

September 18, 2019

Address: K3 Apartments

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Permit number:Com19-0012First SubmittalK3, new three-story apartment buildings.

Building Type K3	6&9	7 & 8	10 & 11
Occupancy Type	R-2	R-2	R-2
Construction Type	V-B	V-B	V-B
Sprinklers	Yes	Yes	Yes
Stories	3	3	3
BLDG Area sf	22,309	23,534	24,132

The basis of the review is the following codes 2016 California Building Code (C.B.C.) structural only, 2016 California Residential Code (C.R.C.), 2016 California Mechanical Code (C.M.C), 2016 California Plumbing Code (C.P.C), 2016 California Electrical Code (C.E.C), 2016 California Energy Code (C.E.C.) (2016 Building Energy Efficiency Standards), 2016 California Green Building Standards Code (CGBSC), and the City of Tracy Ordinances.

Deferred items:

1. Provide a list of deferred items on the cover sheet of your plans as required by section 107.3.4.1 CBC. Please contact the building division for direction concerning submittal requirements for all deferred items. Deferred items shall not be constructed, installed or erected until unless approved plans are provided by the building division for such deferred item(s).

General comments:

- 1. The comments below apply to K3, buildings 6, 7, 8, 9, 10 and 11. Typical comments shall apply to all buildings. All building plans shall be amended based on the typical comments.
- 2. The redline plan review comments are part of the total plan review and should be addressed by a written response letter.
- 3. All plans and documentation and calculations shall be stamped and signed by a licensed professional per section 107.1 CBC.
- 4. All mechanical, electrical, plumbing and PV plans shall be stamped and signed by a licensed professional.
- 5. Remove the gray water marking from all plan sheets.
- 6. Provide building addresses as required by section 501.2 CBC; add a note building address will be provided and approved by the building division.
- 7. Provide a note on the <u>mechanical, plumbing, electrical plans</u> for the protection of underground installations.

"Corrosion protection / wrapping is required on all under-slab or underground ferrous electrical conduit, water piping, building drains, building sewers, floor sinks, floor drains, trap primers, waste drains and other ferrous piping, including all zinccoated galvanized piping and fittings. Corrosion protection / wrapping is required on copper water piping per the 2016 CPC, Sec. 312.4 CORROSION PROTECTION SHALL BE INSPECTED AND APPROVED BEFORE COVERING". The material used for corrosion protection shall be UPC approved and stamped. The minimum thickens shall be 10mil and when wrapped equal to 40mils, per IAMPO installation standard 13-2006.

- 8. Provide **UL Listed** (with UL listing) fire-stopping details on the plans. The rating of the fire-stopping shall match the hour-rating required based on the fire-rating of the construction being penetrated. The fire-stopping shall meet the F & T rating.
- 9. Provide a written response for each plan review comment noted below. Please address the redline plan review comments on the plans as well with a written response.
- 10. The response letter should include the plan sheet number and where each plan review item was corrected on that plan.
- 11. Cloud all changes on made on the plans due to the plan review and red-line comments.
- 12. See all redline plan review comments on the plans and or calculations. These comments are also part of the plan review comments.
- 13. If red-line plans (review comments) are generated, these must be returned to the building division and Structech with each resubmittal.

Accessibility comments:

- 1. At all sheets remove all references to the ANSI standard for compliance with accessibility.
- 2. The site for disable access is still being reviewed by the building official and has not been approved. When the whole site disabled access plan has been approved, the approved plan(s) sheets shall be incorporated into these plans for both K3 and K4 design.
- 3. At the site plan clearly show and refer to the uncovered and covered disabled parking stalls.
- 4. Provide legend on the plans showing the number required of disabled parking stalls.
- 5. Disabled parking shall be provided at the following facilities: serving covered multi-family dwellings, pools, club houses, recreation areas and laundry rooms or buildings; sections 1109A.1-1109A.8.8.2 CBC.

