# Response to Comments on Draft GW Permit 016-0013 (Bryan Co.) and Draft GW Permit 016-0014 (Bulloch Co.)

| # | PUBLIC COMMENTS | EPD RESPONSES |
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| 1 | One commenter indicated that EPD was not sharing the full location of the cone of depression and that the cone of depression extends further than EPD's materials indicated.<br><br>One commenter indicated that the impact from the withdrawals would be felt further than five miles from the wells. The commenter provided information from tracer studies about groundwater flow and velocity from southwest Georgia and northwest Florida showing that groundwater moved more than 20 miles in approximately 52 days.<br><br>Several commenters said that the cone of depression extends further than the 5-mile radius that EPD presented in the meeting. | There may be some confusion about the information presented by EPD and posted on EPD's website (Water Withdrawal Permitting \| Environmental Protection Division (georgia.gov)). The map, showing simulation results and the circle with a 5-mile radius, provides contours of the local cone of depression, indicating how much impact there may be at any location on the map. The contours go beyond the 5-mile radius in all directions.<br><br>The impact of the proposed water withdrawals does go beyond the 5-mile radius, and EPD indicated that information in public presentations and in materials posted. The circle with a 5-mile radius roughly corresponds to the area where there is a projected additional drawdown resulting from the water withdrawals between 10 feet and 19 feet.<br><br>The studies cited about the Floridan Aquifer in northwest Florida and southwest Georgia are largely irrelevant to the issues in southeast Georgia. Between the two geographic areas, the lithology and the surface water and groundwater dynamics vary greatly over the extent of the Floridan aquifer. The study examines an area where the aquifer is unconfined so its assumptions, its models, and its results are not appropriate to apply to conditions in southeast Georgia where the aquifer is confined. |
| 2 | Several commenters requested that the comment period be extended for at least 60 days or until EPD can review the information submitted under the public comment period and respond to the commenters. | On July 8, 2024, EPD issued a public notice and made the draft permits available for public review. EPD provided the public an opportunity to submit comments through August 20, 2024. EPD has reviewed and considered all the public comments received and provided responses herein. No extension for the public comment period was granted. |
| 3 | One commenter was concerned that the mitigation fund will not be sufficiently well-funded to help everyone affected. | The comment is noted. The minimum amount, the funding sources, and the implementation of the mitigation fund are the responsibility of the permittees, who will publish details of their plans for mitigation and the implementation of the plans. |
| 4 | One commenter noted that the Environmental Assessment conducted by the U.S. Army Corps of Engineers for the Hyundai Mega-Site was insufficient because the assessment did not include a review of the water source. The commenter asserted that the water withdrawals were a "connected action" and should have been evaluated in the Environmental Assessment. The commenter concludes with, "THE PROPOSED 4 NEW WELLS FOR 6.6 MGD GROUNDWATER WITHDRAWALS FOR THE HYUNDAI MEGA-SITE ARE "CONNECTED ACTIONS" THAT SHOULD HAVE BEEN | The comment is noted. The Environmental Assessment conducted by the U.S. Army Corps of Engineers is outside of EPD's regulatory authority. |

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| | ADDRESSED IN THE CORPS' DEFICIENT EA – AND MORE ACCURATELY MUST BE ADDRESSED BY THE CORPS NOW IN A COMPREHENSIVE EIS, PRIOR TO THE STATE'S ISSUANCE OF PERMITS FOR THOSE PROPOSED 4 NEW WELLS, TO ALLOW THE PUBLIC TO ESTABLISH A FORMAL ADMINISTRATIVE RECORD FOR THE "CONNECTED ACTION" OF THOSE PROPOSED 4 NEW WELLS FOR 6.6 MGD GROUNDWATER WITHDRAWALS FOR THE HYUNDAI MEGA-SITE.**"** | |
| 5 | One commenter indicated that "dewatering of the Okefenokee Swamp/Okefenokee National Wildlife Refuge, Savannah National Wildlife Refuge, Pinckney National Wildlife Refuge, Fort Stewart, and rivers and coastal marshes in that range will occur if GDNR/EPD issues the 2 proposed permits for groundwater withdrawals…" | As answered previously on page 6 of the "Response to Comments on the Draft Special Conditions", there is no hydraulic connection between the Floridan Aquifer and the surface water bodies listed in this comment. The Floridan Aquifer is overlain by a confining unit, so there is no prospect of the dewatering referenced in this comment (see also response #12). |
| 6 | One commenter requested clarification on whether the calculation of impacts captured in the 5-mile radius included the effects of running all four proposed wells or just two of the four proposed wells. | EPD's assessments, calculations, and presentations of the results capture the operation of all four proposed wells pumping at the full requested permit limits of 6.625 million gallons per day in a steady-state manner, which means pumping is continuous. |
| 7 | One commenter noted that, "THE PROPOSED 6.6 MGD OF NEW GROUNDWATER WITHDRAWALS IN BULLOCH COUNTY WOULD BE COMPARABLE TO GROUNDWATER WITHDRAWALS FOR ALL OF THE IRRIGATION WELLS IN GRADY AND LEE COUNTIES, AS OF 2012, FOR A TOTAL OF 55,875.6 ACRES, APPROXIMATELY 22 TIMES THE ACREAGE OF THE PROPOSED HYUNDAI MEGA-SITE AND WOULD RESULT IN LONG TERM, IRREVERSIBLE DEWATERING OF THE AQUIFER SYSTEM, SURFACE WATERS AND WETLANDS, INCLUDING COASTAL MARSHES, IN ADDITION TO INCREASING SALTWATER INTRUSION." | First, EPD disagrees with the commenter's comparison between water use under the draft permits and agricultural irrigation in Grady and Lee Counties. By utilizing the state's agricultural metering program's data, the estimated irrigation depth in Grady and Lee Counties in 2012 was 15.9 inches. Assuming the number of irrigated acres (55,875.6) provided by the commenter (without endorsing its accuracy), the total amount of water applied in 2012 would be 74,035 acre-feet. This is equivalent to a flow rate of 102 cubic feet per second (cfs), or 65.9 million gallons per day (mgd). This is nearly ten times more than the requested withdrawal amount of 6.625 mgd.<br><br>Second, EPD disagrees that the proposed withdrawals in Bulloch County will have "long term, irreversible dewatering of the aquifer system, surface waters and wetlands." As noted above, the lack of a hydraulic connection between the Floridan Aquifer and the surface water bodies in Bulloch County and Bryan County points to no surface water implications. |
| 8 | One commenter noted that, "THE PROPOSED 6.6 MGD OF NEW GROUNDWATER WITHDRAWALS IN BULLOCH COUNTY WOULD BE COMPARABLE TO ADDING ALL OF THE MUNICIPAL GROUNDWATER WITHDRAWALS FOR GRADY, LEE, TURNER, AND WORTH COUNTIES, AS OF 2012, TO BULLOCH COUNTY, AND WOULD RESULT IN LONG TERM, IRREVERSIBLE DEWATERING OF | See the response above with respect to dewatering.<br><br>The total permitted municipal withdrawals from the Floridan aquifer in Grady, Lee, Turner, and Worth Counties is 12.850 mgd monthly average and 10.380 mgd annual average. |

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| | THE AQUIFER SYSTEM, SURFACE WATERS AND WETLANDS, INCLUDING COASTAL MARSHES, IN ADDITION TO INCREASING SALTWATER INTRUSION." | |
| 9 | One commenter cited tracer studies conducted in the Wakulla Springshed and indicated that groundwater could flow for the entire length of the springshed, approximately 160 miles. The commenter cited this as evidence that the proposed withdrawals would have an impact on the Okefenokee Swamp, which is less than 160 miles away. | Wakulla Springshed is in northwest Florida. A tracer study indicating that a water molecule travels some distance before reaching the Wakulla Springshed is not evidence of any hydraulic connection between the Floridan Aquifer and surface water bodies in southeast Georgia, regardless of the distance. As explained in the response to the first comment, the study is inappropriate to use as evidence supporting any hydraulic connection between the Floridan Aquifer and the Okefenokee Swamp.<br><br>The Okefenokee swamp is not hydraulically connected to the Floridan aquifer and therefore there is no potential impact to the Okefenokee Swamp from Floridan aquifer withdrawals in Bulloch County. |
| 10 | One commenter stated that, "NEITHER OF THE 2 GDNR/EPD "DRAFT PERMITS" FOR THE PROPOSED 4 NEW WELLS TO PUMP 6.6 MGD FOR THE PROPOSED HYUNDAI MEGA-SITE PROVIDED ANY INFORMATION ABOUT THE GROUNDWATER MODEL USED, INCLUDING WHAT GEOLOGICHETEROGENEITY AND PATTERNS OF PREFERENTIAL FLOW THROUGH LINEAR AND SINUOUS CONDUITS, KNOWN TO OCCUR THROUGHOUT THE ENTIRE KARST, REGIONAL FLORIDAN AQUIFER SYSTEM, WERE INCLUDED IN THAT MODEL." | EPD's modeling evaluation was conducted using the Coastal Sound Science Initiative (CSSI) model, which EPD can make available upon request. The conceptual lithology of the CSSI model is consistent with the lithology of the coastal geology and is based on data presented in various U.S. Geological Survey (USGS), South Carolina Department of Health and Environmental Control (DHEC), and South Carolina Department of Natural Resources (DNR) published reports. The hydraulic conductivity is consistent with field tests conducted during the model's development. The model has been successfully calibrated against field data, and was developed in collaboration with USGS, SC DHEC and SC DNR. EPD's permits are supported by modeling results. The modeling results are not included as part of the permits' conditions but continue to be available on EPD's website for public review. |
| 11 | One commenter stated that, "The area of the groundwater domain for the proposed 4 new wells in the Floridan aquifer to extract 6.6 MGD for the proposed HYUNDAI MEGA-SITE should have included and evaluated not only the entire Ogeechee River Watershed (Basin), but the entire sprinshed [sic] for Magnolia Springs, in addition to the associated major areas of groundwater withdrawals (e.g., Savannah, Brunswick, Fort Stewart, and Hunter Army Airfield)." The commenter implies that EPD's model domain was incorrectly limited to the five-mile radius of impact.<br><br>The commenter later indicated that EPD restricted the groundwater model to political subdivisions. | The CSSI model domain encompasses 42,155 square miles including the entire Georgia coastline and portions of Florida and South Carolina. The CSSI model domain includes the entire Ogeechee River Watershed and Jenkins County, which is where Magnolia Springs is located. In addition, the CSSI model domain includes the major areas of groundwater withdrawals as specified in the comment, which includes the counties containing the Savannah and Brunswick areas, Fort Stewart, and Hunter Army Airfield. EPD did not limit the model domain to five miles (see also response #1).<br><br>The upper Ogeechee River Basin contains areas outside the northwestern boundary of the Floridan Aquifer. The CSSI model domain covers the entire |

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| | | coastal Georgia area where the Floridan Aquifer is present. The model boundary used for the two permits does not correspond to any political boundaries. |
| 12 | One commenter asserted that one of EPD's statements in the response to comments on the Draft Special Conditions is wrong, specifically the statement that, "The Floridan Aquifer is overlain by a confining unit. It does not have a hydraulic connection with the Savannah River, the Ogeechee River, or the Okefenokee National Wildlife Refuge. There is not the prospect of dewatering the Ogeechee River, the Savannah River, or the Okefenokee National Wildlife Refuge. Species that use those surface water bodies as their habitat are not affected by water use from the Floridan Aquifer."<br><br>The commenter stated all three confining units in the Floridan aquifer system are permeable to vertical flow of groundwater. The commenter provides several examples of flow between the Upper, Lower, and Middle Floridan units. The commenter also says that saltwater can enter the Upper and Lower Floridan aquifers through horizontal flow. | The evidence provided to refute EPD's earlier response to comment was an illustration in the cited USGS report on saltwater intrusion. While the illustration may provide some general ideas of how groundwater may flow, it is no substitute for direct scientific evidence, such as the technical work done by the USGS regarding this geographic area. In fact, in the same USGS report, are the following two statements:<br><br>(1) "Much of the aquifer system is overlain by an upper confining unit that, where present, limits the amount of recharge to the system."<br><br>(2) "Where the upper confining unit is thin or absent, recharge is plentiful and ground-water circulation is high."<br><br>In the Bulloch and Bryan county area, the upper confining unit is neither absent nor thin; rather, it is approximately between 240 feet and 300 feet thick. The vertical hydraulic conductivity of the confining unit above the Floridan aquifer in the CSSI model, which is based on geophysical log data, is approximately 0.00002 ft/day. So, just assuming the confining unit is only 200 feet thick in the southern Bulloch County area, it would take a molecule of water approximately 27,000 years to travel from the Floridan aquifer through the confining layer to the surficial aquifer where it is most likely to interact with surface water bodies. Again, there is no evidence supporting a hydraulic connection between the Floridan Aquifer and the surface water bodies in Bulloch and Bryan counties in southeast Georgia, nor with the Savannah River, the Ogeechee River, or the Okefenokee National Wildlife Refuge.<br><br>Saltwater has been observed to enter the Floridan Aquifer through specific areas around Hilton Head Island and through deep brackish brines in Glynn County. The only noted horizontal flow of saltwater happens once it enters the aquifer in the aforementioned areas. The draft permits address this issue by requiring the permittees to switch to alternative sources of water to prevent any potential saltwater encroachment from worsening in the areas where it is found to be entering the aquifer. |

