HISTORIC AND DESIGN REVIEW COMMISSION
January 06, 2017
Agenda Item No: 4

HDRC CASE NO:	**2016-534**
ADDRESS:	823 OGDEN ST
LEGAL DESCRIPTION:	NCB 1729 BLK 7 LOT 10
ZONING:	MF-33,HL
CITY COUNCIL DIST.:	1
LANDMARK:	Null
APPLICANT:	Elias Kurl
OWNER:	Robert & Mary Cushman
TYPE OF WORK:	Construction of a rear accessory structure

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to:

1. Construct a one and one half story accessory structure at the rear of the lot.
2. Install a new driveway to facilitate vehicular access to the rear accessory structure.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 5, Guidelines for New Construction

5. Garages and Outbuildings

A. DESIGN AND CHARACTER
i. Massing and form—Design new garages and outbuildings to be visually subordinate to the principal historic structure in terms of their height, massing, and form.
ii. Building size – New outbuildings should be no larger in plan than 40 percent of the principal historic structure footprint.
iii. Character—Relate new garages and outbuildings to the period of construction of the principal building on the lot through the use of complementary materials and simplified architectural details.
iv. Windows and doors—Design window and door openings to be similar to those found on historic garages or outbuildings in the district or on the principle historic structure in terms of their spacing and proportions.
v. Garage doors—Incorporate garage doors with similar proportions and materials as those traditionally found in the district.

B. SETBACKS AND ORIENTATION
i. Orientation—Match the predominant garage orientation found along the block. Do not introduce front-loaded garages or garages attached to the primary structure on blocks where rear or alley-loaded garages were historically used.
ii. Setbacks—Follow historic setback pattern of similar structures along the streetscape or district for new garages and outbuildings. Historic garages and outbuildings are most typically located at the rear of the lot, behind the principal building. In some instances, historic setbacks are not consistent with UDC requirements and a variance may be required.

Historic Design Guidelines, Chapter 5, Guidelines for Site Elements

5. Sidewalks, Walkways, Driveways and Curbing

B. DRIVEWAYS
i. Driveway configuration—Retain and repair in place historic driveway configurations, such as ribbon drives. Incorporate a similar driveway configuration—materials, width, and design—to that historically found on the site. Historic driveways are typically no wider than 10 feet. Pervious paving surfaces may be considered where replacement is necessary to increase stormwater infiltration.

ii. Curb cuts and ramps—Maintain the width and configuration of original curb cuts when replacing historic driveways. Avoid introducing new curb cuts where not historically found.

FINDINGS:

a. At the rear of the lot at 823 Ogden in the Tobin Hill Historic District, the applicant has proposed to construct a rear accessory structure. This lot is located at the corner of Ogden Street and E Dewey Place, with E Dewey Place located on the north of the lot and Ogden located on the east. The applicant has proposed to locate the accessory structure at the southwest corner of the lot.
b. MASSING & FORM – According to the Guidelines for New Construction 5.A.i., new garages and outbuilding should be designed to be visually subordinate to the primary historic structure in terms of their massing, height and form. The primary historic structure is a two story structure featuring a double height front porch that expands the entire width of the structure. The applicant has proposed for the accessory structure to feature an overall height of approximately sixteen (16) feet in height. The applicant has proposed an overall footprint of approximately 490 square feet. This is consistent with the Guidelines.
c. CHARACTER – New garages and outbuildings should relate to the period of construction of the primary historic structure. The primary historic structure features both lap and cedar shake siding. While the applicant's construction documents note the use of cedar shake sidings, the applicant has noted that the accessory structure will feature cement board siding. Staff recommends the applicant match the siding profile of the primary historic structure and use a cement board siding that features a smooth profile. In regards to columns, the applicant has proposed 8x8 wood columns. Staff finds this proportion appropriate.
d. ROOFING MATERIALS – The applicant has noted in the construction documents that a standing seam metal roof is to be installed; however, the applicant has noted to staff that a composition shingle roof will be installed to be consistent with the roofing material of the primary historic structure. This is appropriate.
e. WINDOWS & DOORS – The applicant has noted the installation of five windows and has provided a framing section; however, the applicant has not at this time provided information regarding window materials. Staff recommends the applicant refer to the Historic Design Guidelines, Guidelines for Windows when selecting window materials. The applicant has noted the installation of swinging garage doors as well as a rolling overhead door. Staff recommends the applicant install wood garage doors that feature proportions consistent with historic carriage house doors.
f. SETBACKS & ORIENTATION – The applicant has proposed to locate the accessory structure near the interior rear corner of the lot. This is consistent with historic locations of accessory structures. The applicant should adhere to all zoning regulations regarding setbacks from property lines.
g. DRIVEWAY – The applicant has noted per a site plan that a new driveway will be installed to feature a width of approximately twenty-one (21) feet in width. According to the Guidelines for Site Elements 5.B., historic driveways are typically no wider than ten (10) feet in width. Additionally, the width of existing curb cuts should not be altered. Staff finds that a double driveway width is not appropriate. Staff recommends the applicant maintain the width of the existing curb cut and propose a pervious paving surface within the fenced area of the yard.

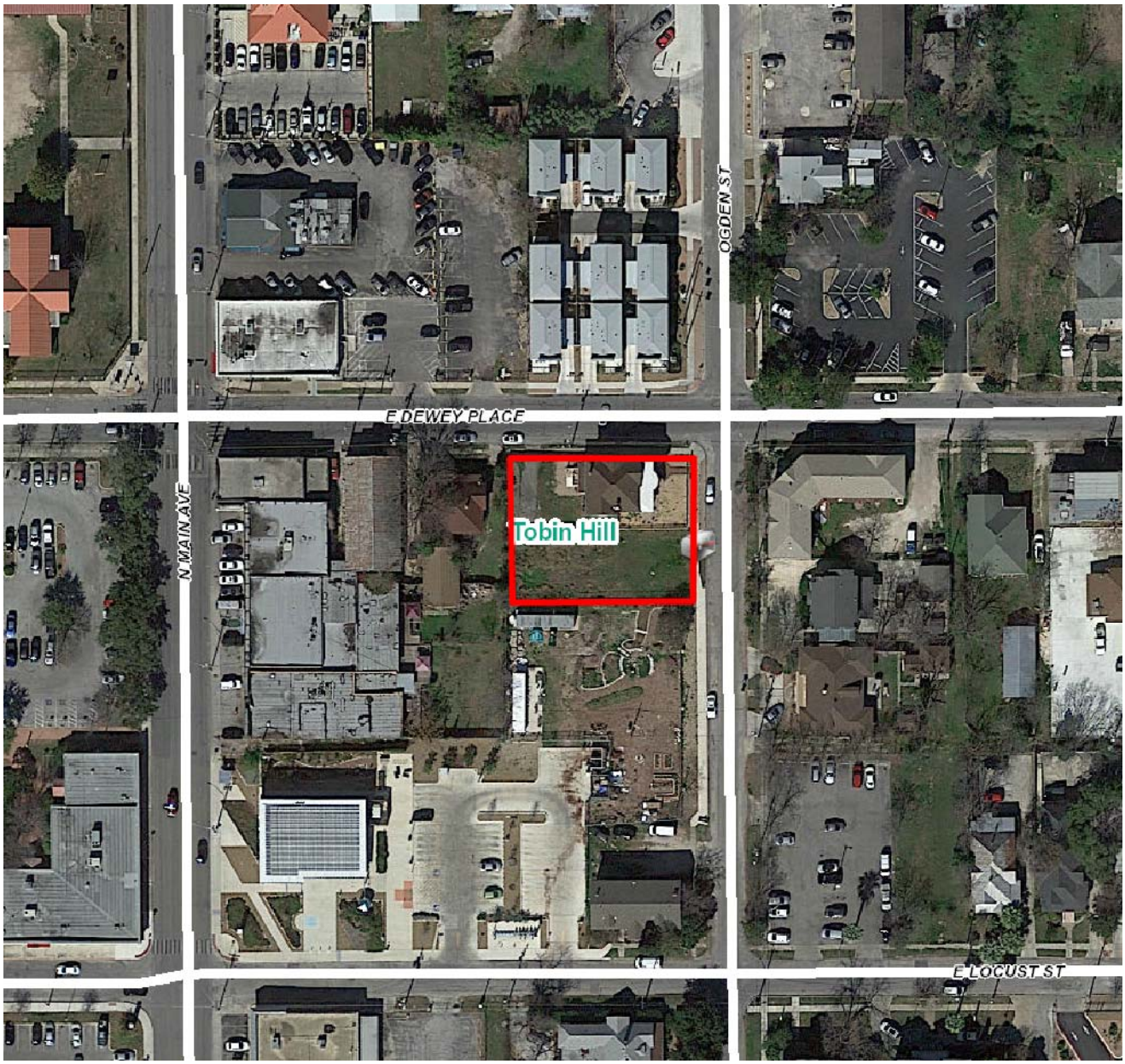
RECOMMENDATION:

Staff recommends approval based on findings a through g with the following stipulations:

i. That the applicant install cement siding that features a profile consistent with the siding of the primary historic structure and that features a smooth finish.
ii. That the applicant refer to the Historic Design Guidelines, Guidelines for Windows in selecting windows for the proposed accessory structure and present the selection to staff for approval prior to receiving a Certificate of Appropriateness.
iii. That the applicant maintain the existing width of the curbcut and return to staff with a proposal that includes a pervious surface material.

CASE MANAGER:

Edward Hall



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Printed:Jan 02, 2017

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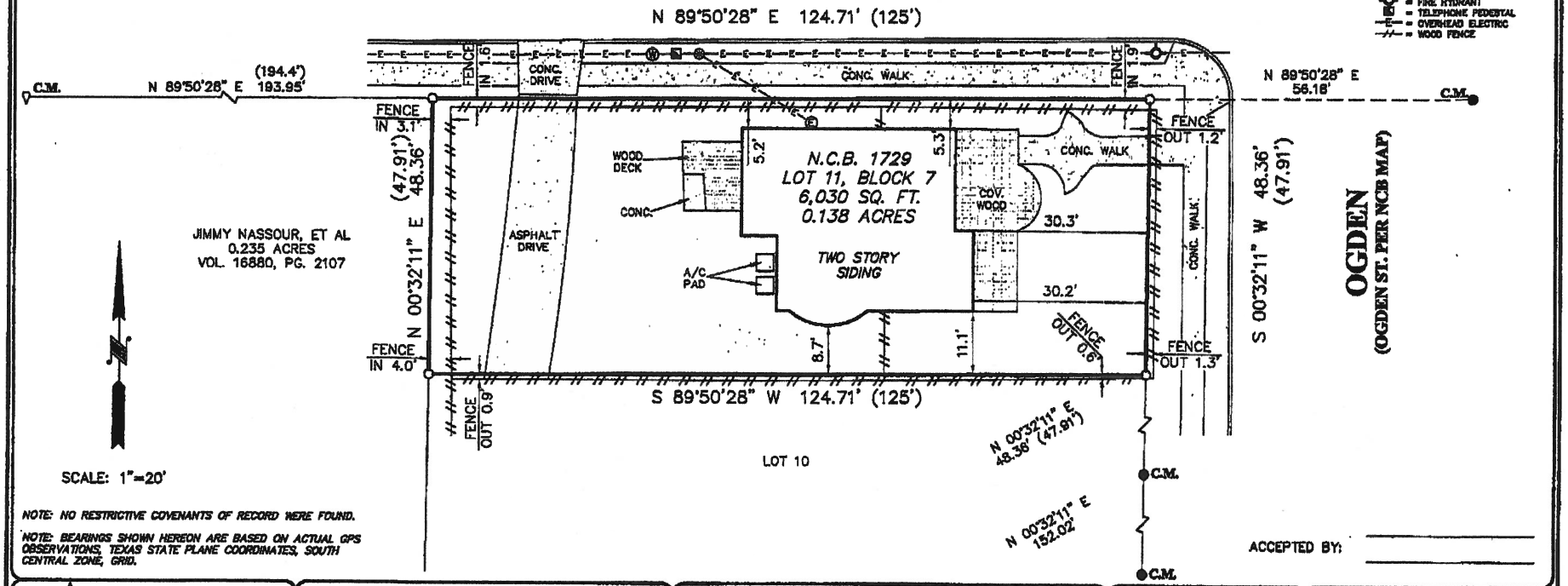
El Marinero
E Locust St
Ogden St
Eco Centro
823 Ogden Street
Silver Dollar Saloon
E Dewey Pl
Ogden St
E Dewey Pl
Hogwild Re
Tapes & CD
Ogden St
Steven E. Campbell, OD
E Dewey Pl
Ogden St
Main Street Pizza & Pasta

Main Street Pizza & Pasta
Steven E. Campbell, OD
Silver Dollar Saloon
823 Ogden Street
W Dewey Pl
N Main Ave
E Courland Pl
E Dewey Pl
Ogden St
E Locust St

FLOOD ZONE INTERPRETATION: IT IS THE RESPONSIBILITY OF ANY INTERESTED PERSONS TO VERIFY THE ACCURACY OF FEMA FLOOD ZONE DESIGNATION OF THIS PROPERTY WITH FEMA AND STATE AND LOCAL OFFICIALS, AND TO DETERMINE THE EFFECT THAT SUCH DESIGNATION MAY HAVE REGARDING THE INTENDED USE OF THE PROPERTY. The property made the subject of this survey appears to be included in a FEMA Flood Insurance Rate Map (FIRM), identified as Community No. 48028 C, Panel No. 0405 G, which is Dated 09/29/2010. By scaling from that FIRM, it appears that all or a portion of the property may be in Flood Zone(s) X. Because this is a boundary survey, the survey did not take any actions to determine the Flood Zone status of the surveyed property other than to interpret the information set out on FEMA's FIRM, as described above. THIS SURVEYOR DOES NOT CERTIFY THE ACCURACY OF THIS INTERPRETATION OF THE FLOOD ZONES, which may not agree with the interpretations of FEMA or state or local officials, and which may not agree with the tract's actual conditions. More information concerning FEMA's Special Flood Hazard Areas and Zones may be found at http://www.fema.gov/index.shtm.

EAST DEWEY PLACE



LEGEND

- = 1/2" IRON ROD TO BE SET
- = FOUND 1/2" IRON ROD
- = FOUND LEAD TACK
- = RECORD INFORMATION
- C.M. = CONTROLLING MONUMENT
- = ELECTRIC METER
- = WATER METER
- = POWER POLE
- = FIRE HYDRANT
- = TELEPHONE PEDESTAL
- —E— = OVERHEAD ELECTRIC
- —//— = WOOD FENCE

NOTE: NO RESTRICTIVE COVENANTS OF RECORD WERE FOUND.

NOTE: BEARINGS SHOWN HEREON ARE BASED ON ACTUAL GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATES, SOUTH CENTRAL ZONE, GRID.

