



City of Port St Lucie

Utility Systems Department



Email: UtilEng@cityofpsl.com

900 SW Ogden Lane, Port St Lucie, FL 34983

Phone (772) 344-4320

Utility Project Information

To be completed by the Engineer of Record (EOR)/EOR Rep. and E-Mailed to UtilEng@cityofpsl.com

Submit this form and attachments in PDF form only.
Incomplete items may result in the application being returned.

This is an affordable housing project (involving federal, state, or local affordable housing funds). Attach verification.

1. Check all Items Submitted:

A. This form fully completed.

B. Proof of ownership of the property must be attached. Supply a printout for the property from the Property Appraisers Office or a copy of a Warranty Deed; whichever shows the correct ownership information.

C. Location map showing street names (8.5" x 11").

Note: Additional information plans and/or documents may be required.

02. Project Name:

03. Plaza Name:

04. Type of Establishment: (Restaurant/Food Service/Daycare must attach Grease Management Plan).

Restaurant or Food Service

Retail Store

Medical Facility

Business Office

Other:

05. Structure: Existing Proposed Square Footage:

06. Property Location: Within PSL City Limits Unincorporated St Lucie County

Other:

07. Property Address:

(include city, state, zip)

08. Legal Description: Lot: Block: Section:

Other (Attach additional sheets if necessary.)

09. Property Tax ID Number(s):

10. Property Owner:

Name:	Title:		
Company Name:			
Mailing Address:			
Street Address			
City	State	Zip	
E-mail Address:	Telephone:		

11. Owner's Agent:

Name:	Title:		
Company Name:			
Mailing Address:			
Street Address			
City	State	Zip	
Email Address:	Telephone:		

12. Engineer of Record:

Name:	Title:		
Company Name:			
Mailing Address:			
Street Address			
City	State	Zip	
Email Address:	Telephone:		

13. Account Name & Billing Address:

Name:	Title:		
Company Name:			
Mailing Address:			
Street Address			
City	State	Zip	
Email Address:	Telephone:		

14. Type of Service Requested: (Check Appropriate Boxes)

	Water	Wastewater	Fire Protection	Existing Irrigation
Existing:				
Proposed:				
Reclaimed Irrigation Water Desired?		Yes	No	

15. Water Service:

	Indicate the Number of Meters in Boxes Below								ERCs
Water Meter Size	5/8x3/4"	1"	1 1/2"	2"	3"	4"	6"	Other	
No. of Existing Meters									
No. of New Meters									
No. of New Meters									
No. of New Meters									
No. of New Meters									

Regardless of ERCs determined for flow calculations, each meter installed with this project shall reserve a minimum of 1.0 ERC.

Total No. of ERCs Requested: (1.0 ERC=250 gal/day)

16. Fire Protection Capacity:

Indicate the method of fire protection your project requires:

1. Existing Fire Hydrant(s)
2. Fire Sprinkler System served by inch fire line(s).
3. Private Fire Line
4. Fire Hydrants Required within Road Right of Way
5. Not Applicable

Notes:



CITY OF PORT ST. LUCIE
UTILITY SYSTEMS DEPARTMENT

Phone: (772) 871-5063

Email: Utileng@cityofpsl.com

**APPLICATION FOR PERMIT TO CONSTRUCT A DOMESTIC
WASTEWATER COLLECTION/TRANSMISSION SYSTEM**

Instructions: This form must be completed and submitted along with a signed Utility Service Agreement, and applicable charges/fees. All blanks must be filled. Failure to submit a complete application or required documents will result in the application being returned to the applicant.

1. Applicant Information

Name of Applicant: Michael Friedman Title: _____

Company Name: Riverland Commercial Associates I, LLC & Riverland/Kennedy II, LLC

Address: 1600 Sawgrass Corporate Parkway, Suite 400, Sunrise, FL 33323

Telephone: 954-753-1730 E-Mail Address: _____

2. Project Information

Name of Project: Riverland Center

Location: NW Corner of Community Boulevard and Marshall Parkway

Project Description: Proposed Retail Town Center

New Permit: ☒ Permit Modification: ☐ (Associated Permit #): _____

3. Collection/Transmission System Information

Wastewater Treatment Facility: ☐ Southport ☐ Westport ☒ Glades

Pipe lengths and sizes, total number of manholes and pump stations: _____

2,687 LF of 8" sanitary, 810 LF of 6" force main, 22 manholes, and 1 lift station.

(Based on Capacity Worksheet)

Design Flow: _____ gpd Number of ERCs: _____

Project Name: Riverland Center

4. Pretreatment

Type of Interceptor: _____ Size: _____ gpd
(Grease, Oil, Sand, Laundry, etc.)

5. Professional Engineer in Responsible Charge of Designing Project

Name of Engineer: Brandon Ulmer Company Name: Thomas Engineering Group, LLC

Address: 840 SE Osceola Street

Telephone: 772-888-3138 E-Mail Address: bulmer@thomaseg.com

Applicant's Certification

6. I, the undersigned owner or authorized representative* Michael Friedman
am fully aware that the statements made in this application are true, correct and complete to the best of my knowledge and belief. I am fully aware that it is my responsibility to construct the domestic wastewater collection/transmission system and transfer the ownership of the system to the City of Port St. Lucie Utility System Department (PSLUSD), in compliance with requirements of the executed PSLUSD Utility Service Agreement. I agree to retain a professional engineer, as indicated on this application, to observe construction of the project in accordance with applicable FDEP rules, codes and PSLUSD Utility Standards.

* Notarized Letter of Authorization is required

Signed: _____ Date: _____

Name: Michael Friedman Title: _____

Company Name: Riverland Commercial Associates I, LLC & Riverland/Kennedy II, LLC

Address: 1600 Sawgrass Corporate Parkway, Suite 400

City: Sunrise State: FL Zip: 33323



CITY OF PORT ST. LUCIE
UTILITY SYSTEMS DEPARTMENT

Phone: (772) 871-5063

Email: Utileng@cityofpsl.com

APPLICATION FOR PERMIT TO CONSTRUCT A WATER MAIN/DISTRIBUTION SYSTEM

Instructions: This form must be completed and submitted along with a signed Utility Service Agreement, and applicable charges/fees. All blanks must be filled. Failure to submit a complete application or required documents will result in the application being returned to the applicant.

