

Butte County Department of Development Services

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PLAN CHECK GUIDELINES: NON-RESIDENTIAL CONSTRUCTION

“This is a work in progress”

These guidelines are not all inclusive. The comments below are not a complete list of requirements in the 2013 California Building Standards Codes. These guidelines are intended to show the most common code items that are reviewed during plan review.

GENERAL:

1. Please reference on the plans the 2013 California Building Code (CBC), 2013 California Mechanical Code (CMC), 2013 California Plumbing Code (CPC), 2013 California Electrical Code (CEC), 2013 California Fire Code (CFC) and 2013 California Energy Code (CEC), and 2013 California Green Building Standards Code.
2. Please provide a Code Analysis for this building on the cover sheet of the plans. Code Analysis should include the occupancy classification(s), mixed occupancies, occupancy of adjacent tenant spaces, if applicable, last legal use of the building/tenant space, construction type, square footage of each floor and/or tenant space, sprinkler system installation and type, fire alarm system installation, occupant load calculation, height and area calculation, key plan for the entire building, fire separation and rating requirements with U.L. design numbers and plumbing fixture calculation
3. Please provide a brief description of the Scope of Work on the cover sheet of the plans.
4. Please contact the Butte County Fire Department to determine their requirements for the proposed structure. Butte County Fire is located at 176 Nelson Avenue, Oroville, Ca. and their phone number is 530-538-7888.
5. Please provide a complete site plan showing all utilities, setbacks, easements, location of proposed structure, adjacent right aways, all existing structures on lot and setbacks from proposed, driveway- access roads (ingress, egress), erosion control measures, access pathways, parking (on and off), landscaping, any other information which will help identify that all ordinances, county codes, and building codes have been met, etc. as applicable to this permit.
6. Please provide an erosion control plan.
7. Due to the nature and extent of these plan check comments and to help expedite the approval process, it is strongly recommended that you seek the services and advice of a design professional, such as a California Licensed Engineer or Architect.
8. Due to the nature and extent of the comments, significant plan check time and additional plan check letters may be required upon re-submittal. Initial plan check fees cover three reviews and **additional fees are required after the third review.**

NON-STRUCTURAL:

9. Provide a note on the cover sheet of the plans indicating any hazardous materials that will be stored and/or used within the building which exceed the quantities listed in 2013 CBC T-307.1(1) and T-307.2 (2).
10. Please designate a Person in Responsible Charge and list the Person in Responsible Charge on cover sheet of plans. 2013 CBC Section [A] 107.3.4
11. Please provide a complete site plan showing all items specified in the attached *Site Plan Requirements Form No. DBP-02*. Be sure to identify the locations and uses of all structures on the site and show any parking areas, driveways, employee restrooms, accessibility, path of travel, etc.
12. Show all ancillary features on site plan. These include but are not limited to, antennae, trash receptacle or bin location, propane tank and significant landscaping features.
13. Please provide erosion control measures on site plan, if project does not require a drainage plan reviewed and approved by Butte County Public Works Land Development Division.
14. Clearly show the maximum height of the building as defined in 2013 CBC section 502.1.
15. Clearly label and identify on plans fire walls, fire barriers, fire partitions, shafts, smoke barriers and smoke partitions along with their fire-resistance ratings.
16. Provide listed details for fire resistant elements of construction.
17. Please specify the weight of the proposed suspended acoustical ceiling systems and the seismic design category for its installation. Seismic design category C may be specified for this architectural component when the actual weight of the ceiling system is 2.5 PSF or less and the component importance factor I_p is equal to 1.0. These unrestrained systems shall meet CISCA for seismic zones 0-2 provisions. Seismic design category D may be specified for this architectural component throughout this jurisdiction. These restrained systems shall meet CISCA for seismic zones 3-4 provisions. Provide full installation specifications and detailing on the plans for each specific system proposed. Reference CBC Sec. 808, ASCE 7-10, ASTM C 635 & ASTM C 636.
18. For the suspended acoustical ceiling system: As this building is located in Seismic Design Category D, please specify the T-Bar Ceiling must be of "heavy duty type" per CBC 1613 and ASCE7-10. Provide manufacturer's make, model number, cut sheets, specifications, and installation instructions for the T-Bar Ceiling. If the manufacturer's specifications or the manufacturer's ICC ESR report requires periodic special inspection of the ceiling installation, please provide a Statement of Special Inspections on the plans and list the special inspections required. The Special Inspector must be employed by the owner and approved by the Butte County Building Division. Please provide the name of the approved special inspectors that will be employed to provide each special inspection. Special inspectors not already approved by the Butte County Building Division must submit a Statement of Qualifications and verification of current ICC (or equivalent) certification for the particular item they will be inspecting.
19. Please provide and show an exit path of travel "Exit Discharge" from both exits to the public way access. 2013 CBC Section 1027. (The exit discharge route of travel to the public way requirement can be accomplished by providing access to a safe dispersal area. Refer to 2013 CBC Section 1027.5 Exception)
20. Please identify water heater or boiler location on the plans.

