

## CIVIL IMPROVEMENTS Submittal Checklist

<b>CITY OF MADERA</b>	
<b>ENGINEERING DIVISION</b>	
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	This checklist is provided for the convenience of our customers. Complete and accurate plan submittals help speed the plan review process. ( <u>Partial set reviews are no longer permitted</u> ) Attention to the completeness and accuracy of information at the beginning of the process generally leads to fewer delays and requests for revisions by City staff. Please use the checklist to ensure that your application includes all of the information necessary for a timely review of your plans. This checklist is provided as a general guideline and is not intended to be all-inclusive. Additional information may be required during the plan review process.
<b>Part. 1 Applicant's Responsibility</b>	
	Applicants are responsible for submitting complete applications. Incomplete applications will result in plans being rejected for acceptance, or returned to the applicant during the review process. City performance commitments will not apply to incomplete submittals
	As part of the submittal process, the City recognizes that not all projects are the same. As such, a pre-design meeting is available for engineers who have questions or may wish to determine whether an adjustment to the requirements is reasonable based on the size or complexity of the proposed project.
<b>Part. 2 Prerequisites</b>	
	At a minimum, the following items must be completed before civil improvement plans can be accepted for processing:
	<ul style="list-style-type: none"> <li>■ <b>Appropriate zoning is currently in place for this proposed use</b> <i>Contact Planning at (559)661-5430 for more information</i></li> <li>■ <b>Site Plan Review</b> [If applicable] <i>Approved for this site.</i></li> <li>■ <b>Compliance with Planning Commission and/or City Council actions</b> <i>Related to this parcel and the associated conditions of approval.</i></li> <li>■ <b>A Traffic [Impact Analysis] Study</b> <i>Approved for this site if peak hour trips exceed 100 vehicles</i></li> <li>■ <b>Storm Water Discharge Notice of Intent</b></li> </ul>
<b>Part. 3</b>	
<b>Applicable Codes</b>	
	Project must meet the requirements of the City's adopted codes, ordinances, and regulations:
	<b>City of Madera Standard Plans and Specifications</b> <b>California Department of Transportation Standard Drawings &amp; Specifications</b> <b>Caltrans Highway Design Manual</b> <b>"Accessibility" requirements:</b> Chapter 11 and related Appendix of the currently adopted International Building Code (IBC) or as superseded by the California Building Code (CBC). Standards shall be in accordance with ANSI 117.1, 1992.

<b>Part. 4 Submittal Package</b>	Provide the following information at the time you submit your civil improvement plans. Please submit the required number of copies of plans and related documents for routing to reviewing departments:
	<ul style="list-style-type: none"> <li>■ <b>Engineer's Estimate</b> <i>Off-site improvements only</i></li> <li>■ <b>Estimate of all work subject to reimbursement</b></li> <li>■ <b>6 complete sets of civil improvement plans [24" x 36" sheets]</b> <i>Partial sets will not be accepted. All cover sheets must contain name, signature with date and license number of the responsible engineer, land surveyor or architect that is registered in the State of California. Final set shall be submitted on mylar and copied to CD.</i></li> <li>■ <b>Landscape Plans</b> [if applicable]</li> <li>■ <b>Technical Hydrology Study or Drainage Calculations</b> <i>All cover sheets must sealed, signed and dated by a civil engineer who is registered in the State of California.</i></li> <li>■ <b>Street structural section calculations</b></li> <li>■ <b>2 copies of Geotechnical (soils) reports</b> <i>The reports must be "wet sealed", signed and dated by a civil engineer, registered in the State of California, who is responsible for the report. The date must be within one year of the civil plan application unless an updated letter is provided by the engineer who prepared the report.</i></li> <li>■ <b>Water Hydraulic Analysis</b> <i>All projects that use an on-site water distribution system and subdivisions.</i></li> <li>■ <b>2 copies of the Signed Conditions of Approval</b> <i>Submit all Planning Commission and/or City Council action related to this parcel and the associated conditions of development, including all applicable waivers.</i></li> <li>■ <b>Notarized letter of Authorization from adjacent property owners</b> [if applicable] <i>Applicable if any construction activity is proposed on adjacent property. Letter to include all adjacent parcel information, including Assessors Parcel Number and, ownership. For existing structures, provide elevations.</i></li> <li>■ <b>Utility Services required through adjacent developments</b> <i>Plans shall not be reviewed unless all necessary off-site infrastructure to provide water and sewer service has been provided. Plans shall not be approved unless said infrastructure is bonded for.</i></li> <li>■ <b>Deeds for all Proposed Easements and Dedications</b> (including closures and title report)</li> <li>■ <b>Previous and Proposed Mapping</b> <i>Provide approved Tentative Map and Proposed Parcel, Final or Subdivision Map. Provide all appropriate record documents including, but not limited to, preliminary title report, grant deeds, grants of easements, rights-of-way, etc.</i></li> </ul>
<b>Part. 5 Review Guidelines</b>	This list is not intended to be all-inclusive of every detail required on a set of civil improvement plans. Rather, it is provided to give an overview of the basic plan contents needed for the review of plan sets.
Cover Sheet	
	<ul style="list-style-type: none"> <li>■ <b>Cover Sheet Index</b> Identify sheet titles and sheet numbers on cover sheet.</li> <li>■ <b>Vicinity Map</b> Clearly locate the project, and key map detailing relative improvement locations on all relevant sheets.</li> <li>■ <b>Subdivision Map</b> Show the subdivision map with street names at a scale of 1"=100'.</li> <li>■ <b>Legal description of the subject property</b> Include all assessor's parcel number(s) and acreage [gross and net]</li> <li>■ <b>Contact Information</b> Provide the company name, contact person, address and telephone number of</li> </ul>

