GLENN COUNTY
Planning & Community Development Services Agency

225 North Tehama Street
Willows, CA 95988
530.934.6540
www.countyofglenn.net

Donald Rust, Director

North Valley Building Systems
Seville Ct. #30
Chico, CA 95928

RE: **Site Plan Review 2021-019, Koehnen**
APN: 023-080-056

December 16, 2021

To Whom It May Concern,

On October 27, 2021, the Glenn County Planning & Community Development Services Agency received your application for a Site Plan Review. This project is in the "FS-80" (Farmland Security Zone) zoning district and is an allowed use with an approved Site Plan Review.

On December 16, 2021, the Glenn County Planning & Community Development Services Agency approved the Site Plan Review. Included with the Staff Report is a copy of the Compliance Requirement. Please sign the Compliance Requirement where indicated and return by email, or send to the Glenn County Planning & Community Development Services Agency, 225 N Tehama Street, Willows, CA 95988.

Please note that this is not a building permit. For information on acquiring a building permit, contact the Glenn County Building Inspection Division at (530) 934-6546.

Sincerely,

Sylinda Villado
PSE Assistant Planner
svillado@countyofglenn.net

Cc:
C.F. Koehnen & Sons Orchards
3131 State Route 45
Glenn, CA 95943

GLENN COUNTY
Planning & Community Development Services Agency

225 North Tehama Street
Willows, CA 95988
530.934.6540
www.countyofglenn.net

Donald Rust, Director

STAFF REPORT

DATE: December 16, 2021

TO: Donald Rust, Director

FROM: Sylinda Villado, PSE Assistant Planner

RE: **Site Plan Review 2021-019, Koehnen, Agriculture Storage**
"FS-80" Farmland Security Zone

Attachments:

1. Compliance Requirement
2. Agency Comments
3. Request for Review
4. Application Materials
5. Site Plan

1 PROJECT SUMMARY

An application for a Site Plan Review to construct an agriculture storage structure has been received. The structure has overall dimensions of 120 ft. by 390 ft. (46,800 sq. ft.) with a peak height of approximately 42 ft. The proposed structure will serve as almond hull storage at an existing agricultural operation.

The project is located at 3131 State Route 45, north of Ord Bend; on the west side of State Route 45, south of County Road 29, west of the Sacramento River and north of Ord Ferry Road (County Road 32), in the unincorporated area of Glenn County, California.

The Assessor's Parcel Number (APN) for the 165.47± acre site is 023-080-056. The site is zoned "FS-80" Farmland Security Zone (72-acre, minimum parcel size) and is designated "Intensive Agriculture" in the Glenn County General Plan.

1.1 RECOMMENDATIONS

Staff recommends that the Director find that this project qualifies as a statutory exemption within section 15268 of the California Environmental Quality Act.

Staff also recommends that the Director approve the Site Plan Review with the Findings as presented in the Staff Report and the Compliance Requirement as attached.

2 ANALYSIS

The proposed project is consistent with the land use in this area. This area of Glenn County is agricultural and the proposed project is a permitted use with an approved Site Plan Review. A Site Plan Review is required prior to construction to ensure compliance with all the requirements of the Glenn County Code.

This proposal will not have significant additional accompanying traffic; the property is used for agriculture and will not be altered with this proposal. Surrounding county roads are reasonably adequate to safely accommodate the proposed project (Finding 5).

2.1 ENVIRONMENTAL DETERMINATION

This project as proposed is not anticipated to introduce potentially significant impacts to the environment.

Site plan reviews are statutorily exempt pursuant to Section 15268, "*Ministerial Projects"*, of the Guidelines of the California Environmental Quality Act (CEQA). Article 18 (Statutory Exemptions), §15268(a) & (c) (Ministerial Projects).

Site plan reviews, outlined in Section 15.130 of the Glenn County Code, are deemed a ministerial project within Glenn County Title 15, Unified Development Code (Title 15, Division 2, Part 1).

2.2 GENERAL PLAN AND ZONING CONSISTENCY

The site is designated “Intensive Agriculture” in the Glenn County General Plan and is zoned “FS-80” Farmland and Security Zone, 72-acre minimum parcel size. This project is in an area of existing agricultural uses and the proposed agriculture storage structure is a permitted use in the “FS-80” zone with an approved site plan review (Glenn County Code Chapter 15.470.020.J.) (Finding 1). The proposal will not adversely affect any surrounding uses in the area and will not adversely affect the General Plan (Finding 4).

2.2.1 “FS” FARMLAND AND SECURITY ZONE (GLENN COUNTY CODE CHAPTER 15.470):

Permitted Uses (Glenn County Code §15.470.020):

The proposed project is for an agriculture equipment storage structure and is a permitted use under Glenn County Code §15.470.020.J.

Maximum Building Height (Glenn County Code §15.470.060):

The height of the proposed structure is approximately 42 ft. and will meet the height requirement for the Farmland Security Zone of 50 ft. per §15.470.060.B.

Minimum Distance Between Structures (Glenn County Code §15.470.070):

The proposed project is for equipment storage and will not provide shelter to livestock; therefore, Glenn County Code §15.470.070.B. does not apply.

Minimum Yard Requirements (Glenn County Code §15.470.080):

The proposed front, side, and rear yards exceed 30 ft.; therefore, the minimum yard requirements for the Farmland Security Zone will be met.

2.3 WILLIAMSON ACT CONTRACT

The project site is zoned (FS-80) and is under a Williamson Act Contract (WA-FS 2002-03). According to California Government Code Section 51238.1, uses approved on contracted land shall be consistent with the principles found in that statute. The proposal is an agricultural storage structure for an existing agricultural operation. The proposal will not displace or impair current or reasonably foreseeable agriculture operations. The proposal will not result in the removal of any land from agriculture or open-space use and is not a residential subdivision. It is concluded this proposal is consistent with principles found in Section 51238.1 of the California Government Code. Additionally, this proposal would not represent a violation of Section 51250 of the California Government Code, as the proposal is for the construction of an agriculture storage structure.

2.3.1 GENERAL PROVISIONS

Flood Zone Designation:

Flood Zone "X" according to Flood Insurance Rate Map (FIRM) No. 06007C0425D, dated August 4, 2010 issued by the Federal Emergency Management Agency (FEMA). Flood Zone "X" (unshaded) consists of areas of minimal risk outside the 1-percent and 0.2-percent annual chance floodplains. No base flood elevations or base flood depths are shown within this zone.

Code Violations:

No records of violations were noted on the property; therefore, the proposed building and Site Plan Review are compliant with Glenn County Code §15.130.050 (F) (Finding 6).

Other Comments:

Agencies provided application information can be seen in request for review.

3 NOTICE TO APPLICANT/AGENT

This site plan review is not a building permit. It is the applicant's responsibility to secure the necessary permits in all affected federal, state, and local agencies and submit copies of such permits to the Planning & Community Development Services Agency.

If upon approval of this site plan review any problem, nuisance, or health hazard arises from the operation allowed by this review, the director shall determine the need to revise or modify the use or require additional Compliance Requirements.

In addition to the staff report and Compliance Requirement, the applicant's and his/her technical or project management representative's attention is directed to the attached memoranda from agencies reflecting their comments on reviewing the application. The items noted are a guide to assist in meeting the requirements of applicable government codes. Memoranda may also note any unusual circumstances that require special attention. The items listed are a guide and not intended to be a comprehensive summary of all codified requirements or site-specific requirements.

3.1 PERMIT ISSUANCE AND APPEAL PERIOD (GLENN COUNTY CODE §15.130.060)

Site plan review permits shall be effective upon issuance, unless within ten (10) calendar days of a decision by the Director, the decision is appealed as provided for in Section 15.050.010. In the case of an appeal being filed, the site plan review permit shall not have any force or effect until a decision is made by the Approving Authority on such an appeal.

Additionally, site plan review permit approvals shall not be valid until the permittee has agreed in writing to each term and requirement thereof.

4 FINDINGS

As described and found in this report, and in accordance with Glenn County Code Section 15.130.050.

Finding 1:

The proposed use is a permitted and allowed use in the “FS-80” zoning district.

Finding 2:

The site for the project is adequate in size, shape, location, and physical characteristics to accommodate the proposed project.

Finding 3:

Based on responsible agency review of the project, there are adequate public or private services, including but not limited to fire protection, water supply, sewage disposal, and storm drainage.

Finding 4:

The project is in conformance with the applicable provisions and policies of Title 15 of the Glenn County Code and the Glenn County General Plan.

Finding 5:

The county roads which serve the project are reasonably adequate to safely accommodate the proposed project.

Finding 6:

After searching county records, no violation of the Glenn County Code currently exists on the property.

COMPLIANCE REQUIREMENT

Site Plan Review 2021-019

APN: 023-080-056

1. That the area of operation shall be confined to those areas as shown on the site plan being identified as Exhibit “A” as submitted and on file at the Glenn County Planning & Community Development Services Agency.

Acknowledgment:

I hereby declare that I have read the foregoing conditions that they are in fact the conditions that were imposed upon the granting of this permit, and that I agree to abide fully by said conditions. Additionally, I have read the staff report and I am aware of codified county, state, and/or federal standards and regulation that shall be met with the granting of this permit.

North Valley Building: _____
Applicant (Print Name & Position)

Signature: _____ Date: _____

PUBLIC WORKS AGENCY

P.O. Box 1070 / 777 N. Colusa Street
Willows, CA 95988

Talia Richardson, Interim Director

Airports
Engineering
Flood Control
Roads & Bridges
Solid Waste
Surveyor

December 6, 2021

Glenn County Planning and
Community Development Services
225 N. Tehama Street
Willows, CA 95988

Attn: Sylinda Villado, PSE Assistant Planner

Subject: Site Plan Review 2021-019 – C. F Koehnen & Sons Orchards

Comments

None

Conditions

None

Michael Biggs
Engineering Technician III
Glenn County Public Works

GLENN COUNTY
Planning & Community Development Services Agency
Environmental Health Department

225 N Tehama St.
Willows, CA 95988
Tel: 530.934.6102 Fax: 530.934.6103
www.countyofglenn.net

DONALD RUST, Director

November 29, 2021

To: Sylinda Villado, PSE Assistant Planner
Glenn County Planning & Community Development Services Agency
(Via email)

From: Andrew A. Petyo, REHS

Re: Site Plan Review #2021-019, Koehnen, Agriculture Storage.
APN 023-080-056

We have reviewed the project information noted above and recommend it found complete for further processing.