- 6. Accessible parking spaces shall be located on the shortest possible accessible route to an accessible building or covered multifamily dwelling unit entrance.
- 7. When parking facilities are located adjacent to a building with multiple accessible entrances, accessible parking spaces shall be dispersed and located near the accessible building entrances.
- 8. When practical, the accessible route shall not cross lanes for vehicular traffic. When crossing vehicle traffic lanes is necessary, the accessible route shall be designated and marked as a crosswalk. Parking facilities that do not serve a building shall have accessible parking spaces located on the shortest possible accessible route to an accessible pedestrian entrance of the parking facility.
- 9. Show the covered parking provide a minimum 8'-2" clearance that includes the parking and offloading zone; 1109A.8.1 CBC. Show the stalls to be a minimum 12' wide with 5' access aisle including all stenciling and signage as required. In addition, wheel stops are required.
- 10. Show the maximum slope in any direction shall not exceed 2% for the stall and access aisle per 1109A.8.3 CBC. Include this is included on the civil plans.
- 11. For the proposed vehicle charging stations, show these are located on accessible route. Include details as required for accessible walkways, ramps, domes and signage leading to this site element. Include required signage and stenciling for parking stall.
- 12. Provide and detail access to the trash enclosures. Include details for these to be on accessible route of travel.
- 13. Add a note on the plans that "all" ground floor units shall be accessible per section 1104A.1 CBC.
- 14. At all exterior doors show and detail the required door clearances to comply with section 1126A. Identify and use dashed lines to show compliance.
- 15. At sheet A.03.160, provide the required 10" flat bottom at all doors on the accessible route.
- 16. Show the height of door hardware to be 30"-44".
- 17. At sheet A.03.160, add a note for the maximum door operating pressure for exterior doors or gates is 8.5# and interior doors 5#.
- 18. Provide accessible details for the installation of the proposed EV chargers per section 1127A.13 CBC.
- 19. Provide and refer to a maximum ¹/₂" threshold detail at all ground floor units' primary doors and show the maximum height at the secondary doors per 1132A.4.1 CBC. Also, at non-ground floor unit show the maximum threshold height.
- 20. Windows at ground floor units shall comply with sections 1126A.8 and 1138A.4 CBC for controls and operation.
- 21. Show the location of all *tactile signs* on the plans per section 1013.4 CBC. Detail the installation of the signs per sections 11B-703.4.1 and 703.4.2 CBC. Note all signage shall be on the strike side of the door and with double doors show the signage on the right side of the door.

Show the maximum height to the braille portion of the sign is 48" AFF. Include the details below on the plans.



- 22. All receptacles and communication boxes shall be installed a minimum 15" to the bottom of the box.
- 23. All switches and t-stats shall be installed a maximum of 48" to the top of the box.
- 24. All faucets are to lever type with a maximum operating pressure of 5#.

Architectural comments:

- 1. If carports will be included, amend the building information for the proposed carports on the plans for construction type, occupancy, and allowable building area.
- 2. If carports are included, provide compliance with tables 602 fire separation and 705.8 for the location of the carports to each apartment building.
- 3. For buildings 6-11, include the sheet showing the frontage increase per section 506.3 CBC.
- 4. Provide and show the location(s) of all tempered glass on the plans as required by section 2406 CBC.
- 5. Ensure that all door and window tags are called out at all locations.
- 6. At sheet A.03.150, show the size of all window sections, i.e. operable and fix. Also include the window operation on the plans, i.e. casement or sliders.
- 7. At sheet A.03.150, add a note showing compliance with section 1030.1 for sleeping room emergency egress, 5.7sf opening area, opening height of 24", opening width of 20" and a maximum 44" sill height.
- 8. Include a typical dimension ensuring all second and third floor windows comply with section 1015.8 CBC concerning minimum interior window-sill heights.
- 9. At sheet A.03.160, included all missing door information as noted.
- 10. At sheet A.03.160 the door schedule, remove the garage locations.
- 11. At sheet A.03.160, provide the UL listing and cut sheet for 60-minute rated door type U-108.
- 12. At sheet A.03.160, provide a door hardware schedule on the plans, that matches the doors schedule.
- 13. At sheet A.03.160, add a note that all rated doors shall have smoke-seals per section 716.5.3.1 CBC.
- 14. At the third floors show the location of the roof hatches; at the roof plans include a detail for the installation of the roof hatch.
- 15. At all units, please provide ventilation calculations on the plans for each room per section 1203.5.1 CBC.