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| 13 | One commenter noted that groundwater withdrawals could affect the clay confining layers, specifically dewatering, compaction, and cracking. The commenter connects this to storage changes in interbeds. | The confining unit would need to have been completely dewatered for moisture levels to drop enough to cause shrinking and cracking to take place. Water levels in the Floridan Aquifer (before the proposed withdrawal and after it) are both higher than the top of the aquifer, meaning that the aquifer is still pressurized even after the withdrawal. This pressure will maintain an upward pressure on the confining unit, which will prevent the dewatering of the confining unit. Further, the surficial aquifer on top of the confining unit does, to some extent, provide water to the confining unit, helping it maintain moisture and preventing it from being dewatered. The surficial aquifer would have to cease to exist, and the confining layer would need to be exposed to the surface atmosphere to allow the confining layer to dry sufficiently for cracking to occur. |
| 14 | One commenter stated that, "THE 2 ALLEGED GDNR/EPD 'DRAFT PERMITS' FOR THE PROPOSED 4 NEW WELLS IN THE FLORIDAN AQUIFER DID NOT INCLUDE ANY INFORMATION ABOUT THE GROUNDWATER MODEL USED TO PREDICT THE IMPACTS OF THE PROPOSED 6.6 MGD OF GROUNDWATER WITHDRAWALS. THAT MAKES IT IS IMPOSSIBLE TO DETERMINE IF THAT MODEL ACCOUNTED FOR ALL OF THE INDUCED RECHARGE, AS VERTICAL, DOWNWARD FLOW FROM THE THICK, 'low-permeability clay-rich material' OVERLYING THE FLORIDAN AQUIFER, IN DETERMINING THE WATER BUDGET. THE MODELPREDICTED 'IMPACT' AREA DOES SUGGEST THAT THE MODEL FAILED TO CONSIDER THE SUBSEQUENT INDUCED RECHARGE FROM THE SURFICIAL AQUIFER AND SURFACE WATERS AS VERTICAL DOWNWARD FLOW THROUGH THE DEWATERED 'low-permeability clay-rich material' AND INTO THE FLORIDAN AQUIFER, IN RESPONSE TO THE 4 PROPOSED PUMPING WELLS." | As noted in response #10, the CSSI model is available upon request.<br><br>The model does contain hydraulic conductivities governing the movement of groundwater in all directions within the various layers (aquifers and confining units) and among them. |
| 15 | One commenter stated that, "In the approximately 150 years since that first well was drilled, countless additional wells, withdrawing countless billions of gallons have been drilled into the Floridan aquifer system. That is precisely why my graduate level courses in karst hydrology repeatedly emphasized that there were no true 'confining units' or layers in the Floridan aquifer system, only 'leaky, semi-confining units.'" The "first well" in the commenter's first sentence refers to the "first flowing artesian well drilled in 1881 near Albany" that "yielded water from limestone of the Clayton Formation." | Comments noted.<br><br>The Clayton Formation is in Southwest Georgia and does not extend to the Bryan and Bulloch County areas. The hydraulic properties of the Floridan aquifer vary greatly over the extent of the aquifer due to the heterogeneity and anisotropy of the geology. This means the geologic properties vary considerably over the extent of the aquifer in all directions, not only by physical characteristics but in materials and thicknesses. Because there are variations in the geology of the Floridan aquifer, the southwest Georgia area of the Floridan aquifer is very different than that of the Floridan aquifer in Bryan and Bulloch Counties and is not comparable. |

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| 16 | One commenter claimed that "GDRN[sic]/EPD still believes that county lines restrict horizontal flow of groundwater" and cited a map from the 2006 Coastal Georgia Water and Wastewater Permitting Plan for Managing Saltwater Intrusion. | EPD does not believe that political boundaries "restrict horizontal flow of groundwater." Specific county political boundaries have been designated as red, yellow, and green zones based on the contributions of Floridan aquifer use within the county boundaries to the impact of saltwater encroachment. The color-coded designation also provides a way for developing different water resources management practices based on the impacts. |
| 17 | One commenter stated that the groundwater withdrawals in the draft permits would "be capable of pulling saltwater intrusion horizontally from the coast, right through that Bulloch/Bryan County line…" | EPD disagrees with the commenter's assertion. According to data provided from USGS monitoring well 31U008 located in Bulloch County, the water level is at approximately 114 feet above mean sea level (NGVD 1929). Water flows downhill, so saltwater will not flow uphill into Bulloch or Bryan County. The lowest point of Floridan aquifer groundwater levels in Coastal Georgia is in the area of Savannah (it is approximately 50 feet below sea level). Any chloride molecules that have already entered into the Floridan aquifer would travel from the Hilton Head area (where they have been shown to enter the aquifer) toward the cone of depression beneath Savannah. The wells in the Savannah area would capture any chlorides that might make it to that point. The chlorides would not travel further west from the Savannah-area cone of depression because that would require the chlorides to flow uphill out of the Savannah-area cone of depression. Chlorides are conservative ions meaning they do not interact with the geology they flow through, so their flow is dictated by gravitational flow only. Therefore, saltwater will not reach wells in Bryan or Bulloch Counties. |
| 18 | One commenter claimed that the proposed wells "can increase saltwater contamination of the aquifers in Bulloch County as 'induced recharge' from vertical, upward flow from underlying brackish/saline aquifers – known as 'upconing'". | EPD disagrees with the commenter's assertion. Saltwater cannot "upcone" into the Floridan aquifer in Bryan or Bulloch Counties. The Floridan aquifer is too shallow in this area. The base of the Floridan aquifer in Bryan and Bulloch Counties is between 770 and 800 feet below ground surface. This depth is too shallow to precipitate out chlorides from the geology, therefore, no chlorides will "upcone" into the aquifer in this area. Please also refer to response #17. |
| 19 | One commenter indicated that "groundwater pumping has resulted in compaction of the 'low-permeability clay-rich material'" and that this "lowers ground surface elevations, which can make flooding more severe" and can result in "'collapses' (e.g. sinkholes)". | EPD is not aware of any, and the commenter has provided no evidence of, "compaction" of the confining unit in the Bulloch County geographic area or of the purported adverse impacts asserted to result from any compaction. |
| 20 | One commenter noted concern with EPD relying on USGS data when modeling potential future impacts from the proposed wells. | USGS is widely regarded as providing the most comprehensive and reliable hydrologic and geologic data across the United States. EPD relies on such data for water resources management across the state. |
| 21 | One commenter stated that modifications to issued permits are not subject to a public process. | All permit limit modification requests to issued permits go through a 30-day public comment period that is noticed on the EPD website. Those |

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| | | interested in staying informed about permit modifications can sign up for the Watershed Protection Branch's "Permit-related Notices" through the "Subscribe to Watershed Announcements" link available on the Branch's Public Announcements page, https://epd.georgia.gov/watershed-protection-branch-public-announcements. |
| 22 | One commenter stated that models that do not account for preferential conduit flow are not appropriate for the Floridan aquifer system. | It appears that this comment is based on concepts that are not applicable in southeast Georgia. In one of the literature sources cited by the commenter that pertains to northwest Florida, the author stated: "Where the upper confining unit is thin or absent, recharge is plentiful and ground-water circulation is high. In these areas of high recharge and vigorous circulation, ground water readily dissolves the carbonate rocks that make up the aquifer system, creating large and highly permeable conduits that store and transmit tremendous volumes of ground water. These large conduits are the cause for the many first-magnitude springs."<br><br>As noted in a response above, what is assessed in northwest Florida, where the upper confining unit may be absent or thin, is not applicable to southeast Georgia, where the confining unit is several hundred feet thick. |
| 23 | One commenter stated that, "The Cause of Georgia's Declining Coastal Marshes is Unsustainable Groundwater Withdrawals." The commenter went on to cite studies related to freshwater discharges from the Altamaha River and the importance of those discharges on coastal marshlands. The commenter also stated that "[f]reshwater discharges from the Floridan aquifer system, including submarine groundwater discharges (SGD), were maintaining these marshes throughout periods of low rainfall and high temperatures, prior to the unsustainable groundwater withdrawals from the Floridan aquifer that resulted in the in the [sic] severe cones of depression associated with Savannah and Brunswick. Now that those fresh groundwater discharges to those coastal marshes have been reduced (or completely eliminated), those coastal marshes are vulnerable to both periods of below normal precipitation and high temperatures." | The Floridan aquifer doesn't discharge on the coast of Georgia, but rather farther offshore.<br><br>Naturally occurring droughts and temperature fluctuations affect surface water discharges; the Floridan Aquifer does not affect surface water flows in Bulloch County or areas close to the coast because of the lack of hydraulic connection between the Floridan Aquifer and the surface water streams, including the Altamaha River. |
| 24 | One commenter noted that, "Essential Nesting Trees and Foraging Habitat Supporting the Major Remaining Clusters of the Federally Endangered Red-cockaded Woodpeckers Would be Lost in Georgia, Due to Cumulative Adverse Impacts, if the Proposed Permits for the Proposed 4 New Wells in the Floridan Aquifer for the HYUNDAI MEGA-SITE are Issued." The commenter lists four locations of impact: Okefenokee National Wildlife Refuge, Savannah National Wildlife Refuge, Pinckney Island National Wildlife Refuge, and Ft. Stewart. The commenter connects water stress in | EPD disagrees with the commenter's assertions. USGS monitoring well 31U008 located in Bulloch County provides data indicating that the Floridan aquifer water level is roughly at 90 feet below ground surface. This means the aquifer is under confined conditions, so when the confining layer is breached by a well, the groundwater level will rise to a level where it is at one atmospheric pressure, which is 90 feet below ground surface. According to the Longleaf Alliance, longleaf trees have an average root depth of 10-15 feet. This means that, even if the confining unit did not exist, |

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| | pond cypress and long-leaf pine to withdrawals from the Floridan aquifer and indicates that the loss of these tree species could result in an unpermitted "take" of red-cockaded woodpeckers under the Endangered Species Act. | there would be a 75-80 feet distance between the tree roots and the groundwater level in the Floridan Aquifer in Bulloch County. Cypress trees generally have shallow roots and similarly would not be able to reach the Floridan aquifer, even if the confining unit did not exist. However, given the presence of the confining unit above the Floridan aquifer, trees do not utilize water in the Floridan Aquifer in this area. |
| 25 | One commenter stated that, "Neither of the GDNR/EPD alleged 'DRAFT PERMITS' referenced in my second comment letter, and included and incorporated herein as Attachments D1 and D2, includes a copy of the referenced 'application,' or what that amout [sic] of water would be used for, or any of the other 'supporting data,' including the 'supporting data' for the determination of a '5-mile radius from the center point' and the 'supporting data' for 'any potential significant impacts to existing Floridan aquifer wells.' This deficiency is despite the fact that the cover/signature page for both of those alleged 'DRAFT PERMITS' states that the permit application and supporting data are attached." | The referenced language on the front page of the draft permits says: "In accordance with the application dated August 16, 2023 and in conformity with the statements and supporting data entered therein or attached thereto, all of which are filed with the Environmental Protection Division (EPD) and are hereby made part of this Permit."<br><br>The cover page explains that the permit is issued in accordance with the application and supporting information, which are part of the permitting file. It also explains that there may be statements and supporting data attached to the application. |
| 26 | One commenter stated that, "The 'SPECIAL CONDITIONS' referenced and quoted above for both of the 2 GDNR/EPD alleged 'DRAFT PERMITS' includes the following statement (emphasis added), but fails to include a link to 'the Plan' or an actual copy of 'the Plan,' depriving the public from being able to provide comments related to that part of the 'SPECIAL CONDITIONS:'". | The draft permits referenced the Coastal Georgia Water and Wastewater Permitting Plan (the plan). The plan is available on EPD's website at https://epd.georgia.gov/coastal-water-study. The title of the plan has been clearly provided in the draft permits. Stakeholders can find the document with the search function on EPD's website. |
| 27 | One commenter claimed that, "Special Conditions Erroneously Determined, Without Including Any Supporting Documents in the 2 Alleged GDNR/EPD 'Draft Permits' for the proposed 4 new wells to withdraw 6.6 MGD for the HYUNDAI MEGASITE, That 'Potential Significant Impacts' Would Be: A) 'SHORT TERM,' B) Restricted to a '5-mile radius from the center point at the I-16 and Highway 119 interchange,' and C) Restricted to 'existing Floridan aquifer wells'". | EPD's technical assessments determined that there is no local unreasonable adverse effects from the proposed groundwater withdrawals from the Floridan Aquifer in Bulloch County. As presented in public meetings and explained above, the largest additional drawdown would be about 19 feet, and the drawdown would attenuate to around 10 feet roughly 5 miles from the center of the local cone of depression. EPD did not say that there would not be any impact beyond the circle with a 5-mile radius. That impact would be lower than 10 feet, as shown by the maps presented to the public and posted on EPD's website. Additional supporting documents are included in the permit files. Drawdown impacts may occur between neighboring wells utilizing the same source, in this case, the Floridan aquifer. |
| 28 | One commenter claimed that EPD did not respond to all comments on the draft special conditions. Specifically, the commenter said that, "None of those attachments from my initial comment letter were referenced in the 'EPD RESPONSES' column, which is included and incorporated herein as Attachment N. The fact that those attachments were not referenced in the 'EPD RESPONSES' column, suggests that either they were not read, refuting | EPD reviews all comments it receives, including any attachments to those comments. EPD's lack of direct reference in a comment response document to an attachment provided by a commenter does not mean that EPD did not review the attachment. EPD aims to formulate clear and concise responses to comments and not all reviewed material may be referenced. |

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| | the email statement made to me by Sara Lips that ALL of the comments were read and responded to by GDNR/EPD, or that they were read and not acknowleged[sic]/responded to in the GDNR/EPD document included and incorporated herein as Attachment N, as has been done by other regulatory agencies in the past." | |
| 29 | One commenter stated that, "The 2 alleged GDNR/EPD "DRAFT PERMITS" for the proposed 4 new wells to withdraw 6.6 MGD for the HYUNDAI MEGA-SITE do not restrict those groundwater withdrawals to 6.6 MILLION GALLONS PER DAY. The cover/signature page of both of those alleged "DRAFT PERMITS" allows those withdrawals to be averaged both monthly and annually. Those provisions would allow withdrawals exceeding 6.6 MILLION GALLONS PER DAY to occur throughout prolonged periods of below-average rainfall and other times of water emergencies, resulting in increased significant impacts to permitted users with existing wells, in addition to significant adverse environmental impacts." | EPD's standard limitations in groundwater withdrawal permits are set as monthly averages and annual averages. A daily withdrawal limit would be less effective at protecting the groundwater resources than a monthly or annual withdrawal limit, because the monthly and annual limits are a more accurate reflection of the impact to the groundwater resource. As a result, these monthly and annual average limits provide adequate protection for the groundwater resource. |
| 30 | One commenter alleged that the proposed groundwater withdrawals will "pirate" water from other locations, including other parts of the Southeastern Coastal Plain aquifer system and various surface waters. | EPD is the state agency with authority to manage the state's water resources through its permitting programs. All permittees are required to demonstrate reasonable need for water before permits are granted. EPD only issues a permit to withdraw groundwater when there are no unreasonable adverse effects on other water uses or users. |
| 31 | One commenter stated that, "The First Requirement in the List of '4) MONITORING AND REPORTING,' in Each of the Alleged 'DRAFT PERMITS' for Bryan County and Bulloch County, is Misleading and Meaningless Because it Ignores All of the Induced Recharge to the 'Floridan Aquifer(s)' That Will Result if the Proposed Groundwater Withdrawals are Permitted". The commenter believes that the monitoring requirements would not capture the amount of "pirated" water. | Condition 4) in EPD's draft groundwater withdrawal permits is a standard condition that governs monitoring and reporting activities by the permittees.<br><br>As stated before, the Floridan Aquifer in Bulloch County is overlain by a confining unit between 240 and 300 feet thick, which acts as a barrier to recharge. The most significant recharge areas of the Floridan aquifer are best represented in the USGS publication HA-730 G, "*Groundwater Atlas of the United States – Floridan Aquifer System"*. There is no artificial "induced recharge" in this area. Induced recharge is human created recharge, such as water that percolates into the ground from farm irrigation that is not taken up by the crops or septic system drain fields. All extra irrigation water not taken up by crops and water originating from septic system drain fields impact the surficial aquifer overlying the Floridan aquifer, not the Floridan aquifer itself in Bulloch County. |
| 32 | One commenter alleged that the water planning requirements in the draft permits were misleading and meaningless because the permits do not include a link or a copy of the plan. The commenter also said that the regional water plan does not include any requirements. | The Regional Water Plan is a separate document. Georgia's Regional Water Plans can be found at https://waterplanning.georgia.gov. EPD does not generally include a link to or a copy of the Regional Water Plans in groundwater withdrawal permits. |

