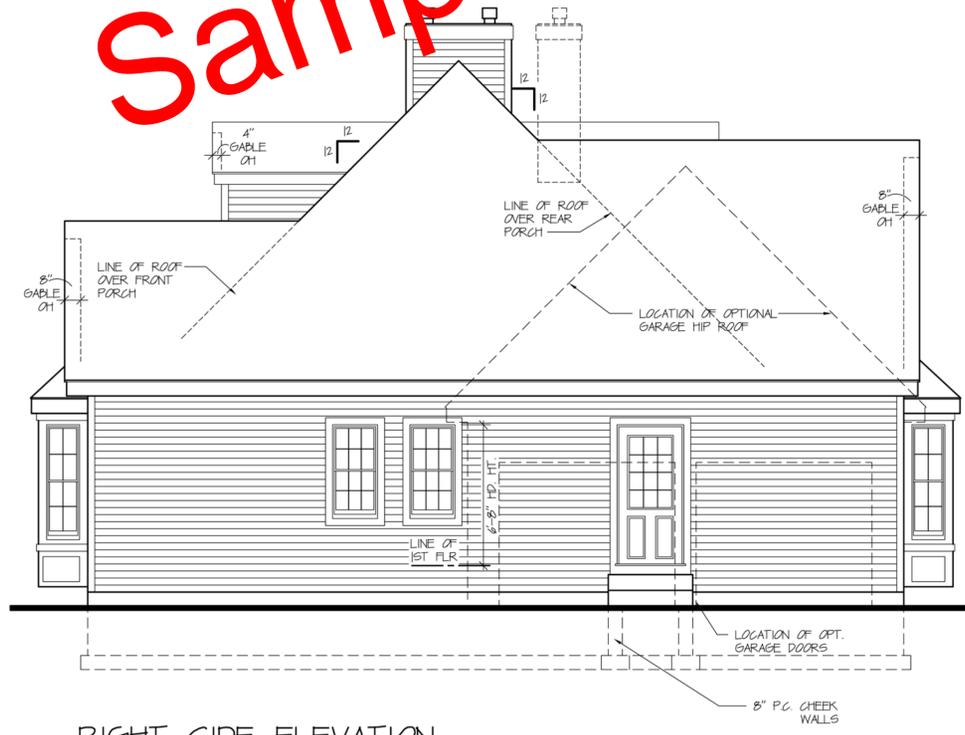


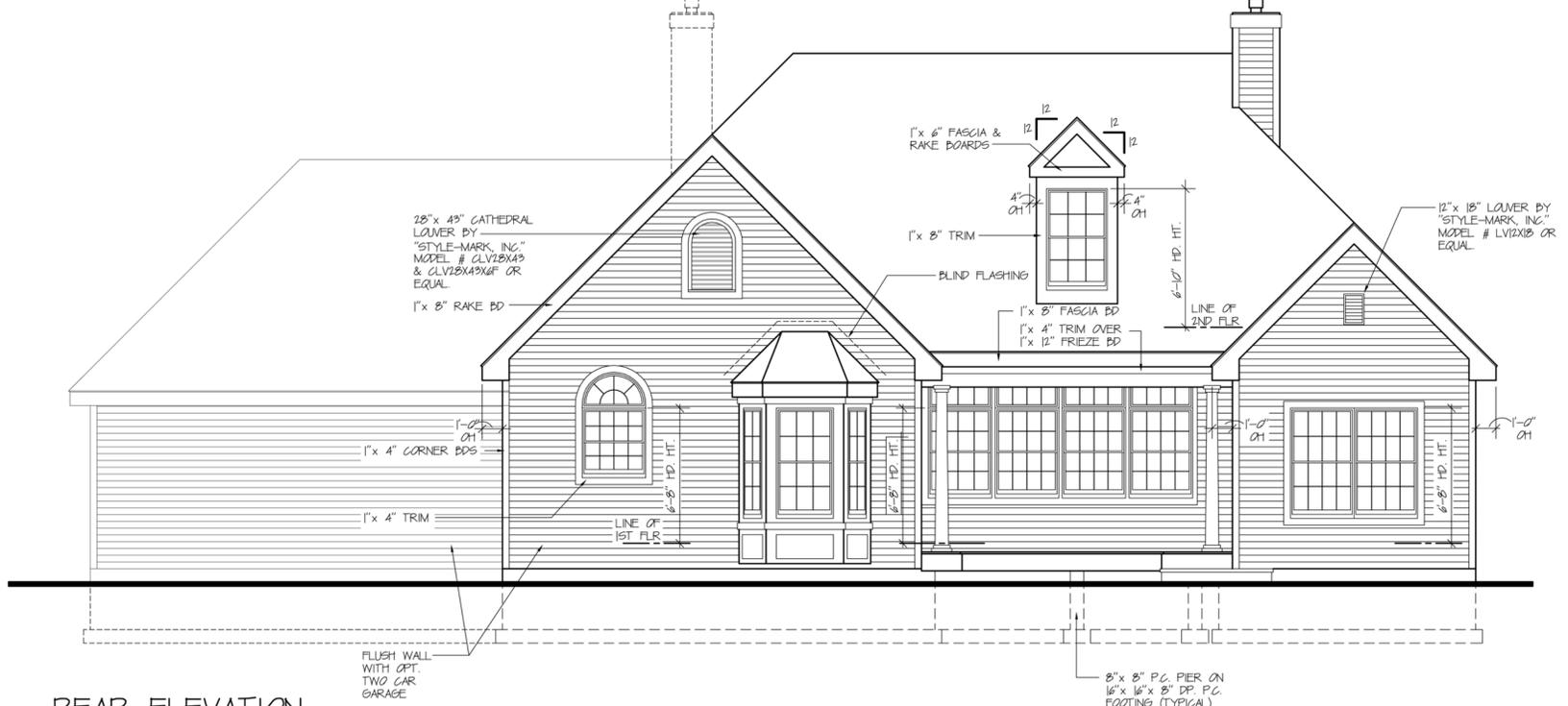
FRONT ELEVATION
1/4" = 1'-0"

LEFT SIDE ELEVATION
1/4" = 1'-0"

NOTE:
PROVIDE RAILINGS ON
DECKS AND PORCH AS
REQUIRED BY CODE



RIGHT SIDE ELEVATION
1/4" = 1'-0"



REAR ELEVATION
1/4" = 1'-0"

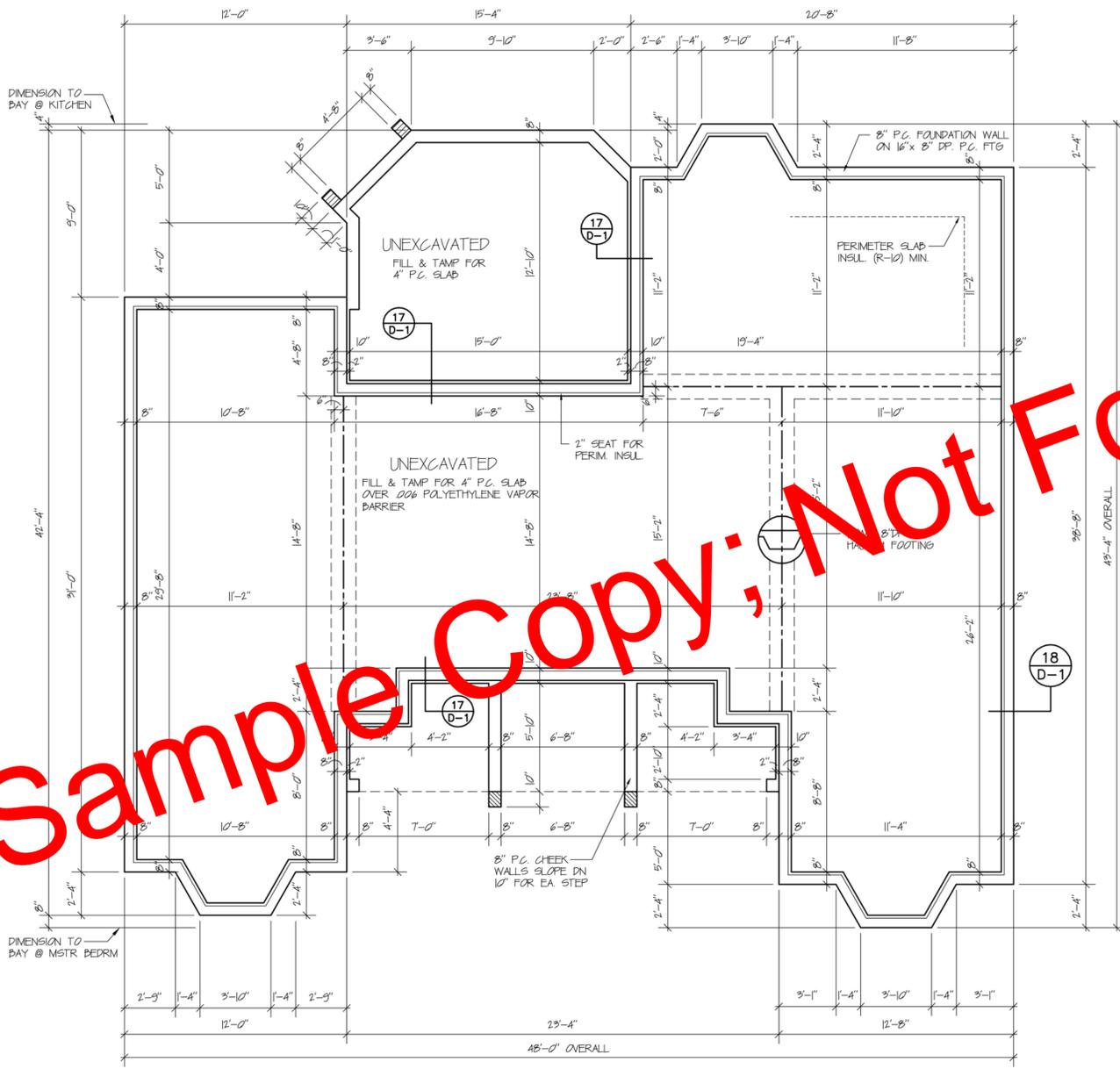
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| DWN: ACD | |
| CHKD: JLA | |

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DIMENSION TO BAY @ KITCHEN



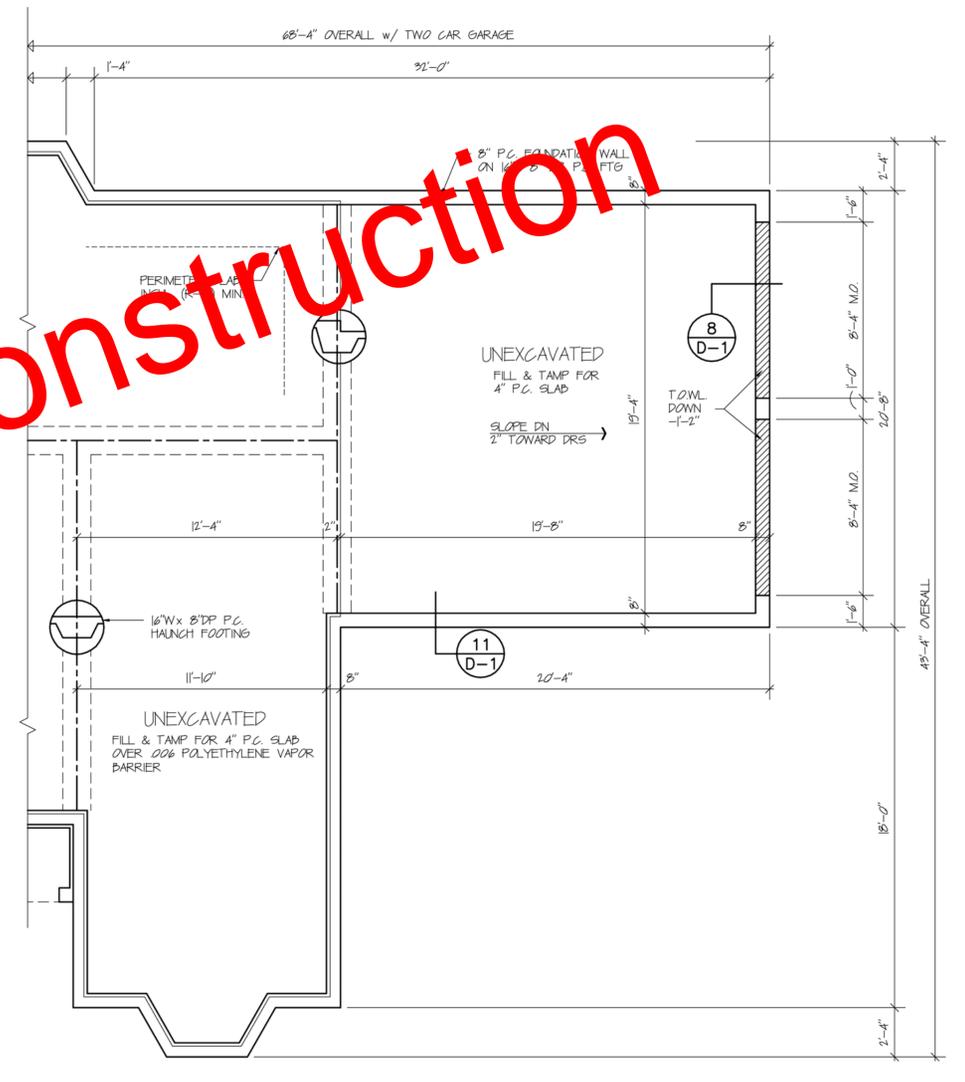
SLAB PLAN

1/4" = 1'-0"

NOTE: CONTRACTOR TO VERIFY WHETHER LOCAL SOIL CONDITIONS & REGIONAL STANDARDS REQUIRE FOUNDATION DESIGN DETAILS DIFFERENT FROM THAT SHOWN.

NOTE "A":
 16" x 8" P.C. HAUNCH FTG UNDER INTERNAL BEARING WALL FTG NOT TO REST ON FILL OR ORGANIC SOIL BUT MUST BE CARRIED TO UNDISTURBED OR MECHANICALLY COMPACTED SOIL TO 95% DENSITY. SHOULD THE FOOTING HAVE TO REST ON AN AREA OF FILL, (2) #5 REINFORCING RODS MAY BE PLACED IN THE LOWER PART OF THE FOOTING BONDED TO PROPERLY SUPPORTED FOOTINGS OR WALLS ON EITHER SIDE. FOR MAX. SPAN OF FILL OVER 6 FEET THIS MAY BE DONE IN LIEU OF MECHANICAL COMPACTION.

