January 30, 2019 BOARD OF COUNTY COMMISSIONERS ORANGE COUNTY, FLORIDA Y19-725-JS / ADDENDUM # 3 ORANGE COUNTY CONVENTION CENTER WEST BUILDING HALL "A" NATURAL GAS RETROFIT

Bid Opening Date: February 12, 2019

This addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to and shall take precedence over the original documents. <u>Underlining</u> indicates additions, deletions are indicated by strikethrough.

- A. The Bid Opening Date has changed from February 5, 2019 to February 12, 2019.
- B. The following are questions/responses/clarifications:
 - 1. Revision to Part G.3. CONSTRUCTION SCHEDULE.

The following are considered non-work days for year 2019.

Hall A1 and Hall A2

March: 15 thru 25; 28 thru 31. April: 7 thru 11; 27 thru 30. May: 1 thru 5: 10 thru 24. June: 6 thru 17. July: 1 thru 9; 17 thru 21; 27 thru 31. August: 1 thru 5; 29 thru 31.

Hall A3

March: 15 thru 29. April: 3 thru 11; 27 thru 30. May: 1 thru 5: 25 thru 31. June: 1 thru 17; 20 thru 28. July: 27 thru 31. August: 1 thru 5; 29 thru 31.

Hall A4

March: 1 thru 11; 15 thru 29. April: 3 thru 15; 27 thru 30. May: 1 thru 5: 25 thru 31. June: 1 thru 17; 20 thru 28. July: 27 thru 31. August: 1 thru 5; 29 thru 31.

Hall B1

March: 1 thru 11; 15 thru 29. April: 12 thru 15; 27 thru 30. May: 1 thru 5: 16 thru 31. June: 1 thru 17; 20 thru 28. July: 27 thru 31. August: 1 thru 5; 29 thru 31.

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2. Revision to Part G.3. - CONSTRUCTION SCHEDULE.

NOTE: The "non-construction work days" listed above are included in the number of consecutive calendar days for Substantial and Final Completion dates. Per the "non-construction work days" listed above, the Construction Schedule will be extended 70 days so the contractor can account for the non-work days for Substantial and Final Completion dates.

3. Revision to Part G.9. – LICENSES/PERMITS/FEES.

NOTE: Building Permit Number: <u>"To be provided upon award of the contract</u> to General Contractor" <u>B19900158</u>

4. No new Expansion/V Loop compensators Depicted.

Response: Expansion loops have been added to the drawings. Refer to revised sheets included with the addendum.

5. Should new roofing system information be included?

Response: A clarification has been included with the addendum for the contractor to refer to the Owner for recent roof warranty information for all new roof penetrations as part of this project.

6. What is the raceway for new power circuits for EGO buttons?

Response: General note #23 was revised as part of the addendum.

7. Keynote for EGO-7A1 is missing.

Response: Keynotes have been updated accordingly as part of the addendum.

8. Symbol for EGO-7A1 is missing.

Response: Symbols have been updated accordingly as part of the addendum.

9. GV-4D, what is the existing EGO control Scheme?

Response: Sheet note #2 was revised as part of the addendum.

10.GV-4D, does this require upsizing existing circuiting/breakers?

Response: A circuit breaker upsize is not required.

11. Are the electronic gas valves (EGV) intrinsically safe?

Response: Solenoid gas valves shall be intrinsically safe. Contractor is to provide solenoid valves rated as "intrinsically safe" by the valve manufacturer. Manufacturers shall be equal to those listed in 231123, Part 2.5B. Contractor shall submit valve shop drawings to engineer for approval.

12. Dashed v. Solid owner provided lines?

Response: This is a line type difference in AutoCAD. Both represent the same extensions of the Owner-provided flexible piping.

13.New Gas lines cross existing building expansion joints, no expansion joints depicted.

Response: Expansion loops have been added to the drawings. Refer to revised sheets included with the addendum.

14. Are ¹/₂" ports on manifolds required to be plugged per contract?

Response: The detail on Sheet P-001 has been revised to include caps as part of the addendum.

15. EGV not shown on plumbing drawings

Response: The gas solenoid valves are shown on the plumbing drawings. These are electric by design.

16. Welded V. threaded connections

Response: Welded piping is not required.

17. Access/work clearances for work on Gas Manifolds

Response: Clearance has been provided per existing manifold setups within the Hall B catwalks.

18. Requirement for mandatory 3rd party Security?

Response: Third-party security is not required. A clarification has been included with the addendum.

19.A: Division 09 "sections for painting interior and exterior natural-gas piping" is not included in specifications.

Response: Specification has been updated as part of the addendum.

20. A: Normally required to paint systems piping black, this indicates requirement to be painted yellow? Is this required?

Response: Specification has been updated as part of the addendum.

21.A: Pipes requirements for Threaded V. Welded, how are adapters addressed?

Response: Welded piping is not required.

22. Requirement for Pipe dope/PTFE, product data?

Response: Part 2.3 says that joint compound materials and tape shall be suitable for natural gas.

C. ATTACHMENTS:

- 1. Revised IFB, Part G, Item #3 and Item #9.
- 2. <u>Revised Plumbing Drawing Sheets</u>: P-001, P-407D, P-411A, P-411B, P-411C, P-412A AND P-801 & <u>Revised Electrical Drawing Sheets</u>: E-001, E-207A, E-209B, E-407A.
- 3. Revised Spec Section 010100, Part 1.11.A.
- 4. Revised Spec Section 231123, Parts 3.10. A and 3.10.B.
- D. All other term and conditions of the IFB remain the same.
- E. The Proposer shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of the proposal.

Receipt acknowledged by:

Authorized Signature

Date Signed

Title

Name of Firm

<u>REVISED via Addendum #3</u>: PART G: SUPPLEMENTAL CONDITIONS/SPECIAL PROVISIONS

1. PROJECT DESCRIPTION: <u>Retrofit of natural gas piping within the West Building Exhibit Hall "A"</u> <u>catwalks above the exhibit space to serve the needs on the exhibit floor below in order to provide</u> <u>natural gas utility service connections for exhibitors on the show floor. Piping will connect to the</u> <u>existing natural gas piping terminating at the end of Hall "B" and be extended into Hall "A". Piping</u> <u>shall include solenoid valves for automatic gas supply shut-off via emergency push buttons located</u> <u>in the exhibit floor. The Electrical scope includes new 120v wiring for the natural gas piping</u> <u>electronic valves and emergency shut-off push buttons.</u>

2. SECURITY AND IDENTIFICATION:

- A. A Level 1 (5 years) FDLE Background check for the Contractor's staff and its Subcontractors must be approved by Orange County's Security team prior to working in any County facility. Contractors are responsible for obtaining the necessary forms for background checks for work at the Convention Center. All background checks will be sent to OCCC Project Manager for approval. Contractor's staff and its Subcontractors will not be allowed in Orange County facilities without a completed and approved background investigation. The Convention Center will inform the Contractor of their Background Check results.
- B. Contractor shall be responsible for all costs for background investigations. The County shall have the right to request any additional investigative background information including, but limited to, the employment record, Right-To-Know records, E-Verify system records (if the Contractor uses this service as a means to determine employment eligibility, available through www.uscis.gov), training records, payroll records, position for which hired including site location of any personnel assigned to perform the services. The Contractor shall furnish, in writing, such information to the extent allowed by law, prior to commencement of services. The County reserves the right to conduct its own investigation of any employee of the Contractor.

For security purposes and to maintain privacy when submitting FDLE Background Checks via e-mail the subject line of the email must contain the following **EXEMPT**

- C. Upon Background Check approval, the Contractor's staff shall arrange an appointment with the Convention Center staff to obtain an Orange County photo ID badge. An affidavit of Identity form (issued by the Contractor) and a State of Florida ID or Driver's License will be required from the staff. Cost associated with lost or stolen badges is \$25.00.
- D. The Contractor shall arrange an appointment with OCCC Project Manager to receive, when applicable, keys to the project areas the Contractor requires access. The Contractor shall be responsible for returning all the keys to OCCC Project Manager during the project close-out phase. If any of the keys are lost, the Contractor shall reimburse OCCC for replacement of the core and/or cores associated with the key (s) that was lost. The cost for each core is \$50.00. The Contractor shall also request OCCC parking hang tags for Contractor's staff to park on OCCC designated parking lots during construction work hours. The Contractor shall submit the required forms given by the OCCC Project Manager for the issuance of hang tags. Cost associated with lost or stolen parking hang tags is \$25.00.

3. CONSTRUCTION SCHEDULE: The Convention Center is an occupied and active space that is operational at all times. Availability of the work site is limited due to the Convention Center scheduled show events. During the project, Contractor shall sequence their work to accommodate the scheduled show events. The project site will be available to the Contractor seven (7) days per week. Contractor work hours (night work only) are anticipated to be from <u>9:00 PM to 6:00 AM, exceptions to the work hours must be approved in advance by the County Project Manager</u>. Any permissible work activities during the non-construction work days will be determined at County Project Manager's discretion. With the advance approval of the County Project Manager, specific dates may be coordinated with the Contractor. Owner will provide show schedules, as necessary, to the Contractor. The show schedule will be for informational purposes only. Contractor must obtain approval from the County Project Manager for their work schedule.

The following are considered non-construction work days: OCCC will provide to successful General Contractor. Non-work days are listed in Addendum 3.

Note: The "non-construction work days" listed above are included in the number of consecutive calendar days for Substantial and Final Completion dates. Per the "non-construction work days" listed in Addendum 3, the construction schedule will be extended 70 days so the contractor can account for the non-work days for the Substantial and Final Completion dates.

The County has made every effort to provide the estimated dates for non-construction work days (no construction activity) based on the most current information available; however, the show event schedule is subject to change based on show activities.

In the event that the available scheduled work times/days are cancelled or rescheduled by the Owner, the Contractor may submit a request for additional work times/days, if required to meet the scheduled completion date. This request must be accompanied by adequate justification. If the Contractor is given or requests additional time that includes nights or weekends in order to meet scheduled completion date, no shift differential costs will be allowed.

4. WORK RESTRICTIONS: The Contractor shall be responsible for covering exposed work areas during non-working hours. The work areas shall be covered to prevent visible exposure from all angles of sight. Contractor shall obtain approval from the County Project Manager for covering material prior to installation.

Contractor is responsible for providing their own equipment and method of construction waste disposal. Accessibility for equipment such as scissor lifts or electric powered maintenance carts shall be permitted with limited access areas, as coordinated and approved with the County Project Manager.

Availability of space for staging/lay down area will determine whether County will permit the Contractor to set up a staging area. The County Project Manager will make reasonable staging/storage accommodations on property. Contractor staging area on site will depend on availability of space; however, relocation of staging area may be required during the project.

After completion of the work, the Contactor shall replace or restore to the original condition all affected areas within the project limits. Contractor is required to provide all materials for patching and painting per the finishes information to the County Project Manager.

5. PERSONAL TRANSPORT DEVICES: Personal transport equipment such as rollerblades, razor scooters, skates, hover-boards, and skateboards are not permitted on OCCC premises. However, electric wheelchairs and electric motor vehicles (e.g. Segways[®]) are permitted to operate on OCCC premises.

Contractor shall obtain prior approval from the County Project Manager for operation of electric motor vehicles (e.g. Segways[®]) on the show floor. Safe operating practices shall be used at all times. Segways[®] and electric scooter-style wheelchairs are currently the only personal transport equipment with rubber wheels allowed in OCCC concourses, lobbies, and registration areas. Non-gasoline powered motorized vehicles, such as electric carts and bicycles, may be operated in OCCC's exhibit halls during move-in and move-out days only. Bicycles must be walked, not ridden, across any OCCC concourse, lobby or registration area. All vehicles, transport devices, and equipment must be operated in a safe manner.

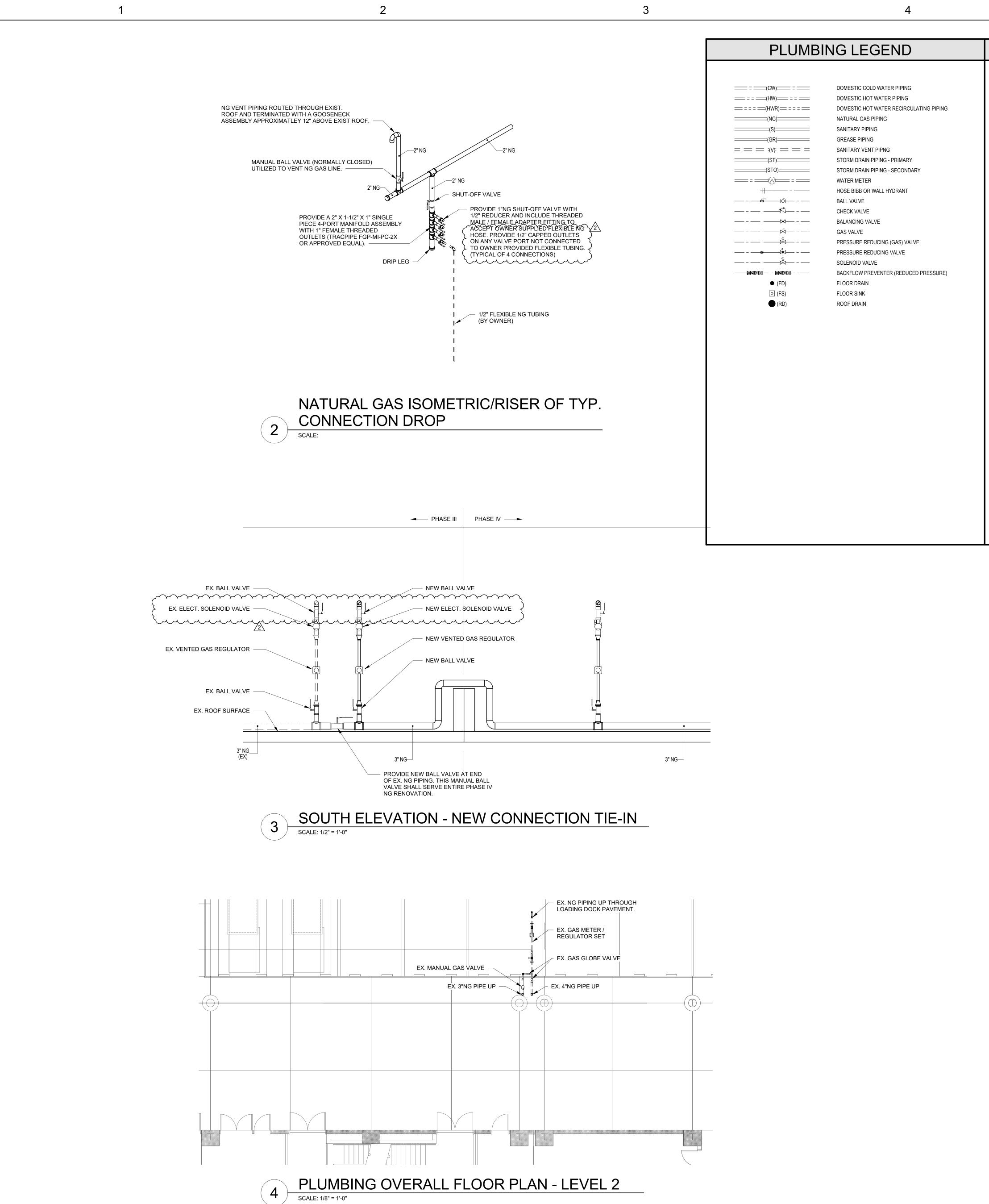
Motorized vehicles, such as personnel carts, forklifts, pallet jacks, and other related motorized vehicles with steel and/or hard metallic wheels are not permitted on the OCCC's concourses, lobbies, and registration areas. Lifts or other wheeled vehicles approved for use in carpeted areas shall have non-marking tires, or tires that are covered with carpet tape or heavy-duty polyethylene sheeting.

