

**Appendix E**  
**One-Third of the Cove**  
**Methodology**

**APPALACHIAN POWER COMPANY  
SMITH MOUNTAIN PROJECT NO. 2210  
SHORELINE MANAGEMENT PLAN  
DETERMINATION OF 1/3 COVE**

**Introduction**

To determine whether the length of a proposed structure exceeds 1/3 of the cove and to ensure that all stakeholders are given fair consideration when proportioning waterways for recreational use, the following described methodology is to be utilized to establish an allowable building area within the project boundaries for the Smith Mountain Project.

**Establishment of the Allowable Building Area**

The allowable building area methodology as described below takes into consideration the extended property lines for the site that the structure is to be permitted while meeting the 1/3 cove conditions. The steps to determine the allowable building area are as follows:

**a. Step One – Determination of Setbacks (Figure 1 to Appendix E)**

The allowable locations for structures within the project boundary for the Smith Mountain Project are described in the SMP for the different classifications. In general, the minimum setback distances are measured from established dock easement lines or extended lot lines as shown in Figure 3 of the SMP. It is these setback limits that establish the points along the shoreline whereby construction of a structure would be allowed.

**b. Step Two – Determination of Closest Points from Shoreline (Figure 2 to Appendix E)**

To determine the closest points from the shoreline for the property where a permit for a structure is being requested, points along the shoreline from setback to setback at an interval not to exceed 20 feet are first established. In addition, any predominant point extending into the waterway should also be selected for determination of the closest points to the opposite shoreline.

In addition, depending on the amount of shoreline within the lot, points outside of the property lines may be necessary.

After determining the points along the shoreline, vectors from each selected shoreline point to the opposite shoreline reflecting the shortest distance from the selected shoreline point to the opposite shoreline should be drawn. The mid-point for each vector should then be determined. Once the mid-points are determined, a line connecting each of the vector mid-points should be drawn. That line then represents the midpoint line for those vectors.

**c. Step Three – Determination of Closest Points from Opposite Shoreline (Figure 3 to Appendix E)**

Once the vectors from the shoreline where the proposed structure is to be located are drawn and the associated mid-points determined, the same procedure is to be accomplished for the opposite shoreline. This is done in order to give equal consideration for anyone desiring to construct a structure along that shoreline in the future within the 1/3 cove limitations. The first step in establishing the vectors for the opposite shoreline is to determine the portion of the shoreline directly across from the property where the structure to be permitted is to be located. As in Step Two, points located at maximum 20 feet intervals and at predominant geographical features into the waterway are to be determined. From those points, determine the closest points on the opposite shoreline and connect those points with vectors. Once the vectors are determined, determine the mid-points for each and connect those mid-points to establish a line. Similar to Step Two, that line represents the mid-point line for those vectors.

**Step Four – Determination of Waterway Centerline (Figure 4 to Appendix E)**

The mid-point lines, once determined as described in Steps Two and Three, may have a distance between them. Establish points that equally divide that distance and draw a line connecting those points. That line establishes the centerline of the waterway and/or cove.

**e. Step Five – Determination of One-Third Points (Figure 5 to Appendix E)**

From the centerline determined in Step Four, draw perpendicular lines extending from shoreline to shoreline at intervals along the centerline at an interval of no greater than 20 feet and that encompass the shoreline where the structure is to be permitted from setback to setback. Measure each of the lines perpendicular to the centerline from shoreline to shoreline and divide the line into three equal segments. Those points result in the one-third points for determining the allowable building area.

**f. Establishment of Allowable Building Area (Figure 6 to Appendix E)**

The area encompassed by the one-third points from the shoreline where the structure to be permitted is to be constructed and the setback lines establishes the “Allowable Building Area”. Structures that meet the other requirements of the SMP and are within the “Allowable Building Area” could then be approved for construction upon review by Appalachian.

