CITY OF CHULA VISTA

LANDSCAPE IMPROVEMENT REVIEW PACKET

November 2022

Landscape Architecture Division
DEVELOPMENT SERVICES DEPARTMENT
276 FOURTH AVE BLDG. B CHULA VISTA CA 91910

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Introduction

This packet has been designed with the intent of providing a thorough representation of the City's requirements for a set of Landscape and Irrigation Improvement Plans to design consultants in a user-friendly format.

The overall goal of the Checklist document and process is to reduce the amount of time necessary for the City to provide a complete review of a set of landscape improvement plans, as well as, the amount of time necessary for the design consultants to address the City's red-line comments. This checklist process should result in a more complete landscape improvement submittal, therefore allowing for more effective and efficient processing of landscape improvement plans.

Landscape Improvement Plan Layout and Context

Landscape Improvement Plans are to be a stand-alone set of drawings with the following standardized sheets and component parts.

- Title Sheet: This sheet shall be numbered starting with T-1
    a. Vicinity Map (and Key Map for projects utilizing match lines)
    b. Index of Sheets
    c. Title Block
    d. General Notes

- Layout and Construction Plan: This sheet shall be numbered starting with LC-1
    a. Walls, Fences, Walkways, Pathways, Signs, Site furnishings, Structures, Recreational facilities, Parking lots, Site or Landscape lighting.
    b. General Construction notes
    c. Construction Details
    d. Specifications

- Irrigation Plan: This sheet shall be numbered starting with LI-1
    a. Graphics representing all components of the system
    b. Legend showing all symbols with descriptions
    c. Irrigation Details
    d. Description and location of water service meter
    e. General Irrigation notes
    f. Specifications

- Planting Plan: This sheet shall be numbered starting with LP-1
    a. Location and spacing of all plants
    b. Plant material species, container size, quantity
    c. Seed mix information
    d. Planting details
    e. General Planting notes
    f. Specifications

References

LM	The City of Chula Vista's Landscape Manual*
LWCO	The Landscape Water Conservation Ordinance*
DSDP	Development Services Department Policy
CVP	City of Chula Vista Policy
SP	Landscape Industry Standard Practice
SM	City of Chula Vista Subdivision Manual*
WP	Water purveyor's policy: Otay Water District/ Sweetwater Authority
CBC	California Building Code
A-x	Appendices

*Links to Development Services Department manuals can be found here:

https://www.chulavistaca.gov/departments/development-services/planning/planning-digital-library/manuals

Abbreviations

ASTM	American Society of Testing Materials
AWWA	American Water Works Association
CFD	Community Facilities District
HOA	Home Owner's Association
LIRP	Landscape Improvement Review Packet
L&I	Landscape & Irrigation
min	Minimum
SDCWA	San Diego County Water Authority
SF	Square Feet
SCH	Schedule
SPA	Specific Planning Area
POC	Point of Connection
PVC	Polyvinyl Chloride
GPM	Gallons Per Minute
RCV	Remote Control Valve
QC	Quick Coupler
WAS	Water Agencies' Standards
WO#	Work Order Number (AKA City of Chula Vista Project Accounting Number)
WUCOLS	Water Use Classification of Landscape Species

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Landscape Checklist's Project Categories

Landscape Checklist _ All Projects – This checklist is applicable to all projects that require Landscape Improvement Plans to be submitted and approved by the Landscape Architecture Division per the City of Chula Vista Landscape Manual (p.2) and the Landscape Water Conservation Ordinance 20.12.030.

Landscape Checklist _ Public Projects – This checklist (in addition to the All Projects checklist) is applicable to projects that are located on public property including but not limited to: Public Parks, Publicly owned open space, Streetscapes within the Public Right-of-Way, and Areas within Community Facilities Districts (i.e. slopes).

Landscape Checklist _ Recycled Water – This checklist is applicable to any project that utilizes recycled water for landscape irrigation.

CITY OF CHULA VISTA

LANDSCAPE CHECKLIST ALL PROJECTS

November 2022

Landscape Checklist _ All Projects: is applicable to all project types. For projects that include public property, and recycled water use, see also the Public Project (p.14) and Recycled Water (p.21) checklists. The following checklist items are primarily excerpts from the requirements found in the body of the City of Chula Vista Landscape Manual and Landscape Water Conservation Ordinance. They do not necessarily encompass the entire extent of each requirement, but rather represent the essence of each item. When clarification is needed, the plan preparer should refer to the source text which is referenced on the Landscape Checklist. This list is applicable to all project types.

Project Name: WO#:

REF	REQUIREMENT	Y	N	N/A	CAT
LM-5	All Conditions of Approval are met within plan (as applicable)				ASSOCIATED DOC.
LM-5	Complies with Landscape Master Plan(s) - all features shown comply (as applicable)				
LM-5	Complies with SPA Plan(s) - all features shown comply (as applicable)				
LM-5	Complies with Tentative Map - all features shown comply (as applicable)				
LM-5	Civil Engineer's drawings with all pertinent information screened back and shown including but not limited to: Base Plan, Property Lines, Easements, Utilities, Bioremediation and Topography.				
DSDP	Complies with approved Design Review				
LM-3	Scale is 1" = 20' scale min. *Note: Enlargement areas shown as necessary*				GRAPHIC STANDARDS
LM-4	Date drawings were prepared w/ Landscape Architect's seal and expiration date and Company Logo				
LM-8	Underground utilities and easements are shown and labeled (screened, but legible)				
SP	North Arrow and graphic scale with written scale				
SP	Limit of Work lines are accurately labeled, and Match lines are referenced correctly.				
SP	Street names are labeled on every sheet				
SP	Contours and spot elevations are shown and labeled (screened, but legible)				
SM 2-102.2, PG. 22	Text Size - Minimum 1/8" (3 mm) in height *Note: All text shall be legible at half-size scale*				
LM-4	Project Title with Contact Information for Applicant / Owner, Landscape Architect (or designer if "small", private in-fill project) and other project consultants (Architect, Engineer, Electrical, City, Water purveyor etc.)				TITLE SHEET
LM-4	Sheet Index w/ correct standard sheet numbers. (e.g : T-#, LC-#, LI-#, LP-#, LL-#) AND the total number of sheets next to the Title sheet number.				
LM-4	Tract and/or Parcel Map number (A.P.N.)				
LM-4	Plan Check Submittal Block / Revision Block				
LM-4	Vicinity and Key Map (on projects utilizing match lines) with scale, north arrow, street names, & project boundaries with site location identified				
LM-5	Note Water Purveyor / Use (potable / recycle)				
LM-12	Note Maintenance responsibilities are listed for all areas				
LWCO 20.12.070	Landscape Water Conservation Ordinance statement (w/ date & signature				
DSDP	Declaration of Responsible Charge statement (w/ date & signature)				
DSDP	City of Chula Vista Project Number (WO#) (on all sheets)				
DSDP	All associated Building permit numbers, Grading permit numbers and City of Chula Vista Drawing numbers.				
A-a	City of Chula Vista General Notes (updated 2022)				
A-f	Water Meter information table included and filled out				

REF	REQUIREMENT	Y	N	N/A	CAT
LM-5	Construction Plans to include General Construction Notes, Details and Specifications				CONSTRUCTION PLANS
LM-5	Permit numbers are shown (if known) on plans for any items that require building permits per the current Uniform Building Code. Cross reference permit plans in construction schedule				
LM-5	Any aspect of the landscape construction shown on either the architect's or engineer's plans, shall have information regarding those items indicated on the landscape plans				
LM-5	Site Furnishings, Walkways, Paths, Walls, and Fences are labeled on plans				
LM-5	Item requiring building permits shall note required permit and reference that permit if known				
LM-5	Recreational Facilities & Equipment (Playground Equipment w/ Fall Zones)				
LM-5	Site and/or Landscape Lighting (existing and proposed)				
LWCO 20.12.170	The total of all water features for a project, other than single-family homes with a landscape area of less than 5,000 sf and a homeowner's association or apartment building swim complex that serves a residential project, shall be limited to 15% of the total landscape area of project				
DSDP	Signage (existing and proposed)				
DSDP	Setbacks / Property lines and Easements are labeled				
DSDP	Trails - note running and cross slope				
SP	Material / Finish Schedule with Legend and General Construction Notes				
SP	Legend(s) listing all symbols and reference details				
DSDP	Location and types of walls/fences match approved Landscape Master Plan				WALLS
DSDP	HOA maintained walls/fences are located entirely within HOA maintained property (including footings)				
CBC §1015	Pedestrian adjacent landings within 36" are required to have safety railings where landings are located more than 30" above grade below.				
DSDP	Details and specifications are provided for drains with color, finish, and material for any exposed drain hardware.				DRAINS

