

- These are builder's plans. The following, unless provided for in these drawings, are to be furnished by others:
 - Site grading, soil bearing capacity, drainage, utilities, building location, and construction outside of building proper including landscaping.
 - Structural engineering design.
 - Design of heating, plumbing, and electrical systems and the coordination of same in construction.
- The contractor must provide all legal and necessary guard railings, lights, warning signs, etc. During the progress of the work all material in construction shall conform with the requirements of all building and sanitary laws in the locality in which the building is constructed, and shall make work acceptable to the building department at no extra cost.
- The contractor shall obtain and pay for liability insurance covering his work in accordance with the workmen's compensation of the building. The owner shall effect fire, lighting and tornado insurance in proper sums to cover the cost of work in place.
- Where attic spaces have clear height of 30" or more provide access panel not less than 22" x 30". Attic ventilation to be 1/150 net free area.
- Crawl spaces shall be vented with 1 sq.ft. for each 150. Access door to be 18"x24".
- Interior stairs shall have risers not greater than 8" high and treads not less than 9" wide excluding nosing.
- Insulate floors of overhangs and floors over crawl spaces with R-19 (min 6" thick) fiberglass batt insulation. Batt insulation installed in attics and crawl spaces shall have a class III flame spread 76-200, as determined by ASTM E 84. Covering of insulation shall have class I flame spread 0-23.
- Asphalt roof shingles shall be "Class C" or better, per ASTM E108.
- Floors, walls, and ceilings separating garage from dwelling shall have one-hour fire-rating (5/8" thick type x firecode gypsum board). Doors between garage and dwelling shall be self-closing 1-3/4" solid cor-wood in hollow metal frame. Sills at door openings between garage and dwelling shall not be less than four (4) inches above the garage floor.
- Provide fire stopping at soffits over cabinets and at drop ceilings.
- Heating, ventilating and air conditioning equipment shall show a coefficient of performance (COP) and energy efficiency ratio (EER) not less than the values specified in article 4, "The BOCA basic energy conservation code(1978)".
- Heating systems shall be capable of maintaining 70F (21C) when outside temperature is -5F (-20C). Cooling system shall be capable of maintaining 78F (25.5C) when outside dry bulb temperature is 94F (34.4C).
- Brck, block and stone masonry shall be protected from freezing for not less than 48 hours after installation.
- Provide minimum 6"-8" headroom at interior stairs, measured from tread-nosing. Stairs shall be at least 36" wide and have at least one handrail.
- Railings around stairwells and at balconies shall be designed to resist a simultaneous vertical and horizontal force of 50lbs per linear foot applied at the top of the handrail.
- Gypsum board shall be fastened with nails conforming to ASTM C514 1-3/8" long, spaced 7" o.c. or No. 6 screws spaced 12" o.c. Provide water resistant gypsum backer board at walls and ceilings at bathtubs and shower.
- Every sleeping room (ie - Bedroom, Guest Room, Study, Maids Room, Den) shall have at least one emergency escape window, with sill height not more than 44" above the floor.
- Bathroom windows shall have a min 3 sp. ft. area with one half of that area operable. Bathrooms and Laundry rooms not having natural ventilation shall have mechanical ventilation providing 5 air changes per hour. Using Nutone fans, vent to exterior.
- Thermal resistance of building components:

Building Component	R-Values	U-Values	Code Requirement
Exterior wall (solid)	R-13	0.76	UW = 0.08
Glazing	2.02	0.50	UG = 0.69
Ext. Doors	2.50	0.40	UG = 0.40
Floors (over crawl)	R-15	0.05	UG = 0.08
Roof/Ceiling	R-30	0.03	UG = 0.05

Note: All materials & methods used in construction shall comply with the latest energy conservation code.

20. Rails & Guards: Min. height 30"A.F.F. for railing (38" max) req'd guard height A.F.F. = 36".

Note: Open guards shall have ballusters or other const. such that a sphere with a dia. 4" cannot pass through. (see note #15 above for loading req'tments)

THE RESIDENCE SHOWN COMPLIES WITH THE FOLLOWING:

- THERMAL ENVELOPE:
 - WINDOW AND DOOR AREA IS LESS THAN 15% OF GROSS WALL AREA.
 - WALL INSULATION (R-13) MINIMUM.
 - CEILING INSULATION (R-19) MINIMUM.
 - FLOOR INSULATION (R-19) MINIMUM.
 - SLAB ON GRADE (R-4, 9) UNHEATED AND (R-7) HEATED SPACE.

