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Landscape Architecture PS & E Guide

SECTION 1

Project PS&E Progress Check List

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This checklist is a compilation of information from several District Landscape Architecture offices. It is intended to serve as a tool during project design, preparation of the plans, specifications and estimate (PS&E). Customize the check list, insert due dates and document progress of the PS&E development. Doing so will contribute to quality assurance of contract documents that are biddable and buildable.

Project PS&E Progress Check List

1. Preparation of Layouts

Date Due: _____

E.A. _____

Route _____

PM's Begin / End _____

PM's Begin / End (Additional Route) _____

Follow Standards in the Landscape Architect PS&E Guide and Plans Preparation Manual
(This work may be performed during Project Report phase for Preliminary Design Plan)

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Begin Base Sheets		
Order files from Photogrammetry, CADD Archives, CT Project Engineer, or Surveys		
Develop from strip map		
Obtain Programming Document with HQ Submittal Deadline		
Project Update Report (check with Project Manager)		
Obtain Base Sheet Information		
Contract Plans, As-builts (most current), Aerial Photos		
Sources: Reduced Plan sets, Map Files, Landscape Architect database, Project Engineer, Project Landscape Architect		
Prepare Base Sheets		
Request metric conversion		
Perform cleanup of electronic plan sheets		
Digitize if necessary		
Delineate Layouts		
Water Sources		
Drainage Facilities / Contours		
Roadway		
Utilities		
Existing Planting & Irrigation		
Existing & Proposed Irrigation Crossovers		
Gates		
R/W		
Verify Right of Way (R/W Maps)		
Relinquishments, Construction Easements, Air Space		

1. Preparation of Layouts continued

Item of Work	Notes & Due Dates	Done
Design Coordination: Coordinate with <u>Design</u> (Project Development) PDT, LAP Coordinator, <u>Maintenance</u> : Adopt-A-Highway Permits, Maintenance Liaison (Request services early)		
<u>Landscape</u> SWPP / Erosion Control, Consultant		
<u>Oversight Projects, Landscape Planning</u>		
<u>Traffic Safety</u> Construction Area Signs		
<u>Electrical Irrigation</u> electrical service		
<u>Structures Mechanical & Electrical</u> Booster Pumps		
<u>Hydraulics</u> Watershed & EC issues		
<u>NPDES*/Stormwater Coordinator</u> Stormwater & EC Issues		
Delineate Title Sheet (<i>See Section 3</i>)		
Print Title Sheet and Base Sheets for Field Check		

*National Pollutant Discharge Elimination System

Perform Field Check with Maintenance

(Any existing or needed conditions relevant to design)

Item of Work	Notes		Done
	<i>E = Existing / P = Proposed</i>	<i>E P</i>	
Gates / Fences			
Type walk / drive			
Location / Condition			
Height / Width			
Safety Item - Are additional walk or drive gates needed?			
Soundwalls			
Type / Location			
Height / Width			
Shoulders			
Type			
Width			
Curbs & Dikes			
Type			
Location			
Guardrails			
Type			
Location			
Slope Paving			
Type			
Location			

Perform Field Check with Maintenance continued

<i>Item of Work</i>			<i>Notes</i>	<i>Done</i>
<i>E = Existing / P = Proposed</i>				
	<i>E</i>	<i>P</i>		
Median				
Planted				
Paved / Unpaved / Width				
Fenced / Not Fenced				
Median Barrier Type				
Cable / Fence				
Drainage				
Gores, Islands				
Type Material				
Location Paved: part / whole				
Screenings				
Safety Item – Is additional paving needed?				
Misc. Paving (narrow strips)				
Type Material				
Location				
Maintenance Vehicle pullout areas (Existing / Proposed Locations)				
Type Material				
Location / Size				
Walks				
Type				
Location				
Size				
Ditches (paved / unpaved)				
Type				
Width				
Length				
Location				
Flow Lines				
Location				
Direction				
Apparent Debris				
Catch Basins – drop inlets				
Locations				
Slopes				
Grade				
Cut / Fill Lines				
Material				
Erosion problems				

