

# ADDITION AND ALTERATION TO ONE FAMILY HOUSE

## 326 DURHAM AVENUE, METUCHEN, NJ 08840

### GENERAL NOTES

#### CONSTRUCTION NOTES:

#### CONCRETE AND MASONRY:

1. THE BEARING STRENGTH OF THE POURED CONCRETE FOR FOUNDATIONS MUST BE A MINIMUM OF 4,000 PSI. THE BEARING STRENGTH FOR SIDEWALKS AND CONCRETE SLABS MUST BE A MINIMUM OF 3,200 PSI. CSI DIV. 03 CONCRETE.

2. CONCRETE DESIGN MEETS AMERICAN CONCRETE INSTITUTE (ACI) CODE.

3. CONCRETE SHALL CONSIST OF CEMENT, WATER, AND AGGREGATE.

4. MASONRY IS TO MEET ANSI A41.1 REQUIREMENTS.

5. BRICK MUST MEET ASTM C62 USE GRADE SW (SEVERE WEATHERING) AND USE STANDARD MODULAR SIZE BRICK UNLESS OTHERWISE SPECIFIED. "N" NORMAL GROUT IS TO BE USED.

6. BLOCK IS TO BE GRADE "N" NORMAL AND MORTAR IS TO BE "N" NORMAL MEETING ASTM C90 LOADBEARING BLOCK.

7. UNREINFORCED LENGTH AND HEIGHTS SHOULD NOT EXCEED ANSI A41.1 STANDARDS.

8. THE CONCRETE CONTRACTOR MUST VERIFY PROPER CONCRETE PSI AT TIME OF POUR.

#### METAL AND STEEL:

1. THE STEEL USED SHOULD BE ASTM 36 ALL-PURPOSE CARBON GRADE STEEL. CSI DIV 05 METALS.

2. STEEL SHAPES AND CONNECTIONS ARE TO MEET AISC STANDARDS. PROVIDE WELDED WEB STIFFENERS FOR ALL STEEL SHAPES.

3. METAL STUD WALLS SPACED AT 12" O.C. AND 16" O.C. ARE TO HAVE HORIZONTAL REINFORCING EVERY 4'-0" O.C. VERTICALLY AND BRACING AT THE CORNERS.

4. METAL STUD WALLS ARE NOT TO EXCEED THE MAXIMUM HEIGHT ALLOWED ACCORDING TO THE MANUFACTURER'S SPECS.

5. WELDING IS TO MEET AWS D1.1-80 AND THE AISC SPECIFICATIONS. PROVIDE CONTINUOUS ALL AROUND WELDING AT CONNECTIONS.

#### WOOD:

1. STRUCTURAL WOOD MEMBERS ARE TO BE DOUGLAS-FIR MIN 1,250 PSI STRUCTURAL GRADE LUMBER, KILN DRIED AND GRADE STAMPED. CSI DIVISION 06 WOOD, PLASTICS, AND COMPOSITES.

2. WOOD STUD WALLS SPACED 12" O.C. AND 16" O.C. ARE TO HAVE HORIZONTAL BRACING 4'-0" VERTICALLY.

3. ROOF RAFTERS SPACED 12" O.C. & 16" O.C. ARE TO HAVE BRACING AT A 45 DEG ANGLE SPACED EVERY 8'-0" O.C.

4. CEILING AND ROOF JOISTS SPACED 12" O.C. AND 16" O.C. ARE TO HAVE DIAGONAL BRACING EVERY 4'-0" O.C.

5. WOOD FLOOR & WALLS MUST HAVE FIREBLOCKING AT EACH FLOOR LEVEL AND BETWEEN DIFFERENT SPACE USES.

6. WINDOW AND DOOR HEADERS FOR BEARING WALLS ARE (2) 2 X 6'S AND FOR NON-BEARING WALLS ARE (2) 2X4'S.

7. PLYWOOD SHEATHING IS TO BE HEM-FIR CDX FOR EXTERIOR WALLS AND HEM-FIR APA FOR ROOF SHEATHING. 3/4" HEM-FIR IS TO BE USED FOR FLOORING.

