDED 2' x 2' ACOUSTICAL CEILING SYSTEM
- SUSPENDED 2' x 4' ACOUSTICAL CEILING SYSTEM
- GB — GYPSUM WALL BOARD CEILING
- MS — MEDICAL EQUIPMENT SUPPORT SYSTEM. COORDINATE WITH VENDOR
- GYPSUM BOARD FURR DOWN OVER WALL CABINET OR LOCKER
- CEILING TYPE / 1' - 0" AFF — CEILING HEIGHT DESIGNATION
- NEW RECESSED LIGHT FIXTURE
- RECESSED LIGHT FIXTURE TO BE RELOCATED
- EXISTING RECESSED LIGHT FIXTURE TO REMAIN
- SUPPLY AIR GRILLE REF: MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- RETURN AIR GRILLE REF: MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- EXHAUST AIR GRILLE REF: MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- ACCESS PANEL
- CURTAIN TRACK
- RECESSED CAN LIGHT FIXTURE
- EXIT SIGN W/ DIRECTION

REFLECTED CEILING PLAN KEYNOTES

1. LUMENWERX, POP ROUND 36 LED RECESSED CEILING LIGHT. RE: ELECTRICAL
2. PROVIDE ADDITIONAL 2'-0" TS TO ACCOMODATE 2'X2' ACT. ADJUST FIRE SPRINKLER & CEILING DEVICE LOCATIONS TO ACCOMODATE NEW TS. INSTALL NEW ACT.
3. EXISTING SOFFIT TO REMAIN.



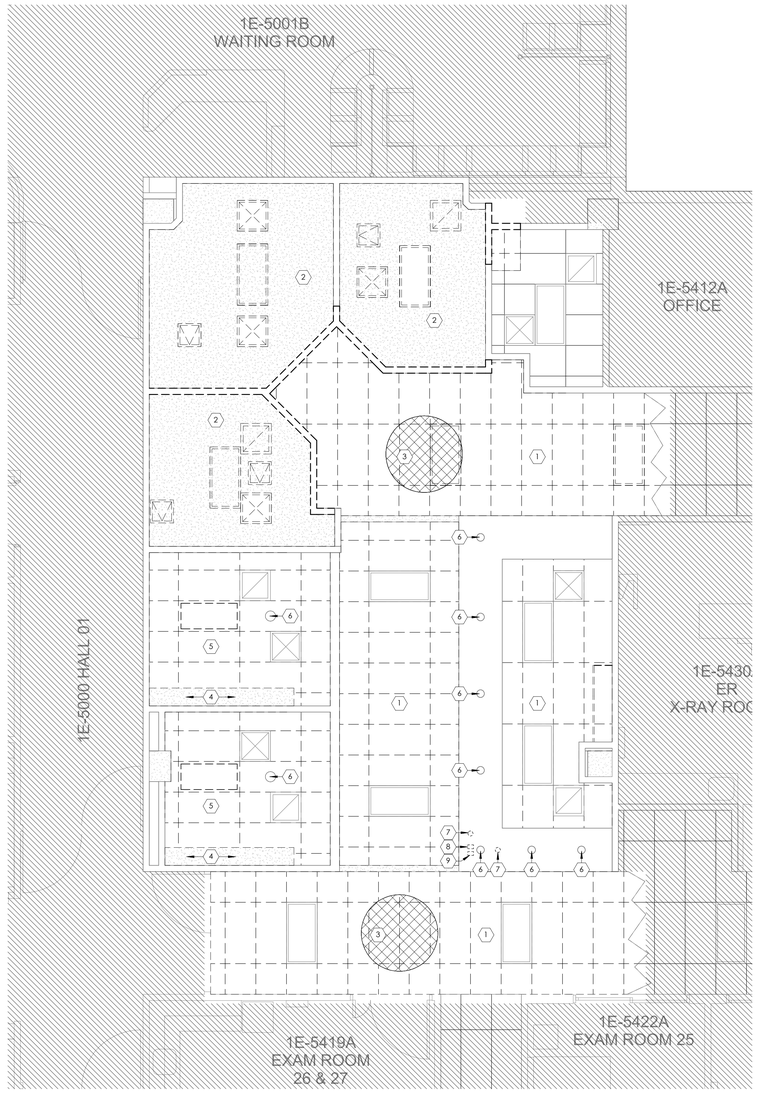
02 - REFLECTED CEILING PLAN - LEVEL 01
1/4" = 1'-0"

DEMOLITION REFLECTED CEILING PLAN NOTES

1. REFER TO SPECIFICATIONS FOR INTERIM LIFE SAFETY MEASURES.
2. THESE DRAWINGS HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS WHICH MAY NOT REFLECT ACTUAL FIELD CONDITIONS. VERIFY THESE DRAWINGS WITH EXISTING FIELD CONDITIONS AND NOTIFY THE ARCHITECT IMMEDIATELY OF INCONSISTENCIES BETWEEN THEM AND ACTUAL CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.
3. REPAIR ANY DAMAGED FIRE RATED ASSEMBLIES TO THEIR ORIGINAL SPECIFICATION.
4. REPLACE OR REPAIR ANY EXISTING TO REMAIN FINISHES WHICH ARE DAMAGED DURING DEMOLITION, SUCH AS CEILING GRID, CEILING TILE, WALL COVERING, FLOOR COVERING, ETC.
5. REMOVE EXISTING CONSTRUCTION AS INDICATED. TYPICAL WALL CEILING INCLUDES FINISHES, MECHANICAL, PLUMBING AND ELECTRICAL SYSTEMS CONTAINED THEREIN. REMOVE CEILING TILES, GRID, AND OTHER FIXTURES AS REQUIRED. AFTER REMOVAL OF PIPE CHASES, PATCH HOLES IN EXISTING FLOORS, WALLS, AND CEILINGS TO REMAIN TO MEET ORIGINAL FIRE PROTECTION AND STRUCTURAL REQUIREMENTS.
6. WHERE NEW FINISHES ARE TO BE INSTALLED ON EXISTING CEILING SURFACES, REMOVE THE EXISTING FINISH AND PREPARE SURFACE TO RECEIVE THE NEW FINISH.
7. COORDINATE WITH THE OWNER ANY ITEMS TO BE STORED AND/OR RELOCATED.
8. SEE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR DEMOLITION OF APPLICABLE UTILITIES.
9. VERIFY THAT EXIT EGRESS IS MAINTAINED FOR ALL OCCUPIED AREAS OF THE BUILDING THROUGHOUT CONSTRUCTION.
10. DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND AS SET FORTH BY ALL GOVERNING AUTHORITIES.
11. BRACE ALL EXISTING STRUCTURES OR STRUCTURAL ELEMENTS AS NECESSARY DURING DEMOLITION.
12. DO NOT CUT ANY STRUCTURAL WORK WITHOUT PRIOR APPROVAL FROM THE DESIGN TEAM.

DEMOLITION REFLECTED CEILING PLAN LEGEND

- EXISTING PARTITION TO REMAIN
- EXISTING PARTITION TO BE REMOVED
- DEMOLISH EXISTING GRID AND CEILING TILES. RELOCATE CEILING FIXTURES.
- AREA OUT OF SCOPE
- EXISTING SUPPLY DIFFUSER TO BE REMOVED
- EXISTING RETURN DIFFUSER TO BE REMOVED
- EXISTING FLUORESCENT LIGHT FIXTURE TO BE REMOVED



01 - DEMOLITION REFLECTED CEILING PLAN - LEVEL 01
1/4" = 1'-0"

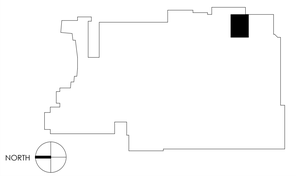
DEMOLITION REFLECTED CEILING PLAN NOTES

1. EXISTING GRID AND ALL CEILING FIXTURES TO REMAIN. TILES TO BE REMOVED.
2. DEMOLISH EXISING GYP CEILING AND FIXTURES.
3. DEMOLISH EXISTING GRID AND CEILING TILES. RELOCATE CEILING FIXTURES.
4. DEMOLISH GYP SOFFIT.
5. EXISTING GRID TO REMAIN. REMOVE EXISTING LIGHTING FIXTURES.
6. REMOVE EXISTING CAN LIGHTS AND REPLACE PER ELECTRICAL.
7. REMOVE EXISTING TV MOUNT AND PATCH SOFFIT.
8. REMOVE EXISTING ELECTRICAL OUTLET AND CAP WITH WHITE COVER PLATE.
9. REMOVE EXISTING MONITOR DATA CONNECTION AND CAP WITH WHITE COVER PLATE.

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



path 21 architecture

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Consultant Team

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ph: 303.694.4755

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAP
401729
LICENSED ARCHITECT
07/15/16

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

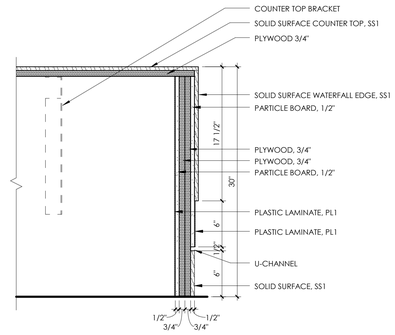
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DEMOLITION RCP - REFLECTED CEILING PLAN

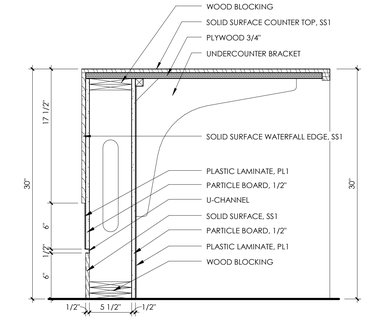
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CONTRACT & SPECIFICATIONS CONFIDENTIAL

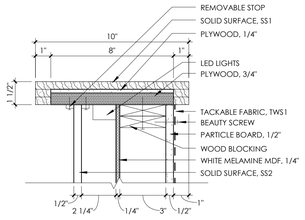
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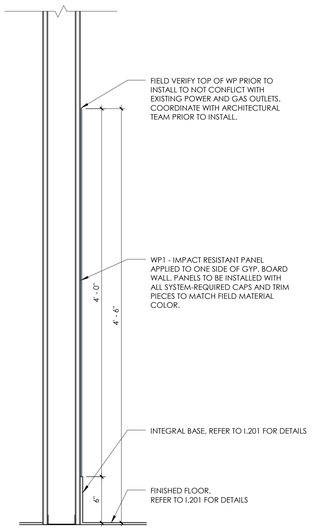
04 - SECTION AT COUNTER TOP END PANEL
1 1/2" = 1'-0"



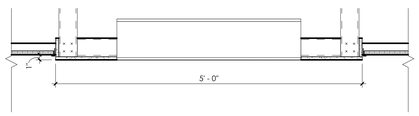
03 - SECTION AT COUNTER TOP
1 1/2" = 1'-0"



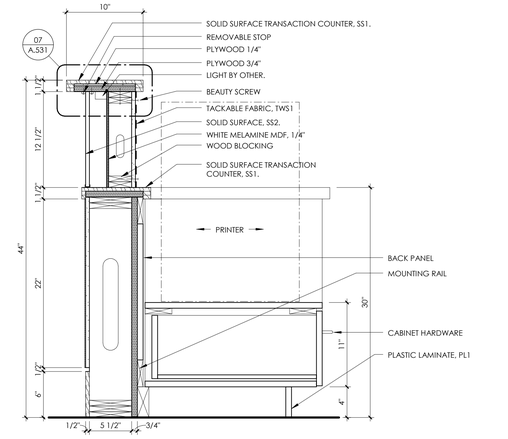
07 - TRANSACTION TOP
3" = 1'-0"



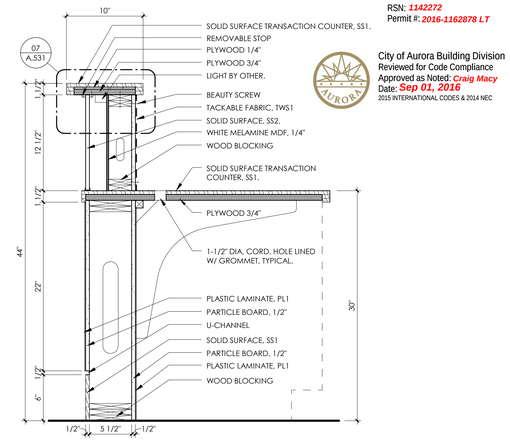
06 - WP1 WALL PROTECTION SECTION @ WP3 - TOP OF WALL TO VARY
1 1/2" = 1'-0"



05 - CIRCULAR GYPSUM SOFFIT
1" = 1'-0"



02 - SECTION THROUGH PRINTER STATION
1 1/2" = 1'-0"



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01 - SECTION AT TRANSACTION TOP
1 1/2" = 1'-0"

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Sheet Title:
INTERIOR DETAILS

Sheet Number
A.531

CONTRACT & drawings © path21 architecture

7/28/16 8:57:15 AM

TYPICAL TOILET ACCESSORY MOUNTING HEIGHTS

TOILET ACCESSORY TAG

TA?? REFERS TO SPECIFICATIONS

*NOTE: TYPICAL MOUNTING HEIGHTS AND CLEARANCES ONLY - REFER TO FLOOR PLANS FOR ACTUAL FIXTURE ORIENTATION, WHERE APPLICABLE.

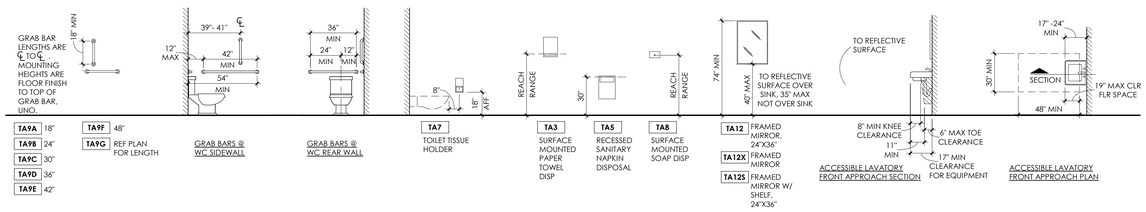
REACH RANGE (RR) TO OPERATION
RR: ≤ 48" AFF WHERE ≤ 20" COUNTER DEPTH

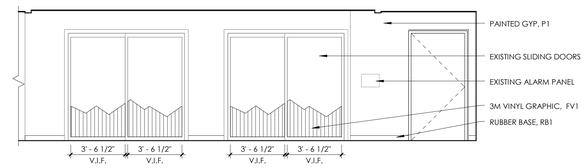
RR: ≤ 44" AFF WHERE >20"-25" COUNTER DEPTH W/ ACC KNEE SPACE BELOW

RR: ≤ 48" AFF WHERE COUNTERTOP W/ CABINET BELOW W/ 10" DEPTH & 34" MAX. HEIGHT

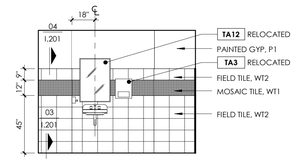
RR: ≤ 44" AFF WHERE COUNTERTOP W/ CABINET BELOW W/ > 10" - 24" DEPTH & 34" MAX. HEIGHT

RR: 15"-48" AFF WHERE NO COUNTERTOP

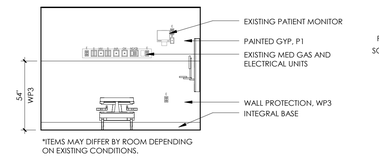




07 - PATIENT ROOMS - SLIDING DOORS
1/4" = 1'-0"

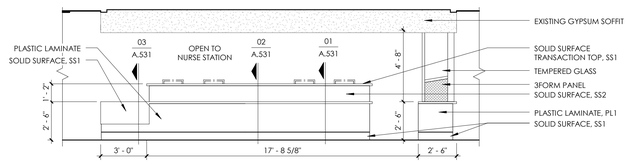


18- RESTROOM - WEST
1/4" = 1'-0"

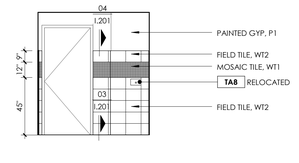


*ITEMS MAY DIFFER BY ROOM DEPENDING ON EXISTING CONDITIONS.

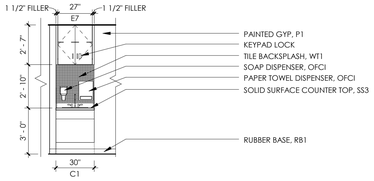
13- TYP PATIENT HEADWALL ELEVATION
1/4" = 1'-0"



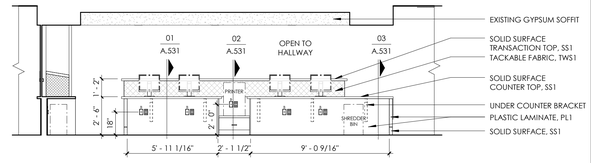
06 - NURSE STATION EXTERIOR - WEST
1/4" = 1'-0"



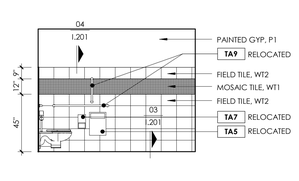
17 - RESTROOM - SOUTH
1/4" = 1'-0"



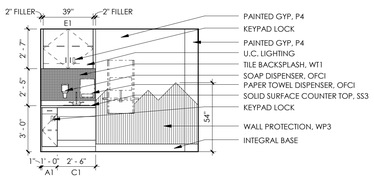
12 - HALLWAY SCRUB SINK
1/4" = 1'-0"



05 - NURSE STATION INTERIOR - EAST
1/4" = 1'-0"



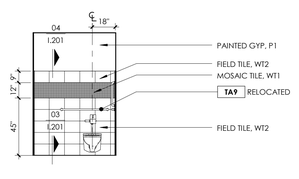
16 - RESTROOM - EAST
1/4" = 1'-0"



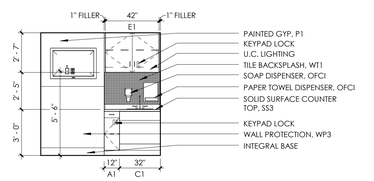
11 - EXAM ROOM 32
1/4" = 1'-0"



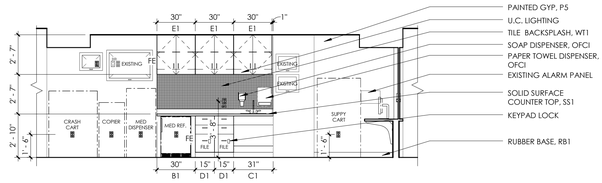
04 - NURSE STATION EXTERIOR - NORTH
1/4" = 1'-0"



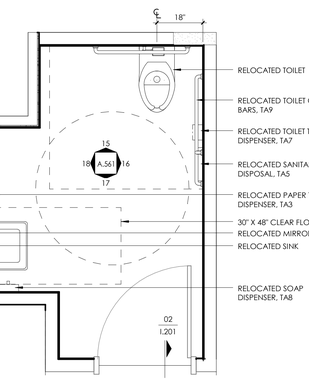
15 - RESTROOM - NORTH
1/4" = 1'-0"



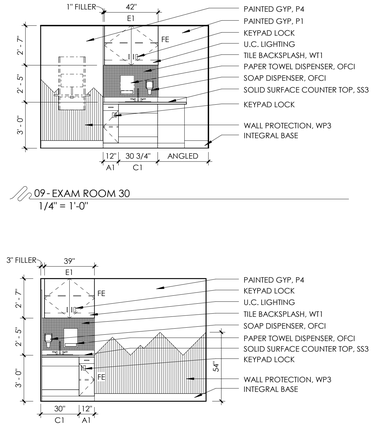
10 - EXAM ROOM 31
1/4" = 1'-0"



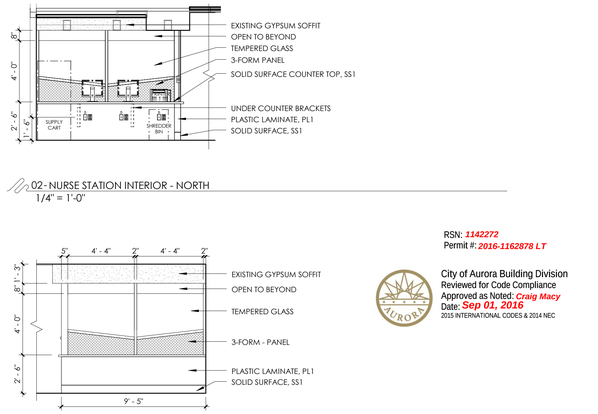
03 - NURSE STATION INTERIOR - WEST
1/4" = 1'-0"



14 - ENLARGED RESTROOM PLAN
1/2" = 1'-0"



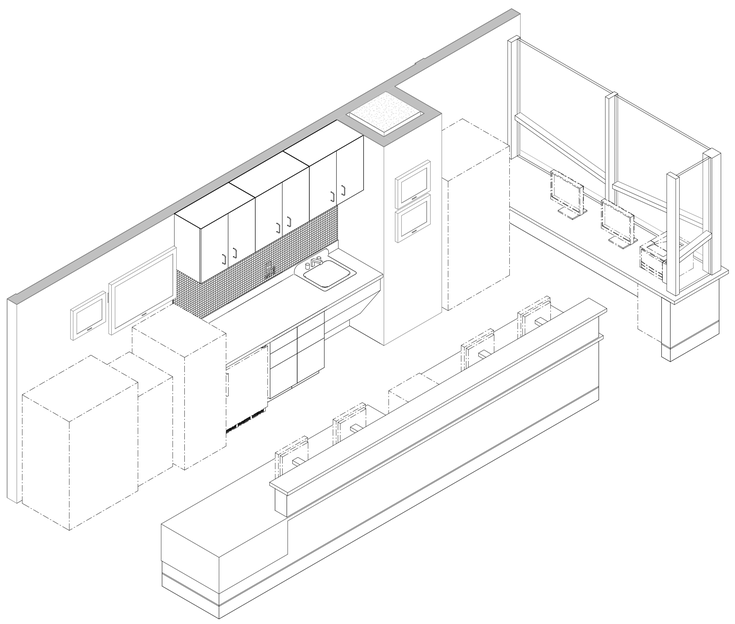
09 - EXAM ROOM 30
1/4" = 1'-0"



02 - NURSE STATION INTERIOR - NORTH
1/4" = 1'-0"

08 - EXAM ROOM 28-29 SINK, TYP
1/4" = 1'-0"

01 - NURSE STATION EXTERIOR - SOUTH
1/4" = 1'-0"



19 - NURSE STATION 3D VIEW

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CONTRACT OF 21st CENTURY ARCHITECTURE

Consultant Team

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Sheet Title:

INTERIOR ELEVATIONS

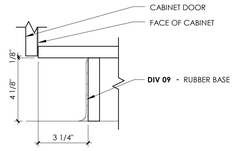
Sheet Number

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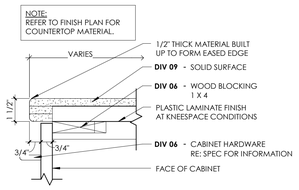
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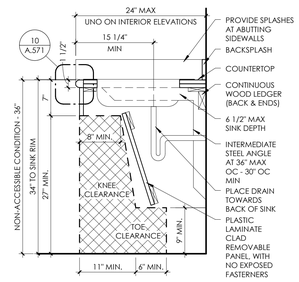
7/15/16 8:57:17 AM



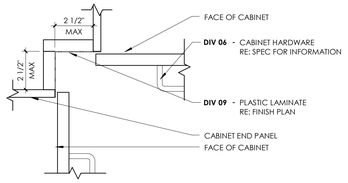
16 - SECTION DETAIL - TOEKICK
3" = 1'-0"



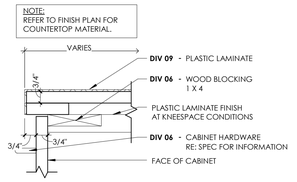
10 - SECTION DETAIL - SOLID SURFACE MAT.
3" = 1'-0"



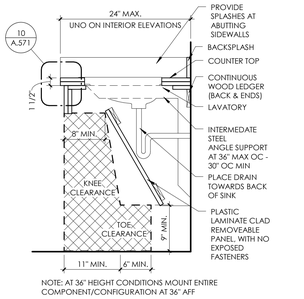
05 - C2 - ACCESSIBLE SINK
1" = 1'-0"



15 - PLAN DETAIL - INSIDE CORNER
3" = 1'-0"

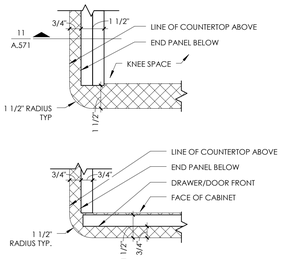


09 - SECTION DETAIL - PLASTIC LAMINATE
3" = 1'-0"

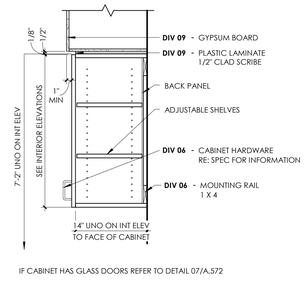


NOTE: AT 36" HEIGHT CONDITIONS MOUNT ENTIRE COMPONENT/CONFIGURATION AT 36" AFF

04 - C1 - ACCESSIBLE LAVATORY
1" = 1'-0"

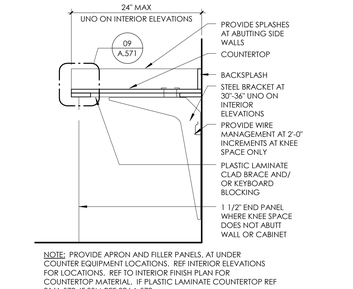


14 - PLAN DETAIL COUNTER TOP CORNER
3" = 1'-0"



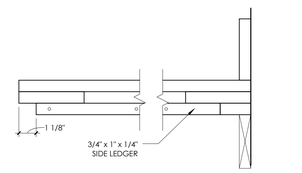
IF CABINET HAS GLASS DOORS REFER TO DETAIL 07/A.572

08 - E7 - UPPER CABINET
1" = 1'-0"
WITH DOORS AND NO UNDER CABINET TASK LIGHT RECESS

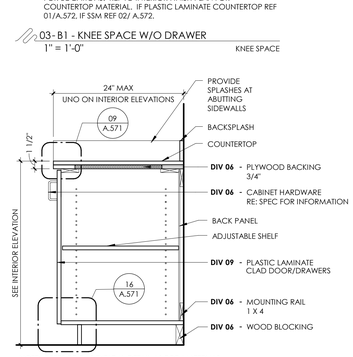


NOTE: PROVIDE APRON AND FILLER PANELS, AT UNDER COUNTER EQUIPMENT LOCATIONS. REF INTERIOR ELEVATIONS FOR LOCATIONS, REF TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. IF PLASTIC LAMINATE COUNTERTOP REF 01/A.572, IF SSM REF 02/ A.572.

03 - B1 - KNEE SPACE W/O DRAWER
1" = 1'-0"
KNEE SPACE

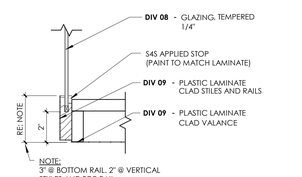


13 - SECTION DETAIL - LEDGER AT COUNTER
3" = 1'-0"

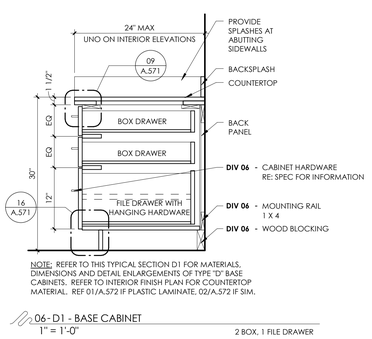


NOTE: REFER TO THIS TYPICAL DETAIL A1 FOR MATERIALS, DIMENSIONS, ANDDETAIL ENLARGEMENTS OF TYPE "A" BASE CABINETS. REFER TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. IF PLASTIC LAMINATE RE: 01/A.572, IF SSM RE: 02/A.572

02 - A2 - BASE CABINET
1" = 1'-0"
WITH DOOR

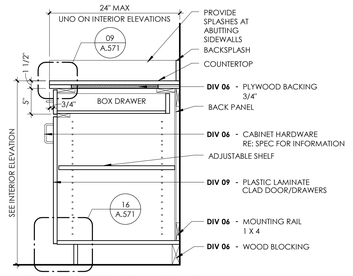


12 - SECTION DETAIL - GLASS DOOR
3" = 1'-0"



NOTE: REFER TO THIS TYPICAL SECTION D1 FOR MATERIALS, DIMENSIONS AND DETAIL ENLARGEMENTS OF TYPE "D" BASE CABINETS. REFER TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. REF 01/A.572 IF PLASTIC LAMINATE, 02/A.572 IF SIM.

06 - D1 - BASE CABINET
1" = 1'-0"
2 BOX, 1 FILE DRAWER



NOTE: REFER TO THIS TYPICAL DETAIL A1 FOR MATERIALS, DIMENSIONS, ANDDETAIL ENLARGEMENTS OF TYPE "A" BASE CABINETS. REFER TO INTERIOR FINISH PLAN FOR COUNTERTOP MATERIAL. IF PLASTIC LAMINATE RE: 01/A.572, IF SSM RE: 02/A.572

01 - A1 - KNEE SPACE W/ DRAWER
1" = 1'-0"
WITH DOOR & 1 DRAWER

11 - SECTION DETAIL - FINISHED END PANEL
3" = 1'-0"

ARCHITECTURAL CASEWORK GENERAL NOTES

ALL CASEWORK:

1. ALL SECTION DETAILS ON THIS SHEET MAY NOT APPLY TO THIS PROJECT.
2. ARCHITECTURAL WOODWORK TYPES, WIDTHS, AND HEIGHTS ARE INDICATED ON THE A.560 SERIES SHEETS.
3. FIELD VERIFY EXISTING DIMENSIONS PRIOR TO FABRICATION. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO FABRICATION.
4. VERIFY AND COORDINATE CLEAR DIMENSIONS REQUIRED FOR OWNER-FURNISHED EQUIPMENT LOCATED WITHIN OR ADJACENT TO ANY CABINETS.
5. COORDINATE INSTALLATION OF SINKS WITH ASSOCIATED PIPING AND FITTINGS PLUS WITH INSTALLATION OF ACCESSIBLE COVER PANELS.
6. REQUIRED SCRIBES AND FILLER PIECES SHALL BE INSTALLED TO ALLOW PROPER OPERATION OF DRAWERS/DOORS. THEY SHALL BE EVENLY DISTRIBUTED AND OF EQUAL WIDTH ALONG A SINGLE RUN OF CABINETS. THEY SHALL BE 3" WIDE, MAXIMUM EXCEPT INSIDE CORNER FILLERS SHALL BE 2 1/2" WIDE MINIMUM. REF TO TYP. CASEWORK DETAILS ON SHEET A.571, INSIDE CORNER DETAIL.
7. WHERE BASE CABINETS INTERSECT AT INSIDE CORNER CONDITION PROVIDE WALL MOUNTED LEDGERS TO SUPPORT COUNTERTOP AT CORNERS. WHERE UPPER CABINETS INTERSECT AT INSIDE CORNER CONDITIONS PROVIDE HORIZONTAL FILLER PANEL FLUSH WITH BOTTOM OF CABINETS.
8. PROVIDE PLASTIC SCREW COVERS TO CONCEAL SCREW HEADS AT ALL SEMI-EXPOSED CABINET SURFACES. ALL EXPOSED SCREWS SHALL BE COUNTERSUNK.
9. CORE MATERIAL FOR SHELVING GREATER THAN 30" WIDE SHALL BE 1" THICK.
10. REFERENCE TOILET ACCESSORY LEGEND AND MOUNTING HEIGHTS IN A.500 SERIES.
11. PROVIDE KEYBOARD TRAYS & CPU HOLDERS AT ALL COMPUTER WORK STATION LOCATIONS UNLESS NOTED OTHERWISE.
12. PROVIDE FILLER PANELS AS NEEDED BETWEEN BUILT-IN APPLIANCES AND ADJACENT CABINETS OR WALLS.
13. ALL VERTICAL JOINTS BETWEEN CABINETS SHALL BE BUTT JOINTS. THEY SHALL LOOK "SEAMLESS" AND BE COVERED IN PLASTIC LAMINATE.
14. ALL EXPOSED SURFACES ON CABINETS WITHOUT DOORS SHALL BE CLAD IN PLASTIC LAMINATE UNO. NO EXPOSED MELAMINE UNO ON INTERIOR ELEVATIONS.

