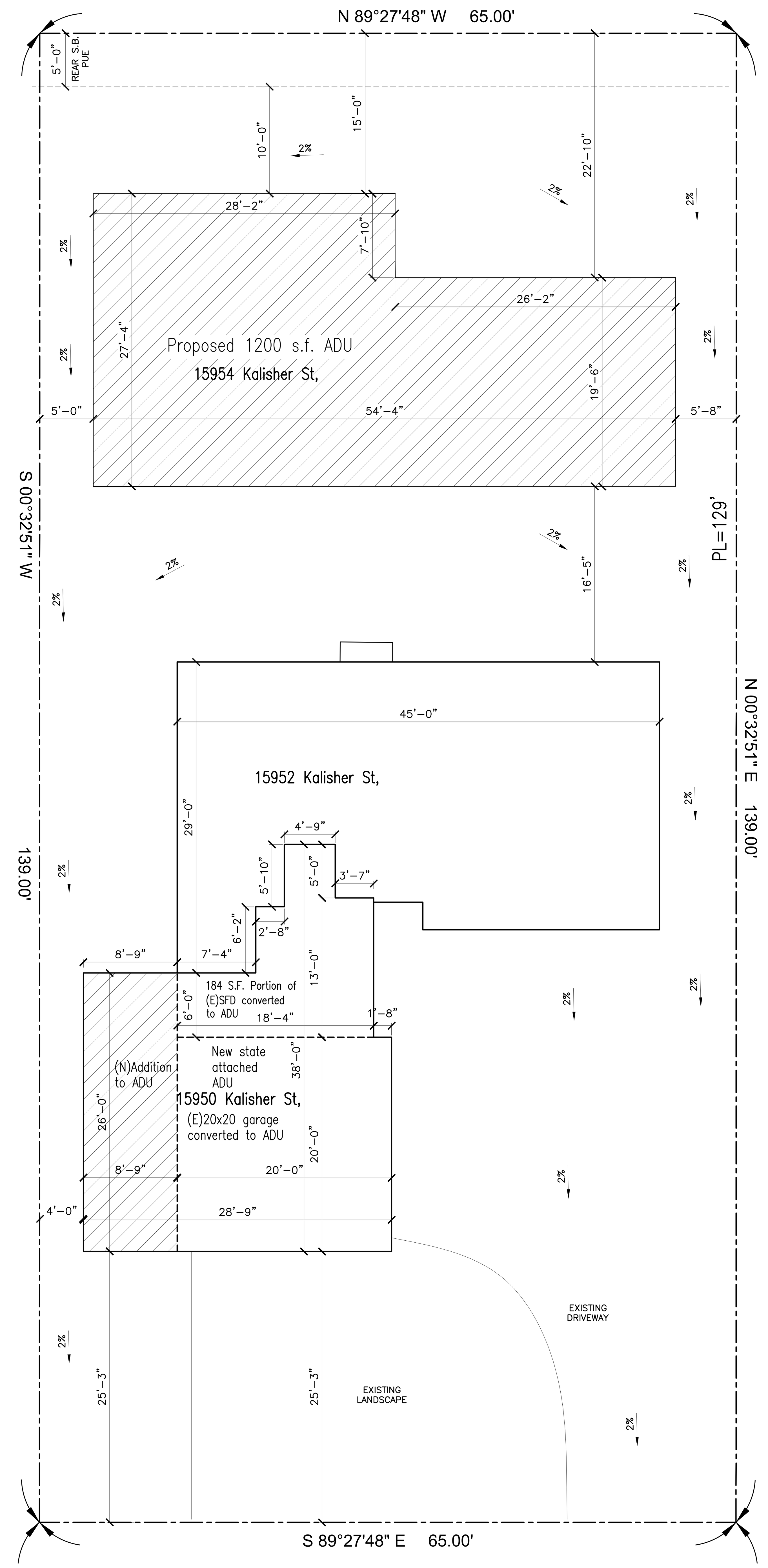



**KALISHER ST**

SITE PLAN

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

N


Less than 0.5 mile walking distance to bus stop
Rinaldi / Gaynor
Stop ID: 20024
no parking required for ADU

## PROJECT SCOPE:

- ☐ New 1200 S.F. detached ADU PER LAMC 12.22 A.33(b)(1)
- ☐ Convert portion of (E)SFD and (E)garage with new 26'x8'-9" side addition to 770 S.F. attached ADU PER GC § 66323(a)(1)

## BUILDING CODE / SUMMARY:

Zoning RS-1
OCCUPANCY GROUPS: R3/U
CONSTRUCTION TYPE: V-B
USE: RESIDENTIAL
STORIES: ONE
ADU height 17'-7"
SPRINKLERED : No
VHFHSZ No
APPLICABLE CODES: 2022 CEC, 2022 CMC, 2022 CPC, 2022 CFC, 2023 LAGBC, 2023 LARC

PROJECT DATA:
(E)SFD 15952 W KALISHER ST
(N)ATTACHED ADU 15950 W KALISHER ST
(N)DETACHED ADU 15954 W KALISHER ST
ZIP Code 91344
Lot/Parcel Area 9,034.4 (sq ft)
(APN) 2666012002
Tract TR 15922
Map Reference M B 560-35/37
Block None
Lot 2
Zoning RS-1

OWNER
Loris Grigor Gharibian
15952 W SIMONDS ST

| | EXISTING | NEW | EXEMPT | TOTAL |
|---|---|---|---|---|
| (E)SFD | 1,305 | -184 (bed r. &bath converted to JADU) | | 1,121 |
| (N)ATTACHED ADU | | 770 | | 770 |
| (N)DETACHED ADU | | 1200 | | 1200 |
| | | | | 3091 |

RFA = 45% of lot 9,034.4 = 4065.48
3091 > 4065.48

## GENERAL NOTES:

1. Bathroom fan exhaust to provide a minimum of one complete air change in 5 minuets and Energy Star compliant.
2. Full height sliding glass doors and adjoining full height fixed panels within the assembly shall be constructed or approved impact hazard, e.g. tempered glass shower door
7. Material Specifications:
   l. **Metal Connector's** by Simpson for HD's- RR# 24818, for straps, etc. RR# 25300.
   m. **Glass** thickness per table T 24 A, All new glass to be dual glasze
8. Every exit door shall be openable from the inside without the use of a key or any special knowledge or effort. Special Locking Device shall be of an approved type.
9. Television antenna cross arms or other roof obstructions shall be located 7 ft. minimum above the roof, if roof slope is less than 30 degrees.
10. An approved Seismic **gas shutoff valve** will be installed on the fuel gas line on the down stream side of the utility meter and be rigidly connected to the exterior of the building or structure containing the fuel gas piping.
12. Provide ultra flush **water closets** for all new construction. Existing shower shower heads and toilets must be adapted for low water consumption ( 1.28 gallons per flush).
13. Windows max sill height TO BE 44".
14. **Expandable Soil**- if encountered, the following minimum requirements must be met:
   a. Depth of footings below the natural and finish grades shall not be less than 24 in. for exterior and 18 in. for interior footings.
   b. Exterior walls and interiior bearing walls shall be supported on continuous footings.
   c. Footings shall be reinforced with a minimum of (4) #4 RB. Two to be placed within 4 in. of the bottom and 4 inches of the top of the footings.
   d. The soil below an interior concrete slab shall be saturated with moisture to a depth of 18 inches prior to placing the concrete.
15. Bearing wall studs cannot be notched more than 25% of their width, bored holes shall not have a diameter greater than 40% of their stud width.
16. **Water Heater** must be seismically strapped to the wall with approved straps.
   a. A T&P valve to be piped to the exterior.
   b. A minimum of 50 sq. in. vent innn the top & bottom of the water heater compartment.
17. **Clothes Dryer:** A minimum 4" exhaust duct must be provided. A flexable duct cannot extend more than 6 ft. & cannot be concealed. Dryer exhaust cannot exceed 14 ft. with a maximum of two 90 degree elbows.
18. Provide an approved **spark arrester** for the chimney of a fireplace, stove, or barbecue.
19. **Drip Screed** to be 26 gauge non corrosive metal.
20. **Site Plan**: The construction shall not restrict a five-foot clear and unobstructed access to any water or power distribution facilities (Power poles, pull-boxes, transformers, vaults pumps, valves, meters, appurtenances, etc.) or to the location of the hook-up. The construction shall not be within ten feet of any power lines- whether or not the lines are located on the property. Failure to comply may cause construction delays and/or additional expenses.
21. Plumbing fixtures are required to be connected to a sanitary sewer or to an approved sewage disposal system.
22. Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs, and washing machine outlets shall be provided with hot and cold water and connected to an approved water supply.
23. Bathtub and shower doors, walls, above bathtubs with a showerhead, and shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor.
24. Provide ultra-low flush water closets for all new construction. Existing shower heads and toilets must be adapted for low water consumption.
25. Water Heater shall be strapped to the wall.
27. Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with artificial light that is adequate to provide an average illumination of 6 foot - candles over the area of the room at a height of 30 inches above the floor level
28. A copy of the evaluation report and/or conditions of listing shall be made available at the job site.
29. Heater shall be capable of maintaining a minimum room temperature of 68 degrees F @ a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms at the design temperature.
30. LOTS TO BE GRADED to drain surface water away from foundation walls with a minimum fall of 6 inches within the first 10 feet.
31. Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property.
32. Protection of wood and wood based products from decay shall be provided in the locations specified per Sect. R 31.1 by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA U1.
33. Provide anti-Grafiti finish within the first 9 feet measured from grade, at exterior walls & doors. Exception: maintenance of building affidavit is recorded by the Owner to covenant & agree with the City of Los Angeles to remove any graffiti within 7 dys ofthe graffiti being applied.

COMMENTS

| REV | DESCRIPTION | DATE |
|---|---|---|
| | | |

CONTENT
SITE PLAN ,
GENERAL NOTES

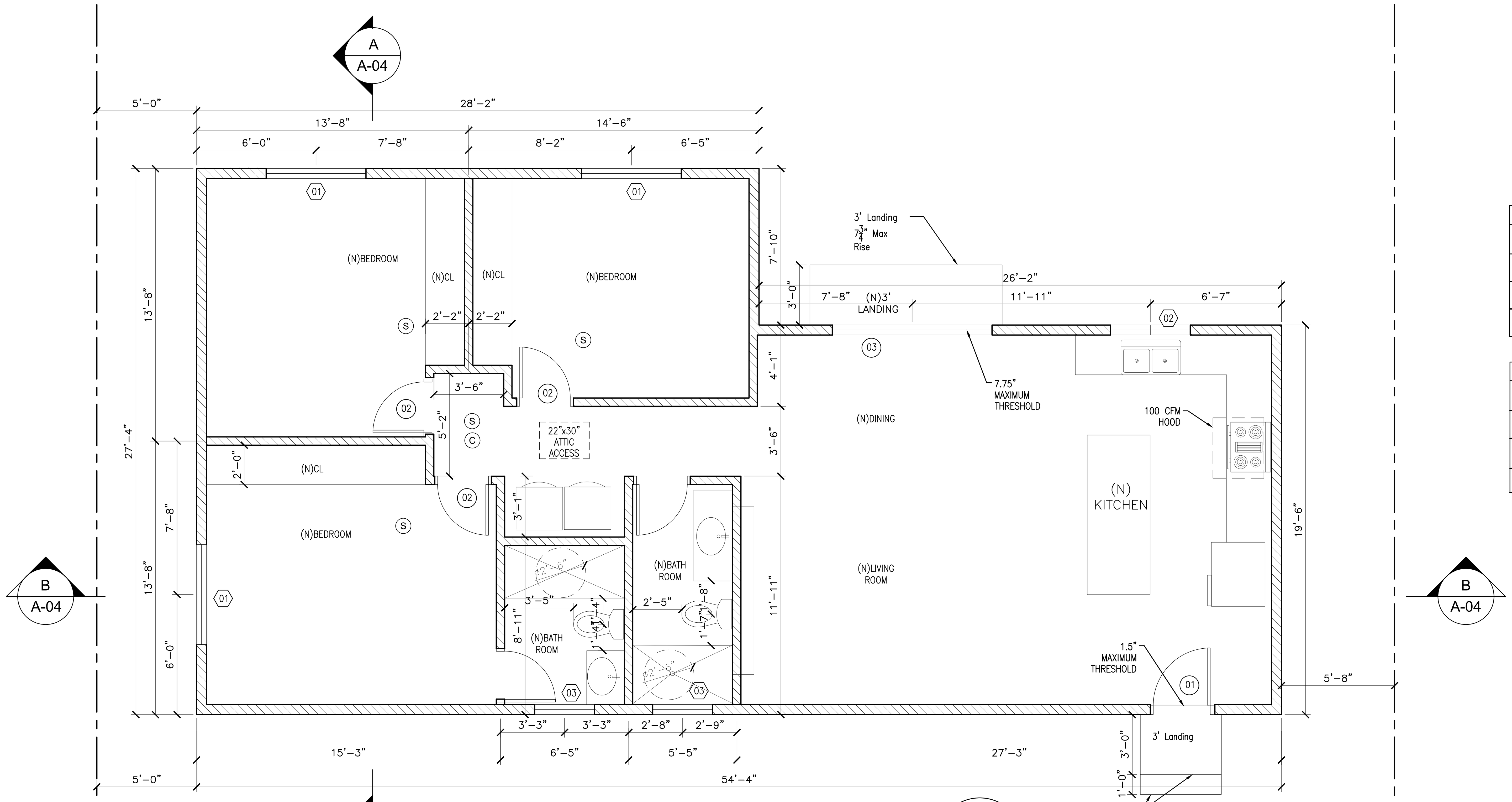
PROJECT
15950-15952 Kalisher St,
15954 Kalisher St,
Granada Hills, CA 91344

DATE 06/16/2022

A-01

DESIGNED BY ARA HARTOONIAN

ARC-DETAIL




# NEW ADU PLAN

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

N

| WINDOW SCHEDULE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WINDOW NUMBER | QUANTITY | WIDTH xHEIGHT | MATERIAL | OPERATION | U-FACTOR | SHGC | TEMPERED GLASS ? Y/N | STATUS | |
| 01 | 3 | 5'-0"X4'-0" | VINYL | SLIDING | 0.30 | 0.23 | N | NEW | |
| 02 | 1 | 4'-0"X3'-0" | VINYL | SLIDING | 0.30 | 0.23 | N | NEW | |
| 03 | 3 | 3'-0"X1'-0" | VINYL | SLIDING | 0.30 | 0.23 | Y | NEW | |

| DOOR SCHEDULE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| WINDOW NUMBER | QUANTITY | WIDTH xHEIGHT | MATERIAL | OPERATION | U-FACTOR | SHGC | NUMBER OF PANELS | TEMPERED GLASS ? Y/N | STATUS | PRODUCT LINE |
| 01 | 1 | 3'-0"X6'-8" | WOOD | SWING | | | | | NEW | |
| 02 | 5 | 2'-8"X6'-8" | WOOD | SWING | | | | | NEW | |
| 03 | 1 | 8'-0"X6'-8" | METAL | SWING | 0.30 | 0.23 | | Y | NEW | |

## SYMBOLS:

- S — SMOKE DETECTOR, HARD WIRED - INTERCONNECTED.
- S B — SMOKE DETECTOR, BATTERY OPERATED.
- F — EXHAUST FAN, MIN. 50 CFM, CONTOLLED BY HUMIDISTAT, ENERGY STAR. EXHAUST TO OUTSIDE AIR. (NOTE #24 GRN-14/SHEET GR1)
- C — CARBON MONOXIDE DETECTOR - HARD WIRED & INTERCONNECTED
- NEW WALL.
- NEW WALL 1-HOUR RATED

| CRRC PROD ID. | MANUFACTURER | BRAND AND MODEL | PRODUCT TYPE | COLOR | SOLAR REFLECTANCE INITIAL | SOLAR REFLECTANCE 3 YEAR | THERMAL EMITTANCE INITIAL | THERMAL EMITTANCE 3 YEAR | SRI INITIAL | SRI 3 YEAR |
|---|---|---|---|---|---|---|---|---|---|---|
| 0668-0072 | CertainTeed LLC | **Landmark®** Silver Birch<br>**Landmark® PRO** Silver Birch<br>**NorthGate™** Silver Birch<br>**Landmark Solaris®** Silver Birch<br>**Landmark PRO Solaris®** Silver Birch | Asphalt Shingle | Off-White | 0.26 | 0.27 | 0.90 | 0.89 | 27 | 27 |

DC SYSTEM
SIZE 2.3 KW
2.3 x 1000=2300 W

PROPOSED PV PANELS
QCELLS 390 WATT
Q.PEAK DUO BLK ML-G10+390

2300/390=5.7

6 QCELL 390W
PNELS NEEDED
Q.PEAK DUO BLK-G6+345
SIZE=74" × 41.1"
(INCLUDING FRAME)

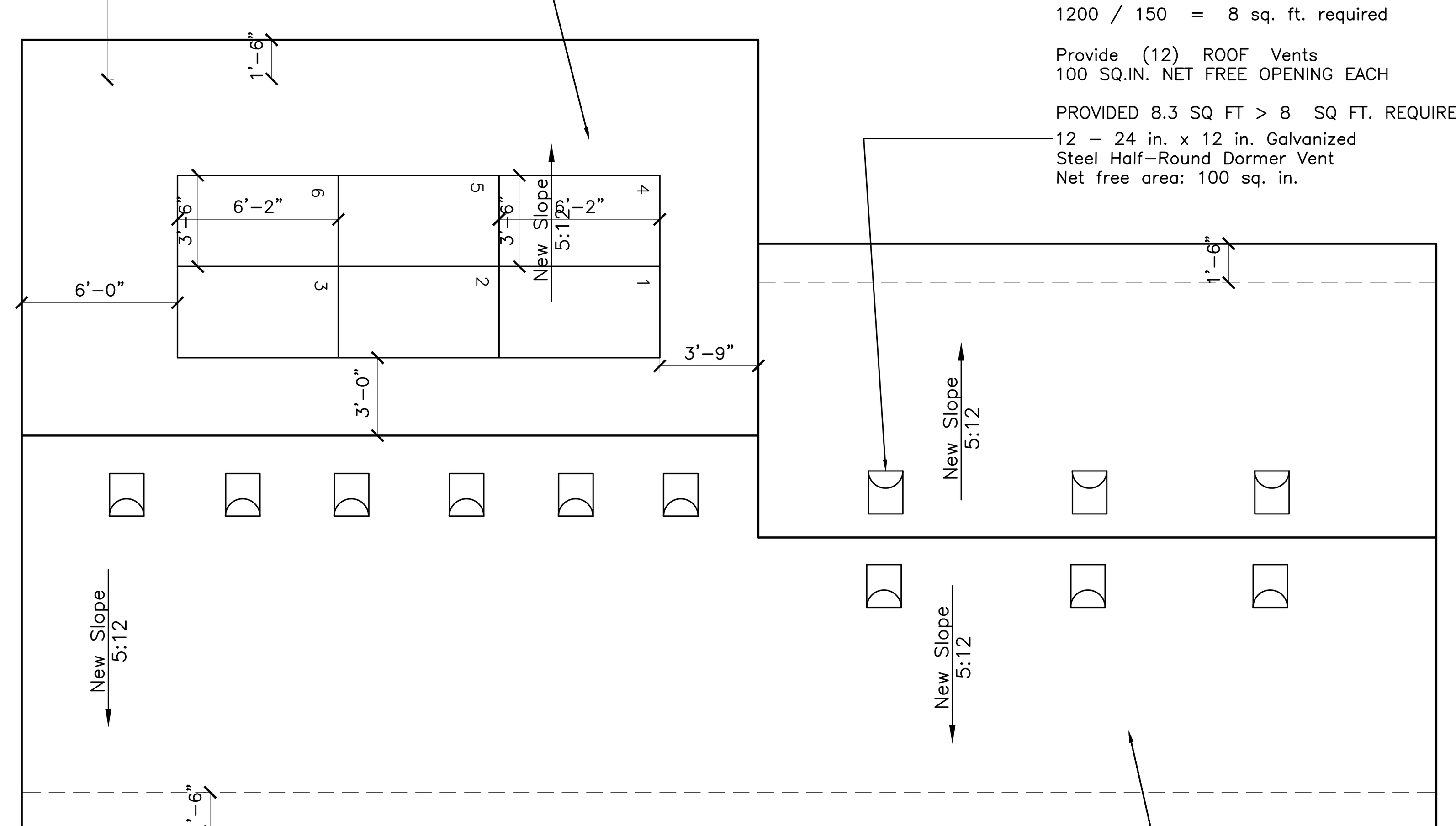
Landmark PRO Solaris® shingles
COLOR: (SILVER BIRCH)
UL Class A fire resistance
UL certified to meet ASTM D3462
ICC-ES ESR-1389
& ESR-3537 CRRC : 0668-0072

ATTIC SPACE VENTILATION CALCULATION:

Attic Area = 1200
1200 / 150 = 8 sq. ft. required

Provide (12) ROOF Vents
100 SQ.IN. NET FREE OPENING EACH

PROVIDED 8.3 SQ FT > 8 SQ FT. REQUIRED
12 - 24 in. x 12 in. Galvanized
Steel Half-Round Dormer Vent
Net free area: 100 sq. in.