1. Applicant Information

Name of Applicant: Michael Friedman Title: _____

Company Name: Riverland Commercial Associates I, LLC & Riverland/Kennedy II, LLC

Address: 1600 Sawgrass Corporate Parkway, Suite 400, Sunrise, FL 33323

Telephone: 954-753-1730 E-Mail Address: _____

2. Project Information

Name of Project: Riverland Center

Location: NW Corner of Community Boulevard and Marshall Parkway

Project Description: Proposed Retail Town Center

New Permit: ☒ Permit Modification: _____ (Associated Permit #): _____

3. Water Main Extension / Distribution System Information

Water Treatment Facility: ☒ Prineville/James E. Anderson

Pipe lengths and sizes: 117 LF of 6" watermain, 2,804 LF of 8" watermain, and 976 LF of 12" watermain.

Design Flow: _____ gpd Number of ERCs: _____ (Based on Capacity Worksheet)

Project Name: Riverland Center

4. Professional Engineer in Responsible Charge of Designing Project

Name of Engineer: Brandon Ulmer Company Name: Thomas Engineering Group, LLC

Address: 840 SE Osceola Street

Telephone: 772-888-3138 E-Mail Address: bulmer@thomaseg.com

5. Applicant's Certification

I, the undersigned owner or authorized representative* of Riverland Commercial Associates I, LLC & Riverland/Kennedy II, LLC am fully aware that the statements made in this application are true, correct and complete to the best of my knowledge and belief. I am fully aware that it is my responsibility to construct the water main /distribution system and transfer the ownership of the system to the City of Port St. Lucie Utility System Department (PSLUSD), in compliance with requirements of the executed PSLUSD Utility Service Agreement. I agree to retain a professional engineer, as indicated on this application, to observe construction of the project in accordance with applicable FDEP rules, codes and PSLUSD Utility Standards.

* Notarized Letter of Authorization is required

Signed: _____ Date: _____

Name: Michael Friedman Title: _____

Company Name: Riverland Commercial Associates I, LLC & Riverland/Kennedy II, LLC

Address: 1600 Sawgrass Corporate Parkway, Suite 400

City: Sunrise State: FL Zip: 33323



CITY OF PORT ST. LUCIE
UTILITY SYSTEMS DEPARTMENT

Phone: (772) 873-6400

Fax: (772) 871-7615

Email: Utileng@cityofpsl.com

Wastewater Collection/Transmission System Design Information

Project Name: Riverland Center

I. General Requirements

- A. This information must be completed for all projects by the applicant's professional engineer, and if applicable, those professional engineers in other disciplines who assisted with the design of the project. If this project has been designed to comply with the standards and criteria listed below, the engineer shall initial in ink before the standards or criteria. If any of the standards or criteria do not apply to this project or if this project has not been designed to comply with the standards or criteria, mark "X" before the appropriate standard or criteria and provide an explanation, including any applicable rule references, in I B. below. RSWF = Recommended Standards for Wastewater Facilities, latest edition (the 2004 edition is referenced).

- _____ 01. The project is designed based on an average daily flow of 100 gallons per capita plus wastewater flow from industrial plants and major institutional and commercial facilities unless water use data or other justification is used to better estimate the flow. The design includes an appropriate peaking factor, which covers I/I contributions and non-wastewater connections to those service lines. [RSWF 11.243]
- _____ 02. Procedures are specified for operation of the collection/transmission system during construction. [RSWF 20.15]
- _____ 03. The project is designed to be located on public right-of-ways, land owned by the permittee, or easements and to be located no closer than 100 feet from a public drinking water supply well and no closer than 75 feet from a private drinking water supply well; or documentation is provided in Part II.(5)B., showing that another alternative will result in an equivalent level of reliability and public health protection. [62-604.400(1)(b) and (c), F.A.C.]
- _____ 04. The project is designed with no physical connections between a public or private potable water supply system and a sewer or force main and with no water pipes passing through or coming into contact with any part of a sewer manhole. [RSWF 38.1 and 48.5]
- _____ 05. The project is designed to preclude the deliberate introduction of storm water, surface water, groundwater, roof runoff, subsurface drainage, swimming pool drainage, air conditioning system condensate water, non-contact cooling water except as provided by Rule 62-610.668(1), F.A.C., and sources of uncontaminated wastewater, except to augment the supply of reclaimed water in accordance with Rule 62-610.472(3)(c), F.A.C. [62-604.400(1)(d), F.A.C.]
- _____ 06. The project is designed so that all new or relocated, buried sewers and force mains, are located in accordance with the separation requirements from water mains and reclaimed water lines of Rules 62-604.400(2)(g)(h) and (i) and (3), F.A.C. Note, if the criteria of Rules 62-604.400(2)(g) 4. or (2)(i) 3., F.A.C., are used, describe in Part I.C. alternative construction features that will be provided to afford a similar level of reliability and public health protection. [62-604.400(2)(g), (h), and (i) and (3), F.A.C.]