If you have any further question please contact Environmental Health.

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

November 22, 2021

Sylinda Villado
County of Glenn
225 N Tehama Street
Willows, CA 95988

Ref: Gas and Electric Transmission and Distribution

Dear Sylinda Villado,

Thank you for submitting the SPR2021-019 plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Pacific Gas and Electric Company

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

December 10, 2021

Sylinda Villado
County of Glenn
225 N Tehama Street
Willows, CA 95988

Re: SPR2021-019
3131 State Route 45, Glenn, CA 95943

Dear Sylinda:

Thank you for providing PG&E the opportunity to review your proposed plans for SPR2021-019 dated 11-22-2021. Our review indicates your proposed improvements do not appear to directly interfere with existing PG&E facilities or impact our easement rights.

Please note this is our preliminary review and PG&E reserves the right for additional future review as needed. This letter shall not in any way alter, modify, or terminate any provision of any existing easement rights. If there are subsequent modifications made to your design, we ask that you resubmit the plans to the email address listed below.

If you require PG&E gas or electrical service in the future, please continue to work with PG&E's Service Planning department: https://www.pge.com/cco/.

As a reminder, before any digging or excavation occurs, please contact Underground Service Alert (USA) by dialing 811 a minimum of 2 working days prior to commencing any work. This free and independent service will ensure that all existing underground utilities are identified and marked on-site.

If you have any questions regarding our response, please contact the PG&E Plan Review Team at (877) 259-8314 or pgeplanreview@pge.com.

Sincerely,

PG&E Plan Review Team
Land Management

GLENN COUNTY
Planning & Community Development Services Agency

225 North Tehama Street
Willows, CA 95988
530.934.6540
www.countyofglenn.net

Donald Rust, Director

REQUEST FOR REVIEW

COUNTY DEPARTMENTS/DISTRICTS

- ☒ Glenn County Agricultural Commissioner
- ☒ Glenn County Air Pollution Control District/CUPA
- ☒ Glenn County Assessor
- ☒ Glenn County Building Inspector
- ☒ Glenn County Engineering & Surveying Division
- ☒ Glenn County Environmental Health Department
- ☒ Glenn County Sheriff's Department
- ☐ Glenn County Board of Supervisors
- ☐ Glenn County Counsel
- ☐ Glenn County Planning Commission
- ☐ Glenn LAFCO

FEDERAL AGENCIES

- ☐ U.S. Army Corps of Engineers
- ☐ U.S. Fish and Wildlife Service
- ☐ U.S. Department of Agriculture
- ☐ U.S. Bureau of Reclamation - Willows

STATE AGENCIES

- ☐ Central Valley Flood Protection Board
- ☐ Central Valley Regional Water Quality Control Board (RWQCB)
- ☐ State Water Resources Control Board – Division of Drinking Water
- ☐ Department of Alcoholic Beverage Control (ABC)
- ☐ Department of Conservation, Division of Land Resource Protection
- ☐ Department of Conservation, Office of Mine Reclamation (OMR)
- ☐ Department of Conservation, Division of Oil, Gas, and Geothermal Resources
- ☐ Department of Fish and Wildlife
- ☐ Department of Food and Agriculture
- ☐ Department of Forestry and Fire Protection (Cal Fire)
- ☐ Department of Housing and Community Development (HCD)
- ☐ Department of Public Health
- ☐ Department of Toxic Substances Control (DTSC)
- ☐ Department of Transportation (Caltrans)
- ☐ Department of Water Resources (DWR)
- ☐ Office of the State Fire Marshall
- ☐ CalRecycle

OTHER

- ☐ Western Area Power Administration
- ☐ Sacramento River National Wildlife Refuge
- ☐ City of Willows
- ☐ Community Services District:
- ☒ Pacific Gas and Electric Company (PG&E)
- ☒ Fire Protection District: Ord
- ☐ Glenn County Resource Conservation District
- ☐ School District:
- ☐ Northeast Center of the California Historical Resources Information System
- ☐ Railroad:
- ☐ Reclamation District:
- ☐ Water/Irrigation District:
- ☐ Special District:
- ☐ Tehama-Colusa Canal Authority
- ☐ UC Cooperative Extension Office

DATE: November 22, 2021

PROPOSAL: Site Plan Review 2021-019
Koehnen, Agriculture Storage

PLANNER: Sylinda Villado, PSE Assistant Planner; svillado@countyofglenn.net

APPLICANT: North Valley Building Systems
#30 Seville Ct.
Chico, CA 95928

LANDOWNER: C.F. Koehnen & Sons Orchards
3131 State Hwy 45
Glenn, CA 95943

PROPOSAL: Site Plan Review 2021-019
Koehnen, Agriculture Storage

An application for an Agriculture Storage Structure has been received. The structure has overall dimensions of 120 ft by 390 ft (46,800 Sq. Ft) with a peak height of approximately 42 ft. The proposed structure will serve as almond hull storage on an existing agricultural operation.

LOCATION: The project is located at 3131 State Route 45 north of Ord Bend; on the west side of State Route 45, south of County Road 29, west of the Sacramento River and north of Ord Ferry Road (County Road 32) in the unincorporated area of Glenn County, California.

APN: 023-080-056 (165.47 ± acres)

ZONING: "FS-80" Farmland Security Zone (72-acre, minimum parcel size)

GENERAL PLAN: "Intensive Agriculture"

FLOOD ZONE: Flood Zone "X" according to Flood Insurance Rate Map (FIRM) No. 06021C0425D, dated August 4, 2010 issued by the Federal Emergency Management Agency (FEMA). Flood Zone "X" (unshaded) consists of areas of minimal risk outside the 1-percent and 0.2-percent annual chance floodplains. No base flood elevations or base flood depths are shown within this zone.

The Glenn County Planning Division is requesting comments on this proposal for determination of completeness, potential constraints, and/or proposed Compliance Requirement. If comments are not received by **Monday, December 6, 2021,** it is assumed that there are no specific comments to be included in the analysis of the project. Comments submitted by e-mail are acceptable. Thank you for considering this matter.

AGENCY COMMENTS:

Please consider the following:

1. Is the information in the application complete enough to analyze impacts and conclude review?

2. Comments may include project-specific code requirements unique to the project. Cite code section and document (i.e. General Plan, Subdivision Map Act, etc.).

3. What are the recommended Compliance Requirement for this project and justification for each Requirement? When should each Compliance Requirement be accomplished (i.e. prior to any construction at the site, prior to recording the parcel map, filing the Final Map, or issuance of a Certificate of Occupancy, etc.)?

SPR_____

GLENN COUNTY
PLANNING AND COMMUNITY
DEVELOPMENT SERVICES AGENCY
777 North Colusa Street
WILLOWS, CA 95988
(530) 934-6540
FAX (530) 934-6533
Planning@countyofglenn.net

APPLICATION FOR SITE PLAN REVIEW (AGRICULTURAL)

NOTE: FAILURE TO ANSWER APPLICABLE QUESTIONS AND REQUIRED ATTACHMENTS COULD DELAY THE PROCESSING OF YOUR APPLICATION.

1. Applicant(s):

   Name: North Valley Building Systems

   Address: #30 Seville Ct. Chico, CA 95928

   Phone: (Business) 530-345-7296 (Home) _____

   Fax: 530-345-2399 E-mail: bret@northvalleybuilding.com

2. Property Owner(s):

   Name: C.F. Koehnen & Sons

   Address: 3131 HWY 45 - Glenn, CA 95943

   Phone: (Business) 530-891-5216 (Home) _____

   Fax: _____ E-mail: Steven@koehnen.com

3. Engineer/Person who Prepared Site Plan (if applicable):

   Name: Andy Johnson / Summit Structural Design

   Mailing Address: 383 Rio Lindo Ave. - Chico, CA 95928

   Phone: (Business) 530-592-4407 (Home) _____

   Fax: _____ E-mail: andy@summitchico.com

4. Name and address of property owner's duly authorized agent (if applicable) who is to be furnished with notice of hearing (Section 65091 California Government Code).

Name: Steven Koehnen Please CC: bret@northvalleybuilding.com

Mailing Address: 3131 Hwy 45 - Glenn, CA 95943

5. Request or Proposal:

Construct a 120' x 390' pre-engineered roof only metal building on parcel to store almond hulls from existing agricultural operation.

6. Address and Location of Project: 3131 Hwy 45 - Glenn, CA 95943

7. Current Assessor's Parcel Number(s): 023-080-056-9

8. Existing Zoning: FS-80
Zoning Map http://gis.gcppwa.net/zoning/

9. Existing Use of Property: Almond Orchard and Almond Huller with Supporting Accessory Structures

10. Provide any additional information that may be helpful in evaluating your proposal:

This proposed pre-engineered metal building will be placed in an area that is currently being used for outdoor almond hull storage. Proposed structure is of like construction of all other structures on the parcel.

11. Provide the following building information:

Height of structure: 42'-6"

Dimensions Including Overhangs: 140' ' x 390' ', 54,600 ft^2

Proposed Use: Hull Storage

DECLARATION UNDER PENALTY OF PERJURY

(Must be signed by Applicant(s) and Property Owner(s))
(Additional sheets may be necessary)

The Applicant(s) and/or Property Owner(s), by signing this application, shall be deemed to have agreed to defend, indemnify, release and hold harmless the County, its agents, officers, attorneys, employees, boards and commissions from any claim, action or proceeding brought against the foregoing individuals or entities, the purpose of which is to attack, set aside, void or null the approval of this development entitlement or approval or certification of the environmental document which accompanies it, or to obtain damages relating to such action(s). This indemnification agreement shall include, but not be limited to, damages, costs expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of the entitlement whether or not there is concurrent passive or active negligence on the part of the County.

