

APPENDIX C
SPECIFICATIONS

© 2007 GREENWALD CASSELL ASSOCIATES, INC.

01000 General:

A. The Standard form of Contract Agreement Between Owner and Contractor for a Residential Remodeling Project between Greenwald Cassell Associates, Inc. General Contractors (the "Contractor") and client (herein known as the "Owners"), dated _____, for the specified remodeling work to be performed on the residence located at address, is hereby amended by the incorporation of the following specifications, which shall supersede any provisions to the contrary in the Contract.

B. Definitions:

1. **GCA** - Greenwald Cassell Associates, Inc.
2. **MEACAPFCSS** - Match existing as close as practical from Contractor's standard stock.
3. **OAESBC** - Or as equal substitution by Contractor.
4. **NIC** - Not in Contract.
5. **OPCI** - Owner provided Contractor install.

C. Dimensions: Frame walls indicate rough framing (face of sheetrock to face of sheetrock) unless otherwise noted. Written dimensions on these drawings take precedence over scaled dimensions.

D. Codes: GCA shall be responsible for ensuring all work is in accordance with all applicable state, local, and national codes and ordinances.

E. Installation Methods: New fixtures, fittings, finishes, miscellaneous products, appliances, electrical, and mechanical equipment shall be installed as per the manufacturer's instructions and specifications.

F. Dumpsters: All debris and demolished materials are to be removed from the site at frequent intervals and/or placed in a site dumpster provided by Contractor. Location of dumpster shall be approved by Owner(s). Area of construction shall be broom swept daily.

G. Alternates: **Items indicated as alternate are for pricing purposes only and are not a part of the base Contract Sum. Alternates are printed in bold text.**

02010 Subsurface Investigation:

- Contractor is not responsible for poor soil conditions or other unknown subsurface conditions, including, but not limited to fill, soil of insufficient bearing capacity, buried obstacles, marine clay, subsurface water, or any other conditions, which require engineering or nonstandard foundation work.
- Assumed soil-bearing capacity 2000 psf.

02110 Excavation and Grading:

- Footings to rest on undisturbed soil and form a bearing free of loose material, and footing bottoms shall rest below the designated frost line.
- Remove soil at garage extension and storage areas per plan sheet A1.0
- All excavated soil shall be placed on site as possible, within 30 feet of excavation, and any excess dirt will be removed at owner's expense.

02500 Driveway:

Alternate #1: Replace existing driveway with broom finished #3500 PSI air entrained concrete, single 8" brick border each side of driveway and at top of driveway next to existing garage entry.

02900 Site Work:

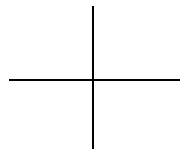
- Site restoration shall be limited to seed and straw on areas disturbed by construction.
- Topsoil, if requested by owner, will be provided by change order, cost borne by owner.

03219 Concrete Reinforcing Steel:

- Two (2) #5 rebar at all new continuous footings.
- Two (2) #4 rebar both ways at all new pier footings.
- 6" x 6", 10 /10 welded wire mesh, mid-depth at all slabs or fiber additive.
- Per plan sheet A1.0

03310 Structural Concrete:

- 2500-psi strength concrete for footings.
- Chemical pre-treatment for insect infestation in areas of new construction upon request of owner shall be priced as an Alternate.

03310 Structural Concrete (cont'd.):

- Basement floor storage areas to be 4" concrete #3500 P.S.I. slab reinforced with 6"X 6", 10/10 welded wire mesh *or* fiber additive.
- Garage slab: new area- #3500 P.S.I. Air-entrained concrete with 6x6, 10/10 welded wire mesh or fiber additive.

04100 Mortar and Masonry Grout:

- ASTM 73 Type S for foundation, Type N for veneer.
- Color: TBD, has been identified as the closest standard mortar match. This match is acknowledged to be imperfect. The owner may request preparation of a Change Order for a custom mortar match at owner's expense.

04150 Masonry Units:

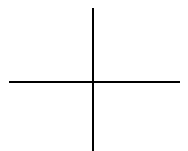
- Accessories, anchors and ties per code.
- Dur-O-Wall horizontal truss type, reinforcing at 16" O.C. vertical.
- Waterproof masonry block, for foundation walls below grade, with 1/2" parging, bituminous coating membrane with drain board and 4" perforated plastic perimeter drain in #57 gravel.

04210 Brick Unit Masonry:

- Re-use brick to patch brick walls at existing rear basement window openings.
- New brick veneer: Gable above kitchen, new front porch.
- New mortar to blend as close as practical with existing weathered mortar.
- New veneer and joints to match as close as practical from Contractor's standard stock.
- Provide weeps at base coursed at 4' O.C.
- Brick chosen is closest reasonably available brick match for use on the project. It is acknowledged that this match is imperfect, and that the brick may require permanent dyeing to secure an acceptable color match. Should such a decision be undertaken, it is understood that the cost will be born by owner.