21. Provide a window and door schedule with door hardware on the plans and clearly identify each window and door on the floor plan or elevation.
22. Provide a door egress hardware schedule on plans.
23. Specify wall finish materials applied to walls.
24. Specify interior floor finish and floor coverings on plans.
25. Provide 6" separation between the wood siding and the earth on the exterior of the building. Not less than 2" above concrete. 2013 CBC Section 2304.11.2.6.
26. Provide Fastening Schedule on plans for this project based on 2013 CBC Table 2304.9.1
27. Specify Deferred Submittals (as approved by BC) on cover sheet of plans. 2013 CBC Section [A] 107.3.4.1
28. Provide plan sheet index on the cover sheet of plans.
29. Please submit a separate building permit application for the proposed _____.
30. Verify glass and glazing complies with 2013 Chapter 24 requirements.
31. Provide net free venting area in enclosed attics and enclosed rafter spaces. Show calculations size and location on plans.
32. Provide and detail access to equipment on roof structures complying with 2013 CBC 904.10.3.

ACCESSIBILITY:

- AC1. Please provide and show an accessible sink and counter. Also, provide a 30" x 48" unobstructed clear floor space (omit the cabinet doors) to allow front approach to the accessible sink is required. The cabinet doors even with the integral toe-kick obstruct the required clear floor area and only allows an optional front approach rather than the required front approach. Also dimension the maximum 6 1/2" deep sink. Note: Garbage Disposers installed in center drained sinks usually encroach into required knee spaces. Reference 2013 CBC Section 11B-305
- AC2. Please complete, sign, and return the attached *Accessibility Upgrade Worksheet* and *Cost Table*, in accordance with 2013 CBC Sec.11B-202. The owner or applicant must sign and date the Accessibility Worksheet form.
- AC3. Please use the language referring to Accessibility for person with disabilities. (I.e. Accessibility Notes, Accessible Grab Bars, Accessible Toilet, Accessible Van Parking, International Symbol of Accessibility, etc.) Please remove the language "Reserved for Handicap" from the Accessible plans and details
- AC4. Please update the language for the "Unauthorized Vehicle" sign per 2013 CBC Section 11B-508:
"Unauthorized vehicles parked in designated accessible spaces not displaying distinguishing placards or special license plates issued for persons with disabilities will be towed away at owner's expense. Towed vehicles may be reclaimed at _____ or by telephoning _____."
- AC5. All entrances and exterior ground floor exits from the proposed building must be connected to the Accessible Route of Travel to the public way. Provide an unobstructed sidewalk around the building connecting the building exits to the accessible route of travel to the accessible parking spaces and public

way. 2013 CBC 11B Division 4 Accessible Routes (Refer to the comment above in regards to the required exit discharge to the public way. The accessible route of travel to the public way requirement can be accomplished by providing access to a safe dispersal area.)

- AC6. Detectable warnings are required at hazardous vehicular areas. If a walk or sidewalk crosses or adjoins a vehicular way or driveway, and the walking surfaces are not separated by curbs, railings or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall be defined by a continuous detectable warning which is 36 inches wide. Locate where the required accessible sidewalk around the building crosses the drive entrances into the building. The cross slope of the sidewalk shall not exceed 2%. 2010 CBC Section 11B-705.
- AC7. The lockset on the Accessible Restroom Doors must be privacy type latch hardware. 2013 CBC Section 11B 604.8.1.2.
- AC8. Please clearly show on the plans the location of the Tactile "Exit" signage. Provide tactile exit signage as per 2013 CBC Section 1011.3 complying with 2013 CBC Section 11B Division 7. Tactile exit signs shall be required at the following locations: Each grade-level exterior door shall be identified by a tactile exit with the word, "**EXIT**".
- AC9. Specify doors with closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum. CBC 11B-404.2.8.1
- AC10. Please modify shower details on sheet A230 to clearly demonstrate compliance with CBC 11B-608 for minimum dimensions, grab bars, bench, and shower controls.