Applicant(s):

Signed: Bret J Wood

Print: Bret Wood

Date: 10/26/21

Address: #30 Seville Ct. Chico, CA 95928

I am (We are) the owner(s) of property involved in this application and I (We) have completed this application and all other documents required.

I am (We are) the owner(s) of the property involved in this application and I (We) acknowledge the preparation and submission of this application.

I (We) declare under penalty of perjury that the foregoing is true and correct.

Property Owner(s):

Signed:

Print: Steven Koehnen

Date: 10-27-21

Address: 3131 Hwy 45 Glenn, CA 95943

C.F. KOEHNEN & SONS

SINCE 1907

October 26, 2021

Glenn County Planning & Public Works Agency
Planning Department
777 N. Colusa Street
Willows, CA 95988

Re: Site plan review for new proposed agricultural metal building (APN#: 023-080-056-9)

To Whom It May Concern,

Please find attached a site plan review for a proposed 120' x 390' roof only pre-engineered steel building on the above referenced parcel. The purpose of this building will be to store almond hulls directly related with our agricultural operations that are currently taking place on site. The proposed building is going to be located in an area currently used for outdoor hull storage so there shouldn't be any detrimental effect on existing conditions or required services.

If you have any further questions, please feel free to contact our office at (530) 891-5216 or our authorized representative Bret Wood with North Valley Building Systems at (530) 345-7296.

Respectfully,

Steven Koehnen

3131 Highway 45 Glenn , CA 95943
Phone: (530) 891-5216 Fax: (530) 934-2613
www.koehnen.com

RECORDING REQUESTED BY

Petty, Andrews, Tufts & Jackson, Attys.

RECORDED IN OFFICIAL RECORDS OF GLENN COUNTY, CALIFORNIA AT THE REQUEST OF
MAR 31 12 49 PM '80

1797

BOOK 664 PAGE 10

CAROLYN DAVIS
ACTING COUNTY RECORDER

FEE $4 pd.

AND WHEN RECORDED MAIL TO

George H. Cole, Jr., Esq.
PETTY, ANDREWS, TUFTS ET AL
99 Almaden Boulevard, #800
San Jose, California 95113

MAIL TAX STATEMENTS TO

C. F. Koehnen & Sons Orchards
Route 1, Box 240
Glenn, California 95943

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Individual Quitclaim Deed

TO 1922 CA (11-75)

THIS FORM FURNISHED BY TICOR TITLE INSURERS

A.P.N.

The undersigned grantor(s) declare(s):
Documentary transfer tax is $ -0-.
( ) computed on full value of property conveyed, or
( ) computed on full value less value of liens and encumbrances remaining at time of sale.
( ) Unincorporated area: ( ) City of _____, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

WM. C. KOEHNEN and ROBERT D. KOEHNEN

hereby REMISE(S), RELEASE(S) AND FOREVER QUITCLAIM(S) to

C. F. KOEHNEN & SONS ORCHARDS, a partnership

the following described real property in the State of California: County of Glenn

(SEE LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF)

Dated AUG 15 1979

Wm. C. Koehnen
Wm. C. Koehnen

Robert D. Koehnen
Robert D. Koehnen

STATE OF CALIFORNIA
COUNTY OF Santa Clara } ss.

On AUG 15 1979 before me, the undersigned, a Notary Public in and for said State, personally appeared WM. C. KOEHNEN and ROBERT D. KOEHNEN

known to me to be the person S whose name S are subscribed to the within instrument and acknowledged that they executed the same.
WITNESS my hand and official seal.

OFFICIAL SEAL
GEORGE H. COLE, JR.
NOTARY PUBLIC - CALIFORNIA
SAN MATEO COUNTY
My comm. expires SEP 20, 1980

Signature
GEORGE H. COLE, JR.

(This area for official notarial seal)

Title Order No. _____ Escrow or Loan No. _____

MAIL TAX STATEMENTS AS DIRECTED ABOVE

BOOK 664 PAGE 10

Lots 6 and 7 of the Sacramento Valley Land Company's Subdivision of the Sacramento Valley Colony No. 3, being a portion of the Glenn Ranch, according to the map thereof filed for record in the office of the Recorder of the County of Glenn, California on the 14th day of June, 1905 in Book 1 of Maps and Surveys, at page 157, the survey of which was made in Apirl 1905, by J. F. Weston, a licensed surveyor.

EXCEPTING THEREFROM the South 29 feet thereof from Lot 7.

ALSO EXCEPTING THEREFROM an undivided one-half interest of all oil, gas minerals and other hydrocarbon substances together with the right to remove the same as reserved in the deed from Ethel L. Jones Edgington et al to John J. Berti et ux dated May 20, 1958 and recorded June 9, 1958 in Book 370 of Official Records, at page 396.

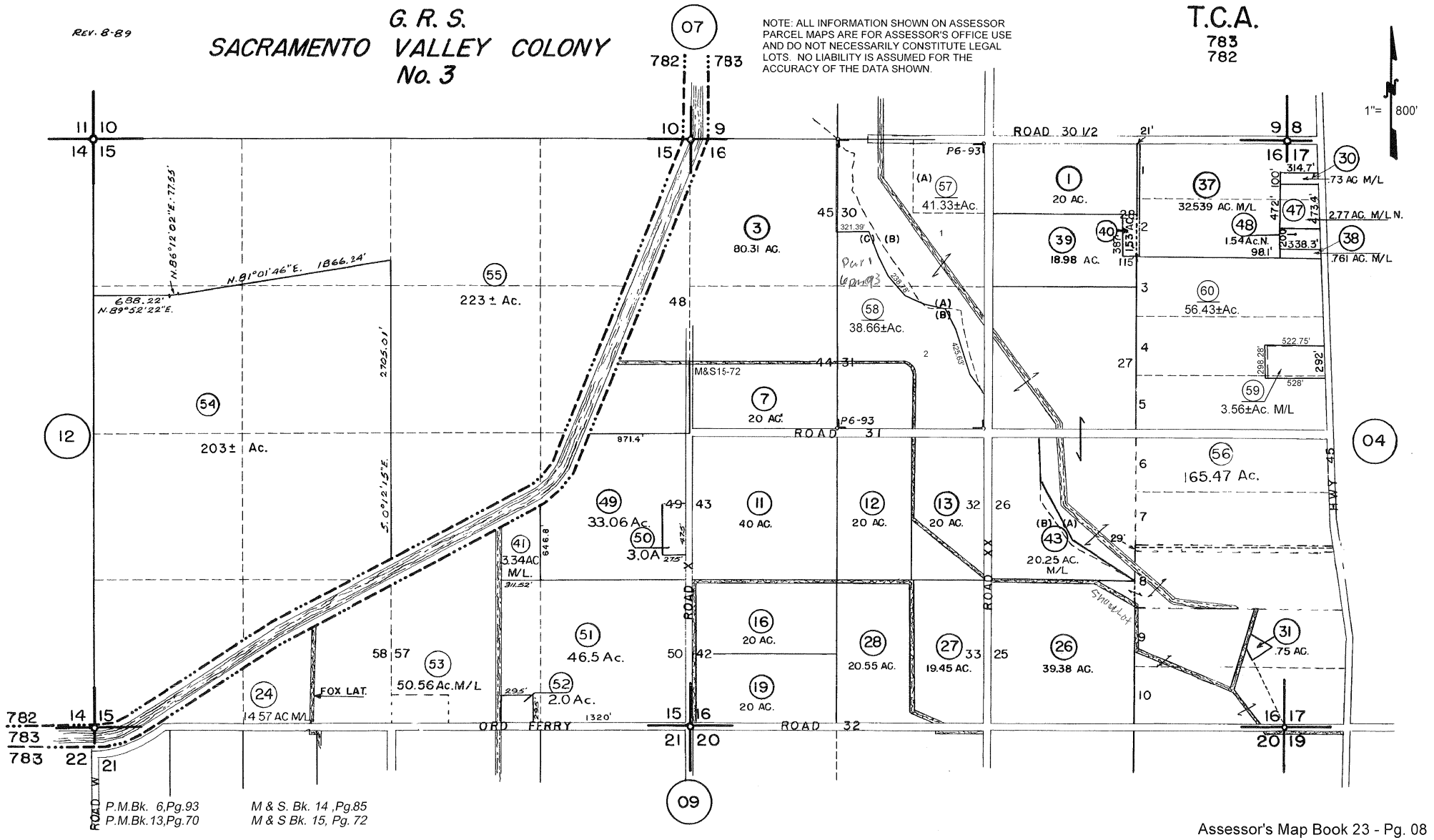
REV. 8-89

G. R. S.
SACRAMENTO VALLEY COLONY
No. 3

NOTE: ALL INFORMATION SHOWN ON ASSESSOR PARCEL MAPS ARE FOR ASSESSOR'S OFFICE USE AND DO NOT NECESSARILY CONSTITUTE LEGAL LOTS. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN.

T.C.A. 783 782

1" = 800'



P.M.Bk. 6,Pg.93
P.M.Bk.13,Pg.70

M & S. Bk. 14 ,Pg.85
M & S Bk. 15, Pg. 72

NOTE - Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Book 23 - Pg. 08
County of Glenn, Calif.