8. ROOFS ARE TO HAVE STRAPS FOR HURRICANE FORCE WINDS.

9. WOOD BASE PLATES SHOULD HAVE CONTINUOUS TERMITE STRIPS AROUND THE FOUNDATION.

#### FINISHES:

1. GYPSUM PRODUCT INSTALLATION MUST CONFORM TO THE ASTM AND GYPSUM ASSOCIATION. CSI DIVISION 09 FINISHES.

2. USE TYPE "X" FIRE-RATED ASTM 36 AND GA 216, 600 INSTALLATION STANDARDS. TAPE AND SPACKLE ALL GYPSUM BOARD INSTALLATION FOR FIRE-RATED WALLS.

3. FOR EXTERIOR APPLICATIONS USE EXTERIOR GYPSUM SHEATHING ASTM STANDARD C1177 AND GA 253 INSTALLATION STANDARDS.

#### PLUMBING:

1. INSTALLATION IS TO MEET DEP STANDARDS, THE NATIONAL PLUMBING CODE, AND ANSI A40.8. CSI DIVISION 22 PLUMBING.

2. DRIP VALVES AND SHUT-OFF VALVES MUST BE INSTALLED AT LOW POINT IN WATER SUPPLY SYSTEM.

3. INSTALL SHOCK ABSORBERS TO PREVENT WATER HAMMER.

4. WASTE MAINS ARE TO BE CAST IRON OR EHCI PIPING IN NYC, THEY MAY BE P.V.C. ELSEWHERE.

5. A WASTE CLEAN-OUT MUST BE INSTALLED AT EXTERIOR WALL LOCATION.

6. FRESH AIR INTAKE MUST BE INSTALLED 6" ABOVE GRADE.

7. AIR VENT STACK MUST PENETRATE ROOF SURFACE.

8. P.V.C. PIPING MAY BE USED UP TO A THREE FAMILY HOUSE, GREATER THAN THREE FAMILIES OR ANY COMMERCIAL BUILDING WILL REQUIRE ESVP PIPING THROUGHOUT.