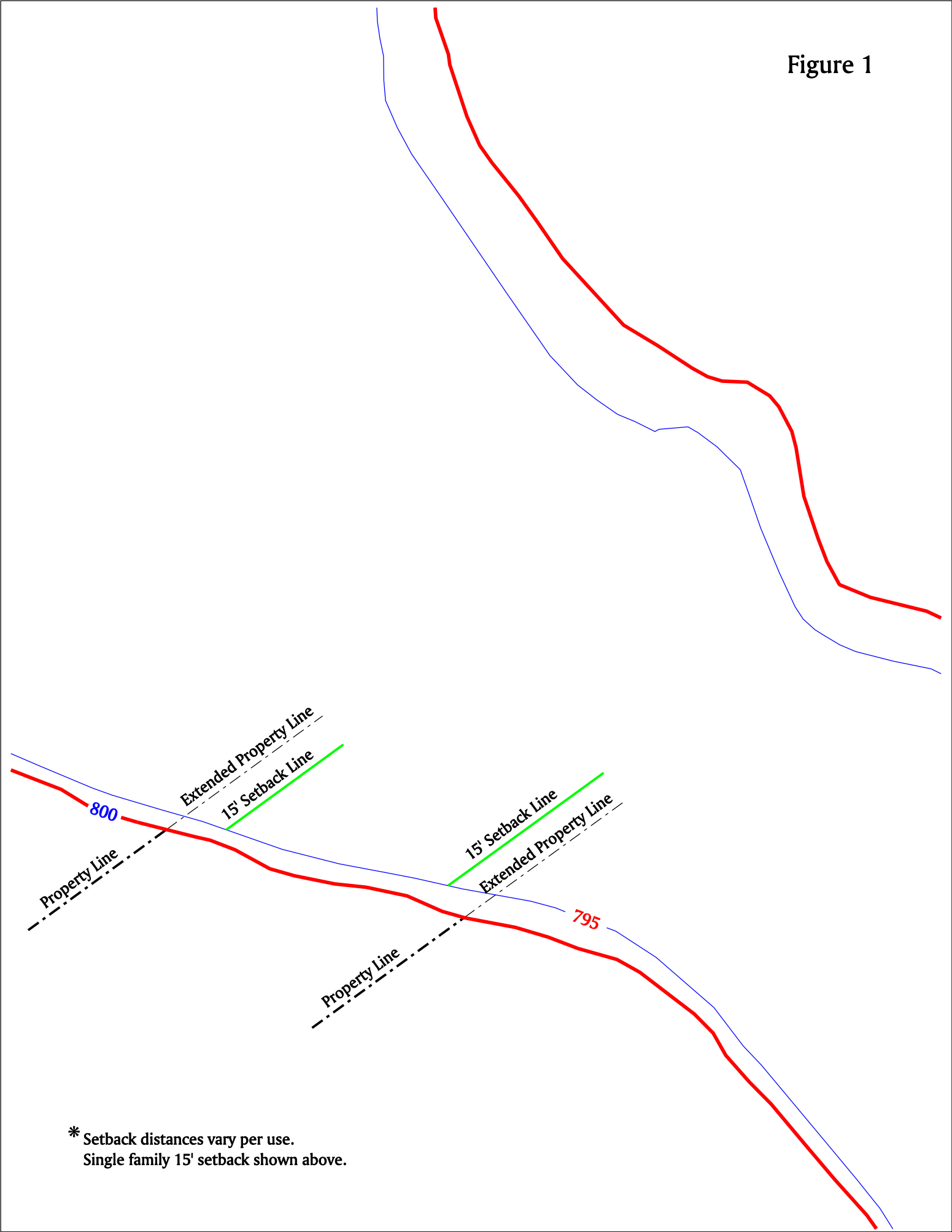
**Conclusion**

As with any methodology, there may be instances in which the above described methodology does not adequately proportion the waterway and some modifications may be required to address the particular situation. However, this methodology does result

in equal consideration for future installations and public use of the waterway within the 1/3 cove limits.

