

17-802 MIAKHAIL

PLANNING APPROVAL SET

- A. 001 Specifications
- A. 002 Compositions
- A. 100 Site plan
- A. 104 Main floor plan
- A. 105 First floor plan
- A. 106 Roof plan
- A. 200 West elevation
- A. 201 North elevation
- A. 202 East elevation
- A. 203 South elevation
- A. 300 Cross section 1
- A. 301 Cross section 2
- A. 302 Longitudinal section
- A. 350 Perspectives

NOTE: THE ENTIRE DWELLING WILL BE FITTED WITH A FIRE SPRINKLER SYSTEM AND THE PLAN WILL BE A DEFERRED SUBMITTAL.



ATTACHMENT V

* THESE PLANS ARE NOT FOR CONSTRUCTION.



THE FOLLOWING PLANS, PROVIDED BY **BONE STRUCTURE**, ARE FOR INFORMATION REGARDING THE CONSTRUCTION OF THE PROJECT BY A LICENSED DEALER. **BONE STRUCTURE** IS THE SUPPLIER OF A STRUCTURAL SYSTEM THAT INCLUDES THE ANCHORS NECESSARY FOR THE EXTERIOR AND INTERIOR FINISHING. ALL OTHER SYSTEMS ARE SHOWN ONLY FOR UNDERSTANDING AND ARE UNDER THE RESPONSIBILITY OF THE BUILDER.

DATE : 2017/09/19

GENERAL NOTES / BUILDING CODE REQUIREMENTS

2013 CALIFORNIA ENERGY EFFICIENCY STANDARD CODE

1. ENERGY

- 1.1. ALL SYSTEMS, EQUIPMENT AND/OR BUILDING COMPONENTS SHALL COMPLY WITH THE APPLICABLE MANUFACTURER PROVISIONS AND INSTALLATION PROVISIONS OF TITLE 24, PART 6, CHAPTER 2, SECTIONS 110.1 THROUGH 110.10.
- 1.2. THE ENERGY EFFICIENCY REGULATIONS BY THE APPLIANCE EFFICIENCY REGULATIONS, TITLE 20 CALIFORNIA CODE OF REGULATIONS, SECTION 1601 ET SEQ., MAY BE INSTALLED ONLY IF THE APPLIANCE FULLY COMPLIES WITH SECTION 1608 (a) OF THOSE REGULATIONS. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.1)
- 1.3. SERVICE WATER-HEATING SYSTEMS THAT HAVE A TOTAL CAPACITY GREATER THAN 157,000 BTU/HR, SHALL HAVE SEPARATE REMOTE HEATERS, HEAT EXCHANGERS, OR BOOSTERS TO SUPPLY HIGH TEMPERATURE OUTLETS THAT REQUIRE HIGHER THAN SERVICE WATER TEMPERATURES AS LISTED IN THE 1995 ASHRAE HANDBOOK, (TITLE 24, PART 6, CHAPTER 2, SECTION 110.3).
- 1.4. CONTROLS FOR SERVICE WATER-HEATING SYSTEMS SHALL LIMIT THE OUTLET TEMPERATURE AT PUBLIC LAVATORIES TO 110-DEGREES FAHRENHEIT. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.3)
- 1.5. SPACE CONDITIONING EQUIPMENT SHALL MEET THE EFFICIENCY STANDARDS SPECIFIED IN TITLE 24, PART 6, CHAPTER 2, SECTION 110.2.
- 1.6. PILOT LIGHTS SHALL BE PROHIBITED (TITLE 24, PART 6, CHAPTER 2, SECTION 110.5) FOR: (A) FAN-TYPE CENTRAL FURNACES (B) HOUSEHOLD COOKING APPLIANCES, EXCEPT APPLIANCES WITHOUT AN ELECTRICAL SUPPLY VOLTAGE CONNECTION AND IN WHICH EACH PILOT CONSUMES LESS THAN 150-BTU/HR, (C) POOL HEATERS (D) SPA HEATERS.
- 1.7. MANUFACTURED PENETRATION PRODUCTS AND EXTERIOR DOORS SHALL HAVE AIR INFILTRATION RATES NOT EXCEEDING 0.3CFM/SQFT OF WINDOW AREA, 0.3CFM/SQFT OF RESIDENTIAL DOOR AREA, 0.3CFM/SQFT OF NON-RESIDENTIAL SINGLE DOOR AREA, AND 1.0CFM/SQFT OF NON-RESIDENTIAL DOUBLE DOOR AREA. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.6).
- 1.8. FENESTRATION PRODUCTS, OTHER THAN PRODUCTS WHICH ARE REMOVED AND REINSTALLED SHALL BE CERTIFIED FOR OVERALL U-VALUE AND SHGC, AND SHALL HAVE A TEMPORARY LABEL WITH HIGH LISTS. THE CERTIFIED U-VALUE AND SHGC, AND CERTIFIED HEAT APPLICABLE AIR INFILTRATION REQUIREMENTS ARE MET (TITLE 24, PART 6, CHAPTER 2, SECTION 110.6).
- 1.9. FIELD MANUFACTURED PENETRATION PRODUCTS AND EXTERIOR DOORS, OTHER THAN UNFRAMED GLASS DOORS THAT ARE IDENTIFIED BY THE FENESTRATION PRODUCTS OR EXTERIOR DOOR AND THE BUILDING, AND SHALL BE WEATHERSTRIPPED. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.6)
- 1.10. SERVICE WATER-HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE OF ADJUSTMENT FROM 100 TO 140 DEGREES FAHRENHEIT SETTINGS FOR THE INTENDED USE AS LISTED IN TABLE 2, CHAPTER 49 OF THE ASHRAE HANDBOOK AND HVAC APPLICATION HANDBOOK (TITLE 24, PART 6, CHAPTER 2, SECTION 110.3)
- 1.14. CIRCULATING WATER-HEATING SYSTEMS SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP WHEN HOT WATER IS NO REQUIRED. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.3)
- 1.15. GAS FIRED HOUSEHOLD HEATING AND COOLING APPLIANCES, SHOWER HEADS, AND FAUCETS SHALL HAVE DIAPHRAGM SPHERES OR OTHER SAFETY DEVICES INSTALLED UPON A ROOF OR AS AN INTEGRAL PART OF A ROOF ASSEMBLY SHALL COMPLY WITH THE REQUIREMENTS OF THIS CODE (SEE SECTION 3411) AND THE CALIFORNIA FIRE CODE.
- 1.16. ALL HEATING AND/OR COOLING SYSTEMS OTHER THAN WOOD STOVES SHALL HAVE AN AUTOMATIC THERMOSTAT WITH A CLOCK MECHANISM OR OTHER SETBACK MECHANISM APPROVED BY THE EXECUTIVE DIRECTOR OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS DIVISION. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.4)
- 1.17. THERMOSTATICALLY CONTROLLED HEATING OR COOLING SYSTEMS (EXCEPT HEAT PUMPS) SHALL HAVE AN AUTOMATIC THERMOSTAT WITH A CLOCK MECHANISM WHICH CAN BE MANUALLY PROGRAMMED TO AUTOMATICALLY SET BACK THE THERMOSTAT SET POINTS FOR AT LEAST TWO PERIODS WITHIN 24 HOURS.
- 1.18. REFER TO MECHANICAL NOTES FOR ADDITIONAL INFORMATION.

