CITY OF ONTARIO

Landscape Planning Division

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Landscape Development Guidelines

Requirements and Guidelines for Landscape Plans and Installation

I. Landscape Plan requirements for Development Advisory Board (DAB)

A. Landscape Design Requirements

1. Water conservation is a high priority in the City of Ontario. Landscapes shall be designed to use water efficiently without waste to the lowest practical amount and comply with the State's current Model Water Efficient Landscape Ordinance. Sources for low water plants are WUCOLS, "Water Use Classification of Landscape Species" https://ucanr.edu/sites/WUCOLS/, or other approved scientific sources.
2. Landscape areas shall be composed of living plant materials spaced no greater than the mature diameter of each plant. Non-living ornamental features (boulders, gravel, dry stream beds, etc.) may comprise up to 5% of the landscape and shall be a pervious material.
3. Warm-season turf may be used for recreational use projects (parks, sports fields, etc. where turf provides a playing surface) and residential projects with a maximum of 25% of the landscape. Planter areas irrigated by spray shall not be less than 10' wide. Low water use groundcovers shall be used in traditional turf areas, parkways, etc.
4. Design landscapes and irrigation for use with recycled water where available. New multi-family residential projects shall use recycled water for HOA maintained property (parks, parkways, neighborhood edges, common areas). Single-family projects and swimming pool areas enclosed by fencing shall use potable water for on-site irrigation.
5. Recycled water irrigation systems shall provide a physical separation between areas irrigated with potable water utilizing a wall, fence, paving, or in landscape areas a mow curb with irrigation lines or heads no closer than 24” on each side for spray and 12" for drip.
6. All landscaped areas adjacent to paving shall be bordered by a concrete or masonry curb, or other approved means, to prevent vehicles from entering landscape areas. Curbs along the pavement may have openings to allow water infiltration into landscape areas.
7. Concrete mow strips are required at turf areas adjacent to landscape planters and to separate adjacent properties or maintenance responsibility areas. Redwood header

boards are allowed for individual single-family home projects and to define the lot line adjacent to the undeveloped property.

8. All utilities shall be shown on the plans and coordinated with the landscape design and tree placement. Utilities such as backflow devices and transformers shall be located a minimum distance of 5 feet away from paving or other utilities to allow for landscape screening to cover at least 75 percent of the height of the equipment. Paint brass backflows green RAL 6009 Fir Green, Hunter Green, or equal. Transformers shall be set back 5' from paving and drive aisles and include a planted groundcover in front.
9. Accent landscape (single or multi-trunk specimen trees) are required on all Commercial or Industrial corners, including vehicular entries and major corner intersections. All accent trees shall be min. 36" Box. Palms shall be minimum 17' brown trunk height (BTH) and minimum 4' cubed rootball.
10. Foundation planting adjacent to the building (hedgerows or shrub masses in a hierarchy pattern) is required at major building perimeters and residential front yards to break the horizontal ground plane from the vertical plane of the building.
11. Plants at monument signs shall be a hierarchy of ornamental shrubs or perennials.
12. Landscape areas shall have a minimum inside dimension of five feet (5') wide to include trees. Six (6') width minimum is required for planters with vegetated swales.
13. Parking areas visible from public streets or adjacent parcels shall be screened with landscaping three feet (3') minimum height. They shall be located to allow for two feet overhang of vehicles unless wheel stops are provided.
14. Parking lots shall have canopy shade trees in landscape islands, one for every ten spaces single row and one for every five spaces per double row. Parking lot double rows shall have a center planter strip 5' wide, which may include an infiltration trench, where possible. Canopy shade trees shall have a minimum canopy diameter of 30'.
15. Parking lot landscaping shall maximize broad canopy shade tree planting to reduce heat gain on paving and buildings. Add large planters, center planter strips, or diamond planters between parking rows for shade trees.
16. Show ADA access route from the public sidewalk to the building, to the employee break area and ADA path to adjacent industrial buildings within the same development. Include the required ADA parking spaces and access aisles.
17. Employee break areas shall be set in landscaped areas with shade trees on the south and west sides.
18. Planters adjacent to parking stalls shall have a 12" wide curb for access to vehicles.
19. Landscape areas shall be bounded by concrete curbs six inches high except for openings into infiltration basins or swales.
20. Trash enclosures shall have adjacent planters with trees, shrubs, and vines to screen.
21. AC units in residential projects shall be located in non-access side yards whenever possible to be screened from view—or may be located access side yards where wider than 8'.
22. Parkways and right-of-way shall be landscaped with living plant material less than 18" high, automatically irrigated and contain street trees per the Master Street Tree Plan spaced 25'-35’ apart and coordinated with utility setbacks.