#### HVAC

1. INSTALLATION OF HVAC UNITS AND DUCT WORK IS TO CONFORM WITH THE ASHRAE, CSI DIVISION 23 HVAC.

2. PIPING FOR HOT WATER AND STEAM HEAT SYSTEMS MUST BE PROPERLY FASTENED TO STRUCTURAL MEMBERS ACCORDING TO CODE.

3. DUCT WORK PENETRATIONS THROUGH FIREWALLS AND FLOORS MUST BE PROVIDED WITH FIREDAMPERS.

4. DUCT WORK MUST BE PROPERLY INSULATED AS PER CODE.

5. CHIMNEY FLUES WITHIN 10'-0" OF RIDGE LINE MUST EXTEND 3'-6" ABOVE THE HIGHEST POINT OF THE ROOF.

#### ELECTRICAL:

1. WIRING METHODS AND MATERIALS MUST COMPLY WITH NATIONAL ELECTRICAL CODE AND STATE CODE. CSI DIVISION 26 ELECTRICAL.

2. MATERIALS MUST MEET UL, NRTL, NEMA, OR NFPA TESTING LABORATORIES SPECIFICATIONS.

3. WIRING MUST BE GROUNDED FOR THE STRUCTURE WITH AN ELECTROPOLE.

4. CIRCUIT LOADS AND WIRING MUST BE VERIFIED BY A LICENSED ELECTRICIAN.

5. ELECTRICAL CONTRACTOR MUST PROVIDE ALL ELECTRICAL HARDWARE FOR INSTALLATION.

6. ALL DUPLEX RECEPTACLES ARE TO BE INSTALLED 12" AFF AND FOR H.C. AND ADA LOCATION. THEY MUST BE 18" TO 4'-0" AFF.

7. WIRING MUST HAVE A MAIN SWITCH BOARD AT ELECTRICAL POWER ENTRY.

8. ALL OUTLETS NEAR WATER OUTLETS AND SINKS MUST BE GFI - GROUND FORCE INTERRUPTER.

9. CIRCUITS IN A ROOM MUST HAVE ONE CIRCUIT BREAKER OUTLET.

10. ENERGY EFFICIENT LIGHT BULBS MUST BE USED IN ALL NEW LIGHT FIXTURE INSTALLATIONS.

#### BUILDING DEPARTMENT NOTES:

1. CONSTRUCTION IS IN COMPLIANCE WITH NEW JERSEY BUILDING CODES.

2. MATERIALS AND METHODS OF CONSTRUCTION ARE IN COMPLIANCE WITH THE APPLICABLE BUILDING CODE AND NECESSARY FORMS HAVE BEEN SUBMITTED TO THE LOCAL BUILDING DEPARTMENT. SPECIFICATIONS ARE LISTED IN CSI, MASTERFORMAT 2004.

3. THE BUILDING DEPARTMENT MUST BE NOTIFIED 24 HOURS PRIOR TO ALL EXCAVATION WORK INCLUDING DRYWELLS.

4. CONSTRUCTION WILL BE INSPECTED BY A LICENSED PROFESSIONAL AS LISTED BELOW UNDER INSPECTIONS. A CERTIFICATE OF COMPLETED INSPECTION AND REPORT MUST BE SUBMITTED TO THE BUILDING DEPARTMENT.

5. THE BUILDING PERMIT MUST BE POSTED IN A VISIBLE LOCATION TO THE FRONT EXTERIOR OF THE PROPERTY WITH THE OCCUPANCY AND USE STATED.

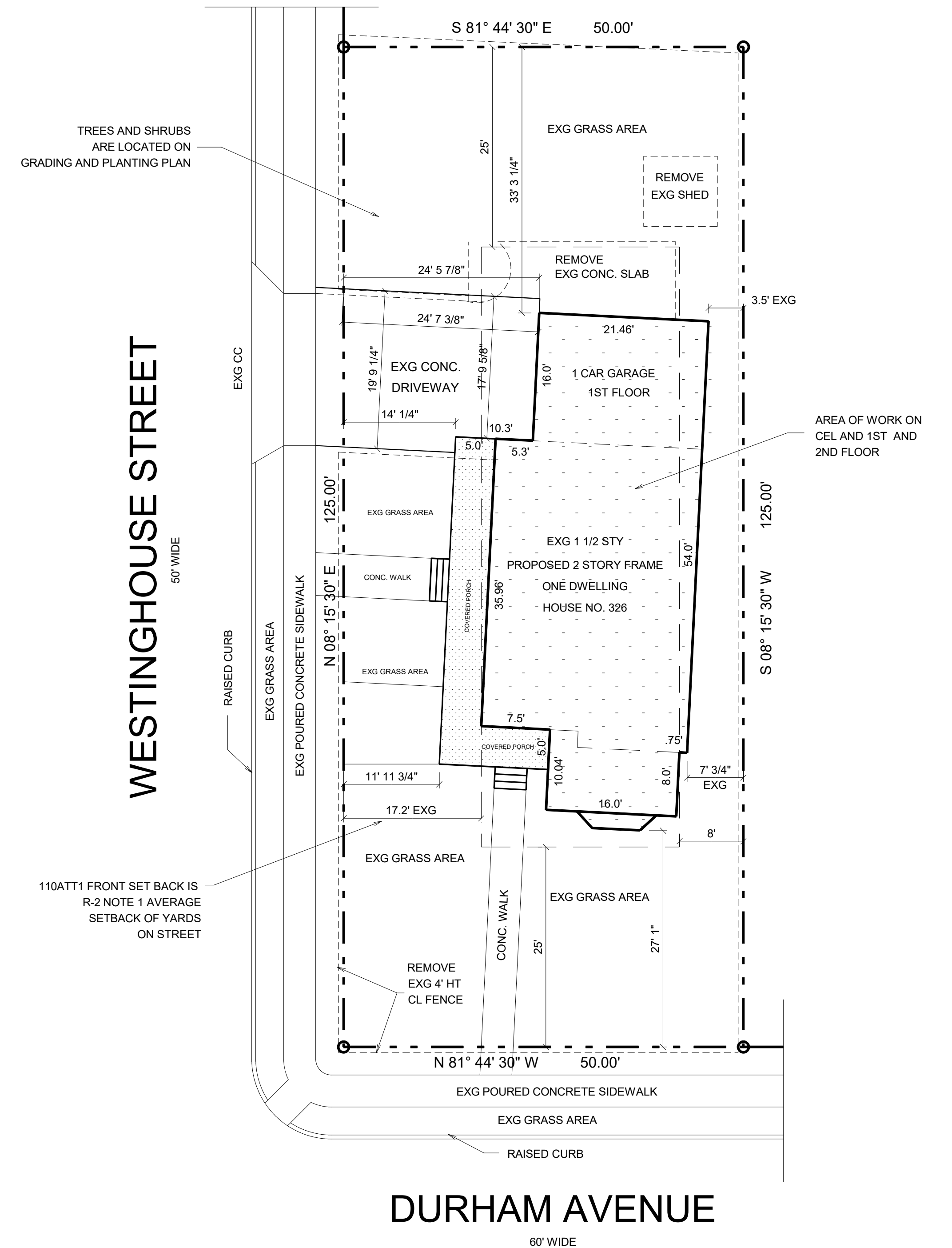
6. THE NEW OCCUPANTS MAY NOT USE THE STRUCTURE UNTIL A CERTIFICATE OF OCCUPANCY HAS BEEN OBTAINED.