- AIR LEAKAGE:
 - WINDOWS SHALL HAVE AN INFILTRATION RATE LESS THAN 0.5 CU.FT./MIN
 - SLIDING DOORS SHALL HAVE ANY INFILTRATION RATE LESS THAN 0.5 CU.FT./MIN. PER SQ.FT. OF DOOR AREA.
 - SWINGING DOORS SHALL HAVE AN INFILTRATION RATE LESS THAN 1.25 (F.F.M.) PER SQ. FT. OF DOOR AREA.
 - ALL EXTERIOR JOINTS AROUND WINDOWS, DOORS, UTILITY PENETRATIONS, AT MEETINGS OF WALLS, FLOORS, AND ROOF SHALL BE CAULKED, CASKED, OR OTHERWISE SEALED.

3. H.V.A.C. BUILDING SHALL COMPLY WITH ARTICLE 4 IN ENERGY COMPLIANCE MANUAL.

- MISCELLANEOUS:
- INTERIOR BATHS SHALL HAVE EXHAUST FANS DUCTED TO EXTERIOR.
 - ENTRANCE DOORS, SIDE LIGHTS, AND SHOWER DOORS HAVING GLAZING MUST CONFORM TO NJS# #51, 12-1 REQUIRING SAFETY GLASS IN PANELS THAT MAY BE MISTAKEN FOR A MEANS OF INGRESS OR EGRESS.

NOTES GRADING

- THE SITE SHALL BE EXCAVATED, BACKFILLED AND GRADED TO THE EXIST ELEVATIONS AND GRADES INDICATED ON THE DRAWINGS.
- MATERIALS: ONLY MATERIALS CLASSIFIED IN ASTM D 2487 AS GW, GP AND SW AND FREE FROM ROOTS AND OTHER ORGANIC MATTER ARE SATISFACTORY.
- CONSERVATION OF TOPSOIL: TOPSOIL SHALL BE REMOVED TO A DEPTH OF 6 INCHES WITHOUT CONTAMINATION WITH SUBSOIL AND STOCKPILED FOR LATER APPLICATION.
- FILL: FILL SHALL BE CONSTRUCTED AT THE LOCATIONS AND TO LINES AND GRADES INDICATED. FILL SHALL BE SATISFACTORY MATERIAL. THE MATERIAL SHALL BE PLACED IN SUCCESSIVE HORIZONTAL LAYERS OF 8 INCHES IN LOOSE DEPTH AND COMPACTED. SOD AND PLANTING AREAS SHALL BE GRADED TO WITHIN 6" OF FINISHED GRADE FOR INSTALLATION OF TOPSOIL BY OTHERS.
- COMPACTION: EACH LAYER OF THE FILL SHALL BE COMPACTED TO AT LEAST 90 PERCENT OF LABORATORY MAXIMUM DENSITY.
- PROTECTION: NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND FROM EROSION, AND ANY SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE, PRIOR TO ACCEPTANCE, SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO REQUIRED ELEVATIONS AND SLOPES.

EXCAVATION

- PROTECTION
 - PROTECT TREES, SHRUBS, LAWNS, ROCK OUTCROPPING AND OTHER FEATURES REMAINING AS A PORTION OF FINAL LANDSCAPING.
 - PROTECT ABOVE AND BELOW GRADE UTILITIES WHICH ARE TO REMAIN.
 - PROTECT EXCAVATIONS BY SHORING, BRACING, SHEET PILING, UNDERPINNING, OR OTHER METHODS REQUIRED TO PREVENT CAVE-IN OR LOOSE SOIL FROM FALLING INTO EXCAVATION.
 - NOTIFY ARCHITECT/ENGINEER OF UNEXPECTED SUBSURFACE CONDITIONS AND DISCONTINUE AFFECTED WORK IN AREA UNTIL NOTIFIED TO RESUME WORK.
 - PROTECT BOTTOM OF EXCAVATIONS AND SOIL ADJACENT TO AND BENEATH FOUNDATIONS FROM FROST.
- EXCAVATION
 - EXCAVATE SUBSOIL REQUIRED FOR BUILDING FOUNDATIONS, CONSTRUCTION OPERATIONS, AND OTHER WORK.
 - REMOVE LUMPED SUBSOIL, BOULDERS, AND ROCK UP TO 1/3 CU. YD. MEASURED BY VOLUME. REMOVE ALL TREE ROOTS.
 - FILL OVER-EXCAVATED AREAS UNDER STRUCTURE BEARING SURFACES IN ACCORDANCE WITH DIRECTION BY ARCHITECT/ENGINEER. COMPACT THESE AREAS TO 95% COMPACTION IN 12" DEEP (MAXIMUM LAYERS).