	<p>the engineer, owner, and developer.</p> <ul style="list-style-type: none"> <li>■ <b>Buildings/Site Information</b> Include the number of units/buildings, identify the square footage for each, and list the density of number of units to the acre.</li> <li>■ <b>Infrastructure List</b> Provide list of quantities for all off-site infrastructure constructed by this project. (e.g. curb &amp; gutter, sidewalk, water, sewer and storm drain pipe and appurtenances, street lights, stop signs, street name signs and other above ground furniture). In addition, provide the centerline length of every new street by classification to the nearest one-hundredth mile.</li> <li>■ <b>Cover Sheet Signatories</b> Provide City Title Block on Cover Sheet. Include Madera Irrigation District (MID) signature line when MID facilities cross or abut subject parcel as well as any other agency that may require their approval.</li> <li>■ <b>Cover Sheet Notes</b> Provide the following notes on the cover sheet of each plan set:   <p>“Project review by representatives of the City of Madera is intended to complement and assist the Professional(s) in advancing a project that is in compliance with City of Madera requirements, and is consistent with public benefit, health, safety, and welfare. Review is not an assurance of project feasibility, professional and technical accuracy, or conformance with special conditions imposed by public agencies, including the City of Madera Planning Commission.”</p> <p>“Approval of these improvement plans and specifications is made based on the representations made by the Professional(s) in Responsible Charge pursuant to Section 6703 and 8703 of the Business and Professions Code that they have discharged their responsibilities and prepared complete documents which comply with City of Madera requirements for construction of the improvements depicted herein.”</p> <p>“The engineer should contact the California Regional Water Quality Control Board regarding the requirement to file a Notice of Intent (NOI) with the State Water Resources Control Board in compliance with the National Pollutant Discharge Elimination System (NPDES) permit prior to construction. All construction projects one acre or larger typically must apply for the permit.”</p> </li> </ul>
Formatting	
	<ul style="list-style-type: none"> <li>■ <b>Sheet Formatting</b> Each sheet shall be numbered and shall reference the number of adjacent sheets, contain the City Title Block, project name, and the name of the engineering firm preparing the same. All sheets shall also contain "811 DIGALERT" logo. Madera County title block is required if any portion of work is outside the City.</li> <li>■ <b>Abbreviation, Legend, and Symbols</b> Use a north arrow (up or to the right) and a graphic drawing scale. Scale shall not exceed 1:40 and minimum text size and/or lettering shall be 0.08". Vertical scale shall be 1/10 that of horizontal scale unless proposed improvements cannot be illustrated at this ratio.</li> <li>■ <b>Key Map</b> [if applicable] Provide a key map on all improvement plans clearly identifying the relationship of all sheets. Provide the benchmark number and elevation feet, and description. Provide the basis of bearings for the subject property.</li> </ul>
General Notes Sheet	
	<p>A comprehensive notes page shall follow the Cover Sheet if they cannot reasonably fit on cover sheet. This sheet may also include details and typical sections. The notes shall include the following [if applicable]:</p>
	<ul style="list-style-type: none"> <li>■ <b>City of Madera General Notes</b></li> <li>■ <b>Fire Department General Notes</b></li> <li>■ <b>Legends, Abbreviations, and Quantities</b></li> <li>■ <b>Typical Section - Streets</b> <ul style="list-style-type: none"> <li>a. Structural Section</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>b. Cross slopes</li> <li>c. Sidewalk Pattern</li> <li>d. Right-of-Way Width – include existing Right-of-Way and proposed dedication(s)</li> </ul>