#### PROJECT COMPLETION:

- FOUNDATION, FRAMING, ETC. SPECIAL INSPECTIONS
- FINAL INSPECTION
- FINAL PLUMBING INSPECTION
- FINAL ELECTRICAL INSPECTION
- FINAL MECHANICAL INSPECTION, ETC.
- BUILDING DEPARTMENT SIGN-OFF OR
- CERTIFICATE OF OCCUPANCY

#### NEW JERSEY BUILDING CODE:

2018 IBC WITH ADJUSTMENTS  
NEC 2017  
NSPC 2018  
IMC 2018



### ABBREVIATIONS

ABV	ABOVE	INSTL	INSTALL
ADD	ADDITION	JB	JUNCTION BOX
ADH	ADHESIVE	LAM	LAMINATE
BD	BOARD	LL	LIVE LOAD
BLDG	BUILDING	MO	MASONRY OPENING
CLG	CEILING	MET	METAL
CL	CENTER LINE	NTS	NOT TO SCALE
CONST	CONSTRUCTION	OC	ON CENTER
DEG	DEGREE	OD	OUTSIDE DIAMETER
DR	DOOR	PL	PLATE
EQUIP	EQUIPMENT	PT	PAINT
EXP JT	EXPANSION JOINT	R	RADIUS
FIN	FINISH	SS	STAINLESS STEEL
FD	FLOOR DRAIN	STD	STANDARD
FTG	FOOTING	TEL	TELEPHONE
GA	GAGE	UND	UNDER
GYP	GYPSUM	V	VOLTAGE
HT	HEIGHT	W	WALL
HM	HOLLOW METAL	WD	WOOD

### SITE CALCULATIONS

326 DURHAM AVENUE, METUCHEN, NJ 08840  
BLOCK 40 LOT 37  
USE GROUP = R-5 - ONE FAMILY RESIDENTIAL  
CONST CLASS = TYPE 5B WOOD FRAME  
ZONING DISTRICT = R-2 RESIDENTIAL DISTRICT  
BOROUGH OF METUCHEN ZONING CODE