Sample Copy; Not For Construction



PART PLAN SHOWING FOUNDATION W/ OPTIONAL TWO CAR GARAGE

1/4" = 1'-0"

FOR INFORMATION AND DIMENSIONS NOT SHOWN SEE SLAB PLAN

ABBREVIATIONS

- | | |
|----------------------|-----------------------|
| ALT= ALTERNATE | #= POUND OR NUMBER |
| BD= BOARD | OC= ON CENTER |
| CB= CEILING BEAM | OH= OVERHANG |
| CL= CEILING | OP= OPENING |
| CL= COLUMN | PC= FULL CHAIN |
| DP= DEEP | PL= PLATE |
| DR= DOOR | RR= ROOF RAFTER |
| EXT= EXTERIOR | SD= SMOKE DETECTOR |
| FAI= FRESH AIR INLET | SO= SHEETROCK OPENING |
| FB= FLOOR BEAMS | TEMP= TEMPERED |
| FND= FOUNDATION | TOS= TOP OF SLAB |
| FT= FOOT OR FEET | OR SUBFLOORING |
| FTG= FOOTING | TOWL= TOP OF WALL |
| GL= GLASS | TYP= TYPICAL |
| GOR= GIRDER | W/= WITH |
| GYP= GYPSUM | W/O= WITHOUT |
| HD= HEAD | WD= WOOD |
| HR= HEADER | WL= WALL |
| HTR= HEIGHT | INT= INTERIOR |
| INT= INTERIOR | MIN= MINIMUM |
| MIN= MINIMUM | WWM= WOVEN WIRE MESH |

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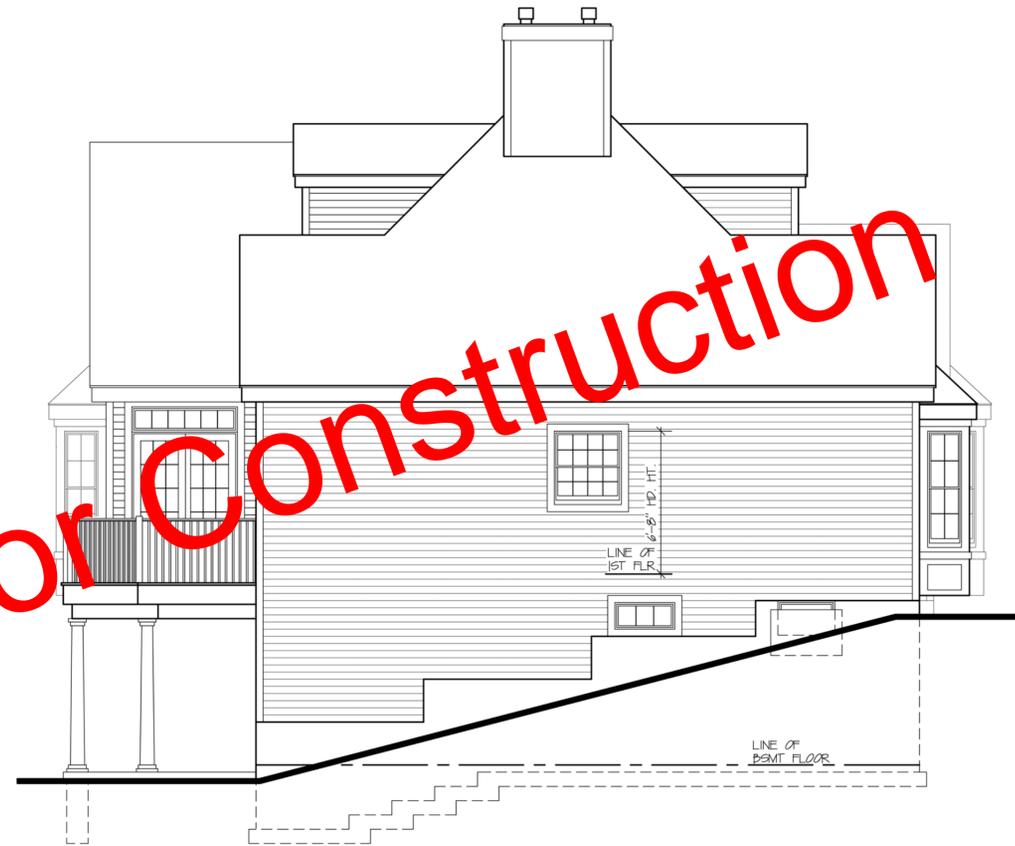
THE LEWISBURG

SHEET #
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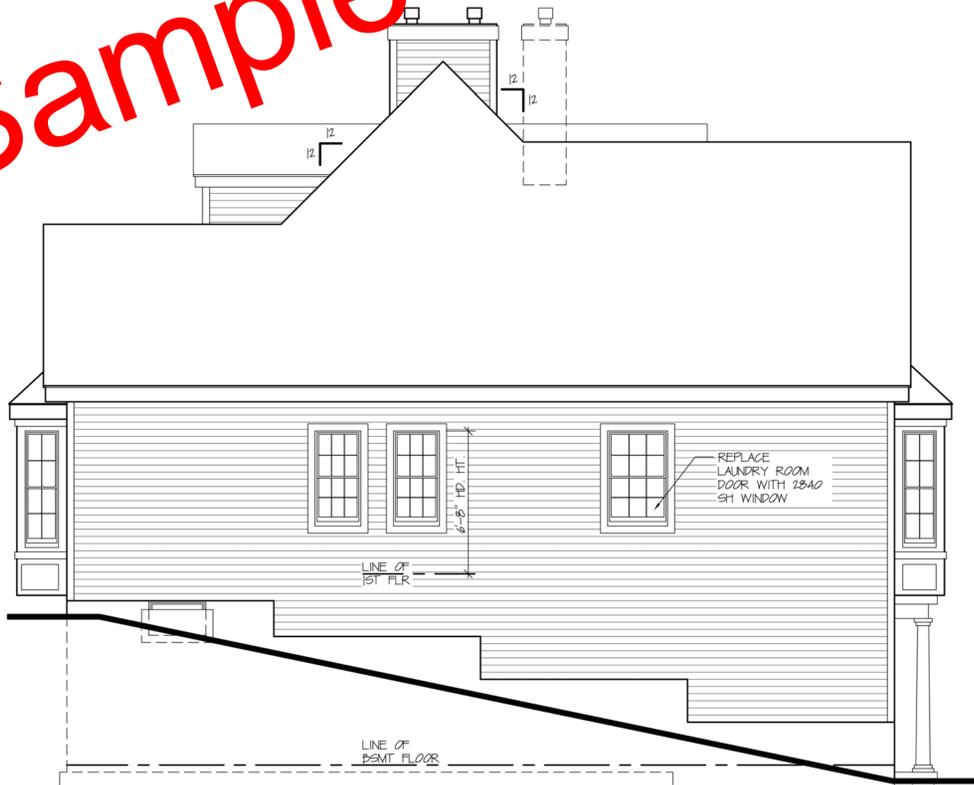
REAR ELEVATION (SHOWING WALK-OUT CONDITION)

1/4" = 1'-0"



LEFT SIDE ELEVATION (SHOWING WALK-OUT CONDITION)

1/4" = 1'-0"



RIGHT SIDE ELEVATION (SHOWING WALK-OUT CONDITION)

1/4" = 1'-0"

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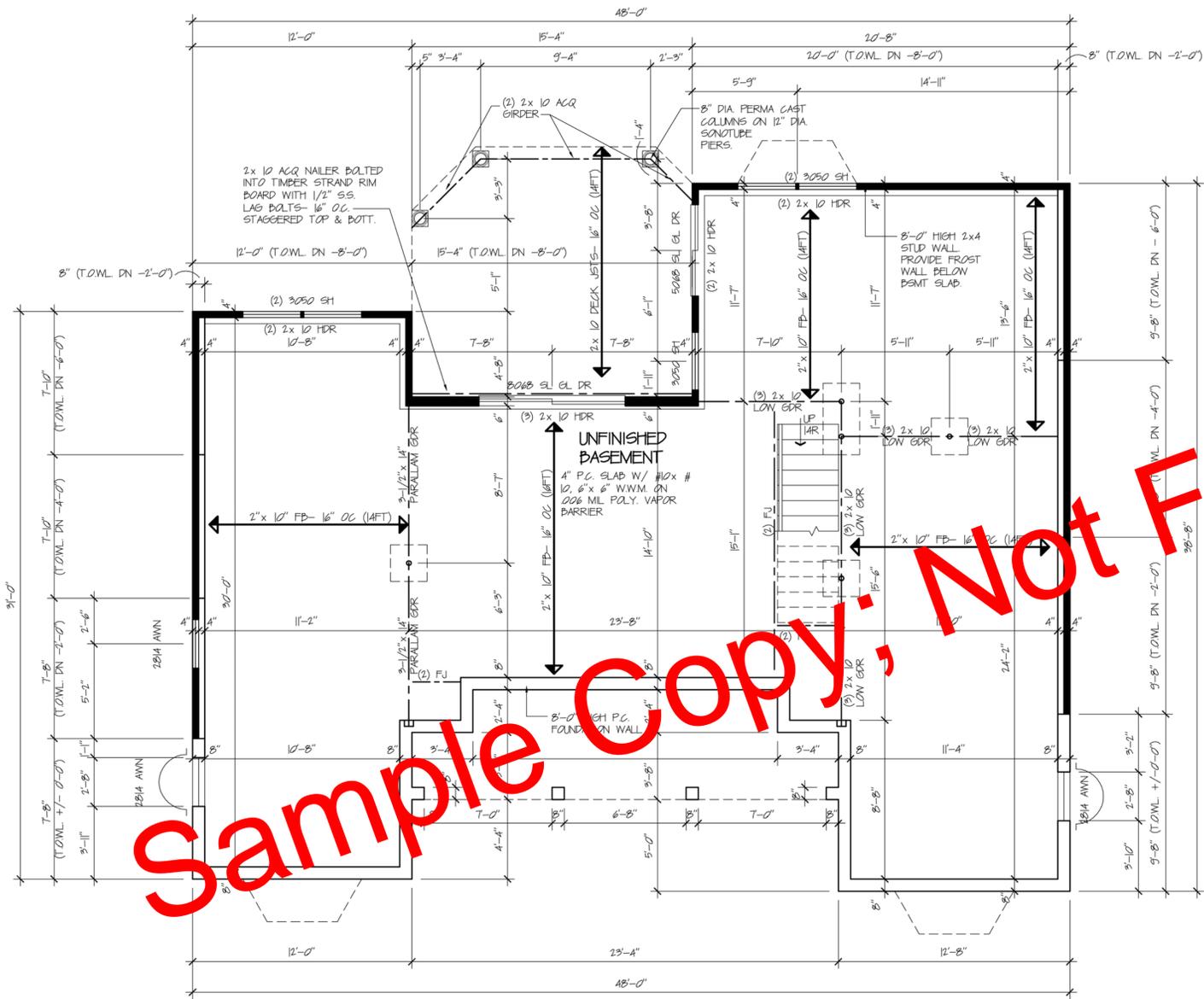
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DWN: ACD
CHKD: JLA

REV:

LEWISBURG WALK-OUT BASEMENT

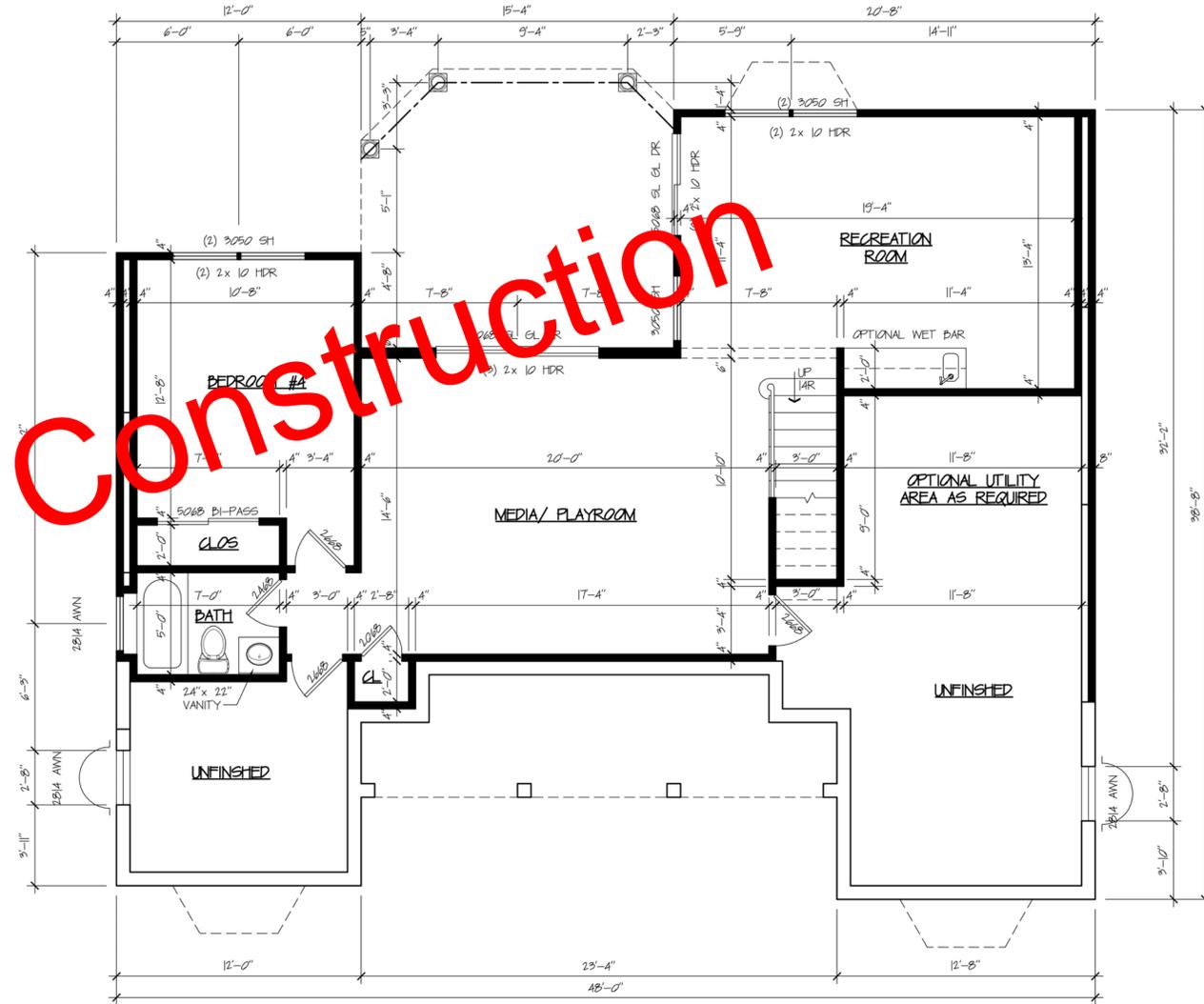
SHEET #
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OPTIONAL WALK-OUT BASEMENT PLAN

1/4" = 1'-0"

NOTE: CONTRACTOR TO VERIFY WHETHER LOCAL SOIL CONDITIONS & REGIONAL STANDARDS REQUIRE FOUNDATION DESIGN DETAILS DIFFERENT FROM THAT SHOWN.



