ATTENTION! There are a number of items in this appendix that need to be updated—especially in the areas of funding and programming, delivery schedule, risks, and external agency coordination. Until this appendix is updated, please see Appendix K for the discussion of these topics and discuss any issues with the Headquarters SHOPP program manager or advisor.

APPENDIX E – Preparation Guidelines for Project Study Report Data Sheet (New Highway Planting or Highway Planting Restoration)

Table of Contents

APPENDIX E – Preparation Guidelines for Project Study Report Data Sheet (New Highway Planting or Highway Planting Restoration) E-3
ARTICLE 1 Overview E-3
Use of Project Study Report Data Sheet (New Highway Planting or Highway Planting Restoration) E-3
ARTICLE 2 Outline E-4
General E-4
Front Matter E-4
Item-By-Item Guideline for PSR Data Sheet E-5
Cost Breakdown for Estimate E-15
Project Support E-15
Comments E-15
Attachments E-16
ARTICLE 3 Priority Rating Sheets E-16
New Highway Planting Projects E-16
Highway Planting Restoration Projects E-18
ARTICLE 4 Guidance for Cost Justification for

Non-Potable Water Use Form.....E-23

Table of Figures

Figure E-1 CTC Project Category List.....E-22
Figure E-2 Average Daily Traffic (ADT).....E-23
Figure E-3 Cost Justification for Non-Potable Water Use – English Units.....E-25

APPENDIX E – Preparation Guidelines for Project Study Report Data Sheet (New Highway Planting or Highway Planting Restoration)

ARTICLE 1 Overview

Use of Project Study Report Data Sheet (New Highway Planting or Highway Planting Restoration)

A project initiation document is required for the programming of all candidate Major projects. A project study report (PSR) data sheet satisfies this requirement for both highway planting restoration and new highway planting projects.

This appendix provides instructions for preparing PSR data sheets for both highway planting restoration and new highway planting projects. State Transportation Improvement Program (STIP) candidate projects for New Highway Planting (20.20.075.600 or 20.20.025.700) should use the PSR data sheet "New Highway Planting." Candidate projects in the State Highway Operation and Protection Program (SHOPP) Roadside Rehabilitation, Highway Planting Restoration (20.20.201.210) program should use the PSR data sheet "Highway Planting Restoration." Detailed information regarding project initiation documents is provided in Chapter 9 – Project Initiation.

The following instructions are provided for completing the PSR data sheet, available from the Headquarters Landscape Architecture Program (LAP). Filling out the electronic version of this form automatically fills in fields in both the PSR data sheet and the priority rating sheet. The electronic version also automatically calculates quantities and converts English to Metric units of measurement. A copy of these forms is provided in this appendix, for illustration purposes. The form may be submitted to the Headquarters Landscape Architecture Program in either electronic or paper format.

Discuss any exceptions to mandatory and advisory design standards. Proposed exceptions must be approved following the procedures in Chapter 21 – Exceptions to Design Standards.

Priority rating sheets must be submitted along with the PSR data sheet for all new highway planting and highway planting restoration projects to be placed on the candidate project list. Refer to Article 3 for guidance on determining priority ratings as well as filling out the priority rating sheet.

ARTICLE 2 Outline

General

Prepare the PSR data sheet using the appropriate electronic form available from the Headquarters Landscape Architecture Program district coordinator. Each topic heading provides instructions for the corresponding section in the PSR data sheet form. Each of the topics are to be addressed in the PSR data sheet.

Front Matter

Cover Sheet

Cover sheets are required for PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration submittals. The cover sheet provides project identification information and signatures. A sample cover sheet is provided in this appendix. Cover sheets must include the following information:

- Title

  Use "Project Study Report Data Sheet-New Highway Planting" or "Project Study Report Data Sheet-Highway Planting Restoration" as appropriate.

- District–County–Route, Post Mile [Dist–Co–Rte, PM]

  The post mile provided should be accurate to the nearest 0.1 mile. If the project is 0.2 mile or more in length, state both the beginning and ending post mile.

- Expenditure Authorization (EA)

  The multiphase EA, using the "K" phase for the project.

- Program Code

  The program code as provided in the programming document or project scheduling plan that indicates the type of work involved. Use program code 40.50.075.600 (regional) or 40.50.025.700 (interregional) for preparation of PSRs (K Phase) for New Highway Planting projects. Use program code 40.50.201.210 for the preparation of PSRs for Highway Planting Restoration projects.

- Vicinity Map

  A small map that illustrates the project location limits, and description, post miles, including a north arrow. Sufficient detail should be provided in the map that a person unfamiliar with the project could locate it at a glance. The map should display site features used to identify the project

limits such as roads, streams, junctions or railroads, the nearest town (unless too distant), together with a note that indicates the direction and name the nearest towns in the project vicinity.

- Project Description (Limits)

  See the *Plans Preparation Manual*, Section 2-2.2 for guidance in developing the project legal description. The project legal description is the same as the title sheet project description, such as: "In Los Angeles County…"

- Approval Recommended

  The recommendation for approval signed by the project manager, district landscape architect, district maintenance engineer, and district vegetation management committee chairperson indicating concurrence with the project as defined.

