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	personnel responsible. Proper maintenance of all storm water controls is imperative due to the close proximity of water bodies to the site. EPA and NYSDEC have agreed to have NYSDEC permitting experts available for consultation with GE regarding NYSDEC requirements.	Comment noted.
D	**Comment 80 (Site Design/Basis for Design/Storm Water Pollution Prevention, Section 3.6.1.2):** The two bulleted passages on Page 3-57 regarding the design of facilities for handling Type 1 storm water (potentially contaminated with PCBs) indicate that the systems capacity assumes that the pumps that convey water from the tanks to the onsite treatment plant are operational. The design should include provisions to avoid any overflows in the event of a power outage such as back up power for operating the pumps and other appurtenances, as needed.	Means to avoid an overflow of Type 1 stormwater, including backup power, are being evaluated during final design and will be presented in the FDR.
C	**Comment 81 (Site Design/Basis for Design/Storm Water Pollution Prevention, Section 3.6.1.2, Chemical Supply Railroad Spur Storm Water Type):** The chemical supply railroad spur and transfer facility should not be classified as a Type 3 storm water area. Depending on precisely what is being unloaded and transferred in this area, it should at least be classified as a Type 2 area, and possibly even Type 1.	Secondary containment will be provided in the unloading and transfer area.
A	**Comment 82 (Site Grading, Section 3.6.1.2):** How will the 100,000 cy of fill to raise the grade for the facility site be transported to the site? Where will the material come from?	The means of transport of fill to the site is expected to be via truck. The material source will be identified by the contractor during project implementation.
D	Alternative grading plans should be considered to reduce the amount of fill required. To the extent practicable, efforts should be made to minimize the impact of truck traffic associated with transporting this fill.	Please see Response to Comment 13.
A	Has a detailed traffic analysis been completed to evaluate quantity of truck traffic, routes to be taken, % increase in traffic flow during facility site work?	The FDR will present information on anticipated project related truck traffic from pre-established truck routes to the site entrance and project staff traffic. Contractors will be directed to use existing truck routes as needed to access the site during construction.
C	**Comment 83 (Design Analysis, Section 3.6.2.2):** The third bullet item under section 3.6.2.2 "design analysis" states that a reason for providing buildings or coverings is to "reduce noise, light, and air emissions at receptors (if necessary)". A design objective should be to	The basis of the design remains compliance with the QoL performance standards. The design team intends to assess additional options to reduce the

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	minimize quality of life impacts and not merely provide for reductions "if necessary." To the extent practicable, the facility layout should be designed to minimize QoL impacts consistent with the Critical Design Elements attachment to the CD.	QoL impacts, to the extent reasonable and practical.
C	**Comment 84 (Containing Emissions, Section 3.6.2):** Enclosed processed material facilities and filter press area will reduce fugitive emissions, and will therefore reduce potential for exceeding the air standard. A Design determination that enclosing the size separation area and staging and loading areas is not necessary is premature without air emissions analyses. This applies to the noise standard as well.	Comment noted. A detailed evaluation of air and noise emissions will be presented to EPA during final design and included in the FDR.
D	**Comment 85 (Canal Datum, Section 3.6.3.1):** Page 3-61, Table 3-32 - Elevations listed in the table are Barge Canal Datum (BCD), not NAVD-88 vertical datum. The formula for conversion from Lock C-3 to Lock C-12 is: USGS NGVD-29 + 1.177 = BCD USGS NGVD-29 will then require further conversion to USGS NAVD-88 vertical datum. The table needs to be revised to take into account this correction for Vertical Control. (Note: This datum issue occurs in various locations within the report and supporting documents. The correction should be made to all occurrences to ensure consistent elevation control for the project.)	Comment noted. This correction will be made in the FDR, drawings and specifications where appropriate.
A D D	**Comment 86 (Wharf Design and Operation, Section 3.6.3.2):** Page 3-63, Unloading Wharf - Will a 150' long unloading area be sufficient if jumbo hopper barges are utilized? Is the total length of 750' sufficient? Projected usage suggests that the wharf dimensions may not be adequate. The Lock C-8 lower approach wall is not to be used for barge mooring and/or staging at anytime, and the wharf design should take this into account. The layover of tugs on the approach wall during loading or unloading operations does not present a problem at this time. Figure 3-28 – Traffic control will be required for the processing facility to	As shown in Drawing P-0201 of the IDR, the total length will allow the mooring of up to 3 barges at a time, which is expected to be adequate for Phase 1 (Note that there is also space for additional barges in the waterfront embayment). The barges will need to be advanced along the unloading wharf to allow the offloader access to the barge. Comment noted.

