FREE GREEN

www.FreeGreen.com
348 MEDFORD ST. SUITE 1
CHARLESTOWN, MA 02129

RESIDENCE FOR: _____
SITE ADDRESS: _____
_____
PHONE: _____
E-MAIL: _____

BUILDER: _____
ADDRESS: _____
_____
PHONE: _____
E-MAIL: _____

ENGINEER: _____
ADDRESS: _____
_____
PHONE: _____
E-MAIL: _____

ARCHITECT: _____
ADDRESS: _____
_____
PHONE: _____
E-MAIL: _____

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA [1]

GROUND SNOW LOAD (lb)	WIND SPEED (mph)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM: WEATHERING	FROST LINE DEPTH	TERMITE	DECAY	WINTER DESIGN TEMP.	ICE SHIELD UNDERLAYMENT REQUIRED	FLOOD HAZARDS

BUILDING CODE COMPLIANCE

Attention CA, OR, WA, and NV residents: Our house plans do not meet Earthquake Seismic/Wind code requirements.

Attention GA, SC, and NC Coastal residents: Plans may have to be engineered to meet local Hurricane/Wind codes.

Attention AL, AZ, CO, CT, DE, FL, ID, LA, MD, MA, MN, NV, NH, NJ, NY, OH, PN, UT, and VA residents: Plans may have to be engineered to meet local building codes. Please call your local building department before placing order.

Some cities and states now require that a licensed architect or engineer review and "seal" a blueprint, or officially approve it, prior to construction. Prior to application for a building permit or the start of actual construction, we strongly advise that you consult your local building official who can tell you if such a review is required.

HOUSE AREAS

CONDITIONED AREA

SUB LEVEL:	-
ENTRY LEVEL:	1075 SF
UPPER LEVEL:	1057 SF
SUB TOTAL:	**2132 SF**

OTHER SPACES

GARAGE:	499 SF
BASEMENT:	-
ATTIC:	1138 SF
DECKS / PORCH/ PATIO:	244 SF
SUB TOTAL:	1881 SF
TOTAL ALL AREAS:	4013 SF

THE ABOVE AREA CALCULATIONS ARE BASED ON THE METHOD LAID OUT IN **ANSI STANDARD Z765**

ARCHITECTURAL

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ELECTRICAL

E-01 ENTRY LEVEL ELECTRICAL PLAN
E-02 UPPER LEVEL ELECTRICAL PLAN

NOTES:

[1] THE CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA WILL VARY BY REGION FOR ANY PROJECT. FOR THIS REASON, FREEGREEN INC. CANNOT COMPLETE THIS TABLE UNTIL WE KNOW WHERE THE PROJECT SITE IS LOCATED. ONCE YOU HAVE A SITE LOCATION, PLEASE INQUIRE INTO OUR DESIGN SERVICES AT **Design@FreeGreen.com**

PRODUCT SPEC.

(SEE FREEGREEN WELCOME PACK FOR COMPLETE LIST)

WINDOWS & SLIDING GLASS DOORS	- Brand: Anderson 400 Series - Style: Awning, Double Hung, Picture - Hardware: Classic Series
EXTERIOR DOORS (PRIMARY ENTRY)	- Brand: Therma Tru - Style: Traditions - Hardware: Decade Lockset
EXTERIOR DOORS (SECONDARY)	- Brand: Anderson - Style: Frenchwood Hinged Patio Doors - Hardware: Standard lever and lock set
SKY LIGHTS	- N/A
SHEATHING	- Brand: Huber Engineered Woods - Type: AdvanTech Sheathing
SIDING	- Brand: HardiePlank - Size: - 5/16"x7 1/4" fiber cement lap siding - Finish: Smooth, Pre-Primed
INSULATION	- Brand: N/A - Type: Spray Foam Insulation
EXTERIOR WALL WRAP	- Type: Corrugated drainage mesh (optional) - Type: 15lb Felt Building Paper
EXTERIOR TRIM	- Brand: HardiTrim - Size: 1"x3 1/2", 4 1/2", 5 1/2", 7 1/4" & 11 1/4" - Finish: Smooth, Pre-Primed
ROOFING	- Brand: Owens Corning - Style: Duration Shingles - Color: Slate Stone Gray
GARAGE DOOR	- Brand: Clopay - Style: Reserve Collection - Hardware: Heavy-Duty, Commercial Grade
RAILS	- Interior: N/A - Exterior: Wood rails at deck as required
INTERIOR TRIM	- Brand: N/A - Style: 1x4 Pine - Finish: Clear or Paint
INTERIOR DOORS	- Brand: N/A - Style: Hollow Core Paint Grade Wood - Finish: Clear or Paint
EXTERIOR DECKING	- Brand: Rhino Deck - Style: Safari - Finish: N/A
FIREPLACE	- Brand: Heat & Glo - Model: 6000G Direct Vent Gas Fireplace

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

COVER PAGE

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

CVR

SCALE: N/A

GENERAL REQUIREMENTS:

1. Owner / Client Responsibilities: Reference is made throughout these General Notes to responsibilities and standards of care to be fulfilled by those providing services in the development and construction of this project. Owner / Client shall be responsible for adherence to those requirements by the Owner, Builder, Developer, General Contractor, Subcontractors and other professional Consultants not retained by the Designer.

2. Builder's Set: The scope of this set of plans is to provide a "builder's set" of construction documents and general notes hereinafter referred to as "plans". After formal review and approval by a licensed engineer and or architect, this set of plans is sufficient to obtain a building permit; however, all materials and methods of construction necessary to complete the project are not necessarily described. The plans delineate and describe only locations, dimensions, types of materials and general methods of assembling or fastening. The FreeGreen Specification book received with this plan set specifies the particular products or materials recommended for this home design. The implementation of these plans requires an Owner/ Client/ Contractor thoroughly knowledgeable with the applicable building codes and methods of construction specific to this product type and type of construction.

3. Building Maintenance: The exposed materials used in the construction of this project will deteriorate as the completed project ages unless properly and routinely maintained. Owner / Client shall provide or cause the development of a plan to keep these exposed materials protected and maintained.

4. Codes: All construction shall comply with the most stringent requirements of all current applicable city, county, state and federal laws, rules, codes, ordinances and regulations. If the General Contractor or any Subcontractor performs any work in conflict with the above mentioned laws, rules, codes, ordinances and regulations, then the contractor in violation shall bear all costs of repair arising out of the non - conforming work.

5. Permits: The general building permit and plan check shall be secured and paid for by Owner /Client. All others permits shall be secured and paid for by the Subcontractor directly responsible.

6. Insurance: The General Contractor and every Subcontractor performing work or providing services and/ or materials for the work are required to purchase and maintain in force "All Risk" Builders Insurance prior to commencement of the work and/ or furnishing labor, services and materials. Each "All Risk" policy shall be in can amount sufficient to cover the replacement value of the work being performed and/ or the labor, services and materials being supplied by the General Contractor, Subcontractors, Designer, and all professional Consultants.

7. Insurance: Owner/ Client shall cause the General Contractor and every Subcontractor performing work or providing services and / or materials for the work to purchase and maintain General Liability Insurance.

8. Named Products: The Designer makes no guarantee for products identified by trade name or manufacturer.

9. Scope: The General Contractor and Subcontractors shall furnish all labor, equipment, and material indicated on the plans and reasonably inferred or required by the applicable codes.

10. Substitution: Substitutions of specific materials or products listed on the FreeGreen Specification Sheet shall not be made without written authorization by Owner/ Client. The General Contractor and any Subcontractor shall not make the structural substitutions or changes without prior written authorization from the structural engineer.

11. Changes: Any addition, deletion, or change in the scope of the work described by the plans shall be by written change order only. Any approval from the building official for a change in the work shall be the responsibility of the General Contractor.

12. Intention: The General Contractor shall ensure that all labor, materials, equipment and transportation shall be included in the work for complete execution of the project. The Designer shall not be responsible for the means and methods of construction.

13. Review of Drawings: The General Contractor and all Subcontractors shall review the full content of the plans for discrepancies and omissions prior to commencement of work. The General Contractor and all Subcontractors shall be responsible for any work not in conformance with the plans or in conflict with any code.

14. Use of the Drawings: Dimensions take precedence over scaled measurements. Details and sections on the drawings are shown at specific locations and are intended to show general requirements throughout. Details noted "typical" imply all like conditions treated similarly, unless noted otherwise. The architectural details shown are intended to further illustrate the visual design concept and the minimum recommended weather protection for this project. Building code requirements, structural considerations, trade association manuals and publications and product manufacturer's written instructions shall also be considered in order to complete the construction of the details, and in some cases may supersede the details.

15. Approved Drawings: The General Contractor shall be responsible for coordinating the work between the different Subcontractors and requiring all Subcontractors to use the most current building department approved set of plans.

16. Cutting and Patching: All Subcontractors shall do their own cutting, fitting, patching, etc. to make the several parts come together properly and fit it to receive or by work of other trades.

17. Clean up: All trades shall, at all times, keep the premises free from accumulation of waste materials or rubbish caused by their work. Subcontractors shall remove all rubbish, tools, scaffolding and surplus materials and leave the job in a broom - clean condition. All fixtures, equipment, glazing, floors, etc., shall be left clean and ready for occupancy upon completion of the project

18. Storage of Materials: The General Contractor and Subcontractors shall be responsible for storing the materials on the site according to material suppliers' or manufacturers' instructions. The materials shall be kept secure and protected from moisture, pests, and vandals. Any loss arising out of materials stored at the site shall be the responsibility of the General Contractor of Subcontractor who stored the damaged or lost materials.

ROUGH CARPENTRY:

1. Framing:
   - A. Blocking and Bridging:
     - (1) Stud Walls: Per applicable building code. Full height walls shall have continuous studs from bottom to top plate.
     - (2) Ceiling Joists: Per applicable building code. Use solid bridging.
     - (3) Backing: Provide solid backing at all pendant or surface - mounted electrical fixtures, rails, grab bars, bath accessories, etc.
   - B. Fire stopping: Per applicable building code.
   - C. Stud Walls: Per applicable building code. All studs to have full bearing on plate. All studs to be at 16" O.C. unless noted otherwise. Studs to be sized per requirements of code.
   - D. Use continuous, full height studs in accordance with the highest standard of construction and framing practices.
   - E. All angled walls to be at 45 degrees unless noted otherwise
   - F. Built up roofs, waterproof balcony decks and exterior horizontal areas are to be framed with slope to ensure water drainage without ponding.
   - G. Provide crickets as indicated and as necessary for proper water drainage and to redirect channeled or run off water away from vertical surfaces.
   - H. Provide blocking where required to provide uniform surface where flush joists and beams are different depths
   - I. Use mitered joints at fascia splices.
   - J. All dimensions given are to face of framing, unless noted otherwise.
   - K. Align bottom of all adjacent window and door headers, unless noted otherwise on framing plan.
2. Trusses:
   - A. The General Contractor shall have City/ County approved truss plans on the job site prior to foundation inspection. The Truss Manufacturer shall submit calculations, shop drawings, details, bridging and erection bracing signed by a registered Engineer to the Building Department and Structural Engineer, for their review prior to fabrication.
   - B. Truss manufactures shall provide members of adequate bearing area in such a width to insure against over - stressing of supporting timber, multiple joists, girders and plates or provide bearing plates and details to do same
   - C. The General Contractor shall coordinate with the Truss Manufacturer, Framing, Electrical, Plumbing and Mechanical Contractors at fire protected areas to maintain required fire protection without penetrations unless allowed by code and local jurisdiction.

FINISH CARPENTRY:

1. Scope:
   - A. Furnish and install all finish carpentry complete, including trim, door frames, paneling and shelving.
   - B. Installation of finish hardware, bath accessories, cabinet pulls, etc.
1. Workmanship:
   - A. All joints shall be tight and true and securely fastened. Corners shall be neatly mitered, butted, or coped, with nails set and surfaces free of tool marks.
   - B. Wood work shall be accurately scribed to fit adjoining surfaces.
   - C. All work shall be machined or hand sanded, sharp edges and splinters removed, and completely prepared for finish.
   - D. Full length continuous boards shall be used wherever applicable or specifically noted.
2. Fitting and Hanging Doors:
   - A. Each door shall be accurately cut, trimmed, and fitted to its respective frame and hardware with due allowance for painter's finishes.
   - B. Clearance at the lock and hanging stiles and at the top shall not exceed 1/8". Clearance at the bottom shall be adjusted for finish floor covering.
   - C. Lock stile edges shall be beveled.
   - D. Door shall operate freely, but not loosely, without sticking or binding, without hinge bound conditions, and with all hardware properly adjusted and functioning.
3. Materials:
   - A. Door frames: Frames shall be set plumb and true, rigidly secured, and protected during the course of construction.
   - B. Door Stops and Casing: Size and profile as selected by Owner/ Client.
   - C. Exterior Trim: Refer to drawings for exterior trim material & sizes. For wood, MDO or fiber cement, all cut sides/faces/edges must be primed and painted. If specific product brand is specified on drawings, see manufacturers specifications and installation instructions.
   - D. Interior Trim:
     - (1) Interior Rails: Clear material, finished to match casework
     - (2) Window Trim: 1x clear wood to match casework or as noted in drawings (verify with Owner/Client).
     - (3) Base Boards: As noted in drawings or approved by Owner/Client.

INSULATION:

1. Installation:
   - A. Thermal Insulation: Install insulation between joists, below all roof surfaces, and areas including any vertical wall areas separating living spaces from unconditioned space and between studs at all exterior walls. Insulation shall be securely installed and tightly fitted without compressing the normal Loft thickness. Provide insulation stops/ baffles as required to prevent obstruction of vents.
   - B. Sound insulation: Install insulation between studs, securely and tightly fitted at walls as indicated on drawings.
   - C. Plumbing insulation: All domestic hot water piping shall have R-4 insulation. Insulation shall be properly installed on all piping elbows to adequately insulate the 90 degree bend.
   - D. The General Contractor and Subcontractors shall be responsible for storing the materials on the site according to material supplier's or manufacturers' instructions. The materials shall be kept secure and protected from moisture.
2. Materials:
   - A. At a minimum, all insulation specified for this house meets or exceeds the R-value requirements listed in Chapter 4 of the 2004 International Energy Conservation Code and also the Grade II specifications set by the National Home Energy Rating Standards.
   - B. A pre-drywall thermal bypass inspection must be performed by a qualified rater.

THERMAL & MOISTURE PROTECTION:

1. Foundations:
   - A. Provide adequate drainage away from walls & foundations
   - B. Seal all plumbing, electrical and other penetrations of walls and floors and seal joints
   - C. Slope final grade away from foundation
   - D. Provide capillary break at all concrete slabs (poly not req. if <20" rainfall; gravel not req. for free draining soils = IRC Group 1
   - E. Exterior surface of below grade walls damp proofed or water proofed
   - F. Slope garage floor towards main vehicle entry
   - G. Foundation cont. footing drain with stone covered with filter fabric, drained to daylight.
   - H. Basement foundation walls use porous backfill material.
   - I. Provide cont. crushed stone under footings.
   - J. Provide rigid insulation as specified directly under slab.
2. Walls
   - A. Install windows, doors, exterior cladding, flashings & sealants as detailed in this drawing set.
   - B. All deck ledgers must be pressure treated material.
   - C. All penetrations that pass through exterior cladding into structure must be fully sealed.
   - D. Install materials with proper detailing to control degradation from moisture.
3. Roofs:
   - A. Ice flashing over sheathing at eaves (except climates CZ1-4)
   - B. Metal drip edge at all exposed roof decking
   - C. Bituminous membrane at all eaves, valleys & penetrations (not req. if <20" rainfall)
   - D. Step flashing at all roof/wall intersections & terminated with "kickout" flashing
   - E. Installed system for diverting roof water from house. (e.g. gutters)
   - F. No. 30 roof felt underlayment minimum.
   - G. Reduce ice dams: No non-airtight recessed light fixtures in insulated ceilings.
   - H. Roof insulation as specified in this drawing set.
   - I. Provide cont. crushed stone under footings.
   - J. Provide rigid insulation as specified directly under slab.
4. Wet Rooms:
   - A. Install drains or drain pans to capture leaks under water heaters or use thankless water heaters.
   - B. Properly install washer and water heater drain pans
   - C. Use highly durable materials in wet areas
   - D. Install no carpet in kitchens, bathrooms, spa areas, or within 3" of exterior door.
   - E. Use nonpaper-faced backer board on walls in tub, shower and spa areas.
5. Air Infiltration:
   - A. Install "IC" airtight rated recessed lights in insulated ceilings.
   - B. Complete air barrier between attic and conditioned space & all penetrations sealed.
   - C. Air filter housings must be airtight to prevent bypass or leakage.
   - D. Air seal ventilation ductwork.

6. Interstitial Condensation:
   - A. Clothes dryers vented outdoors.
   - B. Insulate all cold water pipes and avoid plumbing in exterior walls.
   - C. >1 Perm finish on inside of exterior walls (only req. in hot/humid & mixed/humid climates)
7. Heat Loss:
   - A. Insulate all ventilation exhaust ductwork (min R-8) outside of the insulated envelope
   - B. R-5 slab edge insulation break at foundation wall intersection & R-10 slab edge insulation outward of any walk-out slab edge.
   - C. Install insulation wind baffles at attic eave bays.
8. Ultraviolet Radiation:
   - A. Install materials with proper detailing to control degradation from sun.
9. Other:
   - A. Minimum 25-year expected lifetime roof warranty.
   - B. Define "proper refrigerant charge" to be within 10% of manufacturer recommendations.
   - C. Mechanical equipment must be accessible for service, including AC condensate drain pan & trap.
   - D. Use rigid duct or other methods to keep fan back-pressure below 0.2" for EOV systems.

HEATING, VENTILATION & AIR CONDITIONING:

1.Scope:
   - A. Supply all labor, transportation, material, etc., for installation of a complete heating and air conditioning system to operate according to the provisions of ASHRAE Standard 62.2-2007 and best practices of the trade including, but not limited to: mechanical units, ducts, registers, catwalks, grilles, boots, vent pipes, dampers, combustion air, fans, ventilators, refrigerant, etc. All materials, work, etc., to comply with all requirements of all legally constituted public authorities having jurisdiction including all county and state ordinances. Furnish and install all equipment complete and operable. Verify all material and installation requirements and limitations at fire and sound assemblies.
   - B. Provide rubberized asphaltic membrane materials at all penetrations of the water - resistive membrane at exterior walls.
2. Installation:
   - A. Provide required clearances for duct work and to combustibles.
   - B. Provide a permanent electric outlet and switched light fixture.
   - C. No alterations to the structural frame, diaphragms, connections or shear panels shall be made which would compromise the designed structural integrity of such elements without prior written approval from the Structural Engineer.
   - D. No fuel burning equipment located in garages.
   - E. All combustion equipment shall be directly vented with an outdoor combustion air supply.
   - F. All penetrations of fire assemblies shall meet the requirements of the building code and Section 7D
   - G. All HVAC equipment shall be approved prior to installation per nationally recognized standards and evidenced by listing and label of an approved agency.
   - H. Combustion air from outside shall be supplied to all fuel burning appliances.
   - I. Install air filters with a minimum efficiency reporting value (MERV) ≥ 10 and ensure that air handlers can maintain adequate pressure and air flow. Air filter housings must be air tight to prevent bypass or leakage.
   - J. All fixed appliances are required to be securely fastened in place. Provide seismic bracing or anchor unit to platform where appropriate.
   - K. Install centralized HVAC system equipped with additional controls to operate in dehumidification mode.
   - L. Condenser pad or compressor from ground must not be less than 3" above grade.
   - M. The General Contractor and Subcontractors shall be responsible for storing the materials on the site according to material supplier's or manufacturers' instructions. The materials shall be kept secure and protected from moisture.

ELECTRICAL:

1. Scope:
   - A. Supply all labor, transportation, materials, etc, for installation of complete electrical system to operate according to the best practices of the trade and including but not limited to: Fixtures, appliances, wiring, switches, outlets, television jacks, services, grounds, temporary power, junction boxes, conduit, sub - panels, etc. All work, materials, etc, to comply with all requirements of all legally constituted authorities having jurisdiction including all County and State ordinances. Furnish and install electrical work complete and operable. Verify all material and installation requirements and limitations at fire and sound assemblies.
   - B. Provide rubberized asphaltic membrane materials at all penetrations of the water- resistive membrane at exterior walls.