<b>Grading Plans</b>	
	<ul style="list-style-type: none"> <li>■ <b>General Information</b> <ul style="list-style-type: none"> <li>a. Property limits and accurate contours of existing ground and details of terrain and area drainage.</li> <li>b. Address the possible impacts on adjoining properties and mitigating measures to be undertaken.</li> <li>c. Dimensions, elevations, or finish contours to be achieved by the grading, proposed drainage facilities, and related construction.</li> <li>d. Flood Zone Boundary [if applicable]</li> <li>e. Provide sections for concrete slab-on-grade pavements and associated design calculations. Provide collar, turndown and/or thickened edge sections at extents.</li> <li>f. Identify and dimension all easements [existing or proposed] and who will maintain them.</li> <li>g. Show sawcut lines. Shade proposed asphalt areas located in the right-of-way.</li> </ul> </li> <li>■ <b>Soils &amp; Engineering Report Information</b> <p><u>General Information:</u> Include the dates of reports together with the names, addresses, and phone numbers of the firms or individuals who prepared the report. Update letters are required on all reports prepared more than 1 year ago.</p> <p><u>Recommendations:</u> Report recommendations shall be included in grading plans or specifications</p> </li> <li>■ <b>Elevations &amp; Contours</b> <ul style="list-style-type: none"> <li>a. Elevation datum and benchmark as established by the USGS.</li> <li>b. Elevation of curbs, gutters or centerline of roads and streets, at maximum 100 foot intervals. Existing and proposed finish grade elevations at all grade breaks and grade transitions with a maximum 100 feet between spot elevations.</li> <li>c. Existing and proposed finished grade elevations on both sides of all screen or retaining walls and property lines.</li> <li>d. Labeled 2 foot contours minimum [extend contours a minimum of 100 feet beyond limits of construction]</li> <li>e. Show top of manhole elevations and offset distances from centerline for sewer, water and storm drain lines. Label diameter, material, manholes, rims, and invert elevations.</li> <li>f. Pad and finish floor elevations.</li> </ul> </li> <li>■ <b>Positive Drainage &amp; Physical Obstructions</b> <ul style="list-style-type: none"> <li>a. Show proposed slopes and identify flowlines and swales.</li> <li>b. On soil, show positive drainage of minimum 5% away from foundations for 10 feet.</li> <li>c. If physical obstructions or lot lines prohibit 10 feet of horizontal distance, a 5% slope shall be provided to an approved alternate method of diverting water away from the foundation.</li> <li>d. A 2% slope is permitted if the structure abuts hard surface (concrete, pavers, pavement, etc.)</li> </ul> </li> <li>■ <b>Details &amp; Cross Sections</b> <ul style="list-style-type: none"> <li>a. Details and cross sections at property lines, fence walls, retaining walls, berms, etc.</li> <li>b. Provide details and cross sections of typical fill slopes and cut slopes.</li> <li>c. Provide typical cross section detailing typical drainage away from structures.</li> </ul> </li> <li>■ <b>Slopes (Residential Developments)</b> <ul style="list-style-type: none"> <li>a. Rear and side yards [if applicable]: Maximum slope in 15' rear yard setback area of 12H:1V. Maximum slope in setback area 8H:1V.</li> <li>b. Typical details of fill over natural slopes and fill over cut slopes where fill is to be placed on natural or cut slopes steeper than 5H:1V.</li> <li>c. Check areas of existing terrain with a slope greater than 5H:1V. Ensure the</li> </ul> </li> </ul>