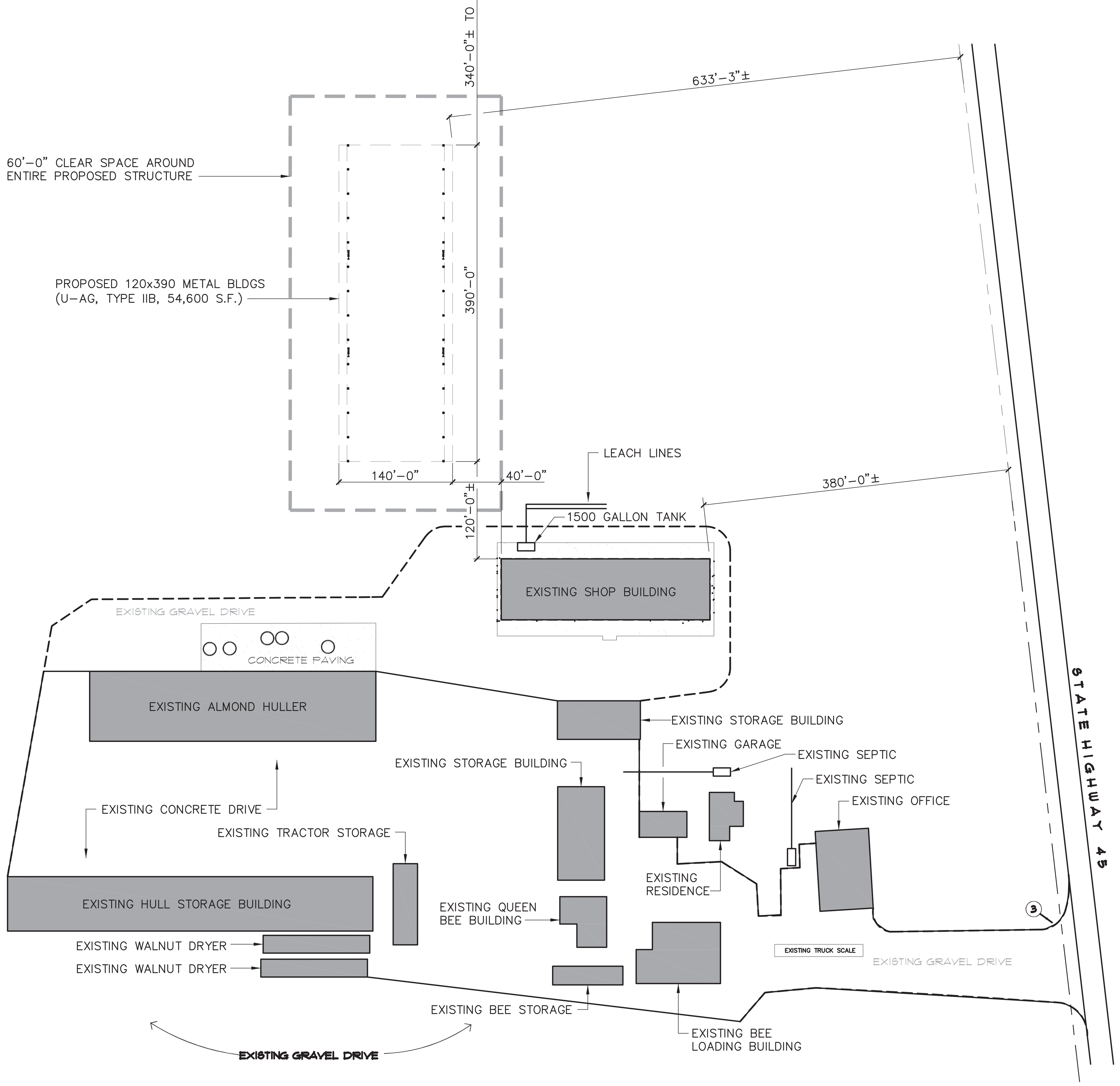
2021

generated by PARCELQUEST

SITE NOTES

G–12 THE BMP'S (BEST MANAGEMENT PRACTICES) LISTED BELOW MUST BE IN PLACE DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15) AND MAY BE REQUIRED AT OTHER TIMES BASED ON WEATHER AND SITE CONDITIONS THROUGHOUT THE YEAR. THE BMP'S LISTED ARE MINIMUM REQUIREMENTS AND ADDITIONAL BMP'S COULD BE REQUIRED BASED ON SITE CONDITIONS.

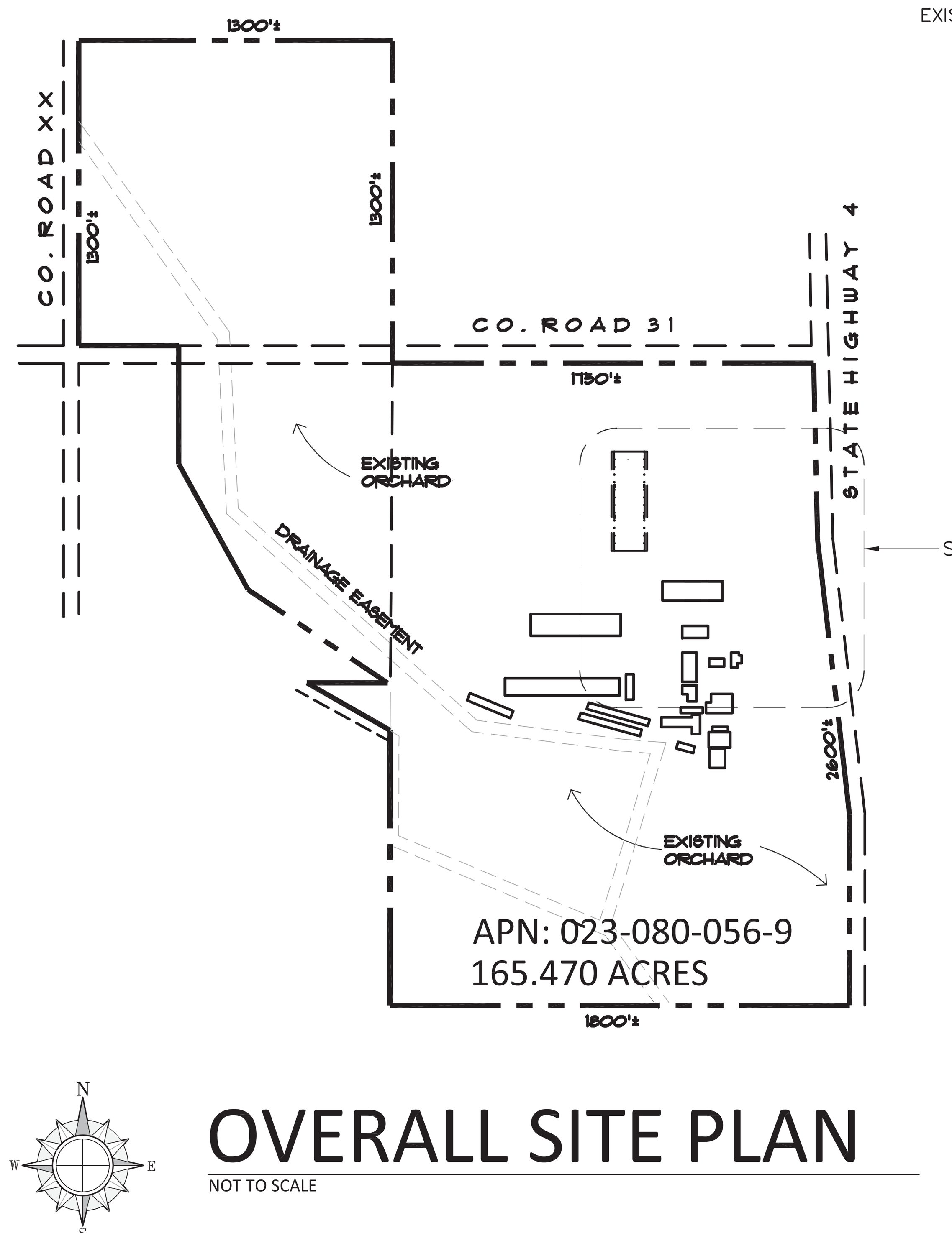
1. NO SOIL DISTURBANCE SHALL OCCUR PRIOR TO OBTAINING A BUILDING PERMIT OR GRADING PERMIT.
2. NAME AND CONTACT NUMBER FOR PERSON RESPONSIBLE FOR EROSION CONTROL: BRET WOOD 530-345-7296
3. EROSION CONTROL MEASURES SHALL BE IN A PLACE BETWEEN OCTOBER 15TH AND APRIL 15TH, OR WHEN RAIN IS IN FORECAST.
4. SOILS TRACKED OFF SITE INTO STREETS SHALL BE CLEANED UP AT THE END OF EACH WORK DAY.
5. STABILIZED ENTRY: PROVIDE MINIMUM 3" TO 6" FRACTURED ROCK 6" DEEP OVER CONSTRUCTION GRADE FABRIC.
6. WATTLES SHALL BE INSTALLED PROPERLY, BEHIND CURB OR SIDEWALKS, OR AS SHOWN ON SITE PLAN.
7. ROCK BAGS (MINIMUM 2 PER SIDE) AT ALL DRAIN INLET LOCATIONS WITHIN 50' OF THE PROJECT SITE.
8. INACTIVE SOIL STOCKPILES SHALL BE COVERED PRIOR TO A FORECASTED RAIN EVENT.
9. THE EROSION CONTROL PLAN SHALL BE RE–EVALUATED AND ADJUSTED ACCORDINGLY AS THE SITE CHANGES AND AFTER RAIN EVENT.
10. EROSION CONTROL MEASURES SHALL BE MAINTAINED.
11. COVER BARE SOILS w/ BARLEY AND STRAW, TYP.
12. ALL TRASH MUST BE COLLECTED AND STORED PROPERLY. DO NOT LET ITEMS SUCH AS DRYWALL MUD BOXES, PAINT BUCKETS, CLEANING MATERIAL CONTAINERS, ETC. COME IN CONTACT WITH ANY RAINFALL OR STORM WATER RUNOFF.
13. PROVIDE POSITIVE DRAINAGE AWAY FROM HOUSE WITH SWALES AND GRADE AT 2% MINIMUM, TYP.
14. WASHING OF CONCRETE EQUIPMENT AND TOOL AT ANY OTHER LOCATION THAT A DESIGNATED CONCRETE WASHOUT IS A VIOLATION OF LAW AND SUBJECT TO FINE.
15. PROVIDE PORTA–POTTY LOCATE 20' MIN. FROM STREET



ENLARGED SITE PLAN

SCALE: 1" = 100'

NOTE: ENGINEER OF RECORD HAS NOT VISITED THE PROPOSED CONSTRUCTION SITE. DIMENSIONS AND LAYOUT OF EXISTING BUILDINGS AND SITE HAS BEEN DEDUCED FROM INFORMATION PROVIDED BY THE CONTRACTOR. CONTRACTOR MUST FIELD VERIFY PLANS AND ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY REPORT ANY DISCREPANCIES TO SUMMIT STRUCTURAL DESIGN.



