LANDSCAPE DESIGN REQUIREMENTS

The plantings are designed to comply with the Appendix D "Precriptive Compliance Option" of MWELO.

1. MEDIUM WATER USE PLANTING DOES NOT EXCEED 20% OF THE TOTAL PLANTED AND IRIGATED AREA.
2. LOW WATER USE OR CLIMATE-ADAPTED SPECIES THAT REQUIRE LITTLE TO NO SUMMER WATER ARE SELECTED TO HELP SUSTAIN PLANTED AND IRIGATED LANDSCAPES.
3. PERMITTED LANDSCAPE AREA MUST BE SMALLER THAN 200 SF PER PLANTED AND IRIGATED AREA.
4. PLANS ARE INTENDED FOR USE ON SITES WITH LESS THAN 20% SLOPES.

ADDITIONAL GUIDELINES FOR THE PLANTINGS:
A. FIRE SAFER PLANTINGS ARE INDICATED ON PLANT LISTS AND USED WITHIN 5' OF HOMES.
B. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
C. TRESS ARE LOCATED FOR SHADE ON GARDEN AREAS AND TO PROVIDE SOLAR ACCESS FOR SOLAR PANELS ON ROOFTOPS. TRESSES ARE LOCATED AWAY FROM BUILDING STRUCTURES SO THAT BRANCHES DO NOT HANG OVER THE BUILDING.
D. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
E. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
F. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
G. PERUVIOUS PAVING OPTIONS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR.
H. ADDITIONALLY, LANDSCAPE DESIGNERS SHOULD REVIEW SITE conditions TO DETERMINE Appropriate MICROCLIMATES.
I. CLIMATE ADAPTED SPECIES ARE SELECTED AND PLACED IN APPROPRIATE MICROCLIMATES.
J. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
K. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
L. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
M. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.

IRRIGATION DESIGN REQUIREMENTS AND GUIDELINES

The irrigation system is designed to comply with the precriptive compliance option of MWELO.

1. INSTALL AN AUTOMATIC IRRIGATION CONTROLLER THAT DOES NOT REQUIRE PROGRAMMING DATA AFTER A POWER FAILURE, NON-VOLATILE MEMORY AND UTILIZES EVAPOTRANSPIRATION OR SOIL MOISTURE DATA.
2. INSTALL A RAIN SENSOR.

ADDITIONAL GUIDELINES FOR THE IRRIGATION SYSTEM:
A. SYSTEM IS DESIGNED TO REDUCE WATER USE TO THE MINIMUM AMOUNT TO SUSTAIN HEALTHY PLANT MATERIALS, CONTROLLING DISEASE RISK AND CHASING WEEDS WHERE NEEDED.
B. PRESSURE REGULATION IS PROVIDED TO ENSURE THE DYNAMIC PRESSURE OF THE SYSTEM IS WITHIN THE MANUFACTURERS RECOMMENDED PRESSURE RANGE FOR THE IRRIGATION COMPONENTS.
C. ALL IRRIGATION EMISSION DEVICES MUST MEET THE ANSI STANDARDS ASME B31.14-2014 LANDSCAPE WATERING PIPELINE EMISSION AND(...) D. EQUIPMENT INSTALLED IS AS SHOWN ON APPROVED IRRIGATION EQUIPMENT LIST. OR EQUAL.
E. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
F. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
G. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
H. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
I. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
J. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
K. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.

SOIL MANAGEMENT REQUIREMENTS

SOIL MANAGEMENT IS DESIGNED TO COMPLY WITH THE PRESCRIPTIVE COMPLIANCE OPTION OF THE LOCAL JURISDICTION. SOIL MANAGEMENT REQUIREMENTS INCLUDE: ENSURE THE DEPTH OF THE SOIL IS GREATER THAN 12" DEEP TO ALLOW FOR THE GROWTH OF THE ROOT SYSTEMS. THE SOIL MUST BE FREE OF ROCKS, STONES, AND OTHER OBSTRUCTIONS. THE SOIL MUST BE ADDITALLY AMENATED WITH A MINIMUM OF 4 CUBIC YARDS PER 1,000 SQUARE FEET TO A DEPTH OF 12".