	<p>grading plan incorporates the recommendations of the soils report for placement of fill on slopes steeper than 5H:1V.</p> <ul style="list-style-type: none"> <li>d. Check for proposed slopes steeper than 2H:1V.</li> <li>e. Check slopes steeper than 3H:1V for terracing requirements.</li> <li>f. Provide the location and dimensions of all terrace drains for all slopes steeper than 3H:1V.</li> </ul> <ul style="list-style-type: none"> <li>■ <b>Earthwork, Cut &amp; Fill</b> <ul style="list-style-type: none"> <li>a. List quantities of cut and fill, in cubic yards, and scope of work.</li> <li>b. Provide the cut to fill transition line.</li> <li>c. Setback dimensions of cut and fill slopes from site boundaries.</li> </ul> </li> <li>■ <b>Buildings, Structures, Features</b> <p><u>Proposed locations</u> Site any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners that are within 50 feet of the property or that may be affected by the proposed grading operation.</p> <p><u>Adjacency to slopes</u> The placement of buildings and structures on and or adjacent to slopes steeper than 3H:1V in accordance with CBC 1805.3.</p> <p><u>Topographical features</u> Locate other existing topographical features either natural or man-made such as streets, drainage structures, pavements, fence walls, etc.</p> </li> </ul>
General Information	
	<ul style="list-style-type: none"> <li>■ <b>Survey Monumentation</b> All existing monumentation impacted by proposed improvements shall be depicted on the plans. All proposed monumentation shall be depicted on the plans to insure elimination of conflicts with proposed improvements. Also, provide the following note on the horizontal control and/or grading plans of each plan set: "DEVELOPER IS RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION."</li> <li>■ <b>Survey Closure</b> The allowable closure error for traverse calculations on subdivision lot, block, or exterior boundaries shall not exceed 0.1 feet and be shown to four digits past the decimal. Calculations shall be presented using Northings and Eastings.</li> <li>■ <b>Vertical Curves</b> Shall be provided for changes in grade of 1.0% or greater. Vertical curves shall be designed for the posted speed limit plus 10-mph. The minimum length for a vertical curve shall be 100.00 feet.</li> <li>■ <b>Street Sections &amp; Details</b> Provide representative street sections and details along with corresponding City of Madera Standard drawing number. Each plan/profile sheet shall contain a description of the street section.</li> <li>■ <b>Identify Existing Improvements</b> Identify City of Madera plan numbers for all existing improvements adjacent to project, including existing improvements located within the right-of-way.</li> <li>■ <b>Pavement tie in</b> Permanent pavement sections: provide verification of existing section information. Temporary pavement sections: remove and replace according to approved street section. Improvements adjacent to pavement section: Sawcut a minimum of 6 inches from edge of existing pavement.</li> <li>■ <b>Stationing and elevations</b> Provide stationing, finished grade elevations, and invert elevations at match lines and sheet breaks.</li> <li>■ <b>Street Names</b> Identify all street names, right-of-way widths and street widths (top of curb face to top of curb face) in plan views. Indicate which, if any are private streets. All stationing to be from center of roadway with offsets.</li> </ul>