BASE CABINETS:

1. PROVIDE PLASTIC LAMINATE CLADDING ON ALL SURFACES OF BUILT IN DESKS AT KNEE SPACES AND EXPOSED ENDS OF DESK UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS.
2. PROVIDE SCHEDULED BASE ALONG BOTTOM OF EXPOSED FRONTS, BACKS, SIDES, AND ENDS OF ALL FIXED CABINETS, PEDESTALS, VERTICAL SUPPORT PANELS, AND KNEE SPACES, ETC UNLESS NOTED OTHERWISE ON THE INTERIOR ELEVATIONS.
3. ALL DRAWER LENGTHS SHALL BE 20" UNLESS NOTED OTHERWISE. ALL DRAWERS GREATER THAN 30" WIDE SHALL HAVE TWO PULLS.
4. ALL HORIZONTAL AND VERTICAL REVEALS SHALL BE 1/8".
5. ALL TOEKICK SPACES SHALL BE 4 1/8" TALL X 3 1/4" DEEP UNLESS NOTED OTHERWISE. REF TO TYP CASEWORK DETAILS ON SHEET A.571.

COUNTERTOPS:

1. ALL COUNTERTOPS ARE TO BE 24" DEEP UNO ON INTERIOR ELEVATIONS.
2. ALL OUTSIDE COUNTERTOP CORNERS TO BE 1 1/2" RADIUS (IN PLAN) UNLESS NOTED OTHERWISE REF TO TYP. CASEWORK DETAILS ON SHEET A.571, COUNTERTOP CORNER DETAIL.
3. PROVIDE WALL MOUNTED BRACKETS (FIELD PAINTED) FOR SUPPORT OF COUNTERTOPS AT KNEE SPACES. COUNTERTOPS SHALL BE SUPPORTED 30" MINIMUM - 36" MAXIMUM OC COORDINATE LOCATION WITH KEYBOARD TRAYS AND CPU HOLDERS. REF. INTERIOR ELEVATIONS FOR LOCATIONS OF COUNTERTOP BRACKETS.
4. LOCATE GROMMETS AT BACK OF COUNTERTOPS EVERY 36" OC WITH A MINIMUM OF 1 PER KNEE SPACE UNLESS NOTED OTHERWISE ON THE EQUIPMENT PLAN. COORDIANTE FINAL GROMMET LOCATIONS WITH OWNER. EXCEPTION: DO NOT PROVIDE GROMMETS AT ACCESSIBLE PORTION OF COUNTER, AS INDICATED ON THE EQUIPMENT PLANS.
5. REFER TO INTERIOR ELEVATIONS AND FINISH LEGEND FOR COUNTERTOP MATERIAL. ALL COUNTERTOPS AT SINKS TO BE SOLID SURFACE MATERIAL UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS. REF TO TYP. CASEWORK DETAILS ON SHEET A.571 FOR SOLID SURFACE MATERIAL COUNTERTOP EDGE DETAIL AND FOR PLASTIC LAMINATE COUNTEROP EDGE DETAIL.
6. ALL BACK AND SIDE SPLASHES SHALL BE 4" TALL X 3/4" THICK IF PLASTIC LAMINATE, 1/2" THICK IF SOLID SURFACE MATERIAL UNO ON THE INTERIOR ELEVATIONS. ALL SPLASHES SHALL BE SCRIBED TO CONFORM TO THE SURFACE OF ABUTTING WALLS. ALL SPLASHES SHALL BE SEALED TO THE WALL WITH CLEAR SILICONE SEALANT. IF SOLID SURFACE, PROVIDE SPLASHES ON ALL REAR AND SIDE WALLS AT BASE CABINETS.

UPPER CABINETS:

1. TOP OF UPPER AND FULL HEIGHT CABINETS SHALL BE 7'-2" AFF UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS. REF A.560 SERIES SHEETS.
2. REFERENCE SERIES A.220 AND A.560 FOR FURDOWN LOCATIONS. WALL CABINETS WITHOUT A FURR DOWN ABOVE SHALL RECEIVE A CONTINUOUS 6" HIGH SLOPED PANEL, FINISHED TO MATCH CABINETS UNLESS NOTED OTHERWISE.
3. WALL MOUNTED UPPER CABINETS SHALL INCLUDE ADJUSTABLE SHELVES UNLESS NOTED OTHERWISE.

CABINET HEIGHT	NUMBER OF SHELVES
UP TO 24"	1
25" THROUGH 42"	2
43" THROUGH 48"	3

4. TOPS AND BOTTOMS OF WALL HUNG CABINETS SHALL BE 3/4" THICK WITH PLASTIC LAMINATE ON ALL EXPOSED SURFACES.
5. BACKS OF WALL HUNG CABINETS SHALL BE 1/4" THICK UNLESS NOTED OTHERWISE. BACKS OF BASE CABINETS SHALL BE 1/4" THICK UNLESS NOTED OTHERWISE.

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Consultant Team

MEP
WSP + CCRD
5613 DTC Parkway, Suite 500
Greenwood Village, CO 80111
ph: 303.694.4755

No.	Description	Date

STATE OF COLORADO
JOHN MENNO MAY
401729
LICENSED ARCHITECT
07/15/16

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	SW
Checked by	JMN

Sheet Title:
TYPICAL CASEWORK SECTIONS & DETAILS

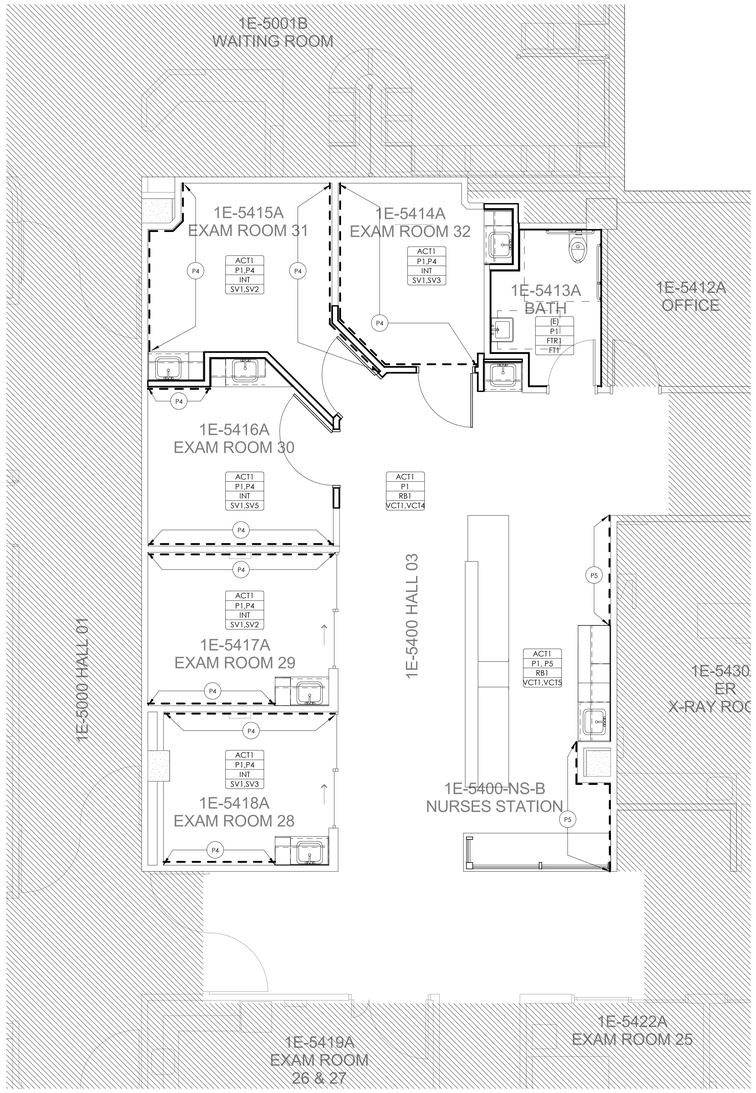
Sheet Number
A.571

RSN: *1142272*
Permit #: *2016-1162878 LT*

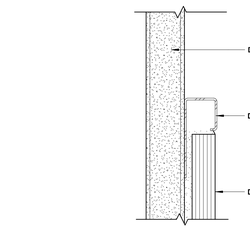
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

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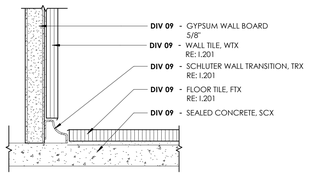
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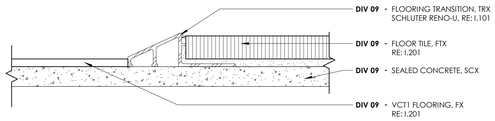
01 - FINISH PLAN - LEVEL 01
1/4" = 1'-0"



04 - WTR1 - WALL TILE TO GYP
12" = 1'-0"



03 - FTR2 - FLOOR TILE TO WALL TILE
6" = 1'-0"



02 - FTR1 - VCT TO TILE
12" = 1'-0"

7/18/16 8:57:22 AM

FINISH LEGEND

FLOORING

VCT1 - Field
Manuf: Mannington
Style: Touchstone
Color: Almond Buff #9167
Size: 12" x 12" x 1/8"
Contact: Gail Montressor @ 303-945-1843

VCT2
Manuf: Mannington
Style: Touchstone
Color: Horizon #9220
Size: 12" x 12" x 1/8"
Contact: Gail Montressor @ 303-945-1843

VCT3
Manuf: Mannington
Style: Touchstone
Color: Macaw #9145
Size: 12" x 12" x 1/8"
Contact: Gail Montressor @ 303-945-1843

VCT4
Manuf: Mannington
Style: Touchstone
Color: Banana Cream #9213
Size: 12" x 12" x 1/8"
Contact: Gail Montressor @ 303-945-1843

VCT5
Manuf: Mannington
Style: Touchstone
Color: New Eggplant #9144
Size: 12" x 12" x 1/8"
Contact: Gail Montressor @ 303-945-1843

SV1 - Field
Manuf: Mannington
Style: Biospec
Color: Coal Beige
Size: 6'-6" x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV2
Manuf: Mannington
Style: Biospec
Color: Lapis
Size: 6'-6" x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV3
Manuf: Mannington
Style: Biospec
Color: Banana Cream
Size: 6'-6" x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV4
Manuf: Mannington
Style: Biospec
Color: Lime
Size: 6'-6" x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

SV5
Manuf: Mannington
Style: Biospec
Color: Blueberry
Size: 6'-6" x 30-68 sq. yards x 0.08" thick
Contact: Gail Montressor @ 303-945-1843

FT1
Manuf: Daltile
Style: Parkway
Color: Beige PK96
Size: 12" x 12" x 3/8" Thick
Contact: Sara Harper @
Grout: Epoxy
Grout Color: TBD

FLOORING TRANSITIONS

FTR1- VCT to Tile
Manuf: Schluter Systems
Style: Reno-U
Color: Satin Anodized Aluminum
Size: 5/32" to 3/8" H

FTR2- Floor Tile to Wall Tile
Manuf: Schluter Systems
Style: Dilex- HKU
Size: 3/8" radius
Color: Brushed Stainless Steel 304

BASE

INT
6" H Integral Base

RB1
Manuf: Johnsonite
Style: 4" h Traditional Cove Base x 120' roll
Color: 49 Beige
NOTE: Miter inside corners. Do not use premolded outside corners

WALLS

P1 - Field
Manuf: Sherwin Williams
Color: Divine White SW6105
Finish: Semigloss

P2
Manuf: Sherwin Williams
Color: Sunny Veranda SW9017
Finish: Semigloss

P3
Manuf: Sherwin Williams
Color: Great Green SW6430
Finish: Semigloss

P4
Manuf: Sherwin Williams
Color: Porch Ceiling SW 9063
Finish: Semigloss

P5
Manuf: Sherwin Williams
Color: Berry Cream SW9075
Finish: Semigloss

P6
Manuf: Sherwin Williams
Color: Nomadic Desert SW6107
Finish: Semigloss

CEILING

ACT1
Manuf: Armstrong
Tile Style: Dune
Tile Model: #1774
Tile Size: 24" x 24" x 1"
Tile Color: White
Grid Style: 15/16" Square Lay-in
Grid Color: White
*NOTE: Refer to A.220 series for size location

GYP
Gypsum Board ceiling, painted as noted on finish plan

MILLWORK

PL1
Manuf: Wilsonart
Color: Shaker Cherry #7935K-07
Finish: Textured Gloss

SS1
Manuf: Avonite
Color: Jicama K1-6625
Size: 1/2" Thick
Contact: Mary Farace @ 720.544.1805

SS2
Manuf: Avonite
Color: Cat Eye K3-8330
Size: 1/2" Thick
Contact: Mary Farace @ 720.544.1805

SS3
Manuf: Corian
Color: Cameo White
Size: 1/2" Thick
Contact: Emily Harding @ 800.642.2246

WALL TILE
*All grout to be Epoxy

WT1 Mosaic Tile
Manuf: Daltile
Style: Color Wave
Color: Winter Blues
Size: 12" x 12"
Grout Color: TBD

WT2 Field Tile
Manuf: Daltile
Style: Parkway
Color: Beige PK96
Size: 9" x 12" x 3/8" Thick
Grout Color: TBD

WALL TRANSITION

WTR2- Wall to Tile Gyp Board
Manuf: Schluter Systems
Style: Quadec
Color: Satin Anodized Aluminum (AE)
Size: 3/8" H

WALL PROTECTION

WP1 Sheet - Field
Manuf: Inpro Corporation
Style: Rigid Sheet
Size: 4' x 10' x 0.06" Thick
Color: Chamois 0234
*Include manuf trim pieces as required.

WP2 Sheet
Manuf: Inpro Corporation
Style: Rigid Sheet
Size: 4' x 10' x 0.06" Thick
Color: Buttercup 0376
*Include manuf trim pieces as required.

WP3 Sheet
Manuf: Inpro Corporation
Style: Rigid Sheet
Size: 4' x 10' x 0.06" Thick
Color: Cactus 0242
*Include manuf trim pieces as required.

WP4 Sheet
Manuf: Inpro Corporation
Style: Rigid Sheet
Size: 4' x 10' x 0.06" Thick
Color: Buoyant Blue 0132
*Include manuf trim pieces as required.

WP6 Single Corner Guard
Manuf: Inpro Corporation
Style: 150 Surface Mount, 130 at angled corners
Size: (1) 3" x 3" x refer to detail height
Color: Chamois 0234

WP7 Double Corner Guard
Manuf: Inpro Corporation
Style: 160D Surface Mount
Size: (2) 2" x 2" x refer to detail height
Color: Chamois 0234

MISC.

RP1 Resin Panel
Manuf: 3-Form
Style: Clear + Fizz + Clear
Finish: Front & Back- Markerboard Plus

FV1 Frosted Vinyl
Manuf: 3M
Style: Fasara Glass Finish
Color: Opaque White

CT Cubicle Curtain
Manuf: Knoll Textiles
Style: Fission Chips
Color: Blue Nile #C16704
Mesh: TBD
Mary McEnary @ 303.282.6011
NOTE: Provide 130% Fullness to 12" A.F.F

TWS1 Tackable Fabric
Class A Homasote Panels wrapped in:
Manuf: National Office Furniture
Style: Repetition
Color: Almond

(ME) Match Existing

(E) Existing to Remain

FINISH PLAN GENERAL NOTES

1. REFER TO INTERIOR FINISH LEGEND I.101 FOR FINISH MANUFACTURER AND COLOR INFORMATION.
2. REFER TO A.531 SERIES FOR FLOOR TRANSITION DETAILS.
3. REFER TO A.220 SERIES REFLECTED CEILING PLANS FOR LOCATION OF CEILING FINISHES AND CEILING HEIGHTS.

FINISH PLAN LEGEND

ROOM FINISH TAG (REFERENCE I.101 SHEET)

ACT	CEILING FINISH
P	WALL FINISH
RB	WALL BASE FINISH
SV	FLOOR FINISH

* DENOTES MULTIPLE FINISHES, PLEASE REFER TO ENLARGED PLANS, DETAILS AND/OR ELEVATIONS FOR MORE INFORMATION.

(1) KEYNOTE

NOT IN SCOPE OF WORK

(P4) PAINT ACCENT

(CPT) FINISH TAG

FINISH PLAN KEYNOTES

(1) NOT USED

(2) NOT USED

FINISH LEGEND GENERAL NOTES

GENERAL NOTES

FLOOR FINISH:
A. ALL FLOOR TRANSITIONS ARE TO OCCUR AT THE CENTERLINE OF DOOR WHEN DOOR IS IN CLOSED POSITION.

B. REFER TO I.201 SERIES FOR TRANSITION AND THRESHOLD DETAILS.

C. REFER TO INTERIOR FLOOR FINISH PLANS FOR ALL FLOOR PATTERNS.

D. INSTALL ALL LUXURY VINYL TILE IN ONE DIRECTION ONLY, TO MATCH THROUGHOUT, UNLESS NOTED OTHERWISE.

WALL BASE:
A. ALL RUBBER BASE SHALL BE SEALED TIGHT TO FINISHED FLOOR.

WALL FINISH:
A. WALL TEXTURE SHALL MATCH FACILITY STANDARD, UNLESS NOTED OTHERWISE.

B. PAINT ALL WALLS SEMIGLOSS, UNLESS NOTED OTHERWISE. SEE FINISH LEGEND FOR DEFINITION.

C. PAINT ALL ELECTRICAL AND ACCESS WALL PANELS TO MATCH ADJACENT WALL FINISH.

CEILING FINISH:
A. FURR-DOWN FINISH: VERTICAL AND HORIZONTAL SURFACES OF FURR-DOWN TO MATCH ADJACENT WALLS, UNLESS NOTED OTHERWISE.

B. REFER TO REFLECTED CEILING PLAN FOR ALL CEILING HEIGHTS.

C. PAINT ALL GYP. BD. CEILINGS SEMIGLOSS, UNLESS NOTED OTHERWISE. SEE FINISH LEGEND FOR DEFINITION.

D. PAINT ALL ACCESS PANELS IN CEILING TO MATCH ADJACENT CEILING FINISH.

E. PAINT ALL SIDES OF SOFFIT FOR GYP. CEILING ABOVE COLOR LISTED ON REFLECTED CEILING PLAN.

F. ALL CEILING GRID WALL ANGLES TO BE SEALED AT WALL WHERE PAINT OCCURS.

DOORS/WINDOWS:
A. NEW DOORS TO BE PLASTIC LAMINATE TO MATCH EXISTING DOOR FINISH IN ADJACENT SURGERY DEPARTMENT.

B. EXISTING WOOD DOORS TO BE RESURFACED AND DAMAGED LAMINATE DOORS TO BE REPAIRED. SLABS ARE TO BE TAKEN OFF SITE FOR THIS SCOPE OF WORK AND NOT REFINISHED IN PLACE.

C. INTERIOR HOLLOW METAL DOOR & FRAME, AND INTERIOR SURFACE OF EXTERIOR HOLLOW METAL DOOR & FRAME TO BE PAINTED WITH P6, UNLESS NOTED OTHERWISE.

ACCESSORIES:
A. REFER TO EQUIPMENT PLAN AND DETAILS FOR WALL PROTECTION (WP) LOCATIONS. REFER TO INTERIOR FINISH LEGEND FOR SPECIFIC PROFILES AND COLORS.

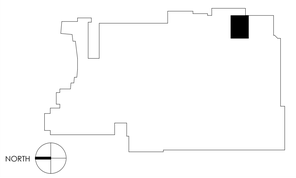
B. PROVIDE AND INSTALL ADA COMPLAINT SIGNAGE, AS REQUIRED BY CODE FOR ALL ADA TOILET ROOMS, STAIR LEVELS AND SERVICE ROOMS.

C. PROVIDE PAPER TOWEL DISPENSER AT ALL SINK LOCATIONS.

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



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401729
LICENSED ARCHITECT
07/15/16

TMCA Peds ED

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	LU
Checked by	JMN

Sheet Title:
FINISH LEGEND - FINISH PLAN

Sheet Number
I.201



01 - FLOOR PATTERN - LEVEL 01
1/4" = 1'-0"

FLOOR PATTERN GENERAL NOTES

1. REFER TO INTERIOR FINISH LEGEND I.101 FOR FINISH MANUFACTURER AND COLOR INFORMATION.
2. REFER TO A.531 SERIES FOR FLOOR TRANSITION DETAILS.
3. REFER TO A.220 SERIES REFLECTED CEILING PLANS FOR LOCATION OF CEILING FINISHES AND CEILING HEIGHTS.

FLOOR PATTERN LEGEND

- 1 — KEYNOTE
- NOT IN SCOPE OF WORK
- VCT — FINISH TAG

FLOOR PATTERN LEGEND

FLOOR FINISH

- SV1
- SV2
- SV3
- SV5
- VCT1
- VCT4
- VCT5
- FT1

FLOOR PATTERN KEYNOTE

- 1 — JOCKIMO LIQUID LAVA TILES

RSN: *1142272*
Permit #: *2016-1162878 LT*

This sheet of drawings has not been reviewed for code compliance.

KEY PLAN



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FLOOR PATTERNS

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I.202

CONTRACT & PROJECT INFORMATION

7/18/16 8:57:23 AM

GENERAL NOTES - ALL HVAC SHEETS:

A. ANY DISCREPANCY THAT PREVENTS THE CONTRACTOR FROM MEETING THE DESIGN INTENT OF THE DRAWINGS SHALL BE DOCUMENTED ON THE PROJECT RECORD DOCUMENTS AND BE REPORTED TO THE ARCHITECT/ENGINEER IMMEDIATELY.

B. ALL DEVIATIONS FROM SCHEDULED EQUIPMENT THAT RESULTS IN ADDITIONAL COST DUE TO LACK OF COORDINATION WITH DIMENSIONS, WEIGHTS, AND CONNECTION POINTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

C. CONTRACTOR SHALL VISIT JOBSITE AND VERIFY SIZE AND LOCATION OF ALL EXISTING ITEMS AND CONDITIONS. CONTRACTOR SHALL COORDINATE ALL WORK CLOSELY WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES.

D. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR MECHANICAL AND PLUMBING CONSTRUCTION.

E. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES, AND COMPLY WITH ALL NATIONAL, STATE, AND MUNICIPAL LAWS, CODES, AND ORDINANCES RELATING TO BUILDING AND PUBLIC SAFETY.

F. THE CONTRACTOR SHALL PREPARE A FULL SET OF COORDINATION DRAWINGS, SHOWING THE RELATIONSHIP OF ALL SYSTEMS TO BE INSTALLED. THESE DRAWINGS SHALL INDICATE SIZES, ELEVATIONS, AND EXACT LOCATIONS OF ALL STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS. THESE DRAWINGS SHALL BE COMPLETED PRIOR TO BEGINNING ANY WORK AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW. CONTRACTOR SHALL NOTE ANY ITEMS THAT PREVENT HIM FROM MEETING THE DESIGN INTENT OF THE CONSTRUCTION DOCUMENTS ON THESE DRAWINGS.

G. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR A COMPLETE WORKING AND COORDINATED SYSTEM.

H. COORDINATE THE EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT AND DEVICES WITH THE LOCATIONS OF LIGHT FIXTURES, PIPING, CONDUIT, AND OTHER CONSTRUCTION, TO ALLOW FOR PROPER ACCESS TO SERVICE EQUIPMENT.

I. COORDINATE THE LOCATION OF DUCTWORK AND PIPING WITH ALL OTHER TRADES AND PROVIDE OFFSETS IN DUCTWORK AND PIPING AS REQUIRED.

J. IT IS THE INTENT OF THESE DOCUMENTS TO ALLOW ALL CEILING CONSTRUCTION AND HEIGHTS TO BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. COORDINATE THE LOCATION OF DUCTWORK AND PIPING AND PROVIDE OFFSETS IN DUCTWORK AND PIPING AS REQUIRED TO MEET THIS INTENT.

K. CONDUIT, PIPING, AND DUCTWORK SHALL BE INDEPENDENTLY SUPPORTED, AND EACH SUPPORT SHALL BE INDEPENDENT OF PARTITION AND CEILING SYSTEM SUPPORTS. WHERE INDEPENDENT SUPPORT IS NOT POSSIBLE AN ENGINEERED SUPPORT SYSTEM SHALL BE UTILIZED.

L. INSTALL ALL FLOOR MOUNTED EQUIPMENT ON PADS AS SPECIFIED. PAD BY GENERAL CONTRACTOR. COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR.

M. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN STRICT COORDINATION WITH ARCHITECTURAL PHASING PLANS AND WITH BUILDING SCHEDULES, OCCUPANCIES, AND WORK.

N. PROTECT EQUIPMENT AND WORK FROM DAMAGE DURING HANDLING AND INSTALLATION UNTIL COMPLETION OF CONSTRUCTION.

O. REMOVE ALL EXCESS MATERIAL AND DEBRIS AND CLEAN ALL EQUIPMENT UPON COMPLETION OF WORK. TOUCH UP WITH PAINT WHERE REQUIRED.

P. CONTRACTOR SHALL COORDINATE ALL WORK CLOSELY WITH ALL OTHER TRADES.

Q. CLIENT/ARCHITECT SHALL HAVE FINAL APPROVAL OF ALL GRILLE, DIFFUSER, AND THERMOSTAT LOCATIONS.

R. COORDINATE ALL AIR DEVICE LOCATIONS AND MOUNTING FRAME STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS.

S. COORDINATE ALL WALL MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.

T. PROVIDE ADDITIONAL VALVES, TAPS, TEMPORARY DUCTWORK, ETC. AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE OF THE PHASE IN WHICH WORK IS BEING PERFORMED.

U. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF WALLS THAT EXTEND TO STRUCTURE. EACH HVAC DUCT OR PIPE PENETRATION THROUGH THESE WALLS SHALL BE INSTALLED AS SPECIFIED OR DETAILED. WHERE FLEXIBLE DUCT WOULD PENETRATE A WALL WHICH EXTENDS TO STRUCTURE, PROVIDE INSULATED RIGID DUCT EXTENDING 12" ON EITHER SIDE OF THE PARTITION.

V. ALL DEVIATIONS FROM SCHEDULED EQUIPMENT THAT RESULTS IN ADDITIONAL COST DUE TO LACK OF COORDINATION WITH DIMENSIONS, WEIGHTS, AND CONNECTION POINTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

W. DUCT SIZES ARE NET FREE AREA.

X. PROVIDE ROUND DUCTS TO ALL AIR DEVICES UNLESS NOTED OTHERWISE. DUCT SIZE SHALL MATCH AIR DEVICE NECK SIZE OR THE TABLE IN AIR DEVICE SCHEDULE, WHICHEVER IS LARGER. FLEXIBLE DUCTS SHALL BE SIZED SIMILARLY. DO NOT USE FLEXIBLE DUCTS ABOVE NON-LAYIN CEILINGS.

Y. PROVIDE FRAMED O.5" BY 0.5" BIRD SCREEN (GALVANIZED STEEL ASSEMBLY) AT ALL DUCTS TERMINATING WITHOUT AN AIR DEVICE, AT INDOOR FACE OF LOUVERS, AND AT UNDUCTED AIR FLOW OPENINGS AT EQUIPMENT.

Z. PROVIDE MANUAL VOLUME DAMPER IN EACH AIR DEVICE RUNOUT DUCT AS FAR FROM AIR DEVICE AS POSSIBLE.

AA. INSTALL TURNING VANES IN ALL 90 DEGREE SQUARE ELLS IN SUPPLY, RETURN, AND EXHAUST DUCTS. (NONE ALLOWED IN COMBUSTION AIR DUCTS).

AB. MULTI-BLADE DAMPERS OF ANY TYPE INSTALLED WITHIN 36" OF AN ELL OR OTHER FITTING SHALL BE INSTALLED WITH THE DAMPER BLADE SHAFTS PARALLEL TO THE AIRSTREAM FLOW DIRECTION UPSTREAM OF THE FITTING.

AC. ALL FIRE AND COMBINATION FIRE/SMOKE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION DETAILS AND BE U.L. TESTED AND LISTED.

AD. SLOPE & ARRANGE CONDENSATE PIPING TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINING OF EACH LINE. PROVIDE MANUAL AIR VENTS AT HIGH POINTS AND DRAIN VALVES AT LOW POINTS.

AE. COORDINATE LOCATION OF ALL DUCT AND PIPING FLOOR SLEVE/CORE PENETRATIONS WITH STRUCTURAL DRAWINGS.

AB. INSTALL SPACE THERMOSTAT ADJACENT TO LATCH SIDE OF DOOR IN SPACE INDICATED. INDICATED LOCATIONS ARE APPROXIMATE. AVOID HEAT PRODUCING EQUIPMENT. FINAL SPACE THERMOSTAT/SENSOR LOCATIONS SHALL BE AS DIRECTED BY THE ARCHITECT.

AE. COORDINATE LOCATION OF ALL DISCONNECTS, CONTROL PANELS AND ELECTRICAL CONNECTIONS FOR MECHANICAL AND PLUMBING EQUIPMENT TO MAINTAIN NEC REQUIRED CLEARANCES OF 42" DEEP AND 30" WIDE IN FRONT OF EQUIPMENT.

GENERAL PIPING NOTES:

A. REFER TO THE ARCHITECTURAL PHASING PLAN FOR THE AREAS SHOWN ON THIS SET OF PLANS. WORK SHALL BE SCHEDULED AND PERFORMED IN SEQUENCE WITH THE PHASING PLAN.

B. ARCHITECT SHALL HAVE FINAL APPROVAL OF ALL THERMOSTAT LOCATIONS. COORDINATE ALL WALL MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.

N. ALL CONNECTION BETWEEN PIPES OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC UNIONS.

O. G.C. TO PROVIDE ACCESS DOORS IF REQUIRED FOR ACCESS TO VAV'S AND ANY VALVES THAT ARE NOT ACCESSIBLE. VERIFY SIZE AND LOCATIONS WITH MECHANICAL CONTRACTOR.

P. PROVIDE DRAIN PAN UNDER PIPES INSIDE ELECTRICAL AND COMMUNICATION ROOMS.

Q. PROVIDE CONDENSATE DRAIN PIPING FROM ALL COOLING COILS TO DRAIN.

R. LOCATE ISOLATION VALVES FOR EQUIPMENT AS CLOSE TO THE MAIN AS POSSIBLE.

GENERAL DEMOLITION NOTES:

A. ALL CAPPED DUCT TAPS AND CONNECTING DUCTS THAT ARE NOT BEING USED ARE TO BE REMOVED BACK TO THE MAIN DUCT AND PATCHED AS PER ITEM B BELOW.

B. PATCH OPENINGS IN EXISTING DUCTWORK THAT IS TO REMAIN INCLUDING OPENINGS. WHERE TAPS OR DUCTWORK ARE TO BE REMOVED, THE FOLLOWING SHALL OCCUR:

- OPENINGS IN THE MAIN DUCTS ARE TO BE COVERED WITH A SHEET METAL PATCH. THE PATCH IS TO BE LARGER THAN THE EXISTING OPENING AND IS TO BE SECURED WITH SHEET METAL SCREWS FOUR INCHES ON CENTERS.
- A LIBERAL QUANTITY OF FIRE RESISTANT ADHESIVE IS TO BE APPLIED TO THE EDGES OF THE METAL PATCH AND THE ASSEMBLY SCREWED IN PLACE.

C. REFER TO THE ARCHITECTURAL PHASING PLAN FOR THE AREAS SHOWN ON THIS PLAN. WORK SHALL BE SCHEDULED AND PERFORMED IN SEQUENCE WITH THE PHASING PLAN.