MECHANICAL:

- M1. Please provide a mechanical plan showing the proposed location of HVAC units and the ducting systems. Provide a mechanical equipment schedule which must include the mechanical units, restroom exhaust fans, whole house fan if applicable.
- M2. Provide and show the design or required outside air ventilation.
- M3. Provide, if applicable, Smoke Detectors in the main air supply ducts when the Air-Moving System exceeds 2000 CFM. As per 2013 CMC Section 609. Connect Smoke Detectors to the Building Fire Alarm System. (2013 CMC Section 203. "Air-Moving System" is a system designed to provide heating, cooling or ventilation in which one or more air-handling units are used to supply air to a common space or area drawing air from a common plenum or space.)
- M4. Provide and show exhaust fans in both restrooms. Refer to 2013 CMC Table 4-4. (I.e. 50-cfm minimum)
- M5. Mechanical plans shall be signed and sealed by the respective designer along with the license number and expiration date. (Business and Professions Code 5536.2) or provide a statement on the mechanical plans signed by the mechanical contractor indicating this is a design-build project and the work shown on these plans has been designed and will be installed by them. (CBC 107 & Business and Professions Code Section 6737.3).

PLUMBING:

- P1. Please provide a plumbing plan showing the drain, waste and vent system, domestic water system and gas system if applicable. Please include a plumbing fixture schedule and description of plumbing system materials.
- P2. Please show the location of the water heater and related items. (I.e. Flue, T&P, Seismic strapping, etc.)
- P3. Provide a maximum water temperature of 110 degrees at the public lavatories. Provide and show either a tempering valve or lavatory faucet that is capable of being adjusted for the maximum temperature setting. Calif. Energy Standards Section 113 (c) 3.
- P4. Plumbing plans shall be signed and sealed by the respective designer along with the license number and expiration date. (Business and Professions Code 5536.2) or provide a statement on the plumbing plans signed by the plumbing contractor indicating this is a design-build project and the work shown on these plans has been designed and will be installed by them. (CBC 107 & Business and Professions Code Section 6737.3).

ELECTRICAL:

- E1. Please provide an electrical plan showing the proposed location of the electrical service panel and meter, single-line diagram, panel schedule with connected loads and circuit identification. Include energy lighting requirements such as switching/area controls, multi-level lighting controls in room greater than 100-sf and if applicable daylight area controls.
- E2. Exterior receptacles must be WP/GFCI protected. 2013 CEC Art. 210.8 (B)(4) and 406.8 (A) & (B).
- E3. All receptacles within the restrooms shall be GFCI protected. 2013 CEC Art. 210.8 (B) (1).

(The mechanical, plumbing and electrical plans may be combined.)

T-24 ENERGY COMPLIANCE:

- T1. The energy certificate of compliance must be signed and dated by the document author. (PERF-1C, Part 1 of 3)
- T2. Please review the fenestration surface areas as shown on the ENV-1C, Part 1 of 3 form. The fenestration surface areas do not appear to coincide with the building plans.
- T3. Please provide outdoor lighting compliance documentation. (OLTG-1C and OLTG-2C)
- T4. Please provide and clearly show the mandatory measures for area controls, multi-level lighting controls in room greater than 100-sf and if applicable daylight area controls. 2013 CEC (2010 BEES) Sections 131 (a), 131(b) and 131(c).
- T5. Please clarify the required versus the design outside air ventilation. Refer to the MECH-3C form and please explain the "Transfer-Air" and where it is transferred from.

CGBSC "CALGREEN" COMPLINACE:

- CG1. Submit a (2013 CalGreen Code) Non-Residential Mandatory Measures Check list. Please identify all applicable mandatory compliance measures, method of compliance and method of providing compliance verification.