- 6. OWNER PROVIDED EQUIPMENT (OPE)/CONTRACTOR INSTALLED: If the Contractor is provided with owner equipment and/or material, Contractor shall install, connect, erect, use, clean and condition, as required, in accordance with the instructions of the applicable manufacturer warranty. Contractor shall schedule and coordinate with the County Project Manager the inspections and delivery of equipment and/or material during normal business hours between 8 am - 5 pm EST. Any request outside of normal business hours would be approved by County Project Manager at least forty-eight (48) hours in advance. Contractor shall inspect the equipment and/or material prior to accepting it. After acceptance, Contractor shall assume and accept full and complete responsibility and liability for the storage, custody, security, care and safe-keeping of the equipment and/or material in the event of theft, pilferage, fire or any other damage or loss until such time as said material and/or equipment is incorporated in the Work, and the Work is completed and accepted by the County. Any delivered equipment/material found to be damaged shall be reported to County Project Manager within 48 hours (via email with pictures and serial number and description of damages). Owner will be responsible for contacting suppliers regarding any warranty issues. After installation, Contractor shall guarantee the workmanship during the equipment/material warranty period.
- 7. CHANGE OF CONTRACT AMOUNT AND CONTRACT TIME: Proposals or Claims for adjustment shall be in accordance to Part F, General Conditions, Article 13. The Contractor shall submit in the form prescribed by the County an itemized cost breakdown together with supporting data. This submittal shall be presented using the OCCC Capital Planning Potential Change Order form (CP_501E) on MS Excel format.

- 8. UTILITY COORDINATION: The Contractor is to coordinate any utility improvements and / or relocations for this project. The Contractor shall not use utility delays as a basis for additional compensation. Contractor shall be responsible for all coordination with utilities and shall cooperate fully with utility companies in the relocation of their facilities.
- 9. LICENSES/PERMITS/FEES: Refer to Part C- Instruction to Bidder, Section 31.
 OCCC will pay for all applicable permits & fees. Contractor shall not include the cost of permits & fees in their bid price.

(INSERT PERMIT NUMBER IF ISSUED) The Orange County Building Division has assigned the following Building Permit Number: <u>"To be</u> <u>provided upon award of the contract." B19900158</u>

10. REQUEST FOR INTERPRETATION/INFORMATION (RFI): The County will require a reasonable amount of time, at least 10 business days, to respond to any RFI submitted by the Contractor. Any delays in responding to the RFI shall not be the basis for reimbursement of any additional compensation, including delay claims.



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PLUMBING ABBREVIATIONS	GENERAL NOTES
	1. REFERENCE THE SPECIFICATIONS FOR MATERIAL AND EQUIPMENT INSTALLATION STANDARDS.
AVV AIR ADMITTANCE VALVE AFF ABOVE FINISH FLOOR	2. THE PLUMBING INSTALLATION SHALL COMPLY WITH ALL STATE AND LOCAL CODES.
AW ACID WASTE AV ACID VENT CA COMPRESSED AIR CD CONDENSATE DRAIN CFH CUBIC FEET PER HOUR CO CLEANOUT	3. PLANS ARE NOT COMPLETELY TO SCALE. PIPE ROUTING SHOWN IS SCHEMATIC AND IS NOT INTENDED TO INDICATE EXACT ROUNTING. CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS REQUIRED FOR PROPER INSTALLATION AND TO MANTAIN CLEARANCES. VERIFY STRUCTURAL, MECHANICAL, AND ELECTRICAL INSTALLATIONS AND OTHER POTENTIAL OBSTRUCTIONS AND ROUTE PIPING TO AVOID INTERFERENCES.
CONT CONTINUATION DCW DOMESTIC COLD WATER	4. PROVIDE ALL OFFSETS AND FITTINGS AND MAKE CONNECTION TO THE SITE UTILITIES.
DHW DOMESTIC HOT WATER DIS DEIONIZED WATER SUPPLY DIR DEIONIZED WATER RETURN	5. CONCEAL PIPING ABOVE CEILINGS, WITHIN WALLS OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED
DN DOWN DS DOWNSPOUT	6. PROVIDE ACCESS PANELS FOR ALL VALVES CONCEALED IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS.
DWG DRAWING EXIST EXISTING ESH EMERGENCY SHOWER/EYEWASH EWH ELECTRIC WATER HEATER	7. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH U/L LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL TO OR EXCEED THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
EWC ELECTRIC WATER COOLER of DEGREE FAHRENHEIT	8. FLASH AND COUNTER-FLASH ROOF PENETRATIONS.
FCO FLOOR CLEANOUT FD FLOOR DRAIN FS FLOOR SINK G GAS	9. WHEN BEAM SLEEVE PENETRATIONS ARE NECESSARY, COORDINATE PENETRATIONS WITH ALL TRADES, AND THE STRUCTURAL ENGINEER. WRITTEN PERMISSION SHALL BE OBTAINED FROM THE STRUCTURAL ENGINEER BEFORE ANY PENETRATIONS ARE MADE.
GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GR KITCHEN WASTE (GREASE)	10. PROVIDE FOUNDATION PAD PENETRATION SLEEVES. ALLOW 1" MINIMUM CLEARANCE BETWEEN SLEEVE INSIDE SURFACE AND PIPE EXTERIOR.
HB HOSE BIBB HD HUD DRAIN	11. SEE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
HWR DOMESTIC HOT WATER RECIRCULATING IE INVERT ELEVATION	12. PROVIDE AUTOMATIC TRAP PRIMERS FOR FLOOR DRAIN TRAP SEALS.
IW INDERECT WASTE KW KILOWATT LBS POUNDS	13. PROVIDE AN AIR GAP, WHEN REQUIRED BY CODE, SERVING INDIVIDUAL FIXTURE, DEVICES, APPLIANCES AND APPARATUS.
LCWLABORATORY COLD WATER LHWLABORATORY HOT WATER	14. MOUNT HOSE BIBBS 24" ABOVE FINISHED GRADE. PROVIDE EACH HOSE BIBBS WITH ISOLATION VALVE.
LHWR LABORATORY HOT WATER CIRCULATING MH MANHOLE NC NORMALLY CLOSED	15. PROVIDE CLEANOUTS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES. INSTALL CLEANOUT WITH COVER FLUSH TO FINISH SURFACE.
NIC NOT IN CONTRACT NO NORMALLY OPEN NTS NOT SO SCALE	16. COORDINATE EXACT FLOOR DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS. SET FLOOR DRAINS BELOW FINISHED FLOOR TO ALLOW FOR FLOOR SLOPING TO THE DRAIN.
OD OUTSIDE DIAMETER PEMB PRE-ENGINEERING METAL BUILDING PRV PRESSURE REDUCING VALVE PSI POUNDS PER SQUARE INCH	17. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMNSTANCES. ANY PIPING RUN OVER PANELS SHALL BE RE-ROUTED AT NO ADDITIONAL COST.
PVC POLYVINYL CHLORIDE PIPE RD ROOF DRAIN RPBP REDUCED PRESSURE BACKFLOW PREVENTOR	18. ALL WALL MOUNTED LAVATORIES SHALL BE ATTACHED TO FLOOR MOUNTED CARRIER DESIGNED TO WITHSTAND A VERTICAL LOAD OF 250 POUNDS OF THE FRONT OF THE FIXTURE.
SAN SANITARY ST STORM DRAIN SF SQUARE FEET SH SHEET	19. PROVIDE SANITARY WASTE, VENT, DOMESTIC WATER, ETC. ROUGH-IN AND MAKE FINAL CONNECTIONS (TO INCLUDE PROVIDING ALL NECESSARY RATED STOPS, VALVES, TRAPS, ETC. AND MAKE READY FOR USE) TO ALL EQUIPMENT, WHETHER FURNISHED NY THIS CONTRACTOR OR FURNISHED BY OTHERS.
STO OVERFLOW STORM DRAIN V VENT VAC VACCUM	20. INSTALL ISOLATION/SHUT-OFF VALVES AT ALL MAIN RISERS AND MAIN BRANCH TAKEOFFS, TO PERMIT ISOLATION OF PIPING SECTIONS OR ENTIRE SYSTEM.
VTR VENT THRU ROOF WCO WALL CLEANOUT WM WASHING MACHINE SUPPLY AND DRAIN BOX	21. PROVIDE RIGID SUPPORT SWAY BRACING AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES ON PIPING 4" AND LARGER.
WTRWATER	22. PROVIDE FIRE WATCH AND INTERIM FIRE PROTECTION MEASURES WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION, INSURANCE CARRIER OR OWNER DURING TIMES OF ANY ACTIVE WELDING EVENTS.
	CODE COMPLIANCE
	1 THESE DRAWINGS ARE PREPARED TO COMPLY WITH CURRENT FLORIDA BUILDING CODE. THE

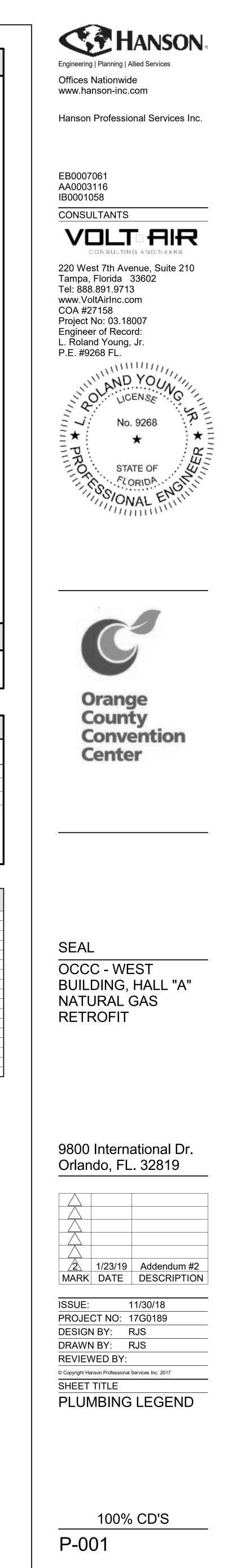
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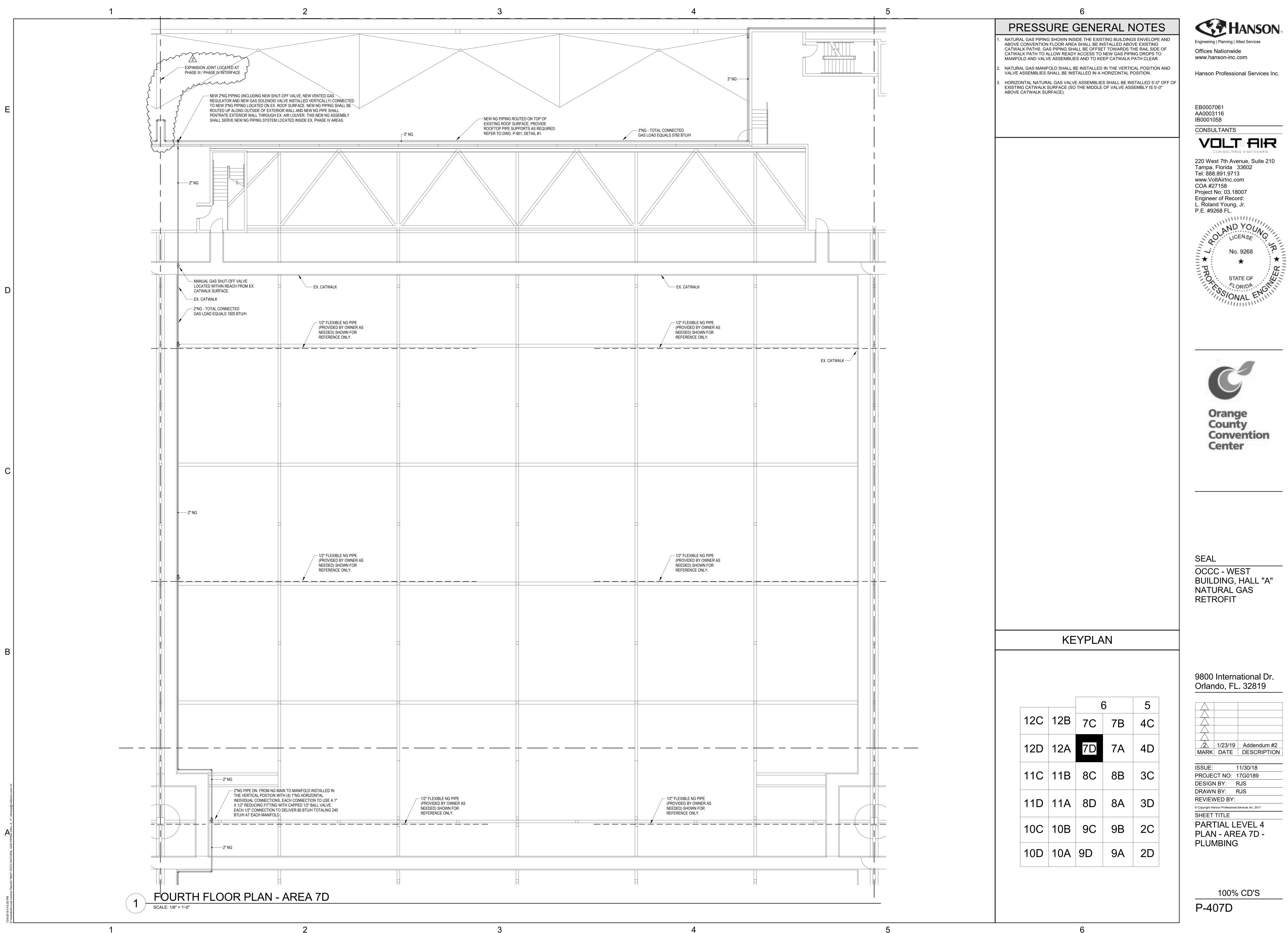
1. THESE DRAWINGS ARE PREPARED TO COMPLY WITH CURRENT FLORIDA BUILDING CODE, THE CURRENT FLORIDA FIRE PREVENTION CODE, AND OTHER SUCH CODES AS MAYBE RFERENCED.