23. Undeveloped areas within the project site shall be seeded with wildflower or ornamental grass mix and automatically irrigated to prevent soil erosion from rain and strong winds
24. Projects with landscape within Caltrans ROW's shall develop a co-operative agreement with Caltrans San Bernardino for landscape installation and maintenance.
25. Wireless facilities shall be screened with groupings (minimum 3) of approved live trees and shrubs to blend the facility with adjacent tree or palm stands. California native trees and shrubs are preferred. Tree size shall be minimum 2/3 the height of the facility or as Landscape Planning Department approved. Permanent irrigation and regular maintenance shall be provided for landscaping.
26. Additional requirements of a Specific Plan may be required based upon the project location. If in doubt of the Specific Plan in your area, contact the Planning Dept.
27. Plant selection and irrigation design shall be appropriate with Ontario's regional climate (Zone 18) classified as Mediterranean, and characterized by hot, dry summers and mild winters. Winter temperatures average between 60 to 70 degrees with occasional lows in the 20's. Summers average 75 –90 degrees with highs exceeding 100 degrees. The average yearly rainfall is approximately 16 inches. Winds develop from the southwest averaging six mph. Hot, dry Santa Ana winds occur between October to March from the northeast at 30 mph with gusts at 60mph and more. Air quality is considered poor due to frequent temperature inversions trapping pollutants below the inversion.

B. Preliminary Landscape Plans

1. Site features identified: streets, right-of-ways, property lines, hardscape, walls, fences, trash enclosures, swales, and detention basins. Coordinate with Engineer.
2. Site utilities identified: water meters, backflow devices (fire, domestic and irrigation), fire hydrants, light standards, power poles, vaults, transformers, manholes, utility lines, and easements.
3. Existing tree symbols identifying genus, species, and trunk diameter at 4.5' above grade. Existing trees of quality shall be protected, and planter areas shall be designed to the extent of the drip line. A tree report shall be provided by a qualified landscape architect or certified arborist for trees on-site proposed to be removed. Replacement trees shall be specimen sized: 60" box or as approved. 2 new trees for each removed.
4. Street trees; identify genus; note existing or proposed trees; minimum size 24" box; space 25'-30’ OC (on center). Verify type with the Landscape Planning Division.
5. Parkway tree locations shall be shown on all tract maps and plans where utilities are proposed. Parkway trees are to be 30' apart and where residential driveways occur, a maximum 45' apart. Show and note a 10' total space, 5' clearance each side of the tree from any utility or hardscape including water, sewer, drain lines and driveways, and 10' clear from street lights.
6. Proposed trees; identify genus and container size per the Minimum Quantity, Size and Species Mix charts (Section F), and note for screening, shade, or accent.
7. Locate trees for shade on buildings, parking lots, seating areas and paving, screen blank walls, and adjacent properties where missing, accent trees to entries and driveways, provide visibility to signs, windows, and doors. Locate trees 50% of canopy

width from walls, buildings, and existing trees. Locate deciduous trees on the south and west sides of buildings and evergreen trees on the north and east for passive heat and cooling and to serve as a windbreak.

8. Shrub areas; identify with symbol, hatch, or stipple and list genus and species.
9. Include square footage of the total landscape area.
10. The Maximum Applied Water Allowance (MAWA) calculation shall be based upon the area devoted to landscaping, as shown on the preliminary landscape plan. See Water Budget, Section II.
11. Note for protection and preservation of native species, where possible.
12. Turf area and edge restraint; identify. Warm-season turf preferred for recreational use only. Low water groundcovers may be used in traditional turf areas, parkways, etc.
13. Note for an automatic irrigation system to be installed that is water-efficient, appropriate for the landscape hydrozones, and provides 100% coverage. Dripline shall be buried 2" deep, stream spray tree bubblers on a separate valve system, overhead spray for seeded areas or recreational lawn where dripline is not feasible.
14. Conceptual irrigation exhibits indicating sleeve locations crossing streets, irrigation service meter locations, and areas served by potable or recycled water.
15. Landscape areas shall be designed to provide opportunities for stormwater infiltration and retention so that all irrigation and average rainfall remains within property lines and does not drain on to non-permeable hardscapes to recharge groundwater and improve water quality. See grading design and stormwater requirements (Section I).
16. Hardscape designs shall assist on-site stormwater infiltration with permeable paving for parking, driveways, gutters, or asphalt roadways, where possible.

II. Landscape Construction Documents

A. Plan Check Submittal Procedures

1. The Developer /Applicant shall furnish one set of Landscape Construction Documents for the first submittal. Plans may be emailed to landscapeplancheck@ontarioca.gov.
2. Sets shall be submitted to the Building Department at the same time that the Architectural Construction Documents are submitted for plan check. Note on plans the project permit number provided with Architectural or Civil submittal. The Landscape Planning Division does the review of the landscape package; therefore, the sets should be separately bound from the Architectural Package.
3. Development requiring a permit shall have landscape construction documents prepared by a state registered landscape architect
4. All sheets shall be wet signed by the Landscape Architect and include the license number and the expiration date.

B. Contract Document Sheets

1. Construction Plan (shall include hardscape, mow strips, raised planter walls, etc.)
2. Irrigation Plan
3. Planting Plan

4. Detail Sheet(s) Sections and elevations for trash enclosures, monument signage, or fencing shall be included in the detail sheet. (If obtained from the architect, shall note name, address, and phone number.) See also the Urban Tree Foundation or similar scientific source for details.
5. Specifications for construction, landscape, and irrigation plans.
6. Grading and Utility Plans (from Architect or Engineer). Landscape Plans will not be signed off for building permits until grading plans are approved.
7. CFD (Community Facilities Districts) and HOA (Homeowner Association) maintained projects shall provide plan packages separate from the on-site private property landscape plan package.