Gravity Sewers

- _____ 07. The project is designed with no public gravity sewer conveying raw wastewater less than 8 inches in diameter. [RSWF 33.1]
- _____ 08. The design considers buoyancy of sewers, and appropriate construction techniques are specified to prevent flotation of the pipe where high groundwater conditions are anticipated. [RSWF 33.3]
- _____ 09. All sewers are designed with slopes to give mean velocities, when flowing full, of not less than 2.0 feet per second, based on Manning's formula using an "n" value of 0.013; or if it is not practicable to maintain these minimum slopes and the depth of flow will be 0.3 of the diameter or greater for design average flow, the owner of the system has been notified that additional sewer maintenance will be required. The pipe diameter and slope are selected to obtain the greatest practical velocities to minimize solids deposition problems. Oversized sewers are not specified to justify flatter slopes. [RSWF 33.41, 33.42, and 33.43]
- _____ 10. Sewers are designed with uniform slope between manholes. [RWSF 33.44]
- _____ 11. Where velocities greater than 15 fps are designed, provisions to protect against displacement by erosion and impact are specified. [RSWF 33.45]
- _____ 12. Sewers on 20% slopes or greater are designed to be anchored securely with concrete, or equal, anchors spaced as follows: not over 36 feet center to center on grades 20% and up to 35%; not over 24 feet center to center on grades 35% and up to 50%; and not over 16 feet center to center on grades 50% and over. [RSWF 33.46]
- _____ 13. Sewers are designed with straight alignment between manholes. [RSWF 33.5]
- _____ 14. Suitable couplings complying with ASTM specifications are required for joining dissimilar materials. [RSWF 33.7]
- _____ 15. Sewers are designed to prevent damage from superimposed loads. [RSWF 33.7]
- _____ 16. Appropriate specifications for the pipe and methods of bedding and backfilling are provided so as not to damage the pipe or its joints, impede cleaning operations and future tapping, nor create excessive side fill pressures and ovalation of the pipe, nor seriously impair flow capacity. [RSWF 33.81]
- _____ 17. Appropriate deflection tests are specified for all flexible pipe. Testing is required after the final backfill has been in place at least 30 days to permit stabilization of the soil-pipe system. Testing requirements specify: 1) no pipe shall exceed a deflection of 5%; 2) using a rigid ball or mandrel for the deflection test with a diameter not less than 95% of the base inside diameter or average inside diameter of the pipe, depending on which is specified in the ASTM specification, including the appendix, to which the pipe is manufactured; and 3) performing the test without mechanical pulling devices. [RSWF 33.85]
- _____ 18. Leakage tests are specified requiring that: 1) the leakage exfiltration or infiltration does not exceed 200 gallons per inch of pipe diameter per mile per day for any section of the system; 2) exfiltration or infiltration tests be performed with a minimum positive head of 2 feet; and 3) air tests, as a minimum, conform to the test procedure described in ASTM C-828 for clay pipe, ASTM C 924 for concrete pipe, ASTM F-1417 for plastic pipe, and for other materials appropriate test procedures. [RSWF 33.93, 33.94, and 33.95]

- _____ 19. If an inverted siphon is proposed, documentation of its need is provided in Part I.C. Inverted siphons are designed with: 1) at least two barrels; 2) a minimum pipe size of 6 inches; 3) necessary appurtenances for maintenance, convenient flushing, and cleaning equipment; and 4) inlet and discharge structures having adequate clearances for cleaning equipment, inspection, and flushing. Design provides sufficient head and appropriate pipe sizes to secure velocities of at least 3.0 fps for design average flows. The inlet and outlet are designed so that the design average flow may be diverted to one barrel, and that either barrel may be cut out of service for cleaning. [RSWF 35]

Manholes

- _____ 20. The project is designed with manholes at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than 400 feet. [RSWF 34.1]
- _____ 21. Design requires drop pipes to be provided for sewers entering manholes at elevations of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert is designed with a fillet to prevent solids deposition. Inside drop connections (when necessary) are designed to be secured to the interior wall of the manhole and provide access for cleaning. Design requires the entire outside drop connection be encased in concrete. [RSWF 34.2]
- _____ 22. Manholes are designed with a minimum diameter of 48 inches and a minimum access diameter of 22 inches. [RSWF34.3]
- _____ 23. Design requires that a bench be provided on each side of any manhole channel when the pipe diameter(s) are less than the manhole diameter and that no lateral sewer, service connection, or drop manhole pipe discharges onto the surface of the bench. [RSWF 34.5]
- _____ 24. Design requires: 1) manhole lift holes and grade adjustment rings be sealed with non-shrinking mortar or other appropriate material; 2) inlet and outlet pipes be joined to the manhole with a gasketed flexible watertight connection or another watertight connection arrangement that allows differential settlement of the pipe and manhole wall; and 3) watertight manhole covers be used wherever the manhole tops may be flooded by street runoff or high water. [RSWF34.6]
- _____ 25. Manhole inspection and testing for water-tightness or damage prior to placing into service are specified. Air testing, if specified for concrete sewer manholes, conforms to the test procedures described in ASTM C-1244. [RSWF 34.7]
- _____ 26. Electrical equipment specified for use in manholes is consistent with Item 46 of this checklist. [RSWF 34.9]

Stream Crossings

- _____ 27. Sewers and force mains entering or crossing streams are designed to be constructed of ductile iron pipe with mechanical joints or so they will remain watertight and free from changes in alignment or grade. Appropriate materials which will not readily erode, cause siltation, damage pipe during placement, or corrode the pipe are specified to backfill the trench. [RSWF 36.21 and 48.5]
- _____ 28. Stream crossings are designed to incorporate valves or other flow regulating devices (which may include pump stations) on the shoreline or at such distances from the shoreline to prevent discharge in the event the line is damaged. [62-604.400(2)(k)5., F.A.C.]

- _____ 29. Sewers and force mains entering or crossing streams are designed at a sufficient depth below the natural bottom of the stream bed to protect the line. At a minimum, the project is designed with subaqueous lines to be buried at least three feet below the design or actual bottom, whichever is deeper, of a canal and other dredged waterway or the natural bottom of streams, rivers, estuaries, bays, and other natural water bodies; or if it is not practicable to design the project with less than three-foot minimum cover, alternative construction features (e.g. a concrete cap, sleeve, or some other properly engineered device to insure adequate protection of the line) are described in Part II.C. [62-604.400(2)(k)1., F.A.C., and RSWF 36.11]
- _____ 30. Specifications require permanent warning signs be placed on the banks of canals, streams, and rivers clearly identifying the nature and location (including depths below design or natural bottom) of subaqueous crossings and suitably fixed signs be placed at the shore, for subaqueous crossings of lakes, bays, and other large bodies of water, and in any area where anchoring is normally expected. [62-604.400(2)(k)2., F.A.C.]
- _____ 31. Provisions for testing the integrity of subaqueous lines are specified. [62-604.400(2)(k)4., F.A.C.]
- _____ 32. Supports are designed for all joints in pipes utilized for aerial crossings and to prevent overturning and settlement. Expansion jointing is specified between above ground and below ground sewers and force mains. The design considers the impact of floodwaters and debris. [RSWF 37 and 48.5]
- _____ 33. Aerial crossings are designed to maintain existing or required navigational capabilities within the waterway and to reserve riparian rights of adjacent property owners. [62-604.400(2)(k)3., F.A.C.]