BACKFILLING

- BACKFILL AREAS TO CONTOURS AND ELEVATIONS. USE UNFROZEN MATERIALS.
- EMPLOY A PLACEMENT METHOD SO NOT TO DISTURB OR DAMAGE FOUNDATION PERIMETER DRAINAGE, FOUNDATION DAMPPROOFING OR FOUNDATION WATERPROOFING AND PROTECTIVE COVER.
- BACKFILL AGAINST SUPPORTED FOUNDATION WALLS. BACKFILL SIMULTANEOUSLY ON EACH SIDE OF UNSUPPORTED FOUNDATION WALLS UNTIL SUPPORTS ARE IN PLACE.
- FILL MATERIAL
 - INTERIOR SLAB-ON-GRADE: TYPE A FILL, 4 INCHES THICK, COMPACTED TO 95 PERCENT.
 - EXTERIOR SIDE OF FOUNDATION WALLS AND RETAINING WALLS OVER GRANULAR FILTER MATERIAL AND FOUNDATION PERIMETER DRAINAGE: SUBSOIL TYPE A FILL, TO SUBGRADE ELEVATION, EACH LIFT COMPACTED TO 90 PERCENT.
 - FILL UNDER GRASSED AREAS: SUBSOIL FILL, TO 6 INCHES BELOW FINISH GRADE, COMPACTED TO 90 PERCENT.
 - FILL UNDER LANDSCAPED AREAS: SUBSOIL FILL, TO 12 INCHES BELOW FINISH GRADE, COMPACTED TO 90 PERCENT.
 - FILL UNDER ASPHALT AND CONCRETE PAVING: TYPE A FILL, TO 6 INCHES BELOW FINISH PAVING ELEVATION, COMPACTED TO 95 PERCENT.

THESE PLANS ARE DESIGNED TO CONFORM TO THE FOLLOWING CODES:
 INTERNATIONAL RESIDENTIAL CODE 2018 (OR LATEST CODE IN USE AT TIME OF CONSTRUCTION)
 INTERNATIONAL ENERGY CONSERVATION CODE/2018 (RESIDENTIAL)
 SUBCONTRACTORS SHALL DESIGN BUILDING SYSTEMS TO THE FOLLOWING CODES:
 NATIONAL ELECTRIC CODE 2017
 INTERNATIONAL MECHANICAL CODE 2018
 NATIONAL STANDARD PLUMBING CODE 2018
 ALL CODES REFERENCED SHALL BE THE CURRENT APPROVED EDITIONS

CONCRETE

- FURNISH AND INSTALL CONCRETE FOUNDATIONS AND SLABS AS INDICATED ON THE DRAWINGS.
 - REINFORCING STEEL
 - REINFORCING STEEL: ASTM A615, 60 KSI YIELD GRADE BILLET STEEL DEFORMED BARS; UNCOATED FINISH.
 - WELDED STEEL WIRE FABRIC: PLAIN TYPE, ANSI/ASTM A185.
 - CONCRETE MATERIALS
 - MIX CONCRETE IN ACCORDANCE WITH ASTM C94. CONCRETE TO HAVE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS WITH 4" MAXIMUM SLUMP.
 - ADMIXTURES
 - AIR ENTRAINMENT ADMIXTURE: ASTM C260.
 - ACCESSORIES
 - VAPOR BARRIER: ASTM D2103, 5 MIL THICK CLEAR POLYETHYLENE FILM.
 - NON-SHRINK GROUT: PREMIXED COMPOUND WITH NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS: CAPABLE OF MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
 - POROUS FILL
 - FURNISH, INSTALL AND COMPACT POROUS FILL BELOW CONCRETE PAVING IN CONTACT WITH EARTH. THE POROUS FILL SHALL BE OF BANK-RUN GRAVEL 1/4" TO 3/4" MAXIMUM. THICKNESS SHALL BE OF DIMENSIONS SHOWN, BUT NOT LESS THAN 6 INCHES AFTER ROLLING.
 - FLOOR AND PAVING FINISHES
 - CONCRETE FLOORS, AND PAVEMENTS, INCLUDING THOSE SURFACES WHICH ARE TO BE COVERED WITH WATERPROOFING, SHALL BE SCREED TO REQUIRED LEVELS, AND COMPACTED WITH POWER DRIVEN FLOATS AS SOON AS CONCRETE HAS BECOME FIRM ENOUGH TO SUPPORT EQUIPMENT AND OPERATORS WITHOUT DRESSING THE SURFACE. COMPACTION SHALL CONTINUE UNTIL CONCRETE IS THOROUGHLY DENSIFIED, BUT NOT TO THE EXTENT OF RESURFACING AN APPRECIABLE AMOUNT OF WATER.

