

Contract 01-262001

Route 101 Willits Bypass Project (01-MEN-101 KP R69.4/R78.9)

**SUPPLEMENTAL PROJECT INFORMATION: OIL WELL HILL
OPTIONAL BORROW SITE
Revegetation and Erosion Control
Plan**

Background, General Cross Section and Layout Plans:

The Optional Borrow Site, known as Oil Well Hill, is located immediately adjacent to Highway 101 north of Outlet Creek and is within Caltrans right-of-way. It has been designated as a proposed borrow site due to its proximity to the project corridor, its location within the existing Caltrans right-of-way, and the presence of soil material suitable for use as fill for this project. It is located approximately 2.5-3.0 miles north of the project limits and as shown in the attached plans and as specified in "Supplemental Project Information, Oil Well Hill Optional Borrow Site". The intent is for the material at the optional borrow site to be used in conformance with the general earthwork operations and the Contractor's imported borrow activities. Attention is directed to FEIS/EIR regarding any requirements by the Regulatory Agencies for usage of the site.

The optional borrow site is composed of three variations in the amount of material that is proposed for excavation. Borrow Option One (BO-1) proposes to excavate 1.06 million cubic meters of material. BO-2 proposes to remove approximately 0.5 million cubic meters of material. BO-3 will remove approximately 0.1 million cubic meters of material (refer to Oil Well Hill Layouts). The three options are intended to provide flexibility to the contractor depending on Project embankment needs. It also provides a degree of guidance to evaluate both temporary and permanent impacts as they pertain to soils disturbance. This approach is intended to generate an estimate of both construction and permanent best management practices that will be required to minimize impacts to water quality.

General cross-section and layout plans are provided for informational purposes only. Final finished surface and grading will be performed in conformance with "Supplemental Project Information, Oil Well Hill Optional Borrow Site" plans and as directed by the Engineer

Borrow-site: Natural Setting of Existing Landscape:

The area surrounding Oil Well Hill is primarily a densely forested hillside consisting of both man-made and natural elements. Man-made features at the site include the existing highway and associated improvements (culverts, drainage inlets and dikes). There are also two houses adjacent to the borrow site. In addition, there are road cuts from the construction of Highway 101 with slopes up to $\frac{3}{4}$:1 (H:V).

Natural features at the site include a relatively steep hillside. Vegetation in the general area consists of moderate to dense trees and some moderate to dense brush.

The dominant vegetation types in the Oil Well Hill borrow area are the Douglas Fir/Madrone Association, Douglas Fir - Canyon Live Oak Forest Alliance, Black Oak – Douglas Fir Association and Douglas-Fir – Tanoak/Black Huckleberry Association. More unusual vegetation types such as Douglas-Fir – Giant Chinquapin, Douglas-Fir - Bigleaf Maple / Hazel and Oregon White Oak - Douglas-fir/California Fescue also occur here.

The understory of the forests and woodlands throughout the study area is dominated mostly by native shrubs and herbs, though extensive Himalayan blackberry (*Rubus discolor*), Scotch broom (*Cytisus scoparius*) and Spanish broom (*Spartium junceum*) thickets also occur in the study area, and herb cover is light beneath the denser riparian canopies.

Intended Final Landform Design:

The intended final appearance of the site will attempt to minimize existing natural vegetation disturbance. The primary means of achieving this is to maximize slope steepness to the extent possible. The geotechnical report conducted for this location authorizes cut slopes as steep as ¾:1 (H:V) with the intent to adhere to this maximum slope.

Excavation procedures will begin at the toe of the existing road cut and move toward the hillside. Embankment material will first be generated from these existing cut areas. Since the roadway will remain in its present alignment, flat areas will be created.

Once all material that can be generated from existing cut slopes is utilized, then excavation can proceed into vegetated slopes. All topsoil will be harvested and stored in the flat areas created adjacent to the roadway for future use. Additionally, these flat areas will then be designed to accept open drainage facilities as well as planting areas.

BMP Measures-Proposed with Construction:

Temporary BMPs are the responsibility of the contractor and shall be identified in the SWPPP. The following measures will be implemented as permanent BMP measures at the end of construction to minimize erosion:

Roadway Improvements

- Minimize the removal of trees and avoid, where feasible, established vegetation including trees.
- Removed vegetation 150 millimeters in diameter or smaller shall be reduced to chipped or shredded material and stockpiled for later use
- Harvest and stockpile the top 150 millimeters of duff layer (topsoil and organic layer) as first order of work as part of the excavation operations.
- All final excavated areas shall be contour graded utilizing slope rounding at both the top and bottom of the slope.
- Final excavated and embankment slopes will be roughened using a tracked vehicle or serrated device to create an irregular surface perpendicular to the slope. Where rocks are encountered during excavation, they will be left as a natural element to the highway design. No more than 1/3 of the rock shall be left exposed. 2/3 shall remain buried.
- All disturbed areas after all earthwork is complete will receive duff, compost, organic fertilizer, seed and chipped or shredded mulch as the last erosion control component.
- Basins shall be contour graded to better fit the natural landscape.

- In flatter areas where soil has been compacted by stockpiling or by vehicular operations, soil shall be ripped or tilled such that compaction shall be no greater than 90% relative compaction.
- Reapply duff layer (topsoil and organic layer) to all disturbed and exposed bare areas including slopes as well as basin floors.
- 100 mm of compost shall be applied to cut slopes 1:4 or flatter.
- Incorporate compost/duff to a depth of 0.3 meters on fill slopes and cut slopes 1:4 or flatter
- Apply erosion control (netting) and fiber rolls in basins and on slopes per requirements of the contract plans.
- Revegetate all disturbed areas with grass and forb seed per requirements of erosion control (bonded fiber matrix) (A) of the contract plans.
- Stockpiled chipped or shredded material shall be applied to all disturbed soil areas.

Estimated Quantities:

Quantities for earthwork (slope roughening), topsoil/duff, erosion control (netting), fiber rolls and permanent erosion control items have been included in the contract. The approximate quantities for implementing permanent Erosion Control BMPs work are as follows:

Item Description	Unit	Approximate Quantity
EARTHWORK – SLOPE ROUGHENING	M2	50,000
EROSION CONTROL (TYPE D)	M2	50,000
TOPSOIL/DUFF	M2	50,000
EROSION CONTROL (NETTING)	M	9,000
FIBER ROLLS	M	2,500