D. DEMOLITION OF EACH PHASE SHALL OCCUR AS PART OF THE WORK FOR THAT PHASE. REMOVE ONLY THE WORK THAT SERVES THE AREA OF DEMOLITION.

E. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO PREVENT DISRUPTING ADJACENT AREAS OF THE PHASE IN WHICH WORK IS BEING PERFORMED.

F. PROVIDE ADDITIONAL VALVES, TAPS, TEMPORARY DUCTWORK AND/OR PIPING AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE OF THE PHASE IN WHICH WORK IS BEING PERFORMED.

G. ALL WORK SHALL BE PERFORMED IN STRICT COORDINATION WITH HOSPITAL SCHEDULES, OCCUPANCIES AND WORK. CONTRACTOR SHALL COORDINATE WITH HOSPITAL REPRESENTATIVE.

H. ALL NECESSARY SHUTDOWNS OR OUT OF PHASE WORK SHALL BE SCHEDULED WITH THE HOSPITAL REPRESENTATIVE.

MECHANICAL SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
A / #	NEW EQUIPMENT DESIGNATION (TOP - EQUIP. ABBREV., BOTTOM - MARK)
A / #	NEW DIFFUSER DESIGNATION (TOP - SCHEDULE DESIG., BOTTOM - CFM)
	NEW EQUIPMENT
	EXISTING EQUIPMENT
	NEW DUCT
	EXISTING DUCT
	EXISTING DUCT TO BE REMOVED OR RELOCATED
	NEW SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER TO BE REMOVED OR RELOCATED
	NEW R/A OR EXHAUST GRILLE
	EXISTING R/A OR EXHAUST GRILLE
	EXISTING R/A OR EXHAUST GRILLE TO BE REMOVED OR RELOCATED
	NEW SLOT DIFFUSER
	FLEXIBLE DUCT
	EXISTING SLOT DIFFUSER
	EXISTING SLOT DIFFUSER TO BE REMOVED OR RELOCATED
T	THERMOSTAT
T	EXISTING THERMOSTAT TO BE REMOVED OR RELOCATED
	45° PRESSURE TAP W/ VOLUME DAMPER
	CONICAL TAP WITH VOLUME DAMPER
	CONICAL TAP W/O VOLUME DAMPER
	MANUAL VOLUME DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	FIRE/SMOKE DAMPER
M	MOTORIZED DAMPER
B	BAROMETRIC DAMPER
CHS	CHILLED WATER SUPPLY PIPE
CHR	CHILLED WATER RETURN PIPE
CS	CONDENSER WATER SUPPLY PIPE
CR	CONDENSER WATER RETURN PIPE
RL	REFRIGERANT LIQUID PIPE
RG	REFRIGERANT GAS PIPE
HS	HEATING WATER SUPPLY
HR	HEATING WATER RETURN

HPS	HIGH PRESSURE STEAM
HPR	HIGH PRESSURE CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
LPR	LOW PRESSURE CONDENSATE RETURN
PCR	PUMPED CONDENSATE RETURN
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	SANITARY WASTE LINE
CD	CONDENSATE DRAIN
P	PUMPED SANITARY LINE
	VENT LINE
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	EXPANSION LOOP
	GATE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	GLOBE VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	AUTOMATIC 2-WAY CONTROL VALVE
	AUTOMATIC 3-WAY CONTROL VALVE
	PLUG VALVE/BALANCING COCK
	SOLENOID VALVE
	CHECK VALVE
	HYDRAULIC SHOCK ARRESTOR
	VALVE IN VERTICAL
	UNION
V	VACCUUM BREAKER
	P-TRAP
	FLOOR DRAIN W/ P-TRAP
	HUB DRAIN
	FLOOR CLEANOUT OR GRADE CLEANOUT
	CLEANOUT OR WALL CLEANOUT
	PETE'S PLUG
	GAUGE COCK
	THERMOMETER
	THERMOMETER WELL
	STRAINER WITH BLOW-OFF VALVE
	F & T STEAM TRAP
	STEAM BUCKET TRAP
	CONNECT TO EXISTING
EP	ELECTRIC PNEUMATIC SWITCH

CONTROL DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
TT-X	TEMPERATURE TRANSMITTER #X
HT-X	RELATIVE HUMIDITY TRANSMITTER #X
V-X	CONTROL VALVE #X
SPT-X	STATIC PRESSURE TRANSMITTER #X
ESC-X	END SWITCH, NORMALLY CLOSED #X
ESO-X	END SWITCH, NORMALLY OPEN #X
TS-X	TEMPERATURE SENSOR #X
SD-X	SMOKE DETECTOR #X
OL	OVERLOAD RELAY #X
DPS-X	DIFFERENTIAL PRESSURE SENSOR #X
CSR-X	CURRENT SENSING RELAY #X
FM-X	FLOW METER #X
FS-X	FLOW SWITCH #X
EAS-X	EMERGENCY AIR HANDLER SHUTDOWN BUTTON - AHU-#X

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2015 IBC
MECHANICAL	2015 IMC
PLUMBING	2015 IPC
ENERGY	2015 IECC
ELECTRICAL	2014 NEC
LATITUDE:	
DEG. N. LAT.	39.61
ELEVATION:	
FT. ABOVE SEA LEVEL	5470

MECHANICAL ABBREVIATIONS

AC	ABOVE CEILING	RLA	RELIEF AIR
AFF	ABOVE FINISHED FLOOR	SLA	SUPPLY LOW PRESSURE AIR
AI	ANALOG INPUT	SMA	SUPPLY MEDIUM PRESSURE AIR
AO	ANALOG OUTPUT	UH	UNIT HEATER
BFC	BELOW FINISHED CEILING	VAV	VARIABLE AIR VOLUME
BF	BELOW FLOOR, BLIND FLANGE	WH	WATER HEATER
BG	BELOW GRADE	WHP	WATER-SOURCE HEAT PUMP
BV	BUTTERFLY VALVE	FMB	FILTER MIXING BOX
CA	COMBUSTION AIR	IN HG	INCHES MERCURY (PRESSURE)
CRU	COMPUTER ROOM UNIT	IN WC	INCHES WATER COLUMN (PRESSURE)
CRU	CONDENSATE RETURN UNIT	IBT	INVERTED BUCKET TRAP
CU	CONDENSING UNIT	TAV	THERMOSTATIC AIR VENT (STEAM SYSTEM)
DI	DIGITAL INPUT	MA	MIXED AIR
DO	DIGITAL OUTPUT	LE	LAUNDRY EQUIPMENT
DS	DISCONNECT SWITCH	CLPR	C LOW PRESSURE RETURN (CONDENSATE)
E	EXISTING	CLPS	C LOW PRESSURE STEAM
EDH	ELECTRIC DUCT HEATER	CHWR	CHILLED WATER RETURN
EUH	ELECTRIC UNIT HEATER	CHWS	CHILLED WATER SUPPLY
EF	EXHAUST FAN	CR	CONDENSER RETURN
EOMD	END OF MAIN DRIP (STEAM)	CS	CONDENSER SUPPLY
SF	SUPPLY FAN	GWR	GLYCOL WATER RETURN
EX	EXHAUST AIR	GWS	GLYCOL WATER SUPPLY
OSA	OUTSIDE AIR	HWR	HEATING WATER RETURN
TA	TRNASFER AIR	HWS	HEATING WATER SUPPLY
UNO	UNLESS NOTED OTHERWISE	HPR	HIGH PRESSURE RETURN (CONDENSATE)
PRV	PRESSURE RELIEF VALVE	HPS	HIGH PRESSURE STEAM
SV	SAFETY VALVE	LCA	LAB COMP. AIR
GD	GREASE DUCT	LHWC	LAB HEATING WATER
SS	STAINLESS STEEL	LPR	LOWER PRESSURE RETURN (CONDENSATE)
FCU	FAN COIL UNIT	LPS	LOW PRESSURE STEAM
FPB	FAN POWERED BOX	LTCWR	LOW TEMP. CHILLED WATER RETURN
FPI	FINS PER INCH	LTCWS	LOW TEMP. CHILLED WATER SUPPLY
GC	GENERAL CONTRACTOR	LTHWS	LOW TEMP. HEATING WATER SUPPLY
GEF	GENERAL EXHAUST FAN	PCWWR	PROCESS CHILLED WATER RETURN
GSF	GENERAL SUPPLY FAN	PCWS	PROCESS CHILLED WATER SUPPLY
MVD	MANUAL VOLUME DAMPER	SCWR	SECONDARY CHILLED WATER RETURN
N	NEW	SCWS	SECONDARY CHILLED WATER SUPPLY
OBD	OPPOSED BLADE DAMPER		
R	RELOCATED		
RA	RETURN AIR		
RCA	RECIRCULATED (RETURN) AIR		

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No.	Description	Date

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PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

Sheet Title:
MECHANICAL LEGENDS AND NOTES

Sheet Number
M.001

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7/15/2016 3:56:36 PM

MECHANICAL AND PLUMBING SPECIFICATIONS

I GENERAL CONDITIONS:

A. THE SCOPE OF THE WORK SHALL INCLUDE THE FURNISHING AND INSTALLATION OF THE NECESSARY MATERIAL AND LABOR TO ACCOMPLISH THE WORK INDICATED BY THE DRAWINGS AND HEREIN SPECIFIED. ALL WORK BY THIS CONTRACTOR SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EXISTING CONDITIONS AT THE JOB SITE BEFORE SUBMITTING PROPOSALS. SUBMISSION OF PROPOSALS SHALL BE TAKEN AS EVIDENCE THAT SUCH INSPECTION HAS TAKEN PLACE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE COMPLETE SET OF CONSTRUCTION DOCUMENTS, AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

C. MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BEAR THE UL. LABEL WHERE APPLICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE BY THE OWNER.

D. CONTRACTOR SHALL INSTALL MECHANICAL SYSTEMS WITHOUT INTERFERENCE AND IN STRICT COORDINATION WITH OTHER TRADES.

E. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. IN CASE OF DIFFERENCE BETWEEN APPLICABLE CODES AND STANDARDS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER AND THE OWNER IN WRITING OF SUCH DIFFERENCE. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF APPLICABLE CODES AND STANDARDS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING SUCH DEFECTS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF NATIONALLY ACCEPTED CODES AND STANDARDS. SHOULD THE CONTRACTOR SUPPLY EQUIPMENT DIFFERING FROM THE SPECIFIED ITEMS IN THE CONTRACT DOCUMENTS WITHOUT NOTIFICATION TO THE ENGINEER, HE SHALL BEAR ALL COSTS TO UPGRADE DEFICIENCIES ARISING FROM SUCH.

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" APPROVAL BY THE ENGINEER. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR APPROVAL.

G. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

H. PROVIDE ACCESS, INCLUDING NECESSARY ACCESS DOORS, FOR NEW AND EXISTING EQUIPMENT REQUIRING OPERATION AND/OR MAINTENANCE. RELOCATE EXISTING AND LOCATE ALL NEW EQUIPMENT SUCH THAT OPERATION OR MAINTENANCE IS NOT RESTRICTED.

I. DO NOT RUN PIPING OR DUCTWORK, OR LOCATE EQUIPMENT, WITH RESPECT TO SWITCHBOARDS, PANELBOARDS, POWER PANELS, MOTOR CONTROL CENTERS OR DRY TYPE TRANSFORMERS, WITHIN 42 INCHES IN FRONT OF EQUIPMENT, OVER EQUIPMENT, OR WITHIN 36 INCHES HORIZONTALLY OF SAME SPACE.

J. PROVIDE SNAP-ON OR ADHESIVES LABELS INDICATING CHILLED OR HOT WATER SUPPLY AND RETURN, CONDENSATE DRAINAGE, DOMESTIC HOT AND COLD WATER, MEDICAL GASES, ETC.

II MECHANICAL DEMOLITION

A. UNLESS NOTED OTHERWISE, THE MECHANICAL DEMOLITION SHALL BE CARRIED OUT TO THE EXTENT THAT THE FLOORS ARE RETURNED TO THE ORIGINAL BASE BUILDING CONDITIONS. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS IN ORDER TO ACCURATELY DETERMINE THE EXTENT OF THE WORK UNDER THIS SECTION.

B. UNLESS NOTED OTHERWISE, REMOVE EXISTING INTERIOR DIFFUSERS, GRILLES, AND DUCTWORK AS INDICATED PLANS. EXISTING DIFFUSERS AND GRILLES MAY BE REUSED IF THEY MEET THE SCHEDULED SPECIFICATIONS. EXISTING BASE BUILDING SLOT DIFFUSERS ARE TO REMAIN EXCEPT WHERE INDICATED ON PLANS.

C. EXISTING THERMOSTATS AND/OR TEMPERATURE SENSORS ARE TO BE RELOCATED AND REUSED IF IN GOOD WORKING CONDITION.

D. WASTE, DOMESTIC WATER, AND VENT PIPING SHALL BE REMOVED BACK TO RISER STACK CONNECTIONS AND CAPPED, UNLESS NOTED OTHERWISE.

E. EXISTING DUCTWORK SHOWN ON PLANS MAY NOT EXACTLY MATCH THE ACTUAL FIELD CONDITIONS. IT IS NOT NECESSARY TO REWORK THE DUCTWORK IN ORDER TO MATCH WHAT IS DEPICTED ON THE PLANS. CONTRACTOR SHALL VERIFY EXISTING DUCTWORK ROUTING AND LOCATIONS AND MAKE ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS WITH NEW DUCTWORK, EQUIPMENT, LIGHT FIXTURES, ETC.

III PRODUCTS, EQUIPMENT AND EXECUTION:

A. SANITARY DRAIN LINES (SOIL, WASTE AND VENT) SHALL BE AMERICAN MANUFACTURED SERVICE WEIGHT CAST IRON OR DWV COPPER PIPE. JOINTS SHALL BE FABRICATED BY THE USE OF COMPRESSION JOINTS SIMILAR TO TYLER PIPE AND FOUNDRY'S "TY-SEAL" FOR CAST IRON PIPE OR 95/5 SOLDER FOR DWV COPPER PIPE. NO-HUB CAST IRON PIPE ASSEMBLED WITH STAINLESS STEEL/NEOPRENE HUBLESS COUPLINGS SHALL BE LIMITED TO ABOVE GROUND INSTALLATIONS.

B. DOMESTIC WATER PIPING INSTALLED ABOVE GROUND SHALL BE AMERICAN MANUFACTURED TYPE "L" HARD DRAWN COPPER ASSEMBLED WITH 95/5 SOLDER AND WROUGHT COPPER JOINT FITTINGS.

C. RELIEF AND DRAIN PIPING SHALL BE AMERICAN MANUFACTURED TYPE "M" COPPER WITH 95/5 SOLDER JOINT FITTINGS OR SCHEDULE 40 BLACK STEEL PIPES WITH SCREWED FITTINGS.

G. FITTINGS AND PIPING CONNECTED WITH PLUMBING FIXTURES SHALL BE BRASS AND, WHEREVER EXPOSED, SHALL BE POLISHED CHROME-PLATED.

H. FURNISH AND INSTALL ALL REQUIRED WATER, WASTE, SOIL, AND VENT CONNECTIONS TO ALL PLUMBING FIXTURES AND EQUIPMENT, TOGETHER WITH ALL FITTINGS, SUPPORTS, FASTENING DEVICES, COCKS, VALVES, TRAPS, ETC., LEAVING ALL IN COMPLETE WORKING ORDER.

I. PLUMBING FIXTURES SHALL BE PROVIDED AS SCHEDULED ON THE DRAWINGS. PLUMBING FIXTURES SHALL BE NEW, EXCEPT WHERE NOTED, AND SHALL BE APPROVED BY THE APPLICABLE WATER CONSERVATION AUTHORITY. THE PLUMBING CONTRACTOR SHALL PROVIDE NECESSARY CHROME PLATED P-TRAPS, SUPPLIES WITH STOPS, RISERS, INLET DRAINS, ETC.

J. SHOCK ARRESTORS SHALL BE SIMILAR TO JOSAM 75000 OR AS MANUFACTURED BY PPP AND SIOUX CHIEF SIZED AS PER THE PDI.

K. FIXTURE CARRIERS SHALL BE PROVIDED FOR WATER CLOSETS, URINALS AND LAVATORIES AS REQUIRED AND SHALL BE FLOOR SUPPORTED AS MANUFACTURED BY JOSAM.

L. TRAP PRIMERS SHALL BE AS REQUIRED BY LOCAL CODES AND SIMILAR TO J.R. SMITH FIR 2698 WATER SAVER TRAP PRIMER.

M. FLOOR DRAINS SHALL BE SIMILAR TO JOSAM SERIES 30000 CAST IRON FLOOR DRAIN WITH NICKALOY STRAINER.

N. CLEANOUTS SHALL BE PROVIDED IN SANITARY WASTE LINES AS SHOWN AND AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES. WALL CLEANOUTS SHALL BE SIMILAR TO JOSAM 5879 WITH BRONZE PLUG AND STAINLESS STEEL COVER. FLOOR CLEANOUTS SHALL BE SIMILAR TO JOSAM 56020 WITH CARPET MARKER FOR CARPETED FLOORS.

O. PIPE, EQUIPMENT, ETC., SHALL BE PROPERLY SUPPORTED FROM STRUCTURE WITH THE USE OF APPROVED TYPE CLEVIS, TRAPEZE HANGERS OR FLOOR STANDS WITH SPACING AS FOLLOWS:

1. STEEL PIPE OR COPPER TUBING - 1-1/2" OR LESS, 6 FOOT INTERVALS.
2. CAST IRON - ONE (1) HANGER PER LENGTH OF PIPE AND NOT EXCEEDING 10'-0" O.C.
3. FITTINGS - WITHIN 2'-0" OF EACH CHANGE OF DIRECTION.

P. INSULATION SHALL BE PROTECTED AT HANGERS BY A SECTION OF CALCIUM SILICATE PIPE INSULATION AND A 12" LONG HALF-ROUND SHEET METAL SHIELD ON THE OUTSIDE OF THE INSULATION. EXTEND PIPING INSULATION FULL THICKNESS WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PENETRATIONS.

Q. PROVIDE AND INSTALL UNIONS AT PROPER POINTS TO PERMIT REMOVAL OF A PIPE, EQUIPMENT, ETC., WITHOUT INJURY TO OTHER PARTS OF THE SYSTEM AND TO PREVENT CORROSION DUE TO ELECTROLYSIS. ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER TO PERMIT ACCESS FOR SERVICE WITHOUT DISASSEMBLY. UNIONS SHALL BE DIELECTRIC WHERE DISSIMILAR MATERIALS OCCUR. PRESSURE RATINGS SAME AS FITTINGS.

R. ALL DOMESTIC COLD WATER AND HOT WATER PIPE AND FITTINGS SHALL BE INSULATED WITH ½" THICK OWENS-CORNING FIBERGLASS 25 ASJ/SSL OR APPROVED EQUAL.

S. PROVIDE INSULATION PRODUCTS MANUFACTURED BY JOHNS-MANVILLE, OWENS-CORNING, ARMSTRONG AND CERTAINTEED. FIBERGLASS PIPE INSULATION SHALL BE ASTM C547-77, CLASS 1. PROVIDE BANDS, WIRES, AND CEMENT AS RECOMMENDED BY INSULATION MANUFACTURER FOR THE APPLICATIONS INDICATED. FLEXIBLE FIBERGLASS DUCTWORK INSULATION SHALL BE ASTM C553-70, TYPE I, CLASS B3.

1. PROVIDE COMPOSITE INSULATION (INSULATION JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVE) WITH FLAME-SPREAD RATINGS OF 25 OR LESS AND A SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ASTM K04 (HFFA 255) METHOD.
2. MAINTAIN INTEGRITY OF VAPOR BARRIER JACKETS ON PIPE AND DUCTWORK INSULATION, AND PROTECT TO PREVENT PUNCTURE OR OTHER DAMAGE. SEAL OPEN ENDS OF INSULATION WITH MASTIC. SECTIONALLY SEAL ALL BUTT ENDS OF CHILLED WATER INSULATION OF FITTINGS WITH WHITE VAPOR BARRIER COATING. EXTEND PIPING INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS AND SIMILAR PIPING PENETRATIONS, EXCEPT WHERE OTHERWISE INDICATED. INSTALL PROTECTIVE METAL SHIELDS AND FOAM GLASS INSERTS WHERE PIPE HANGERS BEAR ON OUTSIDE OF INSULATION.

T. RECTANGULAR "LOW PRESSURE" SHEET METAL DUCT SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR 1.0" W.C. AND FOR THE FIRST 10 TO 15 FEET DOWNSTREAM OF A TERMINAL UNIT (FPVAV OR VAV) SHALL HAVE AN INTERNAL DUCT LINING EQUAL TO JOHNS-MANVILLE PERMACOTE LINACOUSTIC, 1" THICK, 1.5 LB. DENSITY DUCT LINER. (DUCTS FOR MEDICAL WORK SHALL NOT BE LINED, BUT WILL BE WRAPPED.)

U. ROUND "LOW PRESSURE" DUCT FITTINGS SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA RECOMMENDATIONS FOR 0.5" W.C.

V. RECTANGULAR AND ROUND "PRIMARY AIR" SHEET METAL DUCT AND FITTINGS SHALL BE FABRICATED OF CONTINUOUS HOT DIP MILL GALVANIZED MINIMUM 26 GAUGE STEEL SHEETS AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS FOR 3.0" W.C., AND RECTANGULAR DUCT SHALL HAVE AN INTERNAL DUCT LINING EQUAL TO JOHNS-MANVILLE PERMACOTE LINACOUSTIC, 1" THICK, 1.5 LB. DENSITY DUCT LINER (DUCTS FOR MEDICAL WORK SHALL NOT BE LINED, BUT WILL BE WRAPPED). CONSTRUCTION METHODS:

1. RECTANGULAR - DUCTMATE SYSTEM
2. ROUND - SPIRAL DUCT SYSTEM

A. AA. ROUND DUCTS AND UNLINED RECTANGULAR DUCTS SHALL BE INSULATED WITH 3/4 POUND PER CUBIC FOOT MINIMUM DENSITY, 2" THICK, COMMERCIAL GRADE, OWENS-CORNING FIBERGLASS FOIL BACKED ALL SERVICE DUCT WRAP, OR EQUAL.

BB. FLEXIBLE DUCTS SHALL BE FLEXMASTER TYPE 8M, THERMAFLEX MKE OR WIREMOLD WK. FLEXIBLE DUCTS SHALL BE LISTED AS U.L. 181 CLASS (1) AIR DUCT AND SHALL COMPLY WITH NFPA STANDARDS 90A AND 90B.

CC. CONTRACTOR SHALL BALANCE THE HVAC SYSTEMS FOR DESIGNATED AIR AND WATER QUANTITIES AND SHALL BE N.E.B.B. OR A.A.B.C. APPROVED. SUBMIT REPORT ON NEBB, AABC, OR SMACNA FORMS FOR APPROVAL BY THE ENGINEER. EXTENT OF BALANCING WORK TO INCLUDE REBALANCING OF EXISTING SUPPLY AND EXHAUST SYSTEMS AS REQUIRED TO ACHIEVE DESIGN CFM ON SUBJECT PROJECT.

DD. DUCT ACCESS DOORS: PROVIDE RIGID AND CLOSE FITTING DOORS OF GALVANIZED STEEL WITH SEALING GASKETS AND QUICK FASTENING LOCKING DEVICES. FOR INTERNALLY LINED OR INSTALLED DUCTWORK, INSTALL MINIMUM ONE INCH THICK INSULATION WITH SHEET METAL COVER. INSTALL AT EACH FIRE DAMPER. DOORS TO BE EQUAL TO FLEXMASTER " THE INSPECTOR SERIES."

EE. FURNISH AND INSTALL SMOKE, FIRE AND/OR FIRE/SMOKE DAMPERS WHERE SHOWN ON THE DRAWINGS, AND REQUIRED BY THE GOVERNING AUTHORITY. DAMPERS SHALL BE INSTALLED AS RECOMMENDED BY SMACNA AND COMPLY WITH U.L. AND LOCAL ORDINANCES AS REQUIRED BY THE GOVERNING AUTHORITY.

FF. "VARIABLE-VOLUME" AND "CONSTANT-VOLUME" SINGLE DUCT TERMINAL BOX SHALL BE MEDIUM PRESSURE, VARIABLE AIR VOLUME, SINGLE DUCT, PRESSURE INDEPENDENT TERMINAL UNIT WITH 2 P.C.F. DENSITY MINIMUM INSULATED CASING AND FLOW CONTROLLER. VARIABLE VOLUME TERMINAL BOXES SHALL BE ENVIRO-TEC SSD-11, TITUS ESV-3000, NAILOR OR TEMPMASTER.

GG. "INTERMITTENT FAN-POWERED/VARIABLE AIR VOLUME" TERMINAL BOX SHALL BE MEDIUM PRESSURE, PRESSURE INDEPENDENT TERMINAL UNIT WITH 2 P.C.F. DENSITY MINIMUM INSULATED CASING AND FLOW CONTROLLER COMPLETE WITH FAN, HEATING COIL, SINGLE POINT POWER CONNECTION, CONTROLS, ETC. UNITS SHALL BE ENVIRO-TEC VVF-11, TITUS MFV, NAILOR OR TEMPMASTER.

HH. "CONSTANT FAN-POWERED/VARIABLE AIR VOLUME" TERMINAL BOX SHALL BE MEDIUM PRESSURE, PRESSURE INDEPENDENT TERMINAL UNIT WITH 2 P.C.F. DENSITY MINIMUM INSULATED CASING AND FLOW CONTROLLER COMPLETE WITH FAN, HEATING COIL, SINGLE POINT POWER CONNECTION, CONTROLS, ETC. UNITS SHALL BE ENVIRO-TEC CVF2, TITUS MCF, NAILOR OR TEMPMASTER.

II. "CONSTANT AIR VOLUME" DOUBLE DUCT TERMINAL BOX SHALL BE MEDIUM PRESSURE, PRESSURE INDEPENDENT TERMINAL UNIT COMPLETE WITH INTERNAL ½" THICK DUAL DENSITY 4.0 P.C.F. FIBERGLASS INSULATION WITH ALL EDGES SEALED AND INTERNALLY LINED WITH FOIL-BACKED KRAFT SCRIMMED PAPER, AIR VALVE, INLET COLLARS, ACTUATORS, NECESSARY OPERATING AND SAFETY CONTROLS TO MATCH EXISTING BUILDING SYSTEM REQUIREMENTS, ETC. UNITS SHALL BE ENVIRO-TEC MODEL SDD400 TEMPMASTER, NAILOR OR TITUS.

JJ. VAV ZONE DAMPERS SHALL BE LOW PRESSURE, PRESSURE DEPENDENT,[ELECTRIC] [PNEUMATIC] ACTUATED TYPE MOTORIZED DAMPERS FOR INSTALLATION WITHIN THE ZONE DUCTWORK. AIR VALVES SHALL BE TEMPMASTER MODEL AV AND SIZED AS INDICATED ON THE DRAWINGS.

YY. TEST AND BALANCE:

621. THE GENERAL CONTRACTOR SHALL RETAIN THE SERVICES OF AN INDEPENDENT CERTIFIED AIR BALANCE FIRM TO PERFORM THE TESTING AND BALANCING AND PREPARE REPORTS TO THE GENERAL CONTRACTOR. IF THE MECHANICAL CONTRACTOR IS NEBB CERTIFIED, THEY CAN BALANCE THE SYSTEM.

622. TESTING AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, SECOND EDITION, 1974, OR NATIONAL ENVIRONMENTAL BALANCING BUREAU STANDARDS.

623. THE CONTRACTOR SHALL CORRECT ALL DEFICIENCIES IN THE OPERATION OF FACTORY SET VAV UNITS.

624. READINGS AND TEST OF DIFFUSERS, GRILLES AND REGISTERS SHALL INCLUDE DESIGN, INITIAL TEST, AND FINAL ADJUSTED FPM VELOCITY AND CFM. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE BALANCED BY A HOOD THAT HAS BEEN CALIBRATED, INCLUDING A MANOMETER, AND PILOT TUBE READINGS SHALL BE TAKEN TO ESTABLISH TOTAL CFM FLOW IN ALL MAIN DUCTS. DIRECT READING INSTRUMENTS SUCH AS VELOMETERS AND ANEMOMETERS MAY BE USED AT TERMINAL UNITS.

IV RECORDS FOR OWNER:

A. CONTRACTOR SHALL KEEP A CLEAN SET OF DRAWINGS ON THE JOB, NOTING DAILY ALL CHANGES MADE IN THESE DRAWINGS IN CONNECTION WITH THE FINAL INSTALLATION INCLUDING EXACT DIMENSIONED LOCATIONS OF ALL NEW AND UNCOVERED EXISTING UTILITIES AND SHALL, WITH HIS REQUEST FOR FINAL PAYMENT, TURN OVER A CLEAN, NEATLY MARKED SET OF 2 MIL REPRODUCIBLE MYLARS SHOWING "AS INSTALLED" WORK TO THE ARCHITECT FOR SUBSEQUENT REVIEW AND TRANSMITTAL TO THE OWNER. CONTRACTOR SHALL NOTE ALL CONSTRUCTION CHANGES, DATE EACH SHEET AND LABEL "AS-BUILTS" IN THE REVISION BLOCK ON THE DRAWINGS. CONTRACTOR SHALL ALSO FURNISH ONE (1) SET OF BLUELINE PRINTS FROM THE "AS-BUILTS" MYLARS.

B. IN ADDITION TO THE ABOVE, CONTRACTOR SHALL ACCUMULATE DURING THE JOB'S PROGRESS, THE FOLLOWING DATA, IN TRIPLICATE, PREPARED IN A NEAT BROCHURE OR PACKET FOLDER AND TURNED OVER TO THE ARCHITECT FOR REVIEW AND SUBSEQUENT DELIVERY TO THE OWNER.

1. ALL WARRANTIES AND GUARANTEES AND MANUFACTURER'S DIRECTIONS ON EQUIPMENT AND MATERIAL COVERED BY THE CONTRACT INCLUDING THE NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE MANUFACTURER'S REPRESENTATIVE.
2. APPROVED FIXTURE BROCHURES, WIRING DIAGRAMS AND CONTROL DIAGRAMS (ORIGINAL DATA, NO COPIES).
3. COPIES OF APPROVED SHOP DRAWINGS.
4. OPERATING INSTRUCTIONS FOR HEATING AND COOLING AND OTHER MECHANICAL SYSTEM. OPERATING INSTRUCTIONS SHALL ALSO INCLUDE RECOMMENDED MAINTENANCE AND SEASONAL CHANGEOVER PROCEDURES.
5. TEST AND BALANCE REPORTS REQUIRED BY THESE SPECIFICATIONS.
6. ANY AND ALL OTHER DATA AND/OR DRAWINGS REQUIRED DURING CONSTRUCTION.
7. REPAIR PARTS LISTS OF ALL MAJOR ITEMS AND EQUIPMENT INCLUDING NAME, ADDRESS AND TELEPHONE NUMBERS OF LOCAL SUPPLIER OR AGENT.
8. VALVE TAG CHARTS AND DIAGRAMS.

C. ALL OF THE ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW AT SUCH TIME AS THE CONTRACTOR SUBMITS HIS LAST ESTIMATE PRIOR TO HIS FINAL PAYMENT, BUT IN NO CASE, LESS THAN TWO WEEKS BEFORE FINAL INSPECTION.

GENERAL MECHANICAL NOTES

V RETURN AIR WILL BE TAKEN THROUGH LIGHT FIXTURES, PORTIONS OF PERIMETER SLOTS, AND RETURN AIR GRILLES.

VI CONTRACTOR TO VERIFY THAT ALL LIGHT FIXTURES HAVE SLOTS OPEN FOR AIR HANDLING CAPABILITIES. (BEND TABS IF REQUIRED.)