OVERALL SITE PLAN

NOT TO SCALE

VICINITY MAP: NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER ANDREW C. JOHNSON No. C 69188 Exp. 6/30/22 CIVIL STATE OF CALIFORNIA

10/21/21

SUMMIT STRUCTURAL DESIGN

383 Rio Lindo Ave.
Suite 200
Chico, CA 95926

P. 530.592.4407
SummitChico.com

BUTLER NVBS NORTH VALLEY BUILDING SYSTEMS INCORPORATED

SCOPE OF PROJECT

CONSTRUCT 120'-0" x 390'-0" PRE-ENGINEERED METAL BUILDINGS USED EXCLUSIVELY FOR HULL STORAGE

CODE ANALYSIS

GOVERNING CODES:
- 2019 CBC
- 2019 CEC
- 2019 CPC
- 2019 CMC
- 2019 CFC
- 2019 CALIF. HEALTH & SAFETY CODE AND AMENDMENTS
- 2019 CALIF. BUILDING ENERGY EFFICIENCY STANDARDS
- 2019 CALIF. BUILDING CODE CHAPTER 11
- 2019 CAL GREEN

OCCUPANCY GROUP: U - AG (AGRICULTURAL HULL STORAGE)
OCCUPANCY SEPARATION: NONE

ALLOWABLE HEIGHT AND BUILDING AREAS (TABLE C102.1)
ALLOWABLE AREA: UNLIMITED (BASED ON 60'-0" OPEN SPACE AROUND STRUCTURE)
ACTUAL FLOOR AREA: 46,800 S.F. (FLOOR AREA) + 780 S.F. (OVERHANG)
ALLOWABLE STORY/HEIGHT: 2/55'
ACTUAL STORY/HEIGHT: 1/27'-0"

CONSTRUCTION TYPE: TYPE IIB

FIRE-RESISTANCE RATINGS: NONE
EXTERIOR WALL SEPARATION: NONE

RATED CONSTRUCTION: CHAPTER 7

PROJECTIONS: NON-RATED (SECTION 704.2)

OPENINGS: NO LIMIT (SECTION 705.8.1, EXCEPTION 2)

AUTOMATIC SPRINKLER: NONE

NUMBER OF EXIT REQ'D: 4 (BUILDINGS OPEN ON ALL 4-SIDES) OK

SPECIAL INSPECTION REQUIREMENTS:
- HIGH STRENGTH BOLTING OF METAL BUILDING ABOVE

PROJECT DIRECTORY

OWNER:
KOEHNEN C F & SONS ORCHARDS
3131 HIGHWAY 45
ORDBEND, CA 95943

PROJECT ENGINEER:
SUMMIT STRUCTURAL DESIGN
383 RIO LINDO AVE
CHICO, CA 95926
(530) 592-4407

GENERAL CONTRACTOR:
NORTH VALLEY BUILDING SYSTEMS, INC.
BRET WOOD - PROJECT MANAGER
30 SEVILLE COURT
CHICO, CA 95928
(530) 345-7296

STRUCTURAL DESIGN

DESIGN LOADS FOR NEW BUILDINGS PER BUTLER BUILDING SYSTEMS

A) THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING CRITERIA PER CBC CHAPTER 16, DIVISIONS I, II, III, AND IV U.N.O.:

B) SEISMIC:
SEISMIC IMPORTANCE FACTOR: 1
MAPPED SPECTAL RESPONSE ACCELERATIONS: Ss = .8480, S1 = 0.3370
SEISMIC SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.6784, SD1 = 0.4410
SEISMIC DESIGN CATEGORY: D
BASIC SEISMIC-FORCE-RESISTING SYSTEMS: ORDINARY STEEL MOMENT FRAMES AND ORDINARY STEEL CONCENTRICALLY BRACED FRAMES
SEISMIC BASE SHEAR: SEE ATTACHED CALCULATIONS BY BUTLER BUILDING SYSTEMS
RESPONSE MODIFICATION FACTOR: R(ORDINARY STEEL MOMENT FRAMES)= 3.5
R(ORDINARY STEEL CONC. BRACED FRAMES)= 3.25
ANALYSIS PROCEDURE USED: SEE ATTACHED CALCULATIONS BY BUTLER BUILDING SYSTEMS

C) WIND:
WIND SPEED: 94 MPH
WIND EXPOSURE: C
BASIC WIND PRESSURE: 19.63 PSF

D) GRAVITY LOADS:
LIVE LOADS:
ROOF...20 PSF
COLLATERAL DEAD LOAD (PV SOLAR)
ROOF..5 PSF

FOUNDATION STRUCTURAL DESIGN PER SHEET S1 AND ATTACHED STRUCTURAL CALCULATIONS BY SUMMIT STRUCTURAL DESIGN.

120' x 390' x 27'-0" METAL BUILDING

DRAWING INDEX

A1...SITE PLAN/CODE ANALYSIS
A2...FLOOR PLAN
A3...ELEVATIONS/SECTION
S1...BUILDING FOUNDATION
S2...FOUNDATION NOTES/DETAILS
CG1-CG3.....................................CAL GREEN

SITE PLAN/CODE ANALYSIS

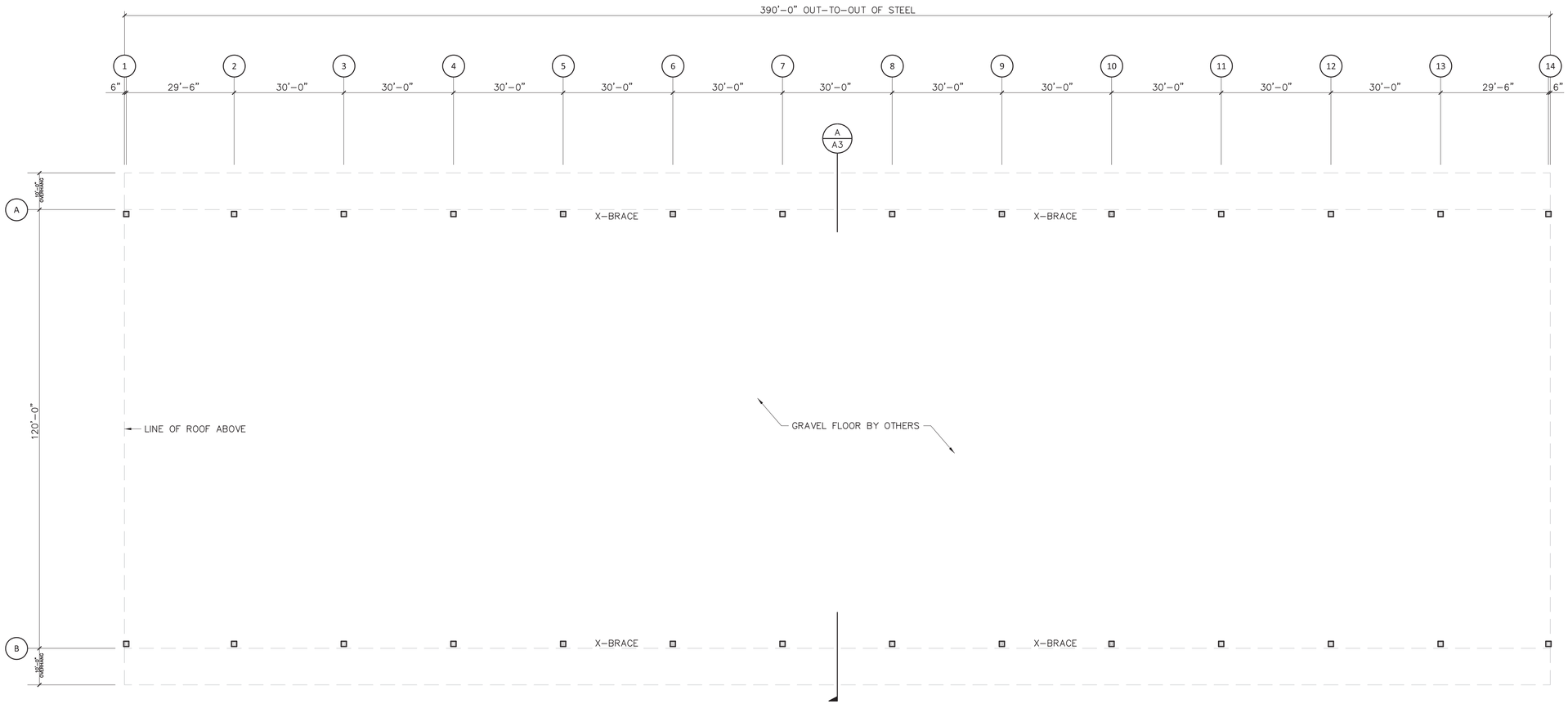
120x390 METAL BUILDING FOR KOEHNEN
3131 HIGHWAY 45, ORDBEND, CA 95943

REVISIONS:

DATE:	10/20/21
SCALE:	1" = 100'
DRAWN BY:	ACJ
JOB NUMBER:	21-286

SHEET:

A1



FLOOR PLAN

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

REGISTERED PROFESSIONAL ENGINEER
AND BEN C. JOHNSON
No. C 69188
Exp. 6/30/22
CIVIL
STATE OF CALIFORNIA

10/21/21

SUMMIT STRUCTURAL DESIGN
383 Rio Lindo Ave.
Suite 200
Chico, CA 95926
P. 530.592.4407
SummitChico.com

