



**City of Walnut Creek**  
**Development Review Services**  
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**DOCUMENT SUBMITTAL LIST FOR URM UPGRADE APPLICATIONS**

*(Submit 3 sets of drawings and 2 sets of all other documents)*

**City Ordinance 1744 and UCBC**

City Ordinance 1744 was adopted June 26, 1990, pursuant to Health and Safety Code Sections 8875 through 8875.95, to mitigate the dangers of unreinforced masonry wall buildings. Subsequent to the adoption of this ordinance, California Health and Safety Code Section 18941.6 was enacted which mandates that the City use Appendix Chapter 1 of the *Uniform Code for Building Conservation* (UCBC) of the International Conference of Building Officials published in the California Building Standards Code for all technical aspects of URM upgrades, including the definition of unreinforced masonry wall. The administrative sections of City Ordinance 1744 still apply, as listed here:

- All of Section 9-14.01 (Purpose)
- All of Section 9-14.02 (Scope), except subsection 9-14.02(e) shall reference the UCBC
- All of Section 9-14.04 (General Requirements)
- All of Section 9-14.05 (Administration)
- All of Section 9-14.08 (Information Required on Plans)
- Whenever the term Uniform Building Code (UBC) is used in the administrative sections listed, substitute the term UCBC.

**Required Drawings**

**Project Cover Sheet.** Use one or more sheets to

- provide a brief written description of the project
- provide key to symbols used throughout plans
- provide list of abbreviations used in the plans
- provide index listing of all sheets
- provide plot plan showing property lines and assumed property lines
- complete building footprint and architectural projections dimensioned to the property lines, reference north arrow
- specify UBC construction type, occupancy group(s), and whether the building is sprinklered
- provide list of governing Codes and Ordinances (currently City of Walnut Creek Municipal Code Ordinance 1744 and California Building Code 1995).

**Overall Building Architectural Floor Plan(s).**

- Floor plans must be provided for each different floor level.
- Show all interior and exterior walls.
- Show and label all rooms and their uses.
- Completely describe the construction makeup of all interior and exterior walls.

- Dimension all floor openings such as stair and elevator shafts.
- Indicate all non-structural floor and wall materials that will add dead loads to

### **Architectural Roof Plan.**

- Show and dimension all existing openings (skylights, interior courts, shafts, etc.) and equipment.
- Indicate equipment weights if over 300 pounds.
- Show location of any area separation walls, if any.
- Indicate roofing materials used on the roof at all locations and all non-structural construction which adds to the mass of the building.

### **Architectural Exterior Elevations.**

- Provide completely dimensioned URM and NON-URM walls and any openings.
- Indicate clearly any architectural finishes applied to the walls which adds weight to the system.
- Indicate the locations of existing cracks in masonry walls.
- Provide written description of the condition of the walls along each side of the building directly on the plans.
- Show all locations using dimensions where masonry tests are taken for determination of allowable stresses.

### **Overall Building Cross-Sections.**

- Provide overall building sections sufficient to completely describe the arrangement and configuration of walls, floors and the roof system. Provide overall building sections in both directions and at each area where the sections differ.
- Elevations of floors, roofs, ceilings, and wall termination heights must be completely indicated relative to a datum elevation.
- Overall building sections must clearly show general arrangement of all existing and new larger wall bracing elements.
- Provide detail references to the various details showing connections of the bracing elements.

### **Structural Floor and Roof Framing Plans.**

- Provide complete floor and roof framing plans, fully dimensioned with Grid Line references.
- provide complete framing layout and descriptions of the structure's existing and new vertical and lateral load resisting system (structural diaphragm sheathing, joists, girders, columns, collectors, chords, wall anchors).
- Provide sufficient detail references on the framing plans to completely describe the existing and new connections associated with the lateral load resisting systems.
- Provide sufficient detail references on the framing plans to completely describe the existing and new vertical load carrying systems where they are used to resist components of loads from the lateral load resisting systems.

### **Structural Foundation Plan.**

- Provide sufficient foundation plan to adequately describe the general foundation layout, assumed or known, and all new foundation level work and its interface with the existing foundation system.
- Specify all elements which must be field verified for accuracy due to assumptions made about the foundation.
- Provide sufficient detail references to details which completely describe the scope of work for the project.

### **Miscellaneous Partial Building Cross-Sections and Partial framing plans.**

- Provide sufficient partial building cross sections and partial framing plans at complicated regions of the building or at areas where numerous detail references are needed to adequately show how the system will be constructed.
- Provide partial sections or framing plans to cover each separate condition.

#### **Foundation, floor and roof/ceiling framing details.**

- Sufficient and complete details must be provided to adequately show what work will be done to upgrade the building and show how the existing elements and connections are to be constructed.
- The details must be referenced from the various plans, sections and/or other details where they apply. At least one reference must be provided for each detail.
- Provide specific details for where different conditions apply. Avoid the use of “similar” for details which do not match the specific case.
- Provide specific details for existing and new wall braces and anchors.

#### **Engineered Interior and Exterior Lateral Force Resisting Elements.**

- Engineer must provide complete detailing of the lateral force resisting elements (shear walls, braced frames, moment-resisting frames, etc.). Show cross sections to show how these elements will be attached to roof, floor and foundation. Provide cross sections for each different framing direction.

#### *Handicap Access Features and Details*

- Plans must contain handicap access features for the project per Title 24.
- Complete details, schedules and specifications for handicap access features must be included.
- Handicap parking, primary entrance, exterior path of travel, and primary entrance shall be fully detailed. If remodeling of interior spaces are also to be included with the URM upgrade, then the area of remodel and the restrooms, drinking fountains and public telephones which serve the remodeled areas must be fully detailed on the plans.
- Fully detailed means to provide plans, partial plans, elevations, sections, details, schedules and specifications to fully address disabled access features.
- So that the scope of necessary work is clear, the plans must distinguish between existing access features that meet code and modifications required to meet current code.