Perform Field Check with Maintenance continued

<i>Item of Work</i>			<i>Notes</i>	<i>Done</i>
<i>E = Existing / P = Proposed</i>	<i>E</i>	<i>P</i>		
Soils				
Types				
Conditions				
Locations				
Rock Outcroppings				
Existing Vegetation				
Noxious Weeds (Types)				
Locations				
Natives				
Locations				
Ornamental Vegetation				
Locations				
Invasive Plant Materials				
Locations				
Safety Item – Is Removal or pruning of plants needed for sight distance?				
Seepage				
Locations				
Signs				
Type				
Location				
Size				
Billboards				
Location				
Structures				
Type				
Location				
Aesthetic Treatment				
Columns				
Location				
Buried Pavement, Concrete, Rock				
Location				
Utility Power poles/towers/lines & underground vaults				
Locations				
Planting under / near				
Utility Easements				
Location				
Water and Gas Lines				
Locations				

Perform Field Check with Maintenance continued

<i>Item of Work</i>			<i>Notes</i>	<i>Done</i>
<i>E = Existing / P = Proposed</i>				
	<i>E</i>	<i>P</i>		
Waterline Crossovers				
Type				
Location (Under pavement / on or in bridge)				
Size				
Any repairs needed?				
Water Meter				
Size				
Location				
Water Pressures				
Static pressure at backflow preventers				
Is pressure adequate?				
How many impact or gear driven sprinklers are turned on at one time on each system?				
Backflow Preventers				
Types				
Locations				
Sizes				
Automatic Irrigation system				
Is existing working properly?				
Condition of components				
Do controllers meet the needs of system to be designed?				
Booster Pump?				
Existing Mains – Type				
PVC				
ACP				
GSP				
Other				
Existing Type of Control Valves				
Types / Locations				
Are they in working order?				
Reduced Pressure Type? Or Standard?				
W / Wye Strainers or Filters?				
Quick Couplers?				
Cam Couplers?				

Perform Field Check with Maintenance continued

<i>Item of Work</i>			<i>Notes</i>	<i>Done</i>
<i>E = Existing / P = Proposed</i>				
	<i>E</i>	<i>P</i>		
Sprinklers				
Types / Locations				
Are they in working order?				
Impact Heads?				
Spray Heads?				
Bubbler Heads?				
Drip Emitters?				
Existing Nozzle Lines?				
Has the System been modified by Maintenance since it was constructed?				
Should a RICS system be installed?				
Homeless Encampments				
Location				
Security				
Clearing				
Adjacent Development				
Type				
Location				
Relationship to surrounding area				
Complaints from adjacent property owners or the public?				
Community involvement effort?				
Revise Layouts from Field Checks				
Revise Title Sheet if necessary				

2. Background Data / Coordination Items

Date Due: _____

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Begin Design Studies – Preliminary Design <i>(See Sections 4 and 5)</i>		
Review Project Report		
Review Stormwater Data Report		
Review Environmental Documents		
Review Commitments & Agreements w/stakeholders		
Review Design Guidelines & References		

2. Background Data / Coordination Items continued

Item of Work	Notes & Due Dates	Done
Begin Design Studies – Preliminary Design continued		
Develop Plant Palette / Irrigation Scheme		
Plant species should be proven to be successful in highway applications for long life and ease of maintenance		
Irrigation systems should be simple and easy to operate and maintain		
Delineate and / or incorporate Setbacks		
Recovery Areas / Sight Distance		
Design for Safety features		
Develop a clear understanding of the needs of all stakeholders		
Planting design simple and appropriate for viewing at highway speed		
Address all soil areas. Use mulch, inert materials or plants that will fill in within 3-4 years		
All gores and slopes under structures should be paved		
Provide a road edge treatment to reduce or eliminate weeds adjacent to the pavement		
Think “end result” . . . what will your project look like in 5 years, 10 years, or 20 years		
Design for the least amount of long-term maintenance possible. Consider the possibility that no maintenance will be performed after the plant establishment period		
Determine Water Sources		
Existing Water Meters / Pressure – See Field Check notes		
Proposed Water Meter Locations / Anticipated Pressure (Local Water Company) – See Field Check notes		
Cost of Meters / Capacity Charge (Local Water Company) Get will “serve letter” from local water district(s)		
Determine if Booster Pumps required		
Reclaimed Water		
Is it available?		
Is it planned in the future?		
Are there current water restrictions? If yes see: Project Development Procedures Manual, Chapter 29 – Landscape Architecture, Section 2 – Highway Planting, Part 3 – Specific Project Development Procedures, Article 4 – Project Development Process, Plans Specifications, and Estimate (PS&E), Ready to List (RTL) Certification – Water For Planting And Irrigation Work		

