2 4

DRAWING SET FOR:

NEWARK WAREHOUSE #2 EXPANSION

BID SUBMISSION 7/25/2024

JOHNSON, MIRMIRAN & THOMPSON, INC.
40 WIGHT AVENUE

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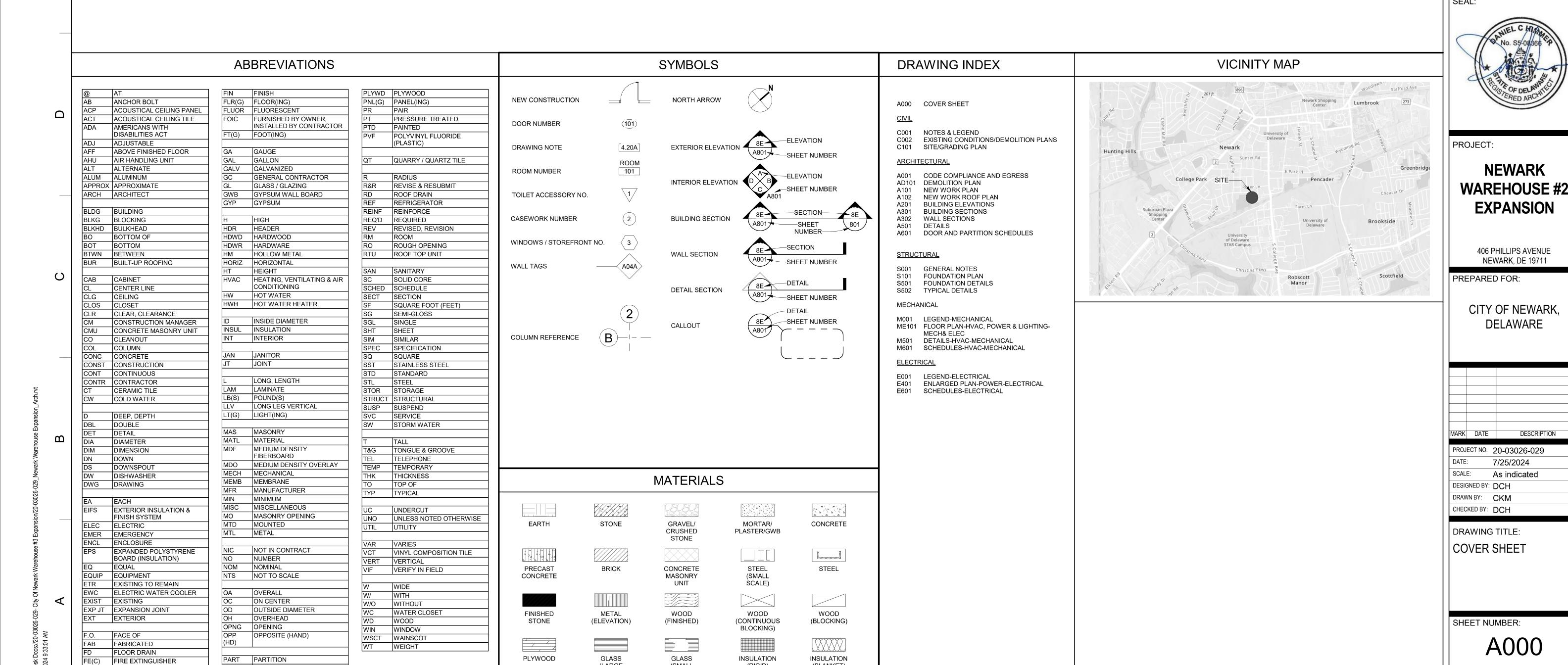
406 PHILLIPS AVENUE NEWARK, DE 19711

PLAM PLASTIC LAMINATE

(CABINET)

