

Sample Punch List

*This document is provided primarily for landscape contractors who have not previously worked with Garth and would like to know what issues are frequently addressed by site observation visits during construction. The letter shows many possible deficiencies and is **much** longer than normal.*

Garth Ruffner Landscape Architect (916) 797-2576

I visited the site on Tuesday to determine whether the landscape work was substantially complete and ready for the start of the 60 day maintenance period. My observations and comments follow:

I. ROUGH GRADING

A. Planter Soil

1. The planter soil in one planter (see the attached "Landscape Corrections" sheet) does not appear to meet the 24" minimum depth specified in Section 02920, Part 3 "Compacted Planting Areas". The planter must be excavated and backfilled with approved planting soil.
2. Some of the planter soil contains unacceptable amounts of large rocks and debris. Remove all rocks larger than 2 inches which are visible on the soil surface. See Specification Section 02920, Part 3 "Soil Preparation".

B. Drainage

1. The drain inlet north of the building entry is set too high for adequate landscape drainage and must be lowered.
2. The flow line of the vegetated swale does not slope consistently toward the drain inlet. The swale must be re-graded to provide positive drainage.

II. IRRIGATION

A. Point of Connection

1. The filter and pressure regulator must be installed per Detail A, Sheet L1.
2. Install the specified fertilizer injector per Detail B, Sheet L1.

B. Controller

1. Install 110v wiring in conduit with a duplex box (with a switch) in accord with Detail C, Sheet L1.
2. Connect the remote control valves to the controller in the sequence shown on the Irrigation Plan.
3. The rain switch must be installed as indicated on the Plan.

C. The quick coupling valves must have gravel placed in the bottom of the boxes per Detail A, Sheet L3.

D. Remote Control Valves

1. Install ball valve cut-offs upstream of the valves in accord with Detail B, Sheet L3. This allows the remote control valve to be serviced without shutting down and draining the mainline.
2. Pressure regulators must be installed on all the drip valves as indicated in the Irrigation Legend, Sheet L1.
3. No gravel was placed in the bottom of the valve boxes. Install gravel under the valves to a depth of 3 inches in accordance with Detail B, Sheet L3.
4. The foundation bricks under the valve box were omitted. The bricks prevent settling of the valve box over time and must be installed.
5. Valve station tags must be installed. See Specification Section 02810, Parts 2 and 3 "Valves".
6. Install a 6' length of hose on the flush ends of all filters per Detail C, Sheet L3.

E. Rotor Heads

1. Adjust the arcs and throws of rotors to prevent over-spray onto pavement and structures.
2. Check valves are required in several areas to prevent low head drainage. See Specification Section 02810, Part 3 "Sprinkler Heads".

F. Spray Heads

1. Variable Arc Nozzles (VAN's) were installed on many of the sprinklers where fixed arc nozzles would have been appropriate. VAN's use about 50% more water than fixed arc nozzles and the spray pattern is less consistent. Replace all VAN's where fixed nozzles would conform to the necessary arc.
2. Pressure regulating heads were not installed as indicated on the Irrigation Legend. With the high pressures found on-site, this results in nozzle "fogging" which can severely reduce irrigation efficiency, particularly during windy conditions. The specified heads must be installed.
3. Pop-up sprinkler heights were not consistent with the Plan. All 6 inch pop-ups must be replaced where 12 inch pop-ups are specified.
4. Several spray heads shown on the Plan were missing and must be added. See the attached "Landscape Corrections" sheet.
5. Adjust spray heads to proper height above finish grade per Detail I, Sheet L3.
6. Several nozzles need to be turned down to minimize over-spray onto pavement and structures.

G. Subsurface Drip Irrigation

1. Drip Tubing
 - a. The installed drip tubing was not the specified Toro DL 2000 tube. The Toro tubing is treated with an herbicide that has been found to prevent root intrusion into the underground emitters. The installed