1. MEDIUM WATER USE PLANTING DO NOT EXCEED 20% OF THE TOTAL PLANTED AND IRIGATED AREA.
2. LOW WATER USE OR CLIMATE-ADAPTED SPECIES THAT REQUIRE LITTLE TO NO SUMMER WATER ARE SELECTED TO HELP SUSTAIN PLANTED AND IRIGATED LANDSCAPES.
3. PERMITTED LANDSCAPE AREA MUST BE SMALLER THAN 200 SF PER PLANTED AND IRIGATED AREA.
4. PLANS ARE INTENDED FOR USE ON SITES WITH LESS THAN 20% SLOPES.

ADDITIONAL GUIDELINES FOR THE PLANTINGS:
A. FIRE SAFER PLANTINGS ARE INDICATED ON PLANT LISTS AND USED WITHIN 5' OF HOMES.
B. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
C. TRESS ARE LOCATED FOR SHADE ON GARDEN AREAS AND TO PROVIDE SOLAR ACCESS FOR SOLAR PANELS ON ROOFTOPS. TRESSES ARE LOCATED AWAY FROM BUILDING STRUCTURES SO THAT BRANCHES DO NOT HANG OVER THE BUILDING.
D. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
E. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
F. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
G. PERUVIOUS PAVING OPTIONS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR.
H. ADDITIONALLY, LANDSCAPE DESIGNERS SHOULD REVIEW SITE conditions TO DETERMINE Appropriate MICROCLIMATES.
I. CLIMATE ADAPTED SPECIES ARE SELECTED AND PLACED IN APPROPRIATE MICROCLIMATES.
J. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
K. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
L. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
M. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
N. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
O. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
P. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
Q. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
R. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
S. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
T. PLANTS ARE GROUPED IN IRRIGATION ZONES (HYDROZONES) BASED ON EASEL WATER NEEDS AS DEFINED BY THE STATE WATER USE CLASSIFICATIONS OF LANDSCAPE SPECIES. HYDROZONES 5 (LOW) TO 1 (HIGH) ARE GROUPED TOGETHER.
U. RUNOFF AND STORMWATER ELEMENTS SHOULD BE REVIEWED WITH SITE DESIGN TEAM AND GENERAL CONTRACTOR PRIOR TO SITE GRADING.
V. PLANTS ARE PLACED IN Appropriate MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARD IS FACING AND THE WEATHER CONDITIONS.
1. Planting Design for Full Cover Within 3 Years.

2. Measure entire front yard area. Subtract hardscapes to get the total square feet of planted and irrigated area. Enter this number in the plant water use table on the sheet.

3. Indicate any substitutions to the plantings by crossing out the listed plants and writing the substitution below in red ink. Make sure the plants used have matching water use and are roughly the same size (see Sonoma-Marin Saving Water Partnership).

4. Add any existing trees in red on the plan. Adjust tree locations if needed to fit your site.

5. Fill in plant water use table.

6. Insure less than 25% of planted area is medium water use plantings.

7. If needed use a red pen to adjust the layout of driveway, paths and planting areas to fit your yard.

8. Review irrigation sheets and install sleeves under paving surfaces in their correct location.

APPLICANT INSTRUCTIONS:

1. Measure entire front yard area. Subtract hardscapes to get the total square feet of planted and irrigated area. Enter this number in the plant water use table on the sheet.

2. If needed use a red pen to adjust the layout of driveway, paths and planting areas to fit your yard.

3. Indicate any substitutions to the plantings by crossing out the listed plants and writing the substitution below in red ink. Make sure the plants used have matching water use and are roughly the same size (see Sonoma-Marin Saving Water Partnership).