- **Basis of Bearings**  
Identify the Basis of Bearing used to determine the bearings shown on the boundary of the property under development.
- **Existing and Proposed Rights-of-way and Easements (including traffic signal, street light, or sight distance related)**  
Shall be identified, located, and dimensioned. Identify easement documents and applicable record documents.
- **Walls**  
Walls must be shown on civil improvement plans and noted to require a separate permit application.
- **Street Lighting**  
Plans shall clearly indicate existing and proposed street lighting on both sides of the street and conform to standard drawings ST-20 through ST-24. Include the following information:

  - a. Street light poles, traffic signal poles, conduit runs, pull boxes, and service point locations(s).
  - b. Traffic signal designs(s) shall be provided on a separate sheet(s).
  - c. Those projects being developed in phases must submit a master street light and traffic control (signage) plan, encompassing all of the phases and/or units.
- **Pavement Markings**

  - a. Existing pavement markings to be removed must be so noted.
  - b. Show all pavement markings to be installed in their ultimate location, if right-of-way, roadway or patent easements exist. Additional pavement may be required to provide for the ultimate design. If necessary right-of-way, roadway easement to install the additional pavement is not available, the engineer must indicate this condition.
  - c. Raised pavement markers shall be used for all center lines and lane lines installed at their ultimate location except for the following: Edge lines shall be marked using reflective traffic paint or cold polymer film. Stop bars, crosswalks, turn arrows, chevrons, diagonal lines, and legends shall be installed using cold polymer film (approved by the City of Madera Public Works Department).
- **Pavement Transitions:**

  - a. All transition lengths shall conform to the California Manual on Uniform Traffic Control Devices and designed using a minimum of the posted speed limit plus 10 mile per hour, or as determined by the City of Madera Engineering Department. The minimum transition length shall be 100 feet in accordance with AASHTO recommended guidelines (10:1 taper for major arterials and 7:1 taper for minor collectors).
  - b. Temporary transition pavement markings in the transition area may be detour grade tape, dependent upon the type of transition and the anticipated service life required.
  - c. Edge lines in the existing transitions shall be eight (8) inches wide and marked using reflective traffic paint or thermoplastic paint.
  - d. Object marker signs (OM-3R's or OM-3L's) or directional signs (WI-8's) shall be installed in the existing transitions and spaced in accordance with the posted speed limit (25 MPH = 25' spacing) the California Manual on Uniform Traffic Control Devices — latest edition.
- **Sight Distance**  
In areas with possible sight distance concerns (e.g. need for corner cutoffs), it is recommended that sight distance triangles/calculations be provided to expedite review. The sight distance calculations shall utilize the design speed of the road and AASHTO Case III intersection sight distance calculations. The design speed utilized shall be posted speed plus ten (10) miles per hour.
- **Sidewalks**  
Show all existing and proposed sidewalks. Show all driveway cut locations (existing and proposed) on both sides of the roadway. Show existing and proposed wheelchair ramps, either provide detail or indicate to be constructed

	<p>using City of Madera Standard Drawing Number ST-16 or Caltrans Standard A88A.</p> <ul style="list-style-type: none"> <li>■ <b>Driveways</b> Proposed driveways near the intersection of 80 feet or larger rights-of-way shall be located a minimum of 180 feet before the intersection on approaches and a minimum of 240 feet past the intersection on departures. NOTE: Distances measured from the centerline of the intersecting street to the centerline of the proposed driveway.</li> <li>■ <b>Additional right-of-way dedication</b> May be required on arterial streets at the intersection of an arterial or collector street. Additional right-of-way may be required on collector streets at the intersection of an arterial or collector street.</li> </ul>
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<b>FLOOD CONTROL</b>	
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	<ul style="list-style-type: none"> <li>■ <b>Storm drain and utilities contained in same street section or easement</b> Show the storm drain and utilities together in plan and profile.</li> <li>■ <b>Flood Zone Identification</b> - If the subject property is located within a flood zone, identify the flood zone(s), FIRM community panel number and date.</li> <li>■ <b>Nuisance Water Drains</b> – Drop inlets shall be installed as necessary to limit gutter flow depth to 6-inches during a 2-year storm in residential areas and a 10-year storm in commercial areas.</li> <li>■ <b>Overland Drainage Release Path</b> - Must illustrate where the stormwater flows in the event of a total failure of the underground drainage system. Release should be to public right-of-way or documented drainage easement.”</li> <li>■ <b>Storm Drains and Drop Inlets</b> Shall be shown in both plan and profile within public rights-of-way. The design of the storm drain shall comply with the approved drainage study for the site and/or that required per the Storm Drain Master Plan. Applicant shall calculate anticipated loading conditions and design drop inlets intake/discharge structures and storm drains accordingly. The minimum size public storm drain shall be 18 inches. Provide size, material type, slope, distance, cover, trench backfill sections, invert elevation, and manhole rim elevation. All utility crossings shall be shown in profile section with all clearances dimensioned.</li> <li>■ <b>General Information</b> The following shall be shown on the storm drain system <ul style="list-style-type: none"> <li>a. Size of pipe</li> <li>b. Pipe material</li> <li>c. Lineal feet of each size of pipe to be installed per sheet</li> <li>d. Size and number of manholes</li> <li>e. Number of inlets/outlets</li> </ul> </li> </ul>
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<b>UTILITIES</b>	
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	<ul style="list-style-type: none"> <li>■ <b>General Information</b> <ul style="list-style-type: none"> <li>a. All utility sheets, except for the Master Utility Plan sheet, shall be drawn at a maximum of 1"=40' scale.</li> <li>b. Show existing and future elevation of street centerline in plan and profile.</li> <li>c. All utility crossings shall be confirmed through as-built drawings or pothole. Reprofiling of existing utilities are not permitted.</li> <li>d. Shade back all non-utility line work.</li> <li>e. Provide line and curve data for mains.</li> <li>f. Dimension new, future, and existing utilities to property line, street centerline, back-of-curb, etc.</li> <li>g. Indicate rights-of-way, property lines, and easements on all utility sheets.</li> <li>h. Depict driveway locations for residential subdivisions.</li> <li>i. Master Utility Plan (required when there are two or more utility plan sheets) — provide water and sewer lines, valves, meters, backflow prevention assemblies and fire hydrants for the overall project.</li> <li>j. Provide City of Madera standard sewer and water notes.</li> </ul> </li> </ul>
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- k. Identify material and class of backfill to be used in pipe embedment zone
- l. Label all mains as "public" or "private".
- m. Label all water and sewer main segments with length, size, and type of pipe.
- n. Indicate lineal feet of main to be installed per sheet.
- o. All text should read from bottom or right of page.