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	ensure the safe passing of non-project traffic. This may be accomplished through constant communications with lock operators	Comment noted.
C	**Comment 87 (Wharf Issues, Section 3.6.3.2):** **Traffic Control/Management:** "Off-loading Facilities" There is no discussion regarding barge traffic control/management at this area. There should be some consensus with NYS Canal Corp. regarding priority for lockage of barges vs. private boat traffic, control of barge movements during potential bottlenecks at the lock, etc.	GE is continuing to discuss traffic control issues with NYSCC during the final design. The contractor(s) selected to implement the project will be required to provide a traffic control plan as a component of the RAWP submittal.
D	**Unloading Production Time:** The barge unloading production rate presented in the documents assumes 1-hour of down time during each 24-hour cycle. The R. S. Means construction estimating manuals (Sections R02315-400 and R02315-300), for example, use a 50-minute hour when estimating production rates. Over a 24-hour period, this would translate into 240 minutes or 4-hours of down time not 1-hour as assumed in the IDR. This issue should be revisited in Final Design.	Comment noted.
A	**Wharf Design:** a) GE has presented two designs for the unloading wharf and work wharf. A final single design will be presented in the FDR. Both of the current designs feature a concrete deck sloping at a 2% grade from east (canal side) to west (land side). The east side edge is designed with a 12-inch high curb that will prevent water and sediment from running back into the canal. However, both the north and south ends of the wharf appear to be open and not curbed. This condition will allow run-off to enter the canal from the wharf ends. The documents mention a "perimeter curb" but the drawings are not clear about this.	Curbing around the perimeter of the unloading wharf will be specified in the FDR.
A	b) Also, the land side of the wharf does not contain run-off collection drains or sumps. It appears that run-off will flow across the wharf deck to the adjoining asphalt paved work/material separation area and flow to a trench drain located approximately 80-feet to the west of the wharf. This may not be a problem since the wharf run-off will mix with water draining from stock piled sediment and debris. An alternative to this situation would be the installation of a trench drain along the wharf's west edge with a dedicated sump and discharge line	Comment noted.

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	running to the trench drain mentioned above.	
A	c) Will the unloading wharf and storage area have a wash down system (yard hydrants) installed? There is no mention of this.	Decontamination and wash down systems will be provided in the FDR, although yard hydrants may not be the selected option.
A	**Fixed Spill Plate:** The documents state that a "fixed spill plate" will be installed on the wharf and hopper to collect spilled material. Details of the spill plate are not included. The drawings show the swing radius of the unloading crane going out over open canal water with the potential of spilling sediment into the canal. Is the spill plate intended to address this situation?	The contractor will be required under the specifications to restrict the unloading crane from swinging beyond the protection provided by the spill plate.
A	d) **5-cy Unloading Bucket:** Attachment F states that a 5-cy clamshell bucket @ 90% capacity will be used to remove sediment from the barges. Can a 5-cy clamshell actually remove all the material in the barge as it reaches the bottom of the barge, or is a pump-out system going to be needed to remove the final one or two feet of sediment?	The bucket will be able to unload most of the sediment. A relatively small amount of sediment will remain in the bottom of the barge when it is returned to the dredge operations. The final clean out of barges will take place near the end of the implementation of Phase 1 and the requirements for the clean out equipment will be detailed as necessary in the specifications.
A	e) **Unloading Hopper:** Is the proposed unloading hopper large enough to accept a fully opened 5-cy clamshell bucket without creating unacceptable spillage?	The unloading hopper will be sized to accommodate the fully opened bucket used for unloading the barges.
	Comment 88 (Unloading and Waterfront Facilities, General and Table F4 and F5):	
A	This analysis does not appear to be coordinated with the barge traffic/Lock 7 analysis. Movement of small and large barges appears to be treated the same, one tug one barge.	The analysis was intended to address situations where barge traffic is expected to be high (i.e., during the one month test of productivity), not necessarily the single worst case.
	The cycling time to unload barges presented on Tables F4 and F5 is unclear and may be incorrect. Adjustments for minimum, median, and maximum conditions were planned but not correctly accounted for in these tables. The tables are unclear in their presentation of barge unloading times. Relocation time for one move of a large barge is included in the table, however during the analysis of offloading crane requirements a limit of two barge moves during unloading was assumed. No differentiation is provided for unloading large	The analysis does incorporate different times to unload small and large barges. The time to move a small barge or a large barge was the same (15 minutes to move in and 15 minutes to move out). The 90% capture efficiency was based on engineering judgment. Approximately 50 to 100 cy of material may be left on the bottom of the

