Retaining Wall History and Notes.

1. There are concerns about the retaining wall on the east property line, especially since a wall failure occurred sometime in the past. From my research, I found the following:
   1. The *Arrowhead Hills G&D Plans* for the development to the east, by Wilson and Company (engr’s stamp date 10-12-05 and certified 9-19-06, Drainage file N9D008A) has a note: RETAINING WALL BY OTHERS COA 753981. It is unknown if the retaining wall was designed to retain the grades from the *Anderson Heights Grading and Drainage Plan by Greg Krenik dated 4-14-05(Sht 6 &7) and 4-27-05(Sht 9)*. If so, the retained height varies from 4’ to 6’. However, if the wall was designed to retain existing grade, then the wall can only support only 1’ to 3’.
   2. *Anderson Heights Unit 9 G&D plan* (City Project #753981), stamped 9-10-07 revised the earlier plan with an increase of grades along the wall up to 2.5’. A letter from yourself acknowledges this and states that a second retaining wall is necessary (letter date 7-27-07).
   3. The *Interim Grading and Drainage Plan, Anderson Heights- Units 4,6,&9* shows a section through the existing retaining wall and the new retaining wall, but does not show the distance between the two walls. Photos and notes from a field inspection show the new wall to be quite close to the existing wall (field notes say 3”). **The proximity of the walls may be putting unaccounted for pressures on the existing walls.**
   4. In reference to the Engineer’s Certification for the *Interim Grading and Drainage Plan, Anderson Heights- Units 4,6,&9*, the comment letter from Brad Bingham dated 12-4-2008, stated that the Interim Pond Plan Engineer’s Certification could not be approved for an SIA extension until the following comment was addressed: ***Please provide structural calculation for the new retaining wall and an Engineer’s certification that this wall is built in substantial compliance with the design. The calculations should be comprehensive enough to determine the adequacy of the existing retaining wall built with the Arrowwood subdivision.*** There is no letter in the file showing approval or acceptance of the Interim Plan. Drainage file N8D006 had calculations of a retaining wall dated 10-8-07 (which I assume are for the newer retaining wall), but there is no Engineer’s Certification for the wall. There are various wall designs for varying heights of retainage (from 2’ to 3’4”), but the **design and calculations are generic and do not address additional wall pressures on the existing wall built with the Arrowwood subdivision. Also, in the design of the second wall, there is no plan indicating the location of each wall design to ascertain if a more conservative design was used when constructing the wall. Therefore, it cannot be assumed that the second wall can accommodate additional fill.**
   5. To summarize, given the above information, it appears that the original retaining wall was never checked for additional pressures from the newer retaining wall, and may be overloaded at the present. With an additional amount of fill, the integrity of the older wall may be further compromised. The integrity of the newer wall may also be compromised as well. It is our opinion that a structural engineer needs to evaluate the integrity of the original wall built with the Arrowwood Subdivision, and it appears the second wall needs to be removed in its entirety and redesigned.
2. Indicate that there are two walls along the east property line. Show TW and BW elevation for both walls.
3. BW Elevations do not match up with the As-built BW elev from the *Arrowhead Hills G&D Plans* nor the *Anderson Heights Unit 9 G&D plan*, stamped 9-10-07 in some areas. There is a 3.5’ difference at one point. The existing contours along the wall do not match the TW elevations from *Anderson Heights Unit 9 G&D plan*  stamped 9-10-07. For example, at 500’ from the south property line the contour shows 57’ along the wall, but the older plan says the TW is 53.55. The datum must be incorrect but the difference in that area is about 2.7’ rather than 3.5’.