



DA No. 2007087

May 11, 2007

Mr. Jody Tallal  
Very Important Relationships, Inc.  
6 Collinway Place  
Dallas, TX 75230

Reference: Springfield Tracts 9 & 10 Floodplain Study

Dear Mr. Tallal:

We have completed our initial investigation into the feasibility of reclaiming a portion of the Rowlett Creek floodplain on the above referenced properties, and the results of our investigation are summarized herein.

### **Floodplain Investigation**

As agreed upon, our efforts were limited to the preliminary site investigation, which included a cursory evaluation of the location of the Rowlett Creek floodplain and our recommendation as to whether the property could be reclaimed from the floodplain.

After a discussion with Mr. Lyle Jenkins, PE, CFM at the City of Garland, there are several special requirements we'll have to meet since the project is located within the Rowlett Creek floodplain:

- The hydrology should be based on ultimate watershed development. The Halff study was apparently based on ultimate development. If we can obtain their model, we will not have to recreate the ultimate development hydrology; however, there may be a cost if they agree to provide their data.
- There can be no rise in the 100-year floodplain elevation as a result of the floodplain reclamation. We may have to provide some excavation to offset the additional fill that will be required to elevation the properties out of the floodplain.
- Fill volumes shall be balanced to  $\pm 15\%$  to preserve the overall valley storage within the floodplain. This coincides with the previous item.
- The bed and banks of Rowlett Creek must be left in a natural state (i.e. vegetated) to control erosive channel velocities and preserve the natural effect of the stream.
- Increases to the existing channel velocities shall be such that the overall average channel velocity does not exceed six feet per second. This should not be a problem, especially considering we'll have to address the valley storage issue and the proposed reclamation is a small portion of the overall floodplain area.

- Significant stands of trees and other environmental features within the floodplain must be preserved. If we limit the reclamation to those portions of the property that have been mowed (i.e. away from the thick stand of trees, excluding the individual trees throughout Tract 10), we should be in compliance with this requirement.

Attached is a photographic record of the conditions that were observed at the site during a visit to the properties on May 8, 2007.

Also attached is an exhibit (Figure 1) that illustrates the approximate location of the current effective FEMA floodway and floodplain with respect to the Tract 9 & 10 limits. The approximate location of the Rowlett Creek floodplain was determined by superimposing a copy of the current effective Flood Insurance Rate Map (FIRM) onto a digital copy of the City of Garland topographic map. The limits of the current effective floodway and floodplain across Tracts 9 & 10 were added to the two superimposed maps.

Across Tract 9, the current effective Rowlett Creek FEMA floodway and floodplain are coincidental and cover nearly all (93%) of the property within Tract 9. Although development within floodway areas is generally discouraged, reclamation of the floodway area can be accomplished provided there is no increase in the floodway elevation and no net decrease in the valley storage and conveyance as a result of the reclamation project. In order to meet these requirements, it may be necessary to excavate a portion of the existing floodway to offset the fill required to reclaim the remaining floodway area within the property.

Although Tract 10 is located nearly completely within the Rowlett Creek floodplain, only a small portion (about 11%) of the property is actually within the floodway. There should be no extraordinary hurdles associated with reclaiming the floodplain within this property.

### **Anticipated Fill Requirements**

Based on the copy of the City of Garland topographic map you provided that contains the spot elevation data from Halff Associates, we anticipate Tract 9 will need to be raised approximately 2 feet (outside floodway area) and Tract 10 will need to be raised approximately 3-1/2 feet. These average fill heights were obtained by comparing the FEMA base flood elevations of 457 and 456 to the average elevations of Tracts 9 and 10, respectively. A more detailed analysis can be performed to accurately quantify the fill amounts required to reclaim these properties from the Rowlett Creek floodplain.

Assuming half of the Tract 9 area can be reclaimed, the amount of fill required would be approximately 6,800 cubic yards of fill material will be needed for the reclamation. Similarly, assuming 89% of Tract 10 (area outside of the floodway) can be reclaimed, approximately 42,200 cubic yards of fill will be needed.

The cost of fill material can vary considerably depending on availability within the vicinity of the project. Comparing the quantity estimated for this project to other similar projects, we anticipate the cost for fill material on both tracts to be on the order of \$500,000 to \$600,000.

### **Procedure for Floodplain Reclamation**

Based on our initial investigation of the two properties along Centerville Road, we believe that the majority of Tract 10 can be reclaimed from the Rowlett Creek floodplain. Tract 9, however, poses a challenge in that extra steps will be needed in order to obtain approval for the placement of fill within the Tract 9 property.

The following steps will be needed in order to obtain an official map revision from FEMA for these properties:

1. Perform a topographic survey on both Tract 9 & 10 properties so that a better estimate of the quantity of fill material that will be required on each property can be made. The topographic survey should be tied to the nearby FEMA reference marks (benchmarks) so an apples-to-apples comparison can be made to the published FEMA floodplain elevations.
2. Utilize the data of the topographic survey to update the hydraulic stream model of Rowlett Creek for the portion of the model that crosses the Tract 9 & 10 property limits.
3. Modify the updated hydraulic model to reflect the proposed fill placement on each property and determine the change (if any) in the floodplain elevation. Several iterations may be needed in order that there is no increase in the floodplain elevation or loss of valley storage.
4. For the Tract 9 work within the Rowlett Creek floodway, adjust the proposed fill configuration and add an offsetting excavation to balance the volume below the floodplain elevation. It is recommended that the work on Tract 10 be limited to the areas outside the floodplain to avoid this step on the Tract 10 site.
5. Coordinate with the City of Garland engineering department to obtain a floodplain development permit for the placement of fill within the Rowlett Creek floodplain. As part of the floodplain development approval procedure, there will likely be some coordination with the City of Rowlett (on opposite side of Rowlett Creek).
6. Since the Tract 9 reclamation is completely within the floodway limits, a Conditional Letter of Map Revision (CLOMR) will be needed from FEMA prior to construction within the floodway on this property. A CLOMR is a determination from FEMA that, if constructed as proposed, the project will meet the minimum standards for flood protection established by FEMA. At present, there is a \$4,000 CLOMR review fee required by FEMA.
7. Having obtained a floodplain development permit from the City of Garland and the CLOMR from FEMA for tract 9, place fill material at the site in accordance with the FEMA guidelines for fill within a floodplain. An independent soil testing laboratory will need to be contracted to verify the fill material meets the density criteria set by FEMA. For a project of this magnitude, the cost for the independent laboratory is likely to be in the ballpark of \$10,000 (probable maximum).

8. Upon completion of the fill placement within each site, perform a post-construction field survey to verify the fill was placed to the elevations and grades planned.
9. Modify the hydraulic stream model to reflect the post-construction field data and recomputed the floodplain elevation.
10. Prepare and submit to FEMA a request for a Letter of Map Revision (LOMR) for both Tracts 9 & 10. At present, there is a \$4,000 LOMR review fee required by FEMA. Once the LOMR is approved, the floodplain maps will officially be revised to reflect the floodplain reclamation, and as such there will not be a requirement for flood insurance for structures constructed on the reclaimed property.

Finally, based on my observations during my visit to the site, I do not believe we will need a wetlands determination for the floodplain reclamation project.

Please feel free to call me if you have any questions. I am available at your convenience to meet with you to discuss the information presented in this letter report.

Sincerely,

**DUNAWAY ASSOCIATES, L.P.**  
a Texas limited partnership



Michael J. Dellies, P.E., CFM  
Director – Hydrology/Hydraulics Services

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