

April 9, 2025

City of Venice City Council  
401 West Venice Ave  
Venice, FL 34285

***RE: City of Venice Appeal Hearing 22-40SP***

***The Village at Laurel and Jacaranda Stormwater Responses to Appellant Comments***

Dear City Council Members:

We have reviewed the information provided by the appellant, Mr. Gary Scott, submitted to the City of Venice on April 4, 2025. Below is a summary of the storm water management system for the subject property and our responses to the storm water comments from Mr. Scott and his consultant, Catalyst Engineering.

As you know, the proposed 10.42-acre commercial development is located at the southwest corner of Jacaranda Blvd and Laurel Road.

The project is within Robert's Bay and Dona Bay Watersheds as established by the Sarasota County Storm water Management Department.

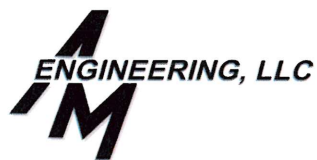
Stantec Engineering is preparing plans for the widening of Laurel Road adjacent to the site. As part of their design Stantec used the combined Sarasota County watershed models for the two watersheds. AM Engineering used the Stantec model as the basis for our design as this is the best available and most up to date information for the area.

For the commercial site the stormwater runoff is collected using onsite storm pipes which drain to the west into an existing pond named LL7. Pond LL7 drains to the west into an existing ditch via an existing control structure which is being modified as part of the Laurel Road project.

The subject project's storm water management system was designed based on the 100-year storm event (10 inches in 24 hours) and the 25-year storm event (8 inches in 24 hours). Both SWFWMD and the City of Venice have reviewed and approved the plans and stormwater calculations. This project meets the standards and requirements of both of these agencies. The SWFWMD permit number is 43041590.014.

The site development approval was appealed to the City of Venice City Council and the appellant has provided a report from Catalyst Engineering and the below addresses the points brought up by Catalyst and the Appellant.

- 1) When calculating the flowrate of potential stormwater runoff from the project applicant's consultant used a peaking factor (a representation of the runoff from a rainfall event over time) generally used for flat, natural land with depressions providing areas for rainfall runoff to collect and slow down on its way to the pond. A more appropriate factor would have been one used for developed areas with



impervious surfaces and a storm drain system that will direct the rainfall to inlets and pipe it to the pond. The applicant's model assumed that rainfall from a storm will be slowed down on site, thus reducing the peak flow runoff rate. That is an assumption that should not have been made. When runoff gets to a pond faster the pond will fill up more quickly than if the runoff was coming at a slower rate that is spread out over a longer time period. (Under Section 87-3.3(c)(6) of the LDR, "Drainage calculations must be provided to verify that the peak flow rate and total volume do not exceed the pre-developed runoff." Those calculations should be accurate. The peak flow rate and the total volume for this project should be calculated using the appropriate peaking factor).

**RESPONSE: The model does not erroneously assume that rainfall from the site is slowed down. The peaking factors that were used in the model are consistent with what is required in the drainage watershed models prepared by Sarasota County. See attached exhibit labeled "unit hydrograph PRF" which is from the Sarasota County Storm water manual. As an attachment in this storm water manual (Attachment 10) a report prepared by Kimley Horn in 2005 also recommended using a peak rate factor of 100 for undeveloped conditions and 256 for developed conditions.**

- 2) Current rainfall models were not used in creating the applicant's stormwater model. When current rainfall data (NOAA ATLAS-14) is used, the estimate for the 100-year, 24-hour storm is 11.4 inches. The applicant's model shows the 100-year, 24-hour storm yielding 10 inches of rain, a difference of 14%. Current rainfall data should be applied to the applicant's model. (The NOAA-14 standards were presented to the Sarasota County Commissioners on March 12 and to the SWFWMD on March 25. Both of those bodies have recognized the need to update the rainfall standards and are in discussions to accomplish that.)

**RESPONSE: Current permitting requirements are to use 10" for the 100-year 24-hour storm event and 8" for the 25 year 24-hour storm event. These rainfall totals are used in the County watershed models. Our plans and calculations are based on this criterion and were approved by SWFWMD and the City of Venice.**

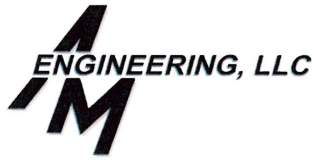
- 3) The calculations of AM Engineering for the storm drain in place used a rainfall intensity of 6.9 inches/hour. The current NOAA ATLAS shows a 25-year event to have an intensity of 8.81 inches/hour. The data used by AM Engineering yields a value that is almost 2 inches less than what the 25-year value should be. This suggests that the on-site storm drain system could potentially be undersized.

**RESPONSE: The onsite storm drain system is not undersized. We looked at the storm drain design using an even larger storm intensity than the 8.81 in/hr as suggested by Catalyst. Using 9.5 in/hr all of the drainage system meets the level of service criteria for parking lots as adopted by the City of Venice.**

- 4) The Cielo Subdivision as-built drawings show a grate inlet at the end LL7, to which the project's stormwater is designed to drain. When comparing the as-built plans with the applicant's model it appears that the water in LL7 will be unable to leave that pond as quickly as the applicant's model is showing. The outfall structure may be inaccurately modeled.