2. INSULATION

- 2.1. INSULATION SHALL BE PROVIDED FOR WATER HEATERS AS FOLLOWS: (A) STORAGE GAS WATER HEATERS WITH SOLI R-19 INSULATION SHALL BE EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSULATED THERMAL RESISTANCE OF R-12 OR GREATER (B) UNFIRED HOT WATER TANK, SUCH AS STORAGE TANKS AND BACKUP STORAGE TANKS FOR SOLAR HEATING SYSTEMS, SHALL BE EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSTALLED THERMAL RESISTANCE OF R-12 OR GREATER OR HAVE INTERNAL INSULATION OF AT LEAST R-19 IN TANK SHOWING THE INSULATION R-VALUE. (C) PIPE INSULATION, WHETHER BURIED OR UNBURIED, FOR RECIRCULATING SECTIONS OF DOMESTIC HOT WATER SYSTEMS, PIPING FROM THE HEATING SOURCE TO THE STORAGE TANK FOR AN INDIRECT-FIRED DOMESTIC WATER-HEATING SYSTEM AND THE FRESH HOT WATER PIPES FROM THE STORAGE TANK FOR NON-INDIRECT-FIRED RECIRCULATING SYSTEMS AND COOLING SYSTEMS SHALL BE THERMALLY INSULATED IN SUBSECTIONS AND A AND 8. (D) SOLAR WATER-HEATING SYSTEMS AND/OR COLLECTORS SHALL BE CERTIFIED BY THE SOLAR RATING AND CERTIFICATION CORPORATION. (TITLE 24, PART 6, CHAPTER 2, SECTION 150.0)
- 2.2. INSULATION SHALL BE PROVIDED BY THE MANUFACTURER AS COMPLIANT WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL. TITLE 24, PART 12 CHAPTERS 12x13, ARTICLE 3 "STANDARD INSULATING MATERIAL" (TITLE 24, PART 6, CHAPTER 2, SECTION 110.8).
- 2.3. INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF THE CBC. (TITLE 24, PART 6, CHAPTER 2, SECTION 110.8).
- 2.4. WALLS SHALL BE INSULATED BETWEEN FRAMING MEMBERS WITH INSULATION HAVING AN INSTALLED THERMAL RESISTANCE OF R-19 IN 2X6 OR GREATER WOOD FRAMED ASSEMBLY. (TITLE 24, PART 6, CHAPTER 2, SECTION 150.0).
- 2.5. THE MINIMUM INSTALLED WEIGHT PER SQUARE FOOT OF ANY LOOSE-FILL INSULATION SHALL CONFORM WITH THE INSULATION MANUAL. (TITLE 24, PART 6, CHAPTER 7, SECTION 150.0)
- 2.6. ALL NEW CEILINGS AND ATTICS SHALL BE INSULATED WITH A MINIMUM THERMAL RESISTANCE OF NOT LESS THAN R-30. THE ATTIC ACCESS SHALL BE GASKETED TO PREVENT AIR LEAKAGE. (TITLE 24, PART 6, CHAPTER 7, SECTION 150.0)
- 2.7. MATERIAL USED FOR SLAB EDGE INSULATION SHALL MEET THE FOLLOWING MINIMUM SPECIFICATIONS: (A) WATER ABSORPTION RATE NO GREATER THAN 0.3 PERCENT (B) WATER VAPOR PERMEANCE NO GREATER THAN 2.0 PERMITS/INCH (C) CONCRETE SLAB PERIMETER RELATIONSHIP PROTECTED FROM PHYSICAL DAMAGE AND ULTRAVIOLET RADIATION (TITLE 24, PART 6, CHAPTER 7, SECTION 150.0)
- 2.8. DUCT INSULATION R-VALUE RATINGS: ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY (EXCLUDING AIR FILMS, VAPOR RETARDER, OR OTHER DUCT COMPONENTS) AND TESTED @ 1500K (1) HIGH INTENSITY DISCHARGE LUMINAIRES CONTAINING HARD WIRED ELECTROMAGNETIC BALLASTS IN MEDIUM SCREW SOCKETS FOR THE PURPOSES OF MEETING SECTION 150(K)6, PROVIDED THEY MEET EFFICACIES CONTAINED IN TABLE 150-C NOTE: TO DETERMINE THE MINIMUM LAMP EFFICACY CATEGORY ONLY THE WATTS OF THE LAMP (NOT BALLAST) ARE TO BE CONSIDERED.
- 2.9. PERMANENTLY INSTALLED LUMINAIRES IN KITCHENS SHALL BE HIGH EFFICACY LUMINAIRES, EXCEPTION TO SECTION 150(K)2: UP TO 50-PERCENT OF THE TOTAL RATED WATTAGE OF PERMANENTLY INSTALLED LUMINAIRES IN KITCHEN MAY BE IN LUMINAIRES THAT ARE NOT HIGH-EFFICACY LUMINAIRES, PROVIDED THAT THESE LUMINAIRES ARE CONTROLLED BY SWITCHES SEPARATE FROM THOSE CONTROLLING THE HIGH EFFICACY LUMINAIRES. THE WATTAGE OF HIGH EFFICACY LUMINAIRES SHALL BE THE TOTAL NOMINAL RATED WATTAGE OF THE INSTALLED HIGH EFFICACY LAMP(S). THE WATTAGE OF LUMINAIRES SHALL BE DETERMINED AS SPECIFIED BY SECTION 130(C).
- 2.4. PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES. EXCEPTION: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY SHALL BE ALLOWED PROVIDED THAT THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119(D). SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS LUMINAIRES TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRES TO BE ALWAYS ON.
- 2.5. PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES, EXCEPTION TO SECTION 150(K)5: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY A DIMMER SWITCH, EXCEPTION TO SECTION 150(K)6: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119(D). SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS LUMINAIRES TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRES TO BE ALWAYS ON.
- 2.6. PERMANENTLY INSTALLED LUMINAIRES IN KITCHENS SHALL BE HIGH EFFICACY LUMINAIRES, EXCEPTION TO SECTION 150(K)2: UP TO 50-PERCENT OF THE TOTAL RATED WATTAGE OF PERMANENTLY INSTALLED LUMINAIRES IN KITCHEN MAY BE IN LUMINAIRES THAT ARE NOT HIGH-EFFICACY LUMINAIRES, PROVIDED THAT THESE LUMINAIRES ARE CONTROLLED BY SWITCHES SEPARATE FROM THOSE CONTROLLING THE HIGH EFFICACY LUMINAIRES. THE WATTAGE OF HIGH EFFICACY LUMINAIRES SHALL BE THE TOTAL NOMINAL RATED WATTAGE OF THE INSTALLED HIGH EFFICACY LAMP(S). THE WATTAGE OF LUMINAIRES SHALL BE DETERMINED AS SPECIFIED BY SECTION 130(C).
- 2.7. PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES. EXCEPTION: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119(D). SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS LUMINAIRES TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRES TO BE ALWAYS ON.
- 2.8. PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES, EXCEPTION TO SECTION 150(K)5: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY A DIMMER SWITCH, EXCEPTION TO SECTION 150(K)6: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119(D). SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS LUMINAIRES TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRES TO BE ALWAYS ON.

3. LIGHTING (TITLE 24, PART 6, CHAPTER 7, SECTION 110.9)

- 3.1. LIGHTING IN KITCHEN AND BATHROOMS SHALL HAVE AN EFFICIENCY OF NOT LESS THAN 25 LUMENS/WATT.
- 3.2. HIGH EFFICACY LUMINAIRES FOR RESIDENTIAL LIGHTING SHALL CONTAIN ONLY HIGH EFFICACY LAMPS AND END USE CONTROL CONTROLS (E260). HIGH EFFICACY LAMP(H) IS A LAMP EFFICACY THAT IS NOT LOWER THAN THE EFFICACIES CONTAINED IN TABLE 150-C. BALLASTS FOR LAMPS RATED 13 WATTS OR GREATER SHALL BE ELECTRONIC AND SHALL HAVE AN OUTPUT FREQUENCY NOT LESS THAN 20 KHZ. EXCEPTION TO 150(K) 1: HIGH INTENSITY DISCHARGE LUMINAIRES CONTAINING HARD WIRED ELECTROMAGNETIC BALLASTS IN MEDIUM SCREW SOCKETS FOR THE PURPOSES OF MEETING SECTION 150(K)6, PROVIDED THEY MEET EFFICACIES CONTAINED IN TABLE 150-C NOTE: TO DETERMINE THE MINIMUM LAMP EFFICACY CATEGORY ONLY THE WATTS OF THE LAMP (NOT BALLAST) ARE TO BE CONSIDERED.
- 3.3. PERMANENTLY INSTALLED LUMINAIRES IN KITCHENS SHALL BE HIGH EFFICACY LUMINAIRES, EXCEPTION TO SECTION 150(K)2: UP TO 50-PERCENT OF THE TOTAL RATED WATTAGE OF PERMANENTLY INSTALLED LUMINAIRES IN KITCHEN MAY BE IN LUMINAIRES THAT ARE NOT HIGH-EFFICACY LUMINAIRES, PROVIDED THAT THESE LUMINAIRES ARE CONTROLLED BY SWITCHES SEPARATE FROM THOSE CONTROLLING THE HIGH EFFICACY LUMINAIRES. THE WATTAGE OF HIGH EFFICACY LUMINAIRES SHALL BE THE TOTAL NOMINAL RATED WATTAGE OF THE INSTALLED HIGH EFFICACY LAMP(S). THE WATTAGE OF LUMINAIRES SHALL BE DETERMINED AS SPECIFIED BY SECTION 130(C).
- 3.4. PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES. EXCEPTION: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119(D). SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS LUMINAIRES TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRES TO BE ALWAYS ON.
- 3.5. PERMANENTLY INSTALLED LUMINAIRES LOCATED OTHER THAN IN KITCHENS, BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES, EXCEPTION TO SECTION 150(K)5: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY A DIMMER SWITCH, EXCEPTION TO SECTION 150(K)6: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119(D). SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS LUMINAIRES TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRES TO BE ALWAYS ON.
- 3.6. LUMINAIRES RECESSED INTO INSULATED CEILINGS SHALL BE APPROVED FOR ZERO CLEARANCE INSULATION COVER (IC) BY UNDERWRITERS LABORATORIES OR BY OTHER TESTING/RATING LABORATORIES RECOGNIZED BY CONTINGENT CONTRACTORS AND SHALL INCLUDE A LABEL IDENTIFYING THE MANUFACTURER AND SELF-RATING DESIGNATION (AT) OR SIMILAR DESIGNATION TO SHOW AIR LEAKAGE LESS THAN 2 CFM AT 1.5 PSFALS (OR 1.5 LBS/ SQUARE FEET) WHEN TESTED IN ACCORDANCE WITH ASTM E283, AND SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND CEILING.
- 3.7. LUMINAIRES PROVIDING OUTDOOR LIGHTING AND PERMANENTLY MOUNTED TO A RESIDENTIAL BUILDING OR TO OTHER BUILDINGS ON THE SAME LOT SHALL BE HIGH EFFICACY LUMINAIRES. EXCEPTION 1: PERMANENTLY INSTALLED OUTDOOR LUMINAIRES THAT ARE NOT HIGH EFFICACY SHALL BE ALLOWED PROVIDED THAT THEY ARE CONTROLLED BY A MOTION SENSOR(S) WITH INTEGRATED PHOTO-CONTROL CERTIFIED TO COMPLY WITH SECTION 119(D). EXCEPTION 2: PERMANENTLY INSTALLED LUMINAIRES IN OR AROUND SWIMMING POOLS, WATER FEATURES, OR OTHER LOCATIONS SUBJECT TO ARTICLE 680 OF THE CBC NEED TO BE HIGH EFFICACY LUMINAIRES.
- 3.8. PERMANENTLY INSTALLED LIGHTING IN THE ENCLOSED, NON-DWELLING SPACES OF LOW-RISE RESIDENTIAL BUILDINGS WITH FOR OR MORE DWELLING UNITS SHALL BE HIGH EFFICACY LUMINAIRES. EXCEPTION TO SECTION 150(K)6: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH EFFICACY SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 110.9(D).

2013 CALIFORNIA BUILDING CODE

CHAPTER 7. FIRE AND SMOKE PROTECTION FEATURES

1. FIRE-RESISTANCE RATINGS AND FIRE TESTS, SECTION 703

- 1.1. FIRE-RESISTANCE RATINGS. THE FIRE-RESISTANCE RATING OF BUILDING ELEMENTS, COMPONENTS OR ASSEMBLIES SHALL BE DETERMINED IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN ASTM E 119 OR UL 262 OR IN ACCORDANCE WITH SECTION 703.1.
- 1.2. FIRE-RESISTANCE-RATED GLAZING. FIRE-RESISTANCE-RATED GLAZING, WHEN TESTED IN ACCORDANCE WITH ASTM E 119 OR UL 263 AND COMPLYING WITH THE REQUIREMENTS OF SECTION 707, SHALL BE PERMITTED. FIRE-RESISTANCE-RATED GLAZING SHALL BEAR A TOTAL CAPACITY GREATER THAN 716.3 ISSUED BY AN AGENCY AND SHALL BE PERMANENTLY IDENTIFIED ON THE GLAZING.
- 1.3. MARKING AND IDENTIFICATION. FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING.