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	(200-foot long) versus small (100-foot long) barges, implying that two moves would be needed for both types of barges. What is the assumed 90% capture efficiency for each 5cy bucket fill based on? How much material will be left in an unloaded barge because it is impracticable to remove with a 5cy bucket or a trash pump?	barge when it returns to the dredge area to be loaded again. Final clean out of barges will occur before there are taken out of service for the project.
D	**Comment 89 (Wharf Issues, Section 3.6.3.2):** During the construction of the waterfront unloading facility near the Energy Park site, material will be excavated to construct the facility. The proposed monitoring that GE will conduct during this excavation work needs to be included in the remedial design.	The specifications for the construction of the waterfront unloading facility will provide direction to the contractor for monitoring to be performed during construction. Details will be included in the RA Work Plan for Phase 1 Facility Site Work Construction.
A	**Comment 90 (Barge Unloading Area):** Has consideration been given (to minimize the potential for Q of L impacts) to moving the sediment separation operation at the wharf/unloading area further from the property line to the central part of the site. Have other options been considered such as using conveyors/hydraulic transfer or making a land cut that extends into the site?	Movement of the sediment separation operation further from the property line was considered during the development of the IDR. This evaluation considered the use of conveyors and hydraulic transfer options. These transfer devices are prone to mechanical problems and plugging due to debris.The IDR presents the preferred alternative
D	**Comment 91 (Wharf Issues, Section 3.6.3.2):** Given the number of projected trips through Lock C-7 per day (26 as previously stated several additional slips for barges waiting to be unloaded at the sediment processing facility) will likely be required. Additionally, the outboard side of barges moored at this facility should not extend past the line of the lower C-8 approach wall, if such wall were extended southward to the proposed facility. Barges moored at the wharf must be set back from the edge of channel a minimum of 16 feet, as this is a land cut section of the Champlain Canal. This will require the wharf to be set back a minimum of 16 feet from the current design from that shown on Drawing P-0201.	The requested set back will be incorporated into the Phase 1 FDR.
A	**Comment 92 (Secondary Containment at Processing Site, Section 3.6.3.2 and P Series Dwgs.):** Will there be a geomembrane liner under the wharf area? Will there be a liner under asphalt stockpile areas including the fine material stockpile, coarse material stockpile, filter press area, dewatering area, coarse staging and loading area/ Will secondary containment be provided for storm water holding tanks?	Yes. Yes. The storm water holding tanks will be located within Type I storm water areas; therefore secondary containment measures such as dykes around the

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		tanks will not be necessary. The curbing around the Type 1area will be able to contain more than the contents of the storage tank.
	Does the drip pan at the barge unloading area fill or cover the void between barge and wharf?	Yes.
	Is a decontamination area provided for washdown of construction vehicles removed from site for service, etc and support vehicles that may go between haul road and outside site areas? Concept is stated but summary of locations would be better.	Yes. Locations will be given in the contract drawings.
	Will haul roads be swept with sweeper truck to limit sediment on roadway? Two issues should be addressed here: dust and contamination could spread during dry periods and rainstorms will wash spilled sediment into storm water collection systems.	The storm water collection systems will be designed to accommodate the solids loading expected from the haul roads. The facility operations specifications will require appropriate housekeeping procedures for dust control.
	Double containment at Type 1 storm water collection lines/piping and structures may be needed. No details are presented for piping beyond lined roads, etc. Does the piping system transition to double containment?	Most of the force main Type 1 storm water piping will be above-grade single-walled pipe. Collection sumps and pipes will be lined.
A	**Comment 93 (West River Road Docking Facilities, Section 3.6.3.2):** GE has proposed expanding the present day West River Road Staging Area to a project support vessel facility. The documents state that the expanded facility will feature a dock approximately 520 feet long and covering about 6,695 square feet. The dock will be secured to the river bed with a combination of anchored moorings and/or steel pipe piles. However, the river bed or at least a portion of the bed underlying and adjacent to the dock system is scheduled to be dredged on or about the 120th day of dredging. Will the dock system be installed and removed to accommodate the dredge schedule or will the dredge schedule be revised?	The dock system would be removed to accommodate dredging in that area.
B	**Comment 94 (Processing Facility Design, Section 3.6.4, Dwg. P0003):** No intake location or design is shown for Champlain canal make-up water. Please provide the location for this intake.	The intake location will be provided in the FDR.
	Comment 95 (Processing Facility Design, Section 3.6.4, Processing Facility Flow Rates and Material Balances):	