- Approved

  Approval of the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration by the District Director (or by a Deputy District Director to whom that authority has been delegated). Approval of the PSR data sheet authorizes programming of a candidate project.

Licensed Landscape Architect's Stamp and Statement

The stamp and signature of the licensed landscape architect in responsible charge is required for the approval of both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. The landscape architect must provide a statement that attests to the technical information and data upon which the recommendations, conclusions, and decisions in the PSR data sheet are based. Approval of a PSR data sheet is a management decision, separate from this signature of the landscape architect in responsible charge for technical project content. A sample licensed landscape architect's stamp and statement is provided in this appendix.

Item-By-Item Guideline for PSR Data Sheet

Date

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Include the date the project is circulated for review.

Prepared By

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Include the name of person preparing document.

Calnet

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Include the State phone system number of the person preparing the document.

Proj. Land. Arch.

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Include the landscape architect responsible for the PSR.

Priority Index No.

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. The "Total Project Priority Rating Index Number" from the priority rating sheet final calculation. This field is filled in automatically by the form.

CTC Project Category No.

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Enter the CTC Project Category Number for the candidate project from the CTC Project Category List. See Figure E-1.

STIP/SHOPP Proj. No. (PPNo)

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Indicate if the project is in the STIP or SHOPP. Upon request, district programming units will provide the PPNo.

Program Code

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Use the program code from the PSR data sheet cover sheet.

Total Estimated Project Cost

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Filled in automatically to match the value entered in the field titled "Call".

Base Estimate Date

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Use January of the current fiscal year.

Project Size in Acres (ac)

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. List the number of acres in the project area.

Cost Per Acre to State

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Calculated automatically by dividing the value listed in "Total Estimated Project Cost" by "Project Size in Acres".

Adjusted Cost Per Acre (ac)

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Calculated by subtracting the items marked with an asterisk (including a 25 % contingency for these items) from "Total Estimated Project Cost" and dividing by "Project Size in Acres". The value for "Adjusted Cost Per Acre" must be equal to, or less than, the "Maximum Cost per Acre" as established by the Headquarters Landscape Architecture Program for the project "Base Estimate Date".

Acres of Existing Planting

Required for the PSR data sheet-new highway planting only. Enter the number of acres of existing planting.

Estimated Payback Period

Required for the PSR data sheet-highway planting restoration only. Restoration is justified when capital costs can be recovered through maintenance savings in 12 years or less. Payback will be calculated by subtracting from "Total Estimated Project Cost" the total sum derived from traveler and worker safety items, water assessment fees, non-potable water transmission/supply lines, remote irrigation control systems, stormwater pollution prevention, resident engineer office, traffic control, and hazardous materials when applicable. Applicable payback items are those that do not relate to hazard reduction, safety, and etcetera. The payback will not be used in calculating the priority index number. Preliminary investigation is required for CTC Category 7 and 11 projects to determine if an acceptable (qualifying) payback period can be realized. If the project doesn't meet the payback criteria the project is not considered a valid project.

Dist., Co., and Rte

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Indicate the district, county(s) and route(s) in which the project is located. Abbreviate the county or counties as indicated in the *Plans Preparation Manual*.

PM

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. The post mile should be given to the nearest 0.1 mile; if the project is 0.2 mile or more in length, give both the beginning and ending post mile.

PM

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration.

EA

Required for both PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. The multiphase EA, using the "K" phase for the project.

Proposed FY

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Enter the program fiscal year (FY) for SHOPP or STIP funding.

Stage

Required for the PSR data sheet-new highway planting only. Mark "first stage" with an "X" if there is no existing planting within the project limits. If existing planting is located within the project limits, mark "second stage." Mark "portions" if planting only a portion of the project.

Plant Establishment Period

Required for the PSR data sheet-highway planting restoration only. Enter the number of years proposed for the Plant Establishment Period.

Project Description (Limits)

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Use the Project Description from the PSR data sheet cover sheet.

Deficiencies

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. State the deficiencies and provide justification for the proposed improvements. Provide sufficient detail to adequately describe the deficiencies.

Proposed Improvement (Scope)

PSR Data Sheet-New Highway Planting Projects

Provide a description of the scope of the proposed improvements. Discuss relevant New Highway Planting issues including vegetation placed for aesthetics, erosion control, mitigation purposes, wildflower planting, and irrigation systems. Provide a complete description of the scope of work with sufficient detail to describe the proposed work and how it relates to the purpose-and-need.

Describe proposed traveler and worker safety considerations including, but not limited to, the following:

- Removal or replacement of deteriorating trees or other plant material, and removal of plant material that encroaches upon required sight distances.
- Planting of vines or the use of textures on noise barriers and retaining walls to deter graffiti.
- Providing maintenance vehicle pullouts, maintenance access roads, and access gates for workers on foot or in vehicles.
- Placing mulch or installing rock blanket areas.

Describe proposed design for roadside management considerations including, but not limited to, the following:

- Providing paving beneath guardrails and signs.
- Providing paving for narrow areas.
- Paving of slopes beneath bridge structures.
- Providing additional gore paving.