2. Installation:
   - A. Provide separate circuits each for dishwasher, garbage disposal, refrigerator, washer, dryer, F.A.U. and microwave oven.
   - B. Switched outlets shall be ½ hot.
   - C. Bathroom and Service Room fans: Install local exhaust systems in all bathrooms and in the kitchen to meet the requirements of section 5 of ASHRAE Standard 62.2-2007. Design and install fan ducts to meet the requirements of section 7 of ASHRAE Standard 62.2-2007.Exhaust air to outdoors and also use ENERGY STAR labeled bathroom exhaust fans.
   - D. For every bathroom exhaust fan, install an occupancy sensor or an automatic humidistat controller or an automatic timer to operate the fan for a timed interval after occupant leaves the room or a continuously operating exhaust fan.
   - E. All fixtures, outlets, receptacles etc., penetrating fire assemblies shall be rated and installed to meet the requirements of the building code. Outlet boxes on opposite sides of fire assembly walls shall be separated by a horizontal distance of at least 24".
   - F. All equipment installed outdoors and exposed to weather shall be weatherproof.
   - G. Provide ground fault circuit interrupters, G.F.C.I., at all baths, garages, out door and wet area outlets. All branch circuits that supply 125 - volt single - phase, 15 and 20 ampere receptacle outlets installed in dwelling unit bedrooms shall be protected by an arc - fault circuit interrupter(s).
   - H. Each conductor of every system shall be permanently tagged in compliance with O.S.H.A
   - I. The complete electrical system shall be grounded in accordance with the presently adopted edition of the N.E.C., Art. #250. Ufer ground requires #4 copper wire, 20' - 0" long, embedded into concrete and provide bond to gas or water line.
   - J. Use only competent and skilled personnel and perform all work, including aesthetic as well as electrical and mechanical aspects to standards consistent with the best practices of the trade.
   - K. No alterations to the structural frame, diaphragms, connections or shear panels shall be made which would compromise the designed structural integrity of without prior such elements written approval from the Structural Engineer.

PLUMBING:

1.Scope:
   - A. Supply all labor, transportation, materials, etc. for installation of complete plumbing system to operate according to the best practices of the trade and including but not limited to: fixtures, hot and cold water piping, exhaust flues, combustion air, gas piping, log lighters, drains, soil and vent piping, hot water heaters, pipe insulation, meters, valves, vaults, etc. All materials, work, etc. to comply with all requirements of all legally constituted public authorities having jurisdiction including all county and state ordinances. Furnish and install plumbing work complete and operable, including trenching and backfilling. Verify all material and installation requirements and limitations at fire and sound assemblies.
   - B. Provide rubberized asphaltic membrane materials at all penetrations of the water - resistive membrane at exterior walls.
   - C. Protect pipes from freezing. Place all water lines and waste lines within "conditioned" space and where approved thermal insulation is between "line" and unheated area.
2.Installation:
   - A. Roughing-in shall be completed, tested and inspected as required by code before closing -in with other work.
   - B. Openings in pipes, drains, and fittings shall be kept covered during construction.
   - C. Provide solid backing for securing fixtures. All fixtures to be set level
   - D. Provide cleanouts at ends of all lines and where required by codes.
   - E. Copper tubing shall be fully sweated to fittings.
   - F. Black iron and galvanized steel pipe joints shall be made with approved pipe thread compound.
   - G. Provide shut- off valves at each fixture.
   - H. Provide condensate line at each F.A.U location. Provide primary & secondary condensate line to an approved drainage receptacle at attic F.A.U locations.
   - I. Provide cold water line to refrigerator space in recessed box or in cabinet immediately adjacent to refrigerator space.
   - J. Isolate all piping from structure with fiber padding and at all penetrations with elastic caulking or sound isolators.
   - K. All vents to lead to outside air, where possible, locate all roof vents to rear side or ridges. Vents to terminate a minimum of 3'-0" from windows.
   - L. All horizontal A.B.S. piping shall be hung with approved hangers at 4' -0" on center minimum and spaced to permit expansion and contraction without hitting adjoining pipe. Vertical piping shall be supported at 8'-0" on center with wrought steel "U" straps securely fastened to building frame.
   - M. Provide air chambers at lavatory, dishwasher and clothes washer water connections. Set vertically as close to fixture as possible.
   - N. Provide ¾" tee for irrigation at main shut-off.
   - O. Provide water heater with pressure/ temperature relief valve and pan and drain line piped to the exterior of the buildings. At garage installation water heater shall be on a minimum 18" high stable platform.
   - P. All combustion equipment shall be directly vented.
   - Q. No alterations to the structural frame, diaphragms, connections or shear panels shall be made with would compromise the designed structural integrity of such elements without prior written approval from the structural Engineer.
   - R. All penetrations of fire assemblies shall meet the requirements of the building code. Provide elastomeric membrane materials at all penetrations of the water- resistive barrier of exterior walls.
   - S. Provide non- removable backflow device on all exterior hose bibs.
   - T. A 12" minimum access panel to bathtub trap connection is required.
   - U. Provide pressure regulator for water service where pressure exceeds 80 psi
   - V. Provide drain pan under washer with drain in laundry room and shut off valve if washer is located above living space.
   - W. If washer is installed on framed floor above living space, drill screw floor at 4" o.c and reduce spacing of floor truss.
   - X. Provide solid metal pipe for dryer vent to exterior. Do not install screen on dryer vent. Provide energy efficient dryer vent (with floating shuttle).

FREE GREEN

www.FreeGreen.com
348 MEDFORD ST. SUITE 1
CHARLESTOWN, MA 02129

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

GENERAL NOTES

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A - 00

SCALE: 1/4" = 1'-0"

LEED® for Homes Rating System:

This is not a contractual document however it is strongly recommended that these specifications be incorporated into the projects scope of work wherever possible.

The information on this page mirrors the provisions set forth in the **LEED for Homes Rating System**. **LEED for Homes** is an initiative designed to promote the transformation of the mainstream home building industry towards more sustainable practices. The **LEED for Homes** program is attempting to provide national consistency in defining the features of a green home and to enable builders anywhere in the country to obtain a green rating on their projects. FreeGreen Inc. honors this attempt and the specifications on this page are consistent with the requirements set forth in the **LEED for Homes Rating System**.

The LEED for Homes Rating System works by requiring a minimum level of performance through prerequisites and rewarding improved performance in various categories. The level of performance is indicated by four performance tiers according to the number of points earned. See table below.

LEED for Homes certification levels & associated points required		Threashold Adjustment	
Certified	45-59	Certified	49-63
Silver	60-74	Silver	64-78
Gold	75-89	Gold	82-93
Platinum	90-136	Platinum	94-138

These adjustments compensate for the overarching effects of home size on consumption by adjusting the award level point thresholds based on home size. For further explanation see Exhibits 10-12 in the LEED for Homes Reference Manual.

How to use the LEED® for Homes Rating System Sheet:

If you plan to have your project certified by the LEED for Homes Rating System this page will provide you with a brief but clear outline of the program's prerequisite and credit requirements. For complete participation requirements and credit descriptions, visit the LEED for Homes web site at www.usgbc.org/leed/homes

If you choose not to have your project certified but would like to incorporate green practices, products and materials, use this sheet as a guide to select the green features you would like to include.

FreeGreen Inc. has made an effort to include many green building practices, products and materials right into this free home plan set. If followed as presented, this home design is already eligible for a variety of points under the LEED for Home Rating System. This page also identifies these achievable points for your convenience. SEE COLUMN "II." BELOW

IV.	TOTAL:				
III.	CREDIT ATTEMPTED: (YES / NO)				
II.	ESTIMATED POINTS ELIGIBLE BY DESIGN				
I.	MAX POINTS AVAILABLE: (P = PREREQUISITE)				

LEED for HOMES

Innovation and Design Process (ID) (No Minimum Points Required)

		I.	II.	III.	IV.
Integrated Project Planning	**ID 1.1 Preliminary Rating**	P			
	As early as practical before construction begins, conduct a preliminary meeting with the participation of key members of the project team. As part of the meeting, create an action plan that will identify the requirements of the suggested specifications on this page and also the party accountable for meeting these requirements.				
	ID 1.2 Integrated Project Team	1	1		
	Conduct meetings with the project team at least monthly to review project status, introduce new team members to the projects goals, discuss problems encountered, formulate solutions, review responsibilities and identify next steps. Include team members who's expertise may include architecture, engineering, building science or sustainable design. FreeGreen Inc. employs a diverse group of experts in the fields of architecture, engineering, financial analysis and sustainable design. If you are interested in involving one of our experts on the project team, please inquire into our consulting services at our web site. www.FreeGreen.com				
	ID 1.3 Professional Credentialed with Respect to LEED for Homes	1	1		
	At least one principal member of the team shall be a professional who is credentialed with respect to LEED for homes as determined by the U.S. Green Building Council.				
	ID 1.4 Design Charrette	1	1		
	No later than the design development phase and preferably during schematic design, conduct at least one full day integrated design workshop with the project team defined in ID 1.2. Use the workshop to integrate green strategies across all aspects of the building design, drawing on the expertise of all participants.				
	ID 1.5 Building Orientation for Solar Design	1			
	Ensure that the following requirements are met. a. The glazing area on the north and south walls of the building is at least 50% greater than the sum of the glazing area on the east and west facing walls. b. The east-west axis of the building is within 15 degrees of due east-west c. The roof has a minimum of 450 square feet of south facing area that is oriented appropriately for solar applications. d. At least 90% of the glazing on the south facing wall is completely shaded (using shading, overhangs, etc.) at noon on June 21 and unshaded at noon on December 21.				
Durability Management Process	**ID 2.1 Durability Planning**	P			
	Prior to construction complete the "Durability Risk Evaluation Form" (this form is only available after registering project with the LEED for Homes Program) to identify all moderate and high risk durability issues for the building enclosure including measures to respond to those issues. Incorporate these measures into the scopes of work as appropriate.				
	ID 2.2 Durability Management	P			
	During construction, the builder shall have a quality management process in place to ensure installation of the durability measures. This prerequisite can be satisfied by having the builder inspect and check off each measure in the durability inspection checklist created for 2.1 above.				
	ID 2.3 Third Party Durability Management Verification	3			
	Have a third party Green Rater inspect and verify each measure listed in the durability inspection checklist created for 2.1 above.				
	ID 3. Innovative or Regional Design, Innovation Credits 1-4	4			
	Minimize the environmental impact of the home by incorporating additional green design and construction measures that have tangible and demonstrative benefits beyond those in the LEED for Homes Program				

Location & Linkages (LL) (No Minimum Points Required)

		I.	II.	III.	IV.
	LL 1. LEED for Neighborhood Development	10			
	Minimize the environmental impact of land development practices by building homes in LEED for Neighborhood Development certified developments. *A project receiving points under LL 1 is not eligible for points under LL 2-6, and visa versa.*				
	LL 2. Site Selection	2			
	Avoid development on environmentally sensitive sites. Environmentally sensitive sites include the following a. Land whose elevation is at or below the 100-year floodplain as defined by FEMA. b. Land that is identified as habitat for any species on federal or state threatened or endangered lists. c. Land within 100 feet of any water including wetlands. d. Land that prior to acquisition for the project was public park land. e. Land that contains "prime soils", "unique soils", or "soills of state significance", as identified in state Natural Resources Conservation Service soil surveys.				
Preferred Locations	**LL 3.1 Edge Development**	1			
	Select a lot such that at least 25% of the perimeter immediately borders previously developed land. OR				
	LL 3.2 Infill	2			
	Select a lot such that at least 75% of the perimeter immediately borders previously developed land. AND/OR				
	LL 3.3 Previously Developed	2			
	Build on previously developed lot. In the case of a multihome new development, each home in the development is awarded this point if at least 75% of the development site is built on previously developed land.				
	LL 4. Existing Infrastructure	1			
	Select a lot that is within 1/2 mile of existing water service line and sewer lines. In the case of multihome new development, each home is awarded this point if the center of the development site is within 1/2 mile of existing water service line and sewer service lines.				
	LL 5.1-5.3 Community Resources / Transit	3			
	Look for building lots that are close to basic community resources and encourage walking, biking or the use of public transportation to get around. This will minimize the dependency on personal automobiles and their associated environmental impacts.				
	LL 6. Access to Open Space	1			
	Look for building lots that are close to basic community resources and encourage walking, biking or the use of public transportation to get around. This will minimize the dependency on personal automobiles and their associated environmental impacts.				

Sustainable Sites (SS) (Minimum of 5 Points Required)

		I.	II.	III.	IV.
Site Stewardship	**SS 1.1 Erosion Controls During Construction**	P			
	Prior to construction, design and plan appropriate erosion control measures. During construction, implement these measures. Erosion control measures include but are not limited to stockpiling top soil for reuse, control water run off with silt fencing and protecting on-site storm sewer inlets, streams and lakes with straw bales, silt fencing, rock filters or comparable measures.				
	SS 1.2 Minimize Disturbed Area of Site	1			
	Create a tree or plant preservation plan clearly delineated on drawings and leave undisturbed at least 40% of buildable lot. If site is previously developed rehabilitate the lot by undoing any previous soil compaction, removing invasive plants and meeting the requirements of SS 2.2. OR Build on a site with a lot area of less than 1/7 acre, or with housing density for the project that is equal to or greater than 7 units per acre.				
Landscaping	**SS 2.1 No Invasive Plants**	P			
	Design landscape features to avoid invasive species. A list of regional resources is available at the *U.S. Department of Agriculture*, at www.invasivespeciesinfo.gov/unitedstates/state.shtml				
	SS 2.2 Basic Landscaping Design	2			
	Meet the following requirements.... Any turf grass must be drought tolerant, do not use turf grass in densely shaded areas, do not use turf in areas with a slope of 25%, add mulch or soil amandments as appropriate and all compacted soil must be tilted to at least 6" AND/OR				
	SS 2.3 Limit Conventional Turf	3			
	Limit the use of conventional turf grass in the designed landscape AND/OR				
	SS 2.4 Drought Tolerant Plants	2			
	Plant drought tolerant plants OR				
	SS 2.5 Reduce Overall Irrigation Demand by at Least 20%	6			
	Design the landscape and irrigation system to reduce overall irrigation water usage. The estimates must be calculated and prepared by a landscape professional, biologist, or other qualified professional.				
	SS 3. Reduce Local Heat Island Effects	1	1		
	Locate trees or other plantings to provide shading for at least 50% of sidewalks, patios, and driveways within 50 feet of the home. Shading should be calculated for noon on June 21, when the sun is directly overhead, based on five years' growth. OR Install light-colored, high-albedo materials or vegetation for at least 50% of sidewalks, patios and driveways within 50 feet of the home. Acceptable strategies include using white concrete or open pavers.				
Surface Water Management	**SS 4.1 Permeable Lot**	4			
	Design the lot such that at least 70% of the built environment, not including area under roof, is permeable or designed to capture water runoff for infiltration on-site.				
	SS 4.2 Permanent Erosion Controls	1			
	Design / install erosion control measures such as terracing and retaining walls on steep slopes or plant one tree, four 5-gallon shrubs, 50 square feet of native groundcover per 500 square feet of disturbed lot area.				
	SS 4.3 Management of Runoff from Roof	2			
	Design / install runoff controls suck as vegetated swales, dry wells, rain cisterns, vegetated roof or have a the site designed by a licensed or certified landscape design or engineering professional.				

		I.	II.	III.	IV.
	SS 5. Nontoxic Pest Control	2	1.5		
	Design home features to minimize the need for poisons for control of insects, rodents and other pests. See the LEED for Homes Reference Manual for a complete list of these features and a termite map.				
Compact Development	**SS 6.1 Moderate Density**	2			
	Build homes with an average housing density of 7 or more dwelling units per acre of buildable land. A single home on 1/7-acre buildable lot qualifies. OR				
	SS 6.2 High Density	3			
	Build homes with an average housing density of 10 or more dwelling units per acre of buildable land. A single home on 1/10-acre buildable lot qualifies. OR				
	SS 6.3 Very High Density	4			
	Build homes with an average housing density of 20 or more dwelling units per acre of buildable land. A single home on 1/20-acre buildable lot qualifies.				

Water Efficiency (WE) (Minimum of 3 Points Required)

		I.	II.	III.	IV.
Water Reuse	**WE 1.1 Rainwater Harvesting System**	4			
	Design and install a rainwater harvesting and storage system (including surface runoff and/or roof runoff) for landscape irrigation use or indoor water use. AND/OR				
	WE 1.2 Graywater Reuse System	1			
	Design and install a graywater harvesting and storage system for landscape irrigation use or indoor water use. Collect graywater from at least one of the following: clothes washer; showers; faucets. OR				
	WE 1.3 Use of Municipal Recycled Water Systems	3			
	Design the plumbing such that irrigation system water demand is supplied by municipal recycled water. This is applicable only in communities with a municipal recycled water program. *A home using a municipal recycled water system cannon receive points under WE 1.2 or WE 1.1*				
Irrigation System	**WE 2.1 High-Efficiency Irrigation System**	3			
	Design and install a high-efficiency irrigation system based on overall landscaping plans, including measures adopted in SS 2. See the LEED for Homes Reference Manual for a full list of requirements under this credit. AND/OR				
	WE 2.2 Third-Party Inspection	1			
	Perform a third-party inspection of the irrigation system in operation. OR				
	WE 2.3 Reduce Overall Irrigation Demand by at Least 45%	3			
	Design the landscape and irrigation system to reduce the overall irrigation water demand water budget. The estimates must be calculated and prepared by a landscape professional, biologist or other qualified professional.				
Indoor Water Use	**WE 3.1 High-Efficiency Fixtures and Fittings**	3			
	Install high-efficiency (low-flow) fixtures or fittings. A project cannon earn points under both WE 3.1 and WE 3.2 for the same fixture type. Meet one or more of the following: a. The average flow rate for all lavatory faucets must be ≤ 2.0 gpm. (1 point) b. The average flow rate for all showers must be ≤ 2.0 gpm per stall. (1 point) c. The average flow rate for all toilets must be ≤ 1.3 gpf. or toilets must be dual-flush. (1 point)				
	WE 3.2 Very High-Efficiency Fixtures and Fittings	6			
	Install very high-efficiency (low-flow) fixtures or fittings. A project cannon earn points under both WE 3.1 and WE 3.2 for the same fixture type. Meet one or more of the following: a. The average flow rate for all lavatory faucets must be ≤ 1.5 gpm. (2 point) b. The average flow rate for all showers must be ≤ 1.75 gpm per stall. (2 point) c. The average flow rate for all toilets must be ≤ 1.1 gpf. (2 point)				

Energy & Atmosphere (EA) (No Minimum Points Required)

		I.	II.	III.	IV.
Optimize Energy Performance	**EA 1.1 Performance of ENERGY STAR for Homes**	P			
	Meet the performance requirements of ENERGY STAR for homes, including third party inspections. *NOTE: This is one of two optional pathways through the EA category. A project receiving points or meeting the prerequisites for this credit must skip EA 2-6, 7.3 and 8-10. By pursuing credits EA 2-6, 7.3 and 8-10, a project may skip EA credit 1.1 and 1.2.*				
	EA 1.2 Exceptional Energy Performance	34			
	Exceed the performance of ENERGY STAR for Homes. The Home Energy Standards (HERS) Index of this home will determine the appropriate number of LEED points. See the LEED for Homes Reference Manual for the equation to calculate points received for this credit. A HERS rating will be included in the energy report you downloaded from FreeGreen.com. *NOTE: This is one of two optional pathways through the EA category. A project receiving points or meeting the prerequisites for this credit must skip EA 2-6, 7.3 and 8-10. By pursuing credits EA 2-6, 7.3 and 8-10, a project may skip EA credit 1.1 and 1.2.*				
Insulation	**EA 2.1 Basic Insulation**	P	P		
	Install insulation that meets or exceeds the R-value requirements listed in Chapter 4 of the 2004 International Energy Conservation Code and Install insulation to meet the Grade II specifications set by the National Home Energy Rating Standards. A pre-drywall thermal bypass inspection must be done.				
	EA 2.2 Enhanced Insulation	2			
	Install insulation that meets or exceeds the R-value requirements listed in Chapter 4 of the 2004 International Energy Conservation Code by at least 5% and Install insulation to meet the Grade I specifications set by the National Home Energy Rating Standards. A pre-drywall thermal bypass inspection must be done.				
Air Infiltration	**EA 3.1 Reduced Envelope Leakage**	P			
	Meet the air leakage requirements as follows. The air leakage rate must be tested and verified. IECC Climate Zones 1-2 = 7.0 ACH50 IECC Climate Zones 3-4 = 6.0 ACH50 IECC Climate Zones 5-7 = 5.0 ACH50 IECC Climate Zone 8 = 4.0 ACH50				