CG2. Review the Nonresidential Mandatory Measures for the 2013 Green Building Standards (CalGreen) and show all applicable features on the plans.

CG2. Provide a Construction Waste Management form. (Obtain from Building Department Counter) 2013 CalGreen Section 5.408.

CG3. Provide a plan that is implemented to manage storm water drainage during construction. 2013 CalGreen Section 5.106.1. (Show on the Site plan the proposed design.)

STRUCTURAL:

1. This structure does not comply with the Conventional Light Frame Construction (bracing) requirements of California Building Code (CBC) Section 2308. Please revise or provide a lateral analysis of wind and seismic forces prepared by a registered design professional (i.e. Engineer or Architect).
2. The story height of the proposed construction exceeds the limitations of CBC. Provide a lateral design analysis by a registered design professional in accordance with the California Building Code (CBC).
3. Please provide the minimum amount of wall bracing as prescribed by CBC Section 2308.
4. Please comply with the conventional light frame construction (bracing) requirements of the CBC Section 2308 and identify wall bracing on the plans **or** provide a lateral analysis of wind and seismic forces prepared by a registered design professional (i.e. Engineer or Architect).
5. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction or decrease the seismic or wind design strength of any existing structural element by more than 10 percent cumulative since the original construction shall be addressed by the applicable provisions of the California Residential Code or shall be addressed in accordance with accepted engineering practice under the provisions of the California Building Code. Provide wall bracing under the prescriptive requirements as necessary or provide a lateral analysis for the structure by a registered design professional. Show required upgrades to the lateral force resisting system on the plans. (CBC R301.1)
6. Please specify required nailing and/or strapping of top plate splices, discontinuities, and collector elements.
7. Specify uplift and shear connection at the roof eave connections. (for example you could specify Simpson H2A or TSP clips from the rafters to the top plates)
8. Please specify the wall height on the plans. Note braced wall panels must be ½ the wall height in length or alternate braced wall panels installed.
9. Please provide two copies of gravity and lateral force (wind and seismic) design calculations signed and stamped by the engineer of record.
10. The lateral force analysis provided is incomplete. Please specify the seismic and wind design methods used and provide complete calculations for wind and seismic forces. Indicate how lateral forces are distributed through the structure (vertically and horizontally) to the load resisting elements. Please provide calculations for roof diaphragms, chords, collectors, shear walls, etc. and provide connection details and shear transfer details showing how expected gravity and lateral forces are transferred from their point of origin to the load resisting elements. Be sure to reference details to the applicable locations on the plans.

11. Please design the structure to resist wind forces in accordance with the 2013 CBC and ASCE/SEI 7-10. The required wind speed for risk category II structures is 110 mph, not 85 mph as indicated in the structural calculations. Please revise the calculations to comply with the 2013 CBC and ASCE/SEI 7-10 and specify the wind design method used.
12. Please specify the seismic design category and risk category for this structure.
13. Please clarify how seismic design category C was determined. Seismic design category D is required for risk category II buildings with S_D values greater than or equal to 0.50 and S_1 values greater than or equal to 0.20 per ASCE/SEI 7-10 Tables 11.6-1 and 11.6-2.
14. The proposed structure has one or more structural irregularities as defined in ASCE/SEI 7-10 Sec. 12.3.2. Design forces shall be increased 25% for connections of diaphragms to vertical elements and to collectors and for connections of collectors to the vertical elements in accordance with ASCE/SEI 7-10 Section 12.3.3.4 or diaphragm connections and connections to vertical elements and collectors shall be designed using the load combinations with overstrength factor in ASCE/SEI 7-10 Section 12.4.3.
15. Conventional roof-ceiling framing provisions of the California Residential Code are applicable for roofs having a minimum slope of three units vertical in 12 units horizontal. Where the roof pitch is less than three units vertical in 12 units horizontal, structural members such as ridge beams, hips and valleys are to be designed as beams by a registered design professional in accordance with the California Building Code (CBC).
16. Calculate the vertical distribution of shear forces in accordance with ASCE/SEI 7-10 for the specific seismic design method used.
17. Provide a complete breakdown of gravity (dead) loads, roof live loads, floor live loads, and deck/balcony live loads used for the design of the structure.
18. Please provide a soils investigation report to justify the foundation design values used or provide design based on class 5 soils (1500 psf soil bearing pressure, 100 psf/ft below grade lateral bearing pressure) in accordance with 2013 CBC Table 1806.2.
19. Please specify 3"x3"x0.229" thick anchor bolt plate washers. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16 inch larger than the bolt diameter and a slot length not to exceed 1 3/4 inches, provided a standard cut washer is placed between the plate washer and the nut. 2013 CBC.
20. The foundation details indicate a construction joint will be created between the concrete footings and the stemwalls. Please specify No. 4 vertical bars at no more than 48" o.c. in accordance with 2013 CBC.
21. The foundation details indicate the slab will not be cast monolithically with the footing. Please provide No. 3 or larger vertical dowels with standard hooks at 48" o.c. in accordance with 2013 CBC.
22. Please specify the minimum depth of footings shall be 12 inches below undisturbed soil per 2013 CBC.
23. Provide 2" minimum concrete side cover for the PBS44 post bases as required by the manufacturer.
24. Please provide ceiling joist and rafter connections or provide analysis of these connections by a registered design professional (i.e. Engineer or Architect).
25. Please provide a truss layout sheet showing each truss location and truss bracing details.