**110-64 BULK REQUIREMENTS**  
MINIMUM LOT AREA = 7,500 SF  
50' X 125' = 6,250 SF EXISTING NON-COMPLYING

**110-64 MIN LOT WIDTH**  
MINIMUM LOT WIDTH REQ. = 62.5' > 50.00' EXISTING NON-COMPLYING

**110-64 MIN LOT DEPTH**  
MINIMUM LOT DEPTH REQ. = 100' < 125' EXISTING

**110-64 REQUIRED YARDS**  
SOUTH FRONT YARD 25' REQ. < 27.08' PROPOSED  
WEST FRONT YARD 17.2' REQ. >= 17.2' EXISTING NOTE 1  
EAST SIDE YARD 8' MIN REQ. > 3.5' EXISTING NON-COMPLYING  
REAR YARD 25' MIN REQ. < 33.27' PROPOSED

**110-68 PERMITTED USES**  
A. SINGLE FAMILY DETACHED DWELLINGS

**110-64 MAXIMUM BUILDING HEIGHT**  
MAXIMUM 3 STORIES AND 35' HIGH > 2 STORIES, 30' HIGH PROPOSED HOUSE FLOOR AREA  
(CELLAR FLOOR AREA = 38' X 25' 10 1/2" = 958.49 SF EXISTING)  
(FIRST FLOOR GARAGE AREA = 18' X 25' 10 1/2" = 465.75 SF)  
FIRST FLOOR AREA = 38' X 25' 10 1/2" = 1,372.49 SF EXISTING  
FIRST FLOOR ADDITION = 8' X 15' 6" = 113.78 SF PROPOSED  
TOTAL FIRST FLOOR AREA = 1,486.27 SF

**SECOND FLOOR AREA**  
53'11 1/2" X 25' 10 1/2" = 1396.17 SF +  
10' 1/2" X 15' 6" = 155.65 SF = 1,551.82 SF  
TOTAL 2ND FLOOR AREA = 1,484.44 SF

**TOTAL FLOOR AREA OF ADDITIONS 1,600.05 SF PROPOSED**  
TOTAL HOUSE FLOOR AREA W/O GARAGE = 2,627.87 SF PROPOSED  
TOTAL HOUSE FLOOR AREA = 2,970.71 SF PROPOSED

**110-64 MAX LOT COVERAGE W/ ACCES.**  
6,250 SF X .30 = 1,875.00 SF > 1,486.27 SF PROPOSED (24%)

**110-64 MAX LOT COVERAGE BLDGS AND PAVEMENT**  
6,250 SF X .40 = 2,500.00 SF > 2,473.27 SF PROPOSED (39.5%)

**VOLUME OF ADDITIONS**  
1,838.24 SF X 9' = 16,544.16 SF PROPOSED  
OFFSTREET PARKING TOTAL 3 CAR PARKING PROPOSED  
EXG 1 CAR GARAGE AREA = 18' X 25' 10 1/2" = 465.75 SF  
EXG 1 CAR GARAGE AREA = 16' X 21' 6 1/2" = 344.67 SF

### ENERGY CALCULATIONS

CONFORMS TO NEW JERSEY STATE ENERGY CODE 2018 IECC  
LOCATION: METUCHEN, NJ  
CONSTRUCTION TYPE: SINGLE -FAMILY  
PROJECT TYPE: ADDITION  
HEATING DEGREE DAYS: 5227 HDD  
CLIMATE ZONE: 4  
AIR HEATING, 78 AFUE

**ADDITION AND ALTERATION**

ELEMENTS	AREA	CAVITY R-VALUE	CONT. R-VALUE	WIN/DR U-FACTOR	SHGC	UA
WALL	3420	15	5	.053	-	178
CEILING	1520	35		.030	-	40
WINDOW	379	-		.34	.18	121
FLOOR	3420	15	5	.031	-	6
DOORS	76	-		.34	.18	24
BASEWALL	68	-	20	.060	-	59
MAXIMUM UA ALLOWED 373 > 366 PROVIDED COMPLIANCE PASSES						