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A	The Final Design should Identify if the values of flow rates, flows, mass, solids content presented in P-2002 and P-2003 are maximum, average or minimum.	The final process flow diagram will be provided in the FDR.
A	**Comment 96 (Processing Facility Design, Section 3.6.4 , Processing Facility Material Balances):** X There are some inconsistencies in the mass balances between P-2002/2003 and Table 3-35. Examples are: stream #107 – the solids content is 14.8% in P-2002, while it is 23.6% (S-Av) in Table 3-35. X Stream #117 - the solids content in P-2002 is 40%, while it is 15% in Table 3-35. X Stream #121 – the solids content in P-2002 is 39.5%, while it is 15% in Table 3-35.	The inconsistencies will be corrected in the FDR.
A	**Comment 97 (Processing Facility Design, Section 3.6.4 and Drawings):** The material balances for the sediment processing equipment presented in Table 3-35 and the material balances presented in the tables on Drawings P-2002 and P-2003 are not consistent. The flow rates and mass balance should be carefully reviewed and corrected in Final Design.	The inconsistencies will be corrected in the FDR.
A	**Comment 98 (Processing Facility Design, Section 3.6.4, Processing Facility Gravity Thickener Feed):** In Drawing P-2020, the selected polymers, a coagulant and a flocculant, will be introduced to the influent to the gravity thickeners from the hydrocyclone overflow wet wells, but in the event that the slurry is fed to the gravity thickeners from the dredge slurry holding tanks, no polymers are introduced. Without polymers addition, the gravity thickeners are not expected to perform as intended. Please clarify.	Comment noted. The drawing will be revised. Details of the polymer addition to all thickener feeds will be provided in the FDR.
C	**Comment 99 (Processing Facility Design, Section 3.6.4.2, Polymer Addition):** The polymers selected must be non-toxic.	GE intends to design the water treatment facility such that any residual polymer concentrations in the discharge will be non-toxic. GE will provide the substance of NYSDEC Form WTCFX to EPA for the polymers to be specified in the FDR.
D	**Comment 100 (Processing Facility Design, Section 3.6.4.1, Page 3-70):** An estimate of the mass fraction of total targeted sediment that fall into each grain size category shown on Table 3-37 might be useful for checking the design of the dewatering system and dewatered sediment stockpiles.	Comment noted.

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A	**Comment 101 (Processing Facility Design, Section 3.6.4.2, Page 3-71, Design Analysis):** Please clarify the following inconsistency. The text states that the tables on Drawings P-2002 and P-2003 provide mass balance and flow rate data for the average sediment type (i.e., S-Av). However, the notes below the tables on these two drawings refer to sediment types S2 and S3.	The inconsistencies will be corrected in the FDR.
B	**Comment 102 (Processing Facility Design, Section 3.6.4, Outfall and Sampling Locations):** Please submit a map showing the outfall and sampling locations for the processing facility and storm water treatment process system.	The outfall and sampling locations will be provided in the FDR.
C	**Comment 103 (Processing Facility Design, Section 3.6.4, Storm Water from the Water Treatment Area):** In accordance with Drawing P-0007, the storm water from the water treatment area is discharged to the canal. There is a potential that the runoff from the water treatment area contains the pollutants of concern and, therefore, consideration should be given to collecting and treating this runoff in the storm water treatment system.	Since the water treatment area will be enclosed in a building, the run off from the area will not come into contact with dredged sediments and therefore should not require containment or treatment.
A	**Comment 104 (Processing Facility Design, Section 3.6.4, Dwg. P2010 Sediment Slurry Tank):** How will the slurry from the rotary trommel screen and hydrocyclone overflows discharge to the sediment slurry tank without a set of pumps? No indication is given that the sediment slurry tank is a below grade structure. Will any mixers be placed in the tank? With a hydraulic residence time of 5-8 minutes, some sediment will drop out of suspension. How will this tank be cleaned if there is not a second tank to utilize during cleaning?	The sediment slurry tank will be located under the trommel. The sediment slurry will be pumped to the hydrocyclones. Mixing of the sediment slurry tank is not required due to the short residence time and high velocities in the tank. If cleanout of this tank becomes necessary, it would be performed during shutdown of this operation.
D	**Comment 105 (Processing Facility Design, Section 3.6.4, Dwg. P2020, Dwg. P2021 and Attachment G):** These drawings are incomplete. They lack valves on the suction sides of pumps taking slurry or water from tanks to permit removal of the pump for maintenance, do not provide valved cross connections between pumps in trains to permit these pumps to back themselves up, only show four of the ten dredge slurry pumps, and have many other deficiencies. It is understood that this is a 60 design submittal, but completed process and instrumentation diagrams were expected to be furnished. These drawings should be completed and resubmitted as part of the Final Design.	Comment noted. Completed drawings will be included with the FDR.