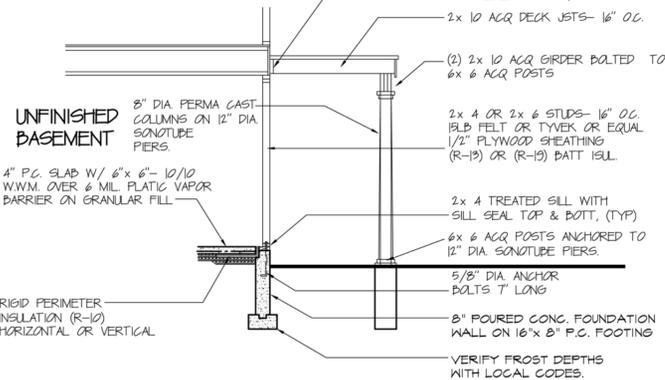
OPTIONAL FINISHED BASEMENT PLAN

1/4" = 1'-0"

LIVING AREA: 892 SQ. FT.

FOR INFORMATION NOT SHOWN SEE FOUNDATION PLAN

FIRST FLOOR



PARTIAL SECTION THRU REAR WALL OF WALK-OUT BASEMENT

1/4" = 1'-0"

DATE: 11-14-97
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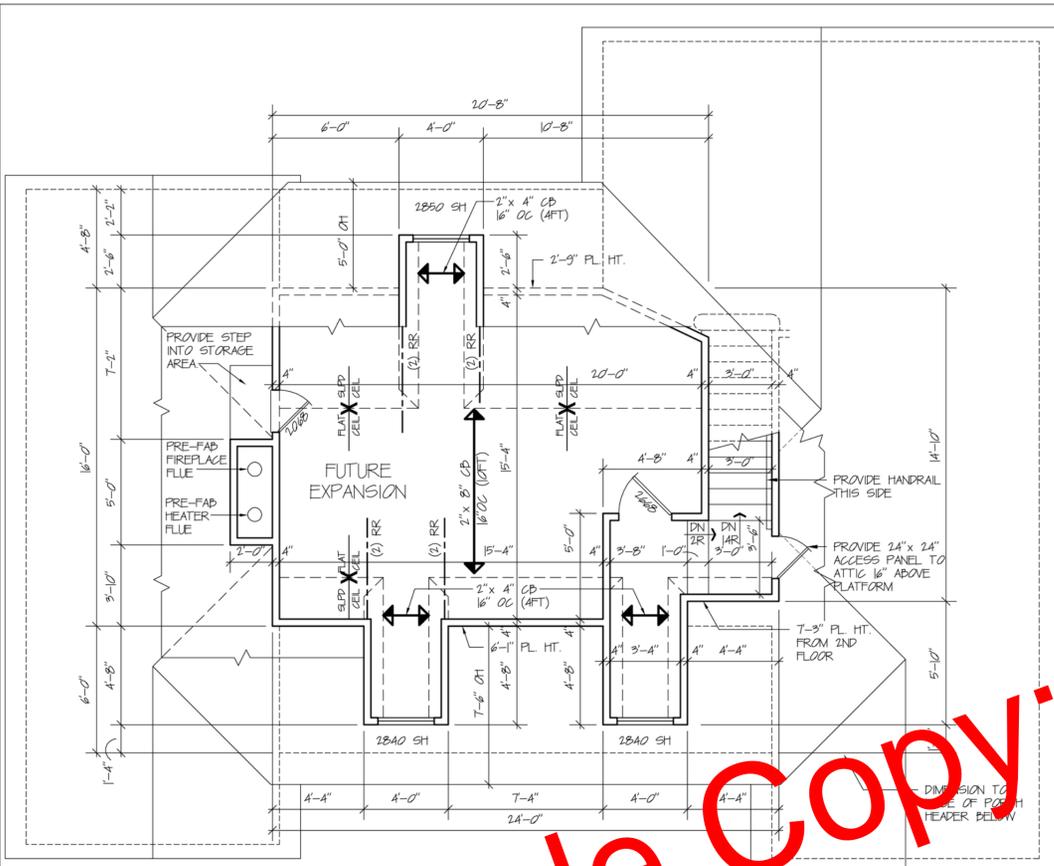
REV:

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LEWISBURG WALK-OUT BASEMENT

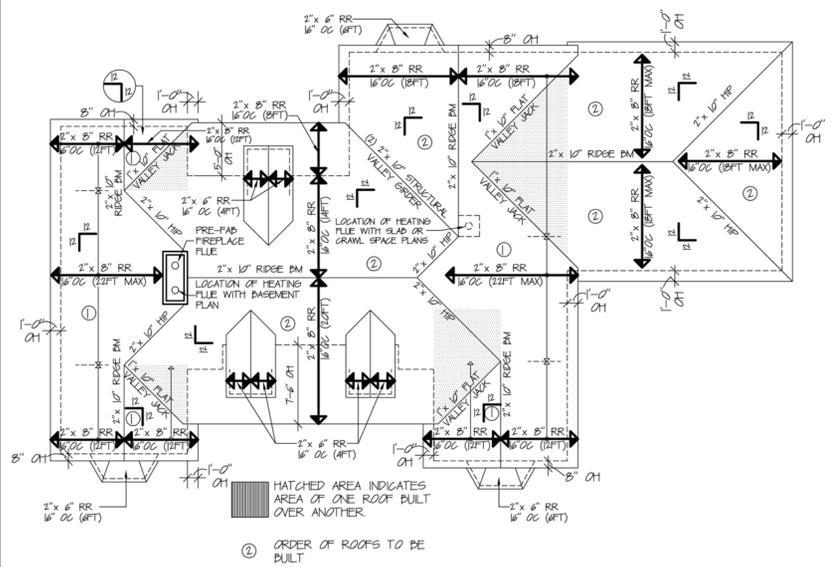
SHEET #
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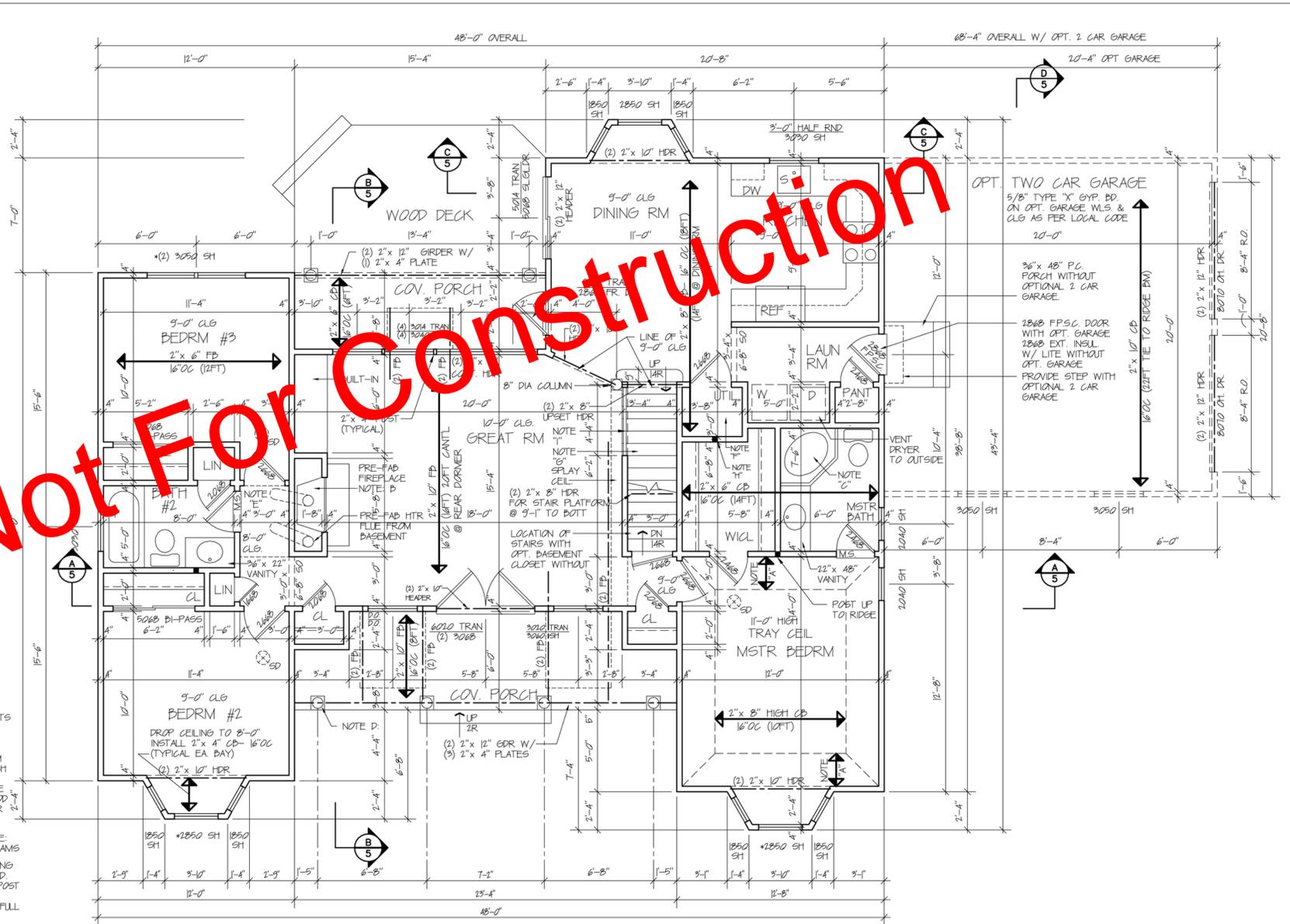
SECOND FLOOR PLAN
1/4" = 1'-0"

NOTES:

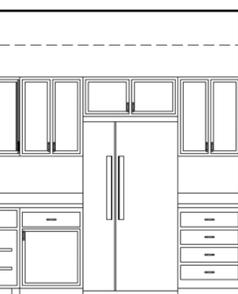
- NOTE "A"
FRAME STEPPED CLG W/ 2" x 4" 16' OC
- NOTE "B"
PRE-FAB FIREPLACE MANUF BY "SUPERIOR" MODEL # HC-3812 OR EQUAL VENT THRU FLR BMS TO EXTERIOR OR THRU F.A.I. SEE DETAIL.
- NOTE "C"
SHOWER UNIT BY: "KOHLER" SYMBOL RECEPTORS MODEL # K-9349 42" x 42" OR EQUAL.
- NOTE "D"
8" DIA TAPERED WOOD COLUMN
- NOTE "E"
DROP CELL TO 8'-0" AFF. THIS AREA TO ALLOW FOR CHIMNEY SPLAYS TO OUTSIDE WALL.
- NOTE "F"
FIRE RETARD UTIL RM FOR SLAB OR CRAWL SPACE PLANS AS FOLLOWS: 5/8" TYPE "X" GYP. BD. ON WALLS & CEIL, AND 2468 FPSC. DOOR AND/ OR AS PER LOCAL CODE. CLOSET WITH BASEMENT PLAN.
- NOTE "G"
STAIRS: MIN 3/8" WIDE MIN. 9" TREADS, MAX. 3/4" RISER. SEE DETAILS.
- NOTE "H"
POST UP TO UNDERSIDE OF (3) 2" x 10" STRUCTURAL VALLEY GIRDER.
- NOTE "I"
WOOD CAP ON 1" x 6" CAP ON SLOPED PARTITION TO BE SAME HEIGHT AS STAIR STRINGER.
- ALL WINDOW CALLOUTS ARE AS FOLLOWS:
3020 SH: VINYL SINGLEHUNG
3014 TRAN: TRANSLUCENT 2868 FR. DR.: FRENCH DOOR
SH WINDOWS CAN BE REPLACED WITH WOOD WINDOWS OF SIMILAR SIZES.
- GENERAL NOTES RE: MICROLAM LVL BEAMS
1. A MINIMUM BEARING LENGTH IS REQUIRED. SEE DRAWINGS FOR POST SIZE REQUIRED.
2. BEARING ACROSS FULL LENGTH OF BEAM IS ASSUMED.
3. LATERAL SUPPORT REQUIRED AT BEARING POINTS.
4. 16" & 18" DEEP BEAMS ARE TO BE USED IN MULTIPLE UNITS ONLY.
5. NAILING PATTERN FOR ASSEMBLY OF MULTIPLE UNITS TO BE A MIN.
(2) ROWS OF 16d NAILS @ 12" OC, (3) ROWS OF 14", 16" & 18" BEAMS.
6. ASSUME fb = 2800 psi, E = 2,000,000 psi.
7. MICROLAM BEAMS ARE MANUFACTURED BY "TRUS JOIST CORP."
8. ALL JOIST HANGERS TO BE MICROLAM METAL LUMBER CONNECTORS.
- NOTE:
PROVIDE TEMPERED GLASS IN WINDOWS WHERE:
1) GLAZING IS LESS THAN 60" ABOVE STANDING SURFACE @ BATHTUBS, WHIRLPOOLS, SHOWERS, SAUNAS, STEAMROOMS, & HOT TUBS.
2) GLAZING IS WITHIN A 24" ARC OF AN OPERATING DOOR.



