Bowman
CONSULTING

SAFE & SECURE SELF-STORAGE AT STUART
DRAINAGE STATEMENT

June 4, 2018

Safe & Secure Self-Storage at Stuart
S05 / T38S / R41E
PCNs: 05-38-41-002-000-01470-0
Martin County, FL

Site Description

The project site contains approximately 1.85 acres and is located on the west side of SW Federal Highway, at the intersection of SW Palm City Road. The project is located within the City of Stuart, Florida Department of Transportation (FDOT), and South Florida Water Management District's (SFWMD's) jurisdiction.

Legal, Positive Outfall

Legal, positive outfall is available via the FDOT drainage system along SW Federal Highway. Ultimate discharge is to the South Fork of the St. Lucie River.

Adjacent Parcels

The project site is bordered by SW Federal Highway to the east, SW Bryant Avenue to the west, and residential housing to the south. Based on topographic elevations taken from the survey, off-site flows do not appear to be entering the property from the adjacent parcels.

Allowable Discharge

Per SFWMD criteria, the maximum allowable discharge is based on the 25-year 3-day design storm for a pre-development vs post-development analysis. Per FDOT criteria, the maximum allowable discharge is based on the 3, 5, 10, 25, 50, and 100-year storms with 1, 2, 4, 8, 24, and 72 durations for a pre-development vs post-development analysis.

FEMA / Flood Designation

Per the Federal Emergency Management Agency's (FEMA) flood insurance rate map (FIRM) Community Panel Number 120161 0134 G, effective date March 16, 2015, the majority of the site falls within Flood Zone X. Flood Zone X is an area outside of the 1% annual flood chance. A small portion of the project area falls within Special Flood Hazard Areas (SFHAs). SFHAs are the areas subject to 1% annual chance flood (100-year) with average flood depths of less than one foot.

System Design

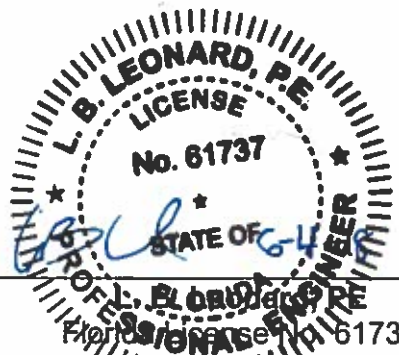
The drainage system will include a series of inlets and pipes to direct stormwater runoff into underground exfiltration trench, and dry detention areas. The final design is predicated on the site plan configuration.

The proposed drainage design will comply with applicable standards of the City of Stuart, SFWMD, and FDOT, including volume, rate, pollutant loads, water quality, and compensating storage.

Level of Service

The minimum required level of service elevations will be met. Specifically:

1. The underground exfiltration trench will be designed to hold the 5-year, 1-hour storm event.
2. The parking lot will be designed at or above the projected 5-year, 1-day storm event.
3. The perimeter berm elevations will be designed at or above the projected 25-year, 3-day storm event.
4. The finished floor elevations will be designed at or above the projected zero discharge 100-year, 3-day storm event.



L. B. Leonard, PE
Florida License No. 61737
Bowman Consulting Group, Ltd.
Board of Professional Engineers –
Certificate of Authorization No. 30462
301 SE Ocean Boulevard, Suite 301
Stuart, FL 34994
(772) 283-1413, (772) 220-7881 FAX