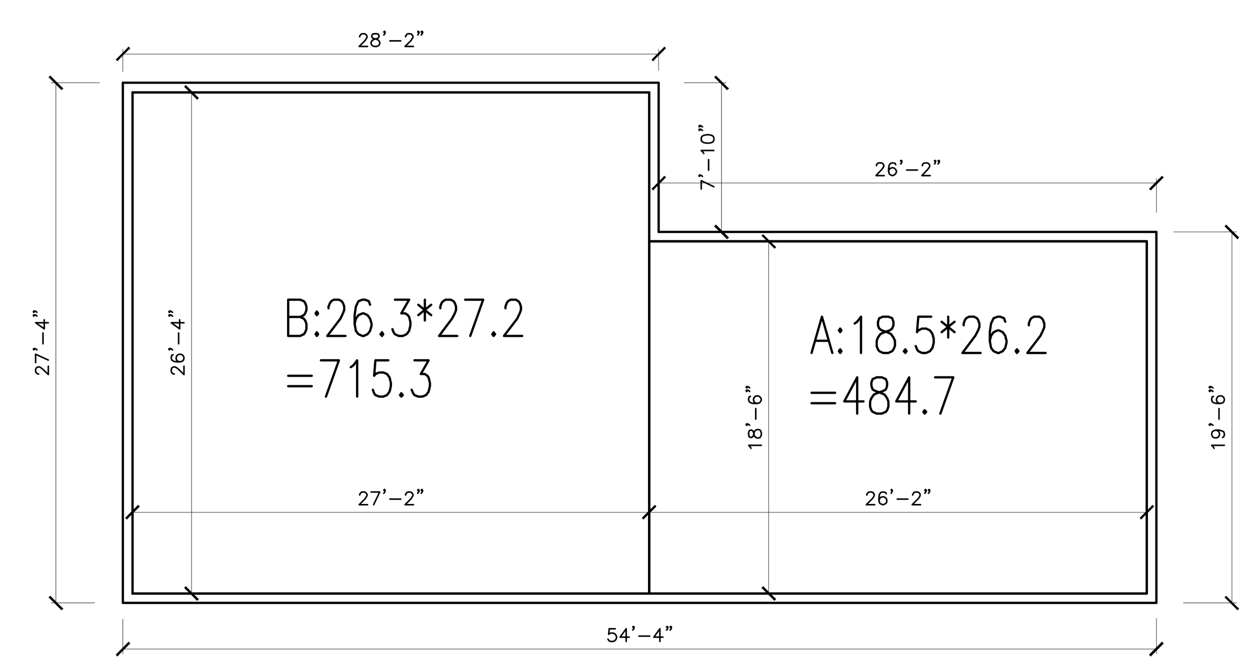



Landmark PRO Solaris® shingles
COLOR: (SILVER BIRCH)
UL Class A fire resistance
UL certified to meet ASTM D3462
ICC-ES ESR-1389
& ESR-3537 CRRC : 0668-0072

# ADU ROOF PLAN

SCALE: 3/16" = 1'-0"

N




Zoning Area:484.7+715.3=1200
school fee :(27.3*28.2)+(26.2*19.5)=769.9+510.9=1280.8