NVBS
NORTH VALLEY BUILDING SYSTEMS INCORPORATED

FLOOR PLAN

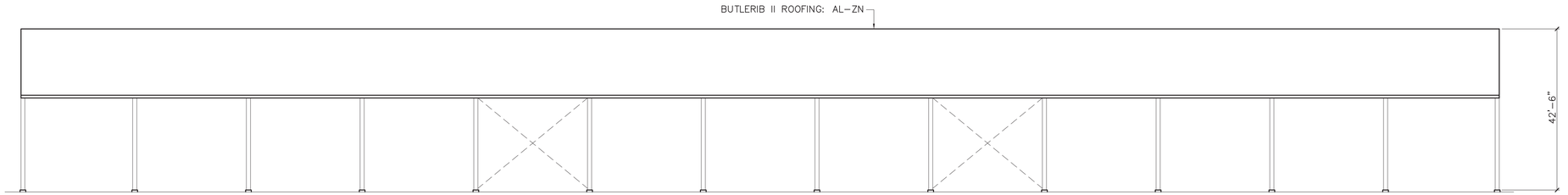
120x390 METAL BUILDING FOR KOEHNEN
3131 HIGHWAY 45, ORDBEND, CA 95943

REVISIONS:

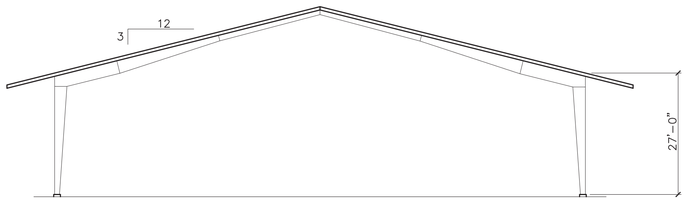
DATE:	10/20/21
SCALE:	1/16" = 1'-0"
DRAWN BY:	ACJ
JOB NUMBER:	21-286

SHEET:

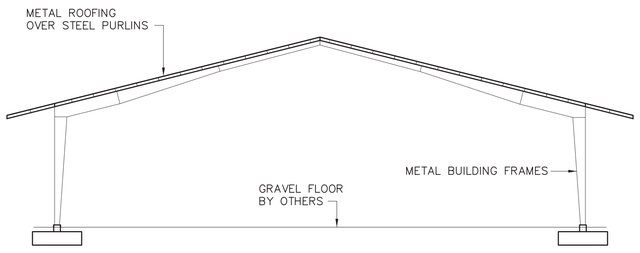
A2



SIDEWALL ELEVATION (OTHER SIDE SIMILAR)
NO SCALE



ENDWALL ELEVATION (OTHER SIDE SIMILAR)
NO SCALE



BUILDING SECTION
NO SCALE

A
A3

REGISTERED PROFESSIONAL ENGINEER
ANDREW C. JOHNSON
No. C 69180
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

10/21/21

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SummitChico.com

NVBS
NORTH VALLEY BUILDING SYSTEMS
INCORPORATED

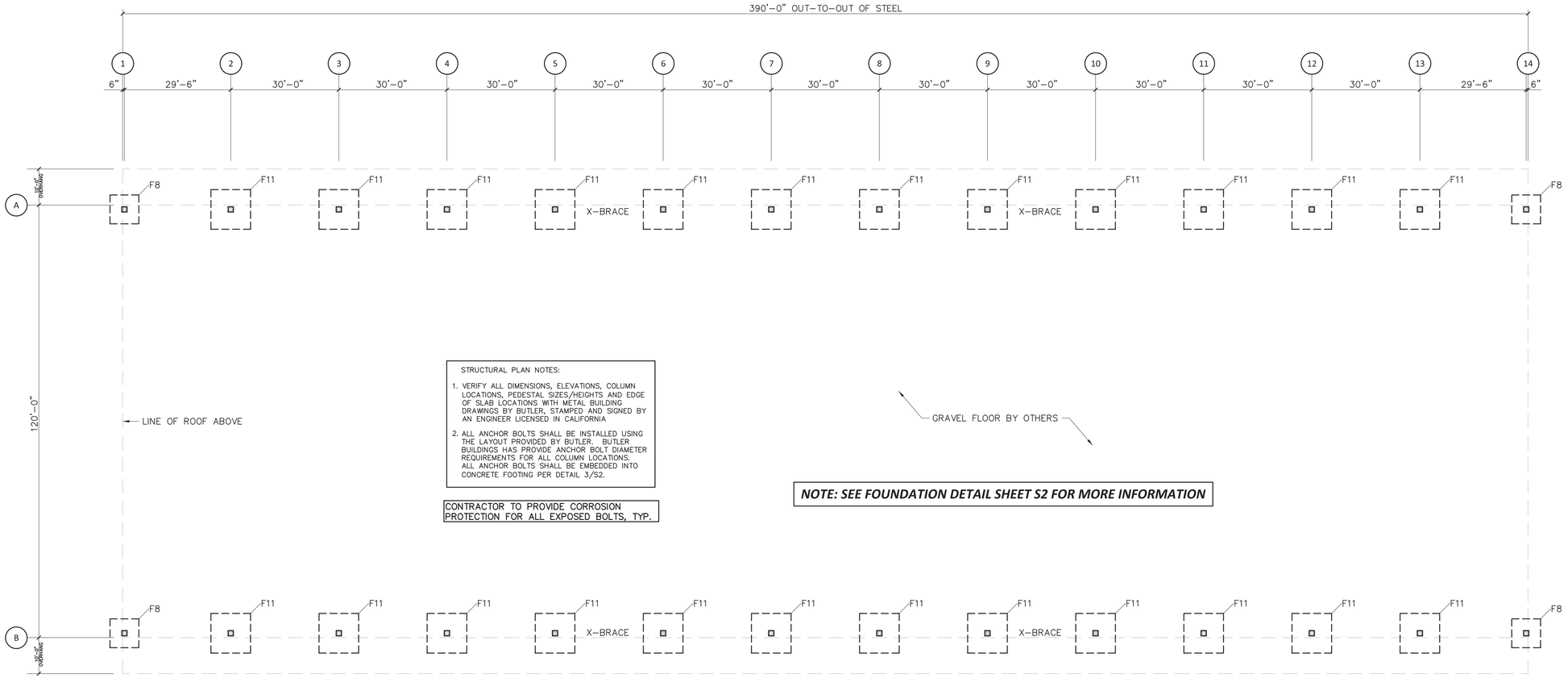
ELEVATIONS/SECTION

120x390 METAL BUILDING FOR KOEHNEN
3131 HIGHWAY 45, ORDBEND, CA 95943

REVISIONS:	

DATE:	10/20/21
SCALE:	1/16" = 1'-0"
DRAWN BY:	ACJ
JOB NUMBER:	21-286

SHEET:
A3



STRUCTURAL PLAN NOTES:

1. VERIFY ALL DIMENSIONS, ELEVATIONS, COLUMN LOCATIONS, PEDESTAL SIZES/HEIGHTS AND EDGE OF SLAB LOCATIONS WITH METAL BUILDING DRAWINGS BY BUTLER, STAMPED AND SIGNED BY AN ENGINEER LICENSED IN CALIFORNIA
2. ALL ANCHOR BOLTS SHALL BE INSTALLED USING THE LAYOUT PROVIDED BY BUTLER. BUTLER BUILDINGS HAS PROVIDE ANCHOR BOLT DIAMETER REQUIREMENTS FOR ALL COLUMN LOCATIONS. ALL ANCHOR BOLTS SHALL BE EMBEDDED INTO CONCRETE FOOTING PER DETAIL 3/S2.

CONTRACTOR TO PROVIDE CORROSION PROTECTION FOR ALL EXPOSED BOLTS, TYP.

NOTE: SEE FOUNDATION DETAIL SHEET S2 FOR MORE INFORMATION

FOUNDATION PLAN

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

NOTE: SEE ANCHOR BOLT SETTING PLAN PROVIDED BY BUTLER METAL BUILDING CORP. FOR ANCHOR BOLT SPACING. VERIFY ALL NON-STRUCTURAL BOLTS FOR OPENINGS AND DOORS WITH OWNER AS THEY MAY OR MAY NOT HAVE BEEN SHOWN ON THIS PLAN.

ALL DIMENSIONS INCLUDING ANCHOR BOLT LOCATIONS AND SPACING SHALL BE TAKEN FROM THE FINAL "FOR CONSTRUCTION" SET OF METAL BUILDING MFR DRAWINGS. FOUNDATION DRAWINGS ARE GENERAL IN NATURE AND ONLY REPRESENT FOUNDATION SIZES, REINFORCING, AND ANCHOR ROD EMBEDMENT.

REGISTERED PROFESSIONAL ENGINEER
C. JOSEPH
No. 69195
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

10/21/21

SUMMIT STRUCTURAL DESIGN
383 Rio Lindo Ave.
Suite 200
Chico, CA 95926
P. 530.592.4407
SummitChico.com

NVBS NORTH VALLEY BUILDING SYSTEMS INCORPORATED

FOUNDATION PLAN

120x390 METAL BUILDING FOR KOEHNEN
3131 HIGHWAY 45, ORDBEND, CA 95943

REVISIONS:

DATE:	10/20/21
SCALE:	1/16" = 1'-0"
DRAWN BY:	ACJ
JOB NUMBER:	21-286

SHEET:

S1

GENERAL NOTES

1. GENERAL

   ALL WORK SHALL CONFORM TO THE 2016 CBC AND ALL APPLICABLE LOCAL CODES.

   THE ENGINEER HAS PROVIDED AND IS RESPONSIBLE FOR SPECIFIC STRUCTURAL ITEMS ONLY, ALL OTHER REQUIREMENTS OF THE BUILDING CODE INCLUDING WATERPROOFING, FIREPROOFING, DRAINAGE, HANDICAP ACCESSIBILITY, EGRESS REQUIREMENTS, PARKING, AND ALL OTHER DESIGN REQUIREMENTS NOT SPECIFICALLY SHOWN IN THE STRUCTURAL DESIGN CALCULATIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR OR OWNER. SHOULD ANY CHANGES BE MADE FROM THE DESIGN AS SPECIFIED IN THESE DOCUMENTS WITHOUT THE WRITTEN APPROVAL FROM THE ENGINEER, THEN THE ENGINEER WILL ASSUME NO RESPONSIBILITY FOR ANY ELEMENT OR SYSTEM OF THE STRUCTURE.