REF	REQUIREMENT	Y	N	N/A	CAT
LM-5	Legend lists all symbols, manufacturer, precipitation rate, GPM, radius of each head type, detail reference and any other pertinent data for materials used in the system				GENERAL IRRIGATION DESIGN REQUIREMENTS
LM-5	Graphic representations for all components of the system				
LM-6	Plans to contain Irrigation Notes and Specifications				
LM-6	Irrigation Details for all components of the system				
LM-6	Pressure Loss calculations are provided for every meter (must show worst case scenario)				
LM-8	Show location type and size for the following items: P.O.C. (water meter), Backflow prevention device, Master valve, flow sensor, pressure regulators, Valves, Quick couplers, Mainline, lateral lines, irrigation heads, sleeves, Controllers, rain sensors, Dripline, Emitters etc.				
LM-27	Sprinkler circuits run parallel to contour lines				
SP	Valve callouts are provided for each valve on the system. Include controller station number, valve size and GPM.				
SP	Operating water velocity not to exceed 5 feet per second				
LWCO 20.12.130	Sprinkler heads and other low emission devices shall have matched precipitation rates on each valve circuit.				
LWCO 20.12.14/ 15	Maximum applied water allowance (MAWA) and Estimated Total Water Use (ETWU) calculations are shown on Irrigation sheets - no attachments will be accepted.				
LWCO 20.12.200	Recycled water shall be used for landscape irrigation where available. *See Recycled Water checklist for additional requirements*				
DSDP	System to be designed to work with the Watering Windows as set by the local Water Purveyor/District & the City of Chula Vista				
DSDP	On-grade irrigation is <u>not permitted</u> (Unless approved by the Director of Development Services)				
DSDP	CFD & privately maintained areas are physically separated by irrigation systems and mow strips or other physical marker				
DSDP	Slopes - permanent graded 2:1 slopes 3 feet or greater in vertical height must have permanent irrigation				
SP	Individual lot irrigation is separated from Master HOA or Public maintained areas				
WP	Irrigation to cool and clean artificial turf shall be supplied with potable water only				
LM-5	POC to water service is shown with static water pressure and elevation.				POC
LWCO 20.12.130	Master Valve (normally closed type) and flow sensor shall be installed on all irrigation project greater than 5000 sf and placed after the backflow				
DSDP	Each POC shall have only one irrigation controller (unless otherwise directed by City staff)				
SP	Locate POC in planter areas whenever possible - not in turf areas or paving				
WP	Backflow prevention is provided at each POC (show a current detail and specifications per Water Purveyor/District)				

REF	REQUIREMENT	Y	N	N/A	CAT
LWCO 20.12.130	A dedicated water service meter or private submeter, shall be installed for all nonresidential irrigated landscapes of 1,000 sf. but not more than 5,000 sf (the level at which Water Code 535 applies) and residential irrigated landscapes of 5,000 sf or greater. A landscape water meter may be either: Dedicated meter provided by water purveyor; or a privately owned meter or submeter.				WATER SERVICE METER
SP	Irrigation system shall be designed with more than 10% residual pressure. If pressure is less than 10% over pressure required to operate the most demanding circuit a booster pump may be required.				
SP	Water meter & pressure mainline sized to match flow capacities				
SP	Meter information is consistent with most recent Civil plans (description, location, etc.)				
LM-8	Specify type, size & location of automatic controller(s)				CONTROLLERS
LWCO 20.12.130	Irrigation shall be regulated by means of a smart controller				
DSDP	Controller enclosures shall be at approved locations - ideally adjacent to water meter but not in ROW.				
DSDP	2 Wire Systems (if applicable): Provide 2 Wire Diagram at Valve Manifold detail. Diagram to include wire conduit sizes (1.25" min PVC from Controller to Valve Manifold; 1" min PVC within valve manifold).				
LM-8	Air-release/ flush valves are included where suggested by manufacturer				VALVES
LM-27	All remote valves to be normally closed type (including master valve)				
LWCO 20.12.110	Master valve and flow sensor required for all nonresidential and residential over 5000 square feet.				
LWCO 20.12.130	Where feasible, trees shall be placed on separate valve run from: shrubs, groundcover, and turf.				
DSDP	All valves to be Installed in individual valve boxes and labeled appropriately				
DSDP	Quick couplers are recommended to be located at Remote Control Valve manifolds, and at maximum spacing (200 feet on center) *except on recycled water projects where prohibited by OWD.				
DSDP	Line size of stub-off feeding valve manifolds are the same size as the feeding mainline				
SP	All valves are set and installed on level planting areas whenever possible				
SP	Quick couplers to be Isolated with its own ball valve and attach directly to mainline				
SP	Quick couplers set and installed in planting areas				
SP	Remote valves to be installed in a manifold whenever possible. Each manifold shall be isolated by a ball valve.				

REF	REQUIREMENT	Y	N	N/A	CAT
DSDP	Concrete valve boxes are required in paving areas				VALVE BOXES
DSDP	Separate jumbo box required for master valve, pressure regulator, y-strainer and flow sensor.				
SP	Valve boxes are set parallel to each other and perpendicular to adjacent paving or concrete curb. Show appropriate detail(s).				
LM-8	Type, size, class and location of all pipes identified. Pipe sizing charts alone are not acceptable.				IRRIGATION PIPE
LM-27	All pipe shall be made from N.S.F. approved, Type I, Grade II PVC, conforming to ASTM resin specification D 1784. All pipe meets requirements set forth in Federal Specification PS 22-70.				
DSDP	Mainline Pipe Sizes Required: • 1"- 1 1/2" - Sch. 40 PVC • 2" - 3" - Class 315 PVC • 4" - 6" - Class 315 PVC, AWWA rated, bell gasket type pipe with Sch. 80 or cast-iron fittings • Mainline is 1" minimum				
DSDP	Lateral end runs - all are 3/4" minimum Sch 40 PVC pipe.				
DSDP	Parallel lines have a minimum of 4" between them for accessibility and maintenance				
DSDP	All copper pipe to be Type K				
LM-8	Type, size & location of all pipe/conduits, sleeves and/or chase pipes are clearly labeled on plan.				TRENCHING & SLEEVES
LM-28	Pull boxes marked "PB" are placed at splices and shall have three (3) extra feet of wire in each box				
LM-28	The trench width shall be the pipe diameter plus 4" (minimum)				
DSDP	Minimum pipe depths shall be: • 12" for laterals (24" under non-vehicular paving; 30" under vehicular) • 18" for pressurized lines (30" under non-vehicular paving; 36" under vehicular)				
DSDP	Irrigation sleeves are shown for all lateral lines, mainline and control or communication wiring under all paving materials				
DSDP	All sleeves under vehicular pavement to be Sch. 40 PVC and 4" minimum diameter				
DSDP	Sleeving is Schedule 40 PVC pipe at least twice the diameter of conduit or water pipes and called out on plan(s)				
DSDP	All mainline sleeves must end in a soft workable landscape area (Not in a small planter) and extend 12" from back of curb/hardscape edges				
DSDP	Minimum of 4" spacing between sleeves for all lateral and pressurized lines				
DSDP	Flow sensor conduit to be set a minimum of 12" from all other sleeves				
SP	Detectable warning tape is provided for all pressure mainlines				
SP	Separate trenches are provided for potable water, drinking fountains, & non irrigation electrical conduit				
SP	Electrical conduit sleeves are separated from water pipe sleeves by a minimum of 4"				

REF	REQUIREMENT	Y	N	N/A	CAT
LM-27	Irrigation emitters within a circuit shall have a uniform precipitation rate				EMITTERS
LWCO 20.12.130	Irrigation heads within 24" of impermeable surface are required to be of a low volume pop-up type.				
DSDP	Booster pump is located only in planting areas				BOOSTER PUMPS
DSDP	Booster pump is located after the POC (backflow preventer, master valve, flow sensor, y-strainer etc.).				
DSDP	Booster pump is provided if static pressure available at POC does not provide a minimum of 10% residual pressure over the most demanding emitter.				
DSDP	Pump and all related equipment are installed in protected enclosure on a concrete pad				
DSDP	Provide a 90-day maintenance period for Privately Maintained Irrigation equipment installation + 1-year warranty				MAINT
LM-6	Planting plan shall include Planting Notes				PLANTING PLANS
LM-6	Planting legend shows all symbols, botanical name, common name, container size, and quantity.				
LM-6	Hydroseed mix specifications to include: seed botanical name, common name, % purity and % germination, application rates and mix components - mulch, binder, fertilizer and inoculants				
LM-7	Shrub locations and on center spacing are based on mature plant size (min. 75% mature spread)				
LM-10	Slopes over 6' vertical height that have been graded or denuded of vegetation shall be enhanced with one 1-gal tree or shrub or 4-liners per 100 square feet. (or as required by the projects fire protection plan)				
LM-28	City of Chula Vista's Brush Management Program requirements are met. Contact Chula Vista Fire Dept. at (619) 409-5841 for current standards and requirements.				
LM-28	Plants are separated into hydro-zones that have similar water and exposure requirements				
LWCO 20.12.090	Planting plan shall include planting details, specifications, maintenance specifications and responsibilities				
LWCO 20.12.090	Provide plant water usage for each plant in planting legend per current WUCOLS rating system (L, M, or H) https://ucanr.edu/sites/WUCOLS/				
LWCO 20.12.090	Soil shall be amended at a minimum of 4 cubic yards compost per 1000 square feet at 6" depth				
LWCO 20.12.090	Mulch all exposed soil surface in planting areas at 3" depth				
LWCO 20.12.180	Turf is allowed only in active recreation areas and single-family residential yards and not to exceed 15% of project area				
CVP 576-19	Parking lot trees shade shall achieve 50% canopy cover over the parking stall areas 5-15 years after the planting date. Provide a calculation on the plans.				

