

# Buffer Report

**NEPTUNE TOWNSHIP**  
Office of the Planner  
2 Neptune Blvd  
P.O. Box 125  
Neptune, NJ 07741-0125  
732.800.1958

created on 4/29/2020

## Highlighted Features(s)

### Subject Property (S)

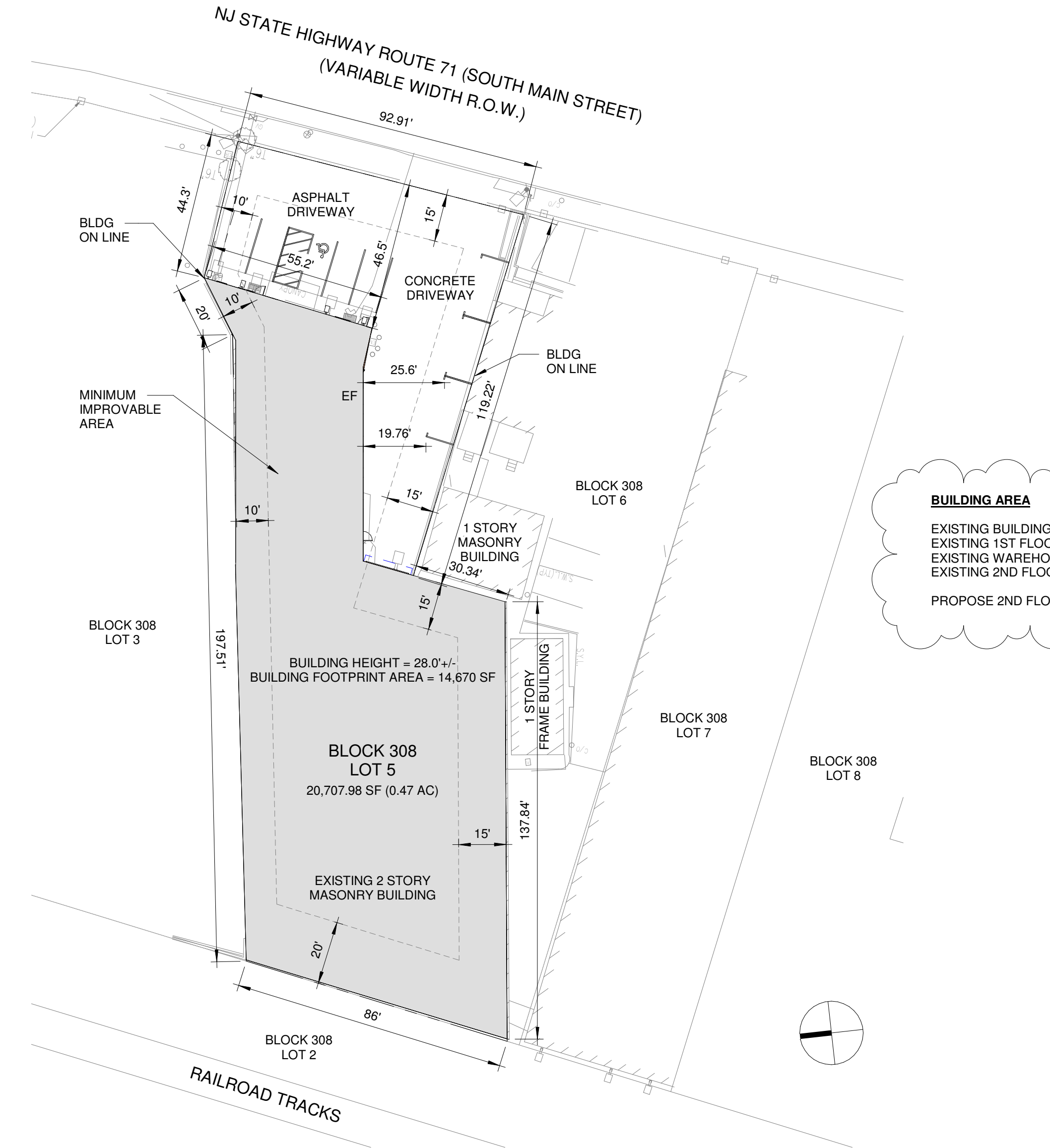
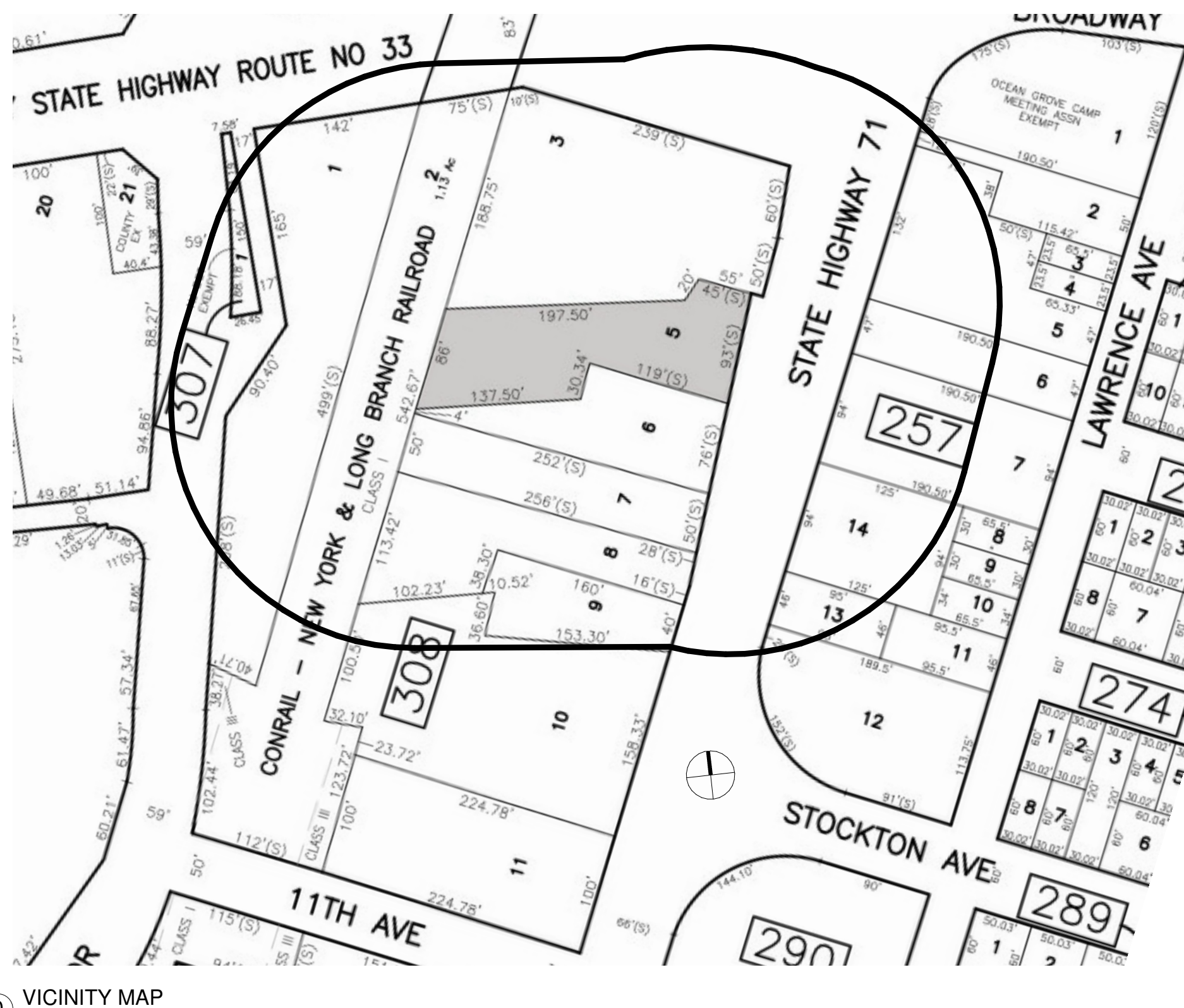
Block	Lot	Location	Owner	Owner State	Owner City/State/Zip	Additional Info
308	5	111 SO MAIN ST	JEMALS BOLLO LLC	702 HST NW SUITE 400	WASHINGTON, DC 20001	

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### List of adjoining features(s) that intersect 200 foot buffer from Subject Property.

#### Adjoining Property (A)

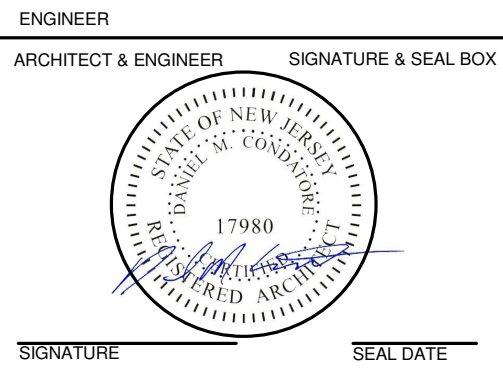
Block	Lot	Location	Owner	Owner State	Owner City/State/Zip	Additional Info
257	1	100 MAIN ST	OCEAN GROVE CAMP MEETING ASSN	PO BOX 246	OCEAN GROVE, NJ 07756	
257	2	130 LAWRENCE AVE	MURPHY, CORBEN A	130 LAWRENCE AVE	OCEAN GROVE, NJ 07756	
257	5	108 SO MAIN ST	108 ASSOCIATES, LLC	PO BOX 355	OCEAN GROVE, NJ 07756	
257	6	140 LAWRENCE AVE	HUGGERS, CHARLES	439 LONG AVE	MARGANQUAN, NJ 08756	
257	7	126 SO MAIN ST	126 SOUTH MAIN REALTY LLC	126 SOUTH MAIN ST	OCEAN GROVE, NJ 07756	
257	12	151 STOCKTON AVE	COOKMAN ASBURY ASSOCIATES V, LLC	1481 OAK TREE ROAD	ISLEIP, NJ 08660	
257	13	126 S MAIN ST	WOBBES, FRANK	78 COCKENOT ACRES DRIVE	HAMILTON, NJ 08627	
257	14	124 S MAIN ST	FRANKLIN SEIBER METAL INC	122 SOUTH MAIN STREET	OCEAN GROVE, NJ 07756	
307	1	1102 CORLIS AVE	STATE OF NJ DOT	1055 PARKWAY AVE POB 654	TRENTON, NJ 08625	
308	1	1100 CORLIS AVE	EDMONSON'S RESTAURANT EQUIPMENT LLC	1100 CORLIS AVENUE	NEPTUNE, NJ 07753	
308	2	RAILROAD	CONSAL NY-LONG BEACH	25 NEPTUNE BLVD	NEPTUNE TWP, NJ 07753	
308	3	1000 CORLIS AVE	1000 CORLIS LLC	501 MORNINGSTAR RD	STATEN ISLAND, NY 10313	
308	5	111 SO MAIN ST	JEMALS BOLLO LLC	702 HST NW SUITE 400	WASHINGTON, DC 20001	
308	6	131 SO MAIN ST	BRANDE, RICHARD	1175 BRIDAL STREET C101	SHREWSBURY, NJ 07762	
308	8	147 SO MAIN ST	JOHNSON, ROBERT W, JR	1100 CORLIS AVENUE	NEPTUNE, NJ 07753	
308	9	50 MAIN ST	OUTDOOR SYSTEMS INC OF IDRA	181 US HIGHWAY 46	FARMFIELD, NJ 07004	
308	10	171 SO MAIN ST	NEW JERSEY AMERICAN WATER CO	PO BOX 2728 % TAX DEPT	CAMDEN, NJ 08010	



DRAWING LIST		
DWG #	DRAWING TITLE	DATE
C100	COVER SHEET	11/16/2020
C101	ADA GUIDELINES	05/20/2020
C102	SPECIFICATIONS	05/20/2020
LS100	LIFE SAFETY PLAN	05/20/2020
A100	FLOOR PLANS	11/16/2020
A101	ROOF PLAN	05/20/2020
A200	ELEVATIONS	05/20/2020
A300	SECTIONS	05/20/2020
E100	ELECTRICAL PLAN	05/20/2020
M100	MECHANICAL SPECIFICATIONS AND NOTES	05/20/2020
M101	MECHANICAL PLAN	05/20/2020
S100	FRAMING PLAN	05/20/2020
COUNT: 12		

ZONING ANALYSIS			
NEPTUNE TOWNSHIP			
BLOCK: 308 LOT: 5		LOT AREA: .47 ACRE (20,707.98 SF)	
BUILDING ZONE: C-6			
BUILDING USE: COMMERCIAL			
ZONING SCHEDULE B - ZONING DISTRICT BULK REGULATIONS			
	MIN. REQUIRED	EXISTING	PROPOSED
LOT AREA (SF):	15,000	20,707.98	NO CHANGE
MAX F.A.R.:	0.6	.75^	.86
LOT WIDTH (FT):	100	92.91^	NO CHANGE
LOT FRONTAGE (FT):	100	55.2^	NO CHANGE
LOT DEPTH (FT):	100	249.5	NO CHANGE
FRONT SETBACK (FT):	15	44.3	NO CHANGE
SIDE SETBACK (FT):	0/10	0	NO CHANGE
COMBINED SIDE (FT):	25	0^	NO CHANGE
REAR SETBACK (FT):	20	0^	NO CHANGE
MAX % BLDG COVER:	35%	70.8%^	NO CHANGE
MAX % LOT COVER:	80%	100%^	NO CHANGE
MAX # OF STORIES:	3	2	NO CHANGE
MAX BLDG HEIGHT	48	28	NO CHANGE
MIN IMPROVABLE AREA (M.I.A. IN SF)	7,200	11,565	NO CHANGE
M.I.A. - DIAMETER OF CIRCLE (FT)	55	58	NO CHANGE
^ DENOTES PRE-EXISTING NONCONFORMING CONDITIONS			
TOWNSHIP OF NEPTUNE - LAND DEVELOPMENT ORDINANCE			
SECTION 412.17 - PARKING REQUIREMENTS:			
WAREHOUSE (ACCESSORY)			
1 SPACE / 2,500 SF OF GROSS FLOOR AREA (11,345 / 2,500 = 5 SPACES)			
OFFICE/ FLEX (PRIMARY)			
1 SPACE/ 800 SF OF GROSS FLOOR AREA (6,491/ 800 = 9 SPACES)			
SPACES PROVIDED: 8 < 14 required (variance required)			

mode  
Monmouth Ocean Design Experts  
DANIEL M. CONDATORE, RA  
619 LAKE AVE/ 3RD FLOOR  
ASBURY PARK, NJ 07712  
NJ LICENSE #21A10798000  
t: 732 800 1958  
e: dcondatore@mode-arch.com



SOUTH MAIN STREET  
DOUGLAS DEVELOPMENT CORPORATION  
111 SOUTH MAIN ST  
NEPTUNE, NJ 07753  
BLOCK:308 LOT:5

## PROJECT CONTACTS

<b>OWNER / DEVELOPER</b> DOUGLAS DEVELOPMENT CORPORATION 702 H STREET NW, SUITE 400 WASHINGTON, DC 20001  T: 202.638.6300 E: info@douglasdev.com  <b>ARCHITECT</b> MODE ARCHITECTS, LLC 619 LAKE AVENUE, 3RD FLOOR ASBURY PARK, NJ 07712  DANIEL M. CONDATORE, RA T: 732.800.1958 E: dcondatore@mode-arch.com  <b>STRUCTURAL</b>	<b>ATTORNEY</b>          <b>CIVIL</b>          <b>GEOTECHNICAL ENGINEER</b>          <b>LANDSCAPE ARCHITECT</b>          <b>MECHANICAL, ELECTRICAL, &amp; PLUMBING</b>
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## BUILDING CODE ANALYSIS

### APPLICABLE BUILDING CODES

- PRIMARY: NJAC 5:23-6 REHABILITATION SUBCODE
- INTERNATIONAL BUILDING CODE/2018, NJ EDITION
- INTERNATIONAL MECHANICAL CODE/2018
- NATIONAL ELECTRICAL CODE (NFPA)/2017
- NATIONAL STANDARD PLUMBING CODE/2018, NJ EDITION
- ICC/ANSI A117.1-2009, BARRIER FREE SUBCODE
- ASHRAE 90.1-2016 ENERGY SUBCODE
- INTERNATIONAL FUEL-GAS CODE/2018

### USE AND OCCUPANCY CLASSIFICATION

OCCUPANCY GROUP B - BUSINESS (PRIMARY)  
S - STORAGE (ACCESSORY)  
  
TYPE OF CONSTRUCTION V-B (FULLY SPRINKLERED)

### HEIGHT AND AREA CALCULATION

TYPE OF CONSTRUCTION: V-B  
OCCUPANCY GROUP: S-2

ALLOWABLE HEIGHT PER TABLE 504.3 = 60 FEET  
ALLOWABLE STORIES PER TABLE 504.4 = 3 STORIES  
ALLOWABLE AREA PER TABLE 506.2 = 40,500 SF

COMPLIES

### EGRESS CALCULATIONS

REQUIRED EGRESS WIDTH CALCULATIONS PER SECTION 1005.3:

CAPACITY FACTOR= 0.20 INCHES DOORS (0.30 INCHES STAIRS)  
EGRESS WIDTH = (OCCUPANCY LOAD) x (CAPACITY FACTOR)

SECTION 1010.1.1: MINIMUM WIDTH FOR EGRESS DOOR: 32" CLEAR

SECTION 1020.4: MAXIMUM DEAD-END CORRIDOR: 50 FEET

PER TABLE 1006.3.3(2):

ONE EXIT IS PERMITTED, PROVIDED THE OCCUPANT LOAD DOES NOT EXCEED 48 ON THE 1ST FLOOR, AND 28 ON THE 2ND FLOOR

MAXIMUM EXIT ACCESS DISTANCE, W/ SPRINKLER: 75 FEET

COMPLIES

## ARCHITECTURAL ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	MIN.	MINIMUM
B.O	BOTTOM OF	NO.	NUMBER
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CTR.	COUNTERTOP	O.C.	ON CENTER
DEG.	DEGREES	REQ'D.	REQUIRED
DTL.	DETAIL	R.	RADIUS
DWG.	DRAWING	T&G	TONGUE AND GROOVE
EL.	ELEVATION	T.O.	TOP OF
EQ.	EQUAL	TYP.	TYPICAL
EXIST.	EXISTING	U.N.O.	UNLESS NOTED OTHERWISE
FL.	FLOOR	V.C.T.	VINYL COMPOSITION TILE
F.R.	FIRE RATED	V.I.F.	VERIFY IN FIELD
GA.	GAUGE	V.T.R.	VENT THROUGH ROOF
GYP. BD.	GYPSPUM BOARD	W/	WITH
H.M.	HOLLOW METAL	&	AND
MAX.	MAXIMUM	+/-	APPROXIMATE DIMENSION
MTL.	METAL	@	AT

## SYMBOLS LEGEND

?	WALL TYPE INDICATOR	ROOM NAME	ROOM NAME AND NUMBER
101A	DOOR INDICATOR	101	
A	COLUMN LINE INDICATOR	A5	EXTERIOR AND INTERIOR ELEVATION INDICATOR
100'-0"	PLAN ELEVATION INDICATOR	8 SIM	FULL AND PARTIAL SECTION INDICATOR
S A2	ENLARGED DETAIL INDICATOR	8 A3	
S A2	DETAIL INDICATOR	TB810	KEYNOTE INDICATOR
1	SCALE		EQUIPMENT INDICATOR
			COLOR INDICATOR

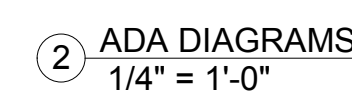
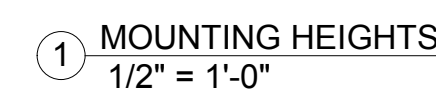
OWNER		PROJECT LOCATION	
NO.	REVISIONS / ISSUES	DATE	
1	PERMIT SET	03/23/2020	
2	VARIANCE	05/20/2020	
3	REVISION 1	11/16/2020	
CHECKED BY: DMC		DRAWN BY: DMC	
SCALE:			
DRAWING TITLE:		COVER SHEET	
DRAWING NO:		.C100	



111 SOUTH MAIN ST  
NEPTUNE, NJ 07753  
BLOCK:308 LOT:5

PROJECT LOCATION

DRAWING No.