**INFILTRATION RATES**  
DOORS .5 CFM/SF REQ. => .5 CFM/SF SPECIFIED  
WINDOWS .37 CFM/MLF REQ. => .34 CFM/MLF SPECIFIED

### PERMITS

CONSTRUCTION  
ELECTRICAL  
PLUMBING  
MECHANICAL

### INSPECTIONS

- EXCAVATION
- FOUNDATION
- FRAMING
- FINAL

### STRUCTURAL REQ.

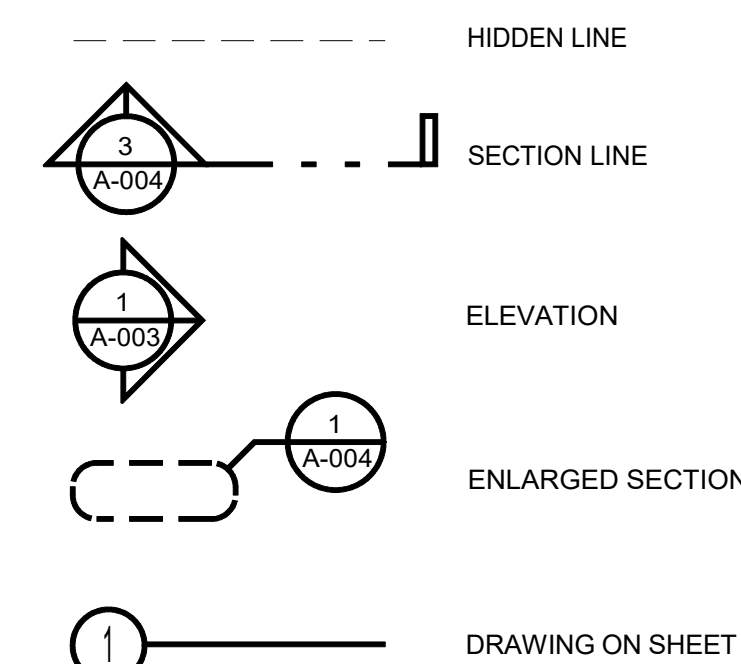
CONFORMS TO NEW JERSEY CODE, TABLE 1607.1  
**REQUIRED LIVE LOADS**  
CEL FLOOR = 40 PSF NJ CODE TABLE 1607.1 RESIDENTIAL  
1ST, 2ND FLOOR = 40 PSF NJ CODE TABLE 1607.1 RESIDENTIAL  
CEILING = 10 PSF NJ CODE TABLE 1607.1 UNINHABITABLE W/O STOR.  
ROOF = 30 PSF NJ CODE 1607.11.2.1  
EQUATION 16-4

**DESIGN DEAD LOADS**  
FLOORS = 12.1 PSF FIRST FLOOR  
CEILING = 4.0 PSF UNINHABITABLE  
ROOF = 9.2 PSF  
SOILING BEARING PRESSURE = 2 TONS / SF

### LIST OF DRAWINGS

- T-001 TITLE SHEET AND PLOT PLAN
- A-001 CELLAR AND FIRST FLOOR PLANS
- A-002 SECOND FLOOR AND ROOF PLAN
- A-003 HOUSE ELEVATIONS
- A-004 RISER DIAGRAMS AND DETAILS
- A-005 SECTIONS AND DETAILS

### SYMBOLS



### 1 PLOT PLAN

SCALE: 3/32" = 1'-0"

<b>JOHN RIGGIO, RA ARCHITECT</b>		PROJECT NO. 202133
172 MAIN STREET, SUITE 33 METUCHEN, NJ 08840 TEL/FAX: (732) 902-2882		DRAWN BY J.R.
		SCALE 1/4"=1'-0"
SEAL	THE LAW PROHIBITS THE ALTERING OF THIS DOCUMENT TO CHANGE THE DOCUMENT. THERE MUST BE A LICENSED ARCHITECT PRESENT AND ABLE TO SEAL IT.	DATE 4-27-2022
PROJECT ADDITION AND ALTERATION TO ONE FAMILY HOUSE 326 DURHAM AVENUE METUCHEN, NJ 08840	TITLE TITLE SHEET AND PLOT PLAN	DRAWING <b>T-001.00</b> 1 OF 6