**Purpose and Need:**

Roadside Development (RD) plansare parts of Agency construction document sets. Like all Agency plans RD plans are expected to be thorough, complete and accurate. To that goal we are introducing this Quality Control Plan. It is designed to be simple, intuitive and verifiable.

1. Designer Check List – Designers will be expected to consider and respond to each item on check list. Items on the check list will include

* Site research items to be reviewed
* List of items required by permit to be on plans
* Design items approved for inclusion in Project Plans by all stakeholders, external and internal including Maintenance.
* List of items required by Specifications to be on plans
* List of site risks that need to be addressed (steep slopes, waterways, wetlands etc.)
* Guidelines for graphic conventions are followed.
* Signature and date are provided by designer and reviewer.

Check list will become part to the Project’s QA/QC file. It will be cross referenced against construction documents by reviewer and initialed by both designer and reviewer.

Completed check list will be printed to PDF and filed in the ProjectWise QA/QC directory.

1. Roadside Development Plans Review – A person of equal or greater experience as the designer will review plans as follows:

* Design Review – Opportunities and risks addressed are guided by Designer Checklist and include:
* Safety (obstructions in clear zone.)
* Safety (sight lines – driveways, shrubs, trees, signs, posts, mailboxes etc.)
* Safety: vegetation (shade on pavement[ice], hazard tree species, aggressive roots, large leaves (block drainage), brittle wood, proximity to clear zone)
* Vegetation: maintenance (Designed for maintenance? Homeless camp, Mower access, Maintenance parking, Water available (QCV), etc.)
* Aesthetics (preserve views to and from project, frame views, enhance appearance of structures, screen structures, supports Oregon’s sense of place etc.)
* Local Agency directives
* Maintenance issues addressed (Compliance with directives, address areas too steep to mow, etc.)
* Right plants (no large leaves, shade (ice) on pavement, limb drop, aggressive roots, invasive species, scale of plant for project, Site adapted, material availability, sense of place, etc.)
* Pursues opportunities (trees, shrubs wildflowers on steep slopes and beyond clear zone, pollinator habitat, carbon sequestration, side paths, enhancement etc.)
* Verify materials availability & reasonable cost (wildflower seeds especially).
* Irrigation plans review
* Adequate pressure at most distant head
* Adequate volume at pressure (Pressure reducing valve?)
* Pipes sized to keep flow below 5 FPS
* Hydraulic calculations performed
* Equipment choice validated by maintaining agency
* Sensors and master valve (“smart” system)
* Details for all equipment used
* Power for controller verified
* 2 wire system?
* Evapotranspiration monitoring (weather station connected?)
* Technical review shall be conducted by qualified reviewer of equivalent or greater experience, on paper copies of plans and be performed as follows:
* Graphic conventions followed
* Reviewer marks technical revisions, graphic errors, spelling and syntax errors.
* Reviewer cross references pay items on plans against bid list
* Reviewer reviews Special Provisions for agreement with plans
* Reviewer makes edits and additions in red pencil
* Reviewer marks deletion in green pencil
* Reviewer provides notes to designer in blue pencil.
* Designer will take reviewer’s mark-ups as guidance and address each input.
* Edits are made to plans in response to reviewer’s comments on paper plans and as each comment is addressed on Base File or Plan Sheets, the designer/drafter marks over the comment in yellow highlighter.
* Designer is empowered to take no action on reviewer’s comment, but must acknowledge that comment is considered with note on reviewer’s plan set and yellow highlighting over the comment.
* Designer/drafter initials marked up plan set as “comments addressed”
* Reviewer back checks corrected plans against marked up plans. Reviewer marks over yellow highlight with blue highlight to affirm each comment is addressed. (resulting highlight color is green)
* If corrections are not made to reviewer’s satisfaction, the mark up set may be returned to designer/drafter for further correction
* When satisfied, reviewer initials marked up plan set as “back checked”
* Color PDF of markup and initialed plans will be printed
* Color PDF of markup and initialed plans will be filed in project directory in ProjectWise.
* Construction document plans will go through review process at Advance and Final milestones
* Special Provisions will go through review process at Advance and Final milestones.
* Markup, correction, back check and initial for Special Provisions will follow the same process as with plans.
* Printing markup Special Provisions at both Advance and Final milestones, to PDF and submitting PDFs to project file in ProjectWise will follow the same process as with Plans.
* Bid list will go through review process at Final milestone
* Markup, correction, back check and initial forbid list will follow the same process as with plans.
* Printing markup bid list to PDF, at Final milestone, and submitting PDFs to project file in ProjectWise will follow the same process as with Plans.

DESIGNER\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

REVIEWER\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_