OWNE

CITY OF NEWARK, DELAWARE

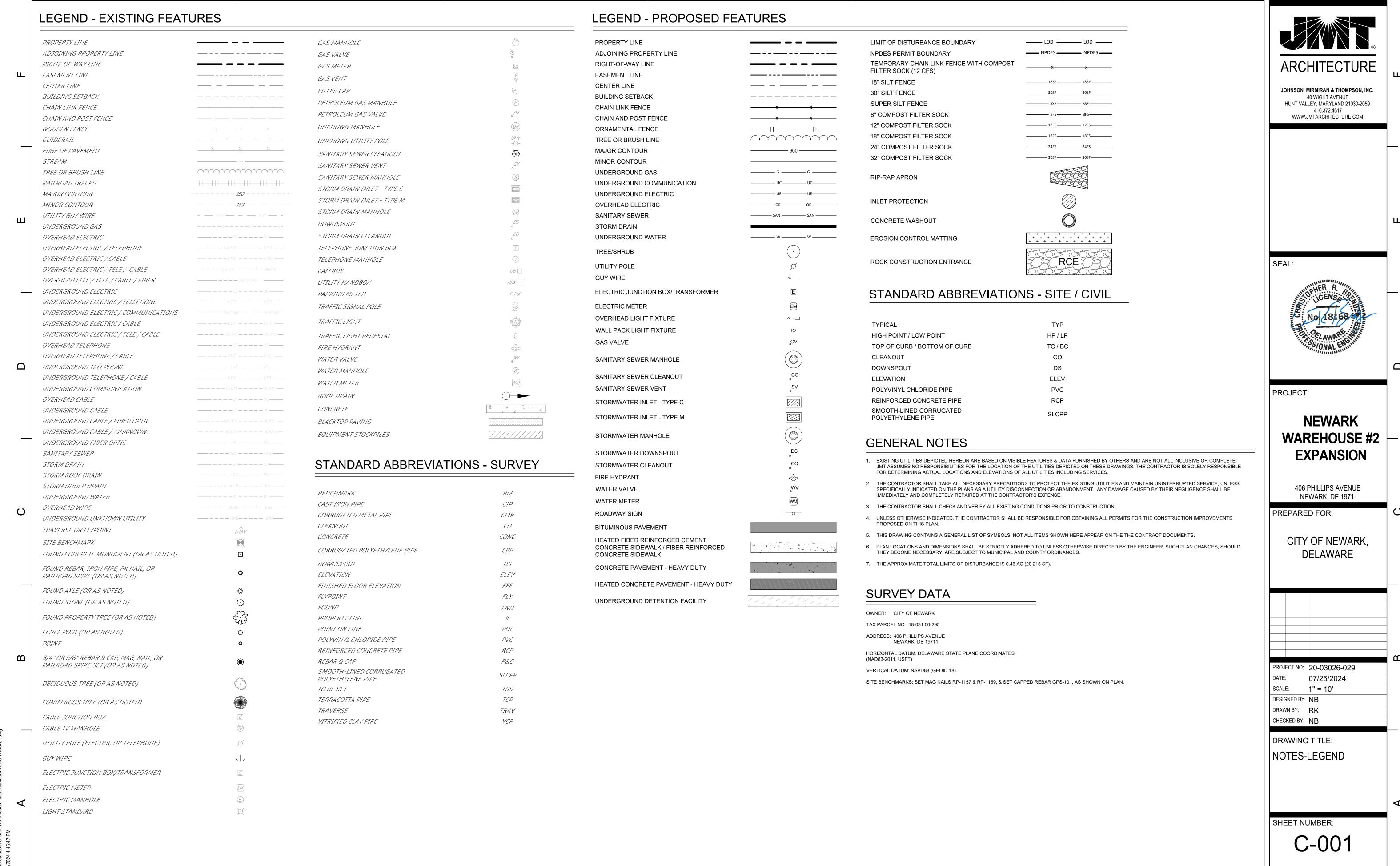


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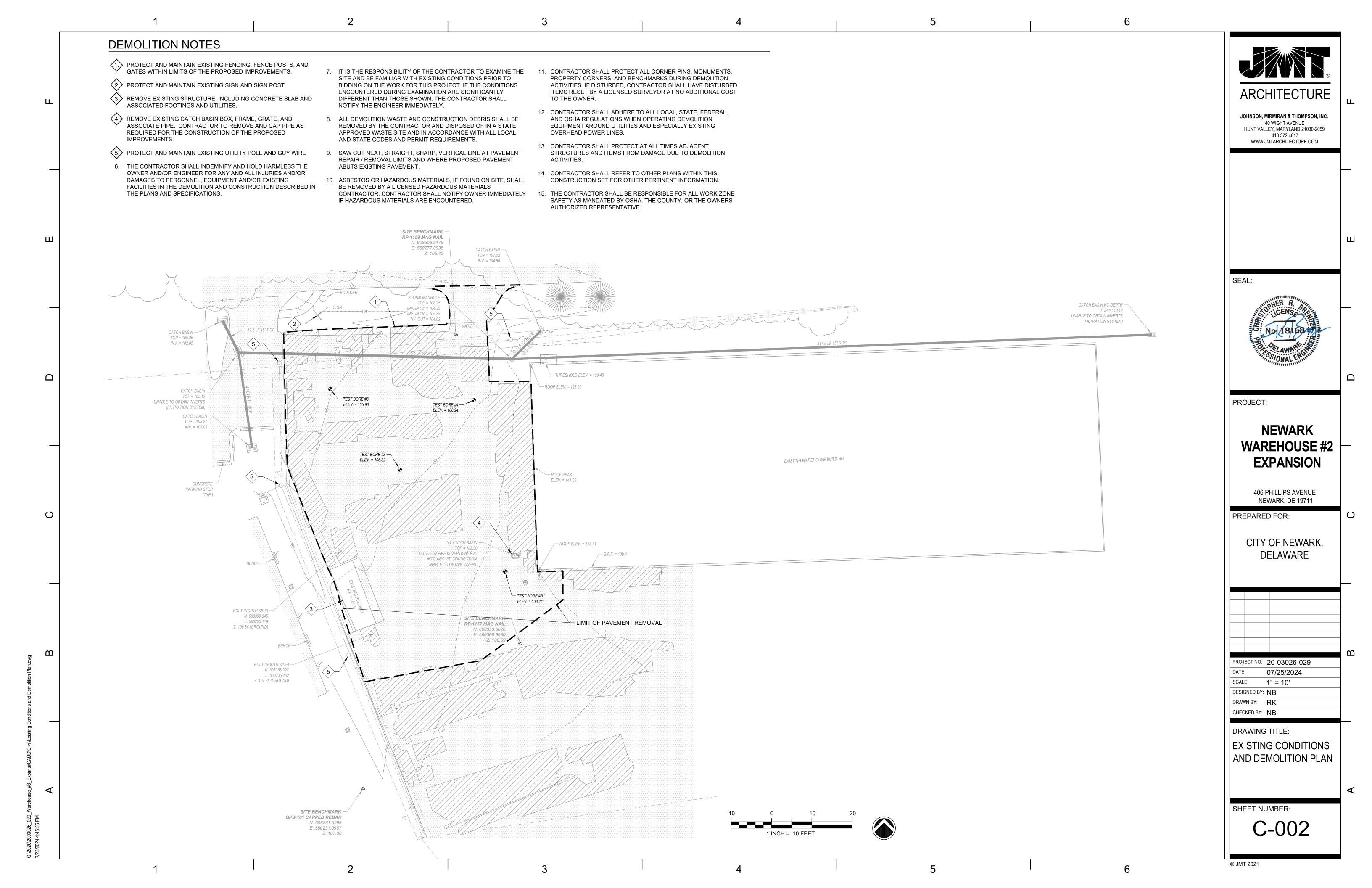
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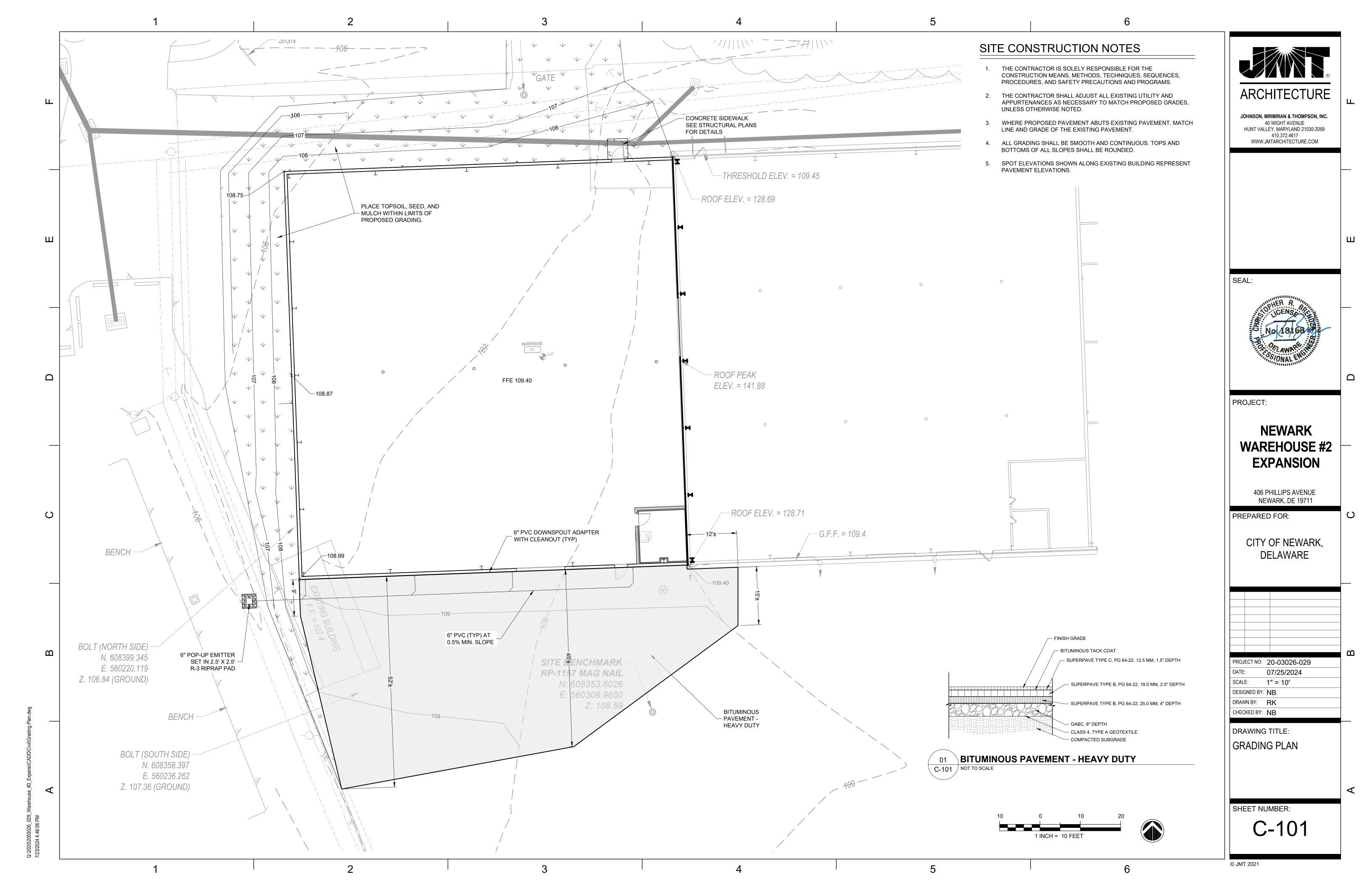
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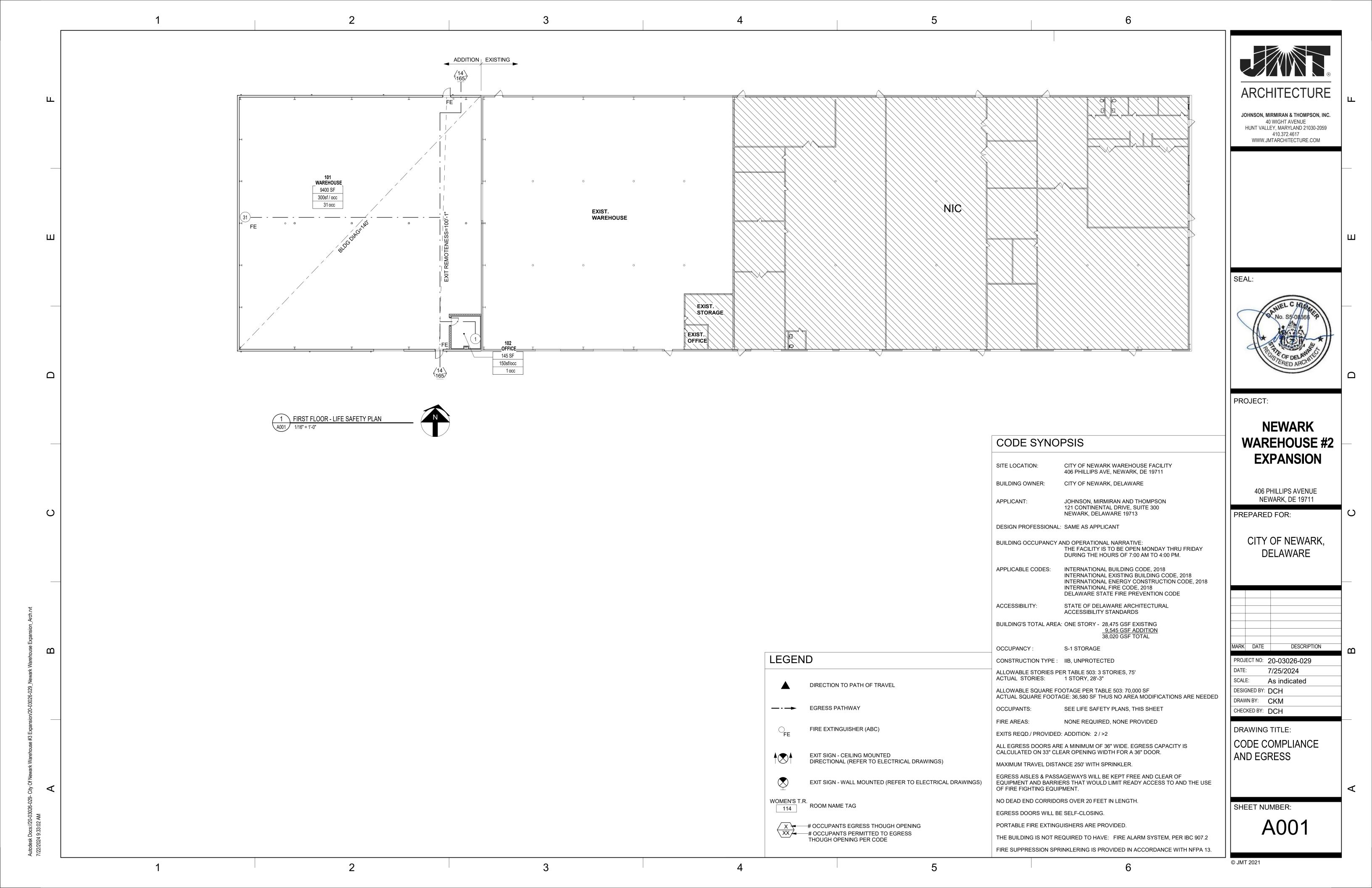
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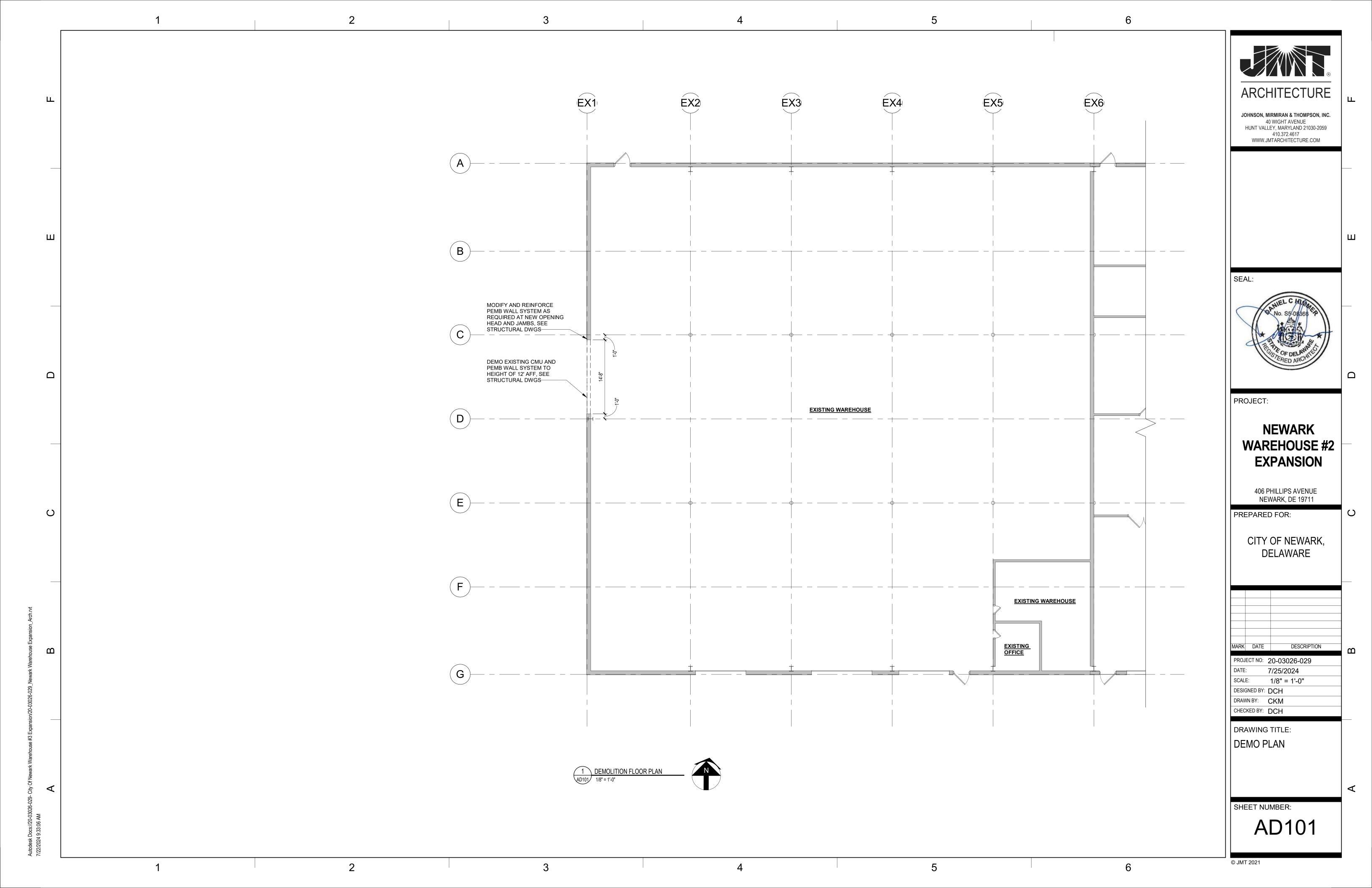


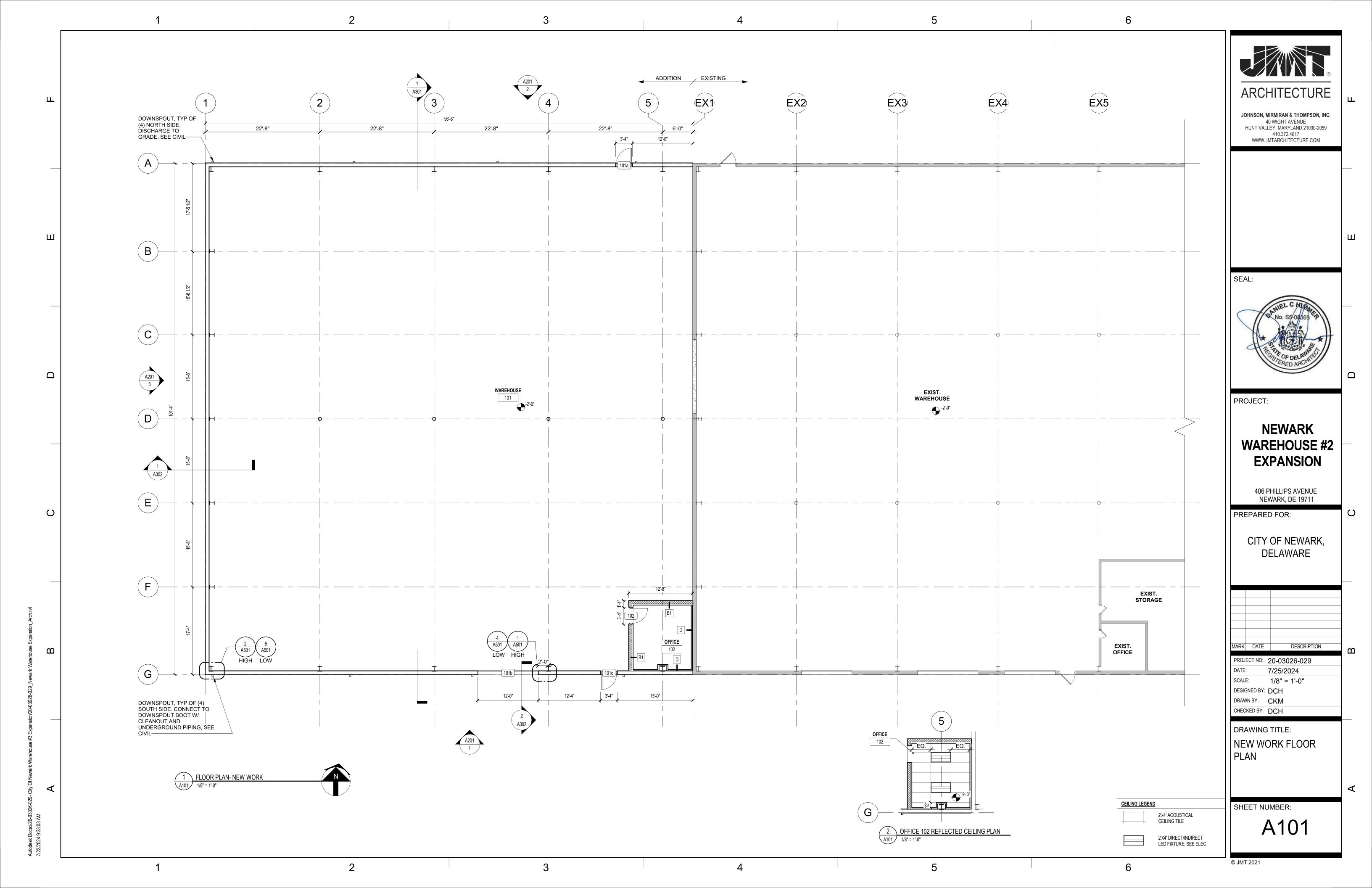
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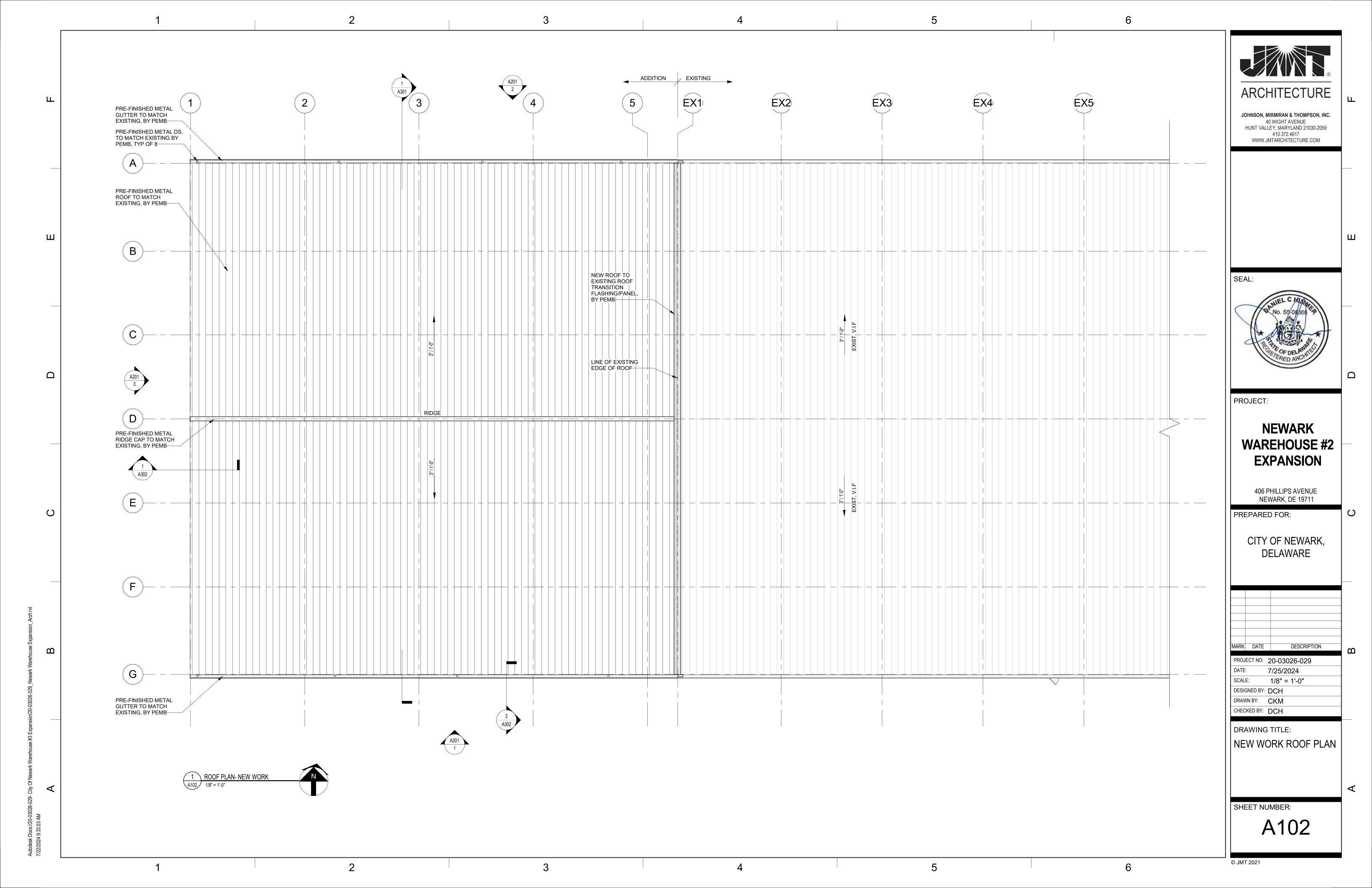