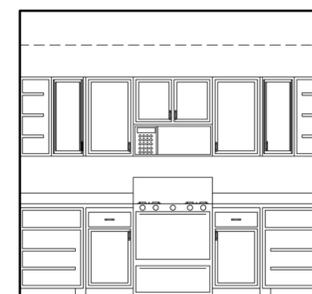
ROOF PLAN - SHOWN WITH OPTIONAL GARAGE ROOF FRAMING
1/8" = 1'-0"



FIRST FLOOR PLAN
1/4" = 1'-0"



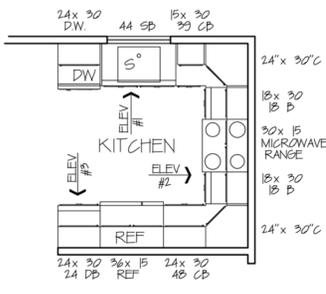
ELEVATION #3



ELEVATION #2



ELEVATION #1



KITCHEN PLAN
1/4" = 1'-0"

KITCHEN ELEVATIONS
3/8" = 1'-0"

- * EGRESS WINDOW. THIS UNIT MUST MEET OR EXCEED:
1) CLEAR OPENABLE AREA OF 57 SQ. FT.
2) CLEAR OPENABLE WIDTH OF 20"
3) CLEAR OPENABLE HEIGHT OF 24"

- B = BASE CABINET
C = CORNER CABINET
DP = DRAWER PANE
SP = SINK BASE
12x 30 = 12" W x 30" D HANGING CAB

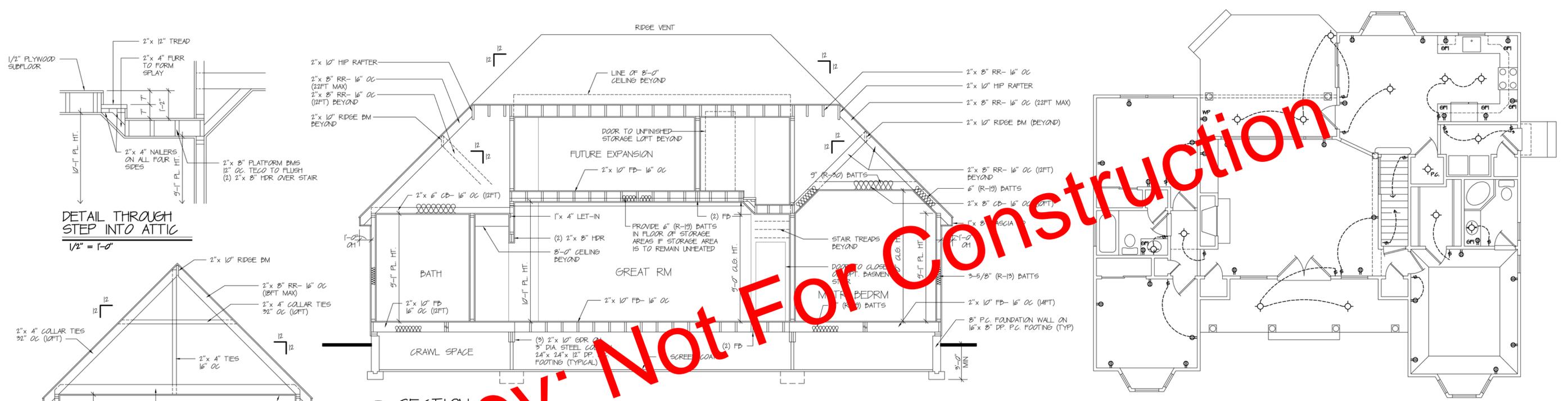
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DETAIL THROUGH STEP INTO ATTIC
1/2" = 1'-0"

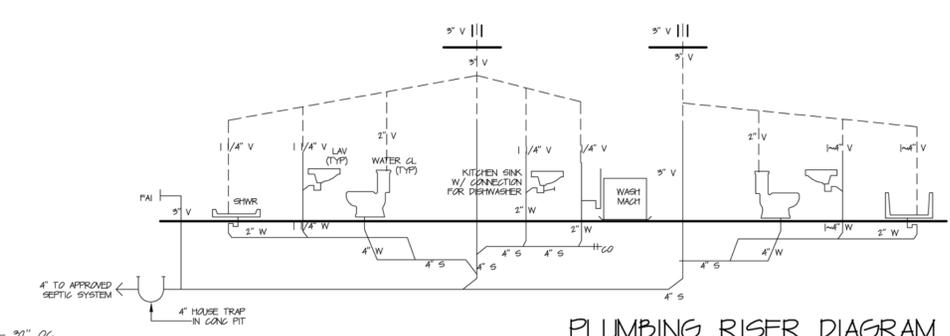
A SECTION
1/4" = 1'-0"

FIRST FLOOR ELECTRICAL PLN
3/16" = 1'-0"

NOTE: WALLS TO BE BRACED DURING CONSTRUCTION TO PREVENT BOWING OF TOP PLATES. DO NOT REMOVE BRACES UNTIL WALLS AND ROOF ARE FULLY SHEATHED.

NOTE: WHERE CLIMATIC CONDITIONS WARRANT, PROVIDE AN ICE SHIELD SIMILAR TO "WINTERGUARD" WATER-PROOFING SHINGLE UNDERLAYMENT BY "CERTANTIEED CORP." EXTENDING FROM THE EAVE EDGE TO A POINT 24" INSIDE THE EXTERIOR WALL LINE OF THE STRUCTURE & ALL 2ND FLR WALLS EXTENDING OVER LOWER ROOFS.

D SECTION THROUGH OPT. GARAGE
1/4" = 1'-0"



PLUMBING RISER DIAGRAM
NO SCALE

GENERAL NOTES:

- THESE PLANS TO BE USED IN CONJUNCTION WITH THE OUTLINE SPECIFICATIONS WHEN PROVIDED. IF PROVIDED, THE SPECIFICATIONS MAY HAVE TO BE MODIFIED TO AGREE WITH THESE PLANS.
- ASSUMED SOIL IS SAND OR GRAVEL WITH MINIMUM TRACES OF DRY CLAY, WITH A MINIMUM BEARING CAPACITY OF 2 TONS / SQ. FT.
- CONCRETE TO BE PLAN, UNREINFORCED, MINIMUM 3000 PSI, 28 DAY SOIL TEST, PREPARED ON THE ABOVE SOIL ASSUMPTION. IF OTHER SOILS ARE ENCOUNTERED, LOWER BEARING VALUES ARE TO BE ASSUMED AND THE FOUNDATION MUST BE REDESIGNED. INDIVIDUAL SITE CONDITIONS MAY ALSO REQUIRE SPECIAL FOUNDATION DESIGN, WHICH IS THE RESPONSIBILITY OF THE PLAN PURCHASER OR BUILDER.
- ALL FOOTINGS TO REST ON VIRGIN UNDISTURBED SOIL.
- LUMBER SHALL BE HEMLOCK #1 / 2, 1b=90 FOR #2, 1b=15 FOR #1 1/2 FOR #2, HIGHER STRESSED LUMBER SUCH AS DOUGLAS FIR-LARCH, SOUTHERN YELLOW PINE, ETC. MAY BE SUBSTITUTED FOR HEM FIR. NO SPT-SOUTH LUMBER MAY BE USED EXCEPT FOR SILL PLATES AND STUDS.
- DESIGN LOADS ARE AS FOLLOWS PER SQUARE FOOT:

| LOCATION | LIVE | DEAD | DEFLECTION LIMIT |
|--------------------------|--------------|-------|------------------|
| 1ST FLOOR | 40 LB | 10 LB | L/360 |
| 2ND FLOOR | 30 LB | 10 LB | L/360 |
| ATTIC (MAN STORAGE) | 10 LB | 5 LB | L/240 |
| ATTIC (STORAGE) | 20 LB | 10 LB | L/240 |
| ROOF (WITH FIN. CEILING) | 30 LB (SNOW) | 15 LB | L/240 |
| ROOF (NO FIN. CEILING) | 30 LB | 7 LB | L/240 |

 SNOW LOADS HAVE BEEN ADJUSTED TO REFLECT THE SLIDEOFF FACTOR, AS A FUNCTION OF ROOF PITCH.
 RAFTER SIZES MAY HAVE TO INCREASE DUE TO HEAVIER SNOW LOADS.
 MINIMUM HEADER SIZE TO BE (2) 2"x6" UNLESS OTHERWISE NOTED.
 GLASS IN SHELTERS, SHOWER DOORS AND SLIDING GLASS DOORS TO BE TEMPERED GLASS.
 ELECTRICAL WORK TO CONFORM TO THE NATIONAL ELECTRIC CODE AND ANY APPLICABLE LOCAL CODES. PROVIDE MINIMUM OF ONE SMOKE DETECTOR IN BEDROOM AREA.
 CONSTRUCTION TO CONFORM TO ALL CODES HAVING JURISDICTION.
- THESE PLANS ARE DESIGNED TO MEET OR EXCEED THE REQUIREMENTS OF THE RESIDENTIAL CODE OF NEW YORK & INTERNATIONAL RESIDENTIAL CODE. WHEN BUILDING IN ANY JURISDICTION EITHER INSIDE OR OUTSIDE THE CODE, VARIATIONS MAY BE REQUIRED. IT IS THE RESPONSIBILITY OF THE PLAN PURCHASER OR BUILDER TO VERIFY SUCH REQUIREMENTS WITH THE LOCAL CODE OR ENFORCEMENT OFFICER AND TO AMEND THE PROPOSED CONSTRUCTION AS SO REQUIRED.
- WINDOW SIZES: MINIMUM EGRESS REQUIREMENTS OF YOUR LOCAL CODE MAY VARY & REQUIRE CHANGES TO WINDOW SIZES, TYPES, AND HEAD HEIGHTS. CONSULT YOUR LOCAL WINDOW SUPPLIER OR CODE OFFICIAL.
- ALL STAIRS SHALL CONFORM TO SECTION R314 OF THE IRC, HOWEVER IT IS IMPORTANT TO NOTE THAT VIRTUALLY EVERY STATE HAS NOT ENACTED THE 7 1/2" / 10" RISER / TREAD STANDARD AND STILL ACCEPTS THE 8 3/4" / 9" STANDARD. THE PLAN PURCHASER, NEVERTHELESS, HAS THE RIGHT TO CHANGE TO THE 7 1/2" / 10" STANDARD, IF SO DESIRED, AND IF CHANGED, MUST INSURE THAT THE CODE HEADROOM STANDARDS, PLATFORM WIDTHS, ETC. ARE MAINTAINED.
- THESE PLANS ARE DESIGNED TO BE IN ACCORDANCE WITH THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE AND THE INTERNATIONAL ENERGY CONSERVATION CODE FOR A 2000 DESIGN DAY CLIMATE AREA. ALTHOUGH THE STANDARDS SHOULD BE APPLICABLE FOR HIGHER DESIGN DAY CLIMATES, VARIATIONS OR ADJUSTMENTS MAY BE REQUIRED, AND SHOULD BE VERIFIED. HUD REQUIREMENTS, PARTICULARLY IF USING ELECTRIC HEAT MIGHT REQUIRE HIGHER INSULATION VALUES.
- THE ARCHITECT HAS NOT BEEN ENGAGED FOR CONSTRUCTION SUPERVISION OF ANY KIND, AND ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION CONFORMING WITH THESE PLANS, NOR RESPONSIBILITY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THERE ARE NO WARRANTIES, NOR ANY MERCHANTABILITY OF FITNESS FOR A SPECIFIC USE EXPRESSED OR IMPLIED IN THE USE OF THESE PLANS.
- SEE ROOF PLAN FOR FURTHER FRAMING INFORMATION.
- ALL PRELACE CHASE WALLS TO BE INSULATED INSIDE AND OUTSIDE AND HORIZONTAL DRAINT STOPS TO BE INSTALLED AT EACH FLOOR LEVEL. USE 2"x4" CLG. BEAMS WITH 6" (R-19) INSULATION PACKED TIGHTLY.
- ANGLE IRONS OVER WINDOWS/DOORS AS FOLLOWS:
 UP TO 3'-6": 3 1/2"x3 1/2" x 5/16"
 3'-6" TO 8'-0": 5"x3 1/2" x 5/16"
 OVER 8'-0": 6"x3 1/2" x 5/16"
- STEEL ORDERS TO HAVE 1/4" DIA. HOLES @ 4'-0" O.C., PREDRILLED IN TO FLANGES. ALL STEEL CONNECTIONS, SUPPORTS, ETC. TO BE SIZED BY STEEL FABRICATOR IN ACCORDANCE WITH APPROVED STANDARDS. STEEL TO BE SHOP FABRICATED FROM APPROVED SHOP DRAWINGS. STEEL ORDERS TO BE SHIMMED WITH STEEL PLATE ONLY. FABRICATOR TO PROVIDE STEEL SHIMS. SEE FLOOR PLANS FOR SIZES (6).
- DO NOT SCALE DRAWINGS. FOLLOW DIMENSIONS ONLY.
- COPYRIGHT 2005. REPRODUCTION OF THESE PLANS, IN ANY FORM WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT, IS PROHIBITED.
- WINDOW SIZES: MINIMUM EGRESS REQUIREMENTS OF YOUR LOCAL CODE MAY VARY & REQUIRE CHANGES TO WINDOW SIZES, TYPES, AND HEAD HEIGHTS. CONSULT YOUR LOCAL WINDOW SUPPLIER OR CODE OFFICIAL.

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Important Note: These notes and specifications are provided by provide the most popular code topics. The information and methodologies prepared herein are in accordance to and referenced to the 2009 International Residential Code. The information is also a general summarization of the code and it is recommended that you become familiar with the full extent of the actual code. The notes and specifications may have to be amended due to variations in local codes and geological conditions. It is the responsibility of the Contractor and/or Homeowner to make the necessary modifications to ensure code compliance and structural integrity. It is recommended that you consult a local architect or engineer of your choice and check with local building officials prior to the start of actual construction. Special engineering may require that these specifications be changed or amended to comply with seismic, wind, or other special conditions as required by local construction methodologies and local codes.

Important Disclaimer

The enclosed information is intended to assist and inform you through the construction of your home. Your construction plans have been drawn to prescribe to industry standards. These professional standards determine how construction plans are drawn and what information they include. Construction plans are intended as a technical guide to professional contractors and are not intended to be a set of step-by-step instructions. Therefore, if you are planning to build your home without the services of a professional builder, we suggest that you become thoroughly familiar with reading construction plans or consider consulting a construction specialist. If you should have any questions regarding the construction plans and/or the supportive documentation, please feel free to contact us at 631-864-5788.

Great care and effort goes into the creation of the design and engineering of your construction plans. However, because of the impossibility of providing any personal and/or "on-site" consultation, supervision, control over the actual construction, and because of the great variances in local building code requirements and other local building and weather conditions, Jerold Axelrod Architect, nor their agents or employees, assumes no responsibility for any damages, including but not limited to, any deficiencies, omissions, or errors in the design. In any case, any discrepancies, errors and/or omissions in the dimensions, and/or drawings contained in the construction plans shall be brought to the attention of Jerold Axelrod Architect prior to commencement of construction. Proceeding with construction constitutes the acceptance of the construction documents as they are and any discrepancies, errors and/or omissions become the sole responsibility of the purchaser. If any errors are discovered prior to construction, Jerold Axelrod Architect will be given full opportunity to correct any errors and/or omissions to the construction plans. In any or all circumstances, the maximum financial liability to Jerold Axelrod Architect can not exceed the total plan purchase.