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| 33 | One commenter said that, "The first requirement in the list of 'ADDRESSING POTENTIAL LONG-TERM IMPACT' on page 5 of each of the alleged 'DRAFT PERMITS' for the proposed 6.6 MGD groundwater withdrawals for the HYUNDAI MEGA-SITE is misleading and meaningless." The commenter goes on to say that the proposed groundwater withdrawals would lead to "irreversible impacts" and that the Hyundai site should use reclaimed water from the City of Savannah instead. The commenter says that EPD should deny both permit applications. | The additional drawdown resulting from the proposed withdrawals would not be "irreversible."<br><br>Based on EPD's analysis and review of comments, EPD does not agree that it should deny the applications. |
| 34 | One commenter stated that, "NOW GDNR/EPD IS PROPOSING TO ISSUE BOTH OF THE HYUNDAI MEGASITE PERMITS FOR 6.6 MGD GROUNDWATER WITHDRAWALS WITHOUT THE PUBLIC BEING ABLE TO REVIEW AND PROVIDE COMMENTS ON ANY OF THE DETAILS OF THOSE 'SPECIAL CONDITIONS' REFERENCED ABOVE? NONE OF THOSE 'SPECIAL CONDITIONS' APPEAR TO BE LEGALLY ENFORCEABLE." | EPD started the public involvement process when staff attended a public meeting hosted by the Coastal Regional Water Planning Council in late 2023. EPD posted draft special conditions on its website on January 30, 2024, and took comments and presented technical assessments to the public on February 26, 2024. EPD also posted the relevant information on its website. EPD received and responded to numerous comments from the stakeholders, including revising the special conditions in the draft permits. EPD published the draft permits on July 8, 2024, and held a public meeting and hearing on August 13, 2024, to seek public comments.<br><br>Water withdrawal permits are legally enforceable. |
| 35 | One commenter alleged that EPD did not respond to all technical comments submitted by the public and said that the response to comments, "does NOT include any actual public comments, just the reviewer's interpretation of those public comments." The commenter requested that EPD include all comments and the name of the person who submitted the comment. The commenter is concerned that none of their attachments were referenced or responded to in the response to comments document. The commenter said that the response to comments document did not include "any actual references of scientifically valid sources". | EPD reviews all public comments and their attachments. Summarizing the content of the public comments that have been received is EPD's standard practice. It is impracticable for EPD to provide the original comments and their attachments in their original format in the response to comments document. For example, one commenter made a 42-page comment with 29 attachments, some of which have more than a hundred pages of material. It is not practical to include such a comment in its original format, so a summary, which includes both the comment and any attachments, is necessary. |
| 36 | One commenter stated that, "ADDITIONALLY, THE PUBLIC'S VALUABLE TIME IS BEING WASTED BY HAVING REPEATED PUBLIC COMMENT PERIODS ON REMNANT PIECES OF THE ALLEGED 'DRAFT PERMITS' THAT INCLUDE NONE OF THE BASIC AND ESSENTIAL INFORMATION AND DOCUMENTS THAT NEED TO BE REVIEWED BEFORE THE PERMIT CONDITIONS EVEN CAN BE REPAIRED. EXAMPLES INCLUDE: A) THE REASON FOR AND USE OF THE REQUESTED VOLUME OF WATER; B) THE COMPREHENSIVE WATER BUDGET; C) THE GROUNDWATER MODEL THAT WAS USED, THE LIMITATIONS, BOUNDARY CONDITIONS, GROUNDWATER DOMAIN USED, AND TYPE OF | EPD reached out to stakeholders multiple times, made draft special conditions available for public review, received comments on the special conditions, revised the special conditions following certain suggestions received in the commenting process, and published the draft permits with the revised special conditions. In this process, EPD has been responsive to comments and requests from the public.<br><br>EPD has stated multiple times in the public involvement process that the applications, any supporting material in EPD's file, and the CSSI model can all be made available upon request, consistent with the Georgia Open |

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| | CONDUIT FLOW FOR THAT MODEL; AND D) A COPY OF THE PERMIT APPLICATION." | Records Act (GORA). EPD will continue to make information available to parties who request such information. |
| 37 | One commenter stated that, "CLEARLY GDNR/EPD NEEDS TO PREPARE AN ACTUAL, COMPLETE AND COMPREHENSIVE 'DE NOVO DRAFT PERMIT' FOR EACH OF THOSE PERMIT APPLICATIONS – ADDRESSING ALL OF THE PUBLIC COMMENTS ALREADY SUBMITTED – AND INITIATE A NEW 60-DAY PUBLIC COMMENT PERIOD." | There have been multiple meetings in the ongoing public involvement process. All substantive comments have been addressed. EPD disagrees that a new public comment period is needed. |
| 38 | One commenter said that they do not want their "quiet, secluded home… impacted by all of the development and withdrawal of water." | Comment noted. EPD does not have authority over local land use or zoning decisions. EPD considers the factors set forth in the statute and the regulations when assessing permit applications. |
| 39 | One commenter said that "it makes no sense to withdraw that much water with no plans for recycling." | There have been considerations of reuse and recycling by one of the permittees, as reflected by its Water Conservation Plan. |
| 40 | One commenter said that they "doubt the Savannah River could adapt to this much daily withdrawal as ship traffic could be impeded." | On August 27, 2024, at 2:15 pm, the Savannah River near Clyo, GA (02198500) USGS gage recorded a flow rate of 6,280 cubic feet per second (cfs), which is equivalent to 4,059 million gallons per day (mgd). Using that data, the proposed withdrawals add up to approximately 0.16% of the flow in the Savannah River at this time. The impact of this amount of withdrawal on the Savannah River would be negligible to its overall flow. |
| 41 | Several commenters wanted to know why the draft permits will allow 25 years to develop surface water sources. Several commenters indicated that they wanted to see a move to surface water more quickly than in 25 years.<br><br>One commenter wanted to know why a 25-year terms was included in a 10-year permit. The commenter also asked about including a specific schedule for reductions ("for example, 25% reduction in withdrawal of aquifer water use every 1-2 yrs. with a complete alternative source being 100% complete w/i 6-8 yrs. after the 10 yr. permit period ends.")<br><br>One commenter said that the surface water connection would be built in less than 25 years and that the only justification they have heard for the timeline so far is cost related. That commenter said that this is "putting $ before the environment."<br><br>One commenter said that "the timeline for swapping to an alternate source, like surface water, is far too long. If approved, there should be no more than one permit term of ten years granted, and alternate water source should be required to be implemented for industrial purposes by the fifth year." | These concerns have been previously responded to on page 3 of the "Response to Comments on the Draft Special Conditions". For ease of commenter review, the previous response has been provided here in its entirety:<br><br>"EPD has maintained the 25-year deadline to cease groundwater withdrawals, though the permittee may choose to utilize an alternative water source more quickly. There are two major reasons affecting the timing of an alternative water source. First, EPD does not have the authority under these groundwater withdrawal permits to require a third party to cooperate in providing a surface water or other alternate water source solution, and that cooperation will certainly be necessary. It will take adequate time to secure that cooperation and to plan, design, construct and implement operations of such a complicated infrastructure. Second, securing funding for the infrastructure development also needs time. Nevertheless, the alternative water source could successfully replace the groundwater withdrawals before the 25-year deadline. EPD encourages surface water usage in the coastal area as part of a long- term solution to water supply challenges in the region and supports the timely development and use of |

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| | | alternative water supplies. EPD is not aware of any interconnection capable of providing the necessary amount of water within a three- to five- year timeframe." |
| 42 | One commenter asked whether the saltwater intrusion at Hilton Head would "flow down to Chatham." | A potential pathway for saltwater to enter the Floridan Aquifer is the area of Hilton Head Island, where the confining unit is either breached or very thin. As a result of groundwater use in the Savannah area, the Savannah-area cone of depression lowers the groundwater level at the center of the cone to below mean sea level. This negative slope allows saltwater to enter the Floridan Aquifer in the Hilton Head Island area. The saltwater that enters the aquifer then travels down gradient toward the Savannah/Chatham area. EPD's objective is to carefully manage the water withdrawal in the coastal region to prevent the worsening of saltwater encroachment on Hilton Head Island and to prevent saltwater from reaching the Savannah area. |
| 43 | One commenter asked, "How is the water removal here going to affect the Cone of Depression in Savannah?" | The water level difference at the center of the Savannah-area cone of depression, due to the proposed withdrawals in Bulloch County, is between 1 and 3 feet of additional drawdown. |
| 44 | One commenter asked, referring to the technical analysis and permitting process, "Who is the independent reviewer who inspected all these steps?" | The professional staff of EPD conduct the technical review and decisions regarding the permitting process, as is standard practice for all permit application reviews. The technical review was conducted utilizing the CSSI model, which as noted above, was developed and vetted by experts at EPD and among other federal and state agencies. |
| 45 | One commenter asked, "How many large capital projects have had their permits denied by the EPD?" | EPD reviews applications for water withdrawals that are received by the agency. EPD does not consider the amount of capital investments in a project in the permit review process and the amount of investment is not typically included in the application materials. Accordingly, EPD is unable to answer the commenter's question. |
| 46 | One commenter asked, "Will the aquifer be recharged every year with this removal of water?" | Yes, the aquifer is recharged every year and every time it rains in the recharge areas. |
| 47 | One commenter asked, "How does this pulling out of the water affect upstream?" | If the commenter is asking about the impact on a surface water flow upstream of the point of withdrawal, then the answer is none. This is because of the lack of a hydraulic connection between the surface water bodies and the Floridan Aquifer in Bulloch County. |
| 48 | One commenter asked, "If the model turns out to be inaccurate and there are effects on surface water or saltwater intrusion will the wells be turned off? Will the permits be rescinded?" | EPD has a lot of confidence in the model results. First, the top of the Floridan Aquifer in the area is below land surface by about 285-320 feet (this is the water-bearing layer of the Upper Floridan Aquifer). Second, the Floridan Aquifer in this area is overlain by a confining unit that is roughly 240-300 feet thick. Third, USGS monitoring well 31U008 shows a water level of the Floridan Aquifer about 114 feet above mean sea level (NGVD |

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| | | 1929) and about 90 feet below land surface. This means the aquifer is under confined conditions, so when the confining layer is breached by a well, the groundwater level will rise to a level where it is at one atmospheric pressure. Fourth, the CSSI model has been developed based on physical facts of the Floridan Aquifer and the true lithology, which do not change over time. Fifth, the parameters reflecting hydraulic properties used in the CSSI model, which determine how water moves within the aquifer and confining layers, have been calibrated against field observations, i.e. verified.<br><br>Based on these facts, especially where the Floridan Aquifer and its water is relative to the land surface, there is no hydraulic connection between the Floridan Aquifer and surface water bodies in Coastal Georgia. EPD's Coastal Policy on Managing Saltwater Intrusion in Coastal Georgia is designed to manage Floridan aquifer withdrawals in Coastal Georgia in a fashion that prevents the saltwater intrusion issue from worsening.<br><br>Nonetheless, Georgia EPD has the authority to modify or revoke any groundwater withdrawal permit when necessary, including if it finds that there is an unreasonable adverse effect upon the water uses or users. |
| 49 | One commenter asked, "If the max drop after the cone of depression is 19 ft. How long will it take the Mega-plant withdrawing their max levels before the 19 ft drop occurs?" | The assessed maximum drawdown of 19 feet in the well field represents a steady state response from the aquifer. In other words, it is the drawdown after the maximum withdrawal takes place. The intended customer may have its own schedule to ramp up its water use according to its production needs. The amount of time it takes for the permittees to reach their permit limitations depends on the actual operation of their systems. Until the permittees reach the maximum allowable withdrawal amounts, the drawdown will be less than the maximum impact. |
| 50 | One commenter expressed concern that there is a "[rush] to a conclusion" where unknowns remain about long-term impact and extent of water needs. The commenter cited a 2021 study from Auburn University published in the Journal of Hydrology: Regional Studies Series. The commenter said that the study found that "population growth, urban development, and climate change is having a negative impact on water availability in our region." | EPD has conducted a thorough technical assessment on the proposed groundwater withdrawal from the Floridan Aquifer and shared the results with the public. Questions on impacts and mitigation measures have been considered and answered. Nothing has been rushed.<br><br>Whether the permittees or the intended consumers know the current extent of their needs does not change EPD's above-mentioned assessments and conclusions. |
| 51 | Several commenters raised questions about the mitigation fund. One commenter asked, "What is enough money to compensate a farmer for what could be an entire season?" | The minimum amount, the funding sources, and the implementation of the mitigation fund are the responsibility of the permittees, who will publish details of its plan for mitigation and the implementation of the plan. |