Alternate #1: Replace existing retaining wall on right side of driveway and install planter and steps on right side of existing garage / house per plan sheet A1.1a

05010 Metal:



- Provide "Wrought iron" style pre-finished black metal railing at new front porch selected from Greenwald Cassell Associates standard specifications.

Alternate #1: Install wrought iron rail at top of retaining wall and grab rail at side entry steps.

05102 Structural Steel:

- Provide steel angle lintels at new window openings, size per code.
- ASTM A-36, AISC connections, bolts or welded, AWI standards.

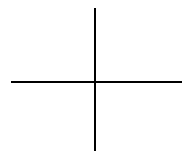
06050 Fasteners:

- Construction adhesive APA approved glue for panels and miscellaneous construction.
- Fasteners to comply with International residential code - IRCC 2003 requirements.
- Miscellaneous metal fasteners/supports: Approved structural galvanized steel such as manufactured by "TECO," or equal.
- Nails follow International residential code - IRCC 2003 nailing schedule. Ensure nails are chosen to avoid dissimilar metal contact.
- Bolt/lag screw to comply with National Forest Products Associations Design Specification for Wood and its Fasteners, latest edition.

06100 Rough Carpentry:

- Comply with International residential code - IRCC 2003 Manual for House Construction, latest edition.
- Spruce-pine-fir #2 structural unless otherwise noted.
- Pressure treated: ACQ southern yellow pine #2 grade floor members in contact with slab or masonry at grade.
- Bearing headers: Two (2) 2" x 12" unless otherwise noted.
- Fireblocking: Provide as per code.
- Jacks: At doors at corners provide two (2) 2" x 4" minimum.
- Exterior walls and bearing partitions: 2" x 4" SPF at 16" O.C., with (2) 2" x 4" top plate.
- Interior partitions: 2" x 4" SPF at 16" O.C.
- Roof sheathing: ½" APA rated plywood sheathing, span rating of 24/0.
- Exterior Wall sheathing: ½" APA rated plywood sheathing, span rating of 24/0.
- Floor sheathing: ¾" T&G CDX APA pine plywood glued and nailed.
- Screen porch rafters: Appearance grade 4" x 10" fir.

06100 Rough Carpentry (cont'd.):



- Screen porch collar ties: Appearance grade 2" x 10" fir.
- Screen porch ceiling: 1" x 6" v-joint tongue and groove #2 spruce.
- LVL laminated lumber shall have the following minimum properties:
 - Bending stress AFb@ = 2850 PSI
 - Horizontal shear AFv@ = 285 PSI
 - Modulus of elasticity AE@ = 2,000,000 PSI
- Exterior decks: Selectively remove existing deck to accommodate for new deck construction. Per plan sheet A0.2. Existing deck to remain except for portion removed to accommodate new addition.
Materials - #1 grade pressure treated southern yellow pine framing lumber, Timbertech 5/4" x 6" composite decking and treads - Color: Grey
- Exterior rail at rear door: (per plan sheet A1.1b) primed paint grade WM8840 top rail, WM8841 bottom rail, WM237 balusters or equal; railings installed per local code.
- Exterior rail at ground level deck: No work.

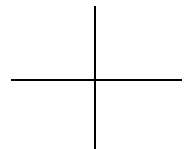
Alternate#2: Install trashcan enclosure, pressure treated posts wrapped with Azek, cedar rails and lattice panels per Sheet, A1.1b keynote #13.

06220 Millwork:

- Interior mouldings: MEACAPFCSS.

Door & Window casing: *1st Floor* - WM 445 or equal, 11/16" x 3 1/4"; Stain Grade A Pine.
Base moulding: *1st Floor* - 1" x 6" base with WM167 & SM15 plinth blocks; Stain Grade.
- Door & Window casing: *2nd Floor* - WM 445 or equal, 11/16" x 3 1/4"; Paint Grade.
Base moulding: *2nd Floor* - 1" x 6" paint grade base with WM167 & SM15 plinth blocks; Paint Grade.
- Closet shelves: Birch plywood with 1"x2" poplar edging per plan sheet A1.1b keynotes 6, 7, 8, 9.
- Closet Poles: LWM 233 1/4" pine supported with metal sockets at each end and metal brackets at 3' O.C.

06220 Millwork (cont'd.):



- Casework: Birch plywood with poplar edging built-in shelf units noted in plans Sheet #A1.1b. Keynotes 5 window seat, 20 mudroom cubbies, Sheet #A2.2 detail 6 window seat.
- Exterior trim: Azek PVC or equal.
- Front Porch ceiling: Beaded Azek or equal.
- Screen porch ceiling: 1" x 6" v-joint tongue and groove #2 spruce installed above appearance grade 4" x 10" fir.
- Frieze: 1"x6"Azek. MEACAPFCSS.
- Soffit: 3/8" Azek or equal.
- Soffit/frieze trim: 1"x2" Azek or equal.
- Fascia: 1"x8" Azek. MEACAPFCSS.
- Rake trim under soffit: 1" x 4" Azek MEACAPFCSS.
- Porch columns: 8" square fiber cement or equal w/Tuscan cap and base.
- Shutters: Five (5) pairs prefinished composite recess panel shutters.
- Cedar brackets and pergola per plan Sheet A2.0 keynotes 3 and 4.