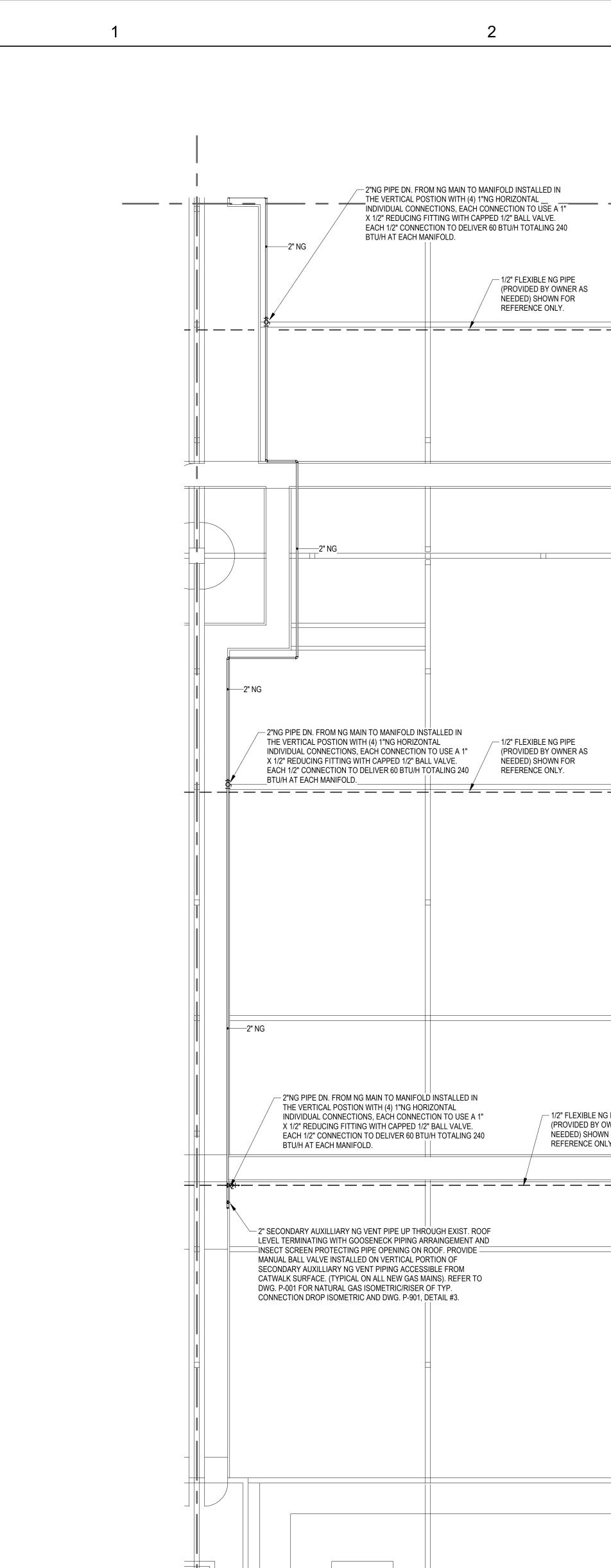
PLUM	BING P	IPING S	CHEDU	ILE
TYPE/LOCATION	DOMESTIC COLD WATER	DOMESTIC HOT WATER	DRAIN, WASTE & VENT	NATURAL GAS
ABOVE GROUND	CPVC	CPVC	PVC	BLACK STEEL
BELOW GROUND	CPVC	CPVC	PVC	BLACK STEEL
EXPOSED (PUBLIC)	TYPE "L" COPPER	TYPE "L" COPPER	TYPE "L" COPPER	BLACK STEEL
NOTES:				

PLUMBING SHEET LIST
NAME

P-001	PLUMBING LEGEND
P-400	LEVEL 4 OVERALL PLAN - PLUMBING
P-407A	PARTIAL LEVEL 4 PLAN - AREA 7A - PLUMBING
P-407D	PARTIAL LEVEL 4 PLAN - AREA 7D - PLUMBING
P-408A	PARTIAL LEVEL 4 PLAN -AREA 8A - PLUMBING
P-408B	PARTIAL LEVEL 4 PLAN - AREA 8B - PLUMBING
P-408C	PARTIAL LEVEL 4 PLAN - AREA 8C - PLUMBING
P-408D	PARTIAL LEVEL 4 PLAN - AREA 8D - PLUMBING
P-411A	PARTIAL LEVEL 4 PLAN - AREA 11A - PLUMBING
P-411B	PARTIAL LEVEL 4 PLAN - AREA 11B - PLUMBING
P-411C	PARTIAL LEVEL 4 PLAN - AREA 11C - PLUMBING
P-411D	PARTIAL LEVEL 4 PLAN - AREA 11D - PLUMBING
P-412A	PARTIAL LEVEL 4 PLAN - AREA 12A - PLUMBING
P-412D	PARTIAL LEVEL 4 PLAN - AREA 12D - PLUMBING
P-801	PLUMBING - NATURAL GAS ISOMETRIC
P-901	PLUMBING DETAILS







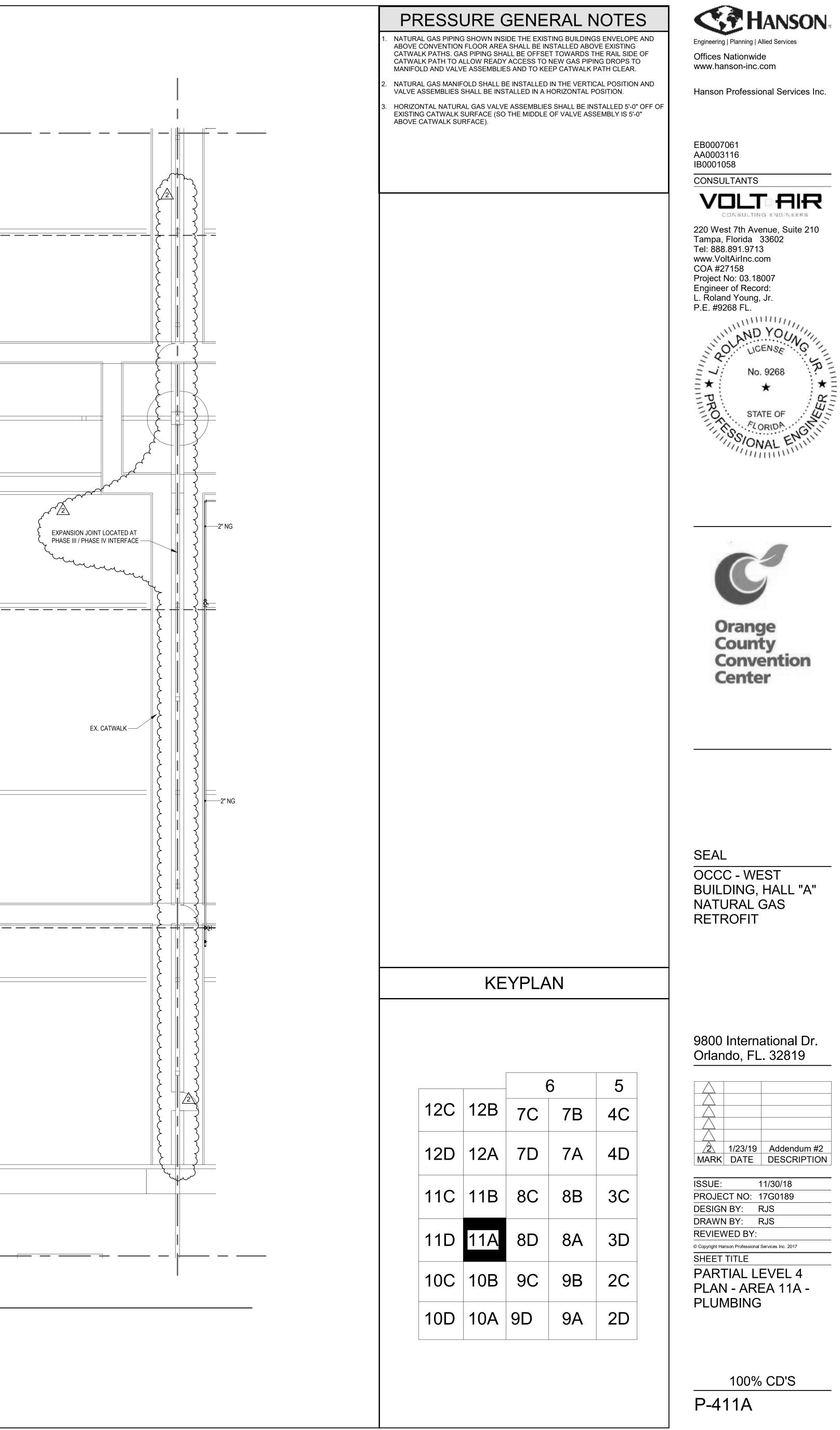
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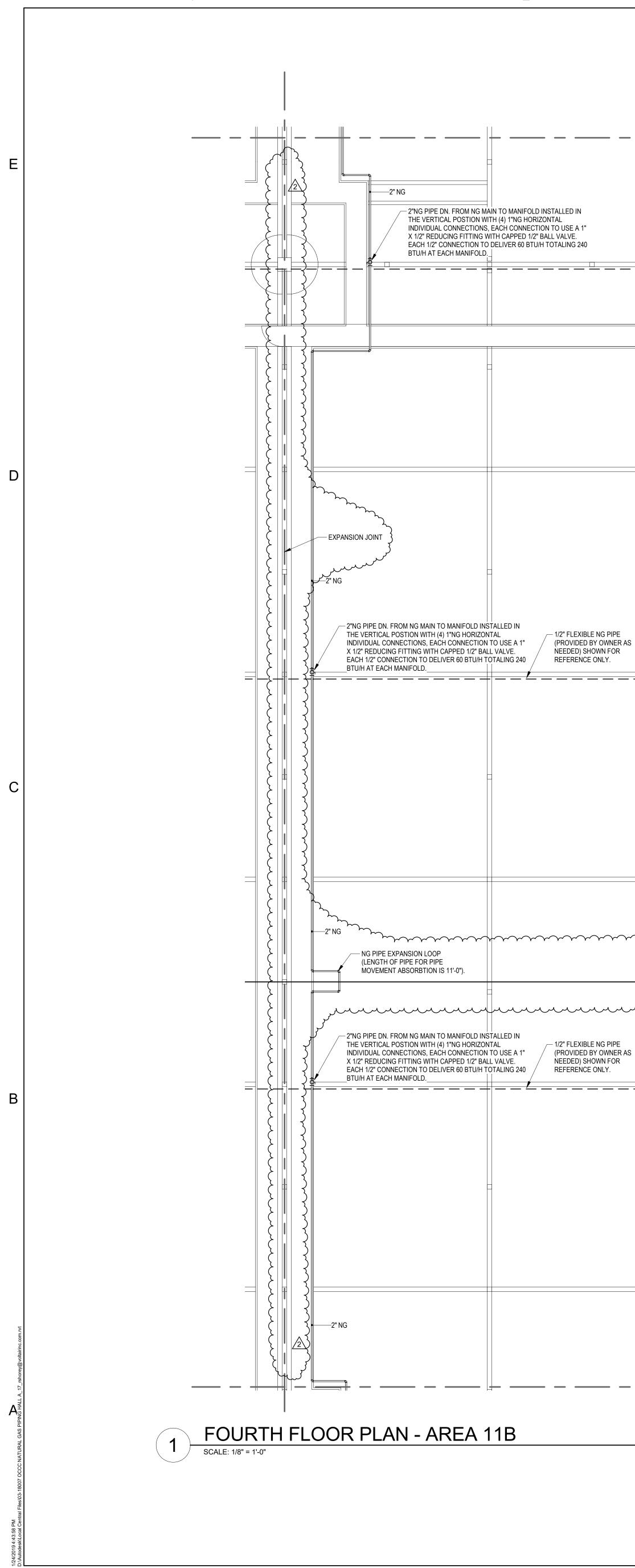
1 FOURTH FLOOR PLAN - AREA 11A SCALE: 1/8" = 1'-0"