- product does not have this protection and has been shown to be vulnerable to blockage due to root intrusion and is therefore not acceptable. All the drip tubing on the site must be as specified.
- b. The spacing of tubing exceeded the 21" minimum shown on the Plan. Re-space tubing as required to meet the minimum spacing.
 - c. The distance between the tubing and edge of the planter exceeds the 4-6 inches indicated in Specification Section 02810, Part 3 "Drip Irrigation". The heat absorbed by adjacent pavement dries the soil faster than interior portions of the planter. Relocate tubing to the specified location.
 - d. The manifold connecting the supply lateral and the drip tubing was not installed with a flexible p.v.c. riser in accord with the "Drip Riser" Detail. No rigid pipe can occur within 12 inches of finish grade in drip irrigated areas.
2. Air Relief Valves (see Detail G, Sheet L3)
- a. Install in all the drip planters per Plan. These valves allow air into the drip tubing as water drains through the emitters while the system shuts down. Without the air relief valve, air is sucked through the higher emitters, potentially drawing debris into the tubing.
 - b. Air relief valves must have gravel placed in the bottom of the boxes.
3. Flush Valves (see Detail H, Sheet L3)
- a. A 3' depth, geotextile lined sump is required for all flush valves.
 - b. Attach a 2' length of p.v.c. flex hose to the flush end and coil in the valve box. The hose allows for manual flushing without flooding the box.
 - c. Valve boxes for flush valves must be 12 inches in diameter (this allows the flush hose to be coiled without kinking).

III. **PLANTING**

- A. Soil Preparation: Soil additives were scattered over the soil surface and were not adequately tilled in. All additives must be tilled into the soil to a depth of 6 inches per Specification Section 02920, Part 3.
- B. Finish Grading
 - 1. A 2% minimum slope must be maintained away from structures (see Specification Section 02920, Part 3 "Finish Grading").
 - 2. The finish grade must be adjusted to 1 inch below adjacent pavement.
- C. Weed kill operations do not appear to have occurred before planting. Specification Section 02920, Part 3 "Weed Kill" calls for a 14 day, irrigated weed germination period followed by application of a non-selective herbicide. This procedure can drastically reduce future weed related maintenance and must be implemented.

- D. Trees (see Detail A, Sheet L2)
1. Trees in turf areas must have a 3 foot diameter circle cleared and mulched around the trunks.
 2. The trunk and branch structure of the Zelkova tree northwest of the building is unsatisfactory and the tree must be replaced. Tree branching must be in accord with Specification Section 02950, Part 2 "Plant Materials".
 3. The roots on 2 of the London Plane Trees are badly kinked near the root crown and indicate a potential for future problems. These trees must be replaced (see the attached "Landscape Corrections" sheet). Tree root balls must conform with the criteria of Specification Section 02950, Part 2 "Plant Materials".
 4. Staking
 - a. Nursery stakes were left on the trees. These stakes can actually weaken the trunk over time and scar bark. All nursery stakes must be removed. Trees with small calipers which will not stand erect without nursery stakes may have additional pairs of tree ties added lower on the trunk. Trees with too much height or too little caliper to be supported by the specified staking system should be replaced.
 - b. The tree stakes were loose and do not provide support. The stakes should be a minimum of 10 feet in length when installed and be driven into the undisturbed native soil to a minimum depth of 6 inches.
 - c. Tree stakes protruded well beyond the highest ties. Stake tops should be cut off 2 inches above the highest tree tie.
- E. Shrubs and Groundcover
1. The health of some of the shrubs did not appear to be satisfactory. All shrubs which are dead or in a state of decline must be replaced promptly. See Specification Section 02970, Part 3 "Trees, Shrubs and Groundcover" and the attached "Landscape Corrections" sheet.
 2. Some discrepancies between shrub quantities on the Plan and in the field were noted. These discrepancies are noted on the "Landscape Corrections" sheet attached. Verify my field counts prior to ordering plants. Install the specified plants in the quantity delineated on the Planting Plan.
- F. Top dressing depths were often found to be less than the 2 inch minimum specified in Section 02950, Part 3 "Top Dressing". Top dressing should be added as necessary to meet the minimum depth.
- G. Erosion Control
1. Jute netting was substituted for the specified North American Green blanket. The installed netting is intended for short term use on construction sites and therefore is not equal to the two year life-span of the specified blanket (which contains slow degrading coconut fibers). The specified blanket must be installed throughout the site.

2. Erosion control blankets must be installed on all areas planted with *Carex* (bio-swales) and all slopes steeper than 4:1 as specified in Note 5, Sheet L2 and in Section 02950, Parts 2 and 3 "Erosion Control Blanket".
- H. Weeding
1. Weeds were noted in moderate quantities in some shrub areas. All weeds must be removed.
 2. Many turf areas contained unacceptable densities of weeds. Spray turf with a selective herbicide or hand pull weeds in accord with Specification Section 02970, Part 3 "Turf".
- I. Significant amounts of litter were present in the planters. Section 02970, Part 3 "Trash Removal" requires the removal of litter from planters every 7 days until Final Acceptance.