Alternate #3: Install Wellborn Lancaster cherry cabinetry on window seat area in lieu of birch and poplar paint grade built-in in dining room.

07210 Insulation:

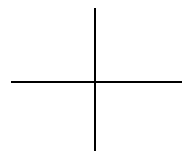
- Fiberglass batt insulation, Kraft faced: R-38-C at new Den and bathroom floors, R-15 at new exterior stud walls, R-38-C at new ceiling, R-13 Unfaced on Interiors walls of 1st Floor Bathroom.
- House wrap: Tyvek or equal.

07300 Roofing:

- Install on new addition and existing. Remove existing two layers on existing.
- 30 year CertainTeed Landmark Dimensional shingles; Color: TBD
- Install ice and water shield at entire lower slope of new addition area.
- Prefinished black drip edge flashing at eaves.
- Prefinished black apron, chimney and counter flashing.
- Skylight flashing: prefinished to match skylight.
- Shingle over roll ridge vent above conditioned living areas.

07460 Siding:

- "Hardishingle" siding, straight edge panel.



- Corner boards: 5/4"x4" Azek or equal PVC all trim.
- Pergola: Cedar or equal per plan sheet A2.0, A2.1

07560 Flashing:

- Provide at exterior masonry weeps.
- Door and window flashing: Provide continuous head flashing as required.
- Provide flashing at all roof connections, continuous and step as required.
- Caulk as necessary

07700 Gutters and Downspout:

- Provide 6" white OGEE style gutter and 3" x 4" downspout as indicated on plan. MEACAPFCSS.
- Provide pre cast concrete splash blocks at each new or re-configured downspout.

07800 Skylights:

- Velux VS 106 skylights with Comfort glazing and (1) ZCT 300 manual rod, Velux EDL step flashing.

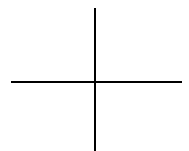
07900 Sealants:

- Acrylic latex with silicone Caulk as needed.

8210 Doors:

- PREHUNG DOORS UNITS WITH STANDARD HINGES AND BORE
- F-82 (2 FLAT PANEL) FIR PAINT GRADE DOORS
- FJ SPLIT JAMBS

MARK	DESCRIPTION	QTY	HARDWARE
B1	SINGLE SWING 2/6X6/8 2 PANEL	1	B
B2	EXT UNIT 2/8X6/8 THERMATRU S210 FIBERGLASS	1	D
B3	EXT UNIT 2/6X6/8 THERMATRU S210 FIBERGLASS	1	D
B4	EXT UNIT 2/6X6/8 THERMATRU S210 FIBERGLASS	1	D
MARK	DESCRIPTION	QTY	HARDWARE

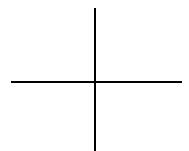


B5	EXT UNIT 2/6X6/8 THERMATRU S210 FIBERGLASS	1	D
6	INT SINGLE SWING 2/6X6/8 2 PANEL	1	B
7	INT SINGLE SWING 2/6X6/8 2 PANEL	1	B
8	INT DBL POCKET 4/0X6/8 2 PANEL	1	EDGE PULL
9	INT SINGLE SWING 2/0X6/8 2 PANEL	1	B
10	INT SINGLE SWING 2/6X6/8 2 PANEL	1	A
K	PELLA 5082 IN SWING FRENCH DOOR WITH 5017 TRANSOM ABOVE BRIGHT BRASS HARDWARE - 3/4" SDL GRILLES - WHITE CLAD INSULSHIELD IG GLASS - NATURAL INTERIOR - NO SCREEN	1	
11	INT SINGLE SWING 2/4X6/8 2 PANEL	1	A
12	INT SINGLE SWING 2/6X6/8 2 PANEL	1	A
13	INT DBL SWING 5/0X6/8 2 PANEL	1	C
14	INT SINGLE SWING 2/6X6/8 2 PANEL	1	A
15	INT SINGLE SWING 2/0X6/8 2 PANEL	1	B
16	INT SINGLE POCKET 2/2X6/8 2 PANEL	1	EDGE PULL
P1	YESTERYEARS "GARDERIA" PAINT GRADE SCREEN DOOR	1	
	FIBERGLASS SCREEN WITH STANDARD BRASS LEVER LATCHSET		

- Garage: Overhead - Renaissance Series 8’ wide 7’ tall.
Model - T165 Paint grade door
Stockbridge glass panel.
Opener: #777-CD Keyless Entry with three function wall console.
Two Single-function remote controls

- Screen porch: Yester years “Gardenia” screen door;
Fiberglass screen; standard brass lever set latch; polished brass spring hinges.

