TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 1, 2019

Ms. Elizabeth Shelton, Project Manager
Galveston District CESWG-PE-RE
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Re: USACE Permit Application No. SWG-2016-00384

Dear Ms. Shelton:

As described in the Joint Public Notice, dated December 27, 2018, the applicant, Romerica Investments, LLC, proposes to develop a marina/resort district, commercial district, residential district, and roadway expansion. For the entire project, Romerica Investments, LLC proposes to discharge approximately 68,323 cubic yards of fill material into a total of 42.35 acres of wetlands and approximately 285 cubic yards of fill material into 771 linear feet (lf) of streams. The project is located at the intersection of Woodland Hills Drive and Crystal Springs Drive, as well as adjacent to the West Fork San Jacinto River in Kingwood, Harris County, Texas.

The proposed marina/resort district will impact approximately 12.21 acres of wetlands, and the resort component will consist of 5 towers containing hotel, commercial, and residential space. The marina component will involve the expansion of a 15-acre lake to 80 acres, construction of a new navigation channel to the south of the proposed marina, and expansion of an existing channel on the east side of the property for enhanced connectivity to the West Fork San Jacinto River.

The proposed commercial district will consist of three towers for retail offices, residential condominium towers, as well as additional mid-rise residential and retail spreads. The proposed commercial district will impact 0.59 acres of wetlands and 110 lf of streams, expand an existing lake from 16.25 acres to 19.25 acres to create a smaller marina area for personal watercraft parking, and create an interconnecting channel between the two marinas, the marina/resort district and the commercial district.

The proposed residential district consists of condominium structures on pier and beam foundations with elevated parking, a 25-story condominium with parking garages, and 1.95 miles of roadways. Development of this district will impact 28.60 acres of wetlands and 404 lf of stream, construct four lakes totaling 6.75 acres throughout the western portion of the residential district, construct trails within a 20-foot-wide easement around the residential district, and relocate an existing utility easement within the 20-ft-wide easement. The Woodland Hills Roadway expansion consists of expanding the existing Woodland Hills Drive from two to four lanes with a raised median and turn lanes. The roadway expansion will impact 0.960 acres of wetlands and 257 lf of streams over 1.45 miles beginning approximately 0.8-mile south of Kingwood Drive and ending at Hamblen Road.

In addition to the information contained in the public notice, the following information is needed for review of the proposed project. Responses to this letter may raise other questions that will need to be addressed before a water quality certification determination can be made.

1. Title 30, Texas Administrative Code (TAC), Chapter 279.11(c)(1), states that "No discharge shall be certified if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, . . ." The public notice does not detail any alternatives that were evaluated by the applicant. On February 14, 2019, the Texas Commission on Environmental Quality (TCEQ), United States Army Corps of Engineers (USACE), and other state and federal resource agencies attended a site visit to the proposed project location. Please have the applicant clarify the purpose and need for the project, as portions of the proposed project are not aquatic-dependent. Also, please have the applicant fill out and submit the enclosed TCEQ Tier II 401 Certification Questionnaire and Alternatives Analysis Checklist and address each of the proposed project districts, to demonstrate that the preferred alternative is the least environmentally damaging alternative. Practicable alternatives are preliminarily assumed to exist, but the applicant does have the opportunity to clearly demonstrate that no practicable alternatives exist.

2. If the aquatic resources cannot be avoided, appropriate and practicable steps should be taken to minimize potential adverse impacts (30 TAC §279.11(c)(2)). Please have the applicant provide more detailed information on what options were considered to minimize impacts and why they were eliminated. The current site conditions support what appear to be high quality forested wetlands, several braided streams, and a consistent connection between these onsite aquatic resources to the West Fork San Jacinto River. From the public notice, the applicant states that "they have avoided and minimized environmental impacts by configuring the location of the proposed structures and reducing the size of the lakes within each district." This statement does not detail how and where wetland and stream impacts were avoided or minimized. Please have the applicant explain how and where impacts to stream and wetland resources were minimized and avoided. Please also have the applicant consider site re-configuration to further avoid wetland impacts. If these or other options are not feasible, please have the applicant explain why.