VII LOCATIONS AND SIZES OF EXISTING SYSTEMS ARE APPROXIMATE. EXACT SIZES AND LOCATIONS OF ALL EXISTING PIPING, DUCTS, ETC. SHALL BE VERIFIED ON THE JOB BY THE CONTRACTOR.

VIII CONTRACTOR SHALL INSTALL MECHANICAL SYSTEMS WITHOUT INTERFERENCE AND IN STRICT COORDINATION WITH ALL OTHER TRADES. HOLD DUCTWORK TIGHT AGAINST UNDERSIDE OF STRUCTURE ABOVE.

I (XX)FM DESIGNATION AT TERMINALS INDICATE PRIMARY AIR ON TOP AND FAN AIR ON BOTTOM.

X ALL DUCT SIZES ARE "AIR SIZE". SHEET METAL TO BE INCREASED TO ACCOMMODATE DUCT LINER, IF APPLICABLE.

XI TAPE AND SEAL ALL ROUND DUCT CONNECTIONS TO BE PERMANENTLY AIR TIGHT.

XII SPIN-IN COLLARS "ONLY" SHALL BE SUITABLE FOR CONNECTION TO RECTANGULAR DUCTWORK AND SHALL HAVE VOLUME DAMPERS. "DOVE-TAIL" TAPS WILL NOT BE ALLOWED.

XIII RIGID SHEET METAL DUCT SHALL BE RUN WITHIN SIX FEET OF DIFFUSERS. FLEX DUCT SHALL BE SUPPORTED AS OFTEN AS NECESSARY TO PREVENT KINKS, FOLDS OR OTHER OBSTRUCTIONS TO AIR FLOW. CEILING GRID AND ASSOCIATED SUPPORTS MAY NOT BE USED TO SUPPORT DUCTWORK. PROVIDE RIGID 90 DEGREE ELBOWS ON DIFFUSER NECKS.

XIV EQUIPMENT CAPACITIES AND CHARACTERISTICS SHALL BE AS SCHEDULED ON THE DRAWINGS.

XV EXISTING CEILING DIFFUSERS MAY BE REUSED AND RELOCATED AS NECESSARY UNLESS NOTED OTHERWISE OR SIZE PROHIBITS USE.

XVI NEW CEILING DIFFUSERS TO BE TITUS, METALAIRE OR KRUEGER AND EQUAL TO TITUS MODEL PCS AND SUIT THE SPECIFIED SERVICE AND CEILING TYPE UNLESS NOTED OTHERWISE ON PLANS. COORDINATE WITH ARCHITECTURAL PLANS.

XVII CEILING RETURN AIR GRILLES SHALL BE TITUS, NAILOR, METALAIRE OR KRUEGER AND EQUAL TO TITUS MODEL PXP.

XVIII EXHAUST REGISTERS SHALL BE TITUS, NAILOR, METALAIRE OR KRUEGER AND EQUAL TO TITUS MODEL 3FL.

XX THERMOSTATS FOR EXISTING TERMINAL BOXES ARE EXISTING AND SHALL BE INSTALLED WHERE SHOWN ON PLANS. (44" A.F.F. UNLESS NOTED OTHERWISE.) NEW THERMOSTATS SHALL BE EQUAL TO AND MATCH EXISTING THERMOSTATS. CALIBRATE ALL NEW AND EXISTING THERMOSTATS AT THE JOB COMPLETION.

XXI EXHAUST FANS SHALL BE INSTALLED AS DETAILED ON THE DRAWINGS.

XXII ALL NEW FLOOR PENETRATIONS AND PENETRATIONS THROUGH RATED WALLS SHALL BE FIRE SAFED.

XXIII RE-POUR ALL ABANDONED FLOOR PENETRATIONS.

XXIV ALL DIFFUSERS AND SLOT SUPPLIES SHALL BE FURNISHED WITH SPIN-IN COLLAR. VOLUME DAMPER AND 6' OF FLEXIBLE DUCT.

XXV CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE ENGINEER ALL MAJOR ITEMS OF MATERIALS AND EQUIPMENT.

GENERAL FIRE PROTECTION NOTES

XXVI IT IS THE INTENT THAT THE FIRE PROTECTION SUB-CONTRACTOR BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE FIRE SUPPRESSION SYSTEMS IN ACCORDANCE WITH APPLICABLE CODES.

XXVIIFIRE PROTECTION SUB-CONTRACTOR SHALL UTILIZE EXISTING PIPING SYSTEM AND SPRINKLER HEADS WHERE POSSIBLE, AND ADD PIPING AND HEADS AS REQUIRED TO PROVIDE CODE APPROVED COVERAGE OR MATCH EXISTING BUILDING SPRINKLER GRID COVERAGE.

XXVIII SPRINKLER HEADS TO MATCH EXISTING HEADS WITHIN THE BUILDING.

XXIX COORDINATE HEAD LOCATIONS WITH LIGHT FIXTURES, DIFFUSERS, GRILLES, ETC.

GENERAL PLUMBING NOTES

XXX LOCATIONS AND SIZES OF EXISTING SYSTEMS ARE APPROXIMATE. EXACT SIZES AND LOCATIONS OF EXISTING SYSTEMS TO BE UTILIZED SHALL BE VERIFIED AT JOB SITE.

XXXI SEAL AROUND ALL PIPE PENETRATIONS THROUGH FLOORS WITH WATER PROOFING AND FIRE-SAFE MATERIALS.

XXXIIREMOVE ALL EXISTING ABANDONED PLUMBING PIPING, FITTINGS AND CAP AT STACKS.

XXXIII RE-POUR ALL ABANDONED FLOOR PENETRATIONS.

XXXIV CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE ENGINEER ALL MAJOR ITEMS OF MATERIALS AND EQUIPMENT.

RSN: *1142272*
Permit #: *2016-1162878 LT*

This sheet of drawings has not been reviewed for code compliance.

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CONTRACTOR TO VERIFY EXISTING CONDITIONS

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No.	Description	Date

COLORADO LICENSED
RICHARD E. HAMES
45834
7/15/16
PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

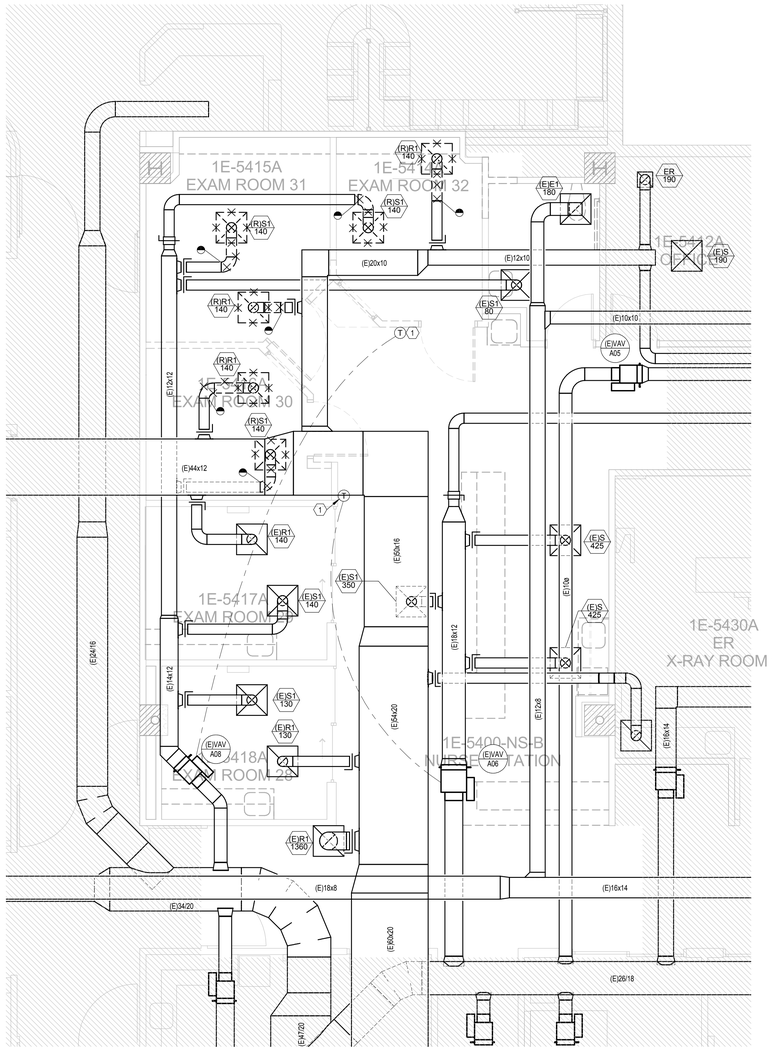
Sheet Title:

MECHANICAL SPECIFICATIONS

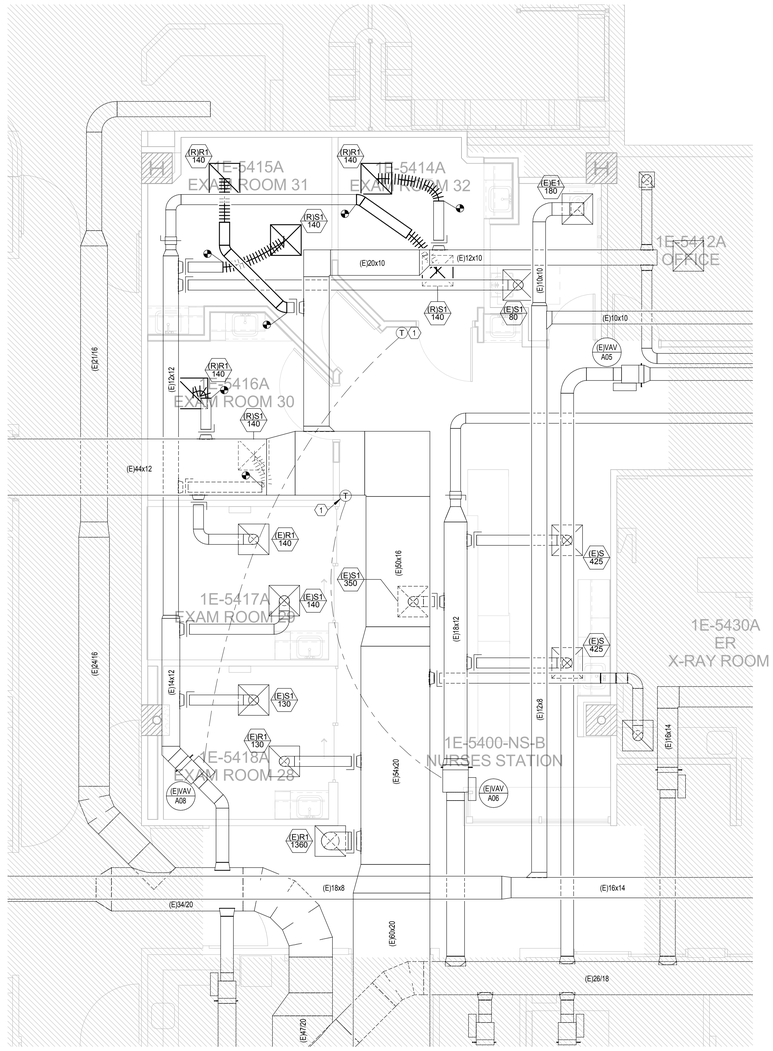
Sheet Number

M.002

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2 LEVEL 01 PLAN - HVAC DEMOLITION
1/4" = 1'-0"



1 LEVEL 01 PLAN - HVAC
1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO SHEET M.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.
B. EXISTING AND RELOCATED SUPPLY AND RETURN GRILLES ARE TO BE CAREFULLY REMOVED, CLEANED OF ANY DEBRIS OR DUST, AND INSPECTED TO ENSURE UNITS ARE IN PROPER OPERATING CONDITION. CONTRACTOR TO REPLACE UNITS AS NEEDED.
C. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING CEILING TILE AND GRID AS REQUIRED TO ACCOMODATE THEIR WORK.
D. FLEXIBLE DUCTWORK SHALL NOT EXCEED 6 FEET IN LENGTH.
E. REBALANCE ALL EXISTING AND RELOCATED DIFFUSERS TO NOTED CFMs.

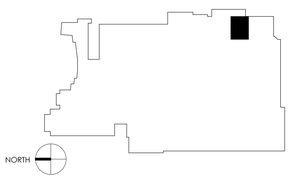
(#) LEGEND NOTES:

1. EXISTING THERMOSTAT TO REMAIN. REPAIR OR REPLACE ANY DAMAGED OR NON-FUNCTIONAL SENSORS.

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



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No.	Description	Date

COLORADO LICENSED
RICHARD JAMES HOLT
45834
PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

Sheet Title:
LEVEL 01 PLAN - HVAC

Sheet Number
M.201

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AIR DEVICE SCHEDULE

DESIG.	FRAME SIZE	OBD	FINISH	THROW	NECK SIZE	MANUFACTURER/MODEL NO.	REMARKS/NOTES
S1	24x24	NO	WHITE	4-WAY	NOTE 1	TITUS PDS	PERFORATED SUPPLY DIFFUSER
R1	24x24	NO	WHITE	N/A	NOTE 1	TITUS PDR	PERFORATED RETURN GRILLE
E1	24x24	NO	WHITE	N/A	NOTE 1	TITUS PDR	PERFORATED EXHAUST GRILLE

NOTES:

1.

NECK*	AIRFLOW
6"	0-100 CFM
8"	101-200 CFM
10"	201-350 CFM
12"	351-560 CFM
14"	561-850 CFM

* AND/OR DUCT RUNOUT

2.

NECK*	AIRFLOW
6x6	0-100 CFM
8x8	101-230 CFM
10x10	231-360 CFM
12x12	361-450 CFM
16x16	451-800 CFM
22x22	801-1200 CFM

* AND/OR DUCT RUNOUT

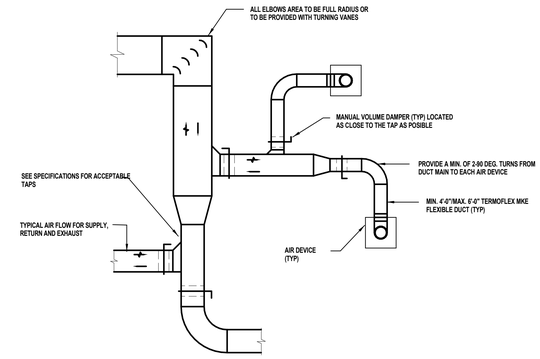
GENERAL NOTES:

1. COORDINATE DIFFUSER LOCATION AND BORDER TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. COORDINATE COLOR AND FINISH WITH ARCHITECT.
3. ALL EXISTING/RELOCATED DIFFUSERS AND GRILLES ARE TO BE CAREFULLY REMOVED, CLEANED OF ANY DEBRIS OR DUSCT, AND INSPECTED TO ENSURE UNITS ARE IN PROPER OPERATING CONDITION. CONTRACTOR TO REPLACE UNITS AS NEEDED. ANY UNITS REPLACED SHALL MATCH EXISTING.
4. REBALANCE ALL DIFFUSERS TO NOTED CFMS.
5. FLEXIBLE DUCTWORK TO DIFFUSERS SHALL NOT EXCEED 6 FEET IN LENGTH.
6. SEE NOTE 1 FOR RUNOUT SIZE IF NOT INDICATED ON PLANS (NOTE 2 MAY BE USED AS AN ALTERNATE). PROVIDE SQUARE TO ROUND ADAPTER AS REQUIRED.

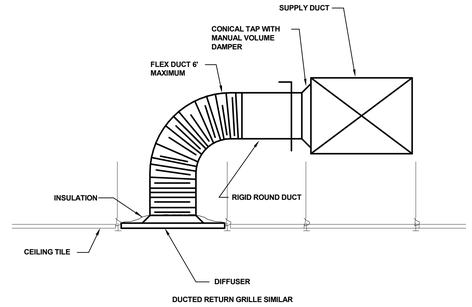
MECHANICAL VENTILATION SCHEDULE

ROOM INFORMATION			FGI 2010 REQUIREMENTS								PLAN REQUIREMENTS			
SPACE NAME	AREA (SQFT)	CEILING (FT)	OCCUPANCY CATEGORY	OA MIN (ACH)	SA MIN (ACH)	FULL EXHAUST	SA MIN (CFM)	OA MIN (CFM)	EA MIN (CFM)	PRESS -1 Neg +1 Pos	SA (CFM)	OA (CFM)	RA (CFM)	EA (CFM)
	1,260						791	160			1,980	594	1,900	370
28-EXAM ROOM	119	8.5	Patient room (s)	2	6	NR	94	32	-		140	42	140	0
29-EXAM ROOM	120	8.5	Patient room (s)	2	6	NR	102	34	-		140	42	140	0
30-EXAM ROOM	130	8.5	Patient room (s)	2	6	NR	111	37	-		140	42	140	0
31-EXAM ROOM	155	8.5	Patient room (s)	2	6	NR	132	44	-		140	42	140	0
32-EXAM ROOM	115	8.5	Patient room (s)	2	6	NR	98	33	-		140	42	140	0
BATH	65	8.5	Toilet Room	NR	10	Y	93	0	-		80	24	0	180
NURSE STATION	565	8.5	Nurse Station	NR	2	NR	161	0	-		1,200	360	1,200	0

NOTES:
1. CALCULATIONS BASED ON 30%OSA BUILDING SUPPLY AIR.

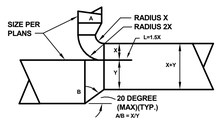


03 TYPICAL LOW PRESSURE SUPPLY RETURN AND EXHAUST DUCT DETAIL
NO SCALE

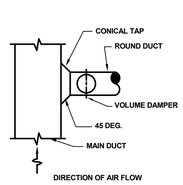


DUCTED RETURN GRILLE SIMILAR

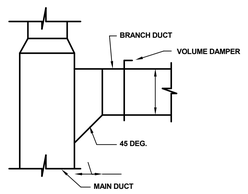
02 DIFFUSER CONNECTION DETAIL
NO SCALE



SPLITTER - SUPPLY DUCTS

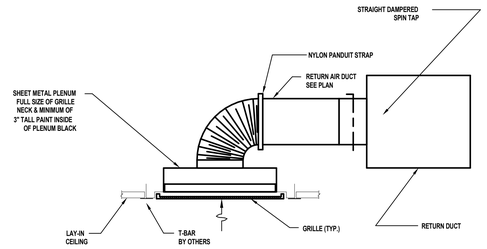


TYPICAL CONICAL TAP



TYPICAL TAP

04 LOW PRESSURE DUCT DETAILS
NO SCALE



01 RETURN AIR GRILLE DUCT CONNECTION
NO SCALE

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

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ph: 303.694.4755

No.	Description	Date

COLORADO LICENSED JARED JAMES HAMM 45834 PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

Sheet Title:
MECHANICAL DETAILS

Sheet Number
M.601

CONTRACT & SPECIFICATIONS ARCHITECTURE

7/15/2016 3:36:44 PM

GENERAL NOTES - ALL SHEETS

A. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL BUILDING CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR MECHANICAL AND PLUMBING CONSTRUCTION.

B. INDICATED LOCATIONS ARE APPROXIMATE.

C. COORDINATE WITH OWNER AND PERSONNEL THE SHUT-DOWN OF THE EXISTING SITE UTILITIES.

D. ROUTE ALL PLUMBING PIPING AS TIGHT AS POSSIBLE TO STRUCTURE. PIPING SHALL BE INSTALLED PARALLEL/PERPENDICULAR TO WALLS AND COLUMN LINES.

E. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR A COMPLETE WORKING AND COORDINATED SYSTEM.

F. COORDINATE THE EXACT LOCATION OF MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT WITH THE LOCATIONS OF LIGHT FIXTURES, PIPING, CONDUIT, AND OTHER CONSTRUCTION, TO ALLOW FOR PROPER ACCESS TO SERVICE EQUIPMENT.

G. COORDINATE ALL NEW WORK WITH ALL TRADES. WORK SHOWN ON THESE DRAWINGS ARE INTENDED TO PROVIDE THE OVERALL ENGINEERING DESIGN CONCEPT AND DOES NOT PROVIDE FOR RELOCATIONS, OFFSETS, ETC., THAT ARE REQUIRED BY THE COORDINATION OF TRADES. THIS ADDITIONAL WORK SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

H. IT IS THE REQUIREMENT OF THESE DOCUMENTS TO ALLOW ALL CEILING CONSTRUCTION AND HEIGHTS TO BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. COORDINATE THE LOCATION OF PIPING AND PROVIDE OFFSETS IN PIPING AS REQUIRED TO MEET THIS REQUIREMENT.

I. CONDUIT, PIPING, AND DUCTWORK SHALL BE INDEPENDENTLY SUPPORTED, AND EACH SUPPORT SHALL BE INDEPENDENT OF PARTITION AND CEILING SYSTEM SUPPORTS. WHERE INDEPENDENT SUPPORT IS NOT POSSIBLE AN ENGINEERED SUPPORT SYSTEM SHALL BE UTILIZED.

J. INSTALL ALL FLOOR MOUNTED EQUIPMENT ON CONCRETE HOUSEKEEPING PADS. GENERAL CONTRACTOR SHALL PROVIDE HOUSEKEEPING PADS, COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR.

K. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN STRICT COORDINATION WITH ARCHITECTURAL PHASING PLANS. CONTRACTOR SHALL SCHEDULE AND PERFORM WORK IN SEQUENCE WITH THE PHASING PLAN.

L. PROTECT EQUIPMENT AND WORK FROM DAMAGE DURING HANDLING AND INSTALLATION UNTIL COMPLETION OF CONSTRUCTION.

M. REMOVE ALL EXCESS MATERIAL AND DEBRIS AND CLEAN ALL EQUIPMENT UPON COMPLETION OF WORK. TOUCH UP WITH PAINT WHERE REQUIRED.

N. CONTRACTOR SHALL VISIT JOBSITE AND VERIFY SIZE AND LOCATION OF ALL EXISTING ITEMS AND CONDITIONS PRIOR TO STARTING ANY WORK.

O. ALL CONNECTIONS BETWEEN PIPES OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC UNIONS.

P. CONTRACTOR SHALL COORDINATE ALL WORK CLOSELY WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES.

Q. LOCATE ISOLATION VALVES FOR EQUIPMENT AS CLOSE TO THE MAIN AS POSSIBLE.

R. PROVIDE CLEANOUTS AT THE BASE OF ALL STORM AND SANITARY STACKS.

S. ALL SANITARY SEWER AND STORM DRAIN SYSTEM WALL CLEANOUTS SHALL BE PLACED AT 18" AFF UNLESS OTHERWISE NOTED.

T. COORDINATE ALL FIRE PROTECTION SPRINKLER LOCATIONS AND MOUNTING STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS.

U. COORDINATE ALL WALL MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL INTERIOR ELEVATIONS.

V. COORDINATE LOCATION OF ALL DISCONNECTS, CONTROL PANELS AND ELECTRICAL CONNECTIONS FOR MECHANICAL, PLUMBING AND FIRE PROTECTION EQUIPMENT TO MAINTAIN NEC REQUIRED CLEARANCES OF 42" DEEP AND 30" WIDE IN FRONT OF THE EQUIPMENT.

W. DO NOT ROUTE PIPING INSIDE ELECTRICAL AND COMMUNICATION ROOMS. IN UNAVOIDABLE INSTANCES, ALL EQUIPMENT SHALL BE PROTECTED FROM OVERHEAD PIPING WITH DRAIN PANS. ROUTE DRAIN FROM DRAIN PANS TO NEAREST FLOOR DRAIN IN MECHANICAL AREAS. WHERE NO FLOOR DRAIN IS ACCESSIBLE ROUTE AS INDIRECT WASTE TO PLUMBING FIXTURE AS INDICATED ON CONTRACT DRAWINGS, OR NEAREST LAVATORY TAILPIECE. PROVIDE SENSOR IN DRAIN PAN TO SEND ALARM TO BAS IN CASE OF LEAKAGE INTO PAN.

X. EACH SUBCONTRACTOR SHALL PROVIDE ADEQUATELY SIZED ACCESS DOORS TO PROVIDE REQUIRED ACCESS THROUGH HARD SURFACES TO THEIR WORK REQUIRING ACCESS (ANY FLOW DEVICES, VALVES, ETC.). SUBCONTRACTOR IS ALSO REQUIRED TO PROVIDE ADEQUATE LOCATION INFORMATION SO ACCESS CAN BE INSTALLED BY INTERIORS SUBCONTRACTOR.

Y. REFER TO ARCHITECTURAL DRAWINGS FOR RATED WALL TYPES.

Z. ALL PLUMBING PIPING SHALL BE IDENTIFIED IN ACCORDANCE WITH THE SPECIFICATIONS.

AA. ALL MAJOR AND SECTIONAL/BALANCING VALVES SHALL BE TAGGED AND NOTED ON THE "AS-BUILT" DRAWINGS.

AB. SLOPE AND ARRANGE WATER PIPING SYSTEMS TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINING OF EACH LINE.

AC. COORDINATE ALL PIPING ROOF PENETRATIONS AND FLOOR PENETRATIONS WITH STRUCTURAL.

AD. SPACE LOCATIONS FOR MATERIALS, EQUIPMENT AND FIXTURES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR FIXTURES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND FIXTURES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.

AE. PIPE PENETRATIONS THROUGH WALLS SHALL MAINTAIN THE CONSTRUCTION/FIRE RATING OF THE WALL.

AF. REFER TO STRUCTURAL ENGINEER FOR METHOD OF PIPE PENETRATIONS THROUGH STRUCTURAL MEMBERS (BEAMS, JOISTS, ...).

AG. INSULATE THE FIRST 20 FEET OF CONNECTED DRAIN PIPING RECEIVING CONDENSATE AND/OR ICE MACHINE WASTE.

AH. COORDINATE VTR LOCATIONS WITH AIR INTAKE/EXHAUST LOCATIONS. THERE SHALL BE AT LEAST 25 FEET DISTANCE BETWEEN INTAKE AND EXHAUST LOCATIONS.

AI. PROVIDE A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER FOR ANY OTHER EQUIPMENT AS REQUIRED BY CODE, APPLICABLE STANDARDS, AND SPECIFICATIONS.

AJ. PROVIDE TRAP PRIMER FOR ALL FD-1 FLOOR DRAINS.

AK. FIRE PROTECTION SYSTEM MUST REMAIN IN SERVICE DURING CONSTRUCTION. FIRE PROTECTION ENGINEER IS RESPONSIBLE FOR EXTEND OF DEMOLITION, RELOCATION, AND RENOVATION OF FIRE PROTECTION SYSTEM.

AL. RENOVATION AND DEMOLITION SCOPE OF WORK FOR FIRE PROTECTION SYSTEM IS THE RESPONSIBILITY OF THE FIRE PROTECTION ENGINEER.

AM. DESIGN SPRINKLER SYSTEM UNDER DIRECT SUPERVISION OF A RME (RESPONSIBLE MANAGING EMPLOYEE) EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED IN THE STATE OF COLORADO. ALL DESIGN SUBMITTAL DOCUMENTS SHALL BEAR THE RME's SIGNED AND DATED REGISTRATION NUMBER. THE SYSTEM SHALL BE INSTALLED BY A FIRM HAVING MINIMUM THREE YEARS EXPERIENCE REGULARLY ENGAGED IN THE DESIGN AND INSTALLATION OF AUTOMATIC FIRE PROTECTION SYSTEMS IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE STATE OF COLORADO FIRE MARSHALL'S OFFICE. EVIDENCE TO SUPPORT THE ABOVE REQUIREMENTS SHALL BE SUBMITTED WITH SHOP DRAWINGS. WORKING PLANS SHALL BE SEALED BY AN ENGINEER REGISTERED BY THE COLORADO STATE BOARD FOR PROFESSIONAL ENGINEERS IN THE FIRE PROTECTION SPECIALTY.

FIRE PROTECTION NOTES

A. COORDINATE ALL FIRE PROTECTION SPRINKLER LOCATIONS AND MOUNTING STYLES WITH LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS.

B. FIRE PROTECTION SYSTEM MUST REMAIN IN SERVICE DURING CONSTRUCTION. FIRE PROTECTION ENGINEER IS RESPONSIBLE FOR EXTEND OF DEMOLITION, RELOCATION, AND RENOVATION OF FIRE PROTECTION SYSTEM.

C. RENOVATION AND DEMOLITION SCOPE OF WORK FOR FIRE PROTECTION SYSTEM IS THE RESPONSIBILITY OF THE FIRE PROTECTION ENGINEER.

D. DESIGN SPRINKLER SYSTEM UNDER DIRECT SUPERVISION OF A RME (RESPONSIBLE MANAGING EMPLOYEE) EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED IN THE STATE OF COLORADO. ALL DESIGN SUBMITTAL DOCUMENTS SHALL BEAR THE RME's SIGNED AND DATED REGISTRATION NUMBER. THE SYSTEM SHALL BE INSTALLED BY A FIRM HAVING MINIMUM THREE YEARS EXPERIENCE REGULARLY ENGAGED IN THE DESIGN AND INSTALLATION OF AUTOMATIC FIRE PROTECTION SYSTEMS IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE STATE OF COLORADO FIRE MARSHALL'S OFFICE. EVIDENCE TO SUPPORT THE ABOVE REQUIREMENTS SHALL BE SUBMITTED WITH SHOP DRAWINGS. WORKING PLANS SHALL BE SEALED BY AN ENGINEER REGISTERED BY THE COLORADO STATE BOARD FOR PROFESSIONAL ENGINEERS IN THE FIRE PROTECTION SPECIALTY.

E. ALL SPRINKLER HEADS SERVING PATIENT AREAS TO BE TYCO "RAVEN" QUICK RESPONSE TAMPER RESISTANT INSTITUTIONAL TYPE. TYCO MODEL NUMBER TY3282.

GENERAL NOTES - DEMOLITION

A. ALL CAPPED SANITARY WASTE, VENTS AND DOMESTIC WATER PIPING THAT ARE NOT BEING USED, NEED TO BE REMOVED BACK TO THE MAINS AND CAPPED.

B. PROVIDE ADDITIONAL VALVES, FITTINGS AND/OR PIPING AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE AND INSIDE OF THE AREA WORK.

C. ALL WORK SHALL BE PERFORMED IN STRICT COORDINATION WITH FACILITY SCHEDULES, OCCUPANCIES AND WORK. CONTRACTOR SHALL COORDINATE WITH HOSPITAL REPRESENTATIVE.

D. ALL NECESSARY SHUTDOWNS OR OUT OF PHASE WORK SHALL BE SCHEDULED WITH THE FACILITY REPRESENTATIVE.

E. INFORMATION PROVIDED ON THESE DRAWINGS HAVE BEEN TAKEN FROM DESIGN DRAWING AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO PRICING AND COMMENCEMENT OF WORK.

F. WHERE EXISTING WALLS ARE DEMOLISHED, REMOVE ALL EXISTING PLUMBING FIXTURES AND THEIR ASSOCIATED PIPING BACK TO THE POINT OF ORIGINATION. ALL EXISTING PIPING THAT WAS SHUT DOWN DURING DEMOLITION SHALL BE TURNED ON AND CHECKED FOR LEAKS.

G. PROVIDE FOR ANY AND ALL DEMOLITION WORK NECESSARY TO ACCOMMODATE ALL NEW CONSTRUCTION, INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK.

H. IF DEMOLITION IS REQUIRED TO INSTALL AN ITEM, THE CONTRACTOR SHALL RESTORE THE AREA TO PREVIOUS CONDITION, OR REPLACE DAMAGED ITEMS WITH NEW ITEMS TO MATCH EXISTING.

I. A DEVICE OR PIPING WITH AN 'X' INDICATES EXISTING TO BE REMOVED INCLUDING ALL ASSOCIATED VALVES AND FIXTURES. PIPING TO BE VALVED AND CAPPED AT POINT OF ORIGIN.

J. CONTRACTOR SHALL REMOVE ALL FIXTURES, ASSOCIATED PIPING AND EQUIPMENT INDICATED TO BE REMOVED AND/OR RELOCATED UNLESS NOTED OTHERWISE. PROVIDE AND INSTALL ALL NECESSARY FIXTURES, EQUIPMENT AND ACCESSORIES REQUIRED TO MAINTAIN SERVICE TO ALL "EXISTING TO REMAIN" FIXTURES AND EQUIPMENT THAT MAY BE INTERRUPTED DURING DEMOLITION.