2. Background Data / Coordination Items continued

Item of Work	Notes & Due Dates	Done
Identify Environmental Mitigation Requirements		
Review Permits		
Determine constraints, restrictions, requirements		
Local / Resource Agency Involvement		
Coordination with Caltrans Biologists		
Obtain Request Utility Verification from Right of Way	Allow 4 months lead time or longer depending on District	
Attach 6 copies of strip map (Title Sheet) and base sheets showing project limits (Check district requirements for number of copies).		
Obtain Railroad Clearance (if any involvement) <i>(See Policy Memorandum – Railroad Involvement and Clearance)</i>		
Identify Aerially Deposited Lead (ADL) Test	Allow 6 months lead time for new testing or longer depending on District	
A. Obtain recent test results (From Project Report, Project Engineer, Environmental Engineering),		
OR		
B. Request ADL testing for project limits from Environmental Engineering.		
Coordinate with PDT: Project Engineer (PE) (primarily with Roadway Support Projects) and Maintenance Liaison (M), Environmental (ENV) the following:		
Mitigation Requirements – PE/ENV		
Environmentally Sensitive Areas – ENV		
Noxious Species – ENV		
Irrigation Crossovers – PE / M		
Electrical Design Support for Elec. Service – PE		
Water Meters / Availability – PE / M		
Soundwall Aesthetics / Structural Aesthetics – PE / M		
Erosion Control / SWPP – NPDES*		
Utility verification – PE		
Gore area paving – PE / M		
Maintenance Vehicle Pullouts – PE / M		
Maintenance Access Gates – PE / M		
Other Maintenance Access (Soundwalls, etc.) – PE / M		
Other Maintenance commitments – M		

* National Pollutant Discharge Elimination System

3. Preliminary Design

Date Due: _____

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Begin Preliminary Design		
Review Preliminary Design with Project Manager & LAP Coordinator		
Coordinate with Resident Engineer: any Contract Change Orders (CCO's) to roadway contract, following a recent project		
Request Booster Pump Design – DES_EMW&W (Structures) (See Policy Memorandum – Booster Pump Design)	(6 months lead time)	
Request Irrigation Facilities on Structures – DES-Structures (See Policy Memorandum – Irrigation Facilities Installation on Structures)	(4-6 months lead time)	
Track R/W Utilities for Progress		
Request Electric Design (PS&E) District Electrical		
Identify Irrigation Controller Locations		
Coordinate with Booster Pump Request (See Policy Memorandum – Booster Pump Design)	(Check lead time)	
Request Construction Area Signs (District Traffic)	(3 months lead time)	
Request Lane Closure Charts (District Traffic)	(Check lead time)	
Conduct Field Reviews (Project Development Team) (30% Design) including but not limited to:		
Project Landscape Architect		
Project Manager		
District Landscape Maintenance Liaison		
Maintenance Supervisor		
Project Biologist for Mitigation Projects		
Construction		
LAP Coordinator		
City Representative when applicable		
Revise Plans based on Reviews		

4. Project Plans

Date Due: _____

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Prepare Draft Highway Planting Plans		
Highway Planting Plans with Area Callouts		
Plant List & Notes <i>(See Section 4)</i>		
Removal Plans (Planting / Irrigation)		
Aerial Lead Disposal Sites (if necessary)		
Irrigation Plans & Notes <i>(See Sections 5, 6 & 7)</i>		
Sprinkler Schedule & Details <i>(See Section 6)</i>		
Irrigation Quantity Sheets (Hwy. Planting Projects only) <i>(See Section 8)</i>		
Final Title Sheet (Hwy. Planting Projects only)		
Determine which Standard Plans required <i>(See Section 9)</i>		
Review non-standard special provisions needs with LAP Coordinator <i>(See Policy Memorandum on – Proper Use of Standard and Non-Standard Special Provisions)</i>		
Make Prints		
Prepare Quantity Counts: <i>(See Sections 8 & 10)</i>		
Plants		
Plant Hole Items (Soil Amendment, Iron Sulfate, Fertilizer, etc)		
Mulch (organic & inert)		
Area Items (Soil Amendment, Iron Sulfate, Fertilizer, etc)		
Irrigation		
Gore Paving, MVPs & Misc. Paving		
Constructability Review – Review Plans with Project Landscape Architect, Maintenance and LAP Coordinator (65% Design) (Check district for their timing and procedures).		
<i>Submit Plans for Agency / Community Review</i>		
<i>Revise Plans based on above comments</i>		

