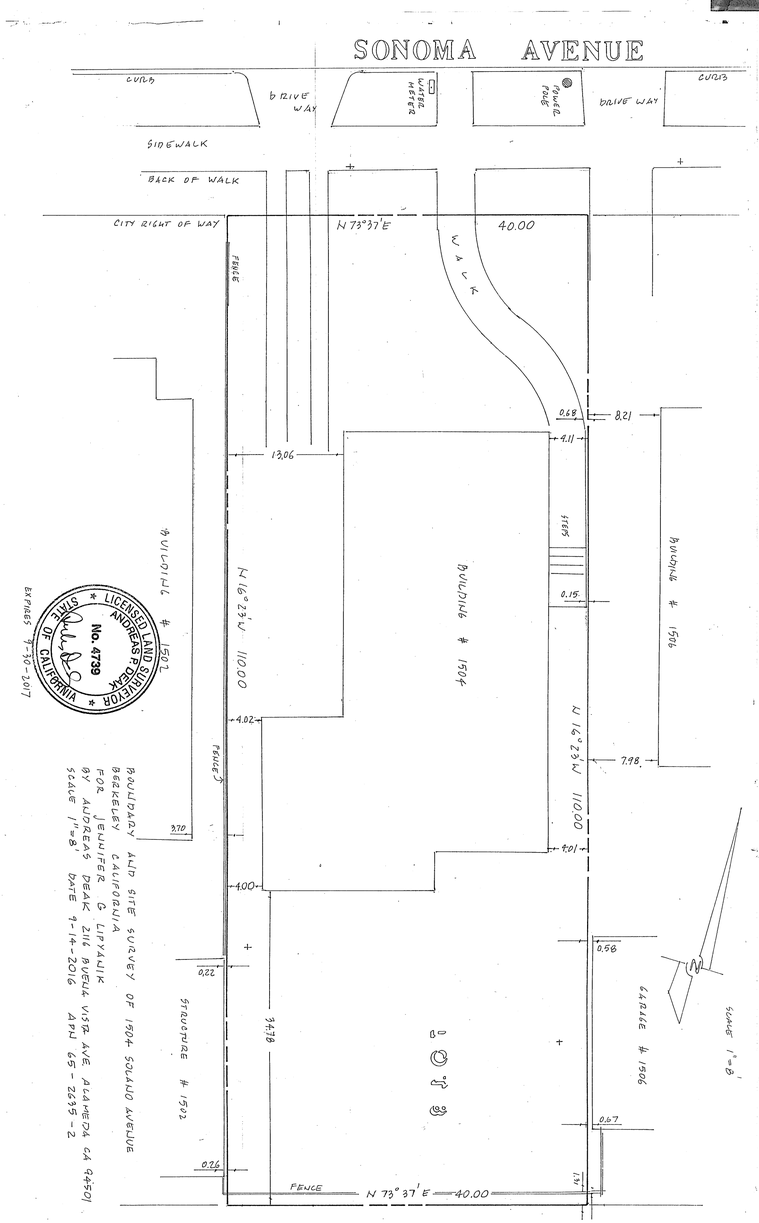
ABBREVIATIONS

@	AT
&	AND
A.B.	ANCHOR BOLT
ABV.	ABOVE
ACCOUS.	ACCOUSTIC
AD	AREA DRAIN
ADJ.	ADJUSTABLE
A.F.F.	ABOVE FINISHED FLOOR
AFCI	ARC FAULT INTERUPTOR
AGGR.	AGGREGATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATELY
ARCH.	ARCHITECTURAL
BLDG.	BUILDING
BM.	BEAM
B.O.	BOTTOM OF
BOT.	BOTTOM
BTWN	BETWEEN
℄	CENTERLINE
CAB.	CABINET
CAR	COLD AIR RETURN
CB	CATCH BASIN
CEM.	CEMENT
CER.	CERAMIC
CLOS.	CLOSET
CLG.	CEILING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
CONT.	CONTINUOUS
CO	CLEAN OUT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
COTG	CLEAN OUT TO GRADE
CPT.	CARPET
CTR.	CENTER
D	DRYER
DBL.	DOUBLE
DET.	DETAIL
DF	DOUGLAS FIR
DH	DOUBLE HUNG
DIAM.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DN	DOWN
DR.	DOOR
DS	DOWN SPOUT
DW	DISHWASHER
DWG.	DRAWING
(E)	EXISTING
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQ	EQUAL
EQUIP.	EQUIPMENT
EXT.	EXTERIOR
F	FIXED
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FLOUR.	FLOURESCENT
FIN.	FINISH
FIXT.	FIXTURE
FLR.	FLOOR
F.O. ( )	FACE OF ( )
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FRAMING
FP	FIREPLACE
FT	FOOT
GA.	GAUGE
GALV.	GALVANIZED
GENL.	GENERAL
GFCI	GROUND FAULT INTERUPTOR
GL.	GLASS
GSM	GALVANIZED SHEET METAL
GYP. BD.	GYPSUM BOARD
HB	HOSE BIB
HD	HOLD DOWN
HDR.	HEADER
HDWD.	HARDWOOD
HOR.	HORIZONTAL
HP	HIGH POINT
HT.	HEIGHT
HT. REG.	HEAT REGISTER
INSUL.	INSULATION
INT.	INTERIOR
J BOX	JUNCTION BOX
JT.	JOINT
LAM.	LAMINATED
LAV.	LAVATORY
LP	LOW POINT
MATL.	MATERIAL
MAX.	MAXIMUM
MB	MACHINE BOLT
MC	MEDICINE CABINET
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MTD	MOUNTED
(N)	NEW
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
NO. / #	NUMBER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPNG.	OPENING
OPP.	OPPOSITE
OSCI	OWNER SUPPLIED / CONTRACTOR INSTALLED
ℙ	PROPERTY LINE
P. LAM.	PLASTIC LAMINATE
PBO	PROVIDED BY OWNER
PERF.	PERFORATED
PL.	PLATE
PLYWD.	PLYWOOD
P.S.I.	POUNDS PER SQUARE INCH
PT.	POINT
PT	PRESSURE TREATED
QTY.	QUANTITY
QUAL.	QUALITY
R	RISER
R.	RADIUS
RDWD.	REDWOOD
REF.	REFERENCE / REFER TO
REG.	REGISTER
REINF.	REINFORCEMENT
REQ'D.	REQUIRED
R.O.	ROUGH OPENING
SAD	SEE ARCHITECTURALDRAWING
SF	SUBFLOOR
SIM.	SIMILAR
SPEC.	SPECIFICATIONS
SQ.	SQUARE
SS	STAINLESS STEEL
SSD	SEE STRUCTURAL DRAWINGS
STD.	STANDARD
STRUC.	STRUCTURAL
T	TREAD
T&G	TONGUE & GROOVE
TB	TOWEL BAR
TEMP.	TEMPERED
TME	TO MATCH EXISTING
T.O. ( )	TOP OF ( )
T.O.S.	TOP OF SLAB
T.O.W.	TOP OF WALL
TP	TOILET PAPER HOLDER
TYP.	TYPICAL
UBC	UNIFORM BUILDING CODE
U.O.N.	UNLESS OTHERWISE NOTED
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
V.W.O.	VERIFY WITH OWNERS
W	WASHER
W/	WITH
WC	WATER CLOSET
WD.	WOOD
WP	WATERPROOF

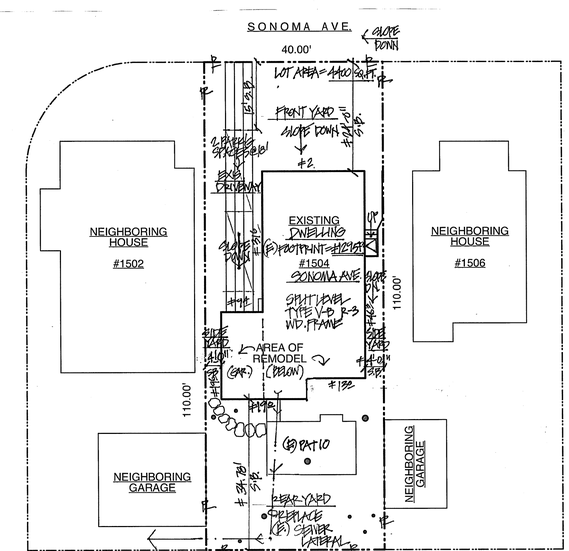
STREET VIEW - NO SCALE



BOUNDARY AND SITE SURVEY OF 1504 SOLANO AVENUE
BERKELEY CALIFORNIA
FOR JENNIFER & LIPYANIK
BY ANDREAS PEAK 2114 BUENA VISTA AVE. ALAMEDA CA 94501
SCALE 1"=8' DATE 9-14-2016 APN 65-2635-2

LICENSED LAND SURVEYOR ANDREAS P. SHEPHERD No. 4739 STATE OF CALIFORNIA
EXPIRES 3-30-2017

LOT COVERAGE = 1295/4400 = #29.4%
EXIS. UNHABITABLE AREA = #1564 SQ.FT.
EXIS. F.A.R. = #35.5%
PROPOSED UNHABITABLE AREA = #1744 SQ.FT.
PROPOSED F.A.R. = #39.6%



1 SITE PLAN APN #65-2635-2
Scale: 1/16" = 1'-0"

PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

SCOPE OF PROJECT:

CONVERT EXISTING ≈180 SQ. FT. UNCONDITIONED ATTACHED GARAGE TO NEW BATHROOM AND WALK-IN CLOSET - TWO EXISTING UNCOVERED OFFSTREET PARKING SPACES IN DRIVEWAY TO REMAIN; REMODEL EXISTING DOWNSTAIRS BEDROOM & RECONFIGURE EXISTING NON-CONFORMING STAIRS TO LOWER LEVEL TO BECOME CODE-CONFORMING, AT EXISTING ≈1580 SQ.FT. 1 & 2 STORY SPLIT LEVEL DWELLING (PLUS ATTIC OVER CRAWL SPACE); TYPE V-B WOOD FRAME & SIDING; UNSPRINKLED; R-3 OCCUPANCY.

IMPORTANT NOTES:

(For more complete notes and code requirements, see *"General Notes"*)

ALL WORK AS PER NEW 2013 CALIFORNIA BUILDING, PLUMBING, ELECTRICAL, MECHANICAL, ENERGY AND FIRE CODES.

VERIFY ALL CONDITIONS ON SITE. DO NOT SCALE THE DRAWINGS.

VERIFY OR PROVIDE PHOTOELECTRIC SMOKE DETECTORS AT ALL BEDROOMS AND HALLS, INTERCONNECTED & HARDWIRED WITH BATTERY BACKUP IN NEW FRAMING AND WHERE ACCESSIBLE; PROVIDE CARBON MONOXIDE ALARMS AT BOTH LEVELS.

VERIFY OR PROVIDE AUTOMATIC GAS SHUTOFF VALVE FOR EARTHQUAKES.

SEWER LATERAL REPORTEDLY NEEDS REPLACING.

VERIFY OR PROVIDE GFCI'S AT ALL KITCHEN, BATH, AND EXTERIOR PLUGS; ALL OTHER NEW PLUGS TO BE AFCI AND TAMPER-RESISTANT.

HIGH EFFICACY LIGHTING (LED) AT NEW BATHROOM; NEW DIMMER SWITCHES AT ANY NEW INCANDESCENTS ELSEWHERE IN HOUSE; MOTION-SENSORS WITH INFRARED SENSORS @ ALL EXTERIOR LIGHTS.

DRAINAGE OF RUNOFF WATER FROM DOWNSPOUTS CONNECTS TO DRAIN PIPES LEADING TO DISPERSAL IN THE LANDSCAPING; NO RUNOFF ONTO NEIGHBORING PROPERTIES.