K. WHERE EXISTING MECHANICAL EQUIPMENT IS DEMOLISHED, REMOVE ALL RELATED PLUMBING TO THE EQUIPMENT AND THEIR ASSOCIATED PIPING BACK TO THE POINT OF ORIGINATION AND VALVE & CAP.

L. ITEMS REMOVED AND NOT REINSTALLED OR RETURNED TO OWNER SHALL BE DISPOSED OF LEGALLY (COORDINATE WITH OWNER FOR THE DISPOSAL).

M. ALL EXISTING PLUMBING RISER(S) LOCATED IN THE DEMOLISHED WALLS/CHASES MUST BE RELOCATED TO AN APPROVED LOCATION BY THE ARCHITECT THEN RECONNECTED ON ADJACENT FLOORS.

N. ANY FLOOR DRAINS OR FLOOR SINKS NOT REQUIRED SHALL BE REMOVED COMPLETELY. DRAINS ON THE GROUND FLOOR SHALL BE PERMANENTLY PLUGGED WITH GROUT AND CUT BACK TO ACCEPT NEW FLOORING MATERIAL.

PLUMBING SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATICALLY AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER (120°F UNLESS OTHERWISE NOTED)
	DOMESTIC HOT WATER RETURN (120°F UNLESS OTHERWISE NOTED)
FW	FILTERED WATER SUPPLY
TP	TRAP PRIMER LINE (1/2")
TW	TEMPERED WATER
	COLD OR HOT - REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
EX	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	CUT EXISTING SLAB
	PIPING TO BE ELECTRICALLY HEAT TRACED
SS	SANITARY SEWER PIPING (SOIL OR WASTE)
	SANITARY VENT PIPING
SSD	SUB-SOIL DRAIN PIPING, FOOTING DRAIN PIPING
C-R	CHEMICAL-RESISTANT PIPING
AV	ACID VENT PIPING
I.W.	INDIRECT WASTE
SED	SEWAGE EJECTOR DISCHARGE PIPING (PUMPED SANITARY)
CD	CONDENSATE DRAIN PIPING
	EXTENT OR LIMITATION OF DEMOLITION
	CONNECT NEW TO EXISTING
SD	STORM DRAIN PIPING (SD)
OD	STORM OVERFLOW DRAIN PIPING (OD)
SPD	SUMP PUMP DISCHARGE PIPING (PUMPED STORM WATER)
G	NATURAL GAS PIPING
CA	COMPRESSED AIR PIPING
V	VACUUM PIPING
ATV	ATMOSPHERIC VENT PIPING (STEAM OR HOT VAPOR)
F	FIRE PROTECTION (STANDPIPE, SPRINKLER, SERVICE)
DFS	DRY FIRE STANDPIPE PIPING
SP	SPRINKLER PIPING (SPRK.)
SDR	SPRINKLER DRAIN RISER PIPING
DSP	DRY SPRINKLER PIPING
PASP	PRE-ACTION SPRINKLER PIPING
EPW	EMERGENCY POTABLE WATER
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
	GATE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	GLOBE VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	GAS COCK / PLUG VALVE
	SOLENOID VALVE
	PRESSURE REGULATION VALVE (PRV) OR PRV STATION
AQ	AQUASTAT
	CHECK VALVE
	CHECK VALVE WITH AUTOMATIC BALL DRIP
	BACK WATER VALVE
	GAS PRESSURE REGULATOR VALVE
	BALANCING VALVE
	STRAINER WITH BLOW-OFF VALVE
	STRAINER
	HYDRAULIC SHOCK ARRESTOR (SA)
V	VACUUM BREAKER (VB)
	FLOOR DRAIN W/ P-TRAP

SYMBOL	DESCRIPTION
	HUB DRAIN (ALL TYPES) (SPECIFY)
	FLOOR DRAIN (ALL TYPES) (SPECIFY)
	DOUBLE CLEANOUT, 2-WAY CLEANOUT (GRADE) (D.C.O.)
	GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER WITH SHUT-OFF COCK
	HOSE BIBB (H.B.) OR NON-FREEZE HOSE BIBB (NFHB)
	RECESSED BOX FREEZE PROOF WALL HYDRANT
	YARD HYDRANT
	SLEEVE THRU WALL
	EXPANSION LOOP
	ANCHOR
FCO GCO	FLOOR CLEANOUT OR YARD CLEANOUT
WCO	WALL CLEANOUT
CO CO	CLEANOUT PLUG
	OS & Y VALVE SUPERVISED (HORIZ. POSITION/VERT. POSITION)
	INDICATING BUTTERFLY VALVE SUPERVISED (HORIZ. POSITION/VERT. POSITION)
FCA	SPRINKLER SYSTEM FLOOR CONTROL ASSEMBLY
	DOUBLE CHECK VALVE ASSEMBLY (D.C.V.A.) WITH OS & Y VALVES SUPERVISED
	FLOW SWITCH
	FIRE HOSE VALVE
	FIRE HOSE CABINET (SURFACE MOUNTED)
	FIRE HOSE CABINET (RECESSED)
	2-WAY SIAMESE FIRE DEPARTMENT CONNECTION
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	CAP OUTLET OR PLUGGED OUTLET

PLUMBING ABBREVIATIONS

ABV	AUTOMATIC BALANCING VALVE	FLR	FLOOR
AFF	ABOVE FINISH FLOOR	FRS	FLUSHING RIM SINK
AFG	ABOVE FINISH GRADE	FS	FIRE SPRINKLER
A/C	ABOVE HUNG CEILING	GC	GENERAL CONTRACTOR
AP	ACCESS PANEL OR DOOR	GCO	GRADE CLEANOUT
AC	AIR CHAMBER	IE	INVERT ELEVATION
AD	AREA DRAIN	INV	INVERT
BT	BATHTUB	LV	LAVATORY
BFF	BELOW FINISH FLOOR	MH	MANHOLE
BF	BELOW FLOOR	MS	MOPSINK
BG	BELOW GRADE	NPW	NON-POTABLEDOWNSTREAM OF A BACKFLOW PREVENTER
CCP	COIL CONDENSATE PUMP	NC	NORMALLY CLOSED
CS	CLINICAL SINK	PD	PLANTER DRAIN
DCW, CW	DOMESTIC COLD WATER	PRV	PRESSURE REDUCING VALVE
DHW, HW	DOMESTIC HOT WATER	R & C	ROUGH-IN AND CONNECT
DHWR, HWR	DOMESTIC HOT WATER RETURN	RPPBP	REDUCED PRESSURE PRINCIPLE BACKFLOW
DS	DOWNSPOUT		PREVENTER.
DF	DRINKING FOUNTAIN	SH	SHOWER
E	EXISTING	SK	SINK
EOSC	EMERGENCY OXYGEN SUPPLY CONNECTION	SS	SERVICE SINK
EWC	ELECTRIC WATER COOLER	SV	SANITARY VENT
EWH	ELECTRIC WATER HEATER	TP	TRAP PRIMER
FCA	FIRE SPRINKLER CONTROL VALVE ASSEMBLY	V	VENT
FCO	FLOOR CLEANOUT	VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN	WC	WATERCLOSET
FF	FINISH FLOOR	WCO	WALL CLEANOUT
FFD	FUNNEL FLOOR DRAIN	YCO	YARD CLEANOUT
FFE	FINISH FLOOR ELEVATION		

PROJECT DESIGN CRITERIA

LOCATION:	
CITY, STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2009 IBC
MECHANICAL	2009 IMC
PLUMBING	2009 IPC
ENERGY	2009 IEC
ELECTRICAL	2011 NEC
FIRE	2009 IFC
LATITUDE:	
DEG. N. LAT.	39.69
ELEVATION:	
FT. ABOVE SEA LEVEL	5514

MECHANICAL/ELECTRICAL SYSTEM COORDINATION SCHEDULE

SYSTEM	FURNISHED BY	INSTALLED BY	POWER WIRING BY	CONTROL OR SUPERVISION WIRING BY
LIFE SAFETY SYSTEM	--	--	--	--
DUCT SMOKE DETECTOR	DIV 28	DIV 23	--	DIV 28
FIRE SPRINKLER SYSTEM	DIV 21	DIV 21	DIV 26	DIV 28
WATERFLOW SWITCHES	DIV 21	DIV 21	--	DIV 28
TAMPER SWITCHES	DIV 21	DIV 21	--	DIV 28
SUPERVISORY CONTACTS	DIV 21	DIV 21		DIV 28
MOTOR STARTERS (INTEGRAL TO EQUIP.)	DIV 22/23	--	DIV 26	DIV 23
MOTOR STARTERS (NON-INTEGRAL TO EQUIP.)	DIV 26	DIV 26	DIV 26	DIV 23
COMBINATION MOTOR STARTER/DISCONNECT (INTEGRAL TO EQUIP.)	DIV 22/23	--	DIV 26	DIV 23
COMBINATION MOTOR STARTER/DISCONNECT (NON-INTEGRAL)	DIV 26	DIV 26	DIV 26	DIV 23
VARIABLE FREQUENCY DRIVES (VFD'S)	DIV 26	DIV 26	DIV 26	DIV 23
DISCONNECT SWITCHES (NON-INTEGRAL TO EQUIPMENT)	DIV 26	DIV 26	DIV 26	--
HEAT TRACE	DIV 22/23	DIV 22/23	DIV 26	DIV 23
THIS TABLE IS PROVIDED AS A GUIDE TO THE DOCUMENT PREPARATION AND IN NO WAY INDICATES CONTRACTOR MEANS AND METHODS				

PLUMBING FIXTURE SCHEDULE

DESIG.	HCA DESIG.	FIXTURE TYPE	CONNECTION SIZE				DESCRIPTION
			San. Sewer	Vent	Cold Water	Hot Water	
SK-1	P-402	SINK SINGLE COMPARTMENT ADA COMPLIANT	2"	2"	½"	½"	SINK: ELKAY MODEL LRAD-1919 TYPE 304 NICKEL BEARING STAINLESS STEEL, SELF RIMMING, 19-1/2" X 19" X 5-1/2" DEPTH ADA COMPLIANT WITH OFF-CENTERED OUTLET TO THE REAR, BOWL SIZE-16"x 13-1/2", 3-1/2" DRAIN AND "SOUND GUARD" UNDERCOATING. FAUCET : ZURN MODEL No. Z831-B4-XL-FC, 8" FIXED CENTERS RIGID OR SWING GOOSENECK SPOUT, WITH 2.0 GPM FLOW CONTROL IN BASE OF SPOUT AND WITH 4" WRISTBLADE HANDLES. STRAINER/TAILPIECE : ZURN MODEL No. Z8739 CHROME PLATED BRASS 4" WIDE STRAINER WITH 1-1/2" 20 GAUGE TAILPIECE. P-TRAP : ZURN MODEL No. Z8702 CAST BODY ADJUSTABLE P-TRAP WITH 1-1/2" TUBULAR WALL BEND AND FLANGE. STOPS AND RISERS : ZH8834-XL-LR LEAD FREE CHROME PLATED SOLID BRASS HEAVY DUTY ANGLE STOPS WITH ROUND WHEEL HANDLES OR LOOSE KEY, TWO FLEXIBLE CHROME PLATED COPPER LAVATORY RISERS COMPLETE WITH TWO CHROME PLATED STEEL FLANGES.

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

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CONTRACT & project construction

No.	Description	Date

COLORADO LICENSED PROFESSIONAL ENGINEER JAMES A. HAYES 45834 STATE OF COLORADO

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

Sheet Title:
PLUMBING LEGENDS AND NOTES

Sheet Number
P.001

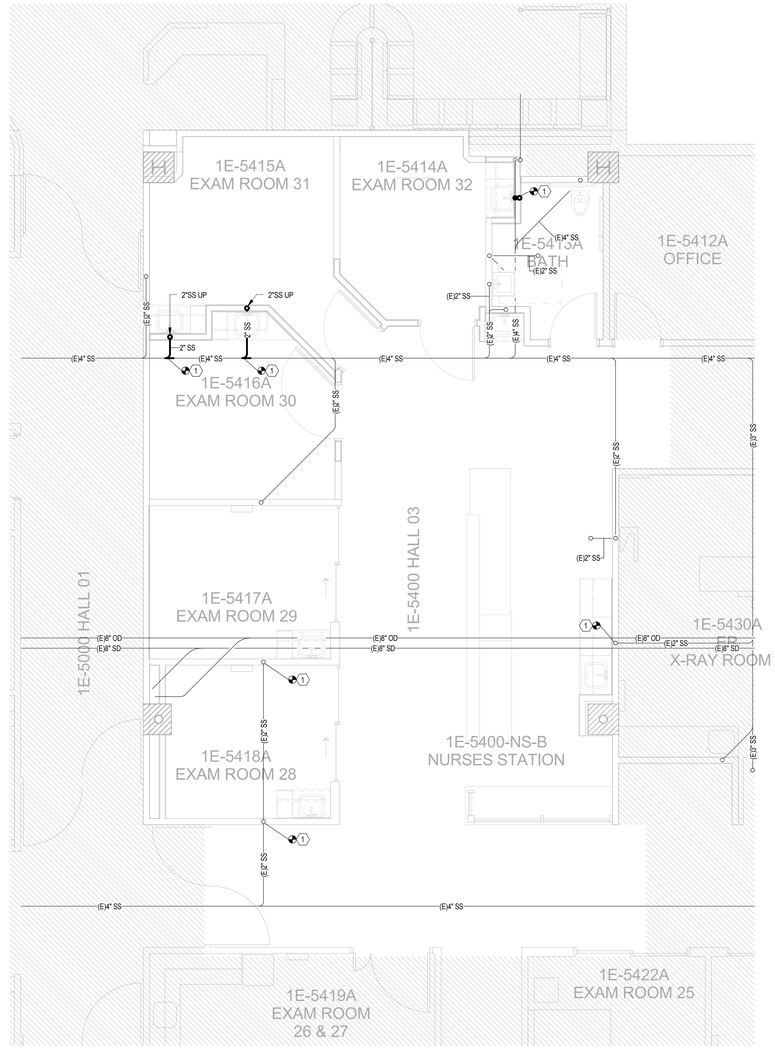
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GENERAL NOTES:

A. REFER TO SHEET P.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

② LEGEND NOTES:

1 CONNECT NEW 2"SS FROM SK-1 TO EXISTING 4"SS. DIRTY ARM WASTE IN WALL WHERE NECESSARY.



① UNDERFLOOR PLAN - PLUMBING
1/4" = 1'-0"

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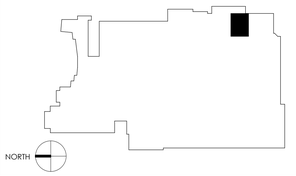
No.	Description	Date

COLORADO LICENSED
FRED JAMES HALL
45834
PROFESSIONAL ENGINEER

RSN: *1142272*
Permit #: *2016-1162878 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Craig Macy*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

KEY PLAN



TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

Sheet Title:
UNDERFLOOR PLAN - PLUMBING

Sheet Number
P.101

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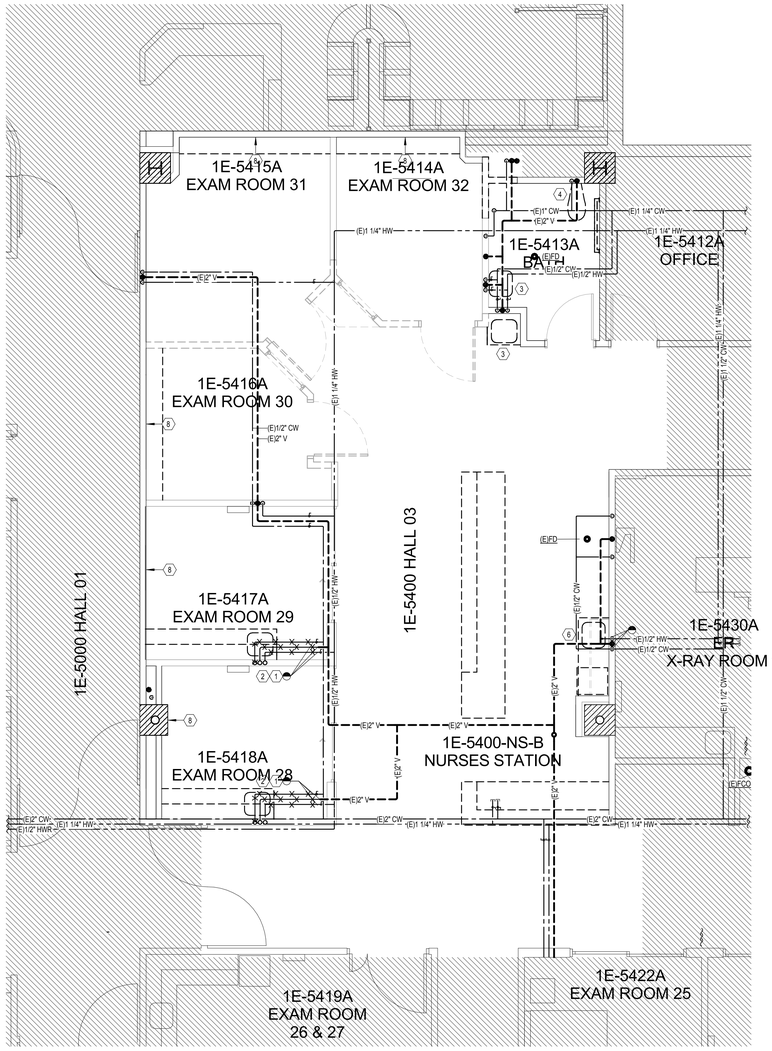
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GENERAL NOTES:

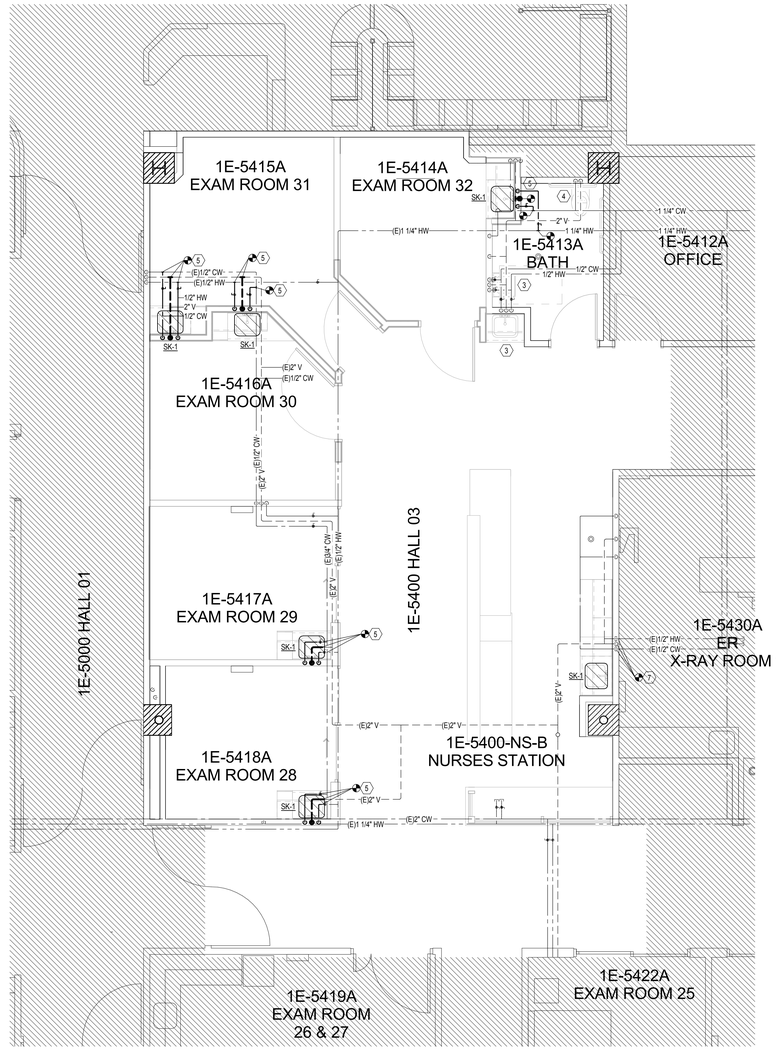
A. REFER TO SHEET P.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1 DEMOLISH EXISTING HOT AND COLD WATER BACK TO EXISTING SHUT-OFF VALVE. DEMOLISH EXISTING 2" VENT BACK TO MAIN.
2 REMOVE EXISTING SINK AND DISCONNECT EXISTING PIPING CONNECTIONS.
3 EXISTING SINK TO REMAIN.
4 EXISTING WATER CLOSET TO REMAIN.
5 CONNECT NEW 1/2"CW, 1/2"HW, AND 2"V TO EXISTING. PROVIDE SHUT-VALVE ON NEW DOMESTIC PIPING AT MAIN. CONNECT NEW PIPING TO NEW SK-1.
6 DEMOLISH EXISTING SINK. 1/2"CW, 1/2"HW AND 2"V CONNECTION TO REMAIN FOR NEW SINK.
7 ARM OVER EXISTING 1/2"CW, 1/2"HW, AND 2"V TO NEW SINK LOCATION IN CASEWORK.
8 EXISTING MEDICAL GAS HEADWALLS TO REMAIN.



2 LEVEL 01 PLAN - PLUMBING DEMOLITION
1/4" = 1'-0"



1 LEVEL 01 PLAN - PLUMBING
1/4" = 1'-0"

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Consultant Team

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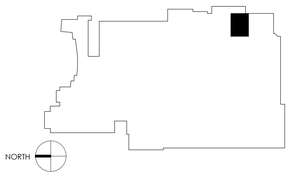
No.	Description	Date

COLORADO LICENSED JAMES HOLLOWAY 45834 PROFESSIONAL ENGINEER

RSN: *1142272*
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City of Aurora Building Division
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KEY PLAN



TMCA - Peds Renovation

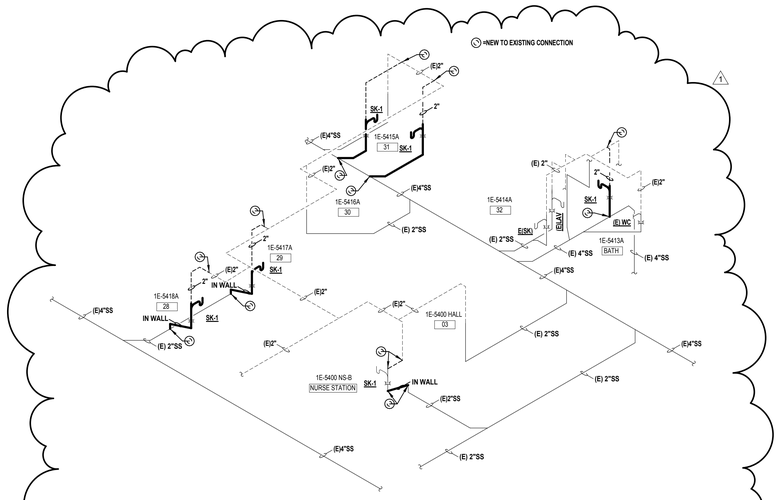
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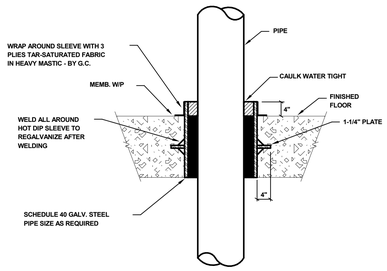
Sheet Title:
LEVEL 01 PLAN - PLUMBING

Sheet Number
P.201

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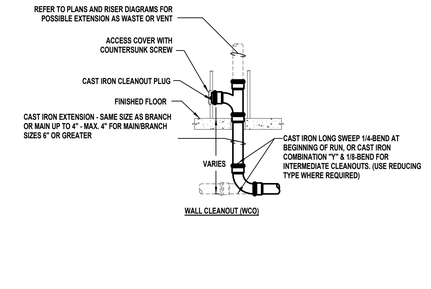


09 SANITARY AND VENT RISER DIAGRAM
NO SCALE



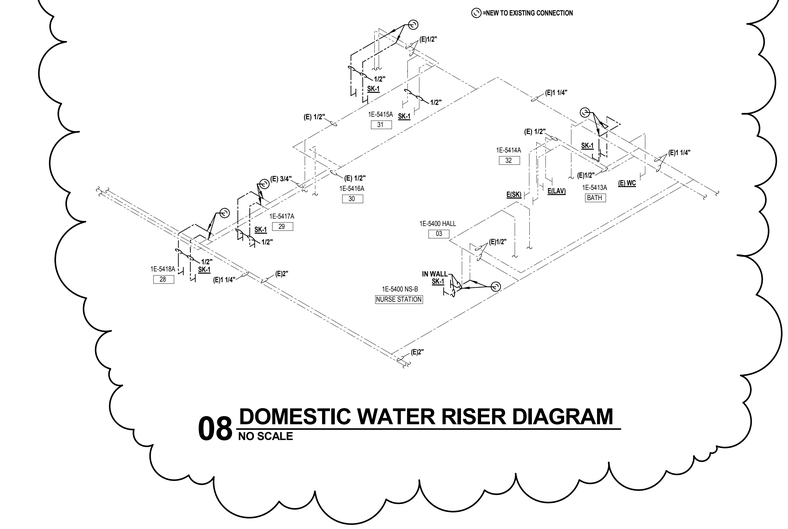
(NON-INSULATED PIPE & CONDUIT WITH W/P MEMB.)

06 PIPE SLEEVE THRU FLOOR
NO SCALE

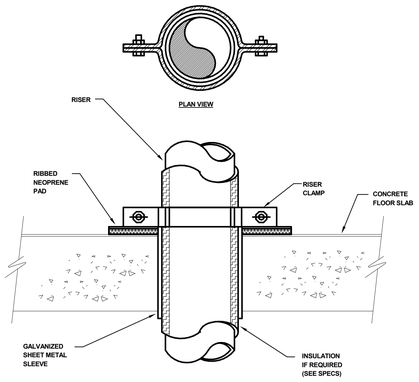


WALL CLEANOUT (WCO)

03 INTERIOR WALL CLEANOUT DETAILS
NO SCALE

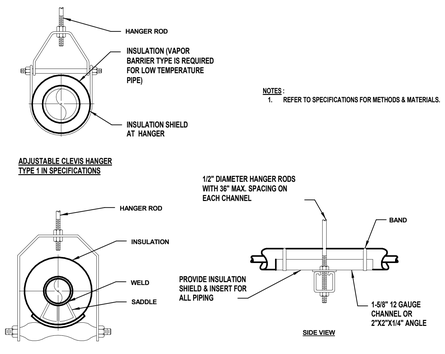


08 DOMESTIC WATER RISER DIAGRAM
NO SCALE



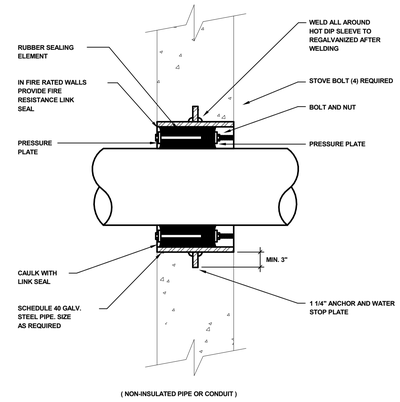
ELEVATION VIEW

05 TYPICAL FLOOR PENETRATION DETAIL
NO SCALE



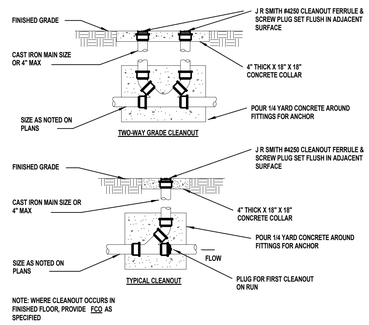
NOTES:
1. REFER TO SPECIFICATIONS FOR METHODS & MATERIALS.

02 PIPE SUPPORT DETAILS
NO SCALE



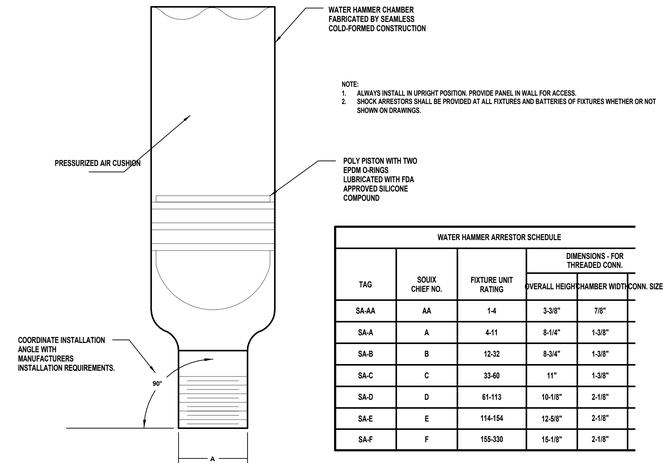
(NON-INSULATED PIPE OR CONDUIT)

07 PIPE SLEEVE THROUGH RATED WALL/PARTITION DETAIL
NO SCALE



NOTE: WHERE CLEANOUT OCCURS IN FINISHED FLOOR, PROVIDE FCO AS SPECIFIED

04 CLEANOUT DETAILS
NO SCALE



NOTE:
1. ALWAYS INSTALL IN UPRIGHT POSITION. PROVIDE PANEL IN WALL FOR ACCESS.
2. SHOCK ARRESTORS SHALL BE PROVIDED AT ALL FIXTURES AND BATTERIES OF FIXTURES WHETHER OR NOT SHOWN ON DRAWINGS.