Pump Stations

- _____ 34. In areas with high water tables, pump stations are designed to withstand flotation forces when empty. When siting the pump station, the design considers the potential for damage or interruption of operation because of flooding. Pump station structures and electrical and mechanical equipment are designed to be protected from physical damage by the 100-year flood. Pump stations are designed to remain fully operational and accessible during the 25-year flood unless lesser flood levels are appropriate based on local considerations, but not less than the 10-year flood. [62-604.400(2)(e), F.A.C.]
- _____ 35. Pump stations are designed to be readily accessible by maintenance vehicles during all weather conditions. [RSWF41.2]
- _____ 36. Wet well and pump station piping is designed to avoid operational problems from the accumulation of grit. [RSWF41.3]
- _____ 37. Dry wells, including their superstructure, are designed to be completely separated from the wet well. Common walls are designed to be gas tight. [RSWF 42.21]
- _____ 38. The design includes provisions to facilitate removing pumps, motors, and other mechanical and electrical equipment. [RSWF 42.22]
- _____ 39. The design includes provisions for: 1) suitable and safe means of access for persons wearing self-contained breathing apparatus are provided to dry wells, and to wet wells; 2) stairway access to wet wells more than 4 feet deep containing either bar screens or mechanical equipment requiring inspection or maintenance; 3) for built-in-place pump stations, a stairway to the dry well with rest landings at vertical intervals not to exceed 12 feet; 4) for factory-built pump stations over 15 feet deep, a rigidly fixed landing at vertical intervals not to exceed 10 feet unless a manlift or elevator is provided; and 5) where a landing is used, a suitable and rigidly fixed barrier to prevent an individual from falling past the intermediate landing to a lower level. If a manlift or elevator is provided, emergency access is included in the design. [RSWF 42.23]

- _____ 40. Specified construction materials are appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. [RSWF 42.25]
- _____ 41. Multiple pumps are specified, and each pump has an individual intake. Where only two units are specified, they are of the same size. Specified units have capacity such that, with any unit out of service, the remaining units will have capacity to handle the design peak hourly flow. [RSWF 42.31 and 42.36]
- _____ 42. The design includes provisions for appropriate protection from clogging for small pump stations. [RSWF 42.322]
- _____ 43. Pumps handling raw wastewater are designed to pass spheres of at least 3 inches in diameter. Pump suction and discharge openings are designed to be at least 4 inches in diameter. [RSWF 42.33] (Note, this provision is not applicable to grinder pumps.)
- _____ 44. The design requires pumps be placed such that under normal operating conditions they will operate under a positive suction head, unless pumps are suction-lift pumps. [RSWF 42.34]
- _____ 45. The design requires: 1) pump stations be protected from lightning and transient voltage surges; and 2) pump stations be equipped with lighting arrestors, surge capacitors, or other similar protection devices and phase protection. Note, pump stations serving a single building are not required to provide surge protection devices if not necessary to protect the pump station. [62-604.400(2)(b), F.A.C.]
- _____ 46. The design requires 1) electrical systems and components (e.g., motors, lights, cables, conduits, switch boxes, control circuits, etc.) in raw wastewater wet wells, or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors may be present, comply with the National Electrical Code requirements for Class I Group D, Division 1 locations; 2) electrical equipment located in wet wells be suitable for use under corrosive conditions; 3) each flexible cable be provided with a watertight seal and separate strain relief; 4) a fused disconnect switch located above ground be provided for the main power feed for all pump stations; 5) electrical equipment exposed to weather to meet the requirements of weatherproof equipment NEMA 3R or 4; 6) a 110 volt power receptacle to facilitate maintenance be provided inside the control panel for pump stations that have control panels outdoors; and 7) ground fault interruption protection be provided for all outdoor outlets. [RSWF 42.35]
- _____ 47. The design requires a sump pump equipped with dual check valves be provided in dry wells to remove leakage or drainage with discharge above the maximum high water level of the wet well. [RSWF 42.37]
- _____ 48. Pump station design capacities are based on the peak hourly flow and are adequate to maintain a minimum velocity of 2 feet per second in the force main. [RSWF 42.38]
- _____ 49. The design includes provisions to automatically alternate the pumps in use. [RSWF 42.4]
- _____ 50. The design requires: 1) suitable shutoff valves be placed on the suction line of dry pit pumps; 2) suitable shutoff and check valves be placed on the discharge line of each pump (except on screw pumps); 3) a check valve be located between the shutoff valve and the pump; 4) check valves be suitable for the material being handled; 5) check valves be placed on the horizontal portion of discharge piping (except for ball checks, which may be placed in the vertical run); 6) all valves be capable of withstanding normal pressure and water hammer; and 7) all shutoff and check valves be operable from the floor level and accessible for maintenance. [RSWF 42.5]
- _____ 51. The effective volume of wet wells is based on design average flows and a filling time not to exceed 30 minutes unless the facility is designed to provide flow equalization. The pump manufacturer's duty cycle recommendations were utilized in selecting the minimum cycle time. [RSWF 42.62]

