Project No: PP21-0018

Plantation
the grass is greener

Department Date Stamp:
SEP 24 2021

CITY OF PLANTATION
DEVELOPMENT REVIEW APPLICATION

Please check appropriate Board or Committee review:
☒ Review Committee ☐ Planning and Zoning Board ☐ City Council

Please check appropriate request(s):
- ☐ Conditional Use Approval
- ☐ Delegation Request
- ☐ Gateway 7 Administrative Approval
- ☐ Land Use Plan Amendment Approval
- ☐ Master Plan Approval
- ☒ Other LAC Unit Assignment
- ☐ Plat or Site Data Record Approval
- ☐ Rezoning Approval
- ☒ Site Plan, Elevation and/or Landscape Plan Approval
- ☐ Use Variance Approval
- ☒ Waiver request

Project Name:

Property Address / Location: 4261 Peters Road

Property Legal Description: See attached

Zoning District: SP 1-2(HC)

Land Use Plan Designation:

Property Folio Number(s): 5041 1200 0120

Description of Project: (Attach additional page if necessary)
See attached

Property Owner of Record:
Print name: Lynda Chasteen and Larry A. Pittman Jr. Signature:

Corporation Name (if applicable):

Address: 4 Horseman CV City: Longwood State: FL Zip: 32750

Phone: 954-761-3636 Fax: 954-761-1818 Email: rafeiner@coker-feiner.com

Do you authorize an agent to represent you in the processing of this application? ☒ Yes ☐ No

STATE OF FLORIDA
COUNTY OF Seminole

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State and County aforesaid to take acknowledgements appeared Larry Pittman, Lynda as the property owner, who is personally known to me to be the person described in and who executed the foregoing instrument, who acknowledged before me that he/she executed the same on behalf of the corporation, who produced his/her driver's license as identification, and who did not take an oath.

WITNESS my hand and official seal this 11th day of March, 2021.

My commission expires: 1/11/2025

NOTARY PUBLIC, STATE OF FLORIDA
Samir Vishanagra
Printed Name of Notary

My commission no. is:

SAMIR VISHANAGRA
Notary Public - State of Florida
Commission # GG 947341
My Comm. Expires Jan 11, 2024
(Notary Seal)

Authorized Agent (if applicable):

Print name: Arkham Holdings, LLC **Signature:** _____

Corporation Name (if applicable): _____

Address: PO Box 460637 **City:** Ft. Lauderdale **State:** FL **Zip:** 33346

Phone: _____ **Fax:** _____ **Email:** kenallain@outlook.com

STATE OF FLORIDA
COUNTY OF _____

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State and County aforesaid to take acknowledgements appeared Ken Allain as authorized agent of Lynda Chasteen & Larry A. Pittman, Jr. (Owner), who is personally known to me to be the person described in and who executed the foregoing instrument, who acknowledged before me that he/she executed the same on behalf of the corporation, who produced his/her driver's license as identification, and who did not take an oath.

WITNESS my hand and official seal this 16th day of March, 20 21

My commission expires:

NOTARY PUBLIC, STATE OF FLORIDA
Fernando Escobar
Printed Name of Notary

FERNANDO A. ESCOBAR
Notary Public - State of Florida
Commission # GG 964312
My Comm. Expires Mar 2, 2024

My commission no. is: (Notary Seal)

Attorney (if applicable):

Name: Rod A. Feiner, Esq.

Corporation Name (if applicable): Coker & Feiner

Address: 1404 South Andrews Avenue **City:** Fort Lauderdale **State:** FL **Zip:** 33316

Phone: 954-761-3636 **Fax:** 954-761-1818 **Email:** rafeiner@coker-feiner.com

Architect (if applicable):

Name: Carlos Pizarro

Corporation Name (if applicable): DTI International suit 201

Address: 14125 SW 80th Avenue **City:** Miami Lakes **State:** FL **Zip:** 33016

Phone: 786-235-9097 **Fax:** _____ **Email:** cpizarro@driarchitect.com

Engineer/Surveyor (if applicable):

