


MacKenzie
Engineering & Planning, Inc.

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June 19, 2024

Stephanie Shealey, PE, PTP, PTOE
Kittelson & Associates, Inc.

Re: Sunrise Residential – Traffic Impact Analysis Technical Review

Comments

We offer the following responses to comments on June 19, 2024 regarding the review of the Traffic Impact Analysis (TIA) (December, 2023).

1. **Study Area:** Significance of I-95 should be included and further attenuation of the 30% shown on I-95 should be provided to the additional cross streets such as St. Lucie Blvd and Crosstown Parkway. Please include a copy of the model output in the Appendix.

Response: Acknowledged. Please see assignment in the methodology from PDF Page 516 to Page 520.

2. **Table 1.: Trip Generation**

- a. The Single Family Detached Land-Use should be 25% inbound, 75% outbound in the AM peak period. Please update the directional volumes.
- b. Per the Trip Generation Handbook, 3rd Edition, please use the average rate for daily and PM peak period as for Land Use 821, as there are less than 20 data points and the R2 value is less than 0.75.
- c. Verify that Pass-by does not exceed 10% of the adjacent street traffic.

Response: Acknowledged. Please see the revised trip generation in Table 1.

3. **Table 3: Project Impacts (Significance):** Please include St Lucie West Blvd within the significance table and include them in the roadway analysis if project trips are significant on any segment.

Response: Acknowledged. See the updated significance table, Table 2.

4. The TIA states that there are four proposed access points, however, only two are listed (DW1 and DW2) with one of those being for emergency access. Please clarify. There is a concern having all trips from 1,500 residential units and 100,000 sf of commercial coming into and out of a single point of entry. If cross-access to adjacent parcels is assumed, the study should include a phased analysis showing the amount of development that can be constructed with a single access without triggering additional impacts.

Response: Acknowledged. The project consumes less than 5% of the road's capacity and therefore the impacts are not significant.

5. **Figure 4: Driveway Volumes:** Pass-by trips should be assigned to the site access driveway as a percentage of the background trip distribution, separately from the external trips. As a pass-by trip, the number of vehicles turning into the site can be subtracted from the adjacent through movement.

Response: Acknowledged. Please see the revised Figures 4A- 4C.

6. Please include figure(s) within the report showing the background turning movement volume, the vested project trip volume, and the project trip volume at the four study intersections for both the AM and PM peak periods.

Response: Acknowledged. Please see the Exhibit 7.

7. Please include the signal timing sheets used for the intersection analysis so that the timings, splits, and cycle length can be verified. The coordination of the I-95 ramp signals should be verified as well.

Response: Acknowledged. Please see the signal timing sheets in Appendix M.

8. Intersection analyses should be conducted using the HCM methodologies from within Synchro. Please provide printouts using HCM methodologies, including the 95th percentile queue lengths. Please note that it is preferred to utilize the HCM 7th Edition methodologies which was published in December 2022.

Response: Acknowledged. The intersection analyses are updated using HCM 7th Edition within Synchro 12.

9. Within the body of the report, please summarize the intersection analysis results for the existing, future background, and build conditions, to include average approach delay, level of service, highest v/c ratio on approach, and longest 95th percentile queue length on approach.

Response: Acknowledged. Please see the Tables 8A – 11B.

10. Please provide the Synchro outputs using HCM methodologies in addition to the Lanes, Volume, and Timing sheets there were included in the study. Additionally, please check the signal splits at multiple locations show green times not extending the full split phase.

Response: Acknowledged. The details of Synchro outputs are attached in Exhibits 2. The signal timings of the existing and background intersection analysis are based on the existing signal timing of St. Lucie County. The green times don't extend the full split phase in multiple locations.

If you have any questions, please do not hesitate to contact Shaun Mackenzie at shaun@mackenzieengineeringinc.com or (772) 834-8909.

Sincerely,



Shaun G. MacKenzie, P.E.