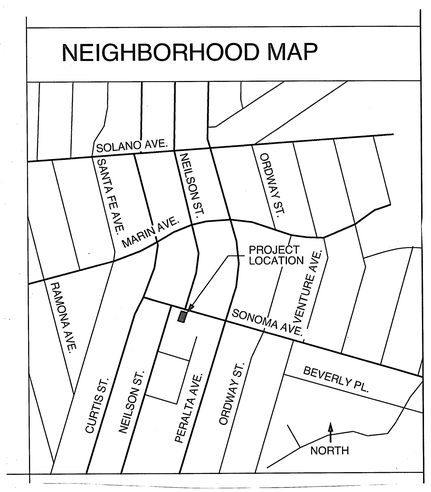
CONTRACTORS SHALL AT ALL TIMES OBSERVE CITY NOISE ORDINANCES, FOLLOW ALL STATE STORM WATER BEST MANAGEMENT PRACTICES (TO PREVENT EROSION AND SEDIMENT FROM ENTERING STORM DRAINS), AND SHALL OBTAIN ENGINEERING PERMITS FOR ALL WORK, STORAGE, LOADING, OR "CONSTRUCTION NO PARKING" IN PUBLIC RIGHT-OF-WAY

INDEX TO THE DRAWINGS:

SHEET 1	TITLE SHEET, LOCATION MAP, PLOT PLAN, SURVEY, NOTES
SHEET 2	EXISTING FLOOR PLANS, GENERAL NOTES
SHEET 3	EXISTING ELEVATIONS, SECTION
SHEET 4	PROPOSED FLOOR PLANS, CONCRETE DETAIL
SHEET 5	PROPOSED ELEVATIONS, SECTION, SHOWER DRAIN DETAIL
SHEET 6	TITLE 24 PRESCRIPTIVE
SHEET 7	TITLE 24 MANDATORY, ALBANY GREEN BUILDING CHECKLIST
SHEET 8	CAL-GREEN MANDATORY MEASURES CHECKLIST
SHEET 9	CAL-GREEN MANDATORY MEASURES CHECKLIST
SHEET 10	CONSTRUCTION BEST MANAGEMENT PRACTICES

CONSULTANT/TITLE 24 CALC'S:

IGOR PICHKO, CEA/CEPE; 1252 W 22nd ST. SAN PEDRO, CA, 90731 (424) 247-7658
E-mail: energy@title24ez.com



TRUE NORTH
PROJECT NORTH

REVISIONS	BY

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PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 30-SEP 2016
Scale AS NOTED
Drawn BY OTHERS
Job
Sheet 1 Of 10 Sheets

24 X 36 CLEARPRINTo

GENERAL NOTES:

All work to be done to **2013 California Codes** and the best standards of workmanship of each trade.
Verify all conditions on the site. Do not scale the drawings. Omissions, deficiencies or errors in the drawings discovered at any time before or during construction to be brought to the attention of the Architect and the Owners. Contractor and Subs - not the Architect - to be responsible for correcting any errors or omissions in the plans.
Dimensions on the drawings normally refer to edge of rough concrete surfaces, top of slab, face of studs, and top of plywood subfloor.
Equipment and materials to be installed in accordance with manufacturer's instructions. **Copy of instructions** to be provided to Field Inspector at time of inspection, and to owners.
Photoelectric Smoke alarms plus **Carbon Monoxide** alarms to be provided as per Code, **interconnected and hardwired with battery backups**; verify smoke alarms at each bedroom and hallway in both floors; verify CO alarms at both floors. Locate alarms **3' min.** away from Bathroom doors.
Automatic Earthquake Gas shutoff valve to be verified or provided at gas meter.

Concrete, framing and nailing to be as per code and drawings.
Moisture content of framing lumber **to be less than 19%** before covering with finish materials; verify with moisture meter.
Thermal insulation and weatherstripping as per Title 24: any 2x4 exterior walls to be **R-13**; 2x6 walls to be **R-19,** ceiling to be **R-30,** subfloor at crawlspace to be **R-19;** hot water pipes insulated; **weatherstrip** new windows and exterior doors; intermittent pilot at any new gas devices; all joints and penetrations **caulked and sealed**.
Gypsum board walls and ceilings to be **5/8",** or 1/2" over interior plywood, screwed as per code. Use resilient channel at lower floor ceilings. Smooth finish in Bathrooms and Laundry, finish elsewhere as desired by owners.
Paint new interior gypsum board with PVA primer and 2 coats flat finish. Bathrooms and Laundry to have eggshell finish. Wood trim to have primer and 2 coats semi-gloss finish, or natural satin varathane. Provide 150 grams max. of **V.O.C.** per liter of **high-gloss** paint; provide 100 grams max. of **V.O.C.** per liter of **non-flat** paint, as per 2013 Cal Green code.
Vanity Cabinet and **countertop** to be selected by owners.
Ceramic tile walls and countertops to have cement mortarbed or backerboard (Hardibacker or equiv.) over 15# felt paper. Shower pan to be chloralloy or equivalent (see detail), water tested for 24 hours before inspection and tiling. Tile at tub/shower surround to be **72" high** minimum, and/or extend above showerhead no matter how high it is.
Shower doors and glass to be clear tempered glass or as selected by owners.
Interior doors, hardware and trim to be selected by owners.
Finishes, colors, paint, trim details, hardware, bath equipment, etc. to be selected by owners.

Exterior repairs and new work to match the style of the existing structure. Patching and joints between old and new work shall not be visibly different from existing surfaces.
Address numbers on front of house to be **clearly visible** from the street, 4" tall, min. and well lit.
Openings for new windows and doors to be wrapped with **EZ Moistop** or equivalent, and counter-flashed with building paper.
Windows and exterior doors to be **Marvin** or as selected by owners, double (insulated) glass.
3' wide landings at all exterior doors.
Safety glass at all doors, within 12" of exterior doors or within 24" of the floor.
Egress window - at least one window in bedrooms to have a **clear opening** of 6 sq. ft., minimum 24" high and 20" wide clear openable sash with maximum 44" high sill.
"Z" metal head flashing to be installed at new exterior windows and doors. Contractor to guarantee complete watertightness.
Seal all holes and gaps in exterior to prevent animal and rodent intrusion.
New Siding to match existing as closely as possible, over Tyvek.
Exterior trim to be clear heart redwood, pre-primed radiata pine, or medium density board. Touchup prime all cut ends, notches, holes, etc.

Plumbing as per code.
Remove any old unused pipes.
Drain pipes to be **cast iron, sloping 1/4" per foot;** other piping and **vents** may be **ABS** plastic; connect drain lines to new sewer lateral to the City sewer with cleanouts as per City of Albany specs.
New toilets to be **1.28 gallon** flush, **15" clear** each side, **24" clear** in front, minimum.
New Faucets to be **1.5 gallons** per minute max. at 60 psi.
Showerheads to be **2.0 gallons** per minute max. at 80 psi.
Tub/shower valves to be **pressure balanced** or **thermostatic** and **120 degrees** max. temperature setting.
Provide anti air-hammer devices at any quick shut-off appliances.
Provide vacuum breaker anti-siphon devices at all hose bibbs.
Provide metal nail plates or straps at all framing where pipes are closer than 2" to the surface.
Fixtures to be white, faucets to be **chrome,** or as selected by owners.

New on-demand boiler to be Navien for domestic hot water at rear unit.
Existing tank hot water heater to remain as is for existing front unit.

New Furnace for rear unit to be installed in attic. Remove existing wall heater. Wall heater in front unit to remain as is.

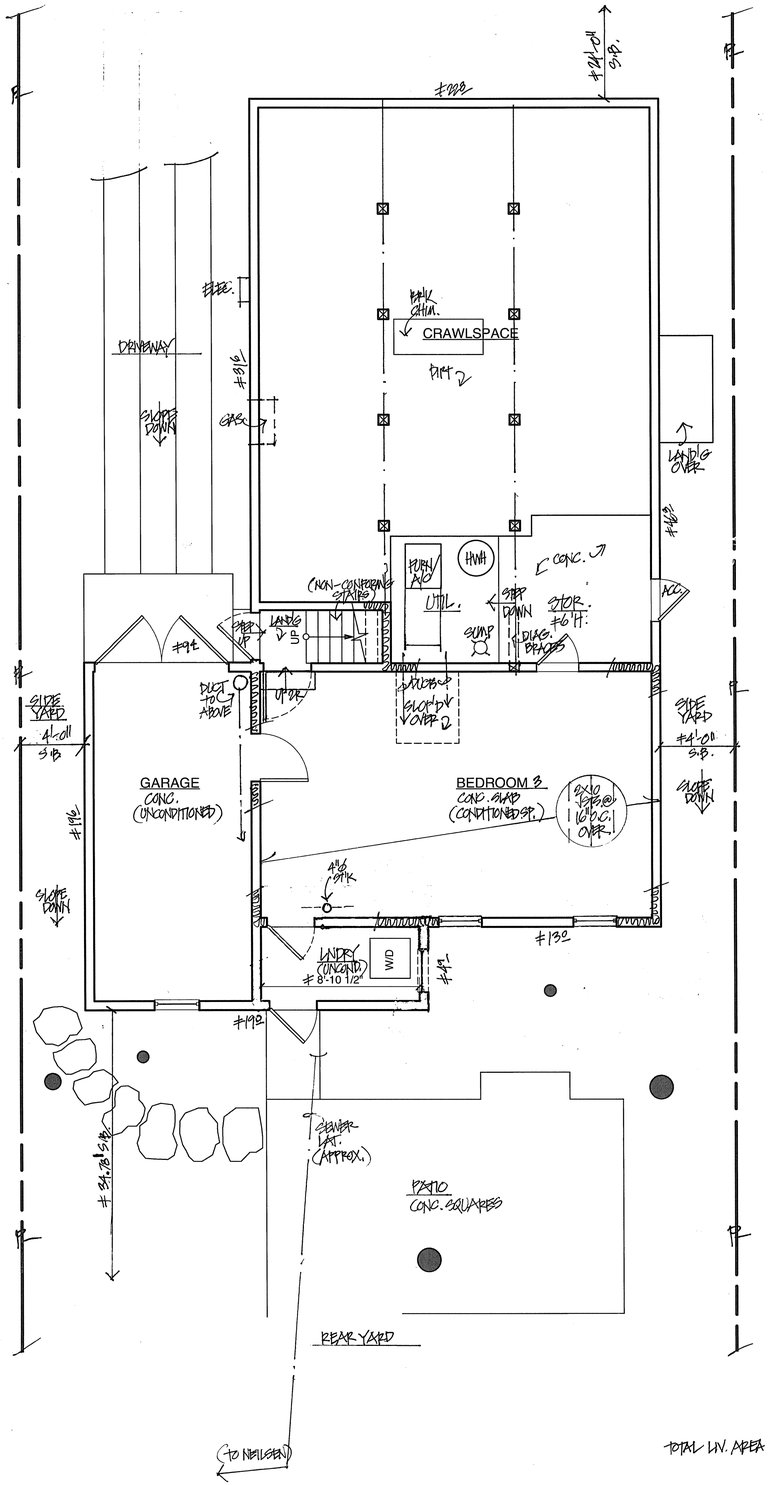
Electrical outlets and lights to be installed as required by Code, plus any additional desired by Owners.
Electrical Subcontractor to **inspect and test** existing service and **100 amp main panels** for proper, safe operation of the system.
Verify that **all circuits are labeled**.
Verify or provide **bonding** between water and gas lines.
Provide **new ufer ground** in new concrete foundation, connected to at least 20' long bottom rebar;
Verify **GFCI's** at all kitchen plugs.
Verify or Provide **GFCI's** at all exterior outlets and in 20 amp **dedicated circuits** at bathrooms.
All new plugs in other rooms to be **AFCI's** and **tamper resistant.**
Plugs to be installed at **max. 12' o.c.**, and **within 6'** of every door or opening in walls.
Provide **dimmer switches at any new incandescent lighting.**
General lighting in bathrooms to be **LED** (40 lumens per watt).
Provide **occupancy sensing light switches** to any incandescent lights in bathrooms.
Provide **infrared/ motion sensors or high efficacy** at all exterior lights.
Use **fireproof caulk** in all holes drilled in plates.
Electrical Contractor to recommend any other repairs, replacement, or upgrades to the owners.
Owners to supply all **light fixtures.**
Exact location of all devices to be determined on site - those shown on plans are for graphical purposes only.

Exhaust fans to be Panasonic **Energy Star**, supply **5 air changes per hour,** and be switched separately from lights. Ducts to have **backdraft dampers** and exhaust to the exterior, no closer than **3 feet** to windows, doors, or property line.