C. Format

1. Sheet size: 24" x 36" size, north arrow with north at the top of page or to the right.
2. Scale: 1:10, 1:20, or 1:8**.**
3. Text and symbols shall be 1/8", capital letters and legible for reproduction at 11" x17".
4. Landscape areas that are to be maintained by the City of Ontario (master-planned streets, parkways, medians, maintenance districts, parks, trails, etc.) shall be on the City of Ontario title block available from the Engineering Department. As-built sets shall be on Mylar and submitted to the Engineering Dept.

D. Title Sheet

1. Project name, address, and Development Advisory Board (DAB) Number (obtain from Architect or Owner).
2. Vicinity map with north reference
3. Developer's name
4. Landscape Architect's name, address and telephone, license number, expiration date, and signature (wet signed)
5. Other consultant's name and address, and telephone.
6. Sheet index and keymap (if applicable)
7. Date stamped (printing date and revision date)

E. Irrigation Plan

1. The irrigation plans and components shall be designed to be water efficient and effective for the landscape proposed. Plans shall include a water budget with Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU) calculations shown on landscape construction documents. The ETWU shall not exceed the MAWA. Show the Water Use schedule.
2. Automatic irrigation controllers and sensors, utilizing either evapotranspiration or moisture sensor data and nonvolatile memory, are required. A verification letter from the manufacturer for proper installation may be required prior to acceptance of the project.
3. Irrigation systems shall be designed with like plant material grouped and proper solar orientation. Turf shall be on a separate valve from shrub areas. Landscape areas in the shade (north or east sides of buildings) shall be controlled separately from areas in the

sun (south or west). Trees shall be on a separate system. The irrigation system must be designed to conform to the hydrozones of the landscape plan. Hydrozones shall be shown on the landscape and irrigation plan and be designated by Number, Letter, or Hatching symbol.

4. Provide on plans the point of connection (POC) all equipment required, sizes, notes, and details, include water meter (note potable or recycled water), static pressure, and maximum GPM.
5. Contact the City's Utilities Department for City main pressure. Pressure-regulating or boosting devices shall be installed to meet the pressure requirements of the system or refer to the City of Ontario website: Engineering department, design guidelines/ Master Plans Ultimate system for potable water or Capital Improvement Programs for recycled water maps with City Main Pressure Zones, or call 909 395-2678.
6. Indicate size of manual shutoff valves, and locate close to the point of connection to minimize water loss in case of an emergency.
7. Indicate size and location of flow sensors and master valves to detect high flows on all nonresidential landscapes and residential landscapes of 5,000 SF for more.
8. Indicate size and location of reduced pressure backflow devices, pressure regulating valves (required on recycled water systems), automatic remote control valves, quick couplers, automatic controllers, and rain sensors. Backflow devices, pipe, and fitting shall be brass or bronze and painted green and protected in a locking enclosure. RP devices shall be brass pipe and fittings and accessible for testing.
9. Irrigation equipment legend shall include symbol, manufacturer, model number, nozzle size, radius, GPM, psi, pattern (45, 90, 180 degrees, etc.) precipitation rate, and detail.
10. Spray heads shall have matched precipitation rates. Pop-ups shall be 6" for lawn, low groundcover or parked car overhang areas, 12" for shrub areas. Heads on risers are only allowed adjacent to walls with limited space for pop-ups.
11. Spacing design for irrigation spray heads shall achieve 100 percent coverage (head to head). Allow for wind velocities. Spray heads may be used only for plant material less than 12" high to prevent plants from obstructing the spray. Space spray heads max 10' apart for shrubs and groundcovers. Heads must document a distribution uniformity low quarter of 0.65 or higher per ASABE/ACC 802-2014.
12. Locate spray heads 24" from non-pervious paving to prevent overspray. The exception allowed if the adjacent surface is permeable or if using alternative technology irrigation. Rotator or rotary heads may be located 12" from paving.
13. Narrow or irregularly shaped areas, including turf, less than 10 FT in any direction shall be irrigated with subsurface irrigation or a low volume irrigation system. Low precipitation heads, rotators or drip systems shall be used in general to reduce water use and overspray.
14. Slopes greater than 25% shall not be irrigated with a spray system with an application rate exceeding 0.75 inches per hour.
15. Include check valves or anti-drain valves to prevent low head drainage.
16. All trees shall have pop-up stream bubbler heads. Trees in tree wells or permeable paving shall have pop up stream bubblers or bubblers in a maximum 18" deep perforated root watering tube where overspray may occur. Add gravel to tube to slow

infiltration where needed. Tree irrigation shall be on a separate valve, min. 2 heads per tree. Dripline shall be outside of trunk flare minimum 3' radius.