Transportation Engineer

Florida Registration Number 61751

Engineering Business Number 29013



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June 19, 2024

St Lucie County Planning and Development Services

Re: Sunrise Residential – Traffic Impact Analysis Review

Comments

We offer the following responses to comments on June 19, 2024 regarding the review of the Traffic Impact Analysis (TIA) (December, 2023).

1. Please verify the vested developments used for the analysis. Please verify the amount of Oak Ridge Ranches that will be constructed by 2028 (buildout year). Additionally, please confirm that the Willow Lakes development has been approved by St. Lucie County staff.
MEP Response: As agreed with the St. Lucie County reviewer, 25% of the Committed traffic from Oak Ridge Ranches and Willow Lakes is used in the analysis.
2. Please limit the amount of pass-by traffic to 10% of the forecasted background traffic volumes adjacent to the project driveway.
MEP Response: Acknowledged. Please see the revised trip generation.
3. Please provide justification for the 20% residential and 25% retail reductions applied to vested traffic. More specifically, the methodology of selecting reduction percentages for each use.
MEP Response: The reduction to account for committed traffic capture is eliminated.
4. Please add Glades Cut Off Road west of Commerce Center Drive to the Project Impact table.
MEP Response: Acknowledged. Please see the updated significance analysis, Table 2.
5. Please verify the volumes utilized for the roadway segment analysis are correct.
MEP Response: Acknowledged.
6. Please confirm only committed improvements with construction funding in the next five years are utilized for the analysis.
MEP Response: Acknowledged.
7. Please verify the project trip distribution percentages used for the roadway segment analysis and intersection analysis.
MEP Response: Acknowledged.
8. Please clarify why an additional table is provided for the 2028 Pre-Development Peak Hour Roadway Analysis.
MEP Response: The additional table, Table 4, provides the background improvement information.

9. Please verify the peak season factors, project trip distribution, and vested distributions utilized for the intersection analysis.
MEP Response: Acknowledged.
10. Please verify the control for the Midway Road at Glades Cut Off Road westbound right movement.
MEP Response: Acknowledged.
11. Please verify the background geometry used for the Midway Road at Wylder Parkway/project driveway intersection.
MEP Response: Acknowledged.
12. Please perform a signal warrant analysis for the project driveway/Wylder Parkway at Midway Road. Additionally, please document if signalization is warranted as a result of background or buildout traffic.
MEP Response: Acknowledged. Please see Exhibit 5.
13. Please provide signal timings for existing signalized intersections evaluated. Please utilize the FDOT Traffic Engineering Manual for signal timings at previously unsignalized intersections.
MEP Response: Acknowledged. The existing signal timings are attached in Appendix M
14. Please utilize the peak hour factors from the turning movement counts for the intersection analyses.
MEP Response: Acknowledged.

If you have any questions, please do not hesitate to contact Shaun Mackenzie at shaun@mackenzieengineeringinc.com or (772) 834-8909.

Sincerely,



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June 19, 2024

St. Lucie County TPO

Re: Sunrise Residential – Traffic Impact Analysis Review

Comments

We offer the following responses to comments on June 19, 2024 regarding the review of the Traffic Impact Analysis (TIA) (December, 2023).

1. Traffic Data: The Traffic Impact Analysis (TIA) utilizes traffic counts from 2022 which are outdated. The TIA should be updated with the latest traffic counts.
MEP Response: Update to 2023 and 2024 where feasible.
2. Historical Growth Rate: The growth rate table in the Traffic Study is incomplete and, therefore, should not be used to calculate the historical growth rate. The table should be completed to calculate the historical growth rate. Alternatively, the St. Lucie TPO historical growth rate of 2.55 percent should be utilized.
MEP Response: The growth rate is updated to 2.55% plus committed traffic in order to provide a conservative analysis.
3. Commitment of Roadway Improvements: The TIA identifies the commitment by Wylder for needed roadway improvements. However, this commitment would be through a local government other than the City of Fort Pierce. Documentation should be provided which confirms the commitment by Wylder to the other local government for the identified roadway improvements.
MEP Response: Pages from the Wylder (LTC Ranch DRI) Development Order are included in the appendix.
4. Inconsistent Information: The proposed sizes of the square footage of commercial space identified in the TIA (100,000 square feet) are inconsistent with the sizes identified on the Development Review Application (80,000 square feet). The TIA should be revised to be consistent with the submitted application.
MEP Response: The correct number is 100,000 SF. The Master Plan is updated to reflect 100,000 SF.
5. Build Out Year Justification: The TIA identifies a Build Out Year of 2028. The status of the application in the review process and local experience would appear to impact the estimate completion of the development by 2028. Therefore, justification should be provided for the use of a 2028 Build Out Year.
MEP Response: In order to provide a conservative analysis, the buildout year is updated to 2030.