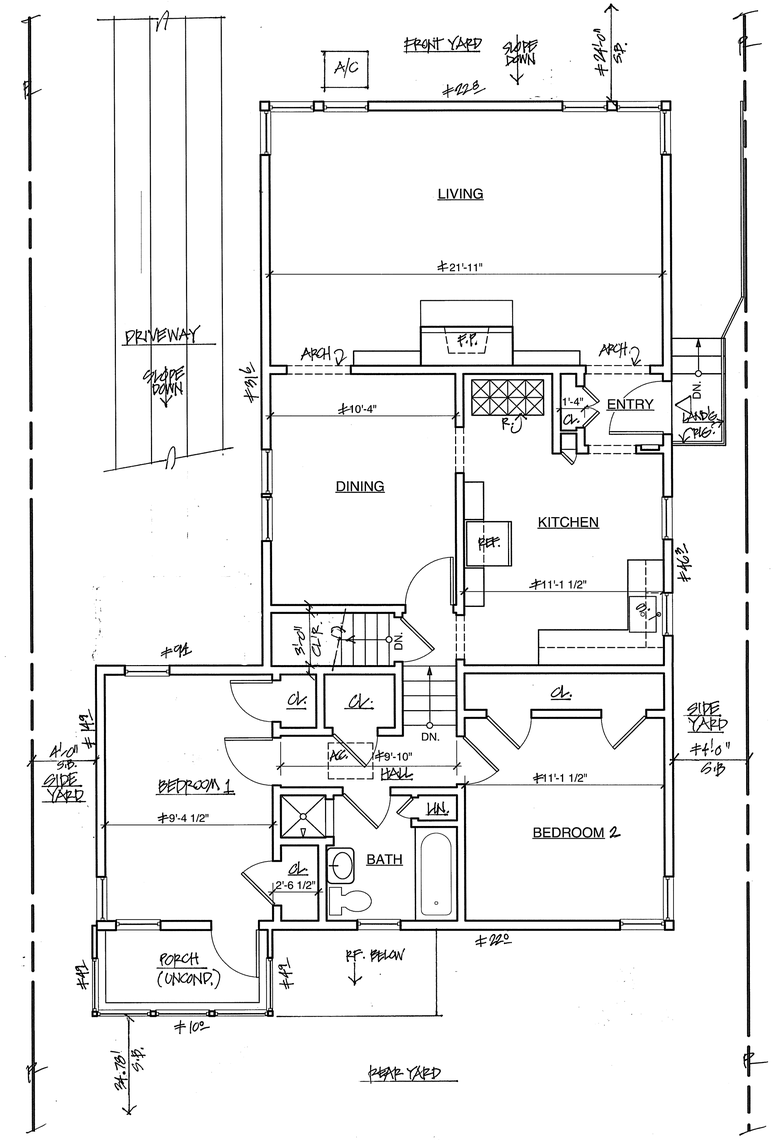
Cable TV, door buzzer, alarm system, computer wires, DSL, speaker wire, etc. supplied by owners.

Landscaping, finish garden soil, exterior paving, outdoor low voltage lighting, water sprinkler system, mailboxes, etc. to be supplied by owners.
Finish grade to be **8" minimum** below wood structure, and to **slope away** from the building 1/2" per foot for 5 feet on all sides - no low spots along the foundation. **This is important. Owners to convey this information to landscapers, now and in the future. Do not install any sprinklers near the building.**

Details and procedures not specifically mentioned here to be the responsibility of the Contractor and Subs, in order to complete the job in a thorough, professional, and workmanlike manner. The drawings do not necessarily mention all items necessary for remodeling an old house such as this.
Safety and security for all persons and property to be the complete responsibility of the **Contractors**, 24 hours per day during the course of construction.
City Noise Ordinance and **Hours of Construction** shall be adhered to at all times by all workers: **8:00 a.m. to 6:00 p.m.** weekdays and Saturdays; **10:00 a.m. to 6:00 p.m.** Sundays and legal holidays.
Insurance, including Liability Insurance against damage, and Worker's Compensation Insurance against injury for all workers to be carried by Contractor and all Subs as per State and Federal regulations, and owners to be supplied with certificates of insurance.
Toxic substance identification and removal from the building - including asbestos, lead, etc. - to be the responsibility of the owners. The Architect does not assume any responsibility for toxic material identification or handling.
Neatness at the jobsite to be maintained at all times during construction, presenting an orderly appearance to the neighborhood. Contractors to haul away debris frequently, and be responsible for a thorough final cleaning.
By acceptance and use of these architectural plans for this project, owners and Contractors agree to defend, indemnify, and hold the Architect harmless for any and all liability in connection with this project.



GROUND FLOOR EXISTING
Scale: 1/4" = 1'-0" FOOTPRINT = ±1275 SQ.FT. LIV. AREA = ±870 SQ.FT.



TOTAL LIV. AREA BOTH FLOORS = ±1564 SQ.FT.

NORTH

2 FIRST FLOOR EXISTING & UPPER FLOOR
Scale: 1/4" = 1'-0" LIV. AREA = ±1186 SQ.FT.

EXISTING CONDITIONS

RE-PRINTED FROM PREVIOUS SETS
DRAWN BY OTHERS -

DATA PROVIDED BY OWNER - VERIFY ALL CONDITIONS ON SITE,
DO NOT SCALE THE DRAWINGS

REVISIONS	BY

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EXISTING CONDITIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 31 JULY 2016
Scale 1/4" = 1'-0"
Drawn BY OTHERS
Job
Sheet 2
Of 10 Sheets

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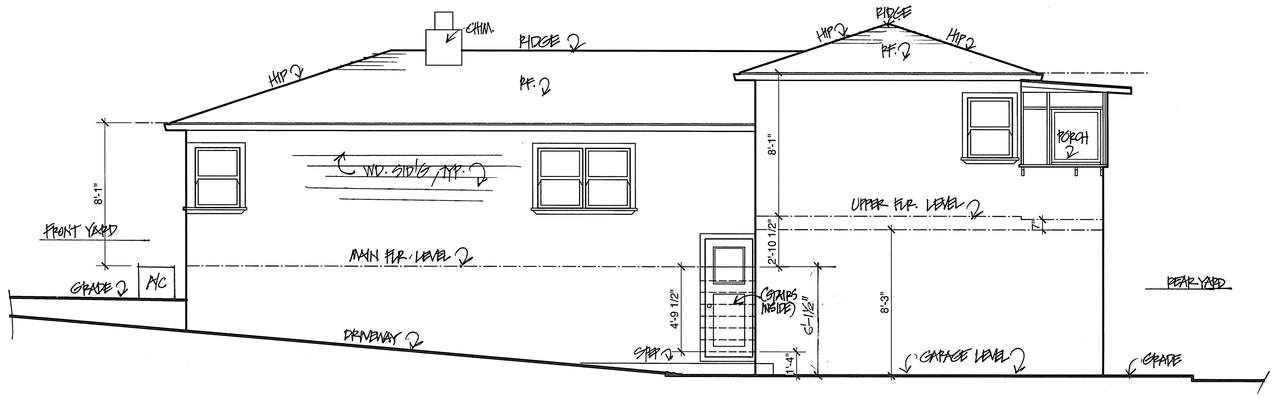
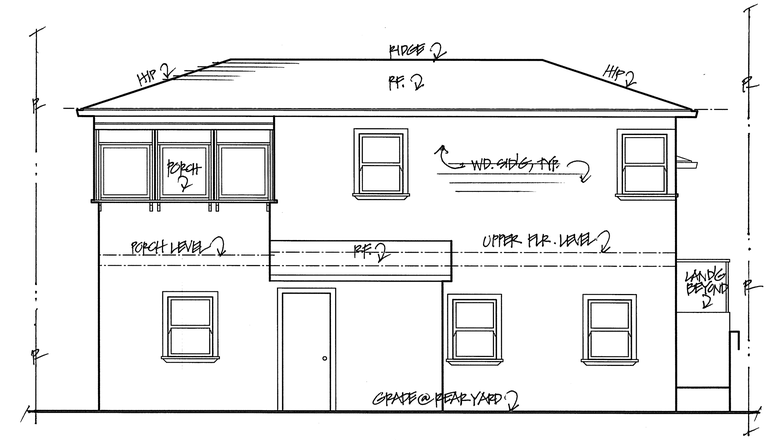
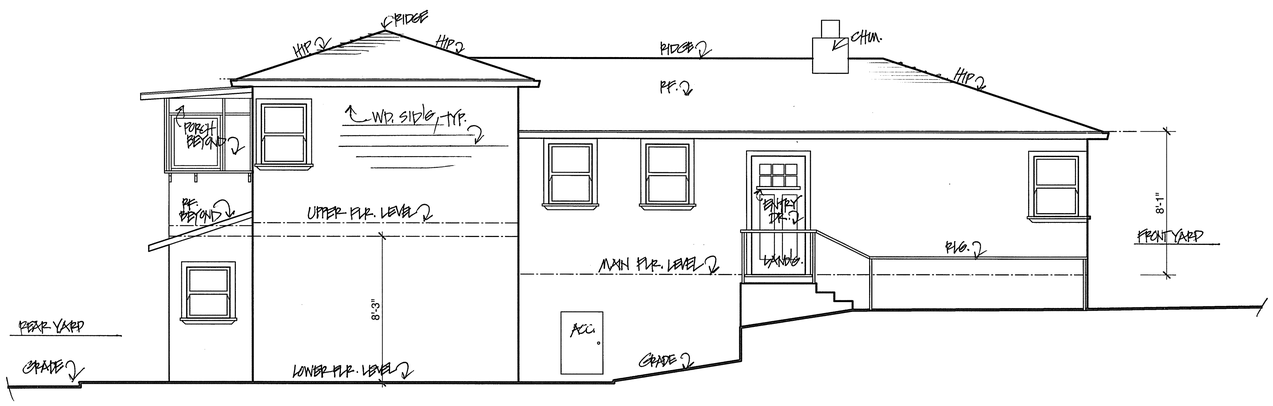


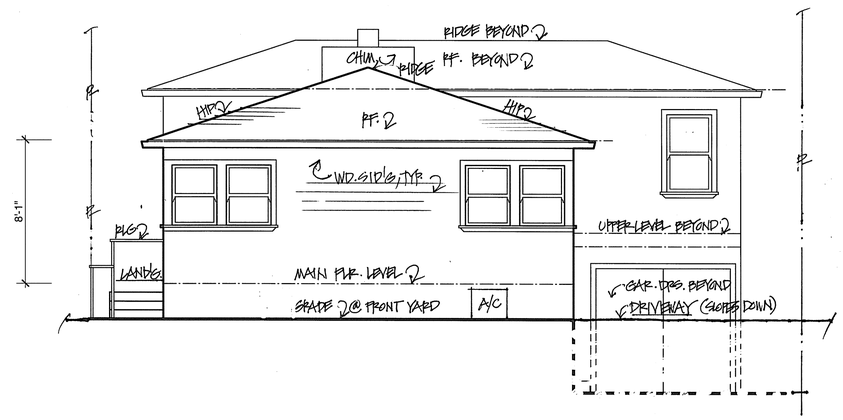
1 EXISTING WEST ELEVATION (SIDE)
Scale: 1/4" = 1'-0"



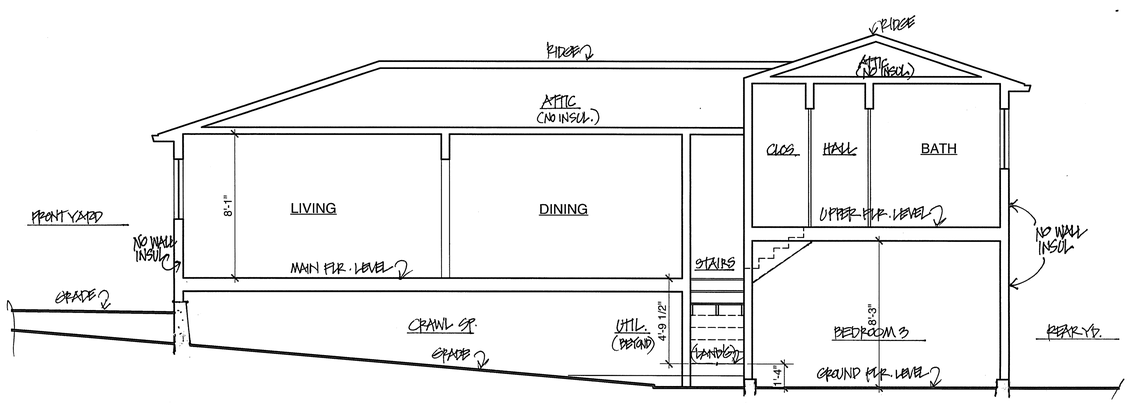
2 EXISTING SOUTH ELEVATION (REAR)
Scale: 1/4" = 1'-0"