26. Please provide detail from the truss manufacturer showing how “piggyback” trusses or “hat” trusses will be connected to the base trusses.
27. Please specify how the multi-ply trusses will be connected together.
28. Please specify roof framing for the field framed portions of the roof.
29. Please provide adequate support for trusses bearing on top plates with truss reactions over 2300#. Studs may be required directly under the trusses at these locations.
30. Please provide calculations for roof diaphragm chords and collectors. It appears that collector elements (straps, etc.) may be necessary in some locations.
31. Please provide drag trusses as referenced in the structural calculations and on the plans.
32. Specify hangers required at girder truss connections.
33. Please indicate how the drag straps on the roof (shown on detail 1/SD3) are installed across the hips and valleys. To function properly these straps must remain continuous without kinks or bends. Please clarify.
34. The proposed truss configuration creates a hinge point in the exterior wall where the bottom chord of the gable end truss is not laterally supported. Please provide a method of bracing the hinge point to resist out-of-plane (wind) loads. The hinge can be prevented with a vaulted gable end fill truss and balloon framed wall studs.
35. Specify balloon-framed wall studs continuous to the bottom chord of the vaulted gable end fill truss. This will prevent a hinge point from occurring in the exterior wall and provide resistance to out-of-plane (wind) loads.
36. Specify locations of the mechanical units. If supported by the roof, please provide verification from the truss manufacturer that the trusses intended to support the mechanical units have been designed to support the additional loading and provide required access and clearances to the mechanical units.
37. Provide structural calculations and details for all floor or roof-mounted equipment weighing more than 400# and all wall or ceiling-suspended equipment weighing more than 20#. (CBC 1613 and ASCE 7-10 Chapter 13).
38. Please provide verification from the truss manufacturer that the trusses intended to support the mechanical unit have been designed to support the additional load.
39. Please provide documentation from the Registered Design Professional verifying that he/she has reviewed the truss calculations and found them to be in conformance with his/her design of the structure.
40. Please provide anchor bolt calculations in accordance with the 2013 California Building Code (CBC) and ACI 318-11, Appendix D. Please specify required anchor bolt size, type, edge distance and embedment depth on the foundation details.
41. Please specify 3000 psi minimum concrete compressive strength on the foundation plans in accordance with 2013 CBC Table 1808.8.1. Revise reference to 2500 psi concrete in the General Notes. The structure may be designed for 2500 psi but 3000 psi minimum concrete shall be installed.