		I.	II.	III.	IV.
Air Infiltration	**EA 3.2 Greatly Reduced Envelope Leakage**	2			
	Meet the air leakage requirements as follows. The air leakage rate must be tested and verified. IECC Climate Zones 1-2 = 5.0 ACH50 IECC Climate Zones 3-4 = 4.25 ACH50 IECC Climate Zones 5-7 = 2.75 ACH50 IECC Climate Zone 8 = 3.5 ACH50				
	EA 3.3 Minimal Envelope Leakage	3	3		
	Meet the air leakage requirements as follows. The air leakage rate must be tested and verified. IECC Climate Zones 1-2 = 3.0 ACH50 IECC Climate Zones 3-4 = 2.5 ACH50 IECC Climate Zones 5-7 = 2.0 ACH50 IECC Climate Zone 8 = 1.5 ACH50				
Windows	**EA 4.1 Good Windows**	P	P		
	Meet the following requirements: a. Design and install windows and glass doors that have NFRC ratings that meet or exceed the window requirements of the ENERGY STAR for Homes national Builder Option Package. b. The ratio of skylight glazing to conditioned floor area may not exceed 3%. All skylights must meet ENERGY STAR performance requirements. c. Homes in North or North/Central climate zones that have a total window to floor area ration (WFA) of 18% or more must meet a more stringent U-factor requirement. [U-factor = 0.18/WFA] d. Homes in South or South/Central climate zones that have a total window to floor area ration (WFA) of 18% or more must meet a more stringent solar heat gain coefficient (SHGC) requirement. [SHGV = 0.18/WFA]				
	EA 4.2 Enhanced Windows	2			
	Design and Install windows and glass doors that have NFRC ratings that exceed the window requirements in the ENERGY STAR for Homes national Builder Option Package. OR				
	EA 4.3 Exceptional Windows	3			
	Design and Install windows and glass doors that have NFRC ratings that substantially exceed the window requirements in the ENERGY STAR for Homes national Builder Option Package.				
Heating and Cooling Distribution System	**EA 5.1 Reduced Distribution Losses (Forced-Air Systems)**	P	P		
	Meet the following requirements: a. Limit duct air leakage rate to outside the conditioned envelope. The tested duct leakage rate must be ≤ 4.0 cfm at 25 Pascal per 100 square feet of conditioned floor area. b. Do not install ducts in exterior walls unless extra insulation is added to maintain the overall UA for an exterior wall without ducts. c. Use at least R-6 insulation around ducts in unconditioned spaces.				
	EA 5.2 Greatly Reduced Distribution Losses (Forced-Air Systems)	2	2		
	Limit duct air leakage to outside the conditioned envelope. The tested duct leakage rate must be ≤ cfm at 25 Pascal per 100 square feet of conditioned floor area. OR				
	EA 5.3 Minimal Distribution Losses (Forced-Air Systems)	3			
	Meet the following requirements: a. Limit duct air leakage rate to outside the conditioned envelope. The tested duct leakage rate must be ≤ 1.0 cfm at 25 Pascal per 100 square feet of conditioned floor area. b. Locate the air-handler unit and all ductwork within the conditioned envelope c. Locate the air-handeler unit and all ductwork visibly within conditioned spaces.				
	EA 5.1 Reduced Distribution Losses (Nonducted HVAC Systems)	P			
	Use at least R-3 insulation around distribution pipes in unconditioned spaces.				
	EA 5.2 Greatly Reduced Distribution Losses (Nonducted HVAC Systems)	2			
	Keep the system (including boiler and distribution pipes) entirely within the conditioned envelope.				
	EA 5.3 Minimal Distribution Losses (Nonducted HVAC Systems)	1			
	Install outdoor reset control (i.e., controls that modulate distribution water temperature based on outdoor air temperature.				
Space Heating and Cooling Equipment	**EA 6.1 Good HVAC Design and Installation**	P			
	Meet the following requirements: a. Design and size HVAC equipment properly using ACCA Manual J, the ASHRAE 2001 Handbook of Fundamentals or an equivalent computation procedure. b. Install HVAC equipment that meets the requirements of the ENERGY STAR for Homes national Builder Option Package. c. Install ENERGY STAR labeled programmable thermostat (except heat pumps and hydronic system)				
	EA 6.2 High-Efficiency HVAC	2	2		
	Design and install HVAC equipment that is better than the equipment required by the ENERGY STAR Builder Option Package.				
	EA 6.3 Very High-Efficiency HVAC	4			
	Design and install HVAC equipment that is substantially better than the equipment required by the ENERGY STAR Builder Option Package. Any piping designed as part of a heat pump system to carry water that is well above (or below) the thermostatic temperature settings in the home must have R-4 insulation or greater. *NOTE: The maximum of 4 points is available only if a heat pump is installed. Furnace and boiler systems can earn a maximum of 3 points.*				
	Sub Total Points (This Page)		12.5		

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PROJECT NAME:
BUILDER LINE
BRICK ACCENTS

LEED® for Homes Rating System 1 of 2

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A - 0.1

SCALE: 1/4" = 1'-0"

IV. TOTAL:
III. CREDIT ATTEMPTED: (YES / NO)
II. ESTIMATED POINTS ELIGIBLE BY DESIGN
I. MAX POINTS AVAILABLE: (P = PREREQUISITE)

LEED for HOMES

Energy & Atmosphere (EA) continued (No Minimum Points Required)

		I.	II.	III.	IV.
Water Heating	**EA 7.1 Efficient Hot Water Distribution**	2	2		
	Design and install an energy efficient hot water distribution system. None of the branch length requirements below apply to cold water demand loads (e.g. toilets), washing machines or tubs without shower heads. Select one of the following designs: a. Structured Plumbing System a.1. The system must have demand-controlled circulation loop that is insulated to at least R-4. a.2. The total length of the circulation loop must be less than 40 linear feet of plumbing in one story homes. Add 2x the ceiling height for two story homes. a.3. Branch lines from the loop to each fixture must be ≤ 10 feet long and a maximum of 1/2" nominal diameter a.4. The system must be designed with a push button control in each full bathroom and the kitchen and an automatic pump shut off. b. Central manifold distribution system b.1. The central manifold trunk must be no more than 6 feet in length b.2. The central manifold trunk must be insulated to at least R-4 b.3. No branch line from the central manifold to any fixtures may exceed 20 feet in one-story homes. Add 1x the ceiling height for two story homes. b.4. Branch lines from the manifold must be a maximum of 1/2" nominal diameter. c. Compact design of conventional system. c.1. No branch line from water heater to any fixture may exceed 20 feet in one-stroy homes. Add 1x the ceiling height for two story homes. c.2. Branch line from the central header to each fixture must be a maximum of 1/2" nominal diameter.				
	EA 7.2 Pipe Insulation	1	1		
	All domestic hot water piping shall have R-4 insulation. Insulation shall be properly installed on all piping elbows to adequately insulate the 90 degree bend.				
	EA 7.3 Efficient Domestic Hot Water (DHW) Equipmtent	3	3		
	Design and install energy efficient water heating equipment				
Lighting	**EA 8.1 ENERGY STAR Lights**	P	P		
	Install at least four ENERGY STAR labeled light fixtures or ENERGY STAR labeled compact fluorescent light bulbs (CFLs) in high use rooms (kitchen, dining room, living room, family room, hallways).				
	EA 8.2 Improved Lighting	1.5	1.5		
	Install three additional ENERGY STAR labeled light fixtures or ENERGY STAR labeled compact fluorescent light bulbs in high use rooms. AND/OR Exterior lighting must have either motion sensor controls or integrated photovoltaic cells.				
	EA 8.3 Advanced Lighting Package	3			
	Install ENERGY STAR Advanced Lighting Package using only ENERGY STAR labeled fixtures. OR Install ENERGY STAR labeled lamps in 80% of the fixtures throughout the home.				
Appliances	**EA 9.1 High Efficiency Appliances**	2			
	Install appliances from the list below. To receive points for one type (e.g. refrigerator), every appliance of that type must meet the applicable requirement below. a. ENERGY STAR labeled refrigerator(s) (1 point) b. ENERGY STAR labeled ceiling fans (at least one in living or family room and one per bedroom) (0.5 point) c. ENERGY STAR labeled dishwasher(s) that use 6.0 gallons or less per cycle (0.5 point) d. ENERGY STAR labeled clothes washer(s) (0.5 point)				
	EA 9.2 Water Efficient Clothes Washer	1			
	a. Install clothes washer with modified energy factor (MEF) ≤ 2.0 and water factor (WF) < 5.5. A clothes washer that meets these requirements and the requirements in EA 9.1 can be counted for both.				
	EA 10. Renewable Energy Systems	10			
	Design and install a renewable electricity generation system. Use energy modeling to estimate both the energy supplied by the renewable energy system and the annual reference electric load. Receive 1 point for every 3% of the annual reference electrical load met by the system. Annual referance electric load is defined as the amount of electricity that a typical home (e.g. the HERS Referance Home) would consume in a typical year. The annual referance electric load must be determined using the procedures specified in the 2006 Mortgage Industry National Home Energy Rating Standards (HERS) Guidelines.				
Refrigerant Management	**EA 11.1 Refrigerant Charge Test**	P			
	Provide proof of proper refrigerant charge of the air-conditioning system (unless home has no mechanical cooling).				
	EA 11.2 Appropriate HVAC Refrigerants	1			
	Do one of the following: a. Do not use refrigerants b. Install an HVAC system with non-HCFC refrigerants c. Install and HVAC system with a refrigerant that complies with the equation found in the LEED for Homes Referance Manual.				

Materials and Resources (MR) (Minimum of 2 Points Required)

		I.	II.	III.	IV.
	MR 1.1 Framing Order Waste Factor Limit	P			
	Limit the overall estimated waste factor to 10% or less.				
	MR 1.2 Detailed Framing Documents	1			
	Prior to construction, create detailed framing plans or scope of work and accompanying architectural details for use on the job site. Indicate the specific loacitons, spacing and sizes of all framing members in the floors, walls, roof and ceiling (if different from the roof).				
Material-Efficient Framing	**MR 1.3 Detailed Cut List and Lumber Order**	1			
	The requirements in MR 1.2 must be met to earn this credit. Prior to construction, create a detailed cut list and lumber order that corresponds directly to the framing plans and/or scopes of work. AND/OR				
	MR 1.4 Framing Efficiencies	3			
	Implement measures for this credit found in the LEED for Homes Referance Manual OR				
	MR 1.5 Off-Site Fabrication	4			
	Use either of the following alternatives to on-site framing: a. Panelized construction. Wall, roof and floor components are delivered to the job site pre-framed b. Modular, prefabricated construction. All principal building sections are delivered to the job site as prefabricated modules.				
Ev. Preferred Products	**MR 2.1 FSC Certified Tropical Wood**	P			
	Purchase products containing tropical wood only if it is FSC certified.				
	MR 2.2 Environmentally Preferable Products (0.5 point each)	8	1.5		
	Use building component materials that meet the criteria set forth for this credit in the LEED for Homes Reference Manual. These products should be environmentally preferable, low emissions and source locally.				
Waste Management	**MR 3.1 Construction Waste Management Planning**	P			
	Investigate and document local options for diversion of all anticipated major constituents of the project waste stream, including cardboard packaging and household recyclables. Also Document the diversion rate for construction waste. Record the diversion rate for land clearing and/or demolition, if applicable, separately from the rate for the new construction phase of the project.				
	MR 3.2 Construction Waste Reduction	3			
	Reduce construction waste . Generate 2.5 pounds (or 0.016 cubic yards) or less of net waste (not including waste diverted for reclamation or recycling) per square foot of conditioned floor area. OR Divert 25% or more of the total material taken off the construction site from landfills and incinerators.				

Indoor Environmental Quality (EQ) (Minimum of 6 Points Required)

		I.	II.	III.	IV.
	EQ 1. ENERGY STAR with Indoor Air Package	13			
	Complete all the requirements of the U.S. Environmental Protection Agency's ENERGY STAR with Indoor Air Package (IAP) *NOTE: This is one of two optional pathways through the EQ category. A project receiving points for this credit must skip EQ 2.2, 3, 4.3, 6, 8.1, 8.3, 9 and 10. By pursuing credits EQ 2-10, a project may skip EQ credit 1.*				
Combustion Venting	**EQ 2.1 Basic Combustion Venting Measures**	P	P		
	No unvented appliances are allowed. A carbon monoxide (CO) monitor must be installed on each floor. All fireplace and wood stoves must have doors and space and water heating equipment that involves combustion must either be designed and installed with closed combustion, power-vented exhaust or it must be located in a detached utility building or open-air facility.				
	EQ 2.2 Enhanced Combustion Venting Measures	2			
	Install no fireplace or wood stove (1 point), or design and install a fireplace or wood stove according to the requirements for this credit in the LEED for Homes Referance Manual (1 point).				
	EQ 3. Moisture Control	1	1		
	Install dehumidification equipment with sufficient latent capacity to maintain relative humidity at or below 60%. This must be achieved by either additional dehumidification system(s) or a central HVAC system equipped with additional controls to operate in dehumidification mode.				
Outdoor Air Ventilation	**EQ 4.1 Basic Outdoor Air Ventilation**	P	P		
	Design and install a whole building ventilation system that complies with ASHRAE Standards 62.2-2007.				
	EQ 4.2 Enhanced Outdoor Air Ventilation	2	2		
	In mild climates (fewer than 4,500 infiltration degree-days), install a whole building active ventilation system that complies with ASHRAE Standards 62.2-2007. OR Install a system that provides heat transfer between the incoming outdoor air stream and the exhaust air stream, such as a heat recovery ventilator (HRV) or energy recovery ventilator (ERV).				
	EQ 4.3 Third-Party Performance Testing	2			
	Have a third party test the flow rate of air brought into the home and verify that the requirements of ASHRAE Standard 62.2-2007 are met.				
Local Exhaust	**EQ 5.1 Basic Local Exhaust**	P	P		
	Design and install local exhaust systems in all bathrooms and in the kitchen to meet the requirements of section 5 of ASHRAE Standard 62.2-2007. Design and install fan ducts to meet the requirements of section 7 of ASHRAE Standard 62.2-2007. Exhaust air to outdoors and also use ENERGY STAR labeled bathroom exhaust fans.				
	EQ 5.2 Enhanced Local Exhaust	1	1		
	Select one... For every bathroom exhaust fan, install an occupancy sensor, automatic humidistat controller, an automatic timer to operate the fan for a timed interval after occupant leaves the room or a continuously operating exhaust fan.				
	EQ 5.3 Third-Party Performance Testing	1			
	Perform a third party test of each exhaust air flow rate for compliance with the requirements in Section 5 of ASHRAE Standard 62.2-2007.				
Distribution of Space H. & C.	**EQ 6.1 Room by Room Load Calculations (Forced-Air Systems)**	P			
	Perform design calculations (using ACCA Manuals J and D, the ASHRAE Handbook of Fundamentals, or an equivalent computation procedure) and install ducts accordingly.				
	EQ 6.2 Return Air Flow (Forced-Air Systems)	1			
	Ensure that every room (except baths, kitchens, closets, pantries and laundry rooms) had adequate return air flow through the use of multiple returns, transfer grilles, or jump ducts. Size the openings to 1 square inch per cfm of supply and demonstrate that the pressure differential between closed rooms and adjacent spaces with return is no greater than 2.5 Pa (0.01 inch w.c.).				
Distribution of Space Heating & Cooling	**EQ 6.3 Third-Party Performance Test (Forced-Air Systems)**	2			
	Have the total supply air flow rates in each room tested using a flow hood with doors closed, or one of the other acceptable methods cited by the ACCA Quality Installation Specifications. Supply air flow rates must be within +/- 15% (or +/- 10 cfm) of calculated values from ACCA Manual J (as required by EA 6.1).				
	EQ 6.1 Room by Room Load Calculations (Nonducted HVAC Systems)	P			
	Perform design calculations (using ACCA Manuals J and D, the ASHRAE Handbook of Fundamentals, or an equivalent computation procedure) and install ducts accordingly.				
	EQ 6.2 Room by Room Controls (Nonducted HVAC Systems)	1			
	Design the HVAC system with flow control valves on every radiator.				
	EQ 6.3 Multiple Zones (Nonducted HVAC Systems)	2			
	Install nonducted HVAC system with at least two distinct zones with independent thermostat controls.				
Air Filtering	**EQ 7.1 Good Filters (Forced-Air Systems)**	P	P		
	Install air filters with a minimum efficiency reporting value (MERV) ≥ 8 and ensure that air handlers can maintain adequate pressure and air flow. Air filter housings must be airtight to prevent bypass or leakage.				
	EQ 7.2 Better Filters (Forced-Air Systems)	1	1		
	Install air filters with a minimum efficiency reporting value (MERV) ≥ 10 and ensure that air handlers can maintain adequate pressure and air flow. Air filter housings must be airtight to prevent bypass or leakage. OR				
	EQ 7.3 Best Filters (Forced-Air Systems)	2			
	Install air filters with a minimum efficiency reporting value (MERV) ≥ 13 and ensure that air handlers can maintain adequate pressure and air flow. Air filter housings must be airtight to prevent bypass or leakage.				
	EQ 7.1 Good Filters (Nonducted HVAC Systems)	P			
	Install air filters with a minimum efficiency reporting value (MERV) ≥ 8 and maintain adequate pressure and air flow in any mechanical ventilation systems.				
	EQ 7.2 Better Filters (Nonducted HVAC Systems)	1			
	Install air filters with a minimum efficiency reporting value (MERV) ≥ 10 and maintain adequate pressure and air flow in any mechanical ventilation systems. OR				
	EQ 7.3 Best Filters (Nonducted HVAC Systems)	2			
	Install air filters with a minimum efficiency reporting value (MERV) ≥ 13 and maintain adequate pressure and air flow in any mechanical ventilation systems.				
Contaminant Control	**EQ 8.1 Indoor Air Contaminant Control during Construction**	1			
	Upon installation, seal all permanent ducts and vent to minimize contamination during construction. Remove any seals after all phases of construction are completed.				
	EQ 8.2 Indoor Air Contaminant Control (1 point each, 2 points max)	2	1		
	Design and install permanent walk off mats at each entry that are at least 4 feet in length and allow accessibility for cleaning. Design a shoe removal and storage space near the primary entryway, separated from living areas. This space may not have wall to wall carpeting and it must be large enough to accommodate a bench and at least two pairs of shoes per bedroom. Install a central vacuum system with exhaust to outdoors.				
	EQ 8.3 Pre-Occupancy Flush	1			
	Prior to occupancy, flush the home with fresh air according to the guidelines for this credit in the LEED for Homes Referance Manual.				
Radon Protection	**EQ 9.1 Radon-Resistant Construction in High Risk Areas**	P	P		
	If the home is in EPA Radon Zone 1, design and build the home with radon-resistant construction techniques as prescribed by EPA, the International Residential Code, Washington State Ventilation and Indoor Air Quality Code, or some equivalent code or standard.				
	EQ 9.2 Radon-Resistant Construction in Moderate Risk Areas	1			
	If the home is outside EPA Radon Zone 1, design and build the home with radon-resistant construction techniques as prescribed by EPA, the International Residential Code, Washington State Ventilation and Indoor Air Quality Code, or some equivalent code or standards.				
Garage Pollutant Protection	**EQ 10.1 No HVAC in Garage**	P	P		
	Place all air handling equipment and duct work outside the fire rated envelope of the garage.				
	EQ 10.2 Minimize Pollutants from Garage	2	2		
	Tightly seal shared surfaces between garage and conditioned spaces by sealing all penetrations, connecting floor and ceiling joist bays and paint walls and ceiling (carbon monoxide can penetrate unfinished drywall through diffusion). In conditioned spaces next to garage weather strip all doors, place carbon monoxide detectors in adjacent rooms that share a door with the garage, seal all penetrations and seal all cracks at the base of walls. AND/OR				
	EQ 10.3 Exhaust Fan in Garage	1			
	Install an exhaust fan in the garage that is rated for continuous operation. OR				
	EQ 10.4 Detached Garage or No Garage	3			

Awareness & Education (AE)

		I.	II.	III.	IV.
	AE 1.1-1.3 Education of Homeowner or Tenant	2			
	Maintain the performance of the home by educating the occupants (i.e., the homeowner or tenant) about the operations and maintenance of the home's LEED features and equipment. See the LEED for Homes Referance Manual for a full list of education requirements.				
	AE 2. Education of Building Manager	1			
	Maintain the performance of the home by educating the building manager about the operations and maintenance of the home's LEED features and equipment. See the LEED for Homes Referance Manual for a full list of education requirements.				
	Sub Total Points (This Page)		17		
	Grand Total Points (Both Pages)		29.5		