- 16. At sheet A.03.220 and similar sheets for all units, some unit doors and unit windows are missing, see the redlines, this will apply to all units.
- 17. At sheet A.03.710, provide stair dimensions as redlined on the plans. In addition, show the location of required vertical barrier protection. At sheet A.03.710, identify all guardrails and call out details for the different guardrail construction. Show at all locations the minimum guard height of 42". At sheet A.03.710, clearly show the handrail extensions at all locations; at the upper approach to be 12" past the tread and lower approach to be 23" past the tread.
- 18. At sheet A.03.730, see the redline comments for the stair details, Adjust the handrails to include the actual extension lengths and no sharp turns at the handrails. Include the required handrail clearances and grips.
- 19. At all details provide and ensure building paper is included under all siding.
- 20. At 09/A.03.815, provide and detail protection for the wall insulation below grade.
- 21. At 09/A.03.825, explain the deck and threshold separation, what will be the actual dimension?
- 22. Based on the letter by Jensen Hughes dated September 5, 2019, entitled Fire Resistance Rated Fire Partition Wall and Horizontal Assembly Penetrations, provide a listed and tested one-hour fire-rated joint system to protect the horizontal one-hour rated floor/ceiling assembly at the vertical one-hour fire-barrier wall. In the absence of a listed joint system, submit a formal request to review an alternate materials and methods package. Provide supporting documentation to justify your findings per section 104.11 CBC.
- 23. At the core sheets, the overall floor plans and the mechanical plans for all buildings, show the location of required one-hour shafts with construction details. See redline comments at sheet M.U3.A01, which reflects the typical comments concerning the penetration of the one-hour floor/ceiling assemblies. Provide a legend and the location of required fire-dampers where the floor/ceiling assembly has been penetrated. Include details for the installation of the fire-dampers on the plans, these shall be the UL listed installation diagrams.
- 24. At the core sheets and the overall floor plans, show compliance with section 1027.6 and 1023.7 CBC for protection of openings at the bottom of the stairway, see the redlines at sheet A.03.200.
- 25. Provide a typical detail for the one-hour fire rating at the fire extinguisher cabinet located at the stairway fire barrier walls.
- 26. Please include the following information on the plans for the required fire rating assemblies and fire-stopping:
 - a) Provide the actual UL design card on the plans for all rated construction details.
 - b) Provide the actual UL design card for all fire-stopping designs
 - c) Ensure drawn details include the required fiber insulation thickness as required by the UL listing
 - d) All framing members per the UL listing shall have corrosion protection, add a note the plans
 - e) Exterior walls with STC if required by the acoustical report
 - f) Interior walls with STC ratings
 - g) Shafts (one-hour)
 - h) Floor/ceilings with STC ratings
 - i) UL listed fire stopping for walls for one-hour ratings. If the penetration is not within a wall, then the T rating is required
 - j) UL listed fire stopping for floor/ceiling assembly penetrations (tub/showers receptacles)

- 27. At all rated wall construction, ensure that the structural plans show the size of the anchors and maximum 24" spacing for all top and bottom plates.
- 28. At common walls ensure all electrical and similar boxes have a minimum of 24" separation by a stud bay or provide approved one-hour rated puddy pads.
- 29. At all one-hour floor/ceiling assemblies provide calculations showing not more than 100 square inches of light fixtures penetrate the ceiling in 100 square feet.
- 30. At all wall cavities amend the plans and provide fire-blocking location as required by sections 718.2.6 CBC.
- 31. Provide draft-stops as required by section 718.3.2 CBC. Include details and locations on the plans.
- 32. Since plastic waste/vent and water piping are being used, ensure all fire stopping callouts are UL listed for the intended installation. Mixing different materials plastic and metal piping shall have UL listing for the intended installation.
- 33. Since plastic and metal waste and vent piping will be installed and connected to each other, provide an IAMPO listed approved expansion joint fitting at all required locations. This expansion joint shall be tested to carry any vertical waste loads imposed. Provide a detail and diagram on the plans for review and approval. Include the listing number of the expansion joint.
- 34. At sheet A.03.190, show a minimum balcony slope of $\frac{1}{4}$ " to drain.
- 35. At the balcony deck areas provide area and over floor drains. Use 2" rainfall per hour and chapter 11 CPC for required sizes.
- 36. At all exterior decks call-out the detail for all required guardrails.
- 37. Detail and show all roof access locations(s) shall comply with section 1015.7 CBC for required guards when closer than 10' to the edge of the roof.
- 38. Add a note showing all wall, ceiling and flooring (carpeting) materials comply with chapter 8 CBC for maximum flame spread and smoke density. See section 803 CBC, Table 803.11 and section 804 CBC flooring.
- 39. Provide the minimum fire ratings class for all roofing system per Table 1505.1 CBC. Show the fire rating of all roofing material; show minimum class B fire rating. Include the UL listing of the system.
- 40. Provide attic and rafter bay ventilation. Provide calculations and locations on the plans per section 1203.2 CBC.
- 41. Provide calculations for scupper and leaders. Use 2" per hour rain and comply with sections 1503.4 CBC and 1101.12 CPC. Clearly show location of all roof drains and overflow drains on the roof plans.
- 42. Add a note or refer to a note on the plans indicating that all flashing is 26gage galvanized.
- 43. At all roof plans for the R-2, provide the number of vents required based on the attic ventilation calculations.
- 44. Provide manufacturer's spec for the following installations:
 - a) Roofing material showing the minimum fire rating (with a UL listing)
 - b) Siding and cladding
 - c) IAMPO listed approved expansion joint fitting
 - d) EV charging systems
 - e) HVAC equipment