6. Smart Moves 2045 Long Range Transportation Plan (LRTP): The proposed 1,500 housing units is inconsistent with the growth allocations included in the Traffic Analysis Zones (TAZs) where the development will be located and, therefore, the development is inconsistent with the 2045 SmartMoves LRTP. Consequently, an amendment to the LRTP is needed which includes an analysis of the changes to the growth allocations in the TAZs.
MEP Response: Acknowledged. This does not affect the traffic study, but it is recommended that the next regular update of the TCRPM include the development of this project to more accurately reflect conditions in 2045. TPO staff acknowledged that they would work with the City of Fort Pierce to identify the changes needed to the 2045 TCRPM.

7. Local Government Coordination: Because of the location of the proposed development, it appears that the transportation impacts will extend to the St. Lucie County and City of Port St. Lucie transportation networks. Therefore, coordination with the County and the City is necessary to fully analyze the potential impacts to their networks and develop the appropriate improvements to mitigate the impacts.
MEP Response: The study was sent to Port St. Lucie, St. Lucie County and FDOT for review.

8. Internal Roadway Network and Connections: Details of the internal roadway network of the development are unclear such as right-of-way widths, number of lanes, and ownership/maintenance responsibilities. In addition, the connections of the internal roadway network, such as "Arterial A", to the external roadway network are unclear. The details of the internal roadway and its connections to the external roadway network should be clearly identified.
MEP Response: Acknowledged. See updated plan.

If you have any questions, please do not hesitate to contact Shaun Mackenzie at shaun@mackenzieengineeringinc.com or (772) 834-8909.

Sincerely,



Shaun G. MacKenzie, P.E.
Transportation Engineer
Florida Registration Number 61751
Engineering Business Number 29013



June 4, 2024

via electronic submittal

Vennis Gilmore
Planning and Zoning
City of Fort Pierce
100 N US-1
Fort Pierce, FL 34950

RE: Sunrise Residential (Pre-PUR)
COFP Project Number: 24-43900003
Our Reference Number: 22-405

Dear Mr. Gilmore,

We are in receipt of the Technical Review Committees Preliminary PUR markups and comment letters, dated April 18, 2024, wherein the department provided comments based on our team's initial submittal of the above referenced application. Please find below all comments received, along with our responses to each comment in ***bold italics***.

Planning and Zoning Department

1. Any Site Plan phase applications must submit zoning regulations and a list of any exceptions from the standard zoning ordinance and land development code for any features of the proposed development plan.
Response: Acknowledged
2. Per City Code Section 125-213(n), Prior to submittal of Final PUR Site Plan, the following documents are required: (1) Written documents.
 - a. A statement of planning objectives to be achieved by the planned unit redevelopment through the particular approach proposed by the applicant. This statement should include a description of the character of the proposed redevelopment.
 - b. Material which presents firm evidence of unified control of the entire area within the proposed planned unit redevelopment, including a certificate of apparent ownership and encumbrance with the opinion of counsel representing the applicant establishing that the applicant has the unrestricted right to impose all of the covenants and conditions upon the land as are contemplated by the provisions of these regulations.



- c. A statement of the applicant's intentions with regard to the future selling or leasing of all or portions of the planned unit redevelopment, such as land areas and dwelling units.
- d. A redevelopment schedule indicating:
 - The approximate date when renovation or construction of the project can be expected to begin.
 - The stages in which the project will be built and the approximate date when each stage can be expected to begin.
 - The anticipated rate of redevelopment.