WATER HAMMER ARRESTOR SCHEDULE

TAG	SOUIX CHIEF NO.	FIXTURE UNIT RATING	DIMENSIONS - FOR THREADED CONN.	
			OVERALL HEIGHT	CHAMBER WIDTH-CONN. SIZE
SA-AA	AA	1-4	3-3/8"	7/8"
SA-A	A	4-11	8-1/4"	1-3/8"
SA-B	B	12-32	8-3/4"	1-3/8"
SA-C	C	33-60	11"	1-3/8"
SA-D	D	61-113	10-1/8"	2-1/8"
SA-E	E	114-154	12-5/8"	2-1/8"
SA-F	F	155-330	15-1/8"	2-1/8"

01 WATER HAMMER ARRESTOR DETAIL
NO SCALE

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No.	Description	Date
1	ADD 02	08/17/16

COLORADO LICENSED JAMES T. HOLLAND 45834 PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	HF
Checked by	RH

Sheet Title: PLUMBING RISER DIAGRAMS AND DETAILS

Sheet Number
P.601

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ELECTRICAL DEMOLITION NOTES

A. PROVIDE UPDATED, TYPE WRITTEN DIRECTORY OF ALL CORRECT CIRCUITS WITH LOAD DEFINITIONS FOR EACH PANEL BOARD. DIRECTORY SHALL BE LOCATED INSIDE PANEL DOOR.
B. INFORMATION PROVIDED ON THESE DRAWINGS HAVE BEEN TAKEN FROM DESIGN DRAWING AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO PRICING AND COMMENCEMENT OF WORK.
C. WHERE EXISTING WALLS ARE DEMOLISHED, REMOVE ALL EXISTING ELECTRICAL DEVICES AND THEIR ASSOCIATED CONDUITS AND WIRING BACK TO THE POINT OF ORIGINATION. ENERGIZE ALL EXISTING DEVICES THAT WERE INTERRUPTED DURING DEMOLITION. WHERE ENTIRE CIRCUITS ARE REMOVED, TURN THE CIRCUIT BREAKER OFF AND LABEL AS "SPARE".
D. PROVIDE FOR ANY AND ALL DEMOLITION WORK NECESSARY TO ACCOMMODATE ALL NEW CONSTRUCTION, INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK.
E. IF DEMOLITION IS REQUIRED TO INSTALL AN ITEM, THE CONTRACTOR SHALL RESTORE THE AREA TO PREVIOUS CONDITION, OR REPLACE DAMAGED ITEMS WITH NEW ITEMS TO MATCH EXISTING.
F. DESIGNATION 'EX' REPRESENTS EXISTING DEVICE OR LIGHT FIXTURE TO REMAIN AS CIRCUITED AND SWITCHED UNLESS NOTED OTHERWISE. EXISTING LIGHT FIXTURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
G. CONTRACTOR SHALL REMOVE ALL CONDUIT AND WIRING ASSOCIATED WITH DEVICES AND EQUIPMENT TO BE REMOVED AND/OR RELOCATED UNLESS NOTED OTHERWISE. PROVIDE AND INSTALL ALL NECESSARY DEVICES, EQUIPMENT AND ACCESSORIES REQUIRED TO MAINTAIN SERVICE TO ALL "EXISTING TO REMAIN" DEVICES AND EQUIPMENT THAT MAY BE INTERRUPTED DURING DEMOLITION.
H. WHERE EXISTING MECHANICAL/PLUMBING EQUIPMENT IS DEMOLISHED, REMOVE ALL RELATED ELECTRICAL FEEDS TO THE EQUIPMENT AND THEIR ASSOCIATED CONDUITS BACK TO THE POINT OF ORIGINATION.
I. SPACE ALLOCATIONS FOR MATERIALS, EQUIPMENT AND DEVICES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR DEVICES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND DEVICES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.
J. REFER TO ARCHITECTURAL PLANS FOR AREAS WHERE CEILING IS DEMOLISHED. REMOVE ALL LIGHTING FIXTURES AND ASSOCIATED CONDUIT AND WIRING FROM THESE LOCATIONS.
K. ALL RECEPTACLES WITHIN THE PROJECT SCOPE SHALL BE HOSPITAL GRADE TYPE. IF A DEVICE IS INDICATED AS EXISTING TO REMAIN AND IS NOT A HOSPITAL GRADE RECEPTACLE, REPLACE THE EXISTING DEVICE WITH A HOSPITAL GRADE RECEPTACLE AND RECONNECT TO EXISTING CIRCUIT. CONTRACTOR SHALL FIELD SURVEY SPACE PRIOR TO CONSTRUCTION AND DETERMINE AN EXACT QUANTITY OF DEVICES TO BE REPLACED.
L. ALL LIGHTING FIXTURES DEMOLISHED UNDER THESE DRAWINGS SHALL BE RETURNED TO THE OWNER.

ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS PROPOSAL AND BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED, AND CORRELATE HIS SITE OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. INCONSISTENCIES DISCOVERED SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER AT ONCE, BEFORE SUBMITTAL OF BID PROPOSAL.
B. ALL ELECTRICAL PRODUCTS AND INSTALLATIONS SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR ELECTRICAL CONSTRUCTION.
C. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES, AND COMPLY WITH ALL NATIONAL, STATE, AND MUNICIPAL LAWS, CODES, AND ORDINANCES RELATING TO BUILDING AND PUBLIC SAFETY.
D. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR A COMPLETE WORKING AND COORDINATED SYSTEM.
E. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND U.L. LISTED OR LABELED. EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND LISTING OR LABELING REQUIREMENTS AND RESTRICTIONS. PROVIDE SUBMITTAL DATA AS DEPICTED IN THE ELECTRICAL SPECIFICATIONS.
F. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL ELECTRICAL MATERIALS PROPOSED TO BE PROVIDED UNDER THIS CONTRACT. ANY DEVIATIONS FROM ITEMS SPECIFIED SHALL BE CLEARLY IDENTIFIED. NO WORK IS AUTHORIZED WITHOUT SHOP DRAWINGS REVIEWED BY ENGINEER.
G. ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT. POWER CONDUCTORS SHALL BE STRANDED COPPER THHN/THWN #10 AWG MINIMUM. ONLY SOLID #12 COPPER CONDUCTORS SHALL BE ACCEPTABLE.
H. ALL EMPTY CONDUIT SYSTEMS SHALL CONTAIN A PULL WIRE FOR FUTURE PULLING OF CONDUCTORS.
I. REFER TO AND COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL WIRING DEVICES, LIGHT FIXTURES, AND EQUIPMENT.
J. REFER TO AND COORDINATE WITH ALL DIVISIONS OF WORK FOR THE LOCATION OF ALL ITEMS LOCATED IN THE CEILING INCLUDING, BUT NOT LIMITED TO SUPPLY-AIR DIFFUSERS, RETURN-AIR DIFFUSERS AND FIRE SPRINKLER HEADS.
K. COORDINATE WITH OTHER TRADES ALL NECESSARY WIRING AND CONNECTIONS REQUIRED FOR EACH PIECE OF EQUIPMENT PRIOR TO PULLING CONDUCTORS INTO NEW CONDUITS.
L. VERIFY EXACT LOCATION OF ALL POWER CONNECTIONS AND CONTROL DEVICES WITH OTHER TRADES AND MANUFACTURERS SHOP DRAWINGS BEFORE CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL REQUIRED ENERGY MANAGEMENT SYSTEM POINTS AND CONTACT CONNECTIONS TO ENSURE THE COMPLETE AND PROPER OPERATION OF ALL SYSTEMS.
M. ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE MADE IN ACCORDANCE WITH U.L. #83 "FIRE RESISTANCE DIRECTORY". PENETRATIONS SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE RATED SEALANT. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED WALLS.
N. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH OWNER'S REPRESENTATIVE.
O. CIRCUITING FOR LIGHTING AND POWER IS SHOWN DIAGRAMMATICALLY. HOMERUNS SHALL BE COMBINED WHERE POSSIBLE, ACCORDING TO NEC.
P. CONTRACTOR SHALL WARRANTY WORK FOR ONE (1) YEAR FROM THE COMPLETION OF THE PROJECT AND PROVIDE OWNER WITH AS BUILT DRAWINGS.
Q. CROSS-HATCHING REPRESENTS FIXTURE ON LIFE SAFETY OR CRITICAL CIRCUIT.
R. ALL GFI RECEPTACLES SHALL BE WIRED TO SELF-PROTECT ONLY AND SHALL NOT AFFECT POWER TO ANY DOWNSTREAM DEVICES.
S. MOUNT ALL RECEPTACLES THROUGHOUT THE PROJECT WITH THE GROUND POLE AT THE TOP OF THE CONFIGURATION WHEN MOUNTED VERTICALLY, AND ON THE LEFT WHEN MOUNTED HORIZONTALLY.
T. DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE MOUNTED INDEPENDENTLY OF THE PIECE OF EQUIPMENT.
U. SPACE ALLOCATIONS FOR MATERIALS, EQUIPMENT AND DEVICES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR DEVICES OF A PARTICULAR MANUFACTURER WHETHER INDICATED OR NOT. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND DEVICES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE AND CODE COMPLIANT.
V. NOTE: ANY DEVIATIONS FROM SCHEDULED EQUIPMENT RESULTING IN ADDITIONAL COSTS DUE TO LACK OF COORDINATION WITH DIMENSIONS AND WEIGHTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR.
W. THE ENGINEERED SYSTEMS, INCLUDING: NURSE CALL, DICTATION, INTERCOM, CODE BLUE, SOUND SYSTEMS, TELEVISION, RADIO, ETC. SHALL BE PROVIDED WITH STANDARD BACK BOXES AND CONDUITS STUBBED ABOVE THE CEILING, FURNISHED AND INSTALLED BY THE CONTRACTOR. SPECIAL BOXES WILL BE PROVIDED BY THE VENDOR AND INSTALLED BY THE CONTRACTOR.

HCA INNOVATION MEMORANDUMS

A) CONTRACTOR SHALL PURCHASE ALL WIRING DEVICES, SAFETY SWITCHES, CONDUCTORS, RACEWAY, GROUNDING SYSTEMS, HANGERS, JUNCTION BOXES, ISOLATION PANELS, AND CABINETS, PER INNOVATION MEMO #16.

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B) CONTRACTOR SHALL PURCHASE ALL LIGHTING FIXTURES PER INNOVATION MEMO #5.

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FIRE ALARM SYMBOLS LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO
F	FIRE ALARM PULL STATION WALL MOUNTED	48" AFF
	FIRE ALARM AUDIBLE VISUAL SIGNAL WALL MOUNTED (X: H=HORN, S=SPEAKER)	48" AFF
X	FIRE ALARM AUDIBLE SIGNAL WALL MOUNTED (X: H=HORN, S=SPEAKER)	48" AFF
	FIRE ALARM VISUAL SIGNAL WALL MOUNTED	48" AFF
CLG X	FIRE ALARM AUDIBLE VISUAL SIGNAL CEILING MOUNTED (X: H=HORN, S=SPEAKER)	--
CLG X	FIRE ALARM AUDIBLE SIGNAL CEILING MOUNTED (X: H=HORN, S=SPEAKER)	--
CLG	FIRE ALARM VISUAL SIGNAL CEILING MOUNTED	--
FS	FIRE ALARM SPRINKLER FLOW SWITCH	--
TS	FIRE ALARM SPRINKLER TAMPER SWITCH	--
PS	FIRE ALARM SPRINKLER PRESSURE SWITCH	--
	SMOKE DETECTOR WALL MOUNTED	9" BFC
	SMOKE DETECTOR CEILING MOUNTED	--
P	PATIENT ROOM SMOKE DETECTOR	--
	DUCT SMOKE DETECTOR	--
	HEAT DETECTOR WALL MOUNTED	9" BFC
	HEAT DETECTOR CEILING MOUNTED	--
EH	ELECTRO-MAGNETIC DOOR HOLDER	AS REQUIRED
M	ELECTRO-MAGNETIC SMOKE DOOR HOLDER (INTERFACED WITH FIRE ALARM SYSTEM. DC POWER PROVIDED BY FIRE ALARM WIRING	AS REQUIRED
	FIRE ALARM BELL	108" AFF
FACP	FIRE ALARM CONTROL PANEL	__" AFF
FAAP	FIRE ALARM ANNUNCIATOR PANEL	__" AFF
FPAP	FIRE PUMP ANNUNCIATOR PANEL	__" AFF
FCP	FIREFIGHTER'S CONTROL PANEL	__" AFF
NAC	NOTIFICATION APPLIANCE CIRCUIT FOUR CIRCUIT FIRE ALARM INDICATING CIRCUIT POWER EXTENDER	__" AFF
FP	TELEPHONE JACK FOR FIREMAN'S PHONE (BY FIRE ALARM CONTRACTOR)	48" AFF
FPH	WARDEN STATION TELEPHONE FOR FIREMAN'S PERMANENT HANDSET (BY FIRE ALARM CONTRACTOR)	48" AFF

LIGHTING SYMBOLS LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	2'x4' LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x4' LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x4' LIGHT FIXTURE WITH INBOARD LAMPS ON NORMAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' LIGHT FIXTURE WITH INBOARD LAMPS ON LIFE SAFETY CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' LIGHT FIXTURE WITH INBOARD LAMPS ON CRITICAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x2' LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x2' LIGHT FIXTURE WITH INBOARD LAMPS ON NORMAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' LIGHT FIXTURE WITH INBOARD LAMPS ON LIFE SAFETY CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' LIGHT FIXTURE WITH INBOARD LAMPS ON CRITICAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE DOWNLIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE DOWNLIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE DOWNLIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE WITH WALL WASH ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE WITH WALL WASH ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE WITH WALL WASH ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	HANGING RECTANGULAR PENDANT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	HANGING RECTANGULAR PENDANT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	HANGING RECTANGULAR PENDANT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	HANGING CIRCULAR PENDANT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	HANGING CIRCULAR PENDANT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	HANGING CIRCULAR PENDANT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED 90-MINUTE BATTERY-POWERED EGRESS LIGHTING ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	CEILING MOUNTED EXIT SIGN. SHADING INDICATES DOUBLE OR SINGLE FACE. ARROW INDICATES CHEVRON DIRECTIONS.	SEE FIXTURE SCHEDULE
	END MOUNTED EXIT SIGN. SHADING INDICATES DOUBLE OR SINGLE FACE. ARROW INDICATES CHEVRON DIRECTIONS.	SEE FIXTURE SCHEDULE
	WALL MOUNTED EXIT SIGN. SHADING INDICATES DOUBLE OR SINGLE FACE. ARROW INDICATES CHEVRON DIRECTIONS.	SEE FIXTURE SCHEDULE
	WALL PACK LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL PACK LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL PACK LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	BOLLARD LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	BOLLARD LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	BOLLARD LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	EXTERIOR LIGHT POLE FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	EXTERIOR LIGHT POLE FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	EXTERIOR LIGHT POLE FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	SPOT/FLOOD LIGHT FIXTURE.	SEE FIXTURE SCHEDULE
$X	WALL SWITCH SPST, 20A, 120/277V	48" AFF
$2	DOUBLE POLE TOGGLE SWITCH, 20A, 208/480V	48" AFF
$3	3-WAY WALL SWITCH, 20A, 120/277V	48" AFF
$4	4-WAY WALL SWITCH, 20A, 120/277V	48" AFF
$D	WALL DIMMER SWITCH	48" AFF
$K	KEY OPERATED WALL SWITCH	48" AFF
$3D	3-WAY DIMMER WALL SWITCH, 20A, 120/277V	48" AFF
$3K	3-WAY KEY OPERATED WALL SWITCH, 20A, 120/277V	48" AFF
$MC	MOMENTARY WALL SWITCH, 20A, 120/277V	48" AFF
$B	LIGHTING CONTROL SWITCH BANK FOR MULTIPLE SWITCHES, REFER TO DETAIL FOR QUANTITY OF SWITCHES IN BANK.	48" AFF
$LV	LOW VOLTAGE WALL SWITCH	48" AFF
$P	WALL SWITCH WITH PILOT LIGHT	48" AFF
$T	WALL SWITCH WITH ADJUSTABLE COUNTDOWN TIMER	48" AFF

LIGHTING NOTES:
1. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

POWER SYMBOLS LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO
	SINGLE RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R	18" AFF
	DUPLEX RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R	18" AFF
E	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT	18" AFF
GFI	DUPLEX RECEPTACLE GFCI - 20A/125V/2P/3W/G NEMA 5-20R	18" AFF
H	DUPLEX RECEPTACLE MOUNTED HORIZONTALLY	18" AFF
TP	DUPLEX RECEPTACLE, TAMPER PROOF - 20A/125V/2P/3W/G NEMA 5-20R	18" AFF
WP	DUPLEX RECEPTACLE, GFCI, TAMPER RESISTANT, WEATHER RESISTANT, HOUSED IN A "WEATHERPROOF-WHILE-IN-USE" ENCLOSURE - 20A/125V/2P/3W/G NEMA 5-20R	18" AFF
RF	DUPLEX RECEPTACLE ROUTED THROUGH RF FILTER	18" AFF
PM	DUPLEX RECEPTACLE FOR PATIENT MONITORING - PROVIDE AT SAME HEIGHT AS DATA OUTLET	--
FM	DUPLEX RECEPTACLE FOR FETAL MONITORING - PROVIDE AT SAME HEIGHT AS DATA OUTLET	--
C	20A "CLOCK" TYPE RECEPTACLE (FOR U.C. REFS AND MICROWAVES)	AS REQUIRED
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP	8" AFC OR 42" AFF
E	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP ON EMERGENCY CIRCUIT	8" AFC OR 42" AFF
	QUADRAPLEX RECEPTACLE (TWO DUPLEX RECEPTACLES UNDER ONE COVERPLATE)	18" AFF
E	QUADRAPLEX RECEPTACLE ON EMERGENCY CIRCUIT (TWO DUPLEX RECEPTACLES UNDER ONE COVERPLATE)	18" AFF
	QUADRAPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP (TWO DUPLEX RECEPTACLES UNDER ONE COVERPLATE)	8" AFC OR 42" AFF
E	QUADRAPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP ON EMERGENCY CIRCUIT (TWO DUPLEX RECEPTACLES UNDER ONE COVERPLATE)	8" AFC OR 42" AFF
	SPECIAL PURPOSE RECEPTACLE (NEMA NO. AS INDICATED)	18" AFF
	FLOOR MOUNTED RECEPTACLE IN FLOOR BOX OR POKE-THRU DEVICE - FLUSH MOUNTED, UNO	18" AFF
	CEILING MOUNTED RECEPTACLE - CONFIGURATION UNO	FLUSH W/ CLG SURFACE
J	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED	AS REQUIRED
D/T	WALL MOUNTED JUNCTION BOX FOR DATA/TELEPHONE - SIZE & MOUNTING AS REQUIRED	AS REQUIRED
	POWER POLE	--
X/Y/Z	DISCONNECT SWITCH (X=FRAME SIZE, Y=FUSE SIZE, Z=NUMBER OF POLES)	AS REQUIRED
X/-/Z	DISCONNECT SWITCH NON-FUSED (X=FRAME SIZE, Z=NUMBER OF POLES)	AS REQUIRED
CB X/Z	ENCLOSED CIRCUIT BREAKER (X=TRIP RATING, Z=NUMBER OF POLES)	AS REQUIRED
#	MOTOR STARTER FVNR UNO (#=NEMA SIZE)	AS REQUIRED
CB	COMBINATION MOTOR CONTROLLER / DISCONNECT SWITCH	AS REQUIRED
$M	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD AND PILOT LIGHT	AS REQUIRED
	EMERGENCY POWER OFF BUTTON - WALL MOUNTED	AS REQUIRED
	CIRCUIT CONDUCTOR INDICATION (EQUIPMENT GROUND, NEUTRAL, PHASE)	--
	CIRCUIT HOMERUN TO PANELBOARD (2#12, 1#12G, 3/4"C. 20A/1P CB UNO)	--
	CONDUIT INSTALLED IN CEILING SPACE OF FLOOR BELOW.	--
X,X,X	THREE SINGLE POLE DEVICE CIRCUIT NUMBERS	--
X/X/X	MULTI-POLE DEVICE CIRCUIT NUMBERS	--
	208Y/120V PANELBOARD	--
	480Y/277V PANELBOARD	--
	208Y/120V DISTRIBUTION PANELBOARD	--
	480Y/277V DISTRIBUTION PANELBOARD	--
	ISOLATION PANEL	--
	SWITCHBOARD	--
T	STEP-DOWN TRANSFORMER	--
	AUTOMATIC TRANSFER SWITCH	--
BP	BY-PASS / ISOLATION AUTOMATIC TRANSFER SWITCH	--
	GROUND BAR	--
RG	ROOM GROUND BAR	--
PG	PATIENT GROUND BAR	--
GAP	GENERATOR ANNUNCIATOR PANEL	AS REQUIRED
ATSA	AUTOMATIC TRANSFER SWITCH ANNUNCIATOR PANEL	AS REQUIRED
TVSS	TRANSIENT VOLTAGE AND SURGE SUPPRESSOR DEVICE	AS REQUIRED
AAP	AREA ALARM PANEL	AS REQUIRED
FOAP	FUEL OIL ALARM PANEL	AS REQUIRED
MGAP	MEDICAL GAS ALARM PANEL - PANEL PROVIDED UNDER DIV 15	AS REQUIRED
DHTA	DECONTAMINATION HOLDING TANK ALARM - PANEL PROVIDED UNDER OTHER DIVISION	AS REQUIRED

OCCUPANCY SENSOR/CONTROLS SYMBOLS LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
OS DT #	OCCUPANCY SENSOR, DUAL TECHNOLOGY (# = AREA COVERAGE)	CEILING MOUNTED
OS US #	OCCUPANCY SENSOR, ULTRASONIC (# = AREA COVERAGE)	CEILING MOUNTED
OS IR #	OCCUPANCY SENSOR, INFRARED (# = AREA COVERAGE)	CEILING MOUNTED
VS DT #	VACANCY SENSOR, DUAL TECHNOLOGY (# = AREA COVERAGE)	CEILING MOUNTED
VS US #	VACANCY SENSOR, ULTRASONIC (# = AREA COVERAGE)	CEILING MOUNTED
VS IR #	VACANCY SENSOR, INFRARED (# = AREA COVERAGE)	CEILING MOUNTED
$O	WALL SWITCH OCCUPANCY SENSOR CONTROL	48" AFF
$OT	WALL TIMER SWITCH OCCUPANCY SENSOR CONTROL	48" AFF
$V	WALL SWITCH VACANCY SENSOR CONTROL	48" AFF

OCCUPANCY SENSOR/CONTROLS NOTES:
1. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2009 IBC
MECHANICAL	2009 IMC
PLUMBING	2009 IPC
ENERGY	2009 IECC
ELECTRICAL	2014 NEC
LATITUDE:	
DEG. N. LAT.	39.41.45N 104.48.29W
ELEVATION:	
FT. ABOVE SEA LEVEL	5471

ELECTRICAL ABBREVIATIONS

AAP	AREA ALARM PANEL	MH	MANHOLE
AFC	ABOVE FINISHED COUNTER	MLO	MAIN LUGS ONLY
AFF	ABOVE FINISHED FLOOR	MTD	MOUNT OR MOUNTED
ATS	AUTOMATIC TRANSFER SWITCH	N	NEW DEVICE
BFC	BELOW FINISHED CEILING	NC (N.C.)	NORMALLY CLOSED
BOF	BOTTOM OF FIXTURE	NEC	NATIONAL ELECTRIC CODE
C	CONDUIT	NF	NONFUSED
CB,C/B OR CKT BKR	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CKT	CIRCUIT	NL	NIGHT LIGHT
CCTV	CLOSED CIRCUIT T.V.	NO (N.O.)	NORMALLY OPEN
CLG	CEILING	PART (PART)	PARTIAL OR SHARED CIRCUIT INDICATED
CUH	CABINET HEATER	PB	PULL BOX
DN	DOWN (I.E. DOWN TO....)	PNL	PANEL
EC	EMPTY CONDUIT	PWR	POWER
ELEC	ELECTRIC	R	REMOVE DEVICES
E	EMERGENCY	RL	RELOCATED DEVICE
EMS	ENERGY MANAGEMENT SYSTEM	RCPT(S) OR RECEPT	RECEPTACLE(S)
EGC	EQUIPMENT GROUNDING CONDUCTOR	RF	RETURN AIR FAN
EWC	ELECTRIC WATER COOLER	SEF	SMOKE EXHAUST FAN
EX	EXISTING	SF	SUPPLY AIR FAN
F	FUSE	SO (S.O.)	SPACE ONLY
FA	FIRE ALARM	SP	SPARE
FACP, FAP	FIRE ALARM CONTROL PANEL	ST. (S.T.)	SHUNT TRIP
FCU	FAN COIL UNIT	SW	SWITCH
FIXT	FIXTURE	TEL	TELEPHONE
FLR	FLOOR	TF	TRANSFER FAN
FLUOR	FLUORESCENT	TP	TAMPER PROOF
FTB, FTS	FAN TERMINAL UNIT	TV	TELEVISION
FUT	FUTURE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
G, GND	GROUND (EQUIPMENT)	UF	UNDERFLOOR
GEF	GENERAL EXHAUST FAN	UG	UNDERGROUND
GEN	GENERATOR	UH	UNIT HEATER
GFCI, GFI	GROUND FAULT CIRCUIT INTERRUPTER	UNO (U.N.O.)	UNLESS NOTED OR INDICATED OTHERWISE
HP	HORSE POWER	V	VOLTAGE
HPF	HIGH POWER FACTOR	VFD	VARIABLE FREQUENCY DRIVE
HWAT	HEAT TRACE	VP	VAPOR PROOF
IC	INTERRUPTING CAPACITY	VV	VARIABLE VOLUME UNIT
ICAND	INCANDESCENT	W	WIRE
IG	ISOLATED GROUND	W/	WITH
JB	JUNCTION BOX	WG	WIRE GUARD
KEF	KITCHEN EXHAUST FAN	WP	WEATHER PROOF
LTG

ELECTRICAL SPECIFICATIONS

I GENERAL CONDITIONS

A. THE SCOPE OF THE WORK SHALL INCLUDE THE FURNISHING AND INSTALLATION OF THE NECESSARY MATERIAL AND LABOR TO ACCOMPLISH THE WORK INDICATED BY THE DRAWINGS AND HEREIN SPECIFIED. ALL WORK BY THIS CONTRACTOR SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES.

B. THE CONTRACT DOCUMENTS DO NOT PROPOSE TO SHOW ALL EXISTING SYSTEMS, EQUIPMENT OR MATERIAL. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EXISTING CONDITIONS AT THE JOB SITE BEFORE SUBMITTING PROPOSALS. SUBMISSION OF PROPOSALS SHALL BE TAKEN AS EVIDENCE THAT SUCH INSPECTION HAS TAKEN PLACE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE COMPLETE SET OF CONSTRUCTION DOCUMENTS, AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

C. MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE NEW AND SHALL BEAR THE U.L. LABEL WHERE APPLICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE BY THE OWNER.

D. CONTRACTOR SHALL INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERENCE AND IN STRICT COORDINATION WITH OTHER TRADES.

E. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. IN CASE OF DIFFERENCE BETWEEN APPLICABLE CODES AND STANDARDS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF SUCH DIFFERENCE. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF APPLICABLE CODES AND STANDARDS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING SUCH DEFECTS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE ALL ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF NATIONALLY ACCEPTED CODES AND STANDARDS. SHOULD THE CONTRACTOR SUPPLY EQUIPMENT DIFFERING FROM THE SPECIFIED ITEMS IN THE CONTRACT DOCUMENTS WITHOUT NOTIFICATION TO THE ENGINEER, HE SHALL BEAR ALL COSTS TO UPGRADE DEFICIENCIES ARISING FROM SUCH.

F. WHERE ONLY ONE MANUFACTURER'S NAME IS LISTED IN THE EQUIPMENT SPECIFICATION, OTHER MANUFACTURERS OF SIMILAR CHARACTERISTICS AND OF EQUAL OR BETTER PERFORMANCE CAPACITIES MAY BE CONSIDERED FOR "OR EQUAL" ACCEPTANCE BY THE ENGINEER. SUBSTITUTION REQUESTS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. WHERE MORE THAN ONE MANUFACTURER IS LISTED IN THE NOTES AND EQUIPMENT SPECIFICATIONS, ONLY THOSE NAMED MANUFACTURERS WILL BE CONSIDERED FOR ACCEPTANCE. SHOULD A SUBSTITUTION BE ACCEPTED, AND SHOULD THE SUBSTITUTE MATERIAL PROVE DEFECTIVE, OR OTHERWISE UNSATISFACTORY FOR THE SERVICE INTENDED WITHIN THE GUARANTEE PERIOD, THIS MATERIAL OR EQUIPMENT SHALL BE REPLACED WITH THE MATERIAL OR EQUIPMENT SPECIFIED AT NO COST TO THE OWNER.

G. PROVIDE ACCESS, INCLUDING NECESSARY ACCESS DOORS, FOR NEW AND EXISTING EQUIPMENT REQUIRING OPERATION AND/OR MAINTENANCE. RELOCATE EXISTING AND LOCATE ALL NEW EQUIPMENT SUCH THAT OPERATION OR MAINTENANCE IS NOT RESTRICTED.

H. INSTALL EQUIPMENT WITH WORKING CLEARANCES COMPLYING WITH NEC 110-16 AND 110-34.

II PRODUCTS

A. CONDUIT

1. ELECTRIC METALLIC TUBING (EMT): OF HIGH GRADE STEEL MANUFACTURED SPECIFICALLY TO STANDARDS ASSURING MAXIMUM WELDING CHARACTERISTICS AND DUCTILITY, AND SHALL CONFORM TO FED. SPEC. WW-T-806b.

2. FLEXIBLE METAL CONDUIT: MANUFACTURED OF MILD STEEL STRIP MATERIAL HAVING A HOT-DIP GALVANIZED COATING AND MEETING REQUIREMENTS OF FED. SPEC. WW-C-566b.

3. HOSPITAL GRADE METAL-CLAD CABLE MAY BE USED. TYPE HCF-MC METAL CLAD CABLE SHALL CONSIST OF FACTORY ASSEMBLED INSULATED CONDUCTORS ENCLOSED IN A METALLIC SHEATH OF INTERLOCKED GALVANIZED STEEL STRIP MANUFACTURED IN ACCORDANCE WITH UL 1569. THE CONDUCTORS SHALL HAVE AN OPERATING TEMPERATURE OF 90 DEGREE C AND SHALL BE COVERED BY A HIGH DIELECTRIC STRENGTH ASSEMBLY TAPE. TYPE HCF-MC CABLE SHALL BE AS MANUFACTURED BY AFC OR EQUAL.

B. COUPLINGS AND TERMINATORS

1. FOR ELECTRICAL METALLIC TUBING: STEEL SET SCREW COUPLINGS, STEEL SET SCREW BOX CONNECTORS WITH NYLON INSULATED THROAT AND LOCKNUTS AT ALL BOXES AND CABINET TERMINATIONS OR NON-INSULATED BOX CONNECTOR, LOCKNUT AND NYLON-INSULATED GROUNDING BUSHING ON ALL TUBING WHERE GROUNDING BUSHINGS ARE REQUIRED.

2. FOR FLEXIBLE METAL CONDUIT: COUPLINGS AT CONNECTIONS BETWEEN FLEXIBLE CONDUIT AND EMT, AND NYLON INSULATED THROAT STEEL CONNECTORS AT BOX OR CABINET TERMINATIONS.

C. JUNCTION AND PULL BOXES

1. SIZE BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. BOXES SHALL BE NO SMALLER THAN 4 INCHES SQUARE BY 1-1/2 INCHES DEEP WITH COVERS ACCESSIBLE AT ALL TIMES. SET BOXES ON CONCEALED CONDUITS WITH COVERS FLUSH WITH THE FINISHED WALL OR CEILING LINE. PROVIDE JUNCTION AND PULL BOXES OF APPROPRIATE DIMENSIONS FOR CONDUITS AND CONDUCTORS NOTED, WHERE SHOWN AND WHERE NECESSARY FOR THE INSTALLATION AND PULLING OF CABLES AND WIRES. INSTALL COVERS ON JUNCTION BOXES AND CONDULETS AFTER WIRING AND CONNECTIONS ARE COMPLETED.

D. OUTLET BOXES

1. OUTLET BOXES SHALL BE UL LISTED, AND OF SIZES AND TYPES REQUIRED FOR THE APPLICATION. OUTLET BOXES SHALL BE SHEET STEEL, NO LIGHTER THAN 14 GAUGE, GALVANIZED AFTER FABRICATION. SET BOX SO FACE OF BOX WILL FINISH FLUSH WITH BUILDING SURFACE.

a. FOR LIGHTING FIXTURE OUTLETS: 4 INCH SQUARE BY 1-1/2 INCHES DEEP WITH RAISED FIXTURE RING.

b. FOR WALL SWITCHES, RECEPTACLES, AND COMMUNICATION USE: 4 INCH SQUARE, BY 1-1/2 INCHES DEEP. USE BOXES WITH PLASTER RINGS IN ALL PLASTERED WALLS WHERE WALL THICKNESS PERMITS. USE BOXES LESS THAN 1-1/2 INCH DEEP ONLY IN LOCATIONS WHERE DEEP BOXES CANNOT BE ACCOMMODATED BY CONSTRUCTION.

E. WIREWAY

1. UL LISTED; SIZED INDICATED OR REQUIRED; HINGED COVER, SECURED WITH CAPTIVE SCREWS; COMPLETE WITH ALL REQUIRED FITTINGS, COUPLINGS, HANGERS AND ACCESSORIES.

2. CORROSION RESISTANT PRIMER AND ANSI GRAY EPOXY PAINT FINISH. CORROSION RESISTANT BOLTS OR SCREWS. SCREWS OR BOLTS INSTALLED TOWARD THE INSIDE FITTED WITH SPRING NUTS OR OTHERWISE PREVENTED FROM DAMAGING CONDUCTOR INSULATION.