Dwelling units

- 1. Provide and detail all doors serving unit(s) comply with sections 1126A, and 1132A.1 through 1132A.10 CBC. Provide and detail the required clearances at all doors on the plans. Identify and use dashed lines to show compliance. See redlines about doors opening into hallways and bathrooms.
- 2. Provide complete details, elevation and sections on the plans for the kitchen and layout to comply with section 1133A.1 through 1133A.7.1 CBC. Show and detail clearances at all kitchen equipment on the plans. Include details and clearances at all kitchen equipment, counters, shelving, and required knee clearances. Identify and use dashed lines to show compliance. See redlines at sheet MA.K3B.
- 3. Provide complete details, elevation and sections on the plans for the bathrooms and layout to comply with section 1134A.1 through 1134A.8 CBC. Include details and clearances at all doors, toilets, sinks, sinks with cabinets, tubs and showers on the plans. Show and detail clearances at the bathrooms on the plans. Identify and use dashed lines to show compliance. See redlines at sheets A.U3.551, 551A, 552 and 556.
- 4. Provide complete details, elevation and sections for the proposed washing and dryer locations to comply with section 1135A CBC. Identify and use dashed lines to show compliance.
- 5. Ensure all second and third floor windows comply with section 1015.8 CBC concerning minimum interior windowsill heights.
- 6. At all floor plans, correct the details called out; see sheet A.U3.001 as an example.
- 7. Ensure all doors are included on the door schedule at each unit and are called out correctly.
- 8. Sheet A.03.931 is called out but was not included with the plan set. Based on the revised plans additional comments may be generated.
- 9. Provide the location of a doorbell per section 1132A.10 CBC. Include the location on the electrical plans as well.

Egress comments:

- 1. Show compliance with section 1006.2.1 CBC and table 1006.3.2.1 CBC. At all building narrative sheets include the maximum travel distances from the remotest location in the building until egress is provided at the end of the stairway. Also, include the vertical travel distance at the open stairs.
- 2. Clearly show the accessible egress route from all required building exits to the public right of way per section 1009.2 CBC.
- 3. Calculate and show the stair width at 0.3 with exceptions at 1005.3.1 CBC, and show a minimum 44" clear stair width based on an occupant load of 50.
- 4. Show the width of the walkway from the edge of the stair to the face of the building; see redline comment at 8/A.03.710.
- 5. Provide emergency illumination at the proposed exterior landing per 1008.3 CBC. Provide a minimum 90-minute backup.
- 6. Ensure 1 foot candle of emergency illumination is provided at all exit paths until egress is achieved from the building. This includes the ceiling area for egress at interior exit stairs
- 7. Show the location of all illuminated exit signs on the plans. All exit signs and illuminated emergency lighting shall have a minimum 90-minute back up

- 8. Provide panic hardware on all doors serving the electrical rooms per section 1008.1.10 CBC.
- 9. Provide emergency lighting in the electrical room per section 1008.3 CBC.

Green buildings comments:

Residential:

- 1. Show the location of EVCS on the plans. Comply with section 4.106.4.2 minimum for required number of parking spaces.
- 2. Detail the installation of the EVCS to comply with sections 4.106.4.2.1 through 4.106.4.2.5 CGCB.
- 3. Provide and detail the capillary break and vapor barrier for the proposed slab floors on the plans section 4.505.2.1 CGBC.
- 4. Provide duct sizing per section 4.507.2 CGBC.