   THE DRAWINGS AND CALCULATIONS REPRESENT THE FINISHED STRUCTURE, AND, UNLESS SPECIFICALLY NOTED OTHERWISE, DO NOT SHOW THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE METHOD OF CONSTRUCTION, AND SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE PUBLIC, CONSTRUCTION WORKERS, AND THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE FORMING, SHORING, BRACING, SCAFFOLDING, ETC.

   IF A PARTICULAR FEATURE OF CONSTRUCTION IS NOT FULLY SHOWN ON THE DRAWINGS OR IN THE CALCULATIONS, THEN IT SHALL BE CONSTRUCTED IN THE SAME CHARACTER AS SIMILAR CONDITIONS THAT ARE SHOWN ON THE DESIGN DOCUMENTS.

   ANY CONDITIONS NOTED AS EXISTING MUST BE FIELD VERIFIED BY THE CONTRACTOR, AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER WITHOUT PROCEEDING WITH CONSTRUCTION PRIOR TO THE REVIEW OF THE ENGINEER.

   ALL WATERPROOFING AND FLASHING (ROOFS, FOUNDATIONS, GARAGE FLOORS, ETC. . .) IS THE RESPONSIBILITY OF THE CONTRACTOR OR OWNER.

   SPECIAL INSPECTION: SPECIAL INSPECTION PER SECTION 1704 OF THE CBC SHALL BE PROVIDED FOR THE FOLLOWING TYPES OF CONSTRUCTION:

   HIGH STRENGTH BOLTING OF METAL BUILDING ABOVE

   THE SPECIAL INSPECTOR SHALL BE ACCEPTABLE TO THE ENGINEER OF RECORD AND BUILDING DEPARTMENT, SHALL BE ICBO QUALIFIED, AND THEIR EXPERIENCE SHALL BE COMMENSURATE WITH THIS TYPE OF PROJECT.

2. SITE WORK / FOUNDATIONS

   ASSUMED MAXIMUM SOIL BEARING = 2000 PSF (PER N.R.C.S. WEB SOIL SURVEY)

   FOUNDATIONS SHALL NOT BE SCALED FROM PLAN OR DETAIL DRAWINGS.

   MOISTEN ALL FOUNDATION EXCAVATIONS IMMEDIATELY PRIOR TO CONCRETE PLACEMENT

   FILL MATERIAL SHALL BE FREE FROM DEBRIS, VEGETATION, AND OTHER FOREIGN SUBSTANCES.

   USE 4" DIAMETER PERFORATED PIPE SUB-DRAIN BEHIND ALL RETAINING WALLS. SLOPE PIPE TO DRAIN TO DAYLIGHT.

3. CONCRETE / REINFORCING

   CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3,000 PSI U.N.O.
   (DESIGNED BASED ON 2500 PSI MIN.)

   ALL CEMENT USED SHALL CONFORM TO ASTM C-150 AND SHALL BE TYPE II OR TYPE III LOW ALKALI.

   AGGREGATE SHALL CONFORM TO ASTM C-33 AND SHALL NOT CONTAIN MATERIALS WHICH ARE ALKALI REACTIVE AS DETERMINED BY ASTM C-227, 289, AND 295. IF TEST DATA IS UNAVAILABLE IN REGARDS TO ALKALI REACTIVE MATERIALS, PROVIDE CEMENT WITH A MAXIMUM ALKALI CONTENT LESS THAN 0.45% BY WEIGHT.

   CONCRETE EXPOSED TO FREEZING OR THAWING SHALL BE PROTECTED IN ACCORDANCE TO THE LATEST EDITION OF THE ACI CODE AND CBC APPENDIX, CHAPTER 19.

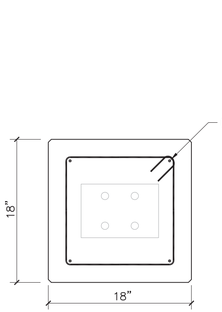
   REINFORCEMENT COVER SHALL BE AS FOLLOWS:
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO SOIL: 3"
   - CONCRETE WITH SOIL OR WEATHER EXPOSURE:
     - #5 BARS AND SMALLER 1 ½"
     - #6 BARS AND LARGER 2"
   - CONCRETE WITHOUT SOIL OR WEATHER EXPOSURE: 3/4"

   REINFORCEMENT SHALL BE GRADE 60 PER ASTM A615 U.N.O. LAP REINFORCING 40 BAR DIAMETERS U.N.O.

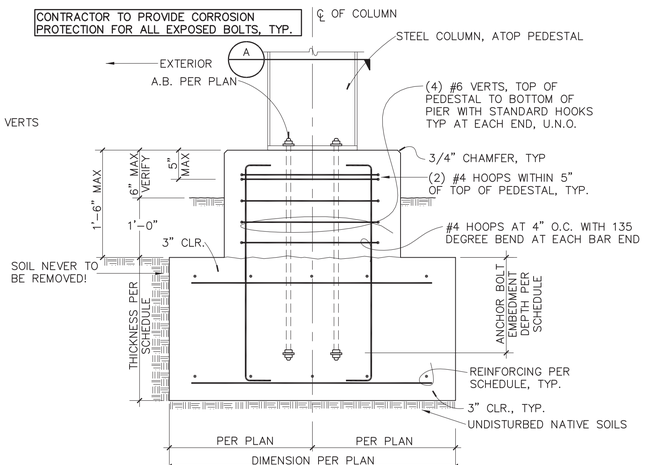
   #5 AND LARGER REBAR SHALL NOT BE RE-BENT.

   ALL REINFORCING STEEL AND ANCHOR BOLTS SHALL BE ACCURATELY LOCATED AND ADEQUATELY SECURED IN POSITION BEFORE AND DURING CONCRETE PLACEMENT.

   ANCHOR BOLTS SHALL BE ASTM A 307 AND SHALL BE PROVIDED NEW, W/O EXCESSIVE RUST.



PEDESTAL P-P (A)



DETAIL AT SPREAD FOOTING (3 / S2)
NO SCALE

FOOTING SCHEDULE		
MARK	(DIM X) X (DIM Y) X (THICKNESS)	REINFORCING
F8	8'-0" X 8'-0" X 3'-0"	(18) #4 E.W., TOP & BOTT.
F11	11'-0" X 11'-0" X 3'-0"	(24) #4 E.W., TOP & BOTT.

FOOTING SCHEDULE (2 / S2)
NO SCALE

ANCHOR BOLT SCHEDULE		
A.B. TYPE	A.B. SIZE	EMBEDMENT
D1	(4) 1" DIA	20"
D2	(4) 1" DIA	20"
D3	(4) 1 1/4" DIA	20"

ANCHOR ROD SHALL CONFORM TO ASTM F1554 GR. 36 WITH STANDARD ROUND WASHER SECURED WITH DOUBLE HEAVY HEX NUTS, TYPICAL U.N.O.

NOTE: SEE ANCHOR BOLT SETTING PLAN PROVIDED BY BUTLER METAL BUILDING CORP. FOR ANCHOR BOLT SPACING. VERIFY ALL NON-STRUCTURAL BOLTS FOR OPENINGS AND DOORS AS THEY MAY OR MAY NOT HAVE BEEN SHOWN ON THIS PLAN.

ANCHOR BOLT SCHEDULE (1 / S2)
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
C. JOHN JOHNSON
No. C 69199
EXP. 6/30/23
CIVIL
STATE OF CALIFORNIA

10/21/21

SUMMIT STRUCTURAL DESIGN
383 Rio Lindo Ave.
Suite 200
Chico, CA 95926
P. 530.592.4407
SummitChico.com

NVBS NORTH VALLEY BUILDING SYSTEMS INCORPORATED

FOUNDATION DETAILS

120x390 METAL BUILDING FOR KOEHNEN
3131 HIGHWAY 45, ORDBEND, CA 95943

REVISIONS:

DATE: 10/20/21
SCALE: NO SCALE
DRAWN BY: ACJ
JOB NUMBER: 21-286

SHEET: S2

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 1

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

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

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed building [N] or to additions and alterations [A]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 *et seq.* for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSC)
301.5 HEALTH FACILITIES. (see GBSC)

SECTION 302 MIXED OCCUPANCY BUILDINGS

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

SECTION 303 PHASED PROJECTS

303.1 Phased projects. For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

303.1.1 Tenant Improvements. The provisions of this code shall apply only to the initial tenant or occupant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

ABBREVIATION DEFINITIONS:

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

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL

5.101.1 Scope
The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES.
Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962.
2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668

ZEV. Any vehicle certified to zero-emission standards.

SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND. Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control ordinance.

5.106.1.2 Best Management Practices (BMPs). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

1. Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Scheduling construction activity during dry weather, when possible.
   b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
   c. Drainage swales or lined ditches to control stormwater flow.
   d. Mulching or hydroseeding to stabilize disturbed soils, and buffers around surface waters.
   e. Erosion control to protect slopes.
   f. Protection of storm drain inlets (gravel bags or catch basin inserts).
   g. Perimeter sediment control (perimeter silt fence, fiber rolls).
   h. Sediment trap or sediment basin to retain sediment on site.
   i. Stabilized construction exits.
   j. Wind erosion control.
   k. Other soil loss BMPs acceptable to the enforcing agency.
2. Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Dewatering activities.
   b. Material handling and waste management.
   c. Building materials stockpile management.
   d. Management of washout areas (concrete, paints, stucco, etc.).
   e. Control of vehicle/equipment fueling to contractor's staging area.
   f. Vehicle and equipment cleaning performed off site.
   g Spill prevention and control.
   h. Other housekeeping BMPs acceptable to the enforcing agency.

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan or development sale.