# AREA DIAGRAM

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

N

COMMENTS

| REV | DESCRIPTION | DATE |
|---|---|---|
| | | |

CONTENT PLANS

PROJECT 15954 Kalisher St, Granada Hills, CA 91344

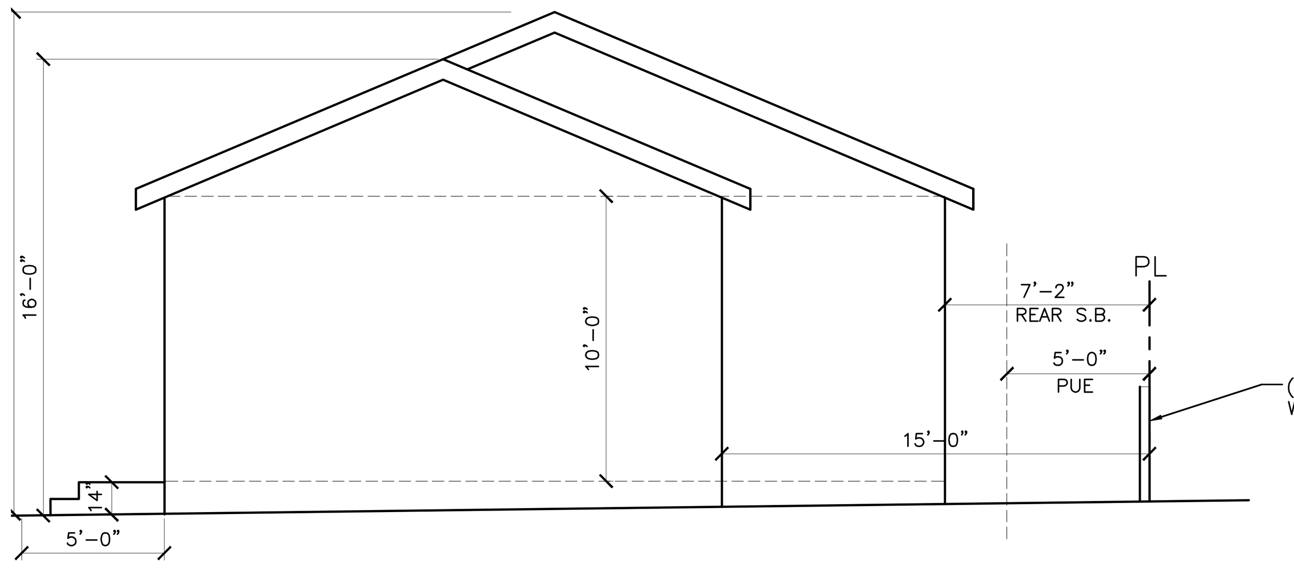
DATE 06/16/2022

# A-02

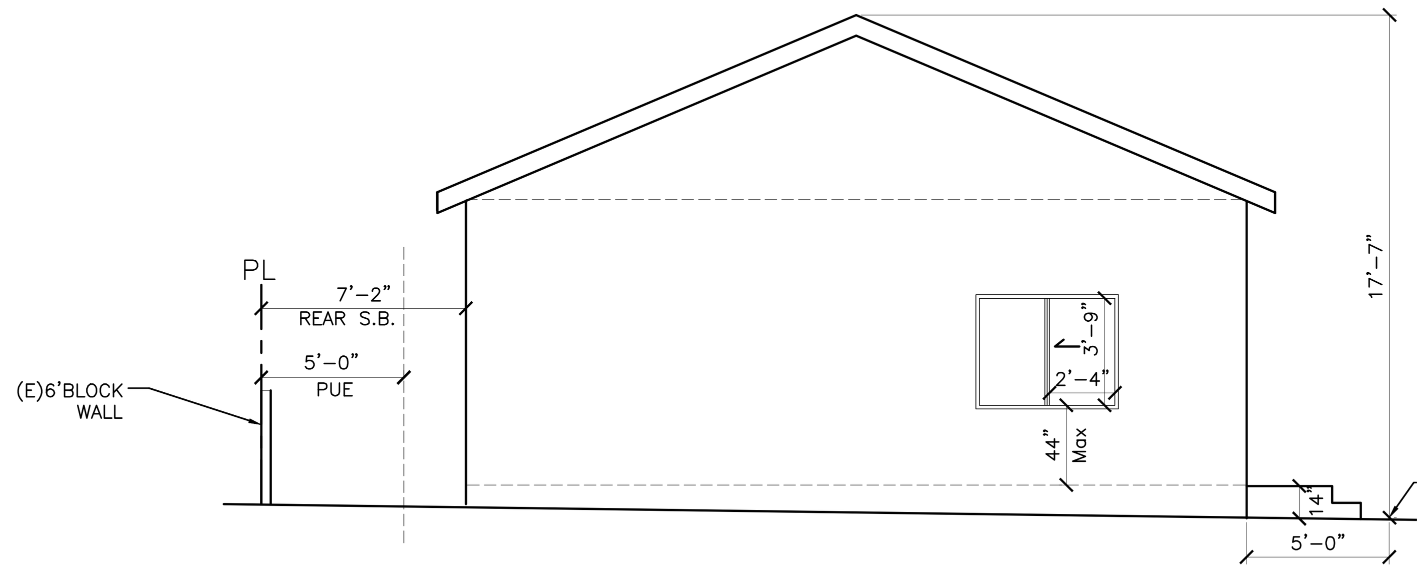
DESIGNED BY ARA HARTOONIAN

ARC-DETAIL

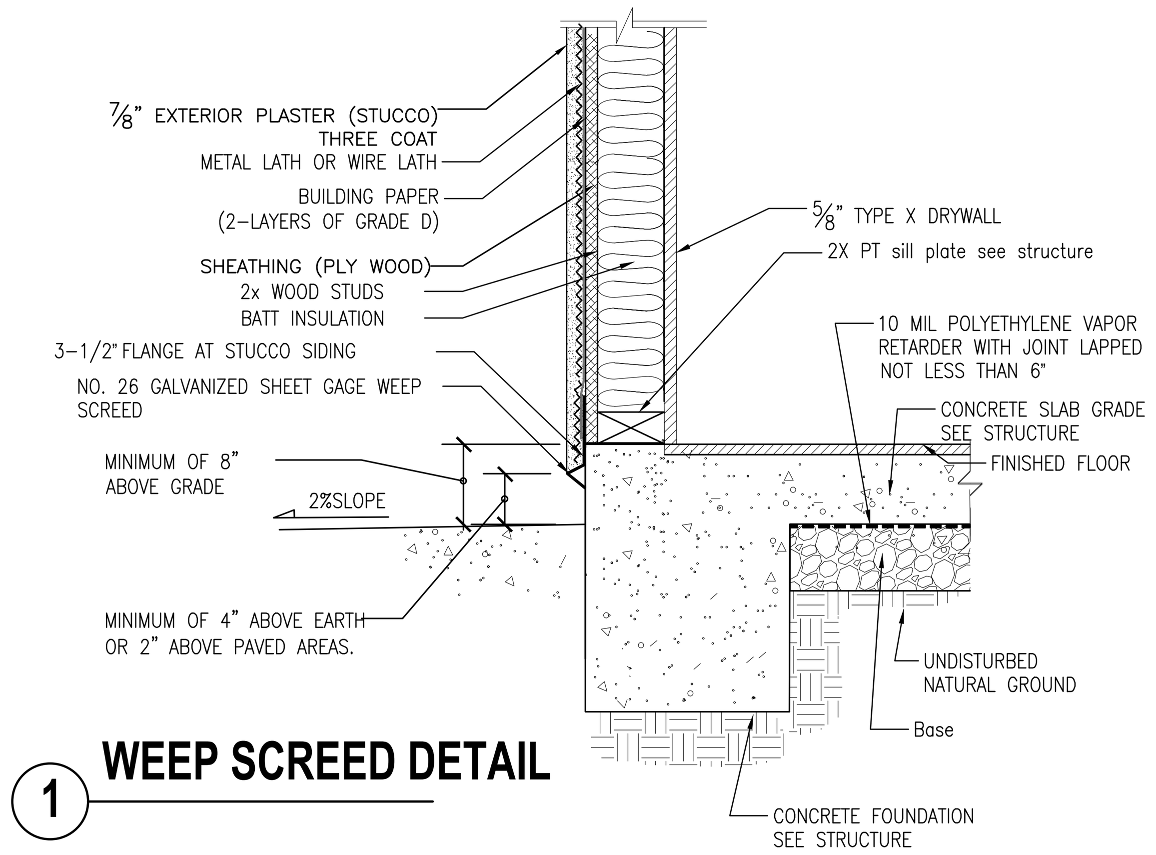
COMMENTS



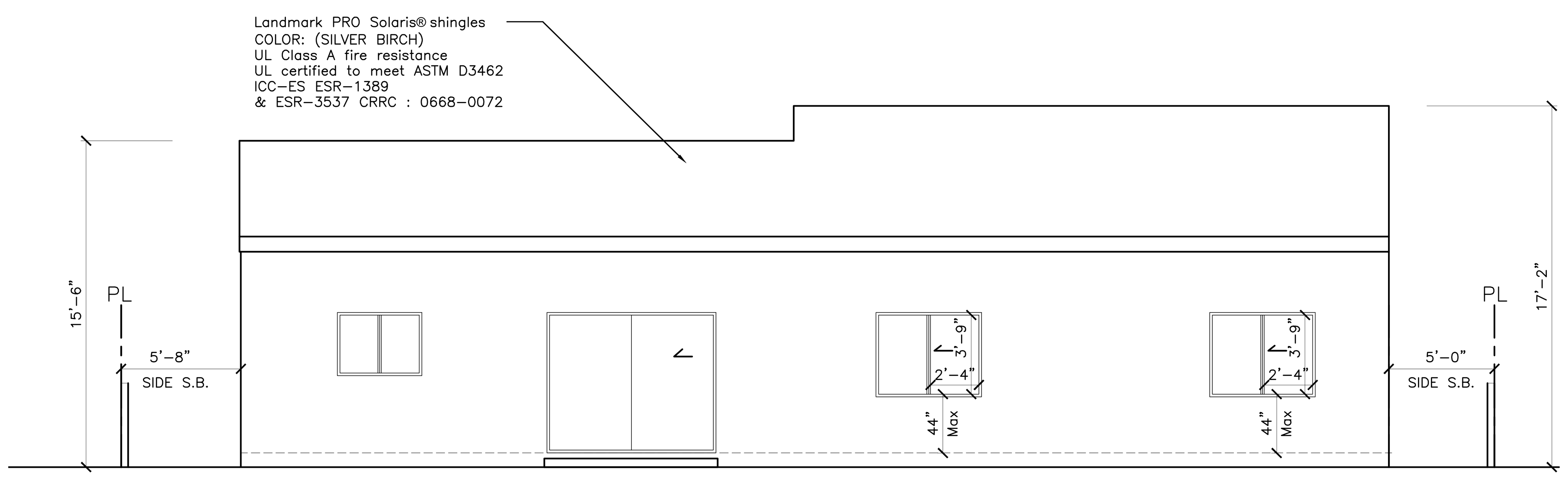

PROPOSED WEST ELEV.
SCALE: 3/16" = 1'-0"
ADU



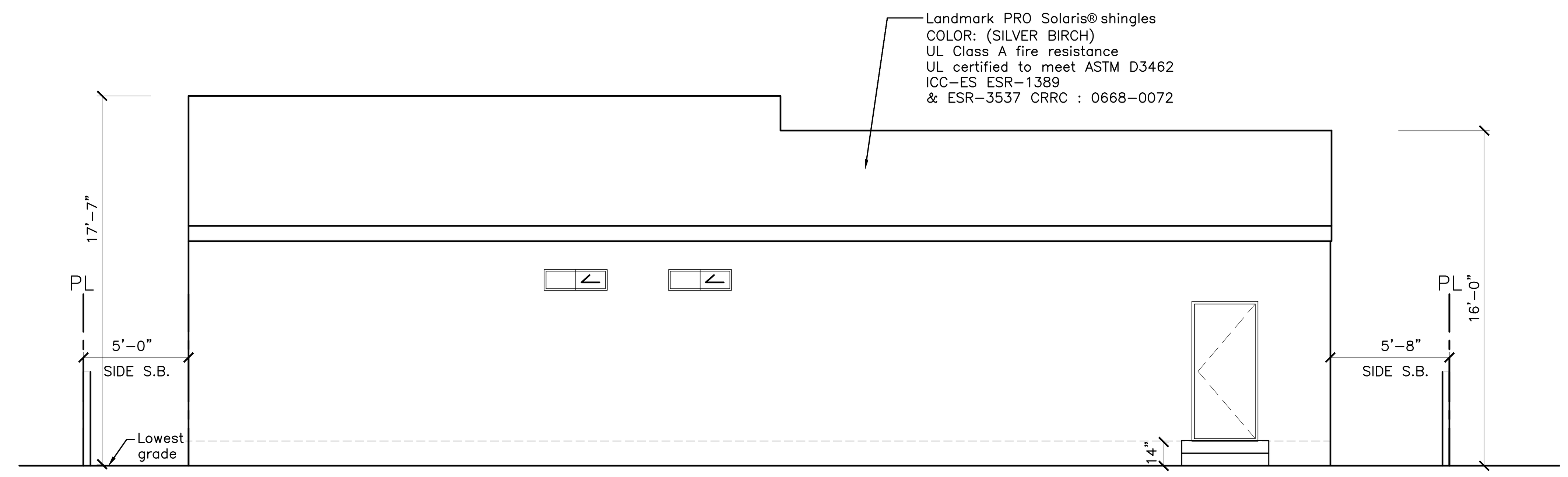

PROPOSED EAST ELEV.
SCALE: 3/16" = 1'-0"
ADU



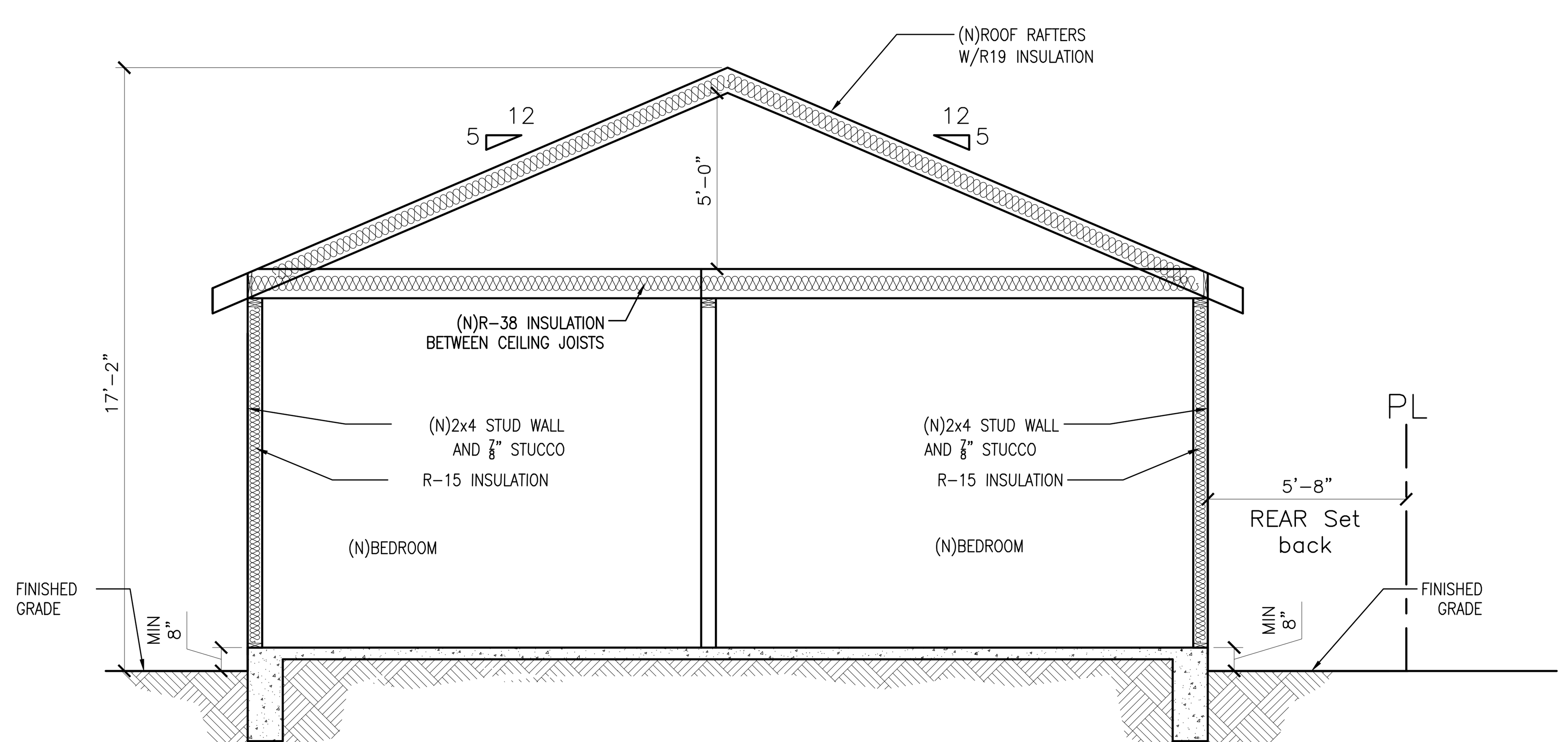

1 WEEP SCREED DETAIL



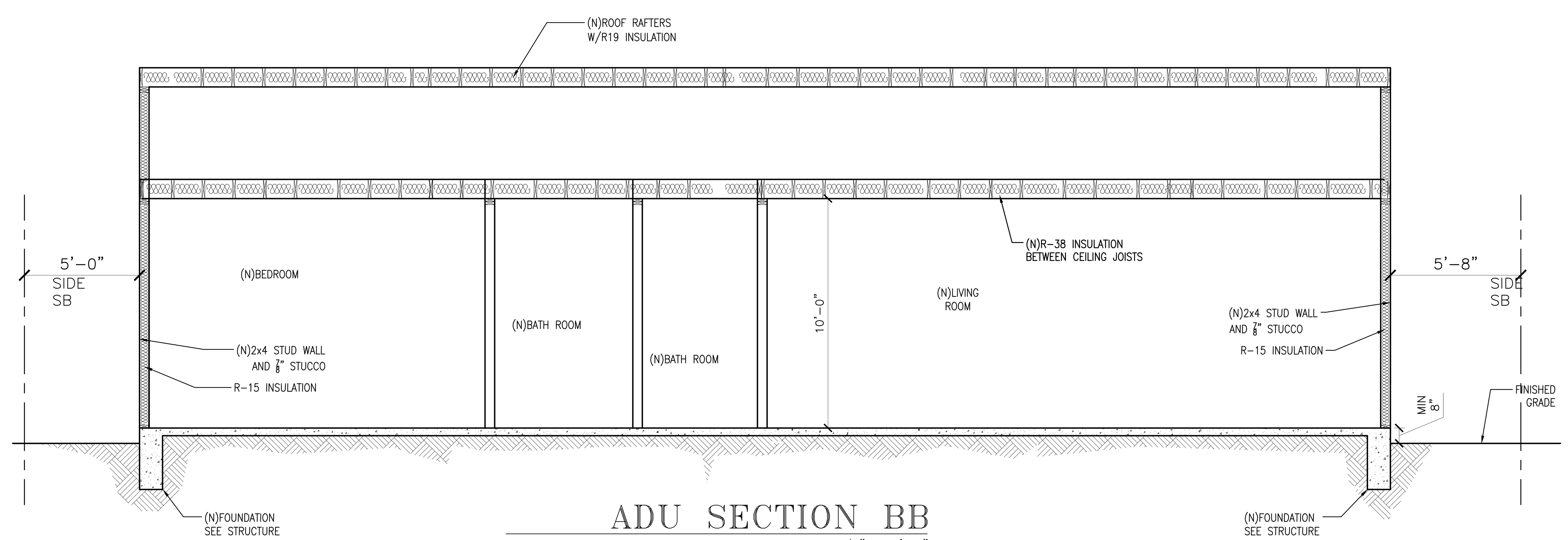

PROPOSED SOUTH ELEV.
SCALE: 3/16" = 1'-0"
ADU




PROPOSED NORTH ELEV.
SCALE: 3/16" = 1'-0"
ADU




ADU SECTION AA
SCALE: 1/4" = 1'-0"




ADU SECTION BB
SCALE: 1/4" = 1'-0"

| REV | DESCRIPTION | DATE |
|---|---|---|
| | | |

CONTENT ELEVATIONS AND SECTIONS

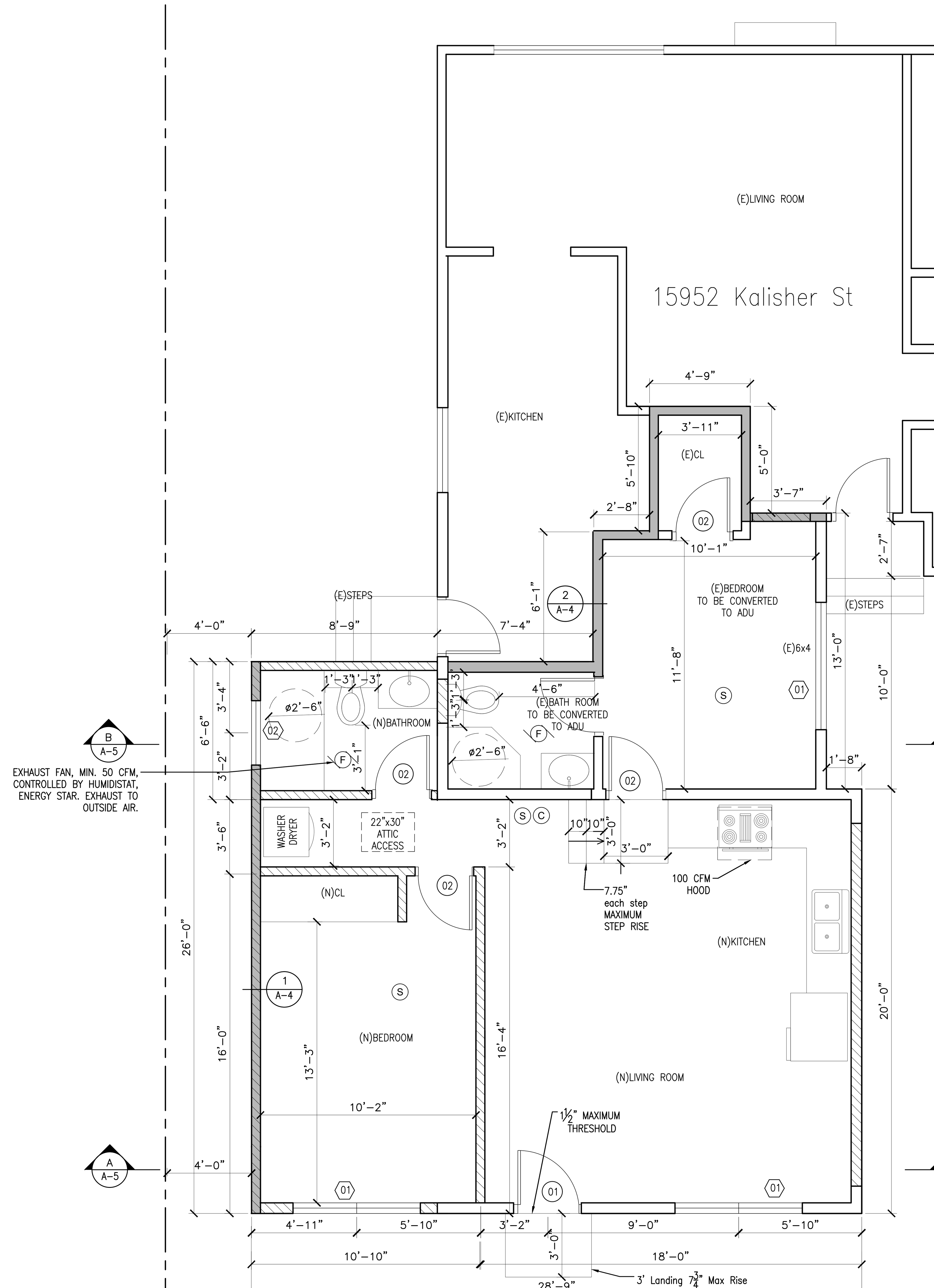
PROJECT 15954 Kalisher St, Granada Hills, CA 91344

DATE 06/16/2022

A-03

DESIGNED BY ARA HARTOONIAN

ARC - DETAIL




# ADU PLAN

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

| WINDOW SCHEDULE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WINDOW NUMBER | QUANTITY | WIDTH xHEIGHT | MATERIAL | OPERATION | U-FACTOR | SHGC | TEMPERED GLASS ? Y/N | STATUS | |
| 01 | 1 | 6'-0"X4'-0" | VINYL | SLIDING | 0.30 | 0.23 | N | NEW | |
| 02 | 1 | 3'-0"X1'-0" | VINYL | SLIDING | 0.30 | 0.23 | N | NEW | |

| DOOR SCHEDULE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| WINDOW NUMBER | QUANTITY | WIDTH xHEIGHT | MATERIAL | OPERATION | U-FACTOR | SHGC | NUMBER OF PANELS | TEMPERED GLASS ? Y/N | STATUS | PRODUCT LINE |
| 01 | 1 | 3'-0"X6'-8" | WOOD | SWING | | | | | NEW | 20 MINUTE FIRE RATED STC 50 |
| 02 | 2 | 2'-8"X6'-8" | WOOD | SWING | | | | | NEW | |

* NOTES BELOW APPLY TO ALL BATHROOM IN THE PROJECT

SHOWER COMPARTMENTS, SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1024 SQUARE INCHES AND SHALL ALSO BE CAPABLE OF ENCOMPASSING A 30 INCH CIRCLE.
TEMPERED GLASS ENCLOSURE SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEAD SHALL BE FINISHED WITH A NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 6 FT. ABOVE THE FLOOR. (CRC R307.2, CBC 1209.2.3)

* NOTES BELOW APPLY TO ALL DRYERS

1. A MINIMUM 4" MOISTURE EXHAUST DUCT MUST BE PROVIDED (CMC 504.4.2)
2. DRYER EXHAUST CANNOT EXCEED 14 FT. WITH A MAXIMUM OF TWO 90 DEG. ELBOWS (CMC 504.4.2.1)
3. A FLEXIBLE DUCT CANNOT EXTEND MORE THAN 6 FT. AND CANNOT BE CONCEALED (CMC 504.4.2.2)
4. DRYER CLOSET DOORS TO HAVE MIN. 100 SQ. INCH MAKE UP AIR VENT PER (CMC 504.4.1)

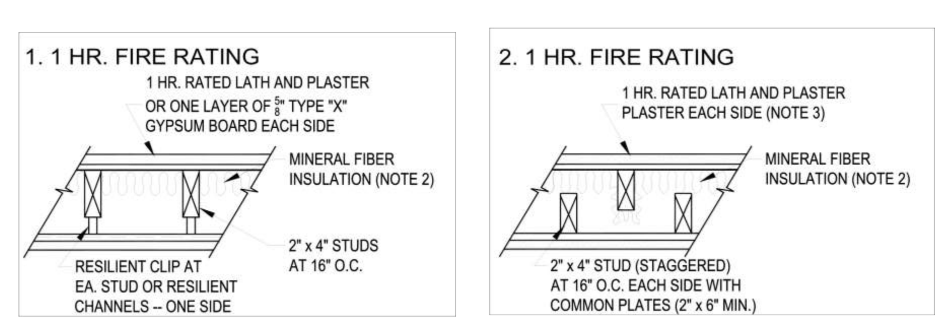
EXISTING WALL TO REMAIN.
NEW WALL
EXISTING WALL TO BE REMOVED.
EXISTING WALL TO BE MODIFIED AS ONE HOUR FIRE RATED AND STC-50
NEW ONE HOUR FIRE RATED WALL

(S) SMOKE DETECTOR, HARD WIRED - INTERCONNECTED.
($S_B$) SMOKE DETECTOR, BATTERY OPERATED.
(F) EXHAUST FAN, MIN. 50 CFM, CONTOLLED BY HUMIDISTAT, ENERGY STAR. EXHAUST TO OUTSIDE AIR. (NOTE #24 GRN-14/SHEET GR1)
(C) CARBON MONOXIDE DETECTOR - HARD WIRED & INTERCONNECTED

LA DBS DEPARTMENT OF BUILDING AND SAFETY

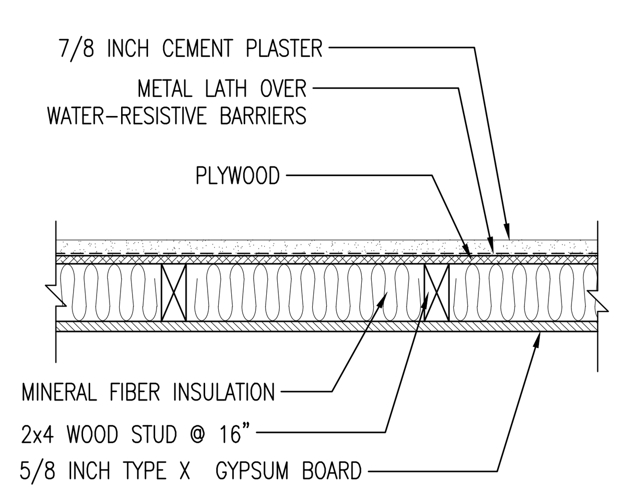
P/BC 2023-069

STANDARD SOUND RATED PARTITION ASEMBLIES
STC 50 – FIRE RATING AS SHOWN



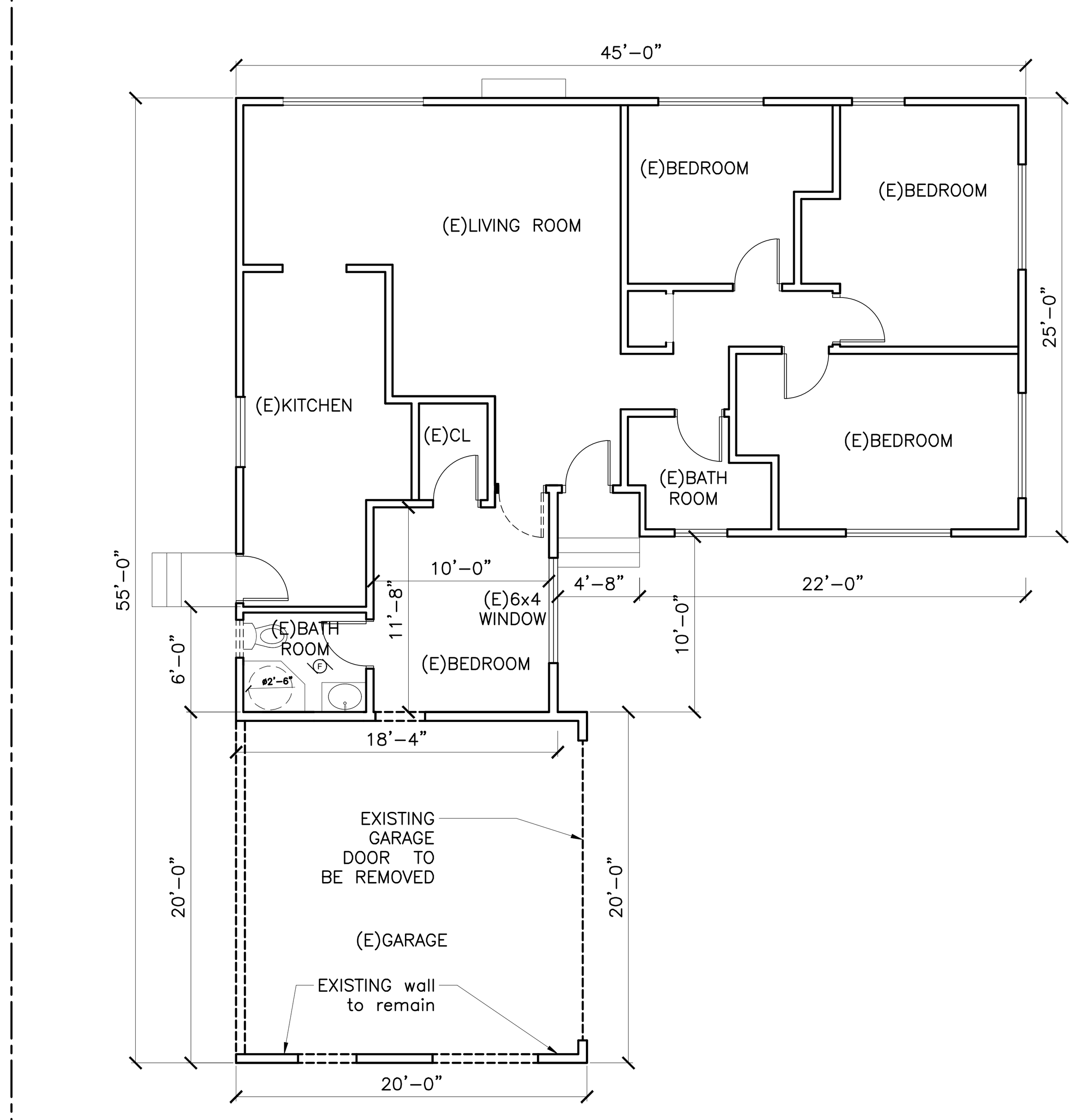

# 1-HOUR RATED WALL STC-50

SCALE: NTS (2)



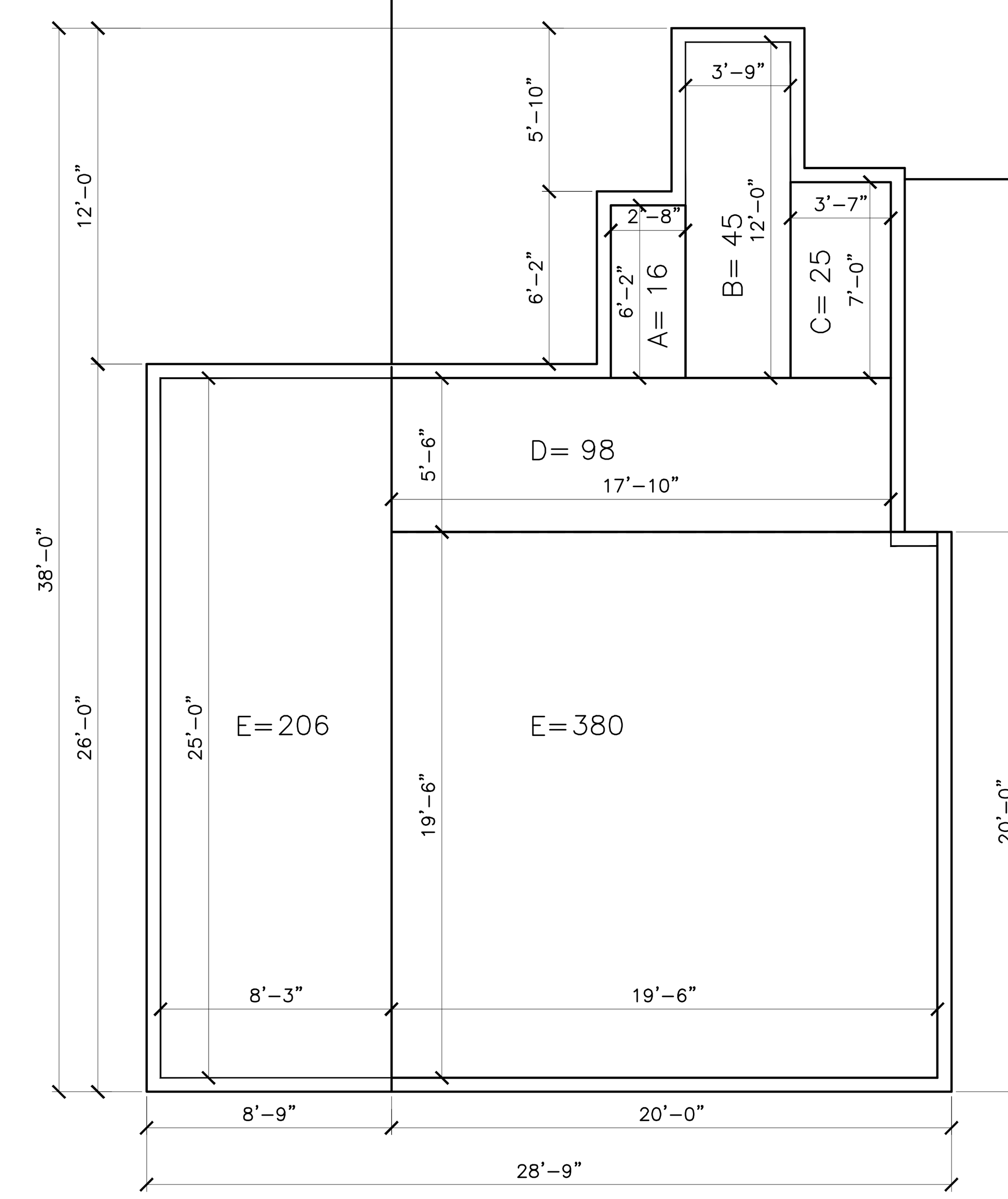

# 1-HOUR RATED WALL

SCALE: NTS (1)