Mechanical, Electrical & Plumbing Plan Review Comments

Mechanical comments:

- 1. Ensure the correct year SMANCA standard edition is used.
- 2. Show the minimum duct insulation R-value on the plans.
- 3. Detail the installation of the proposed VTHP units on the plans.
- 4. Add a note on the plans that all ducting shall be UL listed for the location.
- 5. Provide a note on the plans that the maximum length of any flex duct is 5' per section 603.5 CMC.
- 6. Add a note on the plans showing all duct & piping insulation to comply with the maximum flame spread of 25 and maximum smoke density of 50.
- 7. Provide a note for backdraft dampers to be installed on all exhaust outlets.
- 8. Provide sizing information on the plans for the proposed bathroom exhaust fans use table 403.7 CMC.
- 9. Detail the connection of the multiple exhaust ducts to the proposed exhaust fans on the roof.
- 10. Provide information calculations for the dryer vents through the roof.
- 11. Show a maximum height of T-stats of 48" AFF.
- 12. Show and include dimensions at all units on the plans for a minimum 36" clearance from all environmental air to openings into the building.
- 13. Show the location of required one-hour shafts with construction details on the plans.
- 14. Show the location and a legend on the plans for the required fire-dampers where the floor/ceiling assembly has been penetrated.
- 15. Provide the UL listing and detail on the plans for the installation of the proposed firedampers.
- 16. See the redline comments at sheets M.03.A01-A05, B01-B03 and C01 and 02. Correct or respond as required.

17. In relation to the location of all roof HVAC equipment, provide fall protection as required by section 1015. 6 CBC.

Electrical comments:

- 1. At all notes remove NEC and replace with **2016 CEC**.
- 2. Explain the difference between subpanel A01C and MSDE?
- 3. At sheet E.U3.B01.1, include the smoke and carbon monoxide alarm information.
- 4. At the two- and three-bedroom units include combo smoke and carbon monoxide alarm in the vicinity of each sleeping room.
- 5. Provide and show power for all exhaust fans including cook hoods.
- 6. Show the location of all exterior lighting serving the unit entry doors with switching.
- 7. Show the location of all exterior lighting serving the exterior stairs with controls.
- 8. Since some of the panels exceed 80% of the loads, add a note on the plans and ensure that all electrical panels are UL listed and rated at 100% of the loads.
- 9. Provide a switch at the bottom of the roof access location(s) with a light at the roof hatch above per section 304.3.2 CMC.
- 10. Add a note for **GFCI protection** per article 210.8 # 10 CEC laundry areas.
- 11. Add a note for **GFCI protection** per article 210.8 (D) dishwasher location.
- 12. Add receptacles not to exceed 12'o.c, these include walls with a minimum length of 2'-0" at all new walls as required per article 210.52 CEC.
- 13. At all electrical rooms label all panels to match the one-line at sheet at 1/E.BD.506.
- 14. Provide emergency lighting serving the electrical room with 90-minute backup.
- 15. Show the required lighting controls in the electrical room.
- 16. Provide and show double the working clearance or provide two exits from the electrical room.
- 17. See plumbing comment 28. Ensure that no piping will be installed over any electrical equipment.
- 18. Show the conduit serving the 125a unit panel with to be a minimum of 1-1/2" or provide conduit fill calculations.
- 19. On the one-line diagrams, specify the size of the main bond jumper on the plans per table 250.102 (c) (1) CEC.
- 20. At panels H7 and H9, some of the house loads are missing which would equal 61 amps on the house panel.
- 21. See CGBC comment 1, justify the propose EVCS loads based on the total number of parking stalls required by the noted CGBC section.
- 22. At the house panels justify circuit & feeder calculations; include 125% non-continuous and continuous loads per at 210.19 & 215.2 CEC.
- 23. At the house panels justify circuit & feeder overcurrent protection, provide calculations for 125% non-continuous and continuous loads per at 210.20 & 215.3 CEC.
- 24. At all electrical services provide the following for bonding and grounding of the electrical system as required by article 250.50 & table 250.66 CEC. Show the size and type of all conductors on the plans.