Credits for which upgrade options may be available. (See FreeGreen Spec Sheet)

- EA 2.2 Enhanced Insulation
- EA 6.3 Very High-Efficiency HVAC
- EA 10. Renewable Energy Systems
- MR 2.2 Environmentally Preferable Products

Notes:

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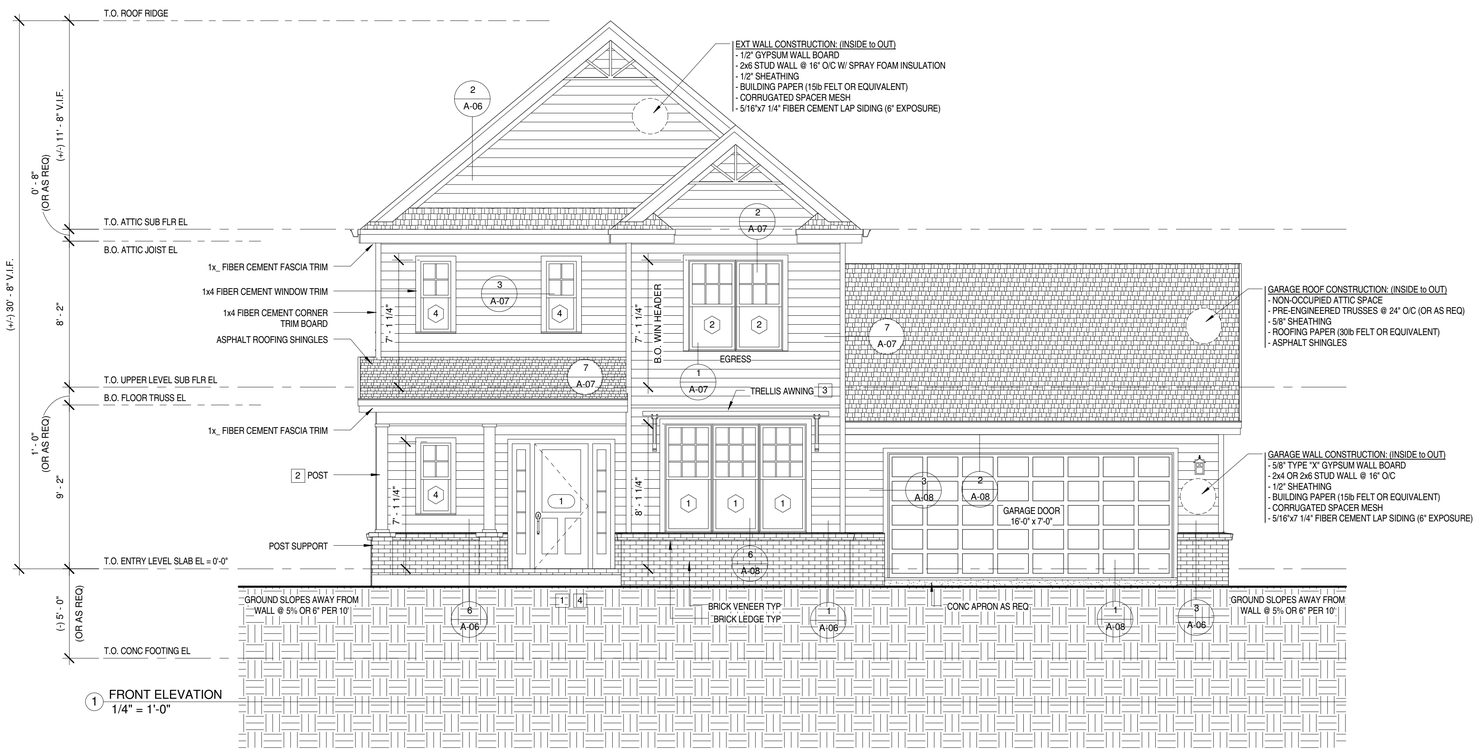
PROJECT NAME:
BUILDER LINE
BRICK ACCENTS

LEED® for Homes
Rating System 2 of 2

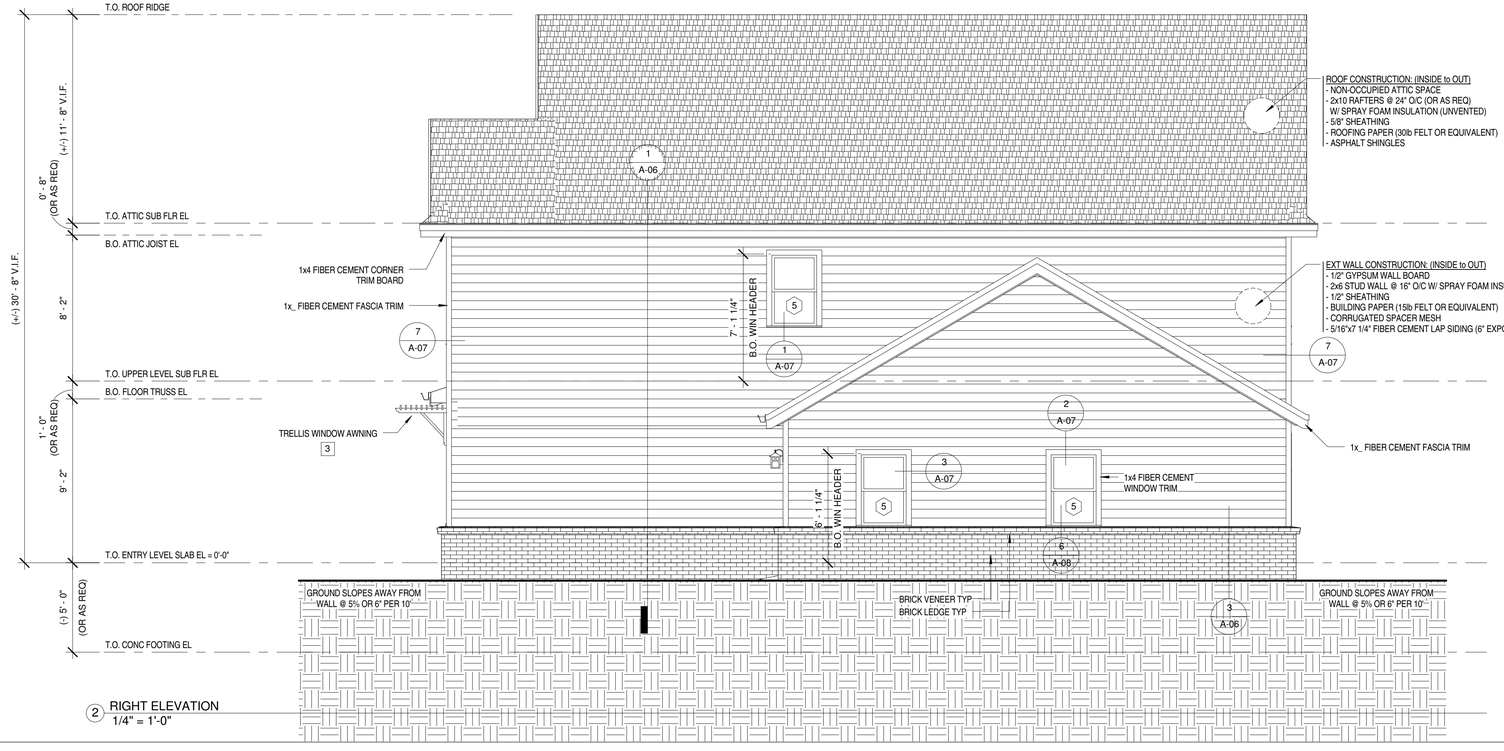
PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A - 0.2

SCALE: 1/4" = 1'-0"



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



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

WINDOW SCHEDULE						
No.	MANUFACTURER	TYPE	ROUGH WIDTH	ROUGH HEIGHT	QUANTITY	LABEL
1	ANDERSON 400 SERIES	DOUBLE HUNG	2' - 8 1/8"	6' - 1 3/8"	7	WDH26510
2	ANDERSON 400 SERIES	DOUBLE HUNG	2' - 8 1/8"	5' - 1 3/8"	6	WDH26410
3	ANDERSON 400 SERIES	AWNING	2' - 0 5/8"	2' - 0 5/8"	3	A21
4	ANDERSON 400 SERIES	DOUBLE HUNG	1' - 10 1/8"	4' - 1 3/8"	3	WDH18310
5	ANDERSON 400 SERIES	DOUBLE HUNG	2' - 8 1/8"	4' - 1 3/8"	5	WDH26310

DOOR SCHEDULE						
No.	MANUFACTURER	TYPE	ROUGH WIDTH	ROUGH HEIGHT	QUANTITY	LABEL
1	THERMA TRU, TRADITIONS	OUT-SWING ENTRY DOOR			1	TS206
2	ANDERSON	OUT-SWING PATIO	5' - 0"	8' - 0"	1	FWO 5080APLR

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NOTES:

EGRESS = WINDOWS WITH MINIMUM CLEAR OPENING OF 5.7 SQUARE FEET (24"Hx20"W MIN). WINDOW SILL HEIGHT NOT MORE THAN 44" ABOVE FLOOR.

1 STEPS OR RAMP TO GRADE AS REQ PER SITE CONDITIONS. MINIMUM 3'-0" LANDING REQUIRED AT ALL ENTRY WAYS.

2 PT POST ON GALV POST ANCHOR. TO FINISH, STAIN OR PAINT TO MATCH EXTERIOR TRIM OR USE 1x_ FIBER CEMENT COVER BOARDS.

3 SEE DETAILS ON PAGE "A-13" IN THIS SET.

4 PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36" IN HEIGHT.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

ELEVATIONS

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A-01

SCALE 1/4" = 1'-0"

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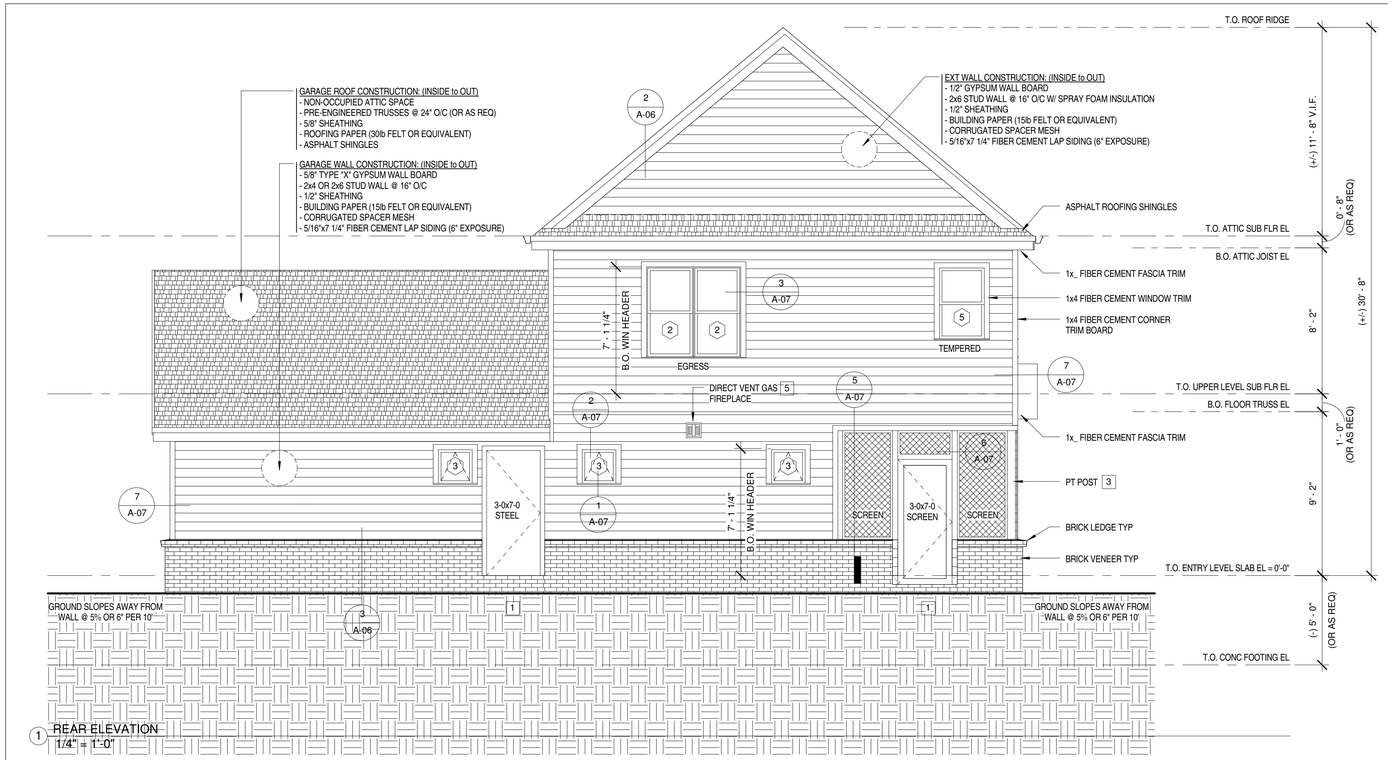
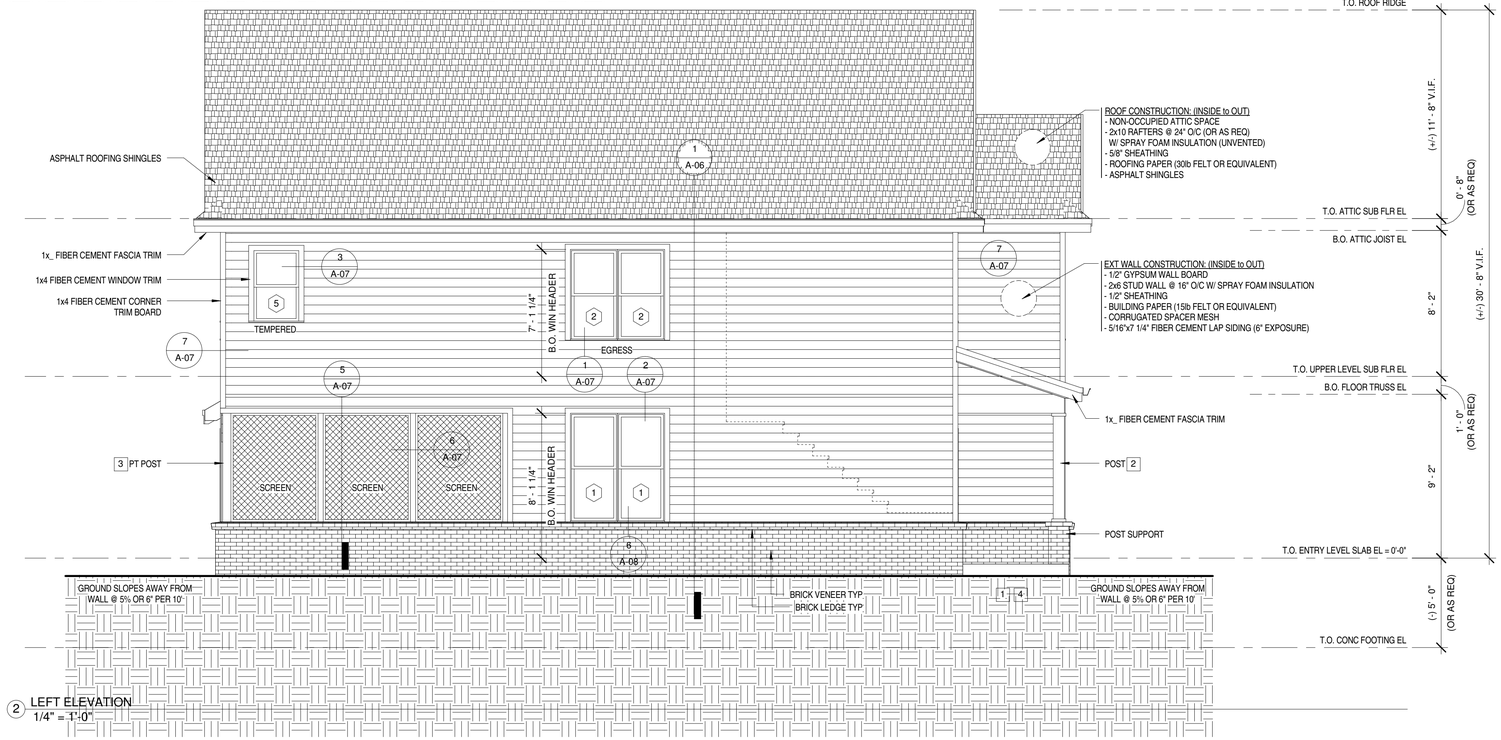


1 REAR ELEVATION
1/4" = 1'-0"



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

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NOTES:

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1. STEPS OR RAMP TO GRADE AS REQ PER SITE CONDITIONS. MINIMUM 3'-0" LANDING REQUIRED AT ALL ENTRY WAYS.
2. PT POST ON GALV POST ANCHOR. TO FINISH, STAIN OR PAINT TO MATCH EXTERIOR TRIM OR USE 1x_ FIBER CEMENT COVER BOARDS.
3. PT POST BUILT INTO PT 2x_ KNEE WALL FRAMING. TO FINISH, STAIN OR PAINT TO MATCH EXTERIOR TRIM OR USE 1x_ FIBER CEMENT COVER BOARDS. ADEQUATE FLASHING AND SEALANT MUST BE PROVIDED TO PREVENT EXCESSIVE WATER FROM ENTERING SCREEN PORCH.
4. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36" IN HEIGHT.
5. LOCATE VENT WITH PROPER OFFSETS FROM BUILDING COMPONENTS SUCH AS WINDOWS, GRADE & OVERHANGS AS DESCRIBED IN MANUFACTURERS SPECIFICATIONS.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

ELEVATIONS

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A-02

SCALE 1/4" = 1'-0"

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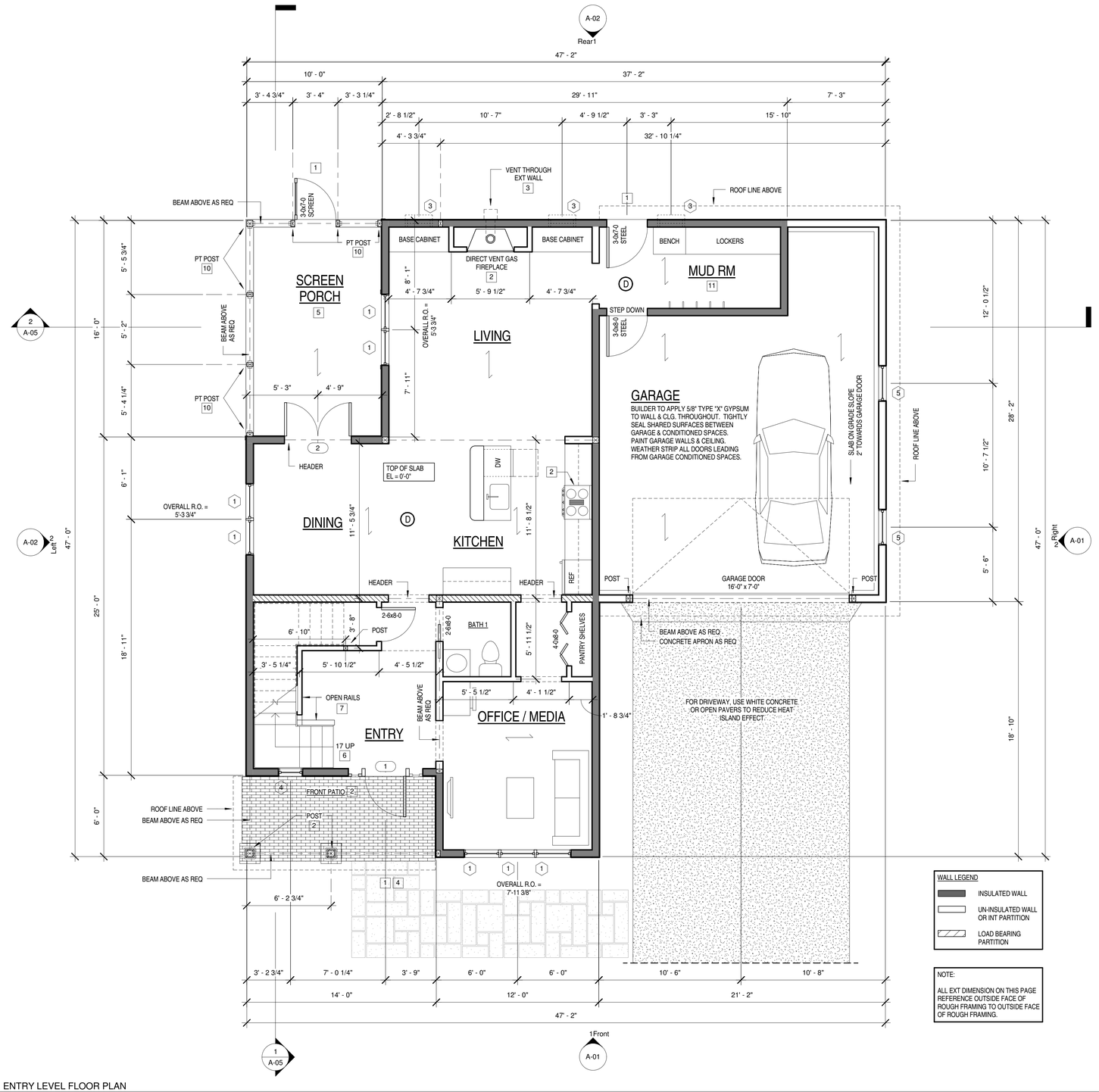

1 ENTRY LEVEL FLOOR PLAN
1/4" = 1'-0"

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NOTES:

EGRESS = WINDOWS WITH MINIMUM CLEAR OPENING OF 5.7 SQUARE FEET (24"Hx20"W MIN). WINDOW SILL HEIGHT NOT MORE THAN 44" ABOVE FLOOR.