Name: John Flynn, PE

Corporation Name (if applicable): Grace Engineering, LLC

Address: 17110 SW 64th Court **City:** SW Ranches **State:** FL **Zip:** 33331

Phone: 754-200-4534 **Fax:** _____ **Email:** johnflynn@graceengineers.com

Additional Consultant (if applicable):

Name: _____

Corporation Name (if applicable): _____

Address: _____ **City:** _____ **State:** _____ **Zip:** _____

Phone: _____ **Fax:** _____ **Email:** _____

☐ **Site information for undeveloped sites:** **Site acreage:** .21 **(net)**

Type and number of proposed residential units (if applicable): apartments/Multi-family

Square footage of proposed non-residential uses (if applicable): 0

Type and square footage of proposed non-residential uses (if applicable): 0

☐ **Site information for developed sites:** **Site acreage:** _____ **(net)**

Type and number of existing residential units (if applicable): 0

Type and number of proposed residential units (if applicable): apartment/multi-family

Square footage of proposed non-residential uses (if applicable): 0

Type and square footage of existing non-residential uses (if applicable): 0

Type and square footage of proposed non-residential uses (if applicable): 0

Number of existing parking spaces: 0 **(including handicapped spaces)**

Number of proposed parking spaces: _____ **(including handicapped spaces)**

- **Please print/type application clearly.** Incomplete or illegible applications will not be accepted.
- A fee calculation form with filing fee must be submitted prior to submittal of a development review application pursuant to Ordinance# 2397.
- Submittals must be made prior to agenda closing dates indicted on the "Schedule of Meetings". Any incomplete or late submittals may be rescheduled to the next available meeting.
- The application must be signed by the property owner and notarized.
- If the property owner authorizes an agent, the application must be signed by the agent and notarized.
- An owner or authorized agent must be present at each meeting for the application to be considered.
- Zoning decision approval, as defined in Section 27-6 of the Code of Ordinances, shall be initially valid for a period of time not to exceed twelve (12) months from the date the decision is made. If the rights granted by the zoning decision are not exercised in the aforesaid twelve-month period of time by an application for a building permit to meet the requirement of Section 302.1 of the Florida Building Code, the decision shall become null and void. The City Council may extend this time period for one (1) additional extension not to exceed six (6) additional months for good cause demonstrated prior to the expiration of the period of initial validity.

Law Offices
COKER & FEINER
1404 South Andrews Avenue
Fort Lauderdale, FL 33316-1840

Telephone: (954) 761-3636
Facsimile: (954) 761-1818

Richard G. Coker, Jr., P.A.
Rod A. Feiner
Kathryn R. Coker

rgcoker@coker-feiner.com
rafeiner@coker-feiner.com
krcoker@coker-feiner.com

September 20, 2021

Mr. Dan Holmes, Director
Planning, Zoning & Economic Development
407 NW 70th Terrace
Plantation, FL 33317

Re: Letter of Intent
Arkham Apartments

Dear Mr. Holmes:

Please allow this to serve as the Letter of Intent of the above-referenced project. The Applicant/Owner is proposing to construct 8 rental apartments on the subject site. Each apartment is a one-bedroom apartment. The apartments will be market rate apartments. It is anticipated that these apartments will be rented to people who are single or newly married. These tenants will be able to use the mass transit that is offered on the nearby US 441 for public transport and will also most likely be able to take advantage of the new jobs that will be created by the new casinos and other businesses along the US 441 corridor.

The property on which the development is proposed is required to be platted. As part of the platting process the Owner will be dedicating significant right-of-way in order to meet the Trafficways Plan for this segment of roadway. Specifically the Owner will be dedicating 18 feet along the entire length of roadway to satisfy the requirements of the Trafficways Plan. Even with this substantial dedication of right-of-way no waivers are being requested.

Finally, the apartments will be fully fire sprinklered and will also meet all required landscape and parking requirements.

If you have any questions please feel free to contact me.

Very Truly Yours,

/s/ Rod A. Feiner

ROD A. FEINER
For the Firm

ALVEY TREE
Consulting

ALVEY TREE CONSULTING LLC
ALEXIS ALVEY -
ISA BOARD CERTIFIED MASTER ARBORIST®
#NY-5539B

Arborist Report

4281 Peters Road
Plantation

8/30/2021

Arborist Report

8/30/2021

On August 27th 2021, I visited the property located at 4281 Peters Road. I evaluated the trees on the site in anticipation of the construction of the Arkham Apartments. For each tree, I identified species, location, and size (Height, Spread, DBH); evaluated condition (Percentage); determined disposition (Remove, Remain, Relocate); determined the Tree Protection Zone for trees to remain; provided relevant comments about health and disposition; and took photographs. There are no street trees.