REF	REQUIREMENT	Y	N	N/A	CAT
DSDP	Plant material coordinates with approved Landscape Master Plan and SPA Plan (if applicable)				PLANTING PLANS
DSDP	Graphic representation is shown differentially for ALL existing and proposed plant materials being used on the project (i.e., existing are screened, proposed are bold)				
DSDP	Planting legend is shown on every planting sheet. Legend must be referenced on each sheet if space doesn't permit it to be on each sheet.				
DSDP	Plantings do not interfere with security and safety of site.				
DSDP	Tree symbols shown on plan indicate a canopy size at 75% mature spread for spacing purposes				
DSDP	Trees are properly supported with detail provided. Note is included to remove nursery stake				
DSDP	Note ground clearance of 6'-1" to be maintained from ground level to bottom of tree canopy				
DSDP	Any tree within 10′ of paving, footing, building, or any other hardscape within the public right-of-way shall have root barrier installed at a minimum of 19.5″ (BioBarrier standard depth) in depth, and 20′ in length, centered on centerline of tree trunk (10′ to each side) • plastic root barrier is acceptable but shall be ribbed, interlocking and a min. depth of 24″.				
DSDP	Clearances from tree trunks are as follows (minimums): • Driveways - 10' (5′ at Residential Driveways) • Traffic signals/Stop signs - 20' • Intersections - 25' (triangle - for residential), • Utilities: Underground - 5', Above-ground - 10', • Fire hydrants - 10', • Light standards - 10' (residential streets) (arterial streets) – ½ total crown diameter at maturity, • Sidewalk underdrains – 3′				
DSDP	Shrub height to be a maximum of 30 inches at intersections and street corners within sightline triangles.				
DSDP	Provide name and contact information of Manufacturer/Supplier of all root barriers. Provide detail(s) and specifications.				
DSDP	Turf is not allowed in areas less than 6′ in width				
DSDP	A mulch area within a 12-inch radius from outer diameter of tree trunk is provided at the base of each tree trunk planted in turf areas				
DSDP	Mulch Note: Mulch shall be kept 4-6" away from trunk, stems, and taper at root ball				
DSDP	Graded areas equal to or greater than 2% have hydroseed mix erosion control.				
DSDP	Soil fertility test is to be performed. List the party or parties responsible for administering test and following recommendations.				
DSDP	Street trees located on public property shall follow the public street tree requirements. For requirements see street tree category in the public checklist.				

DSDP	Provide a 90-day maintenance/establishment period for Privately Maintained Planting Areas + 1-year warranty				MAINT

REF	REQUIREMENT	Y	N	N/A	CAT
LM-9	Minimum of 10% of the interior of the parking area is devoted to landscaping				PARKING AREAS
LM-9	Planters, walls and fences in parking areas shall have a 6-inch curb to protect against vehicle damage to plants and irrigation heads.				
LM-9	18-inch (minimum - including curb) paved strip is installed adjacent to all parking stalls that abut a planting area within the parking lot.				
LM-9	Appropriate paving is installed where pedestrians will likely be crossing landscaped areas				
LM-9	Concrete wheel stops or protective concrete curbs are installed with appropriate setback where parking stalls abut walks, walls, and fences.				
LM-9	Parking areas for 5 or more vehicles has a 10' (minimum) landscape strip between parking area and public right of way				
LM-9	6-foot wide side yard landscape strip (with trees and shrubs and/or groundcover) shall be installed in commercial and industrial lots where they abut residential or institutional zones or land use where a zoning wall is not required.				
DSDP	Identify proposed lighting locations. Lighting symbols also to be included on planting sheets to avoid conflicts with trees.				LIGHTING
DSDP	Lighting legend shows all symbols, model number/style, lamp type, color, manufacturer, detail reference and any other pertinent data for materials used in the system. Or reference where information is specified.				

CITY OF CHULA VISTA

LANDSCAPE CHECKLIST PUBLIC PROJECTS

November 2022

Landscape Checklist _ Public Projects: is in addition to the "Landscape Checklist All Projects" which starts on page 5. The following checklist items are primarily excerpts from the requirements found in the body of the City of Chula Vista Landscape Manual and Landscape Water Conservation Ordinance. They do not necessarily encompass the entire extent of each requirement, but rather represent the essence of each item. When clarification is needed, the plan preparer should refer to the source text which is referenced on the Landscape Checklist.

Project Name: WO#:

REF	REQUIREMENT	Y	N	N/A	CAT
LIRP-5	Public Projects shall adhere to this checklist in addition to the All Project Landscape Checklist (p.5)				ADDITIONAL CRITERIA
LM-42	Public Parks have additional design criteria beyond what is in this checklist. Refer to additional requirements per the City of Chula Vista Landscape Manual Section Three- Park Design Standards				
LM-34	Signature block for Director of Development Services or Designee				TITLE BLOCK
DSDP	City of Chula Vista Drawing Number (on all sheets)				
DSDP	City of Chula Vista Title Block (for publicly owned and w/in public ROW) provided by city staff. On 22" x 34" sheets.				
DSDP	As-built Signature Block				
LM-51	All metal used in fencing (posts, hardware or decorative items) shall be corrosion resistant. i.e. hot dipped galvanized steel. Powder coating for fences will not be allowed.				CONSTRUCTION PLANS
DSDP	Construction details shall be drawn in accordance with the San Diego Regional Standard Drawings and City of Chula Vista standards where conflicts arise the more stringent requirement will be applied.				
DSDP	Maintenance walkways are provided in the medians – 24" wide, measured from face of curb				
LM-50	All walls to be coated with an anti-graffiti coating as per the Department's specifications				WALLS
DSDP	CFD maintained walls/fences are located entirely within CFD maintained property (including footings)				
DSDP	Storm drain laterals shall provide adequate fall to storm drain mains. (Invert elevation may be required at the discretion of reviewer)				DRAINS
DSDP	Show median drain connection to street mains from Civil base, screened but visible.				
DSDP	Provide a minimum of 12" topsoil from top of storm drainpipe when pipe is located in a plantable area.				

REF	REQUIREMENT	Y	N	N/A	CAT
DSDP	Drip irrigation within public right of way is generally not permitted. Parkway planters 4' or less may be an exception where overspray cannot be avoided at the discretion of the Director of Development Services or designee.				GENERAL IRRIGATION
DSDP	Watering Window requirements (provide calculations on plans): • Open Space/Streetscape - 9 hours per day, 5 days a week • Streetscape - 9 hours per day, 5 days a week				
DSDP	Irrigation details shall be drawn in accordance with the San Diego Regional Standard Drawings, Water Agencies' Standards and City of Chula Vista standards where conflicts arise the more stringent requirement will be applied.				
DSDP	All landscape irrigation systems shall have a minimum of 120 mesh filtration for any low volume irrigation and 150 mesh filtration for drip systems				
SP	Where multiple valves are required to irrigate slopes the valve circuits shall run parallel to topography lines				
SP	Brass to plastic pipe transitions throughout the system to be Sch 80 PVC (threaded male) inside of a threaded brass coupling				
LM-64	Booster pump required if static pressure at POC is less than the required pressure to operate furthest head (after pressure loss calculations) plus 10 psi.				POC
DSDP	All POC appurtenances (from water meter to flow sensor) and piping to be Brass or copper.				
DSDP	POC sequence to follow Water Agencies' Standards (WAS)				
	A reduced pressure backflow preventer is mandatory per code requirements. The installation is to include an expanded panel stainless steel enclosure set on a concrete pad.				
LM-37	"Water Meter Information Table" is provided on Title Sheet and completed with all required information *See Appendix F				WATER SERVICE METER
DSDP	A separate meter shall be required for; slopes, street improvements in CFD maintained areas and different maintenance entities.				
DSDP	No meters shall be placed in the medians.				
LM-60	All Power Pedestals and Controllers are inside vandal resistant stainless-steel enclosures on concrete pads (when in planting areas)				CONTROLLERS
LM-60	Enclosure shall be installed at approved locations.				
LM-60	Controllers for street medians shall be in parkway adjacent POC				
DSDP	Controller specifications to include 5 year warranty (from turn over date to city), 5 additional years cell service and with supplier certification				