.C101



GENERAL CONDITIONS

1. GENERAL DESCRIPTION OF THE WORK  
THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, TRANSPORTATION, TEMPORARY HEAT, LIGHT, EQUIPMENT, SCAFFOLDING AND TOOLS AND SERVICES REQUIRED FOR THE COMPLETE AND PROPER SHAPING OF THE WORK IN STRICT CONFORMITY WITH THE SPECIFICATIONS. ALL WORK OF ALL TRADES INCLUDED IN THE SPECIFICATIONS SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER, EQUAL TO THE BEST IN CURRENT SHOP AND FIELD PROCEDURE. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL BATTER BOARDS OR REFERENCE POINTS AT THE JOB. THE CONTRACTOR SHALL ALSO ERECT AND MAINTAIN TEMPORARY SANITARY FACILITIES FOR THE USE OF ALL WORKMEN AND VISITORS TO THE JOB, AND SHALL REMOVE SAME AT THE COMPLETION OF THE PROJECT.

NOTE: THE WORD "CONTRACTOR" AS IT APPEARS IN THESE SPECIFICATIONS SHALL APPLY EQUALLY TO ANY SUB CONTRACTOR ENGAGED IN ANY PART OF THE BUILDING OPERATIONS.

2. CONTRACT DOCUMENTS  
THE CONTRACT DOCUMENTS CONSIST OF THE DRAWINGS, SPECIFICATIONS AND AGREEMENT. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS CALLED FOR BY ONE SHALL BE AS BINDING AS IF CALLED BY ALL. THE INTENT AND PURPOSE OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION AND HANDLING NECESSARY FOR THE COMPLETE AND PROPER EXECUTION OF THE WORK.

3. PERMITS AND INSPECTIONS  
THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES AND REGULATIONS GOVERNING THE CONDUCT OF THE WORK AND INSPECTIONS. PERMITS AND CERTIFICATE OF OCCUPANCY ARE TO BE PAID FOR BY OWNER.

4. INSURANCE  
CONTRACTOR'S LIABILITY INSURANCE  
THE CONTRACTOR SHALL INSURE HIMSELF AGAINST CLAIMS UNDER WORKMEN'S COMPENSATION ACTS AND FROM ALL OTHER CLAIMS FOR DAMAGE FOR PERSONAL INJURY, INCLUDING DEATH, WHICH MAY ARISE FROM OPERATING UNDER THIS CONTRACT, WHETHER SUCH OPERATIONS BE BY HIMSELF OR BY ANY SUB CONTRACTOR OR BY ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY EITHER OF THEM. CERTIFICATES OF SUCH INSURANCE SHALL BE FURNISHED AND SHALL BE SUBJECT TO THE OWNER'S APPROVAL FOR ADEQUACY OF PROTECTION.

FIRE INSURANCE  
THE OWNER SHALL MAINTAIN FIRE INSURANCE WITH EXTENDED COVERAGE UPON THE ENTIRE STRUCTURE DURING CONSTRUCTION, SAME TO BE INCREASED AS THE BUILDING PROGRESSES. THE CONTRACTOR SHALL BE REIMBURSED FOR ANY/ALL LOSSES TO THE BUILDING DURING CONSTRUCTION AS COVERED BY THE FOREGOING UNLESS FIRE IS DETERMINED AS RESULT OF CONSTRUCTION. IF IS A RESULT OF CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR ALL NEW AND EXISTING CONSTRUCTION ALONG WITH ALL MISC. DAMAGES.

5. CUTTING AND PATCHING  
THE CONTRACTOR SHALL DO ALL CUTTING, FITTING AND PATCHING THAT MAY BE REQUIRED IN HIS WORK OR BY ANY CONTRACTORS AND SHALL ALSO MAKE GOOD AFTER THEM, DOING ALL PATCHING AND REPAIRING NECESSARY.

6. CLEANING  
THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH AND AT THE COMPLETION OF THE WORK ALL ROOMS AND SPACES SHALL BE LEFT BROOM CLEAN, ALL PLUMBING FIXTURES SHALL BE CLEANED AND ALL WINDOWS WASHED AT THE END OF ALL WORK ON THE PROJECT.

7. GUARANTEE  
THE CONTRACTOR GUARANTEES THAT ALL LABOR AND MATERIALS ON THIS CONTRACT SHALL BE FREE FROM DEFECTS AND AGREES TO MAKE GOOD AND REPAIR AT HIS EXPENSE UPON RECEIPT OF REQUEST FROM THE OWNER AND TO HIS SATISFACTION. ANY DEFECTS MANIFEST IN THE WORK WITHIN ONE YEAR AFTER COMPLETION OF THE CONTRACT.

8. SUB CONTRACTORS  
WHERE APPLICABLE, ALL SUB CONTRACTORS ENGAGE ON THE PROJECT SHALL BE LICENSED AS REQUIRED BY STATE AND LOCAL AUTHORITIES.

EXCAVATION

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHINGS, ALL EQUIPMENT AND PERFORMING ALL NECESSARY LABOR TO DO ALL EXCAVATING WORK SHOWN OR REQUIRED.

2. SOFT GROUND  
IF GROUND INCAPABLE OF SUPPORTING THE STRUCTURAL FOUNDATION SHOWN IS ENCOUNTERED, THE EXTRA WORK INVOLVED SHALL BE CHARGED TO THE OWNER AT THE CONTRACTOR'S COST.

3. ROCK  
ANY BOULDERS LESS THAN THREE CUBIC YARDS ENCOUNTERED IN EXCAVATING SHALL BE REMOVED BY THE CONTRACTOR WITHOUT COST TO THE OWNER. ROCK EXCAVATION WILL BE ALLOWED FOR AT A SEPARATE FIGURE PER CUBIC YARD INCLUDING REMOVAL.

4. BACK FILLING  
DO ALL RETILING AGAINST WALLS, USING DIRT FROM THE EXCAVATION. NO BACK FILLING UNTIL THE WALLS ARE BRACED OR FIRST FLOOR DECK IS ON. ADDITIONAL FILL REQUIRED SHALL BE CARRIED AS AN EXTRA TO THE CONTRACT. NO WASTE MATERIAL OR RUBBISH IS TO BE DISPOSED OF IN BACKFILL AREAS. IF EXISTING MATERIAL IS NOT SATISFACTORY FOR BACKFILL, THE CONTRACTOR SHALL PROVIDE NEW MATERIAL AS AN EXTRA TO THE CONTRACT. THE CONTRACTOR WILL INCLUDE A COST PER YARD IN HIS ESTIMATE.

LANDSCAPING

1. WORK INCLUDED  
CONTRACTOR SHALL PROVIDE NEW LANDSCAPING ALONG FRONT ELEVATION INCLUDING BUT NOT LIMITED TO MULCH BED, FLOWERS, SHRUBS, AND PUSHES. REFERENCE LANDSCAPE PLANS FOR FINAL DETAILS AND SELECTION.

2. WEED PROTECTION  
UNDER ALL NEW EXISTING AND PROPOSED PLANTING BEDS INSTALL 4 1 OZ. WOVEN POLYPROPYLENE, NEEDLE-PUNCHED FABRIC WITH REINFORCED FIBER WEED BARRIER, BY DEWITT OR EQUAL MANUFACTURER.

3. WARRANTY  
CONTRACTOR SHALL WARRANTY ALL INSTALLED PLANTINGS FROM YEAR AFTER DATE OF INSTALLATION.

MASONRY AND CONCRETE

1. WORK INCLUDED  
THE WORK INCLUDED UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND EQUIPMENT AND PERFORMING ALL NECESSARY LABOR TO DO ALL CONCRETE AND MASONRY WORK SHOWN OR SPECIFIED. THE CONTRACTOR SHALL ALSO DO ALL CUTTING AND PATCHING THAT MAY BE REQUIRED IN HIS WORK OR BY OTHER CONTRACTORS.

2. CONCRETE / MASONRY REQUIREMENTS  
REFERENCE STRUCTURAL DRAWINGS FOR ALL MATERIALS RELATED TO THIS SECTION.

3. FINISH  
REFERENCE PAINT SPECIFICATION FOR CONCRETE FINISHING.

ROOFING AND SHEET METAL WORK

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND EQUIPMENT AND PERFORMING ALL NECESSARY LABOR TO DO ALL SHEET METAL AND ROOFING WORK SHOWN OR SPECIFIED.

2. ROOFING MATERIAL  
GAF EVERGUARD TPO 45 MIL ROOFING MEMBRANE (OR APPROVED EQUAL). MEMBRANE TO MECHANICAL FASTENED PER MANUFACTURERS RECOMMENDATIONS.

3. INSULATION  
GAF ENERGY GUARD PLOYISO FLAT AND TAPERED AS REQUIRED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS. MIN. 3" THICK OVER ENTIRE ROOF SURFACE.

4. METAL FLASHING/D RIP EDGE  
UNLESS OTHERWISE NOTED, INSTALL PRE-FINISHED DRIP EDGE, AND COUNTER FLASHING FROM .032 SHEET ALUMINUM COMPLYING WITH ASTM B209.

WOODWORK

1. WORK INCLUDED  
WORK INCLUDED IN THIS SECTION SHALL BE ALL WOODWORK REQUIRED TO COMPLETE THE PROJECT SCOPE AS INDICATED ON THE DRAWINGS. CARPENTRY INCLUDES ALL FASTENERS AND ACCESSORIES TO FASTEN AND SECURE WOOD PRODUCTS IN ACCORDANCE WITH INDUSTRY STANDARDS AND APPLICABLE CODES.

2. ROUGH CARPENTRY - QUALITY  
ALL FRAMING, PARTITIONS, ROOFS, FLOORS AND SO FORTH, MUST BE CERTIFIED AMERICAN LUMBER STANDARD COMMITTEE (ALSC) AND APA. CONFORM TO APPLICABLE CODES FOR FIRE RETARDANT TREATMENT OF WOOD SURFACES FOR FLAME/SMOKE RATINGS.

2.01 CORNER POSTS  
CORNER POSTS SHALL RUN THROUGH AND FINISH AGAINST (2) 2 X 6 PLATES. STUDS, 2 X 6, 16" O.C., IN EXTERIOR WALLS SHALL BE ONE-STORY LENGTHS, CAPPED WITH A COMMON OR RASIED PLATE, AS THE CASE MAY BE, EXCEPT AS NOTED OTHERWISE.

2.02 STUDS  
STUDS SHALL BE DOUBLED AROUND ALL OPENINGS.

2.03 INTERIOR PARTITIONS  
INTERIOR PARTITIONS SHALL BE 2 X 4 STUDS AT 16" O.C., UNLESS OTHERWISE NOTED. INTERIOR PARTITIONS SHALL BE SPIKED TO SOLES, PLACED ON THE ROUGH FLOORS.

2.04 GLUE-LAMINATED BEAMS  
GLUE-LAMINATED BEAMS SHALL BE GEORGIA-PACIFIC 2.0E OR 1.8E LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAIN LUMBER (PSL) BEAMS. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

2.05 ROOF RAFTERS  
ROOF RAFTERS SHALL BE NOTCHED OVER BEARINGS, PLACED AND BUTTED AGAINST RIDGES AND WELL SPIKED TOGETHER.

2.06 FLOOR JOISTS  
FLOOR JOISTS MUST BE DOUBLED FOR HEADER AND TRIMMERS. HEADERS OVER 3' LONG ARE TO BE HUNG WITH METAL HANGERS. FLOOR JOISTS TO BE DOUBLED UNDER ALL PARTITIONS RUNNING PARALLEL TO FLOOR BEAMS. BEAMS MUST BE BROUGHT TO A TRUE UPPER SURFACE BY NOTCHING THEM DOWN OVER THE BEARINGS.

2.07 CEILING JOISTS  
CEILING JOISTS MUST BE WELL SPIKED TO RAFTERS, LAPPED OVER BEARING AND WELL SPIKED TOGETHER.

2.08 BRIDGING  
CROSS BRIDGE ALL FLOOR BEAMS AT 8'-0" INTERVALS, UNLESS OTHERWISE NOTED. FITTED AND HEAVILY SPIKED TO JOISTS. JOISTS TO BE LEVELED UP BEFORE BRIDGING IS FINALLY NAILED FAST.

2.09 BLOCKING  
DO ALL BLOCKING REQUIRED.

2.10 FIRE-STOPPING  
IF THE LOCAL CODE DOES NOT REQUIRE MASONRY FIRE-STOPPING, THE CONTRACTOR IS TO INSTALL WOOD FIRE-STOPPS AS APPROVED BY THE LOCAL CODE.

2.11 BOARDING  
BOARDING ON WALLS SHALL BE 1/2 EXTERIOR GRADE WITH EXTERIOR GLUE PLYWOOD. NAILING TO BE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

2.12 UNDER FLOORING  
OVER THE ENTIRE FLOOR, LAY A ROUGH FLOOR OF 3/4" PLYSCORD (CDX), EXTERIOR GLUE, GLUED AND NAILED THOROUGHLY TO BEARINGS.

2.13 BUILDING AND SHEATHING PAPER  
COVER ALL SHEATHING OF SIDE WALLS WITH A LAYER OF TYVEK, OR APPROVED EQUAL. CAREFULLY INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

3. ROUGH CARPENTRY - MATERIALS  
LUMBER, PS 20, 54S, MAXIMUM OF 19 PERCENT MOISTURE CONTENT, SURFACED DRY, NO. 2 ANY SPECIES GRADED UNDER WWPA GRADING RULES OR NO. 3 GRADE SOUTHERN PINE GRADED UNDER SPIB GRADING RULES.

NONSTRUCTURAL PANEL: DOC PS 1 OR PS 2  
A. TYPE 1 (INTERIOR): GRADE C-D PLUGGED VENEER PLYWOOD, EXPOSURE 1, LOCATIONS AND THICKNESS INDICATED ON THE DRAWINGS.  
B. TYPE 2 (EXTERIOR): GRADE B-B VENEER PLYWOOD, EXTERIOR, LOCATIONS AND THICKNESS AS INDICATED ON THE DRAWINGS.

HIGH DENSITY WOOD FIBER PANEL PRODUCTS: PROVIDE ONE OF THE FOLLOWING PANELS WITH SPAN RATINGS AS REQUIRED TO SUIT SUPPORT SPACING INDICATED ON DRAWINGS. THICKNESS: AS INDICATED ON DRAWINGS.  
A. ENERGYGUARD HIGH DENSITY FIBERBOARD, BY GAF, (800) 766-3411.

PRESERVATIVE PRESSURE TREATED LUMBER TREATMENT:

A. TREAT LUMBER IN ACCORDANCE WITH AWWA U1; USE CATEGORY UC2 FOR INTERIOR CONSTRUCTION NOT IN CONTACT WITH THE GROUND, USE CATEGORY UC4A FOR EXTERIOR CONSTRUCTION NOT IN CONTACT WITH THE GROUND, AND USE CATEGORY UC4A FOR ITEMS IN CONTACT WITH THE GROUND.  
B. PRESERVATIVE CHEMICALS SHALL BE ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND CONTAIN NO ARSENIC OR CHROMIUM WHERE PROHIBITED.  
C. KILN DRY LUMBER AFTER TREATMENT TO 15-19 PERCENT MOISTURE CONTENT. DO NOT USE WARPED MATERIAL OR MATERIALS THAT DO NOT COMPLY WITH REQUIREMENTS FOR UNTREATED MATERIAL. MATERIAL TO BE PAINTED OR STAINED SHALL HAVE KNOTS AND PITCH STREAKS SEALED AS WITH UNTREATED WOOD.  
D. MARK LUMBER WITH TREATMENT QUALITY MARK OF AN INSPECTION AGENCY APPROVED BY THE ALSC BOARD OF REVIEW AND ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

4. FINISH CARPENTRY - MATERIALS AND QUALITY

INTERIOR STANDING AND RUNNING TRIM: A1W CUSTOM GRADE; PLAIN SAWN, GRADE II LUMBER.

A. PAINTED FINISH: CLOSED-GRAIN HARDWOOD, ANY SPECIES.  
B. CLEAR SEALED HARDWOOD: ASH, BIRCH, OR OAK

5. ARCHITECTURAL WOODWORK - MATERIALS AND QUALITY

HIGH PRESSURE LAMINATE (HPL): NEMA LD3. COLOR, PATTERN, AND FINISH AS SELECTED BY ARCHITECT. EXPOSED HORIZONTAL AND VERTICAL SURFACES: GP-50. POSTFORMED SURFACES: PF-42. PROVIDE HPL PRODUCTS AS MANUFACTURED BY THE FOLLOWING:  
A.FORMICA CORPORATION, INDIANAPOLIS, IN.  
B.WILSONART, TEMPLE, TX.  
C.NEVAMAR DECORATIVE SURFACES.

6. INSULATION  
ALL INSULATION TO BE INSTALLED AS DETAILED AND IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

6.01 SILLS  
INSULATE UNDER ALL SILLS WITH DOW/CORNING FOAM SILL SEALER.

6.02 SIDEWALLS  
INSULATE ALL SIDEWALLS WITH 5 1/2" FIBERGLASS BUILDING INSULATION WITH VAPOR BARRIER AT INTERIOR WELL SECURED TO THE SURFACE OF STUDS AND PLATES.

6.03 CEILINGS  
CEILINGS ADJACENT TO UNHEATED SPACES SHALL BE INSULATED WITH A MINIMUM OF (R-19) FIBERGLASS INSULATION WITH VAPOR BARRIER. ALL VAPOR BARRIERS TO BE PLACED TOWARD THE HEATED SPACE.

7. CAULKING  
CAULK AROUND ALL OPENINGS WITH BUTYL-FLEX CAULKING COMPOUND, OR EQUAL, AND UNDER ALL WINDOW SILLS.

8. EXTERIOR FINISH

WOODWORK (CONT.)

8.02 EXTERIOR DOORS  
ALL EXTERIOR DOORS ARE TO BE SOLID WOOD, UNLESS OTHERWISE NOTED, PROVIDED THEY MEET ALL DOOR SIZES LISTED ON THE DOOR SCHEDULE.

ENTRANCE DOORS: SOLAR INNOVATION ENTRANCE DOOR DESIGN, PROVIDED THEY MEET ALL DOOR SIZES LISTED ON THE DOOR SCHEDULE.

8.03 WINDOW FRAMES AND SASHES  
WINDOWS TO BE SOLAR INNOVATION. WINDOWS TO BE AS SHOWN ON ELEVATIONS PREFINISHED DARK BRONZE INTERIOR AND EXTERIOR.