A number of trees conflict with the proposed construction and will need to be removed. A Tree Appraisal has been conducted for each tree to be removed. The Cost Approach using the Reproduction Cost Method and the Direct Cost Technique has been utilized for all trees, except three, for which the Trunk Formula Technique was utilized. This appraisal method is based upon the most recent edition of the Council of Tree and Landscape Appraisers' *Guide for Plant Appraisal, 10th Edition Second Printing* (2019). Assessment of tree condition is based upon my site evaluation, and follows Table 4.1 in the *Guide*, factoring in tree health, structure, and form. Additional costs, such as tree removal, new tree installation, and irrigation are not included, and may vary widely depending upon the individual landscape contractor.

This report shall in no shape or form be construed as a tree risk assessment which is beyond the scope of work written in the contractual agreement. Please feel free to contact me should any questions arise. Thank-you for the opportunity to assist in this manner.

Alexis Alvey

Contact Information -
Alexis Alvey
ISA Board Certified Master Arborist® #NY-5539B

Alvey Tree Consulting LLC
516-728-1366 alveytree@gmail.com
www.alveytree.com

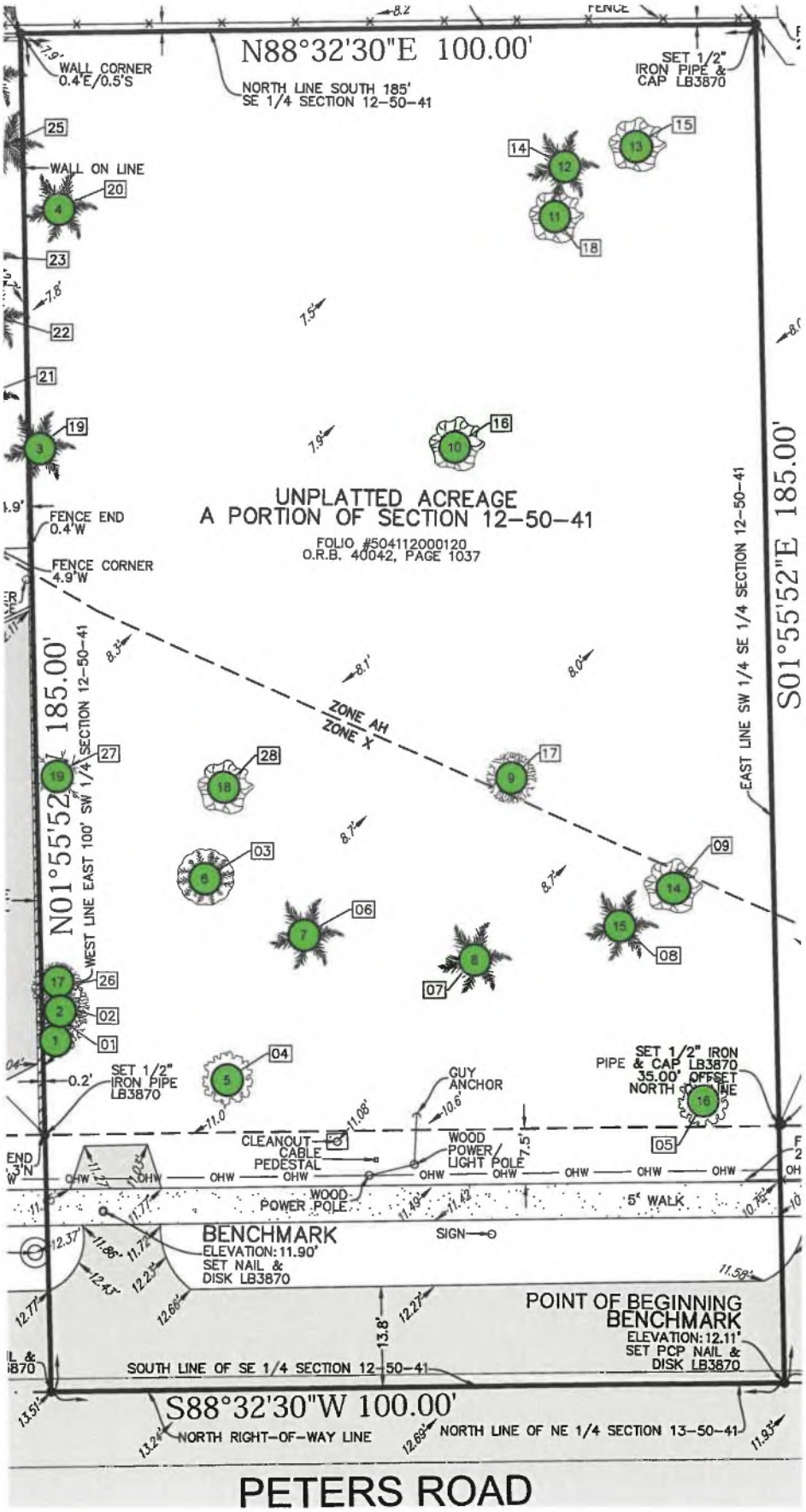
Property Location -
Arkham Apartments
4281 Peters Road
Plantation, FL 33317