3. Mitigation of impacts is considered for ". . .all unavoidable adverse impacts that remain after all practicable avoidance and minimization has been completed . . ." (30 TAC §279.11(c)(3)). The applicant proposes to "develop a permittee responsible mitigation site, or purchase credits from an approved mitigation bank within the Galveston District." The 2008 mitigation rule states the preferred mitigation alternative is to purchase credits from an authorized and approved mitigation bank. If the applicant pursues permittee-responsible mitigation, the compensatory mitigation plan must include the objectives, site selection, the site protection instrument, baseline information, how the compensatory mitigation will provide required compensation for unavoidable impacts to aquatic resources, a mitigation work plan, maintenance plan, ecological performance standards, monitoring requirements, long-term management plan, adaptive management plan, financial assurances, and other information per the mitigation rule requirements. Please also have the applicant describe how the proposed mitigation plan conforms with the watershed approach to compensatory mitigation. If the watershed approach is not practicable, please have the applicant explain why.

4. In the project information provided with the public notice, the proposed wetland impacts are listed by type (palustrine, emergent, or forested), but the stream impacts are not. Please have the applicant categorize each stream impact by type (ephemeral, intermittent, intermittent with pools, or perennial). During the site visit, the resource agencies and the applicant's representative noticed several streams that were not accounted for in the impacts tables. Please have the applicant incorporate the additional streams and revise the total amount of project impacts accordingly.

5. The project plans provided with the public notice are unclear as to which wetlands will be impacted, converted, and in some instances avoided. The coloring of the tables is subtle, making it difficult to interpret wetlands versus upland areas. There are several impacts within the commercial district that appear to be unaccounted for or are unidentified. For example, the four lakes within the commercial district are proposed to impact forested wetlands. Lake 1 will impact Wetland 13B. The impact table lists Wetland 13B as being 0.200 acres, however the acreage is not included in the "Impact Area" column on page 26 of 28. It appears the entirety of Wetland 13B will be converted (by dredging) from a forested wetland to open water, which is a conversion of an aquatic resource and should be accounted for as an impact. Please have the applicant revise the impacts table to account for all resources that will be converted.

6. Please have the applicant determine if project specific locations (PSLs) such as borrow, stockpiling, staging, and equipment parking areas associated with the project will impact wetlands. These PSL impacts should be included in the accounting of total project impacts.

7. A healthy functioning wetland system consists of having the appropriate soils, vegetation and hydrologic connectivity. Depriving a wetland of its hydrologic connection causes fragmentation of wetlands, decline in function, and can lead to decline in survivability. Several wetlands within the proposed project boundary will be hydrologically disconnected from the current floodplain and other wetlands due to the proposed elevation of the project, being surrounded by impervious cover, or being partially filled. Please have the applicant revise the impacts tables to include wetland and stream resources that will be affected secondarily by the proposed project and address the cumulative effect of each district on the interconnectedness of the onsite wetlands.

8. The West Fork San Jacinto River and Lake Houston are classified segments in the Texas Surface Water Quality Standards. Both waterbodies have a designated public water supply use and have drinking water intake structures downstream of the proposed project. Please have the applicant explain in detail what measures will be taken to avoid groundwater and surface water contamination from construction activities.

9. The proposed project will develop a majority of the site, therefore increasing the impervious surface coverage. Impervious surfaces increase the amount of stormwater runoff, increase the velocity of the stormwater, and can cause degradation of water quality. Wetlands allow for filtration of stormwater, decrease runoff velocities, and help prevent degradation of water quality. Please have the applicant provide a hydraulic analysis of the site to account for current site conditions, projected increased impervious surface runoff, as well as drainage patterns for the site, and describe how water quality on and off the project site will be protected from impacts such as erosion.

10. Please have the applicant provide detailed plans regarding how onsite water quality will be maintained after construction. Stormwater drainage from residential and commercial lots should be routed away from the West Fork San Jacinto River, the marina, and stream resources onsite. Stormwater should be redirected and routed to stormwater treatment features before entering the aforementioned resources. The use of fertilizers, herbicides, and pesticides should be minimized. The TCEQ recommends features such as extended wet detention basins, grass-lined swales, use of pervious cover where practicable, and stormwater interceptors and buffers between impervious cover and the lake. Water quality functions which are lost due to the proposed project need to have adequate mitigation. Please have the applicant provide details on how the replacement of lost onsite water quality functions will be addressed.