- _____ 52. The design requires wet well floors have a minimum slope of 1 to 1 to the hopper bottom and the horizontal area of hopper bottoms be no greater than necessary for proper installation and function of the inlet. [RSWF 42.63]
- _____ 53. For covered wet wells, the design provides for air displacement to the atmosphere, such as an inverted "j" tube or other means. [RSWF 42.64]
- _____ 54. The design provides for adequate ventilation all pump stations; mechanical ventilation where the dry well is below the ground surface; permanently installed ventilation if screens or mechanical equipment requiring maintenance or inspection are located in the wet well. Pump stations are designed with no interconnection between the wet well and dry well ventilation systems. [RSWF 42.71]
- _____ 55. The design requires all intermittently operated ventilation equipment to be interconnected with the respective pit lighting system and the manual lighting/ventilation switch to override the automatic controls. [RSWF42.73]
- _____ 56. The design requires the fan wheels of ventilation systems be fabricated from non-sparking material and automatic heating and dehumidification equipment be provided in all dry wells. [RSWF 42.74]
- _____ 57. If wet well ventilation is continuous, design provides for at least 12 complete 100% fresh air changes per hour; if wet well ventilation is intermittent, design provides for at least 30 complete 100% fresh air changes per hour; and design requires air to be forced into wet wells by mechanical means rather than solely exhausted from the wet well. [RSWF42.75]
- _____ 58. If dry well ventilation is continuous, design provides at least 6 complete 100% fresh air changes per hour; and dry well ventilation is intermittent, design provides for at least 30 complete 100% fresh air changes per hour, unless a system of two speed ventilation with an initial ventilation rate of 30 changes per hour for 10 minutes and automatic switch over to 6 changes per hour is used to conserve heat. [RSWF 42.76]
- _____ 59. Pump stations are designed and located on the site to minimize adverse effects from odors, noise, and lighting. [62-604.400(2)(c), F.A.C.]
- _____ 60. The design requires pump stations be enclosed with a fence or otherwise designed with appropriate features to discourage the entry of animals and unauthorized persons. Posting of an unobstructed sign made of durable weather resistant material at a location visible to the public with a telephone number for a point of contact in case of emergency is specified. [62-604.400(2)(d), F.A.C.]
- _____ 61. The design requires suitable devices for measuring wastewater flow at standard lift stations (excluding grinders). Indicating, totalizing, and recording flow measurement are specified for pump stations with a 1200 gpm or greater design peak flow. [RSWF 42.8]
- _____ 62. The project is designed with no physical connections between any potable water supplies and pump stations. If a potable water supply is brought to a station, reduced-pressure principle backflow-prevention assemblies are specified. [RSWF 42.8 and 62-555.30(4), F.A.C.]

Additional Items to be Completed for Suction-Lift Pump Stations

- _____ 63. The design requires all suction-lift pumps to be either self-priming or vacuum-priming and the combined total of dynamic suction-lift at the "pump off" elevation and required net positive suction head at design operating conditions not to exceed 22 feet. For self-priming pumps, the design requires: 1) pumps be capable of rapid priming and re-priming at the "lead pump on" elevation with self-priming and re-priming accomplished automatically under design operating conditions; 2) suction piping not to exceed the size of the pump suction or 25 feet in total length; and 3) priming lift at the "lead pump on" elevation to include a safety factor of at least 4 feet from the maximum allowable priming lift for the specific equipment at design operating conditions. For vacuum-priming pump stations, the design requires dual vacuum pumps capable of automatically and completely removing air from the suction-lift pumps and the vacuum pumps be adequately protected from damage due to wastewater. [RSWF 43.1]

- _____ 64. The design requires: 1) suction-lift pump equipment compartments to be above grade or offset and to be effectively isolated from the wet well to prevent a hazardous and corrosive sewer atmosphere from entering the equipment compartment; 2) wet well access not to be through the equipment compartment and to be at least 24 inches in diameter; 3) gasketed replacement plates be provided to cover the opening to the wet well for pump units to be removed for service; and 4) no valving be located in the wet well. [RSWF 43.2] DEP Form 62-604.300(8)(a)

Additional Items to be Completed for Submersible Pump Stations

- _____ 65. Submersible pumps and motors are designed specifically for raw wastewater use, including totally submerged operation during a portion of each pump cycle and to meet the requirements of the National Electrical Code for such units. Provisions for detecting shaft seal failure or potential seal failure are included in the design. [RSWF 44.1]
- _____ 66. The design requires submersible pumps be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well. [RSWF 44.2]
- _____ 67. In submersible pump stations, electrical supply, control, and alarm circuits are designed to provide strain relief; to allow disconnection from outside the wet well; and to protect terminals and connectors from corrosion by location outside the wet well or through use of watertight seals. [RSWF 44.31]
- _____ 68. In submersible pump stations, the design requires the motor control center to be located outside the wet well, readily accessible, and protected by a conduit seal or other appropriate measures meeting the requirements of the National Electrical Code, to prevent the atmosphere of the wet well from gaining access to the control center. If a seal is specified, the motor can be removed and electrically disconnected without disturbing the seal. The design requires control equipment exposed to weather to meet the requirements of weatherproof equipment NEMA 3R or 4. [RSWF44.32]
- _____ 69. In submersible pump stations, the design requires: 1) pump motor power cords be flexible and serviceable under conditions of extra hard usage and to meet the requirements of the National Electrical Code standards for flexible cords in wastewater pump stations; 2) ground fault interruption protection be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable; and 3) power cord terminal fittings be corrosion-resistant and constructed in a manner to be designed to facilitate field connecting. [RSWF 44.33]
- _____ 70. In submersible pump stations, the design requires all shut-off and check valves be located in a separate valve pit. Provisions to remove or drain accumulated water from the valve pit are included in the design. [RSWF44.4]

Emergency Operations for Pump Stations

- _____ 71. Pump stations are designed with an alarm system which activates in cases of power failure, sump pump failure, pump failure, unauthorized entry, or any cause of pump station malfunction. Pump station alarms are designed to be telemetered to a facility that is manned 24 hours a day. If such a facility is not available and a 24-hour holding capacity is not provided, the alarm is designed to be telemetered to utility offices during normal working hours and to the home of the responsible person(s) in charge of the lift station during off-duty hours. Note, if an audio-visual alarm system with a self-contained power supply is provided in lieu of a telemetered system, documentation is provided in Part II.C. showing an equivalent level of reliability and public health protection. [RSWF 45]
- _____ 72. The design requires emergency pumping capability be provided for all pump stations. For pump stations that receive flow from one or more pump stations through a force main or pump stations discharging through pipes 12 inches or larger, the design requires uninterrupted pumping capability be provided, including an in-place emergency generator. Where portable pumping and/or generating equipment or manual transfer is used, the design includes sufficient storage capacity with an alarm system to allow time for detection of pump station failure and transportation and connection of emergency equipment. [62-04.400(2)(a)1. and 2., F.A.C., and RSWF 46.423 and 46.433]