- a) For the metal underground piping, show the size of all conduits and conductors within 5' of the entrance of the building. Add a note for the GEC connected to the metal underground piping shall be within 5' of the entrance of the building.
- b) Metal building or structure; show the size of all conduits and conductors
- c) Concrete encased electrode, (UFER) show the size and length of the conductor
- d) Supplemental electrodes, show the size of all conduits and conductors
- 25. For the installation of the smoke and carbon monoxide alarms, use and reference sections 907.2.11.2 CBC smoke alarms and section 420.6 CBC carbon monoxide alarms.
- 26. Comply with section 1008.3 for emergency illumination of the exterior exit landings; see redlines.
- 27. Provide emergency lighting for both exit stairs. On the exterior, see section 1008.3 CBC; this stair shall be illuminated to grade.
- 28. Provide and show the disconnect locations for all heat-pumps on the plans.
- 29. Provide 120v GFI/WP receptacle within 25' of all roof equipment requiring serving per article 210.63 CEC.
- 30. Show the all receptacles and communication outlets a minimum 15" to the bottom of the box and all switches and t-stats a maximum of 48" to the top of the box.
- 31. Provide the following on the plans to comply with Solar System.
 - a) Change all code references from the NEC to the **2016 CEC**
 - b) Provide the UL listings for the panels and racking system including the minimum fire-rating as a listed assembly.
 - c) Provide racking system and attachment details on the plans.
 - d) Per article 705 CEC provide calculation for 120%
 - e) Provide manufacturer's cut sheets for all equipment with UL listings
 - f) Show the PV panel layout on the roof complies with section 605.11 CFC
 - g) If the PV system is being installed with this permit, provide a roof plan showing the location of all panels.
 - h) Provide sizing calculations for conductors and feeders on the **roof.** These shall sized based on table 310.15(3)(C) for ambient temp CEC
 - i) At the roof plans, provide a larger scaled plan showing the layout of all electrical equipment and disconnects
 - j) Include the PV panels and boxes on the one-line diagrams for all buildings
 - k) If the PV system is not part of the permit, provide NRCC-SRA-01-E Solar Ready Area
 - 1) If the PV system is not part of the permit, NRCC-SRA-02-E Solar Ready Area
 - m) On the roof plan show the minimum area required for all PV panels

Structural Design Loads on Construction Documents. For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

NOTE: Section 110.10(b)4 does not require the inclusion of any collateral loads for future solar energy systems.

(c) *Interconnection Pathways.* 1. The construction documents shall indicate a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service.
(d) **Documentation.** A copy of the construction documents or a comparable document indicating the information from Sections 110.10(b) through 110.10(c) shall be provided to the occupant.

(e) Main Electrical Service Panel.

1. The main electrical service panel shall have a minimum bus bar rating of 200 amps.

2. The main electrical service panel shall have a reserved space to allow for the

installation of a double pole circuit breaker for a future solar electric installation.

A. *Location.* The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

B. Marking. The reserved space shall be permanently marked as "For Future Solar Electric".

32. Provide equipment specifications (cut sheets) for:

- a) Electrical Panels
- b) Inverters (UL listed as an emergency system complying with UL924)
- 33. Provide structural calculations and construction details for the following installations:
 - a) Detail all electrical equipment anchorage and provide calculations as required

Plumbing comments:

- 1. Provide the following for the proposed piping materials
 - a) Waste/vent
 - b) Water
 - c) Condensate
 - d) Gas
 - e) Storm drains serving the stair-landings
- 2. Provide an isometric plan for each building for the water, waste/vent, gas, storm drains and condensate line.
- 3. Add a note and amend the plans to show the maximum number of stories allowing the use plastic waste and vent system is **two** per section 701.2 CPC.
- 4. Provide a complete waste and vent plan serving each floor, each unit, and serving each building. At the waste and vent plan, identify all waste & vents and sizes serving all fixtures. Include the location of all fixtures on the plans.
- 5. At the isometric plan serving the waste and vent include the fixture units at all main lines and branches. Also, include the fixture units at all vents.
- 6. At the plumbing plans and isometric identify and include suds protection details on the plans per section 711 CPC.
- 7. For building sewers, per section 718.1 of the 2016 CPC, show the minimum *sanitary sewer* pipe slope on the plans as follows: SS 3" or smaller minimum ¹/4" per foot, SS 4"-6" minimum 1/8" per foot. SS 8" or larger minimum 1/16" per foot. The invert heights between inlets must be equal to the minimum slopes above. Slopes shown less than required by the CPC shall be reviewed and approved by the building official.
- 8. Per sections 707 & 719 CPC, show the location on the plans for required cleanouts:
- 9. Show the maximum distance between cleanout to be 100'. Provide a clean-out at the upper terminal of the pipe. Provide a clean-out at the change of direction of 135degrees or more; also, at kitchens sinks.
- 10. At all sanitary sewer branches show the maximum fixture loading at all points along the sanitary sewer piping.
- 11. Provide a complete hot and cold-water plan serving each floor, each unit, and serving each building. All fixtures shall be shown on the plans for clarification and inspection.