08610 Windows: Per plan sheet A1.1a; *SEE SCHEDULE "C" FOR COMPLETE DETAILS.*

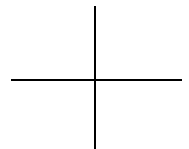


- PELLA DESIGNER SERIES - WHITE CLAD - UNFINISHED INTERIOR
- 3/4" INTERIOR DESIGNER GRILL - CHAMPAGNE HARDWARE
- 5/8" INSULSHIELD IG GLAZING

MARK	TYPE	MODEL #	QTY	LOCATION
L	AWNING	3517 (3 LIGHT GRILL)	1	GARAGE
E	DH	2541 (6/6 GRILLES)	2	KITCHEN
B	CSMT	FIXED 2525 (4 LIGHT GRILL)	4	KITCHEN
A	CSMT	2525 RH (4 LIGHT GRILL)	1	DEN
B	CSMT	FIXED 2525 (4 LIGHT GRILL)	1	DEN
A	CSMT	2525 LH (4 LIGHT)	1	DEN
C	CSMT	FIXED 2517 (4 LIGHT GRILL)	3	DORMERS
D	GLASS BLOCK	24 X 24 (8X8) DECORA PPG PATTERN	1	2ND FLR BATH
J	CSMT	FIXED 2121 (4 LIGHT)	1	EAST ELEV
I	CSMT	2323 LH (4 LIGHT)	1	EAST ELEV
I	CSMT	FIXED 2323 (4 LIGHT)	1	NORTH ELEV
A	CSMT	2525 RH (4 LIGHT)	1	BED 2
G	CSMT	2135 LH (6 LIGHT GRILL) TEMPERED	1	BATH 2
H	DH	2947 (6/6 GRILLES) TEMPERED	1	HALL
F	VELUX	VS 106 VELUX SKYLIGHT COMFORT GLAZING	1	KITCHEN
		MANUAL ROD CONTROL		

08710 Door Hardware: *per plan sheet A1.1a*

- Interior Door Hardware: Emtex – Modern Collection Luzern Lockset; Finish: PVD Brass



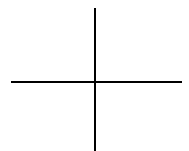
- Patio Door Hardware: Pella Lockset; Finish: Polished Brass

CODE	Description
A	EMTEK PRIVACY LOCKSET
	1-1/2 PAIR 3-1/2 RADIUS CORNER STEEL PLATE HINGES
	1 - RIGID OR HINGE CAST DOOR STOP AS REQUIRED
B	EMTEK PASSAGE LOCKSET
	1-1/2 PAIR 3-1/2 RADIUS CORNER STEEL PLATED HINGES
	1 - RIGID OR HINGE CAST DOOR STOP AS REQUIRED
C	EMTEK DUMMY SET
	1-1/2 PAIR 3-1/2 RADIUS CORNER STEEL PLATE HINGES
	RIGID OR HINGE STOPS AS REQUIRED
	BALL CATCHES AS REQUIRED
D	EMTEK KEYED ENTRANCE LOCKSET
	1-1/2 PAIR 4" RADIUS CORNER STEEL PLATED HINGES
	RIGID OR HINGE AS REQUIRED
POCKET	JOHNSON MODEL 1500 POCKET DOOR FRAME
	MORTISE EDGE PULL

08800 Glass Block:

- Master Bathroom: window “D” Pittsburgh Corning 24” x 24” (3 high and 3 wide) “Decora Series LX filter glass block or equal in shower wall.
- Master Bathroom shower shelves: Pittsburg Corning (4) Encurve Finishing Units – Decora GB01 to be installed as corner caddies in Master shower area. Location to be field verified.
- Grout: Color – White.

09200 Lath & Plaster:



Note: This job may involve demolition of old plaster surfaces. The degree of surface disintegration and cracking cannot be determined in advance. Price includes repair of plaster surfaces within 4" of all required cuts. Any plaster repair necessitated by demolition related cracking or disintegration beyond 4" shall be charged as extra at the rate of \$60/hr plus materials.

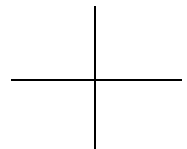
- Greenwald Cassell Associates, Inc. takes no responsibility for condition of existing plaster and any plaster surfaces, which fail during normal construction activity, shall be replaced at owner's expense.
- Plaster surfaces requiring replacement shall be replaced with gypsum wall board.
- Every effort will be made to preserve plaster and remove as little as possible.