# EXISTING AND DEMO PLAN

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




A+B+C+D=16+45+25+98=184 (PORTION OF EXISTING SFD)
E=380 ( EXISTING GARAGE)
D=206 ( NEW ADDITION)

Total ATTACHED ADU Zoning AREA=184+380+206= 770

SCHOOL FEE= 26X8.75+20X20=227.5+400=627.5

# AREA DIAGRAM

SCALE: 3/16" = 1'-0"

COMMENTS

| REV | DESCRIPTION | DATE |
|---|---|---|

CONTENT **PLANS**

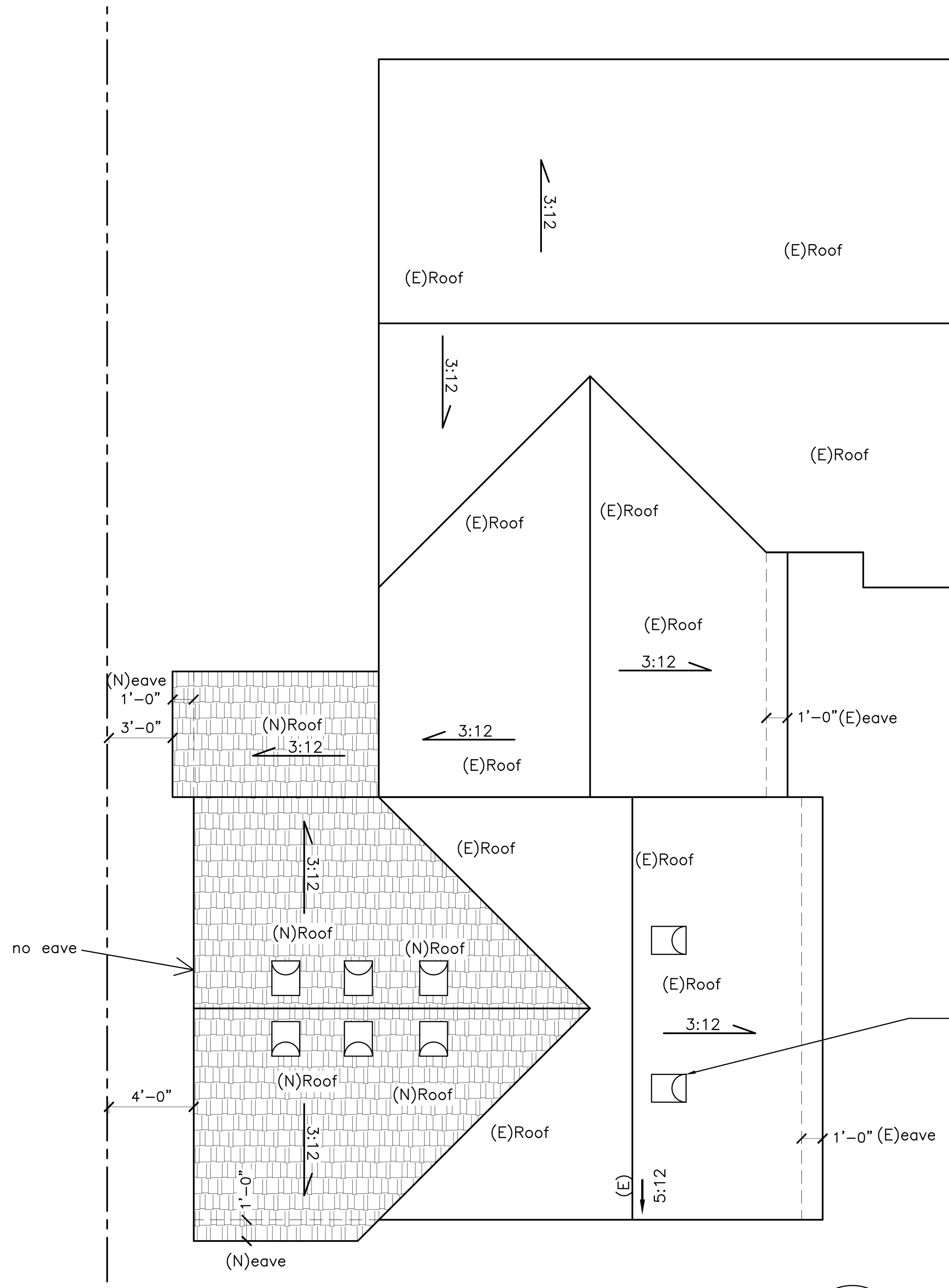
PROJECT **15950-15952 Kalisher St, Granada Hills, CA 91344**

DATE 06/16/2022

# A-04

DESIGNED BY ARA HARTOONIAN

ARC-DETAIL




(N)ADU ROOF PLAN

SCALE: 3/16" = 1'-0"

N

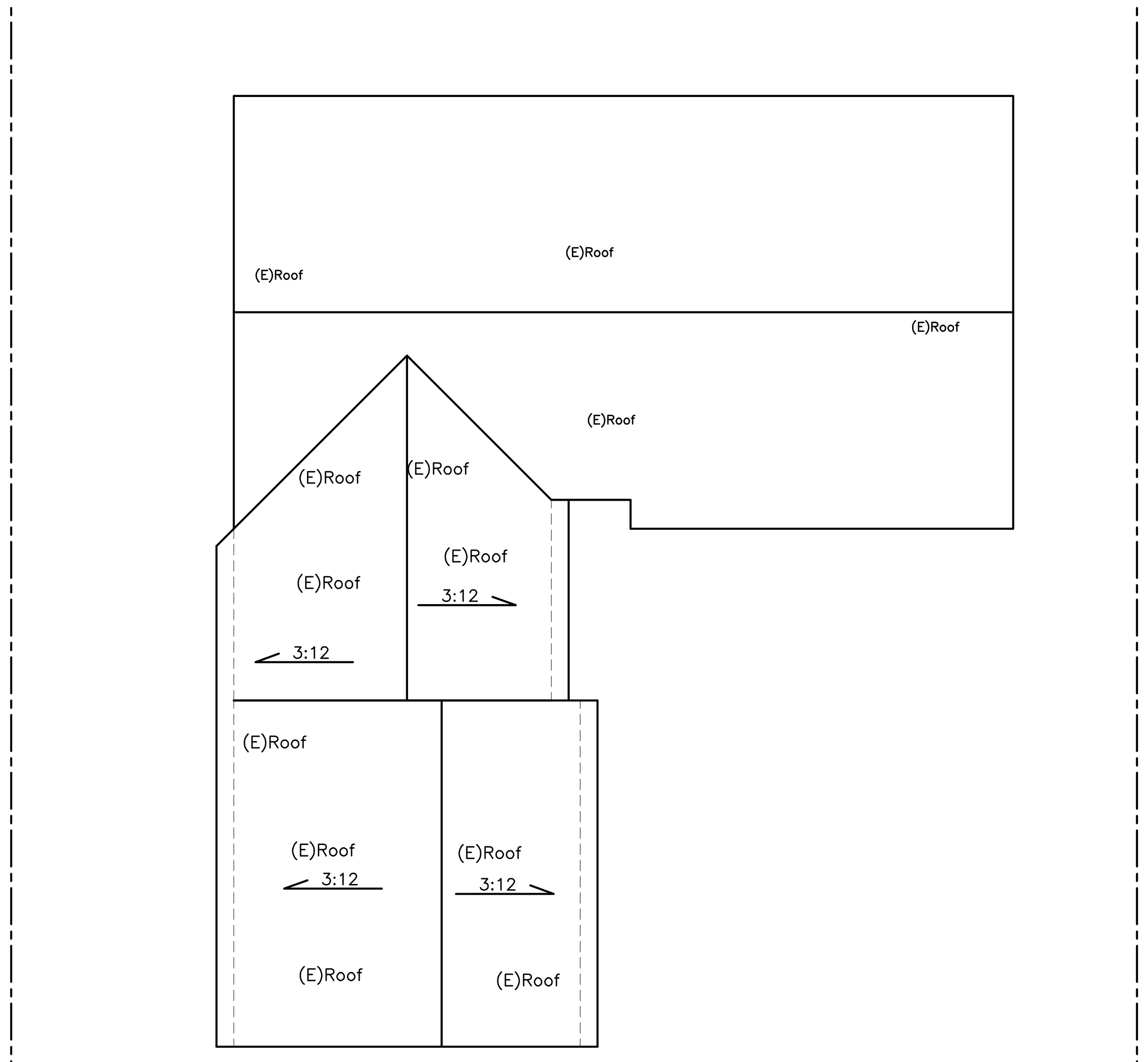
ATTIC SPACE VENTILATION CALCULATION:

Attic Area = 770770 / 150 = 5.1 sq. ft. required

Provide (8) ROOF Vents
100 SQ.IN. NET FREE OPENING EACH

PROVIDED 5.5 SQ FT > 5.1 SQ FT. REQUIRED

8 – 24 in. x 12 in. Galvanized
Steel Half–Round Dormer Vent
Net free area: 100 sq. in.

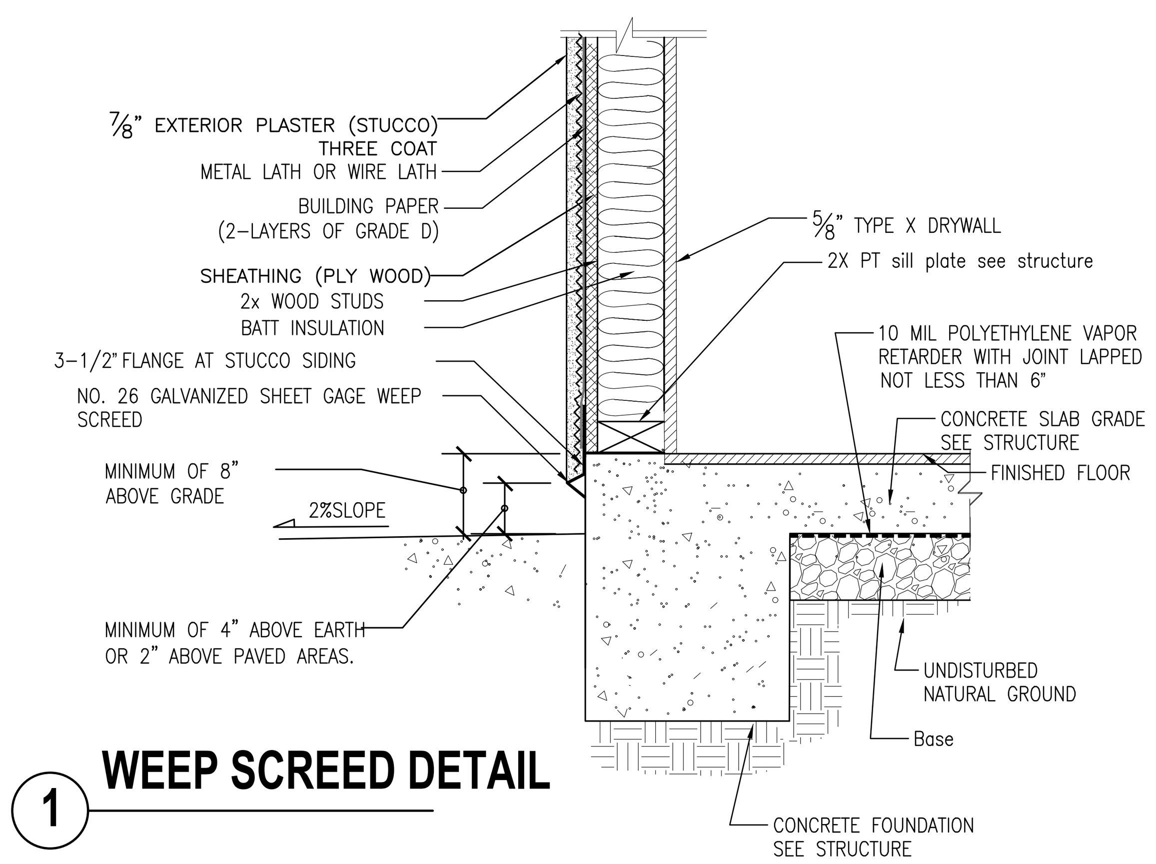



(E)SFD AND GARAGE ROOF PLAN

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

N

| CRRC PROD ID. | MANUFACTURER | BRAND AND MODEL | PRODUCT TYPE | COLOR | SOLAR REFLECTANCE INITIAL | SOLAR REFLECTANCE 3 YEAR | THERMAL EMITTANCE INITIAL | THERMAL EMITTANCE 3 YEAR | SRI INITIAL | SRI 3 YEAR |
|---|---|---|---|---|---|---|---|---|---|---|
| 0668-0072 | CertainTeed LLC | **Landmark®** Silver Birch<br>**Landmark® PRO** Silver Birch<br>**NorthGate™** Silver Birch<br>**Landmark Solaris®** Silver Birch<br>**Landmark PRO Solaris®** Silver Birch | Asphalt Shingle | Off-White | 0.26 | 0.27 | 0.90 | 0.89 | 27 | 27 |




1 WEEP SCREED DETAIL

COMMENTS

| REV | DESCRIPTION | DATE |
|---|---|---|

CONTENT **PLANS**

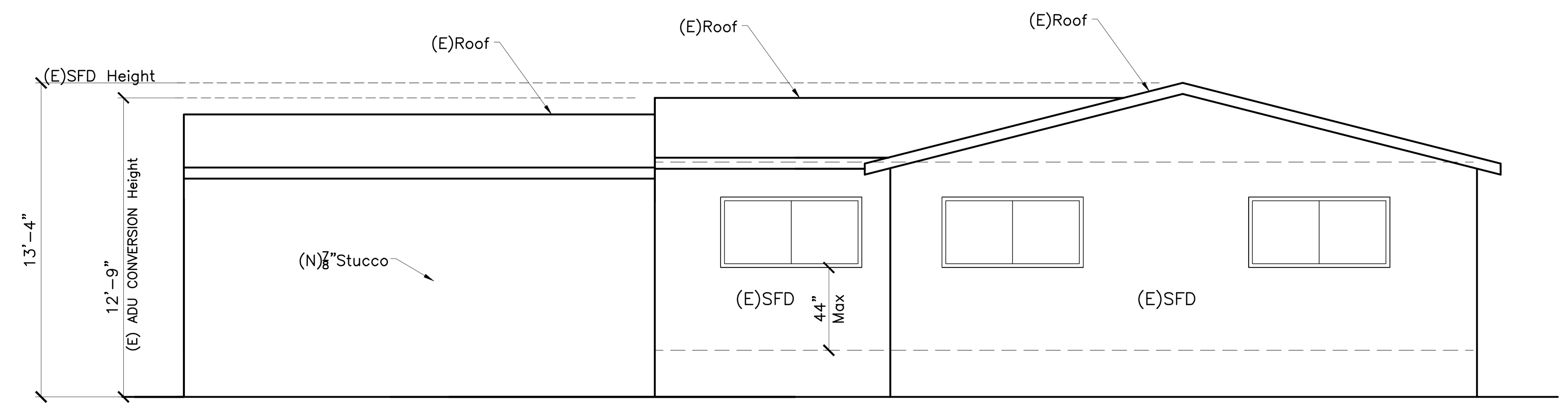
PROJECT **15950-15952 Kalisher St, Granada Hills, CA 91344**