4. Add any existing trees in red on the plan. Adjust tree locations if needed to fit your site.

5. Fill in plant water use table.

6. Insure less than 25% of planted area is medium water use plantings.

7. If needed use a red pen to adjust the layout of driveway, paths and planting areas to fit your yard.

8. Review irrigation sheets and install sleeves under paving surfaces in their correct location.
**APPLICANT INSTRUCTIONS:**

1. Adjust layout of planting beds if changed on Layout Sheet 1.0.
2. Review irrigation valve tables to adjust SF areas of valve zones.
3. If areas exceed max subzone flow (3 GPM), divide into additional subzones and enter under subzone column.
4. If areas exceed max zone flow (7 GPM): Add a valve and enter SF area next to new valve number (8, 9, 10, etc.).
5. Draw out new subzone and/or valve zone area on plan in new color.
6. Add valve as needed to valve manifold.
7. Review irrigation legend and check off that all components are shown on adjusted plan.
8. Note any equipment substitutions.
2" THICK OR 3/4" SEVERAL AGGREGATES IN PATHS.

2" THICK PERMEABLE AGGREGATE BASE ROCK, COMPACT TO MIN. 90%.

FILTER FABRIC (OPTIONAL)

STABILIZED SUBGRADE - DEPTH DETERMINED BY SITE DESIGN.

STABILIZED Aggregate - Design by Others.

CONCRETE GRAVEL, CONCRETE, OR STABILIZED GRAVEL AND SAND временно верно для видимости. См. ниже для корректной интерпретации.

CONCRETE GRAVEL - Design by Others.

CONCRETE - Design by Others.

PERMEABLE AGGREGATE PAVING - PATH OR PATIO

PERMEABLE INFILTRATION - PEDESTRIAN

AGGREGATE PAVING - PEDESTRIAN

PERMEABLE PAVING - PATH OR PATIO

STABILIZED AGGREGATE - PATH OR PATIO

GRAVEL PAVE PAVING - VEHICLE

PERVIOUS OR PERMEABLE UNIT PAVER - VEHICLE

CONCRETE - VEHICLE - TRENCH DRAIN

STABILIZED AGGREGATE - VEHICLE

CONCRETE - VEHICLE - GRAVEL DRAINAGE SEAMS

NOTE: MASSIVE CHOPPED BARK AMENDED PLANTING BED; FINISH GRADE CAN VIEW IN DETAIL #1.

CONCRETE OR BRICK PAVING 1" - 4" - 6" THICK, MATERIAL SELECTED BY OWNER. INSTALL PER MANUFACTURER’S INSTRUCTIONS.

CONCRETE OR BRICK PAVING 1" - 4" - 6" THICK, MATERIAL SELECTED BY OWNER. INSTALL PER MANUFACTURER’S INSTRUCTIONS.

PERMEABLE GRAVEL OR AGGREGATE BASE ROCK, COMPACT TO MIN. 90%.

FILTER FABRIC (OPTIONAL)

STABILIZED SUBGRADE - DEPTH DETERMINED BY SITE DESIGN.

CONCRETE GRAVEL, CONCRETE, OR STABILIZED GRAVEL AND SAND временно верно для видимости. См. ниже для корректной интерпретации.

CONCRETE GRAVEL - Design by Others.

CONCRETE - Design by Others.