ACCEPTED BY: _____

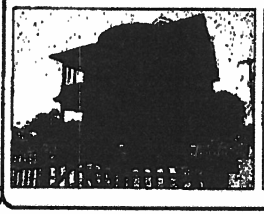
FIRM REGISTRATION NO. 10111700

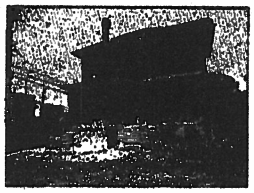
Westar Alamo
LAND SURVEYORS, LLC.
P.O. BOX 1036 HELOTES, TEXAS 78023-1036
PHONE (210) 372-8500 FAX (210) 372-8999

Property Address:
823 OGDEN (OGDEN ST. PER NCB MAP)

Property Description:
LOT 11, BLOCK 7, NEW CITY BLOCK 1729, CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS.

Owner:
ROBERT A. CUSHMAN, MARY L. CUSHMAN, AND ROBERT CUSHMAN





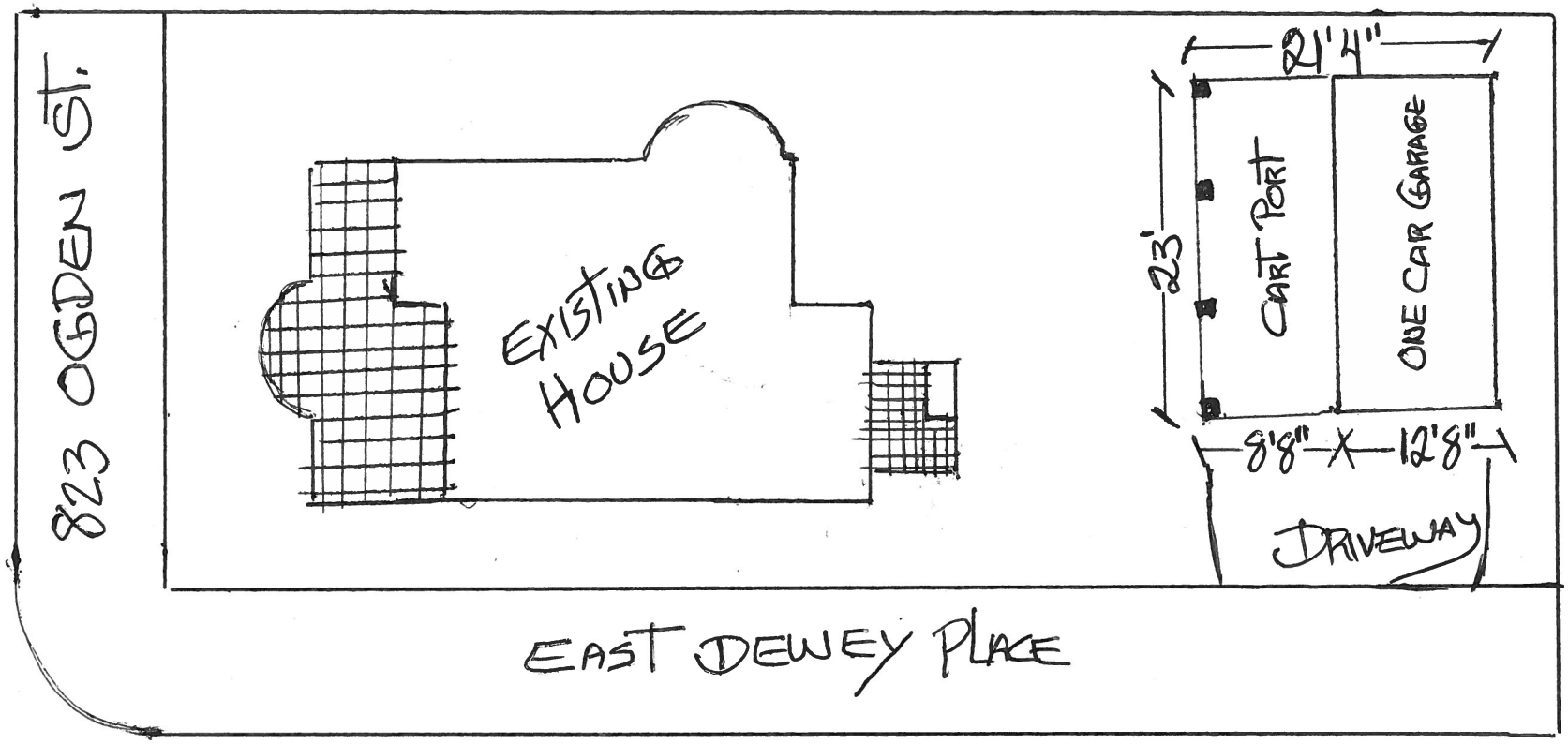
STATE OF TEXAS REGISTERED MARK J. EWALD 5095 PROFESSIONAL LAND SURVEYOR

I, MARK J. EWALD, Registered Professional Land Surveyor, State of Texas, do hereby certify that the above plat represents an actual survey made on the ground under my supervision, and there are no discrepancies, conflicts, shortages in area or boundary lines, or any encroachment or overlapping of improvements, to the best of my knowledge and belief, except as shown herein.

MARK J. EWALD
Registered Professional Land Surveyor
Texas Registration No. 5095

DATE: 06/18/2018

G.F. NO. 16029033084 | JOB NO. 71228 | DRAWN BY: JTD | TITLE COMPANY: STEWART TITLE COMPANY


823 OGDEN ST.
EXISTING HOUSE
21'4"
23'
CART PORT
ONE CAR GARAGE
8'8"
12'8"
DRIVEWAY
EAST DEWEY PLACE

SYMBOLS + KEYS

DOOR AND WINDOW SIZE KEY
2868 = 2'-8" WIDE x 6'-0" HIGH

DRAWING # / SHEET # — 1/3 = SECTION OF ELEVATION

ROOM TITLE
KITCHEN
9' CLG. VINYL
CEILING HEIGHT — FLOOR FINISH

1 DRAWING TITLE
DETAIL OR ELEVATION NUMBER

14.00' = ELEVATION ABOVE SEA LEVEL

= REVISION NUMBER

= REVISION CLOUD

REF. 90 = PLAN REFERENCE NORTH

	SINGLE POLE SWITCH
3	THREE WAY SWITCH
4	FOUR WAY SWITCH
DM	DIMMER SWITCH
	DUPLEX OUTLET
WP	WATER PROOF OUTLET
GF	GROUND FAULT OUTLET
	SPECIALTY OUTLET
	FLOOR OUTLET
	TELEPHONE JACK
TV	TELEVISION JACK
V	VENT
V/L	VENT W/ LIGHT
	SURFACE MOUNTED FIXTURE
	RECESSED FIXTURE
	WALL MOUNTED FIXTURE
	FLOOD LIGHT
	FLOURESCENT FIXTURE
	CEILING FAN
	STRIP LIGHTING
	CEILING BOX
	DOOR CHIME
	ELECTRICAL PANEL
	SMOKE ALARM

DRAWING INDEX

G0	COVER SHEET
G1	FOUNDATION PLAN, FLOOR PLAN, ELECTRICAL PLAN, ROOF PLAN, WALL SECTION, + DETAILS
G2	EXTERIOR ELEVATIONS
SP1	SPECIFICATIONS
SP2	SPECIFICATIONS
SP3	SPECIFICATIONS

GENERAL INFO.

AREA CALCULATIONS

GARAGE	218 sq. ft.
CART PORT	194 sq. ft.
TOTAL	410 sq. ft.

CODE ANALYSIS

OCCUPANCY GROUP	R (RESIDENTIAL)
CONSTRUCTION TYPE	Vb

G0030

823 OGDEN ST.,SAN ANTONIO, TX. 78212
LOT 11, BLOCK 7, NCB 1729

G0030

ARA
ALLISON RAMSEY Architects inc. creating sustainable timeless design.
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Beaufort SC, 29902 | Asheville, NC 28802
(843) 986-0539
www.allisonramseyarchitect.com

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-LAND SURVEYS AND SITE PLANS ARE NOT INCLUDED. SITE PLANS SHOULD BE CREATED FROM A LICENSED SURVEYOR.
-PLANS, SPECIFICATIONS, ARE NOT INCLUDED. SITE PLANS SHOULD BE CREATED FROM A LOCAL CIVIL CONTRACTOR OR ENGINEER TO ENSURE COMPLIANCE WITH LOCAL CODE
-VERIFY ALL STRUCTURAL DETAILS WITH LOCAL ENGINEER AND/OR ARCHITECT AND CONTRACTOR.
-VERIFY ALL ELECTRICAL DETAILS WITH LOCAL ENGINEER AND/OR ARCHITECT.

DATE :	3/10/10
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DRW BY :	mb
DRAWING NAME :	G0030.dwg

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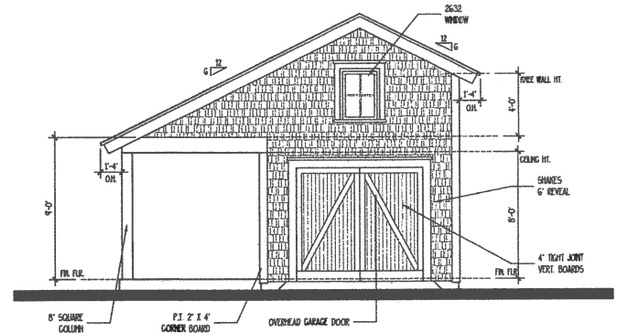
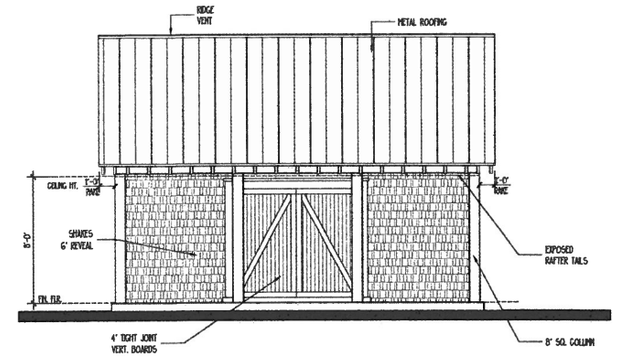


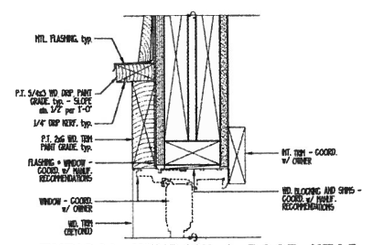
3 REAR ELEVATION

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



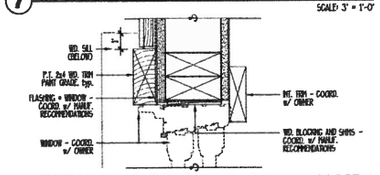
2 RIGHT ELEVATION

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



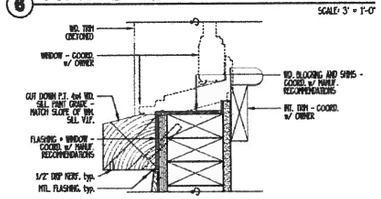
7 TYPICAL WINDOW & DOOR HEAD

SCALE: 3" = 1'-0"



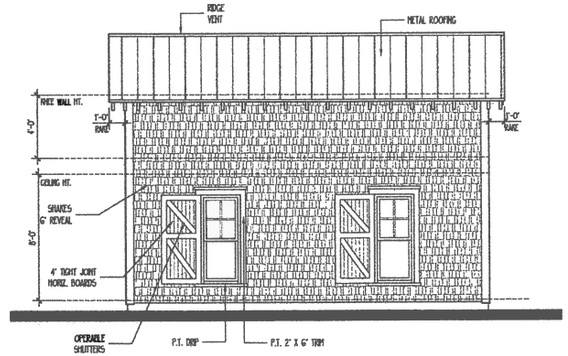
6 TYPICAL WINDOW & DOOR JAMB

SCALE: 3" = 1'-0"



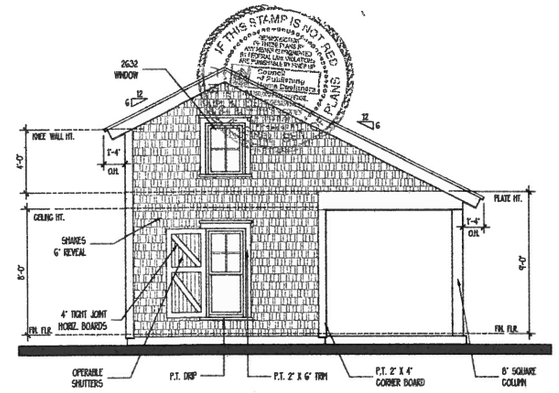
5 TYPICAL WINDOW SILL

SCALE: 3" = 1'-0"



4 LEFT ELEVATION

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



1 FRONT ELEVATION

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

G0030

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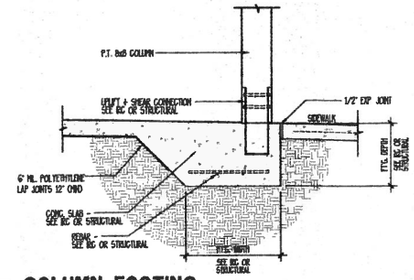
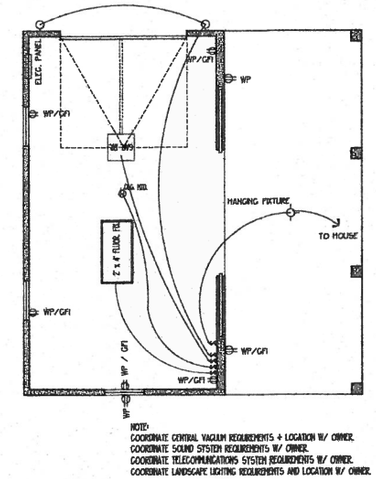


2 COLUMN FOOTING

SCALE: 3/4" = 1'-0"

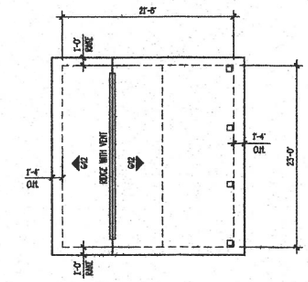
	SINGLE POLE SWITCH
3	THREE WAY SWITCH
4	FOUR WAY SWITCH
DM	DIMMER SWITCH
SC	SPEED CONTROL
	DUPLEX OUTLET
	1/2 HOT OUTLET
WP	WATER PROOF OUTLET
GF	GROUND FAULT OUTLET
	QUADRUPLEX OUTLET
	SPECIALTY OUTLET
	FLOOR OUTLET
	TELEPHONE JACK
T	THERMOSTAT
TV	TELEVISION JACK
V	VENT
V/L	VENT W/ LIGHT
	SURFACE MOUNTED FIXTURE
	RECESSED FIXTURE
	WALL MOUNTED FIXTURE
	FLOOD LIGHT
	FLUORESCENT FIXTURE
	CEILING FAN
	STRIP LIGHTING
	CEILING BOX
	DOOR CHIME
	ELECTRICAL PANEL
SD	SMOKE ALARM



NOTE:
COORDINATE CENTRAL VACUUM REQUIREMENTS + LOCATION W/ OWNER.
COORDINATE SOUND SYSTEM REQUIREMENTS W/ OWNER.
COORDINATE TELECOMMUNICATIONS SYSTEM REQUIREMENTS W/ OWNER.
COORDINATE LANDSCAPE LIGHTING REQUIREMENTS AND LOCATION W/ OWNER.