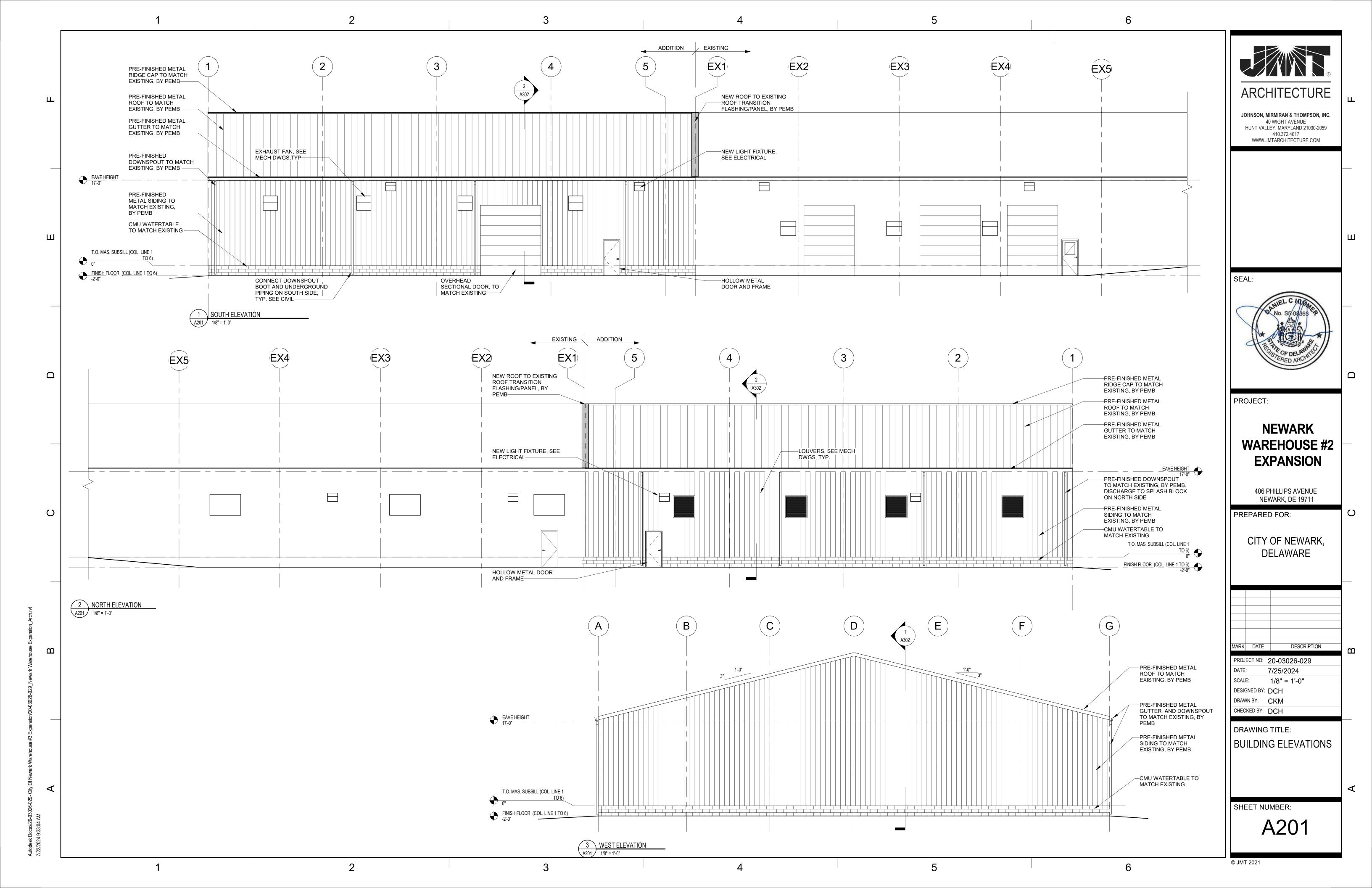


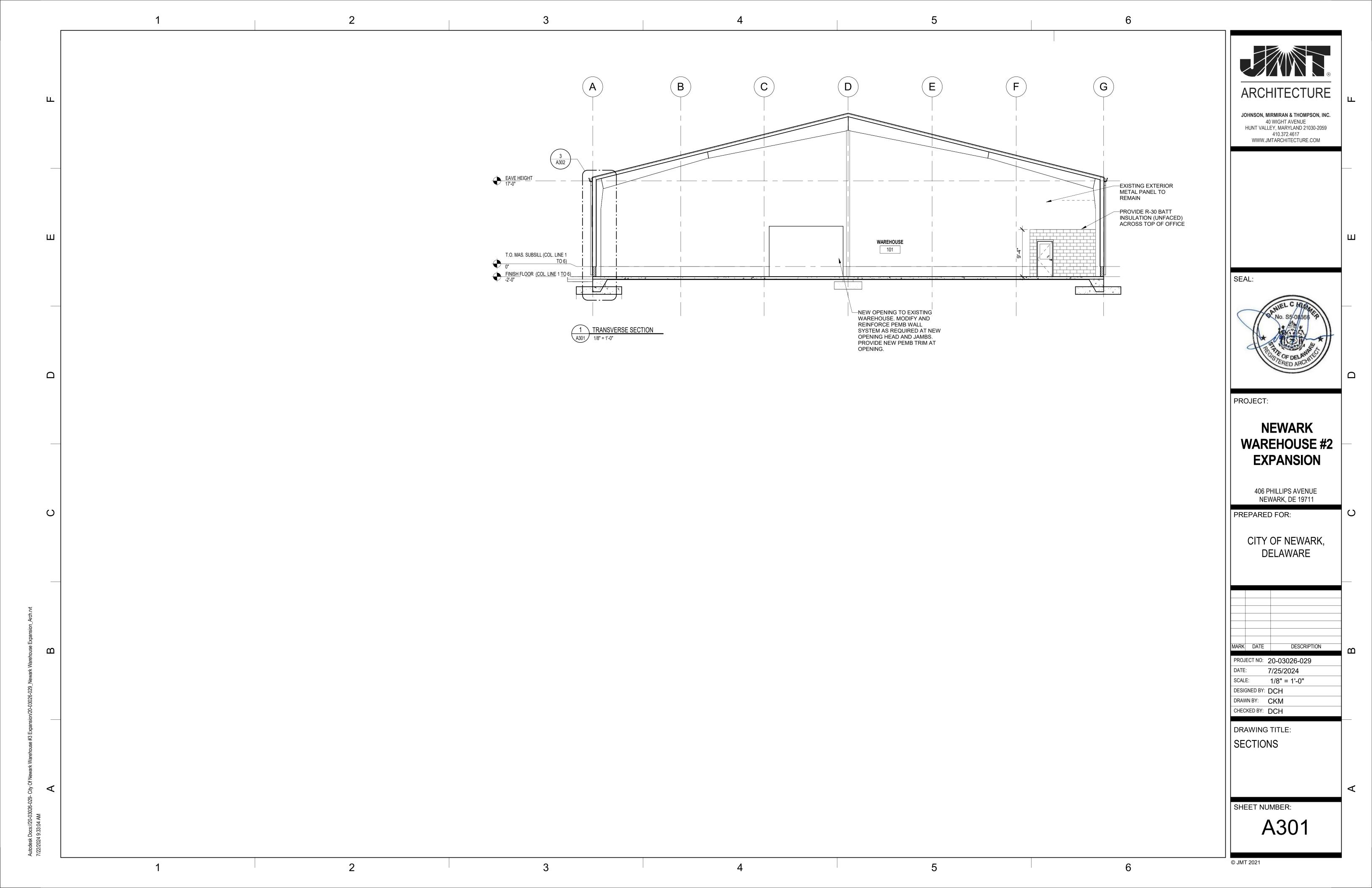


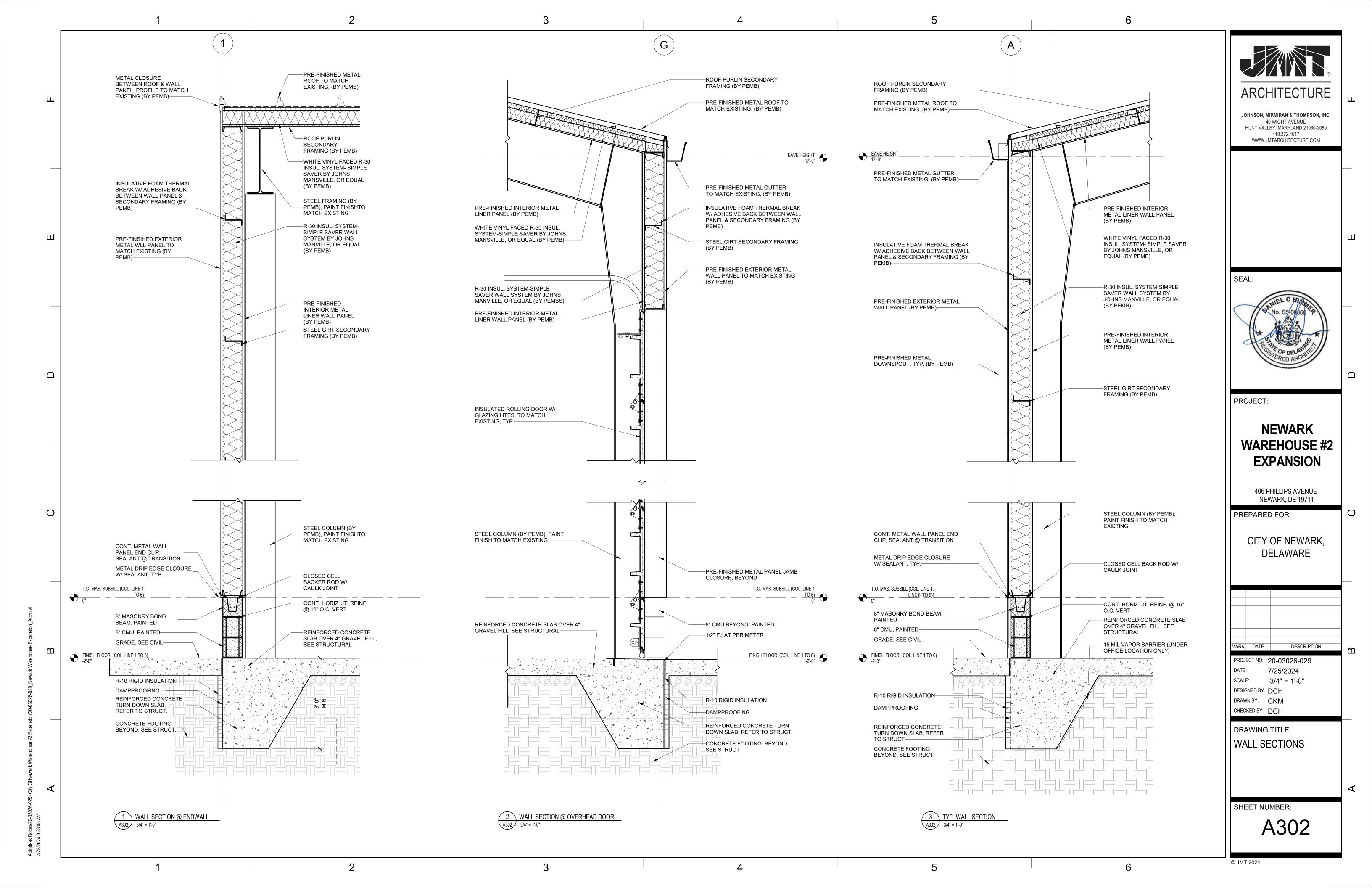


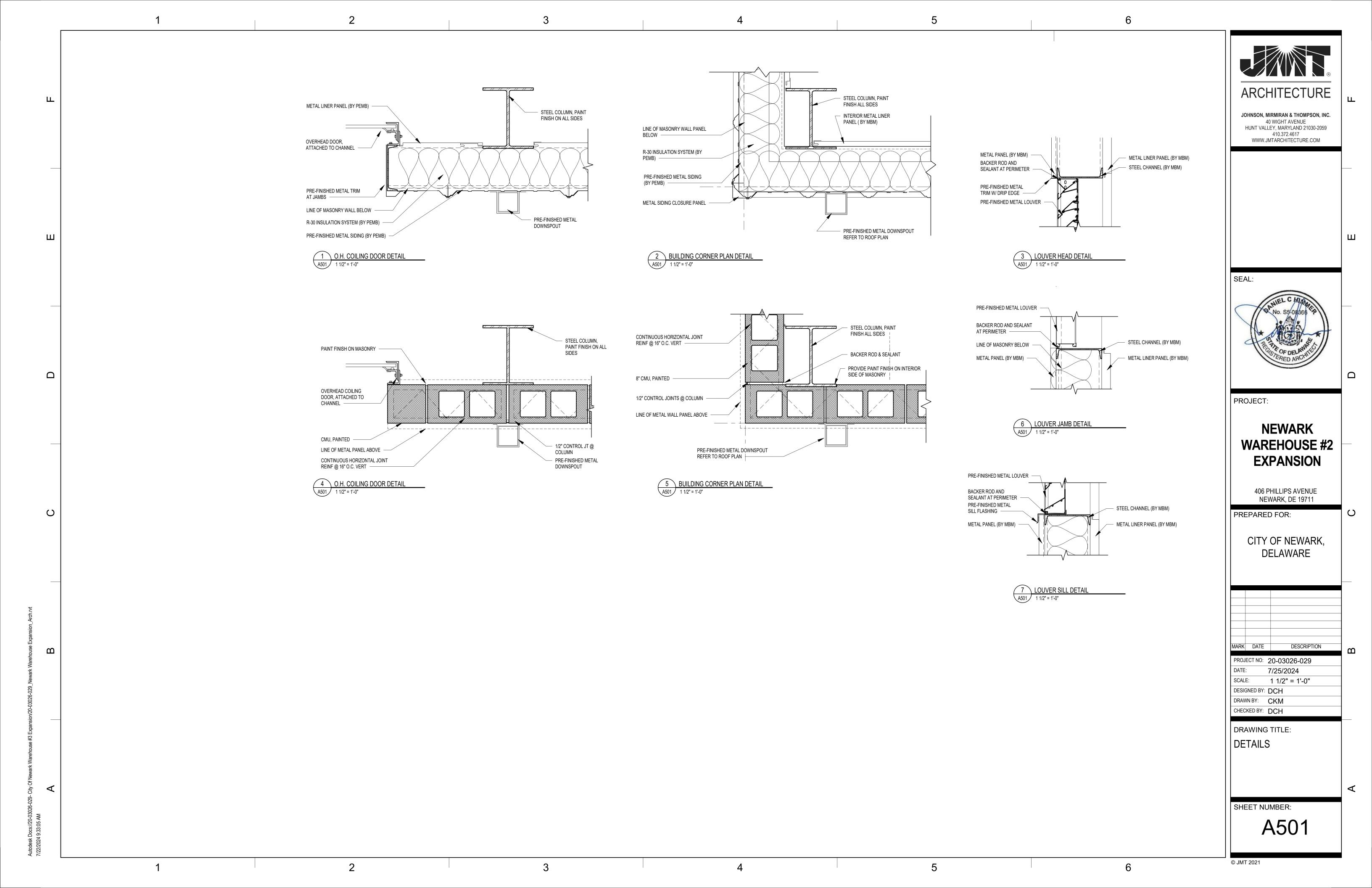


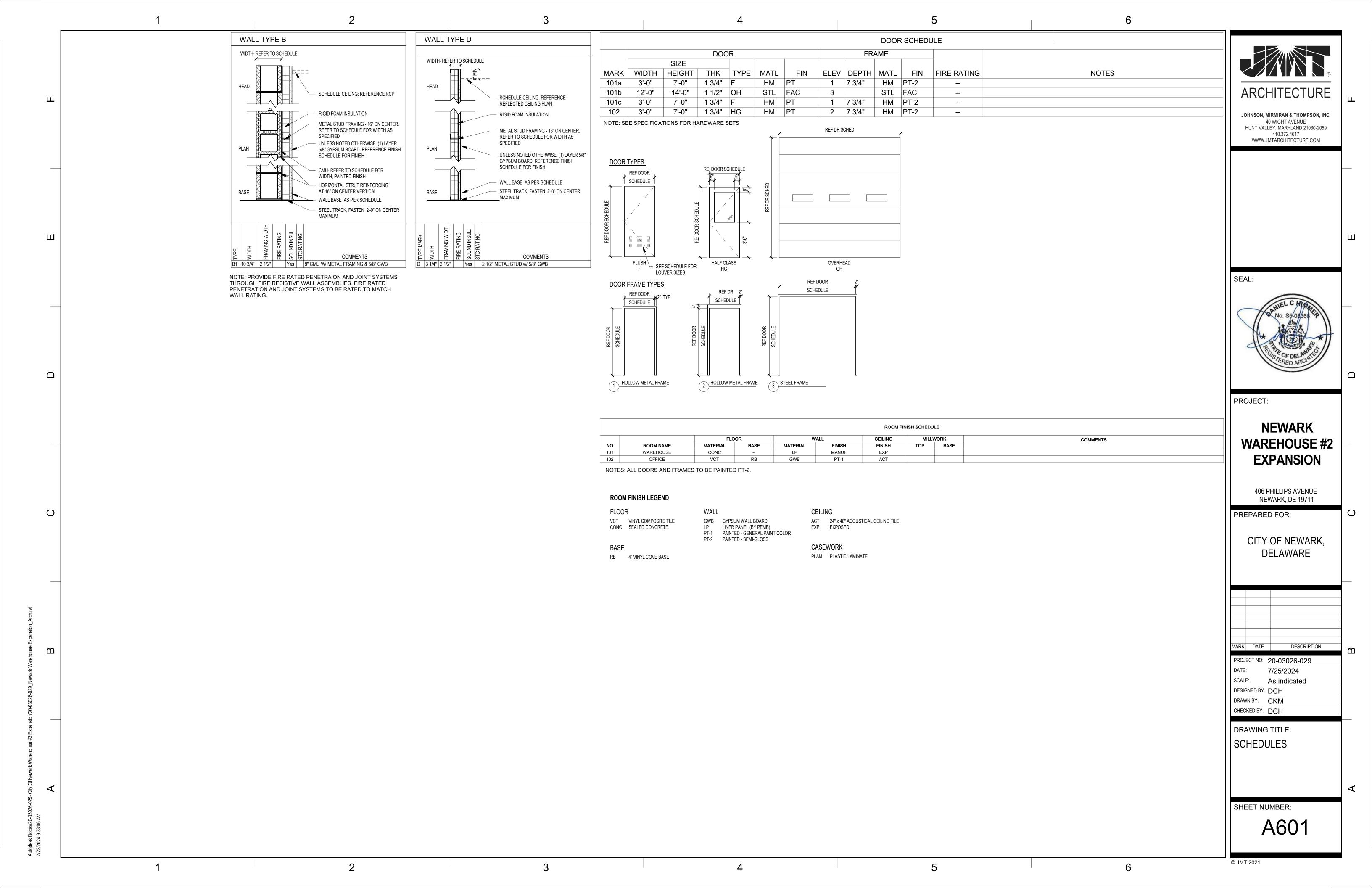












COMPONENTS AND CLADDING (ULTIMATE):

ROOF	SURFACE PRESSURE (PSF)				
AREA	10SF	50SF	100SF	500SF	
NEG. ZONE 1	-28.1	-25.5	-24.3	-24.3	
NEG. ZONE 2	-33.9	-28.5	-26.2	-26.2	
NEG. ZONE 3	-53.4	-46.6	-41.5	-41.5	
POS. ALL ZONES	16	16	16	16	

WALL	VALL SURFACE PRESSURE (PSF)					
AREA	10SF	50SF	100SF	500SF		
NEG. ZONE 4	-24.3	-22.0	-21.0	-18.6		
NEG. ZONE 5	-30.0	-25.4	-23.3	-18.6		
POS. ALL ZONES	22.4	20.1	19.1	16.7		
** REFER TO ASCE 7-16, C	DEFINITION	IS**				

SEISMIC DESIGN CRITERIA RISK CATEGORY:	II							
SEISMIC IMPORTANCE FACTOR (I _e):	l _e = 1							
MAPPED SPECTRAL RESPONSE ACC'L:	$S_s = 0.178g$ $S_1 = 0.046g$							
SITE CLASS:	D							
SPECTRAL RESPONSE ACCELERATIONS:	$S_{ds} = 0.189 g$							
	$S_{d1} = 0.074g$							
SEISMIC DESIGN CATEGORY:	В							
SEISMIC DESIGN FACTORS								
DESIGN BY PEMB MANUFACTURER								
SNOW LOADS								
GROUND SNOW LOAD:	25 PSF							
FLAT ROOF SNOW LOAD:	20 PSF							

EXISTING CONDITIONS

FROST DEPTH

GENERAL CONTRACTOR SHALL FIELD VERIFY EXISTING SIZES, DIMENSIONS, NOTES OR CONDITIONS PRIOR TO ANY DETAILING, OR FABRICATION OF MATERIALS.

 $\mathbf{\omega}$

. PROTECTION: PROTECT EXISTING CONSTRUCTION TO REMAIN DURING REMOVAL, CUTTING AND PATCHING TO PREVENT DAMAGE.

2. CUTTING: CUT EXISTING CONSTRUCTION USING METHODS LEAST LIKELY TO DAMAGE ELEMENTS TO BE RETAINED OR ADJOINING CONSTRUCTION. IN GENERAL, WHERE CUTTING IS REQUIRED, USE HAND OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERING AND CHOPPING. CUT HOLES AND SLOTS NEATLY TO SIZE REQUIRED WITH MINIMUM DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS WHEN NOT IN USE. CUT THROUGH CONCRETE AND MASONRY USING A CUTTING MACHINE SUCH AS CARBORUNDUM SAW OR DIAMOND CORE DRILL.

36 INCH

- CUT-OFF PIPE OR CONDUIT IN WALLS OR PARTITIONS TO BE REMOVED, RELOCATED OR ABANDONED. CUT-OFF PIPE OR CONDUIT IN WALLS OR PARTITIONS TO BE REMOVED. CAP VALVE OR PLUG AND SEAL THE REMAINING PORTION OF PIPE OR CONDUIT TO PREVENT ENTRANCE OF MOISTURE OR OTHER FOREIGN MATTER AFTER BY-PASSING AND CUTTING.
- 4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UTILITIES THAT ARE INVOLVED IN THE DEMOLITION ACTIVITIES AND COORDINATE THEIR REMOVAL OR RELOCATION WITH THE OWNERS REPRESENTATIVE. WORK AT NO COST TO OWNER.

1. CONTRACTOR IS TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO PERFORMING ANY SUBSURFACE OR EXCAVATION WORK.

- 2. PROTECT EXISTING UTILITIES TO REMAIN DURING EXCAVATION, AND CUTTING AND PATCHING, TO PREVENT DAMAGE.
- 3. TAKE ALL PRECAUTIONS NECESSARY TO AVOID CUTTING EXISTING PIPE, CONDUIT OR DUCTWORK

SCHEDULE AS NECESSARY TO CONTINUE OVERALL JOB PROGRESS WITHOUT DELAY.

- SERVING THE BUILDING, UNTIL PROVISIONS HAVE BEEN MADE TO BYPASS THEM. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO OWNER. 4. PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OR CONSTRUCTION
- WORK AT NO COST TO OWNER. 5. IF UNANTICIPATED MECHANICAL, ELECTRICAL OR STRUCTURAL ELEMENTS WHICH CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, INVESTIGATE AND MEASURE BOTH NATURE AND EXTENT OF THE CONFLICT. SUBMIT REPORT TO OWNER'S REPRESENTATIVE IN WRITTEN, ACCURATE DETAIL. PENDING RECEIPT OF DIRECTIVE FROM OWNERS' REPRESENTATIVE, REARRANGE

ALL WORK SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL LAWS.

- 2. ONCE ON SITE, THE CONTRACTOR SHALL COMPLETE A SURVEY OF THE PROJECT SITE TO VERIFY THE EXISTING CONDITIONS. ANY CONDITIONS FOUND BY THE CONTRACTOR THAT WERE NOT ANTICIPATED ON THE CONTRACT PLANS AND THAT WILL AFFECT THE COST OF THE IMPLEMENTATION OF THE SPECIFIED PROJECT SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER.