Response: All documents and information mentioned above have been included in the PUR Document.

3. The approximate date when each stage in the redevelopment will be completed.

Response: A phasing plan has been provided and will be illustrated through phasing lines on the conceptual site plan.

4. The area, location and degree of development of common open space that will be provided at each stage.
 - a. Quantitative data for the following. Total number and type of dwelling units; parcel sizes; proposed lot coverage of buildings and structures; approximate residential gross densities; total amount of open space (including separate figures for common open space and usable open spaces); and the total amount of nonresidential acreage (including a separate figure for commercial and industrial acreage).
 - b. A statement indicating the justification for a gross density in excess of 18 units per acre if such a density is being proposed.
 - c. Agreements, provisions and covenants which govern the use, maintenance and continued protection of the planned unit redevelopment and any of its common open space or other shared areas. This material shall include material which binds successors in title to any commitments concerning completion of the project and its maintenance and operation. (2) Site plan and supporting maps. Maps with the following minimum information must be submitted:
 - a. The existing site conditions, shorelines, floodplains, unique natural features and forest cover.
 - b. A grading plan for the site showing future contours for locations where the existing grade is to be changed by more than two feet.
 - c. A general landscape plan for the planned unit redevelopment.
 - d. Proposed lot lines and other divisions of land for management, use or allocation purposes.
 - e. The approximate location of present and proposed buildings and structures.
 - f. The location and size of all areas proposed to be conveyed, dedicated or reserved for streets, parks, playgrounds, public and semi- public buildings and similar uses.



- g. The existing and proposed vehicular circulation system, including off-street parking and loading areas.
- h. The existing and proposed pedestrian circulation system, including its interrelationships with the vehicular circulation system, indicating proposed treatments of points of conflict.
- i. The existing and proposed utility systems, including sanitary sewers, storm sewers and water, electric and gas lines.
- i. Enough information on land areas adjacent to the proposed planned unit redevelopment to indicate the relationship between the proposed redevelopment and adjacent areas, including land uses, zoning classifications, densities, circulation systems, public facilities and unique natural features of the landscape.
- j. The proposed treatment of the perimeter of the planned unit redevelopment, including materials and techniques used such as screens, fences and walls.

Response: Acknowledged; All of the requested information mentioned above has been included in the PUR Doc.

- 5. Prior to development, a Final PUR site plan application shall be submitted as a Major Amendment to the PUR zoning.

Response: Acknowledged

- 6. The Final PUR plan shall conform to the requirements of the City Code of Ordinances and be subject to the general standards for approval of Planned Unit Redevelopment Zoning.

Response: Acknowledged

- 7. Prior to submittal of Final PUR site plan, a state wetland jurisdictional determination shall be conducted to determine the exact boundaries of the wetlands located on site. Further wetland evaluation and assessment shall be conducted to further determine mitigation options available for this site.

Response: Acknowledged

- 8. Prior to submittal of Final PUR site plan, a Gopher Tortoise Survey shall be carried out on site.

Response: Acknowledged

- 9. Prior to submittal of Final PUR site plan, and if required by the USFWS (US Fish and Wildlife Service), a Wood Stork foraging Habitat Assessment shall be carried out on site.

Response: Acknowledged

- 10. A detailed stormwater and drainage plan and statement shall be submitted at time of Final PUR site plan.

Response: Acknowledged

- 11. The Final PUR site plan shall be in unified control and property ownership. All land intended to be included in the planned development shall be under the legal control of the applicant.



Response: Acknowledged

12. The Final PUR site plan shall include a general description of the buildings and streetscapes including standards for height, building coverage, parking areas, and public improvements proposed for each phase of the development.

Response: Acknowledged

13. The Final PUR site plan shall include quantitative data for the total number and type of dwelling units; parcel sizes; proposed lot coverage of buildings and structures; residential gross densities; total amount of open space; and the total amount of nonresidential acreage.