DATE 06/16/2022

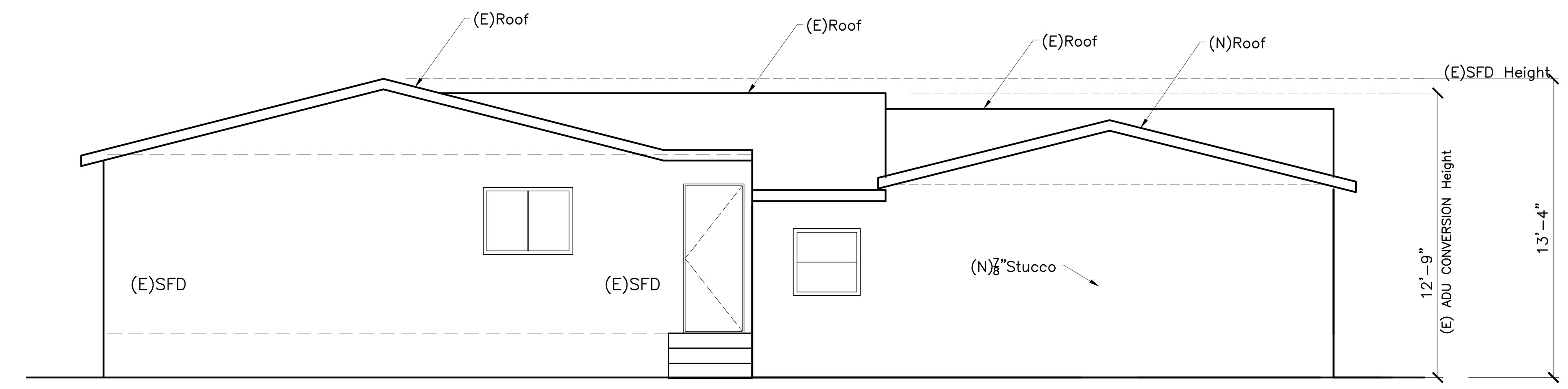
# A-05

DESIGNED BY ARA HARTOONIAN

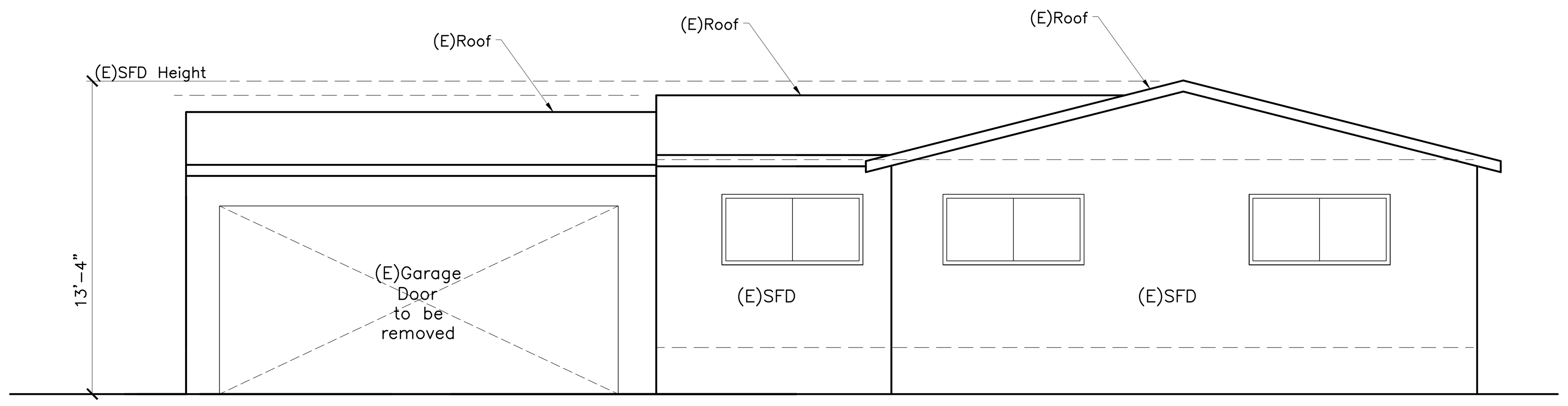
ARC-DETAIL



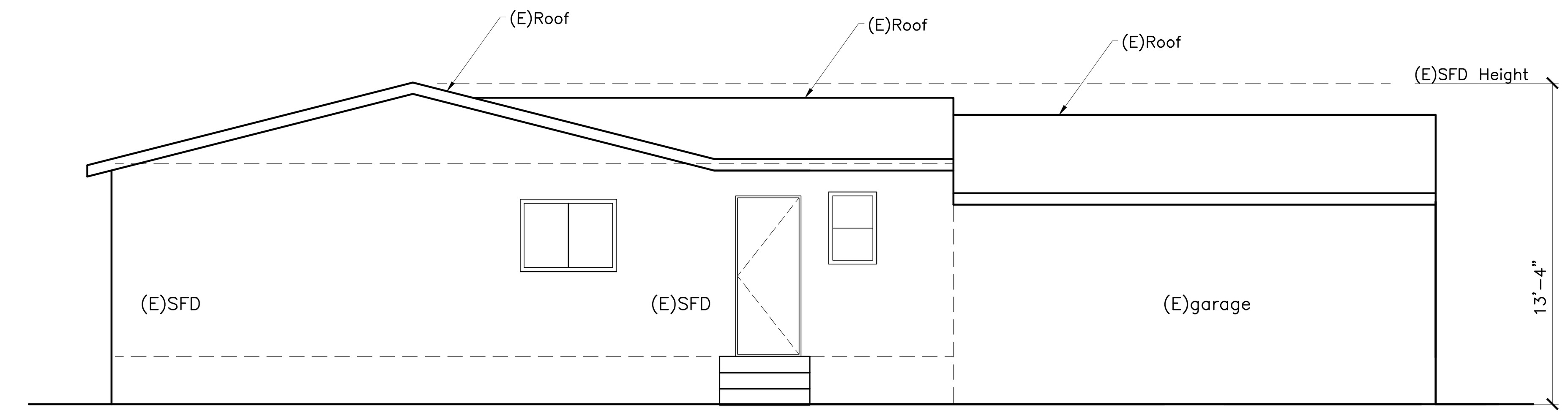

PROPOSED WEST ELEV.
SCALE: 3/16" = 1'-0"



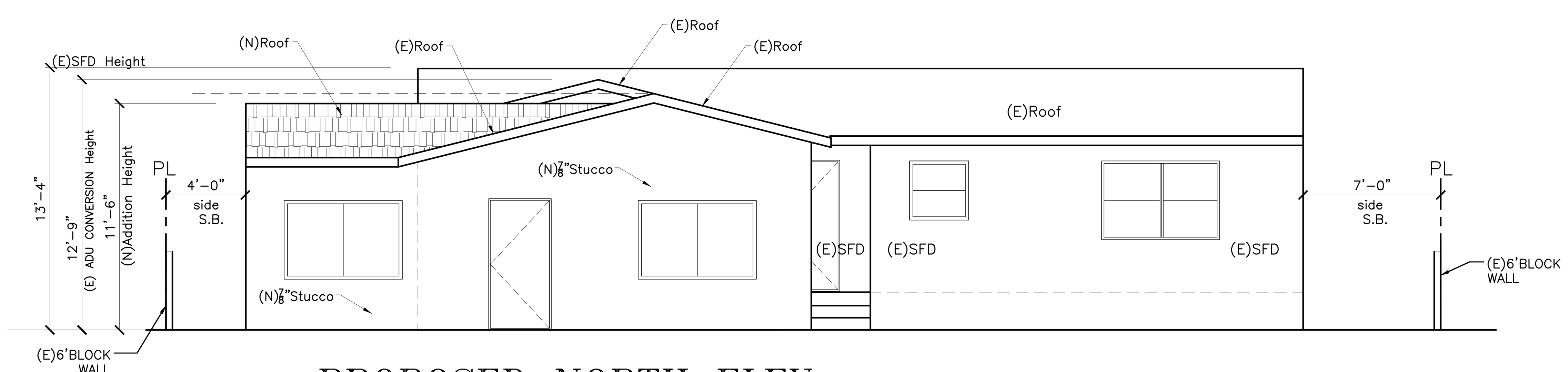

PROPOSED EAST ELEV.
SCALE: 3/16" = 1'-0"



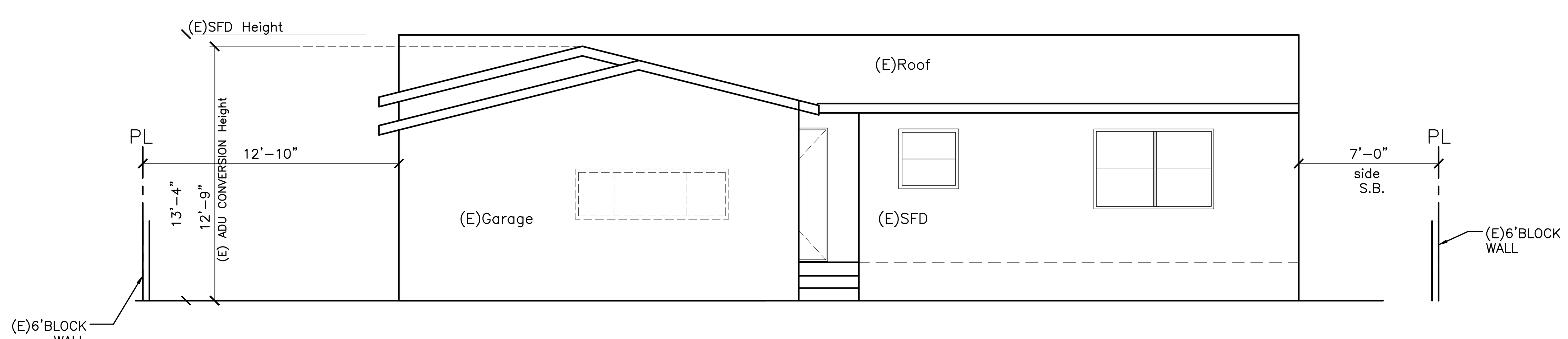

EXISTING WEST ELEV.
SCALE: 3/16" = 1'-0"



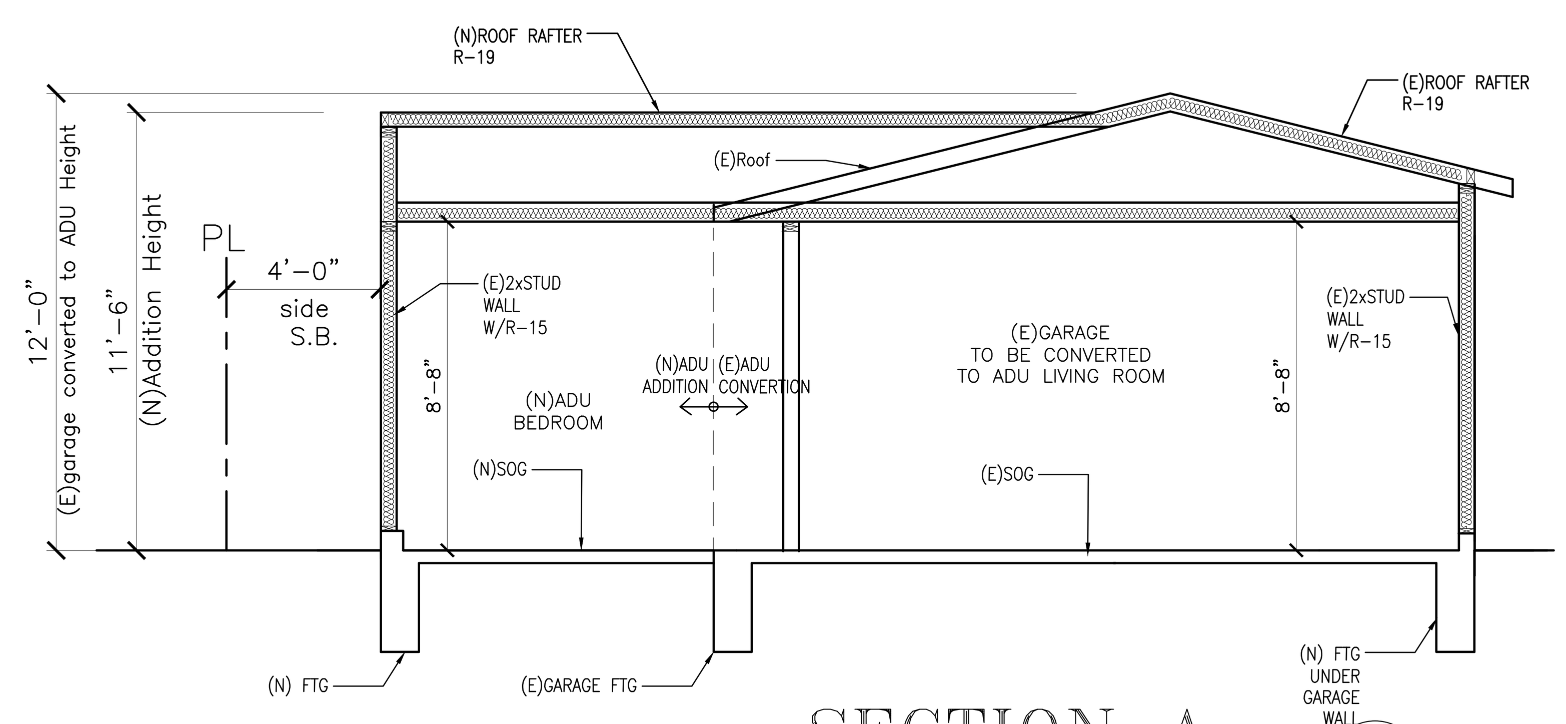

EXISTING EAST ELEV.
SCALE: 3/16" = 1'-0"



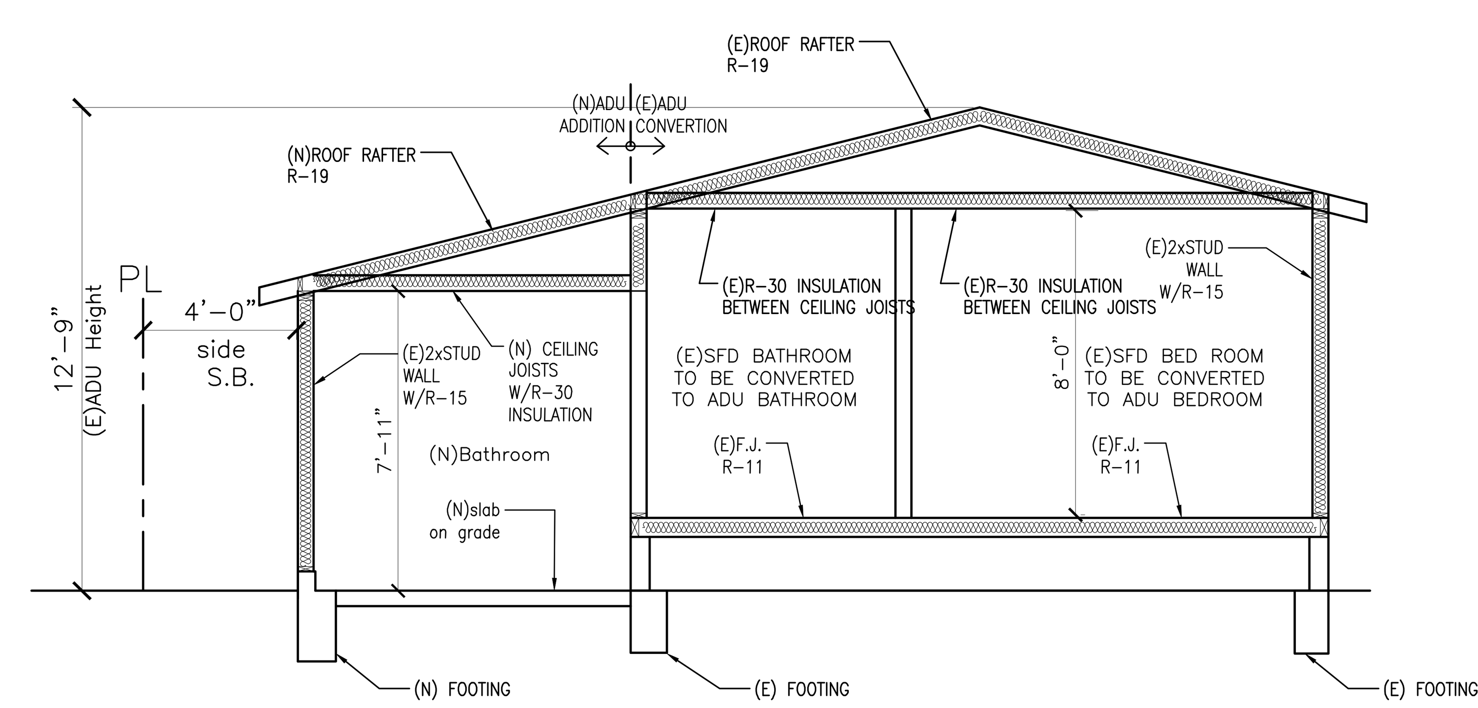

PROPOSED NORTH ELEV.
SCALE: 3/16" = 1'-0"




EXISTING NORTH ELEV.
SCALE: 3/16" = 1'-0"




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




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

COMMENTS

| REV | DESCRIPTION | DATE |
|---|---|---|
| | | |

CONTENT **ELEVATIONS AND SECTIONS**

PROJECT **15950-15952 Kalisher St, Granada Hills, CA 91344**

DATE 06/16/2022

# A-06

DESIGNED BY ARA HARTOONIAN

# FORM GRN 1

## STORM WATER POLLUTION CONTROL

(2023 Los Angeles Green Building Code)

Storm Water Pollution Control Requirements for Construction Activities
Minimum Water Quality Protection Requirements for All Construction Projects

**The following notes shall be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.**

Construction means constructing, clearing, grading or excavation that result in soil disturbance. Construction includes structure teardown (demolition). It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work. (Order No. 01-182, NPDES Permit No. CAS004001 – Part 5: Definitions)

1. Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet flow, swales, area drains, natural drainage or wind.
2. Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.
3. Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and shall not contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of properly and shall not be washed into the drainage system.
4. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.
5. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.
6. Trash and construction –related solid wastes must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.
7. Sediments and other materials shall not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the street/public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.
8. Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.
9. Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.





# FORM GRN 4

2023 Los Angeles Green Building Code

## MANDATORY REQUIREMENTS CHECKLIST

**NEWLY CONSTRUCTED RESIDENTIAL BUILDINGS**

**(COMPLETE AND INCORPORATE THIS FORM INTO THE PLANS)**

Permit # ___________ - ___________ - ___________ Date: ______________________

| ITEM # | CODE SECTION | REQUIREMENTS | REFERENCE SHEET (Sheet # or N/A) | COMMENTS (e.g. note #, detail # or reason for N/A) |
|---|---|---|---|---|
| | | **PLANNING AND DESIGN** | | |
| 1 | 4.106.2 | Storm water drainage and retention during construction | GR-1 | GRN 1 |
| 2 | 4.106.3 | Grading and paving | GR-1 | GRN 1 |
| 3 | 4.106.4 | Electric vehicle (EV) charging | A-01/A-03 | site plan / floor plan |
| 4 | 4.106.5 | Cool roof for reduction of heat island effect | GRN 1 / A-04 | GRN 14 / ROOF PLAN |
| 5 | 4.106.7 | Reduction of heat island effect for non-roof areas | GR-1/A-01 | GRN 14#4/ Site plan |
| | | **ENERGY EFFICIENCY** | | |
| 6 | 4.211.4 | Solar ready buildings | A-03 | ROOF PLAN |
| | | **WATER EFFICIENCY & CONSERVATION** | | |
| 7 | 4.303.1 | Water conserving plumbing fixtures and fittings | GR-1 | GRN 16 |
| 8 | 4.303.1.3.2 | Multiple showerheads serving one shower | GR-1 | GRN 14#6 |
| 9 | 4.303.3 | Water submeters | GR-1 | GRN 18#3 |
| 10 | 4.303.4 | Water use reduction | GR-1 | GRN 18#2 GRN 16 |
| 11 | 4.304.1 | Outdoor water use in landscape areas | NA | (E)LANDSCAPE |
| 12 | 4.304.2 | Irrigation controllers | NA | (E)LANDSCAPE |
| 13 | 4.304.3 | Metering outdoor water use | NA | (E)LANDSCAPE |
| 14 | 4.304.4 | Exterior faucets | NA | (E)LANDSCAPE |
| 15 | 4.304.5 | Swimming pool covers | NA | NO POOL |
| 16 | 4.305.1 | Graywater ready | NA | |
| 17 | 4.305.2 | Recycled water supply to fixtures | NA | |
| 18 | 4.305.3.1 | Cooling towers (buildings ≤ 25 stories) | NA | |
| 19 | 4.305.3.2 | Cooling towers (buildings > 25 stories) | NA | |
| 20 | 4.305.4 | Groundwater discharge | NA | |
| | | **MATERIAL CONSERVATION & RESOURCE EFFICIENCY** | | |
| 21 | 4.406.1 | Rodent proofing | GR-1 | GRN 14#9 |
| 22 | 4.407.3 | Flashing details | GR-1 | DETAIL 7 |





# FORM GRN 4

2023 Los Angeles Green Building Code

| ITEM # | CODE SECTION | REQUIREMENTS | REFERENCE SHEET (Sheet # or N/A) | COMMENTS (e.g. note #, detail # or reason for N/A) |
|---|---|---|---|---|
| 23 | 4.407.4 | Material protection | GR-1 | GRN 14#10 |
| 24 | 4.408.1 | Construction waste reduction | GR-1 | GRN 14#11 |
| 25 | 4.410.1 | Operation and maintenance manual | GR-1 | GRN 14#12 |
| | | **ENVIRONMENTAL QUALITY** | | |
| 26 | 4.503.1 | Fireplaces and woodstoves | NA | |
| 27 | 4.504.1 | Covering of duct openings and protection of mechanical equipment during construction | GR-1 | GRN 14#14 |
| 28 | 4.504.2 | Finish material pollutant control | GR-1 | GRN 14#15 |
| 29 | 4.504.2.1 | – Adhesives, sealants, caulks | GR-1 | GRN 14#15 |
| 30 | 4.504.2.2 | – Paints and coatings | | |
| 31 | 4.504.2.3 | – Aerosol paints and coatings | | |
| 32 | 4.504.2.4 | – Verification | GR-1 | GRN 14#16 |
| 33 | 4.504.3 | Carpet systems | GR-1 | GRN 14#17 |
| 34 | 4.504.3.1 | Carpet cushion | GR-1 | GRN 14#17 |
| 35 | 4.504.4 | Resilient flooring systems | GR-1 | GRN 14#18 |
| 36 | 4.504.5 | Composite wood products | GR-1 | GRN 14#19 |
| 37 | 4.504.6 | Filters | GR-1 | GRN 14#21 |
| 38 | 4.505.2.1 | Capillary break | S-1 | Foundation plan |
| 39 | 4.505.3 | Moisture content of building materials | GR-1 | GRN 14#10 |
| 40 | 4.506.1 | Bathroom exhaust fans | A-2 | Floor plan |
| 41 | 4.507.2 | Heating and air-conditioning system design | GR-1 | GRN 14#26 |





# FORM GRN 11

## VOC AND FORMALDEHYDE LIMITS

2023 Los Angeles Green Building Code
**(Incorporate this form into the plans)**

2020 Los Angeles Green Building Code Tables 4.504.1, 4.504.2, 4.504.3, 4.504.5, 5.504.4.1, 5.504.4.2, 5.504.4.3, 5.504.4.5

**VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS [2,3]**
**Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds**

| COATING CATEGORY [2,3] | CURRENT LIMIT |
|---|---|
| Flat coatings | 50 |
| Nonflat coatings | 50 |
| Nonflat-high gloss coatings | 50 |
| Specialty Coatings | |
| Aluminum roof coatings | 100 |
| Basement specialty coatings | 400 |
| Bituminous roof coatings | 50 |
| Bituminous roof primers | 350 |
| Bond breakers | 350 |
| Concrete curing compounds | 100 |
| Concrete curing compounds, Roadways & Bridges | 350 |
| Concrete/masonry sealers | 100 |
| Driveway sealers | 50 |
| Dry fog coatings | 50 |
| Faux finishing coatings | |
| Clear Top Coat | 100 |
| Decorative Coatings | 350 |
| Glazes | 350 |
| Japan | 350 |
| Trowel Applied Coatings | 50 |
| Fire resistive coatings | 150 |
| Floor coatings | 50 |
| Form-release compounds | 100 |
| Graphic arts coatings (sign paints) | 200 |
| High temperature coatings | 420 |
| Industrial maintenance coatings | 100 |
| Low solids coatings[1] | 120 |
| Magnesite cement coatings | 450 |
| Mastic texture coatings | 100 |
| Metallic pigmented coatings | 150 |
| Multicolor coatings | 250 |
| Pretreatment wash primers | 420 |
| Primers, sealers, and undercoaters | 100 |
| Reactive penetrating sealers | 350 |
| Recycled coatings | 250 |
| Roof coatings | 50 |
| Roof coatings, aluminum | 100 |
| Rust preventative coatings | 100 |
| Shellacs | |
| Clear | 730 |
| Opaque | 550 |
| Specialty primers, sealers and undercoaters | 100 |
| Stains | 100 |
| Stains, Interior | 250 |
| Stone consolidants | 450 |
| Swimming pool coatings | 340 |
| Traffic marking coatings | 100 |
| Tub and tile refinish coatings | 420 |
| Waterproofing membranes | 100 |
| Wood coatings | 275 |
| Wood preservatives | 350 |
| Zinc-rich primers | 100 |

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Some values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 5, 2016. More information is available from the Air Resources Board.