PERMEABLE AGGREGATE PAVING - PATH OR PATIO

PERMEABLE INFILTRATION - PEDESTRIAN

AGGREGATE PAVING - PEDESTRIAN

PERMEABLE PAVING - PATH OR PATIO

STABILIZED AGgregate - PATH OR PATIO

GRAVEL PAVE PAVING - VEHICLE

PERVIOUS OR PERMEABLE UNIT PAVER - VEHICLE

CONCRETE - VEHICLE - TRENCH DRAIN

STABILIZED AGGREGATE - VEHICLE

CONCRETE - VEHICLE - GRAVEL DRAINAGE SEAMS
1. REVIEW PAVING WITH CIVIL & GEOTECHNICAL ENGINEER

2. DOWNSPOUT SPLASH BLOCK TO OVERLAND FLOW

3. DOWNSPOUT WITH PIPED OUTLET

4. VEGETATED RAINGARDEN W/ PIPED INLET

5. RAINGARDEN OVERFLOWING OVER PAVEMENT SECTION

6. RAINWATER FLOW THRU PERMEABLE PAVING SECTION

7. DRAIN SLEEVE THRU PATH FROM RAINGARDEN

8. SWALE/CASCADE ON SLOPE - SECTION

9. SWALE/CASCADE ON SLOPE - LONGITUDINAL SECTION

SLOPE AWAY FROM SDE AT 5% INTO SWALE OR DRAINAGE ELEMENT

DOWNSPOUT SLEEVE THRU PATH FROM RAINGARDEN

SCALE: 1/2" = 1'-0"

RAINGARDEN

VEGETATED RAINGARDEN W/ OVERLAND FLOW INLET & OUTLET

RAINGARDEN

SWALE/CASCADE ON SLOPE - SECTION

SWALE/CASCADE ON SLOPE - LONGITUDINAL SECTION

1/2"=1'-0"

1/2"=1'-0"
1. Tree planting
   Not to scale

   - Tree, central leader
   - Synthetic strapping, loop around central leader below first branch. Use strapping per stake, attach to stakes with sheet metal screws.

   - Wood stakes (3 per tree), set flush with outside of planting, stake for protection of first branch. Adequate support must be provided for the first branch. Branches do not touch stakes. Stakes shall be spaced minimum distances from the central leader.

   - Watering berm, 2"H

2. Plug planting
   Not to scale

   - Plug size needed to create a hole slightly larger than plug. Place plug so that top of crown is slightly above height of surrounding soil. Leave more or less soil than specified for rootball. Maintain a hole that is not filled with soil.

   - Plug planting soil: PLUMB, not at an angle to the slope.

3. Planting shrubs, perennials, grasses
   Not to scale

   - Planting pit & watering berm table

<table>
<thead>
<tr>
<th>Container Size</th>
<th>Plant Pit Diameter</th>
<th>Watering Berm Height</th>
<th>Watering Berm Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 gal can</td>
<td>18&quot; MIN</td>
<td>3&quot; MIN</td>
<td>18&quot; MIN</td>
</tr>
<tr>
<td>5 gal can</td>
<td>30&quot; MIN</td>
<td>4&quot; MIN</td>
<td>30&quot; MIN</td>
</tr>
<tr>
<td>15 gal can</td>
<td>3&quot; MIN</td>
<td>5&quot; MIN</td>
<td>3&quot; MIN</td>
</tr>
<tr>
<td>24&quot; box</td>
<td>5&quot; MIN</td>
<td>6&quot; MIN</td>
<td>5&quot; MIN</td>
</tr>
</tbody>
</table>

4. Groundcover planting - tri-spacing
   Not to scale

5. Sheet mulch
   Not to scale

   - Sheet mulch recommendations

6. Plant pit and watering berm
   Not to scale

   - Hold the tree upright under calm conditions. The tree strap is wrapped loosely around the central leader of the tree.

   - After planting, remove stakes as soon as tree takes hold.

   - Provide flexible movement at the point where strapping wraps loosely around the central leader of the tree.

   - Take care not to cause rubbing or girdling injuries.