REF	REQUIREMENT	Y	N	N/A	CAT
LM-63	Spare Control Wires - minimum of 2 spare control wires run parallel to mainline in conduit and branch to the furthest valve manifold. Provide 6 feet of additional wire and install in pull box adjacent to manifold. (not required for two wire systems)				WIRING
DSDP	All wiring (low voltage included) to be in Sch 40 PVC conduit. Sweeps and pull boxes to be no more than 200' between pull boxes with no conduit bends greater than 270 degrees between boxes. Wire connectors to be at maximum spacing of every 400'. Splices are to be encased in approved waterproof connectors and inside an approved pull box.				
DSDP	Irrigation controller wire to be installed in Sch 40 PVC conduit. Common wire is 12 gauge min. Pilot wire shall be 14 gauge min. and not to exceed 5000 feet run.				
DSDP	Two-wire decoders to be mounted inside of dedicated pull boxes on stainless steel screws.				
DSDP	Provide megohm testing of all wires prior to connections being made and backfilling to verify performance within the controller manufacturer's requirements. No circuit checking lower than 1 megohm will be acceptable. Repair/replace substandard performing wire.				
LM-61	Quick Couplers shall be provided at each valve manifold with a dedicated isolation valve and along mainline with a maximum spacing of 200' o.c.				VALVES
LM-61	Maximum Remote-control valve size to be 2". Maximum design flow through valve is 80 gpm.				
LM-61	Remote control valves shall be installed with the largest valve and GPM flow installed first on the manifold, with smaller valves and capacities transitioning from there. The line size of the stub-off feeding the manifold shall be the same size as the mainline.				
LM-62	Quick Coupler supply line to be a minimum of 1-1/2" and in its own valve box.				
LM-62	Isolation valves: • For line size 1"-2" ball valves to be used and include (2) integral SCH 80 unions. For line size 2 ½"-6" gate valves to be used and include separate unions.				
LM-62	Isolation valves to be provided wherever pressure mainlines branch off in different directions and on mainline runs of 250' maximum				
DSDP	All valve manifold fittings to be Sch 80.				
DSDP	Valves are numbered and operate sequentially with the flow of traffic. For slopes the sequence shall be top of slope initially, mid-slope next and bottom of slope last.				
DSDP	Quick Couplers are to include brass piping and with swivel riser and thrust block. No pre-assembled items allowed.				
DSDP	Isolation valves shall be installed in separate in-line valve box.				
DSDP	Mainline sized isolation valve shall be installed on both sides of street and driveway crossings				
DSDP	Anti-Drain Valves are required on all heads not controlled by a factory check valve for all slope areas.				
DSDP	Master valves to include brass unions.				
DSDP	Remote control valves to be brass bodied with filter and solenoid pressure regulator.				

REF	REQUIREMENT	Y	N	N/A	CAT
DSDP	Valve box to include the following items layered in the following order: 1. 4" Gravel Base 2. Landscape fabric lining hole wrapped 4" above bottom outside of box on all sides 3. 2 common bricks to supporting valve box 4. 2" Gravel 5. ¼" Galvanized wire mesh wrapped 4" above bottom outside of box on all sides 6. Valve box with both bolts and washers				VALVE BOXES
DSDP	Concrete valve boxes are required in paving areas				
LM-63	Parallel lines have minimum of 6" between them for accessibility				IRRIGATION PIPE
DSDP	All Copper pipe to be Type K				
DSDP	Where mainline crosses streets an etched "X" shall be provided on face of curb				
DSDP	All trenching irrigation to include a 1-2" sand bed with 6" depth of sand backfill over all pipe. Sand to include a sand equivalency (SE) of 30 or better.				TRENCHING
LM-62	Turf stream rotors to have stainless steel risers				EMITTERS
LM-62	Turf heads and stream rotors have minimum 6" pop-up height for all type of Fescue.				
DSDP	Swing joint at irrigation heads to include (3) Sch 40 PVC street ells with 12" Sch 80 nipple. All connections are to be Teflon taped. No Marlex street ells or preassembled spec items allowed.				
DSDP	Spray heads to have integral or in-line check valves.				
DSDP	Two tree bubblers to be provided per tree per SDRS I-04.				

REF	REQUIREMENT	Y	N	N/A	CAT
DSDP	Provide a note that states no city maintenance shall commence prior to the installation of applicable irrigation meter.				MAINTENANCE
DSDP	1-year maintenance/establishment period for Publicly Maintained Areas + 1-year warranty				
DSDP	Note ground clearance of 6'-1" to be maintained from ground level to bottom of tree canopy				PLANTING PLANS
DSDP	Minimum tree sizing: Caliper measured at 6" above the root crown • 5-gal – 1/2" cal: 5-7' height (4' height, for slopes) • 15-gal – 1" cal; 5'-7' height • 24" box (20 gal) – 1-1/2" cal; 7'-12' height • 36" box (45 gal) – 1-3/4" cal; 8'-12' height *Note: Caliper to be measured at 6" above the root crown				
DSDP	Any tree within 10' of paving, footing, building, or any other hardscape within the public right-of-way shall have root barrier installed at a minimum of 18" in depth, and 20' in length, centered on centerline of tree trunk (10' to each side)				
DSDP	Soil fertility test is to be performed. List the party or parties responsible for administering test and following recommendations • Soils within Publicly Maintained Areas shall be retested prior to soil amending for verification that soils test requirements worked correctly				
DSDP	Landscape Plans for Public Maintained Areas shall include notes requiring tree pit percolation tests. Specifications for options for deep pit tree wells (If required percolation tests fail) should also be provided.				
DSDP	Specifications for deep pit tree wells (if required percolation tests fail)				
DSDP	Specifications state: that a soils test to be performed after prescribed amendment is installed to verify that prescribed amendment worked correctly.				
DSDP	Provide name and contact information of Manufacturer/Supplier of all root barriers. Provide detail(s) and specifications. TYPAR "BioBarrier" shall be specified and detailed.				
DSDP	Planting legend to indicate standards for height and caliper for all trees.				
DSDP	1-year maintenance/establishment period for Publicly Maintained Areas + 1-year warranty				MAINT

REF	REQUIREMENT	Y	N	N/A	CAT
LM-11	Street trees shall be a minimum of 15-gallon container size and shall be a minimum of 6 feet tall with a 1-1/2" caliper when planted, and properly supported				TREES
CVMC 18.32.110	Street Trees: • Trees shall be planted within the street right-of-way, within a dedicated planting easement, or within a combination of both, having a combined width of 10 feet. • If the City requires a Developer to install trees outside the public right-of-way and inside the dedicated planting easement, the following note is to be added on the plans next to any applicable street tree: "Street tree not in contract. Street tree(s) to be installed and maintained by the Subdivider (Developer) until the lot is sold and the tree maintenance becomes the responsibility of the homeowner. This is in accordance with the City of Chula Vista." CVMC 18.32.110				
DSDP	Tree species and spacing conforms to the approved Landscape Master Plan				
DSDP	No grafted species will be allowed as a street tree.				
DSDP	Live crown ratio shall be a minimum of 50%, meaning there shall be live branches in the upper 50% of the trunk to distribute wind stress and develop trunk taper for stability.				
DSDP	The Landscape Architect of Record shall submit to the City's Landscape Architect a copy of the applicant's approved tree submittal with photos representative of those trees to be delivered to the site, including representative measurements. The City's Landscape Architect will review the submittal to verify the included trees comply with the noted requirements prior to any trees being delivered to the site.				
DSDP	All 36" box trees and larger, multi-trunk and other specimen trees shall be tagged at the nursery by the landscape architect of record and photos submitted to the City's Landscape Architect as described above.				
DSDP	Current civil information is shown on Street Landscape Improvement Plans (utilities, walls/fences, stop signs, streetlights, etc.)				
DSDP	One tree is located at each property shown in the limit of work area(s) Note: This may vary depending on the project				
DSDP	All standard form (single trunk) trees to include a single strong central leader with no branches extending at an angle narrower than 30 degrees from the main trunk. If the tree does not display a single strong central leader, a tree may be approved if the Developer's arborist or landscape architect of record can demonstrate that a single strong central leader can be achieved through structural pruning. All trees requiring structural pruning for the purposes of achieving a strong central leader shall be pruned by the Nursery's Arborist prior to Landscape Architect of Record approval of tree submittal (see note #5 below) or by the Developer's Arborist at planting.				
DSDP	Pole lighting to be places on a concrete foot pedestal a minimum of 12" above grade				LIGHTING

CITY OF CHULA VISTA

LANDSCAPE CHECKLIST RECYCLED WATER

November 2022

Landscape Checklist _ Recycled Water: is an addition checklist for projects utilizing recycled water. The following checklist items are primarily excerpts from the requirements found in the body of the City of Chula Vista Landscape Manual and Landscape Water Conservation Ordinance. They do not necessarily encompass the entire extent of each requirement, but rather represent the essence of each item. When clarification is needed, the plan preparer should refer to the source text which is referenced on the Landscape Checklist.