The potential use of non-potable water must be addressed for each project, including availability, proposed use, staff training, and additional facilities that may be required such as transmission lines, booster pumps, and additional waterline crossovers.

PSR Data Sheet-Highway Planting Restoration Projects

Provide a detailed description of the scope of the proposed improvements. Indicate the predominant type of work from one of the following categories: Highway Planting Restoration, Highway Planting Revegetation, Replacement Highway Planting, Required Mitigation Planting, Freeze Damage Replacement Planting, Erosion Control, Upgrade Irrigation, Upgrade Irrigation Remote Irrigation Control System, Upgrade Irrigation-Non-Potable Water, or Upgrade Backflow Preventers. Be specific and describe the work involved.

Provide a description of the scope of the proposed improvements. Discuss relevant Highway Planting issues including vegetation placed for aesthetics, erosion control, mitigation purposes, replacement planting, revegetation, wildflower planting, and irrigation systems. Provide a complete description of the scope of work with sufficient detail to describe the proposed work and how it relates to the purpose-and-need.

Describe proposed traveler and worker safety considerations including, but not limited to, the following:

- Relocating irrigation controllers, backflow preventers, mainline, remote control valves, laterals, and sprinklers to protected areas or adjacent to the right-of-way fence.
- Removal or replacement of deteriorating trees or other plant material, and removal of plant material that encroaches upon required sight distances.
- Planting of vines or the use of textures on noise barriers and retaining walls to deter graffiti.
- Automation of manual irrigation systems, including controllers, valves, and low-voltage conductors.
- Providing maintenance vehicle pullouts, maintenance access roads, and access gates for workers on foot or in vehicles.
- Placing mulch or installing rock blanket areas.

Describe proposed design for roadside management considerations including, but not limited to, the following:

- Providing paving beneath guardrails and signs.
- Providing paving for narrow areas.
- Paving of slopes beneath bridge structures.
- Providing additional gore paving.
- Updating or removal of aging highway facilities. This work may include:

- Replacing guardrail with concrete barrier.
- Removing signs that are redundant.
- Replacing signs that are nonstandard.
- Removing or relocating pull boxes located in the shoulder or near the pavement edge.

The potential use of non-potable water must be addressed for each project, including availability, proposed use, and additional facilities that may be required such as transmission lines, booster pumps, and additional waterline crossovers.

Project Cost Estimate

PSR Data Sheet-New Highway Planting Projects

For each type of planting proposed, provide the number of acres and cost per acre.

- Highway Planting

  Highway planting that is warranted. Exceptions to the "Maximum Cost per Acre" policy will not be granted by the Headquarters Landscape Architecture Program for this work.

- Linear Planting

  A single row of warranted planting in areas of narrow right-of-way. Exceptions to the "Maximum Cost per Acre" policy may be granted by the Headquarters Landscape Architecture Program for linear planting.

- Legally Required Planting

  Planting provided to satisfy written agreements, memoranda of understanding, environmental documents, or court orders. Exceptions to the "Maximum Cost per Acre" policy may be granted by the Headquarters Landscape Architecture Program for legally required planting.

PSR Data Sheet-Highway Planting Restoration Projects

If the majority of work is planting, select a planting item. If the majority of work is irrigation, select an irrigation item. Do not combine items for the project cost estimate.

- Replacement of Planting due to Roadway Construction

  Replacement of planting and irrigation removed by roadway construction. Exceptions to the "Maximum Cost per Acre" policy may be granted by the Headquarters Landscape Architecture Program for

this work. These projects are typically funded and programmed by the parent project.

- Rehabilitation of Planting

  The rehabilitation (upgrading) of existing planting. The cost must meet the 12-year payback requirement.

- Mitigation Planting

  Replacement Highway Planting projects with or without irrigation. The "Maximum Cost per Acre" limit may be exceeded if required by the environmental document. These projects are typically funded and programmed from the parent project.

- Replacement of Irrigation due to Roadway Construction

  Irrigation to replace that removed by roadway construction. These projects are typically funded and programmed by the parent project.

- Renovation of Irrigation

  The rehabilitation of existing irrigation systems. The cost must meet the 12-year payback requirement.

- Irrigation For Retrofit

  Installing an irrigation system for existing planting that does not have irrigation, including the estimated cost for water meter installation and any serving utility costs or fees. The cost must meet the 12-year payback requirement.

Additional Items:

The additional items listed are required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration.

- Water Meter
- Water Cost

  Estimate the cost for water used during the life of the contract. Consider the water required to establish new planting.

- Design for Traveler and Worker Safety

  Costs to do work associated with safety improvements for maintenance workers and motorists, as listed on page 3 of the PSR data sheet form. These costs are not considered as included in the maximum cost per acre.

- Design for Roadside Management

Costs associated with improvements for roadside management as listed on page 3 of the PSR data sheet form. These costs will not be included in the maximum cost per acre.

- Water Assessment Fee

  Enter the total water assessment fee/capacity charge. The water assessment fee is a one-time fee water agencies may charge customers for connecting to their water supply. It is typically based upon the acreage to be watered or project size. Calculate the acreage to be watered based upon the total plant basin area for individual basin watering and total project acreage covered by overhead irrigation.