   - Stakes are for protection of the tree for a period after planting. Remove stakes as soon as tree establishes its root system within 12 months max.
LANDSCAPE TO LAUNDRY SYSTEM OVERVIEW:

A LANDSCAPE TO LAUNDRY SYSTEM IS CAPTURED LIGHTLY USED WATER FROM THE DRAINAGE HOSE OF YOUR WASHING MACHINE AND PUMPS IT OUT TO THE LANDSCAPE THROUGH 1 INCH TUBING. THE SYSTEM DOES NOT ALTER THE DRAINAGE PATTERN AND THEREFORE DOES NOT REQUIRE PERMIT A THREE-WAY DIVERTER VALVE (A NECESSARY COMPONENT, ALLOWING YOU TO SEND DISCHARGE WATER BACK TO THE SEWER SYSTEM WHEN NEEDED DURING THE RAINY SEASON). INSTALLATION & DESIGN CONSIDERATIONS:

LANDSCAPE TO LAUNDRY SYSTEMS ARE EASY TO INSTALL FOR THE DO-IT-YOURSELFER OR A NECESSARY COMPONENT, ALLOWING YOU TO SEND DISCHARGE WATER BACK TO THE SEWER SYSTEM WHEN NEEDED DURING THE RAINY SEASON. PROXIMITY TO THE LANDSCAPE AREA BEING IRRIGATED. NOTE, THE WASHING MACHINE PUMP WILL PROVIDE A POTABLE WATER CONNECTION.

GRAYWATER DIVERTED TO LANDSCAPE SHALL NOT CONTAIN HAZARDOUS CHEMICALS.

THE DISTANCE MAY INCREASE TO 150-FEET DEPENDING ON SLOPE.

APPLICANT INFORMATION:

NOTIFY ENFORCING AGENCY.

WITH NO MORE THAN A 5% SLOPE. IF THE SYSTEM IS DESIGNED TO IRRIGATE DOWNHILL FROM THE WASHING MACHINE, THE LAUNDRY-TO-LANDSCAPE GRAYWATER SYSTEM CAPTURES LIGHTLY USED WATER FROM THE DISCHARGE HOSE OF YOUR WASHING MACHINE AND PUMPS IT OUT TO THE LANDSCAPE THROUGH 1-INCH TUBING. THE SYSTEM DOES NOT CONTAIN GRAYWATER ON SITE.

GRAYWATER DIVERT TO LANDSCAPE WITHIN MULCH BASINS (IRRIGATION OR DISPOSAL FIELD) BELOW THE GROUND

GRAYWATER ON SITE

GRAYWATER IS RECEIVED BEST BY TREES, BUSHES, SHRUBS, SMALL PERENNIALS AND LARGER ANNUALS, BUT IS PROHIBITED ON LAWN, RAISED BEDS, ROOT AND LEAFY VEGETABLES. MODERATE WATER USERS SUCH AS FRUIT TREES AND BUSHES REQUIRE LESS THAN 18 INCHES PER YEAR AND ARE NOT RECOMMENDED FOR PLANTS THAT REQUIRE ACIDIC SOILS (pH < 6.5). ON THE OTHER HAND, BLUEBERIES AND PHILADELPHUS DO NOT DO WELL IN ACIDIC SOILS (pH > 6). TOP LOADER WASHING MACHINES ARE THE MOST SUITABLE FOR DOWNWARD DRAINAGE AND ARE MOSTLY SUITABLE FOR LECHING.

ADDITIONAL INFORMATION:

GRAYWATER IS RECEIVED BEST BY TREES, BUSHES, SHRUBS, SMALL PERENNIALS AND LARGER ANNUALS, BUT IS PROHIBITED ON LAWN, RAISED BEDS, ROOT AND LEAFY VEGETABLES. MODERATE WATER USERS SUCH AS FRUIT TREES ARE NOT RECOMMENDED FOR INSTALLATION. GRAYWATER IS SOMEWHAT ALKALINE (HIGH pH) AND NOT RECOMMENDED FOR PLANTS THAT REQUIRE ACIDIC SOILS (pH < 6.5). ON THE OTHER HAND, BLUEBERIES AND PHILADELPHUS DO NOT DO WELL IN ACIDIC SOILS (pH > 6). TOP LOADER WASHING MACHINES ARE THE MOST SUITABLE FOR DOWNWARD DRAINAGE AND ARE MOSTLY SUITABLE FOR LECHING.
LANDSCAPE VIA MULCH BASIN OUTLETS. PLUMBING FOR GRAYWATER SOURCES MUST BE PERENNIAL PLANTS. THIS IS A SIMPLE SYSTEM AND DOES NOT REQUIRE ELECTRICITY OR A PUMP. AS THIS SYSTEM REQUIRES CUTTING INTO EXISTING SEWER PIPES, A PERMIT IS REQUIRED. IF INSTALLING AS PART OF NEW BUILDING CONSTRUCTION OR REMODEL, SHOW SEPARATED PLUMBING IN PLAN SETS AND STUB OUT PIPING FOR EXTERIOR GRAYWATER SYSTEM COMPONENTS DURING BUILDING CONSTRUCTION.

BRANCHED DRAIN GRAYWATER REQUIREMENTS TO COMPLY WITH CALIFORNIA PLUMBING CODE (CPC) STANDARDS:

- NOTIFY ENFORCING AGENCY AND SECURE PERMIT FOR INTERIOR PLUMBING COMPONENTS
- BE ABLE TO REDIRECT TO SEWER
- NO POTABLE WATER CONNECTION
- CONTAIN GRAYWATER ONSITE
- DIRECT AND CONTAIN GRAYWATER WITHIN MULCH BASINS (IRRIGATION OR DISPOSAL FIELD) BELOW THE GROUND SURFACE
- NO PONDING OR RUNOFF
- OUTLETS COVERED AT LEAST 2 INCHES OF MULCH, ROCK, OR A SHEET (E.G. VALVE BOX Lid)
- MINIMIZE CONTACT WITH HUMANS AND ANIMALS
- DIVERT WATER TO THE SEWER IF IT CONTAINS DIAPERS, OIL, OTHER CHEMICALS
- DIVERTED GRAYWATER DIVERTED TO LANDSCAPE SHALL NOT CONTAIN HAZARDOUS CHEMICALS
- FOLLOW ALL APPLICABLE CODE OR LAWS
- POST OPERATIONAL AND MAINTENANCE MANUAL
- THE SYSTEM SHALL HAVE A DISCHARGE CAPACITY OF 250 GALLONS PER DAY OR LESS

INSTALLATION & DESIGN CONSIDERATIONS:

WITH A HIGHER POTENTIAL VOLUME OF WATER COMING FROM A SHOWER AND SINK, A BRANCHED DRAIN SYSTEM IS BEST SUITED FOR IRRIGATING TREES, BUSHES, SHRUBS, AND OTHER LARGER PERENNIAL PLANTS. THIS IS A SIMPLE SYSTEM AND DOES NOT REQUIRE ELECTRICITY OR A PUMP. HOWEVER, THE LANDSCAPE AREA MUST BE LOWER IN ELEVATION THAN THE GRAYWATER SOURCE, AND THE ENTIRE SYSTEM MUST HAVE A DOWNWARD SLOPE OF 2% (.1 INCH PER FOOT) TO ENSURE EVEN DISTRIBUTION.

INSTALLATION DIFFICULTY DEPENDS ON THE EXISTING HOUSEHOLD PLUMBING ACCESS TO PIPES AND THE SLOPE OF LANDSCAPE. WHILE OUTDOOR COMPONENTS CAN BE INSTALLED BY A HOMEOWNER, A PROFESSIONAL PLUMBER IS NEEDED FOR INSTALLATION OF 3-WAY DIVERTER VALVE ON THE SEWER LINE. THE HOMEOWNER HAS THE OPTION TO INSTALL AN ACTUATOR, WHICH ALLOWS EASY DIVERSION OF GRAYWATER BETWEEN LANDSCAPE AND THE SEWER LINE.