8.04 WINDOW FLASHING  
INSTALL 4" SELF-ADHERED BLUESKIN BY HENRY OR EQUAL AT WINDOW FLASHING AT HEADS, SILL AND JAMBS PER MANUFACTURER'S RECOMMENDATIONS. ALL GLASS WITHIN 18" OF FLOOR TO BE TEMPERED.

8.05 THRESHOLDS

8.06 WALL SIDING

STUCCO: ECOSTUCCO TO BE APPLIED TO EXTERIOR WALLS ACCORDING TO MANUFACTURER'S SPECIFICATIONS, UNLESS NOTED OTHERWISE.

INNOVWOOD: INNOCLAD WC20025 TO BE INSTALLED AS INDICATED ON PLANS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

8.07 TRIM AND BOARDS  
ALL TRIM AND BOARDS TO BE SOLID PVC BY AZEK. SHAPES AND SIZES AS INDICATED ON DOCUMENTS.

8.08 STAIRS AND DECKING

9. INTERIOR FINISH

9.01 MATERIALS  
ALL STOCK MUST BE OF THE BEST QUALITY, KILN-DRIED STOCK. IT MUST BE DRY WHEN IT REACHES THE HOUSE AND BE KEPT DRY WHILE THERE.

9.02 FINISH  
ALL FINISHES THROUGHOUT TO BE THE BEST GRADE, PINE OR WHITE WOOD (POPLAR) TO PAINT EXCEPT AS NOTED BELOW.

9.03 STAIR PARTS  
CABLE RAILING WITH SOLID SAK RAIL STAIN AS SELECTED BY ARCHITECT.

9.04 STAIR TRADES  
SOLID OAK TREADS STAN AS SELECTED BY ARCHITECT.

9.05 STAIR RISERS

9.06 INTERIOR DOORS

RESIDENTIAL UNITS: ALL INTERIOR RESIDENTIAL UNIT DOORS ARE TO BE CENTER PIVOT 8" PANEL DOORS, UNLESS OTHERWISE NOTED, PROVIDED THEY MEET ALL DOOR SIZES LISTED ON THE DOOR SCHEDULE. PROVIDE NECESSARY ASSEMBLY FOR POCKET DOOR AS REQUIRED.

HALLWAYS: ALL INTERIOR HALLWAY DOORS TO BE SOLID WOOD, UNLESS OTHERWISE NOTED, PROVIDED THEY MEET ALL DOOR SIZES LISTED ON THE DOOR SCHEDULE.

10. CURTAIN BLOCKING  
CONTRACTOR IS TO INSTALL BLOCKING ADJACENT TO WINDOWS TO SUPPORT CURTAIN OR DRAPERY RODS.

12. GRAB BARS  
CONTRACTOR IS TO INSTALL BLOCKING BEHIND AND BESIDE TOILETS AND SHOWERS TO SUPPORT GRAB BARS IN ACCESSIBLE BATHROOMS.

DOOR HARDWARE

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND APPLYING ALL MATERIALS AND PERFORMING ALL NECESSARY LABOR TO INSTALL ALL DOORS AND FRAMES, AND ASSOCIATED HARDWARE.

2. ROUGH HARDWARE  
FURNISH AND INSTALL ALL ROUGH HARDWARE REQUIRED, WHICH IS TO INCLUDE ANCHORS, TIES, JOIST HARDWARE, NAILS AND SIMILAR FASTENINGS AND HARDWARE FOR BLINDS, EXTENSION SLIDES FOR ALL DRAWERS, STANDARDS AND SUPPORTS FOR ADJUSTABLE SHELVES.

3. FINISH HARDWARE  
PROVIDE DOOR HARDWARE FROM

GYPSSUM BOARD PARTITIONS AND ASSEMBLIES

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND APPLYING ALL MATERIALS AND PERFORMING ALL NECESSARY LABOR TO INSTALL ALL GYPSSUM BOARD PARTITIONS AND METAL STUD ASSEMBLIES. CONTRACTOR SHALL PROVIDE ALL REQUIRED FASTENERS AND JOINTING IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS, ASTM C 754, GA-216, AND GA-600.

2. GYPSSUM BOARD MATERIALS  
MANUFACTURERS: SUBJECT TO SPECIFIED REQUIREMENTS, PROVIDE GYPSSUM BOARD AND ACCESSORIES BY THE FOLLOWING MANUFACTURERS:  
A. UNITED STATES GYPSSUM COMPANY, CHICAGO, IL, (800) 874-4968.  
B. CERTAINTEE CORP (SAINT-GOBAIN), TAMPA, FL, (866) 427-2872.  
C. GEORGIA-PACIFIC, ATLANTA, GA, (800) 284-5347.  
D. NATIONAL GYPSSUM COMPANY, GOLD BOND BUILDING PRODUCTS, CHARLOTTE, NC, (800) 628-4662.  
E. TEMPLE-INLAND, DIBOLL, TX, (972) 235-4448.  
F. THE STEEL NETWORK, RALEIGH, NC (888) 474-4876. (ACCESSORIES ONLY)  
G. DIETRICH METAL FRAMING, PITTSBURG, PA (412) 281-2805. (ACCESSORIES ONLY)  
H. FRY REGLET, (800) 237-9773. (ACCESSORIES ONLY)

STANDARD GYPSSUM BOARD: ASTM C 1396; 1/2 INCH AND 5/8 INCH THICK, MAXIMUM PERMISSIBLE LENGTH; ENDS SQUARE CUT, TAPERED EDGES.

WATER RESISTANT GYPSSUM BOARD: ASTM C 1396 OR C 1658, 1/2 INCH THICK, MAXIMUM PERMISSIBLE LENGTHS; ENDS SQUARE CUT, TAPERED EDGES. MOLD RESISTANCE OF WATER RESISTANT GYPSSUM BOARD SHALL SCORE A RATING OF NOT LESS THAN 10 WHEN TESTED IN ACCORDANCE WITH ASTM D 3273.

FIRE RESISTANT GYPSSUM BOARD: ASTM C 1396, TYPE X; 5/8 INCH THICK, MAXIMUM PERMISSIBLE LENGTHS; ENDS SQUARE CUT, TAPERED EDGES; CORE MATERIAL AS REQUIRED TO COMPLY WITH UNDERWRITERS LABORATORIES (UL) ASSEMBLIES INDICATED ON DRAWINGS.

IMPACT RESISTANT GYPSSUM BOARD: ASTM C 1396 OR C 1658; ASTM C 1629; 1/2" THICKNESS, MANUFACTURED TO PRODUCE GREATER RESISTANCE TO SURFACE INDENTATION AND THROUGH-PENETRATION THAN STANDARD GYPSSUM PANELS. PROVIDE ONE OF THE FOLLOWING PRODUCTS:

IMPACT AND WATER RESISTANT GYPSSUM BOARD: ASTM C 1396; ASTM C 1658; ASTM C 1629; THICKNESS SHOWN, MANUFACTURED TO PRODUCE GREATER RESISTANCE TO SURFACE INDENTATION AND THROUGH-PENETRATION THAN STANDARD GYPSSUM PANELS AND PROVIDING WATER RESISTANT GYPSSUM CORE WITH PAPERLESS FACING AND MOLD RESISTANCE WITH A RATING OF NOT LESS THAN 10 WHEN TESTED IN ACCORDANCE WITH ASTM D 3273. PROVIDE THE FOLLOWING PRODUCT:

EXTERIOR GYPSSUM SOFFIT BOARD: ASTM C 1396 OR C 1658, TYPE X; 5/8" THICK, GYPSSUM WALLBOARD MANUFACTURED TO PRODUCE EXTRA RESISTANCE TO MOISTURE AND SAGGING.

GYPSSUM BOARD ACCESSORIES: SUBJECT TO COMPLIANCE WITH PROJECT REQUIREMENTS AND UNLESS OTHERWISE SPECIFIED, PROVIDE THE SPECIFIED GYPSSUM BOARD ACCESSORIES BELOW OR EQUIVALENTS BY ONE OF THE MANUFACTURERS LISTED ABOVE:  
A. CORNER BEADS: SHEETROCK BRAND NO. 104 DUR-A-BEAD GALVANIZED STEEL CORNER BEAD BY UNITED STATES GYPSSUM.  
C. EDGE TRIM: GALVANIZED STEEL CASING.  
A. NO. 200-B, L SHAPE BY UNITED STATES GYPSSUM FOR TIGHT ABUTMENT AT EDGES.

B. NO. 200-A, J SHAPE BY UNITED STATES GYPSSUM AT OTHER LOCATIONS.  
3. CONTROL JOINT ACCESSORY PIECE: NO. 093 ROLL-FORMED ZINC BY DIETRICH.  
4. VERTICAL MOVEMENT JOINT TRIM: NO. DRMZ-625-200 ALUMINUM Z SHAPE TRIM

ACOUSTICAL INSULATION: UNFACED GLASS FIBER, TYPE I (BLANKETS WITHOUT MEMBRANE FACING), WITH MAXIMUM FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF 25 AND 50, RESPECTIVELY PASSING ASTM E 136 FOR COMBUSTION CHARACTERISTICS.

CERAMIC TILE

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF INSTALLING ALL MATERIALS AND EQUIPMENT AND PERFORMING ALL NECESSARY LABOR TO INSTALL CERAMIC TILE AS INDICATED ON DRAWINGS AND ALL ASSOCIATED GOIT AND UNDERLAYMENT. INSTALL TILE IN ACCORDANCE WITH TCA HANDBOOK FOR CERAMIC TILE INSTALLATION. SLOPE ALL FLOOR TO DRAIN WHERE APPLICABLE.

2. MATERIALS  
FLOOR INSISTS APPROXIMATELY EQUAL MANUFACTURER, COLOR SELECTED BY OWNER.

MORTAR: 25S MULTIMAX MULTIPURPOSE THIN-SET MORTAR BY LATICRETE

GROUT: SPECTRALOCK GROUT BY LATICRETE, COLOR AS SELECTED BY ARCHITECT.

FLOOR LEVELING COMPOUND: LATICRETE 86 LATILEVEL SELF LEVELING UNDERLAYMENT BY LATICRETE

3. UNDERLAYMENT  
BENEATH ALL FLOOR TILE INCLUDING SHOWERS INSTALL 1/8" SHULTER SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.

VINYL TILE AND CARPET

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND APPLYING ALL MATERIALS AND PERFORMING ALL NECESSARY LABOR TO INSTALL VINYL TILE AND CARPET FLOORING AS INDICATED IN THE FINISH SCHEDULE. CONTRACTOR SHALL COORDINATE IN THE FIELD WITH OWNER FINAL COLORS AND FINISHES PRIOR TO FINAL BUY OUT. GO TO VERIFY SUBSTRATE IS ACCEPTABLE TO INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION. PATCH AND LEVEL AS REQUIRED.

2. MATERIALS  
VINYL COMPOSITION TILE (VCT): ASTM F 1066, CLASS 1, SOLID-COLOR TILE OR CLASS 2, THROUGH-PATTERN TILE, NON-ASBESTOS FORMULATED, 0.125 INCH THICK, 12 BY 12 INCHES SQUARE, STANDARD EXCELOX IMPERIAL TEXTURE OR SAFETY ZONE SLIP RESISTANT BY ARMSTRONGS OR AZROCK BY TARKETT. .

CUSHON BACK CARPET TILE: GEOMETRY BY INTERFACE. CUSHONBAC PLUS TILE, TUFTED TIP SHEARED PATTERN LOOP, 100% SOLUTIA YARN. TILE SIZE: 50 CM X 50 CM. (19.69 IN. SQUARE).

WALL BASE: ROPPE 700 SERIES WALL BASE, STANDARD COVE, 1/8" THICK, 6" HIGH WITH FACTORY INSIDE AND OUTSIDE CORNERS.

3. ACCESSORIES  
ADHESIVE: WATER RESISTANT TYPE, 0 VOC, TARKETT 100 SOLVENT-FREE CLEAR THIN SPREAD ADHESIVE, BY TARKETT, OR SPRAYSMART IQ, BY TARKETT, AS DETERMINED BY WAL-MART.

CARPET ADHESIVE: FRANKLIN 780 PREMIUM MULTIPURPOSE FLOORING ADHESIVE BY FRANKLIN INTERNATIONAL, WATER RESISTANT TYPE, VOC LESS THAN 50 G/L

SUBFLOOR FILLER: PROVIDE ONE OF THE FOLLOWING:  
1. CEMENTITIOUS BASE UNDERLAYMENT SUBFLOOR FILLER: ARDEX SOLID FEATHER FINISH, BY ARDEX ENGINEERED CEMENTS. CONTACT: BEN MACK (724) 203-5060.  
B. LEVELAYER L, BY DAYTON SUPERIOR.  
C. NO. 547 UNIPRO UNIVERSAL UNDERLAYMENT BY W.W. HENRY. CONTACT: BEN MACK (724) 203-5060.  
2. EPOXY SUBFLOOR FILLER: EPOLITH P OR G, TWO-PART 100% SOLIDS FLEXIBLE EPOXY JOINT FILLER, BY BASF BUILDING SYSTEMS (FORMERLY DEGUSSA), (800) 433-9517.

PAINTS AND COATINGS

1. GENERAL CONDITIONS  
THE GENERAL CONDITIONS OF THE SPECIFICATIONS APPLY TO THIS SECTION.

2. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND APPLYING ALL MATERIALS AND PERFORMING ALL NECESSARY LABOR TO DO ALL PAINTING AND FINISHING OF ALL EXTERIOR AND INTERIOR WOODWORK, WALLS, AND SHEET METAL WORK SHOWN OR SPECIFIED. CONTRACTOR SHALL COORDINATE IN THE FIELD WITH ARCHITECT FINAL PAINT COLORS AND FINISHES PRIOR TO FINAL BUY OUT.

3. MATERIALS  
ALL EXTERIOR PAINTS, VARNISHES, ENAMELS, STAINS AND SIMILAR MATERIALS SHALL BE BENJAMIN MOORE, OR EQUIVALENT. ALL MATERIALS SHALL BE DELIVERED TO THE JOB IN ORIGINAL CONTAINERS AND USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. UNDERCOATS OF PAINT AND ENAMELS SHALL BE OF THE SAME OR APPROXIMATE COLOR OF THE FINAL COAT. NO PAINT SHALL BE APPLIED ON SURFACES THAT ARE NOT THOROUGHLY CLEAN AND DRY. ALL COATS OF PAINT, STAIN, VARNISH, ENAMEL OR FILLER SHALL BE BOND DRY BEFORE THE APPLICATIONS OF SUCCEEDING COATS. ALL MATERIALS SHALL BE KEPT IN THE HOUSE AND PROTECTED FROM RUST, GREASE OR CONSTRUCTION MARKS SHALL BE ENTIRELY REMOVED FROM SURFACES TO BE FINISHED. ALL NAIL HOLES SHALL BE PUTTIED AFTER PRIMING. AFTER APPLICATION OF FIRST FINISH COAT OF INTERIOR PAINT OWNER SHALL APPROVE PRIOR TO APPLICATION OF FINAL COAT.

4. PROTECTION OF SURFACES AND CLEANING  
DROP CLOTHS SHALL BE USED TO PROTECT SURFACES FROM PAINT SOILS, STAINS AND VARNISHES. AT THE COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE AND CLEAN OFF ALL SPOTS FROM WALLS, CEILING, FLOORS, TRIM, GLASS AND SO FORTH, NO MATTER BY WHOM CAUSED. ALL BLUSTERS OR PAINTED SURFACES ARE TO BE MADE GOOD TO THE SATISFACTION OF THE OWNER.

5. EXTERIOR WORK  
ALL TRIM TO RECEIVE TWO (2) COATS OF OIL BASED PAINT, IN ADDITION TO THE PRIME COAT.

6. INTERIOR PAINTED TRIM AND WOODWORK  
ALL PAINTED WOODWORK THROUGHOUT THE HOUSE TO HAVE ONE (1) COAT PRIMER AND TWO (2) COATS OF

7. GYPSSUM WALLS

ALL GYPSSUM WALLS WHICH ARE TO BE PAINTED ARE TO RECEIVE A PRIME COAT AND TWO (2) COATS OF LATEX FLAT, SANDED LIGHTLY BETWEEN COATS WHEN THOROUGHLY DRY.

CEILING: ALL GYPSSUM CEILINGS TO BE GIVEN ONE (1) PRIME COAT AND (2) TWO COATS OF FLAT CEILING PAINT.

8. DOORS  
TO BE TREATED AS INTERIOR WOODWORK - UNLESS OTHERWISE NOTED.

STAINLESS STEEL TOILET COMPARTMENTS AND ACCESSORIES

1. WORK INCLUDED  
THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND APPLYING ALL MATERIALS AND PERFORMING ALL NECESSARY LABOR TO INSTALL NEW BATHROOM PARTITIONS INCLUDING ALL NECESSARY FASTENERS AND SUPPORTS, AND ACCESSORIES AS INDICATED ON PLANS. CONTRACTOR SHALL VERIFY PLUMBING LOCATIONS IN THE FIELD PRIOR TO FABRICATION. INSTALL UNITS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

2. MATERIALS  
STAINLESS STEEL COMPARTMENTS AND SCREENS: PROVIDE ONE OF THE FOLLOWING MANUFACTURERS LISTED ABOVE:  
A. SENTINEL OVERHEAD BRACED, SERIES 400 BY MILLS.  
B. STAINLESS STEEL BY ACCURATE PARTITIONS.  
C. STAINLESS STEEL BY FLUSH METAL.  
D. STAINLESS STEEL BY GLOBAL STEEL PRODUCTS.

PANELS: FORM PANELS AS TWO-PIECE INTERLOCKING UNIT WITH CORNERS BRAZED AND FINISHED SMOOTH. PANEL FACE SHALL BE STAINLESS STEEL 304, INSULATED HONEYCOMB CORE ADHERED TO INNER SURFACES WITH MOISTURE

FINISH: TEXTURED "DIAMOND" PATTERN SIMILAR TO RIGIDIZED SWL. PATTERN IN PANELS SHALL BE WITHOUT SEAMS.

3. ACCESSORIES AS INDICATED ON PLANS

GRAB BARS: 18 GAGE STAINLESS STEEL, 1 1/4 INCH DIAMETER, (1-1/2 INCH DIAMETER WHEN REQUIRED BY LOCAL CODE) TEXTURED GRIP SURFACE; CONCEALED MOUNTING CONSISTING OF WELDED-ON MOUNTING FLANGE WITH SNAP-ON COVER FLANGE OR ESCUTCHEON. LOCATION, QUANTITY, AND LENGTH SHALL BE AS SHOWN.