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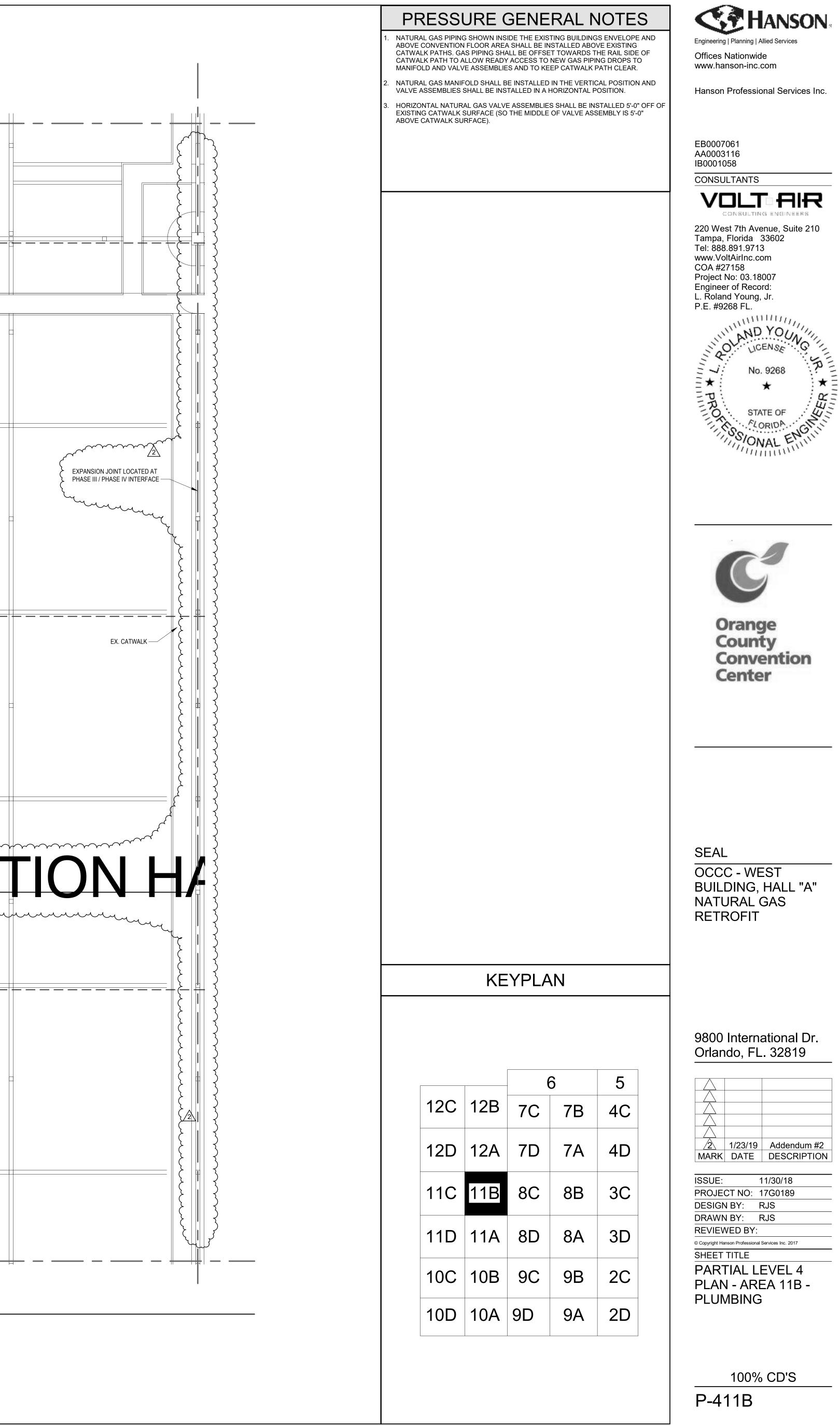
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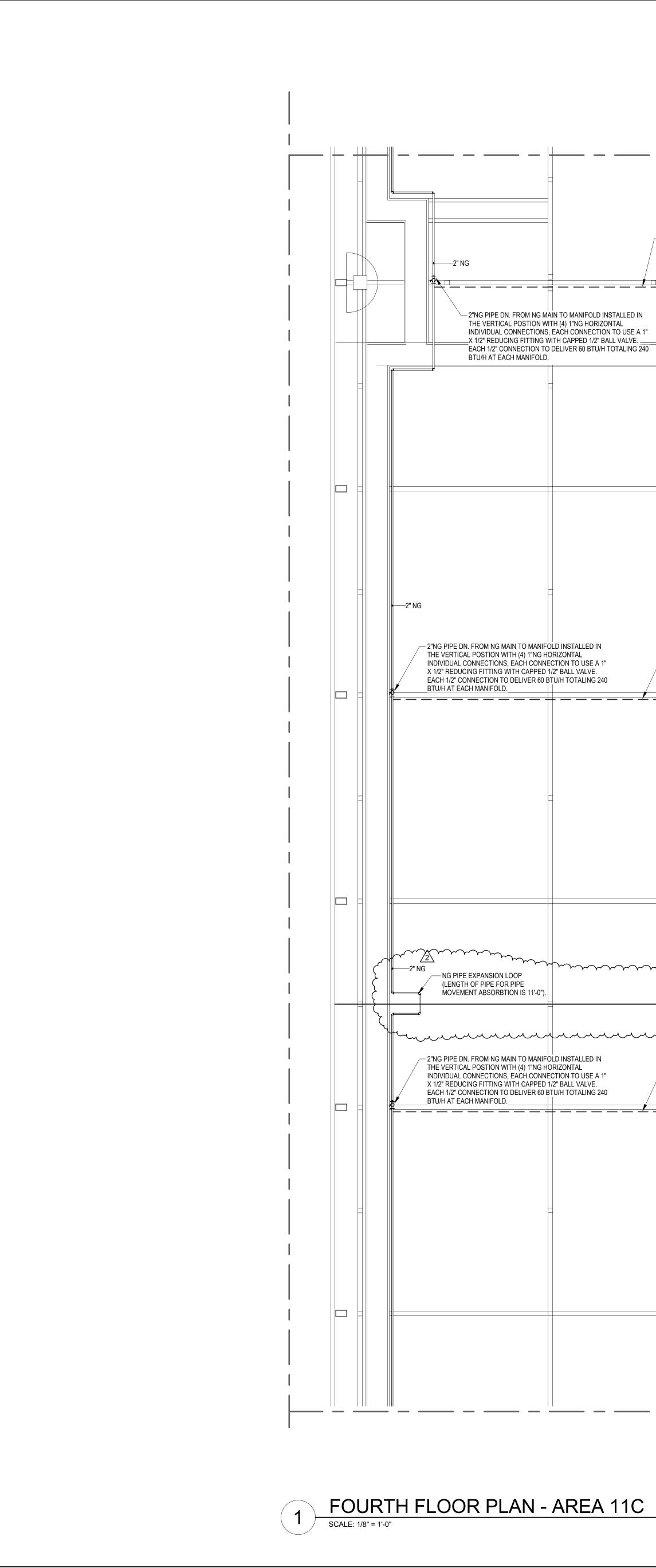
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	- 1/2" FLEXIBLE NG PIPE (PROVIDED BY OWNER AS NEEDED) SHOWN FOR REFERENCE ONLY.	
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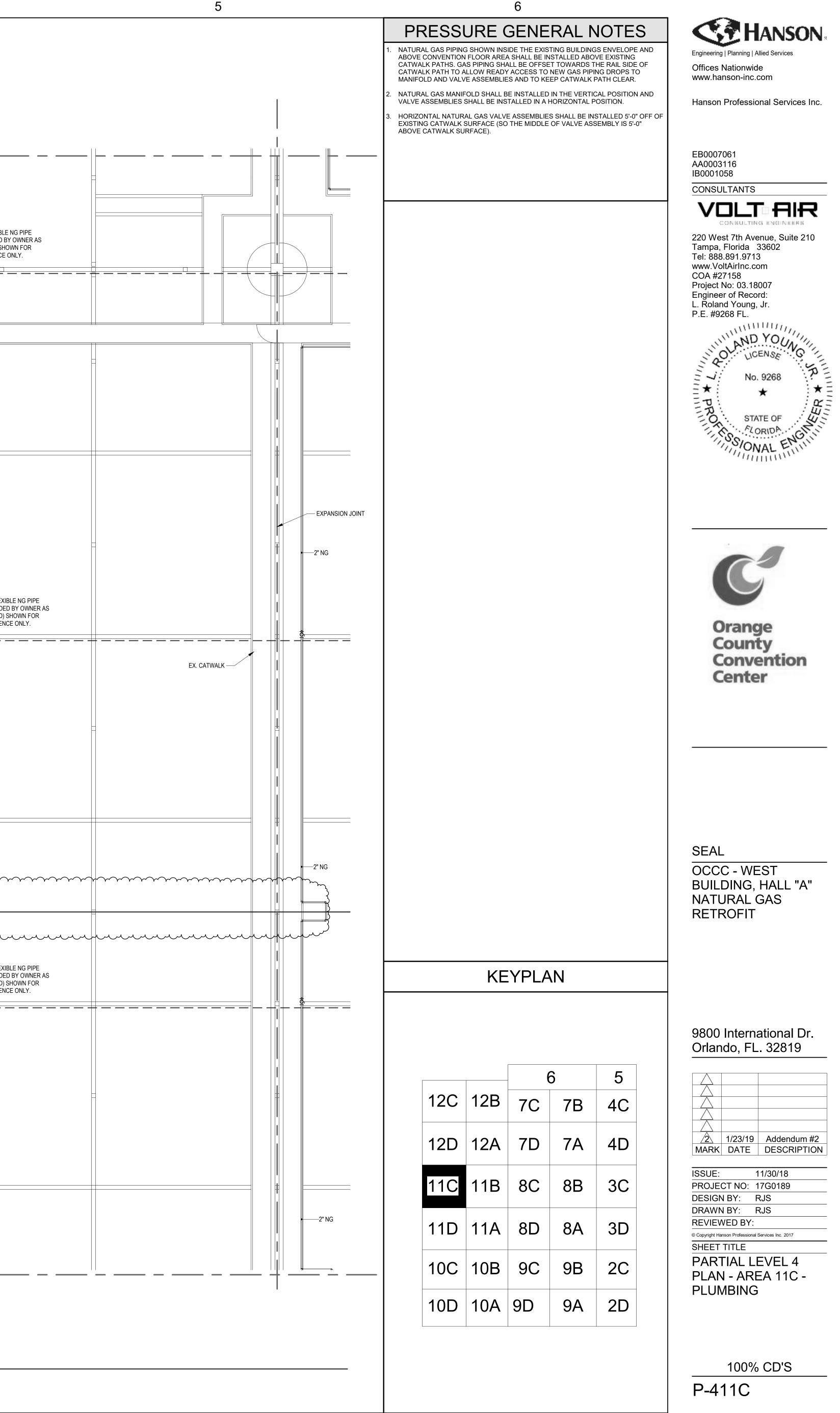