- 12. Provide a complete hot water recirc. plan serving each floor, each unit, and serving each building. All fixtures shall be shown on the plans.
- 13. Since PEX may be used for this project, show compliance with section 605.9 CPC. PEX-Al is not allowed per section 605.10 CPC. Provide a complete design for the installation of the PEX per the manufacturer's requirements.
- 14. Provide the location of all hot & cold water distribution blocks with required access.
- 15. Provide sizing calculations and charts on the plans for the PEX system per the manufacturer's installation requirements.
- 16. For main water supplies, provide sizing calculations based on tables 610.3 and 610.4 CPC, OR...
- 17. Provide sizing calculations per Appendix A, CPC. Include friction calculations which include the maximum developed length of pipe, and losses due to elevation, meter and backflow devices.
- 18. Provide a water piping size chart based on the frication loss calculations showing the maximum fixture units per pipe size on the plans.
- 19. At the isometric plan serving the cold and hot water supplies include the fixture units at all main supplies and branches.
- 20. At the water supply plan, identify all pipe sizes serving all fixtures. Include the location of all fixtures on the plans.
- 21. Water piping installed under-slab shall comply with section 609.3 CPC, provide a detail showing compliance on the plans.
- 22. Provide regulators for all equipment as required. Include their location on the plans.
- 23. Provide gas line diagram on the plans use table 1216.2. (1) for sizing purposes
- 24. Provide a gas line plumbing plan showing the pipe size, developed length of pipe and the proposed BTU's for all outlets.
- 25. At sheet P.03.400, provide information and manufacturer's specs for vents serving the water heaters with combined vents.
- 26. The vents from the water heater shall maintain proper clearances to building openings.
- 27. Comply with section 608.6 CPC for required relief valves between storage tanks and water heaters.
- 28. At 2/ P.03.400, ensure the overhead piping from the utility room at the electrical room comply with article 110.26 (E) (1) CEC.
- 29. Add a note for all proposed hose bibs to have non-removable backflow device.
- 30. Add a note on the plans to include the following: Water piping and cooling system line insulation thickness and conductivity Piping shall be insulated to the thicknesses as follows:
- 31. Add a note on the plans for all hot water lines to be insulated per sections 141.0 (b) N, 140.5 and 120.3 CEC.

(a) **General Requirements.** The piping conditions listed below for spaceconditioning and service water-heating

systems with fluid temperatures listed in TABLE 120.3-A, shall have the amount of insulation specified in

Subsection (c):

- 1. Space Cooling Systems. All refrigerant suction, chilled water and brine lines.
- 2. Space Heating Systems. All steam, steam condensate and hot water lines.

3. Service water-heating systems.

A. Recirculating system piping, including the supply and return piping of the water heater.

B. The first 8 feet of hot and cold outlet piping for a nonrecirculating storage system.

C. The inlet pipe between the storage tank and a heat trap in a nonrecirculating storage system.

D. Pipes that are externally heated.

- 32. Insulation shall have a maximum flame spread of 25 and smoke density of 50.
- 33. Provide complete design for all condensate piping per table 310.3 CMC and Section 814 CPC.
- 34. Provide detailed plumbing plans for the drainage of the stair-landings, and any final storm drain connection to the site system.
- 35. Provide calculations for scupper and leaders. Use 2" per hour rainfall and comply with sections 1503.4 CBC and 1101.12 CPC. Clearly show location of all roof drains and overflow drains on the roof plans. Include sizing charts, calculations and supporting information on the plans.
- 36. Provide details for the support, anchorage and flashing (water proofing) for all piping (water, waste/vent, gas and condensate piping) located on the roof.
- 37. Provide an anchorage (strapping) detail for the hot water storage tank.
- 38. Provide manufacturer's specs and details for the following installations:
 - a) Hot water heaters
 - b) Storage tank
 - c) Sub meters
 - d) Expansion tanks
 - e) Manufacturer's spec for transition between the cast iron and plastic waste piping.