17. Size all irrigation main lines and laterals on the plan, minimum size ¾".
18. Irrigation lateral lines shall be Sch 40 PVC. All pressure mainline shall be Sch 40 PVC for sizes up to 1½" diameter—class 315 PVC for lines 2" and larger.
19. Under landscape, mainlines shall be buried with 18" minimum cover, laterals 12" min. cover.
20. Under paving mainlines shall be buried with 24" minimum cover; lateral lines 18" minimum cover.
21. Pipe under roadways shall be installed 36" deep, sleeved and identified with marking tape installed 12" from the surface identifying type of line with APWA standard "Caution waterline buried below" in blue or "Caution recycled waterline buried below" in purple. Sleeves shall be Schedule 40 PVC, two times the diameter of the pipe being sleeved.
22. Recycled water irrigation systems shall provide a physical separation between areas irrigated with potable water by means of a wall, fence, paving or in landscape areas a mow curb with pipe and heads set back 24" or a 12" setback for drip line each side.
23. New residential projects shall use recycled water for HOA maintained property (parks, parkways, neighborhood edges, common areas). Potable water with a backflow shall only be used on single-family detached properties even if HOA maintained.
24. Label each valve system with valve number, valve size, GPM, sq ft. and plant type.
25. Automatic Controllers shall contain a neatly drawn laminated irrigation layout chart, color-coded to identify stations and valves as-built. Central controller shall include a manufacturer support page. Locate pedestals within planter areas with an 18" pad of DG or mulch at front for access.
26. An irrigation schedule shall be on the plan and layout chart, noting irrigation cycles and run times per station or plant type (turf, shrub, trees, sun areas, shade areas, etc.) monthly or seasonally. Add multiple start times to prevent runoff. Watering shall occur during the night hours when winds are calm excepting drip irrigation
27. Irrigation systems budget shall have an irrigation audit performed by a certified landscape irrigation auditor and submit the report to the Approving Authority to include: inspection, system tune-up or repair, system test with distribution uniformity for spray systems, correction of overspray or runoff, and preparation of an irrigation schedule and set up of the irrigation controller.
28. Water features and decorative fountains shall use recycled water in commercial and industrial projects, potable water in residential projects.
29. Include all details, notes, and specifications.

F. Soil Testing

1. Agronomical soil testing shall be performed to encourage healthy plant growth and reduce runoff. One soil sample (taken at 15" deep) and test shall be performed for each street frontage. Multiple phases or production home developments shall sample each phase or 1 in 7 lots or as otherwise required by the Approving Authority.

2. Soil analysis shall include soil texture, infiltration rate, pH, total soluble salts, sodium, percent organic matter, and recommendations for amendments based upon the proposed plant material and tree types.
3. Soil test results and recommendations for amendments shall be listed on the Landscape Planting Plan required pursuant to Paragraph 6.05.015.B.5 (Landscape Planting Plan) of this Division, noting the name, address, telephone number of the City-approved soils testing laboratory, and the test date.
4. Proof of amendments purchased and installed are required at inspection. Sewage sludge or bio-solids are not allowed.
5. An additional soil test and report shall be taken by the installation contractor to verify amendments installed are satisfactory prior to planting.

G. Planting Plan

1. Legend shall include symbols, botanical name (genus, species, and variety), common name, size, quantity, and detail reference. Include any existing trees.
2. Minimum tree planting setbacks:

   25' from the beginning of curb returns at street intersections
   15' from light standards
   10' from power poles and buildings
   7' from water or sewer lines
   5' from sidewalks, driveways and fire hydrants
3. Show corner sight line distances (Engineering Dept. Std Dwg # 1309) on the planting plan.
4. The minimum mix of tree sizes and species shall be provided as follows and shall conform to the following minimum measurements (individual single-family home projects excluded). A minimum of 20% of the total number of trees shall be California native species appropriate for the project site.

Minimum Tree Quantity and Size Specifications (Palms are not included)				
Minimum on-site Trees	*Size*	*Trunk Caliper*	*Height*	*Spread*
5%	48-inch box	3.50-inches	14 to 16 FT	7 to 8 FT
10%	36-inch box	2.50-inches	12 to 14 FT	6 to 7 FT
30%	24-inch box	1.50-inches	9 to 11 FT	4 to 5 FT
55%	15-gallon	1.0-inch	7 to 8 FT	2 to 3 FT

Minimum Tree Species Mix (Palms are not included)	
Number of Trees	*Minimum Number of Tree Species Required*
20 or Fewer	3

21 to 30	4
31 to 40	5
More than 40	6

6. Existing trees (show on plan) shall be protected in place wherever possible. Large canopy existing trees may be used for the 48" box size requirement. Add tree protection notes to plans. A tree inventory and report is required for all projects. Identify genus, species, trunk diameter (dbh), health condition, and reason for removal—transplant trees when weather is suitable or contact a tree broker or transplant specialist. Replacement trees for trees removed shall be min 48" box size, genus per the Landscape Planning Division, two new trees for each removed. If heritage trees are removed, replacement trees must equal the trunk diameter of the trees removed or monetary value may be selected per the Tree Preservation Policy and Protection Measures Division 6.05 of the Development Code.
7. Trees shall be planted 2"-3" higher than the existing grade. The trunk flare and top root shall be visible. No soil or mulch shall be placed on top of the rootball. Trees with kinked or girdling roots shall be replaced. Shade trees shall have a single dominant leader. See https://hort.ifas.ufl.edu/woody/planting.shtml.
8. Street trees shall be 24" box for all new residential tracts, commercial, and industrial projects in Ontario. The replacement of street trees in established residential areas may be 15 gallon. Provide one tree for 25'-35’ of linear property frontage. Street trees shall have a mulch only area minimum 8' diameter.
9. Locate trees to provide shade on buildings, parking, outdoor seating areas and paving, screen blank walls and adjacent properties where needed, add accent trees to entries and driveways, provide visibility to signage, windows, and doors. Locate trees 50% of canopy width from walls, buildings, and existing trees. Single-family projects shall have one accent tree and one shade tree in each front yard.
10. Trees wells shall be min. 4' wide by 6' long as space allows. 3" of uncompacted, non-stabilized decomposed granite (DG) shall be used in tree wells. To match existing tree wells. Iron tree grates such as Kiva (Urban accessories) Starburst (Iron Smith) or approved equal with 3/8" max slots per ADA guidelines, with 30" center opening to allow stakes, and flat black Rustoleum coating.
11. 15 gallon and larger trees shall be double staked perpendicular to prevailing wind or parallel to the street. Stakes shall be minimum 7'-8’ above grade, 3'-4’ below, and tied to the canopy. Locate to prevent branch damage. In high wind areas, galvanized stakes shall be used.
12. Box trees 36" or larger shall be rootball guyed such as Duckbill system from Earth Anchor or equal.
13. Tree ties shall be flexible such as wonder ties, cinch ties, or approved equal. Wire and hose or metal rod type braces are not permitted. Nursery stakes shall be loosened if to remain during maintenance and removed by end of maintenance.
14. Root barriers, not required but if proposed, shall be maximum 12" deep for trees planted within 5' of paving and be a linear only installation.

