

**ON-SITE WATER QUALITY PLAN**  
February 11, 2010

**PROPOSED PROJECT**

The Applicant, Kingwood Pointe Partners, proposes to create a retail and multi-family residential development. To construct this development, the Applicant is proposing to impact 23.02 acres of jurisdictional adjacent wetlands and avoid 5.88 acres of jurisdictional wetlands.

**PROPOSED CONSTRUCTION ACTIVITIES**

The Applicant proposes to fill 9.55 acres of adjacent jurisdictional wetlands for the construction of a retail center and multi-family residential development. The Applicant also proposes to excavate 13.47 acres of adjacent jurisdictional wetlands for the construction of the proposed detention pond. The detention pond will be excavated with an approximate depth of twelve (12) feet with a constant water level of six (6) feet.

**WATER QUALITY DURING CONSTRUCTION**

A TCEQ approved "Storm Water Pollution Prevention Plan" will be obtained prior to construction, which will include a map showing the locations of silt fencing and other erosion prevention materials as specified by the TCEQ Best Management Practices (BMP's). Material will be mechanically excavated and bulkheads and wetland shelves will be constructed prior allowing water to fill the detention pond.

**ON-SITE WATER QUALITY FEATURES**

Storm water quality features will be incorporated into the detention pond to prevent the release of suspended solids and floatables into the lakes within the Kingwood Country Club, and eventually, into the San Jacinto River.

The proposed multi-family residential and retail development will be designed so that the majority of the storm water runoff will be directed from the back of the lots toward the street, into the curb and gutter system. Runoff from this system will outfall into the proposed lake via wetland shelves to be planted with desirable hydrophytic vegetation. Approximately 4.0 acres of wetland shelves are proposed to be built within the lake, at outfall locations and at other locations within the lake. The wetland shelf areas will surround most of the perimeter of the detention pond (see Conceptual Mitigation Plan for shelf locations). Wetland shelves will vary in width with two shoreline designs: 1) a wetland shelf that averages 5' in width, ranging from 2 to 10 feet in width; and 2) a wetland shelf that averages 20' in width, ranging from 15' to 30' in width. In addition, wetland shelves will be located at the entrance of the storm water outfall structures into the pond. Wetland shelf areas will slope at an approximate 1' to 30' ratio, with an average depth of 6 inches and a maximum depth of 1'. The shelves are proposed to be planted on three foot centers with plugs of desirable wetland herbaceous plants and trees. A make-up well within the pond system will maintain a static pool elevation and will keep the wetland shelves at a constant depth from 6 to 12 inches of water. These areas are anticipated to provide a significant water quality function to the subject property and run-off into the San Jacinto River. Overall, the wetland shelf areas will function as a tertiary water treatment system that should reduce suspended solids, organics, and other pollutants that will be transported during normal storm events.

The detention pond is required to provide appropriate drainage and detainment of storm water to meet Harris County Flood Control requirements for the development. During non-storm water events, the detention pond will contain a static water surface level supplied by an automatic makeup well. Water from the proposed detention ponds would outfall on the southeast side of the property into the existing lake within the Kingwood Country Club Golf Course. Drainage from the development will flow through the wetland shelves and enter the ponds so that suspended solids will settle to the lake bottom before the water reaches the outfall pipe. The outfall to the golf course lake, that eventually flows to the San Jacinto River, will include a storm water quality grate structure (trash rack) located above the permanent water surface elevation. The grate structure will act to keep floatables (plastics, cans, cups, etc.) from entering the San

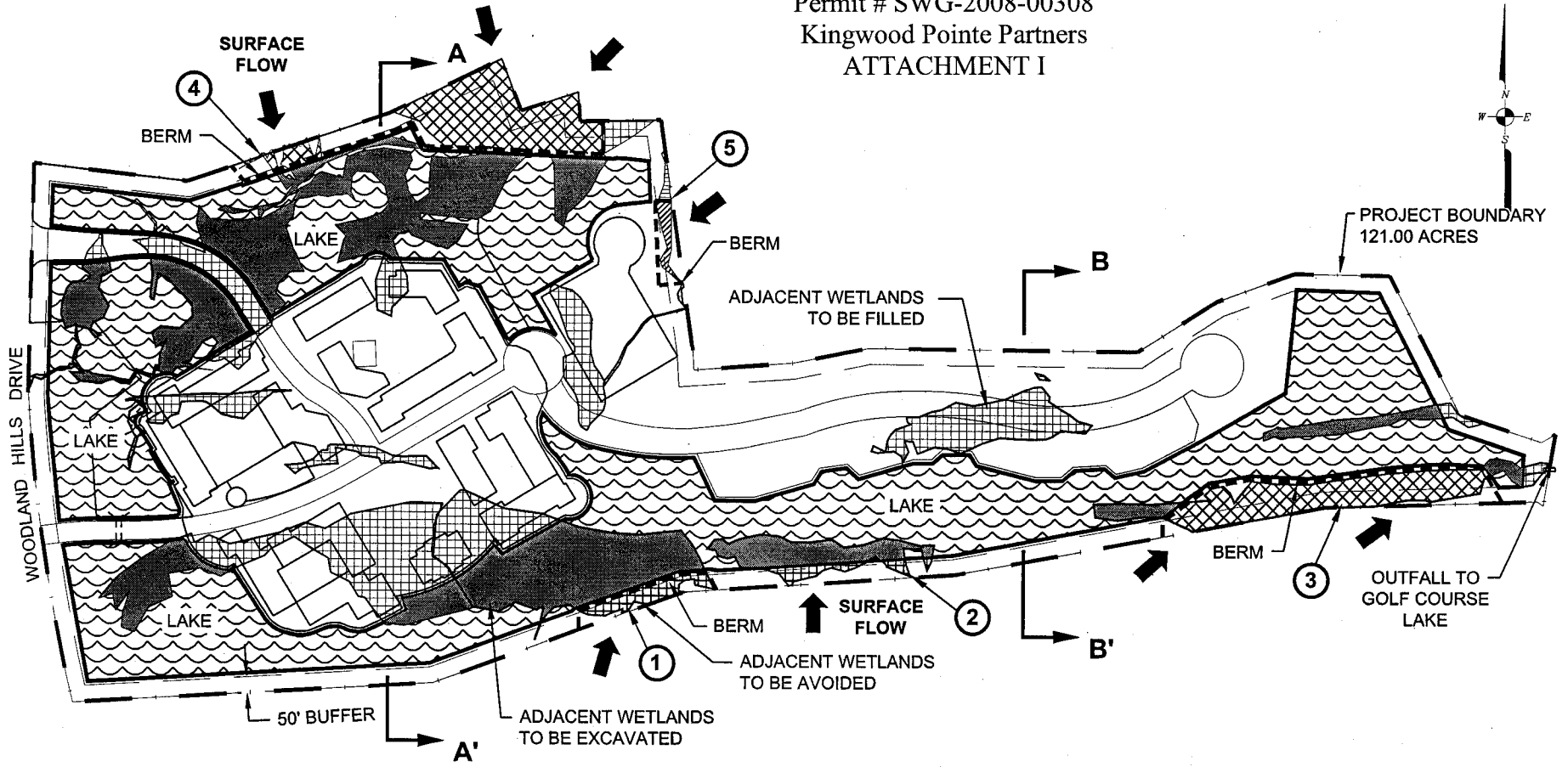
Jacinto River and will be regularly cleaned and maintained to prevent the buildup of debris and to maintain proper function.