Professional Seal

Though every effort was made to make the construction documents follow the current I.R.C. national code methodologies, a few states and cities have passed bi-laws regarding construction plans that would be submitted to your local municipality and used for the construction of your home. These bi-laws require the construction plans be reviewed and/or prepared, inspected, stamped (or stamped) by a licensed professional engineer or architect in your state. It is advised that you contact your municipality's building department for instructions to comply with their construction plan review process.

Copyrights

The production of these construction plans, either in whole or in part, including any form of copying, and/or preparation of derivative works thereof, for any reason is prohibited. The purchase of a set of construction plans in no way transfers any copyright or other intellectual property interest in it to the purchaser except for a limited licensing release to use the said plan set for the purpose of constructing ONE, AND ONLY ONE, DWELLING UNIT. The purchase of additional sets of the said plans at a reduced price from the original set or as part of a multiple set package does not convey to the purchaser a license to construct more than one dwelling. Similarly, the purchase of reproducible construction plans (i.e., serifs, mylars, or vellums) carries the same copyright protection as mentioned above. It is generally allowed to make up to a maximum of 10 copies for the construction of a single dwelling only. To use any plan more than once, and to avoid any copyright / license infringement, it is necessary to contact Jerold Axelrod Architect to receive a release and license for any extended usage. Whereas a purchaser of reproducible's is granted a license to make copies, it should be noted that as copyrighted materials, MAKING PHOTOCOPIES FROM CONSTRUCTION PLANS IS ILLEGAL. Copyright and licensing of construction plans exist to protect all parties. It respects and supports the intellectual property of the original architect and designer, thereby keeping it possible to offer predrawn plans at affordable prices. Copyright law for predrawn construction plans is now being vigorously enforced. Copyright infringement could lead to fines up to \$100,000 per violation.

General site notes

- Contractor to verify locations of site utilities, requirements and connections fees. Owner, contractor, and sub-contractors to pay all their related construction permit fees as agreed upon between the owner and contractor.
- Before excavation, the contractor shall examine all drawings, maps, and building site of existing facility to determine the routes of all underground utilities. Before digging commences it is advised that the owner or contractor calls their states utility locator facilitator.
- It is recommended that the sites soil be tested for compression rating to determine foundation and footing design. Concrete foundations and footing design shall be accordance to Chapter 4 of the I.R.C code. See foundation section on this page for more detail.
- Consult a local civil engineer for site plans and surveys of existing property. A landscape architect should be consulted for more extensive site landscape designs.

I.R.C. Building planning – Chapter 3

Glazing R308

R308.4 Hazardous locations
Glazing in the following locations shall be of safety glazing conforming to the human impact loads of Section R308.3 (see exceptions).

- Swinging doors except jalousies.
- Fixed and sliding panels of sliding door assemblies and panels in sliding and bifold closet door assemblies.
- Storm doors.
- Unframed swinging doors.
- Doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers and in any portion of a building wall enclosing these compartments where the bottom edge of the glazing is less than 60 inches measured vertically above any standing or walking surface.
- Fixed or operable vertical panels adjacent to a door where the nearest vertical edge is within a 24-inch arc of the door in a closed position and whose bottom edge is less than 60 inches above the floor or walking surface.
- Individual fixed or operable panel, other than those described in Items 5 and 6 above, that meet all of the following conditions:
 - Exposed area of an individual pane greater than 9 square feet.
 - Bottom edge less than 18 inches above the floor.
 - Top edge greater than 36 inches above the floor.
 - One or more walking surfaces within 36 inches horizontally of the glazing.
- Railings regardless of area or height above a walking surface including structured baluster panels and nonstructural in-fill panels.
- Walls and fences used as the barrier for a door and outdoor swimming pools, hot tubs and spas when:
 - The bottom edge of the pool or spa is less than 60 inches above a walking surface and the glazing is horizontally of the water's edge. (The glazing is to single glazing and all panels in multiple glazing.)
 - Glazing adjacent to stairways, landings, and approved ramps within 36 inches horizontally of a walking surface when the top surface of the glass is less than 60 inches above the top of the adjacent walking surface.
 - Glazing adjacent to stairways within 60 inches horizontally of the bottom tread of a stairway in any direction where the top surface of the glass is less than 60 inches above the top of the tread.

- Skylights and sloped glazing shall comply with Section R308.6.
- Site built windows shall comply with Section R308.5.
- Exterior windows and glass doors shall conform to the provisions of Section R613 and the following:
 - Exterior windows and doors shall be designed to resist the design wind loads specified in Table R301.2(2) and adjusted for height and exposure per Table R301.2(3). (Section R613.2)
 - Windows and glass doors shall be anchored in accordance with the published manufacturer's recommendations. (Section R613.5.1)
 - Anchorage of exterior windows shall conform to Section R613.5.2.

Emergency escape and rescue openings R310

R310 Emergency escape and rescue openings
Basements and every sleeping room shall have at least one operable emergency and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue openings from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with section R310.2. Emergency escape and rescue shall open directly into a public way, or to a yard or court that opens to a public way.

Means of egress R311

R310 Emergency escape and rescue openings
Stairways, ramps, exterior exit balconies, hallways and doors shall comply with section R311:

- Stairway width shall not be less than 36" in clear width at all points above the permitted handrail height and below the required headroom height. (R311.5.1)
- The minimum headroom in all parts of the stairway shall not be less than 6'-8". (R311.5.2)
- The maximum riser height shall be 7 3/4". (R311.5.3.1)
- The minimum tread depth shall be 10". Winder treads shall have a minimum tread depth of 6". (R311.5.3.2)

Smoke Alarms R313

R313.1 Smoke Detection and notification
Single- and multiple-station smoke alarms shall be installed in the following locations:

- Each sleeping room

R313.1 Smoke Detection and notification – CONTINUE

- Outside of each sleeping area in the immediate vicinity of the bedrooms
- On each additional story of the dwelling, including basements and cellars but not including crawl spaces any uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

Smoke alarms shall be interconnected and the power source for smoke alarms shall comply with Section R313.3.

Flood-Resistant Construction R324

R324.1 General
Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) established in Table R301.2 (1) shall be designed and constructed in accordance with the provisions contained in this section.

R324.1.1 Structural systems
All structural systems of a building and structures shall be designed, connected and anchored to resist lateral motion, collapse, or permanent lateral movement due to structural loads and stresses from flooding equal to the design flood elevation.

R324.1.3 Establishing the design flood elevation
The design flood elevation shall be used to define areas prone to flooding, and shall describe, at a minimum, the base flood elevation at the depth of peak elevation of flooding (including wave height) which has a 1 percent or greater chance of being equaled or exceeded in any given year.

For Determining design flood elevations and impacts refer to section R324.1.3.1 and R324.1.3.2.

R324.1.5 Protection of mechanical and electrical systems

Electrical systems, equipment and components, and heating, ventilating, air conditioning, and plumbing applications, plumbing fixtures, duct system, and other service equipment shall be located at or above the design flood elevation.

Review EXCEPTIONS R324.1.5

R324.2.2 Enclosed area below design flood elevation

Enclosed areas, including crawl spaces, that are below the design flood elevation shall:

- Be used solely for parking of vehicles, building access or storage.
- Be provided with flood openings that meet the following criteria:

- There shall be a minimum of two openings on different sides of each enclosed area; if any building has more than one enclosed area below the design flood elevation, each area shall have openings on exterior walls.
- The total net area of all openings shall be at least 1 square inch for each square foot of enclosed area, or the openings shall be designed and the construction documenters shall include a statement that the design and installation will provide for equalization of hydrostatic flood forces on exterior walls by allowing for automatic entry and exit of floodwaters.
- The bottom of each opening shall be 1 foot or less above the adjacent ground level.
- Openings shall be at least 3 inches in diameter.
- Any louvers, screens, or other opening covers shall allow the automatic flow of flood waters into and out of the enclosed area.
- Openings installed in doors and windows, that meet requirements a-e are acceptable; however, doors and windows without installed openings do not meet the requirements of this section.

Per section R324.3.5, enclosed areas below the design flood elevation shall be used solely for parking or vehicles, building access or storage.

I.R.C. Foundation – Chapter 4

General R401

R401.2 Requirements
Foundation construction shall be capable of accommodating all loads according to section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed, and tested in accordance with accepted engineering practices. Gravel fill used as footings for wood and precast foundations shall comply with section R403

R401.3 Drainage
Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection so as to not create a hazard. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6 inches within the first 10 feet.

R401.4 Soil tests
In areas likely to have expansive, compressible, shifting or other unknown soil characteristics, the building official shall determine whether to require a soil test to determine the soils characteristic at a particular location. This test shall be made by an approved agency using an approved method. Contractor to refer to Table R401.4.1 for presumptive load-bearing values of foundation materials.

Contractor to refer to section R401.5 for compressible or shifting soil

Masonry R402

R402 Walls Foundations
Wall foundation systems shall be designed and installed in accordance with the provision of this code.

R402.1.1 Fasteners
Fasteners used below grade (or used in knee wall construction) shall be of type 304 or 316 stainless steel. Fasteners used above grade shall be of type 304 or 316 stainless steel, silicon bronze, copper, hot-dipped galvanized (zinc coated) steel nails, or hot-tumbled galvanized (zinc coated) steel nails. Electro-galvanized steel nails and galvanized (zinc coated) steel staples shall not be permitted.

R402.1.2 Wood treatment
All lumber and plywood shall be treated in accordance with AWPA C22 and bear the label of an accredited agency showing 0.60 retention.

R402.2 Concrete
Concrete shall have a minimum specified compressive strength as shown in Table R402.2 (Section R402.2). Concrete subject to weathering (Table R301.2(1)) shall be air entrained as specified in Table R402.2. (Section R402.2) Concrete mixtures for garage and support slabs and exterior locations that will be exposed to deicing chemicals shall not have maximum weight of fly ash, silica fume, slag or other pozzolans that exceed the percentage of total weight of cementitious materials specified in section 4.2.3 of ACI 318. Materials used to produce concrete and testing thereof shall comply with the applicable standards listed in chapter 3 of ACI 318.

Footings R403

R403.1 General
All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations or other approved structural systems.

R403.1.1 Minimum Size
Minimum sizes for concrete and masonry footings shall be as set forth in Table R403.1 and Figure R403.1(1). Spread footings shall be at least 6 inches in thickness. Footing projections shall be at least 2 inches and shall not exceed the thickness of the footing. The size of the footings supporting piers and columns shall be in accordance with table R401.4.1 Footings for wood foundations shall be in accordance with the details set forth in section R403.2 and figures R403.1 (2) and R403.1 (3).

R403.1.2 Continuous footing in seismic design categories D0, D1, and D2

The braced wall panels at exterior walls of all buildings and all required interior braced wall panels in buildings with plan dimensions greater than 50 feet in seismic design categories D0, D1, and D2 shall be supported by continuous footings.

R403.1.3 Seismic reinforcing
Concrete footings located in seismic design categories D0, D1, and D2 as established in table R301.2 (1) shall have minimum reinforcement set forth in this section for construction joints created between a concrete footing and a stem wall, where a grouted masonry stem wall is supported on a concrete footing and stem wall, and when masonry stem walls without solid grout and vertical reinforcement are not permitted.

R403.1.4 Minimum Depth
All exterior foundations shall be placed at least 12 inches below undisturbed ground. Where applicable, the depth of footings shall also conform to sections R403.1.4.1 through R403.1.4.2. Except for frost-protected footings, permanent support shall be constructed in accordance with Section R403.1.4.1.

In Seismic Design Categories D0, D1, and D2, interior footings supporting bearing or bracing walls and cast monolithically with a slab on grade shall extend to a depth of not less than 18 inches below the top of the slab – Section R403.1.4.2

R403.1.5 Slope
Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footing exceeds one unit vertical in ten units horizontal (10-percent slope).

R403.1.6 Foundation Anchorage
The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a max. of 6 feet on center. There shall be a minimum of two bolts per plate section. In seismic design categories D0, D1, and D2, anchor bolts shall be spaced 6 feet on center and located within 12 inches of the ends of each plate-

R403.1.6 Foundation Anchorage – CONTINUE

section at interior braced wall lines when required by section R602.10.9 to be supported on a continuous foundation. Bolts shall be at least 1/2 inch in diameter and shall extend a minimum of 7 inches in to masonry or concrete.

Interior bearing wall sole plates on monolithic slab foundation shall be positively anchored with approved fasteners. A nut and washer shall be tightened on each bolt of the plate. Sills and sole plates shall be protected against decay and termites where required by section R319 and R320.

Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1.

Note: Consult section R403.1.6 for exceptions and section R403.1.6.1 anchorage methodologies in seismic design categories C (light-frame townhouses), D0, D1, and D2.

R403.1.7 Footings on or adjacent to slopes

The placement of buildings and structures on or adjacent to slopes steeper than 1 unit vertical in 3 units horizontal (33.3 percent slope) shall conform to sections R403.1.7.1 through R403.1.7.4.

R403.1.8 Foundations on expansive soils

Foundations and floor slabs for buildings located on expansive soils shall be designed in accordance with section 1805.8 of the International Building Code.

Exceptions: slab-on-ground and other foundations systems which have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the building official.

Expansive soils shall be determined per section R403.1.8.1

R403.2 Footings for wood foundations

Footings for wood foundations shall be in accordance with figure R403.1 (2) and R403.1 (3) and have a base as described in this section.

R403.3 frost protected shallow foundations

For buildings where the monthly mean temperature of the building is maintained at a minimum of 64 deg., footings are not required to extend below the frost line when protected from frost by insulation in accordance with figure R403.3 (1) and table R403.3. Foundations protected from frost in accordance to said figures and tables shall not be used for unheated spaces such as porches, utility room, garages, and carports, and shall not be attached to basements or crawl spaces that are not maintained at a monthly mean temperature of 64 deg.