SYSTEM COSTS & REBATES: THE COSTS CAN RANGE FROM A THOUSAND DOLLARS WHEN PRIMA RY INSTALLED BY A HOMEOWNER TO SEVERAL THOUSAND IF INSTALLED BY A PROFESSIONAL. WHILE MORE COSTLY TO CONSTRUCT THAN A LAUNDRY TO LANDSCAPE SYSTEM, A BRANCHED DRAIN SYSTEM REQUIRES LITTLE MAINTENANCE AND LASTS A LONG TIME. SINCE IT HAS NO MOVING PARTS TO BREAK.

RECOMMENDED SOAPS:
MORE SOAPS ARE COMING OUT ALL THE TIME, BUT IT IS ALWAYS IMPORTANT TO READ THE INGREDIENTS LIST BELOW FOR THOSE THAT ARE KNOWN TO BE GRAYWATER COMPLIANT:
- OASIS - ALL-PURPOSE CLEANER FOR HAND-WASHING, BODY & SHAMPOO
- DR. BRONNER'S MAGIC SOAPS (LIQUID)
- AUBREY ORGANICS SHAMPOO

APPLICANT INSTRUCTIONS:

1. ESTIMATE YOUR GRAYWATER SUPPLY USING THE CALCULATION SECTION THIS SHEET.
2. ESTIMATE MULCH BASIN SIZES, AREA AND VOLUME USING TABLE 3.
3. DEVELOP A GRAYWATER SITE PLAN SHOWING THE SYSTEM LAYOUT FOR THE PERMIT APPLICATION. SHOW ALL THE PLAN ELEMENTS LISTED IN #4. GRAYWATER PLAN BELOW. REVIEW THE SAMPLE PLAN SHOWN IN DETAIL #1 THIS SHEET. SHOW TREE AND PLANT LOCATIONS TO BENEFIT FROM GREYWATER.
4. SUBMIT FOR BUILDING PERMIT EITHER WITH FULL SITE DRAWINGS OR AS A SEPARATE SUBMITAL.
5. REVIEW PIPE AND VALVE LOCATIONS WITH ARCHITECT, ENGINEER AND CONTRACTOR TO ENSURE THERE ARE NO CONFLICTS WITH OTHER SITE ELEMENTS. CONFIRM COMPONENTS TO BE INSTALLED AT TIME OF FOUNDATION SYSTEM CONSTRUCTION, INCLUDING PIPE STUB OUT FOR EXTERIOR GRAYWATER SYSTEM DEVELOPMENT.
1. A rainwater catchment system may not require a building permit provided all of the following are met (California Plumbing Code 1601.3(I)):

- Maximum storage capacity of 5,000 gallons
- Maximum discharge capacity of 3,000 gallons
- Tank is supported directly upon grade
- Ratio of height to diameter or width does not exceed 2 to 1
- Does not require electrical power or make-up water supply connection (see note 2 and 3)
- Fire safer leaf guard
- Ground
- Normal dryout
- Normal dryout

2. Pump and pressure tank likely require inexpensive, over-the-counter, electrical permit.

3. If city water plumbed to tank for make-up using float valve or manually operated valve, then a permit is required and an air gap is required.

4. Tanks can be daisy chained at point "D" using flexible pipe only to reduce chance of leakage in earthquakes.

- Water will be used for outdoor non-spray irrigation

5. There are no required setbacks from buildings or side/property lines, though a conversation with your neighbor could be helpful.

NOTES:

- Pump and pressure tank likely require inexpensive, over-the-counter, electrical permit.

- Max. discharge capacity of 3,000 gallons

- Tank is supported directly upon grade

- Ratio of height to diameter or width does not exceed 2 to 1

- Does not require electrical power or make-up water supply connection (see note 2 and 3)

- Fire safer leaf guard

- Ground

- Normal dryout

- Normal dryout

- Pump and pressure tank likely require inexpensive, over-the-counter, electrical permit.