2. EXTERIOR WALLS, SECTION 705

- 2.1. PROJECTIONS, CORNICES, EAVE OVERHANGS, EXTERIOR BALCONIES AND SIMILAR PROJECTIONS EXTENDING BEYOND THE EXTERIOR WALL SHALL CONFORM TO THE REQUIREMENTS OF THIS SECTION AND SECTION 1406. EXTERIOR EGRESS BALCONIES AND EXTERIOR EXIT STAIRWAYS AND RAMPS SHALL ALSO COMPLY WITH SECTION 1019 AND 1028, RESPECTIVELY. PROJECTIONS SHALL NOT EXTEND ANY CLOSER TO THE LINE USED TO DETERMINE THE FIRE SEPARATION DISTANCE THAN SHOWN IN TABLE 705.2. (SECTION 705.2)
- 2.2. PROTECTED OPENINGS. WHERE OPENINGS ARE REQUIRED TO BE PROTECTED, FIRE DOORS AND FIRE SHUTTERS SHALL COMPLY WITH SECTION 716.5 AND FIRE WINDOW ASSEMBLIES SHALL COMPLY WITH SECTION 716.6. (SECTION 705.2)
- 2.3. DUCTS AND AIR TRANSFER OPENINGS. PENETRATIONS BY AIR DUCTS AND AIR TRANSFER OPENINGS IN FIRE-RESISTANCE-RATED EXTERIOR WALLS REQUIRED TO HAVE PROTECTED OPENINGS SHALL COMPLY WITH SECTION 717.

3. OPENING PROTECTIVES, SECTION 716

- 3.1. FIRE-RESISTANCE-RATED GLAZING. FIRE-RESISTANCE-RATED GLAZING TESTED AS PART OF FIRE-RESISTANCE-RATED WALL ASSEMBLY IN ACCORDANCE WITH ASTM E 119 OR UL 263 AND LABELED IN ACCORDANCE WITH SECTION 703.5 SHALL BE PERMITTED IN FIRE DOORS AND FIRE WINDOWS ASSEMBLIES WHERE TESTED AND INSTALLED IN ACCORDANCE WITH THEIR LISTINGS AND SHALL NOT OTHERWISE BE REQUIRED TO COMPLY WITH THIS SECTION.
- 3.2. SAFETY GLAZING. FIRE-PROTECTION-RATED GLAZING INSTALLED IN FIRE WINDOW ASSEMBLIES IN AREAS SUBJECT TO HUMAN IMPACT IN HAZARDOUS LOCATIONS SHALL COMPLY WITH CHAPTER 24. (SECTION 716.6.3)
- 3.3. GLAZING. GLAZING SHALL BE NOT LESS THAN 42 INCHES HIGH MEASURED VERTICALLY TO THE ADJACENT WALKING SURFACE. ADJACENT FIXED SEATING OR THE LINE CONNECTING THE LEADING EDGES OF THE TREADS. (R312.1.2) EXCEPTION: AT STAIRS - GUARDS HEIGHT (HANDRAIL) MIN. 34" TO MAX. 38"
- 3.4. AREA LIMITATIONS. THE TOTAL AREA OF THE GLAZING IN FIRE-PROTECTION-RATED WINDOWS ASSEMBLIES SHALL NOT EXCEED 25% OF THE AREA OF A COMMON WALL WITH ANY ROOM. (SECTION 716.6.7.2)
- 3.5. CALCULATED FIRE RESISTANCE. SECTION 722.

CHAPTER 15. ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

4. WEATHER PROTECTION, SECTION 1503

- 4.1. FLASHING. FLASHING SHALL BE INSTALLED IN SUCH A MANNER SO AS TO PREVENT MOISTURE ENTERING THE WALL AND ROOF SPACES. FLASHING SHALL BE INSTALLED OVER THE WEATHERING MATERIALS AND AT INTERSECTIONS WITH PARAPET WALLS AND OTHER PENETRATIONS THROUGH THE ROOF PLANE. (SECTION 1503.2)
- 4.2. COPING. PARAPET WALLS SHALL BE PROPERLY COPED WITH NONCOMBUSTIBLE, WEATHERPROOF MATERIALS OF A WIDTH NO LESS THAN THE THICKNESS OF THE PARAPET WALL.
- 4.3. ROOF DRAINAGE. DRAINAGE AND ROOF DRAINAGE SYSTEM SHALL COMPLY WITH SECTION 1503 OF THIS CODE AND CHAPTER 11 OF THE CALIFORNIA PLUMBING CODE. (SECTION 1503.4)

REQUIREMENTS FOR ROOF COVERINGS, SECTION 1507

5. SOLAR PHOTOVOLTAIC PANELS/MODULES, SECTION 1511

- 5.1. SOLAR PHOTOVOLTAIC PANELS SHALL BE EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSULATED THERMAL RESISTANCE OF R-12 OR GREATER (B) UNFIRED HOT WATER TANK, SUCH AS STORAGE TANKS AND BACKUP STORAGE TANKS FOR SOLAR HEATING SYSTEMS, SHALL BE EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSTALLED THERMAL RESISTANCE OF R-12 OR GREATER OR HAVE INTERNAL INSULATION OF AT LEAST R-19 IN TANK SHOWING THE INSULATION R-VALUE. (C) PIPE INSULATION, WHETHER BURIED OR UNBURIED, FOR RECIRCULATING SECTIONS OF DOMESTIC HOT WATER SYSTEMS, PIPING FROM THE HEATING SOURCE TO THE STORAGE TANK FOR AN INDIRECT-FIRED DOMESTIC WATER-HEATING SYSTEM AND THE FRESH HOT WATER PIPES FROM THE STORAGE TANK FOR NON-INDIRECT-FIRED RECIRCULATING SYSTEMS AND COOLING SYSTEMS SHALL BE THERMALLY INSULATED IN SUBSECTIONS AND A AND 8. (D) SOLAR WATER-HEATING SYSTEMS AND/OR COLLECTORS SHALL BE CERTIFIED BY THE SOLAR RATING AND CERTIFICATION CORPORATION. (TITLE 24, PART 6, CHAPTER 2, SECTION 150.0)

CHAPTER 18. SOIL AND FOUNDATIONS

6. GEOTECHNICAL INVESTIGATION, SECTION 1803

- 6.1. COMPACTED FILL MATERIAL. WHEN SHALL LOW FOUNDATIONS WILL BEAR ON COMPACTED FILL MATERIAL, THE COMPACTED FILL SHALL COMPLY WITH THE WATTS OF THE WATTS OF THE LAMP (NOT BALLAST) ARE TO BE CONSIDERED.
- 6.2. CONTRACTOR SHALL NOTIFY ARCHITECT AND OWNER OF ANY UNSTABLE OR QUESTIONABLE SOIL OR GEOLOGICAL CONDITIONS ENCOUNTERED DURING EXCAVATION.
- 6.3. WHERE A SOILS AND/OR GEOLOGY REPORT AND/OR GRADING PRE-INSPECTION REPORT HAS BEEN MADE, THESE DOCUMENTS SHALL BE CONSIDERED PART OF THE CONSTRUCTION DOCUMENTS, AND CONTRACTOR SHALL FOLLOW ANY RECOMMENDATIONS CONTAINED THEREIN.

7. EXCAVATION, GRADING AND FILL, SECTION 1804

- 7.1. THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF NOT LESS THAN ONE UNIT VERTICAL IN 10 UNITS HORIZONTAL (5% SLOPE) FOR A MINIMUM DISTANCE OF 10 FEET MEASURED HORIZONTAL. (SECTION 1804.1)
- 7.2. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE OF ALL FINISHED GRADE SURFACES, SIDEWALKS, AND PATIOS AWAY FROM STRUCTURES AND VERIFY THAT ALL AREAS AFFECTED BY CONSTRUCTION ARE PROPERLY DRAINED WITH NO POONDING.
- 7.3. THERE SHALL BE NO TRENCHES OR EXCAVATIONS 3 FEET OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND, OR TRENCHES OR EXCAVATIONS PERMITTED BY THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO ISSUANCE OF A BUILDING OR GRADING PERMIT. (HSC 17922.5, EFF. 3/6/76)

8. DAMPROOFING AND WATERPROOFING, SECTION 1805

- 8.1. WALLS. DAMPROOFING MATERIALS FOR WALLS SHALL BE INSTALLED ON THE EXTERIOR SURFACE OF THE WALL, AND SHALL EXTEND FROM THE TOP OF THE FOOTING TO ABOVE GROUND LEVEL. (ARTICLE 1805.2.2)
- 8.2. CONTINUOUS PERIMETER DRAINAGE. PERIMETER DRAIN AND SUBDRAIN SYSTEM USING 4" MIN. DIAMETER PVC SCHEDULE 40 PERFORATED PIPE, PERMITTED TO DRAIN AND COME UNDERGROUND TO APPROVED STORM DRAINAGE SYSTEM OR STREET. PIPE SHALL BE SURROUNDED WITH A 2 FOOT DIAMETER OF 3/4-INCH WASHED GRAVEL AND WRAPPED WITH A FILTRATION FABRIC. DIRECTION OF HOLES IN PIPE SHOULD FACE DOWNWARD. (FOUNDATION DRAIN, SECTION 1805.4.2)
- 8.3. FOUNDATION WALLS. FOUNDATION WALLS SHALL BE INSTALLED BETWEEN THE FLOOR AND THE BASE COURSE REQUIRED BY SECTION 1805.4.1, EXCEPT A SEPARATE FLOOR IS PROVIDED ABOVE A CONCRETE SLAB. WHEN INSTALLED BENEATH THE SLAB, DAMPROOFING SHALL CONSISTS OF NOT LESS THAN 6-MIL POLYETHYLENE WITH JOINTS LAPPED NOT LESS THAN 6IN, OR OTHER APPROVED METHODS OR MATERIALS. (ARTICLE 1805.2.1)

9. FOUNDATION WALLS, RETAINING WALLS S AND EMBEDED POSTS AND POLES, SECTION 1807

- 9.1. ANY LANDSCAPE OR PLANTER RETAINING WALLS AGAINST EARTH WHICH ARE SPECIFIED WITHOUT PERMETER DRAINS SHALL BE PROVIDED WITH ADEQUATE DRAIN HOLES SURROUNDING THE BACKSIDE BY A MINIMUM OF 6" OF GRAVEL BACKFILL AT BASE OF WALL. ALL ENCLOSED PLANTERS SHALL BE WATERPROOFED ON THE INSIDE AND SUPPLIED WITH BOTTOM DRAINS CONNECTED TO STORM DRAIN SYSTEM. (RETAINING WALLS, ARTICLE 1807.2)

10. SHALLOW FOUNDATIONS, SECTION 1809

- 10.1. FROST PROTECTION. EXCEPT WHERE OTHERWISE PROTECTED FROM FROST, FOUNDATION AND OTHER PERMANENT SUPPORTS OF BUILDINGS AND STRUCTURES SHALL BE PROTECTED FROM FROST.