Foundation and retaining walls R404

R404.1 Concrete and masonry foundation walls

Concrete and masonry foundation walls shall be selected and constructed in accordance with the provisions of Section R404.1 or in accordance with ACI 318, ACI 308, ACI 309, ACI 310, ACI 311, ACI 312, ACI 313, ACI 314, ACI 315, ACI 316, ACI 317, ACI 318, ACI 319, ACI 320, ACI 321, ACI 322, ACI 323, ACI 324, ACI 325, ACI 326, ACI 327, ACI 328, ACI 329, ACI 330, ACI 331, ACI 332, ACI 333, ACI 334, ACI 335, ACI 336, ACI 337, ACI 338, ACI 339, ACI 340, ACI 341, ACI 342, ACI 343, ACI 344, ACI 345, ACI 346, ACI 347, ACI 348, ACI 349, ACI 350, ACI 351, ACI 352, ACI 353, ACI 354, ACI 355, ACI 356, ACI 357, ACI 358, ACI 359, ACI 360, ACI 361, ACI 362, ACI 363, ACI 364, ACI 365, ACI 366, ACI 367, ACI 368, ACI 369, ACI 370, ACI 371, ACI 372, ACI 373, ACI 374, ACI 375, ACI 376, ACI 377, ACI 378, ACI 379, ACI 380, ACI 381, ACI 382, ACI 383, ACI 384, ACI 385, ACI 386, ACI 387, ACI 388, ACI 389, ACI 390, ACI 391, ACI 392, ACI 393, ACI 394, ACI 395, ACI 396, ACI 397, ACI 398, ACI 399, ACI 400, ACI 401, 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ACI 735, ACI 736, ACI 737, ACI 738, ACI 739, ACI 740, ACI 741, ACI 742, ACI 743, ACI 744, ACI 745, ACI 746, ACI 747, ACI 748, ACI 749, ACI 750, ACI 751, ACI 752, ACI 753, ACI 754, ACI 755, ACI 756, ACI 757, ACI 758, ACI 759, ACI 760, ACI 761, ACI 762, ACI 763, ACI 764, ACI 765, ACI 766, ACI 767, ACI 768, ACI 769, ACI 770, ACI 771, ACI 772, ACI 773, ACI 774, ACI 775, ACI 776, ACI 777, ACI 778, ACI 779, ACI 780, ACI 781, ACI 782, ACI 783, ACI 784, ACI 785, ACI 786, ACI 787, ACI 788, ACI 789, ACI 790, ACI 791, ACI 792, ACI 793, ACI 794, ACI 795, ACI 796, ACI 797, ACI 798, ACI 799, ACI 800, ACI 801, ACI 802, ACI 803, ACI 804, ACI 805, ACI 806, ACI 807, ACI 808, ACI 809, ACI 810, ACI 811, ACI 812, ACI 813, ACI 814, ACI 815, ACI 816, ACI 817, ACI 818, ACI 819, ACI 820, ACI 821, ACI 822, ACI 823, ACI 824, ACI 825, ACI 826, ACI 827, ACI 828, ACI 829, ACI 830, ACI 831, ACI 832, ACI 833, ACI 834, ACI 835, ACI 836, ACI 837, ACI 838, ACI 839, ACI 840, ACI 841, ACI 842, ACI 843, ACI 844, ACI 845, ACI 846, ACI 847, ACI 848, ACI 849, ACI 850, ACI 851, ACI 852, ACI 853, ACI 854, ACI 855, ACI 856, ACI 857, ACI 858, ACI 859, ACI 860, ACI 861, ACI 862, ACI 863, ACI 864, ACI 865, ACI 866, ACI 867, ACI 868, ACI 869, ACI 870, ACI 871, ACI 872, ACI 873, ACI 874, ACI 875, ACI 876, ACI 877, ACI 878, ACI 879, ACI 880, ACI 881, ACI 882, ACI 883, ACI 884, ACI 885, ACI 886, ACI 887, ACI 888, ACI 889, ACI 890, ACI 891, ACI 892, ACI 893, ACI 894, ACI 895, ACI 896, ACI 897, ACI 898, ACI 899, ACI 900, ACI 901, ACI 902, ACI 903, ACI 904, ACI 905, ACI 906, ACI 907, ACI 908, ACI 909, ACI 910, ACI 911, ACI 912, ACI 913, ACI 914, ACI 915, ACI 916, ACI 917, ACI 918, ACI 919, ACI 920, ACI 921, ACI 922, ACI 923, ACI 924, ACI 925, ACI 926, ACI 927, ACI 928, ACI 929, ACI 930, ACI 931, ACI 932, ACI 933, ACI 934, ACI 935, ACI 936, ACI 937, ACI 938, ACI 939, ACI 940, ACI 941, ACI 942, ACI 943, ACI 944, ACI 945, ACI 946, ACI 947, ACI 948, ACI 949, ACI 950, ACI 951, ACI 952, ACI 953, ACI 954, ACI 955, ACI 956, 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- 1. Concrete, concrete masonry and clay masonry foundation walls shall comply with Section R404.1.1.
2. Concrete, concrete masonry and clay masonry foundation walls in Seismic Design Categories D0, D1, and D2 shall comply with Section R404.1.4.
3. A design in accordance with accepted engineering practice shall be provided for concrete or masonry foundation walls when such walls are subject to hydrostatic pressure from ground water, or supporting more than 48 inches of unbalanced backfill that do not have permanent lateral support at the top and bottom as per Section R404.1.3.
4. Plain concrete and plain masonry foundation walls located in Seismic Design Categories D0, D1, and D2 shall comply with Section R404.1.4.
5. Foundation wall thickness based on wall supported shall be in accordance with Section R404.1.5.
6. Foundation walls shall extend above the finished grade adjacent to the foundation a minimum of 4 inches where masonry veneer is used and a minimum of 6 inches elsewhere as per Section R404.1.6

R404.4 Insulated concrete form foundation walls

Insulated concrete form (ICF) foundation walls shall be designed and constructed in accordance with the provisions of this section of the IRC code or in accordance with the provisions of ACI 318. If ICF construction is used it is advised to review further the ICF methodologies in this section for compliance.

Foundation Drainage R405

R405.1 Concrete or masonry foundations

Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone-

R405.1 Concrete or masonry foundations – CONTINUE

drains shall extend at least 1 foot beyond the outside edge of the footing and 6 inches above the top of the footing and be covered with an approved filter membrane material. The top of the open joints of drain tiles shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed on a minimum of 2 inches of washed gravel or crushed rock at least one sieve size larger than the tile joint opening or perforation and covered not less than 6 inches of the same material.

Other than Group I soils, a sump shall be provided to drain the porous layer and footings, and shall comply with section R405.2.3

Foundation waterproofing and dampproofing R406

R406.2 Concrete and masonry foundation waterproofing

- 1. Foundation wall waterproofing shall be with a membrane extending from the top of the footing to the finished grade, with materials as specified in Section R406.2. Except where required to be waterproofed, foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be dampproofed.
2. In areas where high water table or other severe soil-water conditions are known to exist, exterior foundation walls that retain earth and enclose habitable or usable space located below grade shall be waterproofed per Section R406.2.
3. Dampproofing, where required, shall be installed with materials and as required in Section R406.1.

Under-Floor Space R408

R408.1 Ventilation

The under-floor space between the bottom of the floor joists and the earth under any building (except if space is occupied by a basement or meets R408.3) shall have ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of under floor space area. One such ventilation opening shall be within 3 feet of each corner of the building.

R408.2 Openings for under-floor ventilation

Ventilation openings shall be covered for fire height and width with an approved material listed in this section.

R408.3 Access

Access openings 18 inches by 24 inches shall be provided in the under floor space. Access openings to under-floor spaces where mechanical equipment is located shall be provided in accordance with Section M1305.1.4.

R408.7 Flood resistance

For buildings located in areas prone to flooding as established in table R301.2 (1):
1. Walls enclosing the under-floor space shall be provided with flood openings in accordance with section R324.2.2.
2. The finished ground level of the under-floor space shall be equal to or higher than the outside finished ground level.
Exceptions: Under-floor spaces that meet the requirements of FEMA/FIA TB 11-1

I.R.C. Floors – Chapter 5

General R501

R501.2 Requirements

Floor construction shall be capable of accommodating all loads according to section R301 and of transmitting the resulting loads to the supporting structural elements.

Wood Floor Framing R502

R502.2 Design and construction

Floors shall be designed and constructed in accordance with the provisions of this chapter, Figure R502.2 and sections R319 and R320 or in accordance with AF&PA/NDS.

R502.2.1 Framing at braced wall lines

A load path for lateral forces shall be provided between floor framing and braced wall panels located above or below a floor as specified in section R602.10.8

R502.2.2 Decks

Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads.

R502.3 Allowable joist spans

Spans for floor joists shall be in accordance with tables R502.3.1 (1) and R502.3.1 (2).

R502.4 Joists under bearing partitions

Joists under parallel bearing partitions shall be of adequate size to support the load. Double joists, sized to adequately support the load, that area separated to permit the installation of piping or vents shall be full depth solid blocking with lumber not less than 2 inches nominal thickness spaced not more than 4 feet on center. Bearing partitions perpendicular to joists shall not be offset from the supporting girders, walls, or partitions more than the joist depth unless such joist are of sufficient size to carry the additional load.

R502.8 Drilling and notching

Structural floor members shall not be cut, bored, or notched in excess of the limitations specified in Figure R502.8

I.R.C. Walls – Chapter 6

Wood wall framing R602

R602.10. Braced wall lines

Braced wall lines shall consist of braced walls panel construction in accordance with section R602.10.3. The amount and location of bracing shall be in accordance with table R602.10.1 and the amount of bracing shall be greater of that required by the seismic design category or the design wind speed. Braced wall panels shall begin no more than 12.5 feet from each end of a braced wall line. Braced wall line shall be in line, except that offsets out-of-plane of up to 4 feet shall be permitted provided that the total out-to-out offset dimension in any braced wall line is not more than 8 feet.

Braced wall panel construction methods shall be in accordance to R602.10.3

Alternate braced wall panels shall be in accordance to R602.10.6

Exterior Windows and Glass Doors R610

R613.2 Window Sills

In dwellings units, where the opening of an operable window is located more than 72 inches above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 2 inches above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches shall be fixed or have openings through which a 4 inch diameter sphere cannot pass.

Exceptions: Window openings that will not allow a 4 inch diameter sphere to pass through and windows that are provided with window guards that comply with ASTM F2006 or F2090. In other words, devices that can be releasable and removable from the inside without the use of tools, special knowledge or effort, as specified in Section R310.1.

I.R.C. Wall Coverings – Chapter 7

Exterior covering R703

R703.2 Water-resistive barrier

One layer of no.15 asphalt felt, free from holes and breaks, complying with ASTM D 226 for type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches. Where joints occur, felt shall be lapped not less than 6 inches. The felt or approved material shall be continuous to the top of the walls and terminate at penetrations and the buildings appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.

R703.6 Exterior plaster

Installation of these materials shall be in compliance with ASTM C926 and ASTM C 1063 and the provisions of this code.

R703.6.1 Lath

All lath and lath attachments shall be of corrosion-resistant materials. Expanded metal or woven wire lath shall be attached with 1 1/2-inch-long, 11 gauge nails, having a 7/16-inch head, or 7/8-inch-long, 16-gauge staples, spaced not more than 6 inches, or as otherwise approved.

R703.6.2 Plaster

Plastering with portland cement plaster shall be not less than three coats when applied over metal lath or wire lath and shall be not less than two coats when applied over masonry, concrete, pressure-preserved treated wood or decay resistant wood as specified in Section R3109.1 or gypsum backing. If the plaster surface is completely concealed, plaster application need to be only two coats, provided the total thickness is set fourth in table R702.1 (1).

On wood-frame construction with an on-grade floor slab system, exterior plaster shall be applied to cover, but not extend below, lath, paper, and screed.

The proportion of aggregate to cementitious materials shall be set fourth in table R702.1 (3).

R703.6.2.1 Weep screeds

A minimum 0.019-inch (No. 26 galvanized sheet gauge), corrosion-resistant weep screed or plastic weep screed, with a minimum vertical attachment flange of 3 1/2 inches shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches above the earth or 2 inches above the paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover the terminate on the attachment flange of the weep screed.

R703.6.3 Water-resistive barriers – ext. plaster

Water-resistive barriers shall be installed as required in section R703.2 and, where applied over wood-based sheathing, shall include a water-resistive vapor-permeable barrier with the performance at least equivalent to two layers of grade D paper.

R703.7.3 Lintels – brick veneer

Masonry veneer shall not support any vertical load other than the dead load of the veneer above. Veneer above openings shall be supported on lintels of noncombustible materials and the allowable span shall not exceed the value set fourth in table R703.7.3.3 The lintels shall have a length of bearing not less than 4 inches.

R703.7.4 Anchorage – brick veneer

Masonry veneer shall be anchored to the supporting wall with corrosion-resistant metal ties. Where veneer is anchored to wood backings by corrugated sheet metal ties, the distance separating the veneer from the sheathing material shall be a maximum of a nominal 1 inch. Where the veneer is anchored to wood backings using metal strand wire ties, the distance separating the veneer from the sheathing material shall be a maximum of 4 1/2 inches. Each tie shall be spaced not more than 24" on center horizontally and vertically and shall support not more than 2.67 square feet of wall area as per section R703.7.4.1

I.R.C. Roof-Cng Construction – Chapter 8

General R801

R801.2 Requirements

Roof and ceiling construction shall be capable of accommodating all loads imposed according to section R301 and of transmitting the resulting loads to the supporting structural elements.

Wood Roof Framing R802

R802.3 Framing details

Rafters shall be framed to ridge board or to each other with a gusset plate as a tie. Ridge board shall be at least 1-inch thickness and not less in depth than the cut end of the rafter. At all valleys and hips there shall be a valley or hip rafter not less than 2-inch nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where roof pitch is less than 3 units vertical in 12 units horizontal, structural members that support rafters and ceiling joists, such as ridge beams, hip and valleys, shall be designed as beams

Ceiling joists and rafter connectors and laps shall be in accordance to section R802.3.1 and R802.3.2.

R802.4 Allowable ceiling joist spans

Spans for ceiling joists shall be in accordance with tables R802.4 (1) and R802.4 (2). For other grades and species and for other loading conditions, refer to AF&PA span tables for joists and rafters.

R802.5 Allowable rafter spans

Spans for rafters shall be in accordance with tables R802.5 (1) and R802.5.1 (8). For other grades and species and for other loading conditions, refer to AF&PA span tables for joists and rafters. The span of each rafter shall be measured along the horizontal projection of the rafter.