(D) = COMBINATION SMOKE & CARBON MONOXIDE DETECTORS: DETECTORS SHALL BE INSTALLED OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BEDROOMS AND ON EACH STORY OF THE DWELLING INCLUDING BASEMENTS. ALL DETECTORS SHALL BE CONNECTED TO A SOUNDING DEVICE OR OTHER DETECTORS TO PROVIDE AN ALARM AUDIBLE IN ALL SLEEPING AREAS. ALL DETECTORS SHALL BE APPROVED AND LISTED AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

1. STEPS OR RAMP TO GRADE AS REQ PER SITE CONDITIONS. MINIMUM 3'-0" LANDING REQUIRED AT ALL ENTRY WAYS.
2. VENT AS PER MANUFACTURERS SPECIFICATIONS.
3. LOCATE VENT WITH PROPER OFFSETS FROM BUILDING COMPONENTS SUCH AS WINDOWS, GRADE & OVERHANGS AS DESCRIBED IN MANUFACTURERS SPECIFICATIONS.
4. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36" IN HEIGHT.
5. FULLY INSULATE FLOOR ABOVE OUTSIDE AIR WITH SPRAY FOAM INSULATION. SOFFIT MATERIAL TO BE 1x4 T&G WOOD.
6. FLOOR TO FLOOR HEIGHTS WILL VARY BASED ON DEPTH OF FLOOR FRAMING AS DETERMINED BY STRUCTURAL ENGINEER. STAIR RISERS MUST NOT EXCEED 7 3/4", STAIR TREADS MUST NOT BE LESS THAN 10" AS PER IRC 2006.
7. OPEN STAIR RAILS MUST BE SPACED SUCH THAT 4" SPHERE CANNON PASS THROUGH AS PER IRC 2006.
8. PROVIDE ACCESS HATCH OR SMALL DOOR INTO ATTIC SPACE ABOVE.
9. PT POST ON GALV POST ANCHOR. TO FINISH, STAIN OR PAINT TO MATCH EXTERIOR TRIM OR USE 1x_ FIBER CEMENT COVER BOARDS.
10. PT POST BUILT INTO PT 2x_ KNEE WALL FRAMING. TO FINISH, STAIN OR PAINT TO MATCH EXTERIOR TRIM OR USE 1x_ FIBER CEMENT COVER BOARDS. ADEQUATE FLASHING AND SEALANT MUST BE PROVIDED TO PREVENT EXCESSIVE WATER FROM ENTERING SCREEN PORCH.
11. PROVIDE SHOE STORAGE & BENCH IN MUD ROOM AREA. FLOOR COVERINGS SHOULD BE NON ABSORBENT

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

ENTRY LEVEL FLOOR PLAN

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
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A-03

SCALE 1/4" = 1'-0"

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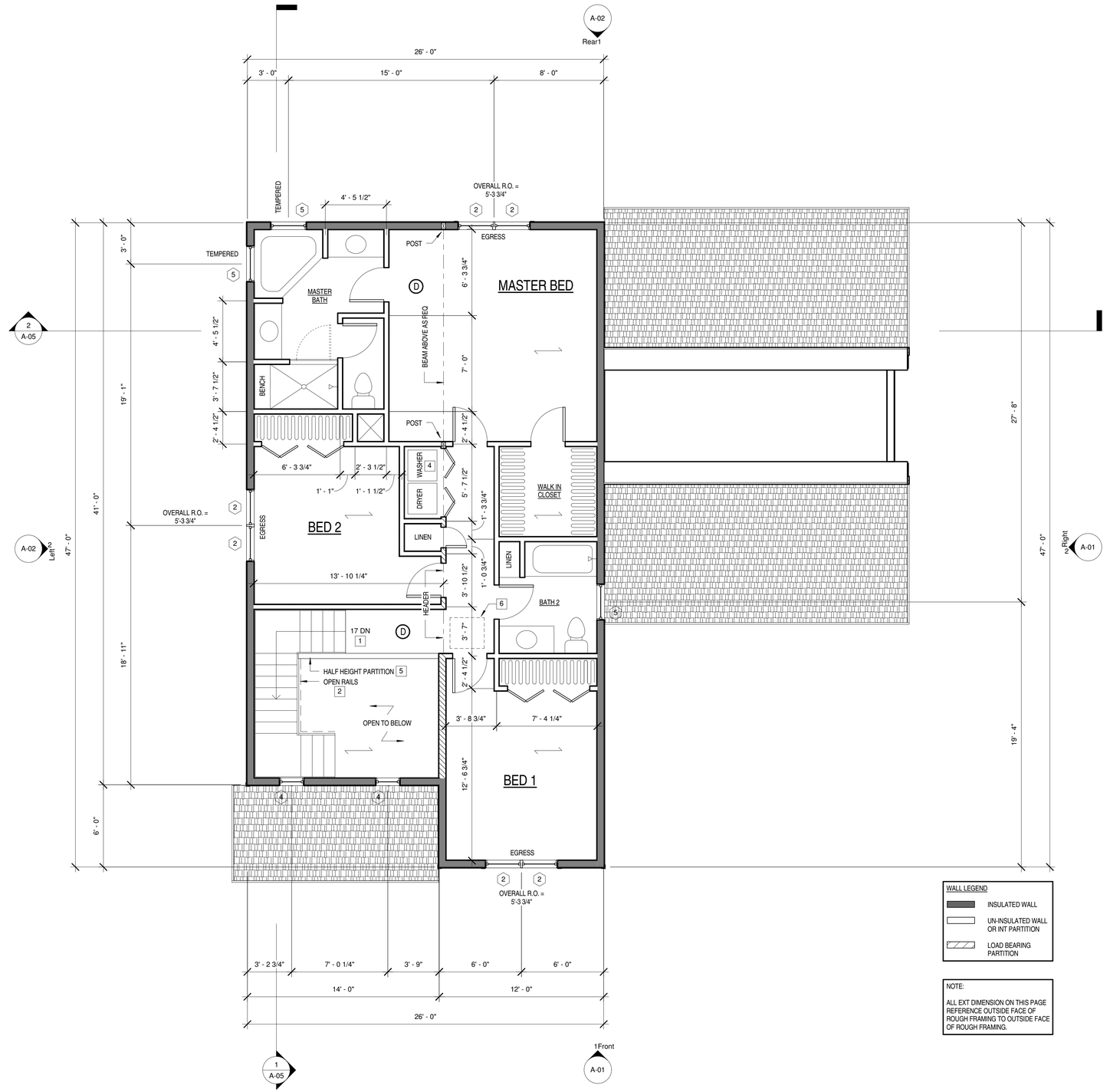

1 UPPER LEVEL FLOOR PLAN
1/4" = 1'-0"

WALL LEGEND

- INSULATED WALL
- UN-INSULATED WALL OR INT PARTITION
- LOAD BEARING PARTITION

NOTE:

ALL EXT DIMENSION ON THIS PAGE REFERENCE OUTSIDE FACE OF ROUGH FRAMING TO OUTSIDE FACE OF ROUGH FRAMING.

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NOTES:

EGRESS = WINDOWS WITH MINIMUM CLEAR OPENING OF 5.7 SQUARE FEET (24"Hx20"W MIN). WINDOW SILL HEIGHT NOT MORE THAN 44" ABOVE FLOOR.

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1. FLOOR TO FLOOR HEIGHTS WILL VARY BASED ON DEPTH OF FLOOR FRAMING AS DETERMINED BY STRUCTURAL ENGINEER. STAIR RISERS MUST NOT EXCEED 7 3/4", STAIR TREADS MUST NOT BE LESS THAN 10" AS PER IRC 2006.
2. OPEN STAIR RAILS MUST BE SPACED SUCH THAT 4" SPHERE CANNON PASS THROUGH AS PER IRC 2006.
3. PROVIDE ACCESS HATCH OR SMALL DOOR INTO ATTIC SPACE ABOVE.
4. DRIP PAN AND FLOOR DRAIN UNDER WASHER IN LAUNDRY AREA. VENT DRYER THROUGH ADJACENT EXT WALL OR UP THROUGH ROOF.
5. PROVIDE PAINTED OR STAINED SOLID WOOD CAP ON TOP OF HALF HEIGHT PARTITION.
6. PROVIDE ACCESS HATCH INTO ATTIC SPACE.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
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UPPER LEVEL FLOOR PLAN

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU
	A-04
SCALE	1/4" = 1'-0"

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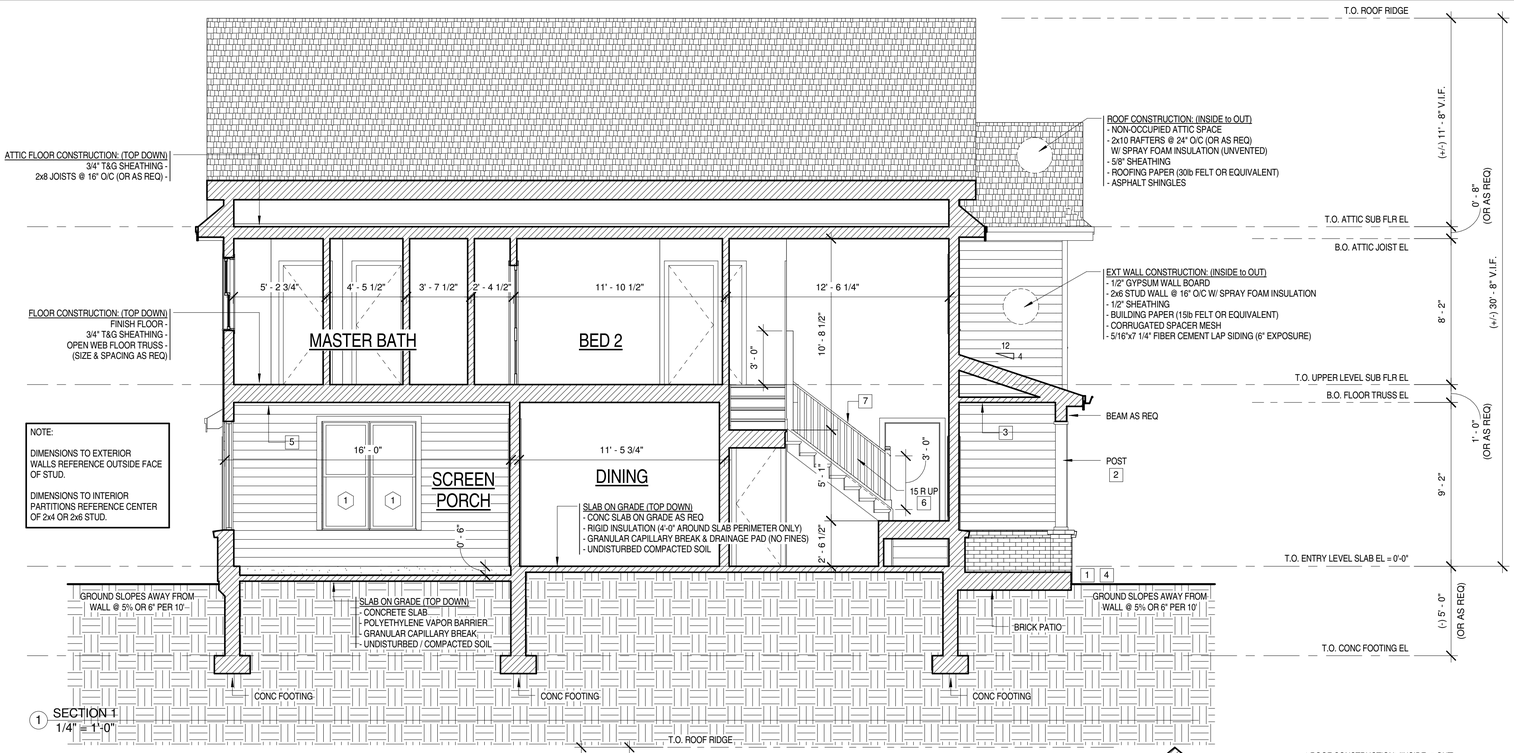
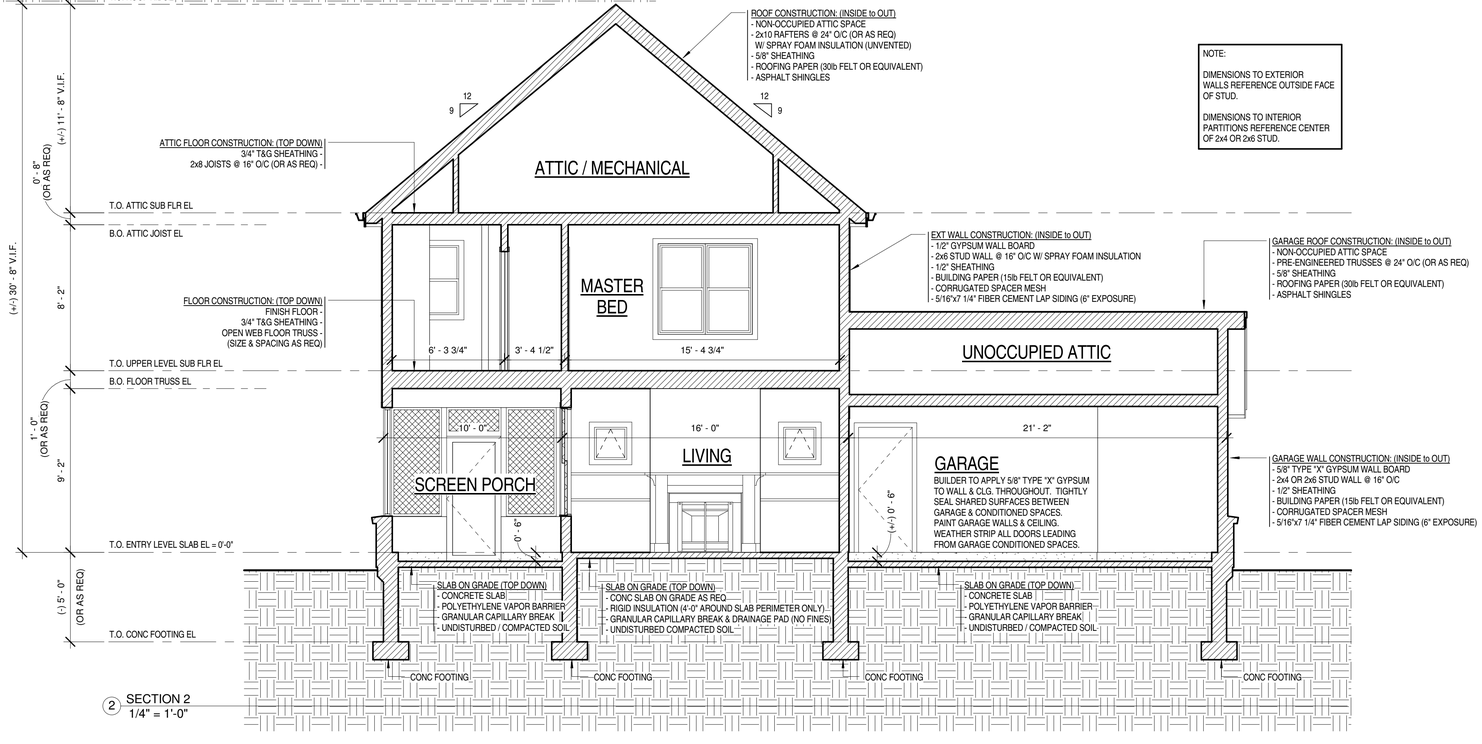


1 SECTION 1
1/4" = 1'-0"



2 SECTION 2
1/4" = 1'-0"

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5. FULLY INSULATE FLOOR ABOVE OUTSIDE AIR WITH SPRAY FOAM INSULATION. SOFFIT MATERIAL TO BE 1x4 T&G WOOD TO MATCH WINDOW TRIM
6. FLOOR TO FLOOR HEIGHTS WILL VARY BASED ON DEPTH OF FLOOR FRAMING AS DETERMINED BY STRUCTURAL ENGINEER. STAIR RISERS MUST NOT EXCEED 7 3/4", STAIR TREADS MUST NOT BE LESS THAN 10" AS PER IRC 2006.
7. OPEN STAIR RAILS MUST BE SPACED SUCH THAT 4" SPHERE CANNON PASS THROUGH AS PER IRC 2006.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE

BRICK ACCENTS

SECTIONS

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
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A-05

SCALE 1/4" = 1'-0"

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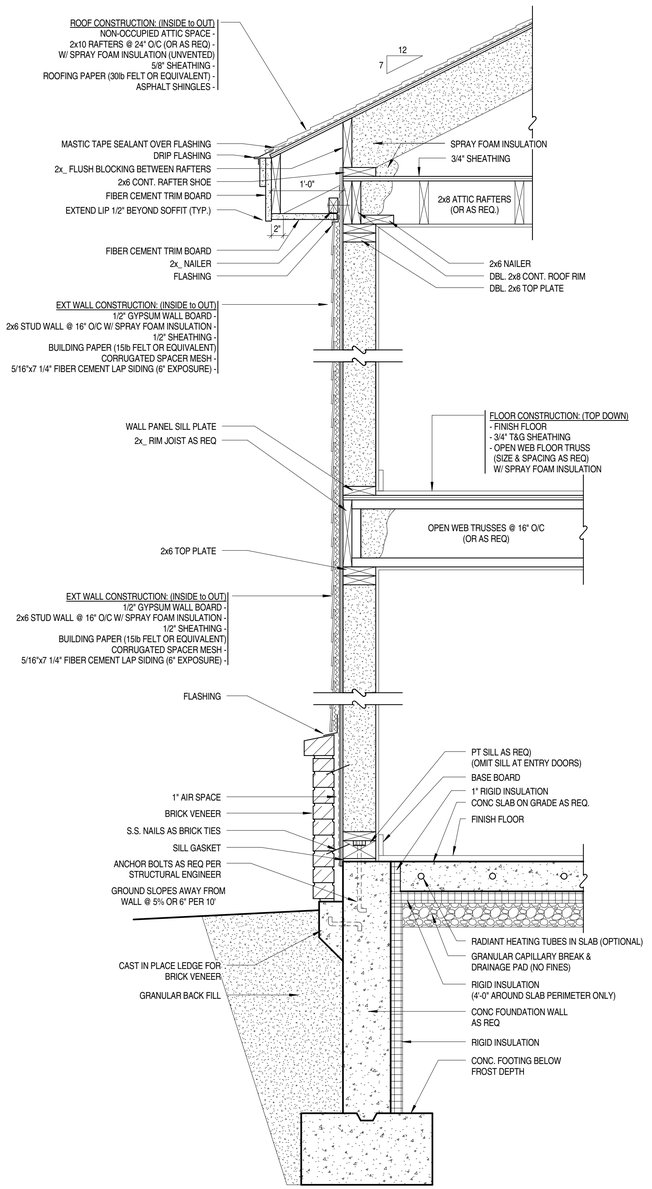
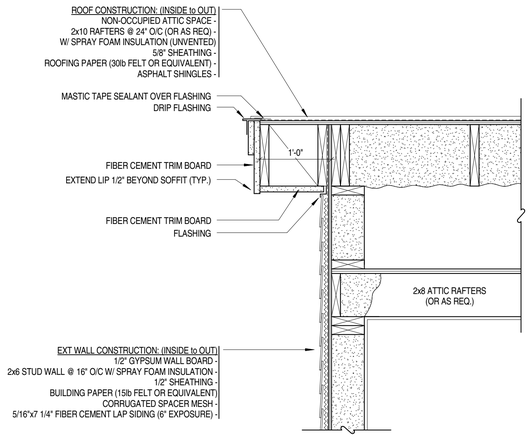
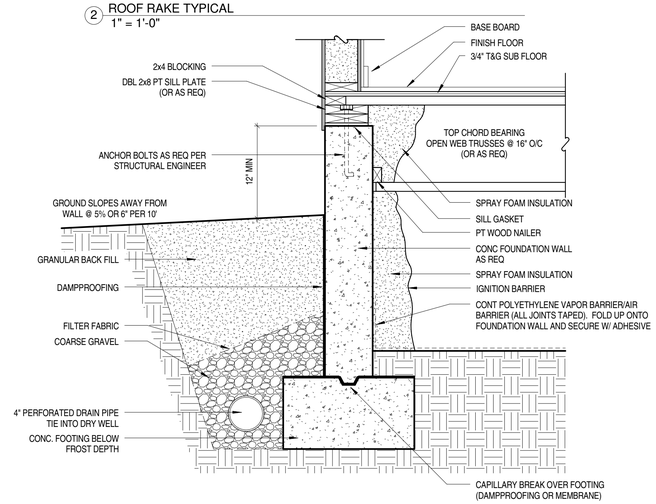