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| | Several commenters asked, “What mechanisms will EPD put in place to ensure the burden of this industrial development (and any resulting issues) doesn’t fall on us, the taxpayers?” | |
| 52 | One commenter stated, “That withdrawal is too much for the Floridian aquifer. It’s going to cost citizens lots of money to deepen their wells. I also think the mitigation fund to cover well deepening will need to be enormous before the complex pumps 1 drop out of the aquifer.”<br><br>One commenter made several recommendations for the mitigation fund. Specifically, “If wells do drop and have to be redrilled...<br><br>1. $250,000 is nothing as far as the amount needed to redrill wells for 3,000 homes. It doesn't even scratch the surface..<br>2. Right now, the MOU is a hallow document. It doesn"t [sic] mean anything.<br>3. Until all the details are ironed out in MOU, the EPD should not approve the permits.<br>4. There needs to be an oversight committee made up of a conglomeration of people within the community and not just government officials.”<br><br>One commenter raised concerns that the MOU approved by the Bulloch County Commission was incomplete and that the mitigation fund may be underfunded (the pledged $1,000,000 would be insufficient to cover the costs). The commenter then asked, “How can the EPD grant permits to Bryan and Bulloch County when they have failed to enact a well mitigation plan that has the appropriate funding to cover potential damages from the Hyundai wells?”<br><br>One commenter requested additional information about the mitigation fund. Specifically, “Who do you call if and when you have problems with a well? Will there be certain well drillers put in place for this?<br><br>What is the timeline for wells being redrilled?<br><br>What accomodations [sic] will be set up for families without water while they are waiting for wells to be redrilled?”<br><br>One commenter said that, “Before EPD issues the final permits, more details must be developed about the mechanisms for collecting funds from responsible parties (i.e. Hyundai), managing the funds, the process for | The implementation of the mitigation fund is the responsibility of the permittees, who will publish details of their plan for mitigation and the implementation of the plan. The permitted water withdrawal will not start until the details are developed and published.<br><br>Within the 5-mile radius, there are three permitted agricultural wells. Outside but close to the 5-mile radius, there are two permitted agricultural wells. The corresponding simulated drawdown at the locations of the agricultural wells is between 9 and 11.5 feet.<br><br>Within the 5-mile-radius circle, there are 13 permitted drinking water withdrawals. The corresponding simulated drawdown in the areas of those withdrawals is between 8 and 13 feet.<br><br>Before and during the February 26, 2024, public meeting, EPD asked citizens with concerns over potential impact on their residential wells to come forward and provide information on the location of their wells. Roughly thirty residential locations have been submitted. Of these locations, five are within the 5-mile radius circle, and one is just outside of it. Five more are approximately one mile away from the circle. Of these 11 residential locations, their corresponding simulated drawdown is between 7 and 15 feet.<br><br>In aggregation, there are no more than 29 known wells that may be in the area with a potential drawdown impact of 7 to 15 feet. Note that all such impacts are smaller than the 30-foot impact threshold EPD uses in both permitting and regional water planning analyses to determine unreasonably adverse effects. Even if all such wells needed some level of mitigation, based on the best estimates available, the cost does not appear to be “enormous.” |

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| | applying for funds, and the process for allocating those funds. These details are important and should be developed with community input and transparency."<br><br>The commenter went on to pose the following questions:<br>"1. How will EPD oversee the establishment and implementation of the mitigation fund to ensure the payments are going to the farmers, businesses, and residents in need of assistance?<br><br>2. Can EPD condition the permit to ensure that community members play a role the management of the funds to ensure the process is transparent and the funds are distributed equitably?" | |
| 53 | One commenter raised concern "about these permits' lack of a water conservation plan." The commenter also stated, "There are also no specific water supply alternatives (even though a need for alternatives is indicated) and no clear consequences for noncompliance." | A Water Conservation Plan (WCP) is a separate document required of all permittees. The WCP needs EPD's approval to be included as part of the permit. A WCP is not included in the permit itself. Both Bryan County and Bulloch County submitted WCPs as part of their applications.<br><br>Georgia's Rules for Groundwater Use do not require a water supply alternatives assessment as part of the permitting process.<br><br>Noncompliance by a permittee can lead to enforcement actions. |
| 54 | Several commenters stated that "The proposed wells will tap the deep Floridan aquifer; withdrawing 6+ MGD will affect artesian pressure reducing spring and well-flow that feeds surface water wetlands and streams. I am also concerned about the impact this reduction in groundwater pressure and surface flow may have on our federally-protected Atlantic and shortnose sturgeon." | The Floridan Aquifer is overlain by a thick confining unit in Bulloch County. It does not have a direct hydraulic connection to any surface water features in Bulloch County and therefore, it does not impact the environment of any federally-protected species in the area that rely upon surface waters. |
| 55 | One commenter said that, "Before permits are issued to build such a Mega plant, water usage should be taken into consideration, not after the site is under construction."<br><br>Another commenter said that "When a person builds a house or business, ALL PERMITTING must take place before beginning. This has not been done. If the high volume of water was needed, there was time for Kemp to have built a water line and a salinization plant for the factory." | Comments noted. EPD does consider water uses when evaluating a groundwater withdrawal permit application. Regardless of when a facility is constructed, no groundwater may be withdrawn until a permit has been issued. |
| 56 | One commenter noted that they are "an avid kayaker and travel to both Bryan and Bullock [sic] counties to paddle. It would be terrible if these streams and creeks suffered due to the issuance of these permits." Another commenter noted that they kayak in Bryan and Bulloch Counties and enjoy the Ogeechee River. | The proposed groundwater withdrawal from the Floridan Aquifer does not have surface water implications, because the Floridan Aquifer does not have a hydraulic connection with the surface water bodies in southeast Georgia. |

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| 57 | One commenter indicated that, "The approval for the plant and associated water needs were not completed in an accurate manner."<br><br>One commenter raised questions about the application submitted versus the draft permit. Specifically, the commenter said, "The application submitted by Thomas Couch, County Manager for Bulloch County, on behalf of the Bulloch County Board of Commissioners, asked for a non-consumptive usage. However, the draft permit presented to the public states it is for consumptive use. The permit also states that it is being issued in accordance with the application, but the application was made as non-consumptive."<br><br>The commenter goes on to say that, "I believe this issue is substantial in merit, and the permit application should be denied and not issued. Almost a year ago, the public was provided a copy of the permit application showing it was for non-consumptive usage. It is in the best interest of the citizens for the EPD not to issue a consumptive permit with the knowledge of what was in the application for non-consumptive usage." | The applicant selected the non-consumptive use box on the Part A application form in error. The applicant didn't understand the legal definition of the word "consumptive use". EPD communicated verbally to the applicant that this request would be considered "consumptive use", and the applicant confirmed that the permitting process should proceed for "consumptive use".<br><br>For purposes of the Georgia Ground-Water Use Act the definition of consumptive is the water withdrawn from a specific source is not returned to the same source. In this case, water is removed from the Floridan Aquifer, used by the permittee, and the resulting wastewater is treated before being discharged into a surface water body. None of the wastewater will be injected into the Floridan Aquifer. This process represents a consumptive use; therefore, EPD reviewed the application as a consumptive use. |
| 58 | One person commented that the presentation by the well driller "only muddied the waters…". | During the August 13, 2024, public meeting, Mr. Peterson provided his perspective on how pumps are generally set in a well, the prospect of lowering a pump in an existing well, and the different levels of complexities that might be associated with that task. |
| 59 | One commenter said that, "The plant should have to get water from a surface water source no matter the cost. The wells are cheaper at the moment but we have no idea what the final cost will be down the road. If saltwater intrusion occurs or aquifer levels drop drastically or local rivers and ponds dry up the people who live here and call this place home will be left to foot the bill and suffer all while a big corporation pockets money." | As supported by our analyses, EPD asserts that there will not be saltwater intrusion in Bulloch County. USGS well 31U008 shows a water level roughly 114 above sea level. The Floridan Aquifer water level will not drop drastically. The surface water bodies will not dry up because of the proposed withdrawals as explained in several prior responses. |
| 60 | Several commenters raised concerns about an email that was "sent out to supporters trying to get everyone to flood email responses with 'positive comments'." | Comments noted. EPD is aware that a third party sent an email requesting positive comments. |
| 61 | One commenter stated that, "These well permits are dangerous to the Floridian Aquifer, including all of the people (families and farmers) as well as the wildlife that depend on it. These permits would open the aquifer up to unimaginable risks, such as depletion, pollution, sinkholes, and FURTHER salt water intrusion (already experienced in near by Coastal GA counties). Our aquifer and wetlands need to receive better attention and protection because of their ability to buffer our communities from hurricanes and tropical storms, just like the one (Debby) we just experienced this week." | Comments noted. Following its thorough analysis and review of public comments, EPD is aware of no evidence to suggest that any of the risks the commenter is concerned about would materialize. Please see related responses throughout the document. |

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| 62 | One commenter raised concerns about the impact on farmers, saying, "Having an additional 6-10 million gallons of aquifer water pumped from beneath the Bulloch County clay floor EVERY DAY will inevitably affect the local farmers who have been a historical foundation for our County and State. Handing our water over to industry (to keep the robotics cool) will lead to families being told what days of the week we can water our gardens or wash our cars- water is already being rationed in parts of South Carolina. Farmers in Idaho are already being told not to use their personal wells to water potato crops because the cobalt mining needs the water." | EPD has assessed the potential impact from the proposed withdrawals and has estimated the associated drawdowns to area wells. Based on that analysis, no water use will be curtailed as a result of the permits. |
| 63 | Several commenters requested that the water be provided from another source, such as the Savannah River.<br><br>Several commenters suggested that groundwater should be used for people and for agriculture and that surface water should be used for industry.<br><br>One commenter suggested "the Megasite find another water source, maybe collect rainwater or go with the original plan to source it from the Savannah River…" | Comments noted. Note the special condition in the permits requiring alternative sources of water to replace groundwater within 25 years. |
| 64 | Several commenters requested EPD either deny or not approve the permits. Several commenters expressed general opposition to the proposed groundwater withdrawals. | Comments noted. |
| 65 | One commenter recommended a comprehensive water plan for the region. The commenter stated, "I wanted to also inform you our professional well driller had to add another 20' of pipe to our 24 year old deep well located at 1128 Harville Rd, Statesboro, GA last summer. This was due to new agricultural irrigation recently installed around us. The GA EPD needs a comprehensive water plan for our local counties as the water requirements for the anticipated growth associated with the Hyundai plant, suppliers, the employees and their families and all the associated support businesses." | Comments noted. The Coastal Georgia Regional Water Planning Council has developed a Regional Water Plan for the coastal region. This plan was last updated in 2023. EPD encourages interested stakeholders to participate in the regional water planning process. |
| 66 | Several commenters provided EPD with a letter from Dr. Syndey Bacchus and requested that EPD review and consider the letter. | EPD has reviewed, considered and responded to Dr. Bacchus's comments. |
| 67 | One commenter wrote in support of the short-term mitigation plan. | Comment noted. |
| 68 | One commenter wrote that surface water could be brought to the area sooner with "funding and support of local and state partners" and expressed support for investing in that infrastructure. | Comments noted. The permits do not require that the permittee wait 25 years to provide the alternative water source but mandate a deadline of 25 years. |
| 69 | One commenter said that, "The mitigation fund should be structured as an account that is required to keep a certain minimum at all times. It should also consider much more than lowering well pumps in the caluculation [sic] of total | The parameters and the implementation of the mitigation fund are the responsibility of the permittees, who will publish details of their plan for |

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| | needed. Loss to crops and other big issues have been left out of the considerations. The mitigation fund should be $10 million to begin with, with a requirement to keep no less than $5 million in the fund at all times. The starting mitigation fund should be Based on landowners' factual observations regarding their wells, drawdown of more than 30 feet is already occurring in some areas due to fast residential development, before we even start these wells for Bryan County needs. That means that the actual drawdown, when considering other wells in the area, as well as other new wells to be drilled soon, will be more than EPD's threshold of 30 feet as a significant impact." | mitigation and the implementation of the plan. Suggestions on how to manage the fund can be directed to the permittees for their consideration.<br><br>EPD assessed the impact from the proposed project and determined that the drawdown impact from the project would be limited.<br><br>EPD has also assessed previously permitted water uses and permitted such uses based on the same principles and processes. During its regulatory reviews and analyses, EPD did not identify a 30-foot drawdown interference between permitted parties.<br><br>USGS monitoring well 31U008 does not indicate a 30-foot drawdown either. Monitoring data show an annual fluctuation of water level roughly between the normal range of 105 feet to 125 feet above mean sea level in the past 20+ years. Such data show no drawdown of 30 feet. |
| 70 | One commenter said that, "Conservation efforts should be requirements clearly spelled out and agreed to between EPD and the permittee before the permits become effective. To accomplish this, the permittee, working with the planned end users, should establish an accounting for the industrial withdrawals with clear milestones and targets set for reductions in water usage." | Comments noted. A permit applicant must submit a water conservation plan to EPD for approval. There are specific requirements, as specified in Rule 391-3-2-.04(11), for what needs to be provided in the permittees' Water Conservation Plan, and the permits require implementation of the plan. |
| 71 | One commenter asked about the definition of "consumptive use." They also asked, "Will water be bottled at the mega site?" and requested that, "An account for all uses that make up total usage should be shared with the public." The commenter also stated that, "Hyundai and the permittees should show their math and allow citizen input on water conservation measures, since they are not able to produce that information now." | Georgia's Rules for Groundwater Use, Rule Chapter 391-3-2, defines "Consumptive use" as "any use of water withdrawn from the ground other than 'nonconsumptive use' as herein defined." Rule 391-3-2-.02(b).<br><br>"Nonconsumptive use" is defined as "the use of water withdrawn from the ground water system or aquifer in such a manner that it is returned to the ground water system or aquifer from which it was withdrawn without substantial diminution in quantity or substantial impairment in quality at or near the point from which it was withdrawn." Rule 391-3-2-.02(c).<br><br>The applications do not indicate "bottled water" as a potential use.<br><br>As noted in Response #70 above, the specific requirements for a Water Conservation Plan are specified in Rule 391-3-2-.04(11), and Water Conservation Plans are available for the public to review upon request. |
| 72 | One commenter asked, "In response to comments on the draft special conditions, EPD stated, 'There is no legal basis for denying these permit applications provided that certain conditions are included consistent with | Water Conservation Plans were provided by the permittees to EPD as part of their applications. The provision of an alternative source is not required in a Water Conservation Plan. |