- _____ 73. The design requires: 1) emergency standby systems to have sufficient capacity to start up and maintain the total rated running capacity of the station, including lighting, ventilation, and other auxiliary equipment necessary for safety and proper operation; 2) special sequencing controls be provided to start pump motors unless the generating equipment has capacity to start all pumps simultaneously with auxiliary equipment operating; 3) a riser from the force main with rapid connection capabilities and appropriate valving be provided for all pump stations to hook up portable pumps; and 4) all pump station reliability design features be compatible with the available temporary service power generating and pumping equipment of the authority responsible for operation and maintenance of the collection/transmission system. [62-604.400(2)(a)3., F.A.C., and RSWF 46.431]
- _____ 74. The design provides for emergency equipment to be protected from operation conditions that would result in damage to the equipment and from damage at the restoration of regular electrical power. [RSWF 46.411, 46.417, and 46.432]
- _____ 75. For permanently-installed internal combustion engines, underground fuel storage and piping facilities are designed in accordance with applicable state and federal regulations; and the design requires engines to be located above grade with adequate ventilation of fuel vapors and exhaust gases. [RSWF 46.414 and 46.415]
- _____ 76. For permanently-installed or portable engine-driven pumps are used, the design includes provisions for manual start-up. [RSWF 46.422]
- _____ 77. Where independent substations are used for emergency power, each separate substation and its associated transmission lines is designed to be capable of starting and operating the pump station at its rated capacity. [RSWF 46.44]

Force Mains

- _____ 78. Force mains are designed to maintain, at design pumping rates, a cleansing velocity of at least 2 feet per second. The minimum force main diameter specified for raw wastewater is not less than 4 inches. [RSWF 48.1]
- _____ 79. The design requires: 1) branches of intersecting force mains be provided with appropriate valves such that one branch may be shut down for maintenance and repair without interrupting the flow of other branches; and 2) stub-outs on force mains, placed in anticipation of future connections, be equipped with a valve to allow such connection without interruption of service. [62-604.400(2)(f), F.A.C.]
- _____ 80. The design requires air relief valves be placed at high points in the force main to prevent air locking. [RSWF 48.2]
- _____ 81. Specified force main pipe and joints are equal to water main strength materials suitable for design conditions. The force main, reaction blocking, and station piping are designed to withstand water hammer pressures and stresses associated with the cycling of wastewater pump stations. [RSWF 48.4]
- _____ 82. When the Hazen and Williams formula is used to calculate friction losses through force mains, the value for "C" is 100 for unlined iron or steel pipe for design. For other smooth pipe materials, such as PVC, polyethylene, lined ductile iron, the value for C does not exceed 120 for design. [RSWF 48.61]
- _____ 83. Where force mains are constructed of material, which might cause the force main to be confused with potable water mains, specifications require the force main to be clearly identified. [RSWF 48.7]
- _____ 84. Leakage tests for force mains are specified including testing methods and leakage limits. [RSWF 48.8]

B. Explanation for Requirements or Standards Marked "X" in I A. Above (Attach additional sheets if necessary):

C. Alternative Construction Features: (Attach additional sheets if necessary):

II. Certification by the Engineer Of Record

This is to certify that the engineering features of this system have been designed by me or by an individual under my direct supervision, in accordance with Chapter 62-604, F.A.C., PSLUSD Utility Standards, and other applicable requirements. A statement certifying completion of the system will be submitted to PSLUSD along with appropriate clearances and documentation required in the above mentioned rule and standards.

Seal

Signature

Date

Name: Brandon Ulmer Florida Registration No.: 68345

Company Name: Thomas Engineering Group, LLC

Address: 840 SE Osceola Street

City: Stuart State: FL Zip: 34994

Telephone: 772-888-3138 E-Mail Address: bulmer@thomaseg.com



CITY OF PORT ST. LUCIE
UTILITY SYSTEMS DEPARTMENT

Phone: (772) 873-6400

Fax: (772) 871-7615

Email: Utileng@cityofpsl.com

Water Main/Distribution System Design Information

Project Name: Riverland Center

I. General Requirements

- A. This information must be completed for all projects by the applicant's professional engineer, and if applicable, those professional engineers in other disciplines who assisted with the design of the project.
- B. If this project is being designed to comply with the following requirements, initial before the requirements. If any of the following requirements do not apply to this project or if this project includes exceptions to any of the following requirements as allowed by rule, mark "NA" before the requirements and complete I C below. RSWW = Recommended Standards for Water Works, latest edition (the 2003 edition is referenced).

- _____ 01. This project is being designed to keep existing water mains and service lines in operation during construction or to minimize interruption of water service during construction. [exceptions allowed under FAC 62-555.330]
- _____ 02. All pipe, pipe fittings, pipe joint packing and jointing materials, valves, fire hydrants, and meters installed under this project will conform to applicable American Water Works Association (AWWA) standards. [FAC 62-555.320(21)(b), RSWW 8.1.1a, and AWWA standards as incorporated into FAC 62-555.330; exceptions allowed under FAC 62-555.320(21)(c)]
- _____ 03. All public water system components, excluding fire hydrants, that will be installed under this project and that will come into contact with drinking water will conform to NSF International Standard 61 as adopted in Rule 62-555.335, F.A.C., or other applicable standards, regulations, or requirements referenced in paragraph 62-555.320(3)(b), F.A.C. [FAC 62-555.320(3)(b); exceptions allowed under FAC 62-555.320(3)(d)]
- _____ 04. All pipe and pipe fittings installed under this project will contain no more than 8.0% lead, and any solder or flux used in this project will contain no more than 0.2% lead. [FAC 62-555.322]
- _____ 05. All pipe and pipe fittings installed under this project will be color coded or marked in accordance with subparagraph 62-555.320(21)(b)3, F.A.C., using blue as a predominant color. (Underground plastic pipe will be solid-wall blue pipe, will have a co-extruded blue external skin, or will be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe will have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe will have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint will be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe. Aboveground pipe will be painted blue or will be color coded or marked like underground pipe.) [FAC 62-555.320(21)(b)3]