  Where the water assessment fee exceeds the maximum water assessment cost per acre, a project of five acres or more will only be considered if others pay for the additional cost. Fees for projects less than five acres in size must be negotiated to receive the lowest rate. These charges will not count against the maximum highway planting cost per acre.

- Non-Potable Water

  Non-potable water is water suitable for irrigation purposes but not for drinking. Non-potable water includes untreated sources such as streams, rivers, underground water sources, as well as reclaimed sources. Costs for using non-potable water must not exceed 125 percent of all costs associated with using potable water. Costs in excess of the 125 percent amount are to be justified on the basis of demonstrated cost savings over a 20-year life cycle. These additional costs will not be included in the maximum cost per acre. Use the "Cost Justification for Non-Potable Water Use" worksheet in this appendix.

- Other Costs Associated with Potable to Non-Potable Water Conversion

  Costs for this item include the cost of transmission lines/supply lines such as the upgrade and or relocation of master valves, upgrade of remote control valves, relocation, removal or installation of booster pumps, signing and tagging of irrigation equipment, as calculated from sheet 4 of 4.

- Remote Irrigation Control System (RICS)

  Costs for this item that exceed the costs of a standard automatic irrigation system, and that will be excluded from the maximum cost per acre.

- Resident Engineer's Field Office

  Costs for this item will be excluded from the maximum cost per acre.

- Hazardous Materials

The cost required to avoid or mitigate hazardous materials within the project site. For example, the cost to remove or encapsulate soil contaminated by aerially deposited lead found within 15 feet of travel-way.

- Stormwater Pollution Prevention

  Enter the value of temporary and permanent stormwater pollution prevention practices. Use the sum total of the values provided in the project storm water data report for "construction site best management practices" and "permanent erosion control best management practices." This cost may be excluded from the maximum cost per acre.

- Electrical Service

  Enter the costs for electrical service installation (serving utility costs and fees). This cost should not be excluded from the allowable cost per acre.

- Other

  Add any other additional major items to be included in the project cost estimate.

Subtotal

Automatically filled in.

25% Contingency

Automatically filled in.

Total Estimated Project Cost

Less Local Contribution

Required for both PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Enter local contribution only if there is a commitment of funds in the form of a resolution or a draft cooperative agreement. If there is a commitment to funding at a later date, the priority rating sheet can be adjusted to take credit for it at that time.

Total Estimated State Cost

Field automatically calculated.

Call

Round "Total Estimated State Cost" to the nearest $1000.

Cost Breakdown for Estimate

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. List and itemize the costs of design for safety, design for roadside management, and any other costs associated with conversion from potable to non-potable water.

Project Support

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. Include estimated personnel year (PY) effort and other support costs of project development and construction from the time the project is initially programmed through the final stages of construction. The proposed schedule should be based upon when the district realistically expects that the project would be programmed, typically in the last two years of the program.

The cost of any specialty contracts or other atypical direct project costs that may be required for the project should also be estimated by the proposed fiscal year. Do not include costs for PY estimates. The Headquarters Division of Project Management will establish average dollar costs per personnel year for various functions, including salary, benefits, CADD usage, travel and other direct costs. Once a project is about to be programmed, these rates will be applied to the estimated personnel year effort by the Headquarters Division of Project Management to establish the project's support budget.

Comments

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. This area is for (1) items requiring further explanation, including:

- Factors not discussed under "Proposed Improvement" such as exceptions, legal requirements;
- Cooperative Agreement features;
- Construction window and timeline requirements;
- Mitigation requirements.

Attachments

Required for both the PSR data sheet-new highway planting and the PSR data sheet-highway planting restoration. All attachments should be legible, clearly labeled, and folded with the binding on the left. The following attachments must be included:

- Design concept
- Design intent statement (new highway planting or highway planting restoration)
- "Fact Sheet Exception to Separate Contract Policy for Highway Planting" if applicable
- Priority rating sheet
- "Cost Justification for Non-Potable Water Use" worksheet from Appendix EE, if applicable.
- Storm water data report-signed cover sheet
- Life-cycle cost analysis
- Risk register

ARTICLE 3 Priority Rating Sheets

Priority rating sheets are required to be submitted together with PSR data sheets in order for a candidate project to be programmed. Districts are required to maintain a list of prioritized candidate projects, updating this list at every program cycle, adding qualified candidate projects. An electronic version of the form for the priority rating sheet is available from the Headquarters Landscape Architecture Program. A paper copy printout of this form is provided in this appendix as an illustration.

Prepare the priority rating sheet using the electronic form available from the Headquarters Landscape Architecture Program. Each topic heading provides instructions for the corresponding section in the priority rating sheet form. Each of the topics discussed are to be addressed in the priority rating sheet.

New Highway Planting Projects

Priority rating sheets are required for candidate New Highway Planting Projects over $117,000. A copy of each completed rating form must be sent to the Headquarters Landscape Architecture Program.

ITEM A. PROJECT DATA:

1. For each functional problem type, enter its percentage of the total project length.
2. Enter the predominant adjacent land use classification.
3. Provide the Average Daily Traffic (ADT) count (See Figure E-2), provide the date the ADT was performed, available on the Internet from the Headquarters Division of Traffic Operations.