15. Shrubs shall be 5-gallon container size and are to be spaced maximum 2/3 of mature size. One gallon container may be used for perennials and groundcovers.
16. Shredded mulch within planter areas is required at a depth of 3" for shrubs and 1" for groundcover. Shredded bark with a tackifier shall be used on 3:1 slopes or greater, not wood chips. Soil shall not be visible. Keep mulch 3" clear of plant stem, 6" of trees.
17. Slopes 3:1 or greater require jute netting with groundcover, shrubs or ornamental grasses. Turfgrass is not allowed on slopes greater than 3:1. Slopes greater than 4:1 shall not be irrigated with an irrigation system with a precipitation rate not exceeding 0.75 inches per hour.
18. Use shrubs or low groundcovers from one-gallon containers for large areas instead of traditional turfgrass. Limit the quantity of short-lived perennials or ornamental grasses.
19. Note on plans for a pre-emergent to be applied before the mulch layer is installed to prevent weeds. Weeds shall be removed before 2" high or weed seeds develop.
20. Note on plans, an additional 15% of plant material may be requested by City staff.
21. Provide details, notes, and specifications.
22. Maintenance shall be permanently provided for all areas, including parkways and determined setbacks, not designated for paving, sidewalk, or building. Identify who is responsible for continued maintenance; HOA, CFD, or property owner. The irrigation system shall function adequately, and landscaping maintained in a healthy condition.
23. A Maintenance Schedule shall be located on the irrigation controller layout chart. The schedule shall include but not be limited to watering; routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf; replenishing mulch; fertilizing; pruning; weeding in all landscape area and cleaning irrigation nozzles. See section K.
24. All projects shall include a maintenance period of 90 days after city approval. Contact the City Parks and Maintenance Department 909 395-2600 for City maintained projects
25. Irrigation for newly planted trees shall be light and frequent through the establishment period (6-12 months per 1" caliper). Provide 2 to 2 1/2 gallons of water per 1" of caliper at every irrigation on the following schedule:
    a. < 2" caliper: Irrigate daily for 2 weeks, then every other day for 2 months, then weekly until established.
    b. 2-4" caliper: Irrigate daily for 1 month, then every other day for 3 months, then weekly until established.
    c. >4" caliper: Irrigate daily for 6 weeks, then every other day for 5 months, then weekly until established.
26. Prior to final City inspection, the Landscape Architect shall inspect for compliance with approved plans. Submit the Certificate of Completion to the Landscape Planning division. City facilities or city contractor maintained projects shall be contractor maintained for a minimum of 90 days after inspected and approved.

H. Water Efficient Landscape Worksheet

1. A project applicant shall complete the Water Efficient Landscape Worksheet found in Section M which contain information on the plant factor, irrigation method, irrigation efficiency, and area associate with each hydrozone.

2. The Maximum Applied Water Allowance (MAWA) is calculated based on the maximum Evapotranspiration adjustment factor (ETAF) allowed. The Estimated Total Water Use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA.
3. The plant factor used shall be from WUCOLS*, or horticultural researchers with academic institutions or professional associations approved by the California Department of Water Resources.an estimate of the amount of water needed by plants, based upon the Department of Water Resources' Water Use Classification of Landscape Species. The applicable WUCOLS edition may be obtained online at https://ucanr.edu/sites/WUCOLS/

   * WUCOLS, Water Use Classification of Landscape Species published by California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.
4. The plant factor ranges from 0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water using planting, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
5. Show hydrozones on the irrigation plan. Water features shall be included in the high water use hydrozone, and temporarily irrigated areas shall be included in the low water use hydrozone.
6. All Special Landscape Areas (SLA) means an area of landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water or water feature using recycled water. The SLA shall be identified, and water use calculated as shown in the Water Efficient Landscape Worksheet.
7. A controller chart and irrigation plan shall show the hydrozones and shall be colored and laminated and included in the irrigation controller box.
8. Existing landscapes shall meet the water budget MAWA for Existing Landscape Areas using the higher 0.8 ET adjustment factor.
9. Existing landscape areas shall employ techniques, equipment and procedures to reduce water use to meet the water budget (MAWA) for existing landscapes, including:
   - Reprogram existing controller to correct run times and adjust monthly for temperature, sunlight, and precipitation changes.
   - Install a weather-based controller or soil moisture sensor
   - Check for and repair any leaks in the irrigation system.
   - Replace high volume sprinkler heads with new low flow heads.
   - Where applicable, convert sprinkler areas to drip irrigation.
   - Adjust spray pattern of existing sprinklers to eliminate overspray and runoff.
   - Replace existing turfgrass or high water use landscaped areas with low water using shrub and groundcovers.
   - Replace or repair irrigation equipment as recommended by an irrigation survey or audit.
10. An irrigation audit for existing landscapes shall be performed by a Certified Landscape Irrigation Auditor and not the person who designed or installed the landscape. Large projects may use an auditing rate of 15% (for example, 1 in 7 production homes or project phases). Audits shall include inspection, report, and verification of system

repairs or tune-up, preparation of an irrigation schedule, and configuring the irrigation controller to meet the water budget.