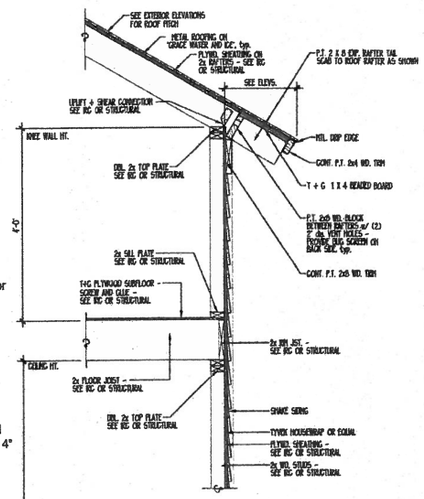
ELECTRICAL PLAN

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



ROOF PLAN

SCALE: 1/8" = 1'-0"



NOTES:
1. VERIFY MIN. FOOTING DEPTH BELOW FROST LINE WITH LOCAL BUILDING CODES.
2. VERIFY HIGH WIND RESISTANCE REQUIREMENTS WITH LOCAL BUILDING INSPECTOR.

1 TYPICAL WALL SECTION

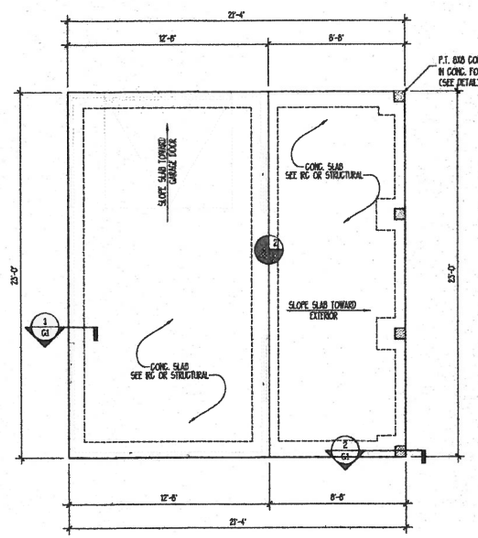
SCALE: 3/4" = 1'-0"

NOTES:

1. Use ½" O.S.B. All Around The Exterior Walls For Bracing.
2. Ceiling To Be 10 Feet In Hight.
3. Use 30 Years Roof Shingles.
4) a- Use 2" x 12" TJI Members
   b- 2" x 4" @ 16" O.C. Studs
   c- 8" x 8" Pressure Rated Posts
   d- 2 x 10 Beams
   e- 2" x 6" Rafters @ 24" O.C.
5. Provide A Minimum 7/16" Structural Wood Panel Attached W/ 8d Common Or 10d Box Nails @ 4" Spacing On Edge And 12" In Field.

Seda Consulting Engineers, Inc.
Firm Registration: F 1601 (210) 308-0057
6735 IH 10 West FAX:(210) 308-8842
San Antonio, Texas 78201 e-mail: seda@satx.rr.com
CIVIL• STRUCTURAL• ENVIRONMENTAL• PLANNER

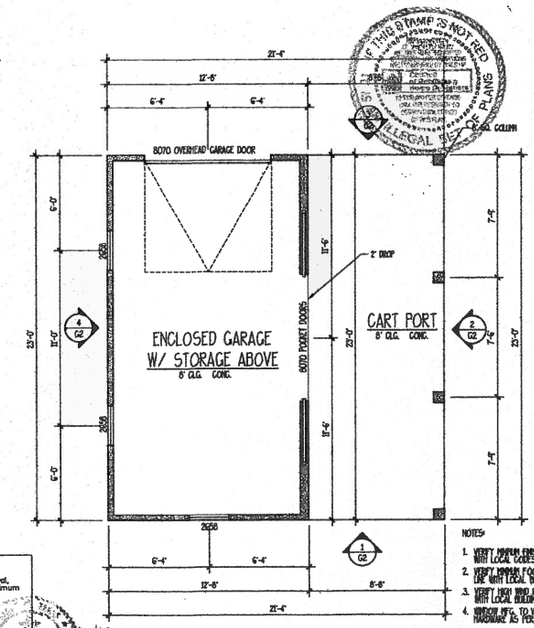
STATE OF TEXAS SALAH E. DIAB 35516 PROFESSIONAL ENGINEER 12/5/16



Notes:
1. Top and bottom corner bars equal to the top bar sizes shall be installed at every exterior corner and Tee intersection.
2. Existing Vegitation to be removed and replaced with select fill.
3. The depth of the beams are as follows:
   A. Exterior Beam = 30" Min.
4. Beam depth may be reduced with the Engineer approval, in any event the exterior beam must penetrate a minimum of 12" into undisturbed soil.
5. # 3 Bars @ 12" O.C. Each Way.

FOUNDATION PLAN

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



NOTES:
1. VERIFY MINIMUM FINISHED FLOOR ELEVATION WITH LOCAL CODES.
2. VERIFY MINIMUM FOOTING DEPTH BELOW FROST LINE WITH LOCAL BUILDING INSPECTOR.
3. VERIFY HIGH WIND RESISTANCE REQUIREMENTS WITH LOCAL BUILDING INSPECTOR.
4. WINDOW MFG. TO VERIFY EGRESS WINDOWS AND HARDWARE AS PER LOCAL CODES.

STATE OF TEXAS SALAH E. DIAB 35516 PROFESSIONAL ENGINEER 12/5/16

FLOOR PLAN

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

823 OGDEN ST.,SAN ANTONIO, TX. 78212

G0030

ARA ALLISON RAMSEY Architects
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Beaufort SC. 29902 | Lenoir, NC 28602
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-VERIFY COMPLIANCE WITH ALL LOCAL CODES.
-VERIFY ALL DIMENSIONS, MATERIALS, AND SPECIFICATIONS WITH CONSTRUCTION
-PLUMB, FIXTURE LOCATIONS AND ELEVATIONS TO BE VERIFIED BY CONTRACTOR
-MAX. + MINIMUM LOCATIONS ARE NOT ENGINEERED. BEDS SHOULD BE GROUNDED FROM A LOCAL MEDICAL ENGINEER OR ENGINEER TO MAKE COMPLIANCE WITH LOCAL CODE.
-ALL ELECTRICAL, PLUMBING, AND MECHANICAL SYSTEMS TO BE INSTALLED TO LOCAL CODES.
-VERIFY ALL STRUCTURAL ELEMENTS WITH LOCAL ENGINEER AND/OR ARCHITECT.

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DATE :	3/10/10
JOB NO. :	G0030
DWN BY :	mb
DRAWING NAME :	G0030.dwg

G1

CONTRACT SPECIFICATIONS

The following project specifications are intended as a minimum standard to be used in conjunction with the Contract Drawings.
Compliance with each of the following Specification sections is necessary where applicable or referenced by said drawings.
All work associated with the Contract Drawings shall be in conformance with the latest edition of the International Residential Code (IRC) or other codes, applicable to the jurisdiction where the project shall be constructed.
The Contractor shall refer to applicable sections of the IRC as referenced herein specifically Chapter 1, Administration

-The "Green Recommendation" subheadings outline practices recommended to be followed for a greener method of construction. These recommendations are to be followed at the builders discretion and do not imply any level of sustainability for the design. Refer to LEED for Homes Rating System (http://www.greenhomeguide.org/documents/leed_for_homes_rating_system.pdf) and ENERGY STAR Guidelines for Qualified New Homes (http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.homes_guidelns) for more information. An asterisk (*) indicates this recommendation is a mandatory pre-requisite for the LEED for Homes Rating System. The "Green Recommended Manufacturers (and Products)" subheadings outline some examples of Green products and are listed according to www.buildinggreen.com , www.greenhomeguide.org, and other sources.

DIVISION 1 GENERAL CONDITIONS

ARCHITECTURAL DRAWINGS AND SPECIFICATIONS, ERRORS AND OMISSIONS

a. The Contractor shall notify the Architect in writing of any errors, discrepancies, or omissions in the Contract Documents.
b. The Contractor shall be held responsible for the results of any errors, discrepancies, or omissions which the Contractor failed
to notify the Architect of before construction and/or fabrication of the work.
SPECIFICATION AND DRAWINGS EXPLANATION: For convenience of reference and to facilitate the letting of contracts and subcontracts, these specifications are separated into titled sections. Such separations shall not, however, operate to make the Architect an arbiter to establish limits to contracts between the Contractor and Subcontractor.
SUBSTITUTION: The contractor shall submit manufacturers literature and test data for the Owner's approval, for materials or equipment which the Contractor represents as "equal" to that specified and intends to incorporate into the work. Substitution of materials, systems, or manufacturers from those specified herein by the Contractor without prior written approval from the Owner or Architect is forbidden and shall be at the sole risk of the Contractor.
TRUSS DRAWINGS: A complete set of truss drawings certified in accordance with local authority shall be delivered to the architect.
Refer to the Engineer's calculations for any questions regarding lumber grades, beam and header sizes, footing and shear requirements.
NO deviations from the structural details shall be made without the written approval of the Structural Engineer.
Approval by city/county inspector does not constitute authority to deviate from the plans or specifications.
Subcontractor shall notify Contractor, and Contractor shall notify Architect of any errors, omissions, or discrepancies in the plans and/or specifications, so Architect can rectify corrections or omissions prior to commencement of construction.
The Contractor and Subcontractor shall verify all dimensions and job conditions at the job site prior to commencing work.
All work shall be done in compliance with local codes or IRC.
DO NOT SCALE DRAWINGS.
All workmanship shall be of the highest quality and is subject to inspections by the building department, local authorities, lending institutions, Architect or Owner.
Any one, or all of the above mentioned inspectors may inspect workmanship at any time. Any work identified as non-compliant with construction documents shall be removed and reworked, repaired, or replaced, at the discretion of the Owner or Owners Agent.
The Jobsite shall be maintained in a clean and organized manor. All Tradesman involved in the work shall be responsible for daily housekeeping and removing from the job site all trash and debris. The jobsite shall be completely clean and organized at the end of each weeks work.
It is the responsibility of each subcontractor to cooperate fully with the Job Superintendent in protecting all work through the entire course of construction. Each subcontractor shall be responsible for promptly notifying Job Superintendent of any damage existing prior to the start of their work.

ALLOWANCES

Definitions and Explanations: Allowances for certain categories of work specified herein are provided for the purpose of enabling and expediting contract pricing. A final Schedule of Allowance for materials, labor, equipment, and finishes customarily selected by the owner shall be submitted for verification and acceptance by the owner prior to commencement of the contract work.
Adjustments to the contract (up or down) due to owners selections will be issued by change order.
Allowances include but are not limited to lump sum allowances and unit cost allowances.
Selection and Purchase: At earliest feasible date after award of contract, advise Owner of schedule date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the work.
The Contractor shall obtain and submit cost proposals for work represented by each allowance for use in making final selections.
Purchase products and systems as specifically selected (in writing) by the Owner.
Unit-cost allowances: Submit a substantiated survey of quantities of materials, as shown in the "Schedule of Values" revised where necessary, and corresponding with change order quantities.
Each change order amount for unit-cost type allowances shall be based solely on the difference between the actual unit purchase amount and the unit allowance, multiplied by the final measure or count of work-in-place, with customary allowances, where applicable for cutting wastes, tolerances, mixing wastes, normal product imperfections and similar margins.
The Owner reserves the right to establish the actual quantity of work-in-place by an independent quantity survey, measure or count.

Schedule of Allowances

Description		Remarks	Allowance
Appliances:	Range	Allowance includes Cords, Cutoff Valves, and Fittings required	$
	Cooktop	for complete installation. Range + Labor + Installation costs	$
	Oven	included in Contractors Base Bid	$
	Microwave	"	$
	Refrigerator	"	$
	Dishwasher	"	$
	Washer	"	$
	Dryer	"	$
	Water Heater	"	$
	Other		$
Appliance Total Allowance		"	$
Cabinets:	Kitchen	Allowance includes the cost of Installation Labor for	$
	Counter Tops	Cabinets + Counter Tops, Cabinet Hardware, Pulls + Knobs	$
	Bath	"	$
	Counter Tops	"	$
	Bars	"	$
	Counter Tops	"	$
Cabinet Total Allowance		"	$
Flooring:	Carpet	Allowance includes the cost of materials and Labor installed.	$
	Vinyl	"	$
	Wood	"	$
	Ceramic Tile	"	$
Flooring Total Allowance		"	$
Hardware:	Door Hardware	Allowance includes the cost of material only. Costs of	$
	Bath Accessories	Installation Labor included in Contractor's Base Bid	$
Exterior Doors		Allowance includes the cost of material only. Costs of	$
Interior Doors		Installation Labor included in Contractor's Base Bid	$
Windows			$
Light Fixtures		Allowance includes the cost of material only. Costs of	$
Plumbing Fixtures		Installation Labor included in Contractor's Base Bid	$
Landscaping		Lump Sum Labor + Material	$

CONSTRUCTION PRACTICES

-Green Recommendation:
***Investigate and document options for the project's diversion of waste, including construction waste as well as cardboard packaging and household recyclables.**
***Document the diversion rate of the construction waste and record the waste of the land clearing separate from the new construction.**
Reduce construction waste and/or increase waste diversion to be below the industry norm: generate 2.5 lbs or less of net waste per square foot of conditioned floor area, increase waste diversion by diverting 25% or more of the total materials taken off the construction site from landfills and incinerators.

HOMEOWNER EDUCATION

-Green Recommendation:
***Provide the home occupants with proper training about the operations and maintenance of the home's "green" features and equipment. Provide a 1-hour walkthrough with homeowner and an O&M (Operations and Manual) to the homeowner including all documents and instructions related to the "green" equipment and systems.**

DIVISION 3 CONCRETE

-Green Recommendation:
Recyclability: Concrete to have maximum recycled content allowed per structural specifications.
Local Materials: Use local products when possible (extracted, processed and manufactured within 500 miles of the project).
Reduce emissions: Use 30% fly ash or slag as allowed per structural specifications.