11. The proposed project will expand Woodland Hills Drive and add new roadways. To minimize the negative effects of road crossings on stream functions and values, the TCEQ recommends that the applicant span all stream crossings or use open bottom or natural-bed box culverts. If culverts are used at stream crossings, the crossings should be designed with the culverts in the active channel area lower than those in the floodplain benches so that the flow in the channel is not overly spread out. The central low-flow culverts should be large enough to pass a 1.5-year flood event without backing up water.

The bottoms of these lower culverts should be set at least one foot below grade (i.e. recessed) to allow natural substrate to cover the culvert bottom and reduce the likelihood of a plunge pool forming downstream of the culvert. This also allows for aquatic organism passage. These lower, recessed culverts should be installed in the thalweg or deepest part of the channel and be aligned with the low-flow channel.

12. The proposed project will create four lakes that total 6.75 acres in the western portion of the residential district. The purpose of the four lakes is unclear. The project plans describe the four lakes as water quality ponds, however the public notice does not describe them as such. Please have the applicant clarify the purpose of the lakes. If the purpose is for detention, please have the applicant develop a maintenance plan for sediment, trash removal, and pollutant removal, since the effectiveness of the basins is highly dependent on their maintenance. Please also have the applicant provide details regarding the detention time, release structure, volume that can be released in a 24-hour period, and any local or regional restrictions dictating the design of the detention basin. The TCEQ recommends planting wetland shelves within the lakes to help filter pollutants and enhance water quality prior to the release of water from these lakes.

13. The proposed project will create two marinas and have three entrance channels. Please have the applicant explain the need for two marinas within the same project boundary. The large marina is proposed to connect to the West Fork San Jacinto River on the southern end through one of the entrance channels and connect to the smaller marina through another channel on the western portion. The proposed connection to the small marina is not located on the applicant's property. Please have the applicant clarify whether this channel will be in the location proposed in the project plans. The destination of the third channel on the eastern portion of the marina is unclear. Please have the applicant clarify the need for the third channel and provide information as to what body of water the channel connects. The small marina has no connectivity to a parent water body outside of the single channel connecting the two marinas. This design is similar to a dead-end canal and could potentially lead to decreased water quality such as low dissolved oxygen and fish kills. Please have the applicant submit design information on the smaller marina and provide details as to how water quality will be maintained.

14. Boat channels have the potential to negatively impact aquatic resources primarily because they do not allow sufficient water circulation. Channels are often deeper than the parent water body, and the reduced bottom current causes channels to become sinks for large amounts of fine silts and biogenic materials, which can result in low dissolved oxygen levels within the channels and even anoxic conditions. The following recommendations should be followed when constructing boat channels to avoid water quality problems. If these recommendations are not feasible for this project, please have the applicant explain why.

- Avoid wetland habitats by restricting channels to non-wetland areas and/or excavating access channels along the shortest and least damaging route to the parent waterbody.

- Design the channel as flow through systems to the parent waterbody as opposed to dead-end channels. If roads are necessary, bridges are preferred to box culverts for flow-through purposes.

- Ideally, the channel should be no deeper than the euphotic zone (distance light travels through the water) of the parent waterbody, but overall should be no deeper than the parent waterbody.

- Channel widths should be maximized to the greatest extent. The TCEQ recommends that the channel widths be a minimum of 100 feet (not including piers/docks) for a 4-foot-deep channel.

- The channel should be shallower inland and slope to deeper water where the channel connects with the parent waterbody.

- Orient the channel in line with the prevailing wind.

- Stormwater should be controlled and diverted away from the channel, including sloping residential and parking lots away from the channel.

- The TCEQ recommends that the water exchange and circulation in the channels be maximized by connections with the parent water body and other channels. Dead-end channel designs are discouraged.

- The TCEQ recommends that the applicant minimize bulkheading in the channels and incorporate shallow, vegetated shelves for aquatic habitat, water quality, and shoreline stabilization purposes.