Client -
William Romberg
Design Tech International Associates, Inc.
14125 NW 80th Avenue, Suite 303
Miami Lakes, Florida 33016
786.235.9097 / wromberg@dtiarchitect.com

Tree Location Diagram

Existing Site or Street Tree

NOT TO SCALE



Tree #1(1)

Common Name -
Live Oak

Scientific Name -
Quercus virginiana

DBH (in) - 12.5

Height (ft) - 25

Canopy Spread (ft) - 15

Condition -
65%

Native? -
Yes

Disposition -
Remain - 7.5ft radius TPZ

Tree #1 is a Live Oak located on the west side of the property. It is in good condition - it has an asymmetrical canopy and is competing with the nearby trees. There is some small deadwood.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 7.5ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees. Prune to remove deadwood and to improve structure.

Tree #2(2)

Common Name -
Live Oak

Scientific Name -
Quercus virginiana

DBH (in) - 13

Height (ft) - 25

Canopy Spread (ft) - 25

Condition -
80%

Native? -
Yes

Disposition -
Remain - 12.5ft radius TPZ

Tree #2 is a Live Oak located on the west side of the property. It is in good condition with some small deadwood.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 12.5ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees. Prune to remove deadwood and to improve structure.

Tree #3(19)

Common Name -
Alexander Palm

Scientific Name -
Ptychosperma elegans

DBH (in) - 4

Height (ft) - 30

Canopy Spread (ft) - 10

Condition -
80%

Native? -
No

Disposition -
Remain - 5ft radius TPZ

Tree #3 is an Alexander Palm located on the west side of the property. It is in good condition.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 5ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees.

Tree #4(20)

Common Name -
Alexander Palms (5)

Scientific Name -
Ptychosperma elegans

DBH (in) - 4 each

Height (ft) - 30

Canopy Spread (ft) - 12

Condition -
75%

Native? -
No

Disposition -
Remain - 6ft radius TPZ

Tree #4 is a cluster of five Alexander Palms located on the west side of the property. It is in good condition. Remove the vines growing on the trunks.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 6ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees.

Tree #5(4)

Common Name -
Indian-Laurel

Scientific Name -
Ficus microcarpa

DBH (in) - 48

Height (ft) - 20

Canopy Spread (ft) - 35

Condition -
20%

Native? -
Invasive

Disposition -
Remove

Value -
$0

Tree #5 is an Indian-Laurel located at the front of the property. It is in very poor condition with poor form and extensive decay. There are decayed limbs and broken branches. The roots are lifted on the south side of the tree and the tree may be in the process of failure. Remove as soon as possible.