Concrete intended for structural foundations shall comply w/ Sec. R402.2 and other applicable provisions of the IRC Codes and Standards: ACI 301 "Specifications for Structural Concrete Buildings," ACI 318, "Building Code Requirements for Reinforced Concrete." Comply with applicable provisions for highest quality except as otherwise indicated.
All load bearing footings shall be placed on level, undisturbed soil to depth shown on drawings and in no case less than the frost depth. Prior to placing footings or slabs, the Contractor shall insure that all forms and trenches are free of debris and all embedded items are in place, securely attached. This includes the work of others. Maintain 8" minimum clearance between all wood and finish grade.
Materials:
Cement shall conform to ASTM C-150
Ready mixed concrete shall be mixed and delivered in accordance to ASTM C-94, 3000 PSI
Aggregates shall conform to ASTM C-33 for normal-weight concrete and ASTM C-33 for lightweight concrete.
Waterstops: Flat dumbbell or centerbulb type, size to suit joints of either rubber (CRD C-513) or PVC (CRD C 572).
Moisture Barrier: Clear 6-mils thick polyethylene or 1/8" thick asphaltic core polyethylene-coated paper membrane sheet of the largest size practical in order to minimize joints.
Membrane-forming Curing Compound: ASTM C309, Type 1
Reinforcing Bars: ASTM A 615, grade 60.
Welded Wire Fabric: comply with ASTM A 185
Concrete Placement: Comply with ACI, placing concrete in a continuous operation within planned joints or sections. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placement and curing. In cold weather comply with ACI 306, in hot weather comply with ACI 305.
FLATNESS: Concrete floor slab flatness shall not deviate from level to 1/8" in 10 feet, maximum. Provide a smooth trowel finish for concrete floor and wall surfaces that are to be covered with a coating or covering material applied directly to concrete. Remove fins and projections, patch or remove defective areas as directed by the Owner or Architect. Apply trowel finish to monolithic slab surfaces that are exposed to view or are to be covered with resilient flooring, paint, or other thin coating. Consolidate concrete surfaces by finish troweling, free of trowel marks, uniform in texture and appearance.
Curing: Begin initial curing as soon as free water has disappeared from exposed surface. Where possible, keep continuously moist for not
less than 72 hours.
Joints: Provide construction, isolation, and control joints as indicated or required to minimize differential settlement and random cracking. Saw-cut control joints as soon as concrete has hardened sufficiently to support cutting operation and no later than 8-12 hours after placement.

SECTION 03 45 00 - PRECAST CONCRETE - CAST STONE

-Green Recommendation:
Recyclability: Concrete to have maximum recycled content allowed per structural specifications.
Local Materials: Use local products when possible (extracted, processed and manufactured within 500 miles of the project).
Reduce emissions: Use 30% fly ash or slag as allowed per structural specifications.

Specifications: Comply with recommended practices and procedures of Prestressed Concrete Institute (PCI) MNL - 116 and MNL - 117, and as herein specified.
Submit samples approximately 12" x 12" x 2" to illustrate quality, texture, and color of other than as-cast surface finishes.
Concrete Materials:
Portland Cement: ASTM C 150, Type as required.
Aggregates: ASTM C 33.
Air-Entraining Admixture: ASTM C 260.
Water-Reducing Admixture ASTM C 494
Compressive strength not less than 5000 psi at 28 days. Total air content not less than 4% or more than 6%.
Fabrication: Fabricate precast concrete units complying with PCI MNL-116 for structural units and MNL-117 for architectural finished exposed units, including dimensional tolerances.
Manufacturers:
-Green Recommended Manufacturers and Products:
Perform Wall, LLC, Perform Wall Panel System

DIVISION 4 MASONRY

-Green Recommendation:
Recyclability: Use recycled bricks when possible.
Local Materials: Use local products when possible (extracted, processed and manufactured within 500 miles of the project).

General: Assemblies of masonry units shall comply w/ the provisions provided in Chapter's 4, 6 and 10 of the IRC.
Standards: Comply with the recommendation of Brick Institutes or America (BIA) and National Concrete Masonry Association (NCMA).
Provide solid, uncored or unfrogged units with all exposed surfaces finished for sills, treads, caps, and similar applications exposing surfaces otherwise concealed from view.
Facing brick: ASTM C 216, Grade SW, to match owner's sample.
Concrete Masonry Units (CMU): provide units of the dimensions indicated on drawings conforming to ASTM 90.
Roughen and clean concrete bearing surfaces for the placement of the first course.
Cementitious Material: Premixed Type M colored mortar of formulation required to produce color indicated.
Ties and Anchoring Devises: Hot-dip galvanized steel sheet: Carbon steel hot-dip galvanized after fabrication to comply with ASTM A 153, Class B
Joint Reinforcement: Galvanized truss type welded-wire units prefabricated with 0.1875" diameter deformed continuous side rods and plain cross rods into straight lengths not less than 10' and of widths to fit wall thickness indicated, with prefabricated corner and tee units.
Masonry Veneer Anchors: Two piece assemblies consisting of 0.1875" diameter wire tie section and 0.1046" thick steel anchor section, with latter incorporating strap as manufactured by Dur-O-Wall, Inc. (or equal).
Masonry Wire Ties: 3/16" cold-drawn steel wire, with 1.5 oz. hot-dip zinc coating.
Asphalt-Coated Copper Flashing: 5 oz. sheet copper, coated with flexible fibrated asphalt.
Weepholes: Cotton sash of length required to produce 2" exposure on exterior and 18" in cavity between wythes.
Extruded Polystyrene Board Insulation: ASTM C 578, Type IV, with closed cells and integral high density skin, formed by expansion of polystyrene base resin in a extrusion process.
Workmanship: Install masonry units in the bond pattern indicated, or if none is indicated, in running bond. Avoid the use (by proper layout) of less-than-half-size units. Hold uniform joint sizes as indicated, or if not indicated, hold joint sizes to suit modular of masonry units.
Cut joints flush and tool slightly concave, unless otherwise indicated.
Keep cavities clean of mortar droppings, and install ties spaced 16" vertically and 24" horizontally. Provide weep holes spaced 24" apart at the bottom of (and at ledges in) cavities.
Install board insulation of thickness indicated in cavity wall with boards pressed firmly and adhesively applied against inside wythes of masonry. Fit board between wall ties and with edges butted tightly.
Reinforce horizontal joints with continuous masonry joint reinforcement, spaced 16" vertically. Install reinforcement 8" immediately above and below opening, for a distance of 2' beyond jambs of opening. Do not bridge control and expansion joints in the wall system.
Provide control and expansion joints at locations shown or as approved by the Architect.
Protect adjacent work and keep clean of mortar, debris, and other damaging conditions. Install approved flashing under copings, sills, through wall at counter flashing locations, and above elements of structural support for masonry.
Protect newly laid masonry from exposure to precipitation, excessive drying, freezing, soiling backfill and other harmful elements.
Cleaning: Dry-brush masonry work at end of each day's work. After mortar is thoroughly set and cured, clean masonry by bucket and brush hand cleaning method described in BIA "Technical Note No. 20 Revised" using detergent cleaner.
Manufacturers.
-Green Recommended Manufacturers and Products:
Apex Block, Apex Block
Trenwyth Industries, Verastone Premium Recycled Ground Face CMU

SECTION 04 42 00 - EXTERIOR STONE CLADDING

-Green Recommendation:
Recyclability: Use reclaimed stone.
Local Materials: Use local products when possible (extracted, processed and manufactured within 500 miles of the project).

Standards: Comply with industry recommendation of stone production and fabrication standards for the type of stone selected. Provide sample panels of erected stonework, built at site, using proposed stone, anchors, and jointing; one panel for each type of stone and installation. Obtain stone from one quarry with consistent color range and texture.
Stone type and color to match Owner's sample.
Mortar: Type M, ASTM C 270, Proportion Specification. For colored pointing mortar, use ground marble, granite or other sound stone to
match Owner's sample.
Anchorages: For anchoring into concrete, cadmium-plated or hot-dip galvanized; for anchoring into stone, Type 302/304 stainless steel.
Type, size, and load capacity as shown or required.
Asphalt-Coated Copper Flashing: 5 oz. sheet copper, coated with flexible fibrated asphalt.
Clean stone
work not less than 6 days after placement with clean water and stiff bristle brushes.

DIVISION 5 METALS

-Green Recommendation:
Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

SECTION 05 40 00

Material Standards: Provide and install structural steel in accordance w/ AISC "Code of Standard Practice for Steel Buildings and Bridges", AISC "Specifications for the Design, Fabrication, and Erections of Structural Steel for Buildings" including "Commentary"; AWS "Structural Welding Code", and provisions of Chapter 3 of the IRC.
Structural steel and misc. iron shall conform to ASTM A 36.
Bolts, nuts and screws shall conform to ASTM A307 Grade A. Welding rods shall conform to AWS for intended use.
Welding or heat bending of reinf. steel shall not be allowed without written consent of Architect. conform to AWS D12-1.
Fabrication: Comply with AISC "Specifications" and with AWS Code for procedures, appearance, and quality of welds.
Steel plates shall conform to ASTM A-283 Grade A. Steel tubing shall conform to ASTM A-501
Reinforcing steel shall conform to ASTM A-615, Grade 40 for sizes up to #3. Grade 60 for sizes #4 or larger.
Welded fabric (WWF) shall conform to ASTM A-185, latest revision. Smooth wire fabric shall conform to ASTM A-85, yield strength 60 ksi.
All bars in masonry shall be lapped with a minimum of 40 bar diameters at all splices unless noted otherwise.
All bars in concrete shall be lapped a minimum of 36 bar diameters at all splices unless noted otherwise with a larger dimension.
Splices of horizontal rebar in walls and footings shall be staggered 4'-0" unless noted otherwise.
Dowels for walls and column shall be the same size and spacing as the wall/column reinforcing unless noted otherwise.

SECTION 05 73 00 - DECORATIVE METAL RAILINGS

General: Provide and install handrails, railings, and guards as shown on drawings and in accordance w/ Sec. R311 and Sec. R312 of the IRC.
Porches, balconies or raised floor surfaces located more than 30 inches above the floor or grade below shall have guards not less than 36 inches in height.
Handrails shall be provided on at least one side of each continuous run of treads or flight w/ four or more risers.
Structural Performance of Handrails and Railing Systems: Provide handrails and railing systems capable of withstanding a concentrated load of 200 lbs applied at any point and a uniform load of 50 lbs per lin. ft.
Infill Area of Guardrail Systems: Horizontal concentrated load of 200 lbs applied to one sq. ft. at any point in the system including panels, intermediate rails balusters, and other elements composing the infill area.

DIVISION 6 WOOD, PLASTICS, AND COMPOSITES

-Green Recommendation:
Material Efficient Framing:
***Limit the overall estimated waste factor to 10% or less. Waste factor is the percentage of framing materials ordered in excess of the estimated material needed for construction.**
Use any of the following framing measures to reduce waste: pre-cut framing packages, open-web floor trusses, structural insulated panels (Sip) walls, SIP roof, SIP floor, stud, joist and rafter spacing greater than 16" o.c. where possible and allowed by the IRC, size headers for actual loads, use ladder blocking or drywall clips, use 2-stud corners).
Environmentally Preferable Products:
***Limit use of tropical wood but use only FSC-certified wood with proper documentation.**
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

SECTION 06 10 00- ROUGH CARPENTRY

General: Buildings and structures constructed in flood hazard areas as established in Table R301.2(1) shall be designed and constructed in accordance w/ the provisions contained in Sec. R323 of the IRC.
Materials: Building materials used below the design flood elevation shall comply w/ Sec. R323.1.7 of the IRC.
Load-bearing dimension timber for joists, beams, studs, and girders shall be identified by a grade mark in accordance w/ Sec. R502 of the IRC.
Provide seasoned lumber with 19 percent moisture content at time of dressing and shipment for sizes 2" or less in thickness.
For exposed lumber, apply grade stamps to ends of back of each piece or omit grade stamps entirely and issue certificate of grade compliance.
Dimension lumber: Provided lumber of the following product classification in grade and species indicated:
Light-framing (2"-4" thick, 2"-4" wide): Construction grade. Southern Pine graded under SPIB rules.
Studs (2"-4" thick, 2"-6" wide, 10' and shorter): "Stud" or No. 3 Structural Light Framing grade, any species graded under WWPA, WCLIB, SPIB or NLGA rules.
Structural Light Framing: 2"-4" thick, 2"-4" wide): No. 1 Southern Pine graded under SPIB rules.
Structural Joists and Planks (2"-4" thick, 5" and wider): Any species and grade complying with requirements for allowable unit stresses.
Fb (minimum extreme fiber stress bending): 1250 psi.
E (minimum modulus of elasticity): 1,600,000 psi.
Fv (horizontal shear): 100 psi.
Exposed Framing Lumber: Verify that material intended for use in exposed finish locations meets species and grade requirements for compliance with "Appearance" grade requirements of ALSC National Grading Rule.
Posts, Beams and Timbers (5" and thicker): No 1 grade Hem-Fir rules or No. 2 grade Southern Pine graded under SPIB rules.
Glued laminated timber (Glulam): Comply with ANSI/AITC A 190.1 "Structural Glued Laminated Timber".
Combination Sub floor Underlayment: 3/4" APA RATED STURD-I-FLOOR, T&G if not otherwise indicated.
Subflooring: 3/4" T&G, APA RATED SHEATHING
Wall Sheathing: 1/2" APA RATED SHEATHING.
Roof Sheathing: 1/2" APA RATED SHEATHING
Plywood Underlayment for Resilient tile: 3/8" APA UNDERLAYMENT EXT with fully sanded face.
Construction Panel Underlayment for Ceramic Tile: 3/4" APA RATED STURD-I-FLOOR EXP 1 for underlayment.
Fasteners and Anchorages: Provide metal hangers and framing anchors of size and type recommended for intended use by manufacturer.
Hot-dip galvanized fasteners and anchorages for work exposed to weather, in ground contact and high relative humidity to comply with ASTM A 153.
Building paper: 15 lb/sf asphalt saturated felt, ASTM D 226.
Sill Sealer Gasket: Glass fiber resilient insulation fabricated in strip form for use as a sill sealer, 1" nominal thickness compressible to 1/32", in rolls of 50' or 100' in length.
Preservative: pressure treat lumber and plywood with water-borne preservatives to comply with AWPA C2 and C9 respectively, and with requirements indicated below:
Wood for Ground Contact Use: AWPB LP-22
Wood for Above-Ground Use: AWPB LP-2
Treat cants, nailers, blocking, stripping and similar items in conjunction with roofing, flashing, vapor barriers, and water proofing.
Treat sills, sleepers, blocking, furring, stripping and similar items in direct contact with masonry or concrete.
Install rough carpentry work to comply with "Manual of House Framing" by National Forest Products Assoc. (NFPA) and with recommendations of American Plywood Association (APA), unless otherwise indicated. For sheathing, underlayment and other products not covered in above standards, comply with recommendations of manufacturer of product involved for use intended. Set carpentry work to required levels and lines, with members plumb and true and cut to fit.
Provide wood framing members of size and spacing indicated. Do not splice structural members between supports.
Firestop concealed spaces with wood blocking not less than 2" thick (nom.), if not blocked by other framing members.
Fasten structural wood panel products as follows:
Combination Subflooring underlayment and subflooring:
Glue-nail to framing.
Sheathing: Nail to framing.
Underlayment: Glue and nail to framing.
Air Infiltration Barrier: Cover wall sheathing with vapor permeable, water-resistant fabric composed of polyethylene fibers 6.1 mils thick. (Tyvek or equal) in compliance with manufacturer's printed directions.