- 3. LOCATIONS AND QUANTITIES SHOWN ON THESE PLANS ARE APPROXIMATE FOR BIDDING PURPOSES. ACTUAL FIELD INSTALLED QUANTITIES MAY VARY. CONTRACTOR SHALL VERIFY LOCATIONS AND QUANTITIES WITH ENGINEER PRIOR TO
- 4. CONSTRUCTION ACTIVITY DESCRIPTIONS LISTED IN THESE PLANS ARE NOT MEANT TO BE ALL INCLUSIVE, BUT RATHER TO OUTLINE THE GENERAL WORK TASKS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER EXECUTION OF THE WORK AND ADHERENCE TO ALL MANUFACTURER'S RECOMMENDATIONS REGARDING INSTALLATION OF WORK WHEN PROPRITARY
- 5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE STRUCTURE IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES, SEQUENCE, AND TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS. THIS INCLUDES THE ADDITION OF ANY SHORING, SHEETING, TEMPORARY GUYS, BRACING, OR TIE DOWNS THAT MIGHT BE NECESSARY.
- 6. THE ENGINEER HAS NO EXPERTISE IN, AND TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR JOB SITE SAFETY DURING CONSTRUCTION. IT IS SOLELY THE RESPONSIBILITY OF EACH CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE ENGINEER IS NOT ENGAGED IN, AND DOES NOT SUPERVISE CONSTRUCTION.
- 7. ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE OWNER (OR CONTRACTOR PER DIV 01 SPECIFICATIONS) SHALL HIRE AN EXPERIENCED QUALIFIED INSPECTOR TO PERFORM ALL REQUIRED SPECIAL INSPECTION WORK. THE CONTRACTOR SHALL HIRE AN EXPERIENCED QUALIFIED INSPECTOR TO PERFORM ALL OTHER INSPECTION WORK. THE ENGINEER MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. HOWEVER, SUCH VISITS SHALL NOT BE RELIED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHOULD IT BE CONSTRUED TO REPLACE THE REQUIRED INSPECTIONS.
- 8. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE ONE PART OF THE CONTRACT DOCUMENT SET AND SHALL BE USED IN CONJUNCTION WITH THE REMAINING PARTS OF THE CONTRACT DOCUMENTS. "DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS AND "SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS. IN CASES WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AND ASSUME THE MORE STRINGENT REQUIREMENT UNTIL OTHERWISE NOTIFIED IN WRITING BY THE ARCHITECT OR ENGINEER. ADDITIONALLY, WHERE REFERENCED CODES AND STANDARDS IDENTIFIED IN THE PLANS, NOTES, OR SPECIFICATIONS CONFLICT THE MORE STRINGENT OR CONSERVATIVE PROVISIONS SHALL CONTROL THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY SUCH CONFLICTS DISCOVERED.
- 9. ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, OR DETAIL TITLE, OR NOTE. CENTERLINES OF COLUMNS AND FOUNDATIONS COINCIDE WITH GRID LINE INTERSECTIONS, UON. CENTERLINES OF GRADE BEAMS AND WALLS COINCIDE WITH CENTERLINES OF FOUNDATIONS, UON. CENTERLINES OF FLOOR FRAMING BEAMS AND GIRDERS COINCIDE WITH COLUMN CENTERLINES, UON. ELEVATIONS INDICATED ON STRUCTURAL DRAWINGS ARE BASED ON A 0'-0" ELEVATION EQUATING TO 0'-0" PROJECT DATUM ELEVATION INDICATED ON THE ARCHITECTURAL DRAWINGS. USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.
- 10. SEE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR SIZE AND LOCATION OF DRIPS, CHAMFERS, SLEEVES, ANCHORS, INSERTS, AND OPENINGS REQUIRED. THE LOCATION AND SIZE OF SLEEVES OR OPENINGS NOT SHOWN ON THE DRAWINGS IN STRUCTURAL MEMBERS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. PRINCIPAL OPENINGS IN THE STRUCTURE ARE INDICATED ON THE CONTRACT DRAWINGS.
- 11. WHERE THE CONTRACTOR ELECTS TO POUR THE SLAB ON GRADE PRIOR TO ERECTING THE SUPERSTRUCTURE, THE CONTRACTOR SHALL TAKE INTO CONSIDERATION THAT THE SLAB ON GRADE IS NOT DESIGNED FOR SUPPORT OF ANY CRANES OR SIMILAR DEVICES USED TO ERECT THE STRUCTURAL FRAME. DO NOT PLACE THIS EQUIPMENT ON THE SLAB.
- 12. GENERAL CONTRACTOR SHALL ENGAGE A SURVEYOR TO PROVIDE LOCATIONS OF ALL EXISTING UTILITES, TRENCHES, ETC. TO ENSURE THAT NEW FOUNDATIONS WILL NOT INTERFERE, UNDERMINE, OR BEAR ON EXISTING UTILITIES.