1. MODEL NO. 3700 P, BY AMERICAN SPECIALTIES, OR EQUAL.

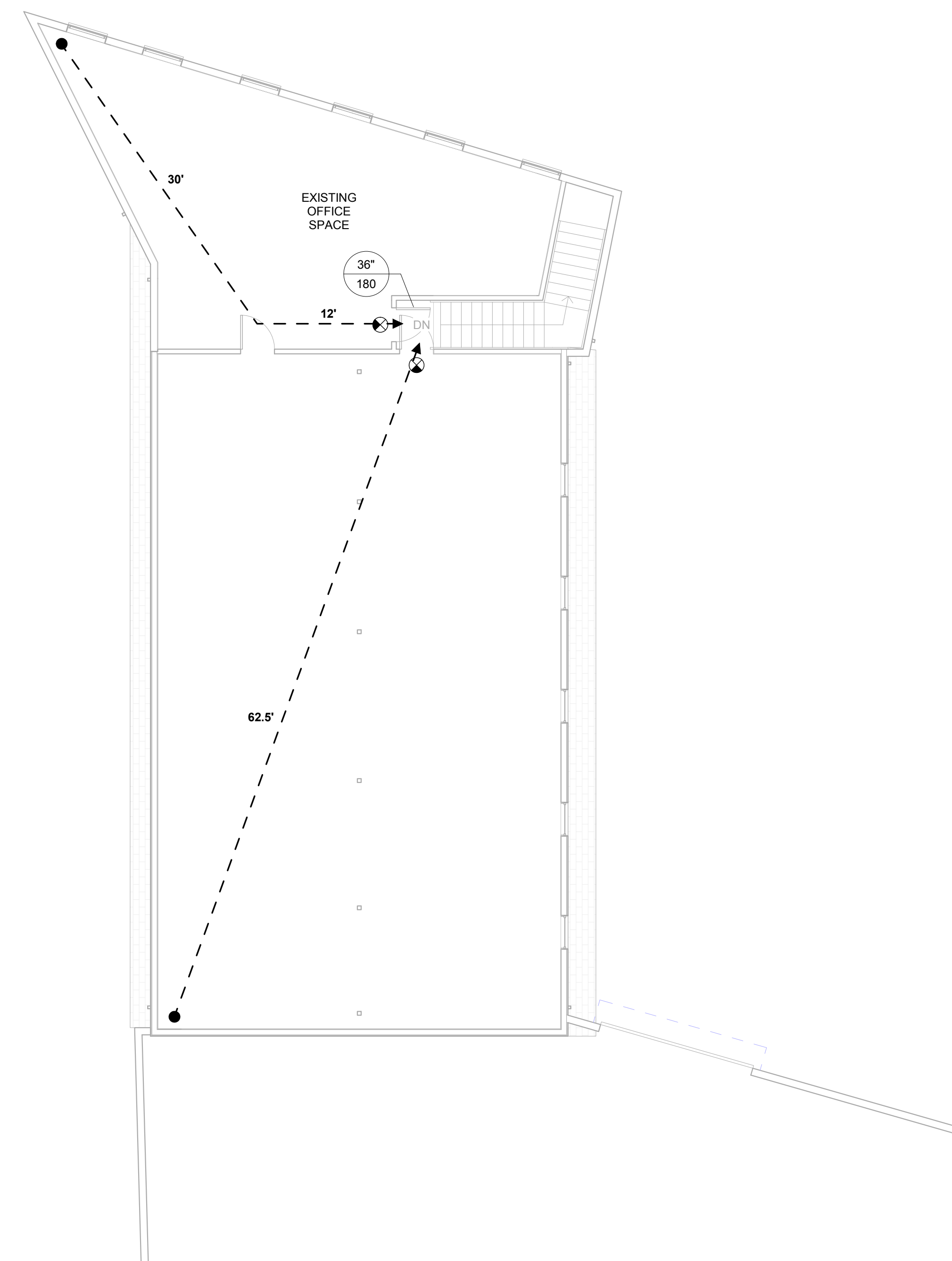
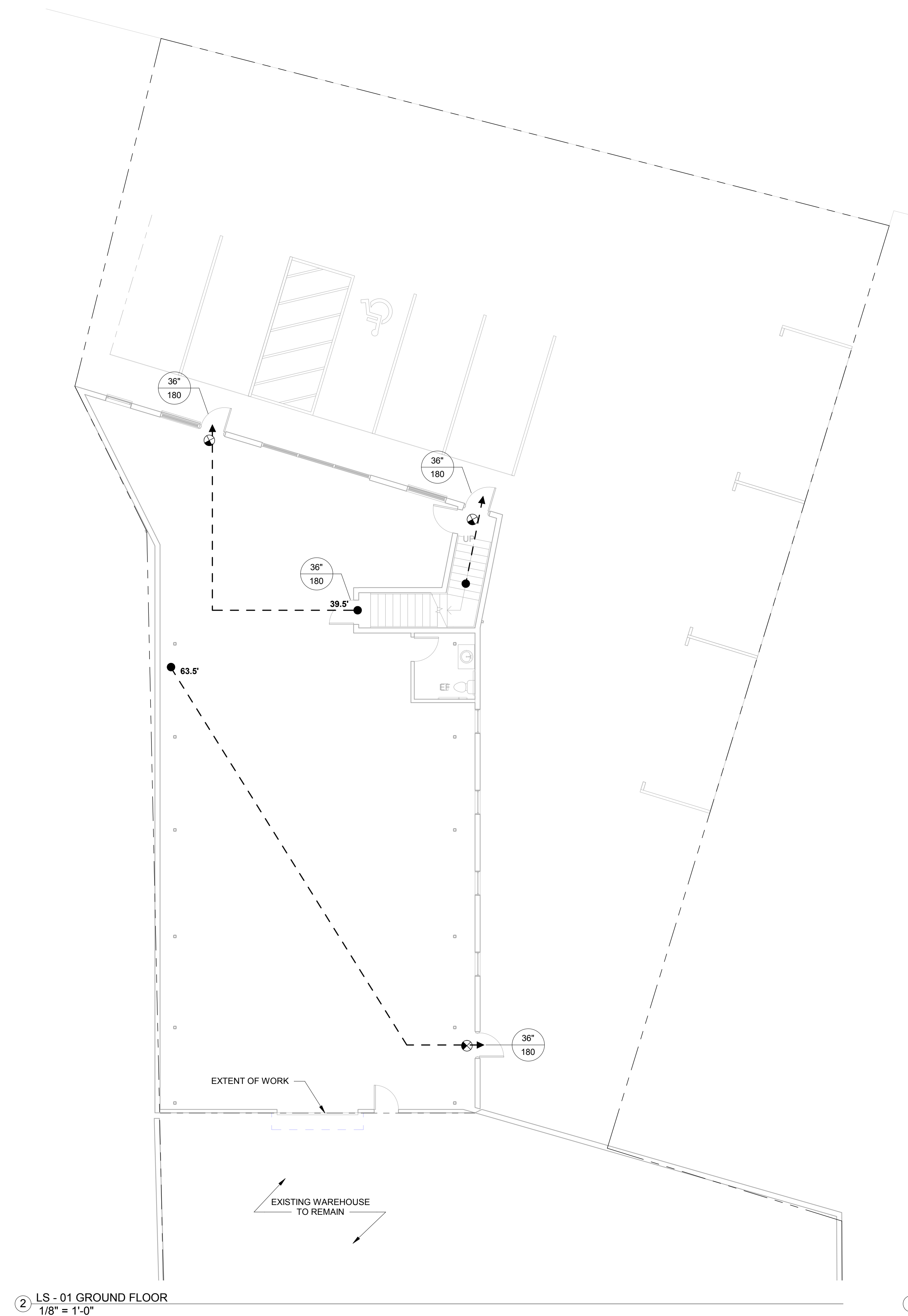
PLUMBING

1. WORK INCLUDED  
THE WORK INCLUDED UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND ALL EQUIPMENT AND PERFORMING ALL LABOR NECESSARY TO CONNECT TO THE EXISTING WATER SUPPLY AND EXISTING SANITARY TO ALL FIXTURES SHOWN ON THE ACCOMPANYING DRAWINGS OR SPECIFIED HEREIN IN ACCORDANCE WITH ALL APPLICABLE CODES. THIS INCLUDED BUT NOT LIMITED TO VALVES, TRAPS, SUPPORTS, HANGERS. THE CONTRACTOR BEFORE STARTING ANY WORK SHALL OBTAIN ALL NECESSARY PERMITS AND PAY CHARGES FOR THE SAME.

NOTE: THE PROPOSED ROUGH PLUMBING OF SUPPLY AND WASTE PIPING IS TO BE APPROVED BEFORE WORK IS STARTED. THE SYSTEM IS TO BE LAID OUT AND INSTALLED TO ALLOW EASY DRAINAGE OF THE ENTIRE SYSTEM. THE CONTRACTOR IS TO MAKE ALL NECESSARY CONNECTIONS TO ALL ACCESSORIES REQUIRING WATER OR DRAINAGE.

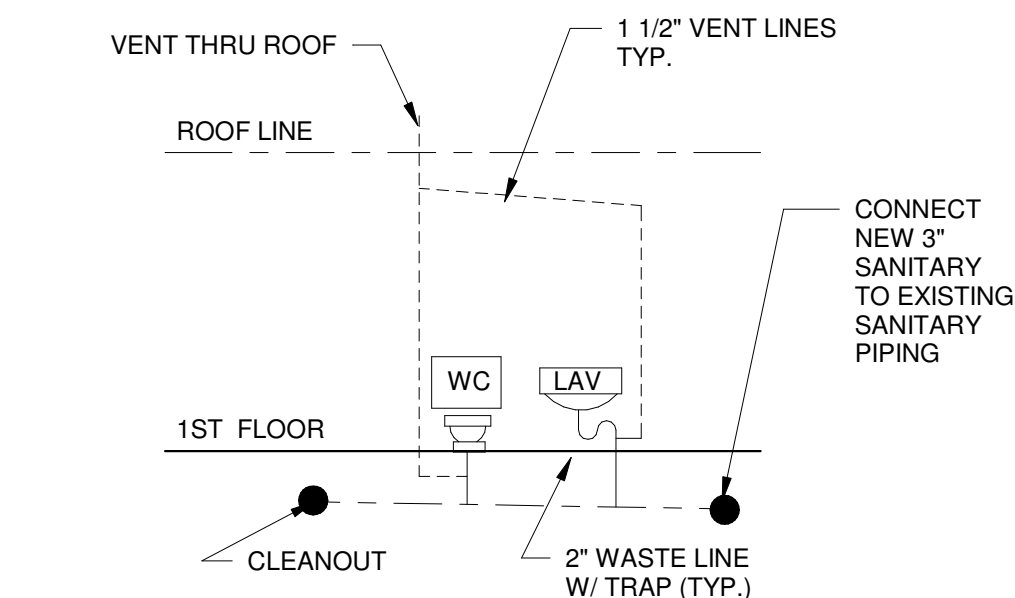
2. PIPING DRAIN PIPES  
ALL SOIL, VENT, WATER AND HORIZONTAL DRAINS, TRAPS, AND FITTINGS THAT ARE PLACED INSIDE THE BUILDING, INCLUDING LINES TO LEADERS, SHALL BE PVC OF SIZE REQUIRED BY LOCAL CODE, EXCEPT AS NOTED BELOW. ALL INSTALLATION SHALL BE IN STRICT CONFORMITY WITH STATE PLUMBING CODE. WATER PIPE ALL HOT AND COLD WATER PIPES SHALL BE TYPE "L" COPPER. TUB



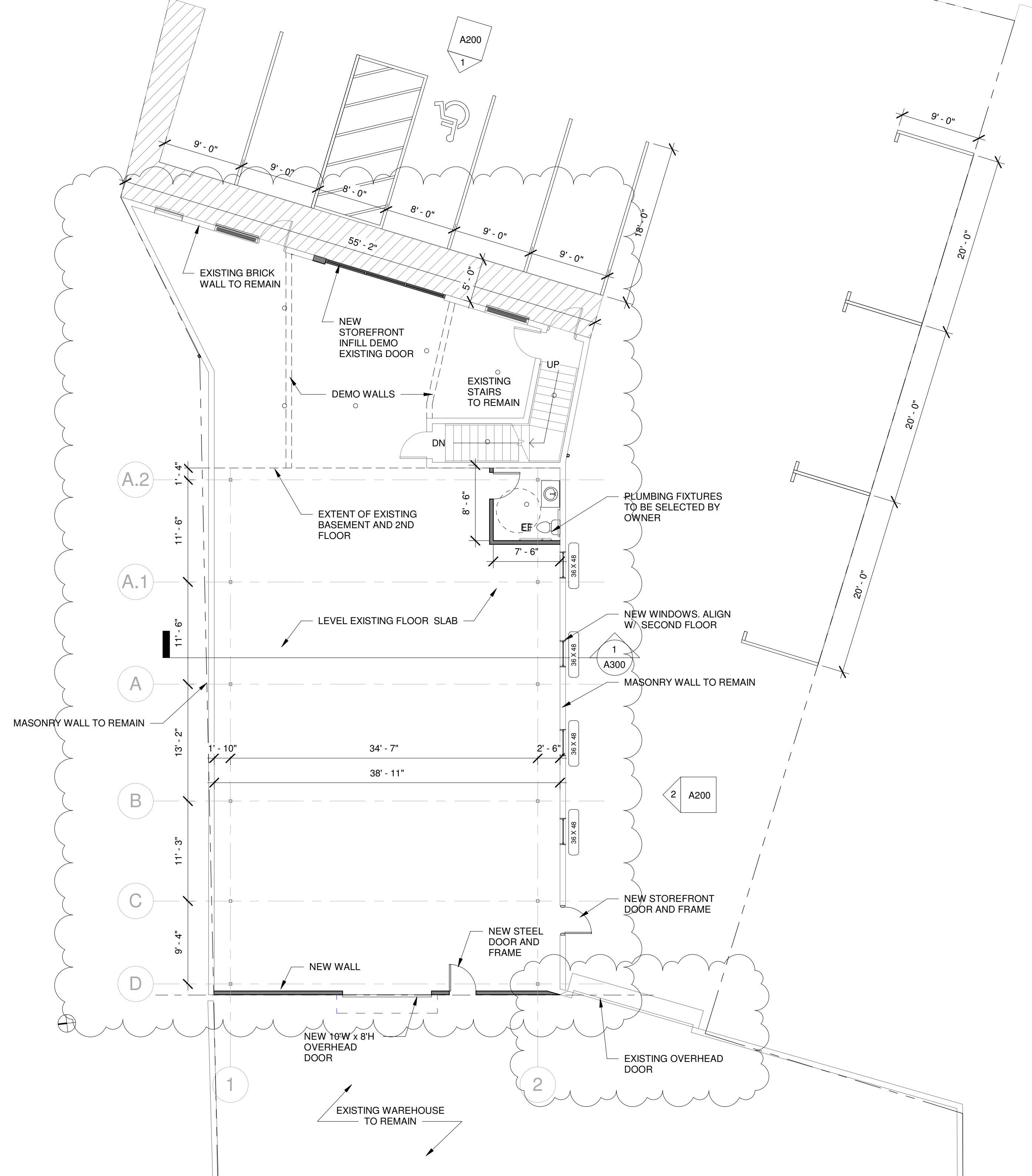


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DRAWING TITLE:	
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DRAWING No.	
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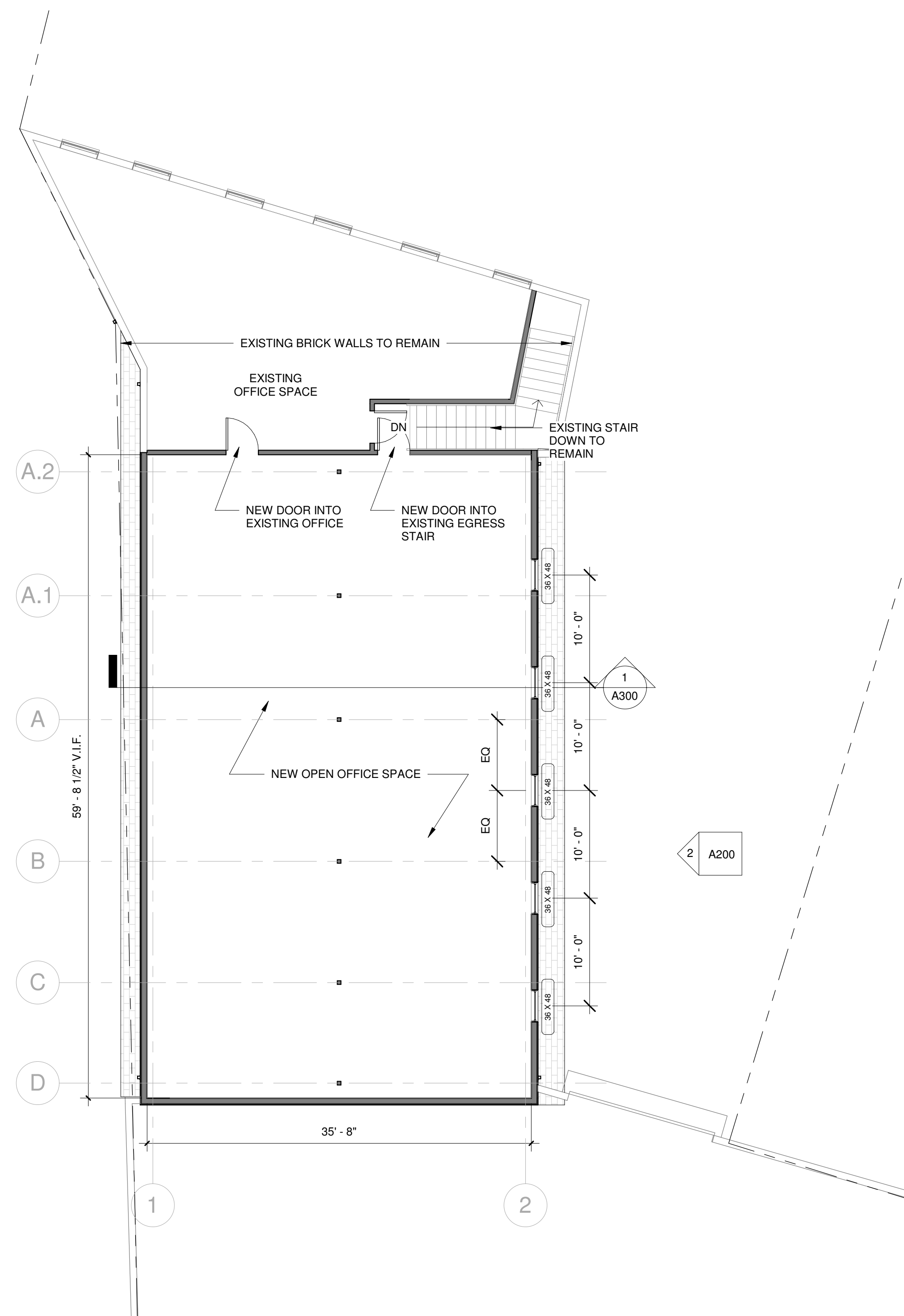




③ PLUMBING RISER DIAGRAM  
12" = 1'-0"

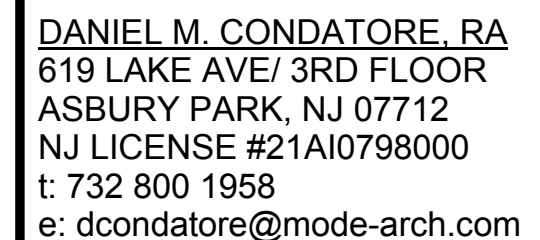


① 01 GROUND FLOOR  
1/8" = 1'-0"

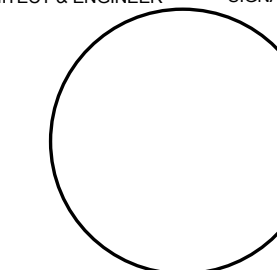


② 02 SECOND FLOOR  
1/8" = 1'-0"