SECTION 06 17 00 - SHOP-FABRICATED STRUCTURAL WOOD

Truss design drawings: Truss design drawings prepared in conformance w/ Sec. R802.10 of the IRC, shall be provided to the building
official and approved prior to installation. Truss design drawings shall include the information specified in Sec. R802.10.1 of the IRC.
Bracing: Trusses shall be braced to prevent rotation and provide lateral stability in accordance w/ the requirements specified in the truss design drawings.
Alterations to truss: Truss members shall not be cut, notched, drilled, spliced or otherwise altered in any way without the approval of a registered design professional.
Standards: Comply with NFPA National Design Specification and with TPI standards including "Quality Standard for Metal Plate Connected Wood Trusses", Commentary and Recommendations for Handling and Erecting Wood Trusses", Commentary and Recommendations for Bracing Wood Trusses" and the following:
"Design Specification for Metal Plate Connected Wood Trusses."
"Design Specification for Metal Plate Connected Parallel Chord Wood Trusses."
Provide design of total truss system by a structural engineer licensed to practice in jurisdiction where trusses will be installed.
Steel roof truss: The design, quality assurance, installation, and testing of cold-formed steel trusses shall be in accordance w/ Sec. R804 of the IRC and the AISI Standard for Cold-formed Steel Framing-Truss Design (COFS/Truss).

SECTION 06 40 00 - EXTERIOR ARCHITECTURAL WOODWORK

Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" by AWI.
Softwood lumber: Comply with PS 20 and applicable grading rules or respective grading and inspecting agency for species and product indicated. Fabricate to sizes and patterns indicated using seasoned lumber. Use pieces made from solid lumber for transparent finished work, and glued up or solid at Contractor's option for painted work.
Exterior Standing and Running Trim: Boards and worked lumber products complying with requirements indicated below including those of grading agency listed with species.
Species: Western Red Cedar: WWPA or WCLIB.
Grade: B & Btr - 1 & 2 Clear
Texture: Surfaced (Smooth)
Exterior Door Frames: Grade - Premium
Siding Board Type: Lumber milled to pattern and size indicated, complying with requirements indicated below including those of grading agency used with species:
Species: Western Red Cedar: WWPA or WCLIB
Grade: A Grade VG
Texture: Surfaced.
Exterior Miscellaneous Ornamental Items: Grade - Premium.
Install finish carpentry work plumb, level, true and straight with no distortions. Shim as required using concealed shims.
Scribe and cut finish carpentry items to fit adjoining work. Anchor finish carpentry work securely to supports and substrates using concealed fasteners and blind nailing where possible. Use fine finish nails for exposed nailing except as indicated, countersunk and filled flush with finish surface.
Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces from maximum length of lumber available. Cope at returns, miter at corners to produce tight fitting joints. Use scarf joints for end-to-end joints.
Beveled Siding: Attach to studs with non-corrosive siding nails of length to penetrate studs at minimum of 1-1/2" and to comply with siding manufacturer's recommendations.
Manufacturers:
-Green Recommended Manufacturers and Products: (per BuildingGreen.com)
Armster Reclaimed Lumber Co., Reclaimed-Wood Lumber and Products
Industries Maibec, Inc., Certified FR Shingles

SECTION 06 40 23 - INTERIOR ARCHITECTURAL WOODWORK

AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standard" by American Woodworkers Institute.
Samples: Submit finished samples of each wood species and profile indicated, for transparent finish, of each material indicated for opaque finish, of each color, pattern, and type of plastic laminate and each type of cabinet hardware.
Species for Transparent Finish: Rift-sawn red oak.
Species for Opaque Finish: Any closed-grain hardwood listed in reference wood working Standard.
Hardwood Plywood: HPMA FE.
Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.
Interior Standing and Running Trim: Grade - Premium.
CABINETS AND COUNTER TOPS:
Allowances: See Division 1 for amount and procedures for purchase and payment (overrun or underrun). The costs of handling and installation are covered by the allowance.
Grain Matching: Run and match grain vertically for drawer fronts, doors, and fixed panels.
Comply with veneer and other matching requirements indicated for Blueprint matched paneling.
Laminate Clad Cabinets: Grade - Custom Flush overlay. High-pressure decorative laminate selected from laminate manufacturer's full range of standard colors, patterns, and finishes.
Concealed Cabinet Hardware: Provide cabinet hardware and accessory materials associated with architectural cabinets.
Comply with ANSI/BHMA A 156.9 "American National Standard for Cabinet Hardware."
Exposed Cabinet Hardware: See Section 01020 Allowances for exposed hardware.
Shop-apply prime/base coat to interior trim for opaque finish, in compliance with requirements indicated in section 09 painting. Transparent Finish for Open-Grain Woods: Provide the following shop applied finish in compliance with AWI "Architectural Woodwork Quality Standards."
Grade: Premium. AWI Finish System #3: Conversion varnish.
Staining: Match Owner's Sample
Install woodwork to comply with AWI Section 1700 for same grade specified in Part 2 of this section for type of woodwork involved.
Paneling: Anchor paneling to supporting substrate with concealed panel hanger clips. Blind nail back-up strips and similar associated trim and framing.
Manufacturers:
-Green Recommended Manufacturers: (per BuildingGreen.com)
Handcraft Healthy Building Solutions, Woodcore Doors and Cabinets

SPECIFICATIONS

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THIS PLAN HAS BEEN PREPARED TO MEET TOP PROFESSIONAL STANDARDS AND PRACTICES. HOWEVER, BUILDING CODES AND ENVIRONMENTAL CONDITIONS VARY FOR DIFFERENT LOCATIONS. IT IS THE RESPONSIBILITY OF THE PURCHASER OF THIS PLAN TO PERFORM THE FOLLOWING BEFORE BEGINNING CONSTRUCTION. ALLISON RAMSEY ARCHITECTS, INC. ASSUMES NO LIABILITY FOR ANY HOME CONSTRUCTED FROM THIS PLAN.
-VERIFY ALL DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION
-VERIFY COMPLIANCE WITH ALL LOCAL CODES
-PLANS INDICATE LOCATIONS ONLY, ENGINEERING ASPECTS SHOULD INCORPORATE ACTUAL SITE CONDITIONS.
-HVAC + PLUMBING LAYOUTS ARE NOT INCLUDED. THESE SHOULD BE OBTAINED FROM A LOCAL HVAC CONTRACTOR OR ENGINEER TO ENSURE COMPLIANCE WITH LOCAL CODE AND THAT EQUIPMENT IS SIZED CORRECTLY FOR YOUR PARTICULAR REGION AND CONDITIONS.

DATE: 10/18/12
JOB NO.:
DRN. BY: ssh
DWG. NAME: GreenSpecs2012.dwg

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SP1

DIVISION 7 THERMAL AND MOISTURE PROTECTION

-Green Recommendation:
Utilize a closed crawlspace system as defined by the IRC when possible. If a conventional vented crawlspace is used, ensure to seal all penetrations and gaps in building envelope that are not used for ventilation.

Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

General: Provide thermal and moisture protection in accordance w/ applicable standards of the IRC.
Concrete and masonry foundation waterproofing: In areas where high water table or other severe soil-water conditions are known to exist.
Weather Protection: Roof decks shall be covered w/ approved roof coverings secured to the building or structure in accordance w/ the provisions of Chapter 9 of the IRC.

SECTION 07 10 00 - WATERPROOFING AND DAMPROOFING

Exterior foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be waterproofed w/ membrane extending from the top of the footing to the finished grade in accordance w/ Sec. R406.2 of the IRC.

SECTION 07 11 13 - BITUMINOUS DAMPROOFING

Concrete and masonry foundation dampproofing: Except where required to be waterproofed by Sec. R406.2, foundation walls that retain earth and enclosed habitable or usable spaces located below grade shall be dampproofed from the top of the footing to the finished grade in accordance w/ Sec. R406.1 of the IRC.

SECTION 07 21 00 THERMAL INSULATION

-Green Recommendation:
•Install insulation that meets or exceeds the R-value requirements in Chapter 4 of the International Energy Conservation Code.
•Install insulation to meet the Grade II specifications set by the National Home Energy Rating Standards.
Use low emission insulation and comply with California Practice for Testing of VOC's from Building Materials Using Small Chambers (cdph.ca.gov/ehib/IAQ/VOCS/Practice.htm)
Use recycled content of 20% or more when possible.
Use soy-based spray foam insulation when possible.

-Green Recommended Manufacturers and Products:
BioBased Spray Foam Insulation

Thermal insulation shall be installed in accordance w/ provisions provided in Sec. R316 of the IRC.
Insulating materials, including facings, such as vapor retarders or vapor permeable membranes installed within
floor-ceiling assemblies, roof-ceiling assemblies, wall assemblies, crawl space and attics shall have a flame-spread index not to exceed 25 w/ an accompanying smoke-developed index not to exceed 450 when tested in accordance w/ ASTM E 84.
Thermal performance requirements: The min required insulation R-value or the area-weighted average maximum required fenestration U-factor for each element in the building thermal envelope shall be in accordance w/ Sec. N1102 and the criteria in Table N1021 of the IRC.

SECTION 07 24 00 - EXTERIOR INSULATION AND FINISH SYSTEMS -

General: All Exterior Insulation Finish Systems (EIFS) shall be installed in accordance w/ the manufacturer's installation instructions and the requirements of Sec. R703.9 of the IRC.
Decorative trim shall not be faced nailed through the EIFS.
The EIFS shall terminate not less than 8 inches above the finished ground level.
Installer qualification: EIFS system installers shall be certified in writing by system manufacturer as qualified for installation of system indicated.
Manufacturers: Subject to compliance with requirements, provide CLASS PM system of one of the following:
- Dryvit System, Inc.
- Senergy Inc.
- Simplex Div., Anthony Industries, Inc.
- STO Industries, Inc.

Comply with system manufacturer's current published instructions for installation of system as applicable to each type of substrate indicated. Offset joints of insulation from joints in sheathing.
Provide mock-up samples for the Owners selection of colors and textures from Manufacturer's full line of offerings.

SECTION 07 31 13 - ASPHALT SHINGLES

The installation of asphalt shingles shall comply w/ the provisions of Sec. R905 of the IRC.
Sheathing Requirements: Asphalt shingles shall be fastened to solidly sheathed decks.
Slope: Asphalt shingles shall only be used on roof slopes of two units vert. in 12 units horiz. or greater. For roof slopes from two units vert. in 12 units horiz. up to four units vert. in 12 units horiz. double underlayment application is required in accordance w/ Sec. R905.2.7 of the IRC.
Underlayment: Unless noted otherwise, required underlayment shall comply w/ ASTM D226, Type I, or ASTM D 4869, Type I. Self-adhering polymer modified bitumen sheet shall comply w/ ASTM D 1970.
Asphalt Shingles: Asphalt shingles shall have self-seal strips or be interlocking and comply with ASTM D 225 or D 5462.
Attachment: Asphalt shingles shall have the minimum number of fasteners as required by the manufacturer. For normal application asphalt shingles shall be secured to the roof w/ not less than four fasteners per strip shingle or two fasteners per individual shingle.
Where the roof slope exceeds 20 units vert. in 12 units horiz, special methods of fastening are required.
For roofs located where the basic wind speed per Fig R301.2(4) is 110 mph or greater special methods of fastening are required.
Special fastening methods shall be tested in accordance w/ ASTM D 3161, modified to use a wind speed of 110 mph.
Shingles classified using ASTM D 3161 are acceptable for use in wind zones less than 110 mph. Shingles classified using ASTM D 3161 modified to use a wind speed of 110mph are acceptable for use in all cases where special fastening is required.
Flashing: Flashing for asphalt shingles shall comply w/ Sec. R905.2.8 of the IRC.
Flashing shall be installed in such a manner so as to prevent moisture entering the wall and roof through joints in copings, through moisture permeable materials, and at intersections w/ parapet walls and other penetrations through the roof plane.
Flashings shall be installed at wall and roof intersections; wherever there is a change in roof slope or direction, and around roof openings.
Material shall be corrosion resistant w/ a thickness of not less than 0.019 (No. 26 galvanized sheet).
Valleys: Valley lining shall be installed in accordance w/ manufacturer's installation instructions before applying shingles. Valley linings of the types allowed in Sec. R905.2.8.2 and in accordance w/ Table R905.2.8.2 of the IRC shall be permitted.

SECTION 07 31 24 - WOOD SHINGLES AND SHAKES

Wood Shingles: The installation of wood shingles shall comply w/ the provisions of Sec. R905.7 of the IRC.
Deck requirements: Wood shingles shall be installed on solid or spaced sheathing. Where spaced sheathing is used sheathing boards shall not be less than 1-inch by 4-inch nominal dimensions and shall be spaced on centers equal to the weather exposure to coincide with the placement of fasteners.
Deck slope: Wood shingles shall be installed on slopes of three units vert. in 12 units horiz. or greater.
Material Standard: Wood shingles shall be of naturally durable wood and comply w/ the requirements of Table R905.1.4 of the IRC and in accordance w/ grading rules as established by the Cedar Shake and Shingle Bureau.
Application: Wood shingles shall be installed according to Chapter 9, Sec. 905.7, and the manufacturer's installation instructions.
Weather exposure for wood shingles shall not exceed those set in Table R905.7.5 of the IRC.
Fasteners for wood shingles shall be corrosion-resistant w/ a min. penetration of 1/2 inch into the sheathing.
Wood shingles shall be attached to the roof w/ two fasteners per shingle, positioned no more than 3/4 inch from each edge and no more than 1 inch above the exposure line.
Valley flashing: Roof flashing shall be not less than No. 26 gauge corrosion-resistant sheet metal and shall extend 10 inches from the centerline each way for roofs having slopes less than 12 units vert. in 12 units horiz, and 7 inches from the centerline each way for slopes of 12 units in 12 units horiz. and greater.
Manufacturers:
-Green Recommended Manufacturers:
Escalar, Seneca Cedar Shake Tiles

SECTION 07 61 00 - SHEET METAL ROOFING

-Green Recommendation:
Use metal roofing with an SRI index rating of at least 29.

Metal roof panels shall comply with provisions of Chapter 9, Sec. R905.10 of the IRC.
Roof covering application: Roof coverings shall be applied in accordance w/ the applicable provisions of Chapter 9 of the IRC and the manufacturers installation instructions.
Deck Requirements: Metal roof panel roof coverings shall be applied to a solid or spaced sheathing, except where the roof covering is specifically designed to be applied to spaced supports.
Slope: The minimum slope for lapped, nonsoldered seam metal roofs without applied lap sealant shall be three units vertical in 12 units horiz.
The minimum slope for lapped, nonsoldered seam metal roofs w/ applied lap sealant shall be one-half vert. unit in 12 units horiz.
The minimum slope for standing seam roof systems shall be one-fourth unit vert. in 12 units horiz.
Material Standards: Metal-sheet roof covering systems that incorporate supporting structural members shall be designed in accordance w/ the International Building Code. Metal-sheet roof coverings installed over structural decking shall comply w/ Table R905.10.3.
Attachment: Metal roofing fastened directly to steel framing shall be attached in accordance w/ Sec. R905.10.4 of the IRC.
Separate aluminum sheets from contact w/ wood, masonry and steel (structure, panels or fasteners), by either a (1)-mil coating of fibroid asphalt paint or by tapes or gaskets of tape recommended by panel manufacturer. Except as otherwise recommended by manufacturer, faster aluminum work w/ non-magnetic stainless steel fasteners, gasket where needed for waterproof performance.
Flashing: Flashing shall be installed in such a manner so as to prevent moisture entering the wall and roof through joints in copings, through moisture-permeable materials, and at intersections w/ parapet walls and other penetrations through the roof plane.
Flashings shall be installed at wall and roof intersections, wherever there is a change in roof slope or direction, and around roof openings.
Material shall be corrosion resistant w/ a thickness of not less than 0.019 (No. 26 galvanized sheet).