**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 |
| Particleboard | 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 California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333. For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of $^5/_{16}$ inches (8 mm).

**SEALANT VOC LIMIT**
**Less Water and Less Exempt Compounds in Grams per Liter**

| SEALANTS | CURRENT VOC LIMIT |
|---|---|
| Architectural | 50 |
| Marine deck | 760 |
| Nonmembrane roof | 300 |
| Roadway | 250 |
| Single-ply roof membrane | 450 |
| Other | 420 |
| **SEALANT PRIMERS** | |
| Architectural | |
| Nonporous | 250 |
| Porous | 775 |
| Modified bituminous 500 | 500 |
| Marine deck | 760 |
| Other | 750 |

Note: For additional information regarding methods to measure the VOC content specified in these tables, see South Coast Air Quality Management District Rule 1168.

**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 adhesive | 100 |
| Rubber floor adhesives | 60 |
| Subfloor adhesives | 50 |
| Ceramic tile adhesives | 65 |
| VCT and asphalt tile adhesives | 50 |
| Drywall and panel adhesives | 50 |
| Cove base adhesives | 50 |
| Multipurpose construction adhesives | 70 |
| Structural glazing adhesives | 100 |
| Single-ply roof membrane adhesives | 250 |
| Other adhesives not specifically listed | 50 |
| **SPECIALTY APPLICATIONS** | |
| PVC welding | 510 |
| CPVC welding | 490 |
| ABS welding | 325 |
| Plastic cement welding | 100 |
| Adhesive primer for plastic | 550 |
| Contact adhesive | 80 |
| Special purpose contact adhesive | 250 |
| Structural wood member adhesive | 140 |
| Top and 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, http://www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF.





# FORM GRN 14

2023 Los Angeles Green Building Code

## GREEN BUILDING CODE PLAN CHECK NOTES

**RESIDENTIAL BUILDINGS**

1. For each new dwelling and townhouse, provide a listed raceway that can accommodate a dedicated 208/240 volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. The panel or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE". (4.106.4.1)
2. For common parking area serving R-occupancies, the electrical system shall have sufficient capacity to simultaneously charge all designated EV spaces at the full rated amperage of the Electric Vehicle Supply Equipment (EVSE). Design shall be based upon a 40-ampere minimum branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the Los Angeles Electrical Code. (4.106.4.2)
3. Roofs with slopes < 2:12 shall have a 3-year aged SRI value of at least 75 or both a 3-year aged solar reflectance of at least 0.63 and a thermal emittance of at least 0.75. Roofs with slopes ≥ 2:12 shall have an aged SRI value of at least 16 or both a 3-year solar reflectance of at least 0.20 and a thermal emittance of at least 0.75. (4.106.5)
4. The required hardscape used to reduce heat island effects shall have a solar reflectance value of at least 0.30 as determined per ASTM E1918 or ASTM C1549. (4.106.7)
5. The flow rates for all plumbing fixtures shall comply with the maximum flow rates in Section 4.303.1. (4.303.1)
6. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads controlled by a single valve shall not exceed 2.0 gallons per minute at 80psi, or the shower shall be designed to only allow one showerhead to be in operation at a time. (4.303.1.3.2)
7. Installed automatic irrigation system controllers shall be weather- or soil-based controllers. (MWELO, § 492.7)
8. For projects that include landscape work, the *Landscape Certification*, Form GRN 12, shall be completed prior to final inspection approval. (State Assembly Bill No. 1881)
9. Annular spaces around pipes, electric cables, conduits, or other openings in the building's envelope at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry, or metal plates. Piping prone to corrosion shall be protected in accordance with Section 313.0 of the Los Angeles Plumbing Code. (4.406.1)
10. Materials delivered to the construction site shall be protected from rain or other sources of moisture. (4.407.4)
11. Only a City of Los Angeles permitted hauler will be used for hauling of construction waste. (4.408.1)
12. For all new equipment, an Operation and Maintenance Manual including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection. (4.410.1)
13. All new gas fireplaces must be direct-vent, sealed combustion type. Wood burning fireplaces are prohibited per AQMD Rule 445. (4.503.1, AQMD Rule 445)
14. All duct and other related air distribution component openings shall be covered with tape, plastic, or sheet metal until the final startup of the heating, cooling and ventilating equipment. (4.504.1)
15. Paints and coatings, adhesives, caulks and sealants shall comply with the Volatile Organic Compound (VOC) limits listed in Tables 4.504.1-4.504.3.
16. The *VOC Content Verification Checklist,* Form GRN 2, shall be completed and verified prior to final inspection approval. The manufacturer's specifications showing VOC content for all applicable products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.2.4)
17. All new carpet and carpet cushions installed in the building interior shall meet the testing and product requirements of one of the following (4.504.3):
    a. Carpet and Rug Institute's Green Label Plus Program
    b. California Department of Public Health's Specification 01350
    c. NSF/ANSI 140 at the Gold level
    d. Scientific Certifications Systems Indoor Advantage™ Gold
18. 80% of the total area receiving resilient flooring shall comply with one or more of the following (4.504.4):
    a. VOC emission limits defined in the CHPS High Performance Products Database
    b. Certified under UL GREENGUARD Gold
    c. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program
    d. Meet the California Department of Public Health's Specification 01350
19. New hardwood plywood, particle board, and medium density fiberboard composite wood products used in the building shall meet the formaldehyde limits listed in Table 4.504.5. (4.504.5)
20. The *Formaldehyde Emissions Verification Checklist,* Form GRN 3, shall be completed prior to final inspection approval. (4.504.5)
21. Mechanically ventilated buildings shall provide regularly occupied areas of the building with a MERV 13 filter for outside and return air. Filters shall be installed prior to occupancy and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. (4.504.6)
22. A 4-inch thick base of ½ inch or larger clean aggregate shall be provided for proposed slab on grade construction. A vapor barrier shall be provided in direct contact with concrete for proposed slab on grade construction. (4.505.2.1)
23. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed until it is inspected and found to be satisfactory. (4.505.3)
24. Newly installed bathroom exhaust fans shall be ENERGY STAR compliant and be ducted to terminate to the outside of the building. Fans must be controlled by a humidistat which shall be readily accessible. Provide the manufacturer's cut sheet for verification. (4.506.1)
25. A copy of the construction documents or a comparable document indicating the information from Energy Code Sections 110.10(b) through 110.10(c) shall be provided to the occupant." (Energy Code §110.10(d))
26. The heating and air-conditioning systems shall be sized and designed using ANSI/ACCA Manual J-2004, ANSI/ACCA 29-D-2009 or ASHRAE handbooks and have their equipment selected in accordance with ANSI/ACCA 36-S Manual S-2004. (4.507.2)





# FORM GRN 16

## PLUMBING FIXTURE FLOW RATES

**Residential Occupancies**
2023 Los Angeles Green Building Code
**(Incorporate this form into the plans)**

**SECTION 4.303.1**
**WATER REDUCTION FIXTURE FLOW RATES**

| FIXTURE TYPE | MAXIMUM ALLOWABLE FLOW RATE |
|---|---|
| Showerheads | 1.8 gpm @ 80 psi |
| Lavatory faucets, residential | 1.2 gpm @ 60 psi[1,3] |
| Lavatory faucets, nonresidential | 0.4 gpm @ 60 psi[1,3] |
| Kitchen faucets | 1.5 gpm @ 60 psi[2,4] |
| Metering Faucets | 0.2 gallons/cycle |
| Gravity tank type water closets | 1.28 gallons/flush[5] |
| Flushometer tank water closets | 1.28 gallons/flush[5] |
| Flushometer valve water closets | 1.28 gallons/flush[5] |
| Urinals | 0.125 gallons/flush |
| Clothes Washers | ENERGY-STAR certified |
| Dishwashers | ENERGY-STAR certified |

1 Lavatory Faucets shall not have a flow rate less than 0.8 gpm at 20 psi.
2 Kitchen faucets may temporarily increase flow above the maximum rate, but not above 2.2gpm @ 60psi and must default to a maximum flow rate of 1.8 gpm @ 60psi.
3 Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.
4 Kitchen faucets with a maximum 1.8 gpm flow rate may be installed in buildings that have water closets with a maximum flush rate of 1.06 gallons/flush installed throughout.
5 Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2.
Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.





# FORM GRN 18R

2023 Los Angeles Green Building Code

## WATER CONSERVATION NOTES - ORDINANCE #184248

**RESIDENTIAL BUILDINGS**

### PLUMBING SYSTEM

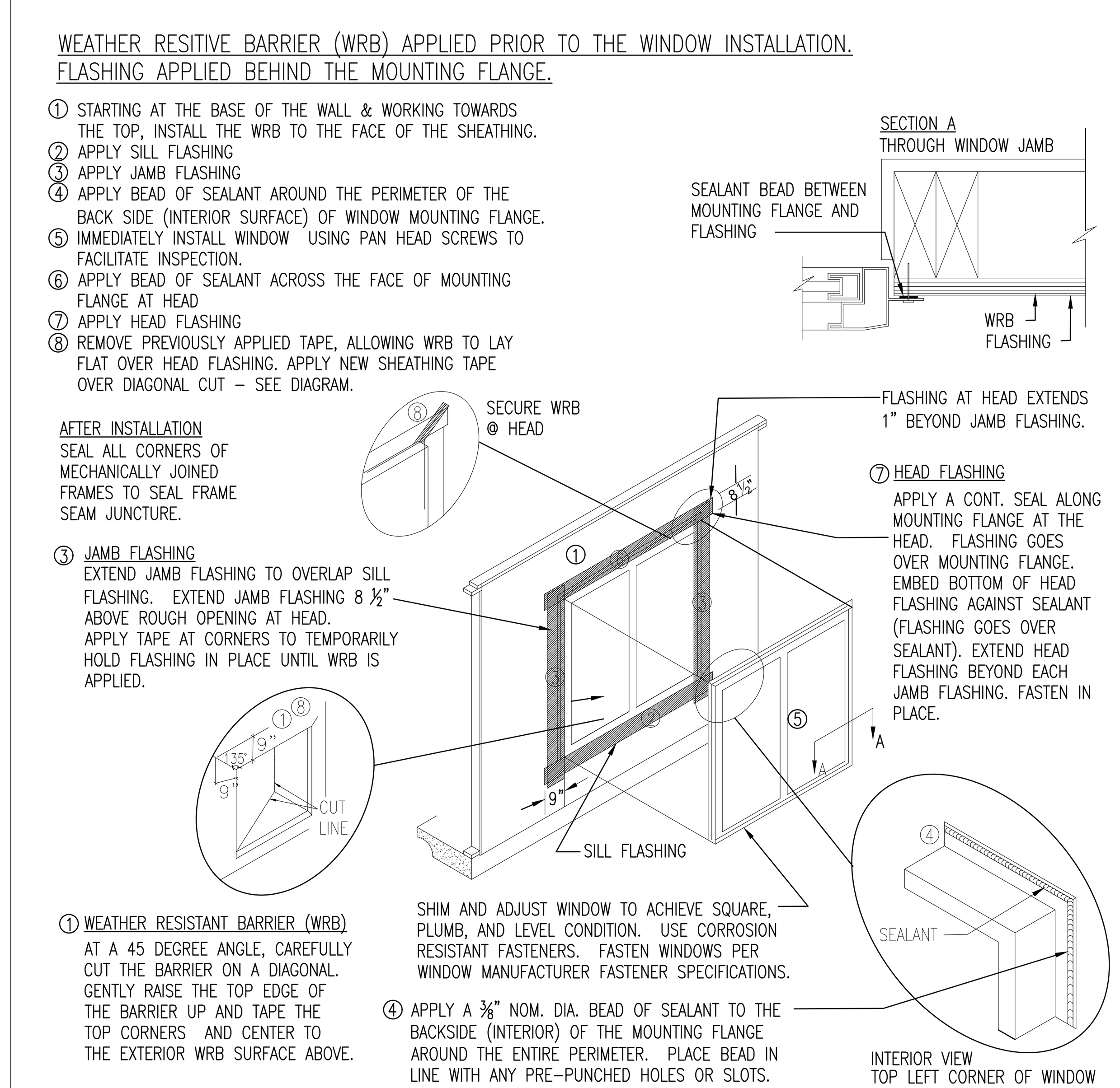
1. Multi-family dwellings not exceeding three stories and containing 50 units or less shall install a separate meter or submeter within common areas and within each individual dwelling unit. (4.303.3)
2. Water use reduction shall be met by complying with one of the following:
   A. Provide a 20% reduction in the overall potable water use within the building. The reduction shall be based on the maximum allowable water use for plumbing fixtures and fittings as required by the Los Angeles Plumbing Code. Calculations demonstrating a 20% reduction in the building "water use baseline", as established in Table 4.303.4.1, shall be provided; or
   B. New fixtures and fittings shall comply with the maximum flow rates shown in Table 4.303.4.2, or
   C. Plumbing fixtures shall use recycled water.
   **Exception:** Fixture replacements (4.303.4)
3. New building on a site with 500 square feet or more of cumulative landscape area shall have separate meters or submeters for outdoor water use. (4.304.3)
4. Additions and alterations on a site with 500 square feet or more of cumulative landscape area and where the entire potable water system is replaced, shall have separate meters or submeters for outdoor water use. (4.304.3)
5. In other than single family dwellings, locks shall be installed on all publicly accessible exterior faucets and hose bibs. (4.304.4)
6. Provide a cover having a manual or power-operated reel system in any permanently installed outdoor in-ground swimming pool or spa in one- and two-family dwellings. For irregular-shaped pools where it is infeasible to cover 100% of the pool due to its irregular shape, a minimum of 80% of the pool shall be covered. (4.304.5)
7. Except as provided in this section, for sites with over 500 square feet of landscape area, alternate waste piping shall be installed to permit discharge from the clothes washer, bathtub, showers, and bathroom/restrooms wash basins to be used for a future graywater irrigation system. (4.305.1)
8. Except as provided in this section, where City-recycled water is available within 200 feet of the property line, water closets, urinals, floor drains, and process cooling and heating in the building shall be supplied from recycled water and shall be installed in accordance with the Los Angeles Plumbing Code. (4.305.2)
9. In new buildings of 25 stories or less, the cooling towers shall comply with one of the following:
   A. Shall have a minimum of 6 cycles of concentration (blowdown); or
   B. A minimum of 50% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (4.305.3.1)
10. In new buildings over 25 stories, the cooling towers shall comply with all of the following:
    A. Shall have a minimum of 6 cycles of concentration (blowdown); and
    B. 100% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (4.305.3.2)
11. Where groundwater is being extracted and discharged, develop and construct a system for onsite reuse of the groundwater. Alternatively, the groundwater may be discharged to the sewer. (4.305.4)
12. Provide a hot water system complying with one of the following (Los Angeles Plumbing Code Section 610.4.1):
    A. The hot water system shall not allow more than 0.6 gallons of water to be delivered to any fixture before hot water arrives.
    B. Where a hot water recirculation or electric resistance heat trace wire system is installed, the branch from the recirculating loop or electric resistance heat trace wire to the fixture shall contain a maximum of 0.6 gallons.
    C. Residential units having individual water heaters shall have a compact hot water system that meets all of the following:
       a. The hot water supply piping from the water heater to the fixtures shall take the most direct path.
       b. The total developed length of pipe from the water heater to farthest fixture shall not exceed the distances specified in Table 3.6.5 of the California Energy Code Residential Appendix.
       c. The hot water supply piping shall be installed and insulated in accordance with Section RA3.6.2 of the California Energy Code Residential Appendix.

### IRRIGATION SYSTEM

12. A water budget for landscape irrigation use that conforms to the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) is required for new landscape areas of 500 sq. ft. or more. The following methods to reduce potable water use in landscape areas include, but are not limited to, use of captured rainwater, recycled water, graywater, or water treated for irrigation purposes and conveyed by a water district or public entity. (4.304.1)








WINDOW FLASHING DETAILS 7
SCALE: NTS

COMMENTS

| REV | DESCRIPTION | DATE |
|---|---|---|

CONTENT: GREEN

PROJECT: 15954 Kalisher St, Granada Hills, CA 91344

DATE 06/16/2022

G-1

DESIGNED BY ARA HARTOONIAN

ARC-DETAIL

## STORM WATER POLLUTION CONTROL

(2023 Los Angeles Green Building Code)

**FORM GRN 1**

Storm Water Pollution Control Requirements for Construction Activities
Minimum Water Quality Protection Requirements for All Construction Projects

**The following notes shall be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.**

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1. Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet flow, swales, area drains, natural drainage or wind.
2. Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.
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4. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.
5. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.
6. Trash and construction –related solid wastes must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.
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8. Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.
9. Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.