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| | Georgia requirements.' Well, Georgia Rule on Groundwater Use 391-3-2 GROUNDWATER USE states that the permittee shall submit, with the permit application, information on water conservation plans. This information is not provided in the permit applications for the Bryan and Bulloch wells. Instead, the draft permits allow for this information to be eventually obtained, with the first pieces being due at the six-month mark after permit issuance. Why is EPD allowing the conservation plan and identification of alternate water sources to come AFTER the permit is issued instead of BEFORE the permit is reviewed, as is required by Rule 391-3-2-.04?" | |
| 73 | One commenter requested, "Please explain how EPD evaluated each of the items in Rule 391-3-2-.04 Permit Application. Amended, specifically section 11". | EPD considered each provision of Rule 391-3-2-.04 in connection with its review of the permit applications. Both permittees provided Water Conservation Plans as part of their applications. These plans were reviewed by EPD and determined to meet the requirements specified in the Rule. |
| 74 | One commenter requested, "Please explain how EPD evaluated each of the items in Rule 391-3-2-.05 Division Consideration of Permit Applications, Modifications, Revocations and Denials". | EPD considered every aspect of Rule 391-3-2-.05 in its review of the applications, including ensuring that all necessary documentation was received, to determine whether the requested withdrawal amount is reasonable and justifiable. In the coastal area of Georgia, extensive modeling of the Floridan Aquifer is done to assess potential impacts on the aquifer and other water users. |
| 75 | One person commented that the "water table might be lowered as much as 19 feet in a 5 mile radius" and called it a "ridiculous impact." | A drawdown of 19 feet is the maximum amount of estimated impact near the center of the well field. The estimated impact at the end of the 5-mile radius is about 10 feet. These estimated impacts are at full permitted capacity of the proposed withdrawals. The estimated impacts are less than the 30-foot drawdown threshold that EPD uses for assessing unreasonable adverse effects. |
| 76 | One commenter expressed concern about the impact of the wells in Bulloch County on Floridan aquifer recharge in Effingham County. The commenter went on to ask about the impact from the lowering of the water table from the proposed wells on spring-fed ponds in Effingham County.<br><br>One commenter states that, "The proposed wells will tap the deep Floridan aquifer but withdrawing 6.6 million gallons a day (MGD) (monthly average) will affect artesian pressure reducing spring- and well-flow that feeds surficial wetlands, tributaries, and the Ogeechee River." | The Floridan aquifer is overlain by a confining layer that is between 240-300 feet thick in the Bulloch County area. There is no documentation supporting a direct connection between the Floridan aquifer and the surface water streams and features in this area. Further, the Floridan Aquifer is not recharged in Effingham County. The Floridan Aquifer is recharged in areas where the aquifer is unconfined or where the confining unit is thin and/or breached. Effingham County is outside the aquifer's recharge area. |
| 77 | Several commenters provided historical background about well depth and artesian wells in the area. These commenters raised concern about additional withdrawals from the Floridan aquifer. | Comments noted. EPD has evaluated the estimated impacts on wells, including residential wells, in the area. The mitigation fund required of the permittees will address impacts to residential wells within a 5-mile radius of the groundwater withdrawals. |

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| | One commenter raised some questions about the impact of the proposed withdrawals on residential wells. Specifically, the commenter said, "Range of dry-well compensation/monitoring for safety in Effingham County. During a period of drought about 20 years ago my well went dry. I'm now down to 325 feet. What one would think is sufficient. However, during another smaller drought, my well started pulling in sediments. I had to add screening. It was, also, during this period that the makeup of the water composition changed. My well started having high levels of manganese, exceeding EPA limitations many times over. How will I be reimbursed when my well drops due to a drought coupled with the water table falling because of the megasite pumping? What additional sampling will be routinely done to insure the safety of our well water beyond bacterial? The leeching of water-contaminating minerals due to geological shifting with the quick lowering of the water table may impact the health of people drinking/bathing in well water. How do you intend to monitor for these changes?" | The maximum additional drawdown at the Bulloch/Effingham border is estimated to be about 8 feet. The drawdown is further attenuated moving east into Effingham County. Based on the information shared by the commenter, EPD believes they may have issues with well construction and recommends that they consult a professional well driller to diagnose the issues.<br><br>The Water Supply Program regulates water quantity, not water quality. The Drinking Water Program within EPD regulates drinking water quality for public water systems, and the permittees will need to submit regular water quality sampling results to that program to ensure the drinking water requirements are met. Individual residential well users are below the Drinking Water Program's regulatory threshold. |
| 78 | Several commenters asked about the impact of the proposed wells on land subsidence.<br><br>Specifically, one commenter said, "On July 19, 2024, the AJC published a map of the coastal area and how it is sinking. (Siting [sic] a Nature article, March 2024.) Parts of northern Effingham County are sinking at faster rates than the actual coastline -- Savannah, Tybee Island. Parts of my road are reported to be sinking at up to 1/3" a year. This phenomena is attributed to pumping of groundwater. Due in part to agricultural pumping, I would guess in the northern part pf Effingham. In three years our ground will have sunk 1" and in 9 years 3". That is with the current trajectory of pumping and current water table. How will the pumping for the megasite affect the sinking of land? Will uplands be converted into wetlands? Will infrastructure be impacted such as our roads and house foundations? Has any modeling been done to configure the expected sinking of land rate due to the megsites pumping? And its impact on infrastructure -- personal, county, state?"<br><br>Another commenter said, "NOAA recently released an update to its long-term study of subsidence along the East Coast, and a separate study was recently completed by a group of researchers from Virginia Tech. While there are several factors involved in the phenomenon of subsidence, the number one culprit fingered by everyone who has examined and studied this on the southeast Atlantic coast is groundwater withdrawals. All of the data presented in these studies show that Savannah is subsiding at a twenty-five year average | The proposed water withdrawal is from the Floridan Aquifer. As shown by USGS monitoring well 31U008, the groundwater level of the Floridan aquifer rises to about 90 feet below land surface. The groundwater is under pressure from the confining layer overlying the Floridan Aquifer, so it rises above the confining layer when breached by a well. The top of the Floridan Aquifer is roughly 285 to 320 feet below land surface. A limited local drawdown, say a 10-foot one, would take the groundwater level of the Floridan Aquifer down to about 101 feet below land surface. This would still be at least 184 feet higher than the top of the Floridan Aquifer. And it means that the Floridan Aquifer would be full and pressurized. There is no anticipated dewatering of the Floridan Aquifer.<br><br>The surficial aquifer is not connected to the Floridan Aquifer, because of the 240-300 feet thick confining unit on top of the Floridan Aquifer. It will not be dewatered by a withdrawal from the Floridan Aquifer.<br><br>Therefore, there is no prospect of land subsidence resulting from the proposed withdrawals.<br><br>There is also no implication on uplands from the proposed withdrawals. No uplands will be converted to wetlands because of the proposed withdrawals.<br><br>Comments regarding the NOAA and Virginia Tech studies are noted. |

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| | rate of 4mm/year, the fastest rate of any city on the East Coast. Charleston and Jacksonville are at similar rates." | |
| 79 | One commenter said that, "The very creation of this fund shows a recognition by EPD that there will be significant impacts to aquifer water levels and pressure." | EPD and the applicants agreed to include the mitigation fund as a required condition in the permits to address potential impacts that are less than unreasonable adverse effects. |
| 80 | One commenter asked, "With the contentious nature of this permit application, why doesn't EPD shorten the time period from the maximum ten (10)-years to a five (5)- or six (6)-year period to assure affected parties that the applicant and the end user are not causing undue harm to the neighboring water users and watershed?"<br><br>The commenter cites the City of Pembroke's Bulloch County Operations groundwater withdrawal permits as an example of permits issued for just five years. | EPD's standard practice is to issue non-farm use groundwater withdrawal permits for a 10-year term, consistent with Rule 391-3-2-.07. EPD monitors compliance with permits throughout the permit term. |
| 81 | One commenter states, "The ambiguous reference to water conservation and efficiency efforts is not enough for providing water to such a large operation. R&R Chapter 391-3-2-.05(1)(j) requires a conservation plan, but even more significant is the charge from the Georgia Statewide Water Management Plan adopted by our Georgia General Assembly in 2008. The Statewide Plan declares that applicants for water withdrawal permits for non-farm uses must demonstrate progress toward water conservation goals or water efficiency standards. EPD must not proceed with issuing this permit until the applicant has submitted a detailed plan for how the conservation measures will be employed and how much they will increase efficiency over time."<br><br>The commenter goes on to ask, "Why have the applicants, Bryan and Bulloch Counties, not submitted a detailed water conservation and efficiency plan for the end uses of the water withdrawn?<br><br>What specifications and assurances can the applicants, who are not the end users of the water withdrawn, commit to ensure that the end user, Hyundai Motor Facility, will establish and fulfill appropriate goals to demonstrate more efficient use over time?"<br><br>One commenter raised the issue of a water conservation plan. Specifically, "Georgia law makes clear that groundwater use should be "subject to reasonable regulation in order to conserve [water] resources and to provide and maintain conditions which are conducive to the development and use of water resources." Accordingly, "[a]ny person applying for a permit . . .shall | Both permittees provided Water Conservation Plans as part of their permit applications. EPD reviewed the plans and found that they meet the requirements specified in Rule 391-3-2-.04(11).<br><br>Georgia Rule 391-3-2-.04(11) requires a permittee to submit a progress report outlining its efforts to conserve water and reduce water loss and a water use data report. As stated in Special Condition 5, both permittees are required to participate in the Water Loss Audit process. Water efficiency improvement is achieved through the Water Loss Audit process. The Rules for Public Water Systems to Improve Water Supply Efficiency, Chapter 391-3-33, were promulgated following the Georgia Water Stewardship Act (2010) and area consistent with the charge from the state water plan.<br><br>EPD will enforce any violation of the permit, such as withdrawing above the permit limit, against the permittee, not the end user. The permittee should work with their end users to ensure permit compliance. |

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| | also submit with such application a water conservation plan approved by the director and based on guidelines issued by the director," and Georgia regulations require EPD to consider "documentation of effective water conservation" when reviewing permits for groundwater withdrawal. Here, neither Bryan nor Bulloch County submitted a water conservation plan as plainly required under the law."<br><br>The commenter goes on to say, "Unfortunately, concrete and actionable conservation measures do not appear to be in place for either county and, therefore, could not have been considered by EPD in these permit application reviews. In the documents provided to ORK through an open records request, Bulloch and Bryan Counties' applications rely on future plans to develop water conservation plans and do not provide any documentation of effective water conservation measures. Bulloch County's application states that 'a draft Water Conservation Plan will be submitted to EPD with water conservation measures to be implemented' at some future date. Bulloch County states that after a 'service delivery agreement is finalized' it 'will seek a modification of [the permit].' This is an unacceptable inversion of the permitting process. A promise to take future, undefined actions should not be the basis of granting a permit. Furthermore, Bulloch County states that 'Bryan County's[application]will include detailed information concerning the conservation measures that will be employed to conserve water in North Bryan County and at the Hyundai mega-site.'<br><br>Bryan County makes similarly insufficient statements of promised future actions to implement water conservation measures. Despite Bulloch County's reliance on Bryan County's 'detailed information concerning water conservation measures,' Bryan County does not provide any acceptable level of detail for EPD to meaningfully review and consider. Bryan Coutny's [sic] application states that it 'will develop conservation and reuse policies to help reduce impact to groundwater resources.' While suggesting those policies would include efforts to facilitate reuse water usage, those policies did not exist in any of the documents available to EPD and, therefore, could not have been reviewed and considered. As such, EPD should pause its permitting decision until both Bulloch and Bryan counties show concrete water conservation plans based on enacted, promulgated, or legally enforceable measures. Until that point, EPD's review is incomplete and the permit is not based on an exhaustive review." | |

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| 82 | One commenter requested, "The permit conditions should include crystal-clear outcomes in the case of applicant's noncompliance, and explicitly state that permit suspension or revocation will occur with specific non-compliance with the mitigation fund."<br><br>One commenter asked, "Why does EPD fail to include clear consequences of the permit being revoked if the applicants fail to comply with the terms of the permits, the permit conditions, or a failure to adequately implement the mitigation fund?" | Comments noted. The permits' front pages contain the following language: "This Permit is conditioned upon the permit holder complying with all of the terms, conditions, and schedules of compliance specified on the attached pages, which are hereby made a part of this Permit." EPD monitors compliance with the terms of issued withdrawal permits and implements appropriate compliance and enforcement actions in the event of violations. |
| 83 | One commenter asked, "How does EPD define 'unreasonable adverse effect'?" | The term "unreasonable adverse effect" has not been defined by the authorizing statute, nor in the Rules for Groundwater Use (391-3-2). Georgia Rule 391-3-2-.11 provides guidance on how to evaluate "unreasonable adverse effects on groundwater withdrawal," directing the Division to consider the best information available on the geologic and hydrologic characteristics of the rocks and groundwater withdrawals of the area. Based on the best information available, EPD has used a 30-foot drawdown as a threshold in both its permitting and planning analyses with respect to whether the projected drawdown from a proposed project would have unreasonably adverse effects on other water users or uses.<br><br>In the Regional Water Planning context, groundwater availability is evaluated by looking at the amount of water that can be withdrawn without reaching specific thresholds of local or regional impacts. One of these thresholds is the 30-foot drawdown. As EPD stated in the public meetings, the 30-foot threshold used in regional water planning was selected in part because of the general practice of well drillers to set pumps 40 to 60 feet below water surface. Therefore, the 30-foot threshold is already a conservative measure.<br><br>Furthermore, with respect to these permits, the best available information on the geologic and hydrologic characteristics of the area also indicate that properly set pumps will not experience issues with the estimated 19-foot drawdown and would not be adversely affected. |
| 84 | One commenter said that, "Policy effective in the 24-county coastal Georgia region requires any major water withdrawal permit application to be preceded by an analysis of alternative water sources. No alternatives were evaluated for this operation. Instead, EPD is proposing that over a 25-year period, alternatives be considered. This is a violation of the permitting process and demonstrates that the applicant was not considering any other water supply | Georgia's Rules for Groundwater Use do not require a water supply alternatives assessment as part of the permitting process. However, EPD placed a condition in the permits requiring the permittees to switch to an alternative source within 25 years. |