11. The project applicant shall submit an Irrigation Audit report with the Certificate of Compliance prior to City inspection and permit sign off.
12. An irrigation audit report by a certified irrigation auditor shall include:
    a. Controller program irrigation schedule to include: start times, programs, and run times. The schedule shall consider application rate, soil type, plant factors, slope and exposure
    b. Controller programming to on-site weather sensor or CIMIS station
    c. Controller programming to flow sensor and master valve or learned run times.
    d. Verification of efficient water use with no run off or overspray by testing minimum 15% of site or 1 out of every 7 new production homes.
    e. Verification of the reduced size irrigation plan, laminated with layout chart indicating valve number and color-coded area of system limits and irrigation run schedule.
    f. Auditor to instruct the contractor on controller and sensor set up for the remaining homes.

I. Grading Design and Stormwater Management

1. Grading shall be designed to minimize soil erosion, water runoff, or water waste and increase on-site retention and infiltration. Include erosion control measures.
2. Landscape areas designed for stormwater management shall use proper plant materials and irrigation to be successful in both saturated soils and drought conditions.
3. Grading shall be designed so that all irrigation and normal rainfall shall remain within property lines and not drain onto non-permeable surfaces. Finished grades for landscape areas shall be set at 1 ½" below finished surfaces.
4. Possible stormwater collection devices include vegetated swales, infiltration or detention basins, french drains, manufactured dry wells, underground storage chambers, pervious or porous pavements, and rain gardens.
5. Small landscape areas receiving sheet flow or concentrated flow shall be reinforced with erosion control blankets and rip rap or cobblestone layers on top of the blanket in a sufficient quantity and length to diffuse the flow.
6. Landscaped slopes 3:1 or less shall incorporate erosion control mats or blankets and groundcover, shrubs, or native plants from containers or hydroseed plants appropriate for slopes. Slopes shall be irrigated by a system with a low precipitation rate. Turf is not allowed on slopes greater than 4:1, or where the toe of the slope is adjacent to an impermeable hardscape.
7. Landscaped slopes greater than 3:1 shall incorporate a segmented or cellular confinement system with cells 4"-8" deep fastened to the slope with anchor pins and filled with topsoil and vegetated.
8. Basins, swales and sloped grades may be used for surface stormwater management; shall incorporate a level area adjacent to paved edges at least 4' in width, to allow utilities, such as backflow devices, and landscape to be located on level ground, and to

serve as a buffer from sloped edges, for pedestrian safety purposes. Basins and swales are measured top of slope to top of slope. Stormwater management area within landscape areas may not displace required trees. Underground chambers, dry wells, or increased depth of engineered soil or gravel below grade may be used to meet requirements.

9. On-site landscape areas for stormwater management may utilize vegetated basins or swales but shall not exceed 40% of the landscape area width. A 25' wide planter may use no more than 10' wide space (top of slope to top of slope) for basins or swales.
10. Right-of-way areas or neighborhood edges approved by this department for stormwater management may utilize vegetated basins, swales, and sloped grades but shall not exceed 25% of the landscape area width (top to top of slope), and no deeper than 3' from the top of adjacent finished grades.
11. Parks, paseos, or recreation areas approved by this department used for stormwater management may utilize vegetated basins, swales, and sloped grades but shall not exceed 10% of the landscape area, and be no deeper than 3' from the top of adjacent finished grades.
12. A Bioretention Soil Mix (BSM) for basins and swales shall infiltrate surface water, support plant growth, and provide pollutant treatment. The following includes the measurement for determining the BSM by volume and weight:

BSM Composition	Sand	Sandy Loam			Compost
		Sand	Silt	Clay	
Volume	65%	20%			15%
Weight	75-80%		10% max	3% max	9% max. *

* 9% compost by weight results in approximately 5% organic matter by weight

A Soil Media Mix for Bioretention (by weight)

- 85 to 88 % sand. Washed, medium sand
- 8 to 12 % fines. Fines include both clay and silt.
  - 12% to obtain 1 in/hr infiltration rate for nitrogen removal
  - 8% to obtain 2 in/hr infiltration rate for phosphorus, metal, and other pollutant removals
- 3 to 5 % organic matter.