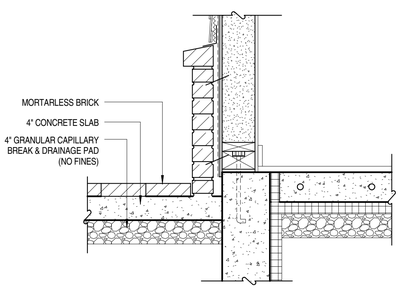
1 TYPICAL WALL SECTION
1" = 1'-0"



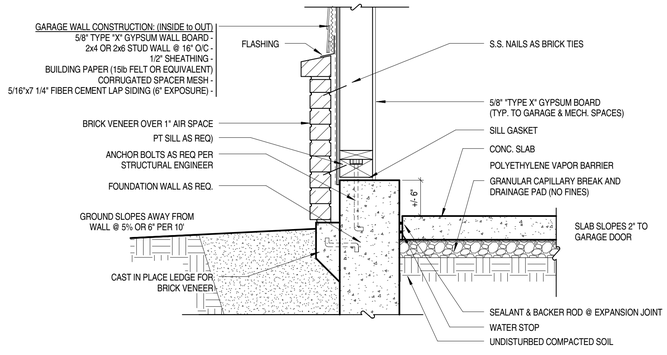
2 ROOF RAKE TYPICAL
1" = 1'-0"



4 ALTERNATIVE FOUNDATION DETAIL
(CRAWL SPACE)
1" = 1'-0"



6 BRICK PATIO AT EXT WALL
1" = 1'-0"



3 GARAGE WALL (TYPICAL)
1" = 1'-0"

(WARM CLIMATES ONLY)

5 ALTERNATIVE FOUNDATION DETAIL
(MONOLITHIC SLAB)
1" = 1'-0"

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NOTES:

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No.	Description	Date

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BUILDER LINE
BRICK ACCENTS

DETAILS 1

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
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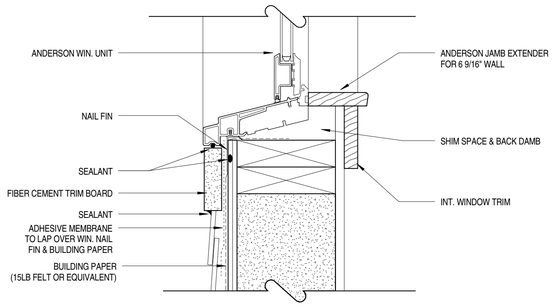
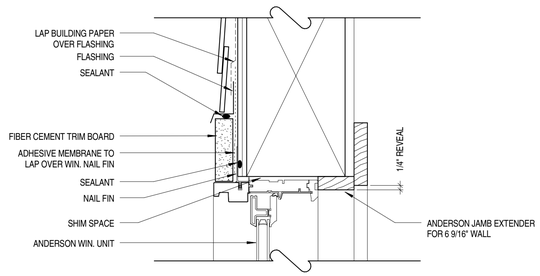
A-06

SCALE 1" = 1'-0"

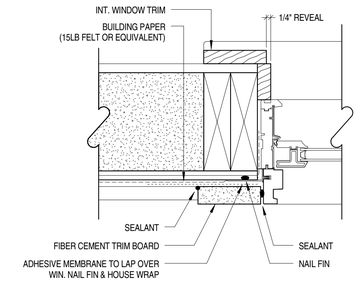
10/29/2008 12:38:59 PM



1 ANDERSON WINDOW SILL
3" = 1'-0"



2 ANDERSON WINDOW HEAD
3" = 1'-0"



3 ANDERSON WINDOW JAMB
3" = 1'-0"

STEP 1:
WOOD FRAME WALL WITH SHEATHING AND HOUSE WRAP

STEP 2:
MODIFIED "I" CUT IN HOUSE WRAP

STEP 3:
- HOUSEWRAP FOLDED IN: ALTERNATELY, TUCK HEAD FLAP UNDER
- INSTALL WOOD BACKDAM

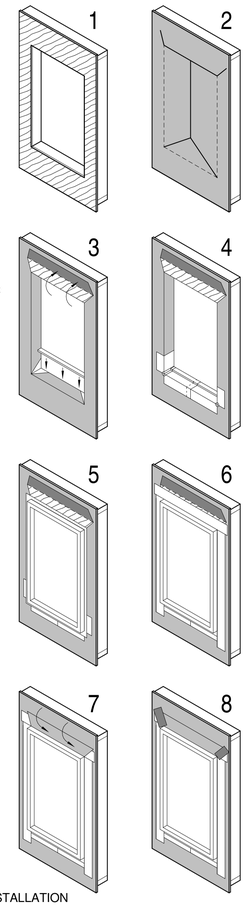
STEP 4:
- INSTALL FIRST PIECE OF ADHESIVE BACKED FLASHING
- INSTALL SECOND PIECE OF ADHESIVE BACKED FLASHING
- INSTALL CORNER PATCHES AT SILL

STEP 5:
INSTALL WINDOW PLUMB, LEVEL AND SQUARE PER MANUFACTURER'S INSTRUCTIONS

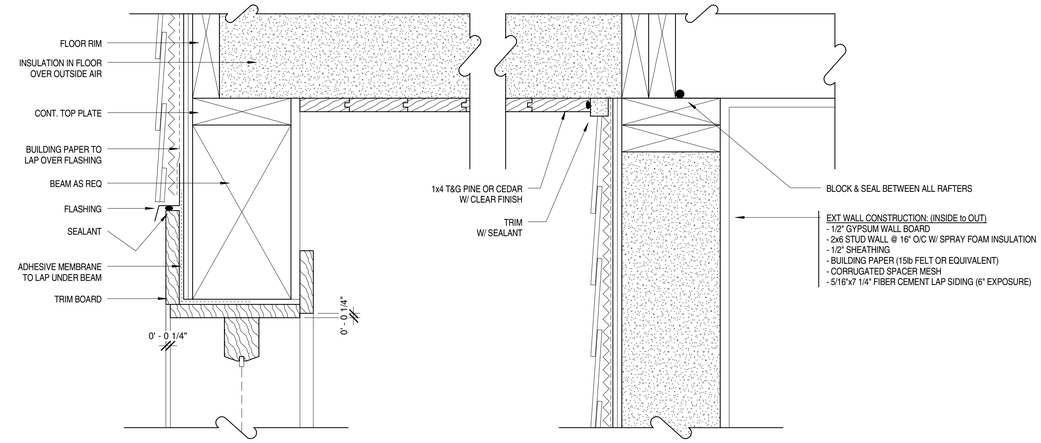
STEP 6:
INSTALL JAMB FLASHING FIRST THEN HEAD FLASHING

STEP 7:
FOLD DOWN HOUSEWRAP AT HEAD

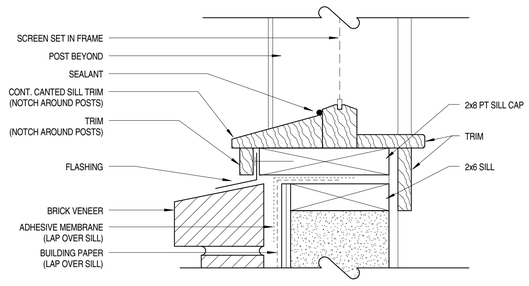
STEP 8:
APPLY CORNER PATCHES AT HEAD

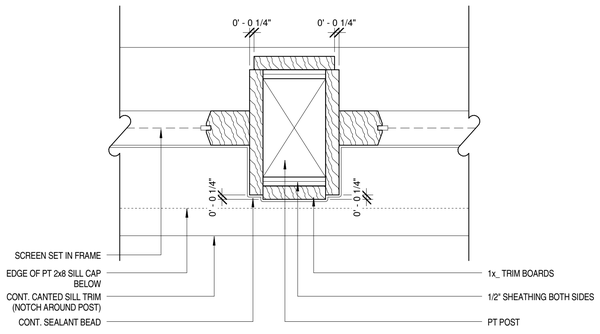


4 SUGGESTED WINDOW INSTALLATION (TYPICAL)
1" = 1'-0"

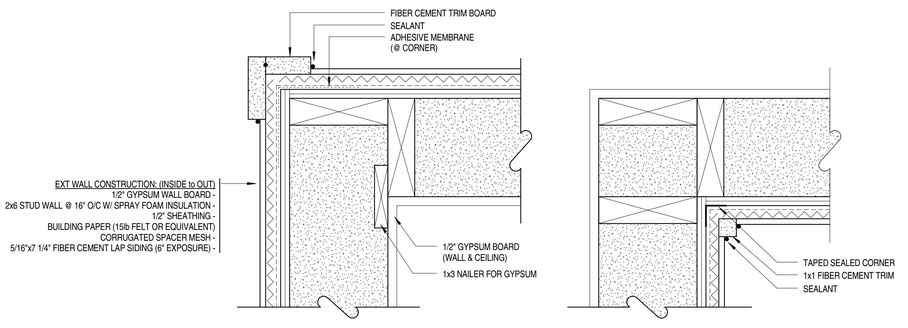


5 SCREEN PORCH SECTION
3" = 1'-0"





6 SCREEN PORCH JAMB
3" = 1'-0"



7 CORNER DETAILS (TYPICAL)
3" = 1'-0"

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NOTES:

REVISION SCHEDULE:

No.	Description	Date

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BUILDER LINE
BRICK ACCENTS

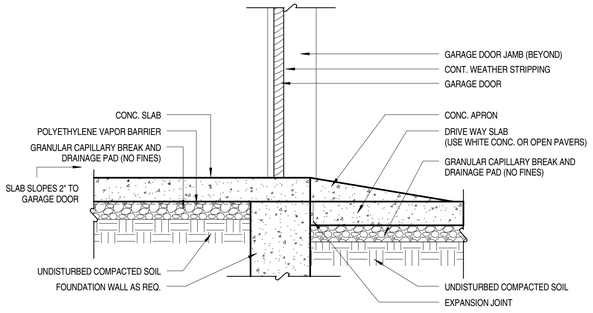
DETAILS 2

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

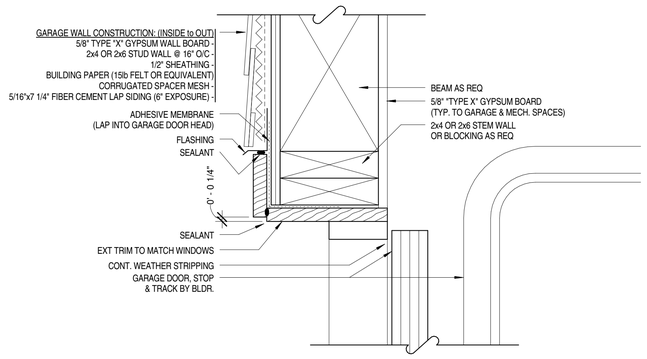
A-07

SCALE: As indicated

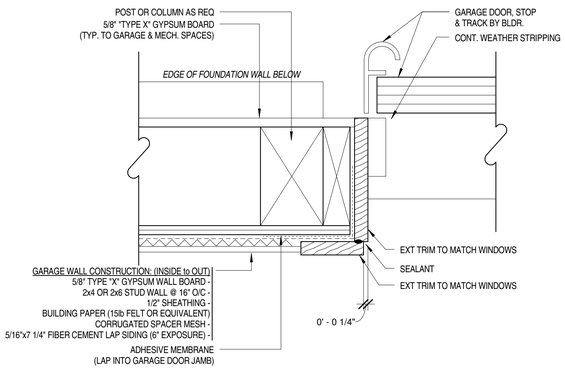
10/29/2008 12:39:25 PM



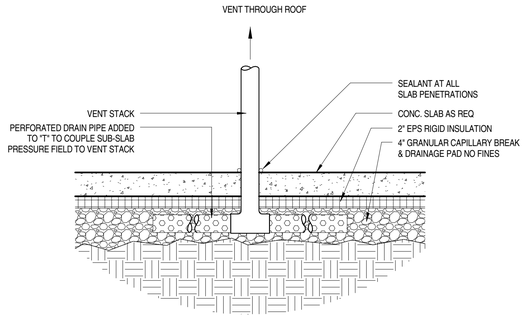
1 GARAGE DOOR SILL
1" = 1'-0"



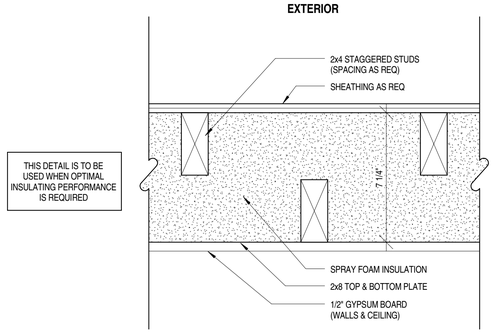
2 GARAGE DOOR HEAD
3" = 1'-0"



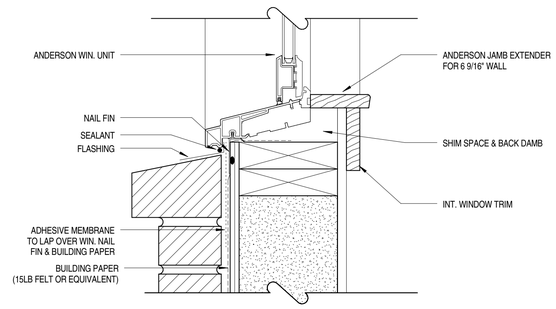
3 Garage-Door Jamb-1
3" = 1'-0"



4 RADON DE-PRESSURIZATION DETAIL
1" = 1'-0"



5 STAGGERED EXT STUD WALL
(OPTIONAL)
3" = 1'-0"



6 ANDERSON WINDOW SILL @ BRICK
3" = 1'-0"

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CHARLESTOWN, MA 02129

NOTES:

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

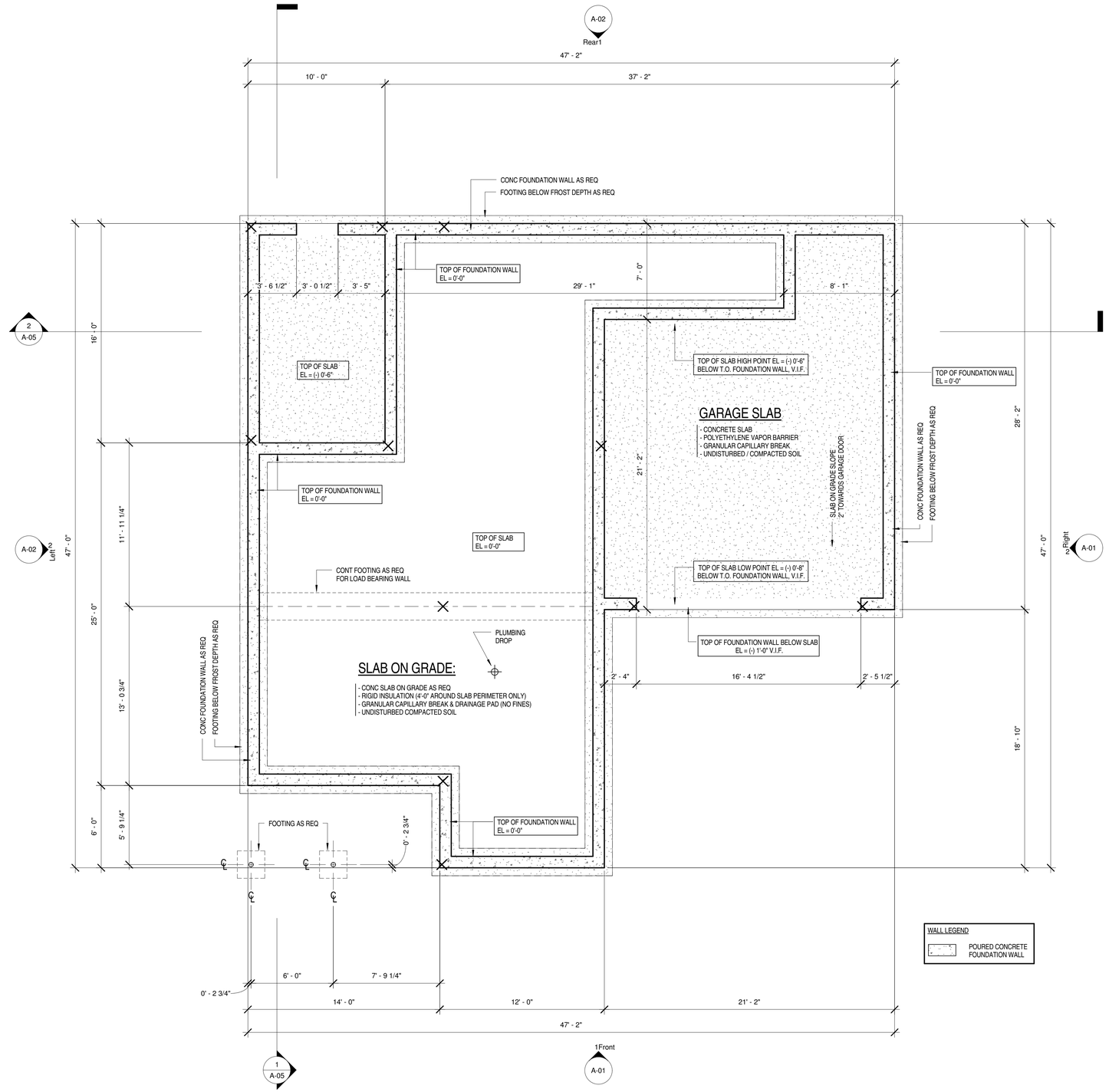
DETAILS 3

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A-08

SCALE: As indicated

10/29/2008 12:39:54 PM



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

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NOTES:

BASEMENTS / CRAWL SPACES / SLABS:
THE BUILDER ASSUMES ALL RESPONSIBILITIES FOR PROVIDING ACCESS FOR DUCT AND PLUMBING CHASES BELOW CONCRETE SLABS AND THROUGH FOUNDATION WALLS AS REQUIRED. IT IS ALSO THE RESPONSIBILITY OF THE BUILDER TO PROVIDE ADEQUATE LIGHT AND VENTILATION FOR BASEMENTS AND OR CRAWL SPACES AS REQUIRED BY LOCAL CODES.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