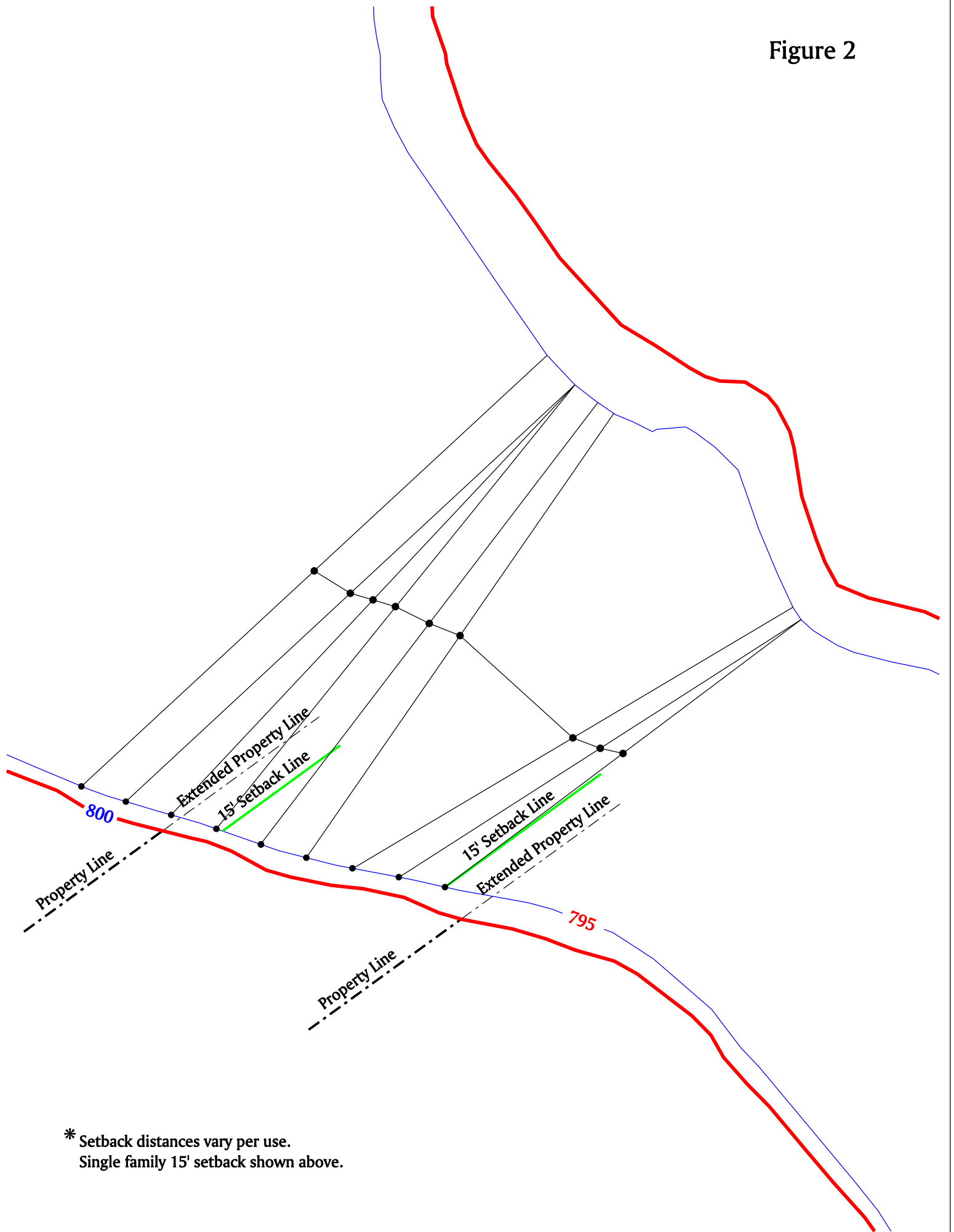
The information and data used to determine the buildable area shall be forwarded to Appalachian along with the permit application for the proposed dock.