Note: Projects that (1) disturb one acre or ore of land, or (2) disturb less than one acre of land but are part of the larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of preconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

5.106.4 BICYCLE PARKING. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2

5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

5.106.4.1.1 Short-term bicycle parking. If the project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
Exception: Additions or alterations which add nine or less visitor vehicular parking spaces.

5.106.4.1.2 Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.3 For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

5.106.4.1.4 For new shall buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.5 Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.
5.106.4.2.2 Staff bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TABLE 5.106.5.2 - PARKING

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
25-50	3
51-75	6
76-100	8
101-150	11
151-200	16
201 AND OVER	AT LEAST 8% OF TOTAL

5.106.5.2.1 - Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR / VAN POOL / EV

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.

5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code,* the California Energy Commission (CEC) and as follows:

5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code.* Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. A listed raceway capable of accommodating a 208/240 -volt dedicated branch circuit.
3. The raceway shall not be less than trade size 1."
4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.
5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

5.106.5.3.2 Multiple charging space requirements. [N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code.* Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
3. Plan design shall be based upon 40-ampere minimum branch circuits.
4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage.
5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

5.106.5.3.3 EV charging space calculations. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

1. Where there is insufficient electrical supply.
2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
36-50	2
51-75	4
76-100	5
101-200	7
201 AND OVER	6% of total[1]

1. Calculation for spaces shall be rounded up to the nearest whole number.

5.106.5.3.4 [N] Identification. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

5.106.8 LIGHT POLLUTION REDUCTION. [N] [BSC-CG] Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-1 and 130.2-B in Chapter 8) and
4. Allowable BUG ratings not exceeding those shown in Table 5.106.8, [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Exceptions: [N]

1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

Note: [N]

1. See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways,
2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-12-11 Table A-1, California Energy Code Tables 130.2-A and 130.2-B.
3. Refer to the California Energy Code for requirements for additions and alterations.

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

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

Exception: Additions and alterations not altering the drainage path.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS [1,2]

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING [3]					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	N/A	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	N/A	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)					
For area lighting [4]	N/A	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING [5] **(G)**					
Luminaire greater than 2 MH from property line	N/A	G1	G2	G3	G4
Luminaire front hemisphere is 1-2 MH from property line	N/A	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	N/A	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code.*

2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.

3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.

4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall meet *U*-value limits for "all other outdoor lighting".

5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL

5.201.1 Scope [BSC-CG]. ***California Energy Code [DSA-SS].*** For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

SECTION 5.301 GENERAL

5.301.1 Scope. The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

SECTION 5.302 DEFINITIONS

5.302.1 Definitions. The following terms are defined in Chapter 2 *(and are included here for reference)*

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

GRAYWATER. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

POTABLE WATER. [HCD] Water that is satisfactory for drinking, culinary, and domestic puroses, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

RECYCLED WATER. Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

SUBMETER. A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose, such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter.

WATER BUDGET. Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

SECTION 5.303 INDOOR WATER USE

5.303.1 METERS. Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:

1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
   a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
   b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
   c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).

5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

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

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

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

5.303.3.2 Urinals.
5.303.3.2.1 Wall-mounted Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.

5.303.3.3 Showerheads. [BSC-CG]
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.
Note: A hand-held shower shall be considered a showerhead.

5.303.3.3 Showerheads. [DSA-SS]
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

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

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

5.303.3.4 Faucets and fountains.

5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi,

5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than1.8 gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

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

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5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.
Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.

5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.

SECTION 5.304 OUTDOOR WATER USE

5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS.
Non residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 27, Division 2.
2. MWELO and supporting documents, including a water budget calculator, are available at: https://www.water.ca.gov/.

5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS [DSA-SS]. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resoucres Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of MWELO.

5.304.6.1 Newly constructed landscapes. [DSA-SS] New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

5.304.6.2 Rehabilitated landscapes. [DSA-SS] Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

5.304.3 IRRIGATION DESIGN. In new nonresidential construction with at least 1,000 but not more than 2,500 square feet of cumulative landscaped area (the level at which the MWELO applies), install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.

5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

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

SECTION 5.305 WATER REUSE SYSTEMS

5.305.1 RECYCLED WATER SUPPLY SYSTEMS. Recycled water supply systems shall be installed in accordance with Sections 5.305.1.1, 5.305.1.2, and the California Plumbing Code.

5.304.2 Outdoor Recycled Water Supply Systems. All newly constructed nonresidential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, shall be provided with both a potable water supply system and a recycled water supply system. The recycled water supply system shall allow the use of reclaimed (recycled) water for aboveground and subsurface irrigation to all landscape irrigation systems.

For the purposes of Section 5.305.1.1, when a recycled water supply pipe is located within 300 feet from a construction site boundary, it shall be considered that reclaimed (recycled) water is available from a municipal source.

Exceptions:
1. Service areas in which the only reclaimed (recycled) water is used for potable purposes, or in which net nonpotable deliveries are anticipated to remain level or decrease as a result of the potable reuse project.
2. Where access to disinfected tertiary recycled water is not feasible and/or cost-efficient, as determined by the authority having jurisdiction in consultation with the recycled water purveyor.

Note: A city, county, or city and county, in consultation with the recycled water purveyor, may further reduce the area for the mandate to install recycled water supply systems if the recycled water purveyor is unable to accommodate new services or unable to provide uninterruptible service.

3. A potable water supply system is not required for landscape irrigation if the landscape irrigation system is supplied with recycled water at the time of final inspection.

4. Potable water may be used with the recycled water supply system on a temporary basis, as allowed by the authority having jurisdiction in consultation with the recycled water purveyor.

5.305.1.2 Technical Requirements for Outdoor Recycled Water Supply Systems. Recycled water supply systems for outdoor applications shall meet the requirements of this code, and the California Code of Regulations, Title 17, Division 1, Chapter 5, Subchapter 1; Title 22, Division 4, Chapter 3; and Title 23, Division 2, Chapter 2.7, as applicable.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL

5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

SECTION 5.402 DEFINITIONS

5.402.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.

BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities.

BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

TEST. A procedure to determine quantitative performance of a system or equipment

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.

5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.

5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.

5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:

5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

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

5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.

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

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1. through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bsc.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance with the waste management plan,
2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Rule link at:
http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A_REGS_UWR_FinalText.pdf

5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

Notes:

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

5.410.1 RECYCLING BY OCCUPANTS. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.

5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.

5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the *Public Resources Code*, Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. For I-occupancies that are not regulated by OSHPD or for I-occupancies and L-occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, Indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:

1. Unconditioned warehouses of any size.
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and or air conditioning.

Informational Notes:

1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel. AC 476 des not certify individuals to conduct functional performance tests or to adjust and balance systems.

2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code*.

5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:
1. Environmental and sustainability goals.
2. Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.

5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse system.

5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:
1. General project information.
2. Commissioning goals.
3. Systems to be commissioned. Plans to test systems and components shall include:
   a. An explanation of the original design intent.
   b. Equipment and systems to be tested, including the extent of tests.
   c. Functions to be tested.
   d. Conditions under which the test shall be performed.
   e. Measurable criteria for acceptable performance.
4. Commissioning team information.
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.

5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.

5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in *California Code of Regulations* (CCR), Title 8, Section 5142, and other related regulations.

5.410.2.5.1 Systems manual. [N] Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:
1. Site information, including facility description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.

5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:
1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/preventive maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.

5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.2 (Reserved)

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, Indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project:

1. Renewable energy systems,
2. Landscape irrigation systems.
3. Water reuse systems.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL

5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.

SECTION 5.502 DEFINITIONS

5.502.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.

A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the Internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.

1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32^{0} Fahrenheit.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, timber, prefabricated wood I-joists or finger–jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).

Note: See CCR, Title 17, Section 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).

DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-In hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code*, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE CHARGING STATION(S) (EVCS)). One or more spaces intended for charging electric vehicles.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.

EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.

GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.

GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14.; the AR4 GWP values are found in column "100 yr" of Table 2.14.

HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a hdrochlorofluorocarbon, a perfluorocarbon, a hydrofluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (B) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.

LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2–1999.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base REactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundreths of a gram (g O^3/g ROC).

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

PSIG. Pounds per square inch, guage.

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

SCHRADER ACCESS VALVES. Access fittings with a valve core installed.

SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.

VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a)

Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

SECTION 5.503 FIREPLACES

5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992 Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may collect in the system.

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5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4,6.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

1. Adhesives, adhesive bonding primers adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.

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

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT[1,2]

Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION 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	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

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

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 - SEALANT VOC LIMIT

Less Water and Less Exempt Compounds in Grams per Liter

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

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

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

TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

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

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

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

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

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

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

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

5.504.4.4 Carpet Systems. All carpet installed in the building interior shall meet at least one of the testing and product requirements:

1. Carpet and Rug Institute's Green Label Plus Program.
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as CDPH Standard Method V1.1 or Specification 01350).
3. NSF/ANSI 140 at the Gold level or higher;
4. Scientific Certifications Systems Sustainable Choice; or
5. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database.

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

5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

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

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

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

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

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE 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).

5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;
3. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria Interpretation for EQ 7. and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product DataBase; or
4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 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.

Exceptions: Existing mechanical equipment.

5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures see Section 5.407.2 of this code.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

5.506.2 CARBON DIOXIDE (CO_2) MONITORING. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4,1 or 5.507.4.2.

Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Exception: [DSA-SS] For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

   Exceptions:

   a. L_{dn} or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
   b. L_{dn} or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq} - 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance Method. For buildings located as defined in Section 5.507.4,1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

5.507.4.2.1 Site Features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior soundlevels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf.

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (hIgh-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2), and potentially other refrigerants.

5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.

5.508.2.1.2 Copper pipe. Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mills.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the *California Mechanical Code* and as follows.

5.508.2.2.1 Pressure rellef valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.

5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem operation.

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-relstant material, such as stainless steel; or be coated to prevent corrosion from these substances.

5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging.

5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.

5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

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

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

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

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

Notes:

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

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

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

703 VERIFICATIONS

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

DISCLAIMER: *THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE 2019 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.*