SECTION 07 92 00 - JOINT SEALANTS

-Green Recommendation:
•Use fire-rated caulk in all attic applications.
Use environmentally friendly adhesives and sealants- see Table 26 in Lead for Homes requirements.

Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under service and application conditions, as demonstrated by testing and field experience.
Colors: Provide color of exposed joint sealers as selected by Owner from manufacturer's standard colors.
Elastomeric Sealants Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated, complying with ASTM C 920 requirements.
One-Part Non-acid Curing Silicone Sealant: Type S, Grade NS, Class 25.
One-Part Mildew-Resistant Silicone Sealant: Type S, Grade NS, Class 25, Uses NT, G, A, and O, formulated with fungicide, intended for sealing interior joints with nonporous substrates exposed to high humidity and temperature extremes.
Plastic Foam Joint Fillers: Preformed, open-cell polyurethane foam.
General: Comply with joint sealer manufacturer's instructions applicable to products and applications indicated.

DIVISION 8 OPENINGS

-Green Recommendation:
Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

***Reduced Envelope Leakage- meet the air leakage requirement shown below as tested by an energy rater:**
Air Leakage Requirements (source: Lead for Homes Requirements, Table 17).

	Performance Requirements (In ACH50)			
Leak Criteria	**IECC Climate Zones 1-3**	**IECC Climate Zones 4-5**	**IECC Climate Zones 6-7**	**IECC Climate Zone 8**
Reduced Envelope Leakage (Required)	7.0	6.0	5.0	4.0
Greatly Reduced Envelope Leakage	5.0	4.25	3.5	2.75
Minimal Envelope Leakage	3.0	2.5	2.0	1.5

General: Provide and install doors and windows in accordance w/ manufacturers installation instructions. Comply w/ provisions of AAMA/NWWA 101/I.S.2, AAMA/WDMA 101/I.S.2/NAFS, ASTM E 330, and Sections R308, R310, R311, and R612 of the IRC.
Performance: Exterior windows and doors shall be designed to resist the design loads specified in Table R301.2(2) adjusted for height and exposure per Table R301.2(3).
Means of Egress: Not less than one exit door conforming to Sec.R311, MEANS OF EGRESS, shall be provided for each dwelling unit.
Windborne debris protection: Protection of exterior windows and glass doors in buildings located in hurricane-prone regions from
windborne debris shall be in accordance w/ Sec.R301.2.1.2

SECTION 08 14 00 - WOOD DOORS

-Green Recommendation:
Products with any sign of damage, mildew, and other contamination shall be rejected. Examine all door frames before installation to ensure they are installed plumb, true and level. Wall space around door frames shall be filled with insulation.
Materials:
Wood: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor.
Wood Veneer: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor.
Veneer shall be manufactured in a facility approved by an agency accredited by the Forest Stewardship Council (FSC).

Manufacturers: Subject to compliance with NWMA I.S.6 requirements, provide panel wood doors by one of the following:
- Karona, Inc
- Morgan Products, Ltd.
- Nicolai Company
- Sander Industries Limited, Door Division.
- T.E. Schumacher Co., Inc
- Sun-Dor-Co.

-Green Recommended Manufacturers and Products: (per BuildingGreen.com)
Albany Woodworks, Inc., Reclaimed-Wood Products
Algoma Hardwoods, Inc., Certified Wood Doors
Alternative Timber Structures, Inc., Interior and Exterior Doors
Crossroads Recycled Lumber, Reclaimed Wood Products
Eggers Industries, Certified Wood Doors
Executive Door Company, Recycled-Content Wood Doors
Marshfield Doorsystems, Certified Stave Core Doors
Lynden Door, GreenDor Agfiber Doors
VT Industries, Inc., Agrifiber Core Architectural Doors

Exterior Doors: Assemble doors with "wet-use" adhesives, and comply with NWMA Premium or select Grade.
- Wood Species: Fir, Plain sawn/sliced
- Panel Configuration: Raised
- NWMA Design Group: 1-2/4. Front Entrance Doors (Exterior)

Interior Doors: Premium or Select.
- Wood Species: Idaho White, Lodgepole, Ponderosa or Sugar Pine, plain sawn/sliced.
- Panel Configuration: Raised
- NWMA Design Group: 1-3/8" Interior Panel Doors

Glazed Opening: Trim glazed openings with solid wood moldings of profile indicated, removable one side.
Transom and Side Panels: Fabricate panels to match adjoining doors in materials, finish and quality of construction.
Exterior doors: Factory-seal exterior doors after fabrication with water repellent to comply with NWMA I.S.4. Flash top of out-swinging doors with manufacturer's standard metal flashing.
Install doors to comply with manufacturer's instructions, applicable requirements of referenced quality standard, and as indicated.
Align and fit doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal cut surfaces after fitting and machining.

SECTION 08 33 23 - OVERHEAD COILING DOORS

-Green Recommendation:
Materials:
Wood: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor.

Performance: Overhead Doors shall be designed to resist the design wind loads specified in Table R301.2(2) and as adjusted for height and exposure in Table R301.2(3) of the IRC.
Sectional Overhead Doors: Provide complete automatic operating door assemblies including frames, sections, brackets, guides, tracks, counterbalance, hardware, operators, and installation accessories.
Wood Door Section for transparent finish: Panel-type door sections, complete with wood jamb and head mold, glazing stops and glazing as shown. Stiles and rails of clear, straight, kiln dried Douglas Fir, West Coast hemlock or Sitka spruce not less than 1-3/4" thick. Use clear all heartwood, redwood or cedar for head and jamb molds. Panel inserts, 1/4" thick, smooth 2 sides tempered hardboard with wood veneer, complying with ANSI 135.4 Class 1.
Fabricate doors of mortise and tenon or rabbeted construction with dowels, pins and waterproof glue. Treat doors with 2-minute immersion water-repellent and toxic treatment. Provide continuous galv. steel reinforcing, horizontal and diagonal, as required for panel size.
Installation: Set door track and operating equipment complete with necessary hardware, jamb and head mold stops anchors, inserts hanger and support, supports in accordance with mfrs. installation instructions.
Electric Door Operators: Automatic garage door openers, if provided, shall be listed in accordance w/ UL 325.
Provide size and capacity as recommended by door manufacturer, complete with NEMA approved electric motor and factory pre-wired motor controls, remote control station and accessories.
Provide safety edge device extending full width of door bottom.
Manufacturer:
-Green Recommended Manufacturers: (per BuildingGreen.com)
Real Carriage Door Company, Reclaimed-Wood Carriage Doors
Ardmar, LLC, GlassPanel Garage Door

SECTION 08 52 00 - WOOD WINDOWS

-Green Recommendation:
Products with any sign of damage, mildew, and other contamination shall be rejected. Examine all window frames before installation to ensure they are installed plumb, true and level. Wall space around window frames shall be filled with insulation.
Follow minimum Energy Star Standards for Energy Performance Requirements outlined in the following table, whichever is more stringent.

ENERGY STAR Requirements for Window and Glass Doors (source: Lead for Homes Requirements, Table 18)

	Marin	Northern	North Central	South Central	Southern
Good Windows	U-factor	≤0.35	≤0.40	≤0.40	≤0.55
	SHGC	Any	≤0.45	≤0.40	≤0.55
Enhanced Windows	U-factor	≤0.31	≤0.35	≤0.35	≤0.55
	SHGC	≤Any	≤0.40	≤0.35	≤0.55
Exceptional Windows	U-factor	≤0.29	≤0.33	≤0.32	≤0.55
	SHGC	≤Any	≤0.40	≤0.30	≤0.40

(Table from Lead for Homes Rating System, Table 18, p. 63)

Install windows with low air leakage rates
-Less than .25 cfm per LF of sash opening for double hung windows
-Less than .10 cfm per LF for casement, awning, and fixed windows
-Limit skylights to less than 3% WFA (window to floor area is the ratio of window area to floor area.
Materials:
Wood: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor.
Wood Veneer: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor.
Veneer shall be manufactured in a facility approved by an agency accredited by the Forest Stewardship Council (FSC).

Provide and install window units in configurations shown on drawings and in accordance with Federal, State, Local, I neighborhood guidelines.
Performance: Windows shall be designed to resist the design wind loads specified in Table R301.2(2) and as adjusted for height
and exposure in Table R301.2(3) of the IRC.
Provide units that comply w/ Sec. R308, Glazing and Sec. R613, Exterior Windows and Glass Doors of the IRC.
Egress: Comply w/ requirements of Sec. R310 of the IRC regarding min. window openings required for emergency escape and rescue.
Comply with AWI/NWMA "Industry Standard for Wood Window Units I.S. 2-80" by National Woodwork Manufacturers Association (NWMA), except to extent more stringent requirements are indicated.
Manufacturer: Provide casement, awning or double hung tree divided lite units as indicated on the plans. Each operating sash equipped with pair of counter balancing mechanism, lift handle, latch at meeting rail, produced by one of the following:
- Anderson Corp. Bayport
- Caradco Corp/Scotch, Rantoul, IL
- Hurd Millwork, Flagstaff, AZ
- Marvin Windows, Warroad, MN
- Peter Windows, Pella, IA
- Weather Shield Mfg. Inc., Medford, WI

-Green Recommended Manufacturer and Products: (per BuildingGreen.com)
J.S. Benson Woodworking & Design, LLC- Certified Wood Windows
Jeld-Wen Windows & Doors, Minor Collection High Performance Windows
Loewen Windows, Wood Smart Window
Marvin Windows & Doors, High Performance Wood Window
Mogard Manufacturing Inc., High Performance Windows
Paramount Windows, Inc., High Performance Wood Windows
Pella Corporation, Designer Series
Weather Shield Manufacturing Inc., High Performance Wood Windows

SECTION 08 71 00 - DOOR HARDWARE

Hardware Allowances: See Division 1 for amount and procedures for Allowance items. The costs of handling and installation are not covered by the allowance and shall be included in the base bid.
General Hardware Requirements: Submit final hardware schedule organized by "hardware sets" to indicate specifically the product to be furnished for each item required on each door.
Furnish templates to fabricator of doors and frames, as required for preparation to receive hardware.
Install each hardware item to comply with manufacturer's instructions and recommendations.
Set thresholds for exterior doors in full bed of butyl-rubber or polysulfide/silicone mastic sealant. Remove excess sealant and clean adjacent surfaces.

SECTION 08 71 00.71 WEATHERSTRIPPING, THRESHOLDS, AND SEALS

-Green Recommendation:
Shop priming recommended. All paints and stains to be low VOC and meet the standard of the Green Seal Standard GC-03. All sealants and adhesives to meet the standards of the South Coast Air Quality Management District Rule #1168.
Provide adequate weatherstripping to reduce envelope leakage as shown in table 18 above.

All exterior doors and doors to unheated spaces shall be weather-stripped. Provide aluminum interlocking thresholds with 3" x 5" aluminum single finish strips, weatherstrip head and jambs with vinyl bulb set in aluminum strip, or approved equal.
Provide concealed, non-ferrous spring-metal or vinyl-gasket type, applied to each edge of each operable sash.
Fireglaze wood windows units with sealant and 1/8" float or sheet glass or clear heated-glass-edged insulating glass if shown on drawings.
Install Screens: Manufacturer's standard removable units, for each operable sash or extruded aluminum framing, with 18 x 14 replaceable coated aluminum 0.013" wire mesh and vinyl retainer spline.
Shop Prime Coat Finish: Manufacturer's standard wood primer, FS TT-P-2, applied to exterior-exposed surfaces only. Installation: Install units true and plumb and in accordance w/ Sec. R612 of the IRC and the manufacturers installation instructions.

DIVISION 9 FINISHES

-Green Recommendation:
Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

SECTION 09 29 00 - GYPSUM BOARD

General: All Gypsum board materials and accessories shall be installed in conformance w/ Sec. R702.3 and Table R702.3.5 of the IRC.
Application: Gypsum sheathing shall be attached to exterior walls in accordance w/ Table R602.3(1).
Interior gypsum board shall not be installed where it is directly exposed to the weather or to water.
Manufacturers: Subject to compliance with requirements, provide gypsum board of types indicated (in maximum lengths available to minimize end joints) and related products by one of the following:
- Georgia-Pacific Corp.
- Gold Bond Building Products Div., National Gypsum Co.
- United States Gypsum Co.

-Green Recommended Manufacturers and Products: (per BuildingGreen.com)
G-P Gypsum Corporation: DensArmor Plus and DensShield

Exposed Gypsum Board: ASTM C 36, 1/2" thickness. Use 5/8" type X where indicated.
Type: Regular, (except water-resistant in wet areas).
Edges: Tapered.
Trim Accessories: ASTM C 840: manufacturer's standard trim accessories, including corner bead and edge trim of beaded type with face flanges for concealment in joint compound.
Gypsum Board Joint Treatment Materials: Factory-prepackaged, vinyl-based products complying with ASTM C 475 and ASTM C 840, and paper reinforcing tape, unless otherwise indicated.
Install and finish gypsum board to comply with ASTM C 840.

SECTION 09 30 00 - TILING

Material Standards: Comply with ANSI A 137.1 Standard Specification for Ceramic Tile and ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile."
TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation," comply with the most stringent TCA installation methods indicated for each application.
Colors, Textures, and Patterns: For tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, comply with the finish schedule or match Owner's sample.
Marble Thresholds: Group "A", ASTM C 503, for exterior use with minimum hardness of 10.0 per ASTM C 241, white with honed finish unless otherwise indicated.
Setting Materials: Provide setting materials for thick-set installation in accordance with TCA recommendations for applications and substrate conditions.
Manufacturers:
-Green Recommended Manufacturers:
Crossville Incorporated, Eco Cycle Ceramic Tile

SECTION 09 64 00 - WOOD FLOORING

-Green Recommendation:
Materials:
Wood: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor.
Wood Veneer: Use FSC-certified sustainably harvested wood from well-managed forests and obtain proper identification from vendor. Veneer shall be manufactured in a facility approved by an agency accredited by the Forest Stewardship Council (FSC.)