THE FOUNDATIONS SHOULD NOT BEAR ON THE MISCELLANEOUS FILL SOILS AT THE SITE PER THE GEOTECHNICAL RECOMMENDATIONS. THE MISCELLANEOUS EXISTING FILL AT THE SITE IS REQUIRED TO BE UNDERCUT TO COMPLETELY REMOVE EXISITING FILL. UNDERCUT SOILS BELOW THE ENTIRE BUILDING PAD, REMOVING ALL THE MISCELLANEOUS FILL AND

- REPLACE WITH COMPACTED STRUCTURAL FIL OVER THE FULL FOOTPRINT OF THE BUILDING. • THE MINIMUM ESTIMATED ELEVATION OF EXCAVATION IS TO ELEVATION 106FT.
- THE MAXIMUM ESTIMATED ELEVATION OF EXCAVATION IS TO ELEVATION 104FT COORDINATE PROPER EXCAVATION DEPTHS WITH GEOTECHNICAL ENGINEER.
- DISPOSAL OF DEMOLISHED MATERIALS: REMOVE DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM EXCAVATION/DEMOLITION OPERATIONS FROM BUILDING SITE. SOILS CONTAINING DEBRIS ARE NOT CONSIDERED SUITABLE FOR REUSE AS STRUCTURAL FILL AND SHOULD BE TRANSPORTED AND LEGALLY DISPOSED OF OFF SITE.

- I. SAMPLES OF ALL MATERIALS THAT THE CONTRACTOR PROPOSES TO USE FOR COMPACTED FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER HIRED BY OWNER/ CONTRACTOR. COMPACTED FILL SHALL CONSIST OF LOCAL MATERIAL FREE OF DELETERIOUS MATTER AND CLASSIFIED SC, GC, GM, OR SM PER ASTM D-2487.
- 2. STRUCTURAL LIFTS UTILIZED WITHIN THE PROPOSED STRUCTURAL AREAS SHOULD BE PLACED IN LOOSE LIFTS WITH A MAXIMUM THICKNESS OF 8 INCHES AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY.
- 3. STRUCTURAL FILL FOR PAVEMENT AREAS AND UTILITY TRENCHES LOCATED OUTSIDE OF THE PROPOSED STRUCTURAL AREA SHOULD COMPACTED TO AT LEAST 90% OF THE MAX DRY DENSITY. AS DETERMINED BY ASTM D-1557.
- 4. PRIOR TO PLACEMENT OF ANY FILLS, THE SITE SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROCKS, AND ORGANIC MATERIALS AND THE EXPOSED SUBGRADE SHALL BE COMPACTED IN PLACE TO A CONFIRMED DENSITY OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- 5. COMPACTED FILL PLACED WITHIN 4 FEET OF STRUCTURES AND PIPES SHOULD BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED 4 INCHES THICKNESS AND COMPACTED WITH HAND TAMPERS OR LIGHT COMPACTION EQUIPMENT TO THE SAME STANDARD. HEAVY COMPACTION EQUIPMENT SHOULD NOT BE ALLOWED WITHIN 4 FEET OF STRUCTURES UNLESS A MINIMUM 2 FEET DEPTH OF FILL COVERS THE STRUCTURES.
- 6. THE CONTRACTOR SHALL TAKE ALL MEASURES REQUIRED TO PROVIDE FOR FREE DRAINAGE OF THE SITE AND TO PREVENT PONDING OF WATER. SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES.
- 7. PLACING OF FILL CONTAINING ORGANIC MATTER; PLACING OF FILL WITH MOISTURE CONTENT TOO HIGH OR TOO LOW FOR PROPER COMPACTION; PLACING OF FILL WHEN FREE WATER IS STANDING ON THE EXISTING FILL SURFACE; PLACING OF FILL IN A FROZEN CONDITION OR ON TOP OF FROZEN MATTER WILL NOT BE PERMITTED.
- 8. THE GEOTECHNICAL ENGINEER SHALL SUPERVISE THE PLACING OF THE COMPACTED FILL AND ALL THE MATERIAL AND EQUIPMENT USED FOR THIS PURPOSE AND SHALL MAKE SUCH SOILS TESTS AS MAY BE REQUIRED FOR THE COMPLETION OF THE WORK.

- I. THE EXISTING FOUNDATIONS OF THE ADJACENT BUILDING ARE UNKNOWN. AS-BUILT DRAWINGS OF THE EXISTING STRUCTURE WERE NOT AVAILABLE DURING DESIGN. SUBSEQUENTLY, EXCAVATION AND SUBSURFACE EXPLORATION MAY BE REQUIRED IF THE SIZE AND LOCATION OF NEW FOUNDATIONS CONFLICT WITH EXISTING CONDITIONS. CONTRACTOR SHOULD ALERT THE ENGINEER OF RECORD IF FOOTING GEOMETRIES CONFLICT AND PROVIDE THE FOLLOWING
- A. EXISTING FOUNDATION SYSTEM --> DEEP FOUNDATION OR SPREAD FOOTINGS. B. APPROXIMATE TOP AND BOTTOM ELEVATIONS OF ALL SHALLOW SPREAD FOOTINGS.
- C. APPROXCIMATE WIDTH AND LEGNTH OF ALL EXISTING COLUMN FOUNDATIONS.
- 2. SOIL BEARING: DESIGN ALLOWABLE BEARING CAPACITY OF 3,000 PSF, REFER TO GEOTECHNICAL REPORT BY CGC SERVICES
- DATED 10/10/2023 FOR EARTHWORK PROCEDURE, COMPACTION, AND ADDITIONAL INFORMATION. IF SOIL OF THIS BEARING CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS INDICATED ON THE CONTRACT DRAWINGS, FOOTINGS SHALL BE LOWERED OR INCREASED IN SIZE AS DIRECTED BY THE STRUCTURAL ENGINEER. ELEVATIONS SHOWN ON PLAN ARE TO THE BOTTOM OF THE FOOTINGS.
- 3. ALL FOUNDATIONS SHOULD BE PLACED ON FIRM, NON-FROZEN SUBGRADE.
- 4. PROVIDE PROTECTION AS REQUIRED TO SUPPORT LATERAL LOADS DURING EXCAVATION. SEE GEOTECHNICAL REPORT FOR
- 5. CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS AND ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER. PROVISIONS FOR REMOVAL OF WATER BY DRAINAGE OR SUMPING ARE RECOMMENDED.

- 6. SUBGRADE SOILS DISTURBED BY PRECIPITATION SHOULD BE EITHER SACRIFIED AND RE-COMPACTED, OR UNDERCUT AND REPLACED WITH STRUCTURAL FILL. SEE GEOTECHNICAL REPORT.
- 7. FOUNDATION AND AND SLAB SUBGRADE AREAS ARE TO BE OVEREXCAVATED BY 4" AND COVERED WITH AASHTO #57
- STONE, OR APPROVED EQUAL. 8. CONTRACTOR SHALL REFER TO PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS OF TRENCHES,
- PITS, CONDUITS, ETC. NOT SHOWN ON STRUCTURAL DRAWINGS. 9. ALL EXISTING PAVEMENT SECTION, UTILITIES, FOUNDATIONS OR SLABS, OR OTHER OBSTRUCTIONS IN THE BUILDING
- FOOTPRINT SHOULD BE REMOVED IN THEIR ENTIRETY AT THE START OF CONSTRUCTION. EXPOSED SUBGRADE TO BE PROOFROLLED WITH A MINIMUM 10 TON VIBRATORY ROLLER OF FULLY LOADED TANDEM-
- WHEEL DUMP TRUCK IN THE PRESENCE OF A QUALIFIED GEOTECHNICAL ENGINEER. 10. YIELDING SUBGRADE CONDITIONS ENCOUNTERED WITHIN THE PROPOSED BUILDING AREA WHICH CANNOT BE DENSIFIED

IN PLACE SHOULD BE UNDERCUT TO FIRM SUBGRADE CONDITIONS AND BE BACKFILLED IN ACCORDANCE WITH THE

- 11. IF ANY AREA OF SIGNIFICANT QUANTITIES OF DEBRIS OR ORGANIC MATERIAL ARE OBSERVED WITHIN THE FILL SOILS, THEY SHOULD BE REMOVED FROM THE SLAB AREA.
- 12. FOUNDATION EXCAVATIONS SHOULD BE REVIEWED BY A QUALIFIED TECHNICIAN WORKING UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER THAT IS FAMILIAR WITH THE REPORT.
- 13. SANDY SILTY OR SILTY SAND SOILS THAT ARE FREE OF DEBRIS MAY BE SUITABLE FOR USE AS FILL IF THEY ARE MAINTAINED AT A MOISTURE CONTENT THAT WILL ALLOW FOR THE SPECIFIED DEGREE OF COMPACTION.

CONCRETE TO COMPLY WITH ACI 301. MIX DESIGN AND REBAR SHOP DRAWINGS TO BE SUBMITTED FOR REVIEW.

RECCOMENDATIONS OF THE GEOTECHNICAL REPORT.

1. EXPOSURE CATEGORY - FOUNDATIONS AND SLAB ON GRADE: F2, W1

- 2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE TO BE 4500 PSI 3. CHAMFER ALL EXPOSED CONCRETE CORNERS. SEE ARCHITECTURAL DRAWINGS FOR DETAILS AND REQUIREMENTS
- 4. PROVIDE CONTINUOUS WATERSTOPS, AS DESCRIBED IN THE SPECIFICATIONS, AT EACH CONSTRUCTION JOINT OF ANY CONCRETE ELEMENT EXPOSED TO SOIL OR WATER.
- 5. PROVIDE A 1-1/2" BY 3-1/2" CONTINUOUS KEY AT EACH JOINT REQUIRING WATERSTOP.
- SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL JOINTING AND WATERPROOFING REQUIREMENTS. 7. LOADS GREATER THAN THE DESIGN LIVE LOADS SHALL NOT BE PLACED ON THE STRUCTURE. A CONCRETE STRUCTURE MAY NOT SUPPORT ITS DESIGN LIVE LOAD FOR 28 DAYS. CONTRACTOR SHALL SUPPORT ADJACENT STRUCTURES, UTILITIES, AND EXCAVATIONS AS REQUIRED FOR COMPLETION OF WORK.
- 8. DEFORMED BARS SHALL CONFORM TO ASTM A615, GRADE 60 OR ASTM A706, GRADE 60
- 9. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064

- 1. CONSTRUCTION JOINT AND CONTROL JOINT MAY BE INTERCHANGED TO SUIT CONCRETE POUR SCHEDULE 2. EXACT LOCATION OF CONTROL JOINTS SHALL BE ESTABLISHED PRIOR TO CUTTING OF REINFORCING AND PLACING OF
- CONCRETE. FIELD CONTROL SHALL ASSURE THAT THE JOINTS OCCUR OVER THE CUT REINFORCING.
- A. THE PREFERRED METHOD FOR SAWING CONCROL JOINTS IS WITH THE "SOFF-CUT" SAW WITHIN ONE HOUR OF FINISHED CONCRETE. B. THE CONVENTIONAL CONCRETE SAW CUTTING A 3/16" (5MM) WIDE GROOVE IS ALSO ACCEPTABLE. SAWING SHALL
- BEGIN AS SOON AS THE CONCRETE SURFACE HAS SUFFICIENTLY HARDENED TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING AND BEFORE SHRINKAGE CRACKS OCCUR. SAWING SHALL BEGIN WITHIN 10 HOURS OF THE FINAL FINISHING OPERATION.
- C. WHERE THE SAW IS OBSTRUCTED, TOOLED OR FORMED JOINTS SHALL BE PROVIDED TO JOIN THE SAW CUT JOINT AND COMPLETE THE CONTROL JOINT
- D. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO ENSURE THAT SAWED JOINTS ARE MADE IN THE PROPER INTERVAL INCLUDING, BUT NOT LIMITED TO LIGHTING, TWO SHIFTS, OVERTIME, ETC.
- 4. ALL DOWELS SHALL BE SAW CUT, NOT SHEARED, CONFORMING TO ASTM A615 PLAIN, GRADE 60, AND SHALL BE LOCATED AT MID-DEPTH OF THE SLAB. DOWELS SHALL BE CAREFULLY AND FIRMLY SUPPORTED DURING CONSTRUCTION. DOWELS SHALL BE COATED WITH A BOND BREAKER PRIOR TO PLACING CONCRETE IN THE SECOND
- 5. SLAB CONTROL JOINTS SHALL BE PLACED SUCH THAT SPACING DOES NOT EXCEED 36xSLAB THICKNESS UP TO A MAXIMUM 18 FEET BETWEEN JOINTS PER ACI 302. JOINTS SHALL BE CUT INTO THE SLAB AT A DEPTH OF 1/3 TIMES THE THICKNESS OF THE SLAB WITHIN 12 HOURS OF PLACEMENT.

1. DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS AND APPLICABLE CODES / STANDARDS NOTED.

- 2. ALL LAP SPLICES ARE TO BE ACI STANDARD CLASS B TENSION LAP SPLICES. WHERE BARS OF DIFFERENT SIZES LAP, PROVIDE LAP SPLICE LENGTH FOR LARGER BAR.
- 3. WHERE A 90-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 90-DEG. HOOK. WHERE A 135-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 135-DEG. HOOK. WHERE A 180-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 180-DEG. HOOK.
- 4. WHERE SHEETS OF WELDED WIRE FABRIC ARE GRAPHICALLY INDICATED TO LAP, PROVIDE ACI STANDARD FULL TENSION WELDED WIRE FABRIC LAP SPLICE.
- 5. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCEMENT AND LAP SPLICE WITH THE MAIN REINFORCEMENT.
- 6. WHERE CONCRETE ELEMENTS INTERSECT WALLS, PROVIDE DOWELS TO EXTEND WALL REINFORCEMENT CONTINUOUS. ALL WALL STEEL SHALL HAVE A MINIMUM EXTENSION INTO THE SUPPORTS IN ACCORDANCE WITH THE LATEST ADDITION
- 7. REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE PROTECTION (CLEAR COVER), UON.
 - : SURFACES NOT FORMED : FORMED SURFACES IN CONTACT WITH SOIL/ WATER, OR EXPOSED TO WEATHER
 - 3/4" : SLABS AND JOISTS, TOP BARS
 - 1" : ELEVATED SLABS AND JOISTS, BOTTOM BARS AND WALLS

STRUCTURAL METALS

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES, UON: ROLLED SHAPES, UON: ASTM A992, GRADE 50

PLATES, ANGLES, CHANNELS: ASTM A36

ASTM A501 OR A53, TYPES E OR S HOLLOW STRUCTURAL SECTIONS: ASTM A1085 OR A500

STRUCTURAL STEEL CONNECTION MATERIAL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES: PLATES: ASTM A36

HIGH STRENGTH BOLTS: ASTM A325 OR A490 ASTM F1554 GR 55 S1 (WELDABLE), UON ANCHOR ROD:

HEADED CONC ANCHORS ASTM A-108 NUTS: ASTM A563 WASHERS: ASTM A436 WELD METALS: E70XX (70KSI)

- 1. DETAIL, FABRICATE, AND ERECT STEEL IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION INCLUDING SUPPLEMENTS. FABRICATORS SHALL BE LICENSED BY THE GOVERNING AUTHORITY. WELDERS SHALL BE CERTIFIED BY AWS AND SHALL HAVE SPECIFIC CERTIFICATIONS FOR ALL WELDING PROCEDURES PERFORMED. IF LOCAL JURISDICTION LICENSES ARE REQUIRED, WELDERS SHALL HAVE CURRENT LOCAL CERTIFICATION. IN ABSENCE OF AN APPROVED FABRICATION SHOP, STRUCTURAL WELDING SHALL BE DONE UNDER THE SUPERVISION OF A CERTIFIED SPECIAL INSPECTOR.
- 2. FOR STEEL MEMBERS AND EMBEDMENTS EXPOSED TO WEATHER, PROVIDE HOT-DIPPED GALVANIZED STEEL.
- 3. WHERE NO CAMBER IS INDICATED, BEAMS SHALL BE FABRICATED SO THAT AFTER ERECTION, ANY NATURAL CAMBER IS UPWARD.