**RESPONSE: See attached pictures of the grate inlet structure. As you can see there are windows**





***on all four sides of this outfall structure similar to CS7. I am recommending that maintenance of the outfall swale from the control structure be conducted.***

- 5) There is a question of whether the correct elevation was used throughout the applicant's stormwater drainage model. The starting water level value for pond LL7 is different in the applicant's plan than it is in the existing Cielo Subdivision plan. The difference is approximately 1.1 feet, which is not insignificant. Since the applicant's plan does not propose any physical modification of pond LL7 this difference in water level values in the two models should not exist.

***RESPONSE: There is no datum error. The difference is conversion from NGVD to NAVD datums. The entire model we received from Stantec was converted to NAVD datum.***

- 6) The stormwater documentation submitted by the applicant to SWFWMD consists of 13,517 pages. A clear and concise summary of the relevant data for this small section of the large model was not provided by A.M. Engineering for the project, even though a summary table and index were requested by SWFWMD. Something will surely be missed by anyone attempting to review a 13,000-page document, especially given the unprecedented level of development in southwest Florida.

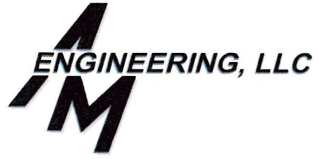
***RESPONSE: Bookmarks and hyperlinks were provided in the document so the reviewers could easily find the information they needed.***

- 7) Different types of drainage systems fail under different types of rainfall events. A single storm approach can miss the critical storm and result in downstream flooding. Other agencies and municipalities use a critical duration approach for stormwater quantity evaluation, which requires modeling of multiple storms to evaluate and compare pre vs. post runoff. For example, the FDOT requires modeling of a range of events for connections to their existing system. Since flooding is already an issue in this neighborhood, based on conversations with Ken Baron, modeling of a wider range of storm events would help ensure that this new development would not make the current situation worse and cause additional flooding to a system that has already known to have issues.

***RESPONSE: SWFWMD and the City of Venice do not require the use of a critical duration approach.***

- 8) In the Villages model, the outfall structure (LL7CS1) weir invert was changed from 11.29 in the existing to 11.31 in the proposed, the pipe inverts were changed and the size if the weir was changed from 280 to 259. Since nothing is proposed to be modified in Pond LL7, the model from existing to proposed should be consistent and the existing should have been changed as well if an error was discovered. A survey of the outfall structure would clear up any discrepancies and ensure that the pond is being modeled correctly.

***RESPONSE: The LL7 Control Structure information was changed to be consistent with the record drawing information. The weir size is going to be 280" based on the Laurel Road plans prepared by Stantec and is 280" in the master storm water calculations. The Laurel Road plans call for the control structure to be modified from a total width of 302" to 280". I have attached a screenshot of this control structure modification shown on the Stantec plans.***



Respectfully,  
**AM ENGINEERING, LLC.**

D. Shawn Leins, P.E.

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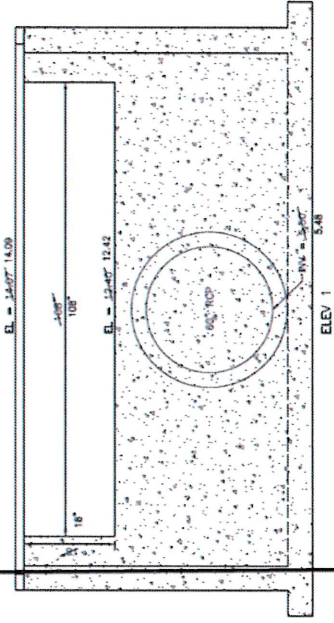
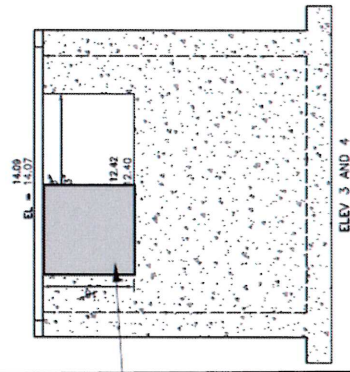


### 6.3.5 UNIT HYDROGRAPHS AND PEAK RATE FACTORS

The NRCS Unit Hydrograph approach must be used. A peaking factor of 100 must be used for basins in an undeveloped condition and a peaking factor of 256 must be used for basins in a developed condition. A mix of developed and undeveloped conditions may exist within the project area. Within ICPR4, the Uh256 unit hydrograph should be used with peaking factor 256, and the Uh100C unit hydrograph should be used with peaking factor 100. Attachment 11 provides additional unit hydrograph information.

NOTE:  
NO CHANGES ARE PROPOSED TO THE CONTROL STRUCTURE OF POND  
LL-7 (CIELO)

INSTALL 1/4" STEEL PLATE  
COVERING A 22" WIDE AREA  
OF THE WEIR OPENING OF  
CS-LLY



EXISTING CONTROL STRUCTURE: CS-LL7



 <p><b>Stantec</b> 6720 Professional Parkway East, Sarasota, FL 34236-4114 Phone 941-907-4900 • Fax 941-907-4910 Certificate of Authorization #27013 • www.stantec.com</p>	<p>The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing, any errors or omissions will be the responsibility of the contractor. The Contractor shall be responsible for the accuracy of the information provided. Reproduction or use by any person other than that authorized by Stantec is prohibited.</p>	<p>CLIENT: LAUREL ROAD COMMUNITY</p> <p>PROJECT: DEVELOPMENT DISTRICT LAUREL ROAD</p>	<p>DATE: 12/2023 SCALE: 1" = 100'</p> <p>TITLE: POND 3 &amp; 5</p> <p>CROSS-SECTION FILE NO.: 215618080</p>
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