3 EXISTING EAST ELEVATION (SIDE)
Scale: 1/4" = 1'-0"



4 EXISTING NORTH ELEVATION (FRONT)
Scale: 1/4" = 1'-0"



5 LONGITUDINAL SECTION
Scale: 1/4" = 1'-0"

EXISTING CONDITIONS

RE-PRINTED FROM PREVIOUS PERMIT SETS

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EXISTING CONDITIONS
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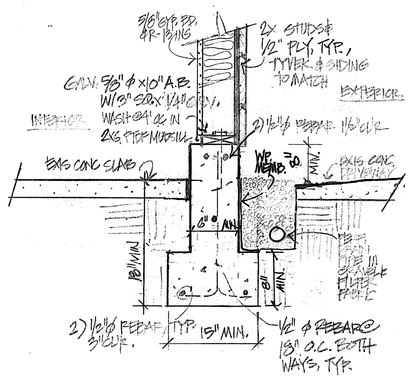
1504 SONOMA AVE. ALBANY

Date 31 JULY 2012
Scale 1/4"=1'-0"
Drawn BY OTHERS
Job
Sheet 3 Of 10 Sheets

24 X 36 CLEARPRINT®

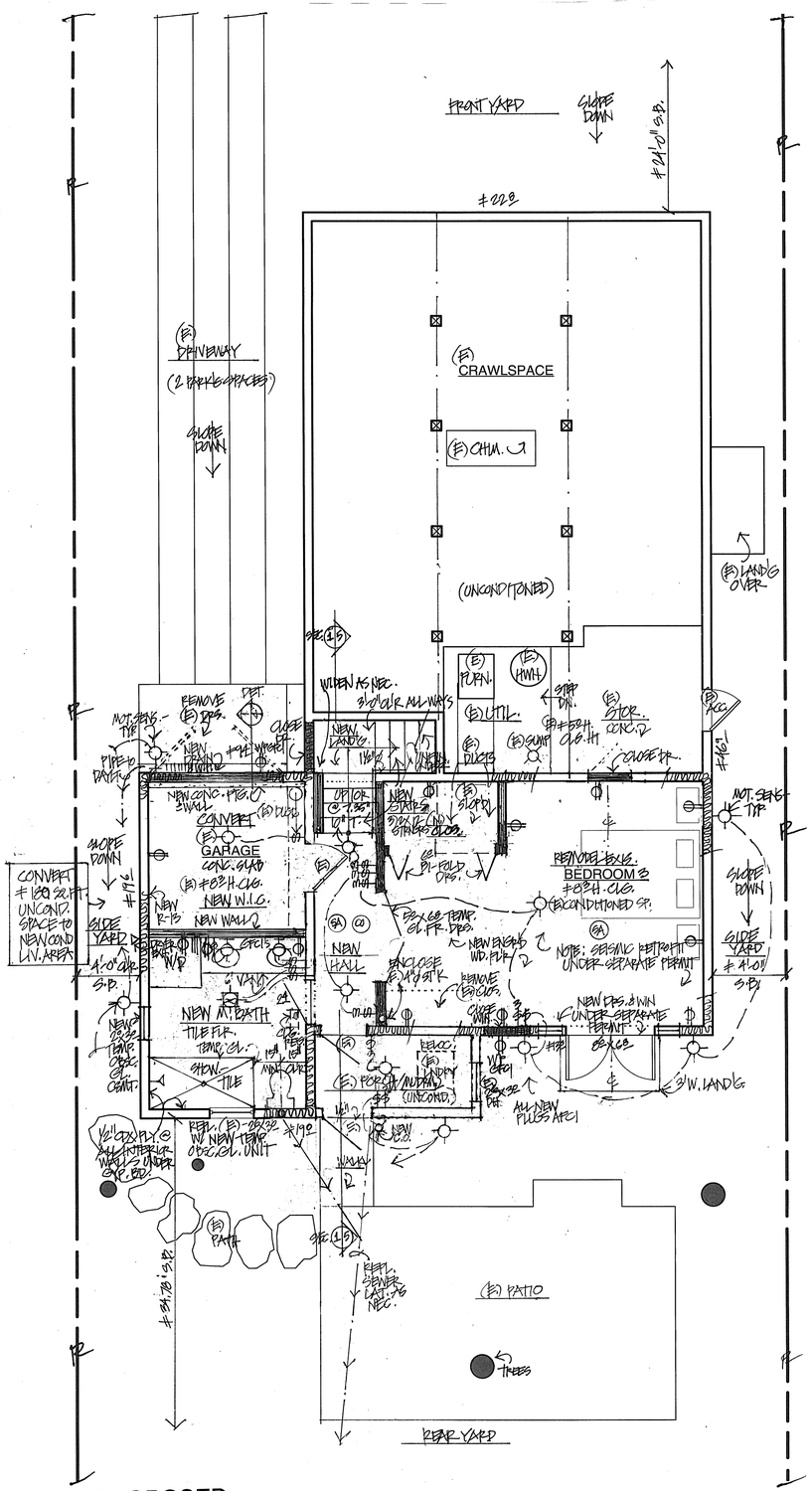


LEGEND

- SECTION (DRAWING NUMBER / SHEET NUMBER)
- EXTERIOR ELEVATION
- DETAIL
- INTERIOR ELEVATION
- DOOR SYMBOL
- WINDOW SYMBOL
- REVISION
- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- NEW WALL
- BATT INSULATION
- RIGID INSULATION
- PLYWOOD
- GYPSUM WALLBOARD
- WOOD TRIM
- CONTINUOUS MEMBER
- BLOCKING

FOR SPECIFICS ON GFCI'S, LIGHTING, W.C. CLEARANCES, AND ALL CODE ITEMS, PLEASE REFER TO "GENERAL NOTES"

LOCATION OF ELEC. LIGHTS, PLUGS, & SWITCHES SHOWN ON PLANS IS FOR GRAPHICAL PURPOSES ONLY - EXACT LOCATION TO BE DECIDED ON SITE

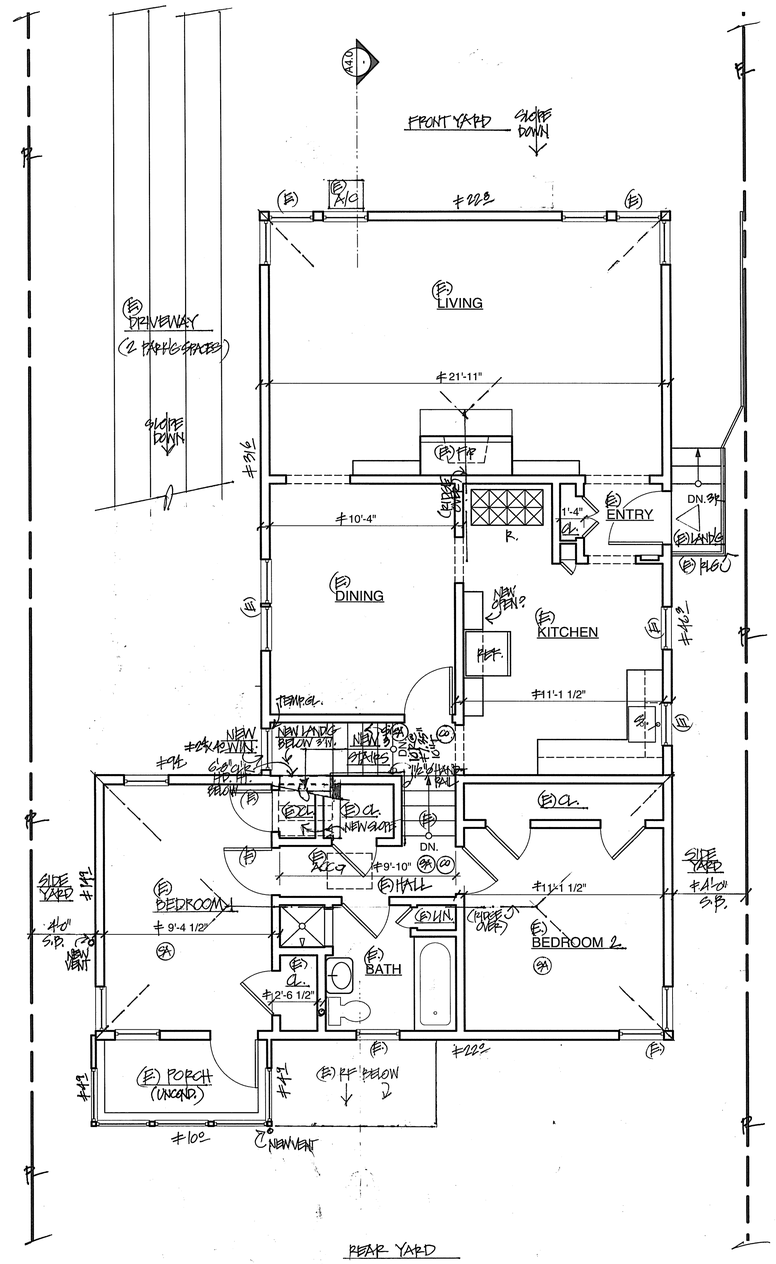


TOTAL PROPOSED LIV. AREA BOTH FLOORS = ±1744 SQ. FT.

PROPOSED GROUND FLOOR PLAN

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

EXIS. LIV. AREA = ±378 SQ. FT. NEW LIV. AREA = ±180 SQ. FT.
EXIS. FOOTPRINT = ±1295 SQ. FT. (NO CHANGE) TOTAL LIV. AREA = ±558 SQ. FT. (THIS FLOOR)



PROPOSED ALTERATIONS

RE-PRINTED FROM PREVIOUS PLANS
DRAWN BY OTHERS

DATA PROVIDED BY OWNER - VERIFY ALL CONDITIONS ON SITE
DO NOT SCALE THE DRAWINGS

NORTH

PROPOSED FIRST FLOOR PLAN & UPPER FLOOR PLAN

2 Scale: 1/4" = 1'-0"

EXIS. ±1186 SQ. FT. LIV. AREA (NO CHANGE)

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PROPOSED ALTERATIONS
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1504 SONOMA AVE. ALBANY

Date 30 SEPT. 2016
Scale 1/4" = 1'-0"
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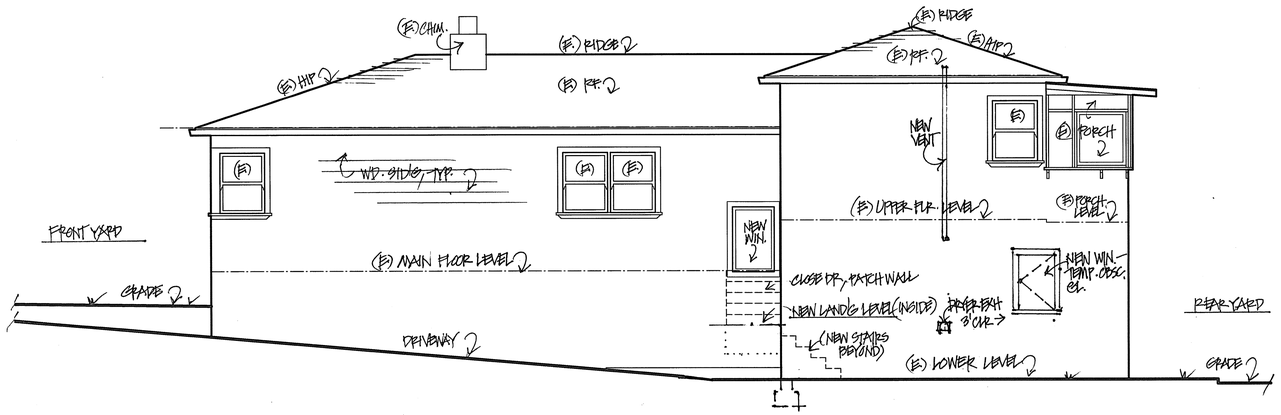
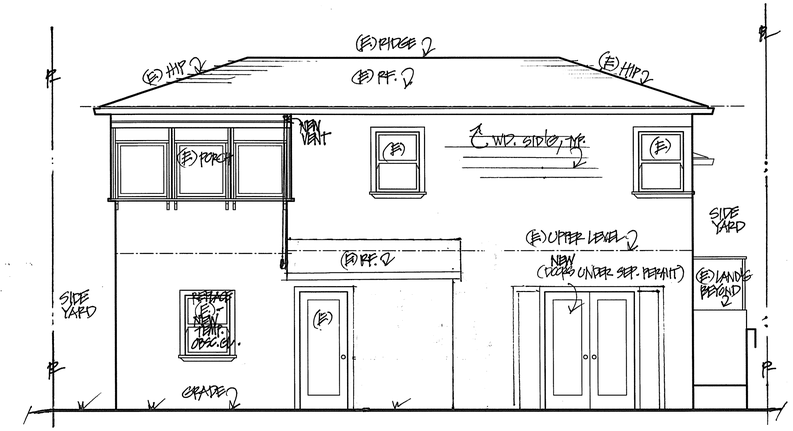
Job
Sheet 4 Of 10 Sheets