2023 Los Angeles Green Building Code

**FORM GRN 9**

**MANDATORY REQUIREMENTS CHECKLIST**

**ADDITIONS AND ALTERATIONS TO RESIDENTIAL BUILDINGS**

**(COMPLETE AND INCORPORATE THIS FORM INTO THE PLANS)**

Permit # ___________ - ___________ - ___________ Date: ___________________

| ITEM # | CODE SECTION | REQUIREMENT | REFERENCE SHEET (Sheet # or N/A) | COMMENTS (e.g. note #, detail # or reason for N/A) |
|---|---|---|---|---|
| | | **PLANNING AND DESIGN** | | |
| 1 | 4.106.2 | **Storm water drainage and retention during construction** | A1.1 | GRN 1 |
| 2 | 4.106.3 | **Grading and paving** | A0 | NO NEW PAVING |
| 3 | 4.106.5 | **Cool roof (additions ≥ 500 sq. ft. or ≥ 50%)** | N/A | LESS THAN 500SF |
| | | **ENERGY EFFICIENCY** | | |
| 4 | 4.211.4 | **Solar ready (additions ≥ 2,000 sq. ft.)** | N/A | NO SOLAR REQD |
| | | **WATER EFFICIENCY & CONSERVATION** | | |
| 5 | 4.303.1 | **Water conserving plumbing fixtures and fittings** | A1.1 | GRN 14, NOTE #5 |
| 6 | 4.303.1.3.2 | **Multiple showerheads serving one shower** | A1.1 | GRN 14, NOTE #6 |
| 7 | 4.303.4 | **Water use reduction** | A1.1 | GRN 16 |
| 8 | 4.304.1 | **Outdoor water use in landscape areas** | N/A | N/A |
| 9 | 4.304.2 | **Irrigation controllers** | A0, A2 | GRN 14, NOTE #7 |
| 10 | 4.304.3 | **Metering outdoor water use** | A0, A2 | GENERAL NOTES |
| 11 | 4.304.4 | **Exterior faucets** | N/A | SINGLE FAM. DWELL |
| 12 | 4.304.5 | **Swimming pool covers** | N/A | NO POOL WORK |
| 13 | 4.305.1 | **Graywater ready** | N/A | (E) BLDG. DRAIN |
| 14 | 4.305.2 | **Recycled water supply to fixtures** | N/A | (E) PLUMB. SYS. |
| 15 | 4.305.3.1 | **Cooling towers (buildings ≤ 25 stories)** | N/A | NO TOWER |
| 16 | 4.305.3.2 | **Cooling towers (buildings > 25 stories)** | N/A | NO TOWER |
| | | **MATERIAL CONSERVATION & RESOURCE EFFICIENCY** | | |
| 17 | 4.406.1 | **Rodent proofing** | A1.1 | GRN 14, NOTE #9 |
| 18 | 4.407.3 | **Flashing details** | A3 | A3 - DETAIL 6.1 |
| 19 | 4.407.4 | **Material protection** | A1.1 | GRN 14, NOTE #10 |
| 20 | 4.408.1 | **Construction waste reduction** | A1.1 | GRN 14, NOTE #11 |
| 21 | 4.410.1 | **Operation and maintenance manual** | A1.1 | GRN 14, NOTE #12 |
| | | **ENVIRONMENTAL QUALITY** | | |
| 22 | 4.503.1 | **Fireplaces and woodstoves** | N/A | NO FIREPLACE |





2023 Los Angeles Green Building Code

**FORM GRN 9**

| ITM # | CODE SECTION | REQUIREMENT | REFERENCE SHEET (Sheet # or N/A) | COMMENTS (e.g. note #, detail # or reason for N/A) |
|---|---|---|---|---|
| 23 | 4.504.1 | **Covering of duct openings and protection of mechanical equipment during construction** | A1.1 | GRN 14, NOTE #14 |
| 24 | 4.504.2 | **Finish material pollutant control** | A1.1 | GRN 14, NOTE #15 |
| 25 | 4.504.2.1 | **– Adhesives, sealants, caulks** | | |
| 26 | 4.504.2.2 | **– Paints and coatings** | | |
| 27 | 4.504.2.3 | **– Aerosol paints and coatings** | | |
| 28 | 4.504.2.4 | **– Verification** | A1.1 | GRN 14, NOTE #16 |
| 29 | 4.504.3 | **Carpet systems** | A1.1 | GRN 14, NOTE #17 |
| 30 | 4.504.3.1 | **Carpet cushion** | A1.1 | GRN 14, NOTE #17 |
| 31 | 4.504.4 | **Resilient flooring systems** | A1.1 | GRN 14, NOTE #18 |
| 32 | 4.504.5 | **Composite wood products** | A1.1 | GRN 14, NOTE #19 |
| 33 | 4.504.6 | **Filters** | A1.1 | GRN 14, NOTE #21 |
| 34 | 4.505.2.1 | **Capillary break** | A3 | FOUNDATION PLAN |
| 35 | 4.505.3 | **Moisture content of building materials** | A1.1 | GRN 14, NOTE #23 |
| 36 | 4.506.1 | **Bathroom exhaust fans** | A0, A2 | GENERAL NOTES |
| 37 | 4.507.2 | **Heating and air-conditioning system design** | A1.1 | GRN 14, NOTE #26 |





## VOC AND FORMALDEHYDE LIMITS

2023 Los Angeles Green Building Code

**(Incorporate this form into the plans)**

**FORM GRN 11**

2020 Los Angeles Green Building Code Tables 4.504.1, 4.504.2, 4.504.3, 4.504.5, 5.504.4.1, 5.504.4.2, 5.504.4.3, 5.504.4.5

**VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS [2,3]**
**Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds**

| COATING CATEGORY [2,3] | CURRENT LIMIT |
|---|---|
| Flat coatings | 50 |
| Nonflat coatings | 50 |
| Nonflat-high gloss coatings | 50 |
| Specialty Coatings | |
| Aluminum roof coatings | 100 |
| Basement specialty coatings | 400 |
| Bituminous roof coatings | 50 |
| Bituminous roof primers | 350 |
| Bond breakers | 350 |
| Concrete curing compounds | 100 |
| Concrete curing compounds, Roadways & Bridges | 350 |
| Concrete/masonry sealers | 100 |
| Driveway sealers | 50 |
| Dry fog coatings | 50 |
| Faux finishing coatings | |
| Clear Top Coat | 100 |
| Decorative Coatings | 350 |
| Glazes | 350 |
| Japan | 350 |
| Trowel Applied Coatings | 50 |
| Fire resistive coatings | 150 |
| Floor coatings | 50 |
| Form-release compounds | 100 |
| Graphic arts coatings (sign paints) | 200 |
| High temperature coatings | 420 |
| Industrial maintenance coatings | 100 |
| Low solids coatings[1] | 120 |
| Magnesite cement coatings | 450 |
| Mastic texture coatings | 100 |
| Metallic pigmented coatings | 150 |
| Multicolor coatings | 250 |
| Pretreatment wash primers | 420 |
| Primers, sealers, and undercoaters | 100 |
| Reactive penetrating sealers | 350 |
| Recycled coatings | 250 |
| Roof coatings | 50 |
| Roof coatings, aluminum | 100 |
| Rust preventative coatings | 100 |
| Shellacs | |
| Clear | 730 |
| Opaque | 550 |
| Specialty primers, sealers and undercoaters | 100 |
| Stains | 100 |
| Stains, Interior | 250 |
| Stone consolidants | 450 |
| Swimming pool coatings | 340 |
| Traffic marking coatings | 100 |
| Tub and tile refinish coatings | 420 |
| Waterproofing membranes | 100 |
| Wood coatings | 275 |
| Wood preservatives | 350 |
| Zinc-rich primers | 100 |

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Some values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 5, 2016. More information is available from the Air Resources Board.

**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 |
| Particleboard | 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 California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333. For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of $^5/_{16}$ inches (8 mm).

**SEALANT VOC LIMIT**
**Less Water and Less Exempt Compounds in Grams per Liter**

| SEALANTS | CURRENT VOC LIMIT |
|---|---|
| Architectural | 50 |
| Marine deck | 760 |
| Nonmembrane roof | 300 |
| Roadway | 250 |
| Single-ply roof membrane | 450 |
| Other | 420 |
| **SEALANT PRIMERS** | |
| Architectural | |
| Nonporous | 250 |
| Porous | 775 |
| Modified bituminous 500 | 500 |
| Marine deck | 760 |
| Other | 750 |

Note: For additional information regarding methods to measure the VOC content specified in these tables, see South Coast Air Quality Management District Rule 1168.

**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 adhesive | 100 |
| Rubber floor adhesives | 60 |
| Subfloor adhesives | 50 |
| Ceramic tile adhesives | 65 |
| VCT and asphalt tile adhesives | 50 |
| Drywall and panel adhesives | 50 |
| Cove base adhesives | 50 |
| Multipurpose construction adhesives | 70 |
| Structural glazing adhesives | 100 |
| Single-ply roof membrane adhesives | 250 |
| Other adhesives not specifically listed | 50 |
| **SPECIALTY APPLICATIONS** | |
| PVC welding | 510 |
| CPVC welding | 490 |
| ABS welding | 325 |
| Plastic cement welding | 100 |
| Adhesive primer for plastic | 550 |
| Contact adhesive | 80 |
| Special purpose contact adhesive | 250 |
| Structural wood member adhesive | 140 |
| Top and 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, http://www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF.





2023 Los Angeles Green Building Code

**FORM GRN 14**

## GREEN BUILDING CODE PLAN CHECK NOTES

**RESIDENTIAL BUILDINGS**

1. For each new dwelling and townhouse, provide a listed raceway that can accommodate a dedicated 208/240 volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. The panel or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE". (4.106.4.1)
2. For common parking area serving R-occupancies, the electrical system shall have sufficient capacity to simultaneously charge all designated EV spaces at the full rated amperage of the Electric Vehicle Supply Equipment (EVSE). Design shall be based upon a 40-ampere minimum branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the Los Angeles Electrical Code. (4.106.4.2)
3. Roofs with slopes < 2:12 shall have a 3-year aged SRI value of at least 75 or both a 3-year aged solar reflectance of at least 0.63 and a thermal emittance of at least 0.75. Roofs with slopes ≥ 2:12 shall have an aged SRI value of at least 16 or both a 3-year solar reflectance of at least 0.20 and a thermal emittance of at least 0.75. (4.106.5)
4. The required hardscape used to reduce heat island effects shall have a solar reflectance value of at least 0.30 as determined per ASTM E1918 or ASTM C1549. (4.106.7)
5. The flow rates for all plumbing fixtures shall comply with the maximum flow rates in Section 4.303.1. (4.303.1)
6. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads controlled by a single valve shall not exceed 2.0 gallons per minute at 80psi, or the shower shall be designed to only allow one showerhead to be in operation at a time. (4.303.1.3.2)
7. Installed automatic irrigation system controllers shall be weather- or soil-based controllers. (MWELO, § 492.7)
8. For projects that include landscape work, the *Landscape Certification*, Form GRN 12, shall be completed prior to final inspection approval. (State Assembly Bill No. 1881)
9. Annular spaces around pipes, electric cables, conduits, or other openings in the building's envelope at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry, or metal plates. Piping prone to corrosion shall be protected in accordance with Section 313.0 of the Los Angeles Plumbing Code. (4.406.1)
10. Materials delivered to the construction site shall be protected from rain or other sources of moisture. (4.407.4)
11. Only a City of Los Angeles permitted hauler will be used for hauling of construction waste. (4.408.1)
12. For all new equipment, an Operation and Maintenance Manual including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection. (4.410.1)
13. All new gas fireplaces must be direct-vent, sealed combustion type. Wood burning fireplaces are prohibited per AQMD Rule 445. (4.503.1, AQMD Rule 445)
14. All duct and other related air distribution component openings shall be covered with tape, plastic, or sheet metal until the final startup of the heating, cooling and ventilating equipment. (4.504.1)
15. Paints and coatings, adhesives, caulks and sealants shall comply with the Volatile Organic Compound (VOC) limits listed in Tables 4.504.1-4.504.3.
16. The *VOC Content Verification Checklist,* Form GRN 2, shall be completed and verified prior to final inspection approval. The manufacturer's specifications showing VOC content for all applicable products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.2.4)
17. All new carpet and carpet cushions installed in the building interior shall meet the testing and product requirements of one of the following (4.504.3):
    a. Carpet and Rug Institute's Green Label Plus Program
    b. California Department of Public Health's Specification 01350
    c. NSF/ANSI 140 at the Gold level
    d. Scientific Certifications Systems Indoor Advantage™ Gold
18. 80% of the total area receiving resilient flooring shall comply with one or more of the following (4.504.4):
    a. VOC emission limits defined in the CHPS High Performance Products Database
    b. Certified under UL GREENGUARD Gold
    c. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program
    d. Meet the California Department of Public Health's Specification 01350
19. New hardwood plywood, particle board, and medium density fiberboard composite wood products used in the building shall meet the formaldehyde limits listed in Table 4.504.5. (4.504.5)
20. The *Formaldehyde Emissions Verification Checklist,* Form GRN 3, shall be completed prior to final inspection approval. (4.504.5)
21. Mechanically ventilated buildings shall provide regularly occupied areas of the building with a MERV 13 filter for outside and return air. Filters shall be installed prior to occupancy and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. (4.504.6)
22. A 4-inch thick base of ½ inch or larger clean aggregate shall be provided for proposed slab on grade construction. A vapor barrier shall be provided in direct contact with concrete for proposed slab on grade construction. (4.505.2.1)
23. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed until it is inspected and found to be satisfactory. (4.505.3)
24. Newly installed bathroom exhaust fans shall be ENERGY STAR compliant and be ducted to terminate to the outside of the building. Fans must be controlled by a humidistat which shall be readily accessible. Provide the manufacturer's cut sheet for verification. (4.506.1)
25. A copy of the construction documents or a comparable document indicating the information from Energy Code Sections 110.10(b) through 110.10(c) shall be provided to the occupant." (Energy Code §110.10(d))
26. The heating and air-conditioning systems shall be sized and designed using ANSI/ACCA Manual J-2004, ANSI/ACCA 29-D-2009 or ASHRAE handbooks and have their equipment selected in accordance with ANSI/ACCA 36-S Manual S-2004. (4.507.2)





## PLUMBING FIXTURE FLOW RATES

**Residential Occupancies**
2023 Los Angeles Green Building Code
**(Incorporate this form into the plans)**

**FORM GRN 16**

**SECTION 4.303.1**
**WATER REDUCTION FIXTURE FLOW RATES**

| FIXTURE TYPE | MAXIMUM ALLOWABLE FLOW RATE |
|---|---|
| Showerheads | 1.8 gpm @ 80 psi |
| Lavatory faucets, residential | 1.2 gpm @ 60 psi[1,3] |
| Lavatory faucets, nonresidential | 0.4 gpm @ 60 psi[1,3] |
| Kitchen faucets | 1.5 gpm @ 60 psi[2,4] |
| Metering Faucets | 0.2 gallons/cycle |
| Gravity tank type water closets | 1.28 gallons/flush[5] |
| Flushometer tank water closets | 1.28 gallons/flush[5] |
| Flushometer valve water closets | 1.28 gallons/flush[5] |
| Urinals | 0.125 gallons/flush |
| Clothes Washers | ENERGY-STAR certified |
| Dishwashers | ENERGY-STAR certified |

1. Lavatory Faucets shall not have a flow rate less than 0.8 gpm at 20 psi.
2. Kitchen faucets may temporarily increase flow above the maximum rate, but not above 2.2gpm @ 60psi and must default to a maximum flow rate of 1.8 gpm @ 60psi.
3. Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.
4. Kitchen faucets with a maximum 1.8 gpm flow rate may be installed in buildings that have water closets with a maximum flush rate of 1.06 gallons/flush installed throughout.
5. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
   Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2.
   Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.





2023 Los Angeles Green Building Code

**FORM GRN 18R**

## WATER CONSERVATION NOTES - ORDINANCE #184248

**RESIDENTIAL BUILDINGS**

### PLUMBING SYSTEM

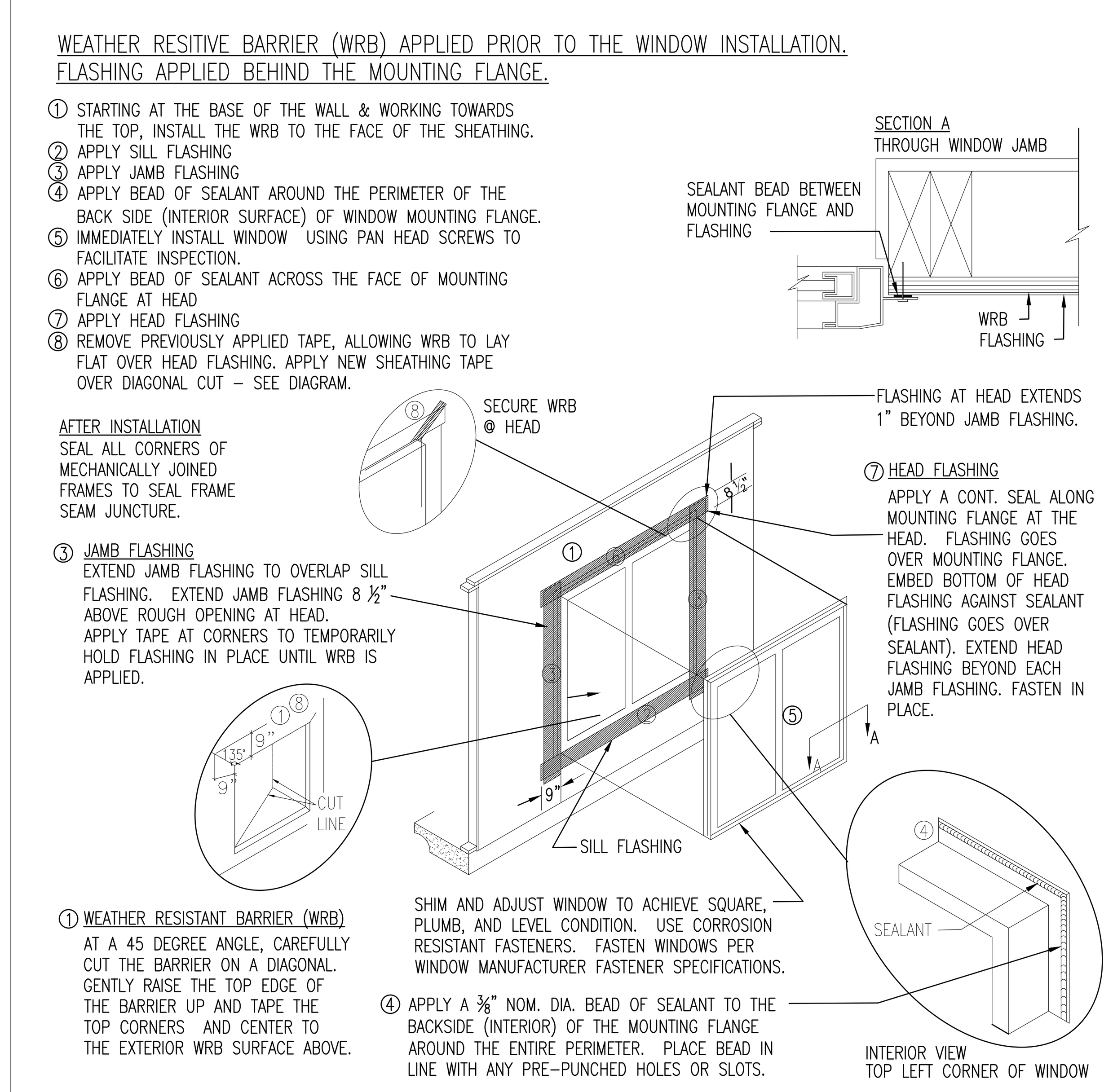
1. Multi-family dwellings not exceeding three stories and containing 50 units or less shall install a separate meter or submeter within common areas and within each individual dwelling unit. (4.303.3)
2. Water use reduction shall be met by complying with one of the following:
   A. Provide a 20% reduction in the overall potable water use within the building. The reduction shall be based on the maximum allowable water use for plumbing fixtures and fittings as required by the Los Angeles Plumbing Code. Calculations demonstrating a 20% reduction in the building "water use baseline", as established in Table 4.303.4.1, shall be provided; or
   B. New fixtures and fittings shall comply with the maximum flow rates shown in Table 4.303.4.2, or
   C. Plumbing fixtures shall use recycled water.
   **Exception:** Fixture replacements (4.303.4)
3. New building on a site with 500 square feet or more of cumulative landscape area shall have separate meters or submeters for outdoor water use. (4.304.3)
4. Additions and alterations on a site with 500 square feet or more of cumulative landscape area and where the entire potable water system is replaced, shall have separate meters or submeters for outdoor water use. (4.304.3)
5. In other than single family dwellings, locks shall be installed on all publicly accessible exterior faucets and hose bibs. (4.304.4)
6. Provide a cover having a manual or power-operated reel system in any permanently installed outdoor in-ground swimming pool or spa in one- and two-family dwellings. For irregular-shaped pools where it is infeasible to cover 100% of the pool due to its irregular shape, a minimum of 80% of the pool shall be covered. (4.304.5)
7. Except as provided in this section, for sites with over 500 square feet of landscape area, alternate waste piping shall be installed to permit discharge from the clothes washer, bathtub, showers, and bathroom/restrooms wash basins to be used for a future graywater irrigation system. (4.305.1)
8. Except as provided in this section, where City-recycled water is available within 200 feet of the property line, water closets, urinals, floor drains, and process cooling and heating in the building shall be supplied from recycled water and shall be installed in accordance with the Los Angeles Plumbing Code. (4.305.2)
9. In new buildings of 25 stories or less, the cooling towers shall comply with one of the following:
   A. Shall have a minimum of 6 cycles of concentration (blowdown); or
   B. A minimum of 50% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (4.305.3.1)
10. In new buildings over 25 stories, the cooling towers shall comply with all of the following:
    A. Shall have a minimum of 6 cycles of concentration (blowdown); and
    B. 100% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (4.305.3.2)
11. Where groundwater is being extracted and discharged, develop and construct a system for onsite reuse of the groundwater. Alternatively, the groundwater may be discharged to the sewer. (4.305.4)
12. Provide a hot water system complying with one of the following (Los Angeles Plumbing Code Section 610.4.1):
    A. The hot water system shall not allow more than 0.6 gallons of water to be delivered to any fixture before hot water arrives.
    B. Where a hot water recirculation or electric resistance heat trace wire system is installed, the branch from the recirculating loop or electric resistance heat trace wire to the fixture shall contain a maximum of 0.6 gallons.
    C. Residential units having individual water heaters shall have a compact hot water system that meets all of the following:
       a. The hot water supply piping from the water heater to the fixtures shall take the most direct path.
       b. The total developed length of pipe from the water heater to farthest fixture shall not exceed the distances specified in Table 3.6.5 of the California Energy Code Residential Appendix.
       c. The hot water supply piping shall be installed and insulated in accordance with Section RA3.6.2 of the California Energy Code Residential Appendix.