13. Compaction during site grading shall not compact soil in landscape areas beyond 80% which inhibits proper plant growth.
14. Soil fracturing, add a note to grading and landscape plans: Landscape areas where compaction has occurred and where trees or stormwater infiltration areas are proposed the soil shall be loosened by soil fracturing. For trees, a 12'x12'x18" deep area shall be loosened; for stormwater infiltration, the entire area shall be loosened by the following backhoe method. The backhoe shall dig into the soil lifting and then drop the soil immediately back into the hole. The bucket then moves to the adjacent soil and repeats. A layer of compost is spread over the soil before fracturing is begun, and the compost falls into the spaces between the soil chunks created by the effort. Fracturing shall leave the soil surface quite rough with large soil clods. These must be broken by

additional tilling. Tilling in more compost to the surface after fracturing will help create an A horizon soil. Imported or reused topsoil can be added on top of the fractured soil. The Landscape Architect shall be present during this process and provide certification of the soil fracturing. For additional reference, see Urban Tree Foundation – Planting Soil Specifications.

J. Decorative Water Features

1. Decorative water features shall be properly maintained to operate and function to meet the intent of the design.
2. Decorative water features shall incorporate recirculating water systems, where possible.
3. Decorative water features, excluding swimming pools and spas, shall use recycled water, where available.

K. Planting Stock and Materials

1. All plants and trees installed within the city of Ontario shall conform to the American Association of Standards, ANSI Z60.1 Specifications for Acceptance of Nursery Trees at the time of delivery, in all ways.
2. Plants shall be sound, healthy, vigorous, and free of plant diseases and insects, pests, and their eggs.
3. Container stock shall not be root bound or have girdling roots.
4. Trees shall not have been topped or headed, shall be free from defects including co-dominant stems, and show a sturdy central leader.
5. Plants and trees with broken branches or injured trunks shall be rejected
6. The landscape architect shall tag trees at the nursery or inspect or reject the trees on site that do not meet these minimum standards. Defective material shall be replaced prior to city inspection or approval.

L. Maintenance Schedule

1. Include a maintenance schedule on the plans to direct the landscape maintenance of the site to include the following on a weekly basis
2. Add maintenance schedule to irrigation controller chart for placement in the irrigation cabinet. Schedule shall include
    - Irrigation schedule;
    - Weed control;
    - Monitoring and treatment for pests, disease or injury;
    - Mowing and edging
    - Pruning and the removal and timely replacement of dead or dying plants;
    - Fertilizing; include soil report maintenance fertilizer recommendations.
    - Clearing of trash or debris;
    - Repair and timely replacement of irrigation systems, and components thereof;
    - Repair and timely replacement of integrated architectural features; and
    - Any other similar act(s) that promotes growth, health, beauty, and the life of plants, shrubs, trees, or groundcover/turf.

Water Conservation Statement

Permit No: Project Address:

Landscape Architect and License Number:

Certified Irrigation Designer and Certification Number:

Total Project Area: Total Landscape Area:

Total Turf Area: Total Active Recreational Area:

Total Permanent and Solely Dedicated to Edible Plants:

Total Non-irrigated Landscape Area:

Project Type (check only one):

☐ Public Facility (park, playground, etc.) ☐ Single Family Residential

☐ Commercial ☐ Multi-Family Residential

☐ Industrial ☐ Other

Water Supply Type:

☐ Potable ☐ Recycled water ☐ Other

Included in this project submittal, are the following (check all that apply):

☐ Maximum Applied Water Allowance: _____ gallons/year

☐ Estimated Total Water Use: _____ gallons/year

☐ Landscape Design Plan ☐ Soil Management Plan

☐ Irrigation Design Plan ☐ Irrigation Schedules

☐ Precise Grading Plan ☐ Maintenance Schedule

Project Description (briefly describe the planning and design actions that are intended to achieve conservation and efficiency in water use):

Prepared By: _____ Date: _____

M. Water Efficient Landscape Worksheet

Reference Evapotranspiration (ETo):

Hydrozone # / Planting Description	Plant Factor (PF)	Irrigation Method [b]	Irrigation Efficiency (IE) [c]	ETAF (PF/IE)	Landscape Area (SF)	ETAF x Area	Estimated Total Water Use (ETWU) [d]
Regular Landscape Areas							
				Totals	(A)	(B)	
Special Landscape Areas							
				1			
				1			
				1			
				Totals	(C)	(D)	
						ETWU Total	
						Maximum Allowed Water Allowance (MAWA) [e]	

Legend:

[a] ***Hydrozone #/Planting Description*** *e.g.: [1] front lawn; [2] low water use plantings; and [3] medium water use planting*	[b] ***Irrigation Method*** *overhead spray or drip*	[c] ***Irrigation Efficiency*** *0.75 for spray head* *0.81 for drip*
[d] ***ETWU* (Annual Gallons Required)** **=** *Eto x 0.62 x ETAF x Area* where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year	[e] ***MAWA (Annual Gallons Allowed) = (****Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]* where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.	