F. PULL CORDS

1. PROVIDE A NYLON POLYETHYLENE CORD, WITH A TENSILE STRENGTH OF NOT LESS THAN 200 POUNDS, IN EACH EMPTY CONDUIT TO FACILITATE THE FUTURE INSTALLATION OF CONDUCTORS. INCORPORATE PLASTIC TAGS FOR IDENTIFICATION.

G. CONDUCTORS

1. CONDUCTORS SHALL BE 98% CONDUCTIVITY SOFT DRAWN ANNEALED COPPER, 600 VOLT, THHN/THWN INSULATION, #10 AND SMALLER - SOLID, #8 AND LARGER - STRANDED.

2. NO CONDUCTORS SHALL BE SMALLER THAN NO. 12, EXCEPT FOR SIGNAL OR CONTROL CIRCUITS AND FOR INDIVIDUAL LIGHTING FIXTURE TAPS AS PERMITTED BY NEC.

3. FOR HOME RUNS ON 120-VOLT, 20-AMPERE BRANCH CIRCUITS, WHERE LENGTH OF RUN FROM PANELBOARD TO FIRST OUTLET EXCEEDS 100 LINEAR FEET, USE NO. 10 CONDUCTORS. WHERE LENGTH OF RUN IS 100 LINEAR FEET OR LESS, USE NO. 12 CONDUCTORS.

4. FOR HOME RUNS ON 277-VOLT, 20-AMPERE BRANCH CIRCUITS, WHERE LENGTH OF RUN FROM PANELBOARD TO FIRST OUTLET EXCEEDS 200 LINEAR FEET, USE NO. 10 CONDUCTORS. WHERE LENGTH OF RUN IS 100 LINEAR FEET OR LESS, USE NO. 12 CONDUCTORS.

H. WIRING DEVICES, COVER PLATES AND ACCESSORIES

1. PROVIDE WIRING DEVICES AND ASSOCIATED ACCESSORIES OF SPECIFICATION GRADE. DEVICES OF LEVITON, HUBBELL OR PASS & SEYMORE ARE ACCEPTABLE. SUBMIT FOR REVIEW A COMPLETE LIST OF ANY SUBSTITUTES OFFERED FROM THOSE SPECIFIED.

2. COLOR OF WALL SWITCHES, RECEPTACLES AND FACEPLATES: AS SPECIFIED OR SELECTED BY ARCHITECT.

3. WHERE LIGHTING CIRCUITS ARE SHOWN TO BE LINE VOLTAGE SWITCHED, PROVIDE WITH SPECIFICATION GRADE, HORSEPOWER RATED, UL LISTED, BACK- AND SIDE-WIRED, TOGGLE SWITCHES RATED 20-AMP, 120 VOLTS OR 277 VOLTS. SWITCHES SHALL BE SPST, DPST, 3-WAY OR 4-WAY, WITH OR WITHOUT PILOT LIGHT, AS INDICATED ON THE DRAWINGS.

4. RECEPTACLES

a. STANDARD WALL RECEPTACLES SHALL BE HOSPITAL GRADE, RATED 20-AMP, 120-VOLT, 2 POLE, 3-WIRE, GROUNDING TYPE, SIDE-WIRED, NEMA 5-20R.

b. SPECIAL PURPOSE RECEPTACLES SHALL BE HOSPITAL GRADE DEVICES FOR THE NEMA CONFIGURATIONS SCHEDULED OR INDICATED ON THE DRAWINGS.

c. GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES SHALL BE HOSPITAL GRADE, 20 AMP, 120 VOLT, 2 POLE, 3-WIRE, NEMA 5-20R.

5. MAINTAIN GROUNDING CONTINUITY BETWEEN DEVICES AND METALLIC RACEWAY SYSTEM IN ADDITION TO PROVIDING A GREEN EQUIPMENT GROUNDING CONDUCTOR RUN WITH ALL CIRCUIT CONDUCTORS AS INDICATED ON THE DRAWINGS. EXCEPT CARE SHALL BE TAKEN WHEN INSTALLING RECEPTACLES HAVING ISOLATED GROUND POLE SO AS TO NOT BOND THE EQUIPMENT GROUND CONDUCTOR TO THE CONDUIT SYSTEM.

I. OVERCURRENT PROTECTIVE DEVICES

1. MOLDED CASE CIRCUIT BREAKERS

a. AS MANUFACTURED BY THE MANUFACTURER OF THE PANELBOARD IN WHICH INSTALLED.

b. ONE, TWO OR THREE POLE WITH RATINGS INDICATED ON THE DRAWINGS; (STANDARD) OR (HIGH INTERRUPTING) CONSTRUCTION AS REQUIRED BY THE SHORT CIRCUIT RATINGS INDICATED ON THE DRAWINGS.

c. QUICK-MAKE, QUICK-BREAK, CALIBRATED FOR OPERATION IN AN AMBIENT TEMPERATURE OF 40 -C. TRIP INDICATION BY HANDLE POSITION, TRIP-FREE. TWO AND THREE POLE BREAKERS: COMMON TRIP WITH SINGLE OPERATING HANDLE WITHOUT HANDLE TIES, PERMANENT TRIP UNIT CONTAINING INDIVIDUAL THERMAL AND MAGNETIC TRIP ELEMENTS IN EACH POLE. FRAME SIZES GREATER THAN 100 AMPERES: VARIABLE MAGNETIC TRIP ELEMENTS WHICH ARE SET BY A SINGLE ADJUSTMENT.

d. REMOVABLE LUGS, UL LISTED FOR COPPER AND ALUMINUM CONDUCTORS. LISTED FOR INSTALLATION OF MECHANICAL OR COMPRESSION TYPE LUGS.

2. FUSES

a. AS MANUFACTURED BY BUSSMAN, GOULD-SHAUMUT OR LITTLEFUSE.

b. FOR CIRCUITS RATED 601 AMPERES TO 6000 AMPERES, 600 VOLT AC, FUSES SHALL BE UL LISTED CLASS L, CURRENT LIMITING, TIME-DELAY WITH 200,000 AMPERE RMS SYM INTERRUPTING RATING.

c. FOR CIRCUITS RATED 0 TO 600 AMPERES, 250 VOLT OR 600 VOLT AC, FUSES SHALL BE UL LISTED CLASS RK1, CURRENT LIMITING, DUAL ELEMENT TIME-DELAY WITH 200,000 AMPERES RMS SYM INTERRUPTING RATING.

d. PROVIDE SPARE FUSES AS FOLLOWS: 600A AND SMALLER - 10% OR EACH RATING (MINIMUM OF 3 PER RATING). 601A AND LARGER - 3 OF EACH RATING.

J. DISCONNECT SWITCHES

1. AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER OR SIEMENS.

2. FUSIBLE/NON-FUSIBLE SWITCHES

a. ALL SWITCHES: HEAVY DUTY TYPE; UL LISTED AND MEET LATEST NEMA STANDARDS KS-1; HORSEPOWER RATED; QUICK-MAKE, QUICK-BREAK; VISIBLE BLADES IN "OFF" POSITION; REMOVABLE ARC SUPPRESSORS; LUGS FRONT REMOVABLE AND UL LISTED FOR ALUMINUM OR COPPER WIRE; OPERATING HANDLE IN CONTROL OF SWITCH WITH DOOR OPEN AND CLOSED; HANDLE POSITION CLEARLY INDICATE "ON" AND "OFF" POSITIONS; PROVISIONS FOR PADLOCKING IN "OFF" POSITION; SAFETY INTERLOCKS TO PREVENT THE ENCLOSURE DOOR FROM BEING OPENED WHILE THE HANDLE IS IN THE "ON" POSITION AND TO PREVENT THE HANDLE FROM BEING TURNED TO THE "ON" POSITION WHILE THE ENCLOSURE DOOR IS OPEN; MEANS TO PERMIT AUTHORIZED PERSONNEL TO RELEASE THE SAFETY INTERLOCKS FOR MAINTENANCE OR INSPECTION; AUXILIARY POLES, AS REQUIRED, TO DISCONNECT CONTROL VOLTAGE(S) WHEN POWER VOLTAGE IS DISCONNECTED.

b. ENCLOSURES: NEMA 1 OR NEMA 3R, AS INDICATED ON DRAWINGS; CLEAN STEEL, GALVANIZED AFTER FORMING, PRIMED AND GREY BAKED ENAMEL FINISHED; NEMA 1 COVERS ON PIN TYPE HINGES; NEMA 3R COVERS SECURABLE IN THE OPEN POSITION. INTERCHANGEABLE BOLT-ON THREADED HUBS ON NEMA 3R SWITCHES THRU 200 AMPERE.

c. FUSIBLE SWITCHES: FOR 600 AMPERE AND SMALLER SWITCHES, PROVIDE UL LISTED REJECTION CLIPS TO REJECT ALL FUSES EXCEPT CLASS R; FOR 800 AMPERE AND LARGER SWITCHES, PROVIDE FUSE CLIPS FOR CLASS L FUSES. ALL SWITCHES UL LISTED SHORT CIRCUIT RATING OF 200,00 AMPERES RMS SYMMETRICAL.

3. ENCLOSED CIRCUIT BREAKER

a. ENCLOSURES: NEMA 1 OR NEMA 3R AS INDICATED ON THE DRAWINGS. NEMA 1 ENCLOSURES: FURNISHED WITH KNOCKOUTS WHERE PRACTICAL; FABRICATED FROM SHEET STEEL, GALVANIZED AFTER FORMING; ELECTRODEPOSITED, GRAY BAKED ENAMEL FINISH. PROVIDE PADLOCKING PROVISIONS TO ALLOW LOCKING THE CIRCUIT BREAKER IN THE "OFF" POSITION. NEMA 3R ENCLOSURES FOR CIRCUIT BREAKERS RATED THRU THE 225 AMPERE FRAME SIZE FURNISHED WITH PROVISIONS FOR INTERCHANGEABLE, BOLT-ON HUBS. NEMA 3R ENCLOSURE COVERS SECURABLE IN THE OPEN POSITION. PROVIDE PADLOCKING PROVISIONS TO ALLOW LOCKING THE ENCLOSURE COVER CLOSED.

K. GROUNDING

1. GROUNDING SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

2. GROUNDING CONDUCTORS SHALL BE ANNEALED COPPER CABLES OF THE SIZES INDICATED OR REQUIRED.

3. A "GREEN WIRE" EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY, WHETHER METALLIC OR NON-METALLIC, TO FORM A COMPLETE AND CONTINUOUS GROUNDING PATH. CONNECT GROUNDING CONDUCTORS TO GROUND TERMINALS AT EACH END OF THE RUN.

L. LIGHTING FIXTURES

1. ENSURE EACH LIGHTING FIXTURE HAS AN OPERATING SET OF LAMPS EQUAL TO EXISTING OR OF THE TYPES SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREIN. LAMPS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, PHILIPS, OR OSRAM/SYLVANIA, EXCEPT WHERE SCHEDULED OTHERWISE.

2. PROVIDE A LIGHTING FIXTURE COMPLETE WITH LAMPS, BALLASTS, AND OTHER REQUIRED APPURTENANCES FOR EACH LIGHTING OUTLET SHOWN ON THE DRAWINGS. LIGHT FIXTURES SHALL BE AS DESCRIBED IN THE "LIGHTING FIXTURE SCHEDULE". EACH UNIT SHALL BE FURNISHED WITH ALL MOUNTING AND TRIM ACCESSORIES TO SUIT THE SPECIFIC SERVICES APPLIED. FINISHES SHALL BE FACTORY-STANDARD, EXCEPT WHERE SCHEDULED OTHERWISE.

3. PROVIDE LIGHTING FIXTURES IN ACCORDANCE WITH THE DESIGNATIONS AND DESCRIPTIONS ON THE DRAWINGS. WHERE A SINGLE MANUFACTURER AND ASSOCIATED CATALOG NUMBER IS SCHEDULED, IT IS TO ESTABLISH A DESIRED TYPE AND STANDARD OF QUALITY.

4. LIGHTING FIXTURES SHALL BE UL LABELED.

M. FIRE ALARM SYSTEM

1. FURNISH AND INSTALL FIRE ALARM AND DETECTION SYSTEM ADDITIONS AND RELOCATIONS AS INDICATED ON THE DRAWINGS, COMPATIBLE AND CONSISTENT WITH THE EXISTING SYSTEM.

2. THE EXISTING SYSTEM OPERATION SHALL REMAIN UNCHANGED PROVIDING CONTINUAL SERVICE DURING ALL PHASES OF THE RENOVATION AND EXPANSION.

N. TELEPHONE/DATA SYSTEM

1. AT ALL WALL DATA/VOICE OUTLET LOCATIONS, PROVIDE BACK BOXES AND 1" EMPTY CONDUIT WITH PULL CORD TO ABOVE CEILING.

III EXECUTION

A. INSTALLATION OF BUILDING CONDUIT

1. ALL INTERIOR RACEWAYS SHALL BE EMT. RACEWAYS IN DAMP OR WET LOCATIONS, OR IN HAZARDOUS LOCATIONS, SHALL BE GRC OR IMC.

2. CONDUITS SHALL BE OF SUCH SIZE AND SO INSTALLED THAT THE CONDUCTORS MAY BE DRAWN THROUGH WITHOUT INJURY OR EXCESSIVE STRAIN. SHALL BE SECURED AT CABINETS AND BOXES WITH GALVANIZED LOCKNUTS, BOTH INSIDE AND OUTSIDE, AND SHALL HAVE APPROPRIATE BUSHINGS INSIDE. BUSHINGS SHALL BE INSULATING TYPE WITH BOND GROUND CLAMPS.

3. USE LENGTHS OF FLEXIBLE METAL CONDUIT NOT LESS THAN 12 INCHES LONG AT FINAL CONNECTIONS TO ALL MOTORS, TRANSFORMERS AND SIMILAR DEVICES SUBJECT TO MOVEMENT BECAUSE OF VIBRATION OR MECHANICAL ADJUSTMENT. USE FLEXIBLE METAL CONDUITS TO EFFECT FINAL CONNECTIONS TO RECESSED LIGHTING FIXTURES. USE LIQUID TIGHT FLEXIBLE METAL CONDUIT, WITH APPROPRIATE CONNECTIONS, IN DAMP OR WET LOCATIONS, AT MOTOR OR EQUIPMENT LOCATIONS IN MECHANICAL EQUIPMENT ROOMS, AT OR NEAR PUMPS, AND WHEN INSTALLED OUTDOORS.

4. GROUND METALLIC CONDUITS AS REQUIRED BY NEC.

5. INSTALL RACEWAYS CONTINUOUS FROM OUTLET TO OUTLET BOX, OR CABINET, WITH A MAXIMUM OF 150 FEET BETWEEN PULLS. IN AREAS WHERE THERE ARE NO SUSPENDED CEILINGS, RUN ALL CONDUITS PARALLEL/PERPENDICULAR TO BUILDING SURFACE PLANES.

6. IN SYSTEMS OPERATING AT MORE THAN 300 VOLTS BETWEEN PHASE CONDUCTORS, AND WHERE DIFFERENT PHASE CONDUCTORS ARE TO BE RUN TO A COMMON GANG WALL SWITCH BOX, PROVIDE SUBSTANTIAL BARRIERS BETWEEN ADJACENT SWITCHES IN THE BOX SO THAT TWO DIFFERENT PHASE WIRES WILL NOT BE IN THE SAME COMPARTMENT.

7. WHEREVER RACEWAYS PASS THROUGH FLOORS, WALLS, PENETRATIONS, OR OTHER PARTITIONS, CAREFULLY FILL ANY SPACE BETWEEN THE OUTSIDE OF THE RACEWAY AND THE BUILDING MATERIAL TO PREVENT PASSAGE OF AIR, WATER, SMOKE, AND FUMES. FILLING MATERIAL SHALL BE A UL LISTED, INTUMESCENT SEALING HAVING FIRE/SMOKE RESISTIVE RATING EQUAL TO THE BUILDING MATERIAL PENETRATED.

8. TYPE HCF-MC METAL CLAD CABLES SHALL BE ACCEPTABLE TO BE INSTALLED IN WALLS AND CEILINGS IN CONFORMANCE WITH THE REQUIREMENTS OF NEC 334. TYPE MC CABLE SHALL BE USED ONLY FOR BRANCH CIRCUITS FOR LIGHTING AND SPECIFIC AND GENERAL PURPOSE RECEPTACLES. TYPE HCF-MC CABLE SHALL NOT BE USED FOR FEEDERS OR MULTIPLE BRANCH CIRCUIT HOMERUNS, AND MORE SPECIFICALLY, SHALL NOT BE USED FOR HVAC, AND KITCHEN EQUIPMENT, OR EMERGENCY POWER BRANCH CIRCUITS. TYPE HCF-MC CABLE SHALL NOT BE UTILIZED WITHIN ELECTRICAL EQUIPMENT ROOMS. CABLE SHALL TRANSITION TO A RIGID TYPE CONDUIT PRIOR TO ENTERING ELECTRICAL EQUIPMENT ROOMS.

9. CONDUITS UTILIZED THROUGHOUT THE PROJECT SHALL NOT BE SMALLER THAN 3/4 INCH FOR FEEDERS, MULTIPLE BRANCH CIRCUIT HOMERUNS AND HOMERUNS OF CONDUCTORS LARGER THAN NO. 12. INDIVIDUAL BRANCH CIRCUIT WIRING FOR NO. 12 CONDUCTORS SHALL BE ACCEPTABLE IN 1/2" CONDUIT, I.E. 2#12, 1#12G, 1/2"C.

B. INSTALLATION OF PULL AND JUNCTION BOXES

1. FASTEN ALL BOXES SECURELY TO THE BUILDING CONSTRUCTION, INDEPENDENT OF CONDUIT SYSTEMS.

2. ON CONCEALED CONDUIT SYSTEMS WHERE BOXES ARE NOT OTHERWISE ACCESSIBLE, SET BOXES FLUSH WITH FINISHED SURFACES FOR ACCESS, AND PROVIDE OVERLAPPING COVERS.

C. INSTALLATION OF OUTLET BOXES

1. TERMINATE CONDUITS AT A METAL OUTLET BOX AT EACH OUTLET OR DEVICE. ALL BOXES SHALL CONFORM TO THE NEC.

2. OUTLET BOXES SHALL BE SUPPORTED INDEPENDENT OF THE CONDUIT SYSTEM AND POSITIVELY ATTACHED TO TWO STUDS.

D. INSTALLATION OF CONDUIT HANGERS AND SUPPORTS

1. FURNISH AND INSTALL ALL HANGERS AND SUPPORTS REQUIRED BY RACEWAY SYSTEMS.

2. SUPPORT ALL ABOVE-GROUND ELECTRICAL CONDUITS FROM THE BUILDING STRUCTURE/CONSTRUCTION. SUPPORT CONDUITS RUNNING VERTICALLY OR HORIZONTALLY ALONG WALLS WITH GALVANIZED MALLEABLE IRON ONE-HOLE CLAMPS. CARRY INDIVIDUALLY SUPPORTED HORIZONTAL CONDUITS 1-1/4 INCH AND LARGER ON SUITABLE HANGERS.

3. LOCATE HANGERS AND TRAPEZES TO SUPPORT HORIZONTAL RACEWAYS WITHOUT APPRECIABLE SAGGING. HANGER SPACING SHALL NOT EXCEED NEC REQUIREMENTS, OR RECOMMENDATIONS OF THE NECA "STANDARD OF INSTALLATION".

4. WHERE CONDUITS SMALLER THAN 1-1/4 INCH ARE INSTALLED ABOVE REMOVABLE TYPE DRY CEILINGS, SUPPORT THEM ON SUITABLE HANGER RODS WITH METAL CLIPS AT A DISTANCE ABOVE THE CEILING SUFFICIENT TO PERMIT REMOVAL OF CEILING PANELS AND LAY-IN LIGHT FIXTURES. LOCATE SUCH CONDUITS SO AS NOT TO HINDER ACCESS TO MECHANICAL EQUIPMENT THROUGH CEILING PANELS.

E. INSTALLATION OF CONDUCTORS

1. PULL NO CONDUCTORS INTO CONDUITS UNTIL ALL WORK OF A NATURE WHICH MAY CAUSE INJURY TO CONDUCTORS IS COMPLETED.

2. RUN FEEDERS IN CONTINUOUS PIECES, WITHOUT JOINTS OR SPLICES, INSOFAR AS PRACTICABLE.

3. RUN CONDUITS FOR EMERGENCY POWER CONDUCTORS SEPARATE FROM ALL OTHER WIRING.

F. SEGREGATION OF WIRING SYSTEMS

1. SEGREGATION OF WIRING SYSTEMS SHALL NOT BE COMPROMISED BY THE USE OF COMMON PULLBOXES, WIREWAYS, CABINETS OR ANY OTHER TYPE OF ENCLOSURE.

2. THE RACEWAY SYSTEM FOR EACH FEEDER SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

3. THE RACEWAY SYSTEM FOR THE BRANCH CIRCUITS OF EACH PANELBOARD SHALL BE A SEPARATE SYSTEM COMPLETELY FAULT ISOLATED FROM ALL OTHER RACEWAY SYSTEMS.

G. EQUIPMENT CONNECTIONS AND CONTROL WIRING

1. THE FURNISHING AND INSTALLATION OF CONTROL POWER WIRING REQUIRED FOR EQUIPMENT FURNISHED UNDER DIVISION 15 AND NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE FURNISHED UNDER DIVISION 15. CONTROL POWER WIRING IS DEFINED AS THE LINE VOLTAGE (120V) POWER WIRING FOR EQUIPMENT CONTROL CABINETS, TEMPERATURE CONTROL, ENERGY MANAGEMENT, OR BUILDING AUTOMATION SYSTEM PANELS AND LINE VOLTAGE SMOKE/FIRE DAMPERS.

2. THE FURNISHING AND INSTALLATION OF THE TEMPERATURE CONTROL WIRING, ENERGY MANAGEMENT SYSTEM OR BUILDING AUTOMATION WIRING NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE FURNISHED UNDER DIVISION 15. TEMPERATURE CONTROL, ENERGY MANAGEMENT SYSTEM AND BUILDING AUTOMATION SYSTEM WIRING IS DEFINED AS THE INTERLOCK OR INTERCONNECTING WIRING REQUIRED BETWEEN SYSTEM CONTROL DEVICES, APPURTENANCES AND CONTROL PANELS TO ALLOW THE SYSTEM TO FUNCTION AUTOMATICALLY. THIS INCLUDES WIRING BETWEEN THE FIRE ALARM SYSTEM, SMOKE EXHAUST SYSTEMS, DOOR ENTRY SYSTEMS AND ANY OTHER SYSTEM REQUIRING INTERFACE WITH THE TEMPERATURE CONTROL, ENERGY MANAGEMENT AND BUILDING AUTOMATION SYSTEM.

3. PROVIDE POWER WIRING TO EACH MOTOR-DRIVEN AND/OR ELECTRICALLY-OPERATED SYSTEM OR UNIT OF EQUIPMENT. THE WIRING SHALL ALLOW THE MOTOR(S) OR EQUIPMENT TO OPERATE IN A MANUAL MODE.

4. CONTROL WIRING WILL, UNLESS SPECIFICALLY NOTED OTHERWISE, WILL BE FURNISHED AND INSTALLED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS.

5. EXCEPT FOR ITEMS THAT ARE FURNISHED WITH FACTORY-INSTALLED, INTEGRAL MOTORS, AN ELECTRIC MOTOR OF REQUIRED SIZE AND ELECTRICAL CHARACTERISTICS WILL BE PROVIDED AND INSTALLED UNDER OTHER DIVISIONS FOR EACH ITEM OF MOTOR-DRIVEN EQUIPMENT. COMPLETE THE ELECTRICAL INSTALLATION OF THESE MOTORS IN ACCORDANCE WITH APPROVED WIRING DIAGRAMS AND INSTRUCTIONS.

6. WHERE DISCONNECT SWITCHES OR CIRCUIT BREAKERS ARE NOT PROVIDED INTEGRAL WITH CONTROL EQUIPMENT FOR MOTORS AND OTHER ELECTRICAL APPURTENANCES, PROVIDE AND INSTALL ALL DISCONNECT SWITCHES REQUIRED BY THE NATIONAL ELECTRICAL CODE AND/OR INDICATED.

7. WHERE POSSIBLE, TERMINATE CONDUITS IN CONDUIT BOXES ON MOTORS. WHERE MOTORS ARE NOT PROVIDED WITH CONDUIT BOXES, TERMINATE THE CONDUITS IN CONDUIT FITTINGS AT THE MOTORS.

H. EXISTING SYSTEMS TO REMAIN

1. THE CONTRACT DOCUMENTS DO NOT PROPOSE TO SHOW ALL EXISTING SYSTEMS, MATERIAL OR EQUIPMENT. OBTAIN DATA RELATED TO EXISTING CONDITIONS FROM EXISTING DOCUMENTS, MEASUREMENTS, NOTATIONS, PHOTOGRAPHS, SURVEYS AND OTHER OBSERVATIONS AT THE SITE.

2. REMOVE EXISTING WIRE, CONDUIT, EQUIPMENT, FIXTURES AND OTHER ITEMS TO PROVIDE ACCESS FOR WORK IN EXISTING FACILITIES. REINSTALL AND REFINISH ITEMS REMOVED, OR OTHERWISE DAMAGED, TO MATCH EXISTING ADJACENT SURFACED UPON COMPLETION OF THE WORK.

3. WHERE EXISTING FUNCTIONS TO REMAIN IN USE ARE DISRUPTED, THEY SHALL BE FULLY RESTORED AFTER DISRUPTION, IN FULL COMPLIANCE WITH THIS DIVISION OF THE SPECIFICATIONS FOR NEW WORK.

4. MODIFY, REMOVE OR RELOCATE MATERIALS AND ITEMS INDICATED ON THE DRAWINGS OR REQUIRED BY THE INSTALLATION OF NEW WORK.

5. WORKING JOINTLY WITH THE ARCHITECT, ESTABLISH AND MARK SALVAGE AND DEMOLITION ITEMS BEFORE COMMENCING WORK; REPORT ITEMS SCHEDULE FOR RELOCATION, REINSTALLATION OR REUSE, WHICH ARE FOUND TO BE IN DAMAGED CONDITION; AWAIT FURTHER INSTRUCTIONS FROM THE ARCHITECT BEFORE COMMENCING WITH WORK.

6. DEMOLITION EQUIPMENT, DEVICES AND MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. SALVAGED EQUIPMENT AND DEVICES SHALL BE THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.

7. MAKE MINOR RELOCATIONS NECESSITATED BY THE CONDITIONS AT THE SITE OR AS DIRECTED BY THE ARCHITECT, WITHOUT ADDITIONAL COST TO THE OWNER. REPAIR AND RESTORE TO GOOD FUNCTIONAL CONDITION, EQUIPMENT, MATERIALS AND ITEMS SCHEDULED FOR RELOCATION, WHICH ARE DAMAGED DURING DISMANTLING OR REASSEMBLY OPERATIONS. NEW MATERIALS AND ITEMS OF SIMILAR DESIGN AND QUALITY MAY BE SUBSTITUTED FOR MATERIALS AND ITEMS INDICATED TO BE RELOCATED UPON APPROVAL OF SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. REMOVE CAREFULLY, IN REVERSE ORDER TO ORIGINAL ASSEMBLY OR PLACEMENT; ITEMS WHICH ARE TO BE RELOCATED. PROTECT ITEMS UNTIL RELOCATION IS COMPLETE. CLEAN AND REPAIR ITEMS TO BE RELOCATED, AND PROVIDE NEW MATERIALS, FITTINGS AND APPURTENANCES REQUIRED TO COMPLETE THE RELOCATIONS AND TO RESTORE TO GOOD OPERATING ORDER. PERFORM THE RELOCATION WORK IN ACCORDANCE WITH APPLICABLE PORTIONS OF THESE SPECIFICATIONS, UTILIZING SKILLED WORKERS.

8. RELOCATING DEVICES: REMOVE AND REINS

GENERAL NOTES:

A. REFER TO SHEET E.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

SEE ELECTRICAL NOTES. THIS IS A LIMITED SCOPE OF WORK WITH NO NEW LOADS OR NEW DEVICES BEING ADDED. THERE WILL BE RELOACTION ONLY FOR CERTAIN DECIVES AND REPLACEMENT OF OTHERS AS SPEECIFIED IN THE NOTES. NO CHANGES TO PANEL DIRECTORY

(#) LEGEND NOTES:

1 EXISTING DEVICE CURRENTLY SERVING A TV, TO BE REPLACED AND RELOCATED TO NEW TV LOCATION AS DENOTED BY NOTE 2. CONTRACTOR SHALL INTERCEPT AND EXTEND FEEDERS AS REQUIRED.

2 LOCATION OF RELOCATED TV RECEPTACLE. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS AND MOUNTING BRACKET. CONTRACTOR SHALL INTERCEPT AND EXTEND EXISTING FEEDERS SERVING TV. THERE WILL BE NO NET LOAD INCREASE ON THE CIRCUIT SERVING THIS DEVICE.

3 ALL DEVICES WITHIN THIS SPACE ARE EXISTING TO REMAIN. WIRING DEVICES SHALL BE REPLACED IN PLACE AND IN NON BUILT-UP LOCATIONS FACEPLATES SHALL ALSO BE REPLACED. CONTRACTOR SHALL SURVEY TO VERIFY BUT CARRY A REPLACEMENT OF 7 DEVICES PER SPACE. DEVICES SHOWN ON PLAN ARE TO BE RELOCATED, REFER TO ADDITIONAL NOTE FOR MORE INFORMATION.

4 DEVICES LOCATED WITHIN THIS CASEWORK ARE FED FROM FEEDERS BELOW. FEEDER SHALL REMAIN IN PLACE AND BE EXTENDED TO FEED DEVICES IN NEW CASEWORK.

5 EXISTING MEDICAL GAS AREA ALARM PANEL TO REMAIN.

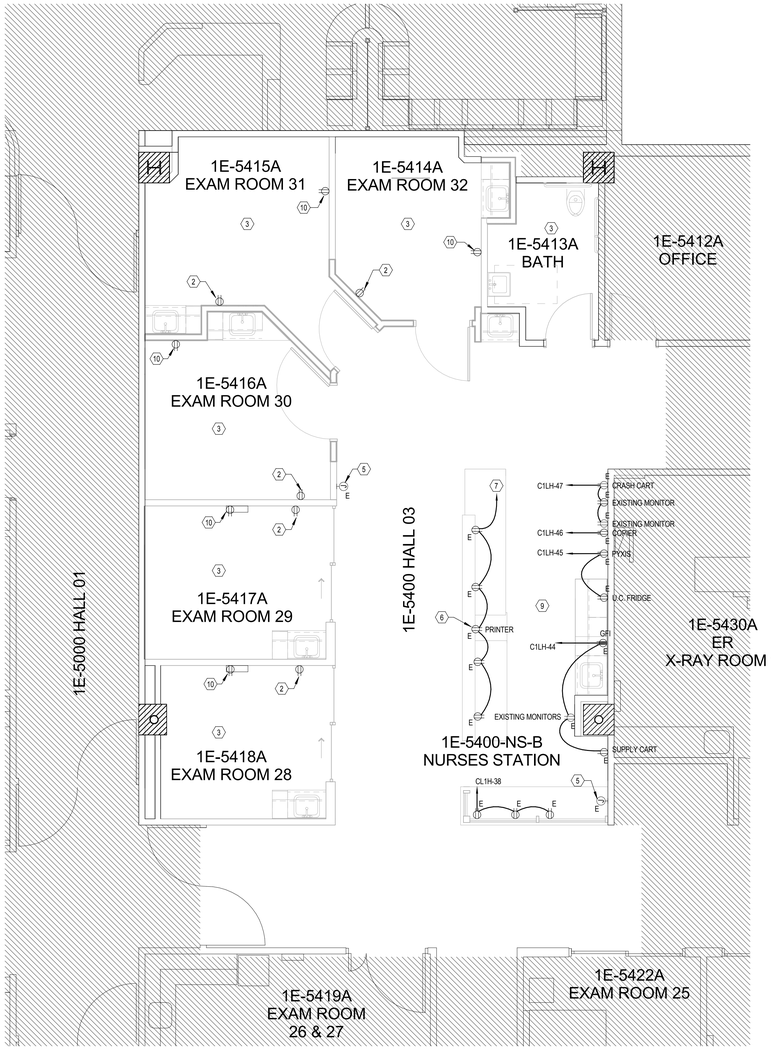
6 LOCATE POWER DEVICES WITHIN THIS CASEWORK. COORDINATE EXACT MOUNTING LOCATION OF DEVICE WITH ARCHITECTURAL DRAWINGS.