PRE-ENGINEERED METAL BUILDING

BUILDING SYSTEMS MANUAL.

- 1. ANY PRIMARY ROOF MEMBER EXPOSED TO A WORK FLOOR OR ANY POINT ALONG PRIMARY STRUCTURAL MEMBERS SUPPORTING ROOFS OVER MANUFACTURING, STORAGE WAREHOUSES, AND REPAIR GARAGES ARE TO BE DESIGNED TO ACCOMMODATE A CONCENTRATED POINT LOAD OF 2 KIPS.
- 2. THE BUILDING SHALL BE A MANUFACTURER'S STANDARD PRE-FABRICATED METAL STRUCTURE OF THE APPROXIMATE INSIDE AREA SHOWN. RIGID FRAMES SHALL BE SPACED AS SHOWN IN THE PLANS, BUT OVERALL DIMENSIONS AND CONSTRUCTION DETAILS MAY VARY TO SUIT THE MANUFACTURER'S STANDARD DESIGN.
- 3. METAL BUILDING SHALL CONFORM TO ALL APPLICABLE BUILDING CODES AND PROVISIONS OF THE MBMA METAL

4. SUBMITTALS:

A. STANDARD DRAWINGS AND DESIGN ANALYSIS SHALL BEAR THE SEAL OF A STRUCTURAL ENGINEER REGISTERED IN THE COMMONWEALTH OF DELAWARE.

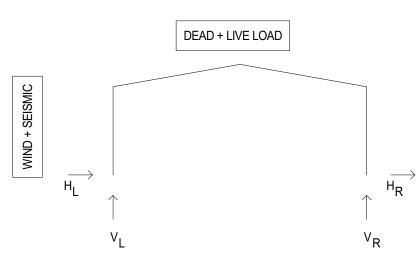
D. A COMPLETE DESIGN ANALYSIS SHOWING ALL CALCULATIONS FOR RIGID FRAME, GIRTS, AND PURLINS AND A LAYOUT

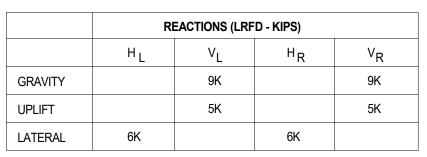
- B. SUBMIT METAL BUILDING SHOP DRAWINGS AND FINAL FOUNDATION LOADS PRIOR TO THE INITIATION OF THE
- FOUNDATION WORK.
- C. ALL SUBMITTALS TO BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE
- OF THE ANCHOR BOLTS AND OTHER EMBEDDED ITEMS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS. E. SHOP DRAWINGS SHALL INCLUDE DETAILS OF ALL MAIN MEMBERS, TYPICAL CONNECTIONS SHOWING BOLT HOLES AND WELDS, AND ERECTION DRAWINGS.
- 5. ALL BUILDING COMPONENTS ABOVE THE CONCRETE SLAB FOUNDATIONS INCLUDING COLUMN BASE PLATES AND WALL ANCHORAGE SYSTEMS TO BE PROVIDED BY THE BUILDING MANUFACTURER. CONTRACTOR TO COORDINATE AND BUILD INTO THE WORK ALL ANCHORAGE DEVICES AND OTHER EMBEDDED ITEMS REQUIRED TO BE SET INTO CONCRETE OR CONCRETE MASONRY.
- 6. ALL METAL BUILDING COLUMN ANCHOR BOLTS TO BE OF A DIAMETER, QUANTITY AND LOCATION AS DESIGNED BY THE METAL BUILDING MANUFACTURER. EMBEDMENT DEPTH TO BE AS SHOWN ON THESE DRAWINGS. ANCHOR BOLTS TO BE FURNISHED AND INSTALLED BY THE CONCRETE SUBCONTRACTOR AT LOCATIONS, AND PROJECTIONS SHOWN ON THE FINAL ANCHOR BOLT LAYOUT PLANS AND DETAILS AS PREPARED BY THE METAL BUILDING MANUFACTURER.
- 7. MODIFICATIONS OF THE FOUNDATIONS, AS SHOWN HERON, REQUIRED TO ACCOMMODATE DETAILS OF THE METAL BUILDING MUST BE DESIGNED AND DOCUMENTED BY THE CONTRACTOR. DESIGN CALCULATIONS AND CONSTRUCTION DOCUMENTS MUST BE PREPARED UNDER THE SUPERVISION OF AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE. IN THE EVENT THE CONTRACTOR CHOOSES TO ALTER THE FOUNDATIONS SHOWN ON THESE DRAWINGS IN ORDER TO ACCOMMODATE THE PARTICULAR REQUIREMENTS OF THE BUILDING, ANY ADDITIONAL COSTS ASSOCIATED WITH REDESIGN, DOCUMENTATION, SUBMITTALS AND CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY MODIFICATIONS TO THE FOUNDATIONS SHOWN ON THESE DRAWINGS ARE SUBJECT TO THE APPROVAL OF THE OWNER.
- 8. WIND RESISTING ELEMENTS TO BE EITHER STRONG AXIS RIGID FRAMES AND WEAK AXIS CROSS BRACING, OR STRONG AXIS RIGID FRAMES AND WEAK ASIS PORTAL FRAMES.
- 9. THE BUILDING SHALL BE DESIGNED TO SUPPORT ALL MECHANICAL EQUIPEMENT INCLUDING HEATERS, SPRINKLERS, EXHAUST SYSTEMS AND OTHER SUCH DEVICES. ADDITIONAL GIRTS OR PURLINS SHALL BE PLACED IN CONVENIENT LOCATIONS FOR THE ATTACHMENT OF ALL MECHANICAL EQUIPMENT.
- 10. BASED UPON THE FINAL CALCULATED FRAME REACTIONS PROVIDED BY THE PRE-ENGINEERED BUILDING MANUFACTURER, THE CONTRACTOR SHALL VERIFY THAT FOUNDATIONS INDICATED ON THE DRAWINGS ARE SUFFICIENT TO SUPPORT THE STRUCTURE AND TO RESIST ANY UPLIFT DUE TO WIND LOADING.
- 11. BOLTS SHALL BE PROPERLY PLACED, ALIGNED, AND SECURELY TIED TO REMAIN IN PLACE DURING PLACEMENT OF THE CONCRETE.

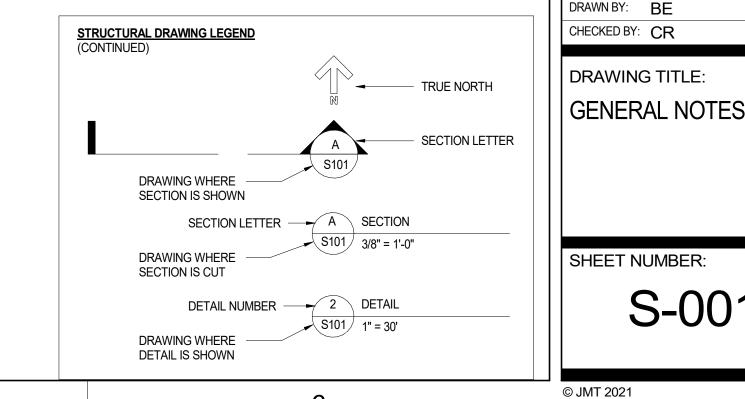
PRE-ENGINEERED METAL BUILDING - MINIMUM DESIGN CRITERIA

THE EXISTING FOUNDATIONS OF THE ADJACENT EXISTING BUILDING ARE UNKNOWN. SEE FOUNDATION NOTES THIS PAGE FOR MORE INFORMATION.

- 2. NEW FOUNDATIONS ARE REQUIRED TO BE VERIFIED AND/OR REDSIGNED BASED ON THE ACTUAL BUILDING MANUFACTUER-PROVIDED DESIGN REACTIONS.
- 3. FOUNDATIONS SHOWN ARE PRELIMINARY. THE PRELIMINARY DESIGN ASSUMED COLUMN REACTIONS. CONTRACTOR SHALL VERIFY THAT LOADS SHOWN BELOW ARE CORRECT FOR BUILDING FURNISHED:
- MAX. COLUMN COMPRESSION = 9 KIPS MAX. COLUMN UPLIFT = 5 KIPS MAX. COLUMN SHEAR = 6 KIPS

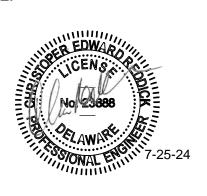






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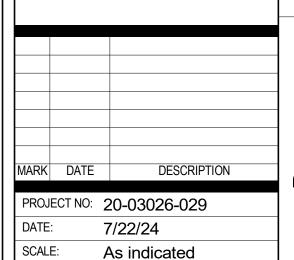
PROJECT:

406 PHILIPS AVENUE

NEWARK, DE 19711

PREPARED FOR:

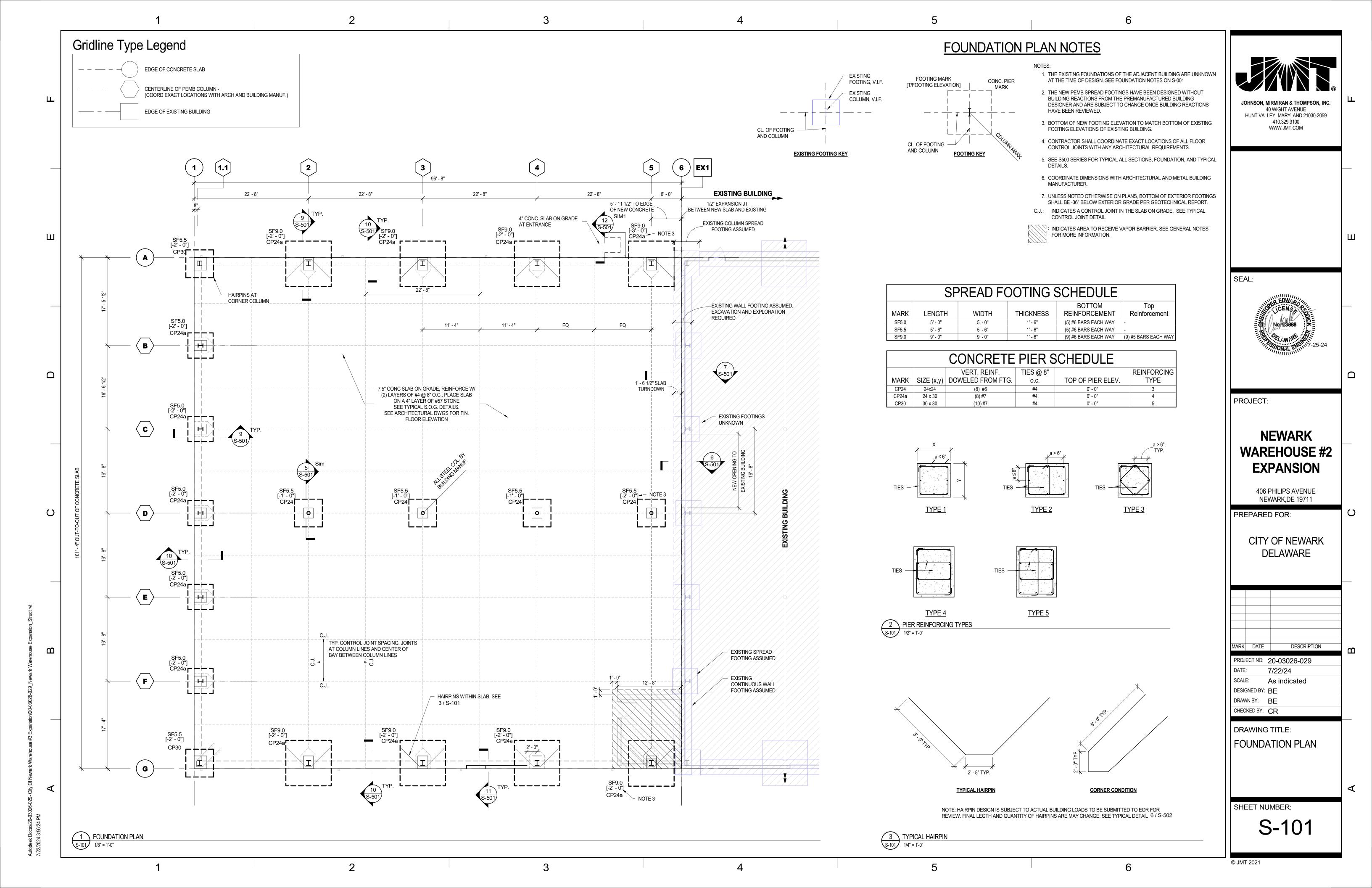
CITY OF NEWARK **DELAWARE**

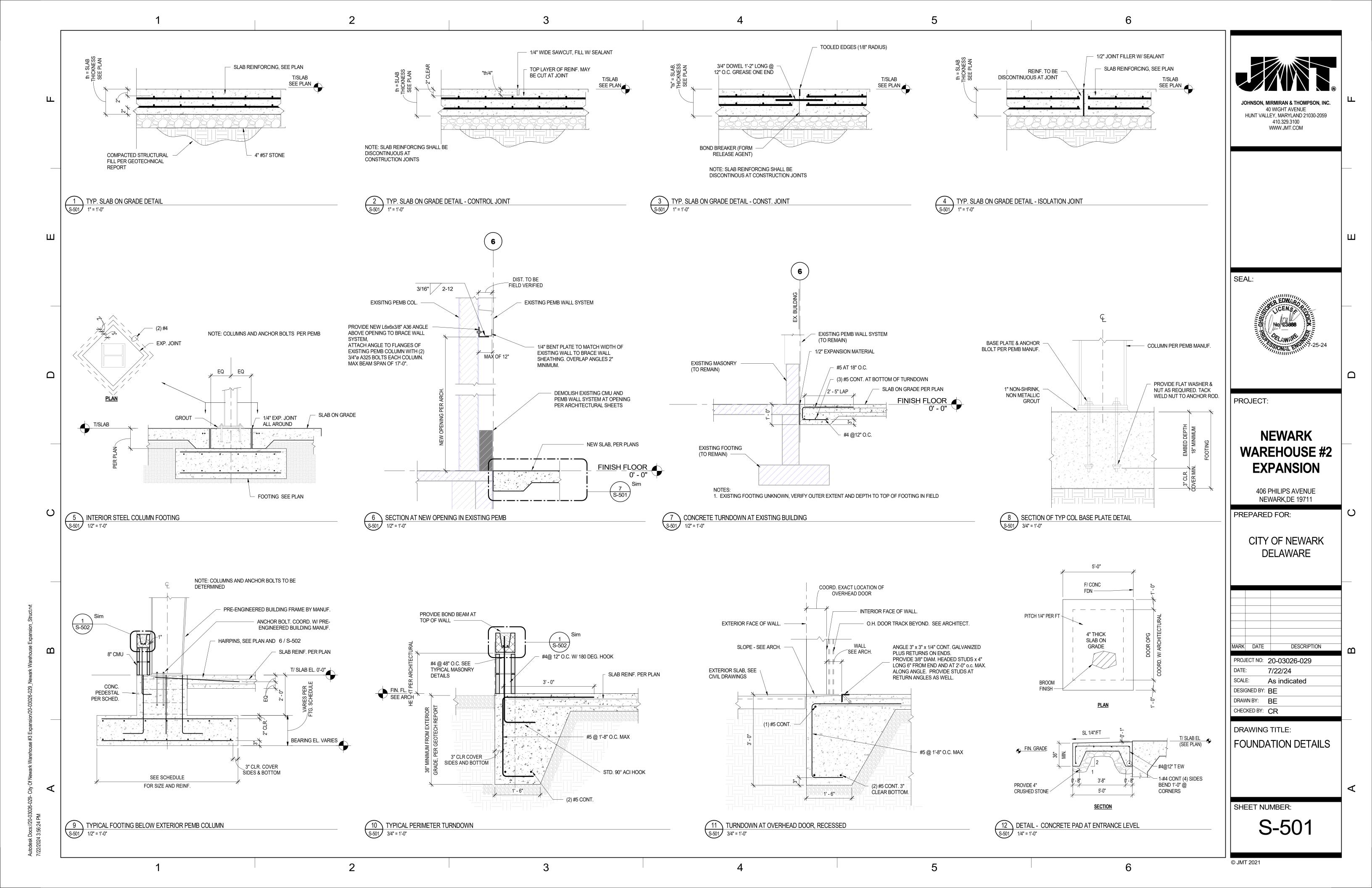


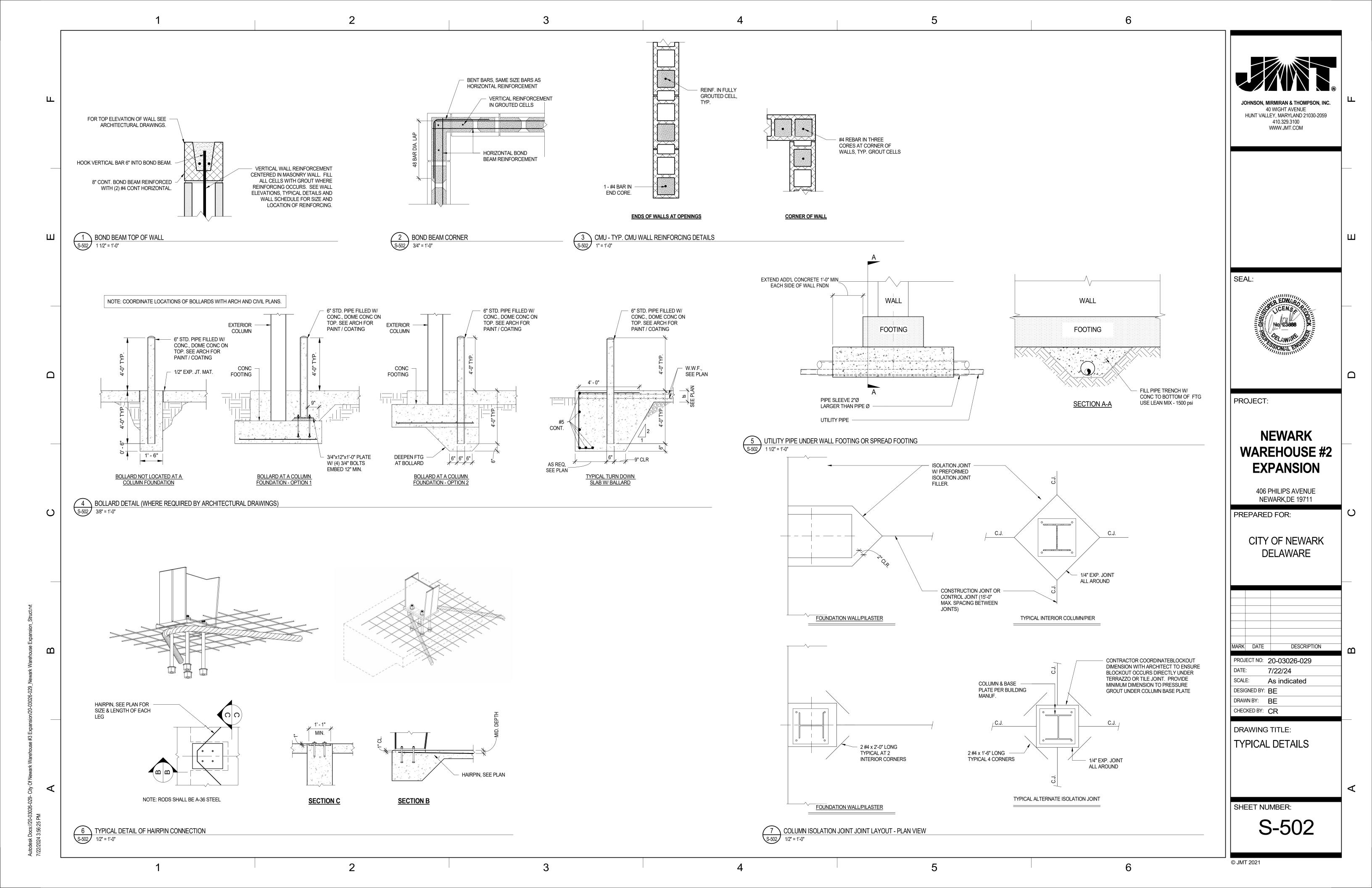
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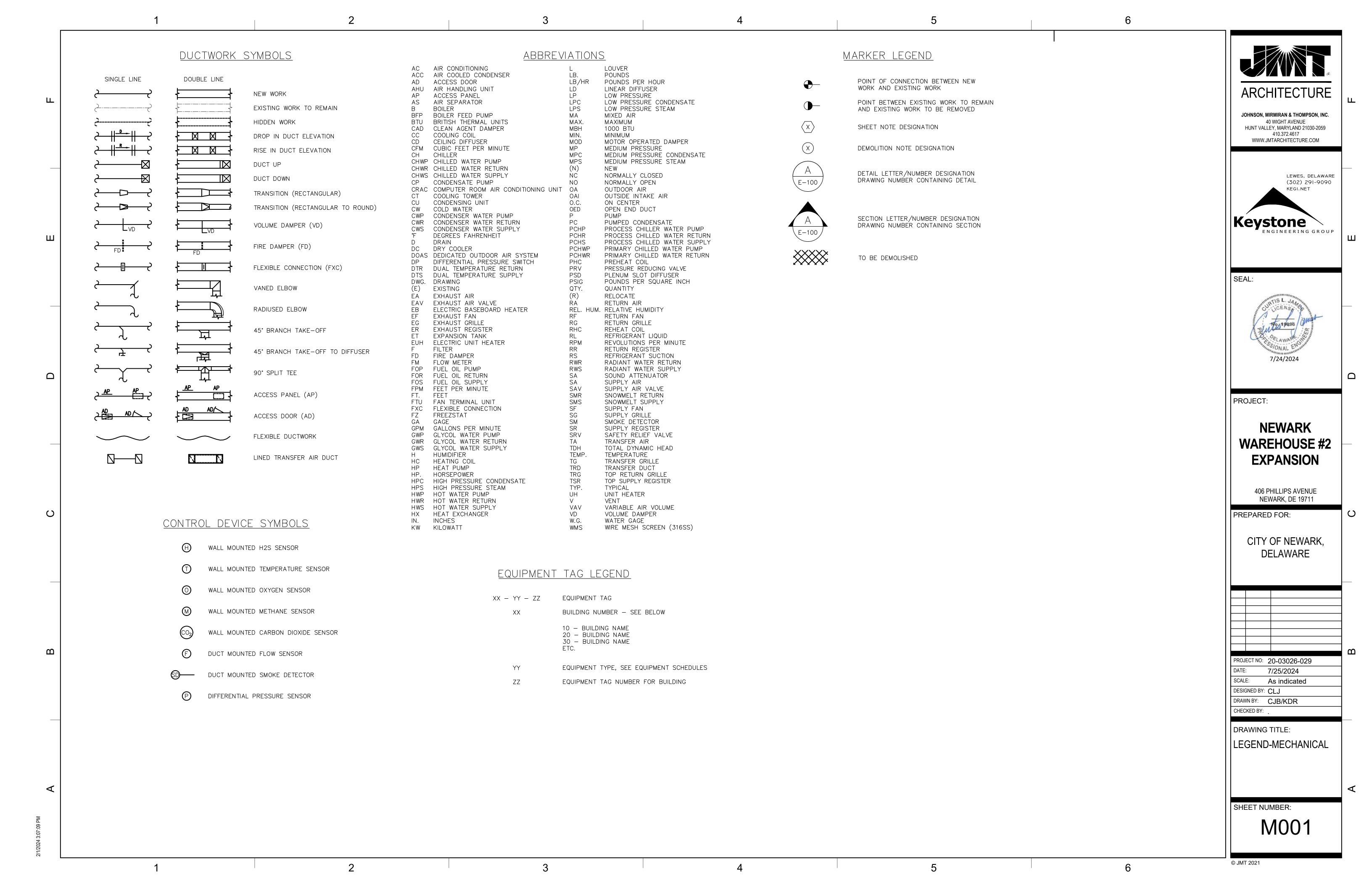
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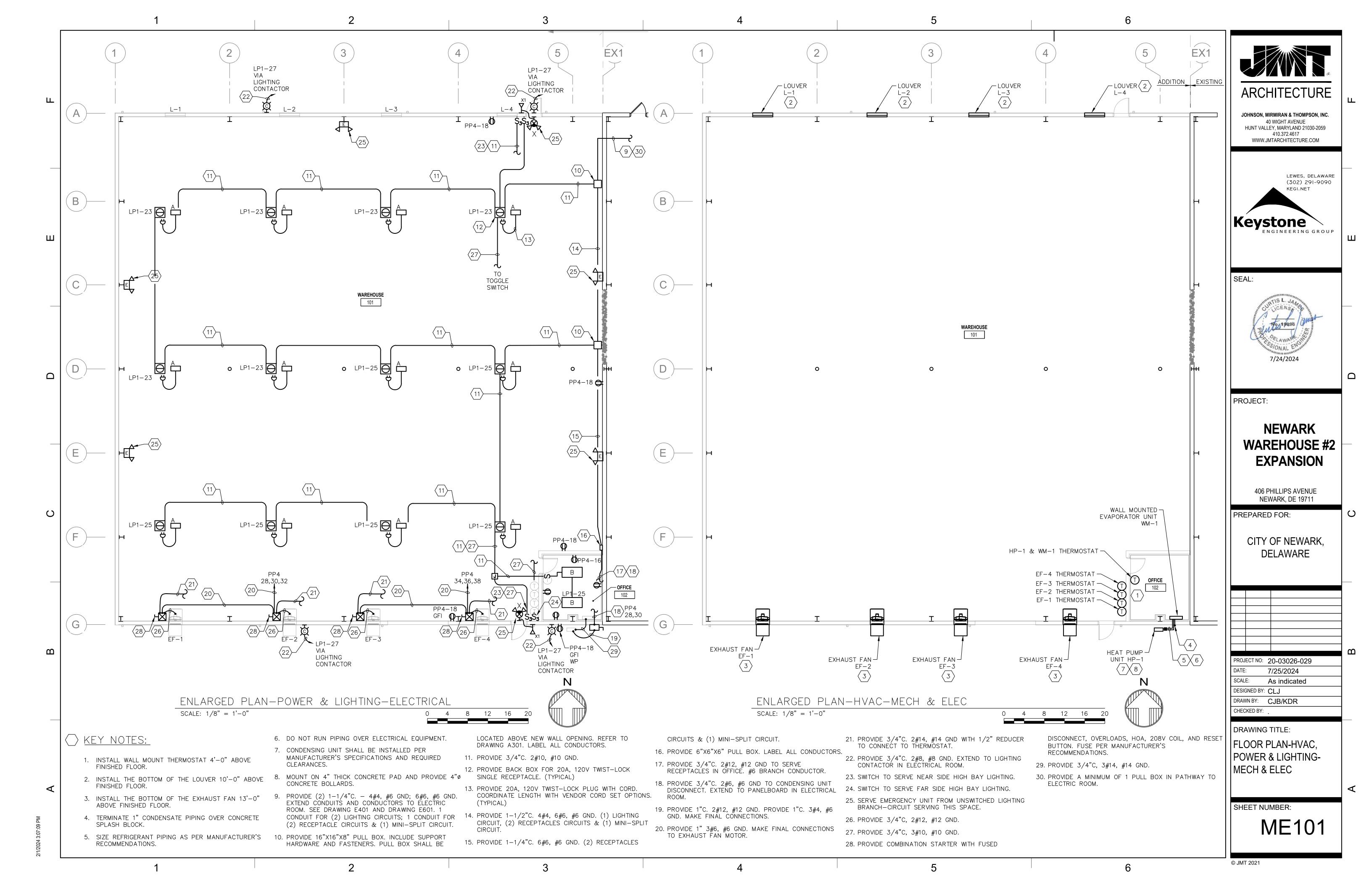
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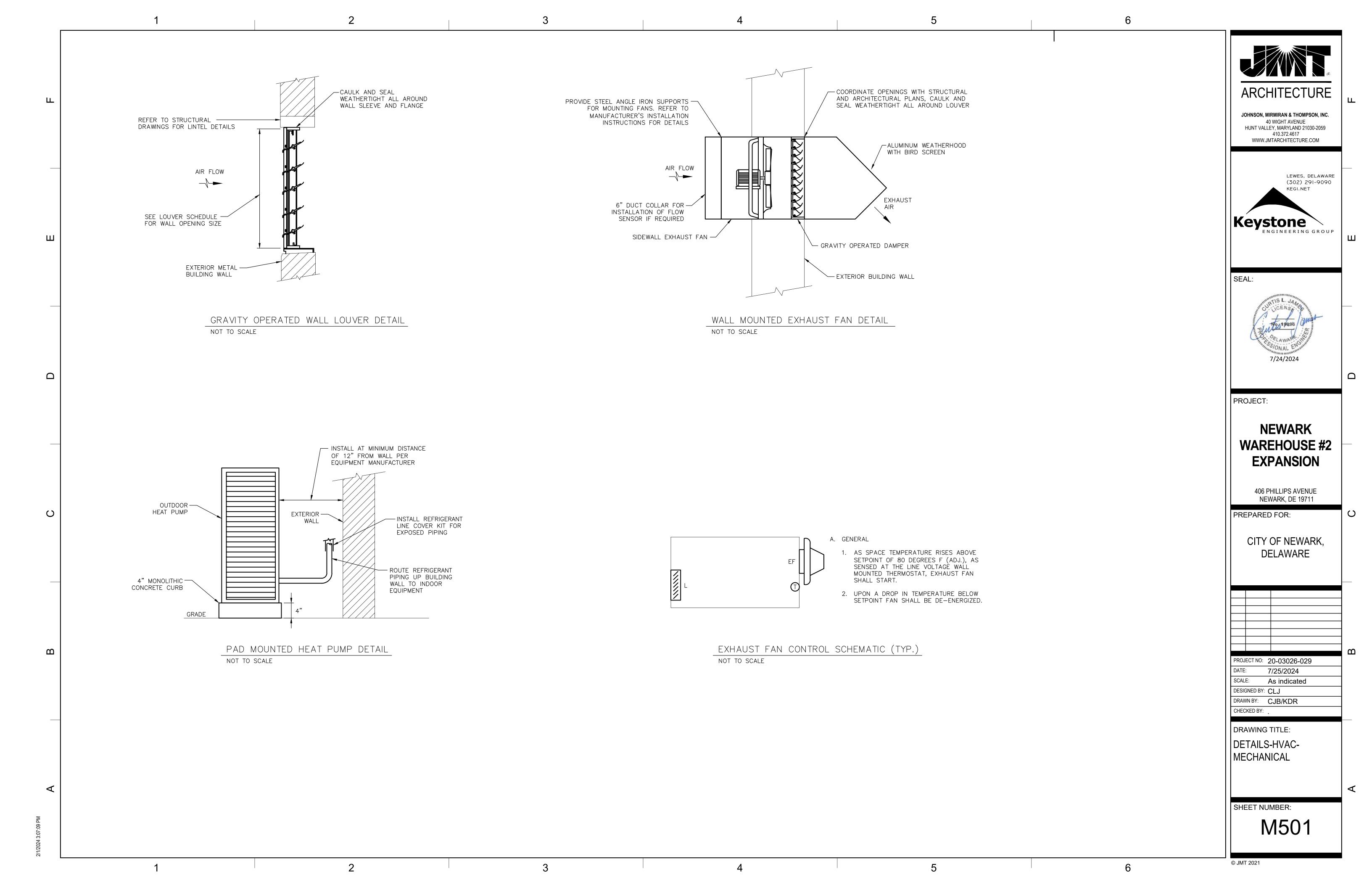