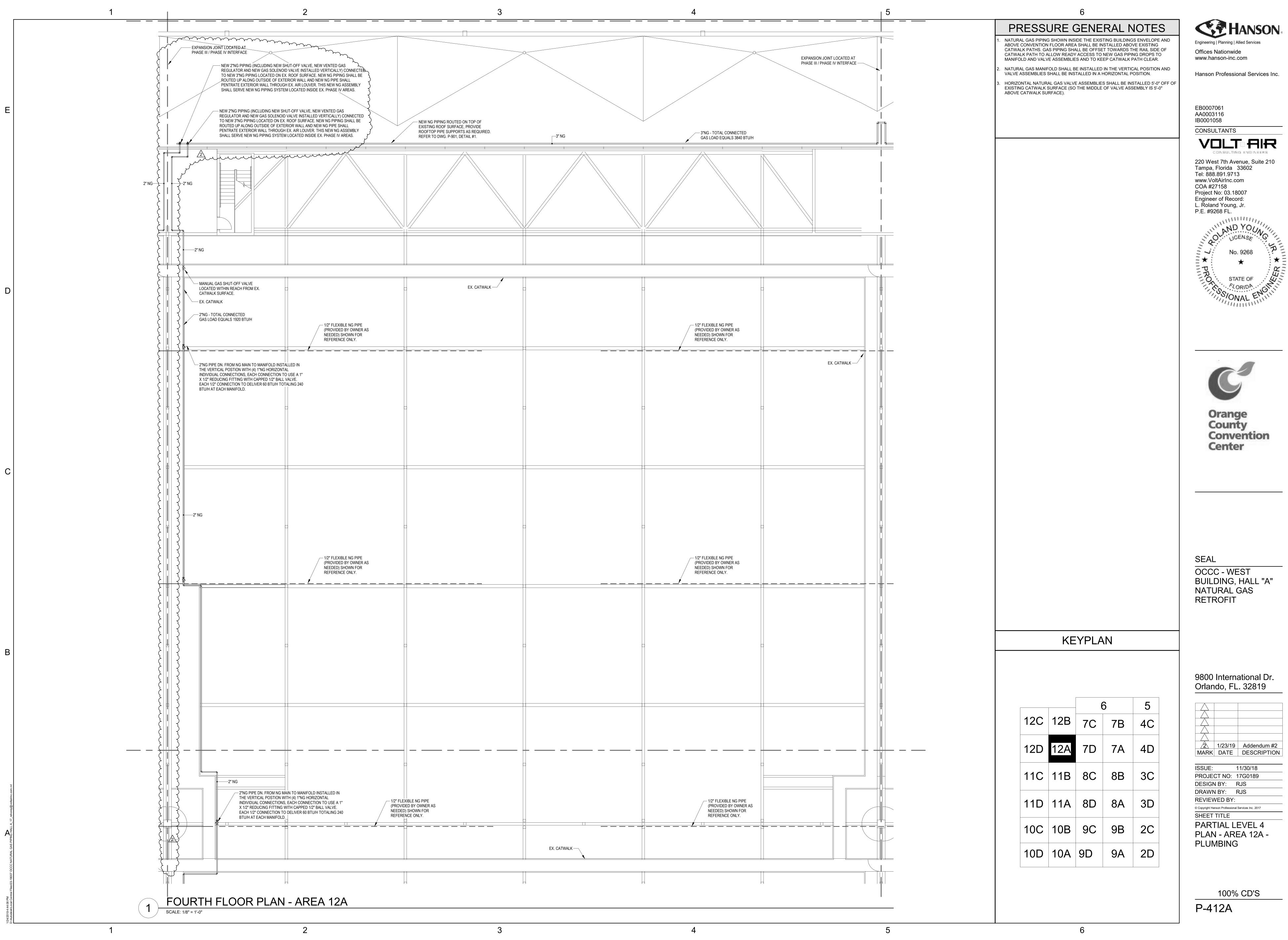
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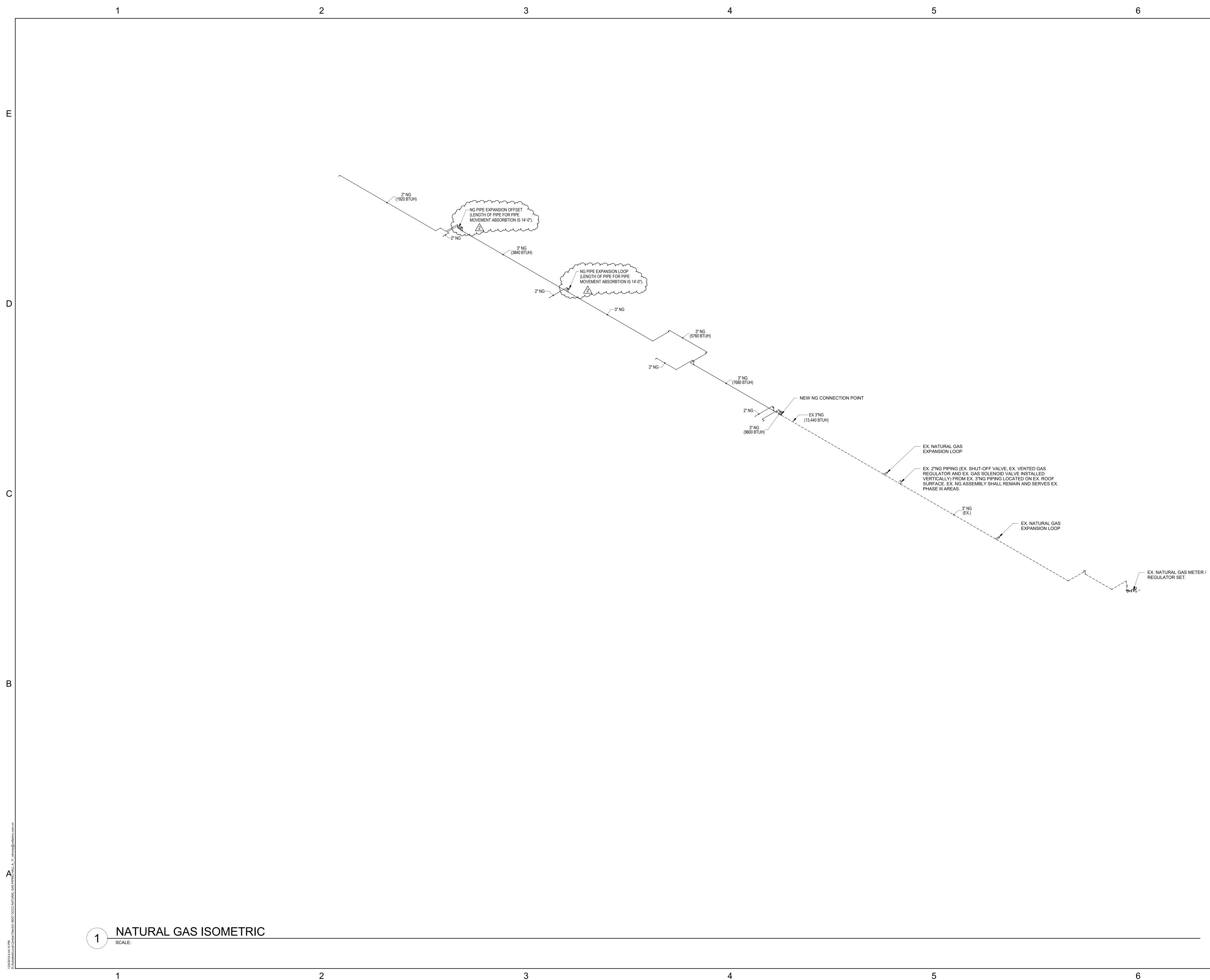
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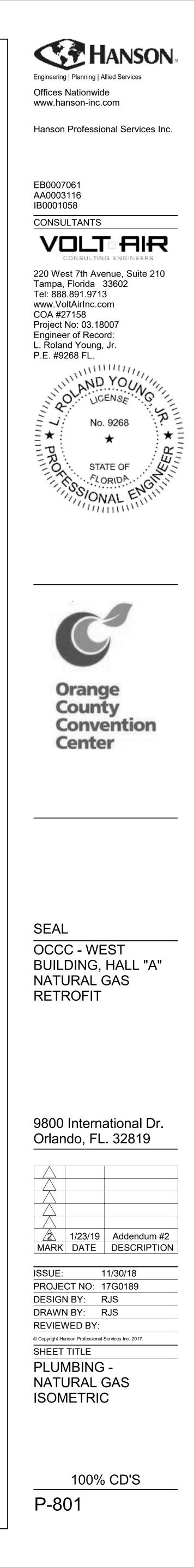
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- 1/2" FLEXIBLE NG PIPE (PROVIDED BY OWNER AS NEEDED) SHOWN FOR REFERENCE ONLY.		
D INSTALLED IN IZONTAL TON TO USE A 1" ' BALL VALVE		
	EX. CATWALK	
N 1/2" FLEXIBLE NG PIPE 1" (PROVIDED BY OWNER AS NEEDED) SHOWN FOR 240 REFERENCE ONLY.		- 1/2" FLEXIBL (PROVIDED I NEEDED) SH REFERENCE
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N 1/2" FLEXIBLE NG PIPE 1" (PROVIDED BY OWNER AS NEEDED) SHOWN FOR 240 REFERENCE ONLY.	mmmm	- 1/2" FLEXIBL (PROVIDED I NEEDED) SH REFERENCE









	AC - ALTERNATING CURRENT A/C - AIR CONDITIONING ABCLG - ABOVE CEILING	IDF - INTERMEDIATE DISTRIBUTION FRAME IN - INCHES			LIGHTING
Е	AFF - ABOVE FINISHED FLOOR AFG - ABOVE FINISHED GRADE AHU - AIR HANDLING UNIT AL - ALUMINUM APPROX - APPROXIMATELY ASC - APPLICATION SPECIFIC CONTROLLE ATC - AUTOMATIC TEMPERATURE CONTR ATS - AUTOMATIC TRANSFER SWITCH BG - BELOW GRADE BLDG - BUILDING °C - DEGREES CENTIGRADE/CELSIUS C - CONDUIT CB - CIRCUIT BREAKER CCTV - CLOSED CIRCUIT TELEVISION CONC - CONCRETE COND - CONDUCTOR CT - COOLING TOWER dB - DECIBELS D/D - DUSK TO DAWN	OL MCA - MINIMUM CIRCUIT AMPACITY MDF - MAIN DISTRIBUTION FRAME MH - MANHOLE MIN - MINIMUM MLO - MAIN LUGS ONLY MTD - MOUNTED MGV - MAIN GAS VALVE NC - NORMALLY CLOSED NIC - NOT IN CONTRACT NF - NON-FUSED NL - NIGHT LIGHT NO - NORMALLY OPEN NTS - NOT TO SCALE OAU - OUTDOOR AIR HANDLING UNIT	AS NOTED AS NOTED		DESCRIPTION SURFACE INCANDESCENT LIGHT SURFACE H.I.D. LIGHT WALL MOUNTED FLOODLIGHT RECESSED LIGHT RECESSED LIGHT - EMERGENCY LIGHT FIXT POLE MOUNTED LIGHT FLUORESCENT FIXTURE FLUORESCENT STRIP FIXTURE SHADING INDICATES EMERGENCY LIGHT FIX FLUORESCENT FIXTURE, WALL MOUNTED EMERGENCY BATTERY LIGHT EXIT SIGN
D	DN - DOWN EDH - ELECTRIC DUCT HEATER EF - EXHAUST FAN ELEC - ELECTRIC OR ELECTRICAL EM - EMERGENCY EPO - EMERGENCY POWER OFF EWC - ELECTRIC WATER COOLER EWH - ELECTRIC WATER HEATER EX - EXISTING EXTR - EXISTING TO REMAIN *F - DEGREES FAHRENHEIT FAAP - FIRE ALARM ANNUNCIATOR PANEL FACP - FIRE ALARM CONTROL PANEL FACP - FIRE ALARM TERMINAL CABINET FCU - FAN COIL UNIT FLA - FULL LOAD AMPS FT - FOOT OR FEET FTU - FAN TERMINAL UNIT GAP - GENERATOR ANNUNCIATOR PANEL GFI - GROUND FAULT INTERRUPTING GND - GROUND HP - HORSE POWER HZ - HERTZ (CYCLES PER SECOND)	TTB - TELEPHONE TERMINAL BOARD TTC - TELEPHONE TERMINAL CABINET TYP - TYPICAL UGE - UNDERGROUND ELECTRIC UNO - UNLESS NOTED OTHERWISE	LIGHTING SY 1. "A" INE 2. "a"	<u>(MBOL NOTE</u> - CAPITAL LI DICATES FIXT - LOWER CA	
С	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \end{array} \end{array} \end{array} \end{array} \\ \begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ $	SECTION/DETAIL DESIGNATIONS X = SECTION (LETTER) OR DETAIL (NUMBER) Y = SHEET WHERE DETAIL/SECTION IS REFERENCED Z = SHEET WHERE DETAIL/SECTION IS REFERENCED C = SHEET WHERE DETAIL/SECTION IS REFERENCED EQUIPMENT DESIGNATION TOP = EQUIPMENT TAG BOTTOM = EQUIPMENT NUMBER SHEET NOTE. SEE THE SPECIAL NOTES ON THAT SHEET FOR THE NOTE NUMBER INDICATED IN THE HEXAGON. ROOM NUMBERS DEMOLITION HATCHING - INDICATES ITEMS TO BE REMOVED UNLESS OTHERWISE NOTED ITEMS SHOWN DASHED AND RELATIVELY LIGHT ARE EXISTING UNLESS NOTED OTHERWISE REVISION CLOUD AND REFERENCE NUMBER CENTERLINE NEOTERLINE	PP2	E EX 5-8c RO E SH -6 EX AR -6 EX AR -6 CO 3 TH -1 3 W 0600 WA -6 DIN WA	SHT FIXTURE LABELING. "PP2" INDICATES PANE VITCHING, "A" INDICATES FIXTURE TYPE, "P" IND W DIMMING, "P2" INDICATES THE SECOND ROW IT LIGHTS. STEM INDICATES WALL MOUNTING. ADED AREA INDICATES ILLUMINATED FACE(S). I ILLUMINATED FACE(S). THE CIRCUIT DESIGNA AMPLE: THE WALL MOUNTED EXIT LIGHT TYPE ROW IS CONNECTED TO CIRCUIT 6 IN PANEL PI VICES. "PP2" INDICATES PANEL, "6" INDICATES APPLICABLE) IS INDICATES PANEL, "6" INDICATES APPLICABLE) IS INDICATED BY A LOWER CASE ONNECTED TO CIRCUIT 6 IN PANEL PP2 AND ONI E CONTROL DEVICE DESIGNATION IS INDICATE VAY SWITCH "d" TO CONTROL LIGHTING FIXTUR ALL BOX DIMMER WITH SIZE AS INDICATED AT D MER TO CONTROL LIGHTING FIXTURES INDICA ATTAGE IF NOT INDICATED.
		NUTE. SUN		IDUL	