5. Specifications – SSP’s (Standard Special Provisions) *(See RTL Guide)*

Date Due: _____

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Prepare Draft SSP's		
Download most current SSP's from DES-OE Server (Check for changes monthly)		
Use current 'Template' from DES-OE Server		
Determine if Aerial Lead will require low-level treatment or special handling (based on test results and variance)		
Compile SSP's into one document		
Print; perform redline editing/electronic edit. <i>(See RTL Guide)</i>		
Initiate Non-standard SSP process (This should be done around 65% Design Completion).		
Determine if new or heavily revised SSP used.		
Non-standard items (special provisions) of work must be justified and receive concurrence from the applicable Headquarters functional program and District Construction prior to submitting the project to ES-OE. Allow at least 2 weeks for a review by Headquarters functional program and 2 weeks for District Construction. After obtaining approval from the owner(s) and District Construction, email copies of the approvals, the NSSP, and the justification summary to "HQ Construction Engineering" for independent assurance (IA). If the specification owner is HQ Construction, it is not necessary to also obtain approval from District Construction, and to resubmit a copy for IA.		
Approval to use sole source items must include justification and approval of the District Director or a specifically delegated District Deputy Director.		
All federally funded projects must have FHWA approval if less than three sole source items for a product or material are specified. A Public Interest Finding (PIF) must be submitted to the Department's Federal Resources Office, Division of Budgets, to obtain approval before submitting the PS&E to DES-OE.	<i>(See RTL Guide for more details)</i>	
Select Standard Plans & Edit (SSP StdPln) <i>(See Section 9)</i>		
Review SSP's with Project Landscape Architect		
Incorporate Revisions & Print		

6. Initial Review – DOE (and LAP Coordinator)

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Submit Plans and SSP's to DOE (Log-in)	<i>Date Due:</i> _____	
Submit PS&E to LAP Coordinator for Review		
Respond to Written Comments / Revise Plans & SSP's		

7. Estimate – BEES (Basic Engineers Estimate)

Date Due: _____

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Prepare Preliminary Estimate <i>(See Section 10)</i>		
Use LAP form: Highway Planting Estimate or Roadway Support Estimate		
Obtain recent contract prices for examples & use Contract Cost Data		
Quantity Counts as listed above & on Irrigation Quantity Sheets		
Include Supplemental Work items and State Furnished items.		
Prepare BEES		
Determine if a "Segregated BEES"		
Read BEES Help Manual & use a "sample"		
Develop accurate BEES		

8. Cover Memorandum *(See RTL Guide)*

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Gather all project info.		
Enter information on paper copy and give to DOE or enter into database & print per District procedures		

9. District & HQ PS&E Circulation

Date Due: _____

Note: Plans, Specs & Estimate, Cover Memorandum to be packaged for Circulation

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Repro. reduced & full size plan sets per district procedures		
Repro. SSP's, Memorandum, BEES		
Prepare Review packages with Route Slip		
Prepare Cover Memorandum (if necessary for your District)		
Circulate in District: Units specific to your project		
Circulate to HQ for Review: LAP, HQ Maintenance		
Forward Package to Local / Other Agencies		
Review PS&E with Project Landscape Arch.		
Request for Final R/W Certification (when R/W Utilities record.)		