***ITEM B. ADJACENT LAND USE, DISTANCE AND DEGREE OF SCREENING RATING*:**

Enter percentage of total project length for each adjacent land use type, calculate rating points, enter points for distance, highway elevation and ADT. Predominant land use is measured using one side of the right-of-way (it is not necessary to have residential development on opposite sides of the right-of-way to measure total length).

ITEM C. UNPLANTED YEARS RATING:

Enter the rating for the number of years the highway has remained unplanted. Calculate from the highway completion date to present date.

ITEM D. FUNCTIONAL PROBLEM REDUCTION RATING:

For each functional planting type, enter its percentage of the total project length.

ITEM E. SUM OF RATING:

Calculate and enter the sum of B9, C1 and D4.

ITEM F. COST EFFECTIVENESS INDEX NUMBER CALCULATION:

The formula for calculating the cost-effectiveness index number is shown under Item F of the rating sheet. It is important to note the P1 and P2 modifiers in the numerator of the formula. These modifiers are to be determined by the district LA according to the guidelines in order to attain consistency statewide.

The P1 modifier is the percentage of the total adjacent land use directly impacted by the candidate project. A percentage other than 100 should be used only when portions of the project limits (section 200 feet or more in length, measured along the centerline) will not be planted for any reason (such as: linear breaks for bridges or viaducts, areas that were previously planted, or natural features such as rivers, forested land and/or open space where there is no need for planting). This percentage is determined by calculating lengths of all such areas on each side of the freeway and comparing their sum to double the total length of the project. If the total length of such unplanted areas is less than 10%, disregard the difference and use 100%.

The P2 modifier is an estimate of the percentage of needs being satisfied by the proposed project. This applies to the right-of-way areas where planting will be

located. As the majority of project cost estimates are made prior to detailed planning studies, for consistency, the following percentages should be used:

1. Proposed project satisfies all current needs where there is not existing planting.
   100%
2. Proposed project requires additional planting to be installed later
   75%
3. Proposed project completes planting where existing (previous stage) is inadequate.
   50%

To determine P2, select the proposed project type that most closely fits the planting requirements and use the corresponding percentage.

The cost factor is determined by using the adjusted cost per acre to the State divided by 10,000.

ITEM G. PROJECTS USING NON-POTABLE WATER:

Add 20 points for a candidate planting project that proposes to use non-potable water.

ITEM H. TOTAL PROJECT PRIORITY RATING INDEX NUMBER:

In addition to the cost-effectiveness index calculations, candidate projects that meet various project categories may be eligible for credit that increases priority ratings. Only a single category should be selected. Select the most appropriate category for the project as listed on the CTC Project Category List.

ITEM I. ADDITIONAL CONSIDERATIONS:

Use this item to describe participation by others, etcetera, or to support the project. Also, indicate the dollar value of a contribution for construction, its percentage of the total cost of construction and the value of the contribution for a designated period of maintenance. Projects will be evaluated by the Headquarters Landscape Architecture Program district coordinator for priority adjustment on an individual basis.

Highway Planting Restoration Projects

Priority rating sheets are required for candidate Highway Planting Restoration projects over $117,000. It is not necessary to fill in items A through C for Category 6, 11, 13, 14 and 15 projects, with the exception that Item A must be filled in for Category 13 and 14 projects. A single copy of each completed rating form must be sent to the Headquarters Landscape Architecture Program.

The following types of projects should be prioritized within the Highway Planting Restoration program:

1. Mandated Projects – CTC Category 1.
2. Rehabilitation – CTC Category 7 (irrigation and/or planting).
   - Non-committed - irrigation upgrade and/or replacement planting of diseased, damaged or deteriorated planting with a payback period of 12 years or less.
3. Replacement Planting – CTC Categories 2-3-4-5-8-9-10.
   - Committed - planting installed by others that has been removed by roadway construction projects.
   - Committed - planting installed by Caltrans that has been removed by roadway construction projects.
4. Revegetation – No category unless applicable under CTC Categories 2-3-8-9.
   - Committed - replacement of native vegetation damaged or removed during roadway construction projects.
5. Mitigation – No category unless applicable under CTC Categories 2-3-9.
   - Committed – planting and other work necessary to mitigate environmental impacts due to roadway construction projects.
6. Non-Potable Water Projects – CTC Category 11.
   - Convert irrigation system from potable to non-potable water.
   - Install transmission supply lines for non-potable water.
7. Erosion Control Planting – CTC Category 12.
   - Planting required to stabilize slopes or prevent stormwater pollution.
8. Remote Irrigation Control System (RICS) – CTC Category 13.
9. Freeze Damaged Replacement Projects – CTC Category 14.
10. Upgrade existing backflow preventers – CTC Category 6.
11. Projects solely to reduce exposure of highway maintenance workers and to increase motorist safety in existing highway planting areas.

Definitions:

Committed – Work required to be done to comply with permits, agreements, laws, codes, regulations or policies.

Non-committed – Work to rehabilitate existing facilities not required by laws, codes, regulations or policies.