Figure 1



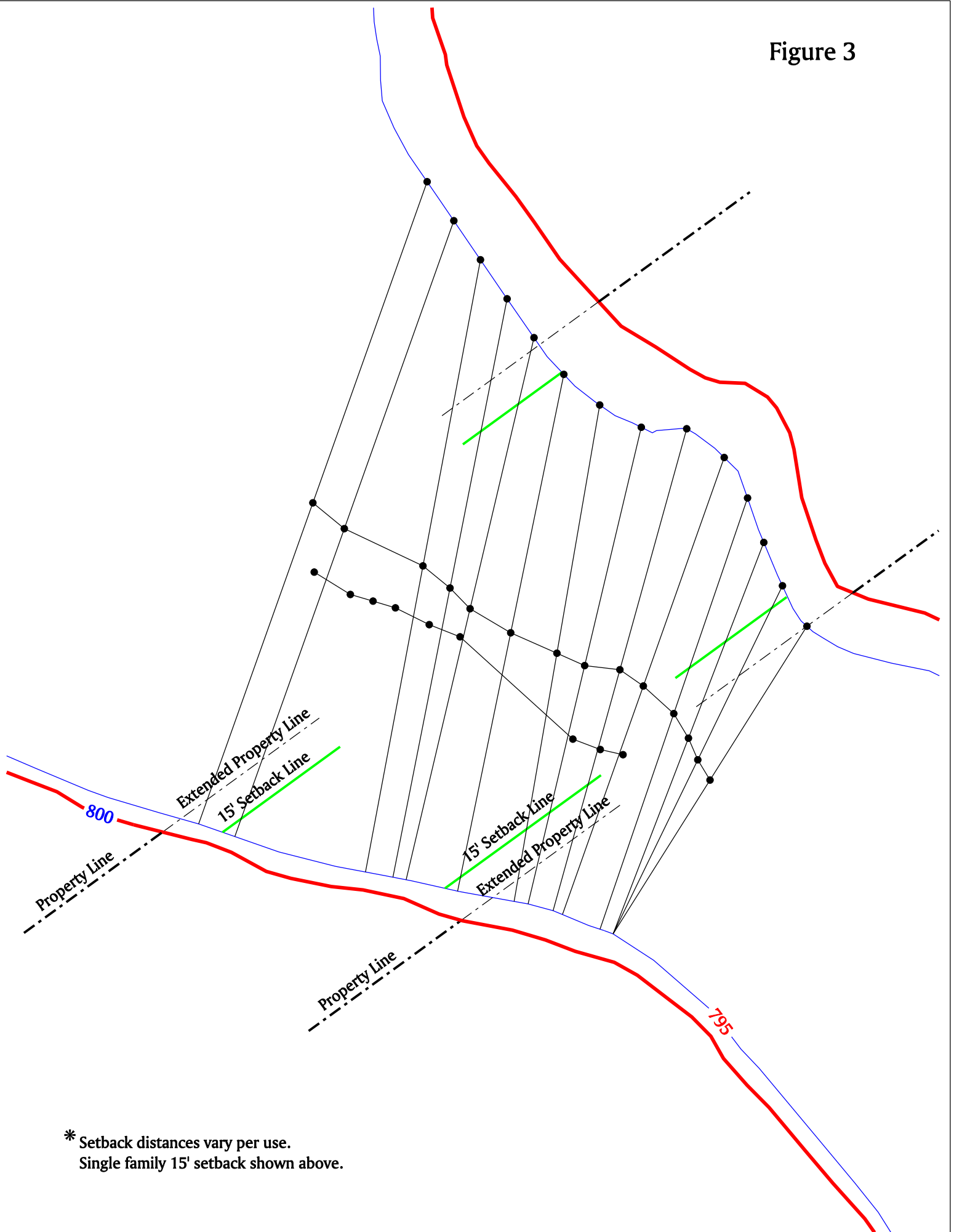
\* Setback distances vary per use.  
Single family 15' setback shown above.