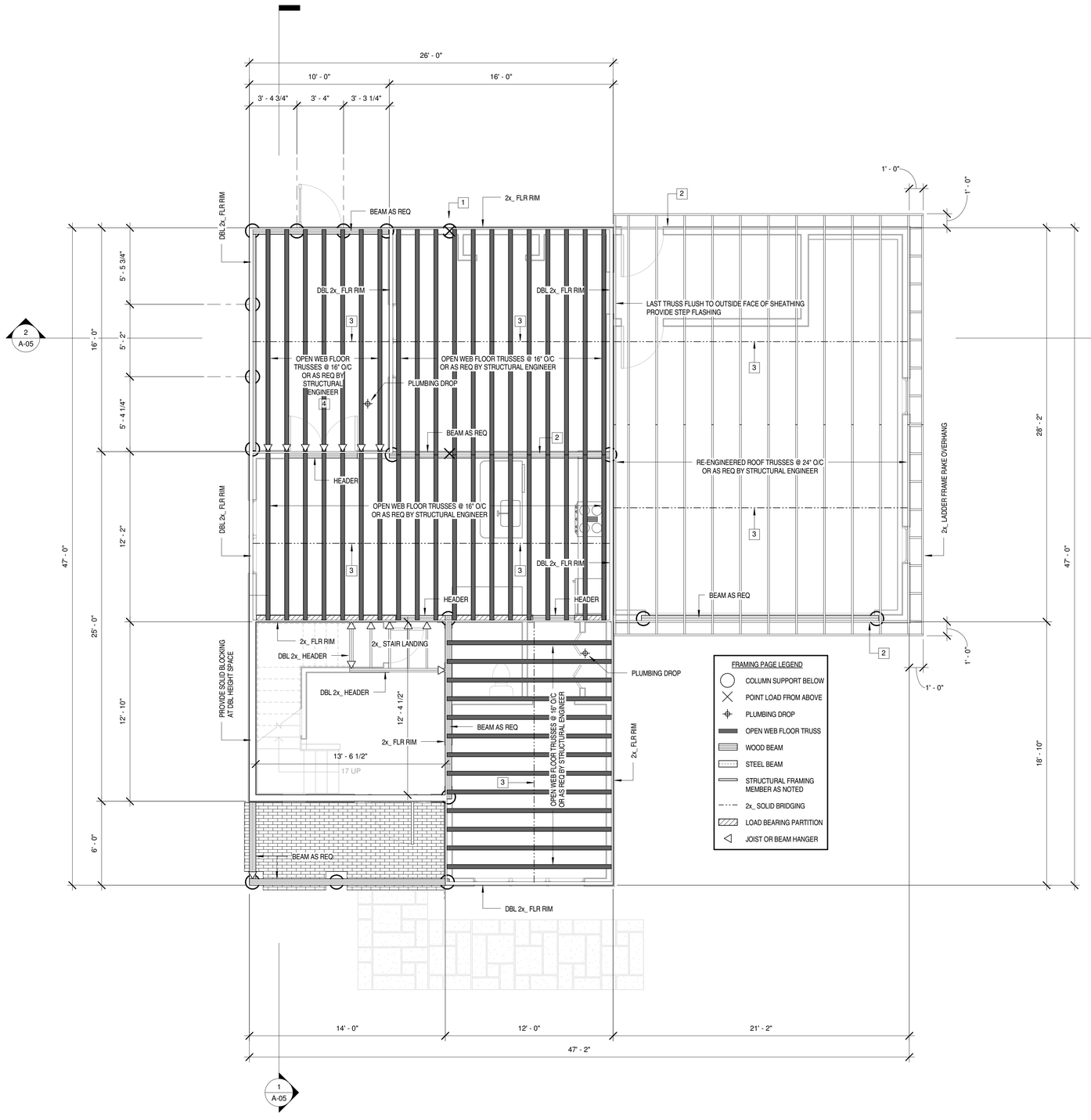
FOUNDATION PLAN

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A-09

SCALE 1/4" = 1'-0"

10/29/2008 12:40:23 PM



1 UPPER LEVEL FLOOR FRAMING PLAN
1/4" = 1'-0"

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GENERAL:

THE FRAMING LAYOUT ON THIS PAGE IS INTENDED TO BE A SUGGESTED LAYOUT ONLY. DESIGN LOADS & WEATHER CONDITIONS VARY BY REGION. AS A RESULT THE SIZE, SPACING & LAYOUT OF ALL STRUCTURAL ELEMENTS IN THIS HOME DESIGN MUST BE APPROVED BY A **STRUCTURAL ENGINEER** AND CODE OFFICIAL BASED ON YOUR SPECIFIC SITE LOCATION PRIOR TO CONSTRUCTION.

MATERIAL SPECIFICATIONS: (VERIFY W/ LOCAL CODE)

FLOOR SHEATHING:
23/32" APA-RATED STURD-I-FLOOR, T&G,
48/24 SPAN RATING, EXPOSURE 1
10d COMMON NAILS @ 6" O/C B.N. & E.N.,
10d COMMON NAILS @ 10" O/C INT. FRAMING

ROOF SHEATHING:
15/32" APA-RATED EXPOSURE 1,
24" MINIMUM SPAN RATING,
8d COMMON NAILS @ 6" O/C B.N. & E.N.,
8d COMMON NAILS @ 10" O/C INT. FRAMING

SAWN STRUCTURAL FRAMING MEMBERS:

MEMBERS	*GRADE*
2x_ WALL STUDS	D.F. #2
2x_ FLOOR JOISTS & ROOF RAFTERS	D.F. #2
BEAMS & HEADERS	D.F. #1
POSTS (4x,6x,8x)	D.F. #1

WOOD BEAM MINIMUM ALLOWABLE BENDING STRESS:

MEMBERS	*Fb (PSI)*
GLUED LAMINATED TIMBERS	2400
LAMINATED VENEER LUMBER	2700

INTERIOR HEADERS:
INTERIOR NON-BEARING SPANS USE:
2x4 FLAT FOR SPANS UP TO 3'-0"
4x4 D.F. #2 FOR SPANS UP TO 5'-0"
4x6 D.F. #2 FOR SPANS UP TO 8'-0"

NOTES:

1. PROVIDE SOLID BLOCKING FOR FLUSH SURFACE UNDER ALL STRUCTURAL POINT LOADS FROM POSTS ABOVE.
2. PROVIDE 2x_ BLOCKING BETWEEN TRUSSES
3. 2x6 SOLID BRIDGING. SECURE TO EACH TRUSS AND AT BOTH ENDS TO RIM JOIST.
4. FULLY INSULATE FLOOR ABOVE OUTSIDE AIR WITH SPRAY FOAM INSULATION. SOFFIT MATERIAL TO BE 1x4 T&G WOOD TO MATCH WINDOW TRIM

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

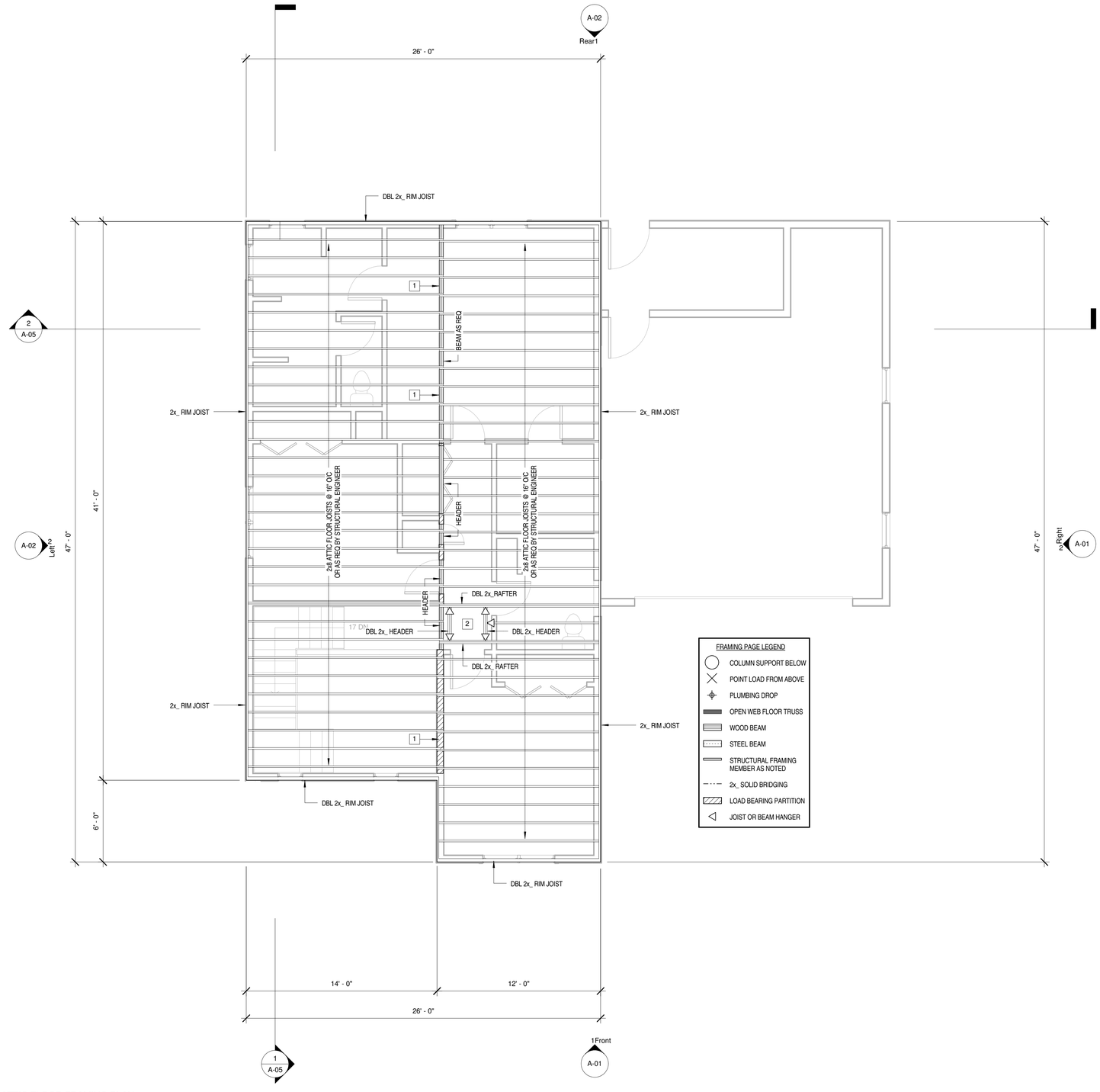
UPPER LEVEL FLR FRAMING PLAN

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A-10

SCALE 1/4" = 1'-0"

10/29/2008 12:40:49 PM



1 ATTIC FLOOR FRAMING PLAN
1/4" = 1'-0"

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GENERAL:

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MATERIAL SPECIFICATIONS: (VERIFY W/ LOCAL CODE)

FLOOR SHEATHING:
23/32" APA-RATED STURD-I-FLOOR, T&G,
48/24 SPAN RATING, EXPOSURE 1
10d COMMON NAILS @ 6" O/C B.N. & E.N.,
10d COMMON NAILS @ 10" O/C INT. FRAMING

ROOF SHEATHING:
15/32" APA-RATED EXPOSURE 1,
24" MINIMUM SPAN RATING,
8d COMMON NAILS @ 6" O/C B.N. & E.N.,
8d COMMON NAILS @ 10" O/C INT. FRAMING

SAWN STRUCTURAL FRAMING MEMBERS:

MEMBERS	*GRADE*
2x_ WALL STUDS	D.F. #2
2x_ FLOOR JOISTS & ROOF RAFTERS	D.F. #2
BEAMS & HEADERS	D.F. #1
POSTS (4x,6x,8x)	D.F. #1

WOOD BEAM MINIMUM ALLOWABLE BENDING STRESS:

MEMBERS	*Fb (PSI)*
GLUED LAMINATED TIMBERS	2400
LAMINATED VENEER LUMBER	2700

INTERIOR HEADERS:
INTERIOR NON-BEARING SPANS USE:
2x4 FLAT FOR SPANS UP TO 3'-0"
4x4 D.F. #2 FOR SPANS UP TO 5'-0"
4x6 D.F. #2 FOR SPANS UP TO 8'-0"

NOTES:

1 PROVIDE 2x_ BLOCKING BETWEEN ATTIC RAFTERS

2 PROVIDE ACCESS HATCH INTO ATTIC SPACE.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

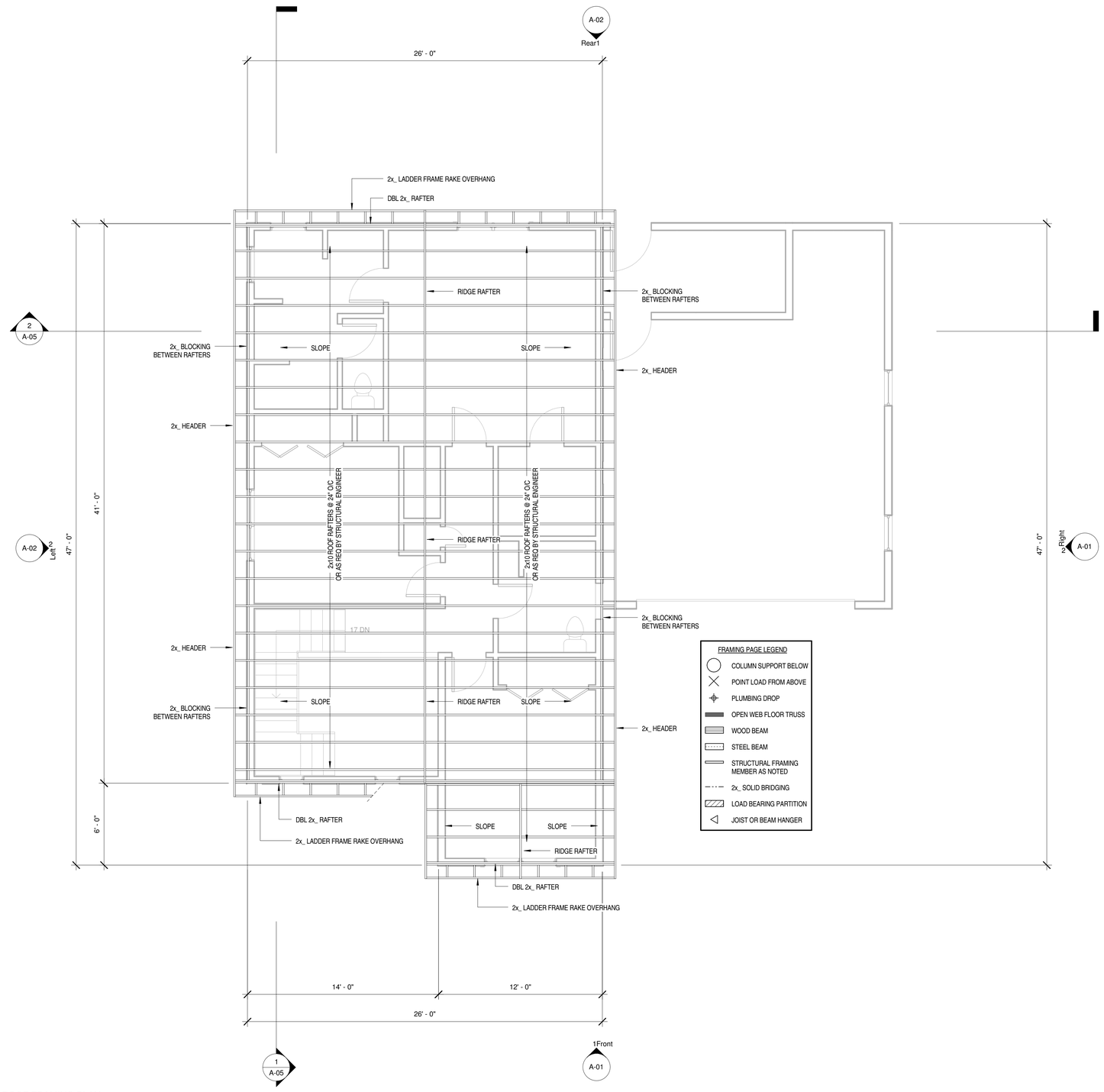
ATTIC FLOOR FRAMING PLAN

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A-11

SCALE 1/4" = 1'-0"

10/30/2008 12:30:53 PM



1 ROOF FRAMING PLAN
1/4" = 1'-0"

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GENERAL:

THE FRAMING LAYOUT ON THIS PAGE IS INTENDED TO BE A SUGGESTED LAYOUT ONLY. DESIGN LOADS & WEATHER CONDITIONS VARY BY REGION. AS A RESULT THE SIZE, SPACING & LAYOUT OF ALL STRUCTURAL ELEMENTS IN THIS HOME DESIGN MUST BE APPROVED BY A **STRUCTURAL ENGINEER** AND CODE OFFICIAL BASED ON YOUR SPECIFIC SITE LOCATION PRIOR TO CONSTRUCTION.

MATERIAL SPECIFICATIONS: (VERIFY W/ LOCAL CODE)

FLOOR SHEATHING:
23/32" APA-RATED STURD-I-FLOOR, T&G,
48/24 SPAN RATING, EXPOSURE 1
10d COMMON NAILS @ 6" O/C B.N. & E.N.,
10d COMMON NAILS @ 10" O/C INT. FRAMING

ROOF SHEATHING:
15/32" APA-RATED EXPOSURE 1,
24" MINIMUM SPAN RATING,
8d COMMON NAILS @ 6" O/C B.N. & E.N.,
8d COMMON NAILS @ 10" O/C INT. FRAMING

SAWN STRUCTURAL FRAMING MEMBERS:

MEMBERS	*GRADE*
2x_ WALL STUDS	D.F. #2
2x_ FLOOR JOISTS & ROOF RAFTERS	D.F. #2
BEAMS & HEADERS	D.F. #1
POSTS (4x,6x,8x)	D.F. #1

WOOD BEAM MINIMUM ALLOWABLE BENDING STRESS:

MEMBERS	*Fb (PSI)*
GLUED LAMINATED TIMBERS	2400
LAMINATED VENEER LUMBER	2700

INTERIOR HEADERS:
INTERIOR NON-BEARING SPANS USE:
2x4 FLAT FOR SPANS UP TO 3'-0"
4x4 D.F. #2 FOR SPANS UP TO 5'-0"
4x6 D.F. #2 FOR SPANS UP TO 8'-0"

NOTES:

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

ROOF FRAMING PLAN

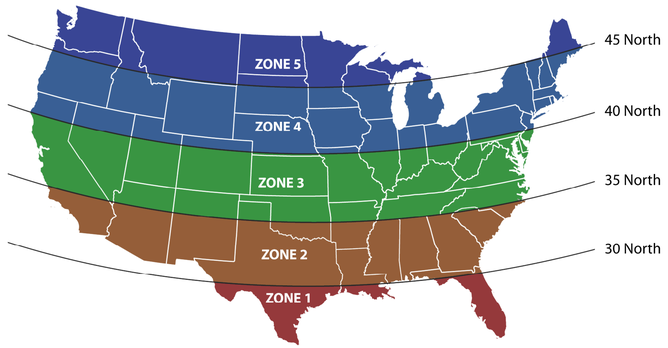
PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

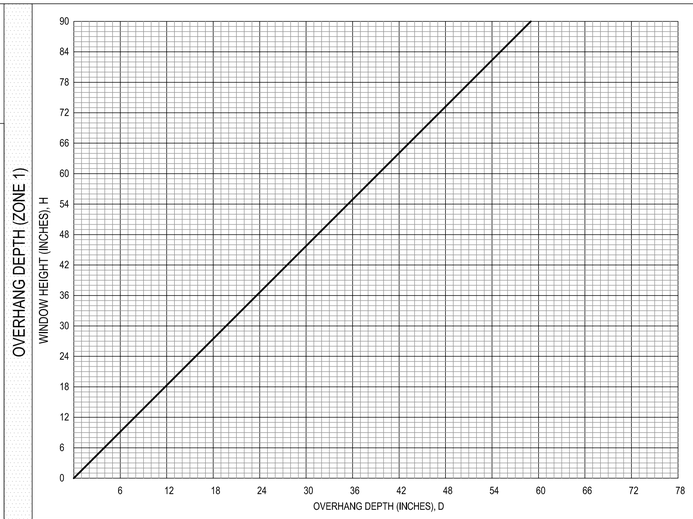
A-12

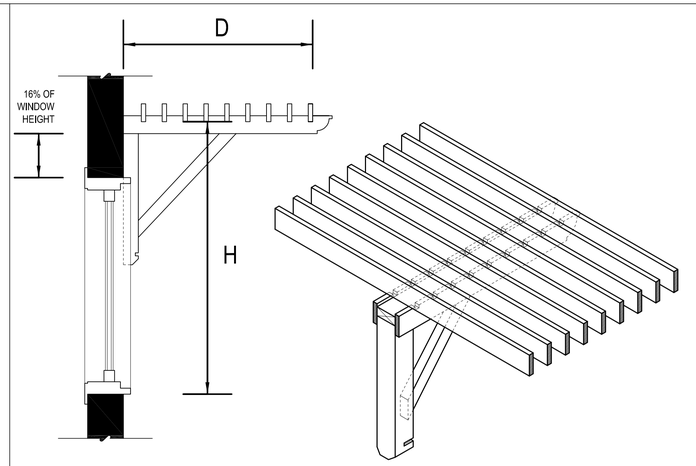
SCALE 1/4" = 1'-0"