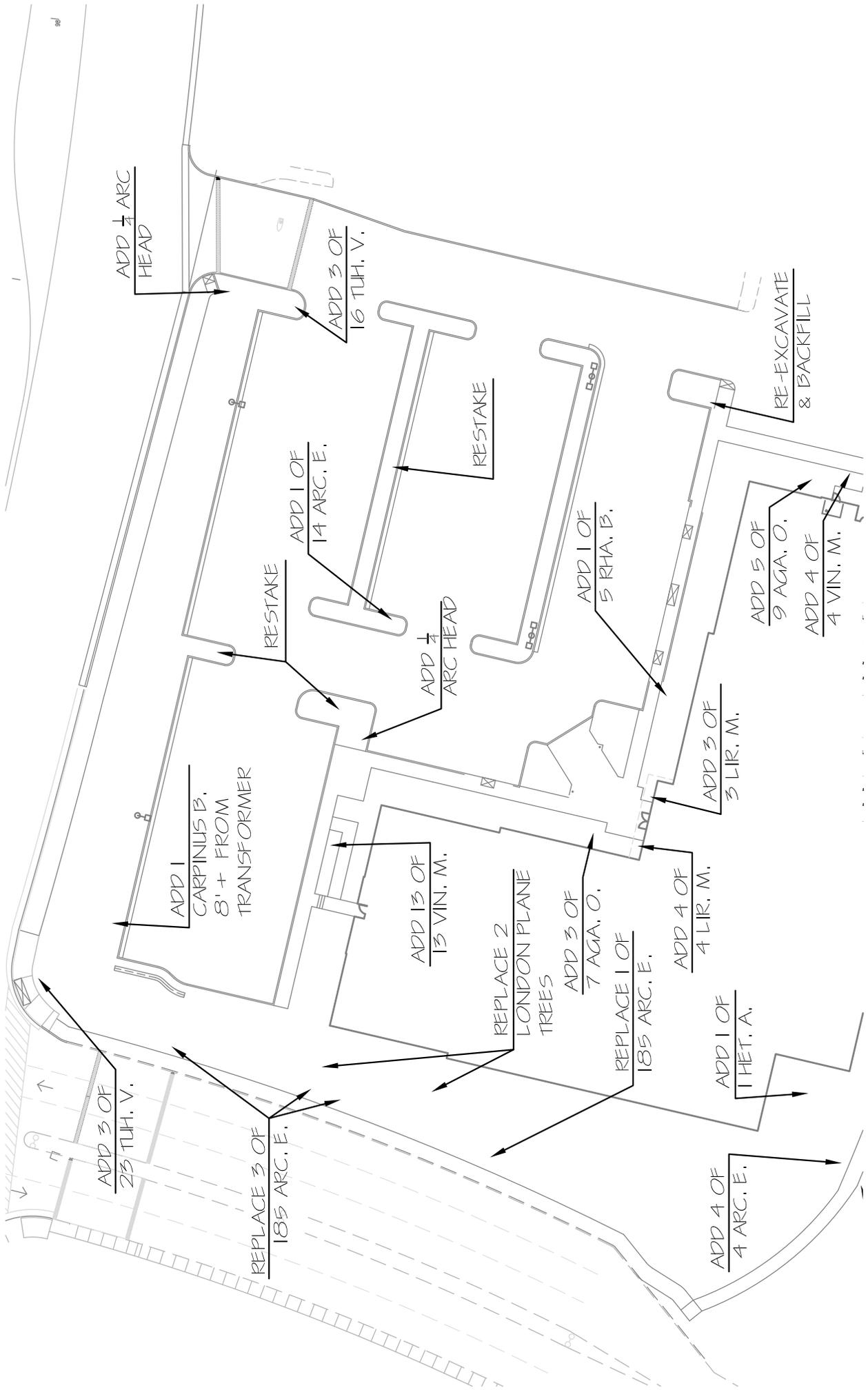
The landscape work is substantially complete, in my opinion. I recommend that the 60 day maintenance period be authorized to commence as of the day of the walk-through providing that the items above are completed within 10 working days.

At the close of the maintenance period, the Landscape Contractor must deliver the items noted in Specification Section 02810, Part 1 "Submittals" and the plant guarantee form found at the end of Specification Section 02970, to the Owner's Representative.

Please call me if you have any questions or concerns.

Best regards,

Garth Ruffner
Landscape Architect #2808



LANDSCAPE CORRECTIONS - NORTH THE CORPORATE CENTER PHASE 2

SHEET NUMBER:
LC1

JOB NUMBER: 24045
DATE: JUL, 23, 2009
SCALE: 1" = 50'

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