**Design Pollution Prevention BMPs
Checklist DPP-1, Part 1**

Prepared by: Date: District-Co-Route:

PM: Project ID/EA: RWQCB:

**Consideration of Design Pollution Prevention BMPs**

**Consideration of Downstream Effects Related to Potentially Increased Flow [to streams or channels]**

Will the project increase velocity or volume of downstream flow? [ ]  Yes [ ]  No [ ]  NA

Will the project discharge to unlined channels? [ ]  Yes [ ]  No [ ]  NA

Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability? [ ]  Yes [ ]  No [ ]  NA

If Yes was answered to any of the above questions, consider ***Downstream Effects Related to Potentially Increased Flow***, complete the Checklist DPP-1, Part 2.

**Slope/Surface Protection Systems**

Will the project create new slopes or modify existing slopes? [ ]  Yes [ ]  No [ ]  NA

If Yes was answered to the above question, consider ***Slope/Surface Protection Systems***, complete the Checklist DPP-1, Part 3.

**Concentrated Flow Conveyance Systems**

Will the project create or modify ditches, dikes, berms, or swales? [ ]  Yes [ ]  No [ ]  NA

Will project create new slopes or modify existing slopes? [ ]  Yes [ ]  No [ ]  NA

Will it be necessary to direct or intercept surface runoff? [ ]  Yes [ ]  No [ ]  NA

Will cross drains be modified? [ ]  Yes [ ]  No [ ]  NA

If Yes was answered to any of the above questions, consider ***Concentrated Flow Conveyance Systems***; complete the Checklist DPP-1, Part 4.

**Preservation of Existing Vegetation, Soils, and Surface Water Buffer Areas**

It is the goal of the Stormwater Program to maximize the protection of desirable existing vegetation, soils, and surface water buffer areas to provide erosion and sediment control benefits on all projects. [ ]  Complete

Consider ***Preservation of Existing Vegetation, soils, and surface water buffer areas***, complete the Checklist DPP-1, Part 5.

**Design Pollution Prevention BMPs
Checklist DPP-1, Part 2**

Prepared by: Date: District-Co-Route:

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**Downstream Effects Related to Potentially Increased Flow**

1. Review total paved area and reduce to the maximum extent practicable. [ ]  Complete
2. Review channel lining materials and design for stream bank erosion control. [ ]  Complete
	1. See Chapters 860 and 870 of the HDM. [ ]  Complete
	2. Consider channel erosion control measures within the construction limits as well as downstream. Consider scour velocity. If erosion control measures are required downstream of construction limits obtain the appropriate permits and right-of-way documents to include work within the construction limits. [ ]  Complete
3. Include, where appropriate, energy dissipation devices at culvert outlets. [ ]  Complete
4. Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour. [ ]  Complete
5. Include, if appropriate, peak flow attenuation basins or devices to reduce peak discharges. [ ]  Complete
6. Calculate the water quality volume infiltrated within the project limits. These calculations will be used in the Checklist T-1, Part 1. [ ]  Complete

**Design Pollution Prevention BMPs
Checklist DPP-1, Part 3**

Prepared by: Date: District-Co-Route:

PM: Project ID/EA: RWQCB:

**Slope / Surface Protection Systems**

1. What are the proposed areas of cut and fill? (attach plan or map) [ ]  Complete
2. Were benches or terraces provided on high cut and fill slopes to shorten slope length? [ ]  Yes [ ]  No
3. Were concentrated flows collected in stabilized drains or channels? [ ]  Yes [ ]  No
4. Are new or disturbed slopes > 4:1 horizontal:vertical (h:v)? [ ]  Yes [ ]  No

If Yes, District Landscape Architect is responsible for an erosion control strategy and may prepare an erosion control plan.

1. Are new or disturbed slopes > 2:1 (h:v)? [ ]  Yes [ ]  No

If Yes, DES Geotechnical Design unit must prepare a Geotechnical Design Report, and the District Landscape Architect should prepare or approve an erosion control plan. Concurrence must be obtained from the District Maintenance Stormwater Coordinator for slopes steeper than 2:1 (h:v).

**Vegetated Surfaces**

1. Identify existing vegetation. [ ]  Complete
2. Evaluate site to determine soil types, appropriate vegetation and planting strategies. [ ]  Complete
3. How long will it take for permanent vegetation to establish? [ ]  Complete
4. Plan transition BMPs from construction to permanent establishment. [ ]  Complete
5. Have vegetated areas and supporting permanent irrigation systems been designed to comply with the Model Water Efficient Landscape Ordinance (MWELO) or local WELO? [ ]  Yes [ ]  No
6. Minimize overland and concentrated flow depths and velocities [ ]  Complete

**Hard Surfaces**

1. Are hard surfaces minimized? [ ]  Yes [ ]  No

Review appropriate SSPs for Vegetated Surface and Hard Surface Protection Systems. [ ]  Complete

**Design Pollution Prevention BMPs
Checklist DPP-1, Part 4**

Prepared by: Date: District-Co-Route:

PM: Project ID/EA: RWQCB:

**Concentrated Flow Conveyance Systems**

**Ditches, Berms, Dikes and Swales**

1. Consider Ditches, Berms, Dikes, and Swales as per Topics 813, 834.3, 835, and Chapter 860 of the HDM. [ ]  Complete
2. Review existing and proposed conditions to remove any dike not required for slope stability, erosion control, and water conveyance. [ ]  Complete
3. Evaluate risks due to erosion, overtopping, flow backups or washout. [ ]  Complete
4. Consider outlet protection where localized scour is anticipated. [ ]  Complete
5. Examine the site for run-on from off-site sources. [ ]  Complete
6. Consider permissible shear and velocity when selecting lining material (See Table 865.2 in the HDM). [ ]  Complete

**Overside Drains**

1. Consider downdrains, as per Index 834.4 of the HDM. [ ]  Complete
2. Consider paved spillways for side slopes flatter than 4:1 h:v. [ ]  Complete

**Flared Culvert End Sections**

1. Consider flared end sections on culvert inlets and outlets as per Chapter 827 of the HDM. [ ]  Complete

**Outlet Protection/Velocity Dissipation Devices**

1. Consider outlet protection/velocity dissipation devices at outlets, including cross drains, as per Chapters 827 and 870 of the HDM. [ ]  Complete

Review appropriate SSPs for Concentrated Flow Conveyance Systems. [ ]  Complete

**Design Pollution Prevention BMPs
Checklist DPP-1, Part 5**

Prepared by: Date: District-Co-Route:

PM: Project ID/EA: RWQCB:

**Preservation of Existing Vegetation, Soils, and Surface Water Buffer Areas**

1. Review Preservation of Property, (Clearing and Grubbing) to reduce clearing and grubbing and maximize preservation of existing vegetation, soils, and surface water buffer areas. [ ]  Complete
2. Has all vegetation, soils, and surface water buffer areas to be retained been coordinated with Environmental, and identified and defined in the contract plans [ ]  Yes [ ]  No
3. Have steps been taken to minimize disturbed areas, such as locating temporary roadways to avoid stands of trees and shrubs and to follow existing contours to reduce cut and fill? [ ]  Complete
4. Have impacts to preserved vegetation, soils, and surface water buffer areas been considered while work is occurring in disturbed areas? [ ]  Yes [ ]  No
5. Are all areas to be preserved delineated on the plans? [ ]  Yes [ ]  No