Project Name: WO#:

REF	REQUIREMENT	Y	N	N/A	CAT
DSDP	Projects utilizing recycled water to be approved and signed by local water purveyor and the San Diego County Department of Environmental Health prior to city approval.				GENERAL RECYCLED WATER
DSDP	Recycled Water Notes provided by water purveyor				
DSDP	Recycled Water Specifications				
DSDP	Potable & recycled irrigation areas are separated by a walk or mow strip or another physical marker				
DSDP	Quick Couplers on recycled water systems to be limited to Water District approval. Where quick couplers are allowed, they shall be ACME threaded, 1" size materials with a swivel (of a type approved for use on recycled water systems)				
DSDP	One valve operates at a time. An exception may be made in HOA owned and maintained areas where 2 valves may operate simultaneously ONLY if the Landscape Architect of Record can provide proof that the system can maintain adequate pressure to provide coverage (velocity of flow not to exceed 5 feet per second or Watering Window)				
DSDP	All components of recycled water system to be specifically manufactured for use on recycled water systems. I.E. Purple color and indicating for recycled water use.				
DSDP	All projects utilizing recycled water to have testing station location with details				
DSDP	System operates within the 9-hour Watering Window				
A-g	Provide an irrigation watering schedule on plans. See example on Appendix G				

Appendix A : General Notes

General Notes for All Projects (Work with Landscape Reviewer to edit as appropriate for your project)

General Notes are required on the Title Sheet of all drawing sets per the City of Chula Vista's Landscape Manual (page 35). The following is an example of the type of notes that shall be included. They are to be edited by the Landscape Architect of Record as appropriate for each project. They are provided to give directions to the Contractor.

1. CONTRACTOR SHALL VERIFY WITH OWNER'S REPRESENTATIVE THAT PLANS ARE CURRENT AND APPROVED.
2. LANDSCAPE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF CHULA VISTA LANDSCAPE MANUAL, LANDSCAPE WATER CONSERVATION ORDINANCE, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN BOOK"), AND THE CITY OF CHULA VISTA'S LANDSCAPE IMPROVEMENT REVIEW PACKET, LATEST APPROVED EDITIONS (AS APPLICABLE). WHENEVER SPECIAL REQUIREMENTS CONFLICT ON ANY MATTER, THE STRICTER REQUIREMENT SHALL APPLY.
3. LANDSCAPE IMPROVEMENTS SHALL REFER TO ALL IMPROVEMENTS WITHIN THIS SET OF DOCUMENTS.
4. THESE PLANS ARE BASED ON:
   CIVIL IMPROVEMENTS BY _____DATED_____, DRAWING NUMBER(S)_____
   AND/OR
   BUILDING IMPROVEMENTS BY _____DATED_____, PERMIT NUMBER(S)_____
5. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERING SOILS REPORT RECOMMENDATIONS AS THEY RELATE TO THE WORK DEPICTED ON THESE PLANS.
6. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY AND/OR REQUIRED PERMITS AND PAY ALL RELATED FEES AND/OR TAXES REQUIRED TO INSTALL THE WORK ON THESE PLANS.
7. THE CONTRACTOR SHALL BE APPROPRIATELY LICENSED AS REQUIRED BY THE STATE OF CALIFORNIA.
8. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES IN EXISTING CONDITIONS OR WITH THE PLANS PRIOR TO THE BEGINNING OF WORK.
9. UNIT PRICES FOR ALL IMPROVEMENTS SHALL BE ESTABLISHED AS PART OF THE CONTRACT WITH THE PROJECT OWNER, PRIOR TO BEGINNING WORK, TO ACCOMMODATE ADDITIONS AND/OR DELETIONS OF MATERIAL AND/OR LABOR.
10. DETERMINATION OF "EQUAL" SUBSTITUTIONS SHALL BE MADE ONLY BY THE LANDSCAPE ARCHITECT OF RECORD (OR OWNERS REPRESENTATIVE).
11. THE LANDSCAPE ARCHITECT OF RECORD AND CITY REPRESENTATIVES SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION, ANY SITE OBSERVATION, OR MEETINGS. SITE OBSERVATIONS SHALL INCLUDE, BUT NOT BE LIMITED TO:
    a. PRE-CONSTRUCTION MEETING
    b. LANDSCAPE GRADING AND SOIL AMENDING
    c. LANDSCAPE CONSTRUCTION
    d. SPOTTING OF SPECIMEN PLANTS
    e. IRRIGATION PRESSURE AND COVERAGE TEST
    f. PLANTING AND/OR HYDROSEEDING
    g. PRE-MAINTENANCE

h. POST-MAINTENANCE (FINAL)

12. SITE OBSERVATIONS BY THE LANDSCAPE ARCHITECT OF RECORD DURING ANY PHASE OF THIS PROJECT DO NOT RELIEVE CONTRACTOR OF THEIR PRIMARY RESPONSIBILITY TO PERFORM ALL WORK IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND GOVERNING CODES.
13. THE CONTRACTOR SHALL PROVIDE FULL MAINTENANCE OF ALL LANDSCAPE AREAS FOR A MINIMUM OF XX DAYS AFTER SUBSTANTIAL COMPLETION AS DETERMINED BY CITY REPRESENTATIVE.
14. PRIOR TO THE COMMENCEMENT OF THE LANDSCAPE AND IRRIGATION IMPROVEMENTS, THE CONTRACTOR SHALL CONTACT THE CITY LANDSCAPE INSPECTOR TO OBTAIN A LANDSCAPE INSPECTION PACKET, LANDSCAPE, AND IRRIGATION BOND EXONERATION WORKSHEET (IF APPLICABLE).
15. PROPOSED SCOPE OF WORK MAY INCLUDE WORK WITHIN THE PUBLIC RIGHT-OF-WAY AND OTHER PUBLICLY OWNED AREAS. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL CONTACT CITY OF CHULA VISTA SENIOR LANDSCAPE INSPECTOR, DAVE DEFACCI (DDEFACCI@CHULAVISTACA.GOV) ("LANDSCAPE INSPECTOR") TO COORDINATE WORK WITHIN AND AROUND THESE AREAS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING IN-KIND ANY DAMAGES TO PUBLIC AREAS, TO THE SATISFACTION OF THE LANDSCAPE INSPECTOR.
17. THE FOLLOWING ARE THE LANDSCAPE AND IRRIGATION FINAL CONSTRUCTION APPROVAL, ACCEPTANCE AND TURNOVER DOCUMENTS REQUIRED FOR ALL PRIVATE INFRASTRUCTURE WITHIN THE CITY OF CHULA VISTA. THE RESPONSIBLE PARTY SHALL SUBMIT THE FOLLOWING TURNOVER ITEMS TO SENIOR LANDSCAPE INSPECTOR, DAVE DEFACCI:
    a. FORM 5522 COMPLETED AND SIGNED BY LANDSCAPE ARCHITECT OF RECORD AND PROJECT APPLICANT.
    b. 11X17 PAPER COPY OF DIMENSIONED AS-BUILT IRRIGATION AND PLANTING PLANS WITH TREES NOTED.
    c. SIGNED LETTER FROM THE ENTITY THAT IS MAINTAINING THE PROJECT (E.G. OWNER, HOA, ETC.) STATING THEY ARE SATISFIED WITH THE PROJECT INSTALLATION AND HAVE ACCEPTED MAINTENANCE.
    d. COPY OF THE BOND, BOND ESTIMATE, AND BOND EXONERATION WORKSHEET, IF APPLICABLE.
    e. CITY OF CHULA VISTA L&I INSPECTION CARD AS APPROPRIATE FOR THE TYPE OF PROJECT (PUBLIC, PRIVATE, OR HYBRID).
    f. ALL OF THE ABOVE, ON A USB FLASH DRIVE IN PDF FILE FORMAT.

General Notes for Public Projects

General Notes are required on the Title Sheet of all drawing sets per the City if Chula Vista's Landscape Manual (page 35). The following is an example of the type of notes that shall be included. They are to be edited by the Landscape Architect of Record to be appropriate for each project. They are provided to give directions to the Contractor. The City Representative's signature on these notes does not constitute approval of these notes and the City will not be responsible for their enforcement.