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| | than the Floridan aquifer, a high-quality source that is most economical for the company, but not the best fit for the area."<br><br>The commenter went on to ask, "Why did EPD not require a thorough alternative analysis be submitted by the applicants prior to issuing the draft permits?" | |
| 85 | One commenter said, "Georgia's state water plan says, that '…once adopted regional water management plans would be implemented by the water users in the region and EPD will make water permitting decisions based on the plans.' The 2023 update of the coastal regional water plan vaguely mentions a new industrial complex that is, 'expected to use 4 MGD of groundwater from Bryan County, 3.25 MGD of groundwater from Bulloch County and 2.5 MGD of surface water from Effingham County.' The regional plan estimates clearly do not align with the four wells being proposed by Bryan and Bulloch County, maxing ground water withdrawals only at about 6.6 MGD (monthly average). The language in the regional water plan demonstrates that the Regional Water Planning Council anticipated that the applicant(s) would employ a full suite of alternatives to meet the large industrial facility demand, but the applicants instead are pursuing the least expensive, and likely most impactful, way of meeting demand. As far as we know, EPD has not required the applicants to conduct and [sic] alternatives analysis to meet the demand of the facility. Instead, the agency is proposing that over a 25-year period alternatives be considered."<br><br>The commenter goes on to ask, "How does EPD consider a water withdrawal application that is not adequately addressed or planned for in the regional water plan, when the state-wide water management plan clearly requires that all withdrawals comply with the regional plans?<br><br>Why does EPD not require the applicant to consider alternative water sources as part of the permit application, or at least consider alternatives after a shorter time period, such as when the permit is due for renewal?" | EPD acknowledges that the amounts of water demand projected by the 2023 Coastal Georgia Regional Water Plan do not align perfectly with the amounts reflected in the permit applications received from Bryan (3.5 mgd) and Bulloch (3.125 mgd) Counties. Nonetheless, the projections, which were estimates only and preceded the actual applications, are largely consistent with the withdrawal amounts requested in the actual applications.<br><br>Georgia's Rules for Groundwater Use do not require a water supply alternatives assessment as part of the permitting process. However, EPD placed a condition in the permits requiring the permittees to switch to an alternative source within 25 years. |
| 86 | One commenter expressed that surface water should be used for industry and groundwater should be reserved for drinking water. | Comments noted. Neither the statutes nor the rules guiding EPD's consideration of water withdrawal applications specifies that specific sources of water be reserved for specific purposes. |
| 87 | One commenter asked, "Has water recapture and recycling been throughly [sic] explored and required for this permit? What innovative water presevation [sic] techniques will be employed? What about desalination?" | The municipal water supply providers regulated by EPD are required to participate in the Water Loss Audit process. That process includes water efficiency requirements. |

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| 88 | One commenter mentioned the impact of the proposed groundwater withdrawals outside of Bulloch County, extending to Chatham County and South Carolina. The commenter said, "it is absolute insanity to reverse course after 50 years and over pump the aquifer again, deliberately, after so much restorative progress has been made." | EPD's analysis recognizes an additional impact of approximately 0.2 to 0.5 feet in the Hilton Head Island area. EPD has required, in the permits' special conditions, that this long-term impact be mitigated by the establishment of an alternative source within a 25-year timeframe. |
| 89 | One commenter discussed eight wells total – two installed in Bryan County (one on US Hwy 80 and the other on the megasite); the four proposed wells; and two more wells projected to be installed in Bulloch County. The commenter goes on to say, "It is my understanding that EPD has publicly stated a surface water withdrawal/treatment plant, similar to the already existing Industrial Water Treatment Facility on Cherokee Hill in Port Wentworth, with sufficient capacity to provide potable water equivalent to the combined capacity of all eight of these wells was estimated to cost about $21 million dollars. Likewise, the four contested wells are projected to have a $12 million dollar price tag. It seems reasonable, the two other anticipated wells will cost in the area of about $6 million dollars. The two wells already installed were probably about that same amount.<br><br>So the public policy position for EPD, and presumably all the machinations of the State of Georgia, works out with the assertion that $24 million dollars for eight (8) wells, which the same EPD declares are "temporary" for a twenty-five year period is wise and judicious fiduciary management. Yet, the sustainable and long-term solution with an indefinite lifetime of service for surface water withdrawal/treatment projected at $21 million dollars is too expensive." The commenter goes on to recommend that the surface water plant be built expeditiously. | Costs for infrastructure are not part of EPD's permit review. Groundwater wells can be developed more quickly to address short-term water needs, which would allow time for an alternative water system and conveyance to be developed. |
| 90 | One commenter asked, "Fifty years ago, Georgia EPD claimed withdrawing 6 million gallons per day from the Floridan aquifer was an existential threat to the population of Savannah/Chatham and coastal Georgia; Now, Georgia EPD has flipped its position entirely and insists 6 million gallons per day can be withdrawn from the Floridan aquifer with absolutely no conceivable consequences; so, I ask, was Georgia EPD wrong then, or wrong now?" | Comment noted. Fifty years ago, EPD did not have the extensive information in USGS monitoring wells and the types of modeling tools to assess water use scenarios and their associated impacts.<br><br>EPD does not claim that a 6 mgd withdrawal has "absolutely no conceivable consequences." Using the information accumulated over the past decades, and using the mathematical model developed specifically to address coastal water resources issues, EPD has assessed and quantified the extent of the potential consequences. |
| 91 | One commenter said that EPD failed "to consider the best available information and impacts to other water bodies, endangered species, and other water users". | EPD has evaluated all available information known to the agency in assessing the potential impacts of the proposed groundwater withdrawals and has considered all factors required under Georgia law. |

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| | The commenter goes on to say, "EPD must use the best available information when considering groundwater withdrawal applications in order to inform reasoned permitting decisions. State law requires that EPD 'shall consider . . . any other relevant factors, such as, but not limited to, the best geologic and hydrologic information available on the aquifer or groundwater system of the area' when reviewing a permit application. Likewise, EPD is required to consider 'diversion from or reductions in flows in other water courses.'<br><br>EPD does not appear to be using the best available information in this permitting decision. Specifically, EPD's conclusions and explanations of the withdrawals' impact on the Ogeechee and Savannah rivers, their tributaries, and two endangered species of fish are lacking and overlook available information. First, EPD's statement that the Floridan Aquifer 'does not have a hydraulic connection with the Savannah [or] the Ogeechee River' is not explained using any scientific justification. Magnolia Springs State Park in Jenkins County is home to Floridan Aquifer-fed springs which feeds Buckhead Creek, an Ogeechee River tributary. This clear example of hydraulic connection with the Ogeechee River also suggests that other Floridan Aquifer-fed springs exist in the Ogeechee and Savannah river basins, playing important water quality and quantity roles in crucial aquatic habitats. Past aquifer overuse could have contributed to the loss of other springs throughout the Ogeechee and Savannah river basins, with future overuse further contributing to further impacts. It also suggests that overuse of the Floridan Aquifer could be negatively impacting other aquifers that lay above it. The loss of the clean, cold spring water likely impacts the water quality, aquatic habitat, and fish and wildlife in these rivers and their tributaries.<br><br>Based on EPD's assumption and unsupported statement that no hydraulic connection exists, it is likely that it did not consider or assess how much water would be diverted from the Ogeechee and Savannah Rivers and their tributaries or how those diversions would reduce flows from springs feeding those water bodies as well as cause a diminishment of downstream water quality. Without these analyses and considerations, EPD failed to meet its regulatory review requirements. EPD should provide the geologic, hydrologic, and scientific information to justify its conclusion." | Based on the Floridan aquifer conditions around the area of the proposed groundwater withdrawals, there are no anticipated impacts to surface water bodies. The top of the Floridan Aquifer in the area is below land surface by about 285-320 feet, meaning that the aquifer is buried very deep. The Floridan Aquifer in this area is also overlain by a confining unit that is roughly 240-300 feet thick. This is a layer of material that practically does not allow water to go through. USGS monitoring well 31U008 shows a water level of the Floridan Aquifer about 114 feet above mean sea level (NGVD 1929) and about 90 feet below land surface on August 30, 2024.<br><br>The configuration of the Floridan Aquifer and the overlying confining unit makes it impossible for a hydraulic connection between the Floridan Aquifer and the surface water bodies. Because of the lack of a hydraulic connection, there are no implications for species that utilize those surface water bodies as habitats. There are also no anticipated impacts to water quality in the surface water bodies.<br><br>The commenter noted Magnolia Springs State Park, which is located more than 60 miles from the location of the proposed groundwater withdrawals and in an updip area of the Floridan aquifer that is unconfined or semi-confined. Withdrawals from the Floridan aquifer in Bryan or Bulloch Counties will not impact flows at Magnolia Springs. It is possible, however, that other Floridan aquifer withdrawals in close proximity to Magnolia Springs or drought conditions may impact flows in Magnolia Springs.<br><br>Based on these facts and knowing the range of hydraulic characteristics of the confining layer above the Floridan aquifer in Bulloch and Bryan Counties, which has a horizontal and vertical hydraulic conductivity of approximately 0.00002 ft/day, it would take about 27,000 years for a water molecule in the Floridan Aquifer to pass through the thick confining unit overlying it (assuming the confining layer is only 200 feet thick) much less create any substantial hydraulic connection with surface water bodies. |
| 92 | One commenter said that, "Second, the conclusions around impacts to two endangered species are fatally limited in scope and fail to consider water quality impacts potentially resulting from the proposed withdrawals. The two species at issue are the Atlantic sturgeon and the shortnose sturgeon, both | See the previous response. In addition, EPD reiterates its prior response from page 6 of the "Response to Comments on the Draft Special Conditions": |

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| | listed as 'endangered' by the National Marine Fisheries Service. In its response to comments, EPD states that "[s]pecies that use those surface water bodies as their habitat are not affected by water use from the Floridan Aquifer." Specifically, "those surface water bodies" refer to the Ogeechee River, Savannah River, and Okefenokee National Wildlife Refuge. As noted above, however, this appears to be based on the assumption that the Floridan Aquifer does not hydrologically influence either of these rivers to any degree. It is feasible that the Ogeechee and Savannah Rivers have aquifer-fed cool water seeps that create cold water refugia in the segments of these rivers, which provide crucial respites for these sturgeon species to escape harmfully highwater temperatures during critical life cycle stages. Reducing aquifer levels and pressure to any degree prevents these springs from recovering, reduces or removes the cold water refugia from aquifer-fed seeps, continues the trend of overutilization, and harms the recovery efforts of these two endangered species. For these reasons, and the reasons noted above, ORK urges EPD to pause its permitting decision, confirm that the proposed water withdrawals will not harm the Atlantic and shortnose sturgeon or their recovery efforts, and publicly provide scientific justification for its conclusions." | "The Floridan Aquifer is overlain by a confining unit. It does not have a hydraulic connection with the Savannah River, the Ogeechee River, or the Okefenokee National Wildlife Refuge. There is not the prospect of dewatering the Ogeechee River, the Savannah River, or the Okefenokee National Wildlife Refuge. Species that use those surface water bodies as their habitat are not affected by water use from the Floridan Aquifer." |
| 93 | One commenter raised concern about the use of reuse water. Specifically, "In addition, it should also be noted that the efficacy of utilizing the North Bryan Water Reclamation Facility's reuse water is unproven. Our understanding is that reuse water will not be used in Hyundai's manufacturing process. The only water that might be reused at the Hyundai Mega-site is for landscaping. There is no assurance that any of this reuse water will be used in any industrial processes. If utilization of reuse water is the only conservation measure being pursued, that will not be enough to meaningfully conserve the water that will be withdrawn under these permits. ORK urges EPD to require true conservation measures to be put in place to protect the Floridan Aquifer and all who rely on it." | Comments noted. EPD considered the range of conservation measures proposed in the permittees' Water Conservation Plans. |
| 94 | One commenter raised concerns about EPD's management of the "cone of depression" under Savannah. Specifically, "EPD also failed to specifically consider the proposed withdrawals' impacts on potential water users and how it manages the "cone of depression" underlying Savannah. Georgia state law makes clear that groundwater withdrawal permits may be granted only if "there are not unreasonable adverse effects on other water uses, including public and farm use, and including potential as well as present use" (emphasis added). With both residential and industrial growth expected for the region, potential future water use is expected to grow in both Bryan and Bulloch | The local cone of depression resulting from the proposed groundwater withdrawals attenuates as it moves away from the center of withdrawal. When it reaches the center of the Savannah Cone of Depression, its magnitude is reduced to between 1 and 3 feet of additional drawdown in the Savannah area.<br><br>EPD does not consider potential future growth and water use in the larger region that is speculative in nature as part of the analysis for new permits. EPD does not have verifiable information about the exact locations, |

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| | Counties. Likewise, any new or expansion of a current agricultural operation would further increase water usage. The areas immediately around the proposed wells have potential and foreseeable water users that could see unreasonable adverse impacts resulting from the proposed withdrawals."<br><br>One commenter said that, "EPD does not seem to have considered potential uses. In its response to comments, EPD states that "[p]lanning of future water needs is part of the regional water planning process." In response to a comment raising concerns about future withdrawal permitting decisions and the future availability and fitness of the aquifer, EPD said that its review process "involves whether the amount of withdrawal requested is reasonable, whether the source have the capacity to provide the requested amount, whether there are impacts to the resource and other users, and what mitigation measures can be put in place to mitigate such impacts." While attention has been paid to "existing Floridan Aquifer wells," EPD must also specifically consider and conclude that potential water users will not see unreasonably adverse effects as a result of these proposed withdrawals. " | amounts or other necessary information regarding those speculative potential future uses.<br><br>EPD notes that future demands are estimated at the county level in the Regional Water Planning process, which includes resource assessment for groundwater availability and surface water availability using the same modeling tools that are available to EPD's permitting evaluations. |
| 95 | One commenter said that, "The 25-year transition timeframe proposed in these permits' special conditions is unacceptably long. To put this into perspective, the Coastal Georgia Water& Wastewater Permitting Plan for Managing Salt Water Intrusion is only 18 years old. While it has been useful in preventing new overuse in critical locations, it has not incentivized the needed transition to alternate sources of supply, even with the guidance of the Coastal Georgia Regional Water Planning Council. When considering the preceding efforts to address known Floridan Aquifer overuse, the additional 25 years this permit essentially grants would result in over a half-century of insufficiently urgent action to reduce strain on this crucial aquifer and develop and use alternative, sustainable sources. In light of the exponential population and industrial growth experienced since the 2006 Plan and the anticipated acceleration of that growth in the coming years and decades, the lack of urgency cannot be continued." | Comments noted. These concerns have been previously responded to on page 3 of the "Response to Comments on the Draft Special Conditions" and provided again here:<br><br>"EPD has maintained the 25-year deadline to cease groundwater withdrawals, though the permittee may choose to utilize an alternative water source more quickly.<br><br>There are two major reasons affecting the timing of an alternative water source. First, EPD does not have the authority under these groundwater withdrawal permits to require a third party to cooperate in providing a surface water or other alternate water source solution, and that cooperation will certainly be necessary. It will take adequate time to secure that cooperation and to plan, design, construct and implement operations of such a complicated infrastructure. Second, securing funding for the infrastructure development also needs time. Nevertheless, the alternative water source could successfully replace the groundwater withdrawals before the 25-year deadline.<br><br>EPD encourages surface water usage in the coastal area as part of a long-term solution to water supply challenges in the region and supports the timely development and use of alternative water supplies. EPD is not aware |