42. Special Inspection is required in accordance with 2013 CBC for the (high strength (A325) bolts, anchors installed in hardened concrete, etc.). The Special Inspector must be employed by the owner and approved by the Butte County Building Division. Please provide the name of the special inspector that will be employed to provide the service.
43. Please provide a Statement of Special Inspections on the plans and list the special inspections required in accordance with 2013 CBC. The Special Inspector must be employed by the owner and approved by the Butte County Building Division. Please provide the name of the approved special inspectors that will be employed to provide each special inspection. Special inspectors not already approved by the Butte County Building Division must submit a Statement of Qualifications and verification of current ICC (or equivalent) certification for the particular item they will be inspecting.
44. Structural observation per CBC Section 1710, Item 5, is required by the building official / engineer of record for this project. Please indicate this requirement on the plans and list the stages at which the architect or engineer of record is to perform structural observation, what is to be observed, and when structural observation reports are to be submitted to the building official.
45. Expansive soils are known to occur in the vicinity of the proposed building site. Please provide documentation from a registered design professional verifying the soils have been investigated and foundations have been designed appropriately. Please show any requirements for mitigation of expansive soils on the plans.
46. Please reference the Soils Investigation Report on the plans. Please provide a note on the foundation plan stating "see Soils Investigation Report prepared by XXXXXX for additional requirements and recommendations".
47. Please provide design calculations for the perforated shear walls or design for force transfer around openings.
48. Design for uplift at perforated shear walls ends and design uplift anchorage between perforated shear walls ends.
49. The long period transition period T_L is 16 for Butte County. Please revise.
50. Please specify locations of all embedded hardware on the foundation plan.
51. Please provide shear transfer details of offset top plates showing how lateral forces are transferred across changes in top plate heights.
52. Provide shear transfer details of new roof diaphragm connections to the walls and reference details on the roof framing plan. Include connections at the gable ends, eaves, porches, and interior shear walls.
53. All portions of the structure shall be designed and constructed to act as an integral unit in resisting seismic forces (unless separated structurally by a distance sufficient to avoid damaging contact under total deflection as determined in ASCE 7-10 Section 12.14.8.5). Please design and detail connections between sub-diaphragms, discontinuities, and areas of varying plate heights.
54. Allowable shear values for shear walls resisting seismic forces with height-to-width ratios greater than 2:1 and less than 3.5:1 must be reduced by $2b_s/h$ in accordance with ANSI/AF&PA SDPWS-2008 Table 4.3.4. Please revise calculations and shear walls as necessary.

55. Shear walls with 2" edge nail spacing require 3" nominal or wider framing at adjoining panel edges and nails shall be staggered per 2013 CBC Table 2306.3 footnote e. Please revise the shear wall schedule to indicate these requirements.
56. Please provide section cuts details through the house specifying methods and materials of construction.
57. Please reference all details on the plans to indicate where they apply and remove details that do not apply to this project.
58. Please provide connection details including shear transfer details showing how expected gravity and lateral forces (wind and seismic) are transferred from their point of origin to the load resisting elements.
59. Please verify adequate setbacks from ascending and descending slopes in accordance with 2013 CBC Section 1808.7.
60. Please provide a foundation detail showing the cripple wall condition and specify nailing required of cripple wall sheathing to resist lateral forces.
61. Specify requirements for stepped footings as necessary. Please provide a stepped footing detail.
62. The plans specify A35 clips used to transfer shear from the TJI-110 floor joists to the cripple wall top plates but A35 clips are 1 7/16" and the TJI flange is only 1 1/4". Please revise.
63. Please specify length and number of nails required for the CS14 and CMSTC16 straps specified on the roof framing plan and the CS14 and CS16 floor-to-floor holdown straps.
64. Please specify SSTBL holdown anchor bolts to accommodate the 3x minimum sills required in the type 3 and 4 shear walls.
65. Please provide drainage away from foundation walls in accordance with R401.3.
66. Please provide positive connection of the deck ledger to the primary structure designed for both vertical and lateral loads in accordance with 2013 CBC. Attachment may not be accomplished by the use of toenails or nails subject to withdrawal. See suggested deck attachment for lateral loads detail (2013 CRC Fig. 507.2.3) attached.
67. Handrails and guards must be designed to resist a single concentrate load of 200 pounds applied in any direction at any point along the top per 2013 CBC 1607.A.8.1.1. Please specify connections and spacing of handrail and guard posts.
68. The proposed structure is located at approximately xxx' elevation and must be designed to resist xx psf ground snow load. Please provide revised plans and structural calculations.