### IRRIGATION SYSTEM

12. A water budget for landscape irrigation use that conforms to the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) is required for new landscape areas of 500 sq. ft. or more. The following methods to reduce potable water use in landscape areas include, but are not limited to, use of captured rainwater, recycled water, graywater, or water treated for irrigation purposes and conveyed by a water district or public entity. (4.304.1)








WINDOW FLASHING DETAILS 7 / –

SCALE: NTS

COMMENTS

REV | DESCRIPTION | DATE

CONTENT **GREEN**

PROJECT **15950-15952 Kalisher St, Granada Hills, CA 91344**

DATE 06/16/2022

# G-2

DESIGNED BY ARA HARTOONIAN

ARC-DETAIL

Sarmen Mirzakhani
7942 Hillrose St.
Sunland CA 91040
Phone: 818-419-1831
Calducttesting@gmail.com
CERT# CC2021057

Revisions

CALL: 818-419-1831 FOR CF2-R,HERS & Title 24

# TITLE-24 REPORT AND HERS RATING - DUCT TESTING SERVICES

PROJECT ADDRESS:

15954 KALISHER ST, GRANADA HILLS, CA 91344

DATE ISSUED 11/11/2025

JOB NO.

SHEET NUMBER T-1



**GENERAL INFORMATION**

| | | | | | |
|---|---|---|---|---|---|
| 01 | Project Name | 15954 Kalisher St (Detached ADU) | | | |
| 02 | Run Title | Title 24 Analysis | | | |
| 03 | Project Location | 15954 Kalisher St | | | |
| 04 | City | Granada Hills | 05 | Standards Version | 2022 |
| 06 | Zip code | 91344 | 07 | Software Version | EnergyPro 9.4 |
| 08 | Climate Zone | 9 | 09 | Front Orientation (deg/ Cardinal) | 90 |
| 10 | Building Type | Single family | 11 | Number of Dwelling Units | 1 |
| 12 | Project Scope | Newly Constructed | 13 | Number of Bedrooms | 3 |
| 14 | Addition Cond. Floor Area ($ft^2$) | 0 | 15 | Number of Stories | 1 |
| 16 | Existing Cond. Floor Area ($ft^2$) | n/a | 17 | Fenestration Average U-factor | 0.3 |
| 18 | Total Cond. Floor Area ($ft^2$) | 1200 | 19 | Glazing Percentage (%) | 10.92% |
| 20 | ADU Bedroom Count | n/a | 21 | ADU Conditioned Floor Area | n/a |
| 22 | Fuel Type | Natural gas | 23 | No Dwelling Unit: | No |

**COMPLIANCE RESULTS**

| | |
|---|---|
| 01 | Building Complies with Computer Performance |
| 02 | This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider. |
| 03 | This building incorporates one or more Special Features shown below |





**ENERGY DESIGN RATINGS**

| | Energy Design Ratings | | | Compliance Margins | | |
|---|---|---|---|---|---|---|
| | Source Energy (EDR1) | Efficiency[1] EDR (EDR2efficiency) | Total[2] EDR (EDR2total) | Source Energy (EDR1) | Efficiency[1] EDR (EDR2efficiency) | Total[2] EDR (EDR2total) |
| Standard Design | 37.4 | 40.3 | 29 | | | |
| Proposed Design | 35.7 | 39.6 | 28.7 | 1.7 | 0.7 | 0.3 |
| RESULT[3]: PASS | | | | | | |

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[3]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.40 kWdc
- PV System resized to 2.40 kWdc (a factor of 2.401) to achieve 'Standard Design PV' PV scaling





**ENERGY USE SUMMARY**

| Energy Use | Standard Design Source Energy (EDR1) ($kBtu/ft^2$-yr) | Standard Design TDV Energy (EDR2) ($kTDV/ft^2$-yr) | Proposed Design Source Energy (EDR1) ($kBtu/ft^2$-yr) | Proposed Design TDV Energy (EDR2) ($kTDV/ft^2$-yr) | Margin (EDR1) | Margin (EDR2) |
|---|---|---|---|---|---|---|
| Space Heating | 0.65 | 3 | 0.86 | 6.33 | -0.21 | -3.33 |
| Space Cooling | 1.2 | 27.24 | 0.88 | 28.03 | 0.32 | -0.79 |
| IAQ Ventilation | 0.42 | 4.44 | 0.42 | 4.44 | 0 | 0 |
| Water Heating | 1.82 | 19 | 1.41 | 13.88 | 0.41 | 5.12 |
| Self Utilization/Flexibility Credit | | | 0 | 0 | 0 | 0 |
| **Efficiency Compliance Total** | **4.09** | **53.68** | **3.57** | **52.68** | **0.52** | **1** |
| Photovoltaics | -2.26 | -65.72 | -2.26 | -65.39 | | |
| Battery | | | 0 | 0 | | |
| Flexibility | | | 0 | | | |
| Indoor Lighting | 0.81 | 7.62 | 0.81 | 7.62 | | |
| Appl. & Cooking | 4.69 | 30.38 | 4.67 | 30.22 | | |
| Plug Loads | 4.56 | 46.4 | 4.56 | 46.4 | | |
| Outdoor Lighting | 0.2 | 1.71 | 0.2 | 1.71 | | |
| **TOTAL COMPLIANCE** | **12.09** | **74.07** | **11.55** | **73.24** | | |





**ENERGY USE INTENSITY**

| | Standard Design ($kBtu/ft^2$ - yr ) | Proposed Design ($kBtu/ft^2$ - yr ) | Margin ($kBtu/ft^2$ - yr ) | Margin Percentage |
|---|---|---|---|---|
| Gross EUI[1] | 18.42 | 17.36 | 1.06 | 5.75 |
| Net EUI[2] | 6.78 | 5.72 | 1.06 | 15.63 |

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

**REQUIRED PV SYSTEMS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DC System Size (kWdc) | Exception | Module Type | Array Type | Power Electronics | CFI | Azimuth (deg) | Tilt Input | Array Angle (deg) | Tilt: (x in 12) | Inverter Eff. (%) | Annual Solar Access (%) |
| 2.4 | NA | Standard (14-17%) | Fixed | none | true | 150-270 | n/a | n/a | <=7:12 | 96 | 98 |

**REQUIRED SPECIAL FEATURES**

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Cool roof
- Insulation below roof deck
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed
- One or more heat pump water heaters have been modeled as demand response compatible





**HERS FEATURE SUMMARY**

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Minimum Airflow
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Fan Efficacy Watts/CFM
- Verified HSPF2
- Verified heat pump rated heating capacity
- Duct leakage testing

**BUILDING - FEATURES INFORMATION**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---|---|---|---|---|---|---|
| Project Name | Conditioned Floor Area ($ft^2$) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| 15954 Kalisher St (Detached ADU) | 1200 | 1 | 3 | 1 | 0 | 1 |

**ZONE INFORMATION**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---|---|---|---|---|---|---|
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area ($ft^2$) | Avg. Ceiling Height | Water Heating System 1 | Status |
| NEW ADU | Conditioned | AC SYSTEM1 | 1200 | 8 | DHW Sys 1 | New |

**OPAQUE SURFACES**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|
| Name | Zone | Construction | Azimuth | Orientation | Gross Area ($ft^2$) | Window and Door Area (ft2) | Tilt (deg) |
| Front Wall | NEW ADU | R-15 Wall | 0 | Right | 425.6 | 27 | 90 |
| Left Wall | NEW ADU | R-15 Wall | 90 | Front | 212 | 20 | 90 |
| Rear Wall | NEW ADU | R-15 Wall | 180 | Left | 425.6 | 105 | 90 |





**OPAQUE SURFACES**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|
| Name | Zone | Construction | Azimuth | Orientation | Gross Area ($ft^2$) | Window and Door Area (ft2) | Tilt (deg) |
| Right Wall | NEW ADU | R-15 Wall | 270 | Back | 212 | 0 | 90 |
| NEW ROOF | NEW ADU | R-30 Roof Attic | n/a | n/a | 1200 | n/a | n/a |
| Raised Floor | NEW ADU | R-19 Floor Crawlspace | n/a | n/a | 1200 | n/a | n/a |

**ATTIC**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|
| Name | Construction | Type | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Radiant Barrier | Cool Roof |
| Attic NEW ADU | Attic RoofNEW ADU | Unventilated | 3 | 0.22 | 0.9 | No | Yes |

**FENESTRATION / GLAZING**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Type | Surface | Orientation | Azimuth | Width (ft) | Height (ft) | Mult. | Area ($ft^2$) | U-factor | U-factor Source | SHGC | SHGC Source | Exterior Shading |
| Window | Window | Front Wall | Right | 0 | | | 1 | 3 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |
| Window 2 | Window | Front Wall | Right | 0 | | | 1 | 3 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |
| Window 3 | Window | Left Wall | Front | 90 | | | 1 | 20 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |
| Window 4 | Window | Rear Wall | Left | 180 | | | 1 | 20 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |
| Window 5 | Window | Rear Wall | Left | 180 | | | 1 | 20 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |
| Window 6 | Window | Rear Wall | Left | 180 | | | 1 | 12 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |
| Sliding Door | Window | Rear Wall | Left | 180 | | | 1 | 53 | 0.3 | NFRC | 0.23 | NFRC | Bug Screen |

**CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD** — **CF1R-PRF-01-E**

**Project Name:** 15954 Kalisher St (Detached ADU) — **Calculation Date/Time:** 2025-11-11T20:22:19-08:00 — **(Page 7 of 11)**

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**OPAQUE DOORS**

| 01 | 02 | 03 | 04 |
|---|---|---|---|
| Name | Side of Building | Area ($ft^2$) | U-factor |
| Door | Front Wall | 21 | 0.2 |

**OPAQUE SURFACE CONSTRUCTIONS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Interior / Exterior Continuous R-value | U-factor | Assembly Layers |
| R-15 Wall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O. C. | R-15 | None / None | 0.095 | Inside Finish: Gypsum Board<br>Cavity / Frame: R-15 / 2x4<br>Exterior Finish: 3 Coat Stucco |
| Attic RoofNEW ADU | Attic Roofs | Wood Framed Ceiling | 2x4 @ 24 in. O. C. | R-19 | None / 0 | 0.052 | Roofing: Light Roof (Asphalt Shingle)<br>Roof Deck: Wood Siding/sheathing/decking<br>Cavity / Frame: R-13.0 / 2x4<br>Under Roof Joists: R-6.0 insul. |
| R-19 Floor Crawlspace | Floors Over Crawlspace | Wood Framed Floor | 2x10 @ 16 in. O. C. | R-19 | None / None | 0.046 | Floor Surface: Carpeted<br>Floor Deck: Wood Siding/sheathing/decking<br>Cavity / Frame: R-19 / 2x10 |
| R-30 Roof Attic | Ceilings (below attic) | Wood Framed Ceiling | 2x6 @ 16 in. O. C. | R-30 | None / None | 0.032 | Over Ceiling Joists: R-15.7 insul.<br>Cavity / Frame: R-14.3 / 2x6<br>Inside Finish: Gypsum Board |

**BUILDING ENVELOPE - HERS VERIFICATION**

| 01 | 02 | 03 | 04 | 05 |
|---|---|---|---|---|
| Quality Insulation Installation (QII) | High R-value Spray Foam Insulation | Building Envelope Air Leakage | CFM50 | CFM50 |
| Required | Not Required | N/A | n/a | n/a |



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**WATER HEATING SYSTEMS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|---|---|---|---|---|---|---|---|---|
| Name | System Type | Distribution Type | Water Heater Name | Number of Units | Solar Heating System | Compact Distribution | HERS Verification | Water Heater Name (#) |
| DHW Sys 1 | Domestic Hot Water (DHW) | Standard | DHW Heater 1 | 1 | n/a | None | n/a | DHW Heater 1 (1) |

**WATER HEATERS - NEEA HEAT PUMP**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|
| Name | # of Units | Tank Vol. (gal) | NEEA Heat Pump Brand | NEEA Heat Pump Model | Tank Location | Duct Inlet Air Source | Duct Outlet Air Source |
| DHW Heater 1 | 1 | 40 | Rheem | CXE40T10H22U1 (40 gal) | Outside | NEW ADU | NEW ADU |

**WATER HEATING - HERS VERIFICATION**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---|---|---|---|---|---|---|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Compact Distribution Type | Recirculation Control | Shower Drain Water Heat Recovery |
| DHW Sys 1 - 1/1 | Not Required | Not Required | Not Required | None | Not Required | Not Required |

**SPACE CONDITIONING SYSTEMS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|
| Name | System Type | Heating Unit Name | Heating Equipment Count | Cooling Unit Name | Cooling Equipment Count | Fan Name | Distribution Name |
| AC SYSTEM1 | Heat pump heating cooling | Heat Pump System 1 | 1 | Heat Pump System 1 | 1 | HVAC Fan 1 | Air Distribution System 1 |



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**HVAC - HEAT PUMPS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Heating | | | | Cooling | | | | | |
| Name | System Type | Number of Units | Heating Efficiency Type | HSPF/HSPF2/COP | Cap 47 | Cap 17 | Cooling Efficiency Type | SEER/SEER2 | EER/EER2/CEER | Zonally Controlled | Compressor Type | HERS Verification |
| Heat Pump System 1 | Central split HP | 1 | HSPF2 | 8.5 | 36000 | 19000 | EER2SEER2 | 15 | 10 | Not Zonal | Single Speed | Heat Pump System 1-hers-htpump |

**HVAC HEAT PUMPS - HERS VERIFICATION**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|---|---|---|---|---|---|---|---|---|
| Name | Verified Airflow | Airflow Target | Verified EER/EER2 | Verified SEER/SEER2 | Verified Refrigerant Charge | Verified HSPF/HSPF2 | Verified Heating Cap 47 | Verified Heating Cap 17 |
| Heat Pump System 1-hers-htpump | Required | 350 | Not Required | Required | Yes | Yes | Yes | Yes |

**HVAC - DISTRIBUTION SYSTEMS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Duct Ins. R-value | | Duct Location | | Surface Area | | | | |
| Name | Type | Design Type | Supply | Return | Supply | Return | Supply | Return | Bypass Duct | Duct Leakage | HERS Verification |
| Air Distribution System 1 | Unconditioned attic | Non-Verified | R-6 | R-6 | Attic | Attic | n/a | n/a | No Bypass Duct | Sealed and Tested | Air Distribution System 1-hers-dist |



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**HVAC DISTRIBUTION - HERS VERIFICATION**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|---|---|---|---|---|---|---|---|---|
| Name | Duct Leakage Verification | Duct Leakage Target (%) | Verified Duct Location | Verified Duct Design | Buried Ducts | Deeply Buried Ducts | Low-leakage Air Handler | Low Leakage Ducts Entirely in Conditioned Space |
| Air Distribution System 1-hers-dist | Yes | 5.0 | Not Required | Not Required | Not Required | Credit not taken | Not Required | No |

**HVAC - FAN SYSTEMS**

| 01 | 02 | 03 | 04 |
|---|---|---|---|
| Name | Type | Fan Power (Watts/CFM) | Name |
| HVAC Fan 1 | HVAC Fan | 0.45 | HVAC Fan 1-hers-fan |

**HVAC FAN SYSTEMS - HERS VERIFICATION**

| 01 | 02 | 03 |
|---|---|---|
| Name | Verified Fan Watt Draw | Required Fan Efficacy (Watts/CFM) |
| HVAC Fan 1-hers-fan | Required | 0.45 |

**INDOOR AIR QUALITY (IAQ) FANS**

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
|---|---|---|---|---|---|---|---|---|
| Dwelling Unit | Airflow (CFM) | Fan Efficacy (W/CFM) | IAQ Fan Type | Includes Heat/Energy Recovery? | IAQ Recovery Effectiveness - SRE/ASRE | Includes Fault Indicator Display? | HERS Verification | Status |
| SFam IAQVentRpt | 65 | 0.35 | Exhaust | No | n/a / n/a | No | Yes | |



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**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**

1. I certify that this Certificate of Compliance documentation is accurate and complete.

| | |
|---|---|
| Documentation Author Name:<br>Sarmen Mirzakhani | Documentation Author Signature:<br>Sarmen Mirzakhani |
| Company:<br>California Duct Testing | Signature Date:<br>11/11/2025 |
| Address:<br>7942 Hillrose St | CEA/ HERS Certification Identification (If applicable):<br>RCN14026 |
| City/State/Zip:<br>Los Angeles, CA 91040 | Phone:<br>(818)-419-1831 |

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**

I certify the following under penalty of perjury, under the laws of the State of California:

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. 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.

| | |
|---|---|
| Responsible Designer Name:<br>Ara Hartoonian | Responsible Designer Signature:<br>Ara Hartoonian |
| Company:<br>Ara Hartoonian | Date Signed:<br>11/11/2025 |
| Address:<br>17353 Valerio Street | License: |
| City/State/Zip:<br>Van Nuys, CA 91406 | Phone:<br>818-960-5092 |

*Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.*



CALL: 818-419-1831 FOR CF2-R,HERS & Title 24


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Revisions

| | | |
|---|---|---|
| 0 | - | - |
| 0 | - | - |

# TITLE-24 REPORT AND HERS RATING - DUCT TESTING SERVICES

PROJECT ADDRESS:

15954 KALISHER ST, GRANADA HILLS, CA 91344

DATE ISSUED 11/11/2025

JOB NO.

SHEET NUMBER T-2