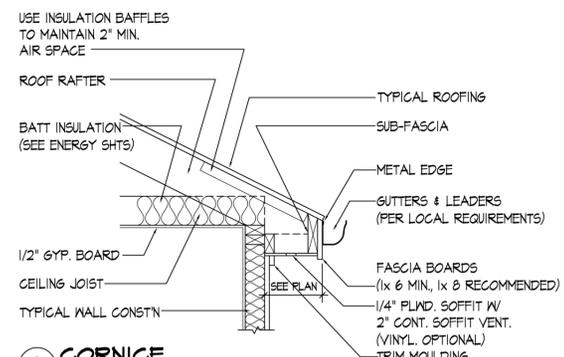
R802.5.1 Purlins

Installation of purlins to reduce the span of rafters is permitted as shown in Figure R802.5.1. Purlins shall be sized no less than the required size of the rafters that they support. Purlins shall be continuous and shall be supported by 2-inch by 4-inch braces installed to bearing walls at a slope no more than 45 degrees from the horizontal. The braces shall be spaced not more than 4 feet on center and the unbraced length of braces shall not exceed 8 feet.

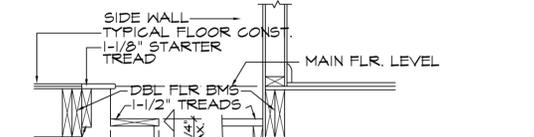
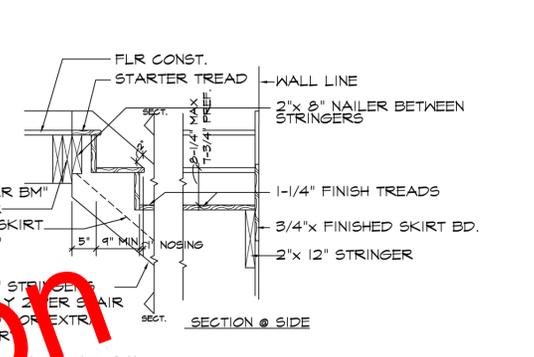
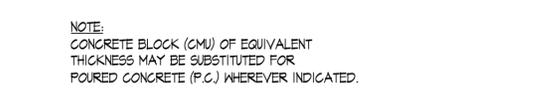
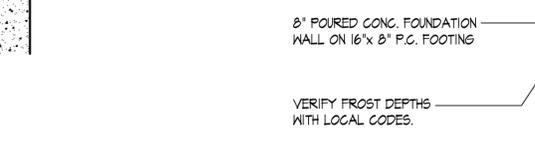
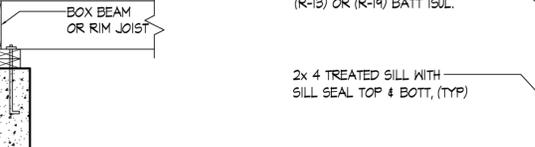
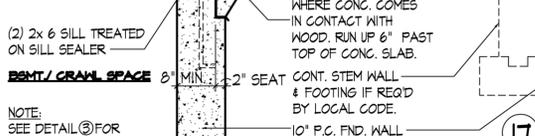
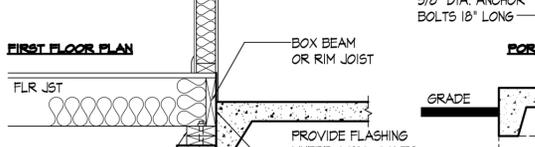
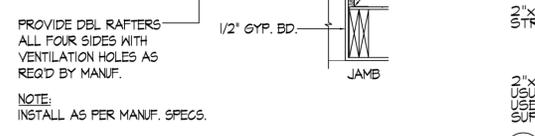
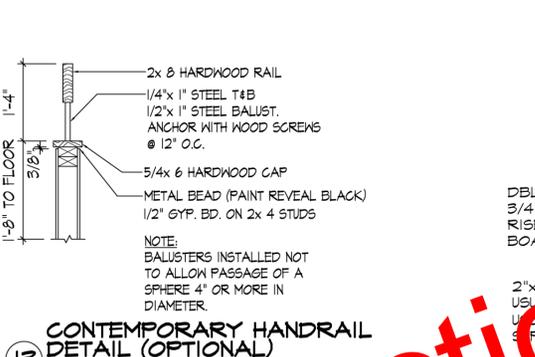
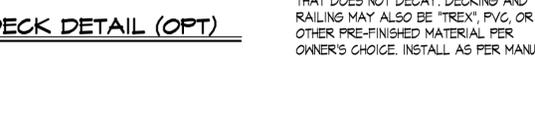
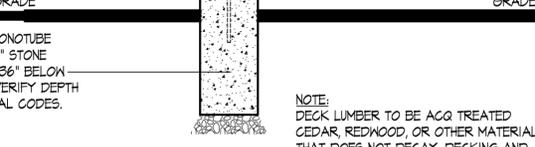
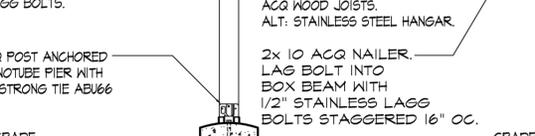
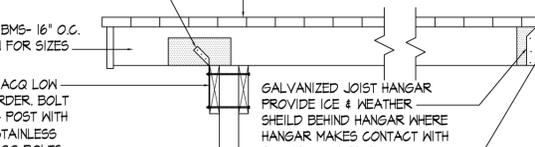
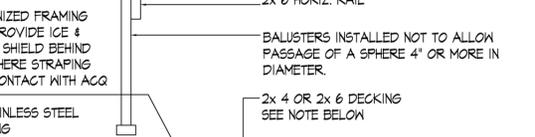
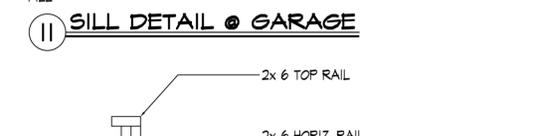
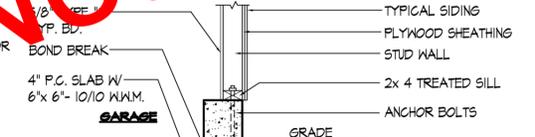
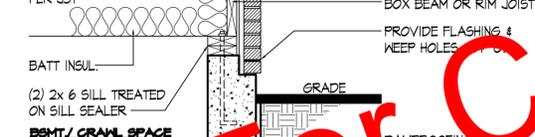
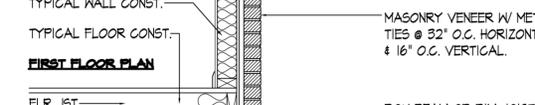
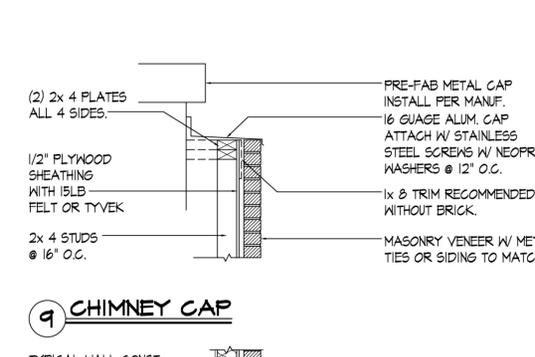
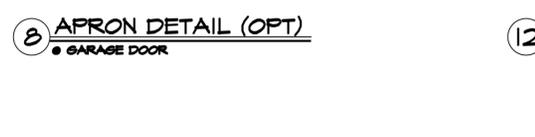
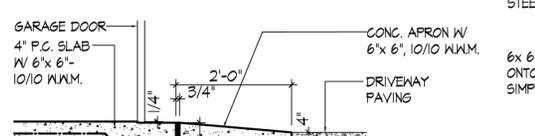
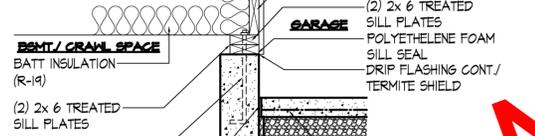
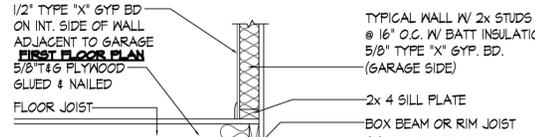
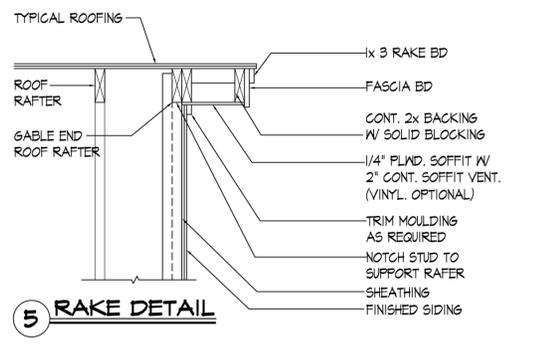
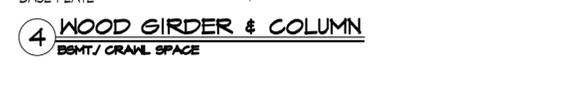
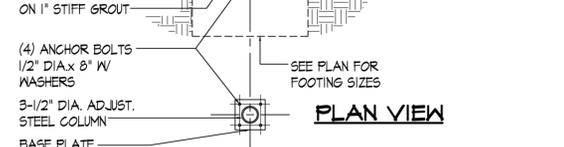
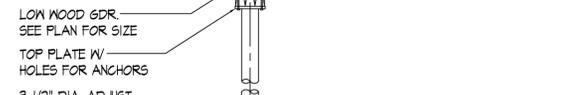
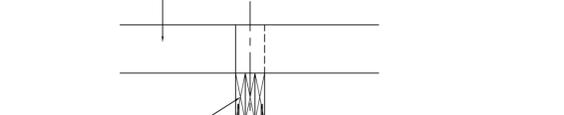
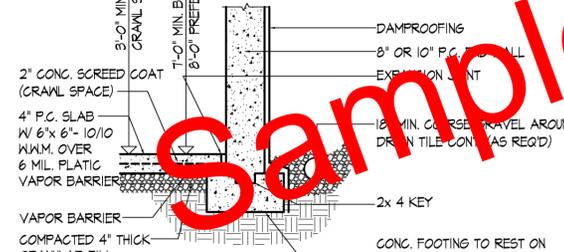
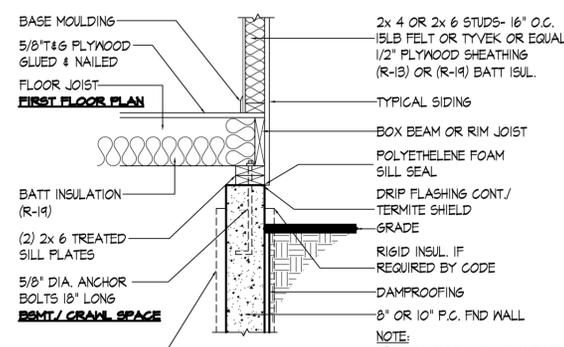
Roof Ventilation R806

R806.1 Ventilation required

Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of the roof rafter shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion-resistant wire mesh, with 1/8 inch minimum to 1.4 inch maximum opening.



SEE ENERGY SHEET DETAILS FOR INSULATION RECOMMENDED



OUTLINE SPECIFICATIONS

FOR THE RESIDENCE OF:

Address: _____

Date: _____

I GENERAL:

1. The contractor shall obtain and pay for all permits not yet obtained by owner and as required for the construction and shall provide the owner with a final survey and Certificate of Occupancy prior to final payment.
2. These specifications are to be utilized in connection with the drawings. In the event of conflict, these specifications govern.
3. All work shall be in conformance with these plans and specifications, the applicable Local and State construction and health regulations, and shall be performed in accordance with the best acceptable standards for the trades involved.
4. Where allowances are provided for herein, these refer to material costs only. All labor is to be included in the contract price. The owner shall have the right to provide these materials directly to the contractor. Allowances shall be reconciled at final payment.

Note: These specifications are general (for all houses). As such occasional conflicts with pre-drawn plans should be anticipated. Adjustments to these standards to adapt to local standards should be anticipated.

II EXCAVATION:

1. Topsoil in cleared area to be removed and stored for reuse.
2. All organic material (peat, bog, etc.) within the house excavation is to be removed prior to installation of the footings. Contractor shall assume that no such material exists, but shall provide a unit price for removal should it be encountered.
3. No wall footing is to rest on fill or organic soil, but must be carried to undisturbed sand or gravel.
4. Fill areas under slab to be mechanically compacted and tamped.
5. Basement slab to rest on 4" minimum of clean sand or gravel.
6. Final grade must slope away from the house. A positive drainage swale is required where the adjoining grade is higher than the foundation.
7. Owner to approve stake-out of home prior to excavation.

III CONCRETE: [Adjust to your local standards and include reinforcing, if required]

1. All concrete to be minimum 3,000 lb. - 28 day test.
2. Footing pour must be continuous and poured stiffly.

3. Should a break in pouring be required in the foundation walls, it shall not be horizontal, nor vertical, but on a diagonal, and it shall be roughed up prior to the next pour.
4. Garage and entrance platform slabs to have 6"x 6" - #10 x #10 wire mesh throughout, float finish. Basement slab should be steel trowelled smooth.

III A CONCRETE BLOCK FOUNDATION

1. Hollow concrete block foundation walls may be substituted for poured concrete as follows:
 - a. Slab-crawl space – 8" block walls on 16"x 8" footing.
 - b. Basement – 10" block walls on 20"x 10" footing.
 - c. Brick veneer – 12" block walls on 24"x 12" footing.
2. Top course to be solid block.
3. Reinforcing rods and footing dowels are to be provided if called for by local code and/or soil conditions.
4. Provide ½" anchor bolts, 18" long 8'-0" o.c. maximum.

IV TERMITE PROTECTION:

1. The following is to be provided as a separate price:
 - a. Soil poisoning with approved chemicals prior to and during backfill.

V BRICKWORK/ STONEMWORK/ STUCCO:

1. 4" Face Brick Veneer as shown on exterior and fireplaces. Brick to be new, red color, chosen by owner. Provide an allowance of \$500 per thousand.
2. Window trim, casings and quoins to be simulated stone as shown on drawings.
3. Provide an alternate credit to change all trim, casings and quoins to brick.
4. Stucco area to be a "Dryvit Sprint" system installed per manufacturers specifications, or equal.

VI LUMBER and FRAMING: [Local standards may apply]

1. All construction lumber to be Douglas Fir-Larch-North #2 or better. Studs to be Kiln-dried. Utility lumber may be utilized for blocking, cating and sills and plates only. Bottom sill plate to be "CCA" treated or "wolmanized".
2. Wall sheathing to be minimum 1/2" DFPA 24-0.
3. Subflooring to be 5/8" DFPA 32-16 exterior glue, nailed with screw type nails and glued to floor beams.
4. Roof sheathing to be minimum 1/2" DFPA 24-0 exterior glue, supported on all edges.
5. All girders or posts to be free of large knots or other visual imperfections.
6. All deformed, twisted, or otherwise defective studs or ceiling beams to be removed or doubled prior to interior finishing.
7. Double all studs on openings over 5 ft., triple studs over 9 ft. openings.
8. Headers not marked on plans to be (2) 2" x 6".