FLOOD ZONE:

1. This project is located within the Sacramento River Designated Floodway Special Permit Zone B, Sacramento River Designated Floodway Special Permit Zone E, Feather River Designated Floodway. Approval from the Central Valley Flood Protection Board and certification by a registered professional engineer demonstrating that the encroachment will not result in any increase in flood levels during the occurrence of the base flood discharge is required prior to issuance of building permits and prior to commencement of any construction activities including grading, excavation, or placement of fill.

2. The parcel is located in FEMA flood zone A. Please provide two completed FEMA Flood Elevation Certificates prepared by a California Registered Professional Engineer or Architect.
3. Please reference the flood elevation certificate on the plans and show all requirements including floor elevations, elevation of machinery or equipment, stem wall heights, flood resistant materials, flood venting, etc. on the plans.
4. Please revise the FEMA flood elevation certificate to show elevations based on the NAVD 1988 datum in accordance with FEMA's flood elevation certificate instructions.
5. Please clearly show Flood Resistant Construction. 2013 CRC Section R322.
6. Please indicate the bottom of flood vents shall be no higher than 1 foot above grade.
7. Please show the flood vent locations required for the attached garage on the plans. See section A9 of the flood elevation certificate for the number and size of flood vents required. If flood vents will be installed in concrete stemwalls, please detail reinforcement required around these openings.
8. Materials installed below the base flood elevation (BFE) must be flood resistant materials. Please revise the garage foundation detail(s) to show the required stemwall height and installation of the flood vents.
9. The proposed addition is located in FEMA flood zone A per FEMA's current Flood Insurance Rate Map number 06007Cxxxxx dated 1/6/2011. If an addition does not constitute a FEMA Substantial Improvement then it may be constructed at the same level as the existing house (or higher) and a flood elevation certificate is not required. A Substantial Improvement is defined as 50% or more of the market value of the existing structure with depreciation of the existing structure taken into account. Please have the owner complete and sign the attached Flood Plain Declaration form and Substantial Improvement Worksheet certifying the proposed construction will not constitute a FEMA substantial improvement.
10. Please indicate in a prominent location on the plans that a *building under construction* flood elevation certificate is required prior to the frame inspection and a *finished construction* flood elevation certificate is required prior to final approval of the structure. (Butte County Code Chapter 26, Ordinance # 4041)
11. The proposed construction is within FEMA flood zone A per FEMA Flood Insurance Rate Map (FIRM) number 06007C0550E. The value of the proposed addition appears to exceed 50% of the market value of the existing structure and therefore constitutes a FEMA "substantial improvement". Please provide either:
 - a) a FEMA Flood Elevation Certificate (2 copies) verifying the lowest floor of the finished structure (existing plus addition) is at least 1'-0" above the level of the 100-year flood elevation and complies with FEMA regulations and Butte County's Flood Hazard Prevention Ordinance (Butte County Code Chapter 26, Ordinance # 4041). The FEMA Flood Elevation Certificates must be prepared by a California Registered Professional Engineer or Architect.
 - b) or provide a certified appraisal verifying the value of the proposed improvements is less than 50% of the market value of the existing structure and complete and return the enclosed Substantial Improvement Worksheet.
12. The site is located in FEMA flood zone AO per FEMA Flood Insurance Rate Map (FIRM) number 06007C0502E. Please complete the enclosed *Substantial Improvement Worksheet*. If the value of the proposed improvements will exceed 50% of the market value of the existing structure then FEMA considers the work to be a substantial improvement. If the value of the proposed improvements exceeds 40% but less

than 50% of the market value of the existing structure then a certified appraisal is required to verify the work is not a substantial improvement.

If the work is determined to be a substantial improvement please provide the following:

Submit a FEMA Flood Elevation Certificate (2 copies) verifying the lowest floor of the finished structure is above the level of the 100-year flood elevation and complies with FEMA regulations and Butte County's Flood Hazard Prevention Ordinance (Butte County Code Chapter 26, Ordinance # 4041). The FEMA Flood Elevation Certificates must be prepared by a California Registered Professional Engineer or Architect.

If the work is determined not to be a substantial improvement please provide the following:

Submit a completed and signed *Flood Plain Declaration* form and *Substantial Improvement Worksheet* certifying the proposed work will not be a substantial improvement. Provide a certified appraisal as indicated above if the value of the proposed improvements will exceed 40% but less than 50% of the market value of the existing structure.

GUIDELINES