■ **Water System**

Plan View

- a. Label all meter sizes and uses (i.e. domestic, irrigation, etc.). Label sizes and types of all backflow prevention devices. For commercial or multi-family developments, meter-sizing calculations shall be provided with submitted plans.
- b. Crossing elevations — Provide top-of-pipe elevations for water mains and invert elevations for non-potable water, sewer, and storm drains at all crossings.
- c. Provide valve and water service locations with size, type and station.
- d. Provide blow-off size and station.
- e. Provide stationing on fire hydrants, T's, crosses, 45\_ and 90\_Ells, etc...
- f. Restrained Joints — Provide details, calculations (sealed by a California registered professional engineer), and restrained lengths in plan and profile for all restrained joint sections of pipe, including DIP sections.
- g. Call out appropriate standard drawing number for all water appurtenances.
- h. Identify all water supply wells and mains within 10 feet of a sanitary sewer main.
- i. Profile all water mains that are 8 inches or larger. Show existing utilities that may conflict.

Profile

- j. Delineate top and bottom of the main
- k. Size and material of the main
- l. Location of all blow-offs, air and vacuum valves, centerlines of intersection streets and other appurtenances with both station and elevation where applicable
- m. Provide top of pipe elevations to nearest 0.1 foot.

■ **Sewer System**

Plan View

- a. Label size, station, rim elevations, manhole numbers and invert elevations for all manholes and invert elevations for all clean-outs on utility plan sheets.
- b. Label size and length of all sewer stubs.
- c. Profile all "public" sewer mains. Show existing utilities that may conflict.
- d. Provide flow arrows and slopes on all existing and proposed sewer mains.
- e. Show house branches for each lot with size, length and station.
- f. Show total number and size of all house branches for each street.
- g. Sanitary sewer lines located within 50 feet of a water supply well shall be constructed of material to prevent contamination of the well.
- h. Call out appropriate City of Madera Standard Plans and Specifications standard drawing number for all sewer appurtenances.

Profile

- i. Flow line elevation along centerline of sewer
- j. Size and material of the pipe
- k. Slope of the flow line
- l. All manholes and their station
- m. Length, in feet, of sewer to be installed



**BUILDING AND FIRE SAFETY – Fire Engineering Review**

■ **Fire Apparatus**

- a. Sectional Control Valves shall be installed so that no more than two hydrants will be out of service due to a break in a water main.
- b. Identify the fire sprinkler system control valve locations required for each fire sprinkler system (5-foot minimum from the building footing).
- c. All valves on backflow prevention devices (RPDA) shall be provided with indicating valves.