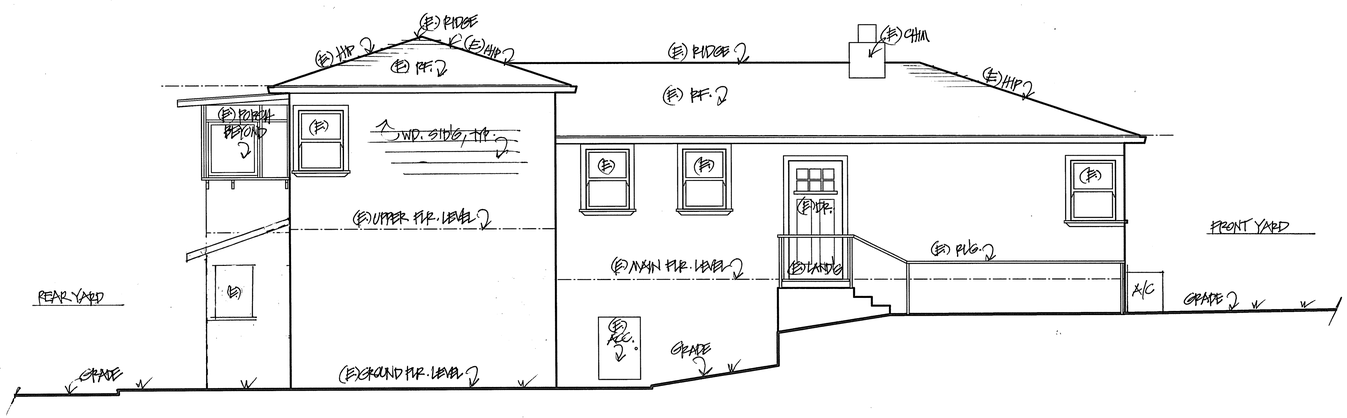
24 X 36 CLEARPRINTs



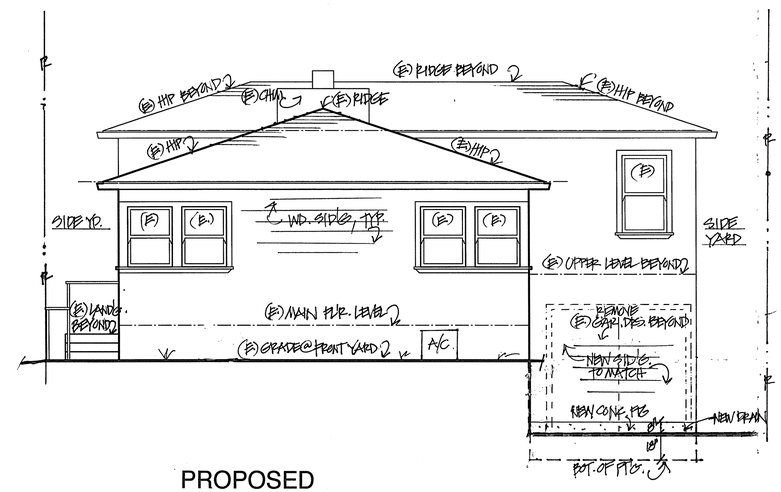
1 PROPOSED WEST ELEVATION (SIDE)
Scale: 1/4" = 1'-0"



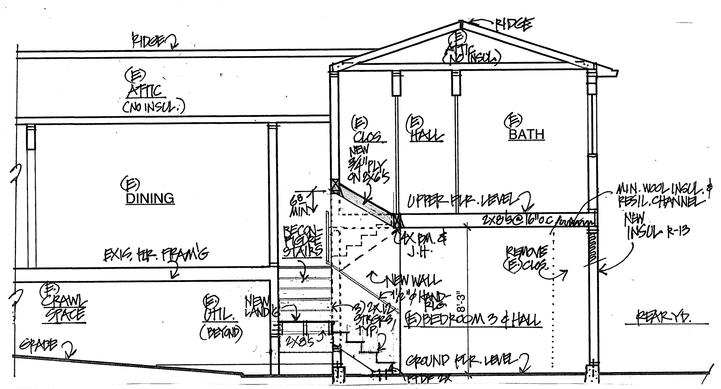
2 PROPOSED SOUTH ELEVATION (REAR)
Scale: 1/4" = 1'-0"



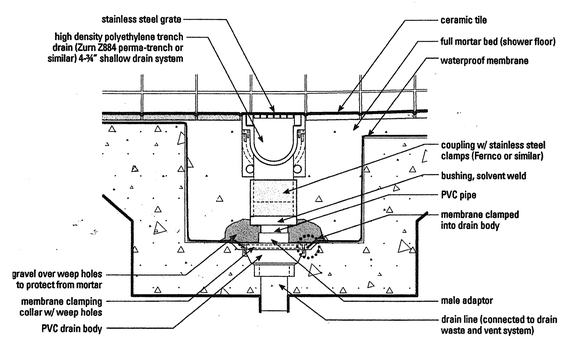
3 PROPOSED EAST ELEVATION (SIDE)
Scale: 1/4" = 1'-0"



4 PROPOSED NORTH ELEVATION (FRONT)
Scale: 1/4" = 1'-0"



1/5 PARTIAL SECTION @ STAIRS 1/4" = 1'-0"



1 Suggested Detail: Concrete Slab / Trench drain @ shower (no scale)

PROPOSED ALTERATIONS

RE-PRINTED FROM PREVIOUS PLANS
DRAWN BY OTHERS

DATA PROVIDED BY OWNER - VERIFY ALL CONDITIONS ON SITE
DO NOT SCALE THE DRAWINGS

REVISIONS	BY

RON BOGLEY ARCHITECT
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TEL. 510.665.7837
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PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 30 SEPT 2016
Scale 1/4" = 1'-0"
Drawn BY OTHERS
Job
Sheet 5
Of 10 Sheets

24 X 36 CLEARPRINT®

STATE OF CALIFORNIA
Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification
CEC-CF1R-ADD-02-E (Revised 10/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	CF1R-ADD-02-E
Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification	(Page 1 of 9)
Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

This compliance document is only applicable to additions 300 ft² or less, or additions that do not require HERS field verification for compliance. When HERS verification is required, a CF1R-ADD-01 shall first be registered with a HERS Provider Data Registry.

Alterations to Space Conditioning Systems that are exempt from HERS verification requirements may use the CF1R-ADD-02 and CF2R- ADD-02 Compliance Documents. Possible exemptions from duct leakage testing include: less than 40 ft of ducts were added or replaced; or the existing duct system was insulated with asbestos; or the existing duct system was previously tested and passed by a HERS Rater. If space conditioning systems are altered and are not exempt from HERS verification, then a CF1R-ADD-01 must be completed and registered with a HERS Provider Data Registry.

Additions or alterations that utilize close Cell Spray Polyurethane Foam (ccSPF) with a density of 1.5 to less than 2.5 pounds per cubic foot having an R-value other than 5.8 per inch, or Open Cell Spray Polyurethane Foam (ocSPF) with a density of 0.4 to less than 1.5 pounds per cubic foot having an R-value of 3.6 per inch, shall complete and register a CF1R ADD-01 with a HERS Provider Data Registry.

If more than one person has responsibility for installation of the items on this certificate, each person shall prepare and sign a certificate applicable to the portion of construction for which they are responsible. Alternatively, the person with chief responsibility for construction shall prepare and sign this certificate for the entire construction. All applicable Mandatory Measures shall be met. Temporary labels shall not be removed before verification by the building inspector.

A. General Information

01	Project Name:	Lipyanik Residence	02	Date Prepared:	09/30/2016
03	Project Location:	1504 Sonoma Ave	04	Building Front Orientation (deg):	0
05	CA City:	Albany	06	Number of Dwelling Units with Additions:	1
07	Zip Code:	94706	08	Fuel Type:	Natural Gas
09	Climate Zone:	3	10	Total Conditioned Floor Area (ft²) (Addition):	180
11	Building Type:	Single Family	12	Slab Area (ft²):	180
13	Project Scope:	300 ft2 or less			

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CERTIFICATE OF COMPLIANCE	CF1R-ADD-02-E
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Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

B. Opaque Surface Details – Framed (Section 150.2(a))

01	02	03	04	05	06		07	08		09	10	11
					Proposed						Required	
								Appendix JA4 Reference				
Tag/ID	Assembly Type	Frame Type	Frame Depth (inches)	Frame Spacing (inches)	Cavity R-value	Continuous Insulation R-value	U-Factor	Table	Cell		U-Factor	Comments
	wall	wood	2x4	16	13	0	0.102	4.3.1	3A		0.102	150.1(c) Except. B
	roof/rafter	wood	2x10	16	30	0	0.036	4.2.2	16A		0.036	

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CERTIFICATE OF COMPLIANCE	CF1R-ADD-02-E
Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification	(Page 3 of 9)
Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

C. Opaque Surface Details – Non-framed (Section 150.1(c)1)

01	02	03	04	05	06	07	08		09	10	11
				Proposed						Required	
							Appendix JA4 Reference				
Tag/ID	Assembly Type	Assembly Materials	Thickness (inches)	Core Insulation R-value	Continuous Insulation R-value	U-Factor	Table	Cell		U-Factor from Package A	Comments
	n/a										

D. Opaque Surface Details – Mass Walls (Section 150.1(c)1)

01	02	03	04	05	06		07		08	09	10		11	
					Proposed						Required			
					Interior Insulation		Exterior Insulation		Appendix JA4 Reference		Interior Insulation		Exterior Insulation	
Tag/ID	Walls Above Grade	Mass Type	Mass Thickness (inches)	Furring Strip Thickness (inches)	R-value	U-factor	R-value	U-factor	Table	Cell	R-value	U-factor	R-value	U-factor
	n/a													

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E. Slab Insulation (Table 150.1-A)

01	02	03	04	05	06
	Proposed		Required		
Floor Type	Insulation R-value	Insulation U-factor	Insulation R-value	Insulation U-factor	Comments
slab-on-grade	none	none	none	none	

Note:
- Heated slab floors require mandatory slab insulation (see Table 110.8-A).

F. Radiant Barrier (Section 150.1(c)2)

01	02
Radiant Barrier installed below the roof deck and on all gable end walls	Comments
yes	

A radiant barrier is required (for Climate Zones 2-15)
- Radiant barriers shall meet specific eligibility and installation criteria to receive energy credit for compliance with the Building Energy Efficiency Standards for low-rise residential buildings. Refer to RA4.2.1
- The emittance of the radiant barrier shall be less than or equal to 0.05 as tested in accordance with ASTM C1371 or ASTM E408.
- For Prescriptive Compliance the attic shall be ventilated to provide a minimum free ventilation area of not less than one square foot of vent area for each 300 ft2 of attic floor area with no less than 30 percent upper vents. Ridge vents or gable end vents are recommended to achieve the best performance. The material should be cut to allow for full airflow to the venting.

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G. Roofing Products (Cool Roof) (Section 150.1(c)11)

01	02	03	04	05	06	07	08	09	10	11	12
					Proposed				Required		
Mass Roof 25lb/ft² or Greater	Roof Pitch	Method of Compliance	Product Type	CRRC Product ID Number	Initial Solar Reflectance	Aged Solar Reflectance	Thermal Emittance	SRI (Optional)	Aged Solar Reflectance	Thermal Emittance	SRI (Optional)
n/a											

Notes:
- Any roof area covered by building integrated photovoltaic panels and solar thermal panels are exempt from the above Cool Roof requirements.
- Liquid field applied coatings must comply with installation criteria from section 110.8(i)4.

H. Fenestration/Glazing Allowed Areas and Efficiencies (Section 150.2(a)1)

01	02	03	04	05	06	07	08	09	10
Addition Type ft²	Maximum Allowed Fenestration Area for All Orientations ft²		Maximum Allowed West-Facing Fenestration Area Only ft²		Maximum Allowed U-factor (Windows)	Maximum Allowed U-factor (Skylights)	Maximum Allowed SHGC (Windows)	Maximum Allowed SHGC (Skylights)	Comments
	The Greater		The Greater						
	Maximum Calculated based on Allowed %	Maximum Calculated Allowed ft²	Maximum Calculated based on Allowed %	Maximum Calculated Allowed ft²					
≤400	54	75	------	n/a	0.32	n/a	n/a	n/a	

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Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

I. Fenestration Proposed Areas and Efficiencies
Note: If meeting Exception 1 to 150.1(c)3A, Installing ≤ 3ft² glass in door, it is assumed to meet the minimum required U-factor (0.32) & SHGC (0.25).
If meeting Exception 1 to 150.1(c)3A, Installing ≤ 3ft² tubular skylight, it is assumed to meet the minimum required U-factor (0.55) & SHGC (0.30).