ITEM A. REHABILITATION (Irrigation and/or Planting)

The "Effectiveness Ratio" is the sum of the ratings that considers existing irrigation and planting deficiencies, reduction of hazards and safety improvements; and the age of the existing planting.

The deficiency rating under the "Present Condition" relates the type of deficiency to the project cost. The deficiency is the existing irrigation or planting that will be improved by this project.

The "Hazard Reduction and Safety" section gives additional points for eliminating items that are perceived as hazards. Use this section only when actual hazards will be eliminated. For example, consider only those valves, sprinklers, nozzle lines and quick coupling valves that will be removed or relocated from the clear recovery zone. Do not include the previous items that are located within an interchange. Risk of human concealment, water on the traveled way, obscured sight distance and fire hazard should also be included in the "Vegetation hazardous to traffic and adjacent property" section. Rehabilitation or replacement work that will eliminate or greatly reduce the number of lane closures for routine landscape maintenance should be included in "Work to eliminate lane closures" section. Also include applicable traveler and worker safety items.

Under the "Years Since Previous Planting", multiply the number of years since the planting or irrigation to be rehabilitated or replaced was installed times the relative variable factor of 0.05.

ITEM B. COST EFFECTIVENESS RATIO

The "Cost Effectiveness Ratio" is the sum of the ratings for Present Condition, Hazard Reduction and Safety Improvements, and Age of Previous Planting, times a multiplier of 1,000, times the ADT (Average Daily Traffic) rating score, divided by the project cost per acre. The ADT rating score is obtained from Figure E-2. Average daily traffic volumes can be obtained from the most current "*Current Year* Traffic Volumes on the California State Highway System" publication produced by Traffic Operations

ITEM C. CREDIT FOR NON-POTABLE WATER

This is credit given for projects that meet the policy for using non-potable water as stated in Article 2.

ITEM D. PROJECT CATEGORY POINTS

The project category points are selected from the CTC Project Category Listand recorded in the space provided. This number will be added to give the TOTAL PROJECT PRIORITY INDEX NUMBER.

ITEM E. TOTAL PROJECT PRIORITY INDEX NUMBER

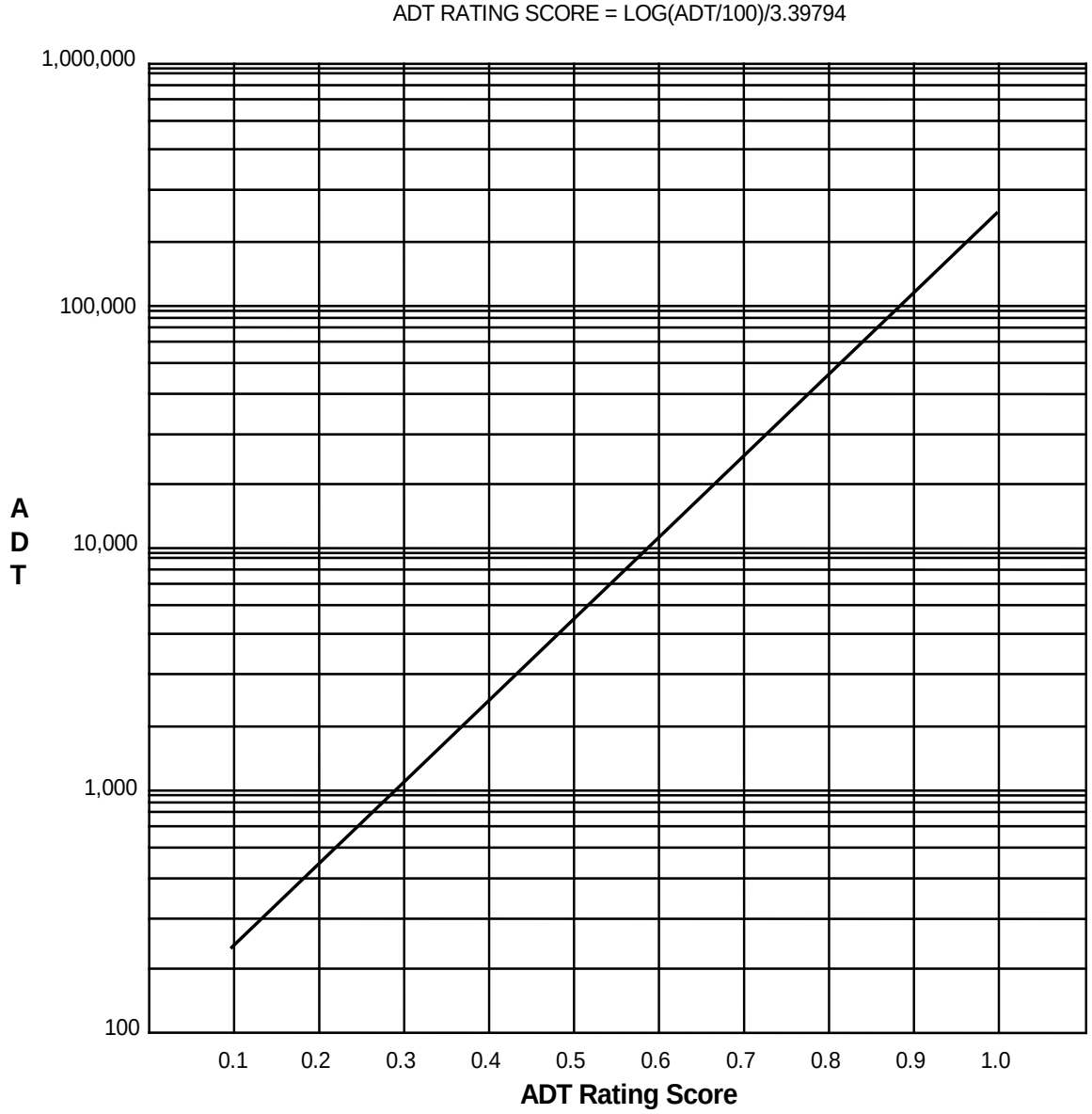
This is the sum of the ratings in items B, C, and D. For projects in categories 6, 11, 13, and 14, insert only the points selected from D, "Project Category." This will result in projects in these categories appearing in groups for easy identification.