ETAF Calculations:

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	**B ÷ A**

← Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)

N. Prescriptive Compliance Option

1. This section contains prescriptive requirements, which may be used as a compliance option to meet the requirements of the Model Water Efficient Landscape Ordinance.
2. Compliance with the following items is mandatory and must be documented on a landscape plan to use the prescriptive compliance option:
    a. Submit a Landscape Documentation Package which includes the following elements:
        i. date
        ii. project applicant
        iii. project address (if available, parcel and lot number(s))
        iv. total landscape area (square feet), including a breakdown of turf and plant material
        v. project type (e.g., new, rehabilitated, public, private, homeowner-installed)
        vi. water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor
        vii. contact information for the project applicant and property owner
        viii. applicant signature and date with the statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWELO".
    b. Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test); Soil test, report, and recommendations installed.
    c. Plant material shall comply with all of the following;
        i. For residential areas, install climate-adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For nonresidential areas, install climate-adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;
        ii. A minimum three-inch (3″) layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
    d. Turf shall comply with all of the following:
        i. Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in nonresidential areas;
        ii. Turf shall not be planted on sloped areas which exceed a slope of 1-foot vertical elevation change for every 4 feet of horizontal length;
        iii. Turf is prohibited in parkways less than 10 feet wide unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.
    e. Irrigation systems shall comply with the following:

i. Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a weather sensor.
ii. Irrigation controllers shall be of a type that does not lose programming data in the event the primary power source is interrupted.
iii. Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.
iv. Manual shutoff valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.
v. Master valve and flow sensing device for nonresidential projects.
vi. All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "Landscape Irrigation Sprinkler and Emitter Standard," All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
vii. Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

f. For non-residential projects with landscape areas of 1,000 sq. ft. or more, a private submeter(s) to measure landscape water use shall be installed.

3. At the time of final inspection, the permit applicant must provide the Landscape Planning Division with a certificate of compliance, Irrigation Audit report and controller programming, irrigation schedule, and a schedule of landscape and irrigation maintenance.

Tree Protection Notes

City of Ontario

Tree Protection During Construction

1. Existing trees shall be identified and preserved with protective fencing to form a Protected Root Zone (PRZ). This area encircles the tree at the outermost edge of the canopy and protects the roots growing typically within the top 18"-24" of the soil. The PRZ is defined by its "critical root radius." It is more accurate than the dripline for determining the PRZ of trees. To calculate the critical root radius, measure the tree's diameter (dbh) 4.5 feet above the ground, measured in inches. For each inch, allow for 1 to 1.5 feet of critical root radius. If a tree's dbh is 10 inches, its critical root radius is 10 to 15 feet.

2. Protective fencing shall be installed prior to any earthwork and until work is complete. Fencing shall be three feet to four feet in height and installed at the outermost edge of the canopy or Protected Root Zone (PRZ). The temporary fencing shall be chain link fencing or other approved durable material. Post "Tree Protection Zone – Keep Out" signs on the PRZ fencing.

3. No construction or staging equipment is allowed within the Protected Root Zone, including heavy equipment that will compact and damage the roots.

4. No disposal of construction materials or by-products, including paint, plaster, or chemical solutions, is allowed within the Protected Root Zone.

5. Natural or preconstruction grade shall be maintained within the Tree Protection Zone. At no time shall soil be in contact with the tree trunk above the root flare.

6. The Protection Zone should be irrigated sufficiently with clean potable water to keep the tree in good health and vigor before during and after construction. Deep watering may be necessary on a weekly basis. Verify the depth of irrigation to roots.

7. Apply a 4"-6" layer of mulch in the PRZ, 1 foot away from the trunk, before construction begins.

8. Any work required to be conducted in the ground within the Protection Zone shall be accomplished with an air spade to make roots visible and use of hand tools.

9. Pruning for clearance, if needed, shall be done to prevent damaging branches with large equipment. All pruning shall be in accordance with industry standards, (International Society of Arboriculture or ANSI A300), under the direction of a Certified Arborist.

10. A Certified Arborist shall be present if more than 33% of the root zone is impacted or roots greater than 2" or within 5' of the trunk will be cut to ensure tree stability and health. Cuts should be clean and made at right angles to the roots. Cut roots back to a branching lateral.

11. Pruning cuts or damaged bark shall be cut clean to heal. Do not use tree seal or paint.

12. Trenches for piping or utilities shall not be constructed with the tree protection zones but shall be re-routed or bored under trees at a minimum of 36" deep.

13. Protect soil and roots from compaction in landscape areas used for driveways, storage, or parking with a layer of geotextile fabric and 6" of crushed gravel.

14. Trees damaged or destroyed during demolition or construction shall be replaced per the Development Code Tree Preservation Policy and Protection Measures.

LANDSCAPE ARCHITECT

Certificate of Compliance

CITY OF ONTARIO
Landscape Planning Division

Senior Landscape Planner 909/395-2615

Associate Landscape Planner 909/395-2237

Project Name/Address_____

Plan check # B_____

The undersigned Landscape Architect certifies that the complete landscape and irrigation installation is in compliance to approved plans. Any deviation to approved plans shall require a re-submittal to the Landscape Planning Division for review and approval prior to installation.

LANDSCAPE ARCHITECT'S INSPECTION	DATE / INITIAL
1. Hardscape construction complies with approved plan	_____/_____
2. Irrigation installation verified: trench, pipe size, pressure test, coverage test	_____/_____
3. Soil report and amendments verified with receipt, soil tilling and fracturing	_____/_____
4. Verification of plant material, quantity, and quality	_____/_____
5. Provide irrigation color coded layout chart	_____/_____
6. Verify Irrigation auditor's inspection and report	_____/_____
7. Water Budget: MAWA: _____Gal/yr ETWU = _____Gal/yr	
Landscape SF _____	

After the receipt of this Certification, the Landscape Planner will conduct the final landscape Inspection. The Owner's Representative and Landscape Contractor shall be present.

_____ _____
Landscape Architect (Print) Company Name

_____ _____
Landscape Architect (Signature) Address

_____ _____
License Number Phone Number