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| | | of any interconnection capable of providing the necessary amount of water within a three- to five- year timeframe." |
| 96 | One commenter said that, "EPD must effectively and expeditiously work towards its public trust goal of ensuring protection of the inter-state water resources. As the last quarter-century of insufficient action highlights, a light-handed approach will not achieve these goals. The simplest way to speed up the transition is to shorten the time the applicants are allowed to withdraw water from these wells. 25 years is a long and seemingly arbitrary period. EPD does not provide a specific justification for how it decided on a 25-year timeline, only stating that it will "take adequate time to secure that cooperation and to plan, design, construct and implement operations…" and that "securing funding for the infrastructure development also needs time." Nowhere is the selection of a 25-year timeline explained. Such an important transition should be prioritized."<br><br>The commenter goes on to provide an example of a 10 MGD surface water treatment plant that was built in Pearland, Texas. This plant took "just over 8 years" to plan, design, bid, and construct. The commenter also mentions a project that took 3 years in Oak Ridge, TN, and one that took 11 years in Tahoe, CA. The commenter concludes by recommending a 10 year timeline. | Comments noted. These concerns have been previously responded to on page 3 of the "Response to Comments on the Draft Special Conditions". EPD reiterates that a permittee could successfully replace the groundwater withdrawals with an alternative water source before the 25-year deadline. The 25-year deadline was included to prevent the worsening of saltwater intrusion on Hilton Head Island. Worsening saltwater intrusion could constitute a potential unreasonably adverse effect, so EPD included the deadline in the permit. |
| 97 | One commenter said that, "Beyond a simple shortening of the allowed transition time period, EPD should reduce the amount of groundwater permitted to be withdrawn over time to incentivize local entities to make the necessary efforts to actualize the transition to alternative water supply sources. This could take a number of forms. One way could be to write in specific reductions at specific time periods. For example, at the permit's 5th year, permitted withdrawal will be reduced by 150,000 gpd at each well and will continue to be reduced each year after. A second approach would be an increasingly sharp reduction at milestone years. For example, withdrawals will be reduced by 50,000 gpd at Year 5, an additional reduction of 250,000 gpd in Year10, 500,000 gpd further in Year15, and an additional1.5 MGD in Year 20. A third option is to shorten the permit length to 5 years, in order to allow EPD to reassess the withdrawals on a more frequent basis and have a more direct hand in ensuring an expeditious transition." | Comments noted. Certain water development projects can be developed in phases, especially with uncertainties involved in population forecasting and water use forecasting. Other projects are not conducive to a phasing approach. EPD's technical assessment indicated that this project may not be conducive to phasing; however, the permits allow the permittees to provide alternative water sources in phases if they choose. |
| 98 | One commenter said that, "…EPD must also be prepared to enforce the terms of this permit when alternative supply becomes available. These permits state that when an alternative supply is available, there must be a corresponding reduction in groundwater withdrawals. ORK agrees that this is the most logical approach to meeting water supply needs, and supports these terms. | Water withdrawal permits are legal documents authorized by Georgia statutes and regulations. No inter-governmental agreement can nullify the legal authority of a state-issued water withdrawal permit. |

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| | However, the Intergovernmental Agreement signed between Bryan and Bulloch Counties contains a term that explicitly conflicts with these permits' special conditions. Specifically, it states that Bryan County will never use less than 3.5 MGD from the wells. If sufficient water supply is available, these permits require withdrawal reduction below3.5 MGD. ORK is concerned that the counties will attempt to enforce the terms of their agreement despite these EPD permits. As such, ORK urges careful attention to available alternative water supply, reductions in the permitted wells, and strict compliance with the EPD permits." | |
| 99 | One commenter said that, "…EPD should not issue this permit without fully reviewing and approving the Well Mitigation Fund. This fund is crucial in reducing short-term harm of potential unreasonable adverse impacts from the wells. It does not make sense, common or regulatory, to allow these wells to be approved and drilled before a fund with an efficient and solid reimbursement mechanism exists. Even if the withdrawals are delayed until EPD receives a plan, this still puts the cart before the horse. Without knowing the specifics of the plan, EPD cannot have met its regulatory duty in considering and concluding whether unreasonable adverse impacts will result from the wells. As is evident from the inclusion of the special conditions addressing short term impacts, EPD appears to have concluded that adverse impacts are going to result from the proposed withdrawals. Its solution is to remedy and compensate impacted well owners through the Well Mitigation Fund. However, without having seen the specifics of the Well Mitigation Fund, EPD has no way of knowing whether a mitigation fund will actually achieve that goal. Without this information, EPD cannot have met its regulatory duty to sufficiently consider and determine whether granting these permits will have an unreasonable adverse impact on other water users. It should be noted that, while a Memorandum of Understanding exists between the two counties, promising to create the mitigation fund, no precise details exist. As such, ORK calls on EPD to require the applicants to create and submit the Well Mitigation Fund before issuing the permits." | As explained in greater detail above, EPD's technical assessment, while indicating some levels of impact, did not indicate "unreasonable adverse effects." As stated in multiple public meetings, an additional local drawdown of 10 to 19 feet within the 5-mile radius has been assessed. This level of impact is below the 30-foot impact threshold EPD uses in both permitting and regional water planning analyses.<br><br>EPD and the applicants agreed to include the mitigation fund as a required condition in the permits to address potential impacts that are less than unreasonable adverse effects. Although the permits do not require that the permittees create the fund before finalizing the permits, EPD has required that the permittees establish the fund details and make them available to the public prior to any withdrawals. |
| 100 | One commenter said that, "…clearer requirements for the specific terms of the Well Mitigation Fund are needed to ensure the protection of water users adversely impacted by the proposed withdrawals. As currently presented, the minimum explanations needed for the Well Mitigation Funds to be approved are "mitigation fund mechanisms with defined forms, mitigation practices, processes and protocols prior to withdrawals from the permitted groundwater wells." As long as a proposed mitigation plan includes these items, it will be approved by EPD. Concerningly, these forms, practices, processes, and | The mitigation fund requirement is intended to address an estimated water level impact of 10 to 19 feet. To be more accurate, of all the known wells within the 5-mile radius, the maximum additional drawdown is estimated to be 15 feet.<br><br>The permits require that the fund be available to address any potential significant impacts caused by the withdrawals as determined by a licensed water well driller or pump installer. |

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| | protocols do not have to meet any standards- they simply have to exist. This could easily lead to a non-functioning mitigation fund that might never disburse any money. For an extreme example, say the Well Mitigation Fund includes a mechanism or process that states "after 6 months of a domestic well not functioning, a landowner may begin the application process." While this would meet the permits' minimum requirement of developing the Well Mitigation Fund with clear procedures, this is a plainly unacceptable outcome. Residents and farmers cannot realistically be expected to wait that long. However, as currently written, the counties could develop this mechanism and, because it meets the terms of the permits, EPD would have to approve the fund and allow withdrawals to begin. While this extreme a mechanism is not likely to be proposed, the issues that the proposed permit conditions' language present are clear -without more precise expectations, the Well Mitigation Program may not efficiently remedy unreasonable adverse impact. Short of clear expectation, the impacted community is vulnerable to unacceptable outcomes resulting from these withdrawals' foreseeable and potential unreasonable adverse impacts." | The permit language is focused on resolving issues resulting from the water level drawdown. If the permittees' development and implementation of the mitigation fund do not comply with the permit, it would be considered a violation of the permit condition. |
| 101 | One commenter said that, "…some added clarity in defining the licensed professional allowed to investigate impacts. Water well drillers and pump installers licensed in the State of Georgia are those "licensed professionals" that may conduct the investigations. Currently, the permits state that "[a] list of those licensed professionals must be published on the permittee's website." ORK requests that this sentence be revised to state "A list of all those licensed professionals…" in order to ensure that the impacted community is fully informed of all of the potential investigators available to them." | The permit requirement referenced by the commenter requires that "[a] water well driller or pump installer licensed in the State of Georgia may investigate alleged significant impacts to existing wells," and requires the permittees to publish "[a] list of those licensed professionals" to their website. EPD intends for the permittees to include all licensed professionals on their website, which they can do by referencing EPD's website containing the list of the professional well drillers and pump installers (https://epd.georgia.gov/water-well-standards-act-contractors). |
| 102 | One commenter said that, "…the permits should include clear and strong ramifications for noncompliance with the mitigation fund. These ramifications should include immediate suspension and potential revocation upon confirmation of a valid complaint. The importance of this mitigation fund cannot be understated. Potential impacts to residential drinking water strikes at one of the most basic necessities of life. Likewise, the loss of access to agricultural wells could doom whole crops and herds of livestock, devastating operations. These are issues that cannot be taken lightly. Failure by the applicants to efficiently address potential issues could have the most extreme impacts on life, property, and the community's way of life. As such, the consequences for not meeting expectations should be equally extreme. ORK suggests adding a fourth subsection in the mitigation fund special condition that states, 'applicant's noncompliance with the terms of the mitigation fund | The permits' front pages contain the following statement: "This Permit is conditioned upon the permit holder complying with all of the terms, conditions, and schedules of compliance specified on the attached pages, which are hereby made a part of this Permit."<br><br>Further, Rule 391-3-2-.05(5)(a) gives EPD the power to revoke a permit "when the ground water use or withdrawal is not in compliance with the terms of the permit." Rule 391-3-2-.15 also gives EPD the authority to take other enforcement actions in the event of a permit violation, such as administrative orders, court orders, injunctive relief, and civil and criminal penalties. |

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| | will result in the immediate suspension of this permit and potential revocation of the permit.'" | |
| 103 | One commenter said that, "…ORK requests EPD clarification on how it defines 'unreasonable adverse impact.' In the Response to Comments on the Draft Special Conditions, EPD states that it 'does not anticipate unreasonable adverse impacts on existing wells,' and justifies its special condition requiring a mitigation fund as a "conservation measure." The Ga. Comp. R&Regs. 391-3-2 does not include the term 'conservation measure' and mainly references conservation in relation to a water conservation plan. Likewise, the special conditions related to addressing short term impacts, including the mitigation fund, do not address water conservation. Instead, it is designed to respond to, remedy, and address 'significant impacts' to wells in the area. Despite this suggested terminology of 'conservation measure,' the mitigation fund is not meant for conservation, but rather for impacts. And it certainly appears that 'significant impacts' and 'unreasonable adverse impacts' occupy very similar meanings. Without a clear definition of 'unreasonable adverse impact' that is substantially different from a 'significant impact,' these appear to be interchangeable terms.<br><br>Further, a definition of 'unreasonable adverse impact' would be helpful in clarifying how EPD selected its 5-mile radius for eligibility for relief from well impacts. EPD refers to regional water planning contexts and drawdown interferences, but does not provide any citation and reference for these numbers. It further states that the 10-feet drawdown is conservatively chosen to assess impact, again without explanation. EPD must have some clearer concept of what an "unreasonable adverse impact" is when making its conservative assessments of impacts. Clear communication on this issue could also justify and confirm that the 5-mile radius is sufficiently protective of all those that could be either unreasonably adversely impacted or significantly impacted. ORK asks for EPD clarification on this definitional question and how the Department applied this definition to the current 5-mile area of impact.<br><br>Sixth and finally, EPD must explain how it has met its regulatory requirements in determining no unreasonable adverse impacts will result from these permitted withdrawals. As has been discussed above, the inclusion of the Well Mitigation Fund special condition and the description of potential 'significant impacts' resulting from the proposed withdrawals certainly appears to meet the threshold of an 'unreasonable adverse impact.' Clear definitions for | The commenter is presumably referring to EPD's response on page 10 of the "Response to Comments on the Draft Special Conditions" document where EPD explained that the mitigation fund is a "conservative" measure, not a "conservation" measure.<br><br>See Response #83 for a discussion of "unreasonable adverse effect."<br><br>The 5-mile radius used for the mitigation fund has no relationship to "unreasonable adverse effect". The assessed water level drawdown from the proposed groundwater wells ranges from 19 feet at the deepest point in the well field to roughly 10 feet about 5 miles away. The drawdown further attenuates to lower than 10 feet moving away from the 5-mile radius. A map showing the extent of the impact has been provided on EPD website at https://epd.georgia.gov/water-withdrawal-permitting.<br><br>The mitigation fund was not included to address unreasonably adverse effects, but to address negative impacts that may nonetheless occur to a lesser extent. One example of such a scenario may be an improperly installed pump that is too close to the water surface and therefore vulnerable to a drawdown. A licensed water well driller or pump installer will be authorized to assess complaints. |

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| | 'unreasonable adverse impact' and 'significant impact' would help EPD clarify its conclusions.<br><br>Likewise, if an 'unreasonable adverse impact' results, the Well Mitigation Fund is not sufficient to ensure these permits will satisfy all of the considerations required by state regulations. As noted above, EPD must determine that there will not be any unreasonable adverse impacts that would result from a proposed withdrawal in making its permitting decision. Even assuming a sufficient mitigation plan is in place and would efficiently address resulting impacts, EPD is not empowered to grant a permit that it determines would have an unreasonable adverse impact. Here, there will be adverse impacts that will have significant negative effects on well owners. EPD would have to overlook these specifically identified considerations in making its permitting decision, ignoring its regulatory requirements and invalidating its permitting decision. Without an expanded explanation of what an 'unreasonable adverse impact' is, how it differs from a 'significant impact,' and how these proposed withdrawals fit into those definitions, granting these permits appears to ignore regulatory requirements. ORK asks EPD for clarification on this crucial regulatory question." | |
| 104 | One commenter expressed concern that, [a]s a farmer it could negatively affect my ability and future generations of farmers to water crops. It could negatively impact all of my neighbors that have wells for drinking water."<br><br>One commenter expressed concern that there had not been proper analysis about impacts to farmers, specifically [n]egative impacts on local farmers and residents, particularly related to water supply and quality. The proposed $500,000 fund to address well issues seems woefully inadequate given the scale of potential groundwater impacts. | The assessed impacts are limited in both magnitude and in geographic scope. As stated in response #52 above, there are 29 wells identified as being either inside the 5-mile radius or outside by a short distance. These are the entities that may be affected by water level drawdowns in their wells of between 7 and 15 feet. A mitigation fund has been established to address issues with water level drawdowns inside the 5-mile radius circle. If any of them face unexpected issues with water availability, the mitigation fund will be utilized to address such issues.<br><br>EPD has estimated that the impact from the permits on wells outside of the 5-mile radius will be less than 10 feet and will continue to attenuate as the well is located farther from the permitted wells. |
| 105 | Several commenters stated that Savannah River water should be used, instead of the Floridan aquifer. Other commenters focused on recommending "sustainable" water sources, like recycled water. | The Savannah River is considered to be one of the potential alternative sources. EPD has placed a requirement in the permits for the permittees to develop alternative sources of water, including reuse or recycling of water where feasible. |
| 106 | Several commenters referenced the Ogeechee Riverkeeper and One Hundred Miles comment letters and reiterated EPD's need to review and respond to those letters. | Comments noted. EPD has reviewed and responded to those comment letters. |