1. CONTRACTOR SHALL VERIFY WITH OWNER'S REPRESENTATIVE THAT PLANS ARE CURRENT AND APPROVED.
2. LANDSCAPE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF CHULA VISTA LANDSCAPE MANUAL, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN BOOK"), AND THE CITY OF CHULA VISTA'S LANDSCAPE PLAN REVIEW CHECKLIST LATEST APPROVED EDITIONS. WHENEVER SPECIAL REQUIREMENTS CONFLICT ON ANY MATTER, A CITY OF CHULA VISTA REPRESENTATIVE SHALL DETERMINE WHICH SPECIAL CONDITION OR CODE SHALL GOVERN. "LANDSCAPE" SHALL REFER TO ALL IMPROVEMENTS WITHIN THIS SET OF DOCUMENTS THAT HAVE BEEN DESIGNED BY THIS OFFICE.
3. THESE PLANS ARE BASED ON CIVIL IMPROVEMENTS BY _____DATED_____, DRAWING NUMBER(S)_____.
4. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERING SOILS REPORT RECOMMENDATIONS AS THEY RELATE TO THEIR WORK.
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY AND/OR REQUIRED PERMITS AND PAY ALL RELATED FEES AND/OR TAXES REQUIRED TO INSTALL THE WORK ON THESE PLANS.
6. THE CONTRACTOR SHALL BE APPROPRIATELY LICENSED AS REQUIRED BY THE STATE OF CALIFORNIA.
7. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF RECORD AND A CITY OF CHULA VISTA REPRESENTATIVE IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES IN EXISTING CONDITIONS OR WITH THE PLANS PRIOR TO BEGINNING THE WORK.
8. UNIT PRICES FOR ALL IMPROVEMENTS SHALL BE ESTABLISHED AS PART OF THE CONTRACT WITH THE PROJECT OWNER, PRIOR TO BEGINNING WORK, TO ACCOMMODATE ADDITIONS AND/OR DELETIONS OF MATERIAL AND/OR LABOR.
9. DETERMINATION OF "EQUAL" SUBSTITUTIONS SHALL BE MADE ONLY BY THE LANDSCAPE ARCHITECT OF RECORD IN CONJUNCTION WITH A CITY REPRESENTATIVE.
10. THE LANDSCAPE ARCHITECT OF RECORD, AND CITY REPRESENTATIVES SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION, ANY SITE OBSERVATION, OR MEETINGS. SITE OBSERVATIONS SHALL INCLUDE, BUT NOT BE LIMITED TO:
    a. PRE-CONSTRUCTION MEETING
    b. LANDSCAPE GRADING AND SOIL AMENDING
    c. LANDSCAPE CONSTRUCTION
    d. SPOTTING OF SPECIMEN PLANTS
    e. IRRIGATION PRESSURE AND COVERAGE TEST
    f. PLANTING AND/OR HYDROSEEDING
    g. PRE-MAINTENANCE
    h. POST-MAINTENANCE (FINAL)

    NOTE: SEE "INSPECTION PROCESS NOTE" BELOW FOR ADDITONAL INFORMATION

11. SITE OBSERVATIONS BY THE LANDSCAPE ARCHITECT OF RECORD DURING ANY PHASE OF THIS PROJECT DO NOT RELIEVE CONTRACTOR OF THEIR PRIMARY RESPONSIBILITY TO PERFORM ALL WORK IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND GOVERNING CODES.

12. THE CONTRACTOR SHALL PROVIDE FULL MAINTENANCE OF ALL LANDSCAPE AREAS FOR A MINIMUM OF ONE YEAR AFTER INITIAL WRITTEN CITY APPROVAL.
13. PROPOSED SCOPE INCLUDES WORK WITHIN THE PUBLIC RIGHT-OF-WAY AND OTHER PUBLICLY-OWNED AREAS. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL CONTACT CITY OF CHULA VISTA SENIOR LANDSCAPE INSPECTOR, DAVE DEFACCI (DDEFACCI@CHULAVISTACA.GOV OR 619-409-5432) ("LANDSCAPE INSPECTOR"), SAM OLUDUNFE, OPEN SPACE MANAGER (SOLUDUNFE@CHULAVISTACA.GOV OR 619-397-6006) AND DANNY SCHRECK, PARKS MANAGER, (DSCHRECK@CHULAVISTACA.GOV OR 619-921-2626) TO COORDINATE WORK WITHIN AND AROUND THESE AREAS. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING IN-KIND ANY DAMAGES TO PUBLIC AREAS, TO THE SATISFACTION OF THE LANDSCAPE INSPECTOR.
14. THE FOLLOWING ARE THE LANDSCAPE AND IRRIGATION FINAL CONSTRUCTION APPROVAL, ACCEPTANCE AND TURNOVER DOCUMENTS REQUIRED FOR ALL PRIVATE INFRASTRUCTURE WITHIN THE CITY OF CHULA VISTA. THE RESPONSIBLE PARTY SHALL SUBMIT THE FOLLOWING TURNOVER ITEMS TO SENIOR LANDSCAPE INSPECTOR, DAVE DEFACCI:
    a. 5522 FORM AND BOND EXONERATION WORKSHEET.
    b. HALF SCALE PAPER COPY OF AS-BUILT IRRIGATION AND PLANTING PLANS WITH TREES NOTED.
    c. LAURA BLACK , DIRECTOR OF DEVELOPMENT SERVICES, OR DESIGNEE'S SIGNATURE AND DATE
    d. COPY OF THE BOND AND BOND ESTIMATE, IF APPLICABLE.
    e. YELLOW PUBLIC PROJECT, CITY OF CHULA VISTA L&I INSPECTION CARD.
    f. ALL OF THE ABOVE, ON A USB FLASH DRIVE IN PDF FILE FORMAT (AS-BUILTS SHALL BE IN TIFF FORMAT AS ONE SINGLE FILE, AS WELL).

Appendix B : Additional Notes for Plans

Declaration of Responsible Charge / Landscape Water Conservation Statement

I HEREBY DECLARE THAT I AM THE LANDSCAPE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF THE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CHULA VISTA, SWEETWATER AUTHORITY/OTAY WATER DISTRICT, AND THE SAN DIEGO COUNT\Y DEPARTMENT OF ENVIRONMENTAL HEALTH IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS LANDSCAPE ARCHITECT OF WORK OF MY RESPONSIBILITY FOR PROJECT DESIGN.

I AM FAMILIAR WITH AND AGREE TO COMPLY WITH THE REQUIREMENTS FOR LANDSCAPE IMPROVEMENT PLANS AS DESCRIBED IN CHAPTER 20.12 OF THE MUNICIPAL CODE. I HAVE PREPARED THIS PLAN IN COMPLIANCE WITH THOSE REGULATIONS. I CERTIFY THAT THE PLAN IMPLEMENTS THE REGULATIONS TO PROVIDE EFFICIENT LANDSCAPE WATER USE.

Name _____

Name of Firm _____

Address _____

Signature _____ Date _____

Registration No. _____ Exp. Date _____

Appendix C : Preferred Irrigation Equipment

PART	MANUFACTURER	MODEL #/DESCRIPTION
Controller	RainMaster	Conventional or 2 Wire: RainMaster Eagle I Plus conventional or 2 wire, with built in ProMax remote control receiver and matching transmitter. (Open Space)
	Toro	Conventional or 2 Wire: Toro *DXI-FMW-WMS-SPED-TW-M8C* (Park Projects)
	Rain Bird	Conventional Only: ESP – LXME/F (Park Projects)
Water Meter	-	Per Water Authority Standards. Sweetwater Authority or Otay Water District.
Backflow Preventer	Febco	LF825YA (lead free)
	Watts	LF009-QT (lead free)
'Y' Strainer	Zurn Wilkins	Bronze or Brass, lead free
	Watts	Bronze or Brass, lead free
Pressure Regulator	Zurn Wilkins	600XL - additional specifications for upgraded spring 10-125 psi (HLR) and Stainless Steel adj screw (SC)
Backflow Enclosure	Strong Box	Strong Box Stainless Steel Smooth Wire Style
Master Valve	Rain Bird	EFP/CP-PRS-D
Flow Sensor	-	*To match controller manufacturer shall be SCH 80 or Brass.
Test Stations	-	Per Otay Water District and Department of Environmental Health
Check Valves	Hunter	Hunter HCV
Valve Boxes	-	All valve boxes to include both bolts and washers for beehive control and to branded and colored appropriately.

Remote Control Valves	Rain Bird	EFP/CP-PRS-D
Quick Couplers	-	Quick Couplers are to include brass piping with swivel riser and thrust block. No pre-assembled items allowed. Must have ACME threads. As approved by water purveyor.
Pop-up Spray Bodies	Rain Bird	RD1800 PRS series models w/SAM and Flow Shield
	Hunter	Pro spray models
Spray body on fixed riser	Rain Bird	PA-8S-PRS or P45 shrub adapters
Fan Spray Emitters	Rain Bird	1800 Series nozzles
Rotor Emitter	Hunter	I-"series" rotors (ie I-20, I-25, I-40, I-40-ON, I-80, I-90)
Multi stream rotor heads	Rain Bird	RVAN Series Rotary Nozzles
	Hunter	MP Rotators (Not preferred in areas maintained by Parks division)
Tree Bubblers	-	No prefabricated assembles allowed. Install per SDRS Detail: I-04
Isolation Valves	Hayward	Tru Union TB Series PVC SCH 80 • 1 ½"- 2" valve to be threaded on both sides • 2 ½" and larger valves to use slip fittings

*All Manufacturers and models are suggested. Approved equivalents will be evaluated on a case-by-case basis.