This species is highly invasive in South Florida. This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #6(3)

Common Name -
Mango

Scientific Name -
Mangifera indica

DBH (in) - 16

Height (ft) - 30

Canopy Spread (ft) - 30

Condition -
60%

Native? -
No

Disposition -
Remove

Value -
$380

Tree #6 is a Mango located towards the front of the property. It is in fair condition - the trunk divides into two with included bark. The tree has low vigor and there is dieback at the top. There is deadwood and broken limbs with decay.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #7(6)

Common Name -
Areca Palm

Scientific Name -
Dypsis lutescens

DBH (in) - cluster

Height (ft) - 15

Canopy Spread (ft) - 10

Condition -
60%

Native? -
No

Disposition -
Remove

Value -
$110

Tree #7 is an Areca Palm located towards the front of the property. It is in fair condition with chlorotic fronds.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #8(7)

Common Name -
MacArthur Palm

Scientific Name -
Ptychosperma macarthurii

DBH (in) - cluster

Height (ft) - 25

Canopy Spread (ft) - 10

Condition -
80%

Native? -
No

Disposition -
Remove

Value -
$400

Tree #8 is a MacArthur Palm located towards the front of the property. It is in good condition.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #9(17)

Common Name -
Live Oak

Scientific Name -
Quercus virginiana

DBH (in) - 12

Height (ft) - 30

Canopy Spread (ft) - 25

Condition -
90%

Native? -
Yes

Disposition -
Remove

Value -
$3,900

Tree #9 is a Live Oak located towards the center of the property. It is in excellent condition - it has nice form and structure. The tree has a dense green canopy.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #10(16)

Common Name -
Laurel Oak

Scientific Name -
Quercus laurifolia

DBH (in) - 12

Height (ft) - 25

Canopy Spread (ft) - 20

Condition -
80%

Native? -
Yes

Disposition -
Remove

Value -
$530

Tree #10 is a Laurel Oak located towards the center of the property. It is in good condition with a dense green canopy. Branches hang low towards the ground.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #11(18)

Common Name -
Carrotwood

Scientific Name -
Cupaniopsis anacardioides

DBH (in) - 12

Height (ft) - 25

Canopy Spread (ft) - 25

Condition -
50%

Native? -
Invasive

Disposition -
Remove

Value -
$0

Tree #11 is a Carrotwood located towards the rear of the property. It is in fair condition - the tree has a shrubby form and interior deadwood.

This species is highly invasive in South Florida. This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #12(14)

Common Name -
Sabal Palm

Scientific Name -
Sabal palmetto

DBH (in) - 15

Height (ft) - 30

Canopy Spread (ft) - 10

Condition -
80%

Native? -
Yes

Disposition -
Remove

Value -
$150

Tree #12 is a Sabal Palm located towards the rear of the property. It is in good condition. There are lower dead fronds and some yellowing on the live fronds.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #13(15)

Common Name -
Avocado

DBH (in) - 15

Height (ft) - 25

Condition -
40%

Native? -
No

Scientific Name -
Persea americana

Canopy Spread (ft) - 15

Disposition -
Remove

Value -
$230

Tree #13 is an Avocado located att he rear of the property. It is multi-trunked and in poor condition. The canopy has been covered in vines and little foliage remains.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #14(9)

Common Name -
Umbrella Tree

DBH (in) - 22

Height (ft) - 25

Condition -
60%

Native? -
Invasive

Scientific Name -
Schefflera actinophylla

Canopy Spread (ft) - 15

Disposition -
Remove

Value -
$0

Tree #14 is an Umbrella Tree located on the east side of the property. It is in fair condition. The trunk divides into many leaders.

This species is highly invasive in South Florida. This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #15(8)

Common Name -
MacArthur Palm

Scientific Name -
Ptychosperma macarthurii

DBH (in) - cluster

Height (ft) - 18

Canopy Spread (ft) - 10

Condition -
80%

Native? -
No

Disposition -
Remove

Value -
$280

Tree #15 is a MacArthur Palm located on the east side of the property. It is in good condition. It is growing through the canopy of Umbrella Tree #14.