SIGNATURE &amp; SEAL BOX



SEAL DATE

~ SOUTH MAIN STREET ~  
DOUGLAS DEVELOPMENT CORPORATION

1111 SOUTH MAIN ST  
NEPTUNE, NJ 07753  
BLOCK:308 LOT:5

PROJECT  
LOCATION

[illegible]

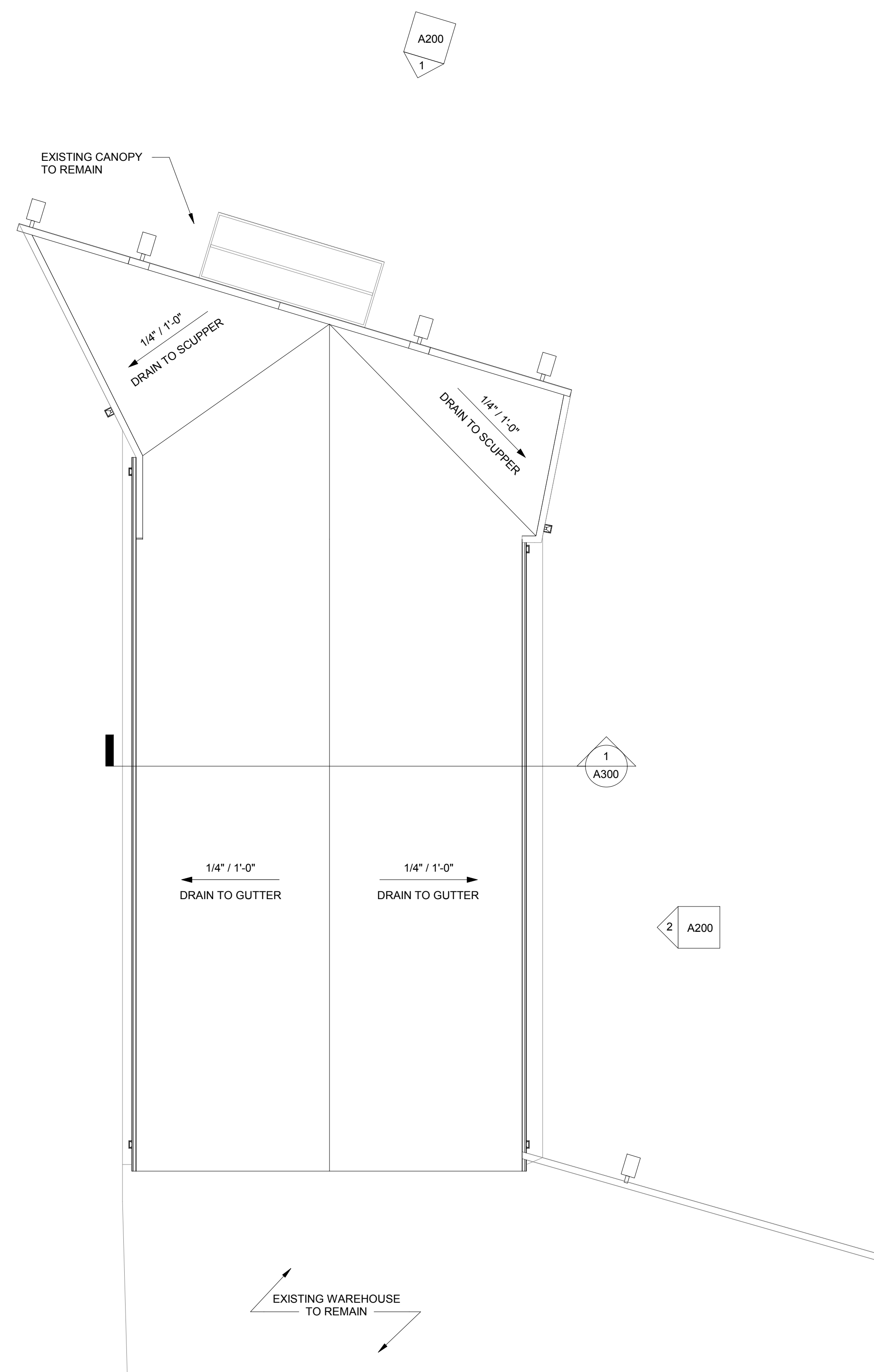
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ROOF PLAN

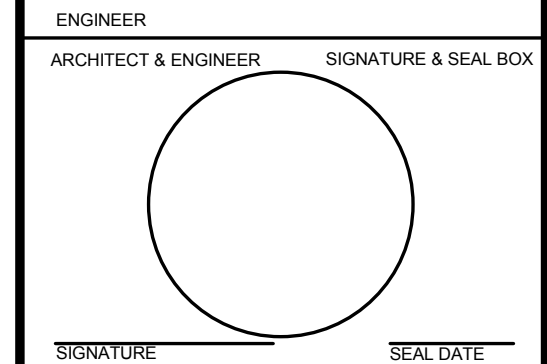
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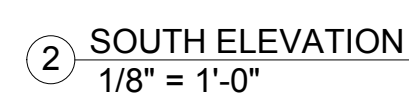
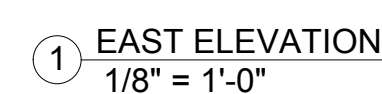


① 03 ROOF  
1/8" = 1'-0"





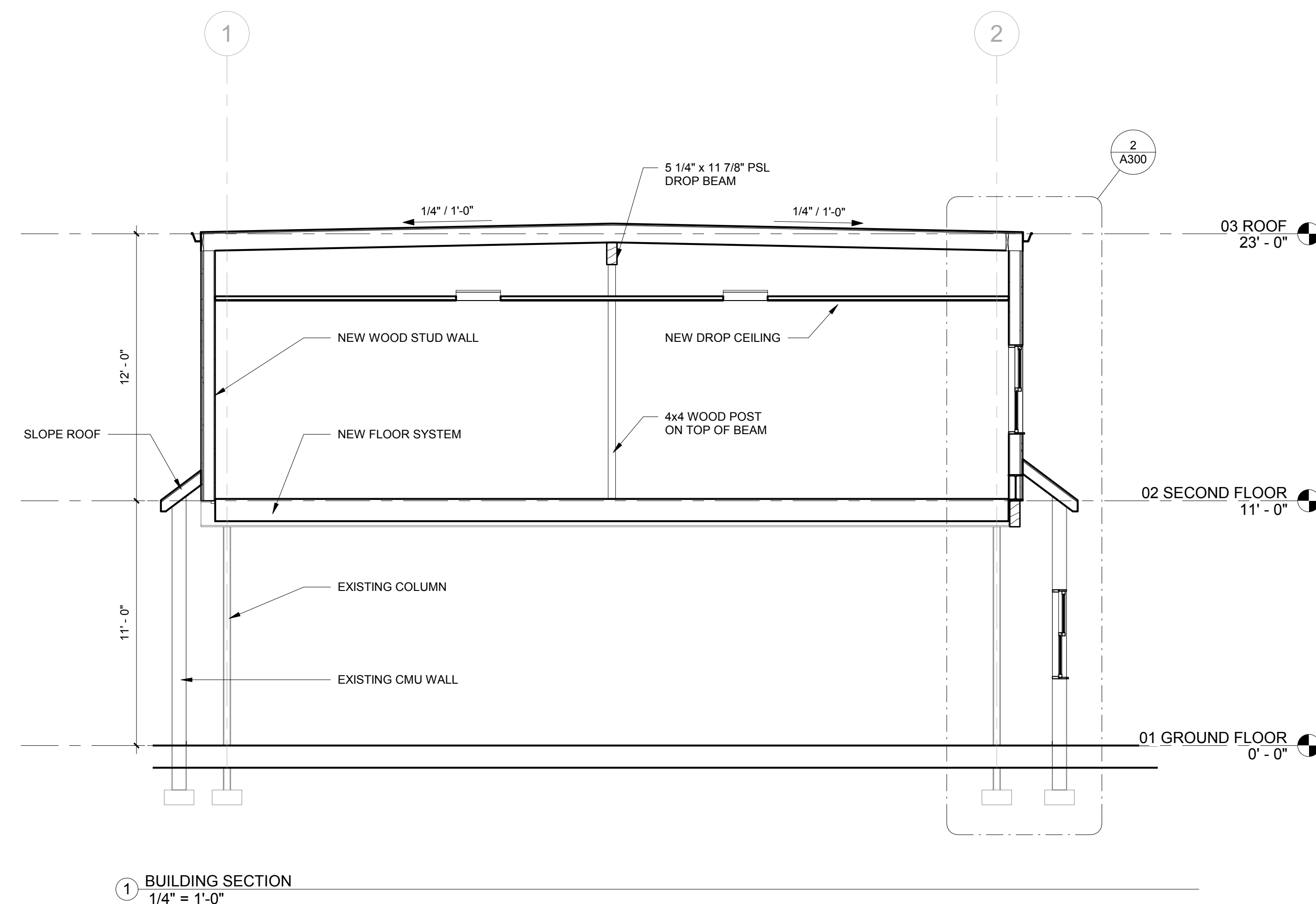
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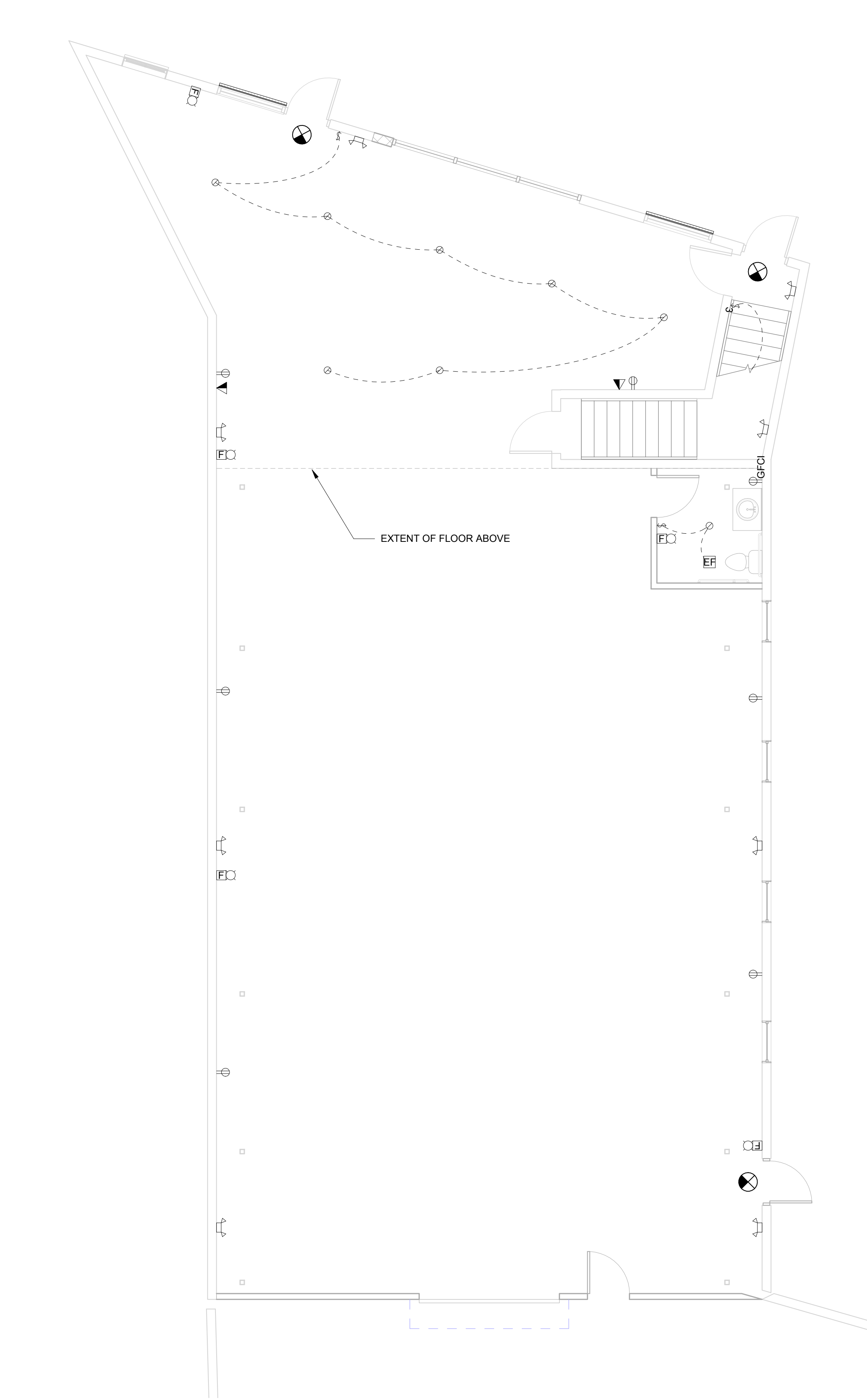


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NEPTUNE, NJ 07753  
BLOCK:308 LOT:5

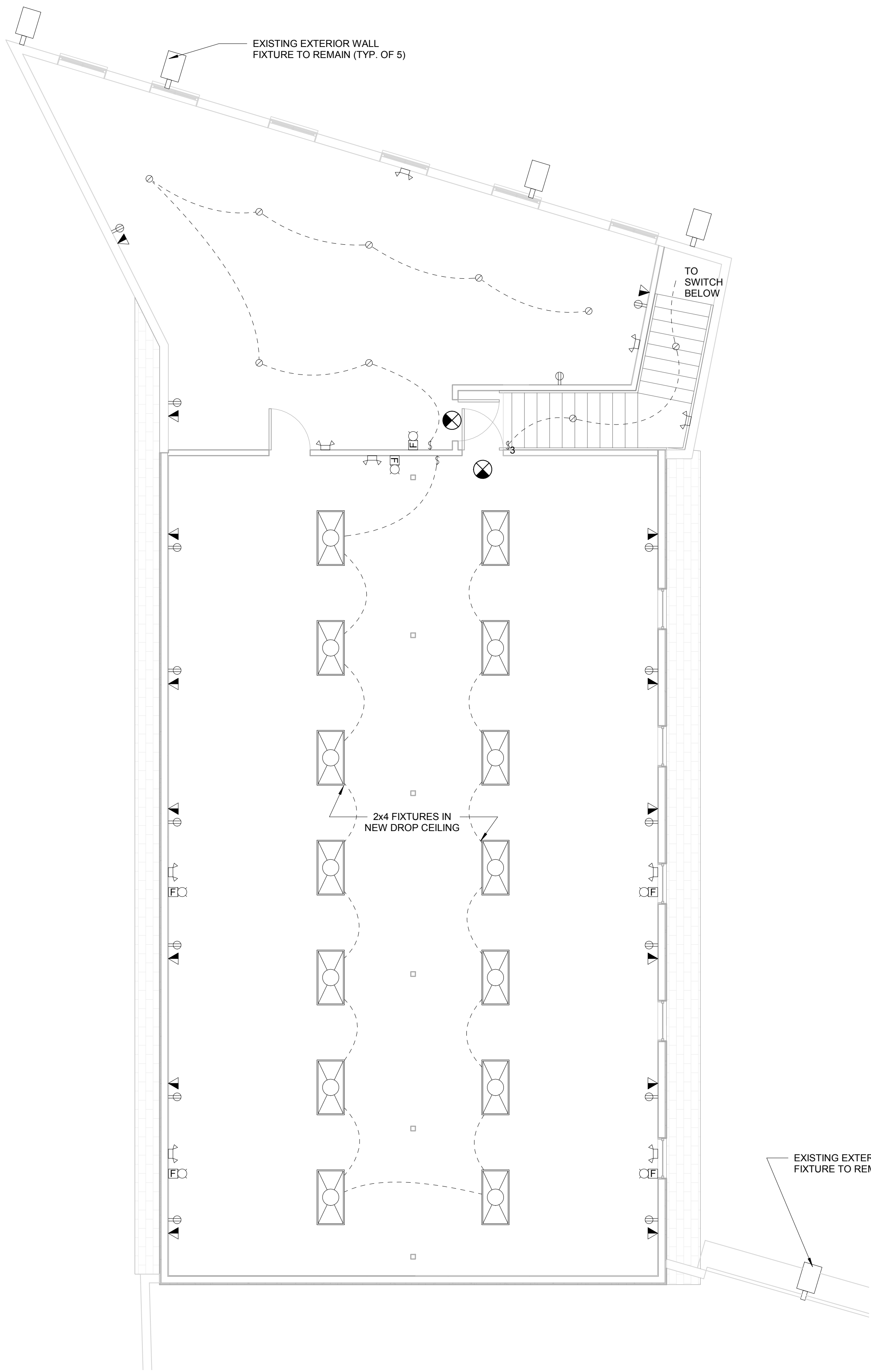
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	No.	REVISIONS / ISSUES	DATE
	1	PERMIT SET	03/23/2020
	2	VARIANCE	05/20/2020
CHECKED BY: DMC		DRAWN BY: DMC	
SCALE:			
DRAWING TITLE:			
SECTIONS			
DRAWING No.			
A300			







1 ELECTRICAL PLAN - GROUND FLOOR  
3/16" = 1'-0"



2 ELECTRICAL PLAN - SECOND FLOOR  
3/16" = 1'-0"

ELECTRICAL LEGEND	
	LIGHT SWITCH
	LIGHT SWITCH WITH DIMMER
	3-WAY LIGHT SWITCH
	DUPLEX OUTLET - WALL MOUNTED
	DUPLEX OUTLET - GROUND FAULT INTERRUPTER
	DUPLEX OUTLET - WEATHER PROOF
	DUPLEX DEDICATED OUTLET
	DUPLEX FLOOR OUTLET
	QUADRUPLEX OUTLET - WALL MOUNTED
	QUADRUPLEX FLOOR OUTLET
	TELEPHONE/DATA OUTLET
	TELEPHONE/DATA FLOOR OUTLET
	CABLE TELEVISION
	FIRE ALARM STROBE
	EMERGENCY EXIT LIGHTING
	LIGHT FIXTURE-RECESSED

ELECTRICAL NOTES	
1.	THE WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND EQUIPMENT, AND PERFORMING ALL NECESSARY LABOR TO PROVIDE COMPLETE SYSTEM OF ELECTRICAL WIRING FROM THE EXISTING MAIN ELECTRICAL PANEL TO ALL DEVICES INDICATED ON PLANS, READY FOR OPERATION. WIRING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, AND NATIONAL ELECTRIC CODE (NEC) INCLUDING ALL LOCAL AMMENDMENTS. ALL DEVICES AND MATERIALS USED SHALL CONFORM TO THE REQUIREMENTS OF THE NEC. NO WIRES SHALL BE RUN IN UNEXCAVATED SPACES BELOW THE FIRST FLOOR UNLESS THEY ARE INSTALLED IN CORDUIT OR CABLE APPROVED FOR SUCH INSTALLATION.
2.	GENERAL CONTRACTOR SHALL INSTALL SMOKE DETECTORS IN ACCORDANCE WITH SECTION R314 OF THE BUILDING CODE IN BOTH NEW AND EXISTING STRUCTURE. DEVICES SHALL BE LOCATED IN ALL BEDROOMS AREAS, OUTSIDE SLEEPING AREAS, AND ALL HABITABLE LEVELS. DEVICES SHALL BE WIRED AND PROVIDED WITH BATTERY BACK-UP PER R314.4.
3.	REF SP-1 FOR MECHANICAL SCOPE.
4.	ALL HOT AND COLD WATER PIPES SHALL BE TYPE "M" COPPER TUBING. REF SP-1
5.	ALL EXISTING RECEPTACLES AND SWITCHES (NOT SHOWN FOR CLARITY) ARE TO REMAIN IN PLACE U.N.O.
6.	ALL LIGHT FIXTURES TO BE ON DIMMERS U.O.N.