Figure 2



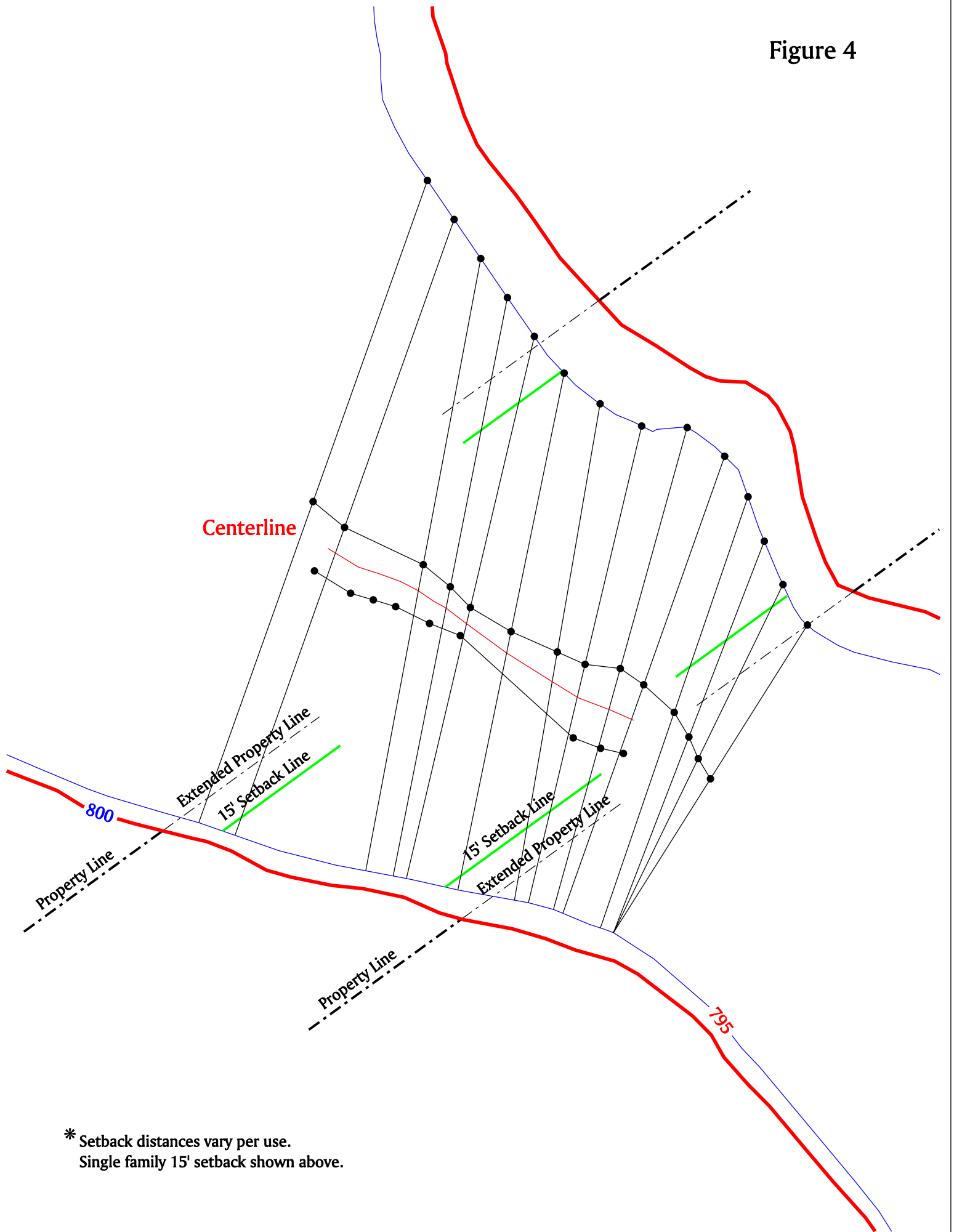
\* Setback distances vary per use.  
Single family 15' setback shown above.

