SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS

OLY1401.004

December 2, 2015

Michael J. Anderson, P.E.
Safety of Dams
Nevada Division of Water Resources
901 South Stewart Street, Suite 2002
Carson City, NV 89701

Subject: Request for Additional Information from Nevada Dam Safety for Skye Canyon Detention Basin 1 (J-716)

Dear Mr. Anderson:

The following are responses to the items requested from Nevada Division of Water Resources – Dam Safety, dated November 10, 2015, to complete review of the Skye Canyon Detention Basin 1 project. The comments have been individually addressed as follows:

1. **Comment:** *In the design document there must be a discussion of downstream hazard classification. I apologize as this should have been pointed out in our prior feedback, if not in our meeting.*

   Response: The downstream hazard classification of "High" was defined and discussed in the Design Summary Report dated August 6, 2015. This has been pointed out to the reviewer in a November 19, 2015 email and the comment has been subsequently voided.

2. **Comment:** *Plans call out "HSS" as the material for use in presumably steel construction. We were unable to find a definitive definition of the acronym nor a reference to a specification for "HSS.*

   a. *Related to this, specification 609.02.01.E appears to be in conflict with other steel specifications and the plans at Sheet 8, Detail (1)*

   Response: "HSS" commonly refers to Hollow Structural Section, which is identified in the current steel design code AISC360-05, and the term "HSS" has been defined on Sheet S-1.

   Per Note 8 on Sheet S-1, it identifies that HSS be constructed to ASTM A500 Grade B standards in conformance with Specification 710.03.06, and all pipe sections conform to ASTM A53 Grade B in accordance with Specifications 609.02.01.E and 710.03.05. Therefore, the specifications are considered accurate with no revision necessary.

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3. **Comment:** Specifications:

   a. **Comment:** *Generally, all references to compaction (90% of maximum dry density per ASTM D-1557), although acceptable, are in conflict with the Geotechnical Report and violates the stability assumptions therein. Either all references to 90% should be changed to 95% or the stability calculations should be revisited for 90%.*

      Response: All specifications related to compaction of fill material have been revised to 95% to match the plans and be in accordance with the geotechnical report.

   b. **Comment:** *Generally, if roads are a part of the project, a differentiation between road embankment construction and dam embankment construction must be made.*

      Response: Section 203 of the specifications has been modified to remove all references to roadway excavation and embankment, because roadway is not proposed as a part of this project. The remaining Section 203 applies only to dam embankment construction.

   c. **Comment:** *201.03.03 – No stumps are allowed in the embankment footprint.*

      Response: Specifications 201.03.03(A) and (B) have been adjusted accordingly. Additionally Specification 201.03.03(K) has been added that specifically references the above comment.

   d. **Comment:** *203.03.06 – Page SP-202-3 - Gradation requirements should be referenced. Is this the correct specification number (202)? Also, the page states "END OF SECTION 206."*

      Response: The "Disposal of Materials" specification has been relabeled as Section 202.03.06. A reference to Section 207.02.01 has been added to 202.03.06(A) that specifies the material gradation from the re-used material. The "End of Section" has been appropriately re-labeled as Section 202.

   e. **Comment:** *203.03.10, 203.03.16.C & 203.03.16.E – All are unsuitable for dam embankment construction.*

      Response: The above specifications have been removed and replaced with a "BLANK".

   f. **Comment:** *203.03.16.F – This is the only noted reference to a "detention basin berm". This term must be defined, as the initial thought is there must be a sediment berm within the basin. If reference is being made to the dam, the preferred term is "dam embankment".*

      Response: The comment is acknowledged and this specification has been removed. There is no sediment berm proposed by this project, and the dam embankment is specified on the plans to be constructed using selected backfill not granular.

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g. **Comment:** *203.03.17 – This specification is in conflict with 203.03.73. Suggest deletion of 203.03.17*

Response: After review, Specification 203.03.17 has been deleted.

h. **Comment:** *207.03.01.C & 207.03.03.A – (backfill lift thickness) may not be used within dam footprint.*

Response: The provision of "outside of the dam embankment footprint" has been added to the above specifications. Additionally, Specification 207.03.03(F) has been provided to specify the backfill thickness placement around the culvert in the dam enmbankment.

i. **Comment:** *208.03.12 – May not be used within dam footprint or abutment areas. Specification 708.01.01.F should be cross referenced*

Response: Additional provisions regarding backfill in trenches within the dam embankment footprint areas that reference proper selected backfill and compaction requirements have been added as separate line items in Subsections 208.03.09 and 208.03.12 thru 208.03.17.

j. **Comment:** *610.02.05 & 610.03.06 – Rounded or sub-rounded stone is not allowed in areas subject to flowing water or wave action. Gabion fill in these areas must be angular or sub-angular only. Care must be taken to minimize amount of stone at or smaller than the basket apparent opening size and not allow small stones to be at the exterior of the basket.*

Response: The project does not propose any gabions; therefore Section 610 has been modified to delete any specifications regarding gabions and stones for gabion structures.

Additional Revision

In accordance with Specification 302.03.05(C), Sheets S-1 thru S-9 have been adjusted to show that the Type II aggregate base required for the channel and the outlet structure's concrete apron compacted to 95%.

Respectfully Submitted,

SLATER HANIFAN GROUP

Steve Jones, P.E.
Project Manager - Flood Control Division

12/2/2015

cc: Marc Bolduc – Olympia Companies
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