7 CONTRACTOR SHALL CONNECT DEVICES IN THIS CASEWORK TO CIRCUIT "2L1H-37" CURRENTLY SERVING EXISTING NURSE STATION. NO NEW EQUIPMENT IS ADDED TO THIS LOCATION, THERE WILL BE NO NET LOAD ON THIS CIRCUIT. REFER TO LEGEND NOTE 4 FOR ADDITIONAL INFORMATION.

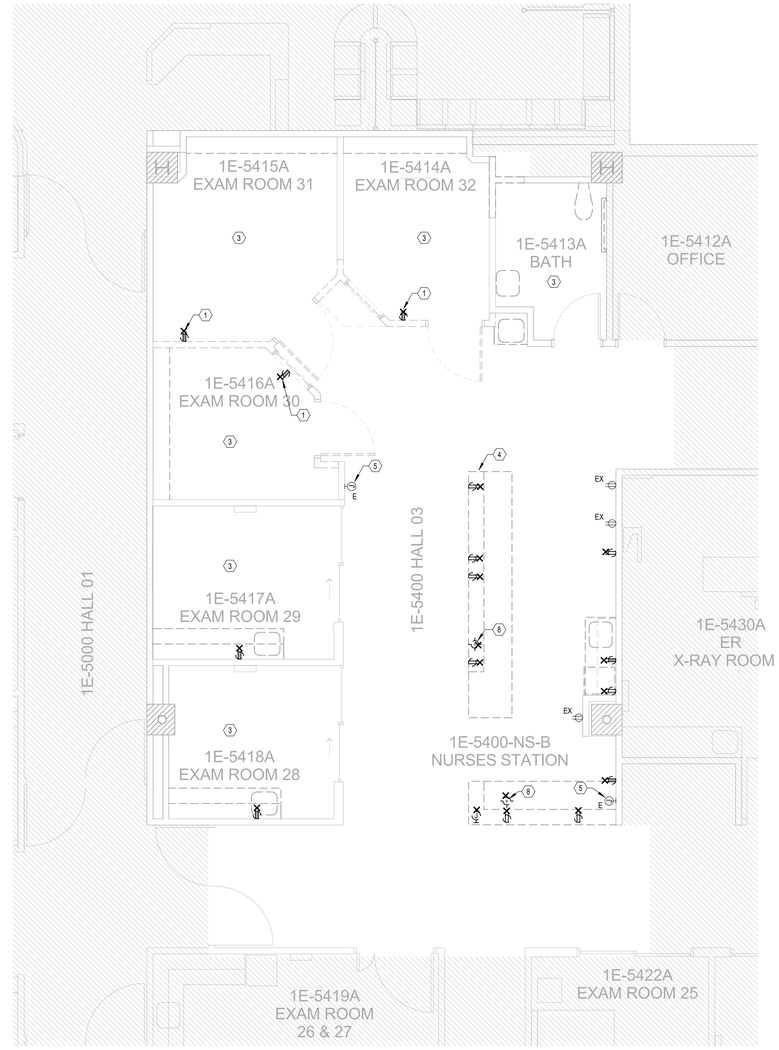
8 EXISTING CEILING MOUNTED RECEPTACLES ON THE SURFACE OF EXISTING SOFFIT. DEVICES SHALL BE REMOVED AND COVERED WITH A BLANK FACEPLATE. CONTRACTOR SHALL REMOVE WIRING FOR DEVICES BACK TO NEAREST ACTIVE J-BOX.

9 ELECTRICAL DEVICES ARE BEING RELOCATED TO BETTER SUIT NEW EQUIPMENT LOCATIONS. THERE WILL BE NO NET LOAD INCREASE ON PANEL "2L1H" FROM THIS PROJECT AS THE SAME EQUIPMENT SHALL BE USED IN THIS SPACE AFTER RENOVATION.

10 LOCATION OF RELOCATED COMPUTER RECEPTACLE WITHIN NEW ENOVATE CABINET. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECTURAL AND VENDOR DRAWINGS. CONTRACTOR SHALL INTERCEPT AND EXTEND EXISTING FEEDERS SERVING WALL MOUNTED PC, THERE WILL BE NO NET LOAD INCREASE ON THE CIRCUIT SERVING THIS DEVICE.



2 LEVEL 01 PLAN - POWER
1/4" = 1'-0"



1 LEVEL 01 PLAN - POWER DEMOLITION
1/4" = 1'-0"

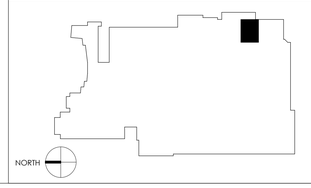
Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

Field Inspection consultation is available upon request. Call 303-739-7420 to request a consultation

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1142272*
Permit #: *16-1162878*

KEY PLAN



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No.	Description	Date

COLORADO LICENSED
32621
PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	JD
Checked by	TF

Sheet Title:
LEVEL 01 PLAN - POWER

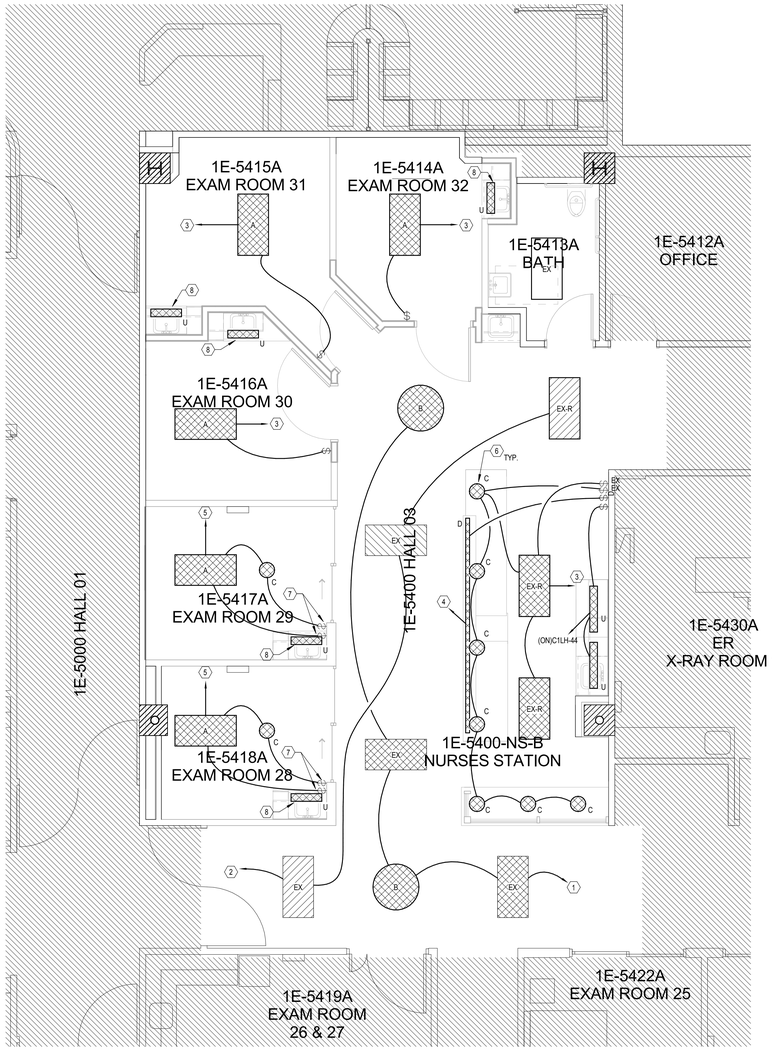
Sheet Number
E.201

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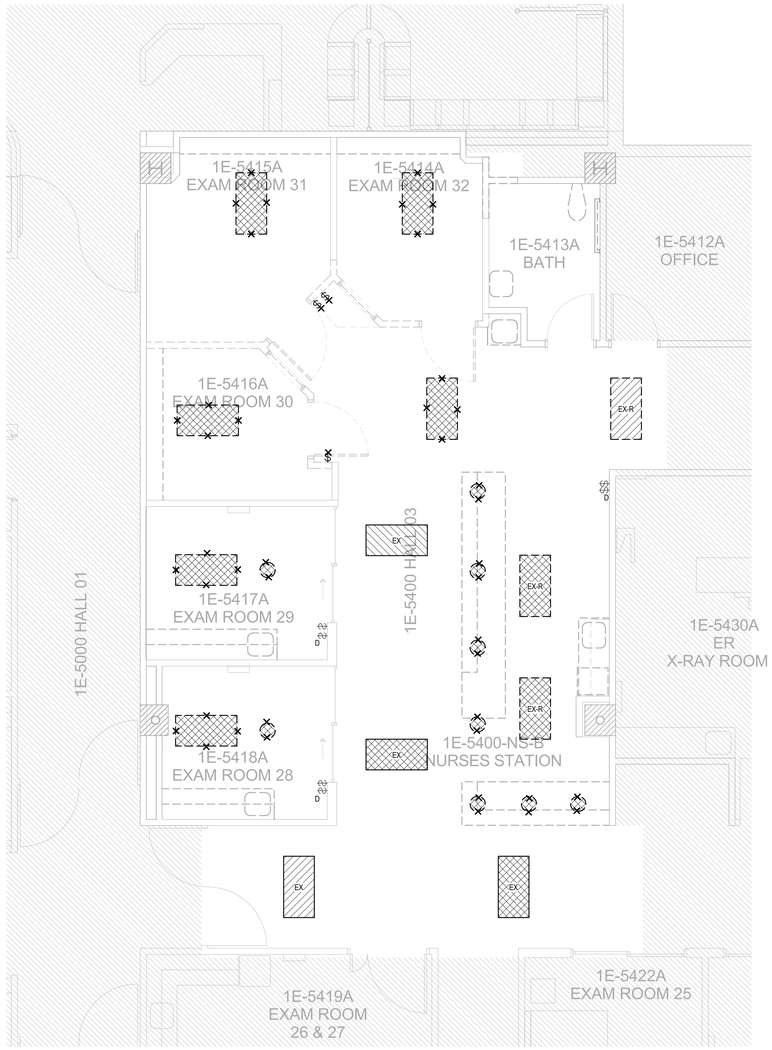
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Framing Members of suspended ceiling systems used to support luminaires shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Luminaires shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing member(s) and luminaire(s) shall also be permitted. 410.36 (B) 2014 NEC

In indoor locations in other than dwellings and associated accessory structures, fluorescent luminaires that utilize double ended lamps and contain ballast(s) that can be serviced in place shall have a disconnecting means either internal or external to each luminaire. 410.130 (G)(1) 2014 NEC



2 LEVEL 01 PLAN - LIGHTING
1/4" = 1'-0"



1 LEVEL 01 PLAN - LIGHTING DEMOLITION
1/4" = 1'-0"

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

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7/12/2016 2:27:39 PM

GENERAL NOTES:

A. REFER TO SHEET E.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1 CONNECT FIXTURES ON THIS CIRCUIT TO CRITICAL POWER CIRCUIT CURRENTLY SERVING THIS HALLWAY. (1) FIXTURE REMOVED AT 64VA AND (2) ADDED FOR AN ADDITIONAL 102VA, RESULTING IN A NET +38VA LOAD. CONTRACTOR SHALL INSTANTANEOUSLY METER CIRCUIT SERVING FIXTURES AND VERIFY EXISTING LOAD PLUS ADDITIONAL LOAD WILL NOT EXCEED 4432VA. NOTIFY ENGINEER IF ADDITIONAL LOAD EXCEEDS THIS VALUE. FIXTURES SHALL BE CONTROLLED BY THE SAME METHODS THAT CURRENTLY CONTROL THIS CIRCUIT.

2 CONNECT EXISTING FIXTURES ON THIS CIRCUIT TO LIFE SAFETY POWER CIRCUIT CURRENTLY SERVING THIS HALLWAY. NO NEW FIXTURES ARE ADDED TO THIS CIRCUIT. CIRCUITING SHOWN FOR REFERENCE.

3 CONNECT THE NEW FIXTURES, INSTALLED AS LOCATED ON PLAN, SHOWN TO THE EXISTING CRITICAL BRANCH CIRCUIT PREVIOUSLY SERVING THIS SPACE. FIXTURE REMOVED IS (1) 96VA FIXTURE AND REPLACED WITH (1) 96VA FIXTURE. THE CIRCUIT WILL EXPERIENCE NO NET LOAD FROM THESE CHANGES. FIXTURES SHALL BE CONTROLLED AS SHOWN ON PLAN.

4 FIXTURE SHALL BE LOCATED WITHIN CASEWORK PER ARCHITECTURAL DRAWINGS AND SECTIONS. CONTRACTOR SHALL CIRCUIT FIXTURE TO CL1H-37 SERVING THE NURSE STATION. FIXTURE WILL REQUIRE REMOTE MOUNTED DRIVER. LOCATE DRIVER ON THE UNDERSIDE OF THE COUNTER IN A CORNER OF THE NURSE STATION TO ALLOW ACCESSIBILITY AND KEEP DEVICE FROM OBSTRUCTING OTHER DEVICES BELOW.

5 CONNECT THE NEW FIXTURES, INSTALLED IN EXISTING FIXTURE LOCATIONS, SHOWN TO THE EXISTING CRITICAL BRANCH CIRCUIT PREVIOUSLY SERVING THIS SPACE. FIXTURES SHALL BE CONTROLLED AS SHOWN ON PLAN. FIXTURES REMOVED ARE (1) FIXTURE AT 96VA AND (1) FIXTURE AT 30VA. THE NEW FIXTURES REPLACING ARE (1) AT 96VA AND (1) AT 30VA. THE CIRCUIT SERVING THESE FIXTURES WILL EXPERIENCE NO NET LOAD.

6 CONTRACTOR SHALL INSTALL FIXTURES WITHIN THIS EXISTING SOFFIT IN EXISTING LOCATIONS.

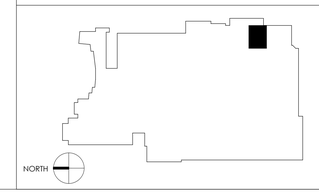
7 CONTRACTOR SHALL REPLACE IN PLACE SWITCHING DEVICES AND FACEPLATES AT THIS LOCATION.

8 CONTRACTOR SHALL CONNECT UNDERCABINET LIGHTING TO NEARBY 120V CRITICAL BRANCH CIRCUIT SERVING THIS WALL.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1142272*
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KEY PLAN



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No.	Description	Date

COLORADO LICENSED
TIMOTHY C. FOSTER
32801
PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	JD
Checked by	TF

Sheet Title:
LEVEL 01 PLAN - LIGHTING

Sheet Number
E.301

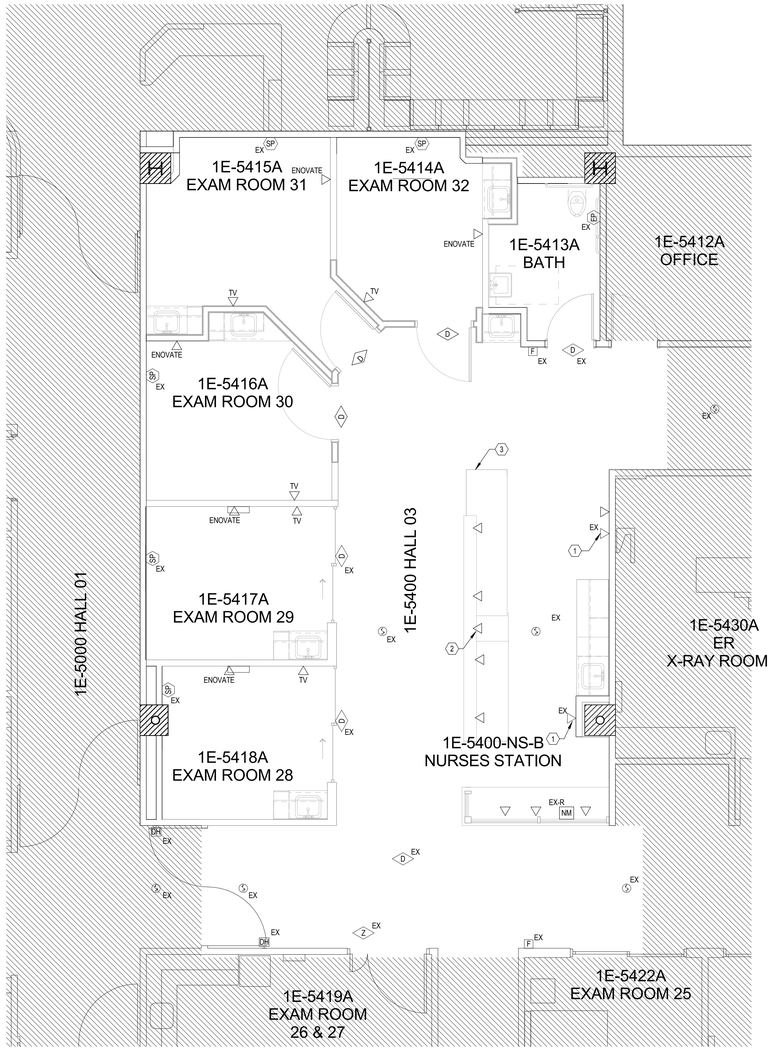
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GENERAL NOTES:

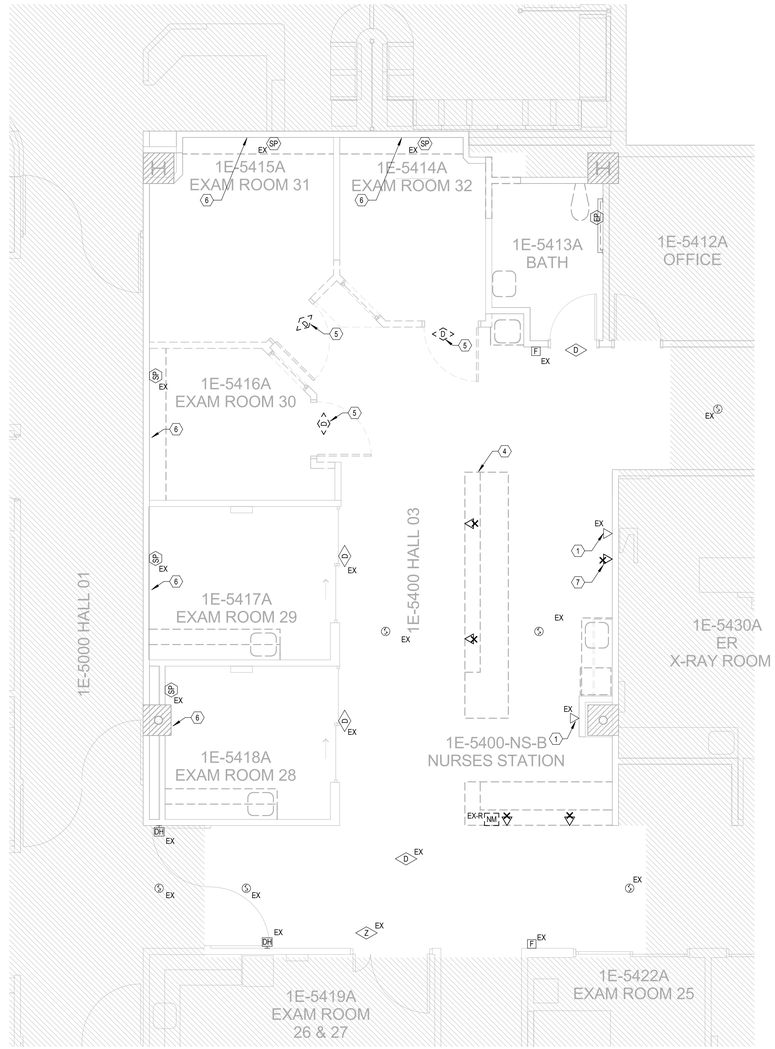
A. REFER TO SHEET E.001 FOR LEGENDS, GENERAL NOTES, AND ABBREVIATIONS.

(#) LEGEND NOTES:

1
2 DATA DROP PROVIDED FOR PRINTER. CONTRACTOR SHALL COORDINATE MOUNTING HEIGHT OF DATA DROP WITH EQUIPMENT LOCATION AND ARCHITECTURAL DRAWINGS.
3 DEVICES LOCATED WITHIN THIS CASEWORK SHALL BE ROUTED THROUGH EXISTING CONDUIT RUN BELOW FLOOR THAT IS EXISTING TO REMAIN. REFER TO LEGEND NOTE 4 FOR ADDITIONAL INFORMATION.
4 CONDUIT ROUTING WIRING TO DATA DEVICES IN THIS CASEWORK SHALL BE EXISTING TO REMAIN. CONTRACTOR SHALL VERIFY CONDUIT BELOW CAN CARRY DATA AS SHOWN IN VIEW 2. NOTIFY ENGINEER IF QUANTITY DOES NOT SATISFY LOCATIONS AS SHOWN.
5 EXISTING NURSE CALL DEVICES EXISTING TO BE RE-LOCATED. REFER TO VIEW 2 ON THIS SHEET FOR LOCATIONS. CONTRACTOR SHALL INTERCEPT AND EXTEND WIRING FOR DEVICES AS REQUIRED.
6 DATA DEVICE LOCATIONS IN HEADWALL ARE EIXSTING TO REMAIN.
7 EXISTING DATA DROP FOR EXISTING MONITOR TO BE RELOCATED TO NEW MONITOR LOCATION.



2 LEVEL 01 PLAN - SPECIAL SYSTEMS
1/4" = 1'-0"



1 LEVEL 01 PLAN - SPECIAL SYSTEMS DEMOLITION
1/4" = 1'-0"

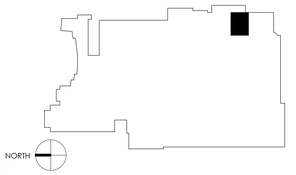
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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Erick B.*
Date: *Sep 01, 2016*
2015 INTERNATIONAL CODES & 2014 NEC

RSN: *1142272*
Permit #: *16-1162878*

KEY PLAN



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2245 Curtis Street, Suite 100
Denver, CO 80205
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Email: info@path21arch.com
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No.	Description	Date

COLORADO LICENSED
TIMOTHY FRANZ
43260
PROFESSIONAL ENGINEER

TMCA - Peds Renovation

1501 S Potomac St, Aurora, CO 80012

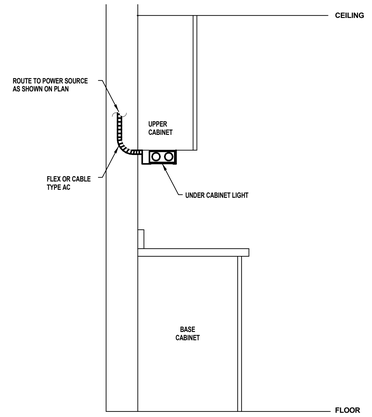
Issue	FOR CONSTRUCTION
Date	JULY 15, 2016
Project Number	16-018
Drawn by	JD
Checked by	TF

Sheet Title:
LEVEL 01 PLAN - SPECIAL SYSTEMS

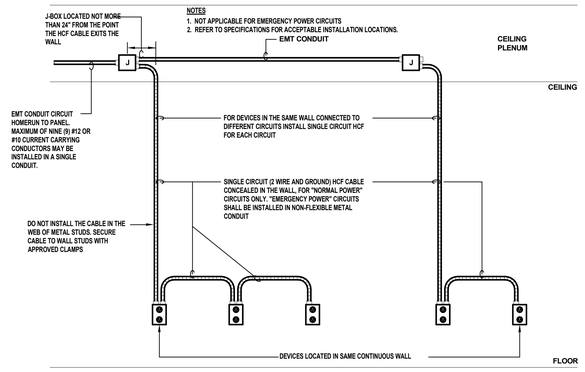
Sheet Number
E.401

CONTRACT & SPECIFICATION PROTOCOLS

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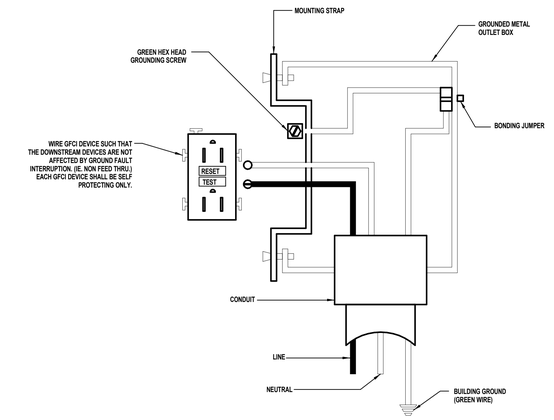
09 UNDER CABINET FIXTURE DETAIL
NO SCALE



08 HEALTHCARE FACILITIES CABLE (HFC) INSTALLATION DETAIL
NO SCALE

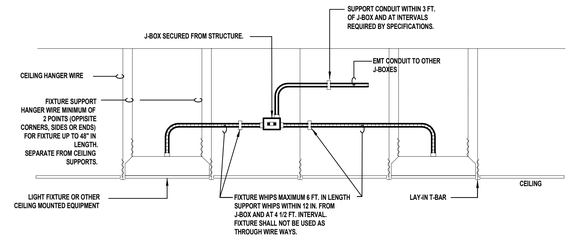
INTERIOR LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	
0	DESCRIPTION:	FIXTURES INDICATED IN SCHEDULE BELOW ARE ACUITY LIGHTING TO BE PURCHASED THROUGH GRAYBAR DISTRIBUTORS
	LAMP(S):	825 8TH AVENUE SOUTH
	BALLAST(S):	NASHVILLE, TN 37203
	VOLTAGE:	1-800-678-4081
	INSTALLATION:	HCA@GRAYBAR.COM
	LUMINARE:	
		QUOTATIONS CONTACT: JESS HOOVER 615-743-3232 jess.hoover@graybar.com
A	DESCRIPTION:	2' X 4' FLUORESCENT, K12.125" PATTERN ACRYLIC LENS, SPECIFICATION PREMIUM STATIC TROFFER, 20 GA. ROLLED EDGE DIE-FORMED STEEL HOUSING, HINGED AND LATCHED FROM EITHER SIDE, ENCLOSED SPRING LOADED CAM LATCH, WHITE REGRESSED ALUMINUM DOOR WITH MITERED CORNERS, PAINTED AFTER FABRICATION.
	LAMP(S):	3 - FO32/841/ECO
	BALLAST(S):	PROGRAM START ELECTRONIC BALLAST, <10% THD
	VOLTAGE:	120/277V MULTI-TAP BALLAST
	INSTALLATION:	RECESSED LAY-IN GRID
	LUMINARE:	COLUMBIA #4PS24-332G-RAA12.125-EBBPRSXXX-PAF-SLL METALUX #2GC8RA-332A125-XXXV-ER82-PAF WILLIAMS #50G-S24-332-R/A12125-XXX-UNV
B	DESCRIPTION:	RECESSED 36" CIRCULAR LENSED FIXTURE. CONTRACTOR SHALL VERIFY COLOR TEMPATURE OF FIXTURE WITH LAMPING OF EXISTING 2X4 FIXTURES SERVING THE CORRIDOR.
	LAMP(S):	LED
	BALLAST(S):	INTEGRAL LED DRIVER
	VOLTAGE:	277V
	INSTALLATION:	REFER TO ARCHITECTURAL DRAWINGS
	LUMINARE:	LUMENWERX #PORO/R-36-ULO-FH-LED-80-5500-XX-277-D-1-XXX-W
C	DESCRIPTION:	6" LED MEDIUM BEAM DOWNLIGHT WITH 50 DEGREE CUT OFF, TWO-STAGE REFLECTOR SYSTEM, DIE-CAST ALUMINUM HOUSING, UNIVERSAL MOUNTING BRACKET, EXTRUDED ALUMINUM HEAT SINK, FLEXIBLE DISCONNECT, INTEGRAL LED DIMMING DRIVER, LED REFLECTOR/POWER MODULE, WIDE BEAM, SEMI-SPECULAR CLEAR, MATTE WHITE SELF-FLANGED LENSED REFLECTOR, HIGH EFFICACY
	LAMP(S):	1 - LED840/13BHO
	BALLAST(S):	LED DIMMING DRIVER 1% TO 100% DIMMING, 120V-277V LUTRON HI-LUME A-SERIES, <10% THD
	VOLTAGE:	120/277V MULTI-TAP DRIVER
	INSTALLATION:	RECESSED
	LUMINARE:	LITHONIA #RVE-40/15-R06AR-277-XXX
D	DESCRIPTION:	LED STRIP FIXTURE FOR ILLUMINATION OF NURSE STATION SURFACE. MOUNT FIXTURE PER ARCHITECTURAL DRAWINGS AND SECTIONS. CONTRACTOR SHALL PROVIDE BOTH LED TAPE LIGHT AS SPECIFIED AND RACEWAY WITH LENS FOR A COMPLETE ASSEMBLY.
	LAMP(S):	INTEGRAL LED
	BALLAST(S):	REMOTE MOUNTED DRIVER LOCATE PER NOTE ON DRAWINGS
	VOLTAGE:	120V
	INSTALLATION:	REFER TO ARCHITECTURAL DRAWINGS
	LUMINARE:	VOLT LIGHTING #PH41K-24V
		ALTERNATE AS ALLOWED BY ARCHITECT.
EX, EX-R	DESCRIPTION:	DEVICES MARKED AS EX ARE EXISTING TO REMAIN AND DEVICES LABELED EX-R ARE EXISTING TO BE RELOCATED WITHIN PROJECT SCOPE. CONTRACTOR SHALL CLEAN AND RELAMP ALL FIXTURES WITH THIS LABEL.
	LAMP(S):	EXISTING
	BALLAST(S):	EXISTING
	VOLTAGE:	EXISTING
	INSTALLATION:	EXISTING
	LUMINARE:	EXISTING
U	DESCRIPTION:	SOLID FRONT LED UNDERCABINET LIGHT, 20 GA. STEEL HOUSING, PLIABLE NON-YELLOWING FLAT P-12 PRISMATIC ACRYLIC LENS, 1'-0", 2'-0", 3'-0", OR 4'-0" AS REQUIRED, PAINTED AFTER FABRICATION. CONTRACTOR SHALL PROVIDE VARYING LENGTHS AS REQ'D BY ARCH. DETAILS AND ELEVATIONS TO RUN FIXTURES END TO END CONTINUOUSLY MAXIMIZING LENGTHS.
	LAMP(S):	1-3000K LED AS REQUIRED
	BALLAST(S):	INTEGRAL LED DRIVER
	VOLTAGE:	120V - PROVIDE WITH ROCKER SWITCH UNLESS A SWITCH IS SHOWN ON PLANS.
	INSTALLATION:	SURFACE
	LUMINARE:	HEALTHCARE-LIGHTING #HUC5 (12)(23)(35)(45) 120 LED30



05 GFCI RECEPTACLE - WIRING DIAGRAM
NO SCALE

Framing Members of suspended ceiling systems used to support luminaires shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Luminaires shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing member(s) and luminaire(s) shall also be permitted. 410.36 (B) 2014 NEC



06 LAY-IN FIXTURE MOUNTING DETAIL
NO SCALE

In indoor locations in other than dwellings and associated accessory structures, fluorescent luminaires that utilize double ended lamps and contain ballast(s) that can be serviced in place shall have a disconnecting means either internal or external to each luminaire. 410.130 (G)(1) 2014 NEC

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COLORADO LICENSED PROFESSIONAL ENGINEER 43260 7/15/16

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Sheet Title:
ELECTRICAL DETAILS

Sheet Number
E.601

CONTRACT & IP PROPERTY OF PATH21 ARCHITECTURE

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