2013 CALIFORNIA RESIDENTIAL CODE

CHAPTER 3. BUILDING PLANNING (SECTION R300)

1. FIRE-RESISTANCE CONSTRUCTION, SECTION R302

- 1.1. EXTERIOR WALLS. EXTERIOR WALLS, OPENINGS AND PENETRATIONS OF EXTERIOR WALLS OF DWELLINGS AND ACCESSORY BUILDINGS SHALL COMPLY WITH TABLE R302. (1) OR DWELLINGS AND ACCESSORY BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION R313 SHALL COMPLY WITH TABLE R302: (1) (2)
- 1.2. PARAPET CONSTRUCTION. PARAPETS SHALL HAVE THE SAME FIRE-RESISTANCE RATING AS THAT REQUIRED FOR THE SUPPORTING WALL OR WALLS. ON ANY SIDE ADJACENT TO A ROOF SURFACE, THE PARAPET SHALL HAVE NONCOMBUSTIBLE FACES FOR THE UPPERMOST 18". TO INCLUDE COUNTERFLASHING AND COPING MATERIAL.
- 1.3. OPENINGS AND PENETRATIONS THROUGH THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE IN ACCORDANCE WITH SECTION R302.5.1 THROUGH R302.5.3 (SECTION R302.5). DOOR SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1 3/4" IN THICKNESS, SOLID OR HONEYCOMB-CORE STEEL DOORS NOT LESS THAN 1 3/4" THICK, OR 20 MIN PERFORATED STEEL DOORS NOT LESS THAN 1 3/4" THICK, AND SELF-LATCHING DEVICES. (R302.5.1)
- 1.4. THE GARAGE SHALL BE SEPARATED AS REQUIRED BY TABLE 302.6. OPENINGS IN GARAGE WALLS SHALL COMPLY WITH SECTION R302.5. THIS PROVISION DOES NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT. (R302.6)
- 1.5. INSULATION. INSULATION MATERIAL, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS AND VAPOR-PERMEABLE MEMBRANES INSTALLED WITHIN FLOOR/CEILING ASSEMBLIES, ROOF/CEILING ASSEMBLIES, WALL ASSEMBLIES, CRAWL SPACES AND ATTICS SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 WITH AN ACCOMPANYING SMOKE DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723. -FOAM PLASTIC INSULATION SHALL COMPLY WITH SECTION R316 (R302.0.1)

2. LIGHT, VENTILATION AND HEATING, SECTION R303

- 2.1. MECHANICAL EXHAUST FANS. EACH MECHANICAL EXHAUST FAN CONTAINING A BATHTUB, SHOWER OR TUB/SHOWER COMBINATION SHALL BE MECHANICALLY VENTILATED FOR PURPOSES OF HUMIDITY CONTROL IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE, CHP 4, AND THE CALIFORNIA GREEN BUILDING STANDARDS CODE, CHP 4, DIVISION 4.5. (R303.3.1)
- 2.2. OPENING LOCATION. OUTDOOR INTAKE AND EXHAUST OPENINGS SHALL BE LOCATED IN ACCORDANCE WITH SECTION R303.5.1 AND R303.5.2. INTAKE SHALL BE LOCATED MIN 10 FEET FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT, 3 FEET BELOW THE CEILING AND 10 FEET FROM THE EXHAUST OPENING. EXHAUST SHALL BE A WALL SWITCH AT EACH FLOOR LEVEL TO CONTROL LIGHTING OUTLET WHERE THE STAIRWAY HAS TWO OR MORE RISERS. (R303.7.1)

3. GLAZING, SECTION R308

- 3.1. HUMAN IMPACT LOADS. INDIVIDUAL GLAZED AREAS, INCLUDING GLASS MIRRORS IN HAZARDOUS LOCATIONS SUCH AS CLOSETS INDICATED AS DEFINED IN SECTION R308.4, SHALL PASS THE TEST REQUIREMENTS OF SECTION R308.3.1. TESTS CPSC 16 CFR 1201 (R308.3)
- 3.2. GLAZING IN DOORS. GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOORS SHALL BE CONSIDERED A HAZARDOUS LOCATION. (R308.4.1)
- 3.3. GLAZING ADJACENT DOORS. WHERE THE NEAREST VERTICAL EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND THE VERTICAL EDGE OF THE GLAZING IS WITHIN 60" ABOVE THE FLOOR OR WALKING SURFACE SHALL BE CONSIDERED A HAZARDOUS LOCATION. (R308.4.2)
- 3.4. GLAZING IN WINDOWS. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS SHALL BE CONSIDERED A HAZARDOUS LOCATION: (1) THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQ.FT. (2) THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR. (3) THE TOP EDGE OF THE GLAZING IS MORE THAN 36" ABOVE THE FLOOR AND (4) ONE OR MORE WALKINGS SURFACES ARE WITHIN 36", MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING. (R308.4.3)
- 3.5. GLAZING IN GLAZED BALCONIES AND RAILS SHOULD BE CONSIDERED A HAZARDOUS LOCATION (R308.4.4)
- 3.6. GLAZING ADJACENT STAIRS AND RAMPS. GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 36" ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED A HAZARDOUS LOCATION WHEN THE GLAZING IS LOCATED ON THE ACCESSIBLE SIDES OF THE STAIRS OR RAMPS 34 TO 38" ABOVE THE WALKING DISTANCE. THE RAIL SHALL BE CAPABLE OF WITHSTANDING A HORIZONTAL LOAD OF 50 POUNDS PER LINEAR FOOT WITHOUT CONTACTING THE GLASS AND BE A MINIMUM OF 1 1/2" IN CROSS SECTIONAL HEIGHT. (R308.4.6)
- 3.7. GLAZING ADJACENT TO STAIRWAYS. GLAZING ADJACENT TO STAIRWAYS SHALL BE CONSIDERED A HAZARDOUS LOCATION WHERE THE GLAZING IS LESS THAN 36" ABOVE THE LANDINGS AND WITHIN 60" HORIZONTALLY OF THE BOTTOM TREAD SHALL BE CONSIDERED A HAZARDOUS LOCATIONS. (R308.4.7)
- 3.8. PERMITTED MATERIALS. - FULLY TEMPERED GLASS (R308.6.2)

4. GARAGES AND CARPORTS, SECTION R309

- 4.1. FLOOR SURFACE. GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY. (R309.1)
- 4.2. FIRE SPRINKLERS. ATTACHED GARAGES AND CARPORTS WITH HABITABLE SPACE ABOVE, ATTACHED GARAGES AND CARPORTS WITH HABITABLE SPACE ABOVE SHALL BE PROTECTED BY FIRE SPRINKLERS IN ACCORDANCE WITH THIS SECTION AND SECTION R313. PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH ONE OF THE FOLLOWING: (1) RESIDENTIAL SPRINKLERS INSTALLED IN ACCORDANCE WITH THEIR LISTINGS. (2) EXTENDED COVERAGE SPRINKLERS DISCHARGING WATER NOT LESS THAN THE FLOW RATE FOR LIGHT HAZARD IN ACCORDANCE WITH NFPA 13. (3) QUICK-RESPONSE SPRAY SPRINKLERS AT LIGHT HAZARD SPACING IN ACCORDANCE WITH NFPA 13 DESIGNED

5. EMERGENCY ESCAPE AND RESCUE OPENINGS, SECTION R310

- 5.1. EMERGENCY ESCAPE AND RESCUE REQUIRED. BASEMENTS, HABITABLE ATTICS EMERGENCY ESCAPE AND RESCUE OPENING WHERE BASEMENT CONTAIN ONE OR MORE SLEEPING ROOMS, EMERGENCY EGRESS AND RESCUE OPENINGS SHALL BE PROVIDED IN EACH OPENING AREA, WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED, THEY SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 IN. MEASURED FROM THE FLOOR. WINDOW WELL IN ACCORDANCE WITH R310.2. EXCEPTION: BASEMENTS USED ONLY TO HOUSE MECHANICAL EQUIPMENT AND NOT EXCEEDING TOTAL AREA OF 200 SQ.FT. (MIN AREA WINDOW AND ALL OTHER CONSTRAINT, SEE R310.1)
- 5.2. WINDOW WELLS. MIN HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 9 SQ.FT. WITH A MIN. HORIZONTAL PROJECTION OF 36" (R310.2)

6. MEANS OF EGRESS, SECTION R311

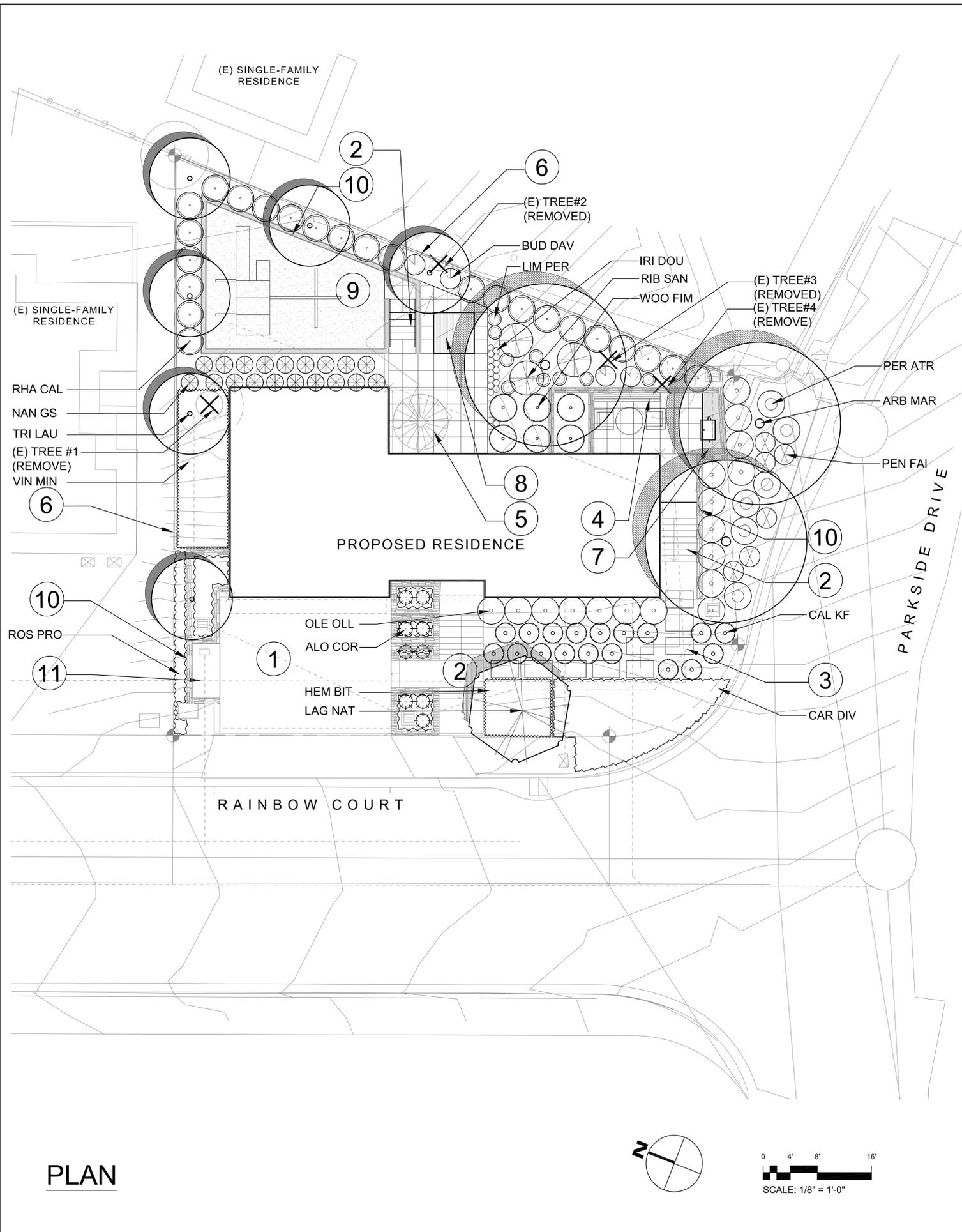
- 6.1. MEANS OF EGRESS. ALL DWELLINGS SHALL BE PROVIDED WITH A MEANS OF EGRESS AS PROVIDED IN THIS SECTION. THE MEANS OF EGRESS SHALL PROVIDE A CONTINUOUS AND UNOBSTRUCTED PATH OF VERTICAL AND HORIZONTAL EGRESS TRAVEL FROM ALL PORTIONS OF THE DWELLING TO THE EXTERIOR OF THE DWELLING AT THE REQUIRED EGRESS DOOR WITHOUT REQUIRING TRAVEL THROUGH A GARAGE. (R311.1) MIN. 36" - DIRECTION OF TRAVEL - LANDING (R311.3)