Response: Acknowledged

14. The Final PUR site plan shall include all agreements, provisions and covenants which govern the use, maintenance, and continued protection of the planned development and any of its common open space or other shared areas. This material shall include material which binds successors in title to any commitments concerning completion of the project and its maintenance and operation.

Response: Acknowledged

15. The Final PUR site plan shall contain the following information, at minimum:

- A Landscape and irrigation plan per section 123-4. c. of the City Ordinance.
- Proposed lot lines and other divisions of land for management, use or allocation purposes.
- The location, size and height of present and proposed buildings and structures.
- The location and size of all areas proposed to be conveyed, dedicated, or reserved for streets, parks, playgrounds, public and semi-public buildings, and similar uses.
- The existing and proposed vehicular circulation system, including off-street parking, and loading areas.
- The pedestrian circulation system, including its interrelationships with the vehicular circulation system, within the development to adjacent streets, showing all curb cuts and sidewalks.
- The existing and proposed utility systems, including sanitary sewers, storm sewers and water, electric and gas lines.
- The proposed buffering treatment of the perimeter of the planned development, refuse stations, storage areas, or loading areas, including materials and techniques used such as screens, fences, and walls.

Response: Acknowledged

16. A Subdivision Application must be submitted in the future, a General Address Request Form for the newly created Parcel ID(s) and for any and each proposed building and residential unit shall be submitted to the Planning Department.

Response: Acknowledged



Engineering Department

1. The City of Fort Pierce Code of Ordinances Section 125-212 specifies submittal requirements relating to obtaining a "PD" zoning. These include but are not limited to a site plan, landscape plan, perimeter buffers, vehicular and pedestrian circulation, etc. This submittal did not provide this particular information as the project is being presented as a "Bubble Plan" and is currently deemed conceptual. Therefore, the engineering department reserves the right to provide review comments upon submittal of final development plans.
Response: Acknowledged
2. The project is comprised of two (2) separate parcels of land which will need to be combined and developed as one parcel and remain under one ownership or platted into the designated multiple tracts.
Response: Acknowledged
3. No clearing activities shall be performed prior to receipt of an updated Gopher Tortoise survey, site placement of the Eastern Indigo Snake protection procedures signage, and submittal of the appropriate alligator nesting survey in accordance with the recommendations noted in the submitted Environmental Assessment. In addition, the appropriate tree mitigation plan is required to be provided for review prior to commencement of land clearing activities.
Response: Acknowledged

Public Works Department

1. The traffic report will be reviewed by a 3rd party consultant at the cost of the applicant. Please provide written acknowledgement of the cost and authorization to proceed with the review.
Response: Acknowledged
2. (Condition) A Site Development Permit is required prior to performing site improvement activities or connections to St. Lucie County Right-of-Way.
Response: Acknowledged
3. (Condition) A Road Improvement Agreement and appropriate bond will be required for all permanent improvements within the Right-of-Way.
Response: Acknowledged
4. Please revise the proposed Arterial "A" to match the county's projected alignment.

Building Department

1. No comments at this time.

Ft. Pierce Police Department

1. Regarding the construction of the proposed multi-family dwelling units, please keep in mind the impact it may have upon the police department with regards to calls for service. While the frequency and exact type of calls cannot be predicted, it should be presumed that calls for service will arise from within this project, once it is completed and occupied by the intended users.

Response: Acknowledged

St. Lucie County Fire District

1. Awaiting Final Comments.

St. Lucie County TPO

Recommendations: **Need Response from Shaun**

- Traffic Data: The Traffic Impact Analysis (TIA) utilizes traffic counts from 2022 which are outdated. The TIA should be updated with the latest traffic counts.
Response: Mackenzie Engineering
- Historical Growth Rate: The growth rate table in the Traffic Study is incomplete and, therefore, should not be used to calculate the historical growth rate. The table should be completed to calculate the historical growth rate. Alternatively, the St. Lucie TPO historical growth rate of 2.55 percent should be utilized.
Response: Mackenzie Engineering
- Commitment of Roadway Improvements: The TIA identifies the commitment by Wylder for needed roadway improvements. However, this commitment would be through a local government other than the City of Fort Pierce. Documentation should be provided which



confirms the commitment by Wylder to the other local government for the identified roadway improvements.