09260 Gypsum Board Systems:

- General: 2" tapered edge gypsum board, hanging and finishing to comply with U.S. Gypsum Association standards for installation.
- Drywall finish shall be deemed acceptable when a blemish is deemed non-objectional by a reasonable third party when viewed, under normal daylight conditions, from a distance of 6 feet.
- All tub, shower enclosures and floors to receive tile are to be backed by cemented and screwed Durock or equal.

9310 Ceramic Tile:

Room	Item	Manufacturer	Series	Size	Pattern	Color	Code
Laundry Room	Floor Tile	Daltile	Portenza	14" x 14"	Diamond	Avoria Antico	PZ02
Kitchen	Backsplash Tile	Natural stone	Dianysos	1 1/4" x 2 1/4"	Vertical Grid	Plain honey blend	MS00583
Screen Porch	Floor Tile	Natural stone	Slate	12" x 12"	Brickwork	Lime honey	TL10386
1 st Floor Bathroom	Floor Tile	Daltile	Portenza	14" x 14"	Diamond	Avoria Antico	PZ02
	Wainscot Wall Tile	Daltile	Navelli	10" x 13"	Grid	Marfil Linen	NV02
	Wainscot Wall Accent Tile	Mosaic Tile			1 Row	-	
	Wainscot Wall Bullnose	Daltile	Navelli	3" x 13"	-	Marfil Linen	NV02
	Shower Walls	Daltile	Navelli	10" x 13"	Grid	Marfil Linen	NV02
1 st Floor	Item	Manufacturer	Series	Size	Pattern	Color	Code
	Shower Wall Accent Tile	Mosaic Tile			1 Row	-	



Bathroom	Shower Floor Tile	Daltile	Portenza	3" x 3"	Grid on Mesh	Avoria Antico	PZ02	
	Shower Wall Bullnose	Daltile	Navelli	3" x 13"	-	Marfil Linen	NV02	
	- Tile shower walls to ceiling with wall accent tile at approx. 65" AFF.							
Master Bathroom	Floor Tile	Daltile	Portenza	14" x 14"	Diamond	Avoria Antico	PZ02	
	Wainscot Wall tile	Daltile	Navelli	10" x 13"	Grid	Marfil Linen	NV02	
	Wainscot Wall Accent Tile	Mosaic Tile			1 Row	-		
	Wainscot Wall Bullnose	Daltile	Navelli	3" x 13"	-	Marfil Linen	NV02	
	Shower Walls	Daltile	Navelli	10" x 13"	Grid	Marfil Linen	NV02	
	Shower Wall Accent Tile	Mosaic Tile			1 Row	-		
	Shower Floor Tile	Daltile	Portenza	3" x 3"	Grid on Mesh	Avoria Antico	PZ02	
	Shower Wall Bullnose	Daltile	Navelli	3" x 13"	-	Marfil Linen	NV02	
	Corner Caddies	(4) Glass Blocks to be installed as corner caddies in shower.						
	<ul style="list-style-type: none"> - Install threshold per plan sheet A1.1b keynote 11. - Wainscot walls to 42" AFF. per plan sheet A1.1b keynote 17. - Tile shower walls to ceiling with wall accent tile at approx. 65" AFF. 							

09570 Strip Oak Flooring:

- 23/32" thick #1 red and white oak flooring. A sample of the existing will be removed to determine species of oak.
- Stain and one coat sealer, two coats polyurethane finish.
- Stain finish.

Limits of new oak flooring:

First floor: Living room, Mudroom, Kitchen and Den.

Second floor: Master bedroom, Master bedroom walk-in closet, patch hall.

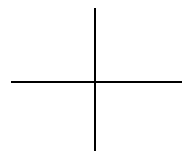
- All new hardwood floor areas to receive WM 8422 7/16" x 11/16" oak shoe.
- Limits of oak flooring to be refinished: Casual dining, bedroom #2, stair treads to second floor, second floor hall.

9600 Stone Flooring:

- Screened Porch: 12" x 12" Natural Slate tiles; Finish: Lime-Honey
(See Section 9310 - Ceramic Tile)

09650 Resilient Flooring: NIC

9680 Carpet and Pad: Owner provided and installed



09900 Paint/Stain:

- All painting and paint preparation by separate contract.
- Contractor to provide bid during drywall phase.

09950 Wallpaper:

- Removal or repair of existing wallpapered areas and preparation for painting is not included in this Contract. If required, will be negotiated separately.

10230 Venting:

- Soffit vent: Continuous strip at eaves, black cor-a-vent S400
- Roof vent: Roll ridge vent
- MEACAPFCSS

10300 Fireplace:

- NIC

10820 Bath Accessories: OPCI

Room	Grab bars	Toilet paper holder	Robe hook	Towel bar	Towel bar
Master Bathroom	Per plan sheet A1.1b keynote 10	1	2	2	1
1 st Floor Bathroom	Per plan sheet A1.1b keynote 10	1	1	1	1

- Mirror: 1st Floor Bathroom - ¼ plate pencil edge
- Medicine cabinets: Master bath - (2) Van Dykes 33” x 24” primed hardwood medicine cabinet #02006467
- Shower door first floor: Chrome frame with 1/4” frameless hinged door
- Shower door master bathroom: Chrome frame with 3/8” frameless bypass doors.