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| 107 | One commenter stated that there has not been proper analysis on the "[d]isruption to the local ecosystem and wildlife habitats. The loss of hundreds of acres of wetlands and forested areas will have far-reaching consequences that have not been fully examined." | The proposed groundwater withdrawals will not impact any surface water bodies or wetlands, because there is no hydraulic connection between the Floridan aquifer and the surface water features in this area.<br><br>The impacts to wetlands from site development are assessed under the Clean Water Act Section 404, which is administered by the Army Corps of Engineers through its 404 permitting process. |
| 108 | One commenter stated that there had not been proper analysis of "[i]ncreased traffic and strain on local infrastructure. The influx of thousands of workers and increased industrial activity has already dramatically altered our rural community, and we anticipate these impacts will only worsen as the project progresses." | Comments noted. Traffic studies are outside of EPD's regulatory purview. |
| 109 | One commenter stated that there had not been proper analysis of "[c]umulative impacts of parallel construction projects to support the Megasite, including new water/sewer infrastructure and road expansions. These associated developments compound the environmental effects." | Comments noted. EPD's evaluation of the groundwater withdrawal permits includes the evaluation of impacts on the Floridan aquifer, with an assessment of additional drawdown resulting from the proposed withdrawals. |
| 110 | One commenter stated that there had not been proper analysis of, "[l]ong-term sustainability concerns, given the massive water usage projected for the facility in an area already facing aquifer depletion and saltwater intrusion issues." | There is no general "aquifer depletion" within the Floridan Aquifer in Bulloch County. There are no "saltwater intrusion" issues in Bulloch Couty either. |
| 111 | One commenter alleged that EPD was selectively reporting data. Specifically, the commenter said that, "The EPD's assertion that aquifer levels are rising in the red and yellow zones, while omitting the declining levels in surrounding counties, is misleading. This selective presentation of data potentially violates the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et seq.), which mandates accurate and comprehensive reporting of environmental impacts. The Georgia Environmental Policy Act (GEPA) (O.C.G.A. § 12-16-1 et seq.) also requires full consideration of all environmental impacts, not just those convenient for supporting a narrative."<br><br>One commenter stated that, "Evidence shows that while aquifer levels are increasing in the Savannah cone of depression, surrounding regions, including Bulloch County, are experiencing significant declines. This selective benefit is critical and should be fully disclosed. Under GEPA, the EPD must consider and disclose the full scope of environmental impacts." | EPD did not selectively report data in order to support a narrative but reported all data relevant to the permit evaluation. Within EPD's presentation at the public meeting, there was a comparison of the Savannah-area Cone of Depression between two different timelines. The more recent one has a substantial improvement (about 40 feet) in water levels over the earlier one.<br><br>Groundwater level monitored by USGS does not show declining levels of groundwater in the Floridan Aquifer in the surrounding counties. USGS well 31U008 shows stable water levels over the past 20+ years. It does show a decline of 10-15 feet from the mid-1990s to the early 2000s. However, there has been no general decline of water levels since the early 2000s.<br><br>GEPA does not apply to permitting actions by EPD (see O.C.G.A. 12-16-3(7)). |
| 112 | One commenter raised concern that the mitigation fund requirement implies "adverse impacts." Specifically, "The requirement for a mitigation fund suggests an acknowledgment that the permitting of these wells will have adverse impacts. This could indicate non-compliance with state and federal | Please see responses #83 and #103 above. Although there may be impacts to wells for purposes of the mitigation fund, there are no unreasonably adverse effects as contemplated in the Georgia regulations. The mitigation fund will be available to address certain problems people may experience, |

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| | regulations: - **Georgia Code**: O.C.G.A. § 12-5-20 et seq. requires comprehensive assessment and mitigation of significant environmental impacts. A mitigation fund established without a full environmental impact assessment could violate these requirements. - **Federal Code**: Under NEPA (42 U.S.C. § 4321 et seq.), significant federal actions require a thorough Environmental Impact Statement (EIS). The Clean Water Act (33 U.S.C. § 1251 et seq.) and the Clean Air Act (42 U.S.C. § 7401 et seq.) also mandate thorough impact assessments and adequate mitigation. The establishment of a mitigation fund without an EIS or full assessment could be seen as a failure to comply with these requirements" | even though the problems do not rise to the level of an "unreasonable adverse effect".<br><br>A state-issued groundwater withdrawal permit is not subject to federal NEPA requirements. |
| 113 | One commenter raised concerns about "political pressure." Specifically, "There have been allegations of pressure from Governor Kemp's office to expedite the permitting process for Hyundai, regardless of environmental concerns. Such pressure could potentially compromise the integrity of the EPD's decision-making process. This situation raises serious concerns about compliance with the Administrative Procedure Act (O.C.G.A. § 50-13-1 et seq.), which mandates that administrative decisions be made transparently and based on accurate and comprehensive data, free from undue political influence. Federal standards under NEPA (42 U.S.C. § 4321 et seq.) also require decisions to be made based on full and fair consideration of environmental impacts, without political interference." | Comments noted. EPD's decision to issue the groundwater withdrawal permits was not the result of any political pressures, and its technical assessment followed the proper administrative process.<br><br>EPD's water withdrawal permitting process is not subject to federal NEPA requirements. |
| 114 | "Given these serious concerns, I demand the following actions from the EPD:<br>- Immediate and transparent disclosure of all relevant data, including detailed impacts on surrounding counties.<br>- A comprehensive analysis of the potential long-term effects of the proposed wells on regional aquifer levels.<br>- A full explanation addressing discrepancies between reported and independent data.<br>- Assurance that the permitting process has not been unduly influenced by political pressures and that all decisions comply with relevant state and federal regulations." | All relevant data in EPD's possession are open and available upon request pursuant to the Georgia Open Records Act, including any modeling data.<br><br>A comprehensive analysis has been performed. It is unclear what "independent data" this commenter is referencing.<br><br>The permitting process was not influenced by political pressure; it was conducted in full compliance with the law. |
| 115 | One commenter has questions about the analysis of the impact of the proposed groundwater wells on water levels. Specifically, "1. The analysis that was shared showed that water would drop with the mega-site usage.<br>a. Did that look at the mega-site in isolation or does it take in to consideration the population growth/new homes that are being built in Bryan and Bulloch counties?<br>b. All conversations referenced an average daily usage. What happens in the summer? Our area has moved from a planting zone 8 to a 9 so | Response to 1(a): The analysis has been done with fully utilized permit limitations, i.e. 6.625 million gallons per day (mgd). Of this amount, roughly two thirds is intended for the industrial project, and the other one third is intended for other associated development, including residential development. Please also see response #94 above regarding the evaluation of potential future growth and water use in the area. |

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| | temperatures are rising putting more demand on water for residential and agricultural usage. What is the expected impact during summer months?" | Response to 1(b): Permit limitations are for annual average flow rate and monthly average flow rate. They are 3.5 mgd for the Bryan County permit and 3.125 mgd for the Bulloch County permit. The annual limitation and the monthly limitation are the same for each permittee. While temperature changes may affect agricultural irrigation and outdoor watering, industrial water use is more likely affected by production. Groundwater modeling evaluations did include increased agricultural pumping during the growing season (or peak irrigation months), and constant permitted use by municipal permits. Higher usage during periods due to residential irrigation are contemplated in the monthly average and annual average permitted flow rates. |
| 116 | One commenter said, "More of a comment: is local government, including planning and zoning, taking all of this water demand into consideration when reviewing their plans and approval process. Can they work together with EPD? Much zoning has changed to R25, is this the right thing to do especially with the mega-site demands? Should we be zoning bigger lots/fewer houses and wells per area?" | Comments noted. Planning and zoning decisions are the purview of local governments. |
| 117 | One commenter said that. "I would like to see all the stakeholders work together to reduce the need for well water by at least 50% within the next 10 years." | Comments noted. |
| 118 | Several commenters wrote to express support for the issuance of the proposed groundwater withdrawal permits. | Comments noted. |
| 119 | One commenter asked, "If the pressure in the aquifer gets low enough, why will river, creek, swamp water not flow into the aquifer via the passages spring water once flowed from?" | There is no hydraulic connection between the Floridan Aquifer and the surface water features in Bulloch County. |
| 120 | One commenter raised concern about saltwater intrusion, specifically, that it would be "exacerbated" on Hilton Head Island and "Chatham County would start to see similar effects." | EPD's assessment indicates a 0.2-0.5 feet of additional water level drawdown at Hilton Head Island. EPD requires the permittees to pursue and achieve alternative water sources within 25 years to address the long-term impact. Please also see responses #17 and #42 above. |
| 121 | One commenter raised the concern that "Bryan C is going to flood more than it is now if you add in too many wells." | The connection between flooding in Bryan County and the number of groundwater wells permitted is unclear. |
| 122 | One commenter requested "strict monitoring that they will not take more water than promised." | The permittee is required to report its water use to EPD on a regular basis and exceedances of permitted withdrawal limits would be a violation of the permit. |
| 123 | One commenter asked, "Currently our well pump is in the water table approx. 40 feet. If the Hyundai plant drops the water table by 19 feet, as I've read, how will this effect our water's taste and purity?" | Water level drawdowns would not impact groundwater quality. |

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| 124 | One commenter asked, “If the water table drops 19' will it ever come back up and if so how long will it take?” | Past experience and data indicate that groundwater water levels recover to their original levels in a short period of time after the water use stops. |
| 125 | One commenter asked, “How much of a drop in the water table does it take for salt water intrusion to take place?” | EPD’s management of the groundwater resources in coastal Georgia is focused on preventing the migration of saltwater intrusion towards the Savannah area. Based on CSSI modeling conducted under 1998 pumping conditions in the Savannah area, it would take approximately 125 years for saltwater to reach the center of the Savannah-area cone of depression. Water use has since been reduced from 69 mgd to 46 mgd in that area. This reduction has further slowed the saltwater movement towards Savannah.<br><br>The groundwater level of the Floridan Aquifer in Bulloch County is around 114 feet above mean sea level (NGVD 1929). Theoretically, it would take a 115-foot drawdown in the groundwater level before it drops below sea level. Even under those lower conditions, there will not be a flow of saltwater toward Bulloch County, because the Savannah-area cone of depression has a water level that is approximately 40 feet below sea level, so the Floridan aquifer groundwater levels rise up to 114 feet above sea level on the west side of Savannah toward Bryan and Bulloch Counties. Put together, if there is not a change in the Savannah-area cone of depression, it would take a drawdown of more than 154 feet in Bulloch County for groundwater levels to allow chlorides (saltwater) to continue migrating toward Bulloch County and beyond the Savannah area cone of depression. |
| 126 | One commenter asked, “If I have to lower our well pump because of the water table drop, is their [sic] a way for me to get reimbursed since we're so close to the plant but more than 5 miles?” | The permittees have adopted the approach of being inclusive in considering mitigation of potential impacts. In EPD’s estimate of 29 wells potentially being impacted, several are indeed outside the circle of a 5-mile radius, perhaps by as far as one mile. The counties could decide to support wells outside of the 5-mile radius circle; the terms in the permit regarding the mitigation fund present minimum requirements only. |
| 127 | One commenter asked, “What all should I test for due to the concerns of being so close to the Hyundai plant and how often should I test ?” and “Is there a way to get reimbursed for the test kits?” | Water chemistry of the Floridan Aquifer is not expected to change as a result of the proposed water withdrawals. If the commenter intends to test water chemistry, then it may not be covered by the mitigation fund. |
| 128 | One commenter asked, “Do you know what they plan to do with the wastewater and are they going to recycle their used water?” | Hyundai Motor Group Metaplant America LLC will initially discharge pretreated process wastewater to the City of Savannah’s Travis Field Water Reclamation Facility (WRF). Savannah's Travis Field WRF discharges to Pipemaker's Canal in the Savannah River Basin downstream of the tide gate. |

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| | | In the future, Hyundai plans to discharge pretreated process wastewater to the Bryan County Board of Commissioner's North Bryan WRF. The North Bryan WRF will discharge to the Ogeechee River.<br><br>Both WRFs have indicated plans to treat wastewater to reuse standards and distribute to customers, and conditions for distribution of reuse water have been include in both NPDES permits. EPD will need to provide authorization to operate the reuse systems at each WRF prior to use. |
| 129 | One commenter asked, "Will Hyundai be closely monitored to make sure they aren't leaching heavy metals and other toxins into the ground through run off due to rain and direct pumping into the Ogeechee river?"<br><br>One commenter asked, "Do you know what all they could possibly leach into the ground?" | Stormwater management is not a consideration of a groundwater withdrawal permit review. The Hyundai industrial facility has applied for a No Exposure Exclusion (NEE) through the industrial stormwater general permit. The NEE status means that no industrial activity would be exposed to stormwater at the Hyundai facility. Permittees in NEE status must conduct quarterly inspections to ensure that a condition of no exposure is maintained at the facility. |
| 130 | One commenter asked, "Why is this outrageous quantity of water necessary for their operations --can they recycle or reuse water in a way that allows them to produce their cars and support their staff with much less water? If the water is for cooling, can it not be pumped through cooling towers and reused? if the water is for cleaning, can it not be pumped through filters and reused?<br><br>Additional important considerations might include:<br><br>The proposed quantity of water has considerable volume --what geologic issues such as subsidence and seismic activity might result from its removal?<br><br>Where will they dump this water after they use it and what changes (such as temperature increase, chemical or particulate impurities) will be introduced to the watershed?<br><br>Will they need to take surface water from Black Creek or the Ogeechee River, and how will it be treated and discharged?" | EPD has placed conditions in the permits requiring the permittees to develop alternative water sources, including reuse where feasible. EPD does not have information about surface water use from Black Creek or the Ogeechee River, but any future surface water withdrawals will be evaluated through that permitting process.<br><br>Wastewater or stormwater discharges from the site are also subject to permit requirements, including meeting any application effluent discharge requirements or best management practices.<br><br>There are no anticipated geological issues resulting from the proposed groundwater withdrawals. No seismic activities are anticipated. |
| 131 | One commenter asked about the water being used during the construction of the Hyundai megasite. | Water use associated with construction of the site has been covered by Bryan County's existing permitted groundwater use. |
| 132 | One commenter claims they were informed their pond will probably dry up because of the proposed withdrawals. The commentor is concerned about their loss in property value and concerned the water quality in their well will be affected. | There is no hydraulic connection between the Floridan Aquifer and the surface water bodies in the Bryan and Bulloch County geographic area. The pond will not dry up because of the proposed withdrawals. The proposed withdrawals will have no effect on water quality of the private well. |