Parquet Flooring: Manufacturer's standard 5/16" thick solid wood parquet flooring, factory-assembled with paper face, in units of the size and pattern indicated.
Wood Strip Flooring: Manufacturer's standard straight edge tongued-and-grooved and end-matched solid wood flooring, 25/32" thick x 2-1/4" strips, 2'-0" minimum length and averaging 4'-6" long, double channeled base.
Manufacturer: Subject to compliance with requirements, provided flooring by one of the following:
- Anderson Hardwood Floors, Inc
- Bruce Hardwood Floors/Triangle Pacific Corp
- Chickasaw/Memphis Hardwood Flooring Co.
- Kentucky Wood Floors, Inc

-Green Recommended Manufacturers: (per BuildingGreen.com)
EcoTimber, Hand-Scraped Flooring, EcoTimber Exotica, EcoTimber Classica

Stain: Penetrating type, non-fading wood stain of color required to match Owner's sample.
Wood Filler: Paste type wood filler, pigmented if necessary to matching sample.
Floor Sealer: Penetrating type, plastic, wood-hardening finish/sealer. Penetrating Seal #2 by Hillyard Chemical Co. or Penetrating Triple XXX Seal-O-San by Huntington Laboratories Inc., or equivalent sealer as recommended by flooring manufacturer.
Floor Wax: Liquid, solvent-type, slip-resistant, FS P-W-151B, Type I, Class 2.
Cork Expansion Strip: Composition cork expansion strip FS HH-C-576, Type I-B, Class 2.
General: Comply with flooring manufacturer's instructions and recommendations for installation.
Conditioning: Do not proceed with wood floor work or delivery of materials until building is enclosed and humidity has stabilized at approximate level anticipated for sustained occupancy. Deliver wood flooring in advance of installation as recommended by manufacturer, but not less than 7 days before installation, in order to permit natural adjustment of moisture content. Open packages that are sealed to allow for climatization. Protect completed wood flooring during remainder of construction period with heavy kraft paper or other suitable covering, so that flooring and finish will be without damage or deterioration at the time of acceptance.

SECTION 09 65 00 - RESILIENT FLOORING

Flooring Allowances: See Division 1 for amount and procedures for purchase and payment (overrun or underrun). The costs of handling and installation are not covered by the allowance.
Submit samples of each type, color and pattern of resilient flooring and accessories. Full size for tile, 6" x 9" for sheet flooring, and 2-1/2" long for accessories, and maintenance instructions for each type of flooring.
Colors and patterns: As scheduled or shown, or as selected by Owner from manufacturer's standard colors and patterns.
Vinyl Composition Tile: FS SS-T-312, Type IV, composition 1, 12" x 12" x 1/8"
Filled Vinyl Sheet: with Backing: FS L-F-475, Type II, Grade A, manufacturer's recommended static load limit of 100 psi, 72" minimum sheet width manufacturing by Armstrong World Industries.
Installation: Comply with flooring manufacturer's recommendations for layout of materials, project conditions, and intended use.
Clean and repair/patch sub-floor and apply leveling compound and substrate primer in accordance with flooring manufacturer's instructions.

SECTION 09 68 00 - CARPETING

-Green Recommendation:
All carpet must comply with the Carpet & Rug Institute's Green Label Plus Program

Flooring Allowances: See Division 1 for amount and procedures for purchase and payment (overrun or underrun). The costs of handling and installation are covered by the allowance.
Install Carpet on clean, dry, properly prepared substrate per manufacturer's recommendations and as follows:
Pre-plan installation for uniform direction of pattern and lay of pile, and proper sequencing with other work. Locate seams away from heavily traveled areas, centered under doors and without seams in direction of traffic at doorways and similar traffic patterns. Provide stretch-in tackless installation using glued and/or nailed tack strips with edges of carpet sealed at wall bases. Tape and/or sew seams in accordance with manufacturers recommendations. Cement padded cushion to substrate. Lay padding seams perpendicular to carpet layout. Stretch carpet both directions in accordance with manufacturers instructions.
Install edge guards at exposed edges. Bind edges with cloth tape and thread where not concealable. On stairs and similar substrates, anchor carpet with concealed nailing or other secure method, without seams at high-wear locations.
Save carpet scraps, defined as mill ends less than 9" long and pieces larger than 3 sq. ft. in area and wider than 8", and deliver to Owner's storage space as directed. Dispose of smaller pieces.
Return to installation at time convenient to Owner and occupants, approximately 6 months after occupancy and restretch carpet to eliminate wrinkles. Repair faulty seams and other faults in installation.
Manufacturers:
-Green Recommended Manufacturers and Products:
Interface, Inc., FLOR, Bentley Prince Street Cool Carpet
Milliken Floor Covering, Modular Carpet

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THIS PLAN WAS PREPARED TO MEET CITY PROFESSIONAL STANDARDS AND PRACTICES. ELECTRICAL BUILDING CODES AND ENVIRONMENTAL CONDITIONS VARY FOR DIFFERENT LOCATIONS. THE ARCHITECT HAS NOT ASCERTAINED THE CODES AND CONDITIONS FOR THIS PROJECT. THE OWNER AND CONTRACTOR ARE RESPONSIBLE TO ASCERTAIN THE CODES AND CONDITIONS BEFORE BEGINNING CONSTRUCTION. ALLISON RAMSEY ARCHITECTS, INC. ASSUMES NO LIABILITY FOR ANY CODE CONSIDERATIONS FROM THIS PLAN.

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DATE :	10/15/12
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SPECIFICATIONS

SP2

SECTION 09 91 00 - PAINTING

-Green Recommendations:
Materials: Use only architectural paints and coatings that meet the standards below:

Standards for Environmentally Preferable Paints and Coatings (source: Leed for Homes Requirements, Table 23)

Component	Applicable Standard (VOC Content)	Reference
Paints, coatings, and primers applied to interior walls and ceilings	Flats: 50g/L Nonflats: 150g/L	Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993
Anticorrosive and anti-rust paints applied to interior ferrous substrates	250g/L	Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd Edition, Jan. 7, 1997
Clear wood finishes	Varnish: 350g/L Lacquer: 550g/L	South Coast Air Quality Management District Rule 1113, Architectural Coatings
Floor coatings	100g/L	South Coast Air Quality Management District Rule 1113, Architectural Coatings
Sealers	Waterproofing: 250g/L Sanding: 275g/L All others: 200g/L	South Coast Air Quality Management District Rule 1113, Architectural Coatings
Shellacs	Clear: 730g/L Pigmented: 550g/L	South Coast Air Quality Management District Rule 1113, Architectural Coatings
Stains	250g/L	South Coast Air Quality Management District Rule 1113, Architectural Coatings

Surface preparation, prime and finish coats specified are in addition to shop-priming and surface treatments.
Paint exposed surfaces whether or not colors are designated in "schedules," except where a surface or material is indicated not to be painted or is to remain natural. Where an item or surface is not mentioned, paint the same as similar adjacent materials or surfaces.
Samples for verification purposes: Submit samples of each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrates. define each separate coat, including block fillers and primers. Use representative colors when preparing samples for review. Resubmit until required sheen, color, and texture is achieved.
Single Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats. Final acceptance of colors will be from job applied samples.
Material Quality: Provide the manufacturer's best quality paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.
Acceptable Manufacturers:
Pittsburgh Paints
Porter Paints
Benjamin Moore Paints
Duron Paints
Sherwin-Williams Co.
-Green Recommended Manufacturers and Products:
Sherwin Williams Co., Harmony
Benjamin Moore, Pristine Eco Spec
Pittsburgh Paints, Pure Performance

Examine substrates and conditions under which painting will be performed for compliance with requirements. Do not begin application until unsatisfactory conditions have been corrected.
Preparation: Remove hardware and accessories, plates, machined surfaces, lighting fixtures, and items in place that are not to be painted or provided protection prior to surface preparation and painting. Remove items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting, reinstall items removed using workmen skilled in the trades involved.
Clean surfaces before applying paint or surface treatments. Schedule cleaning and painting so dust and other contaminants will not fall on wet, newly painted surfaces.
Surface Preparation: Clean and prepare surfaces to be painted in accordance with manufacturer's instructions for each particular substrate condition.
Application: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
Minimum Coating Thickness: Apply material at the manufacturer's recommended spreading rate. Provide total dry film thickness of the system as recommended by the manufacturer. Apply additional coats when undercoats or other conditions show through final coat, until paint film is of uniform finish, color and appearance.
Paint colors, surface treatments, and finishes are determined by the Owner if not otherwise indicated on the drawings.

DIVISION 10 SPECIALTIES

-Green Recommendation:
Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

SECTION 10 28 19 -TUB AND SHOWER DOORS:

Shower enclosures (unless otherwise shown on the drawings): Provide aluminum-framed 3/16" tempered glass, or approved shatterproof laminated safety glass or plastic. Provide sliding panels with towels bars. All enclosures shall be minimum height of 6'0" above finish floor.

DIVISION 11 EQUIPMENT

-Green Recommendation:
Install High-Efficiency Appliances that meet or exceed ENERGY STAR standards and have an ENERGY STAR label.
Use local products when possible (extracted, processed and manufactured within 500 miles of project).

Equipment Allowances: See Division 1 for amount and procedures for purchase and payment (overrun and underrun). The costs of handling and installation of Appliances are not covered by the allowances and shall be included in the base bid.
General: Installation of appliances shall conform to the conditions of their listing and label and the manufacturer's installation instructions.
See Mechanical System Requirements, Chapter 13, Sec. M1301 APPLIANCE INSTALLATION, of the IRC.
Verify all rough-in dimensions for all built-in appliances.
Residential equipment required is indicated on drawings. Include cords, valves, duct hoods, vents, as required for a complete installation.

DIVISION 12 FURNISHINGS

-Green Recommendation:
Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Use products with low emissions.
Use recycled or reclaimed products.

SECTION 12 35 30 - RESIDENTIAL CABINETS

Cabinet Allowances: See Division 1 for amount and procedures for purchased and payment (overrun or underrun). The costs of handling and installation including hardware and drawer pulls are covered by the allowance.
Sizes, Shapes and Types: Provide the sizes and types of units as shown, complete with drawers, doors, shelves, compartments for appliances and fixtures, and special features as indicated.
Installation: Anchor cabinet units securely in place with concealed (when doors and drawers are closed) fasteners, anchored into structural support members of wall construction. Comply with manufacturer's instructions and recommendations for support of units.
Counter Tops: Attach counter tops securely to base units. Spline and glue joints in counter tops: provide concealed mechanical clamping of joint. Provide cut-outs for fixtures and appliances as indicated: smooth cut edges and coat with waterproof coating or adhesive.
Complete hardware installation and adjust doors and drawers for proper operation.

DIVISION 22 PLUMBING

Green Recommendation:
Environmentally Preferable Products:
Use local products when possible (extracted, processed and manufactured within 500 miles of project).
Water Reuse:
Design and Install a rainwater harvesting and storage system for landscape irrigation or indoor water use. The storage system must be sized to hold all water from a 1" rain event.
Design and Install a graywater reuse system with a tank or dosing basin for landscape irrigation use or indoor water use. Graywater can be collected from clothes washer, shower, faucets and other source. If available, utilize a municipal recycled water system.
Fixtures:
Use high efficiency fixtures and fittings:
Faucets: average flow rate must be ≤ 2.0 gpm (gallons per minute).
Showers: average flow rate must be ≤ 2.0 gpm (gallons per minute).
Toilets: average flow rate must be ≤ 1.3 gpm (gallons per minute) or meet ASME A112.19.14 requirements or meet the U.S. EPA WaterSense Spec.
Use dual flush toilets when possible.
Efficient Systems:
Design and install an energy-efficient hot water distribution system.
Insulate all hot water piping with R-4 insulation and ensure the 90 degree elbow bends are adequately insulated.
Design and Install Energy-efficient Domestic Hot Water(DHW) Equipment.

Soil and Waste Piping: Shall be approved PVC extending 5'0" beyond exterior wall. Vent piping shall be approved PVC. All vent piping penetrating roof shall be properly flashed with G.I. roof jacks and painted to match roof. Where possible, route all vents to rear side of ridges or to the least visible location.
Clean-outs: Provide cleanout at 50' o.c. at end of all branched section, at change of direction at base of all accessible traps and at all points necessary to remove obstructions. Clean-outs shall be set flush with walls, floors and or grades.
Plumbing Fixtures and Equipment: Furnish all fixtures, complete with all compression stops, strainers, tailpieces, trim, etc.
All exposed brass tubing supplies, cast brass traps, and waste pieces shall be polished chrome plated. Finish all piping through walls, floors or ceiling with chrome plated wall flanges or escutcheons.
Hot and Cold Water Piping: Water piping shall be copper or approved equal. Tubing under or within concrete slab shall be type "K" tubing above slab shall be type L. No fittings shall occur under slab. Connections between copper and ferrous piping shall be made with dielectric or approved isolation fittings. Provide 150 psi hydrostatic test on all water piping system prior to covering.
Gas Piping: Shall be installed in accordance w/ Chapter 24, Fuel Gas, IRC.
Water Heaters: Provide temperature/pressure relief valve within 6" from top of heater and pipe to exterior of building using copper or steel piping (plastic not allowed). Water heaters shall be installed with minimum 6" unobstructed clearance at front and 2" at sides and rear. When installed in garage, place on raised platform 18" above finished floor. (Refer to heating Section for combustion air requirements)
Miscellaneous Plumbing Items:
Washer stub-outs: Provide hot and cold water and drain at washer locations. Locate as required to conceal from view after appliance is installed.
Hose Bibs: Furnish and install as shown on the drawings. If not shown, provide minimum of 2 Hose Bibbs.
Provide capped tees for lawn sprinkler connections. Install hose bibs as tight to exterior wall as connections allow.
Through penetrations: Piping penetrating fire-resistance-rated wall or floor assemblies shall comply w/ Sec. R317.3 of the IRC.
Isolate hot and cold water lines from the framing with 1/4" thick felt, carpet padding, or equal.
The wall cavity containing water piping or plastic waste and vent lines must be packed solid with open-faced insulation (sprayed-on cellulose okay).
Common supply or waste line connections passing through sound separations are prohibited.

DIVISION 23 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

-Green Recommendation:
General Design:
***Design and size HVAC equipment properly according to ACCA Manual J, the ASHRAE Handbook of Fundamentals or equivalent procedure. HVAC equipment must meet the ENERGY STAR for Homes National Builder Option Package outlined in table below. Install certified and labeled ENERGY STAR programmable thermostat.**

HVAC Requirements (source: Leed for Homes Requirements, Table 19)

	End Use	Central AC and air source heat pumps	Furnaces (gas, oil or propane)	Boilers (gas, oil or propane)	Ground Source Heat Pump-open loop	Ground Source Heat Pump-closed loop	Ground Source Heat Pump-direct expansion
*Good HVAC Design and Installation (Climate Zones 4-8)	Cooling Heating	≥ 13 SEER ≥ 8.3 HSPF	≥ 90 AFUE	≥ 85 AFUE	≥ 16.2 EER ≥ 3.6 COP	≥ 14.1 EER ≥ 3.3 COP	≥ 15 EER ≥ 3.5 COP
*Good HVAC Design and Installation (Climate Zones 1-3)	Cooling Heating	≥ 14 SEER ≥ 8.2 HSPF	≥ 80 AFUE	≥ 80 AFUE	≥ 16.2 EER ≥ 3.6 COP	≥ 14.1 EER ≥ 3.3 COP	≥ 15 EER ≥ 3.3 COP

Air Conditioning Refrigerants:
***Conduct a Refrigerant Charge Test to ensure performance.**
Install an HVAC system with non-HCFC refrigerants or do not use refrigerants.