10/29/2008 12:41:44 PM

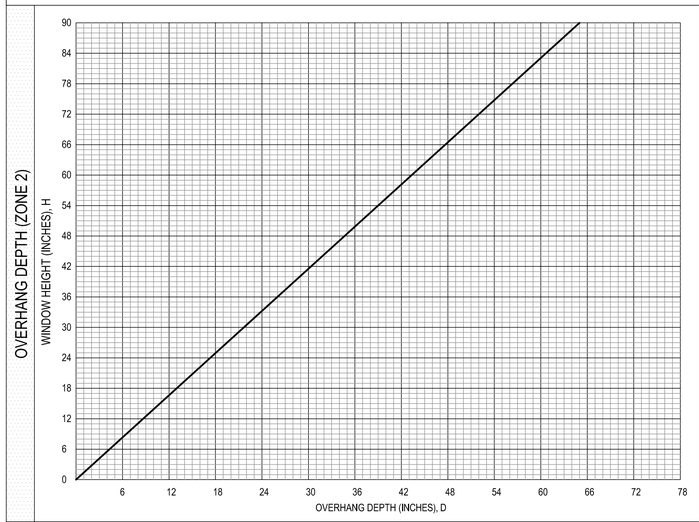
STEP 1: FIND YOUR ZONE
STEP 2: FROM THE TABLE, DETERMINE OVERHANG DEPTH FOR YOUR WINDOWS
STEP 3: CHOOSE YOUR WINDOW SUN SHADING DEVICE
STEP 4: CHOOSE YOUR MATERIALS

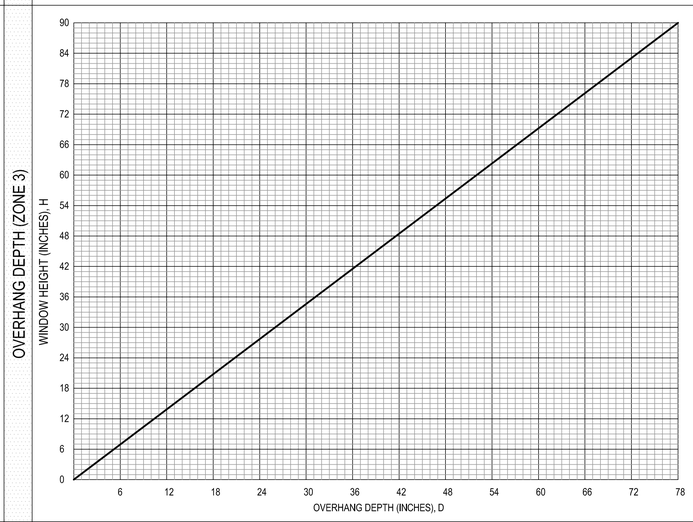


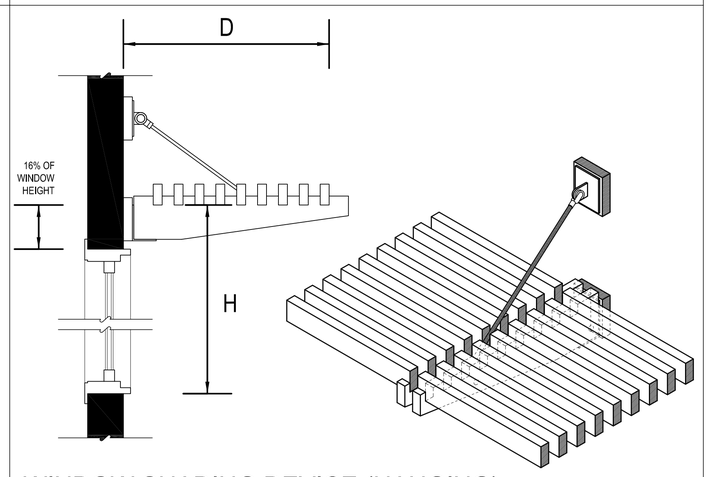




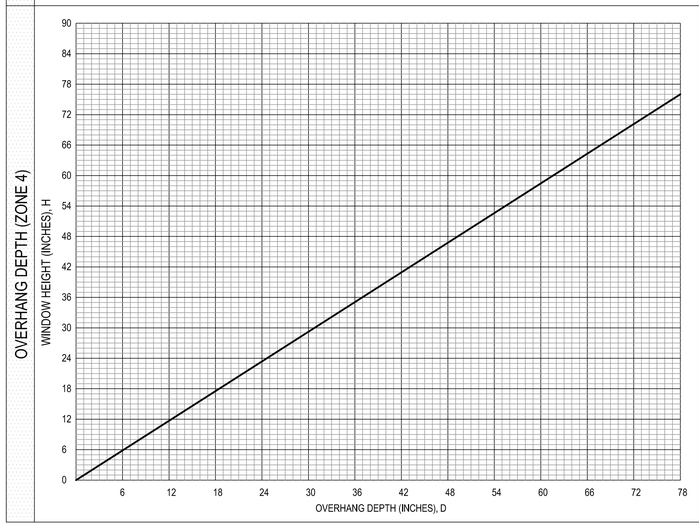
WINDOW SHADING DEVICE (BENCH)

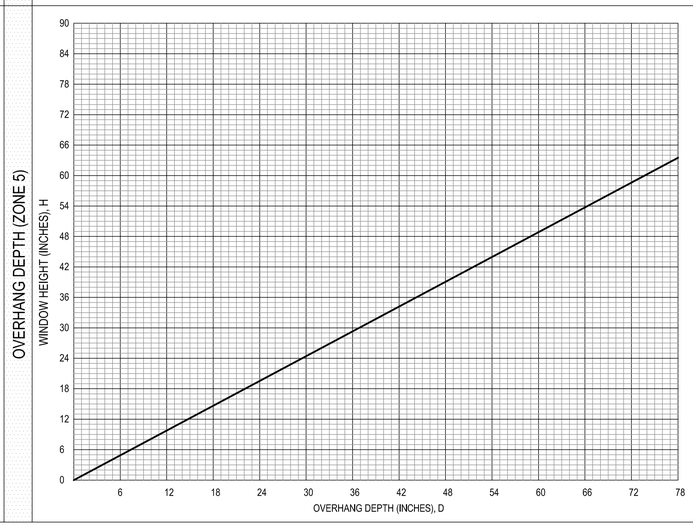


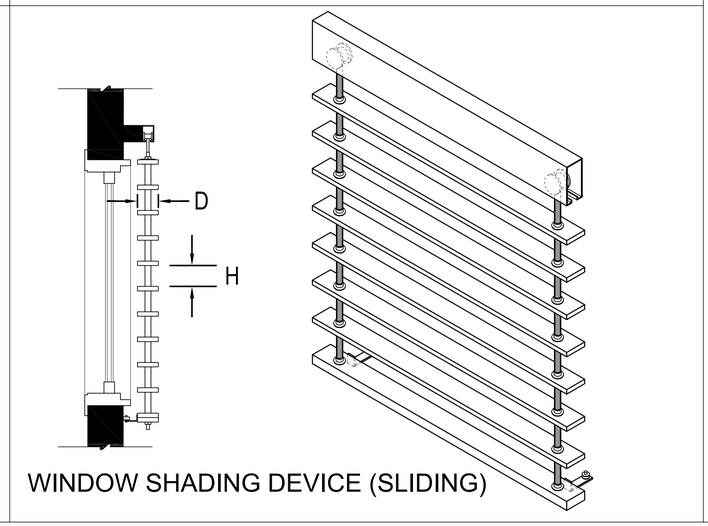




WINDOW SHADING DEVICE (HANGING)







WINDOW SHADING DEVICE (SLIDING)

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ABOUT THIS PAGE:

EXTERNAL WINDOW SHADING DEVICES ARE AN EFFECTIVE METHOD FOR REDUCING HEAT GAINS THROUGH WINDOWS DURING SUMMER. IN FACT, EXTERNAL SHADING DEVICES CAN REDUCE HEAT GAINS BY UP TO 80% IF SIZED AND BUILT PROPERLY. WITH THIS IN MIND, FREEGREEN HAS CREATED THIS PAGE TO ASSIST HOME BUILDERS IN CONSTRUCTING EFFECTIVE WINDOW SHADING DEVICES. THE INFORMATION WE PROVIDE INCLUDES A ZONING MAP OF THE UNITED STATES, ZONING CHARTS FOR PROPER SIZING OF SHADING DEVICES AND A VARIETY OF SHADING DEVICE STYLES AND MATERIALS TO SUITE DIFFERENT TASTES AND DIFFERENT HOME DESIGNS.

MATERIAL SPECIFICATIONS:

WOOD TYPES:

- PRESSURE TREATED
- WESTERN RED CEDAR
- TROPICAL HARDWOOD *(FSC CERTIFIED REQUIRED)*
  - MAHOGANY
  - MASSARANDUBA

HARDWARE:

ALL HARDWARE MUST BE EITHER HOT DIPPED GALVANIZED STEEL OR STAINLESS STEEL. FREEGREEN RECOMMENDS ONLY STAINLESS STEEL FOR HOUSE LOCATIONS IN CLOSE PROXIMITY TO THE OCEAN.

FINISHES:

IF USING PREASURE TREATED WOOD SEAL & FINISH TO MATCH EXTERIOR WINDOW TRIM.

IF USING WESTERN RED CEDAR SEAL & FINISH TO MATCH EXTERIOR WINDOW TRIM

IF USING TROPICAL HARDWOOD FINISH MAY NOT BE REQUIRED. SEALING AND FINISHING OF TROPICAL HARDWOODS WILL VARY BY SPECIES. CONSULT WITH YOUR PROVIDER FOR RECOMMENDED FINISHES FOR ALL TROPICAL HARDWOOD PRODUCTS.

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

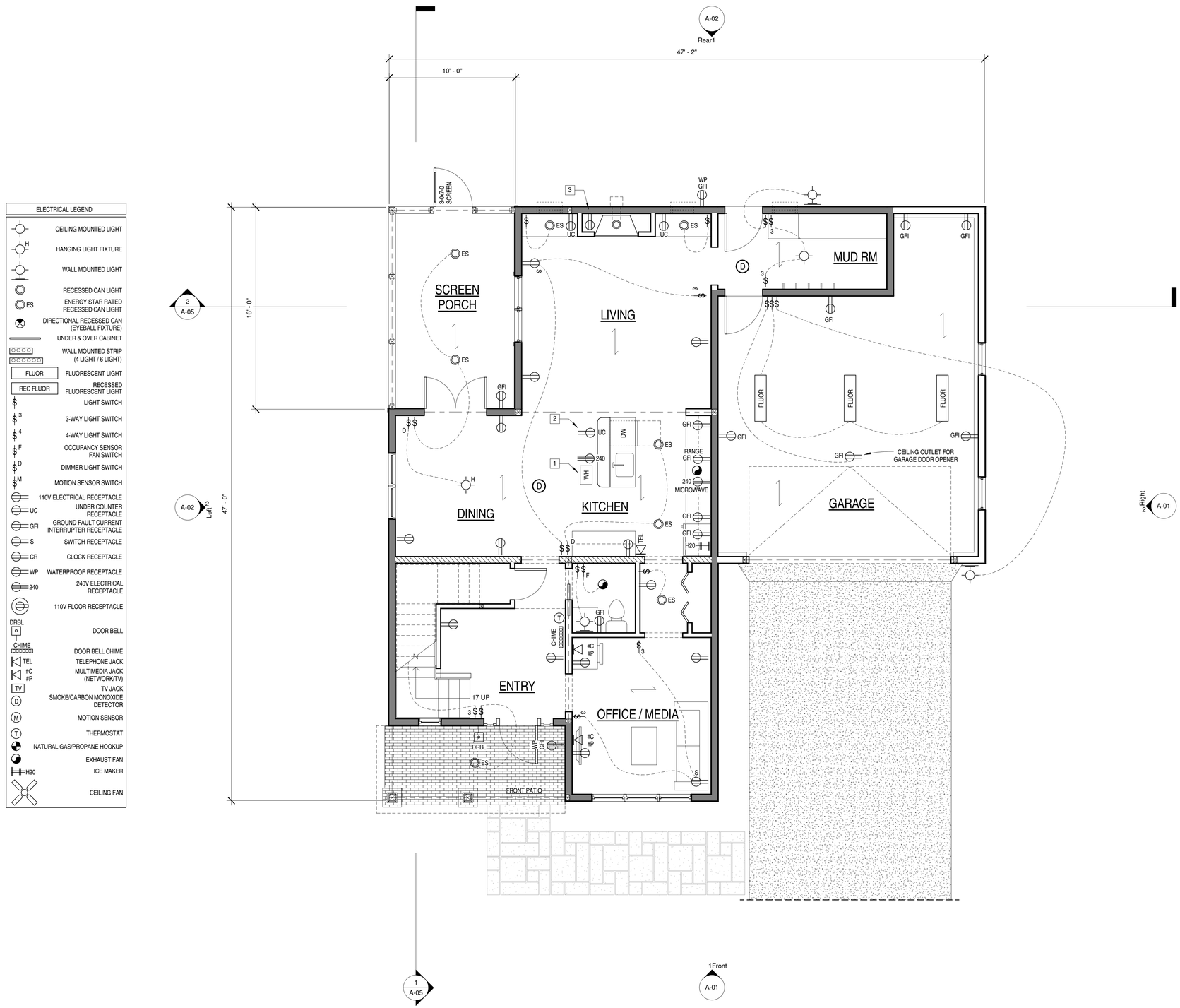
BUILDER LINE
BRICK ACCENTS

WINDOW SHADING DETAILS

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

A - 13

SCALE: AS NOTED



ELECTRICAL LEGEND

	CEILING MOUNTED LIGHT
H	HANGING LIGHT FIXTURE
	WALL MOUNTED LIGHT
	RECESSED CAN LIGHT
ES	ENERGY STAR RATED RECESSED CAN LIGHT
	DIRECTIONAL RECESSED CAN (EYEBALL FIXTURE)
	UNDER & OVER CABINET
	WALL MOUNTED STRIP (4 LIGHT / 6 LIGHT)
FLUOR	FLUORESCENT LIGHT
REC FLUOR	RECESSED FLUORESCENT LIGHT
$	LIGHT SWITCH
$3	3-WAY LIGHT SWITCH
$4	4-WAY LIGHT SWITCH
$F	OCCUPANCY SENSOR FAN SWITCH
$D	DIMMER LIGHT SWITCH
$M	MOTION SENSOR SWITCH
	110V ELECTRICAL RECEPTACLE
UC	UNDER COUNTER RECEPTACLE
GFI	GROUND FAULT CURRENT INTERRUPTER RECEPTACLE
S	SWITCH RECEPTACLE
CR	CLOCK RECEPTACLE
WP	WATERPROOF RECEPTACLE
240	240V ELECTRICAL RECEPTACLE
	110V FLOOR RECEPTACLE
DRBL	DOOR BELL
CHIME	DOOR BELL CHIME
TEL	TELEPHONE JACK
#C #P	MULTIMEDIA JACK (NETWORK/TV)
TV	TV JACK
D	SMOKE/CARBON MONOXIDE DETECTOR
M	MOTION SENSOR
T	THERMOSTAT
	NATURAL GAS/PROPANE HOOKUP
	EXHAUST FAN
H20	ICE MAKER
	CEILING FAN

1 ENTRY LEVEL ELECTRICAL PLAN
1/4" = 1'-0"

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NOTES:

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

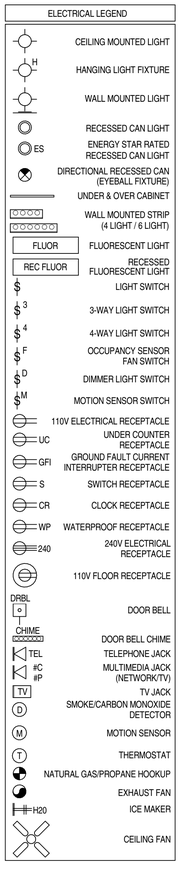
ENTRY LEVEL ELECTRICAL PLAN

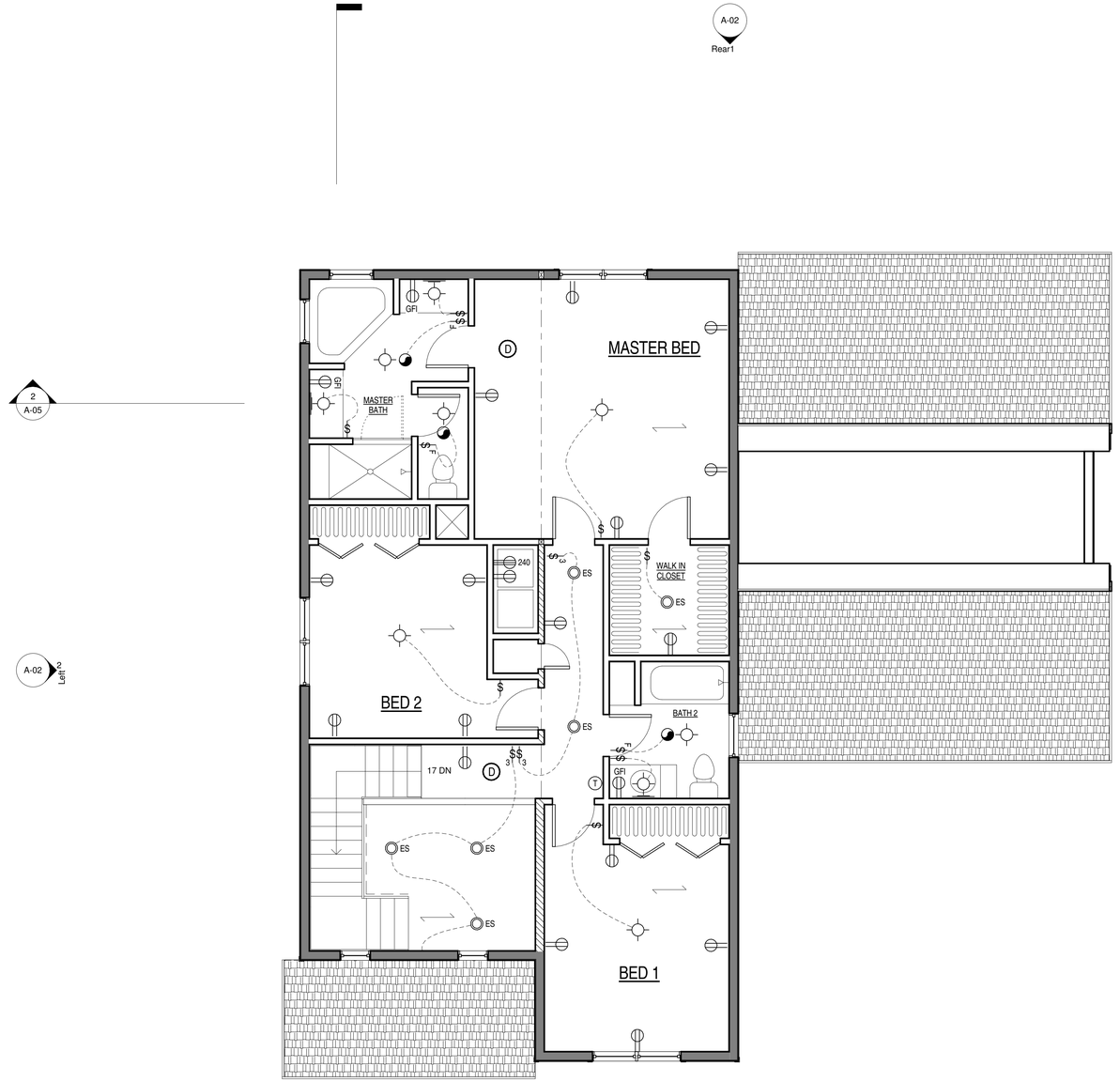
PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

E-01

SCALE 1/4" = 1'-0"

10/29/2008 12:42:05 PM





1 UPPER LEVEL ELECTRICAL PLAN
1/4" = 1'-0"

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NOTES:

REVISION SCHEDULE:

No.	Description	Date

PROJECT NAME:

BUILDER LINE
BRICK ACCENTS

UPPER LEVEL ELECTRICAL PLAN

PROJECT NUMBER:	05-002
DATE:	30 OCTOBER, 2008
DRAWN BY:	MY
CHECKED BY:	BU

E-02

SCALE 1/4" = 1'-0"

10/29/2008 12:42:35 PM