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Tag/ID	Fenestration Type	Frame Type	Dynamic Glazing	Orientation N, S, W, E or Roof	Number of Panes	Proposed Fenestration Area ft²	Proposed West Facing Fenestration Area ft²	Proposed U-factor	Source	Proposed SHGC	Source	Exterior Shading Device	Combined SHGC from CF1R-ENV-03
	Window	Non-Metal	none	n/a	2	13.5	n/a	0.32	NFRC	n/a	n/a		

15	Total Proposed Fenestration Area	13.5	
16	Maximum Allowed Fenestration Area	75	
17	Compliance Statement	**Total Proposed Fenestration Area ≤ Maximum Allowed Fenestration Area**	■ Yes ☐ No
18	Total Proposed West-Facing Fenestration Area	n/a	
19	Maximum Allowed West-Facing Fenestration Area	n/a	
20	Compliance Statement	Total Proposed West-Facing Fenestration Area ≤ **Maximum Allowed** West-Facing Fenestration Area	■ Yes ☐ No
21	Proposed Fenestration U-factor (Windows)	0.32	
22	Required Fenestration U-factor (Windows)	0.32	
23	Compliance Statement	Proposed Fenestration **U-factor ≤ Required Fenestration U-factor**	■ Yes ☐ No
24	Proposed Fenestration SHGC (Windows)	n/a	
25	Required Fenestration SHGC (Windows)	n/a	
26	Compliance Statement	Proposed Fenestration **SHGC ≤ Required Fenestration SHGC**	■ Yes ☐ No
27	Proposed Fenestration U-factor (Skylights)	n/a	
28	Required Fenestration U-factor (Skylights)	n/a	
29	Compliance Statement	Proposed Fenestration U-factor **≤ Required Fenestration U-factor**	■ Yes ☐ No
30	Proposed Fenestration SHGC (Skylights)	n/a	
31	Required Fenestration SHGC (Skylights)	n/a	
32	Compliance Statement	**Proposed Fenestration SHGC ≤ Required Fenestration SHGC**	■ Yes ☐ No

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Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification	(Page 7 of 9)
Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

J. Space Conditioning (SC) Systems – Heating/Cooling (Prescriptive section 150.2(b).
Alterations to Space Conditioning Systems shall be exempt from HERS verification requirements as prerequisite for use of the CF1R-ADD-02 and CF2R-ADD-02 Compliance Documents. If new space conditioning systems are installed or existing systems are altered and are not exempt from HERS verification, then a CF1R-ADD-01 shall be completed and registered with a HERS Provider Data Registry. In each row below for each dwelling unit in the building, check the box that indicates the exemption from HERS verification compliance:
☐ a: space conditioning system was not altered;
☑ b: less than 40 ft of ducts were added or replaced;
☐ c: (exempt from duct leakage testing) if: the existing duct system was insulated with asbestos;
☐ d: (exempt from duct leakage testing) if: the existing duct system was previously tested and passed by a HERS Rater.

01	02	03	04
Dwelling Unit Name	SC System Identification or Name	SC System Location or Area Served	Exemption from HERS Verification
SFR	Existing SC System	SFR	☐ a ■ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d
			☐ a ☐ b ☐ c ☐ d

STATE OF CALIFORNIA
Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification
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Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification	(Page 8 of 9)
Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

K. Water Heating Systems (Section 150.1(c)8)
List water heaters and boilers for both domestic hot water (DHW) heaters and hydronic space heating.

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Dwelling Unit Name	Water Heating System Identification or Name	Water Heating System Location or Area Served	Water Heating System Type	Water Heater Type	# of Water Heaters in System	Water Heater Storage Volume (gal)	Fuel Type	Rated Input Type	Rated Input Value	Heating Efficiency Type	Heating Efficiency Value	Standby Loss (%)	Exterior Insulation R-Value	Back-Up Solar Savings Fraction
SFR	existing	ex+add	DHW	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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CERTIFICATE OF COMPLIANCE	CF1R-ADD-02-E
Prescriptive Residential Additions 300 Ft² or Less, or Additions That Do Not Require HERS Field Verification	(Page 9 of 9)
Project Name: Lipyanik Residence	Date Prepared: 09/30/2016

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Igor Pichko	Documentation Author Signature: I.Pichko
Company: Energy Consult LLC / www.energyconsult.us /	Signature Date: 09/30/2016
Address: 411 N. Harbor Blvd. Ste. 205	CEA/ HERS Certification Identification (if applicable): CEA #R13-14-10031
City/State/Zip: San Pedro, CA, 90731	Phone: (424) 247-7658 / e-mail: reports@energyconsult.us

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. That the energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Ron Bogley	Responsible Designer Signature:
Company: Ron Bogley, Architect 2124 Ward Street Berkeley, CA 94705	Date Signed: 9/30/16
Address:	License: C-9028
City/State/Zip:	Phone: 665-7837

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300.

REVISIONS	BY

RON BOGLEY, ARCHITECT
CALIFORNIA STATE LICENSE #C-9028
2124 WARD ST. BERKELEY, CA USA 94705
TEL. 510.665.7837) e-mail: ronbogleyarchitect@yahoo.com

PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 30 SEPT 2016
Scale 1/4" = 1'-0"
Drawn
Job
Sheet 6
Of 10 Sheets

179829

City of Albany

Green Building Program Rating System for Remodeling Projects
Supplemental Application Form

Project Address: 1504 Sonoma Ave.
Checklist Prepared By: Ron Bogley, Architect
Date Prepared: 9/30/16

	Points	INPUT	Resources	Energy	IAQ/Health
A. Site					
1. Recycle Job Site Construction & Demolition Waste 65% = 1 point; 75% = 2 points; 80% = 4 points	up to 4 Resource pts	Y	4		
2. Salvage Reusable Building Materials	4 Resource pts y=yes	Y	4		
3. Remodel for Mixed Use, Adaptive Reuse, and Historic Preservation	4 Resource pts y=yes				
4. Protect Native Soil	2 Resource pts y=yes				
5. Minimize Disruption of Existing Plants & Trees	1 Resource pt y=yes				
6. Implement Construction Site Stormwater Practices	2 Resource pts y=yes				
7. Protect Water Quality with Landscape Design	2 Resource pts y=yes				
8. Design Resource-Efficient Landscapes and Gardens	4 Resource pts y=yes				
9. Reuse Materials/Use Recycled Content Materials for Landscape Areas	2 Resource pts y=yes				
10. Install High-Efficiency Irrigation Systems	2 Resource pts y=yes				
11. Provide for On-Site Water Catchment / Retention	2 Resource pts y=yes				
B. Foundation					
1. Incorporate Recycled Flyash in Concrete 25% Recycled Flyash = 2 points; Add 1 point for every 10% increase of flyash, up to 5 points	up to 5 Resource pts	Y	2		
2. Use Recycled Content Aggregate	2 Resource pts y=yes	Y	2		
3. Insulate Foundation/Slab before backfill	3 Energy pts y=yes				
C. Structural Frame					
1. Substitute Solid Sawn Lumber with Engineered Lumber	3 Resource pts y=yes				
2. Use FSC Certified Wood for framing (For every 10% of FSC lumber used = 2 points, up to 10)	up to 10 Resource pts.				
3. Use Wood I-Joists for Floors and Ceilings	2 Resource pts y=yes				
4. Use Web Floor Trusses	2 Resource pts y=yes				
5. Design Energy Heels on Trusses 6" or more	2 Energy pts y=yes				
6. Use Finger-Jointed Studs for Vertical Applications	2 Resource pts y=yes				
7. Use Engineered Studs for Vertical Applications	2 Resource pts y=yes				
8. Use Recycled Content Steel Studs for Interior Framing	2 Resource pts y=yes				
9. Use Structural Insulated Panels (SIPs)					
a. Floors	3 Energy pts y=yes				
b. Wall	3 Energy pts y=yes				
c. Roof	3 Energy pts y=yes				
10. Apply Advanced Framing Techniques	4 Resource pts y=yes				

2004 Checklist Modified by City of Albany Incentives - Draft for Review July 2, 2007

	Points	INPUT	Resources	Energy	IAQ/Health
11. Use Reclaimed Lumber for Non Structural Applications	3 Resource pts y=yes				
12. Use OSB					
a. Subfloors	1 Resource pt y=yes				
b. Sheathing	1 Resource pt y=yes				
D. Exterior Finish					
1. Use Sustainable Decking Materials					
a. Recycled content	3 Resource pts y=yes				
b. FSC Certified Wood	3 Resource pts y=yes				
2. Use Treated Wood That Does Not Contain Chromium/Arsenic	1 IAQ/Health pt y=yes				
3. Install House Wrap under Siding	1 IAQ/Health pt y=yes	Y			1
4. Use Fiber-Cement Siding Materials	1 Resource pt y=yes				
E. Plumbing					
1. Install Water Heater Jacket	1 Energy pt y=yes				
2. Insulate Hot and Cold Water Pipes	2 Energy pts y=yes	Y		2	
3. Retrofit all Faucets and Showerheads with Flow Reducers					
a. Faucets (1 point each, up to 2 points)	Up to 2 Resource pts.	Y	2		
b. Showerheads (1 point each, up to 2 points)	Up to 2 Resource pts.	Y	2		
4. Replace Toilest with Ultra-Low Flush Toilets (1 point each, up to 3 points)	Up to 3 Resource pts.	Y	2		
5. Install Chlorine Filter on Showerhead	1 IAQ/Health pt y=yes				
6. Convert Gas to Tankless Water Heater	4 Energy pts y=yes				
7. Install Water Filtration Units at Faucets (2 points each, up to 4 points)	Up to 4 IAQ/Health pts.				
8. Install On-Demand Hot Water Circulation Pump	4 Resource pts y=yes				
F. Electrical					
1. Install Compact Fluorescent Light Bulbs (CFLs) (6 bulbs=2 points, 10 bulbs =3 points, 12 bulbs = 4 points)	Up to 4 Energy pts.	Y		4	
2. Install IC-AT Recessed Fixtures with CFLs (1 point each, up to 5 points)	Up to 5 Energy pts.				
3. Install Lighting Controls (1 point per fixture, up to 4 points)	Up to 4 Energy pts.				
4. Install High Efficiency Ceiling Fans with CFLs (1 point each, up to 4 points)	Up to 4 Energy pts.				
G. Appliances					
1. Install Energy Star Dishwasher	1 Energy pt y=yes				
2. Install Washing Machine with Water and Energy Conservation Features	1 Energy pt y=yes				
3.Install Energy Star Refrigerator	1 Energy pt y=yes				
4. Install Built-In Recycling Center	3 Resource pts y=yes				
H. Insulation					
1. Upgrade Insulation to Exceed Title 24 Requirements					
a. Walls	2 Energy pts y=yes				
b. Ceilings	2 Energy pts y=yes				
2. Install Floor Insulation over Crawl Space	4 Energy pts y=yes				
3. Install Recycled-Content, Fiberglass Insulation with No Added Formaldehyde	3 IAQ/Health pts y=yes	Y			3