VII STEEL:

1. Steel girders to have 1/4" bolt holes @ 4'- 0" o.c., predrilled in top flanges. All steel connections, supports, etc., to be sized by steel fabricator in accordance with approved standards. Steel to be shop fabricated from approved shop drawings. Steel girders to be shimmed with steel plate only, fabricator to provide steel shims. See floor plans for size(s).
2. Loose steel lintels over brickwork to be provided as per sizes in general notes.

VIII FASCIA, TRIM, EXTERIOR SIDING:

1. Exterior trim and fascia to be #2 pine clad with pre-finished white aluminum. Seams to be tight.
2. All soffits to be pre-finished ventilated white vinyl.
3. Siding to be 1"x 6" clear beveled cedar siding with a 4" exposure. Corners to be mitered. [vary to suit your project]

IX ROOFING:

1. Roofing to be GAF Timberline, 40 year warranty heavy weight fiberglass shingles, or equivalent, in a color chosen by owner, over 15 lb. asphalt saturated felt. Double felt on slopes under 3 in 12.
2. Provide "Dupont Ice-Shield" or equivalent in lieu of felt, at all eaves and valleys, and on roofs adjoining higher walls, per manufacturers specifications.

X WINDOWS AND FRENCH DOORS: [Adjust to your local standards]

1. All windows and French doors to be "Andersen" white pre-finished casement, fixed, circle-top, etc., with extension jambs as indicated on plans. All windows to have "Low-E" insulated glass and removable screens for all operable sash and doors. Windows to be set square and plumb, racking of large frames to be prevented. Casements to include mini handles. Provide grilles for all windows and doors and interior casings and plinths for all circle-tops.
2. Fixed transoms in breakfast room to be manufactured by New Morning Windows to match the Andersen units below.

XI DOORS:

1. Front doors to be solid core wood as chosen by owner. Provide an allowance of \$2,000.
2. Interior French doors to be oak veneer, full glazed single pane 15 or 18 lites with brass hinges and hardware.
3. All other interior doors to be pre-hung 6 panel pre-primed "Masonite Legacy" or equal. Provide privacy latches for all bedrooms and bathroom doors.
4. Door from house to garage to be steel clad, urethane core with spring closer.
5. Front, rear and garage entry doors to be keyed alike with "Baldwin" or "Schlage" or equivalent locks.
6. Garage doors to be pre-finished vinyl coated steel in a style chosen by owner.

XII INSULATION:

1. Wall insulation to be 6" (R-19) Fiberglass Batts for 6" walls or 4" (R-13) for 4" walls. Contractor to install a .004" polyethylene vapor barrier over, on room side.
2. Ceiling insulation to be 8 1/4" (R-30c) or 9" thick Fiberglass Batts, (R-30) see plans. Contractor to install a .004" polyethylene vapor barrier over, on room side.

3. Provide an optional price for 12" (R-38) in all flat ceilings.
4. Insulation in basement ceiling to be 6" (R-19) batts.
5. Insulation in ceiling of garage to be 8 1/4" (R-30c) fiberglass batts.

XIII DAMPROOFING, WATER PROOFING, FLASHING

1. Metal flashing shall be 26 ga. aluminum and shall be installed at all door sills, where porch slabs abut wood framing, and all step and counter flashing.
2. All openings are to be flashed with either metal or a fabric flashing.
3. Membrane waterproof foundation below grade as follows:
One coat of trowelled asphalt, one roll of 15 lb. asphalt saturated felt with a minimum lap of 12" and a final coat of trowelled asphalt.

XIV DRYWALL:

1. All house walls and ceilings to be covered with 1/2" gypsumboard, all joints to be taped and spackled. Nail holes and joints to receive three coats of spackle and sanded smooth in preparation for paint. Adequate drying must occur between coats. Garage and utility room to be fully sheetrocked with 5/8" type "X" gypsumboard, nail holes and joints to receive three coats of spackle and sanded smooth.
2. All outside corners to receive metal corner beads.
3. Drywall under tile over tub to be waterproof grade.
4. Joints in drywall are to be avoided over window and door edges. Joints to occur at middle of openings.

XV INTERIOR TRIM:

1. Window and all door trim to be 3 1/8" wide colonial casing clear line, per owners choice.
2. Closets to be trimmed with a continuous 1"x 2" cleat and one 12" wide shelf, maximum span between braces to be 3', and a wood closet pole, unless otherwise indicated on plans. Linen closet to receive 5 full depth shelves. Pantry closets to have 4 shelves of pine shelving and 1" shelf edging strips. Double doors on master bedroom closets as per owners direction.
3. Baseboard to be 6" high colonial on 1st floor, 3 1/8" high on 2nd, basement per owner.
4. Provide 6" wide crown molding in Living Room, Dining Room & Library per owners selection.
5. Interior columns to be unfluted Roman Doric wood columns on wood bases by Chadsworth or equal.

XVI STAIRS:

1. Rear staircase and both basement stairs to be oak risers, treads and stringers. Provide oak handrails on these stairs one side.
3. Main staircase to be oak risers and treads and exposed stringer. Railing to be 1" turned painted colonial pickets and oak handrail and same rail is to be used at balcony and office.

XVII PLUMBING:

1. All underground waste lines shall be cast iron. Wastes above ground to be approved plastic DWV. Sizes to be shown on plans.
2. Water mains shall be 1" copper. Branches shall be copper, 5/8" minimum. Hot water lines to be copper type "L".

3. There shall be shut-offs provided for each bathroom and the kitchen and each sink and water closet. All exposed piping in bathrooms to be chrome plated.
4. Domestic hot water to be provided from a 60 gallon oil or gas, glass lined, domestic hot water heater, Bock or equal.
5. Materials and methods shall be in accordance with local codes.
6. A water test shall be completed prior to installing drywall.
7. Fixtures shall be Kohler as per the schedule below, in white unless noted otherwise. Provide Kohler toilet seats and other accessories by Kohler, unless otherwise noted. The following are basic, entry level fixtures. Depending on your job you may well choose to upgrade them.

| <u>ITEM</u> | <u>KOHLER MODEL #</u> | <u>DESCRIPTION</u> | <u>1999 LIST PRICE</u> |
|-------------|---------------------------|--|----------------------------|
| Toilet | K-3423 | Wellworth two-piece Round Front | \$156.65 |
| CI Bath | K-715/6 | Villager 5' Cast Iron Tub | \$478.45 |
| Bath | K-1250/1 | Mainsail 5' Vikrell Tub | \$150.00 |
| VC Lav. | K-2202 | Brookline China Lav. 19" Round | \$ 82.00 |
| CI Lav | K-2905 | Farmington CI Lav. 19 1/4" x 16 1/4" | \$ 95.00 |
| SS Sink | K-3348 | Toccata 25" x 22" Stainless Steel 20g. | \$123.60 |
| CI Sink | K-5964 | Mayfield 25" x 22" Cast Iron Sink | \$231.95 |

- Shower bases shall be pre-molded fiberglass.
- Fittings shall be Kohler. Provide an allowance of \$1500.

XVIII FIREPLACES:

1. Living room fireplace to be brick chimney with ash pit, clean out, damper and terracotta flue. Hearth to be flush marble. Surrounds to be marble with a wood mantel.
2. Family room fireplace to be 42" wide pre-fab by Heat-N-Glo. Hearth to be flush slate. Surrounds to be cultured stone veneer to ceiling.

XIX HEATING & AIR-CONDITIONING: [Local adjustments are likely necessary]

1. Heating shall be Oil fired fan/coil warm air and central conditioning system with adequate heat supply to each room to provide (70 degrees F) inside when outside is (0 degrees F). System shall be in four zones. Each zone to have a separate fan-coil unit located near the zone to be served. Provide an Oil fired hot water boiler adequate to supply hot water to all zones. System to include adequately sized return ducts to minimize noise. (max. 700 CFM). A power humidifier is to be installed on the warm air return of each blower. Air-conditioning to be designed to provide (75 degrees F) inside when outside is (90 degrees F).
2. Installation to be in accordance with local codes. National Board of Fire Underwriters, and manufacturers instructions.
3. Install ductwork to vent range, barbecue and dryer to outside plus bath exhaust fans in every bathroom.
4. Provide two 275 gal. oil tanks in the basement.
5. Contractor to provide heating duct layout and list of equipment for owner's review prior to installation.
6. Thermostats to be digital 7 day programming for simultaneous heating and cooling.

XX **ELECTRICAL:**

1. Provide 200 amp. service with main panel with circuit-breakers, silent mercury switches and outlets as per code. All charges to be paid by contractor, including all charges for underground service.
2. The contractor shall provide the following fixtures and equipment and shall install same:
 - a. (25) 75w Hi-hats per owner's direction with dimmer switches at each location.
 - b. (5) Basement pull chains and 2 flush fixtures in garage.
 - c. (4) Motion sensor outside floods with over-ride switch for each.
 - d. (3) Shower lights.
 - e. (5) Jamb switches to walk-in closet lights as indicated.
 - f. 3-Way switching to kitchen, mud room, foyer, balcony, garage, library, rear staircase, basement stairs.
 - g. Switches for all fixtures as required.
 - h. Front and rear door chimes.
 - i. Exhaust fans in each bath.
 - j. 0 Add'l wall outlets beyond code per owners location.
 - k. 2 Floor outlets in family room.
 - l. Separate circuit for rear yard line.
 - m. Separate circuit for driveway lighting.
 - n. Wiring for 6 telephone outlets and 6 cable TV outlets.
3. The owner shall provide and the contractor shall install the following:
 - a. (6) Poles for driveway lighting.
 - b. (4) Outside wall fixtures.
 - a. Hanging fixtures in foyer, dining room, breakfast room, and basement kitchen.
 - d. Wall fixtures in each bathroom.
 - d. (4) Wall sconces.
4. The contractor shall provide and install a generator that provides back-up power for heating and basic lighting.
5. The owner shall provide and install the following:
 - a. Intercom system.
 - b. Alarm system.
6. Contractor to provide wiring for dishwasher, ovens, cooktop, dryer, garage door operators, refrigerator, freezer, and all equipment listed in XXXII.
7. All wiring to be in accordance with the National Board of Fire-Underwriters and a certificate of inspection of the local agency shall be issued prior to final payment.
8. No aluminum wiring is to be used, or plastic boxes.

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XXI **CABINETS, MEDICINE CABINETS, MIRRORS:**

1. An allowance of \$25,000 shall be provided for kitchen cabinets and tops, and vanity cabinets and tops and butlers pantry cabinets and tops.
2. An allowance of \$2,500 shall be provided for bathroom mirrors and medicine cabinets of owners choosing.

XXII **HARDWARE:**

1. An allowance of \$2,000 shall be provided for brass door knobs and miscellaneous hardware of owners choosing.

XXIII CERAMIC TILE:

1. Floors of baths and entire master tub platform shall have non-slip mosaic tile , set in "mud" and a 6" high tile base.
2. Walls of tub/showers and shower stalls shall have glazed tile extending to the ceiling.
3. An allowance of \$5.00 per sq. ft. for material shall be provided for the owners choosing for all areas except master bath where the allowance shall be \$6.00 per sq. ft. for 12"x 12" floor tile and coordinating wall tile.
4. Floors of foyer, powder room, lavatory, kitchen, 1st floor hall, pantry and laundry to receive 16"x 16" tile set in mud. Provide an allowance of \$6.00 per sq. ft. for material. Provide oak saddles as required.

XXIV FLOORING:

1. Living room, dining room & Library to receive #1 oak strip flooring. Floors to receive one coat of stain and satin polyurethane finish.
2. All other areas not receiving tile or oak to be carpeted over 1/2" underlayment screwed to subflooring. Provide an allowance of \$30/ sq. yd.

XXV PAINTING AND DECORATING:

1. All paint to be Benjamin Moore.
2. All siding is to receive one coat of latex siding paint.
3. All interior trim to be painted with 2 coats of latex semi-gloss enamel paint over an enamel primer.
4. Interior walls and ceilings to be painted with one coat latex in colors of owners choosing, over a prime coat.
8. Natural wood doors and wood trim to receive one coat of solid stain and high gloss finish, except as directed otherwise by owner.

XXVI EXTERIOR DECKS:

1. Exterior wood decks to receive 5/4"x 6" cedar decking over CCA beams. Railing to be cedar, to be painted white.
2. Rear terrace to be slate flagstone over 4" concrete slab.

XXVII WALKS, DRIVEWAYS & LANDSCAPING:

1. Topsoil removed during construction to be spread on disturbed areas around house and shall be fine graded by machine, hand raked of rocks and debris, and seeded with annual rye grass.
2. Excess fill, if any to be removed from site.
3. Driveway to be 2" asphalt over 5" recycled concrete base, with belgian block curbing.
4. All other paving and all landscaping to be by owner.
5. Front stoop and steps to be poured concrete, set to accept slate and brick by owner.

XXVIII GUTTERS & LEADERS:

1. Provide pre-finished seamless aluminum gutters and leaders in a color chosen by owner all around entire house, leaders to be piped to front and rear drywells.

XXIX SEPTIC SYSTEM, WATER:

1. Provide a 1500 gallon septic tank and leaching system as required by local authority. System to be approved by Local County Board of Health.
2. Connect to public water, if available, or provide a domestic water system for household use and sprinklers by installing a 4" well with a 1.5 HP submersible pump with a stainless steel screen to provide approx. 25 GPM water flow. Provide a "well - x - trol" #350 captive air pressure tank with approximately 32 gallon capacity with all brass fittings. System to be approved by Local County Board of Health.

XXX MISCELLANEOUS EQUIPMENT:

1. Contractor to provide garage door operators, with built-in lights and two wall switches for each door.
2. Contractor to provide a central vacuum system.

XXXI. GUARANTEES:

1. The contractor shall guarantee the foundation, plumbing, heating, roofing, structure, drywall, windows and doors for a period of one year from the date of title and shall immediately rectify problems when called to his attention. Guarantees and warranties of manufacturers shall be passed on to owner.

XXXII APPLIANCES & MISCELLANEOUS BUILT-INS:

(To be provided by the owner and installed by the Contractor)

1.
 - a. Downdraft Electric Range
 - b. Refrigerator/ Freezer
 - c. Dishwasher
 - d. Wall Oven
 - e. Microwave Oven
 - f. Washing Machine
 - g. Dryer
 - h. Basement Refrigerator
 - i. Basement Electric Range

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