Response: **Mackenzie Engineering/Legacy**

- Inconsistent Information: The proposed sizes of the square footage of commercial space identified in the TIA (100,000 square feet) are inconsistent with the sizes identified on the Development Review Application (80,000 square feet). The TIA should be revised to be consistent with the submitted application.

Response: **Mackenzie Engineering**

- Build Out Year Justification: The TIA identifies a Build Out Year of 2028. The status of the application in the review process and local experience would appear to impact the estimate completion of the development by 2028. Therefore, justification should be provided for the use of a 2028 Build Out Year.

Response: **Mackenzie Engineering/Legacy**

- Smart Moves 2045 Long Range Transportation Plan (LRTP): The proposed 1,500 housing units is inconsistent with the growth allocations included in the Traffic Analysis Zones (TAZs) where the development will be located and, therefore, the development is inconsistent with the 2045 SmartMoves LRTP. Consequently, an amendment to the LRTP is needed which includes an analysis of the changes to the growth allocations in the TAZs.

Response: **Mackenzie Engineering**

- Local Government Coordination: Because of the location of the proposed development, it appears that the transportation impacts will extend to the St. Lucie County and City of Port St. Lucie transportation networks. Therefore, coordination with the County and the City is necessary to fully analyze the potential impacts to their networks and develop the appropriate improvements to mitigate the impacts.

Response: **Mackenzie Engineering/Mills**

- Internal Roadway Network and Connections: Details of the internal roadway network of the development are unclear such as right-of-way widths, number of lanes, and ownership/maintenance responsibilities. In addition, the connections of the internal roadway network, such as "Arterial A", to the external roadway network are unclear. The details of the internal roadway and its connections to the external roadway network should be clearly identified.

Response: **Mackenzie Engineering/Mills**



1. Please verify the vested developments used for the analysis. Please verify the amount of Oak Ridge Ranches that will be constructed by 2028 (buildout year). Additionally, please confirm that the Willow Lakes development has been approved by St. Lucie County staff.

Response: **Mackenzie Engineering**

2. Please limit the amount of pass-by traffic to 10% of the forecasted background traffic volumes adjacent to the project driveway.

Response: **Mackenzie Engineering**

3. Please provide justification for the 20% residential and 25% retail reductions applied to vested traffic. More specifically, the methodology of selecting reduction percentages for each use.

Response: **Mackenzie Engineering**

4. Please add Glades Cut Off Road west of Commerce Center Drive to the Project Impact table.

Response: **Mackenzie Engineering**

5. Please verify the volumes utilized for the roadway segment analysis are correct.

Response: **Mackenzie Engineering**

6. Please confirm only committed improvements with construction funding in the next five years are utilized for the analysis.

Response: **Mackenzie Engineering/Legacy**

7. Please verify the project trip distribution percentages used for the roadway segment analysis and intersection analysis.

Response: **Mackenzie Engineering**

8. Please clarify why an additional table is provided for the 2028 Pre-Development Peak Hour Roadway Analysis.

Response: **Mackenzie Engineering**

9. Please verify the peak season factors, project trip distribution, and vested distributions utilized for the intersection analysis.

Response: **Mackenzie Engineering**

10. Please verify the control for the Midway Road at Glades Cut Off Road westbound right movement.

Response: **Mackenzie Engineering**



11. Please verify the background geometry used for the Midway Road at Wylder Parkway/project driveway intersection.

Response: **Mackenzie Engineering**

12. Please perform a signal warrant analysis for the project driveway/Wylder Parkway at Midway Road. Additionally, please document if signalization is warranted as a result of background or buildout traffic.

Response: **Mackenzie Engineering**

13. Please provide signal timings for existing signalized intersections evaluated. Please utilize the FDOT Traffic Engineering Manual for signal timings at previously unsignalized intersections.

Response: **Mackenzie Engineering**

14. Please utilize the peak hour factors from the turning movement counts for the intersection analyses.

Response: **Mackenzie Engineering**