#### *General Requirements for All Drawings and Calculations*

- If the plans contain field verification requirements for any detail or dimension (due to some assumptions made by the engineer as to the existing conditions or new work, for example), then these must be accurately stated on the plan, section or detail, and directions to contractor must be provided on the plans as to the course of action to be taken in the event that the verification results in the need for additional evaluation or changes to the design.
- Provide complete specifications on the plans for all materials and systems to be used.
- Specify all work, including shop and field fabrications, which requires special inspection.

## **Required Calculations**

Structural Calculations must be complete. Please incorporate the following items:

#### **Cover Sheet.**

- Cover sheet shall bear the name of the project
- Address of the building
- Building Owner

- Revision level of calculations
- Name, address and telephone number of Engineer of Record.
- Cover sheet shall be wet signed and stamped by engineer of record.
- No stamped signature will be accepted.

**Table of Contents to Calculations.**

- Provide a Table of Contents in the calculations.
- Provide page numbers for all pages of the calculations and use the page numbers in the index

**List of the Codes and Regulations.**

- Provide a list of the specific editions of the Codes and Regulations which apply to the project. Currently they are: 1994 UCBC, Appendix A Chapter 1; City of Walnut Creek URM Ordinance 1744, and California Building Code, 1995.

**Project Description.**

- Provide a description of the building and explain what walls of the building are considered to form unreinforced masonry per the UCBC provisions. Provide calculations to show the reinforcing steel ratio for the existing walls that is the basis for the building being evaluated under City Ordinance 1744.
- Describe the overall design methodology that was developed for the project.
- Provide a general description of the calculations.
- State all assumptions used in the calculations.
- Describe any special issues which apply to the project.
- Where the UCBC offers two possible analysis approaches for diaphragm analysis (demand-capacity ratios or standard engineering analysis), specify clearly which analysis method is used in the calculations.

**List of References.**

- Provide a complete list of references used in the calculations. Itemizing the references (such as REF1, REF2, etc.) makes it easy to reference code or design formulas used in the calculations.
- Identifying references (codes and standards) and page numbers for specific calculations greatly helps plan checking and approval of the calculations. Please use them liberally.

**Material Weights.**

- A complete listing and summary of material weights used in the calculations for each different roof, wall and floor system in the building, or a written description of the basis for dead loads used.

**Summary Analysis of URM Test Report.**

- Engineer must specify where all tests are to be conducted. These shall be shown on the building elevations and in the calculations in elevation format. The locations of the tests shall be completely dimensioned.
- Engineer must evaluate the final URM Test Report and analyze and specify the allowable values to be used for the project based upon his review.
- Include in the calculations a description of the appropriateness of the Test Results and any assumptions or modifications that apply.
- Engineer shall summaries allowable load values to be used for the existing building materials in the calculations.

**Floor and Roof Framing Key Sketches.**

- Provide roof and floor framing key plans in the calculations sufficient to identify the structural

- elements within the building that make up the building's vertical and lateral load resisting systems.
- Sketches must be sufficient to allow the plan checker to follow and check the calculations for the project.
- Use Grid Lines to provide reference lines for use in the calculations and to match up with the framing plans.
- Use labels to identify joists, beams, girders, and columns.

#### **Section and Detail Key Sketches.**

- For larger assemblies of elements, provide Section and Detail Key sketches to use as a reference in the calculations to indicate location of connections or elements being analyzed.
- Use section and detail key sketches liberally in the calculations to clarify what is being analyzed.

#### **Calculations.**

- Complete lateral-load calculations to cover complete analysis and design for the project. These must include, but will not be limited to, overall diaphragm analysis, sub-diaphragm analysis, in-plane and out-of-plane wall analyses, foundation analysis, and evaluation of all connections and elements.
- Where new elements load or influence the existing construction, then the calculations and design must address elements of existing construction for the entire load path.
- Use section and detail sketches liberally in the calculations to clarify what is being analyzed.
- Annotate the calculations sufficiently to allow identification of the element being evaluated and where it applies.
- Where analyzing connections or elements, provide sufficient free-body diagrams to show the external loads (applied and reaction loads) acting on the connection or elements being evaluated.
- For unusual or eccentric connections or details, provide a brief narrative of the design philosophy for the connection or element. Describe the load path and possible failure modes to be analyzed and then present the calculations for these failure modes.

#### *Required Tests to Establish Allowable Values*

- Where UCBC requires allowable values for existing masonry walls to be established by test, the engineer shall provide a written specification for the testing operations. The specification must contain complete descriptions of the tests to be done and specify all locations to be tested. The tests must be in accordance with the UCBC and UBC Building Standards. The engineer must submit the specifications to the building department for approval prior to proceeding with the testing.
- For URM buildings containing concrete masonry block or other materials specifically not covered in test procedures contained in the UCBC, allowable shear-stress values may be established by the engineer on a case-by-case basis. This requires a specific submittal to the Building Official requesting the used of proposed allowable values. The submittal must detail the engineer's assumptions and present a rational basis for the allowable loads. It must be specifically approved by the building official prior to its use.

Testing shall be performed by an approved testing agency. Contact the Plan Check Engineer for a current listing of approved testing agencies. The testing agency shall use the engineer's test specifications for all tests. A complete report by the testing agency shall be prepared. The report shall include the specifications for testing, any deviations from the specification, and the results of the tests conducted. The report shall contain descriptions of the observed quality of mortar and masonry during field or laboratory testing. A copy of the report shall be submitted to the engineer of record for review and approval and analysis of the results. A copy of the testing report shall also be submitted to the City for review/approval.