7. GUARDS AND WINDOW FALL PROTECTION, SECTION R312

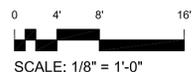
- 7.1. GUARDS SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS AND LANDINGS, THAT ARE LOCATED MORE THAN 30" MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36" HORIZONTALLY TO THE EDGE OF THE OPEN SIDE. (R312.2)
- 7.2. HEIGHT. REQUIRED GUARDS AT OPEN SIDED WALKING SURFACES, INCLUDING STAIRS, PORCHES, BALCONIES OR LANDINGS SHALL BE NOT LESS THAN 42 INCHES HIGH MEASURED VERTICALLY TO THE ADJACENT WALKING SURFACE. ADJACENT FIXED SEATING OR THE LINE CONNECTING THE LEADING EDGES OF THE TREADS. (R312.1.2) EXCEPTION: AT STAIRS - GUARDS HEIGHT (HANDRAIL) MIN. 34" TO MAX. 38"
- 7.3. WINDOW FALL PROTECTION. IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24 IN. ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4" DIAMETER SPHERE THROUGH THE WINDOW. (R312.1.1)
- 7.4. WINDOW OPENING CONTROL DEVICES SHALL COMPLY WITH ASTM F 2090. (R312.2.2)

8. AUTOMATIC FIRE SPRINKLER SYSTEMS, SECTION R313

- 8.1. AN AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN ONE- AND TWO-FAMILY DWELLINGS. (R13.2) AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SECTION R313 OR NFPA 13D. (R313.2.2)
- 8.2. REQUIRED SPRINKLER LOCATIONS. SPRINKLERS SHALL BE INSTALLED TO PROTECT ALL AREAS OF A DWELLING UNIT. EXCEPTIONS: (1) ATTICS, CRAWL SPACES AND NORMALLY UNOCCUPIED CONCEALED SPACES THAT DO NOT CONTAIN FUEL-FIRED APPLIANCES DO NOT REQUIRE SPRINKLERS. IN ATTICS, CRAWL SPACES AND NORMAL UNOCCUPIED CONCEALED SPACES THAT CONTAIN FUEL-FIRED EQUIPMENT, A SPRINKLER SHALL BE INSTALLED ABOVE THE EQUIPMENT; HOWEVER, SPRINKLERS SHALL NOT BE REQUIRED IN THE REMAINDER OF THE SPACE. (2) CLOTHES CLOSETS, LINEN CLOSETS AND PANTRIES NOT EXCEEDING 50 SQ.FT. IN AREA, WITH THE SMALLEST DIMENSION NOT GREATER THAN 3 FEET AND HAVING WALL AND CEILING SURFACES OF GYPSUM BOARD. (3) BATHROOMS NOT MORE THAN 55 SQ.FT. IN AREA. (4) DETACHED GARAGES; CARPORTS WITH NO HABITABLE SPACE ABOVE; OPEN ATTACHED PORCHES; UNHEATED ENTRY AREAS, SUCH AS MUR ROOMS, THAT ARE ADJACENT TO AN EXTERIOR DOOR; SIMILAR AREAS. (R313.2.1)
- 8.3.



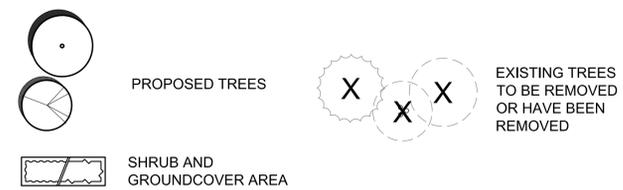
PLAN



KEY NOTES

- ① DRIVEWAY
- ② STEPS/STAIRS
- ③ CONCRETE STEP PADS
- ④ SEATING BUILT INTO RETAINING WALL
- ⑤ STAIRS FROM ROOF DECK
- ⑥ WOOD FENCE AT PROPERTY LINE--6 FT HIGH
- ⑦ OUTDOOR KITCHEN
- ⑧ SPA
- ⑨ PLAY AREA--BARK SURFACE
- ⑩ RETAINING WALL
- ⑪ TRASH/RECYCLING BIN STORAGE

LEGEND



LANDSCAPE STATEMENT

THE PROJECT LANDSCAPE IS PROPOSED ON A SITE THAT SLOPES PREDOMINANTLY TO THE WEST. THE PROPOSED RESIDENCE IS MULTI-LEVELLED AND ALSO STEPS WITH THE SLOPE TO ADDRESS THE EXISTING SITE CONDITIONS. THE PROPOSED LANDSCAPE IS INTENDED TO BE BOTH WATER CONSERVING AND LOW-MAINTENANCE. PLANT MATERIALS ARE ZONED TO ADDRESS BOTH EXPOSURES AND SITE CONCERNS. THE PERIMETERS ARE PLANTED WITH TREES AND SHRUBS TO PROVIDE BOTH THE OCCUPANTS AND NEIGHBORS WITH PRIVACY. BROADLEAF EVERGREEN TREES ARE PROPOSED IN LOCATIONS WHERE PRIVACY IS OF GREATEST CONCERN. THE TREES LOCATED TO MAINTAIN VIEWS FROM THE TERRACES ON THE WEST ELEVATION OF THE PROPOSED RESIDENCE. RETAINING WALLS ARE SCREENED WITH PLANT MATERIALS. THE PLANT MATERIAL SELECTION AND ORGANIZATION ARE INTENDED TO ENHANCE THE SIMPLE CONTEMPORARY ARCHITECTURE OF THE RESIDENCE. THE PLANT SPECIES SELECTION VARIED TO PROVIDE DIFFERENT TEXTURES AND FORM WITH OPPORTUNITIES FOR SEASONAL FLOWERING AND COLOR. AS SITE GRADING IS INTENDED, TOPSOIL WILL BE STOCKPILED FOR USE IN THE PROJECT LANDSCAPE TO THE EXTENT POSSIBLE. ON SLOPES STEEPER THAN 3:1 JUTE MESH WILL BE USED FOR EROSION CONTROL PURPOSES. FOR INSTALLATION AND LONG-TERM MAINTENANCE OF THE LANDSCAPE, SUSTAINABLE AND "BAY-FRIENDLY" PRACTICES ARE GOALS OF THE OWNER. THE INTENT IS TO RECYCLE A MINIMUM OF 50% OF THE LANDSCAPE CONSTRUCTION AND GREEN WASTE.

ABBREV.	BOTANICAL NAME	COMMON NAME	SIZE	MISC. NOTES & REQUIREMENTS	MATURE PLANT HTxSP	SPACING	WUCOLS RATING
TREES							
ARB MAR	<i>Arbutus Menziesii</i>	Strawberry Tree	24" Box		40' x 25' <slow growing	varies >17'	L
LAG NAT	<i>Lagerstroemia x Muskogee</i>	Crape Myrtle (Lavender)	24" Box	Hi. Br./SL/Match	20' x 15'	NA	L
TRI LAU	<i>Tristania laurina 'Elegant'</i>	Tristania	15 G.C.	S.L./No. Whorl. Br./N. Dtp. Br./Match	20' x 15'	varies >16'	M
SHRUBS							
ALO COR	<i>Aloe striata 'Coral'</i>	Aloe	5 G.C.		3' x 2'	2.5'	VL
BUD DAV	<i>Buddleia davidii 'Black Knight'</i>	Butterfly Bush	5 G.C.	F & B	6' x 3'	varies >3.5'	M
NAN GS	<i>Nandina domestica 'Gulf Stream'</i>	Dwarf Heavenly Bamboo	1 G.C.	F & B	3' x 3'	3'	L
OLE OLL	<i>Olea europaea 'Little Ollie'</i>	Dwarf Olive (fruitless)	5 G.C.	F & B--no shearing	4' x 4'	4'	VL
RHA CAL	<i>Rhamnus californica 'Eve Case'</i>	Collesberry	5 G.C.	F & B--no shearing	6' x 6' <slow growing	varies >4'	L
RIB SAN	<i>Ribes sanguinum</i>	Pink Winter Currant	5 G.C.	F & B	8' x 6'	varies >4'	L
PER ATR	<i>Paroskia atriplicifolia</i>	Russian Sage	1 G.C.	F & B	3.5' x 3.5'	varies >4'	L
WOO FIM	<i>Woodwardia fimbriata</i>	Giant Chain Fern	5 G.C.		4 x 4'	varies >4.5'	M
PERENNIALS/BULBS/ANNUALS							
CAL KF	<i>Calamagrostis a. Karl Foerster</i>	Reed Grass	1 G.C.		2' X 2' (flowers to 6')	3'	M
HEM BIT	<i>Hemerocallis 'Bitsy'</i>	Evergreen, repeat bloom Daylily	B.R.	Double fan min., plant at 18" o.c. max.	1.5' X 1.5'	1.5'	M
RI PAC	<i>Iris Pacific Coast Hybrids</i>	Pacific Coast Iris	1 G.C.		1.5' X 1.5'	1'	L
LIM PER	<i>Limonium perezii</i>	Sea Lavender	1 G.C.		1.5' X 1.5'	varies >2.33'	L
PEN FAI	<i>Pennisetum 'Fairy Tales'</i>	Fountain Grass	1 G.C.		2' x 3'	varies >3'	M
GROUNDCOVERS							
CAR DIV	<i>Carex divisa</i>	Berkeley Sedge	1 G.C.	Plant at 15" o.c.	1.3' x 1.3'	15"	L
ROS PRO	<i>Rosmarinus officinalis 'Prostratus'</i>	Dwarf Rosemary	1 G.C.	Plant at 2'-6" o.c.	2' x 6"	2.5"	L
VIN MIN	<i>Vinca minor</i>	Dwarf Periwinkle	Flats	Plant at 1'-6" o.c.	0.5' x 3'+	1.5"	M