mode

Monmouth Ocean Design Experts

DANIEL M. CONDATORE, RA  
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ENGINEER

ARCHITECT & ENGINEER

SIGNATURE & SEAL BOX

SIGNATURE

SEAL DATE

~ SOUTH MAIN STREET ~

DOUGLAS DEVELOPMENT CORPORATION

111 SOUTH MAIN ST  
NEPTUNE, NJ 07753  
BLOCK:308 LOT:5

OWNER

PROJECT LOCATION

NO. REVISIONS / ISSUES DATE

1 PERMIT SET 03/23/2020

2 VARIANCE 05/20/2020

CHECKED BY: DMC

DRAWN BY: DMC

SCALE:

DRAWING TITLE:

ELECTRICAL PLAN

DRAWING NO:

E100



1. DO NOT SCALE FROM THESE DRAWINGS

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE AND ADOPTED REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE, LOCAL CODES AND ORDINANCES. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL UTILITY UPGRADES, SECURE ALL PERMITS AND INSPECTIONS.
3. UPON CONTRACT AWARD, CONTRACTOR SHALL CONTACT LOCAL UTILITY COMPANY TO SCHEDULE ANY NECESSARY UTILITY UPGRADES. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL UTILITY UPGRADES, SECURE ALL PERMITS AND INSPECTIONS.
4. ALL CONNECTIONS TO EXISTING BUILDING SERVICES SHALL BE CAREFULLY COORDINATED WITH THE UTILITY CO. AND THE OWNER'S SCHEDULE. SERVICE WORK OF THIS NATURE TO OCCUR DURING UNOCCUPIED BUILDING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL EXISTING EQUIPMENT IS OPERATIONAL AFTER ANY SHUTDOWN OCCURS.
5. CHANGES OR SUBSTITUTIONS OF EQUIPMENT WILL NOT BE ALLOWED WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER. ALL COSTS RESULTING FROM THE SELECTION OF EQUIPMENT OR MATERIALS NOT SPECIFIED SHALL BE BORNE BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO WORK AFFECTING OTHER CONTRACTORS, THE OWNER, OR RE-DESIGN ISSUES.
6. ALL INDICATED WORK SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
7. DO NOT USE ANY PART OF THE OWNER'S BUILDING OR SHOP. EXCEPT PARTS DESIGNATED FOR SUCH PURPOSES BY THE OWNER.
8. ALL CONTRACT WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE WRITTEN SPECIFICATIONS FOR THIS PROJECT WHICH ARE CONSIDERED TO BE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS SHALL MAINTAIN (AT THE CONTRACTOR'S EXPENSE) THE LATEST EDITIONS OF ALL APPLICABLE CODES, ORDINANCES, SPECIFICATIONS, REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE. IN ALL CASES OF DISCREPANCY BETWEEN PLANS AND SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN. IN CASES OF CONFLICT WHERE IT IS UNCLEAR, SUCH CASES SHALL BE REFERRED TO THE ENGINEER FOR ADJUDICATION.
9. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND RELATED PLUMBING, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, INTERIOR DECOR AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER PRIOR TO BID SUBMISSION.
10. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS BID. FOR THE PROPOSED WORK, HE SHALL BE RESPONSIBLE TO VERIFY FIELD CONDITIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMISSION OF BIDS IN WRITING.
11. THE MECHANICAL CONTRACTOR SHALL REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS ALL EXISTING BUILDING CONDITIONS, ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES ON THIS PROJECT TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
12. THE MECHANICAL CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS, EXISTING CONDITIONS, AND AS-BUILT CONDITIONS PERTAINING TO THE HVAC SYSTEMS. MECHANICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, PARTS, SUPPLIES AND LABOR TO BALANCE ALL HVAC EQUIPMENT TO OWNER'S SATISFACTION.
13. CONTRACTOR SHALL COORDINATE HIS SCHEDULING WITH THE OWNER AND GENERAL CONTRACTOR TO COMPLY WITH THE OWNERS USE OF THE BUILDING.
14. IF ANY UNEXPECTED DISCOVERY OF SUSPECTED HAZARDOUS MATERIALS, I.E ASBESTOS, IS MADE DURING THE COURSE OF WORK, THE CONTRACTOR SHALL REPORT THE DISCOVERY IMMEDIATELY TO THE ARCHITECT AND THE AGENCY RESPONSIBLE FOR THE INVESTIGATION OF SUCH SUSPECTED HAZARDOUS MATERIAL. CONTRACTOR SHALL RESUME WORK AFTER ALL HAZARDOUS MATERIAL HAS BEEN REMEDIATED.
15. CONTRACTOR RESPONSIBLE FOR THE PROPER CARE OF ALL OWNER'S EQUIPMENT AND/OR FURNISHINGS WHICH ARE REQUIRED TO BE TEMPORARILY REMOVED, STORED OR RELOCATED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND REIMBURSE OWNER FOR ALL DAMAGES TO SUCH PROPERTIES AT FULL REPLACEMENT VALUE AND EQUIVALENCY. CONTRACTOR SHALL ADVISE OWNER FOR DISPOSITION OR REMOVED EQUIPMENT AND/OR MATERIALS.
16. CONTRACTOR'S WORK MAY BE REQUIRED OUTSIDE OF DESIGNATED SPACE. ALL SYSTEMS BEING DEMOLISHED AND REMOVED, MODIFIED, AND/OR TERMINATED SHALL BE FIELD VERIFIED TO INSURE NO DAMAGE TO ANY OTHER PARTS OF THE BUILDING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SYSTEMS OF ANY OTHER AREAS. IF ANY CONDITIONS ARE THAT ARE NOT IDENTIFIED ON DRAWINGS IMMEDIATE NOTIFICATION SHALL BE PROVIDED TO THE ENGINEER OR OWNER. NO WORK SHALL PROCEED WITHOUT APPROVALS FROM ENGINEER OR OWNER.
17. DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND MAY HAVE TO BE ADAPTED TO COMPLY WITH THE EXISTING BUILDING CONDITIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, INDICATING LOCATIONS, AND ROUTING OF DUCTS, PIPING, AND WIRING.
18. DUCTING AND PIPING SHOWN ON DRAWINGS SHOW THE GENERAL RUN AND CONNECTIONS AND MAY OR MAY NOT IN ALL PARTS BE SHOWN IN ITS EXACT POSITION. CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING THE DUCTING/PIPING SUITABLE IN EVERY RESPECT FOR THE WORK. DUCTWORK/PIPING SHALL BE INSTALLED SO THAT ACCESS, CLEARANCE, HEADROOM AND FITCH ARE MAINTAINED. CONTRACTORS OF THE VARIOUS TRADES SHALL COORDINATE THE INSTALLATION.
19. ALL CONTRACTORS SHALL PROVIDE CUTTING AND PATCHING FOR THEIR RESPECTIVE TRADES.
20. ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BEAR THE LABEL OF AN APPROVING AGENCY. LISTING AND LABELING AGENCY QUALIFICATIONS: A "NATIONALLY RECOGNIZED TESTING LABORATORY" AS DEFINED IN MECHANICAL CODE.
21. ALL PENETRATIONS THRU WALL, FLOORS, AND CEILINGS SHALL BE SEALED WITH A UL APPROVED PENETRATING SEALANT. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN FIRE, SMOKE, AND DRAFT INTEGRITY OF STRUCTURE. FIRE RESISTANT SEALANT SHALL BE TESTED IN ACCORDANCE WITH ASTM 814. INSTALL SEALANT, INCLUDING FOAMING, PACKING AND OTHER ACCESSORY MATERIALS TO FILL ALL PENETRATIONS. ALL WALL PENETRATIONS OCCUR, COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTERS AND INSPECTION AGENCY.
22. ALL CONTRACTORS REMOVING ANY EQUIPMENT, PIPES, DUCTS, CONDUITS, ETC SHALL PATCH ALL SURFACES DISTURBED BY THIS WORK TO MATCH ADJACENT SURFACES.
23. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER HANDLING, DISPOSAL & ASSOCIATED COSTS OF ALL REFRIGERANT MATERIAL DURING THIS CONTRACT, IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES AND/OR REGULATIONS.
24. THE ELECTRICAL CONTRACTOR TO PROVIDE, INSTALL AND WIRE DUCT MOUNTED SMOKE DETECTORS. ELECTRIC CONTRACTOR SHALL ALSO PROVIDE AND WIRE A REMOTE MONITORING KEY OPERATED TEST AND ALARM STATION FOR EACH DUCT SMOKE DETECTOR. THE REMOTE TEST ALARM STATION SHALL BE MOUNTED AS DIRECTED IN THE AREA OF THE SMOKE DETECTOR.
25. THE MECHANICAL CONTRACTOR TO PROVIDE ALL ROOF CURBS, EQUIPMENT RAILS, SUPPORTS, ROOF FLASHING, AND FLASHING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NEW HVAC EQUIPMENT. MECHANICAL CONTRACTOR RESPONSIBLE TO PROVIDE EXACT LOCATIONS AND 'APPROVED' EQUIPMENT SUBMITTALS, OF ROOF CURBS, EQUIPMENT SUPPORTS, ROOF PORTALS, AND FLASHING. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL ROOF FLASHING, ROOF PORTALS AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED BY ROOFING SUB-CONTRACTOR. ROOFING CONTRACTOR SHALL BE BONDED AND ALL WORK SHALL BE DONE SO AS NOT TO VOID ROOF WARRANTY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FLASHING AND TEMPORARY WEATHER-PROOF COVERS UNTIL MECHANICAL CONTRACTOR INSTALLS NEW HVAC UNITS. MECHANICAL CONTRACTOR TO PROVIDE COUNTER FLASHING.
26. FURNISH TO THE ELECTRICAL CONTRACTOR ALL MOTORS STARTERS AND CONTROL DEVICES FOR MECHANICAL EQUIPMENT. ELECTRICAL CONTRACTOR SHALL INSTALL AND WIRE STARTER AND CONTROL EQUIPMENT FOR ALL MOTORS.
27. ALL HVAC EQUIPMENT CONTAINING COOLING (EVAPORATOR) COLLS INCLUDING DOWN FLOW ROOF CURB UNIT SHAES HAVE CONDENSATE MONITORING FOR OVERFLOW PROTECTION FOR PRIMARY OR SECONDARY DRAINAGE. CONTRACTOR SHALL PROVIDE SADDLE BLOCK ROLLER TYPE PIPING WITH UL # 508, AND SHALL SHUT DOWN COOLING SYSTEM AND SIGNAL BMS SYSTEM IF APPLICABLE.
28. PROVIDE GAS PIPING SUPPORTS ON ROOF AT ALL DIRECTION CHANGES AND STRAIGHT RUNS WITH SPACING NOT EXCEEDING LENGTHS STATED IN TABLE 415.1 OF IFGC, 2009 FOR MATERIALS AND LISTED PIPE SIZES. SUPPORTS SHALL BE SADDLE BLOCK ROLLER TYPE WITH PIPE SECURED TO STAND WITH WIRE OR NOTED AND SHALL BE SECURED TO ROOF SURFACE, BOTTOM OF PIPING SHALL BE MINIMUM 3 1/2" ABOVE ROOF SURFACE.
29. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASSES. ALL EXPOSED PLUMBING SHALL BE INSTALLED IN A NEAT MANNER. SUCH LOCATIONS SHALL BE REVIEWED WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
30. ALL PIPING, EXCEPT IN MECHANICAL ROOMS SHALL BE ORGANIZED NEATLY AND KEPT TIGHT TO WALLS AND CEILINGS WITH STANDARD CLEARANCE FOR FUTURE FURRING BY GENERAL CONTRACTOR.
31. FURNISH AND INSTALL PIPE SLEEVES PASSING THROUGH INTERIOR WALLS. SLEEVES SHALL BE STEEL PIPE; ASTM A33, TYPE E, GRADE A, SCHEDULE 40, GALVANIZED PLAIN ENDS, 2" LONGER THAN WALL WIDTH.
32. ALL DUCTWORK SHALL BE CONNECTED TO MOTORED EQUIPMENT WITH FLEXIBLE DUCT CONNECTORS.
33. ALL RECTANGULAR RIGID DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL. FABRICATION OF DUCTWORK AND INSTALLATION SHALL BE IN ACCORDANCE WITH SMACNA STANDARDS AND RECOMMENDATIONS.
34. ALL DUCTWORK SIZES SHOWN ON DRAWINGS ARE CLEAR INTERNAL DIMENSIONS.
35. ALL INTERIOR RECTANGULAR DUCTWORK SHALL HAVE DUCT LINER. SEE SPECIFICATION FOR DETAILS.
36. ALL INTERIOR ROUND DUCTWORK EXPOSED WITH FINISHED SPACES SHALL BE FACTORY FABRICATED DOUBLE WALLED WITH INSIPPED INSULATION. SEE SPECIFICATION FOR DETAILS.
37. ALL INTERIOR ROUND DUCTWORK CONCEALED OR EXPOSED IN NON-FINISHED AREA, EG ATTIC, ABOVE CEILING, ETC, SHALL BE SINGLE WALLED EXTERNALLY INSULATED WITH H-EXIBLE DUCTWRAP AND VAPOR BARRIER. SEE SPECIFICATIONS FOR DETAILS.
38. ALL FLEXIBLE DUCTWORK SHALL BE CLASS I, LABELED UL 181. SEE SPECIFICATIONS FOR DETAILS.