This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #16(5)

Common Name -
Strangler Fig

Scientific Name -
Ficus aurea

DBH (in) - 44

Height (ft) - 25

Canopy Spread (ft) - 30

Condition -
50%

Native? -
Yes

Disposition -
Remain - 15ft radius TPZ

Tree #16 is a Strangler Fig located in the front southeast corner of the property. It is in fair condition - the trunk is quite large but the canopy has been maintained in size via hatracking. Overhead wires are near the tree. The canopy is dense and green and there is some decay at old pruning cut locations.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 15ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees. Prune to remove deadwood. Prune to maintain clearance of the overhead wires.

Tree #17(26)

Common Name -
Live Oak

Scientific Name -
Quercus virginiana

DBH (in) - 10

Height (ft) - 25

Canopy Spread (ft) - 15

Condition -
65%

Native? -
Yes

Disposition -
Remain - 7.5ft radius TPZ

Tree #17 is a Live Oak located on the west side of the property. It is in good condition - it has an asymmetrical canopy and it is competing with the nearby trees. There is some small deadwood.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 7.5ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees. Prune to remove deadwood and to improve structure.

Tree #18(28)

Common Name -
Umbrella Tree

Scientific Name -
Schefflera actinophylla

DBH (in) - 16

Height (ft) - 30

Canopy Spread (ft) - 20

Condition -
70%

Native? -
Invasive

Disposition -
Remove

Value -
$0

Tree #18 is an Umbrella Tree located towards the center of the property. It is double-trunked and in good condition.

This species is highly invasive in South Florida. This tree has not been incorporated into the landscape plan and will therefore be removed.

Tree #19(27)

Common Name -
Seagrape

Scientific Name -
Coccoloba uvifera

DBH (in) - 22

Height (ft) - 18

Canopy Spread (ft) - 18

Condition -
60%

Native? -
Yes

Disposition -
Remain - 9ft radius TPZ

Tree #19 is a Seagrape located on the west side of the property. It is in fair condition - it is multi-trunked with crossing limbs. The tree has low vigor and the foliage is chlorotic.

This tree shall be protectively barricaded before and during construction activities. The barricade shall be constructed of 2x4 posts 48 inches high, with three 2x4 rails equally spaced. Barricades shall be placed at the dripline of the tree, in this case 9ft from the tree. Underground utility lines shall be routed around the dripline of existing trees to the extent possible. Installation of fences and walls shall take into consideration the root systems of existing trees.

Notes - TPZ Calculations & Tree and Palm Relocation

Tree Protection Zone (TPZ) Calculations -

- TPZ for all trees and palms is the dripline.

Tree and Palm Relocation Notes -

1. All phases of transplanting trees and palms to be performed or supervised by Certified Arborist.
2. Trees to be relocated shall be root pruned six to eight weeks prior to transplanting. Landscape Contractor shall maintain transplanted material during construction period by watering, moving, spraying, fertilizing, and pruning.
3. Landscape Contractor is responsible for verifying locations of all underground and overhead utilities and easements prior to commencing work. All utility companies and/or the General Contractor shall be notified to verify locations prior to digging. Utility trenching is to be coordinated with the Landscape Contractor prior to beginning of project. The Owner and Certified Arborist shall not be responsible for damage to utility or irrigation lines.
4. The Landscape Contractor shall comply with all local and state codes and shall be responsible for obtaining all applicable permits.
5. The Landscape Contractor shall regularly inspect the relocated material to ensure compliance with standard horticultural practices.
6. The Landscape Contractor is responsible for guaranteeing the transplanted trees and palms for a period of one year. At the time of the final inspection all transplanted trees and palms that are not in viable condition shall be replaced by the Landscape Contractor.
7. The Landscape Contractor shall take all precautions to minimize shock of root pruning and transplanting in accordance with standard arboriculture practices.
8. The diameter of the root ball to be transplanted shall follow the guidelines set forth in the latest edition of the Florida Grades and Standards for Nursery Plants.
9. Roots shall be cleanly cut with a sharp spade, hand saw, chainsaw, or other approved root-pruning equipment.
10. Trees shall not be pruned at transplanting to compensate for root loss. Any pruning required shall be as per the ANSI A300 Standards.
11. For all palms except Sabal palmetto, only dead fronds shall be removed. Sabal palmetto shall have all fronds cut without damaging the bud. Fronds shall be securely tied around the bud prior to relocation and shall be untied after placement in the new planting hole. The bud shall be protected from damage or injury during relocation.
12. After root pruning trees, backfill roots to original existing grade with existing soil free of any deleterious material to root growth.
13. Provide a layer of 3" mulch over backfill area to prevent weed growth, conserve moisture and prevent evaporation. Keep mulch 6" away from the trunk.
14. Provide tree protection as per Landscape Architect's Tree Protection Detail to ensure that the tree or root system is not damaged during the root-pruning period.
15. After root pruning and prior to relocation, tree(s) shall be watered a minimum of twice weekly.
16. Transplanting shall occur within 24 hours after being dug for relocation. The root ball shall be kept moist.
17. Digging and preparation of the new hole for the transplant shall be done prior to removing the tree from the existing location.
18. The depth of the new hole shall be equal to the depth of the root ball and the width shall be equal to two to three times the width of the root ball.
19. Trees and palms shall be lifted from the ground with heavy equipment designed specifically for tree relocation so that the trunk and crown is not impacted and damaged by the equipment.
20. The slings used to lift the trees and large palms shall be non-binding nylon slings that are wrapped under the root ball to support the weight of tree or palm. Slings shall not be solely wrapped around the trunk of the tree. Padding the sling may be necessary so that the trunk is not damaged.