* *Hemerocallis* available only from Greenwood Daylilies, 8000 Balcom Canyon Road, Somis, CA 93066, (562) 494-8944, <www.greenwoodgarden.com>

PLANT LIST ABBREVIATIONS:

- Note: This list together with the plant list prepared by Taniguchi Landscape Architecture must accompany the contractor's nursery order(s)
- SL Single main, straight, dominant, leader
 - Hi. Br. High branched--lowest limbs held above rootball 5' min. for 15 gallon can 6' min. for 24" box trees
 - No Top No topping or pruning of upper branches
 - Br. Gr. Branched to ground
 - F & B Full dense, bushy, vigorous plants, with young growth closely spaced on branches, no old/woody plants.
 - N.V.S.-30 deg. Narrow upright vase shape 30 degrees or less spread in branch/trunk structure
 - N.V.S.-45 deg. Narrow upright vase shape 45 degrees or less spread in branch/trunk structure
 - No. Whorl. Br. No closely spaced whorled branches. Select even symmetrical branch distribution
 - Match Matched size, form, caliper, branching and cultivar. Select from one lot, one grower, for guaranteed consistency through life of plants.
 - In general plants within a group or area are to be matched, unless noted otherwise.
 - T.F. Tree Form
 - S.F. Shrub Form
 - N.F. Narrow upright Form
 - B.R. Bare Root
 - B & B Balled and Burfed
 - Mult. St. Multi stemmed
 - Flat Rooted cuttings from flats at on center distance specified in list. See groundcover/shrub o.c. planting detail for layout.
 - Cal. Caliper
 - EV. Evergreen
 - G.C. Gallon Can
 - N.C.N. No Common Name
 - Trail F. Select trailing Forms for prostrate growth
 - Veg. Gr. Vegetative Grown
 - Hed. F. Hedge Form (clipped)
 - Stem up. Stem up to expose trunk and lower branch pattern
 - O.c. On center
 - N. Dtp. Br. No long heavy drooping branches
 - HT Height
 - SP Spread

Existing Tree Summary

Number	Tree species/Common Name	Trunk Diameter (DBH)	Height (feet)	Spread (feet)	Disposition
1	Schinus molle/California Pepper	48"---stump	NA	NA	Remove stump
2	Eucalyptus sp./Gum Tree	24"	NA	NA	Removed
3	Quercus agrifolia?/Coast Live Oak	6"	NA	NA	Removed
4	Quercus agrifolia/Coast Live Oak	6"	20'	16'	Remove--canopy not balanced/grading&const impacts

MIAKHAIL RESIDENCE

2398 Rainbow Court
Hayward, CA
94542

Taniguchi Landscape Architecture
1013 South Claremont St., Ste 1
San Mateo, CA 94402
v 650.638.9985 | f 650.638.9986
CLA #2942

ISSUE	DESCRIPTION	DATE
1	SUBMITTAL	09/19/17

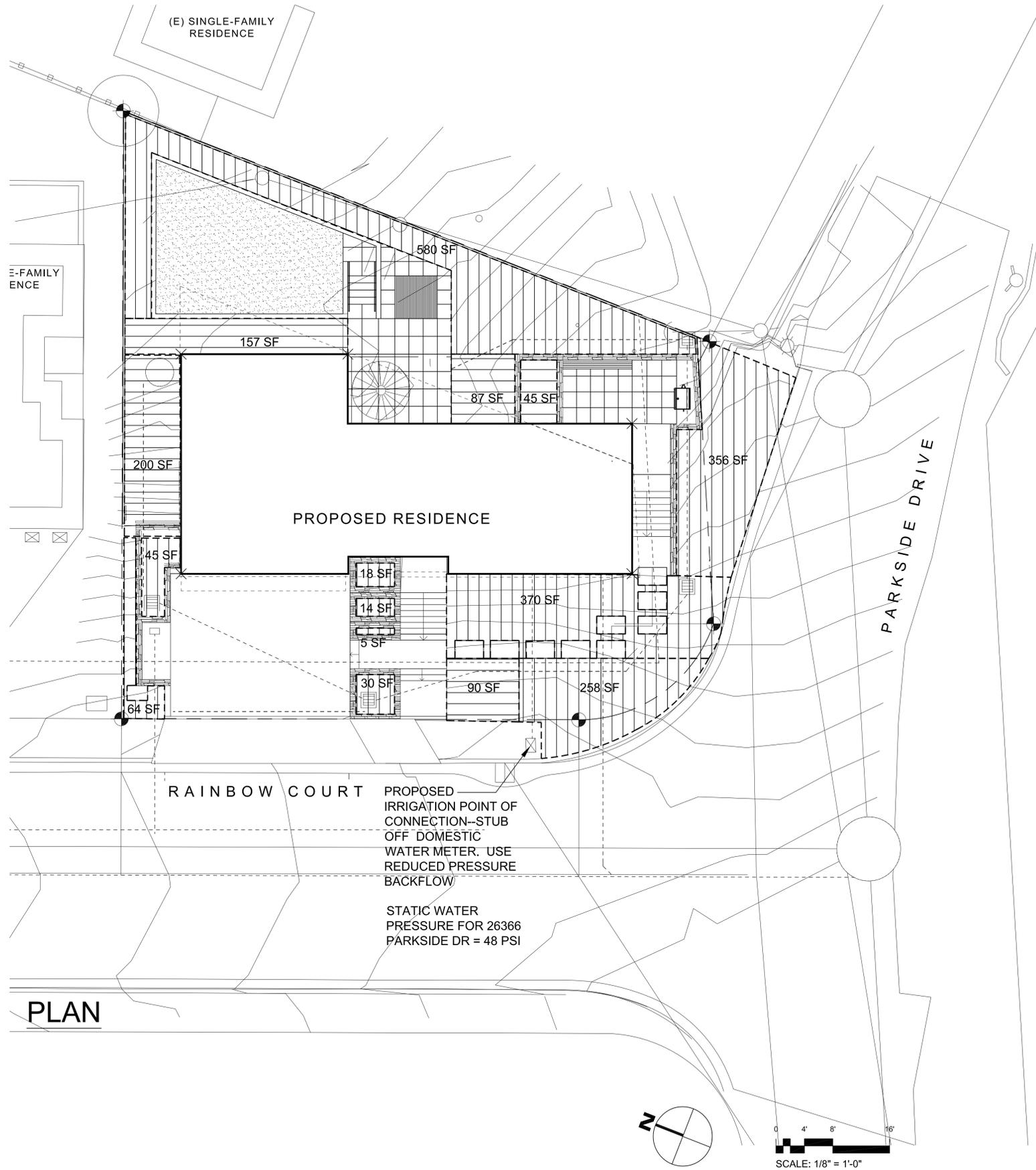
SCALE: As Noted

PROJECT NUMBER: TLAR: 17018.000

SHEET TITLE
SCHEMATIC LANDSCAPE PLAN

SHEET NO.

L-1



PLAN

CONCEPTUAL IRRIGATION STATEMENT

- IRRIGATION DESIGN SHALL BE ZONED FOR 1) TURF AND ANNUALS AND OTHER MODERATE TO HIGHER WATER USE PLANT MATERIALS; 2) GROUNDCOVERS, AND 3) NATIVE AND WATER CONSERVING PLANT MATERIALS.
- IRRIGATION DESIGN SHALL ALSO BE ZONED FOR MICRO CLIMATES INCLUDING COOL, SHADED AND PROTECTED AREAS, AS WELL AS HOT, SUNNY AND WINDY AREAS.
- PART SHADE AREAS INCLUDE MODERATE WATER USE AREAS HAVING MORNING AND/OR AFTERNOON SHADE.
- COOL AND FULL SHADY AREAS INCLUDE LOW WATER USE AREAS FOR PLANTS REQUIRING LITTLE OR NO IRRIGATION WATER AND/OR LOCATIONS THAT WILL PROVIDE MOIST CONDITIONS.
- LAYOUT SHALL BE DESIGNED FOR MINIMUM RUNOFF AND OVERSPRAY ONTO NON-LANDSCAPED AREAS
- LOW VOLUME SPRINKLERS SHALL BE USED WHEREVER POSSIBLE WITH HEAD TO HEAD COVERAGE.
- DRIP EMITTER OR BUBBLER IRRIGATION SHALL BE UTILIZED AT TREES TO PROMOTE DEEP WATERING WHEREVER POSSIBLE.
- DRIP IRRIGATION SHALL BE UTILIZED AT NON-TRAFFIC OR ISOLATED PLANTING AREAS TO DECREASE THE POSSIBILITY OF VANDALISM TO THE MICRO-TUBING.
- THE IRRIGATION CONTROLLER SHALL HAVE AMPLE CAPACITY IN TERMS OF PROGRAMS AND CYCLES THAT WILL MATCH THE COMPLEXITY OF THE LANDSCAPE PLAN FOR MORE EFFICIENT WATERING. FOR EXAMPLE, THE CONTROLLER SHALL HAVE THE ABILITY TO HAVE MULTIPLE CYCLES TO PERMIT A NUMBER OF SHORT DURATION WATERINGS THAT WILL ALLOW WATER TO SOAK INTO THE SOIL RATHER THAN RUN OFF.
- INDIVIDUAL BUBBLERS OR DRIP EMITTERS SHALL BE UTILIZED TO ISOLATE WATER FOR PLANT MATERIALS AND ELIMINATE WATERING OF "BARE GROUND."