- Please have the applicant explain how domestic wastewater will be collected for the proposed development. The TCEQ recommends that there be no discharge of treated wastewater into the channels.

- The TCEQ recommends the implementation of total suspended solids (TSS) controls, such as delaying the opening of the channels to the parent water body until after completion of the channels and limiting hydraulic dredge material return water to 300 milligrams per liter TSS.

- The TCEQ recommends that the applicant conduct dissolved oxygen sampling in the proposed channels to monitor water quality. The following components are recommended to be incorporated into a monitoring plan:

    a. Monitor for dissolved oxygen, temperature, and conductivity in the channels and parent water body bimonthly from May through October, starting as soon as the project begins.

b. One site in each of the channels and at least one control site in the parent water body should be monitored until 90% build out. The control site would provide data on ambient conditions. Monitoring sites selected should be submitted to the TCEQ for review.

c. Monitoring should occur on a set schedule to track variability. Sampling should occur near sunrise, but no later than one hour after sunrise. Samples should be taken one foot from the surface. Concentrations recorded during monitoring in the channels can be compared to the concentrations at the control site to help determine the cause of any significant differences between sites.

d. Monthly results, including a data table containing the monitoring sites, date and time the sample was taken, readings taken, and the instrument calibration data should be sent to the TCEQ, Standards Implementation Team, Water Quality Division MC-150, P.O. Box 13087, Austin, Texas 78711-3087.

e. Any change in monitoring sites, constituents, or intervals should be coordinated with the TCEQ.

f. The applicant can request in writing to the TCEQ that the monitoring end after the completion of the project if the dissolved oxygen levels in the channels have met the minimum water quality standard.

g. The proposed project is adjacent to the West Fork San Jacinto River, Segment 1004, which has a mean and minimum dissolved oxygen criterion of 5.0 mg/L and 3.0 mg/L, respectively.

15. A functional assessment must be conducted throughout the site to determine the quality of each aquatic resource proposed to be impacted. The quality of each resource will then determine the amount of mitigation needed to offset the proposed impacts. The public notice states the applicant conducted a functional analysis, however the analysis has not been verified. Please have the applicant provide the verified Interim Hydrogeomorphic Method (iHGM) for wetlands as well as the Level 1 Stream Assessment for all ephemeral and intermittent streams and provide a Level 2 Stream Assessment for streams that are intermittent with perennial pools or perennial. At the site visit, the applicant's representative stated that several streams on the property were determined to be ephemeral streams or intermittent. Some of these streams described as intermittent supported visible aquatic life and vegetation that indicate the streams are inundated more often than not. Several of these intermittent streams may in fact have perennial pools, and as noted on the site, may even be perennial. Please have the applicant revise the stream types where necessary to accurately reflect project site conditions and provide all data that informed the decisions regarding all project site stream types.

16. On the February 14th site visit, the applicant's representative confirmed that an approved jurisdictional determination has been made on the proposed project site. Please have the applicant provide this information to the TCEQ.

17. The public notice states there is a conservation easement associated with USACE permit no. SWG-99-012 located onsite that preserves 21.90 acres of wetlands. The conservation easement is located within the residential and commercial portions of the proposed development. Please have the applicant verify that the conservation easement will be protected from potential development and ensure the preserved wetlands will not be impacted, directly or indirectly, from the construction of the proposed project.

The TCEQ appreciates the opportunity to comment and looks forward to receiving and evaluating other agency or public comments. Please provide any agency comments, public comments, as well as the applicant's comments, to Ms. Brittany M. Lee, Water Quality Division- Matrix, 14250 Judson Road, San Antonio, Texas 78233-4480. Ms. Lee may also be contacted by e-mail at *Brittany.Lee@tceq.texas.gov*, or by telephone at (210) 403-4048.

Sincerely,

David W. Galindo, Director
Water Quality Division
Texas Commission on Environmental Quality

DWG/BL/fc

Enclosure

ccs: Mr. Gabriel Haddad, Romerica Investments, LLC, One Performance Drive, Angleton, Texas 77515
Mr. R. Thomas Sankey, SWCA Environmental Consultants, 10245 West Little York Road, Suite 600, Houston, Texas 77040