FRAMING SPECIFICATIONS

- THE FRAMING CONTRACTOR SHALL CAREFULLY EXAMINE ALL EXISTING CONDITIONS PRIOR TO BIDDING AND SHALL INCLUDE ALL REMOVALS NECESSARY IN ORDER TO ACCOMPLISH THE NEW CONSTRUCTION. IT IS NOT THE INTENT OF THE PLANS TO INDICATE EVERY ITEM TO BE REMOVED, BUT TO SHOW THE GENERAL SCOPE AND TYPE OF REMOVALS REQUIRED.
 - THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED BY IMPROPER PROTECTION AND SHALL REPAIR ANY DAMAGE CAUSED, WITHOUT EXTRA CHARGE TO THE OWNER.
 - THE CONTRACTOR IS TO MAKE ALL POSSIBLE INVESTIGATIONS CONCERNING THE LOCATION OF CONCEALED STRUCTURAL ELEMENTS AND UTILITIES OF SERVICES WITHIN THE PROJECT AREA BEFORE ANY REQUIRED DEMOLITION IS TO TAKE PLACE. THE CONTRACTOR IS TO PROCEED WITH CAUTION DURING ALL DEMOLITION.

CONTRACTORS NOTE:
 THESE PLANS ARE FOR ARCHITECTURAL, AND STRUCTURAL PURPOSES ONLY. THE CONTRACTOR IS TO HAVE SUBCONTRACTORS FROM EACH MAJOR TRADE (MECHANICAL, PLUMBING AND ELECTRICAL) DESIGN THE APPROPRIATE SYSTEMS BASED ON THE GUIDELINES PROVIDED IN THESE PLANS. THE ELECTRICAL, MECHANICAL AND PLUMBING ITEMS SHOWN ON THESE DRAWINGS ARE NOT COMPLETE. ALL SYSTEMS AND INSTALLATIONS SHALL BE IN CONFORMANCE WITH ALL LOCAL AND NATIONAL CODES