Figure 3



\* Setback distances vary per use.  
Single family 15' setback shown above.

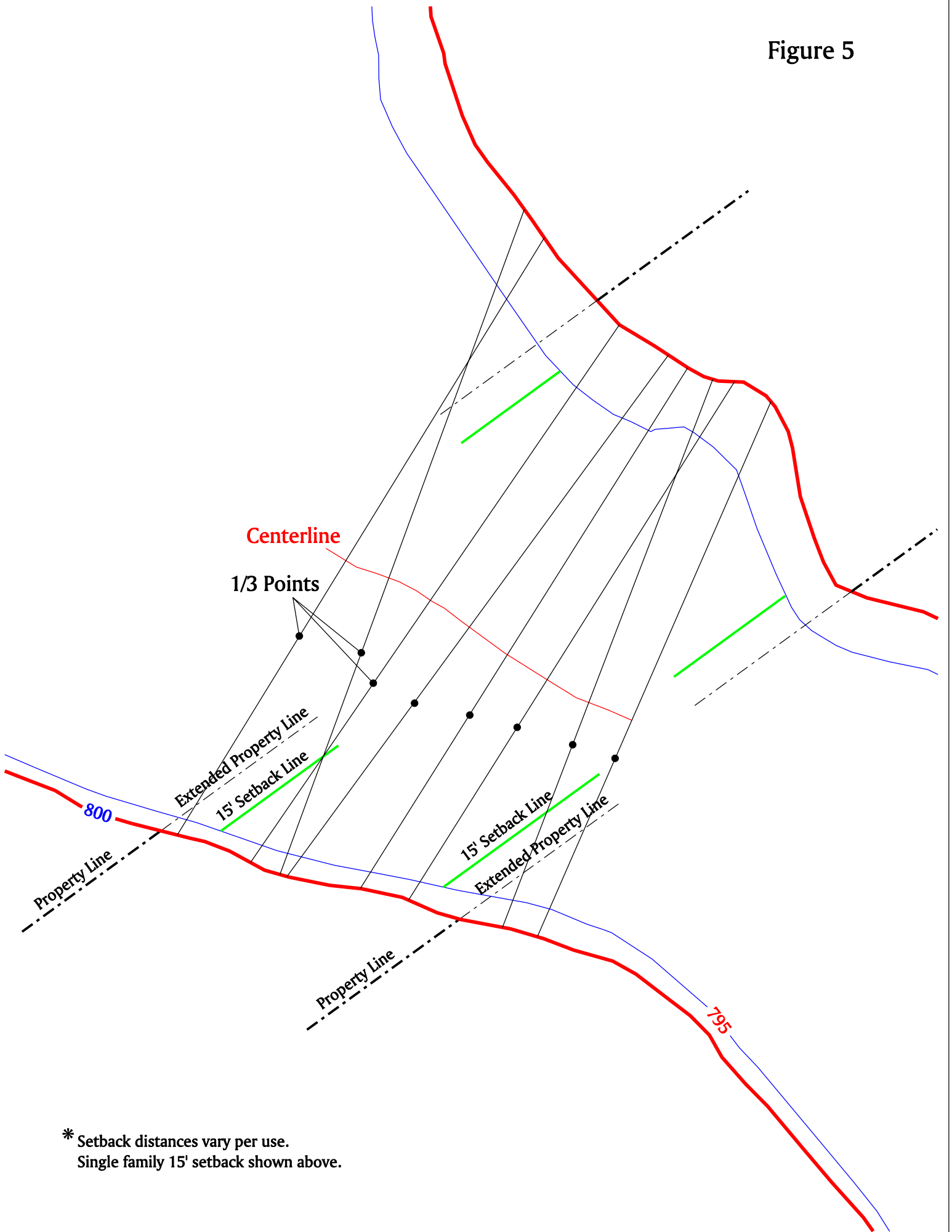
Figure 4



\* Setback distances vary per use.  
Single family 15' setback shown above.