Notes - Tree and Palm Relocation (Contd.)

21. Trees and palms shall be planted so that the top of the rootball is flush with the existing grade. Ensure that deep planting does not occur. The tree and palm shall be centrally positioned in the planting hole and set straight, plumb or normal to the growth pattern prior to transplanting.
22. Transplanted trees and palms shall be backfield with a uniform mix of 25% fully decomposed compost and 75% existing site soil cleaned free of weeds and rocks.
23. Trees and palms shall be watered to eliminate air pockets in the backfill mix prior to mulching.
24. A 4" soil berm shall be created around the edge of the planting hole to hold water, or as per the Landscape Architect's Planting Details.
25. Install tree and palm bracing as per the Landscape Architect's Planting Details, to ensure stability of trees and palms.
26. After transplanting trees and palms, the Landscape Contractor shall be responsible for watering to maintain soil moisture during the guarantee period. The following schedule is suggested: First month - Daily; Second month - 3 times per week; Third and Fourth month - 2 times per week; Last Eight months - 1 time per week. For trees over 4" in caliper at the time of planting, the suggested schedule is: First 6 weeks - Daily; from 1.5 months to 6 months - 3 times per week, last 6 months - 1 time per week.

Notes - Tree and Palm Protection

1. Fences shall be erected to protect trees and palms to be preserved. Fences define a specific protection zone for each tree or group of trees. Fences shall be installed prior to the beginning of construction and are to remain until all site work has been completed. Fences may not be relocated or removed without the written permission of the Arborist. Refer to the Landscape Architect's Tree Protection Detail.
2. Construction trailers, traffic, and storage areas must remain outside fenced areas at all times.
3. All underground utilities and drain or irrigation lines shall be routed outside the tree protection zone. If lines must traverse the protection area, disturbance shall be minimized by using techniques such as tunneling or boring.
4. No materials, equipment, spoil, or waste or washout water may be deposited, stored, or parked within the tree protection zone.
5. Additional tree pruning required for clearance during construction must be approved by the Certified Arborist and shall be performed by trained arborists, not by construction personnel.
6. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Landscape Contractor and the Certified Arborist should be notified immediately.
7. Any grading, construction, demolition, or other work that is expected to encounter tree roots must be monitored by the Landscape Contractor.
8. All trees shall be irrigated at least two times a week. Each irrigation session shall wet the soil within the tree protection zone to a depth of 30 inches.
9. Before grading, pad preparation, or excavation for foundations, footings, walls, or trenching near trees the trees shall be root pruned at the edge of the tree protection zone by cutting all roots cleanly to a depth of 36 inches. Roots shall be cut manually by digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root-pruning equipment.
10. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.
11. Spoil from trenches, basements, or other excavations shall not be placed within the tree protection zone, either temporarily or permanently.
12. No burn piles or debris pits shall be placed within the tree protection zone. No ashes, debris, or garbage may be dumped or buried within the tree protection zone.
13. Maintain fire-safe areas around the fences. Also, no heat sources, flames, ignition sources, or smoking is allowed near mulch or trees.
14. Protective barriers shall be placed around each tree, cluster of trees, or the edge of the preservation area at the specified distance. Protective barriers shall be a minimum of four feet above ground level and shall be constructed of wood, plastic, or metal, and shall remain in place until development is completed. Protective barriers shall be in place prior to the start of any construction.
15. Understory plants within protective barriers shall be protected.
16. No excess oil, fill, equipment, building materials or building debris shall be placed within the areas surrounded by protective barriers, nor shall there be disposal of any waste material such as paints, oils, solvents, asphalt, concrete, mortar or any other material harmful to trees or understory plants within the areas surrounded by protective barriers.
17. Trees shall not be braced in such a fashion as to scar, penetrate, perforate or otherwise inflict damage to the tree.
18. Natural grade shall be maintained within protective barriers. In the event that the natural grade of the site is changed as a result of site development such that the safety of the tree may be endangered, tree wells or retaining walls are required.
19. Fences and walls shall be constructed to avoid disturbance to any protected tree. Post holes and trenches located close to trees shall be dug by hand and adjusted as necessary, using techniques such as discontinuous footings, to avoid damage to major roots.