- PROVIDE NEW SUPPORTS OF A SUITABLE TYPE FOR EXISTING PLUMBING, CONDUITS, LIGHTING, ETC. WHERE REQUIRED, DUE TO THE REMOVAL OF EXISTING WALLS, PARTITIONS, AND BRACKETS, ETC.
- TEMPORARY PARTITIONS, ARE TO BE CONSTRUCTED PRIOR TO DEMOLITION. THESE WALLS ARE TO BE FLOOR TO CEILING AND COMPLETELY SEALED. CONSTRUCTION SHALL BE OF 3/2" STUDS 1 6" O.C. W/ 1/2" GWB ONE SIDE AND 6 MIL. POLYETHYLENE TAFED, TOP AND BOTTOM (SEE PLANS FOR LOCATIONS).
- SILLS SHALL BE 2-2" X 6" OR AS OTHERWISE INDICATED, PRESSURE TREATED TO RESIST TERMITE INFESTATION, SET ON 1/2" SILL AND SEALER INSULATION. SILLS SHALL BE ANCHORED TO MASONRY WITH 1/2" DIAMETER X 1 8" STEEL ANCHOR BOLTS 5'-0" O.C.
- ALL JOISTS SHALL BE DOUGLAS FIR OR EQUAL F=1,500 MIN. BENDING STRESS, E=1,760,000.
- ALL STUDS SHALL BE DOUGLAS FIR, MIN. E=1,210,000, Fc GREATER THAN 520, WITH BRIDGING AT MID HEIGHT ON WALLS OVER 8'-0" HIGH.
- ALL STRUCTURAL WOODWORK SHALL COMPLY WITH NATIONAL LUMBER MANUFACTURER ASSOCIATION AND WESTERN WOOD PRODUCTS ASSOCIATION STANDARDS AND PRACTICES.
- DOUBLE WOOD JOISTS UNDER ALL PARTITIONS RUNNING PARALLEL TO DIRECTION OF JOISTS.
 - FIRESTOP ALL INTERIOR FRAMING AND OVERHANGS WHERE AND AS REQUIRED BY CODE.
 - WHERE JOISTS AND BEAMS FRAME FLUSH, PROVIDE TECO OR EQUAL STEEL HANGERS AND CONNECTORS FOR SUPPORT. PROVIDE MIN. 2 - 2" X 4" POSTS EACH SIDE OF ALL OPENINGS. PROVIDE 3 - 2" X 4" POSTS EACH SIDE OF HEADERS AND BEAMS OVER 7' SPAN.
 - ALL CONCRETE AND FRAME WALLS SHALL BE ADEQUATELY BRACED AND SHORED DURING CONSTRUCTION UNTIL FULLY AND PROPERLY TIED BACK AND CURED. FOLLOW CODE REQUIREMENTS AND GOOD CONSTRUCTION PRACTICES FOR SAME.
- UNLESS OTHERWISE NOTED, PROVIDE:
 - DOUBLE HEADER JOISTS AND TRIMMERS AT ALL FLOOR AND SKYLIGHT OPENINGS.
 - DOUBLE 2 X 10 HEADERS WITH 1/2" PLYWOOD BETWEEN ALL AT DOOR AND WINDOW OPENINGS. (UNLESS OTHERWISE NOTED ON PLAN).
 - 2 ROWS OF 1" X 3" CROSS BRIDGING PER JOIST 5' SPAN (8'-0" MAX.).
- FLOOR CONSTRUCTION IS TO BE 3/4" TONGUE AND GROOVE UNDERLAYMENT GLUED AND NAILED.
- EXTERIOR SHEATHING TO BE 1/2" CD EXTERIOR PLYWOOD.
- ALL FRAMING TO BE MIN. 4" CLEAR FROM CHIMNEY.
- PARALLMAN LAMINATED STRUCTURAL STRAND LUMBER SHALL BE AS MANUFACTURED BY MACMILLAN BLOEDEL. VERIFY ALL LENGTHS IN THE FIELD PRIOR TO ORDERING BEAMS. EACH BEAM TO BEAR THE APA SERIES 602 EXPOSURE 1 QUALITY INSPECTION LABEL. DESIGN STRESSES ARE BASED ON 2900 PSI. BENDING WITH DEFLECTION LIMITED TO L - 240 TOTAL LOAD. FOR BEAMS THAT ARE COMPOSED OF MULTIPLE GIRDERS JOIN WITH A MINIMUM OF TWO ROWS OF 1 6d COMMON NAILS 12" O.C. (LOCATIONS ARE INDICATED 'PL').
- STRUCTURAL STEEL:
 - ALL STRUCTURAL STEEL SHALL CONFORM WITH ASTM SPECIFICATIONS A-36.
 - UNLESS OTHERWISE NOTED, PROVIDE A 2- BY PLATE BOLTED TO THE TOP FLANGE OF ALL STEEL BEAMS WITH 3/8" DIA. BOLTS STAGGERED AT 2'-0" O.C. RIGIDLY FASTEN ALL CONNECTING RAFTERS AND JOINTS.
- DESIGN LOADS:
 - ROOF: 30 P.S.F. LIVE LOAD
20 P.S.F. DEAD LOAD
 - FLOOR: 40 P.S.F. LIVE LOAD
15 P.S.F. DEAD LOAD

				STRUCTURAL ENGINEER		CONSTRUCTION NOTES AND SPECS		DRAWING NO. of	
				MECHANICAL ENGINEER		RUBIN RESIDENCE		A-2	
						38 ROGER AVENUE		DATE	
						Richard J. Pierce, Architect		PROJECT NO.	
						9 Stratford Terrace, Cranford, New Jersey 07016 (908) 338 5037		3-24-2021	
								SCALE	
								9-861	
								AS NOTED	
DATE	DESCRIPTION	BY	REV						