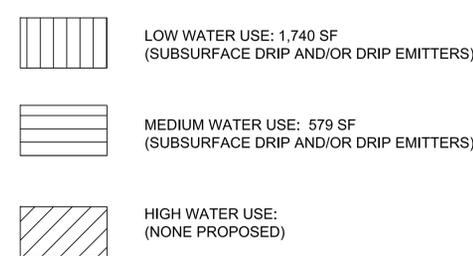
NOTES:

- A MINIMUM 3-INCH LAYER OF 1/2" TO 1" DIAMETER FIR OR PINE BARK MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS.
- I HAVE COMPLIED WITH THE CRITERIA OF THE WATER CONSERVATION IN LANDSCAPING ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.
- IRRIGATED PLANTED AREA= 2319 SF
TURF IS 0% OF THAT PLANTED AREA
- PLANT MATERIAL SPECIES ARE DROUGHT TOLERANT NATIVE OR NON-INVASIVE PLANT SPECIES(AS DEFINED BY THE CALIFORNIA INVASIVE PLANT COUNCIL). DROUGHT TOLERANCE IS AS DEFINED IN "PLANTS AND LANDSCAPES FOR SUMMER-DRY CLIMATES OF THE SAN FRANCISCO BAY REGION" BY THE EAST BAY MUNICIPAL UTILITY DISTRICT.
- UNLESS CONTRAINDICATED BY A SOILS TEST, COMPOST AT THE RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.
- AUTOMATIC WEATHER-BASED OR SOIL-MOISTURE BASED IRRIGATION CONTROLLERS SHALL BE INSTALLED ON THE IRRIGATION SYSTEM.
- IRRIGATION CONTROLLER PROGRAMMING DATA WILL NOT BE LOST DUE TO AN INTERRUPTION IN THE PRIMARY POWER SOURCE
- PRESSURE REGULATORS SHALL BE INSTALLED ON THE IRRIGATION SYSTEM TO ENSURE DYNAMIC PRESSURE OF THE SYSTEM IS WITHIN THE MANUFACTURER'S RECOMMENDED PRESSURE RANGE.
- MANUAL SHUT-OFF VALVES SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION OF THE WATER SUPPLY.
- AREAS LESS THAN 10-FEET IN WIDTH IN ANY DIRECTION SHALL BE IRRIGATED WITH SUBSURFACE IRRIGATION OR OTHER MEANS THAT PRODUCES NO RUNOFF OR OVERSPRAY.

IRRIGATION WATER USE CALCULATIONS:

MIAKHAIL RESIDENCE WATER USE ESTIMATION												
WATER TYPE		POTABLE		SITE ETOH		44.2						
REGULAR LANDSCAPE AREAS												
HYDROZONE #	HYDROZONE NAME	PLANT WATER USE TYPE	PLANT FACTOR P/F	IRRIGATION METHOD	EFFICIENCY	ETAF (P/IE)	AREA (SQ. FT)	ETAF X AREA (GA)	ETWU (GALLONS/YR)	ACRE FEET/YR	PERCENTAGE OF LANDSCAPE	
1	MIXED BHRUBS & GROUNDCOVER	LOW	0.3	DRIP	0.81	0.37	1,740	644	17,000	0.08	75%	
2	MIXED BHRUBS & GROUNDCOVER	MED	0.6	DRIP	0.81	0.52	579	307	8,781	0.03	25%	
							TOTALS	2,319	1,907	27,455	0.08	100%
SPECIAL LANDSCAPE AREAS												
HYDROZONE #	HYDROZONE NAME											
3												
							TOTALS	0	0	0	0%	0%
MAWA			ETWU			MWA FORMULA			ETWU FORMULA			
	GALLONS/YR	24,562		GALLONS/YR	27,455	MAXIMUM APPLIED WATER ALLOWANCE (MAWA) GALLONS PER YEAR			ESTIMATED TOTAL WATER USE (ETWU) GALLONS PER YEAR			
	ACRE FEET/YR	0.11		ACRE FEET/YR	0.08	MAWA = (ET0)0.82(IA + 0.85) + (0.45 x SLA)			ETWU = (ET0)0.82(ETAF x LA)			
	HOURLY	48.73		HOURLY	38.70	ET0 = REFERENCE EVAPOTRANSPIRATION			ET0 = REFERENCE EVAPOTRANSPIRATION			
						0.85 = ET ADJUSTMENT FACTOR			PP = PLANT FACTOR FOR HYDROZONES			
						LA = LANDSCAPED AREA (SQUARE FEET)			IA = HYDROZONE AREA (SQ. FT)			
						0.82 = CONVERSION FACTOR (GALLONS/SQ. FT/YR)			0.82 = CONVERSION FACTOR (GALLONS/SQ. FT/YR)			
						IE = IRRIGATION EFFICIENCY (0.81) BUBBLER/DRIP			IE = IRRIGATION EFFICIENCY (0.75) ROTOR/SPRAY			
SITE IRRIGATION EFFICIENCY			SITE PLANT FACTOR			MAWA COMPLIANT						
81.0%			0.58			YES						
ETAF Calculations												
REGULAR LANDSCAPE AREAS												
TOTAL ETAF x AREA		1,002										
TOTAL AREA		2,319										
AVG. ETAF		43.0%										

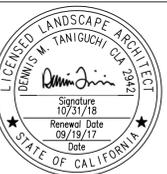
HYDROZONE LEGEND



MIAKHAIL RESIDENCE

2398 Rainbow Court
Hayward, CA
94542

Taniguchi Landscape Architecture
1013 South Claremont St., Ste 1
San Mateo, CA 94402
V 650.638.9985 | F 650.638.9986
CLA #2942



ISSUE: DESCRIPTION: DATE:
1 SUBMITTAL: 09/19/17

SCALE: As Noted

PROJECT NUMBER: TLAR: 17018.000

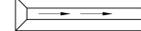
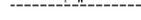
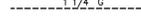
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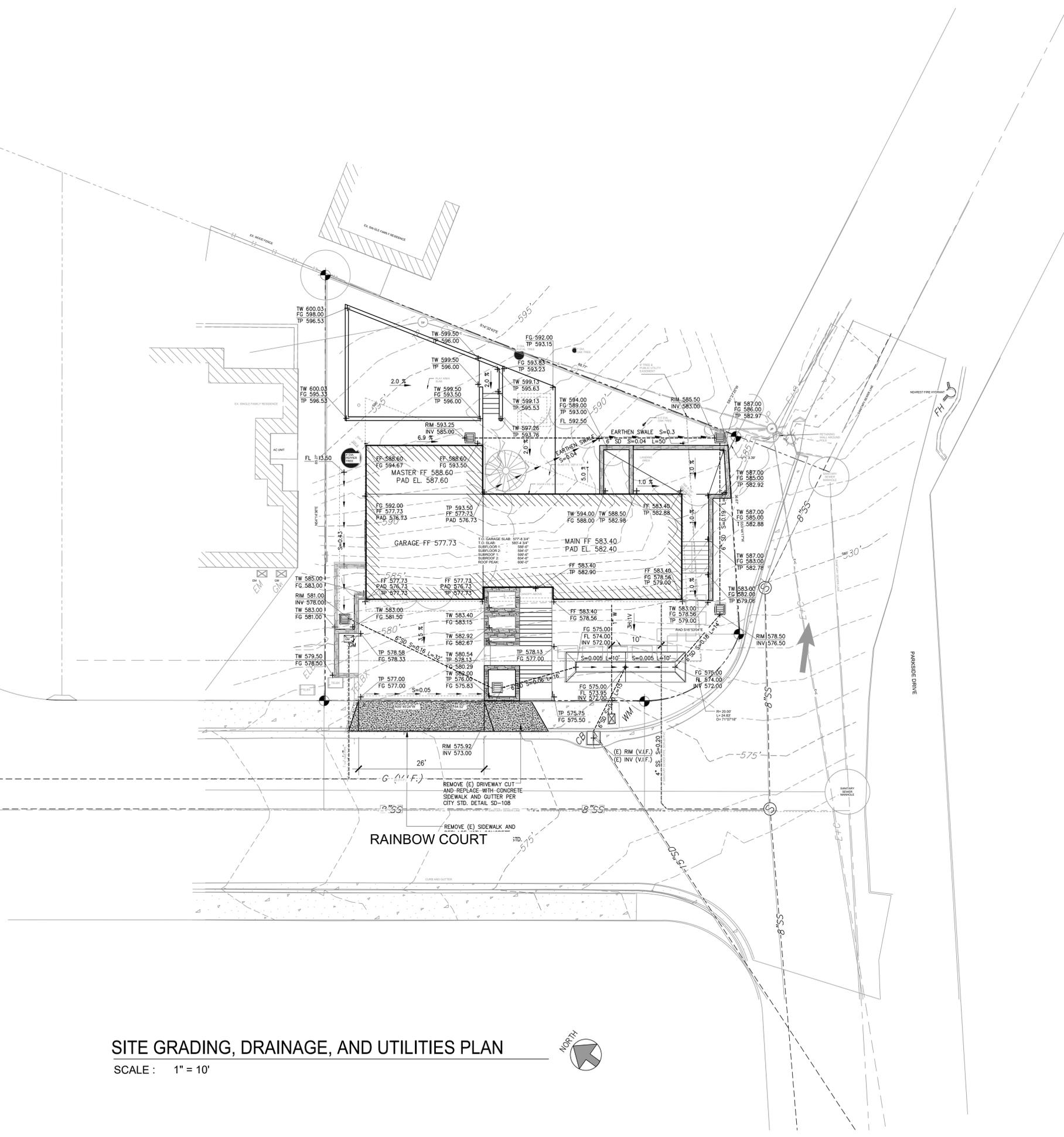
IRRIGATION HYDROZONE PLAN

SHEET NO.