ABBREVIATIONS

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		3			4		
		ELECTRIC	AL SYN	MBOL LEC	GEND		
	D	EVICES		RACE	WAY & CONDUCT	ORS	-
FIXTURE IT FIXTURE ED BOL DULE.	HT AFFSYMBOL $18"$ \leftrightarrow $48"$ \leftarrow $48"$ \leftarrow $48"$ \leftarrow $48"$ \frown $2 - \circ$ AS NOTED $1 - •$ \circ $2 - \circ$ AS NOTED $1 - •$ \circ $2 - \circ$ AS NOTED $1 - •$ \circ $2 - \circ$ AS NOTED $1 - •$ \circ $2 - \circ$ AS NOTED $1 - •$ \circ $2 - •$ AS NOTED $1 - •$ \circ $72"**$ \boxtimes $72"**$ \boxtimes $72"**$ \square AS NOTED \frown $72"**$ \square $18"$ \frown $18"$ \bullet <th>DESCRIPTION SINGLE RECEPT DUPLEX RECEPT SPLIT DUPLEX RECEPT ISOLATED GROUND RECEPT (DUPLEX RECEPT ON EMERGENCY CKT (DUPLEX RECEPT ON EMERGENCY CKT (DUPLEX FOURPLEX RECEPTACLE ON EMERGE 240 VOLT RECEPT FLOOR RECEPT (DUPLEX SHOWN) RECEPT ON DROP CORD (DUPLEX SHO RECEPT ON CORD REEL (DUPLEX SHO EQUIPMENT PLUG EMERGENCY GAS SHUT-OFF STATION SPECIAL RECEPT OR CONN (SEE SCHE JUNCTION BOX PULL BOX MOTOR (SEE SCHEDULE) DAMPER MOTOR MANUAL MTR STR (W/OVERLOADS) MAG MOTOR STARTER OR CONTACTO COMB. MOTOR STARTER (NON-FUSED COMB MOTOR STARTER (FUSED) SAFETY DISC SW (FUSED) BUS DUCT WITH PLUG UN DISCONNEO RELAY ENCLOSED CIRCUIT BREAKER PRESSURE SWITCH FLOAT SWITCH MULTIOUTLET ASSEMBLY MULTIOUTLET ASSEMBLY MULTIOUTLET ASSEMBLY POWER POLE (OPEN OFFICE STYLE) STATIC GROUND RECEPTACLE GAS SOLENOID VALVE</th> <th>EX SHOWN) ENCY CIRCUIT OWN) DWN) I EDULE) LE)</th> <th>HT AFF SYMBOL</th> <th>DESCRIPTION CONDUIT CONCEALED IN WALL OR OVERHEAD CONDUIT CONCEALED BELOW FLOOR CONDUIT EXPOSED SURFACE RACEWAY CONDUIT TRANSITION UP CONDUIT TRANSITION DOWN CONDUIT STUBBED OUT LOW VOLTAGE POWER WIRING EXISTING CONDUIT UNDERGROUND ELECTRICAL UNDERGROUND ELECTRICAL UNDERGROUND TELEPHONE UNDERGROUND TELEPHONE UNDERGROUND CABLE TELEVISION (CATV OR UNDERGROUND FIBER OPTIC OVERHEAD ELECTRIC OVERHEAD TELEPHONE BRANCH CIRCUIT HOME RUN (NUMBER AND 3, 5 SIZE OF CONDUCTORS AS PER N.E.C NUMBERS DENOTE PANEL AND CIRCUIT) FLEXIBLE CONDUIT OR FIXTURE WHIP UNDERFLOOR RACEWAY SYSTEM CABLE TRAY (TYPE DENOTED) CONDUIT SLEEVE (SIZE DENOTED)</th> <th></th> <th></th>	DESCRIPTION SINGLE RECEPT DUPLEX RECEPT SPLIT DUPLEX RECEPT ISOLATED GROUND RECEPT (DUPLEX RECEPT ON EMERGENCY CKT (DUPLEX RECEPT ON EMERGENCY CKT (DUPLEX FOURPLEX RECEPTACLE ON EMERGE 240 VOLT RECEPT FLOOR RECEPT (DUPLEX SHOWN) RECEPT ON DROP CORD (DUPLEX SHO RECEPT ON CORD REEL (DUPLEX SHO EQUIPMENT PLUG EMERGENCY GAS SHUT-OFF STATION SPECIAL RECEPT OR CONN (SEE SCHE JUNCTION BOX PULL BOX MOTOR (SEE SCHEDULE) DAMPER MOTOR MANUAL MTR STR (W/OVERLOADS) MAG MOTOR STARTER OR CONTACTO COMB. MOTOR STARTER (NON-FUSED COMB MOTOR STARTER (FUSED) SAFETY DISC SW (FUSED) BUS DUCT WITH PLUG UN DISCONNEO RELAY ENCLOSED CIRCUIT BREAKER PRESSURE SWITCH FLOAT SWITCH MULTIOUTLET ASSEMBLY MULTIOUTLET ASSEMBLY MULTIOUTLET ASSEMBLY POWER POLE (OPEN OFFICE STYLE) STATIC GROUND RECEPTACLE GAS SOLENOID VALVE	EX SHOWN) ENCY CIRCUIT OWN) DWN) I EDULE) LE)	HT AFF SYMBOL	DESCRIPTION CONDUIT CONCEALED IN WALL OR OVERHEAD CONDUIT CONCEALED BELOW FLOOR CONDUIT EXPOSED SURFACE RACEWAY CONDUIT TRANSITION UP CONDUIT TRANSITION DOWN CONDUIT STUBBED OUT LOW VOLTAGE POWER WIRING EXISTING CONDUIT UNDERGROUND ELECTRICAL UNDERGROUND ELECTRICAL UNDERGROUND TELEPHONE UNDERGROUND TELEPHONE UNDERGROUND CABLE TELEVISION (CATV OR UNDERGROUND FIBER OPTIC OVERHEAD ELECTRIC OVERHEAD TELEPHONE BRANCH CIRCUIT HOME RUN (NUMBER AND 3, 5 SIZE OF CONDUCTORS AS PER N.E.C NUMBERS DENOTE PANEL AND CIRCUIT) FLEXIBLE CONDUIT OR FIXTURE WHIP UNDERFLOOR RACEWAY SYSTEM CABLE TRAY (TYPE DENOTED) CONDUIT SLEEVE (SIZE DENOTED)		
VICE OR EQUIPMEN	NT UNLESS OTHERWISE NOTED. DEVI ** DISTANCE TO TOP OF EQUIF			PERABLE PART HIGHER TH	HAN 48". DEVICES MAY BE INSTALLED IN CONCRE	TE MASONRY UNITS	
" INDICATES DAYLIC ROW DIMMING, (TY E(S). ARROW INDIC GONATION IS INDICA YPE "E" WITH SINGL EL PP2. ATES THE CIRCUIT N CASE LETTER. EXAN D ONE RECEPTACLE	ES CIRCUIT NUMBER(S), "c" INDICATES GHT HARVESTING, "P1" INDICATES THE /PICAL FOR ALL LIGHT FIXTURE SYMBC ICATES CEILING MOUNTING. ATES DIRECTIONAL ARROW ATED BY A NUMBER. LE FACE AND DIRECTIONAL NUMBER(S). THE SWITCH DESIGNATIO MPLE: SPLIT DUPLEX RECEPTACLE IS E OUTLET IS CONTROLLED BY SWITCH & CASE LETTER. EXAMPLE: BY "d".	FIRST DLS). T1 N	ELECTRIC HEATE FOLLOWING THE ELECTRICAL REG NUMBER(S) ADJA TYPE "H1" CONNE TRANSFORMERS THE UPPER CASE DIAGRAM FOR TH TRANSFORMER T PANELBOARDS. RECESSED PANE MOTOR CONNEC CHARACTERS AD SCHEDULE FOR T CIRCUIT DESIGNA	UPPER CASE LETTER "H". UIREMENTS. THE CIRCUIT CENT TO THE HEATER. EX CTED TO CIRCUITS 7, 9. THE TRANSFORMER TYP LETTER "T". SEE THE TRANSFORMER DESCRI YPE "T1". PANELBOARD DOORS MAY LBOARDS. SEE PANELBOAT TIONS. THE MOTOR IS IND JACENT TO THE MOTOR S THE MOTOR DESCRIPTION	EATER TYPE IS INDICATED BY A NUMBER SEE THE HEATER SCHEDULE FOR T DESIGNATION IS INDICATED BY A XAMPLE: ELECTRIC BASEBOARD HEATER PE IS INDICATED BY A NUMBER FOLLOWING ANSFORMER SCHEDULE OR THE SINGLE LINE IPTION AND REQUIREMENTS. EXAMPLE: Y BE SHOWN TO INDICATE OPENING SIDE OF ARD IDENTIFICATION FOR DESIGNATION CODES. DICATED BY A NUMBER WITHIN OR SYMBOL. SEE THE MOTOR AND EQUIPMENT AND ELECTRICAL REQUIREMENTS. THE NUMBER(S) ADJACENT TO THE SYMBOL.	RP2-1,3,5	
	PLE: 600 WATT WALL BOX EE SPECIFICATIONS FOR						

LECTRICAL LEGEND MAY NOT APPLY TO THIS PROJECT.