- _____ 06. All new or altered water mains included in this project are sized after a hydraulic analysis based on flow demands and pressure requirements.
- _____ 07. The inside diameter of new or altered water mains that are included in this project and that are being designed to provide fire protection and serve fire hydrants will be at least six inches. [FAC 62-555.320(21)(b) and RSWW 8.2.2]
- _____ 08. New or altered water mains that are included in this project and that are not being designed to carry fire flows do not have fire hydrants connected to them. [FAC 62-555.320(21)(b) and RSWW 8.4.1.b]
- _____ 09. This project is being designed to minimize dead-end water mains by making appropriate tie-ins where practical. [FAC 62-555.320(21)(b) and RSWW 8.2.4.a]
- _____ 10. New or altered dead-end water mains included in this project will be provided with a means to provide adequate flushing. [FAC 62-555.320(21)(b) and RSWW 8.2.4.b]
- _____ 11. Sufficient valves will be provided on new or altered water mains included in this project so that inconvenience and sanitary hazards will be minimized during repairs. [FAC 62-555.320(21)(b) and RSWW 8.3]
- _____ 12. New or altered fire hydrant leads included in this project will have an inside diameter of at least six inches and will include an auxiliary valve. [FAC 62-555.320(21)(b) and RSWW 8.4.3]
- _____ 13. All fire hydrants that will be installed under this project and that will have unplugged, underground drains will be located at least three feet from any existing or proposed storm sewer, storm water force main, pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., or vacuum-type sanitary sewer; at least six feet from any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and at least ten feet from any existing or proposed "on-site sewage treatment and disposal system." [FAC 62-555.314(4)]
- _____ 14. At high points where air can accumulate in new or altered water mains included in this project, provisions will be made to remove the air by means of air relief valves, and automatic air relief valves will not be used in situations where flooding of the valve manhole or chamber may occur. [FAC 62-555.320(21)(b) and RSWW 8.5.1]
- _____ 15. The open end of the air relief pipe from all automatic air relief valves installed under this project will be extended to at least one foot above grade and will be provided with a screened, downward-facing elbow. [FAC 62-555.320(21)(b) and RSWW 8.5.2.c]
- _____ 16. New or altered chambers, pits, or manholes that contain valves, blow-offs, meters, or other such water distribution system appurtenances and that are included in this project will not be connected directly to any sanitary or storm sewer, and blow-offs or air relief valves installed under this project will not be connected directly to any sanitary or storm sewer. [FAC 62-555.320(21)(b) and RSWW 8.6]
- _____ 17. New or altered water mains included in this project will be installed in accordance with applicable AWWA standards or in accordance with manufacturers' recommended procedures. [FAC 62-555.320(21)(b), RSWW 8.7.1, and AWWA standards as incorporated into FAC 62-555.330]

- _____ 18. A continuous and uniform bedding will be provided in trenches for underground pipe installed under this project; backfill material will be tamped in layers around underground pipe installed under this project and to a sufficient height above the pipe to adequately support and protect the pipe; and unsuitably sized stones (as described in applicable AWWA standards or manufacturers' recommended installation procedures) found in trenches will be removed for a depth of at least six inches below the bottom of underground pipe installed under this project. [FAC 62-555.320(21)(b), RSWW 8.7.2]
- _____ 19. All water main tees, bends, plugs, and hydrants installed under this project will be provided with thrust blocks or restrained joints to prevent movement. [FAC 62-555.320(21)(b) and RSWW 8.7.4]
- _____ 20. New or altered water mains that are included in this project and that will be constructed of polyvinyl chloride pipe will be pressure and leakage tested in accordance with AWWA Standard C605, respectively, as incorporated into Rule 62-555.330, F.A.C., and all other new or altered water mains included in this project will be pressure and leakage tested in accordance with AWWA Standard C600 as incorporated into Rule 62-555.330. [FAC 62-555.320(21)(b)1 and AWWA standards as incorporated into FAC 62-555.330]
- _____ 21. New or altered water mains, including fire hydrant leads and including service lines that will be under the control of a public water system and that have an inside diameter of three inches or greater, will be disinfected and bacteriologically evaluated in accordance with Rule 62-555.340, F.A.C. [FAC 62-555.320(21)(b)2 and FAC 62-555.340]
- _____ 22. New or relocated, underground water mains included in this project will be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed vacuum-type sanitary sewer, storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; a horizontal distance of at least six feet between the outside of the water main and the outside of any existing or proposed gravity-type sanitary sewer (or a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed gravity-type sanitary sewer if the bottom of the water main will be laid at least six inches above the top of the sewer); a horizontal distance of at least six feet between the outside of the water main and the outside of any existing or proposed pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and a horizontal distance of at least ten feet between the outside of the water main and all parts of any existing or proposed "on-site sewage treatment and disposal system." [FAC 62-555.314(1); exceptions allowed under FAC 62-555.314(5)]
- _____ 23. New or relocated, underground water mains that are included in this project and that will cross any existing or proposed gravity- or vacuum-type sanitary sewer or storm sewer will be laid so the outside of the water main is at least six inches above the other pipeline or at least 12 inches below the other pipeline; and new or relocated, underground water mains that are included in this project and that will cross any existing or proposed pressure-type sanitary sewer, wastewater or stormwater force main, or pipeline conveying reclaimed water will be laid so the outside of the water main is at least 12 inches above or below the other pipeline. [FAC 62-555.314(2); exceptions allowed under FAC 62-555.314(5)]
- _____ 24. At the utility crossings described in number 23 above, one full length of water main pipe will be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline or the pipes will be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or pipelines conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. [FAC 62-555.314(2); exceptions allowed under FAC 62-555.314(5)]