Figure E-1 CTC Project Category List

Category Number	Description	MAXIMUM POINTS Highway Planting Restoration	MAXIMUM POINTS New Highway Planting
1	Planting Projects contained in the 1980 STIP, and as such, are mandated per Streets and Highway Code, Section 188.8.	10	10
2	Planting projects called for in written agreements or memoranda of understanding between State and another government agency.	10	10
3	Mitigation planting projects required in environmental documents, or in the case of the Century Freeway, by court order to be included in the highway construction project or immediately thereafter. Mitigation projects that are not time specific are included in Category 9	10	10
4	Planting projects using Interstate Completion funds, other than those included in Categories #2 and #3 above. These funds are only for use on remaining Interstate Completion projects -- projects would become ineligible for interstate completion funding at a later date.	10	10
5	Replacement planting projects needed to retain "landscaped freeway" status -- replacing planting removed by freeway construction. Pursuant to California Outdoor Advertising Act, lack of landscaping within 2-1/2 years of construction causes loss of "landscaped freeway" status, allowing new billboards that are presently precluded per local communities intent.	9	N/A
6	Upgrading existing backflow preventers to protect public water supplies from contamination by highway irrigation systems.	11	N/A
7	Rehabilitation projects to modify existing planting and irrigation systems for efficiency and safety -- drought-tolerant, low-maintenance planting. Estimated payback period is 12 years; savings would be in state cash. Life cycle of improvements estimated at 20 years.	9	N/A
8	Standard Highway Planting projects that are for aesthetic and/or functional purposes, and revegetation projects, not contained in other categories.	5	5
9	Mitigation planting projects required per environmental documents, not necessarily immediately following construction, and replacement planting not included in above categories.	9	9
10	Projects where financial participation by others is involved.	12	12
11	Projects to convert irrigation systems from potable water to non-potable water.	15	N/A
12	Planting projects to control erosion.	10	N/A
13	Remote Irrigation Control System (RICS).	13	13
14	Freeze Damaged Replacement Projects.	14	14
15	Projects solely to reduce exposure of highway maintenance workers and increase motorist safety in existing highway planting areas. Projects in this category should only be on non-urban freeways (AADT less than 175,000 vehicles) and not have any other highway planting restoration work included as part of the project. No payback calculations required. These projects are coded 20.20.201.230.	20	N/A

NOTE *1. Items 1 through 10 of this list were initiated through Resolution by the California Transportation Commission (CTC) in October 9, 1985 to assist in establishing project funding priorities. Today this list is primarily used by Caltrans districts for placing values on projects in order to prioritize them for programming.*

Figure E-2 Average Daily Traffic (ADT)



ARTICLE 4 Guidance for Cost Justification for Non-Potable Water Use Form

General

All cells, except those meant to accept entries, are shaded and protected.

All calculations are performed automatically and rounded.

Read worksheet instructions before filling in this form.

Project Description

Fill in all appropriate information as required.

For "Description" start entry in cell "C-46" and do not extend beyond cell "J-46". If second line is required skip down to cell "C-47" to finish description.

Summary

The only entry made in this section is for the item: "B. Estimated Project Cost Using Non-Potable Water." Then skip down to worksheet.

Worksheet Instructions

Row 1 - Enter the total estimated project cost for potable water. This value is automatically inserted as item "A" in the Summary. Include all planting and potable water irrigation items.

Row 2 - Enter estimated acres in cell "I-63".

Row 3 - Enter the estimated acft/ac value in cell "I-64".

Row 4 - Value will be calculated automatically.

Row 5 - Enter the $/acft potable water value in cell "I-66".

Row 6 - Value will be calculated automatically.

Row 7 - Enter $/acft non-potable water value in cell "I-68".

Rows 8 - Value will be calculated automatically.

Rows 9 and 11 – Value will be calculated automatically using a 3.5% annual inflation rate. This will yield a water cost in the 20^{th} year that is 1.99 times first year cost.

Row 13 - Life cycle savings will be calculated automatically based on a 20-year projection.