■ **Hydrants**

- a. Off-site fire hydrants shall be located at intersections and at maximum intervals thereafter (400 feet residential, 300 feet industrial/commercial). An additional 100 feet may be allowed if structures are completely protected by an approved automatic sprinkler system. Locate no hydrant within six feet of a driveway or 40 feet of a structure. Fire hydrant installations are to be per City of Madera Standard Drawing Number W-26.
- b. On-site fire hydrants shall be located in accordance with the California Fire Code based upon the required fire flow of the buildings served. Fire hydrants shall be located at least 40 feet from structures in areas as prescribed by the Madera Fire Department's representative. Fire hydrants shall be protected from vehicular impact in accordance with the California Fire Code and recognized National Standards.
- c. For transportation protection only, place hydrants at 1,000-foot intervals. Stagger at 500-ft intervals on opposing sides of divided roads.
- d. The maximum distance from a residence to a fire hydrant shall not be more than 300 ft.
- e. An onsite system with more than three hydrants and/or sprinkler lead-ins should preferably have a dual feed water supply.
- f. A fire hydrant shall be located within 40 feet of all Fire Department connections for sprinkler systems. The fire hydrant should be located facing the fire lane.
- g. Indicate public fire hydrant identification numbers.
- h. Fire flow must meet City's water design standards with 20-psi minimum residual. All fire flows are based on CFC appendix-III-A-i amended. NOTE: a fire hydrant is required for every 1,000 gallons or fraction thereof of the required fire flow. Provide the following information for each structure located on the subject property or properties per the following chart: FIRE FLOW DATE CFC APPENDIX III-A as amended.

Building Height (in feet) Occupancy Classification Type of Construction Total floor area of ALL levels Floor area of three largest successive floors
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■ **Fire Lanes**

- a. Provide a complete fire lane plan including, but not limited to: painted curbs, stenciling, signage, signage details, and complete dimensioning of lane widths and curve data.
- b. All fire access roads shall be not less than 24 feet wide provided no parking is allowed, not less than 32 feet wide if parallel parking is allowed on one side and not less than 40 feet wide if parallel parking is allowed on both sides. The fire lane is measured from top of face of curb to top of face of the curb. In single family or duplex residential

	<p>areas, the minimum width is 36 feet.</p> <ul style="list-style-type: none"> <li>c. All dead-end Fire Department access roads (fire lanes) in excess of 150 feet in length shall be provided with an approved turn around (bulbs).</li> <li>d. Turning radii for access roads shall be not less than 52 foot outside radius and 28 foot inside radius. All turns shall have a minimum roadway width of 24 feet.</li> <li>e. A fire lane shall be provided for every facility when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet from fire department access as measured by an approved route.</li> </ul> <ul style="list-style-type: none"> <li>■ <b>Slope Gradient</b> No access road shall have a slope gradient of more than 12%. Angles of approach and departure shall not exceed 6% for 25 feet prior to or after grade change.</li> <li>■ <b>Dual Access</b> Provide dual access for any project with 20 or more units, with dead ends more than 600 feet, and for all commercial developments greater than 150 feet from the road.</li> <li>■ <b>Gates</b> <ul style="list-style-type: none"> <li>a. Emergency access gates, when installed, must have a minimum clear opening of 20 feet.</li> <li>b. Automatic (powered) gates access gates shall be equipped with an override switch keyed to the Madera Fire Department's rapid entry system. Manual gates are allowed for secondary access only.</li> </ul> </li> </ul>
<b>BUILDING AND FIRE SAFETY – Building Review</b>	
	<ul style="list-style-type: none"> <li>■ <b>Identify building setback lines</b></li> <li>■ <b>Identify screen and retaining walls</b> Provide City of Madera standard detail number or provide detailed structural wall section and associated calculations.</li> <li>■ <b>Accessibility</b> Show and detail accessible routes on site, accessible parking, passenger loading zones, curbs, ramps, stairs, landings at doors, etc. Identify the location of accessible units.</li> <li>■ <b>On Site Lighting</b> Identify all proposed on-site lighting.</li> </ul>
<b>PARKS &amp; COMMUNITY SERVICES</b>	
	<ul style="list-style-type: none"> <li>■ <b>Landscape Plan</b> Provide Landscape Plan for review and approval concurrent with the civil improvement review.</li> </ul>
<b>Part. 6</b>	
<b>Other Information</b>	
Contact Information	<p><b>Plan Review Question Comments</b>  Building Safety Review 559-661-5440  Fire Safety review 559-661-5440  Engineering Review 559-661-5418</p>