Indoor Air Quality:
Complete all the requirements of the US EPA's Energy Star w/ Indoor Air Package.
Combustion Venting- All of the following are required:
***no unvented combustion appliances to be used, *a carbon monoxide monitor must be installed on each floor, *all fireplaces and woodstoves must have doors, *space and water heating equipment that involves combustion must be closed, have a power vented exhaust, or located in a detached utility or open air facility.**
Use a blower-door test to measure the pressure difference created by the presence of a chimney-vented appliance and limit the risk of backdrafting where the pressure difference is ≤5 Pascals.

Forced Air Systems:
***Minimize energy consumption due to thermal bridges and/or leaks in the heating and cooling system. Limit duct leakage rate to outside the conditioned envelope. The tested leakage rate must be ≤ 4.0 cfm at 25 Pascals per 100 square feet of conditioned floor area for each installed system.**
***Ducts to be installed in interior walls and to be fully ducted. If installed in exterior walls, extra insulation is needed to maintain the overall UA for an exterior wall without ducts.**
***Minimum R-6 insulation to be used around ducts in unconditioned spaces.**
***Conduct Room by Room load calculations per ACCA Manuals J and D, or ASHRAE Handbook of fundamentals for ducted and non-ducted systems and install ducts accordingly.**
Assure each room has adequate return air flow through multiple returns, transfer grilles or jump ducts. Openings should be sized to 1 square inch of cfm of supply, and pressure differential between closed rooms and adjacent spaces should be less than 2.5 Pascals.
Use Anti-stratification system when possible, that re-circulates hot air that has risen to upper areas into lower areas.

Nonducted HVAC Systems
***Use at least R-3 insulation around distribution pipes in unconditioned spaces. (If possible, keep the boiler and distribution pipes in conditioned space.)**
Install outdoor reset controls based on outdoor air temperature.
***Conduct Room by Room load calculations per ACCA Manuals J and D, or ASHRAE Handbook of fundamentals for ducted and non-ducted systems and install ducts accordingly.**
Design and install flow control valves on every radiator of Hydronic systems for a room by room system or install two distinct zones with independent thermostat controls.

Moisture Control:
Maintain relative humidity below 60% with additional dehumidification equipment or a central HVAC system with additional controls to operate in dehumidification mode.
***Install nonpaper-faced backer board on walls around tub, showers and spa areas**
***Use water resistant flooring in kitchens, bathrooms, laundry rooms, entry areas within 5' of exterior door and spa areas; do NOT use carpet**
***Install drain and drain pan in hot water heater if it is in or over living space**
***Install drain and drain pan, or accessible single-throw supply valve to clothes washer if it is in or over living space.**
***Exhaust dryer directly to outdoors**
***Install drain and drain pan to condensing clothes dryer**

Outdoor Air Ventilation
***Design and install a whole building ventilation system that complies with ASHRAE Standard 62.2-2007 (unless built in a mild climate (fewer than 4,500 infiltration degree-days)).**

Local Exhaust
***Design and install local exhaust systems in all bathrooms and kitchens to meet requirements of ASHRAE Standard 62.2-2007 Section 5.**
***Design and install the fans and ducts to meet requirements of Section 7 of ASHRAE Standard 62.2-2007.**
***Exhaust air directly to the outdoors**
***Use Energy Star labeled bathroom exhaust fans.**
Use an occupancy sensor, an automatic humidistat controller, an automatic timer or a continuously operating exhaust fan for bathrooms.

Air Filtering
***Install air filters ≥ MERV 8 for forced air systems and nonducted HVAC systems. Maintain adequate pressure and air flow in all mechanical ventilation systems.**

Contaminant Control
Seal all permanent ducts and vents to minimize contamination during construction and remove seals after construction is complete.
Flush the home for 48 hours prior to occupancy but after all phases of construction are completed.

Radon Protection
If located in EPA Radon Zone 1, design and build with radon-resistant construction techniques prescribed by the EPA, IRC or equivalent standard.

Garage Pollutant Protection
***No HVAC systems in garage; place all air-handling equipment and ductwork outside the fire-rated envelope of garage. When possible, detach garage completely from house.**
Tightly seal shared surfaces between garage and conditioned spaces. --If space is above garage: seal all penetrations, seal all connecting floor and ceiling joist bays, and paint wall and ceilings to avoid carbon monoxide penetration through gypsum board. If space is adjacent to garage: weather-strip all doors, place carbon-monoxide detectors in rooms adjacent, seal all penetrations and seal all cracks at base of the walls.
Install an exhaust fan in garage rated for continuous operation.

Installation: Heating and Cooling equipment and appliances shall be installed in accordance w/ the IRC and the manuf. installation instructions.
Access: Equipment shall be located w/ respect to building construction and other equipment to permit maintenance, servicing and replacement.
Clearances shall be maintained to permit cleaning of heating and cooling surfaces: replacement filters, blowers, motors, controls and vent connections; lubrications of moving parts, and adjustments.
Sizing: Heating and Cooling equipment shall be sized based on building loads calculated in accordance w/ ACCA Manual J or other approved heating and cooling calculations methodologies.
Flood Hazard: In areas prone to flooding as established by Table R301.2 of the IRC, heating and cooling equipment and appliances shall be located or installed in accordance w/ Sec R323.1.5 of the IRC.
Duct Design: Duct systems serving heating, cooling and ventilation equipment shall be fabricated in accordance w/ the provisions of Chapter 16, of the IRC and ACCA Manual D or other approved methods.
Venting Required: Fuel-burning appliances shall be vented to the outside in accordance w/ their listing and label and manufacturer's installation instructions except appliances listed and labeled for unvented use. Venting systems shall consist of approved venting systems that are integral parts of labeled appliances.
Gas-Fired appliances shall be vented in accordance w/ Chapter 24 of the IRC.
Electrical distribution systems shall comply w/ Part VIII, Chapters 33 through 42, of the IRC, the NEC, and NFPA 70.
Materials: Materials and equipment shall be new and listed by Underwriter's Laboratories, Inc., and all work shall conform with the requirements of the National Electrical Code and NFPA 70.
Circuits: Electrical system layouts are generally diagrammatic and location of outlets and equipment is approximate. Exact location of outlets and circuiting shall be governed by structural conditions and obstructions as well as applicable sections of the NEC.
a) Lighting Circuits: 15 AMP with #14 AWG conductors (120V).
b) Receptacle Circuits: 20 AMP with #12 AWG conductors (120).
c) Provide 2 separate appliance circuits at kitchen, 20 AMP with #12 AWG conductors (120)
Convenience Receptacles: Shall be placed maximum 12'-0" on centers along room perimeter and Maximum 6'-0" from end walls, and at all furnishable walls exceeding 2'-0" from end wall, and at all furnishable walls exceeding 2'-0" in length
a) All receptacles shall be grounded type
b) Locate receptacles 8" above floor and countertops, unless otherwise noted.
c) Install 240V receptacles where noted on the drawings.
d) All switched receptacles shall be one half hot.

DIVISION 26 ELECTRICAL

-Green Recommendation:
Lighting:
***Install at least four Energy Star labeled light fixtures or Energy Star labeled compact fluorescent light bulbs in high use rooms.**
Install Energy Star labeled fixtures wherever possible.
Renewable Energy:
Design and Install a renewable electricity generation system by using energy modeling to estimate the energy supplied by the system and the annual reference electrical load. The annual reference load is the amount of electricity that a typical home would consume in a given year and can be calculated by using the 2006 Mortgage Industry National Home Energy Rating Standards Guidelines. Home design should be at least 5% better than annual reference load.

Light Switch: Located at 45" above finish floor and 8" above counter tops, unless otherwise noted. Verify counter height w/ Owner.
System Grounding: Provide accessible junction box and necessary conducts for grounding main electrical system in accordance w/ Sec. E3507.1 of the IRC and Sections 250.20(b)(1) and 250.24(a).
Smoke Detectors: Provide approved smoke detector and alarm system conforming to UBC Standard 43-6 at locations shown on the drawings.
Aluminum wire shall not be used in electrical wiring within the dwelling unit.
All equipment installed outdoors and exposed to weather shall be "weather-proof"
Provide a separate 20 ampere laundry circuit.
Provide ground fault circuit interrupter (GFI) protection at all bathrooms, powder rooms, outdoor receptacles and garages
in accordance w/ Sec. E3802 of the IRC.
Verify minimum flood elevation prior to placement of devices, equipment, and appliances.

DIVISION 31 EARTHWORK

-Green Recommendation:
Site Selection:
Do not develop, build or pave on portions of site that meet the following criteria:
-land that is at or below the 100-year floodplain (as determined by FEMA).
-land that is named a habitat for any endangered or threatened species (as determined by state or federal agencies).
-land that is within 100 feet of water
Build on a previously developed lot if possible, or on a site that is adjacent to a previously developed site.
Select a lot that is within ½ mile of existing infrastructure (water and sewer lines).
Select a lot that is within ½ mile of open space accessed by the public or private community.
Build homes with an average housing density of 7 or more dwelling units/acre, or a single home on 1/7 acre.

Building Orientation for Solar Design:
Site the building so that the glazing area on the north and south facing walls is at least 50% greater than the sum of the glazing area on the east and west walls.
Orient the building so that the east-west axis of the building is within 15 degrees of due east and due west.
The roof south-facing area should have a minimum of 450 s.f. of area oriented properly for solar applications.

Site Stewardship:
***Implement a plan of erosion control during construction to include:**
-stockpile and protect disturbed topsoil from erosion.
-control the path and velocity of runoff with silt fencing or other measures.
-protect on-site storm sewer inlets, streams and lakes with straw bales, silt fencing, or other measures.
-provide swales to divert surface water from hillsides.
-in sloped areas, keep soil stabilized on sloped areas by using tiers, erosion blankets, compost blankets or other measures.
Protect trees and plants with "tree protection area" fence delineated on site plan and on lot.
Only develop and disturb necessary amount of site; leave as much undisturbed as possible.

Landscaping:
***Use native plants: do not introduce invasive plant species into landscape.**
Use drought tolerant plants and turf or install irrigation system to reduce water usage.
Do not use turf in areas with a slope of 25% or more or in densely shaded areas. If possible, limit the use of turf.

Heat Island Effects:
Locate trees and other plants to shade hardscape areas.
Use light-colored high-albedo materials to pave sidewalks, patios and driveways. Examples include white concrete, light gray concrete, open pavers and/or any material with a SRI index of at least 29.

Surface Water Management:
Use retaining walls and terracing for permanent erosion control on steep sites.
Use permanent stormwater controls such as vegetated swales, on-site rain gardens, dry wells, or rainwater cisterns designed to manage runoff from home. If feasible in design, install a vegetated roof for at least ½ the roof area.
Use permeable materials such as pavers, turfstone, gravel and others for driveways and patios.

All earthwork shall be performed in accordance with applicable standards enforced by jurisdiction of which the project is located.
Earthwork shall be performed in accordance with recommendations contained in the soils report provided by the Owner, if applicable.
The soils report shall be considered as part of the construction documents. Refer to foundation plan and details for specific requirements.
All footings shall bear on firm, fully compacted, natural soil or on approved compacted fill. All imported soil shall be acceptable to the Soils Engineer. Sub-grade failing to meet compaction requirements shall be re-compacted and tested until specified results are achieved at no additional expense to Owner. Refer to Civil Engineer's grading and plot plans. Refer to the Landscape Architect's grading and construction documents for fine grading.
All finish grades shall be placed so as to provide positive drainage away from the building.

SECTION 31 31 16 - TERMITE CONTROL

-Green Recommendation:
Implement one or more of the following measures below.
-Keep all wood (i.e., siding, trim, structure) at least 12 inches above soil.
-Seal all external cracks, joints, penetration, edges, and entry points with caulking. Where openings cannot be caulked or sealed, install rodent and corrosion proof screens (e.g., copper or stainless steel mesh). Protect exposed foundation insulation with moisture-resistant, pest-proof cover (e.g., fiber cement board, galvanized insect screen).
-Include no wood-to-concrete connections or separate any exterior wood-to-concrete connections (e.g., at posts, deck supports, stair stringers) with metal or plastic fasteners or dividers.
-Install landscaping such that all parts of mature plants will be at least 24 inches from the home.
-In areas named "moderate to heavy through very heavy" on the termite infestation probability map (See IRC - all of the Southeast) implement one or more of the following measures:
-Treat all cellulosic material (e.g., wood framing) with a borate product to a minimum of 3 feet above the foundation
-Install a sand or diatomaceous barrier
-Install a steel mesh barrier termite control system.
-Install a non-toxic termite bait system. (Recommend terminix or equal)
-Use noncellulosic (i.e., not wood or straw) wall structure.
-Use solid concrete foundation walls or masonry wall with top course of solid brick bond beam or concrete filled block.

General: In areas favorable to termite damage as established by Table 301.2(1) of the IRC, methods of protection shall be in accordance w/ applicable provisions of sections R314 and R320.
Chemical soil treatment: The concentration, rate of application and treatment method of the termiticide shall be consistent w/ and never less than the termiticide label.
Soil treatment shall not be applied until all fine grading and prep is complete. Once applied, Termiticide shall not be disturbed.

DIVISION 32 EXTERIOR IMPROVEMENTS

SECTION 32 14 00 - UNIT PAVERS

-Green Recommendation:
Permeable paving, installed by an experienced professional. Permeable paving must include porous above-ground materials (e.g., open pavers, engineered products) and a 6-inch porous subbase, and the base layer must be designed to ensure proper drainage away from the home.

DIVISION 33 UTILITIES

SECTION 33 46 00 - SUBDRAINAGE

Foundations and foundation drainage shall comply w/ Chapter 4, Sec. R401, of the IRC.
Concrete or masonry foundations: Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Materials shall be in accordance w/ Sec. R405 of the IRC.

SPECIFICATIONS

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-VERIFY ALL DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION
-VERIFY COMPLIANCE WITH ALL LOCAL CODES
-PLANS INDICATE LOCATIONS ONLY; ENGINEERING ASPECTS SHOULD INCORPORATE ACTUAL SITE CONDITIONS.
-HVAC + PLUMBING LAYOUTS ARE NOT INCLUDED. THESE SHOULD BE OBTAINED FROM A LOCAL MECH. CONTRACTOR OR ENGINEER TO ENSURE COMPLIANCE WITH LOCAL CODE AND THAT EQUIPMENT IS SIZED CORRECTLY FOR YOUR PARTICULAR REGION AND CONDITIONS.

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JOB NO.:
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SP3