Row 14 - Enter the potable irrigation system cost in cell "G-77". Use current cost/ac allowance, available from the Headquarters Landscape Architecture Program Coordinator or the Headquarters Landscape Architecture Program website at: http://www.dot.ca.gov/hq/LandArch/policy-manuals-guidance.htm

Row 15 - Enter the value of the existing irrigation system in cell "G-79". Estimate should include that portion of irrigation system to remain operational. (If existing irrigation is to remain operational in its entirety, use current cost/ac allowance x 0.6 x project ac.)

Rows 16 and 17 - Values will be calculated automatically.

Row 18 - Value is calculated automatically and inserted as item "C" in the Summary.

Figure E-3 Cost Justification for Non-Potable Water Use – English Units

Cost Justification for Non-Potable Water Use – English Units

Project Description

Dist:		Co:		Date:	
Rte(s):		PM:		EA:	
	Description:				

Summary

A.	Estimated Project Cost Using Potable Water (Row 1)	$0
B.	Estimated Project Cost Using Non-Potable Water	$0
C.	Maximum Allowable Project Cost Using Non-Potable Water (Row 18)	$0
	▪ If "B" is less than or equal to "C" then non-potable water costs are justified.	

Worksheet – NEW HIGHWAY PLANTING AND HIGHWAY PLANTING RESTORATION PROJECTS

1	Estimated Project Cost Using Potable Water (include 25% contingencies)			$0
2	Project Size		__ac	
3	Annual Irrigation Rate		__acft/ac	
4	Annual Water Usage (Row 2 x Row 3)		__acft	
5	Cost of Potable Water per acft		$__/acft	
6	Cost of Potable Water per Year (Row 4 x Row 5)		$__/yr	
7	Cost of Non-Potable Water per acft		$__/acft	
8	Cost of Non-Potable Water per Year (Row 4 x Row 7)		$__/yr	
9	20th Year Potable Water Costs (Row 6 x 1.99)		$0	
10	Average Annual Potable Water Cost Over 20 Years ((Row 6 + Row 9) / 2)		$0	
11	20th Year Non-Potable Water Costs (Row 8 x 1.99)		$0	
12	Average Annual Non-Potable Water Cost Over 20 Years ((Row 8 + Row 11) / 2)		$0	
13	Life Cycle Savings ((Row 10 - Row 12) x 20)			$0
14	Estimated Cost of Potable Irrigation System (include 20% cont.) (all irrigation items including water meters, assessment fees, etcetera)	$0		
15	Estimated Value of Existing Irrigation System (Highway Planting Restoration Projects Only)	$0		
16	Total Cost/Value of Potable Irrigation System (Row 14 + Row 15)		$0	
17	Additional 25% Permissible for Using Non-Potable Water (Row 16 x 25%)			$0
18	Maximum Allowable Project Cost Using Non-Potable Water (Row 1 + Row 13 + Row 17)			$0

Cost Justification for Non-Potable Water Use – Metric Units

Project Description

Dist:		Co:		Date:	
Rte(s):		KM:		EA:	
	Description:				

Summary

A.	Estimated Project Cost Using Potable Water (Row 1)	$0
B.	Estimated Project Cost Using Non-Potable Water	$0
C.	Maximum Allowable Project Cost Using Non-Potable Water (Row 18)	$0
	▪ If "B" is less than or equal to "C" then non-potable water costs are justified.	

Worksheet – NEW HIGHWAY PLANTING AND HIGHWAY PLANTING RESTORATION PROJECTS

1	Estimated Project Cost Using Potable Water (include 25% contingencies)			$0
2	Project Size (ha) (ac x.40469)		__ha	
3	Annual Irrigation Rate (acft/ac x 3,047.99)		__cm/ha	
4	Annual Water Usage (Row 2 x Row 3)		__cm	
5	Cost of Potable Water per cubic meter ($/acft/1,233.49)		$__/cm/ha	
6	Cost of Potable Water per Year (Row 4 x Row 5)		$__yr	
7	Cost of Non-Potable Water ($/acft/1,233.49)		$__/acft	
8	Cost of Non-Potable Water per Year (Row 4 x Row 7)		$__/yr	
9	20th Year Potable Water Costs (Row 6 x 1.99)		$0	
10	Average Annual Potable Water Cost Over 20 Years ((Row 6 + Row 9) / 2)		$0	
11	20th Year Non-Potable Water Costs (Row 8 x 1.99)		$0	
12	Average Annual Non-Potable Water Cost Over 20 Years ((Row 8 + Row 11) / 2)		$0	
13	Life Cycle Savings ((Row 10 - Row 12) x 20)			$0
14	Estimated Cost of Potable Irrigation System (include 20% cont.) (all irrigation items including water meters, assessment fees, etcetera)	$0		
15	Estimated Value of Existing Irrigation System (Highway Planting Restoration Projects Only)	$0		
16	Total Cost/Value of Potable Irrigation System (Row 14 + Row 15)		$0	
17	Additional 25% Permissible for Using Non-Potable Water (Row 16 x 25%)			$0
18	Maximum Allowable Project Cost Using Non-Potable Water (Row 1 + Row 13 + Row 17)			$0