L-2

LEGEND

-  - BIORETENTION SWALE, SEE DETAIL 1/C2
-  - EARTHEN SWALE, SEE DETAIL 2/C2
-  - 18"x18" PRECAST CONCRETE CATCH BASIN WITH H=20 RATED CAST IRON FRAME AND GRATE, SEE DETAIL 3/C2
-  - 6" STORM DRAIN PIPE, SDR-35 P.V.C., SEE DETAIL 4/C2
-  - 4" SANITARY SEWER WASTE PIPE, SDR-26 P.V.C., PER CITY STANDARD DETAIL SD-312
-  - 1" WATER PIPE, TYPE K COPPER, PER CITY STANDARD DETAIL SD-213
-  - 1 1/4" GAS PIPE, TYPE AND TRENCHING SECTION PER PG&E STANDARD DETAILS
-  - CMU RETAINING WALL, SEE DETAIL 5/C2

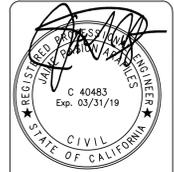


SITE GRADING, DRAINAGE, AND UTILITIES PLAN

SCALE : 1" = 10'



REVISIONS	BY



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**SITE GRADING,
 DRAINAGE, AND
 UTILITIES PLAN**

**NEW RESIDENCE
 2398 RAINBOW COURT
 HAYWARD, CA 94542**

DRAWN BY:	JA
CHECKED BY:	JPA
DATE:	AUGUST 18, 2017
SCALE:	AS NOTED
JOB NUMBER:	2173050
SHEET:	C1

C1

REVISIONS	BY

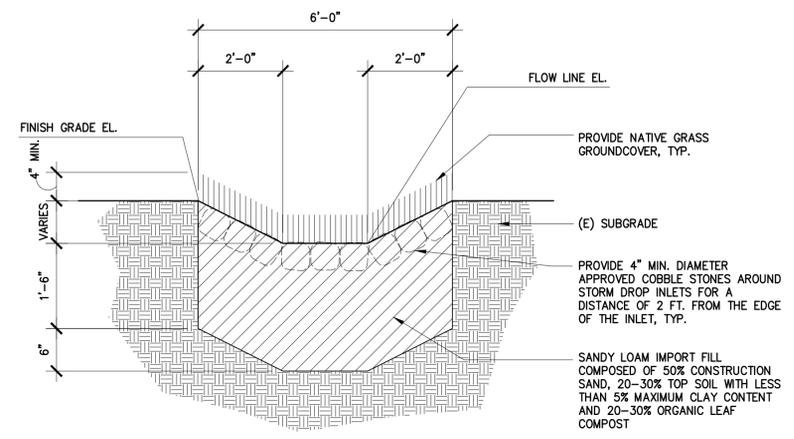


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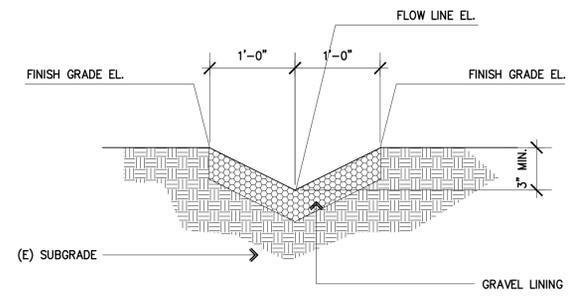
SITE DETAILS

NEW RESIDENCE
 2398 RAINBOW COURT
 HAYWARD, CA 94542

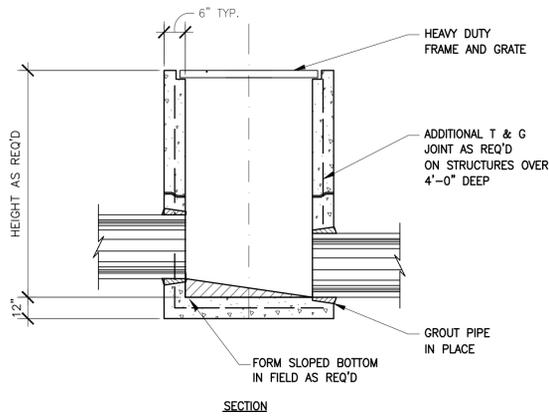
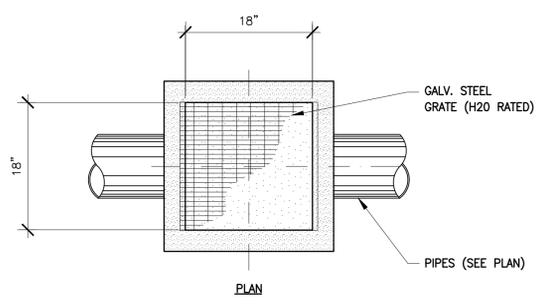
DRAWN BY: JA
 CHECKED BY: JPA
 DATE: AUGUST 18, 2017
 SCALE: AS NOTED
 JOB NUMBER: 2173050
 SHEET:



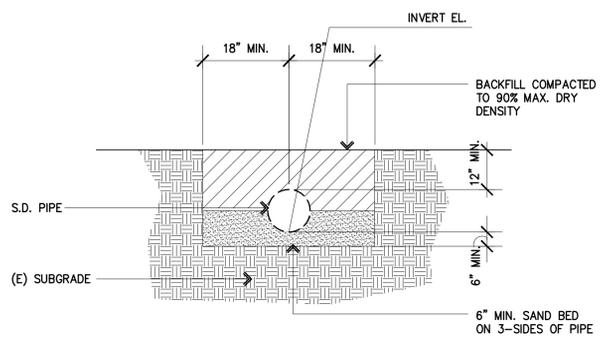
1 TYPICAL BIOSWALE DETAIL
 NOT TO SCALE



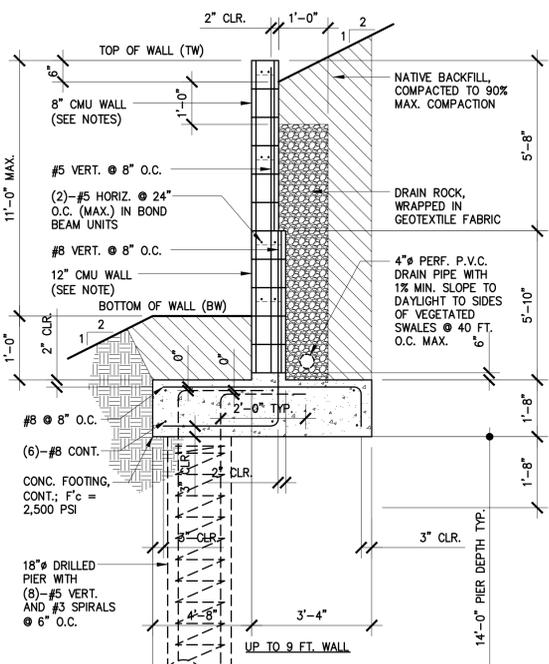
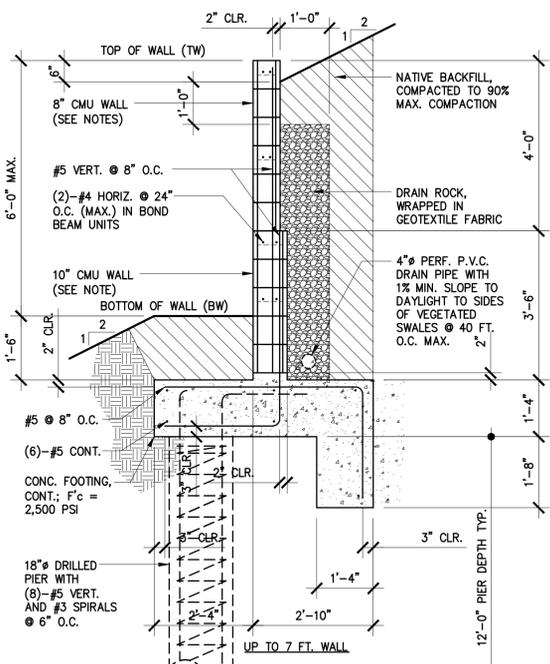
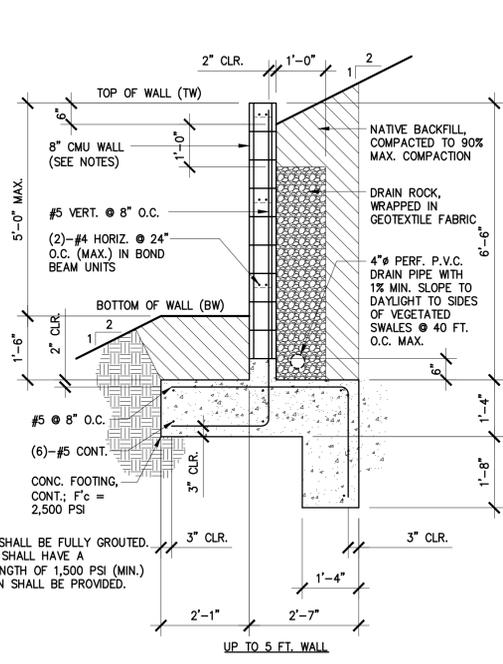
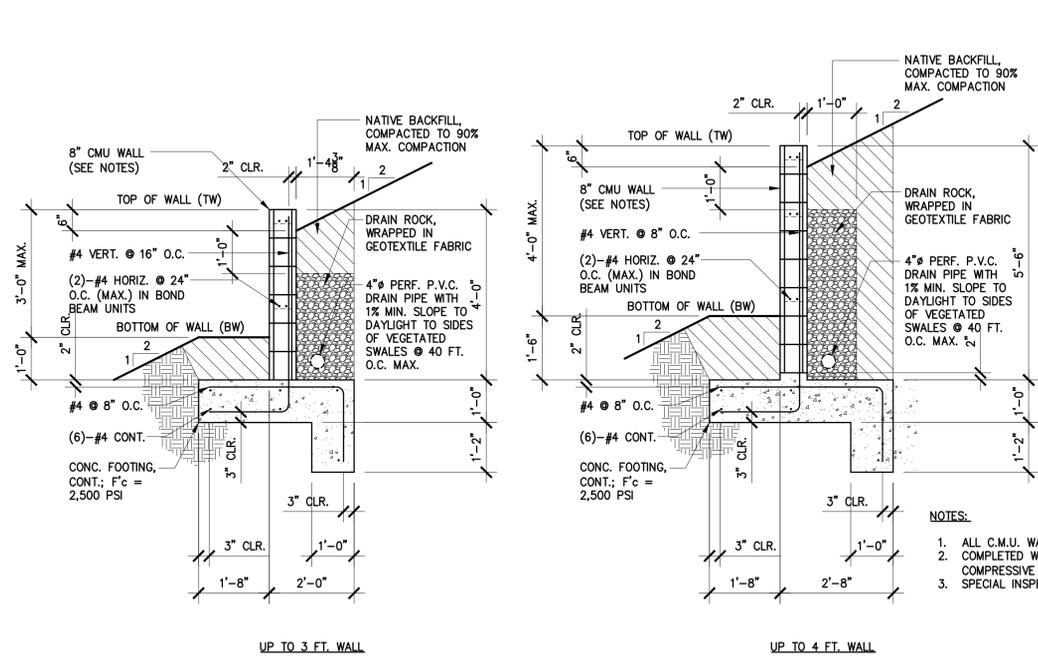
2 TYPICAL EARTHEN SWALE
 NOT TO SCALE



3 TYPICAL CATCH BASIN DETAIL
 NOT TO SCALE



4 TYPICAL STORM DRAIN SECTION
 NOT TO SCALE



5 TYP. C.M.U. RETAINING WALL DETAIL
 NOT TO SCALE