2004 Checklist Modified by City of Albany Incentives - Draft for Review July 2, 2007

	Points	INPUT	Resources	Energy	IAQ/Health
4. Use Advanced Infiltration Reduction Practices	2 Energy pts y=yes				
5. Use Cellulose Insulation					
a. Walls	4 Resource pts y=yes				
b. Ceilings	4 Resource pts y=yes				
6. Alternative Insulation Products (Cotton, spray-foam)					
a. Walls	4 Resource pts y=yes				
b. Ceilings	4 Resource pts y=yes				
I. Windows					
1. Install Energy-Efficient Windows					
a. Double-Paned	1 Energy pt y=yes	Y		1	
b. Low-Emissivity (Low-E)	2 Energy pts y=yes	Y		2	
c. Low. Conductivity Frames	2 Energy pts y=yes	Y		2	
2. Install Low Heat Transmission Glazing	1 Energy pt y=yes				
J. Heating Ventilation and Air Conditioning					
1. Use Duct Mastic on All Duct Joints	2 Energy pts y=yes	Y		2	
2. Install Ductwork within Conditioned Space	3 Energy pts y=yes	Y		3	
3. Vent Range Hood to the Outside	1 IAQ/Health pt y=yes				
4. Clean all Ducts Before Occupancy	2 IAQ/Health pts y=yes	Y			2
5. Install Solar Attic Fan	2 Energy pts y=yes	Y		2	
6. Install Attic Ventilation Systems	1 Energy pt y=yes				
7. Install Whole House Fan	4 Energy pts y=yes				
8. Install Sealed Combustion Units					
a. Furnaces	3 IAQ/Health pts y=yes				
b. Water Heaters	3 IAQ/Health pts y=yes				
9. Replace Wall-Mounted Electric and Gas Heaters with Through-the-Wall Heat Pumps	3 Energy pts y=yes				
10. Install 13 SEER/11 EER or higher AC with a TXV	3 Energy pts y=yes				
11. Install AC with Non-HCFC Refrigerants	2 Resource pts y=yes				
12. Install 90% Annual Fuel Utilization Efficiency (AFUE) Furnace	2 Energy pts y=yes				
13. Retrofit Wood Burning Fireplaces					
a. Install EPA certified wood stoves/inserts	1 IAQ/Health pt y=yes				
b. Install/Replace Dampers	1 Energy pt y=yes				
c. Install Airtight Doors	1 Energy pt y=yes				
14. Install Zoned, Hydronic Radiant Heating	3 Energy pts y=yes				
15. Install High Efficiency Filter	4 IAQ/Health pts y=yes				
16. Install Heat Recovery Ventilation Unit (HRV)	5 IAQ/Health pts y=yes				
17. Install Separate Garage Exhaust Fan	3 IAQ/Health pts y=yes				
K. Renewable Energy and Roofing					
1. Pre-Plumb for Solar Water Heating	4 Energy pts y=yes				
2. Install Solar Water Heating System	10 Energy pts y=yes				
3. Pre-Wire for Future Photovoltaic (PV) Installation	4 Energy pts y=yes				
4. Install Photovoltaic (PV) System (1.2 kw = 6 points, 2.4 kw = 12 points, 3.6 kw = 18 points)	Up to 18 Energy pts				
6. Select Safe and Durable Roofing Materials	1 Resource pt y=yes				
7. Install Radiant Barrier	3 Energy pts y=yes				

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	Points	INPUT	Resources	Energy	IAQ/Health
L. Natural Heating and Cooling					
1. Incorporate Passive Solar Heating	5 Energy pts y=yes				
2. Install Overhangs or Awnings over South Facing Windows	3 Energy pts y=yes				
3. Plant Deciduous Trees on the West and South Sides	3 Energy pts y=yes				
M. Indoor Air Quality and Finishes					
1. Use Low/No-VOC Paint	1 IAQ/Health pts y=yes	Y			1
2. Use Low VOC, Water-Based Wood Finishes	2 IAQ/Health pts y=yes	Y			2
3. Use Low/No VOC Adhesives	3 IAQ/Health pts y=yes	Y			3
4. Use Salvaged Materials for Interior Finishes	3 Resource pts y=yes				
5. Use Engineered Sheet Goods with no added Urea Formaldehyde	6 IAQ/Health pts y=yes				
6. Use Exterior Grade Plywood for Interior Uses	1 IAQ/Health pts y=yes	Y			1
7. Seal all Exposed Particleboard or MDF	4 IAQ/Health pts y=yes				
8. Use FSC Certified Materials for Interior Finish	4 Resource pts y=yes				
9. Use Finger-Jointed or Recycled-Content Trim	1 Resource pts y=yes				
10. Install Whole House Vacuum System	3 IAQ/Health pts y=yes				
N. Flooring					
1. Select FSC Certified Wood Flooring	8 Resource pts y=yes				
2. Use Rapidly Renewable Flooring Materials	4 Resource pts y=yes	Y	4		
3. Use Recycled Content Ceramic Tiles	4 Resource pts y=yes	Y	4		
4. Install Natural Linoleum in Place of Vinyl	5 IAQ/Health pts y=yes				
5. Use Exposed Concrete as Finished Floor	4 Resource pts y=yes	Y	4		
6. Install Recycled Content Carpet with Low VOCs	4 Resource pts y=yes				
O. City of Albany Incentives					
1. Additions less than 50% increase in floor area	20 Resource pts y=yes	Y	20		
2. Additions les than 200sq.ft. or resulting in less than 1,500sq.ft.	10 Resource pts y=yes	Y	10		
3. Seismic upgrade of existing building	25 Resource pts y=yes	Y	25		
4.For having a hybrid or zero emissions vehicle	2 IAQ/Health pts y=yes				
5. For having no automobile	5 Resource pts y=yes				
6. Plant more than one street tree when feasible	2 IAQ/Health pts y=yes				
7. Earhquake kit	2 IAQ/Health pts y=yes				
TOTALS			85	18	13

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2013 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. Exceptions may apply. Review the respective code section for more information.

Building Envelope Measures:	
§110.6(a)1:	Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.
§110.6(a)5:	Fenestration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §10-111(a).
§110.7:	Exterior doors and windows are weatherstripped; all joints and penetrations are caulked and sealed.
§110.8(a):	Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on the CF2R.
§110.8(i):	The thermal emittance and aged solar reflectance values of the cool roofing material meets the requirements of §110.8(i) when the installation of a cool roof is specified on the CF1R.
§110.8(j):	A radiant barrier shall have an emittance of 0.05 or less when the installation of a radiant barrier is specified on the CF1R.
§150.0(a):	Minimum R-30 insulation in wood-frame ceiling; or the weighted average U-factor shall not exceed 0.031. Minimum R-19 in a rafter roof alteration. Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage.
§150.0(b):	Loose fill insulation shall conform with manufacturer's installed design labeled R-value.
§150.0(c):	Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or 0.074 maximum U-factor).
§150.0(d):	Minimum R-19 insulation in raised wood-frame floor or 0.037 maximum U-factor.
§150.0(g)1:	In Climate Zones 14 and 16 a Class II vapor retarder shall be installed on the conditioned space side of all insulation in all exterior walls, vented attics and unvented attics with air-permeable insulation.
§150.0(g)2:	In Climate Zones 1-16 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II vapor retarder.
§150.0(g)3:	In a building having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of the crawl space to reduce moisture entry and protect insulation from condensation, as specified in the exception to Section 150.0(d).
§150.0(l):	Slab edge insulation shall: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have water vapor permeance rate is no greater than 2.0 perm/inch, be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor meets the requirements of §110.8(g).
§150.0(q):	Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors shall have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration shall not exceed 0.58.
Fireplaces, Decorative Gas Appliances and Gas Log Measures:	
§150.0(e)1A:	Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.
§150.0(e)1B:	Masonry or factory-built fireplaces have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or a combustion-air control device.
§150.0(e)1C:	Masonry or factory-built fireplaces have a flue damper with a readily accessible control.
§150.0(e)2:	Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating and Plumbing System Measures:	
§110.0-§110.3:	HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified to the Energy Commission.
§110.3(c)5:	Water heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §110.3(c)5.
§110.5:	Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.
§150.0(h)1:	Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA using design conditions specified in §150.0(h)2.
§150.0(h)3A:	Installed air conditioner and heat pump outdoor condensing units shall have a clearance of at least five feet from the outlet of any dryer vent.
§150.0(i):	Heating systems are equipped with thermostats that meet the setback requirements of §110.2(c).
§150.0(j)1A:	Storage gas water heaters with an energy factor equal to or less than the federal minimum standards shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
§150.0(j)1B:	Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§150.0(j)2A:	For domestic hot water system piping, whether buried or unburied: the first 5 feet of hot and cold water pipes from the storage tank, all piping with a nominal diameter of 3/4 inch or larger, all piping associated with a domestic hot water recirculation system regardless of the pipe diameter, piping from the heating source to storage tank or between tanks, piping buried below grade, and all hot water pipes from the heating source to kitchen fixtures must be insulated according to the requirements of TABLE 120.3-A.
§150.0(j)2B:	All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve that allows for installation, removal, and replacement of the enclosed pipe and insulation.

2013 Low-Rise Residential Mandatory Measures Summary

§110.4(b)1:	Any pool or spa heating equipment shall be installed with at least 36 inches of pipe between filter and heater or dedicated suction and return lines, or built-up connections for future solar heating.
§110.4(b)2:	Outdoor pools or spas that have a heat pump or gas heater shall have a cover.
§110.4(b)3:	Pools shall have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§110.5:	Natural gas pool and spa heaters shall not have a continuous burning pilot light.
§150.0(p):	Residential pool systems or equipment shall meet specified pump sizing, flow rate, piping, filters, and valve requirements.
Lighting Measures:	
§110.9:	All lighting control devices and systems, ballasts, and luminaires shall meet the applicable requirements of §110.9.
§150.0(k)1A:	Installed luminaires shall be classified as high-efficacy or low-efficacy for compliance with §150.0(k) in accordance with TABLE 150.0-A or TABLE 150.0-B, as applicable.
§150.0(k)1B:	When a high efficacy and low efficacy lighting system are combined in a single luminaire, each system shall separately comply with the applicable provisions of §150.0(k).
§150.0(k)1C:	The wattage and classification of permanently installed luminaires in residential kitchens shall be determined in accordance with §130.0(c). In residential kitchens, the wattage of electrical boxes finished with a blank cover or where no electrical equipment has been installed, and where the electrical box can be used for a luminaire or a surface mounted ceiling fan, shall be calculated as 180 watts of low efficacy lighting per electrical box.
§150.0(k)1D:	Ballasts for fluorescent lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.
§150.0(k)1E:	Permanently installed night lights and night lights integral to installed luminaires or exhaust fans shall be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with §130.0(c). Night lights do not need to be controlled by vacancy sensors.
§150.0(k)1F:	Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) shall meet the applicable requirements of §150.0(k).
§150.0(k)2A:	High efficacy luminaires must be switched separately from low efficacy luminaires.
§150.0(k)2B:	Exhaust fans shall be switched separately from lighting systems.
§150.0(k)2C:	Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
§150.0(k)2D:	Controls and equipment are installed in accordance with manufacturer's instructions.
§150.0(k)2E:	No control shall bypass a dimmer or vacancy sensor function if the control is installed to comply with §150.0(k).
§150.0(k)2F:	Lighting controls comply with applicable requirements of §110.9.
§150.0(k)2G:	An Energy Management Control System (EMCS) may be used to comply with dimmer requirements if: it functions as a dimmer according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.
§150.0(k)2H:	An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements of §150.0(k) if: it functions as a vacancy sensor according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.
§150.0(k)2I:	A multiscene programmable controller may be used to comply with dimmer requirements of this section if it provides the functionality of a dimmer according to §110.9, and complies with all other applicable requirements in §150.0(k)2.
§150.0(k)3A:	A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficacy.
§150.0(k)3B:	Kitchen lighting includes all permanently installed lighting in the kitchen except internal lighting in cabinets that illuminate only the inside of the cabinets. Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are considered kitchen lighting if they are not separately switched from kitchen lighting.
§150.0(k)4:	Permanently installed lighting that is internal to cabinets shall use no more than 20 watts of power per linear foot of illuminated cabinet.
§150.0(k)5:	A minimum of one high efficacy luminaire shall be installed in each bathroom; and all other lighting installed in each bathroom shall be high efficacy or controlled by vacancy sensors.
§150.0(k)6:	Lighting installed in attached and detached garages, laundry rooms, and utility rooms shall be high efficacy luminaires and controlled by vacancy sensors.
§150.0(k)7:	Lighting installed in rooms or areas other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy, or shall be controlled by either dimmers or vacancy sensors.
§150.0(k)8:	Luminaires recessed into ceilings shall: be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/rating laboratory; have a label that certifies that the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283; be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and allow ballast maintenance and replacement without requiring cutting holes in the ceiling. For recessed compact fluorescent luminaries with ballasts to qualify as high efficacy for compliance with §150.0(k), the ballasts shall be certified to the Energy Commission to comply with the applicable requirements in §110.9.
§150.0(k)9A:	For single-family residential buildings, outdoor lighting permanently mounted to a residential building or other buildings on the same lot shall be high efficacy, or may be low efficacy if it meets all of the following requirements: i. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items ii or iii below; and ii. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor, or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and iii. Controlled by one of the following methods:

2013 Low-Rise Residential Mandatory Measures Summary

§150.0(j)2C:	Pipe for cooling system lines shall be insulated as specified in §150.0(j)2A. Piping insulation for steam and hydronic heating systems or hot water systems with pressure > 15 psig shall meet the requirements in TABLE 120.3-A.
§150.0(j)3:	Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§150.0(j)3A:	Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation protected as specified or painted with coating that is water retardant and provides shielding from solar radiation that degrades the material.
§150.0(j)3B:	Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarding facing, or the insulation shall be installed at the thickness that qualifies as a Class I or Class II vapor retarder.
§150.0(n)1:	Systems using gas or propane water heaters to serve individual dwelling units shall include: a 120V electrical receptacle within 3 feet of the water heater; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
§150.0(n)2:	Recirculating loops serving multiple dwelling units shall meet the requirements of §110.3(c)5.
§150.0(n)3:	Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director.
Ducts and Fans Measures:	
§150.0(m)1:	All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §604.0, §605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC §605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape shall be used. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts.
§150.0(m)2:	Factory-Fabricated Duct Systems shall comply with specified requirements for duct construction, connections, and closures; joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§150.0(m)3-6:	Field-Fabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction; duct insulation R-value ratings; duct insulation thickness; and duct labeling.
§150.0(m)7:	All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§150.0(m)8:	Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents.
§150.0(m)9:	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§150.0(m)10:	Flexible ducts cannot have porous inner cores.
§150.0(m)11:	When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(m)12:	Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of §150.0(m)12.
§150.0(m)13:	Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(m)15:	Zonally controlled central forced air cooling systems shall be capable of simultaneously delivering, in every zonal control mode, an airflow from the dwelling, through the air handler fan and delivered to the dwelling, of ≥ 350 CFM per ton of nominal cooling capacity, and operating at an air-handling unit fan efficacy of ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(o):	All dwelling units shall meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing the Whole Building Ventilation.
§150.0(o)1A:	Whole Building Ventilation airflow shall be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
Pool and Spa Heating Systems and Equipment Measures:	
§110.4(a):	Any pool or spa heating system shall be certified to have: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and shall not use electric resistance heating.

2013 Low-Rise Residential Mandatory Measures Summary

	a. Photocontrol not having an override or bypass switch that disables the photocontrol; or b. Astronomical time clock not having an override or bypass switch that disables the astronomical time clock, and which is programmed to automatically turn the outdoor lighting OFF during daylight hours; or c. Energy management control system which meets all of the following requirements: At a minimum provides the functionality of an astronomical time clock in accordance with §110.9; meets the Installation Certification requirements in §130.4; meets the requirements for an EMCS in §130.5; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours.
§150.0(k)9B:	For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site shall comply with one of the following requirements: i. Shall comply with §150.0(k)9A; or ii. Shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)9C:	For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by §150.0(k)9B or 150.0(k)9D shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)9D:	Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)10:	Internally illuminated address signs shall comply with §140.8; or shall consume no more than 5 watts of power as determined according to §130.0(c).
§150.0(k)11:	Lighting for residential parking garages for eight or more vehicles shall comply with the applicable requirements for nonresidential garages in §110.9, §130.0, §130.1, §130.4, §140.6, and §141.0.
§150.0(k)12A:	In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building shall be high efficacy luminaires or controlled by an occupant sensor.
§150.0(k)12B:	In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting in that building shall: i. Comply with the applicable requirements in §110.9, §130.0, §130.1, §140.6 and §141.0; and ii. Lighting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors shall be capable of turning the light fully On and Off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§110.10(a)1:	Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete, by the enforcement agency, on or after January 1, 2014, shall comply with the requirements of §110.10(b) through §110.10(e).
§110.10(a)2:	Low-rise multi-family buildings shall comply with the requirements of §110.10(b) through §110.10(d).
§110.10(b)1:	The solar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences the solar zone shall be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area.
§110.10(b)2:	All sections of the solar zone located on steep-sloped roofs shall be oriented between 110 degrees and 270 degrees of true north.
§110.10(b)3A:	No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone.
§110.10(b)3B:	Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§110.10(b)4:	For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.
§110.10(c):	The construction documents shall indicate: a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service (for single family residences the point of interconnection will be the main service panel); a pathway for routing of plumbing from the solar zone to the water-heating system.
§110.10(d):	A copy of the construction documents or a comparable document indicating the information from §110.10(b) through §110.10(c) shall be provided to the occupant.
§110.10(e)1:	The main electrical service panel shall have a minimum busbar rating of 200 amps.
§110.10(e)2:	The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space shall be: positioned at the opposite (load) end from the input feeder location or main circuit location, and permanently marked as "For Future Solar Electric".

REVISIONS	BY

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PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 30 SEP. 2016
Scale AS NOTED
Drawn
Job
Sheet 7
Of 10 Sheets

2013 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 1

INSPECTOR SIGNOFF

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES
DIVISION 4.1 PLANNING AND DESIGN

4.106 SITE DEVELOPMENT

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales
2. Water collection and disposal systems
3. French drains
4. Water retention gardens
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE (MINIMUM STANDARDS FOR ENERGY EFFICIENCY). For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.5 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.25 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1401.1 of the California Plumbing Code.

NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	2.0 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.5 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.25 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.5 GAL/FLUSH

4.304 OUTDOOR WATER USE

4.304.1 IRRIGATION CONTROLLERS. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 50 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:
1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed four (4) lbs./sq.ft. of the building area shall meet the minimum 50% construction waste reduction requirement in Section 4.408.1

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. [HR] Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed two (2) lbs./sq.ft. of the building area shall meet the minimum 50% construction waste reduction requirement in Section 4.408.1

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4..

Notes:
1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.

2. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, water-heating systems and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.

3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.

4. Public transportation and/or carpool options available in the area.

5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.

6. Information about water-conserving landscape and irrigation design and controls which conserve water.

7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.

8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.

9. Information about state solar energy and incentive programs available.

10. A copy of all special inspections verifications required by the enforcing agency or this [*California Green Building Standards*] code.

DIVISION 4.5 ENVIRONMENTAL QUALITY

4.503 FIREPLACES

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.
2. Field verification of on-site product containers.

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	CURRENT VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

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PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 30 SEPT 2016
Scale N/A
Drawn
Job
Sheet 8
Of 10 Sheets

24 X 36 CLEARPRINT®

2013 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 2

INSPECTOR SIGNOFF

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:

1. Carpet and Rug Institute's Green Label Plus Program.
2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" Version 1.1, February 2010 (also known as Specification 01350).
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Indoor Advantage™ Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall comply with one or more of the following:

1. VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.
2. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program.
3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.
4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350).

4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the *California Building Standards Code*.

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.

4.507 ENVIRONMENTAL COMFORT

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2004 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2009 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2004 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

INSPECTOR SIGNOFF

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

INSPECTOR SIGNOFF

INSPECTOR SIGNOFF

REVISIONS	BY

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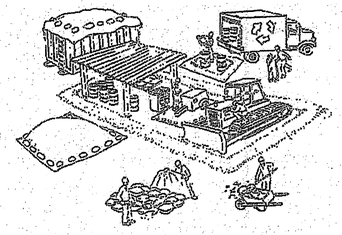
PROPOSED ALTERATIONS
LIPYANIK RESIDENCE
1504 SONOMA AVE. ALBANY

Date 30 SEPT. 2016
Scale N/A
Drawn
Job
Sheet 9
Of 10 Sheets

24 X 39 CLEARPRINT®

Pollution Prevention - It's Part of the Plan



Make sure your crews and subs do the job right!

Runoff from streets and other paved areas is a major source of pollution and damage to creeks and the San Francisco Bay. Construction activities can directly affect the health of creeks and the Bay unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and local creeks. Following these guidelines and the project specifications will ensure your compliance with City requirements.

Materials storage & spill cleanup

Non-hazardous materials management

- Sand, dirt, and similar materials must be stored at least 10 feet (3 meters) from catch basins. All construction material must be covered with a tarp and contained with a perimeter control during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Use (but don't overuse) reclaimed water for dust control as needed.
- Sweep or vacuum streets and other paved areas daily. Do not wash down streets or work areas with water!
- Recycle all asphalt, concrete, and aggregate base material from demolition activities. Comply with City Ordinances for recycling construction materials, wood, gyp board, pipe, etc.
- Check dumpsters regularly for leaks and to make sure they are not overfilled. Repair or replace leaking dumpsters promptly.
- Cover all dumpsters with a tarp at the end of every work day or during wet weather.

Hazardous materials management

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecasted.
- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecasted within 24 hours.
- Be sure to arrange for appropriate disposal of all hazardous wastes.

Spill prevention and control

- Keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- When spills or leaks occur, contain them immediately and be particularly careful to prevent leaks and spills from reaching the gutter, street, or storm drain. Never wash spilled material into a gutter, street, storm drain, or creek!
- Dispose of all containment and cleanup materials properly.
- Report any hazardous materials spills immediately! Dial 911

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking.

Vehicle and equipment maintenance & cleaning

- Inspect vehicles and equipment for leaks frequently. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
- Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
- If you must clean vehicles or equipment on site, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or creeks.
- Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

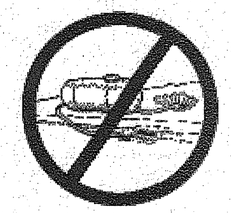
Earthwork & contaminated soils

- Keep excavated soil on the site where it will not collect in the street.
- Transfer to dump trucks should take place on the site, not in the street.
- Use fiber rolls, silt fences, or other control measures to minimize the flow of silt off the site.

- Earth moving activities are only allowed during dry weather by permit and as approved by the City Inspector in the Field.
- Mature vegetation is the best form of erosion control. Minimize disturbance to existing vegetation whenever possible.
- If you disturb a slope during construction, prevent erosion by securing the soil with erosion control fabric, or seed with fast-growing grasses as soon as possible. Place fiber rolls down-slope until soil is secure.
- If you suspect contamination (from site history, discoloration, odor, texture, abandoned underground tanks or pipes, or buried debris), call the Engineer for help in determining what should be done, and manage disposal of cntaminated soil according to their instructions.

Dewatering operations

- Effectively manage all run-on, all runoff within the site, and all runoff that discharges from the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance.
- Reuse water for dust control, irrigation, or another on-site purpose to the greatest extent possible.

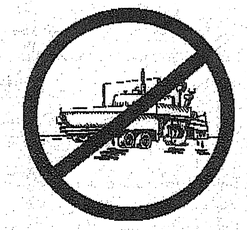


- Be sure to notify and obtain approval from the Engineer before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the Engineer to determine what testing is required and how to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Saw cutting

- Always completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or sand/gravel bags to keep slurry out of the storm drain system.
- Shovel, absorb, or vacuum saw-cut slurry and pick up all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- If saw cut slurry enters a catch basin, clean it up immediately.

Paving/asphalt work



- Always cover storm drain inlets and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
- Protect gutters, ditches, and drainage courses with sand/gravel bags, or earthen berms.
- Do not sweep or wash down excess sand from sand sealing into gutters, storm drains, or creeks. Collect sand and return it to the stockpile, or dispose of it as trash.
- Do not use water to wash down fresh asphalt concrete pavement.

Concrete, grout, and mortar storage & waste disposal

- Store concrete, grout, and mortar under cover, on pallets, and away from drainage areas. These materials must never reach a storm drain.
- Wash out concrete equipment/trucks off-site or into contained washout areas that will not allow discharge of wash water onto the underlying soil or onto the surrounding areas.

- Collect the wash water from washing exposed aggregate concrete and remove it for appropriate disposal off site.

Painting

- Never rinse paint brushes or materials in a gutter or street!
- Paint out excess water-based paint before rinsing brushes, rollers, or containers in a sink.
- Paint out excess oil-based paint before cleaning brushes in thinner.
- Filter paint thinners and solvents for reuse whenever possible. Dispose of oil-based paint sludge and unusable thinner as hazardous waste.

Landscape Materials

- Contain, cover, and store on pallets all stockpiled landscape materials (mulch, compost, fertilizers, etc.) during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Discontinue the application of any erodible landscape material within 2 days of forecasted rain and during wet weather.

Storm drain polluters may be liable for fines of $10,000 or more per day!

For references and more detailed information:
www.cleanwaterprogram.org
www.cabmphandbooks.com

REVISIONS

NO.	DESCRIPTION	BY	DATE	APPV'D
1				
2				
3				
4				
5				

APPROVED

☆ PUBLIC WORKS AGENCY

POLLUTION PREVENTION

WORK ORDER NO.

SPECIFICATION NO.

SHEET NO. 10 OF 10

FILE NO.