## 1. GENERAL

- DRAWINGS AND GENERAL & SUPPLEMENTARY CONDITIONS SHALL APPLY TO WORK OF THIS SECTION.
- A. ALL MATERIALS SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KINDS, SUITABLE FOR THE CONDITIONS AND DUTIES IMPOSED UPON SAME AT THE BUILDING. MATERIALS SHALL MATCH EXISTING FOR SIMILAR SERVICE EXCEPT AS OTHERWISE NOTED HEREIN. THEY SHALL GENERALLY BE OF REPRESENTATIVE MANUFACTURER BRAND NAMES ARE SPECIFIED TO INDICATE A STANDARD OF QUALITY ONLY. INSTALLATION OF THE WORK SHALL BE PERFORMED BY SKILLED TRADESMAN.
- C. CODE COMPLIANCE: ALL WORK SHALL BE INSTALLED IN CONFORMANCE TO BUILDING CODES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO THE 2015 IBC, 2011 NATIONAL ELECTRICAL CODE, NATIONAL FIRE CODE, 2015 INTERNATIONAL MECHANICAL CODE AND 2015 THE INTERNATIONAL FUEL GAS CODE.
- D. IF ANY UNEXPECTED DISCOVERY OF SUSPECTED HAZARDOUS MATERIALS, IE ASBESTOS, IS MADE DURING THE COURSE OF WORK, THE CONTRACTOR SHALL REPORT THE DISCOVERY IMMEDIATELY TO THE OWNER. THE CONTRACTOR SHALL STOP ANY WORK THAT MAY DISTURB THE SUSPECTED HAZARDOUS MATERIAL. CONTRACTOR SHALL RESUME WORK AFTER ALL HAZARDOUS MATERIAL HAS BEEN REMEDIATED
- 2. SUBSTITUTIONS**
- A. IF THE CONTRACTOR IS CONSIDERING SUBSTITUTION OF BASE SPECIFICATION, SUCH EQUIPMENT SHALL DIMENSION OR EXCEED CAPACITIES, OPERATIONAL EFFICIENCIES AND POWER/CONTROL REQUIREMENTS OF BASE SPECIFIED EQUIPMENT. COSTS FOR ANY REVISIONS TO STRUCTURAL DESIGN OF MECHANICAL/ELECTRICAL REQUIREMENTS DUE TO EQUIPMENT SUBSTITUTIONS SHALL BE PAID BY CONTRACTOR.
- 3. VERIFYING EXISTING CONDITIONS, REMOVALS AND ALTERATIONS**
- A. THE CONTRACTOR SHALL VISIT THE PREMISES TO DETERMINE EXISTING CONDITIONS AND COMPARE SAME WITH DRAWINGS AND SPECIFICATIONS AND SATISFY HIMSELF OF ALL CONDITIONS PRIOR TO THE SUBMISSION OF A BID PROPOSAL. NO ALLOWANCE WILL BE MADE FOR FAILURE TO COMPLY WITH THESE REQUIREMENTS AND A BID PROPOSAL SHALL BE CONSTRUED AS EVIDENCE HE HAS DONE SO.
- B. THE CONTRACTOR SHALL REMOVE, RELOCATE, REPLACE, ADJUST, ADAPT AND MODIFY EXISTING EQUIPMENT AND/OR SYSTEMS AS REQUIRED BY THE DRAWINGS OR SPECIFICATIONS AND AS MAY BE REQUIRED WHEN SUCH WORK IS UNCOVERED AND FOUND TO INTERFERE WITH THE COMPLETION OF WORK IN THIS CONTRACT OR OTHER CONTRACT WORK.
- C. ALL REMOVED EQUIPMENT AND MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE. PRIOR TO REMOVAL, COORDINATE DISPOSITION WITH OWNER.
- D. PROVIDE SHUTDOWNS, DRAINING AND REFILLING, RECONNECTIONS AND STARTUPS OF EXISTING SYSTEMS NECESSARY IN CONNECTION WITH THE NEW WORK. COORDINATE SHUTDOWNS WITH THE OWNERS REPRESENTATIVE.
- E. TEMPORARY SERVICES: PROVIDE TEMPORARY SERVICES DURING THE INTERRUPTION IN SERVICE CREATED BY THE DEMOLITION OF THE EXISTING FACILITY AND UNTIL THE NEW FACILITY BECOMES OPERATIONAL. PROCURE RENTAL EQUIPMENT OF ADEQUATE CAPACITIES AND ASSUME ALL COSTS RELATED TO THIS INSTALLATION AND OPERATION OF SAME.
- 4.COORDINATION**
- A. MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADE.
- B. COORDINATE REFRIGERANT PIPING SIZES, ROUTING & SUPPORTS.
- C. COORDINATE LOCATION OF ROOF CURBS, EQUIPMENT SUPPORTS, AND ROOF PENETRATIONS.
- D. COORDINATE LOCATION OF MECHANICAL EQUIPMENT, PIPING AND DUCTWORK WITH THE WORK OF OTHER TRADES, PROVIDING CLEARANCES FOR INSULATION, SEPARATION, REMOVAL OF COMPONENTS AND EQUIPMENT DISSEMBLY.
- E. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENT.
- F. SEQUENCE PHASES OF MECHANICAL WORK WITH THE WORK OF OTHER TRADES.
- 5. SHOP DRAWINGS**
- A. SUBMIT A MINIMUM FIVE (5) COPIES OF MANUFACTURER'S EQUIPMENT DRAWINGS CONSISTING OF: DIMENSIONS, PLANS, LISTED CAPACITIES, OPERATIONAL EFFICIENCIES AND POWER/CONTROL MAINTENANCE INSTRUCTIONS INCLUDING TROUBLE SHOOTING PROCEDURES.
- B. WORK SHALL NOT PROCEED PRIOR TO SHOP DRAWING RELEASE BY THE ENGINEER WITH STAMPED NOTATION "NO EXCEPTIONS TAKEN" APPLIED.
- 6. RECORD DRAWINGS**
- A. REPRODUCIBLE RECORD DRAWINGS SHALL BE SUPPLIED UPON WHICH CORRECTIONS SHALL BE MADE PROVIDE AN ACCURATE AND COMPLETE RECORD OF THE WORK AS INSTALLED.
- B. AS-BUILT INFORMATION SHALL BE SUBMITTED AS FOLLOWS: WORK SHALL NOT PROCEED PRIOR TO SHOP DRAWING RELEASE BY THE ENGINEER WITH STAMPED NOTATION "NO EXCEPTIONS TAKEN" APPLIED.
- a. ONE (1) SET OF REPRODUCIBLE DRAWINGS.
- b. TWO (2) SETS OF PRINTS.
- 7. DELIVERY AND STORAGE: DELIVER FACTORY FURNISHED MATERIALS AND EQUIPMENT IN PROPER CONTAINERS AND STORE IN AREA PROTECTED FROM WEATHER, FUMES AND VANDALISM.**
- 8. REMOVALS: REMOVE EXISTING MATERIALS AND EQUIPMENT INDICATED AND REPLACE WITH NEW MATERIALS AS INDICATED**
- 9. CUTTING AND PATCHING**
- A. PERFORM CUTTING AND PATCHING IN A COMPETENT AND WORKMANLIKE MANNER WITHOUT DAMAGE TO OR STRUCTURES TO REMAIN.
- B. CUT REMOVE AND LEGALLY DISPOSE OF DESIGNATED MATERIALS, EQUIPMENT AND COMPONENTS, INCLUDING BUT NOT LIMITED TO PLASTER, PRODUCT, AND PERFORMANCE DATA, WRITING DIAGRAMS, AND OTHER MATERIALS REQUIRING REMOVAL TO INSTALL THE NEW WORK.
- C. PROTECT THE STRUCTURE, FURNISHINGS, FINISHES AND ADJACENT MATERIALS NOT INDICATED OR SCHEDULED TO BE REMOVED.
- D. PROVIDE AND MAINTAIN TEMPORARY PARTITIONS OR DUST BARRIERS ADEQUATE TO PREVENT THE SP OF DUST AND DIRT TO ADJACENT AREAS.
- E. PATCH EXISTING FINISHED SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS MATCHING EXISTING MATERIALS. USE EXPERIENCED INSTALLERS TO RESTORE SURFACE OF MATERIALS BEING PATCHED.
10. GUARANTEE- THE CONTRACTOR SHALL GUARANTEE, IN WRITING, FOR A PERIOD OF ONE YEAR, COMM FROM THE DATE OF ACCEPTANCE BY THE OWNER, ALL MATERIALS AND WORKMANSHIP PROVIDED AS PART PROJECT.
- 11. INSPECTION**
- A. UNLESS OTHERWISE PROVIDED, THE ARRANGEMENT, POSITION, CONNECTIONS, ETC., SHOWN ON THE DRAWINGS SHALL BE TAKEN AS DIAGRAMATIC.
- B. THE RIGHT IS RESERVED BY THE ENGINEER TO MAKE MINOR CHANGES IN LOCATIONS AND ARRANGEMENTS WHEN REQUIRED BY JOB DEVELOPMENT WITHOUT ADDITIONAL COMPENSATION TO THIS CONTRACTOR.
- 12. SHEET METAL WORK AND ACCESSORIES:**
- A. ALL INTERIOR DUCTWORK SHALL BE CONSTRUCTED OF PRIME QUALITY GALVANIZED SHEET STEEL, AS A527.
- B. ALL EXTERIOR DUCTWORK SHALL BE CONSTRUCTED OF PRIME QUALITY GALVANIZED SHEET STEEL, AS A527, G-90 GALVANIZED.
- C. MATERIAL, GAUGES AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT, INDUSTRIAL STANDARDS FOR W-3.6. POSITIVE PRESSURE SUPPLY AND 1"W.G. NEGATIVE PRESSURE DUCT.
- D. PROVIDE 3/8" 1"-0" SCALE SHEET METAL SHOP DRAWINGS OF DUCT LAYOUT INDICATING GAUGES, PRESSURES, FITTINGS, REINFORCING DETAILS, SPACING, SEAM AND JOINT CONSTRUCTION DETAILS.
- E. ALL SHEET METAL DUCTWORK SEAMS, JOINTS AND FLANGES SHALL BE COATED WITH A WATER BASED LOW VOC'S ELASTIC SEALANT APPROVED FOR SUCH USE.
- 13. DUCT LINER**
- A. COMPLY WITH NFPA STANDARD 90A ASTM STANDARD AH-C-101. ASTM C 1071, TYPE 2, WITH COATED SURF EXPRESSED TO AIR STREAM TO PREVENT EROSION OF GLASS FIBERS.
- B. LINER SHALL BE BY JOHNS MANVILLE CO LINAACOUSTIC RC OR APPROVED EQUAL.
- C. INTERIOR DUCTWORK
- a. THICKNESS 1/4 INCH, DENSITY 3/4 POUNDS, THERMAL PERFORMANCE: "K-FACTOR" EQUAL TO 0.28 OR BETTER, AT A MEAN TEMPERATURE OF 75 DEG. F. FLAME SPREAD RATING NOT MORE THAN 25, SMOKE DEVELOPED HIGHER THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM TEST E-84. MINIMUM R-4.2 VALUE.
- D. EXTERIOR DUCTWORK
- a. THICKNESS 1 1/2 INCH, DENSITY 1 1/2 POUNDS, THERMAL PERFORMANCE: "K-FACTOR" EQUAL TO 0.2 BETTER, AT A MEAN TEMPERATURE OF 75 DEG. F. FLAME SPREAD RATING NOT MORE THAN 50, SMOKE DIT RATING NO HIGHER THAN 100 WHEN TESTED IN ACCORDANCE WITH ASTM TEST E-84. MINIMUM R-6 VALUE.
- b. THE INSULATED DUCT ASSEMBLY SHALL BE WRAPPED WITH A SHEET TYPE PROTECTIVE MEMBRANE AND OZONE RESISTANT ALUMINUM CLAD SURFACE WITH HIGH DENSITY CROSS-LINKED POLYETHYLENE MULTILAYER FILMS. PRODUCT SHALL BE VENTURE CLAD BF157CW U FINISH AS MANUFACTURED BY VENTURE TAPE OR ENGINEER APPROVED EQUAL.
- E. LINER ADHESIVE SHALL COMPLY WITH NFPA STANDARD 90A AND ASTM C 916. LINER TO BE AFFIXED TO LOW VOC ADHESIVE AND WELD PINS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INCR SIZE TO COMPENSATE FOR LINER THICKNESS.

#### 14. DUCT INSULATION

- PROVIDE 1 1/2" THICK 12 PCF DENSITY FIBERGLASS BLANKET INSULATION, ASTM C 533 WITH FOIL Faced VAPOR BARRIER JACKET WITH SELF SEALING LAP ON ALL UNLINED SUPPLY AND RETURN AIR DUCT WORK. MINIMUM R-6 VALUE.
- B. UL LISTED WITH FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED RATING 50 OR LESS. PROVIDE TIGHT CLOSURE AT POINT OF CONNECTION TO EXISTING INSULATION.
- 15. OUTDOOR DUCT AND PLENUMS, INSULATION AND JACKETING:**
- A. ALL EXTERIOR SUPPLY AND DUCTWORK SHALL BE EXTERNALLY INSULATED WITH MINIMUM 2" THICK RIGID INSULATING BOARD HAVING A MINIMUM INSULATING VALUE OF R-8. INSULATION SHALL BE APPLIED WITH ADHESIVE AND WELD Joints IN ACCORDANCE WITH INSULATION MANUFACTURERS RECOMMENDATIONS.
- B. THE INSULATED DUCT ASSEMBLIES SHALL BE WRAPPED WITH A SHEET TYPE PROTECTIVE MEMBRANE THAT IS VAPOR FIBRE RESISTANT ALUMINUM CLAD SURFACE WITH HIGH DENSITY CROSS-LINKED POLYETHYLENE WITH MULTIPLE LAYERS WITH A MINIMUM 10 YEAR WARRANTY.
- C. PRODUCT SHALL BE FLEX CLAD-400 WITH WHITE FINISH AS MANUFACTURED BY MFM BUILDING PRODUCTS CORP OR ENGINEER APPROVED EQUAL.
- 16. FLEXIBLE DUCT:**
- A. PROVIDE FLEXIBLE AIR DUCT WHERE INDICATED ON PLANS ONLY.
- B. DUCT SHALL BE LISTED BY UNDERWRITERS LABORATORIES UNDER UL STANDARD 181 AS A CLASS 1 FLEXIBLE AIR DUCT AND COMPLYING WITH NFPA STANDARDS 90A AND 90B.
- C. DUCT SHALL BE FACTORY FABRICATED, INSULATED, ROUND DUCT, WITH OUTER JACKET ENCLOSING 1" THICK GLASS FIBER INSULATED AROUND A CONTINUOUS INNER LINER. REINFORCEMENT SHALL BE STEEL WIRE HELIX ENCAPSULATED IN THE INNER LINER. OUTER JACKET SHALL BE GLASS-REINFORCED SILVER MYLAR WITH A CONTINUOUS HANGING TAB. INTEGRAL FIBERGLASS TAPE, AND NYLON HANGING CORD. INNER LINER SHALL BE POLYETHYLENE FILM. FLEXIBLE DUCT CLAMP'S SHALL BE STAINLESS STEEL WITH CADMIUM PLATED HEX SCREWS. MINIMUM INSULATION R-4.2 VALUE.
- 17. FLEXIBLE CONNECTORS:**
- A. FLAME-RETARDED OR NON COMBUSTIBLE FABRICS, COATINGS AND ADHESIVES COMPLYING WITH UL STANDARD 181, CLASS 1. GLASS FABRIC DOUBLE COATED WITH POLYCHLOROPRENE. MINIMUM WEIGHT 26 OZ. PER SQ. YD.
- B. JOINTS AT FLEXIBLE CONNECTIONS SHALL BE SEALED WITH GASKET MATERIAL IN ACCORDANCE WITH SMACNA DETAIL FIGURE 2-19. FLEXIBLE CONNECTIONS SHALL BE CONSTRUCTED FROM NEOPRENE FLAME RETARDANT FABRIC.
- 18. AIR OUTLETS:**
- A. FURNISH & INSTALL SUPPLY AIR CEILING DIFFUSERS & GRILLES, RETURN AIR CEILING REGISTERS & GRILLES WITH ALUMINUM OR STEEL CONSTRUCTION. THE FINISH SHALL BE BAKED ENAMEL WITH COLORS TO BE SELECTED BY THE ARCHITECT. MANUFACTURED BY TITUS OR APPROVED EQUAL.
- B. CONFIGURATION: VOLUME-DAMPER ASSEMBLY AND CONTROL COMPONENTS INSIDE UNIT CASING.
- C. CASINGS: STEEL OR ALUMINUM SHEET METAL OF THE FOLLOWING MINIMUM THICKNESSES: UPSTREAM PRESSURE SIDE: 0.0239-INCH STEEL. DOWNSTREAM PRESSURE SIDE: 0.0179-INCH STEEL.
- D. ACCESS: REMOVABLE PANELS TO PERMIT ACCESS TO DAMPERS AND OTHER PARTS REQUIRING SERVICE, ADJUSTMENT, OR MAINTENANCE; WITH AIRTIGHT GASKET AND QUARTER TURN LATCHES.
- E. VOLUME DAMPER: CONSTRUCT OF GALVANIZED STEEL WITH PERIPHERAL GASKET AND SELF-LUBRICATING BEARINGS. MAXIMUM DAMPER LEAKAGE: 2 PERCENT OF NOMINAL AIRFLOW AT 1-INCH WG INLET STATIC PRESSURE. DAMPER REGULATOR: NORMALLY CLOSED.
- F. POSITIONING ASSEMBLY: EXTRUDED ALUMINUM OR 20-GAGE GALVANIZED STEEL COMPONENTS; KEY DAMPER BLADES INTO SHAFT WITH NYLON-FITTED PIVOT POINTS LOCATED INSIDE UNIT CASING.
- 19. CONTROLS: DAMPER OPERATOR, THERMOSTAT, AND OTHER DEVICES SHALL BE COMPATIBLE WITH THE EXISTING TEMPERATURE CONTROLS & BMS.**
- 20. TESTING AND BALANCING:**
- A. INDEPENDENT TESTING AND BALANCING AGENCY SHALL BE RETAINED BY THE CONTRACTOR TO BALANCE THE AIR AND WATER SYSTEMS. THE TEST AND BALANCE AGENCY SHALL HAVE A STATE OF NEW JERSEY PROFESSIONAL ENGINEER ON STAFF OR RETAINED AS A CONSULTANT.
- B. THE BALANCER SHALL PERFORM WORK IN ACCORDANCE WITH THE AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE AND THE LATEST EDITION OF THE ASHRAE HANDBOOK.
- C. MECHANICAL CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS AND AS-BUILT CONDITIONS PERTAINING TO THE HVAC SYSTEMS. MECHANICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, PARTS, SUPPLIES AND LABOR TO BALANCE ALL HVAC EQUIPMENT TO OWNER'S SATISFACTION.
- D. SUBMIT CERTIFIED REPORTS CONTAINING SEAL AND SIGNATURE OF THE TEST AND AIR BALANCE ENGINEER CERTIFYING THAT THE SYSTEM WAS TESTED AND BALANCED IN ACCORDANCE WITH REFERENCED STANDARDS, AND IS OPERATING ACCORDING TO THE CONTRACT DOCUMENTS.
- E. REPORTS SHALL INCLUDE A SINGLE LINE DIAGRAM OF AIR SYSTEMS WITH AIR OUTLETS IDENTIFIED NUMERICALLY. AIR OUTLETS WILL BE TABULATED IN COLUMNAR FORM WITH THE FOLLOWING DATA PROVIDED FOR EACH NUMERICALLY IDENTIFIED OUTLET:
- REGISTER SIZE
  - DIFFUSER SIZE
  - FREE AREA IN SQUARE FEET, AIR VELOCITY, REGISTER CONSTANT, CFM
  - FOR EACH FAN SUBMIT DESIGN AND RECORDED CFM, STATIC PRESSURE, FAN RPM AND MOTOR AMPERAGE IN SEPARATE VERTICAL COLUMNS
- 21. ELECTRIC CONTROL S-24; DAMPER ACTUATOR WITH WALL MOUNTED ELECTRIC THERMOSTAT AND APPROPRIATE MOUNTING HARDWARE.**
- 22. FIRE DAMPERS: FIRE DAMPERS TO BE CURTAIN TYPE B & DYNAMIC RATED WITH BLADES OUTSIDE AIRSTREAM FABRICATED WITH ROLL FORMED, .034 INCH THICK GALVANIZED STEEL WITH MITERED AND INTERLOCKING CORNERS. FIRE RATED AS REQUIRED AND LABELED ACCORDING TO UL 555.**
- 24. GAS PIPING**
- A. THE CONTRACTOR SHALL INSTALL NATURAL GAS PIPING CONNECTING TO EQUIPMENT REQUIRING SAME AS INDICATED ON THE DRAWINGS.
- B. PIPING SHALL BE BLACK STEEL ASTM A53, B ERW.
- UP TO 4-INCH: BUTT WELD
- OVER 4-INCH: ELECTRIC RESISTANCE WELD
- C. FITTINGS:
- UP TO 4-INCH: MALLEABLE IRON, SCREWED - IPS ASTM A197 & ANSI B16.3
- UP TO 4-INCH: BUTT WELDED STEEL, ASTM A234 AND ANSI B16.9
- D. VALVES:
- UP TO 4-INCH: GAS COCK, SCREWED ENDS, MUELLER CO. NO. H-11024
- OVER 4-INCH: DIAPHRAGM TYPE, FLANGED ENDS, GRINNELL CO #2402-3TV
- 25. DUAL TEMPERATURE WATER PIPING**
- A. ALL HOT WATER DISTRIBUTION PIPING SHALL BE TYPE 1 HARD DRAWN COPPER. ALL JOINTS SHALL BE MADE WITH VIEGA PRO PRESS SYSTEM OR ENGINEER APPROVED EQUAL.
- B. HOT WATER PIPING INSULATION SHALL BE MINERAL FIBER PREFORMED WITH ALL SERVICE JACKET (ASJ). ALL FITTING AND VALVES SHALL BE COVERED WITH PVC COVERS. INSULATION SHALL BE UL LABELED FOR 25/50 FIRE AND SMOKE DEVELOPED RATINGS. PIPE SIZE TO 3": 1" THICK, PIPE SIZE 4" AND LARGER: 1 1/2" THICK INSULATION.
- C. ALL TAKE OFFS FROM MAINS SHALL HAVE MINIMUM (3) ELBOW SWINGS EXPANSION WITH SHUT-OFF VALVES.
- D. PITCH PIPING, IN GENERAL, BACK TOWARDS BOILER OR WATER HEATER, WHERE NOT POSSIBLE, PROVIDE LOW POINT DRAIN.
- 26. REFRIGERANT PIPING**
- A. ALL REFRIGERANT PIPING SHALL BE COPPER TYPE ACR WITH MATCHING WROUGHT COPPER FITTINGS.
- B. ALL JOINTS SHALL BRN BRAZED. SOLDER JOINTS NOT PERMITTED.
- C. PIPING SHALL BE INSTALLED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, RECOMMENDED GOOD PRACTICE AND CODE PROVISIONS.
- D. SUCTION AND HOT GAS PIPING SHALL BE INSULATED WITH MINIMUM 1/2" THICK EXPANDED FOAM TM ARMAFLEX OR EQUAL.
- E. EXTERIOR INSULATED PIPING SHALL HAVE PVC OR ALUMINUM JACKETING TO PROTECT INSULATION FROM ELEMENTS OR VERMIN.
- F. PRECHARGED LINE SETS ARE PERMITTED AS A SUBSTITUTION FOR FIELD ASSEMBLED PIPING SYSTEMS IF USED ACCORDING TO THEIR LISTINGS AND REFRIGERANT TYPE.

## 27. HANGERS AND SUPPORTS

- PIPING:

  - PROVIDE PIPE HANGERS AND SUPPORTS IN ACCORDANCE WITH PIPE SIZE AND SPAN SCHEDULES IN THE 2015 IMC.
  - ALL PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE. ALL HANGERS, RODS AND SUPPORTS SHALL BE SPECIFICALLY APPROVED FOR USE INTENDED. HANGERS AND SUPPORTS SHALL BE INSTALLED IN STRICT CONFORMITY WITH ALL APPLICABLE CODE REQUIREMENTS.
  - WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF HANGER RODS, INSERTS, ETC. IN REQUIRED LOCATIONS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL STEEL FRAMING AS REQUIRED AND APPROVED.
  - EXPANSION SHIELDS SHALL BE PROVIDED TO SUPPORT HANGER RODS AT REQUIRED INTERVALS. EXPANSION SHIELDS SHALL BE "PHILLIPS" ANCHORS, HILTI CO., OR APPROVED EQUAL.
  - DUCTWORK
  - PROVIDE HANGERS AND SUPPORTS FOR ALL RIGID DUCTWORK OF COMPATIBLE MATERIAL AS REQUIRED IN ACCORDANCE WITH SMACNA AND ASHRAE RECOMMENDATIONS.
  - DUCTWORK SHALL BE SUPPORTED WHERE REQUIRED WITH RESTRAINING CABLES OR STRAPS.
  - ROUND FLEXIBLE DUCTWORK TO BE SUPPORTED AS RECOMMENDED BY DUCT MANUFACTURER.