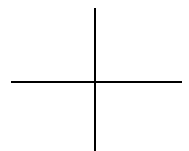
11010 Central Vacuum System: NIC

11450 Residential Appliances: OPCI

- (1) Cooktop: 30” gas KitchenAid KGCS105GGS.
- (1) Wall oven: Jen-Air 30” electric convection JJW9530
- (1) Microwave: KitchenAid 30” convection KBMC140
- (1) Refrigerator: Jen-Air French door JFD25
- (1) Dishwasher: Jen-Air JBD1100

11450 Residential Appliances (cont’d.): OPCI

- (1) Hood vent: Thermador 36” HGSW36TS



- (1) Washer: Whirlpool Duet front load GHW9400
- (1) Dryer: Whirlpool gas Duet GGW9250
- (2) Whirlpool Duet pedestals: WHP1500

12370 Residential Casework:

Room	Manufacturer	Door Style	Wood	Finish/Stain	Series
Kitchen	Wellborn	Lancaster	Cherry	Natural	Woodcraft
Living Room	Wellborn	Lancaster	Cherry	Natural	Woodcraft

Alternate #3: Install Wellborn Lancaster cherry cabinetry on window seat area in lieu of birch and poplar paint grade built-in in dining room.

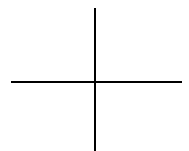
12300 Countertops:

Room	Material	Level / Group	Edge	Color
Kitchen	Granite	-	Standard	Juparana Indian Gold
Television Area	Granite	-	Standard	Juparana Indian Gold
Window seat Area	Granite	-	Standard	Juparana Indian Gold
1 st Floor Bathroom	Granite	-	Standard	Juparana Indian Gold

Natural Stone Disclaimer: All products of nature, including stone and granite are not exactly alike. Color, veining, and texture will differ with each piece. We recommend that clients inspect their selected material prior to fabrication. No claims will be accepted after fabrication for reasons of color, texture consistency or veining.

15050 Mechanical:

- System is to be designed by licensed HVAC contractor.

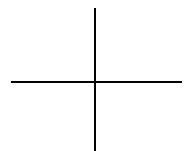


- A calculation was performed on the entire house including the addition. The existing gas furnace would be oversized for the basement and first floor even with the additional area. The existing air conditioning unit is only slightly oversized. We recommend replacing the existing gas furnace, evaporator coil and the air conditioning unit it remain. A heat pump system and ductwork is to be installed for second floor. All existing second floor supply outlets are to be capped off. The existing returns are to remain functional.
- Recover refrigerant from the existing system as per EPA standards. Disconnect the gas furnace, evaporator coil and remove equipment from the job site.
- Reconfigure the existing ductwork and add new ductwork as needed for the addition.
- Install a Carrier Model #25HCR318, 13.00 SEER (seasonal energy efficiency ratio) heat pump unit with all necessary control wiring. The new heat pump unit is to be installed in a builder and Arlington County approved location.
- Install a Carrier Model #FA4CBF018008 air handling unit with matching 8 KW supplemental strip heater. The air-handling unit is to be installed in the attic. An adequate access opening will be required for installation and service.
- Install a digital non-programmable heat/cool thermostat.
- Ductwork in unconditioned areas to be insulated.
- Install exhaust vent standard bath exhaust fan for the new full bath.
- Range and dryer venting included. Range vent to be one six-inch duct with wall cap.
- The existing refrigerant piping is to remain connected to basement air conditioning. Install new refrigerant piping and gravity condensate piping for the second floor heat pump system.
- Rework existing ductwork as necessary.
- Heavy up of existing system as necessary.
- Extend existing ductwork: Contractor provides no warranties on ability of existing system to condition the space.

Alternate # 4: Install a Carrier Model #58STA070-12, 80% AFUE (annual fuel utilization efficiency) chimney friendly gas furnace, 70,000 Btuh input with a matching Model #CNRVP3014 evaporator coil. The new furnace is to be vented through the existing masonry chimney.

15200 Plumbing:

- DWV: PVC schedule 40 pipe, 3" main soil stack.
- Supply: Copper type "M".



