Hydrologic and Hydraulic Technical Memorandum
Project Yankee, February 20, 2026

NYSDEC Comments
2/27/2026

1. Table 1: SMP-01 – Under Storage Capacities, the Max. Storage is identified as 3.74 ac.ft.(1.22 MG). The Ponds Summary sheet has identified a max storage capacity of 3.69 MG. Is the 3.74 ac-ft. (1.22MG) max. volume accurate? Is this the volume at the top of the dam? The 3.74 ac-ft. does not match the max. volume provided on other submissions (3.69MG). If the dam is below 15ft. and below 3 MG, the dam would be below dam safety permit thresholds.

***AECOM response**: The Pond Summary sheet references volumes that include the extended detention that is excavated below the upstream toe of the dam and therefore, is not being impounded by the dam. AECOM's goal in the hydrologic and hydraulic technical memo was to only reference the impoundment volume, that is the volume being stored above the extended detention. This has been clarified in the report. There was a typo with the maximum storage for SMP-01 that has been corrected.*

2. The Sunny day condition was not run as a failure mode based on the impoundments maintained 'empty'. Two conditions may exist for a flood control dam, maintained empty, to run sunny day failure analyses. First, if there is a potential that during sunny day conditions, the outlet could become plugged and sunny day flow can then result in an elevated impoundment. Second, if during a wet weather event, if drainage of the impoundment is over an extended duration, such that failure of the dam could occur when the dam is 'full', and the downstream valley has drained.
If either of these conditions arise, a sunny day failure may be necessary to assess. Please discuss further if a sunny day analysis is required and/or the basis for why this failure mode is not necessary.

***AECOM response**: See revised text added to Section 3.2 – A sunny-day breach analysis is typically required, however based on several factors a sunny-day breach was not performed for the proposed dams. Under sunny day conditions, there is no impoundment volume and the basins function as dry stormwater ponds. Conditions that could require the sunny-day breach to be evaluated were reviewed. The first condition is if the outlet becomes plugged resulting in an elevated impoundment under sunny day conditions. The contributing drainage areas are relatively small and contained within the project site. The flow into the reservoirs is routed through the proposed drainage features which include debris control such as grates. If the lowest orifice were to become plugged during a storm event, the reservoir would still empty to the level of the second lowest orifice. For example, SMP-11 has the greatest vertical difference between the lowest and second lowest orifice which is 1.5 feet. Therefore, at the end of the storm event there would be 1.5 feet of standing water. It is anticipated that clogging of the lowest orifice would result in a minor*

maintenance issue that could be easily fixed. Since this condition is not expected and could be easily remediated, the sunny day failure was not run for this condition. The second condition is if during a storm event the drainage of the impoundment takes longer than the drainage of the downstream valley. The amount of time it takes to drain the impoundments were analyzed to confirm the compliance with Section 6 from NYSDEC Guidelines for Design of Dams. According to Section 6.5.6 the service spillway should have sufficient capacity to evacuate 75% of the storage between the auxiliary spillway crest and the service spillway crest within 7 days. This requirement is met in 3.2 days for SMP-01, 2.6 days for SMP-11, 3.1 days for TEMP-SMP-01, and 2.8 days for TEMP-SMP-02. This analysis represents the draining of the reservoir for a storm event greater than the 100-year event, since the elevation in the reservoirs do not reach the auxiliary spillway crest during the 100-year event. Given the relatively small drainage areas, it is reasonable to assume that if a storm event greater than the 100-year event impacted on the site, the surrounding drainage areas would also be experiencing the large storm. The four dams discharge into Youngs Creek witch is a tributary to the Oneida River. There is a USGS gage station located downstream of the confluence between Oneida River and Youngs Creek near Euclid (USGS-04247000). AECOM reviewed the data for this USGS for various historic storm events to see how long the river is elevated during and after a storm event. Based on the data from this gage, it can take up to a week or more for the elevation in the river to lower back to normal conditions after a storm event. It is reasonable to assume that this elevated condition in Oneida River will result in a backwater condition within Youngs Creek river basin. Given that the reservoirs are expected to drain while the downstream tributaries still at flood stage, the second condition was not considered as a failure mode. Since there is no impoundment volume under sunny-day conditions and the requirements that could require a sunny-day failure are not met, there were no sunny-day breaches performed.