**All equipment to meet or exceed California State MWELO requirements for irrigation equipment.

Appendix D : Cost Estimates

Cost estimates are required by the City of Chula Vista for all Public-Owned projects. The cost estimate is for bonding purposes and shall reflect an itemized list of all project components and current industry pricing for each item. The following information shall be included, this format can be used as a guide. Cost estimate must be submitted in original form on company letterhead.

Project: *(Name of Project including address)*
Project WO#:
CV Drawing #: *(if applicable)*
Date: *(include revision dates if applicable)*
Prepared by:

Item#	Item Description	Qty.	Unit	Cost	Total
Construction					
1	Median Paving (excluding curb)	0	Sqft	$ 0.00	$ 0.00
2	6" wide concrete header	0	Lnft	$ 0.00	$ 0.00
3	2"x 6" recycled plastic header @ maintenance trail	0	Lnft	$ 0.00	$ 0.00
4	Light Standard banner brackets (2 per light standard)	0	Ea	$ 0.00	$ 0.00
				Sub-Total	$ 0.00
Median Drainage					
5	Drainage inlet & pipe extension to drain line	0		$ 0.00	$ 0.00
6	4" drainline with gravel backfill and fabric	0		$ 0.00	$ 0.00
				Sub-Total	$ 0.00
Site Preparation					
7	Landscape finish grade & soil amending	0		$ 0.00	$ 0.00
				Sub-Total	$ 0.00
Irrigation					
8	Permanent below grade fully automatic system	0		$ 0.00	$ 0.00
9	1" water meter	0		$ 0.00	$ 0.00
10	1-%" water meter	0		$ 0.00	$ 0.00
				Sub-Total	$ 0.00
Planting					
11	Trees - 24" box	0		$ 0.00	$ 0.00
12	Trees - 20' BTH palms	0		$ 0.00	$ 0.00
13	Shrubs - 1 gallon	0		$ 0.00	$ 0.00
14	Shrubs - 5 gallon	0		$ 0.00	$ 0.00
15	Hydroseed - native irrigated mix	0		$ 0.00	$ 0.00
16	Mulch - 3" deep layer Earthwise Ecomulch	0		$ 0.00	$ 0.00
				Sub-Total	$ 0.00
Maintenance					
17	Maintenance – 365 Days	0		$ 0.00	$ 0.00
				Sub-Total	$ 0.00

Grand Total $ 0.00

Appendix E : Water Use Calculations

The City of Chula Vista requires each Landscape Architect of Record to submit Water Use Calculations for every project. These items may be done in lieu of a Water Management Plan. Each landscape documentation package shall include the following information to verify that the elements of the landscape package have been completed.

1. Water Use Calculations (Use the formulas and tables below)

2. Irrigation Watering Schedule (Provide a complete yearly schedule that includes run times for each station -see the sample on the Appendix - G)

MAWA _ Maximum Applied Water Allowance

MAWA = (Eto) (0.8) (LA) (0.62) where:

Eto = Reference Evapotranspiration (inches/year) – Chula Vista, CA = 51.2 inches/year (or current CIMIS value)

0.8 = ET Adjustment Factor

LA = Landscaped Area (square feet)

0.62 = Conversion Factor (to gallons per square foot)

ETWU _ Estimated Water Use

ETWU Hydrozone = $\frac{(Eto)\ (PF)\ (HA)\ (0.62)}{(IE)}$ where:

Eto = Reference Evapotranspiration (inches/year) - Chula Vista, CA = 51.2 inches/year

PF = Plant Factor (0.5 for shrubs, 0.8 for turf)

IE = Irrigation Efficiency - 65% (0.65)

HA = Hydrozone Area (square feet)

0.62 = Conversion Factor (to gallons per square foot)

*The EWU shall not exceed the MAWA.

Notes:

• The values shown above have been set forth by the City of Chula Vista and shall be followed by all Consultants. No exceptions will be made.

• These calculations shall be included as part of the landscape plans - no attachments will be accepted.

Water Meter Information Table

WATER METER INFORMATION TABLE ☐ Recycled Water ☐ Potable Water

POC ID	POC STA.	IRRIGATED AREA (SF)	DEMAND (GPM)	ANNUAL USAGE (ACRE FT)	LATER SIZE FROM MAIN (IN)	METER SIZE (IN)	WATER PROVIDER
	TOTAL						

Appendix F : Irrigation Watering Schedule

The City of Chula Vista requires each Landscape Architect of Record to submit an Irrigation Watering Schedule for every project. The schedule must conform to the Watering Window specified in the Landscape Manual and this Checklist. The following is example shall be used as a guide to use for the required information.

Project: Name of Project
Date: Date plans were prepared

Project No.: Project Number
Prepared by: Name of Consultant

CHULA VISTA (54.6)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ETo Average per month	2.45	3.20	3.30	4.45	6.59	6.13	6.87	6.65	5.13	4.91	2.96	1.96
ETo Average per day	.079	.110	.110	.148	.218	.204	.229	.221	.171	.163	.098	.065

FORMULA: T = (60 x ET x PF) ÷ (PR x EA) x 7 ÷ 5 where:

T = Irrigation Time (in minutes)
PF = Crop Coefficient (0.5 for shrubs and 0.8 for turf)
ET = Evapotranspriration Rate (see daily chart above)
PR = Precipitation Rate (1.93 for bubblers, 2.26 for lawn sprays)
EA = Application Efficiency (0.625)

Notes:
• The values shown above have been set forth by the City of Chula Vista and shall be followed by all Consultants. No exceptions will be made.
• These calculations shall be included as part of the landscape plans - no attachments will be accepted.

CONTROLLER A - 5 DAY WATERING SCHEDULE

Sprinkler Type	Sta. #	PR	PF	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lawn	1	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Bubbler	2	1.93	.5	2	3	4	4	6	5	6	6	5	4	3	2
Lawn	3	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Lawn	4	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	2
Lawn	5	2.26	.8	2	3	4	4	6	5	6	6	5	4	3	2
Bubbler	6	1.93	.5	2	3	4	4	6	5	6	6	5	4	3	2
Lawn	7	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Lawn	8	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Bubbler	9	1.93	.5	2	3	4	4	6	5	6	6	5	4	3	2
Lawn	10	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Bubbler	11	1.93	.5	2	3	5	5	6	5	6	6	5	4	3	2
Lawn	12	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Lawn	13	2.26	.8	3	5	5	6	8	7	8	8	7	5	4	3
Lawn	14	2.26	.5	3	5	5	6	8	7	8	8	7	5	4	3
Bubbler	15	1.93	.5	2	3	4	4	6	5	6	6	5	4	3	2
TOTAL MINUTES PER DAY				39	63	69	78	108	93	108	108	93	69	54	44
TOTAL HOURS PER DAY				.65	1.05	1.15	1.3	1.8	1.5	1.8	1.8	1.5	1.15	.9	.73

SAMPLE

Appendix G : Inspection Forms

5522 Form (All Projects)

CITY OF CHULA VISTA	**DEVELOPMENT SERVICES DEPARTMENT** **Landscape Inspections** 276 Fourth Avenue Chula Vista, CA 91910 619-409-5432	**STATEMENT OF SUBSTANTIAL CONFORMANCE** (LANDSCAPE AND IRRIGATION)

FORM 5522

Return completed form to: City of Chula Vista - Development Services Department
Attn: Senior Landscape Inspector
276 Fourth Avenue, Chula Vista, CA 91910

- ☐ City Project Accounting Number: _____
- ☐ Permit (Land Development and/or Building) No.: _____
- ☐ Project Name: _____
- ☐ Project Location: _____
- ☐ Developer's Landscape Architect: _____
- ☐ Contact Name and Phone Number: _____

The following statements are furnished as evidence of having completed the Land Development and/or Building authorized under the conditions of the subject permit.

LANDSCAPE ARCHITECT STATEMENT
(To be completed in all instances)

I hereby state that inspections and tests were made by me, or under my supervision, and that in my professional opinion all landscape improvements have been completed in substantial accordance with the plans and specifications for the project, subject Land Development and/or Building Permit, and the applicable sections of the City Code applying to the above statement.

_____ _____ _____
Signature R.L.A. / Firm Name and Phone Number Date

_____
Print R.L.A. name

☐ I hereby request release of all bonds and deposits posted as guarantee of performance of subject work.