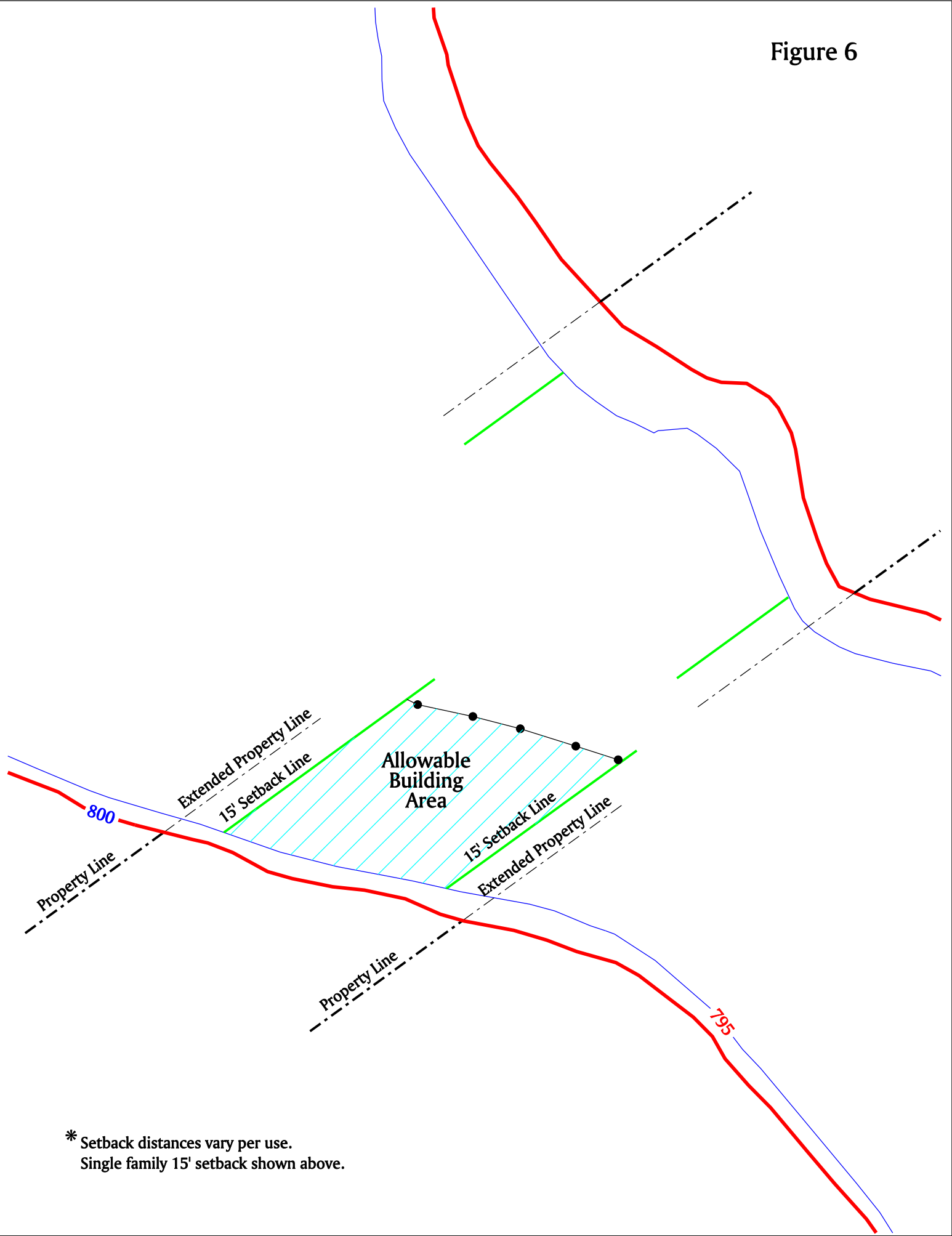


Figure 5



\* Setback distances vary per use.  
Single family 15' setback shown above.

Figure 6



\* Setback distances vary per use.  
Single family 15' setback shown above.