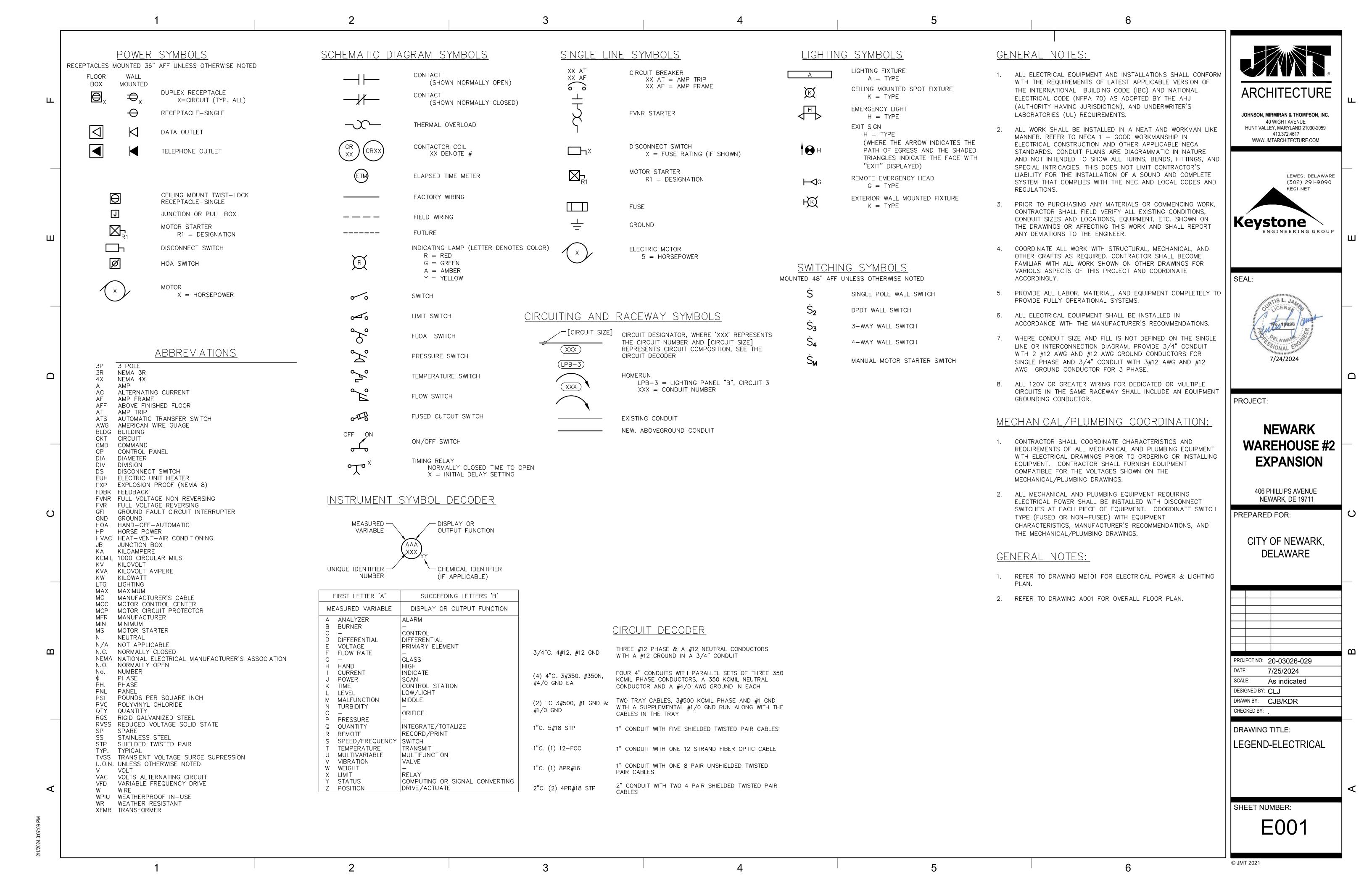


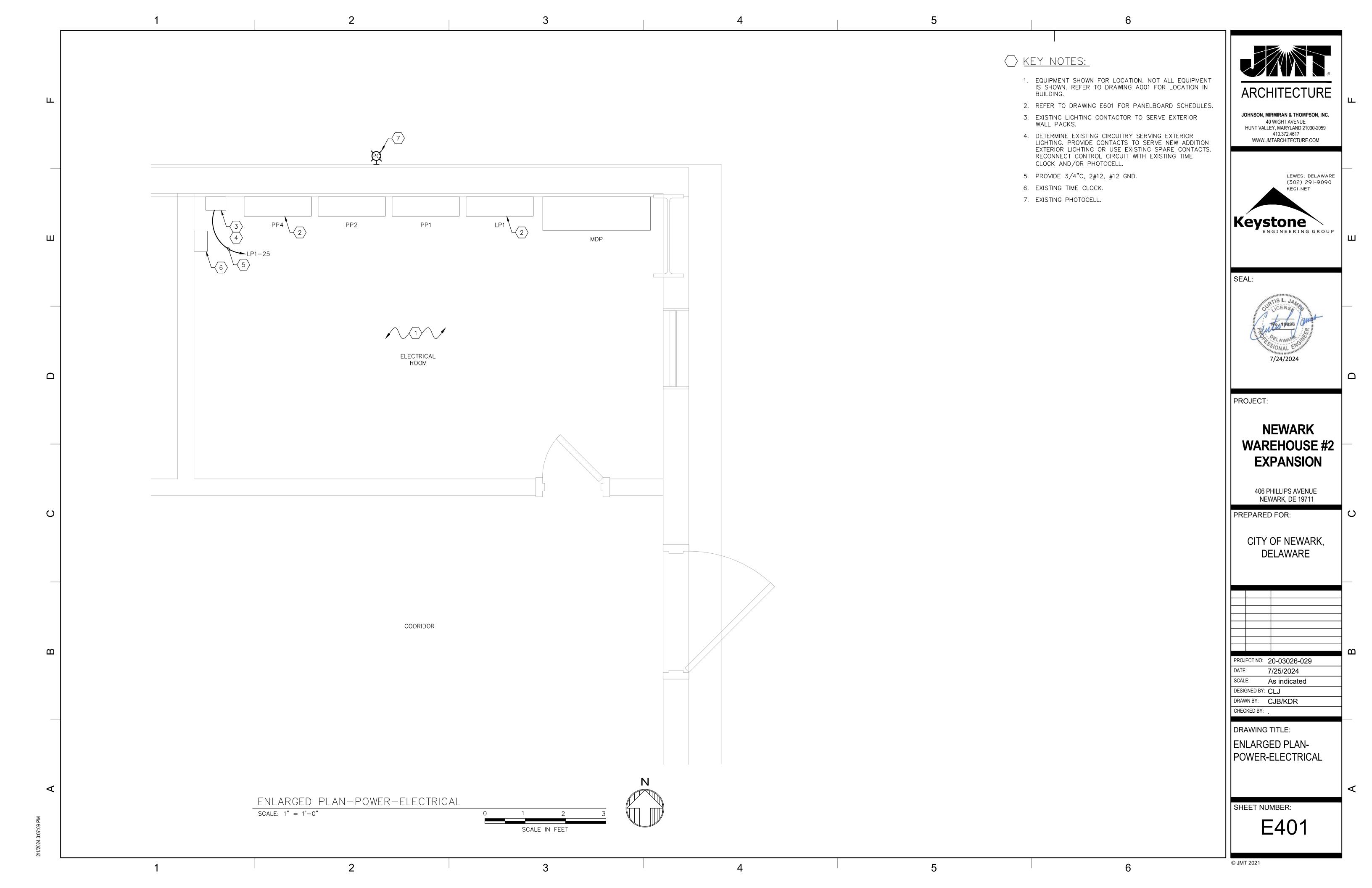


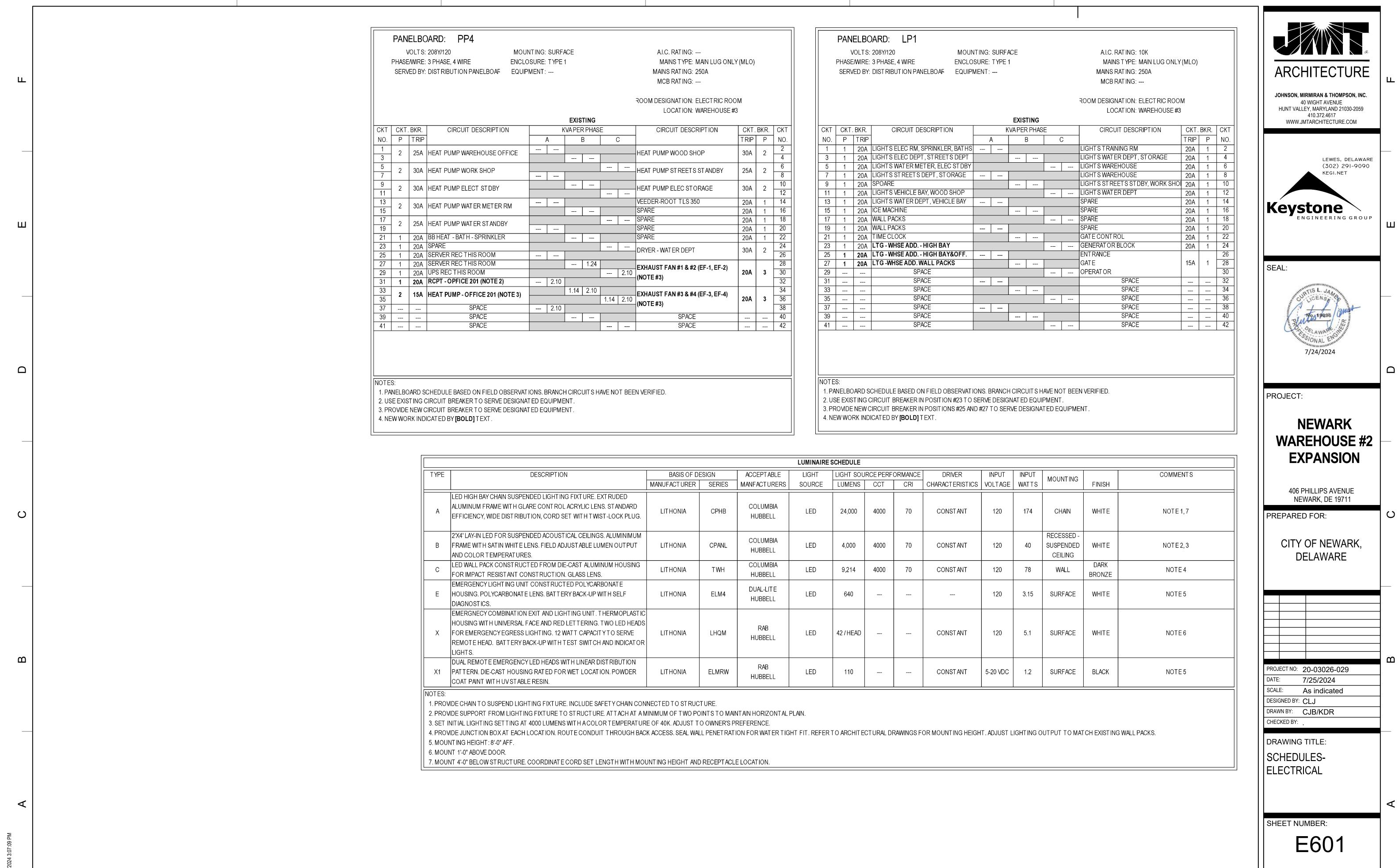


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