**WATER QUALITY – LONG TERM PLAN**

Harris County will require that a storm water quality permit be obtained. At the completion of construction, there will be a final county inspection to insure that the storm water quality features were constructed properly. This permit will need to be renewed yearly, which will require an inspection by a registered professional engineer. As part of this inspection, it will be verified that the ponds and storm water quality features are being properly maintained. Therefore, the Harris County permit process assures that proper measures to prevent the release of suspended solids and floatables will be maintained not only at the time of construction, but throughout the life of the project.

The Applicant agrees to maintain the integrity of the wetland shelf design so as to inhibit its degradation due to structural erosion. To assist vegetation growth and germination, created wetland areas will not be mowed lower than 10 inches above the ground surface elevation of the mowed area, and mowing will take place no more than twice a year. This mowing will also assist in the control of weedy, woody, and noxious/invasive species. The Applicant agrees to control noxious plants, referred to herein as Chinese tallow (*Sapium sebiferum*), cattail (*Typha sp.*), and black willow (*Salix nigra*), and will not allow these species to exceed 25% of the created wetland area. The Applicant also agrees to deed restrict the wetland shelf areas in perpetuity.

Permit # SWG-2008-00308  
Kingwood Pointe Partners  
ATTACHMENT I



**LEGEND:**

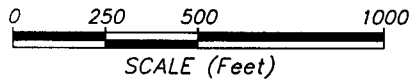


SURFACE WATER FLOW DIRECTION



WET AREA NUMBER

**Notes:**  
Hydrology to Wet Areas 1, 2, and 3 to be provided by surface run-off from golf course.  
Hydrology to Wet Areas 4 and 5 to be provided by surface run-off from golf course lake.



**OVERALL SITE PLAN  
SURFACE HYDROLOGY**

PROJECT #: 6405P  
FOR: KINGWOOD POINTE PARTNERS  
LOCATION: SKYLAKE VILLAGE  
HARRIS COUNTY, TEXAS

REVISIONS:
Apr. 21, 2008 by LFM
Apr. 25, 2008 by MDB
Apr. 30, 2008 by MDB
May 1, 2008 by MDB
May 8, 2008 by MDB
Dec. 14, 2009 by MDB

**BERG\*OLIVER ASSOCIATES, INC.**  
ENVIRONMENTAL SCIENCE, ENGINEERING &  
LAND USE CONSULTANTS  
14701 ST. MARY'S LANE, SUITE 400 HOUSTON, TX 77079  
PHONE (281) 589-0898 <http://www.bergoliver.com>



Alice Lupine  
2302 Lake Village Dr.  
Kingwood, Tx. 77379

Martha Laverty  
2310 Lake Village Dr.  
Kingwood, Tx. 77379

Lelani Castro  
5968 Westgate Dr. Apt. 202  
Orlando, Fl. 32835

Marquez Family Trust  
2326 Lake Village Dr.  
Kingwood, Tx. 77379

John Sexton  
2334 Lake Village Dr.  
Kingwood, Tx. 77379

Arthur Speegle  
2342 Lake Village Dr.  
Kingwood, Tx. 77379

Mr. & Mrs. Murphy  
2350 Lake Village Dr.  
Kingwood, Tx. 77379

Current Owner  
2358 Lake Village Dr.  
Kingwood, Tx. 77379

James & Valerie Byrd  
2366 Lake Village Dr.  
Kingwood, Tx. 77379

David & Debra Hall  
2372 Lake Village Dr.  
Kingwood, Tx. 77379

Kingwood Country Club  
1700 Lake Kingwood Trl.  
Kingwood, Tx. 77379

Kingwood United Methodist Church  
c/o Hal Hoege  
1799 Woodland Hills Dr.  
Kingwood, Tx. 77379