- Disconnect the existing fixtures for the master bath, powder room and kitchen and set them aside on the job site for removal by others. Disconnect the existing stack from the garage level to the master bath. Furnish and install a complete waste and vent system for (2) toilets (2) showers (consisting of (1) shower head and (1) shower valve/trim each) (3) lavatories (1) kitchen sink (1) washer box connection. Furnish and install (1) safety pan and pipe the over flow to the outside. Install the waste piping for the first floor full bath along the wall of the garage through the storage area. Furnish and install a vinyl shower liners with PVC drains with a chrome covers.
- Furnish and install a complete potable water system for the above fixtures plus (1) ice maker connection from the existing piping in the basement.
- Furnish and install a gas line from the existing piping in the basement to the owner provided range.
- Install fixtures and faucets to the waste and water outlets.
- Run new gas line to gas cooktop.
- Run new gas line to clothes dryer.

Alternate #5: Replace existing hot water heater and install 75 gallon Power Shot AO Smith GPSH gas water heater in existing utility room.

Alternate #5a: Remove existing hot water heater and install 75 gallon Power shot AO Smith 6P5H gas water heater in new storage room.

Alternate #6: Replace existing hot water heater and install Bosch 250 SX-NG gas water heater in existing utility room.

Alternate #6a: Remove existing hot water heater and install Bosch 250 5X-NG gas water heater in new storage room.

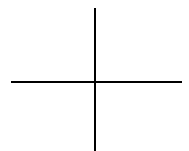
15250 Piping Insulation:

- Protect all new exposed pipes from freezing.
- All exposed supply lines in unconditioned spaces to be installed in insulated bulkhead.

15290 Duct Insulation:

- Insulate all new ducts in non-conditioned spaces.

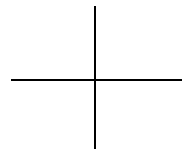
15440 Plumbing Fixtures:



Room	Item	Manufacturer	Description	Model #	Finish
Kitchen	Faucet	Grohe	Ladylux Plus Stainless Steel Pull-out spray	33.759	Stainless Steel
	Sink	Elkay	Lustertone Undermount Stainless Steel Single Bowl Sink Dim: 28" x 16"	ELUH2816	Stainless Steel
	Waste Disposal	Insinkerator	Food Waste Disposer – ¾ HP	Evolution Essential	Black Enamel Gray
1 st Floor Bathroom	Lavatory Faucet	Danze	Brandywood Collection Lever Handle	D304468	Chrome
	Pedestal	Kohler	Memoirs Stately Pedestal Lavatory - 8" Centers	K-2344-8	White
	Toilet	Kohler	Memoirs Stately Design 2-pc Toilet	K-3439	White
	Toilet Seat	Kohler	Elongated Front Toilet Seat	K-4653	White
	Shower Trim	Kohler	Memoirs Stately Rite-Temp Pressure Balancing Shower Faucet trim w/Faceted Lever Handle, single function showerhead	K-T462-4S	Chrome
	Shower Valve	Kohler	HiFlow Rite-Temp Pressure Balancing Valve	K-306-KS	N/A
	Shower Drain	Kohler	Shower Drain	K-9132	Chrome
Master Bathroom	Lavatory Faucet	Danze	Brandywood Collection Lever Handle	D304468	Chrome
	Pedestal	Kohler	Memoirs Stately Pedestal Lavatory - 8" Centers	K-2344-8	White
	Lavatory Faucet	Danze	Brandywood Collection Lever Handle	D304468	Chrome
	Pedestal	Kohler	Memoirs Stately Pedestal Lavatory - 8" Centers	K-2344-8	White
	Toilet	Kohler	Memoirs Stately Design 2-pc Toilet	K-3439	White
	Toilet Seat	Kohler	Elongated Front Toilet Seat	K-4653	White
	Shower Trim	Kohler	Memoirs Stately Rite-Temp Pressure Balancing Shower Faucet trim w/Faceted Lever Handle, single function showerhead	K-T462-4S	Chrome
	Shower Valve	Kohler	HiFlow Rite-Temp Pressure Balancing Valve	K-306-KS	N/A
	Shower Trim for Handshower	Kohler	Memoirs Stately Rite-temp Pressure Balancing Valve trim with Stately lever handle	K-T463-4S	Chrome
	Shower Valve	Kohler	HiFlow Rite-Temp Pressure Balancing Valve	K-306-KS	N/A
	Handshower w/wallbar	Grohe	Movario Wallbar Set – Includes 5-jet patterns handshower, 36" wallbar, 59" hose, soap dish	28.574.000	Chrome
	Wall Outlet	Grohe	Wall Outlet	28.627.000	Chrome
	Shower Drain	Kohler	Shower Drain	K-9132	Chrome

16000 Electric:

- Provide wiring to code.
- Heavy up of service or additional sub-panel work is in Contract.
- Required electrical connections for washer.
- Required electrical connections for gas dryer.

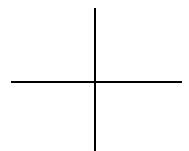


- Required electrical connections for gas cooktop.
- Required electrical connections for electric oven.
- Required electrical connections for disposal.
- Required electrical connections for dishwasher.
- Required electrical connections for refrigerator
- Required electrical connections for range hood.
- Required electrical connections for microwave.