10. District / HQ Comments & Responses

Date Due: _____

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Track Review Packages & Returns		
Respond to Questions		
Resolve of Conflicting Concerns / Comments: may require meetings		
Incorporate Revisions from District / HQ Review Comments		
Perform PS&E Review / Quality Check		
Plans: Check that plan quantities are accurate & plans are consistent with "Project Plan Standards"		
SSP's: For every estimate item, an SSP. Match item & SSP label.		
Estimate: A pay item for every type of work. Tie SSP to this pay item, verbatim		
Re-circulate to any District functional units / HQ with major comments		
Re-circulate revised PS&E to units with final sign-off: Electrical, Traffic & Mechanical		

11. DOE Comments & Response

Date Due: _____

Item of Work	Notes & Due Dates	Done
DOE / LAP Reviewer		
Written Comments / Respond to Comments		
Revise PS&E if necessary		
Re-submit to DOE		

12. Submit Final PS&E to HQ (See RTL Guide & follow District procedures)

Appointment Date: _____

Item of Work	Notes & Due Dates	Done
Revise PS&E; Final Plan check with Project Landscape Architect		
Reproduction		
Packaging of electronic PS&E Submittal (Views & plot files)		
Edit Final SSP		
Formatting SSP's for DES-OE		
Refine Estimate – quantity prices, items & print		
Request for Funds to Budgets (have LAP Coordinator review prior to submittal)		
Prepare Landscape Architect's Certificate of High Risk Utilities Be sure high-risk utilities are shown on the plans correctly. (See Project Development Procedures Manual Appendix LL – Utilities – Section 10)		
Prepare Cover Memorandum (DOE Prepares depending on District procedures) (See RTL Guide for general information)		
Refine information		
Print hard copy		
Obtain appropriate signatures (DOE, Electrical, District Director, District Landscape Architect or Project Manager)		
Prepare Export file on an electronic copy		
Prepare Drafting Standards Checklist (DOE Prepares)		
Prepare CADD Submittal Sheet (DOE Prepares)		
Prepare Signature Seal Sheet for SSP's (Project Landscape Architect Prepares)		

12. Submit Final PS&E to HQ continued

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Prepare & Finalize PS&E Documents: Request for Funds, Fact Sheet, R/W Certification, Justification Letters for Non-Standard items, Non-Standard SSP Approval, Landscape Architect's Certificate of Utilities, Design Intent Statement, Permits: All permits must be final and included with each package		
Review Final PS&E Package with Project Landscape Architect		
Perform Final DOE Review (3rd, Final Log-In) This should be a brief review to check for completeness of package and seal Signatures: DOE, Electrical (DES-OE / DOE), Mechanical (DES-OE), Project Landscape Architect, District Director, Project Manager		
Make Revisions if Necessary		
Reproduce Final PS&E and Documents		
Prepare Electronic Submittal/Originals to be Submitted to HQ per Submittal Checklist		
Perform Final OE Reviewer Check for completeness		
(May be necessary to submit Resident Engineer (R.E.) File with Submittal, or see Post-Submittal)		

13. Post-Submittal

<i>Item of Work</i>	<i>Notes & Due Dates</i>	<i>Done</i>
Prepare Resident Engineer (R. E.) File – 2 copies Include the following: (See Section 12)		
Project Landscape Architect, designer (phone numbers)		
Design Intent Statement		
Project R/W, utility plans and correspondence		
BEES (including supplemental items) Quantity calculation sheets (not a summary)		
Irrigation, Electrical, Site Furnishings and other product sheets		
Nursery Contacts & Sources of Special Plants		
Water service contracts (names and numbers) Meter Request forms, fees, pressure calculations		
Crossovers, pipe on bridge, bridge attachments, aesthetics, special instructions		
Permits (Dept Fish & Game / Army Corp, etc.), Cooperative Agreements		
Special Water Pollution Control (WPC) (less than one acre) and Stormwater Pollution Prevention Plan (SWPPP) (one acre or more) requirements		
City / County correspondence, Citizen information, news Comments and special instructions		
Prepare Color Sample Chart / other graphic Sample Charts for Bid Period		
Log Project out with Programming		
Review with DES-OE / or LAP Reviewer		
Respond to comments		
Clarification of any design or other issues		
Submittal from designer of DES-OE requested plans, SSP's		
Prepare Addendum if major issue		
C.C.O. if appropriate after Award of Contract		
Track Ready to List (RTL) Dates, Advertisement		
Be Prepared for Contractor's Questions – Bidder inquiry, check with construction.		
Prepare any Needed Plans, Specifications, Estimate, and Memorandum for Contract Change Order		
Coordinate Request for Field Construction Reviews with Design, Maintenance and Construction		
During layout of irrigation		
Completion of installation		
Towards end of plant establishment		