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Caltrans Comments-Fountain Wind Project, NOP of Draft EIR

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Mon 12/4/2023 4:05 PM

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 1 attachments (618 KB)

Drainage Info-Caltrans.pdf;

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Good afternoon,

Thank you for the opportunity to review and comment on the Notice of Preparation for the Draft EIR for the proposed Fountain Wind Project in Shasta County. Caltrans District 2 functional units staff have the following comments:

1. If the proposed project contains areas that drain to the State Highway System (SHS) Right-of-Way, a drainage report is required, which shows no increase in flow to Caltrans drainage systems, or that demonstrates that Caltrans drainage systems are adequate to carry the increased flow. Caltrans criteria for a drainage report can be found in the attached document.
2. If appropriate, Caltrans requires plans that show how debris control will be addressed so that Caltrans channels and culvert inlets are not obstructed.
3. The project proponent shall provide a memo style safety analysis of planned State Route access points. This memo shall indicate the types of traffic entering and exiting each access point, the Postmiles of these access points, approximate volumes, sight distance, and a safety assessment. If potential safety concerns are identified, the memo shall include a list of potential mitigations, including revised temporary signing, traffic control, and the clearing of obstructions.
4. Detail showing road connections, including whether these connections are new or existing road connections.
5. A list of Best Management Practices (BPM's) which will be utilized to control dust and mud accumulation onto State Route 299.

Once again, thank you for the opportunity to review and comment on the proposed Fountain Wind Project.

Sincerely,

Michael Battles, M.P.A.
Associate Transportation Planner
Local Development Review Coordinator
Regional Planning and Local Development Review
Caltrans District 2

Required Information for Drainage Review

A Drainage Report shall be submitted that clearly defines the scope of the project related to the existing and proposed drainage. The level of detail in the report should be commensurate to the complexity of the proposed project and should contain summaries of the input parameters as well as the results of calculations. Calculations for each drainage basin, drainage system, and individual drainage unit must accompany the Drainage Report, application and plans. The calculations and report must be signed, checked, dated, and stamped by a registered Civil Engineer. Following is an outline of the items typically included in a Drainage report.

Hydrology:

1. Drainage Basin Maps for the before and after project conditions (contours at a reasonable scale).
 - a. Before Condition (Existing/Pre-Development) – drainage basin(s) delineated and labeled, major features labeled, and flow direction arrows.
 - b. After Condition (Post- Development) – same info as above reflecting project changes in land use and improvements. Submit grading and drainage plans.
 - c. Points of concentrations, and outfalls shall be indicated and include flow direction.
2. Hydrology Summary Tables: Include Pre- Development and Post- Development flow quantities, time of concentration, drainage basin characteristics, area, slopes, soil types, vegetative cover, storage, present usage, runoff coefficient, etc.
3. Applicant shall use California Department of Transportation Drainage Design Standards in Chapter 800 of the Highway Design Manual when connecting or draining to the State Highway Drainage Facilities. The applicant may use local agency standards when they meet or exceed State standards.

Hydraulics: Show all affects of proposed changes on State Highway drainage structures from the “before condition” to the “after condition” including but not limited to:

1. **Cross Drains and Storm drain networks in the State Right of Way:**

Typically designed for 10-yr (to the soffit) and 100-yr flows (with no objectionable flooding) include headwater or hydraulic grade line produced referenced to the invert of system. Include the available headwater at the culvert or drainage inlet, size, slope, end treatments and type of culvert. Culverts that run longitudinal to the State Highway across a road connection are typically designed for a 25-year flow.

2. **Gutters, ditches, and drainage inlets in the State Right of Way:**

Typically designed for 25-yr flows (where traffic speed exceeds 45 mph) to not encroach on the traveled way. Include spread, intercept, and bypass information for each drainage inlet. Equations to determine these parameters are in FHWA’s HEC 22.

Required Information for Drainage Review

3. Detention or Retention facility:

Include design storm method, table or graph of the inflow and outflow hydrograph(s), the depth vs. storage of the facility, and the configuration of the outfall structure with its stage discharge relationship. Include a table of volume stored at each time step.

4. "Master" Plan:

State what agencies were contacted and the impacts the project will have on the downstream drainage.

Drainage Report Narrative: The Drainage Report should include a narrative section describing the project and any effects to drainage. State all relevant assumptions. This section can also explain any historical issues or special aspects of the drainage design.

Historic Drainage patterns should be perpetuated, or drainage systems analyzed to show that there are no impacts or the impacts are mitigated (capacity, velocity related to flooding and erosion). Is a Master plan available?

We recommend considering detention facilities be designed to reduce a project's impact, but the designer should consider that detention facilities low in a watershed could cause detrimental effects if their release increases the peak flow of the overall watershed.

Will the proposed development impact a FEMA-mapped floodplain or other floodplain? Will it cause an increase in floodwater depth that would affect State assets or the assets of others?

Caltrans' primary concern is the safety of the traveling public and protection of facilities within the State's right of way. The State is also concerned about the impact to adjacent and downstream properties.