**29. VIBRATION ISOLATION SYSTEMS**

  - ALL ROTATING, REVOLVING OR RECIPROCATING EQUIPMENT, SHALL BE FURNISHED WITH SEISMICALLY DESIGNED VIBRATION ISOLATORS, TO PREVENT THE TRANSMISSION OF OBJECTIONABLE NOISES, SOUND OR VIBRATIONS TO THE OCCUPIED OR TO THE BUILDING STRUCTURES.
  - VIBRATION ISOLATORS FOR CEILING SUPPORTED EQUIPMENT SHALL BE SUPPORTED FROM STRUCTURE ABOVE AND MAXIMUM LATERAL MOTION UNDER EQUIPMENT STARTUP OR SHUTDOWN CONDITIONS OF 1/4" MOTIONS IN EXCESS SHALL BE RESTRAINED BY SPRING TYPE MOUNTINGS.
  - VIBRATION ISOLATOR SHALL BE PROVIDED BY ONE OF THE FOLLOWING MANUFACTURERS:
    - MASON INDUSTRIES
    - VIBRATION ELIMINATOR CO.
    - CONSOLIDATED KINETICS CO.
    - OR APPROVED EQUAL.

**30. MOTOR STARTERS & CONTROL DEVICES**

  - FURNISH TO THE ELECTRICAL CONTRACTOR WHO SHALL INSTALL AND WIRE STARTER AND CONTROL EQUIPMENT FOR THE FOLLOWING:
  - MOTOR STARTERS SHALL BE CUTLER HAMMER, WESTINGHOUSE OR ALLEN-BRADLEY MANUFACTURE, SUITABLE FOR THE MOTOR FRAME MOUNTING
  - GENERAL NOTES:
    - ALL STARTERS FOR MOTOR 1/2 HP AND ABOVE SHALL BE MAGNETIC DISCONNECT-THE LINE TYPE WITH HOA SWITCH. SHALL BE 208 OR 480 VOLTS, 3 PHASE, 60 CYCLE.
    - ALL MAGNETIC STARTERS SUBJECT TO MANUAL START AND IN DIRECT VIEW OF THE MOTORS THEY CONTROL SHALL HAVE CONTACT START AND STOP BUTTONS AND PILOT LIGHT BUILT INTO COVER. ALL SELECTOR SWITCHES IN STARTERS SHALL BE MAINTAIN CONTACT TYPE.
    - WHERE STARTERS ARE NOT IN SIGHT OF MOTORS THEY CONTROL, A LOCAL DISCONNECT SWITCH WILL BE PROVIDED FOR EACH ELECTRICAL CONTRACTOR.
    - ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD IN EACH PHASE LEG AND LOW VOLTAGE PROTECTION.
    - ALL COILS, CORES, RESISTANCE, INSULATION CONTACTS, TRIPPERS, ETC. OF STARTERS AND RELAYS SHALL BE OF THE TYPE IN ACCORDANCE WITH MOTOR NAMEPLATE DATA. ALL PARTS SUBJECT TO WEAR, ARCING, ETC. SHALL BE REPLACED AS REQUIRED.
    - ALL WIRING, STARTERS, SWITCHES, ETC., SHALL BE IN FULL ACCORDANCE WITH ALL LOCAL AND INSURANCE UNDERWRITERS REQUIREMENTS.
    - FURNISH DETAILED COMPOSITE WIRING DIAGRAMS FOR THOSE INSTALLING THE ELECTRICAL WORK, AND FURNISH INFORMATION NECESSARY TO ASSURE THE PROPER CONNECTION AND GRADING REQUIREMENTS. OPERATION OF THE MOTORIZED EQUIPMENT, INCLUDING INTERLOCKS, AUTOMATIC OR SAFETY CONTROLS AND AUXILIARY CIRCUITS.
    - PROVIDE LAMACOID NAMEPLATE ATTACHED TO EACH STARTER IDENTIFYING THE SYSTEM IT SERVES.

## 29. VIBRATION ISOLATION SYSTEMS

- ALL ROTATING, REVOLVING OR RECIPROCATING EQUIPMENT, SHALL BE FURNISHED WITH SEISMICALLY DESIGNED VIBRATION ISOLATORS, TO PREVENT THE TRANSMISSION OF OBJECTIONABLE NOISES, SOUND OR VIBRATIONS TO THE OCCUPIED SPACES AND TO THE BUILDING STRUCTURES.

B. VIBRATION ISOLATORS FOR CEILING SUPPORTED EQUIPMENT SHALL BE SUPPORTED FROM STRUCTURE ABOVE AND HAVE A MAXIMUM LATERAL MOTION UNDER EQUIPMENT STARTUP OR SHUTDOWN CONDITIONS OF 1/4". MOTIONS IN EXCESS SHALL BE RESTRAINED BY SPRING TYPE MOUNTINGS.

C. VIBRATION ISOLATOR SHALL BE PROVIDED BY ONE OF THE FOLLOWING MANUFACTURERS:

  - MASON INDUSTRIES
  - VIBRATION ELIMINATOR CO.
  - CONSOLIDATED KINETICS CO.
  - OR APPROVED EQUAL.

**30. MOTOR STARTERS & CONTROL DEVICES**

A. FURNISH TO THE ELECTRICAL CONTRACTOR WHO SHALL INSTALL AND WIRE STARTER AND CONTROL EQUIPMENT FOR ALL MOTORS.

B. MOTOR STARTERS SHALL BE CUTLER HAMMER, WESTINGHOUSE OR ALLEN-BRADLEY MANUFACTURE, SUITABLE FOR WALL OR AIR BIRON FRAME MOUNTING

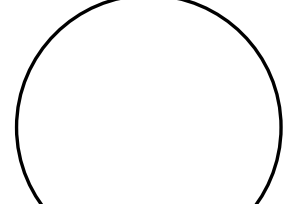
C. GENERAL NOTES:

  - ALL STARTERS FOR MOTOR 1/2 HP AND ABOVE SHALL BE MAGNETIC ACROSS-THE-LINE TYPE WITH HOA SWITCH. SUCH STARTER BE 200 OR 400 VOLTS, 3 PHASE, 60 CYCLE.
  - ALL MAGNETIC STARTERS SUBJECT TO MANUAL START AND IN DIRECT VIEW OF THE MOTORS THEY CONTROL SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS AND PILOT LIGHT BUILT INTO COVER. ALL SELECTOR SWITCHES IN STARTERS SHALL BE OF THE LEVER TYPE TO MAINTAIN CONTACT TYPE.
  - WHERE STARTERS ARE NOT IN SIGHT OF MOTORS THEY CONTROL, A LOCAL DISCONNECT SWITCH WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
  - ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD IN EACH PHASE LEG AND LOW VOLTAGE PROTECTION.
  - ALL COILS, CORES, RESISTANCE, INSULATION CONTACTS, TRIPPERS, ETC. OF STARTERS AND RELAYS SHALL BE OF THE APPROVED TYPE IN ACCORDANCE WITH MOTOR NAMEPLATE DATA. ALL PARTS SUBJECT TO WEAR, ARCING, ETC. SHALL BE RENEWABLE.
  - ALL WIRING, STARTERS, SWITCHES, ETC., SHALL BE IN FULL ACCORDANCE WITH ALL LOCAL AND INSURANCE UNDERWRITERS' CODE REQUIREMENTS.
  - FURNISH DETAILED COMPOSITE WIRING DIAGRAMS FOR THOSE INSTALLING THE ELECTRICAL WORK, AND FURNISH SUCH OTHER INFORMATION NECESSARY TO ASSURE THE PROPER CONNECTION AND GROUNDING REQUIREMENTS. OPERATION AND CONTROL OF MOTORIZED EQUIPMENT, INCLUDING INTERLOCKS, AUTOMATIC OR SAFETY CONTROLS AND AUXILIARY CIRCUITS.
  - PROVIDE LAMACODE NAMEPLATE ATTACHED TO EACH STARTER IDENTIFYING THE SYSTEM IT SERVES.

### 30. MOTOR STARTERS & CONTROL DEVICES

- FURNISH TO THE ELECTRICAL CONTRACTOR WHO SHALL INSTALL AND WIRE STARTER AND CONTROL EQUIPMENT FOR ALL MOTORS.
- B. MOTOR STARTERS SHALL BE CUTLER HAMMER, WESTINGHOUSE OR ALLEN-BRADLEY MANUFACTURE, SUITABLE FOR WALL OR ANGLE IRON FRAME MOUNTING
- C. GENERAL NOTES:
- a. ALL STARTERS FOR MOTOR 1/2 HP AND ABOVE SHALL BE MAGNETIC ACROSS-THE-LINE TYPE WITH HOA SWITCH. SUCH STARTERS SHALL BE 208 OR 480 VOLTS, 3 PHASE, 60 CYCLE
- b. ALL MAGNETIC STARTERS SUBJECT TO MANUAL START AND IN DIRECT VIEW OF THE MOTORS THEY CONTROL SHALL HAVE MOMENTARY CONTACT START AND STOP BUTTONS AND PILOT LIGHT BUILT INTO COVER. ALL SELECTOR SWITCHES IN STARTERS SHALL BE OF THE MAINTAIN CONTACT TYPE
- c. WHERE STARTERS ARE NOT IN SIGHT OF MOTORS THEY CONTROL, A LOCAL DISCONNECT SWITCH WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- d. ALL MAGNETIC STARTERS SHALL HAVE THERMAL OVERLOAD IN EACH PHASE LEG AND LOW VOLTAGE PROTECTION.
- e. ALL COILS, CORES, RESISTANCE, INSULATION CONTACTS, TRIPPERS, ETC. OF STARTERS AND RELAYS SHALL BE OF THE APPROVED TYPE IN ACCORDANCE WITH MOTOR NAMEPLATE DATA. ALL PARTS SUBJECT TO WEAR, ARCING, ETC. SHALL BE RENEWABLE.
- f. ALL WIRING, STARTERS, SWITCHES, ETC., SHALL BE IN FULL ACCORDANCE WITH ALL LOCAL AND INSURANCE UNDERWRITERS' CODE REQUIREMENTS.
- g. FURNISH DETAILED COMPOSITE WIRING DIAGRAMS FOR THOSE INSTALLING THE ELECTRICAL WORK, AND FURNISH SUCH OTHER INFORMATION NECESSARY TO ASSURE THE PROPER CONNECTION AND GROUNDING REQUIREMENTS, OPERATION AND CONTROL OF MOTORIZED EQUIPMENT, INCLUDING INTERLOCKS, AUTOMATIC OR SAFETY CONTROLS AND AUXILIARY CIRCUITS.
- h. PROVIDE LAMACOID NAMEPLATE ATTACHED TO EACH STARTER IDENTIFYING THE SYSTEM IT SERVES.

AFD	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AD	ACCESS DOOR	NAE	NETWORK AUTOMATION ENGINE
BDD	BACKDRAFT DAMPER	OAI	OUTDOOR AIR INTAKE
BOD	BOTTOM OF DUCT	PC	PLUMBING CONTRACTOR
CD	CEILING DISER	RR	RETURN REGISTER
CFM	CUBIC FEET PER MINUTE	SR	SUPPLY REGISTER
CE	ELECTRICAL CONTRACTOR	WMS	WIRE MESH SCREEN
EG	EXHAUST GRILLE	WR	WALL REGISTER
ER	EXHAUST REGISTER		

ENGINEER	
ARCHITECT & ENGINEER	SIGNATURE & SEAL BOX
	
SIGNATURE _____	SEAL DATE _____

OWNER	PROJECT LOCATION		N	
	No.	REVISIONS / ISSUES		DATE
	1	PERMIT SET		03/23/2020
	2	VARIANCE		05/20/2020
CHECKED BY: DMC		DRAWN BY: DMC		
SCALE:				

DRAWING: MECHANICAL  
SPECIFICATIONS  
AND NOTES  
DRAWING NO. M100



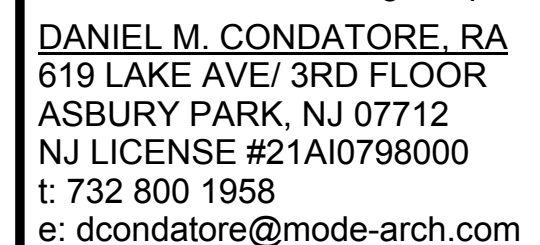
15. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED ON VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF SOUND TO THE BUILDING STRUCTURE. VIBRATION ISOLATORS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND ON ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT. PROVIDE DEFLECTIONS SHALL BE AS NOTED ON THE EQUIPMENT SHEET SHOWING VIBRATION LIMITS. PROVIDE VIBRATION ISOLATION ON ALL DUCT CONNECTIONS TO FANS AND OTHER EQUIPMENT.
16. CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL DEVICES WILL BE INSTALLED IN LOCATIONS WHERE THERE IS NO POSSIBILITY FOR MAINTENANCE AND REPAIR. COORDINATE INSTALLATION AMONG ALL TRADES TO AVOID INTERFERENCES AND LOCATE EQUIPMENT TO PROVIDE CLEARANCES WHICH EXCEED THOSE RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
17. UNLESS SUPPLY AIR DUCTS SHALL BE EXTERNALLY WRAPPED WITH 1-1/2" THICK DUCTWAP WITH FOIL-SHIMULATED VAPOR BARRIER UNLESS OTHERWISE NOTED.
18. BALANCE ALL AIR SYSTEMS AS PER SPECIFICATIONS.
19. FIRE DAMPERS MUST BE INSTALLED INSIDE DUCT PASSING THRU FIRE RATED WALLS/FLOORS WHERE INDICATED ON THE DRAWINGS OR NOTED.
20. EXHAUST MOUNTED PULSED FLOW DETECTOR SHALL BE MOUNTED IN THE RETURN DUCT/UNIT, WHEN INDICATED, BEFORE THE FIRST TAKEOFF. PROVIDE AN ACCESS DOOR AT EACH DETECTOR. UPON DETECTION OF SMOKE, DETECTOR SHALL SHUT DOWN ITS ASSOCIATED AIR HANDLING UNIT AND SIGNAL TO THE FIRE-ALARM SYSTEM. SMOKE DETECTORS TO BE FURNISHED AND MOUNTED BY THE MECHANICAL CONTRACTOR/EQUIPMENT MANUFACTURER AND WIRED BY THE ELECTRICAL CONTRACTOR.
21. ALL FLEXIBLE DUCT RUNS SHALL NOT EXCEED 5'-0" IN LENGTH.
22. CONTRACTOR SHALL ROUTE DUCTWORK AS HIGH AS POSSIBLE TO MAINTAIN MAXIMUM CLEARANCE ALLOWABLE.

## GENERAL SHEET NOTES

1 MECHANICAL PLAN - ROOF  
1/8" = 1'-0"

[illegible]





SIGNATURE \_\_\_\_\_ SEAL DATE \_\_\_\_\_

~ SOUTH MAIN STREET ~  
DOUGLAS DEVELOPMENT CORPORATION

111 SOUTH MAIN ST  
NEPTUNE, NJ 07753  
BLOCK:308 LOT:5

OWNER

PROJECT LOCATION

[illegible]

CHECKED BY: DMC		DRAWN BY: DMC	
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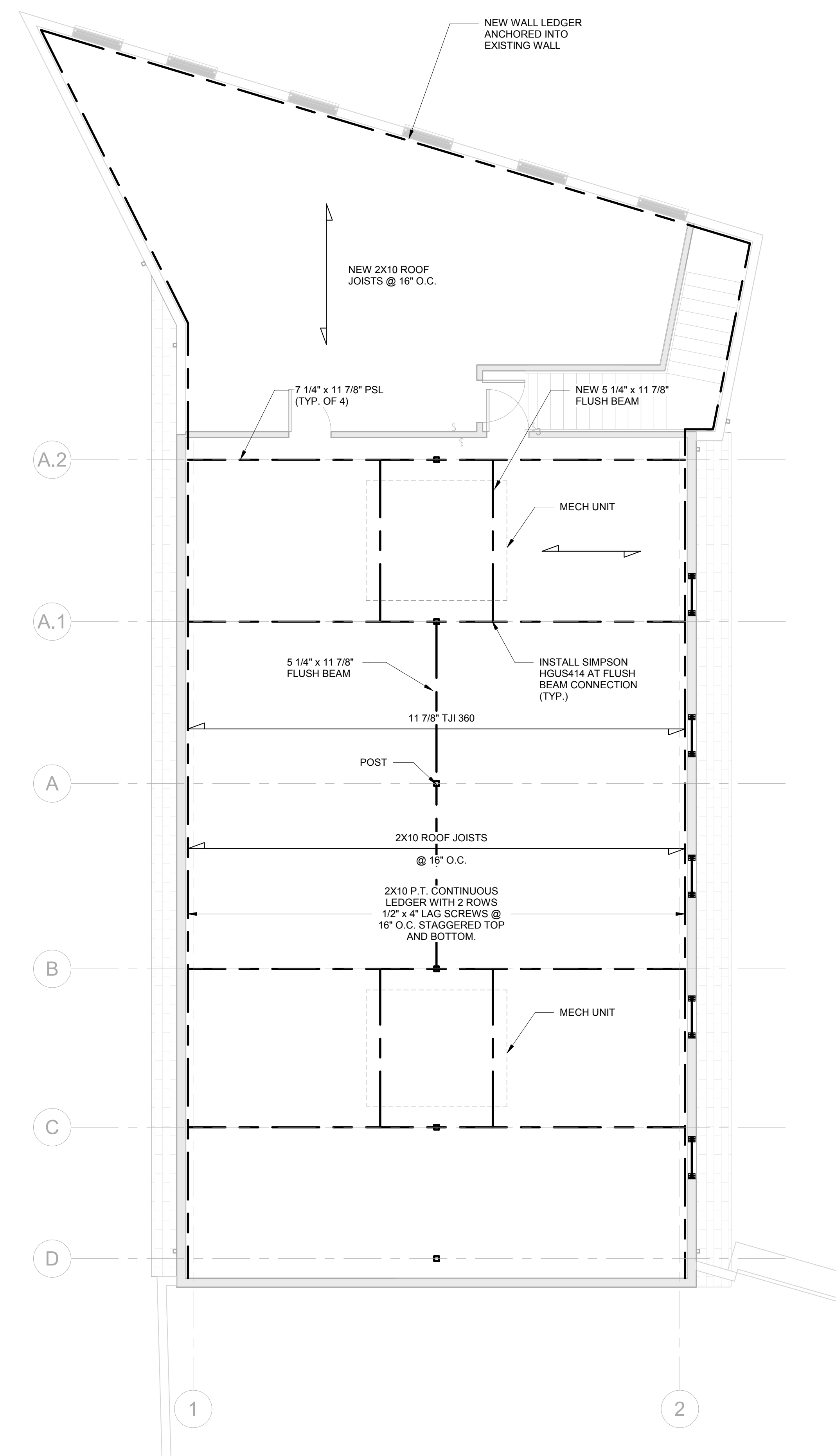
SCALE:

DRAWING TITLE:

## FRAMING PLAN

DRAWING No. \_\_\_\_\_

**S100**



1 ROOF FRAMING PLAN  
3/16" = 1'-0"