- _____ 25. New or altered water mains that are included in this project and that will cross above surface water will be adequately supported and anchored, protected from damage and freezing, and accessible for repair or replacement. [FAC 62-555.320(21)(b) and RSWW 8.9.1]
- _____ 26. New or altered water mains that are included in this project and that will cross under surface water will have a minimum cover of two feet. [FAC 62-555.320(21)(b) and RSWW 8.9.2]
- _____ 27. New or altered water mains that are included in this project and that will cross under surface water courses greater than 15 feet in width will have flexible or restrained, watertight pipe joints and will include valves at both ends of the water crossing so the underwater main can be isolated for testing and repair; the aforementioned isolation valves will be easily accessible and will not be subject to flooding; the isolation valve closest to the water supply source will be in a manhole; and permanent taps will be provided on each side of the isolation valve within the manhole to allow for insertion of a small meter to determine leakage from the underwater main and to allow for sampling of water from the underwater main. [FAC 62-555.320(21)(b) and RSWW 8.9.2]
- _____ 28. This project is being designed to include proper backflow protection at those new or altered service connections where backflow protection is required or recommended under Rule 62-555.360, F.A.C., or in Recommended Practice for Backflow Prevention and Cross-Connection Control, AWWA Manual M14, latest edition, F.A.C.; or the public water system that will own this project after it is placed into operation has a cross-connection control program requiring water customers to install proper backflow protection at those service connections where backflow protection is required or recommended under Rule 62-555.360, F.A.C., or in AWWA Manual M14. [FAC 62-555.360 and AWWA Manual M14, latest edition]

C. Explanation for Requirements Marked "NA" in I B Above, Including Justification, Documentation, Assurances, and/or Alternatives as Required by Rule for Exceptions to Requirements in I B:

II. Engineer of Record Certification

This is to certify that the engineering features of this system have been designed by me or by an individual under my direct supervision, in accordance with Chapter 62-555, F.A.C., PSLUSD Utility Standards, and other applicable requirements. I also certify that this project is not being designed to include any of the following construction:

- Construction of water mains conveying raw or partially treated drinking water;
- Construction of water mains in areas contaminated by low-molecular weight petroleum products or solvents;
- Construction of water mains that will remain dry following completion of construction;
- Construction of drinking water treatment, pumping, storage facilities or conflict manholes;
- Construction of an interconnection between previously separate public water systems or construction of water mains that create a "new system" as described under subsection 62-555.525(1), F.A.C.

A statement certifying completion of the system will be submitted to PSLUSD along with appropriate clearances and documentation required in the above mentioned rule and standards.

Seal

Signature

Date

Name: Brandon Ulmer Florida Registration No.: 68345

Company Name: Thomas Engineering Group, LLC

Address: 840 SE Osceola Street

Telephone: 772-888-3138 E-Mail Address: bulmer@thomaseg.com



City of Port St Lucie

Utility Systems Department



Email: UtilEng@cityofpsl.com

900 SW Ogden Lane, Port St Lucie, FL 34983

Phone (772) 344-4320

Grease Management Plan

Based on the Florida Building Code (FBC) and Florida Administrative Code (FAC)

Please complete all information requested and attach the following documents. Failure to do so will result in an extended review process.

Site Plan

Plumbing Plan

Kitchen Electrical & Equipment Layout Plans

Photographs of Existing Equipment Layout if No Plans Exist

A. Legal Owner of Property

Name:

(i.e. My Restaurant, LLC)

Address:

Street Address

City

State

Zip

E-Mail:

Telephone:

B. Business and Contact Information

Business Name:

Project No.:

Business Address:

Address:

Street Address

City

State

Zip

Contact Name:

E-Mail:

Telephone:

This is the person that PSLUSD directly contacts with questions about the plan review and construction; they will receive the plan review comments.

Facility Information

A. Type of Construction

This is New Construction

This is a Tenant Improvement to an Existing Building

B. Building Location

This is a Free Standing Building

This is Located in a Strip Center/Plaza Called:

C. Proposed Facility Type

Full Service Restaurant	Catering Business	Medical or Lab Related
Seasonal Restaurant	Food Manufacturer	Laundry
Fast Food Restaurant	Nursing Home	Photo Development
Drive Thru Only Restaurant	School	Animal Hospital/Grooming
Coffee Shop	Hospital	Retail Store
Bakery	Hotel/Motel	Office
Ice Cream Shop	Club/Organization	Automotive Related
Food Market		

D. Hours of Operation

Monday	Friday
Tuesday	Saturday
Wednesday	Sunday
Thursday	

E. Size of Facility

Square Footage

F. Meals

Total Number of Meals Prepared/Service Per Day

G. Seating

Total Seating Capacity, Including Bar & Outdoor Seating

H. Cooking Equipment

Y	N	Y	N	
Charbroiler		Stove		
Fryer		Wok		
Grill		Broiler		Description of Other Items
Oven		Other		
		Other		

I. Cleaning/Washing Equipment

Y	N	Y	N	
2/3 Compartment Sink		Mop Sink		
Soup Kettle		Dishwasher		
Pot Sink		Hood Wash		
Pre-rinse Sink		Floor Drains		
		Other		

J. Type of Dishes

Washable Disposable Both

K. Existing Grease Interceptor

Make, Model, Size

The undersigned applicant hereby acknowledges that the initiation and/or continuation of service in contingent upon the allowance of random and unannounced inspections of grease interceptor(s) and the grease interceptor maintenance records required to be maintained on site by authorized inspectors as required by the City of Port St. Lucie Code of Ordinances. The City may deny or revoke a service, impose conditions or impose penalties upon evidence that a facility is operating out of compliance with the requirements of the code.

Business Owner/Representative Signature

Title

Printed Name

Date

For Business Use Only

Project No.

Business type require a grease interceptor? Yes No

Property have existing great interceptor? Yes No

Size

Total size of business?

Additional grease interceptor capacity needed? Yes No

Min Size Req.

Reviewed By

Date

Supervisor

Date