5	6
	ELECTRICAL GENERAL NOTES
EQUIPMENT	 ALL ELECTRICAL WORK SHALL COMPLY WITH THE 2014 NATIONAL ELECTRICAL CODE, THE FLORIDA BUILDING CODE, THE NATIONAL FIRE CODES, STATE REQUIREMENTS AND ALL APPLICABLE LOCAL CODES AND ORDINANCES. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ALL REQUIREMENTS NOT INDICATED ON THE DRAWINGS.
72"** CIRCUIT BREAKER PANEL 72"** POWER OR DISTRIBUTION PANEL 72"** SPECIAL CABINET T1 TRANSFORMER (TYPE DENOTED)	3. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. ANY ITEMS WHICH ARE CLEARLY NECESSARY FOR THE COMPLETION OF THE WORK OR ITS APPURTENANCES SHALL BE CONSIDERED A PORTION OF THE WORK AND SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR EVEN THOUGH NOT DIRECTLY SPECIFIED.
STRUCT THE TOP OF THE DEVICE AT 4*.	4. THE PLANS AND SPECIFICATIONS ARE COMPLIMENTARY, AND THAT WHICH IS CALLED FOR BY ONE SHALL BE AS BINDING AS IF CALLED FOR BY BOTH. IN THE EVENT THAT THE PLANS AND SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY. ANY DISCREPANCIES IN THE DRAWINGS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE DESIGN PROFESSIONAL PRIOR TO SUBMITTAL OF BID.
	 THE PLANS INDICATE THE GENERAL ARRANGEMENT OF THE WORK TO BE PERFORMED AND ARE DIAGRAMATIC ONLY. ALL DIMENSIONS AND EQUIPMENT LOCATIONS SHALL BE VERIFIED IN THE FIELD. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE
	SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
	 THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PROJECT TO ENSURE THAT ALL WORK SHALL MEET OR EXCEED THE ABOVE REQUIREMENTS. ANY ALLEGED DISCREPANCIES SHALL BE BE BROUGHT TO THE OWNER'S AND ENGINEER'S ATTENTION PRIOR TO THE START OF WORK. THE CONTRACTOR IS DIRECTED TO OBTAIN COPIES OF ALL RELATED PLANS, SPECIFICATIONS, SHOP DRAWINGS AND
	ADDENDUM TO COORDINATE THE RELATED WORK AND SCHEDULING. 9. PROVIDE ACCESS PANELS IN WALLS AND CEILINGS WHERE REQUIRED FOR OPERATION, SERVICING, INSPECTION AND MAINTENANCE OF ALL EQUIPMENT.
	10. VERIFY EXISTING CONDITIONS IN FIELD AND COORDINATE WITH ALL TRADES PRIOR TO INSTALLING OR FABRICATING EQUIPMENT.
	11. DRAWINGS ARE DIAGRAMMATIC IN NATURE. COORDINATE EXACT LOCATION OF ALL CEILING MOUNTED EQUIPMENT SO ALL SERVICEABLE COMPONENTS CAN BE EASILY ACCESSED. REMOVAL OR RELOCATION OF LIGHTING FIXTURES FOR SERVICE ACCESS IS NOT ACCEPTABLE. THE CONTRACTOR SHALL REINSTALL EQUIPMENT THAT HAS INADEQUATE OR UNSAFE ACCESSIBILITY. LOCATE ALL OTHER EQUIPMENT WITH MANUFACTURER RECOMMENDED ACCESS FOR OPERATION AND MAINTENANCE.
	12. PRIOR TO BID, COORDINATE ALL ELECTRICAL WORK WITH MECHANICAL WORK AND OTHER TRADES. SEE SPECIFICATIONS FOR REQUIREMENTS.
	 CONTRACTOR SHALL NOT CONCEAL ANY WORK UNTIL INSPECTED BY ELECTRICAL INSPECTOR AND/OR ARCHITECT/ENGINEER. CONTRACTOR SHALL NOTIFY A/E OF A SCHEDULED INSPECTIONTIME WITHIN 72 HOURS. GENERAL CONTRACTOR SHALL NOT CONCEAL WORK UNTIL APPROVED, REGARDLESS OF SCHEDULE. PRIME CONTRACTOR IS RESPONSIBLE TO HAVE LICENSED AND QUALIFIED SUBCONTRACTORS PERFORMING ALL WORK.
	 ALL CHANGES MADE IN THE FIELD SHALL BE RECORDED BY THE CONTRACTOR(S) ON AS-BUILT DRAWINGS, SHOP DRAWINGS, AND IN MAINTENANCE MANUALS. THE SIZE, LOCATION AND ELECTRICAL REQUIREMENTS AND SERVICE CLEARANCES OF EQUIPMENT INSTALLED UNDER DIVISION 26, ELECTRICAL, SHALL BE COORDINATED WITH ALL OTHER TRADES.
UNITS WITH THE TOP OF THE DEVICE AT 48". BELOW CEILING	 17. WHERE CROWDED LOCATIONS EXIST OR WHERE THERE IS A POSSIBILITY OF CONFLICT BETWEEN TRADES, CONTRACTOR SHALL MAKE COMPOSITE DRAWINGS SHOWING THE EXACT LOCATION OF PANELBOARDS, SWITCHBOARDS, TRANSFORMERS, CONDUIT AND EQUIPMENT AND MECHANICAL PIPING, DUCTWORK, AND OTHER ARCHITECTURAL APPURTENANCES. DRAWINGS SHALL BE BASED ON FIELD MEASUREMENTS AND, AFTER CONSULTATION AND AGREEMENT BETWEEN THE TRADES, SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THE WORK.
	 18. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENINGS. 19. ALL BARE METAL SURFACES SHALL BE PRIMED AND PAINTED TO PREVENT ANY RUST, INCLUDING, BUT NOT LIMITED TO, ANGLE FRAMING, UNIT SUPPORTS, MOUNTING HARDWARE, ETC.
	 20. ALL WORK SHALL BE CONSTRUCTED TO MEET ANY PHASING REQUIREMENTS OF THE PROJECT AS MAY BE OUTLINED IN THE DRAWINGS AND/OR SPECIFICATIONS. 21. RACEWAYS AND ELECTRICAL EQUIPMENT HAVE BEEN LOCATED AND ARRANGED TO MINIMIZE THE INTERFERENCE
CIRCUITS ARE SHOWN ADJACENT TO THE HOME RUN ARROW. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE	OF EQUIPMENT WITH THE STRUCTURE. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THE WORK TO BE PERFORMED BY OTHER TRADES AND THE PHYSICAL CHARACTERISTICS OF THE STRUCTURE IN ORDER TO SCHEDULE AND INSTALL EQUIPMENT AND TO MINIMIZE POSSIBLE INTERFERENCE. FAILURE TO PROPERLY COMMUNICATE AND SCHEDULE WORK WITH OTHER TRADES RESULTING IN ADDITIONAL WORK AND MATERIAL, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE MODIFICATIONS REQUIRED TO RESOLVE THE CONFLICT
PANELBOARD RP2; CIRCUITS 1, 3, 5. SPECIAL CONNECTIONS. THE EQUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE	SHALL BE DECIDED BY THE OWNER AND THE COST OF THE MODIFICATIONS SHALL BE BORNE BY THE CONTRACTOR. 22. ALL PANELBOARDS SHALL BE PROVIDED WITH A PRINTED DIRECTORY SHOWING CIRCUIT NUMBERS AND A 1 COMPLETE DESCRIPTION OF EACH DIRECTOR.
CONNECTION. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO	23. MINIMUM TRADE SIZE CONDUIT PERMITTED SHALL BE 3/4 INCH EMT OR RIGID CONDUIT UNLESS NOTED OTHERWISE. CONDUIT SHALL BE SURFACE MOUNTED IN A WORKMANLIKE MANNER WHERE NECESSARY AND SHALL BE PAINTED WITH COLOR TO MATCH EXISTING WALL OR SURFACE CONDITIONS. TYPE AC AND TYPE MC CABLE SHALL NOT BE PERMITTED FOR USE ANYWHERE EXCEPT FOR LIGHTING FIXTURE WHIPS NOT EXCEEDING 6'-0" IN LENGTH.
	24 ALL SECONDARY FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER WITH 600 VOLT INSULATION TYPE THHN, THW OR THWN. (MINIMUM SIZE SHALL BE NO. 12 AWG.) CONTRACTOR SHALL PROVIDE AND INSTALL ALL PHASE (A, B, C, AS REQUIRED) CONDUCTORS, NEUTRAL CONDUCTORS, AND GROUND CONDUCTORS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. NO INDIVIDUAL CONDUCTOR SPECIFICATION SHALL BE CONSTRUED AS REQUIRING ONLY ONE CONDUCTOR. A COMPLETE AND OPERABLE SYSTEM IS INTENDED BY THE CONSTRUCTION DOCUMENTS AND THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY WIRING AND CONDUCTORS AS REQUIRED TO DELIVER A COMPLETE AND OPERABLE ELECTRICAL SYSTEM TO THE OWNER. NO ADDITIONAL
CONDUIT SHOWN WITHOUT SLASH MARKS SHALL CONTAIN 2 # 12 CONDUCTORS IN 3/4" CONDUIT SHOWN WITHOUT SLASH MARKS SHALL CONTAIN 2 # 12 CONDUCTORS IN 3/4" CONDUIT UNLESS SPECIFIC EQUIPMENT REQUIRES A DIFFERENT SIZE. HOME RUN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATION AND CIRCUITS ARE SHOWN ADJACENT TO THE HOME RUN ARROW. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE CORRESPONDING PANELBOARD AND CIRCUIT DESIGNATION. EXAMPLE: HOME RUN TO PANELBOARD RP2; CIRCUITS 1, 3, 5. SPECIAL CONNECTIONS. THE EQUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE LOAD DESCRIPTION AND TYPE OF CONNECTION. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER (S) ADJACENT TO THE SYMBOL. EXAMPLE: EQUIPMENT NO. 1; 3 PHASE CONNECTION TO CIRCUITS 1, 3, 5.	 COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR UNDER-ESTIMATING AND/OR MIS-CALCULATING THEIR WIRING AND CABLING RESPONSIBILITIES. 25. ALL ELECTRICAL WIRING DEVICES INDICATED TO BE INSTALLED IN MASONRY WALLS OR FLOORS SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED.
	 26. ALL CONDUIT RUNS SHALL BE CONCEALED UNLESS SPECIFICALLY NOTED OTHERWISE OR PRIOR APPROVED BY OWNER FOR SURFACE MOUNTING. 27. ALL CONDUITS SHALL HAVE A SEPARATE GREEN GROUND CONDUCTOR INSTALLED FOR GROUNDING.
	28. ALL FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR THE MAXIMUM VOLTAGE DROP ALLOWED IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODE, ENERGY CONSERVATION, CHAPTER 4, SECTION C405.6.3. THE ELECTRICAL CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND ADJUST CONDUCTORS AS NEEDED. FOR DESIGN LOADS, A MAXIMUM VOLTAGE DROP OF 5% IS PERMITTED FOR FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS COMBINED. CONTRACTOR SHALL NOT DECREASE CONDUCTOR SIZES NOTED ON PLAN. CONTRACTOR SHALL ONLY INCREASE CONDUCTOR SIZES NOTED IF NEEDED TO MEET MINIMUM CODE REQUIREMENTS.
	 FOR MULTI-WIRE BRANCH CIRCUITS, ADD SEPARATE NEUTRALS AND PROVIDE & INSTALL MULTI-POLE CIRCUIT BREAKERS PER 2014 NEC, ARTICLE 210.4. THE CONTRACTOR SHALL PROVIDE AND INSTALL MATTE BLACK OR EQUAL NON-REFLECTIVE FINISHED METAL
CONDUIT UNLESS SPECIFIC EQUIPMENT REQUIRES A DIFFERENT SIZE. HOME RUN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATION AND CIRCUITS ARE SHOWN ADJACENT TO THE HOME RUN ARROW. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE CORRESPONDING PANELBOARD AND CIRCUIT DESIGNATION. EXAMPLE: HOME RUN TO PANELBOARD RP2; CIRCUITS 1, 3, 5. SPECIAL CONNECTIONS. THE EQUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE LOAD DESCRIPTION AND TYPE OF CONNECTION. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO THE SYMBOL. EXAMPLE: EQUIPMENT NO. 1; 3 PHASE CONNECTION TO CIRCUITS 1, 3, 5.	ESCUTCHEONS TO FINISH THE HOLES OR SLEEVES OFF, INCLUDING THE OUTSIDE AND INSIDE OF THE EXTERIOR WALLS AND ANY OTHER PLACE WHERE THE PENETRATION IS VISIBLE, FOR ALL ELECTRICAL PIPES, CONDUITS, AND PENETRATIONS MADE OR OTHERWISE NECESSARY FOR CONSTRUCTION OF THE ELECTRICAL SYSTEMS. 31. THE CONTRACTOR SHALL MAKE AND PERFORM ALL EXOTHERMIC WELDING PROCEDURES (CADWELD) IN
	ACCORDANCE WITH THE APPLICABLE ANSI STANDARDS INCLUDING SAFETY IN WELDING AND CUTTING, AND IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION AND HANDLING INSTRUCTIONS. ALL EXOTHERMIC WELDS (CADWELDS) SHALL BE INDIVIDUALLY DOCUMENTED AND CERTIFIED BY THE INSTALLING CONTRACTOR AND SHALL BE UNIQUELY RECORDED ON THE AS-BUILT DRAWINGS. ALL DOCUMENTATION SHALL BEAR THE CONTRACTORS SIGNED CERTIFICATION OF PROPERLY COMPLETED WELDS AND SHALL BE SUBMITTED TO THE OWNER FOR THEIR PERMANENT RECORDS.
	32. ALL ELECTRICAL EQUIPMENT FEEDERS, BRANCH CIRCUIT CONDUCTORS, AND DEVICE AND EQUIPMENT TERMINATIONS SHALL BE RATED FOR A MINIMUM OF 75℃ UNLESS OTHERWISE NOTED.

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Hanson Professional Services Inc. 720 N. Maitland Ave., Suite 102 Maitland, Fl 32751 (407) 622-2050 (407) 622-2051 EB0007061 AA0003116 IB0001058 CONSULTANTS



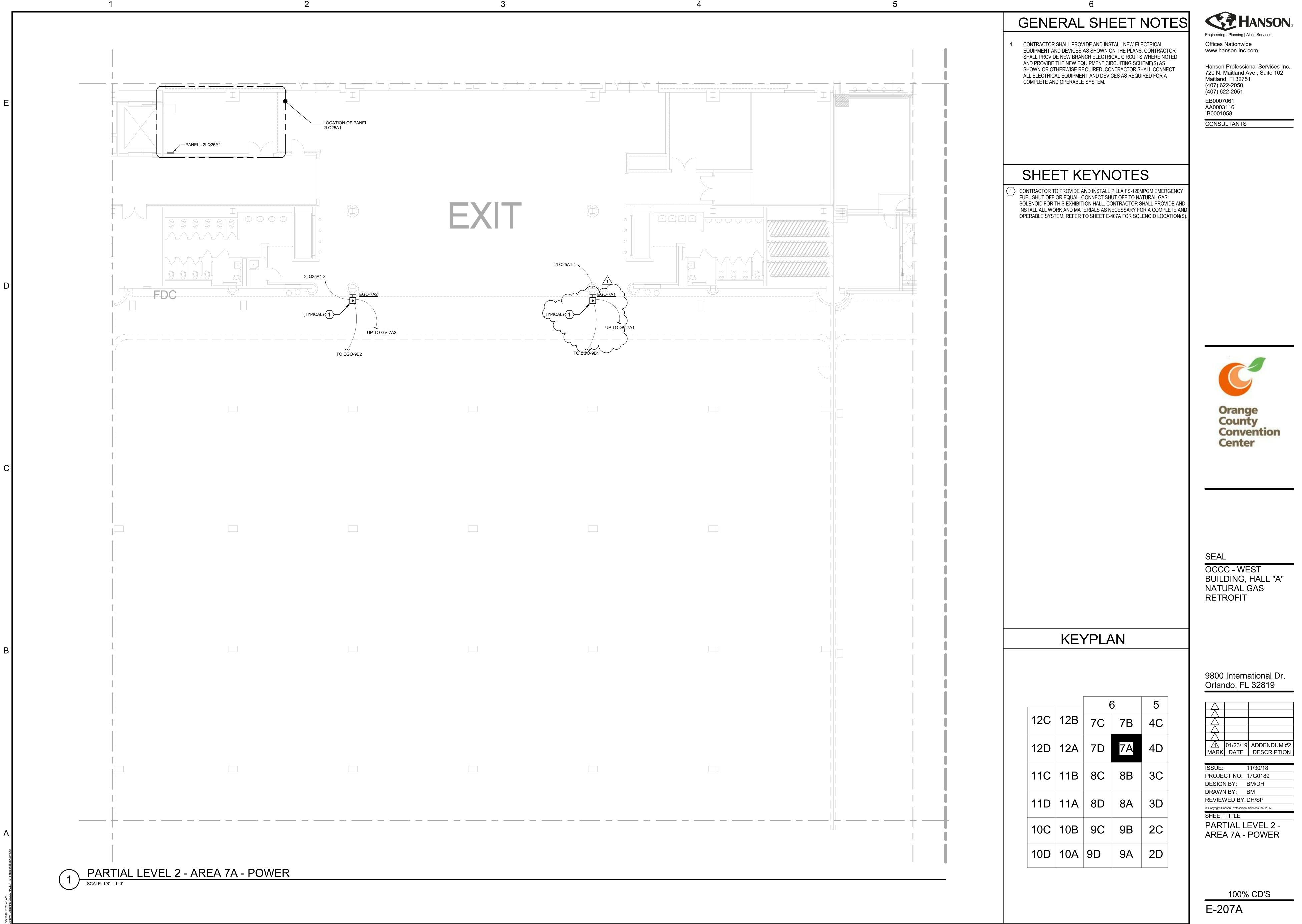
SEAL OCCC - WEST BUILDING, HALL "A" NATURAL GAS RETROFIT