16510 Electric Fixtures:

- See schedule, plan page A1.2.

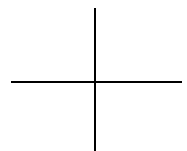
Mark	Qty	Location	Fixture	Manufacturer	Item	Finish	Lamp
Basement							
K	3	Garage	48" Fluorescent	Kichler	10315WH	White	(2)T-12
K	1	Garage storage	48" Fluorescent	Kichler	10315WH	White	(2)T-12
E	2	Garage entry	Recessed w/lens	Lightolier	1128WH	White	50W par20
First floor							
A	3	Casual dining	Interior pendent	OPCI	TBD	TBD	
F	4	Living – 3 way switch(1)dimmer	Recessed	Lightolier	1076WH	White	75W BR30
F	2	Mudroom – 3 way switch	Recessed	Lightolier	1076WH	White	75W BR30
D	1	Laundry	Surface mount	OPCI - TBD			
H	8	Kitchen- 3 way switch(1) dimmer	Recessed sloped ceiling	Lightolier	1133WH	White	75W par30
L	1	Kitchen	Ceiling fan	OPCI - TBD			
J	8	Kitchen – 3 way switch	Under cabinet	Halo			Halogen
H	8	Den - 3 way switch(1) dimmer	Recessed sloped ceiling	Lightolier	1133WH	White	75W par30
Mark	Qty	Location	Fixture	Manufacturer	Item	Finish	Lamp
First floor							
L	1	Den	Ceiling fan	OPCI - TBD			
M	1	Bathroom 4 function switch	Bath fan combo	Broan	QTX 110 HL	White	(2) 60W



C	1	Bathroom	Wall mounted	OPCI - TBD			
E	1	Bathroom	Recessed w/lens	Lightolier	1128WH	White	50W par20
G	1	Bathroom	Recessed w/lens	Lightolier	2022WH	White	50Wpar20
B	3	Rear -exterior	Wall mounted	OPCI - TBD			
L	1	Rear porch	Ceiling fan	OPCI - TBD			
F	1	Front entry	Recessed	Lightolier	1076WH	White	75W BR30
B	1	Front exterior	Wall mounted	OPCI - TBD			
Second floor							
L	1	Bedroom 2	Ceiling fan	OPCI - TBD			
	1	Bedroom 2	½ switched outlet				
N	1	Bedroom 2	Smoke detector	Firex			
L	1	Master Bedroom	Ceiling fan	OPCI - TBD			
	1	Master Bedroom	½ switched outlet				
N	1	Master Bedroom	Smoke detector	Firex			
O	1	Master WIC	48" track	Lightolier	8201WH	White	
O	4	Master WIC	Track heads	Lightolier	8225WH	White	50Wpar20
C	2	Bathroom	Wall mounted	OPCI - TBD			
M	1	Bathroom 4 function switch	Bath fan combo	Broan	QTX 110 HL	White	(2) 60W
E	1	Bathroom	Recessed w/lens	Lightolier	1128WH	White	50W par20
G	1	Bathroom	Recessed w/lens	Lightolier	2022WH	White	50Wpar20
D	1	Stair ceiling 3 way switch	Surface mount	OPCI - TBD			
N	1	Den	Smoke detector	Firex			

16520 Unit cost for installation of electrical fixtures not itemized above:

- Any recessed lights specified herein shall have insulated rough-in ceiling kits at all insulated ceiling locations.
- Outlets: White, 15-amp duplex, Leviton 5320-6I, or equal.
- Switches: White, toggle switches, Leviton 1451-2I, or equal.
- Cover plates: Metal, paintable, white.



Device	Existing	New construction
Smoke detectors	\$130.00	\$100.00
plus carbon monoxide add	\$50.00	\$50.00
OPCI surface mount	\$85.00	\$60.00
plus single pole switch add	\$65.00	\$45.00
Undercabinet light *labor only*	\$105.00	\$70.00
OPCI Ceiling fan	\$195.00	\$130.00
OPCI fan control switch	\$60.00	\$40.00
GFI outlet	\$110.00	\$95.00
* TBD on available circuit*		
Exterior basic surface mount	\$120.00	\$105.00
Flood light	replace \$130.00	\$240.00
Lightolier 1176 recessed	\$170.00	\$150.00
Single pole switch	\$65.00	\$45.00
Three way switch	\$140.00	\$120.00
TBD on length of run		
Replace single pole switch	\$50.00	-
Replace three way switch	\$80.00	-
Single outlets	replace \$80.00	\$60.00
Slide control single pole	\$75.00	\$55.00
Slide control three way	\$95.00	\$75.00
Cable TV - Each	\$170.00	\$150.00
Phone - Cat 5	\$170.00	\$150.00
Speaker wire W/ blank plate only – No connection to owners equipment	* price per existing conditions	\$60.00