3. In Table 1, under Storage Capacities please clarify if the 'Normal Poll' volume is associated with an excavated volume, or is there a volume maintained above the orifice 1 invert?

AECOM response: *"Normal Pool" refers to the elevation at the bottom of the pond which is equal to the toe of the upstream slope. The invert of the lowest orifice is set at this "Normal Pool" elevation. The Normal Pool Storage volumes have all be revised to be 0.0 acre-feet to clarify that no volume of water is impounded by the dams under normal conditions.*

4. Section 3.2 – 1st paragraph sentence 'The initial water surface elevation of each reservoir was assumed to be at normal pool elevation at the start of the simulation'. Please clarify that the start of the simulation is not associated with the time of failure.

AECOM response: *Correct – the failure was initiated at the maximum was surface elevation. Text has been added to the report to clarify this and the water surface elevations at the time of breach are also listed in Table 6.*

5. Table 3: Rows for SMP-11 and TEMP SMP—01, under column 'Orifice #2' for invert elevation appear incorrect. Please review and revise as needed.

AECOM response: *The typos in the table were revised with the correct values.*

6. The statement on page 9, in second paragraph, 'Dam height, crest, width and upstream and downstream slopes were taken from Jacob's Summary of Dams Data'. What is intended to be conveyed with the statement. If AECOM is relying on something from another engineer, they must review those documents, and accept them, such that one engineer is responsible for the design of the structures.

AECOM response: *This is sentence has been deleted from the report. AECOM has reviewed all background information and documents, accepted them and is responsible for the design of the structures.*

7. Free board. The one foot of freeboard requirement was not included in Table 7. Based on the water surface elevation provided for the SDF in Table 3, and the top of dam provided in Table 1, each of the structures has over 1-foot of freeboard. Please confirm freeboard requirements are met in the final document.

AECOM response: *A sentence has been added to Table 7 stating that the SDF is safely passed at each dam with greater than one foot of freeboard.*

Other items –

1. SMP-01 and TEMP SMP-01 – have 'traditional auxiliary spillways, that are identified as 'on graded embankment'. Is this 'graded embankment' natural grade or constructed embankment. If the auxiliary spillway is proposed over a constructed embankment, the auxiliary spillway should be durable (ACBs/hydroturf/other) for the anticipated flows.

AECOM response: *The auxiliary spillways at SMP-01 and TEMP-SMP-01 have been designed to be armored with HydroTurf capable of withstanding anticipated flows. This is described in the Basis of Design Report.*

<u>From: 3/13/2026</u>

1. During the call today AECOM asked questions to Jacobs regarding the auxiliary spillway design. Upon submission of the Design Report, please have one engineer responsible for the entirety of the dam design for the two structures sign and stamp the report. The engineer stamping the report must be familiar with all safety aspects of the dam, spillways, structural components, etc., and that the dam design conforms to the dam safety criteria.

AECOM response: *AECOM has reviewed all background information and documents, accepted them and is responsible for the design of the structures. The dam design conforms to the dam safety criteria*.

2. There are options presented in Chapter 6 of the Guidelines for Design of Dams for a dam with a single spillway and with service spillway-auxiliary spillway spillway combination. These dams can pass the design storm for a small Class A dam through the service spillway and they have an auxiliary spillway. If deviation from the guidelines is proposed please provide discussion of the technical basis for the deviation, and how the safety of the dam remains assured.

AECOM response: Table 7 of Section 4 of the H&H reports lists Conformance with Relevant NYSDEC Guidelines for Design of Dams. The spillway comply with relevant guidelines.

3. Provide the basis of design for the auxiliary spillways, and discussion of if the auxiliary spillways components (foundations, materials, etc.) demonstrating they are designed in accordance with sound engineering practice.

AECOM response: *This can be found in the Basis of Design Report*.

4. Provide computations for the design/stability of the retaining wall.

AECOM response: *This can be found in the Structural Engineering Report which is Appendix D of the Basis of Design Report*.