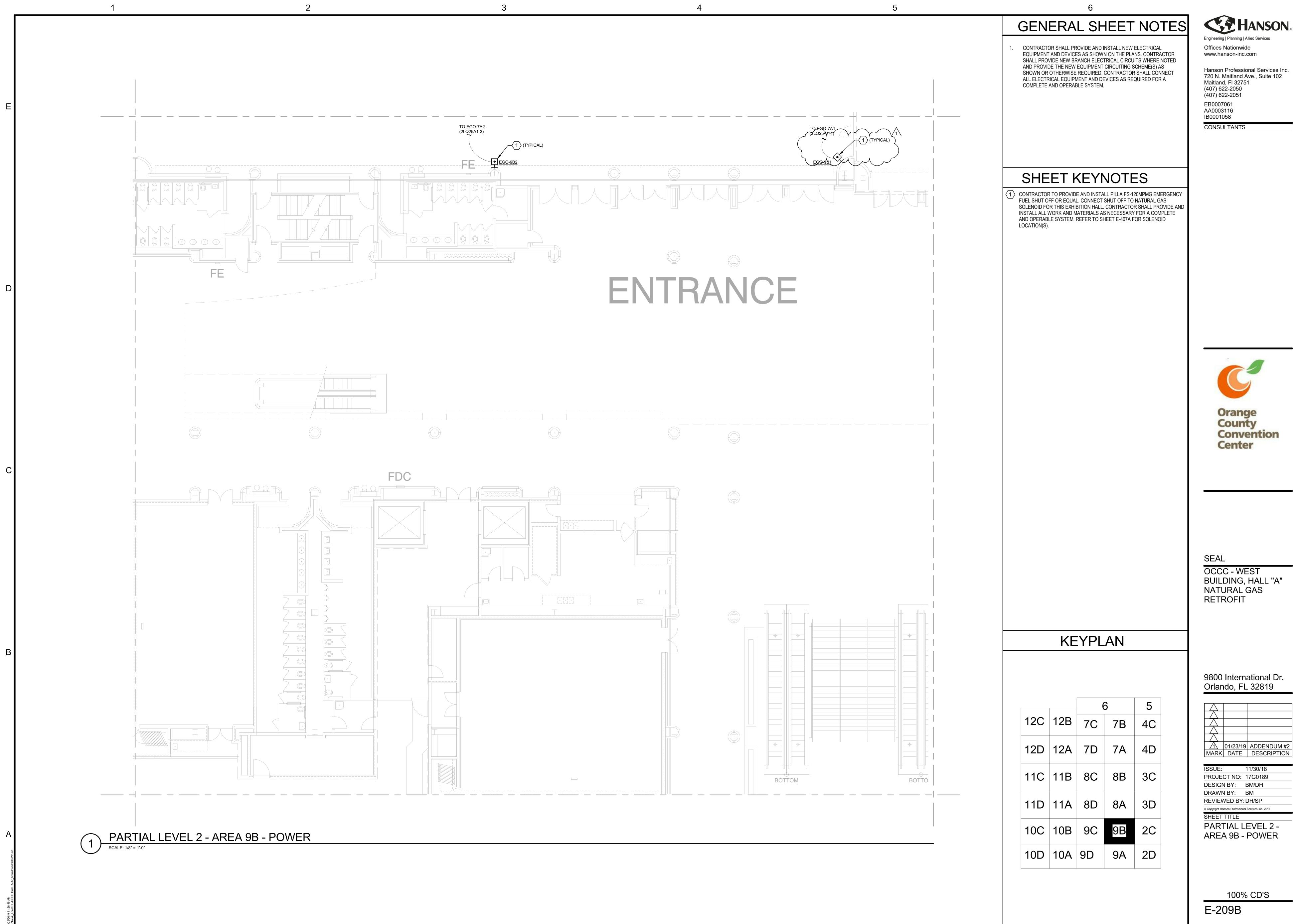
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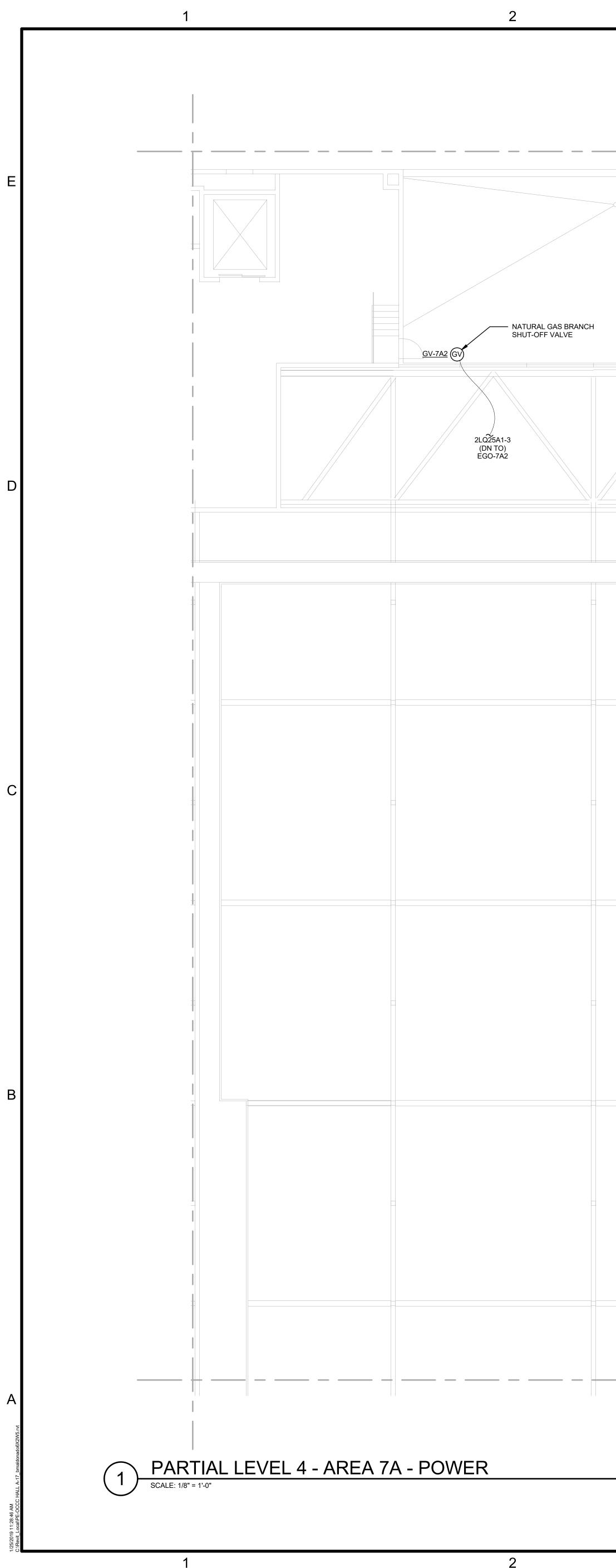
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	01/23/19	ADDENDUM #2
MARK	DATE	DESCRIPTION

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© Copyright Ha	nson Profession	al Services Inc. 2017
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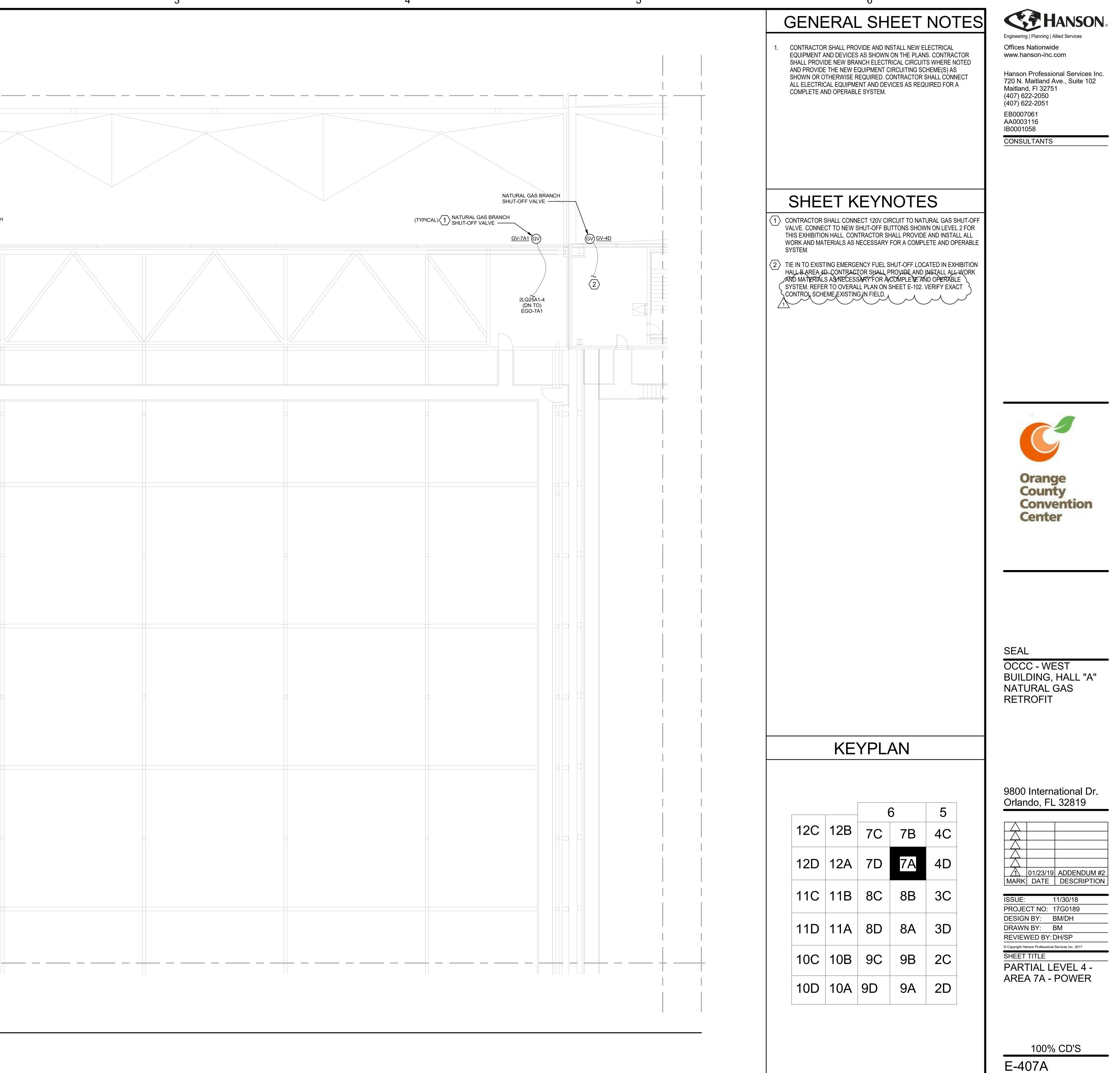
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ORANGE COUNTY CONVENTION CENTER WEST BUILDING, HALL "A" NATURAL GAS RETROFIT

- 17G0189
 - allowed by law, prior to commencement of services. The County reserves the right to conduct its own investigation of any employee or subcontractor of the Contractor.
 - B. Background Checks for the Contractor's staff must be approved by Orange County's security team prior to working in any County facility. Obtain necessary forms for background checks for work at Orange County. All Contractor's staff background checks will be sent to the Orange County project Manager for approval.
 - C. For security purposes and to maintain privacy, please submit a FDLE Background Checks via email. The subject line of the email must contain the following ***EXEMPT***
 - D. The Orange County Convention Center will inform the Contractor of their Background Check results. Upon Background Check approval, the contractor's staff shall arrange an appointment with the Orange County Convention Center staff to obtain an Orange County ID Badge. An Affidavit of Identity form (Issued by Contractor) and a State of Florida ID or Driver's License will be required.
 - E. Contractor's employees will not be allowed in Orange County facilities without completed and approved background investigations.

1.11 BUILDING/SITE SECURITY REQUIREMENTS

A. Provide security for each and every day that work is being performed on Site. The security firm that will be used is:

G4S Security Systems (USA), Inc. Contact: Jose Troche, MBA Phone: 407 207 3221 Jose.troche@usa.g4s.com

1.12 OWNER OCCUPANCY

- A. The Owner will occupy the building and areas next to the Work area. Normal hours are 7:00 AM to 5:00 PM Monday thru Friday. Coordinate with the Owner's representative for Work areas that can be performed on during normal work hours. Work can be performed after hours provided the area where Work is done is fully operational and back in original condition prior to beginning the next business day. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
 - 1. A certificate of Substantial Completion will be executed for each specific portion of the Work to be occupied prior to Owner occupancy
 - 2. Obtain a Certificate of Occupancy from the local building officials prior to Owner occupancy.
 - 3. Prior to partial occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Owner will provide operation and maintenance of mechanical and electrical systems in occupied portions of the building.

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- A. Pipe hangers and supports are specified in Division 22 Section "Hangers and Supports for Plumbing Piping and Equipment." Install the following:
- B. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
 - 1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
 - 2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.
 - 3. NPS 1-1/2 and NPS 2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
 - 4. NPS 2-1/2 to NPS 3-1/2: Maximum span, 10 feet; minimum rod size, 1/2 inch.

3.8 CONNECTIONS

- A. Connect to utility's gas main according to utility's procedures and requirements.
- B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.
- C. Install piping adjacent to appliances to allow service and maintenance of appliances.
- D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.
- E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.9 LABELING AND IDENTIFYING

A. Comply with requirements in Division 22 Section "Identification for Plumbing Piping and Equipment" for piping and valve identification.

3.10 PAINTING

A. Comply with requirements in Division 09 painting Sections for painting interior and exterior natural gas piping.

- B. Paint metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory applied paint or protective coating. The exterior NG piping shall be painted "Safety Yellow". The interior NG piping is scheduled to utilize black iron pipe & fittings, so there is no interior NG piping painting required.
 - 1. Alkyd System: MPI EXT 5.1D.
 - a. Prime Coat: Alkyd anticorrosive metal primer.
 - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - c. Topcoat: Exterior alkyd enamel (semigloss).
 - d. Color: Safety Yellow.

C. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.11 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Test, inspect, and purge natural gas according to NFPA 54 or Local Code requirements and authorities having jurisdiction.
- C. Natural-gas piping will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.12 OUTDOOR PIPING SCHEDULE

- A. Aboveground natural-gas piping shall be one of the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints, 2" and smaller diameter.
 - 2. Steel pipe with wrought-steel fittings and welded joints, 2 ¹/₂" and larger diameter.

3.13 INDOOR PIPING SCHEDULE:

- A. Aboveground piping 2" and smaller shall be the following:
 - 1. Steel pipe with malleable-iron fittings and threaded joints.

3.14 INDOOR PIPING SCHEDULE:

- A. Aboveground, piping 2 1/2" and larger shall be one of the following:
 - 1. Steel pipe with wrought-steel fittings and welded joints.

3.15 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

- A. Valves for pipe sizes NPS 2 and smaller shall be listed for use with natural gas and shall be one of the following:
 - 1. Two-piece, full-port, bronze ball valves with bronze trim.
- B. Valves for pipe sizes NPS 2-1/2 and larger shall be listed for use with natural gas and shall be one of the following:
 - 1. Two-piece, full-port, bronze ball valves with bronze trim.

FACILITY NATURAL-GAS PIPING