Title 24 comments:

1. Please check the fenestrations area or square footage of all windows and doors facing all orientations at buildings 6-11. At building 9 it appears that the window area on the north (front) facing elevations of the plans does not match that at sheet G.BD.275.

Civil Plan Review Comments

Civil comments:

- 1. The civil plans are not a part of this volume. Comments are for the civil design that was submitted as incomplete. Additional comments may be generated with re-submitted revised plans.
- 2. Provide evidence of a recorded map if required for this project. Show abandonment of any easements of other record property lines.
- 3. Show the location and evidence of all recorded easements on the property.
- 4. Specify the flood zone designation along with the building data. Show in which flood zone the parcel is located. If in zone X, show on the building data. If within a flood zone show and provide compliance with the Tracy local flood ordinance.

If the parcel is located within other than an X designation, **please show compliance with city municipal code 9.52.150 - Standards of construction** (c) Elevation and Flood-proofing.

(1) New construction and substantial improvements shall have the lowest floor elevation, including basement, elevated to or above the base flood elevation. Nonresidential structures may meet the standards set forth in subsection (3) of this subsection. Upon the completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or verified by the community building inspector to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator.

(2) Nonresidential construction shall either be elevated to conform with subsection (1) of this subsection or, together with attendant utility and sanitary facilities)

9.52.160 - Standards for utilities.

a) All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and the discharge of untreated effluent from sanitary systems into floodwater.

(b) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

- 5. Provide a letter from the geotechnical engineer of record indicating the <u>site drainage and</u> <u>foundation</u> design comply with the soils investigation report.
- 6. Provide a list of inspections to be performed by the geotechnical engineer per the investigation report on the plans.
- 7. Provide a back-water valve on the main sewer line at the proper line per 710.1 CPC. The value is required if the rim of the next upstream manhole has an elevation higher than the building finish floor. due to the next upstream manhole.

Accessibility Civil:

- 8. See the accessible plan check comments at beginning of the plan check letter. Amend the civil plan sheets as required to comply with all access plan check comments. Provide a written response addressing all civil changes to comply with the accessibility comments.
- 9. Also, see the egress comments concerning required accessible path from all required exits to the public right of way.
- 10. Verify and add a note for all walkways & cross-walkways within the parking lot (cross aisles) shall have a maximum 5% slope in the direction of travel with a maximum 2% cross slope. Also, continuous gradients shall have a resetting area of 60" per section 11B-403.7 CBC.
- 11. Verify the grades and show a maximum 2% percent slope in any directions at the diabled parking stalls and access aisle area.
- 12. Verify the grades and show a maximum 2% percent slope in any directions at the EV charging station(s) parking stalls and access aisle area.

Structural Comments:

- 1 Structural plan sheet numbers (S.03.XXX) previously submitted are different than those submitted electronically (S.00.XXX). Please coordinate. If using the S.03.XXX format as it is , revise references and detail marks on plans to match.
- 2 Clarify "PACO" on the plan sheet S.00.711. This is not in the index or abbreviation section.
- 3 Clarify and show instances on the plans where detail 11/S.00.704is used.

- 4 Details 5, 7. 9, and 11/S.00.711 show trusses are attached to walls at the factory. Please clarify as it appears these may be connected at the job site. If not, please explain.
- 5 Detail reference **8/S00.901** as shown on plan sheets S.BD.120 and 130 is not included in the details.
- 6 Detail reference **8/S00.911** as shown on plan sheets S.BD.120 and 130 is not included in the details.
- 7 At detail 3/S.00.712 please clarify if the drag connection is made to the landing "C12" or a floor truss. Revise detail if the connection is made to the C12.
- 8 On plan sheets S.BD. 120 and 130 at the stairway detail reference 12/S.00.902 is called out. The sheet S.00.902 is not a part of the submitted plans. Please submit.
- 9 Provide a City of Tracy **signed** special inspection form for all work under such inspection with the next submittal.

END