_____ _____ _____
Applicant Firm's Name Applicant Signature Date

_____ _____
Bond Number (submit copy of bond) Print Applicant Name

_____ _____ ☐ Non- Publicly Maintained Projects
Accepted Landscape Inspection Date (Cursory Inspection Only)

Notes/ Comments / Punchlist Items:

UPDATED 09/2019

SAMPLE

Landscape & Irrigation Inspection Card for Privately Owned Projects

City of Chula Vista

Landscape & Irrigation Final Acceptance Checklist for Privately Owned Projects

(to be filled out by City Landscape Inspector: _____ Phone: _____)

Project Name: _____ **Date:** _____ **Project Acct #:** _____

CV Drawing #: _____

Inspection Item	Inspection Comments / Notes:
☐ A 5522 Form filled out and signed by the project LA of record and project applicant.	
☐ As-built Irrigation plans, (1) half size paper set.	
☐ As-built Street Tree Exhibit, (1) half size set, for all trees located within 10' of city owned hardscape. Exhibit should note the tree(s) species and maintenance entity.	
☐ A letter from the homeowner's association, property manager, or owner stating they are satisfied with the project being built per plan and accept the maintenance responsibility.	
☐ Confirmation that the permanent water meter is installed, and system is operating, including backflow certification.	
☐ Third party water audit, per LWCO (CVMC 20.12)	
☐ Play equipment manufacturer and installer certification	
☐ Third party play equipment audit	
☐ All the above, on a USB Flash Drive in PDF file format. (As-builts to be Tiff format as well)	

Signature: _____ **Print Name:** _____ **Date:** _____

City Landscape Inspector, or Designee

Landscape & Irrigation Inspection Card for Publicly Owned Projects

City of Chula Vista
Landscape & Irrigation Inspection Card for Publicly Owned Projects

(to be filled out by City Landscape Inspector: _____ Phone: _____)

Project Name: _____ **Date:** _____

Controller: _____ **Project Acct #:** _____ **CV Drawing #:** _____

Pre-Construction Meeting:

- ☐ Approved signed project plans
- ☐ Protection / modification of existing adjacent systems
- ☐ Tax report, agreements, IOD (*Irrevocable Offers of Dedication.)*, CFD/OSD/LMD, easements, titles & deeds, etc.
- ☐ Copy of Submittals (product cut-sheets, plant photos, etc.)
- ☐ Construction schedule
- ☐ Voltage drop calculations (120v, 24v & 2-wire)
- ☐ All wire requires mega ohm testing
- ☐ Turn-over information
- ☐ 18-month pre-notice (CFD projects)

Landscape Construction:

- ☐ Survey / staking
- ☐ Sleeving – SCH 40 PVC (RW Purple)
- ☐ Layout forming
- ☐ Site grading
- ☐ Compaction
- ☐ Reinforcement
- ☐ Site Furnishings
- ☐ Finishes (Concrete)

Irrigation System:

- **Mainline Inspections:**
  - ☐ Trench depth
  - ☐ If 1.5" or less = SCH40 PVC (RW Purple)
  - ☐ If 2" or larger = CL315 PVC (RW Purple)
  - ☐ All mainline fittings (PVC Schedule 80)
  - ☐ RCV conduit (SCH40 PVC Gray) / wiring/ pull boxes
  - ☐ Master valve conduit (SCH40 PVC Gray) /wiring/ pull boxes
  - ☐ Flow sensor/shielded cable/conduit/pull boxes
  - ☐ Pressure test / semi-backfill
  - ☐ Backfill inspection
  - ☐ Ball valves at proper intervals / installation
  - ☐ Valve manifold assembly / Valve boxes to grade
  - ☐ Anti-water hammer air relief valves
  - ☐ Continuity test, mega ohm test
  - ☐ Controller / POC installation
  - ☐ Communication cable
  - ☐ Phone service (includes cell phone activation)
- **Laterals:**
  - ☐ All pipe SCH40 PVC (RW Purple)
  - ☐ PSI test (to designed pressure)
  - ☐ Swing joint assembly SCH40 PVC
  - ☐ Head placement, all types
  - ☐ Drip flush valves, indicators, RW purple
- **Coverage / Operations Test (LA, City Land. Inspect., OWD, DEH):**
  - ☐ Flush system
  - ☐ Nozzle size / head count
  - ☐ Master valve, flow sensor, rain sensor, remote control valves
  - ☐ Valve sequence, operation, remote control, head to head coverage
  - ☐ Sleeves markings, Valve ID tags, Valve lid branding
  - ☐ Permanent water meter & electric meter
  - ☐ Water audit performed
  - ☐ PSI at nozzles per valve–worst-case scenario
  - ☐ Anti-drain devices (required on all sprinklers), add. if required
  - ☐ Pressure test at POC and mainline leak test

Landscape:

- ☐ Soil test ☐ Soil test plot ☐ Soil retest plot
- ☐ Tree pit percolation test
- ☐ Soil preparation
- ☐ Site plant inspection (all plant material)
- ☐ Planting layout
- ☐ Tree planting depth
- ☐ Tree spacing & location
- ☐ Tree staking ☐ Nursery stakes removal
- ☐ Root barrier
- ☐ Monitoring wells
- ☐ Mulch

Maintenance 1 year from final written acceptance of installation:

- ☐ Completed punch list (prior to maintenance start date)
- ☐ 3 months _____ ☐ 6 months _____
- ☐ 9 months ☐ Final

*** Turn-over Information:**

- **Record Drawings / Documents / Tools / Certifications / Warranties:**
  - ☐ County environmental health certification
  - ☐ Water purveyor certification, and backflow certification
  - ☐ 5522 Form signed by Landscape Architect of record & Applicant
  - ☐ Copy of all other inspection signoffs
  - ☐ Copy of all bonds and bond estimates
  - ☐ Letter from HOA, property manager, owner (L&I built per plan)
  - ☐ Provide tax report, agreements, easements, titles & deeds
  - ☐ 12x18 binder w/ a complete half-size set of as-built plans
  - ☐ Half-size, (2) two laminated set of color controller charts w/ legends and details (if Recycled Water – min. of (4) four sets)
  - ☐ Full size As-Builts, mylars, complete set of L&I w/ electrical plan
  - ☐ Open Space Turnover Map w/ # acres per codes 1-5, tree counts (parkways: ; medians: ; slopes:), lights, fencing, walls, trails, gates, bollards, all utilities, enhanced surfaces, monuments, etc. (see sample OS turn-over map)
  - ☐ Street tree exhibit (note location (ST, SLT), type (pine, palm), species and maintenance responsibility (OS, HOA, Owner, UF))
  - ☐ Copy of Water Audit Report per Chula Vista LWCO CVMC 20.12
  - ☐ Copy of Soil Tests
  - ☐ Warranties on irrigation system, plant material, etc.
  - ☐ Controller cell phone data plan (5-year pre-paid from turnover date to City) w/ functional communication to controller
  - ☐ Controller (5-year warranty from turnover date to City)
  - ☐ Irrigation remote control transmitters (qty:) & receivers (qty:)
  - ☐ Certifications – irrigation controllers
  - ☐ Two keys each (labeled): QC, controller, bldg, gates, bollards, pedestals, kiosks, etc.
  - ☐ Play equipment manufacturer and installer certification
  - ☐ 3rd Party play equipment audit
  - ☐ Digital copies of all of the above (on flash drive- PDF & Tiff)
- **Finals & Utility Transfer:**
  - ☐ Completed POC/water meter/controller
  - ☐ Completed electric meter to irrigation system / as-builts
  - ☐ Completed electric meter/PED light system / as-builts
  - ☐ Transferred all utilities (SDGE, OWD, SWA, apcop. City Staff)
- **Bond Release / Acceptance / Turnover:**
  - ☐ City LI approval on 5522 Form & L&I Inspection Card

Approved by: _____ **Date:** _____

*All Turn-over Information should be submitted within one package prior to the approval of the Project Landscape & Irrigation Inspection Card.
- Boxes unchecked are items outstanding and must be completed prior to the City of Chula Vista Landscape Maintenance acceptance. If the items are incomplete after the 1-yr establishment period, turnover will be extended until the first of the next month and so on, until they have been completed. If a box(es) do not apply, write nonapplicable (N/A).
- Minimum accepted by City of Chula Vista: Landscape & Irrigation – one complete permanent irrigation controller/water meter/POC/Electrical Pedestal/Electrical meter to irrigation controller. (City systems shall be separate from private).
- Minimum accepted by City of Chula Vista: Lighting is – one complete permanent electrical pedestal/pedestrian lighting system/Electric meter to Pedestrian lighting system. (City systems shall be separate from private)

(rev. July 2022)

City of Chula Vista

Landscape & Irrigation Inspection Card for Publicly Owned Projects

Project Name:
Controller:
Date:
Project Acct #:
CV Drawing #:

Notes:

1. The following items are outstanding and must be completed prior to the City of Chula Vista Landscape Maintenance acceptance. If the following items are incomplete then turnover will be extended until the first of the next month and so on, until they have been completed.
2. It is the responsibility of the contractor to request inspections. Failure to call the Senior Landscape Inspector may result in rejection of an installed item. The inspector's phone number is located at the bottom of this card.

Controller:

Sta.	Date	Description	Sta.	Date	Description
1			27		
2			28		
3			29		
4			30		
5			31		
6			32		
7			33		
8			34		
9			35		
10			36		
11			37		
12			38		
13			39		
14			40		
15			41		
16			42		
17			43		
18			44		
19			45		
20			46		
21			47		
22			48		
23			49		
24			50		
25			51		
26			52		

Senior Landscape Inspector
Dave DeFacci (619) 409-5432

REVISED 02/2020