Note: Trees inherently pose a certain degree of hazard and risk from breakage, failure or other causes and conditions. Recommendations that are made are intended to minimize or reduce such hazardous conditions. However, there can be no guarantee or warranty that efforts to discover or correct unsafe conditions will prevent future breakage or failure, nor can there be any guarantee that all hazardous conditions have been detected. The client should not infer that a tree is safe either because services have been recommended or done to reduce risk, or because no services have been recommended or done on a specific tree. The client assumes any and all risks associated with pursuing consultant's advice and fully understands that he or she is engaged in securing professional consultation regarding the above-mentioned property.

GRACE ENGINEERING
CIVIL ENGINEERING CONSULTANTS

Stormwater Drainage Calculations

Arkham Apartments
4281 Peters Road
Plantation, Florida 33317

John E Flynn

Digitally signed by John E Flynn
DN: c=US, o=Florida, dnQualifier=A01410C0000017AE317D36100007D10, cn=John E Flynn
Date: 2021.09.23 21:17:04 -04'00'

JOHN E. FLYNN LICENSE No. 63316 STATE OF FLORIDA PROFESSIONAL ENGINEER

John E. Flynn, P.E.
Florida License No. 63316
GRACE ENGINEERING, LLC
Certificate of Authorization No. 29280

17110 SW 64TH COURT
SOUTHWEST RANCHES, FLORIDA 33331
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E-MAIL: GRACEENGINEERINGLLC@GMAIL.COM
CERTIFICATE OF AUTHORIZATION NO. 29280

ZERO DISCHARGE CALCULATIONS
25-year 3-day Stage Retained On-Site

Project Summary (see HydroCAD output for calculations)

25-year 3-day Maximum Stage = 11.54' (all elevations in NAVD88)
Minimum Perimeter Berm = 11.65'

100-year 3-day Maximum Stage = 12.14'
Proposed Building FFE = 12.50'

Broward 100-year Flood Elev = 9.5'
FEMA Flood Elevation = AH 9'

1. Post-Development Area Summary (Proposed)

Total Pervious Area	5698 sq.ft.	0.131 acres
Total Impervious Area	9302 sq.ft.	0.214 acres
Total Site Area	**15000 sq.ft.**	**0.344 acres**
% Pervious		38.0%
% Impervious		62.0%

2. Water Quality Treatment Volume

Water quality treatment is required for 2.5" over the impervious area.

Required Treatment Volume (ac-in)		
Site	(2.5in X 62.0% 0.344 acres)	**0.53ac-in**

Total Treatment Volume (Exfiltration Trench) Provided = **2.67 ac-in (factor of safety 5.0)**

3. Stage-Storage Analysis

The stage-storage analysis assumes that storage of the stormwater volumes generated during the 25-year 3-day storm will be retained on-site via the proposed exfiltration trench and surface storage in the parking lot (i.e. zero discharge calculations). The stormwater modeling program HydroCAD was used to model the post development staging.

Rainfall:

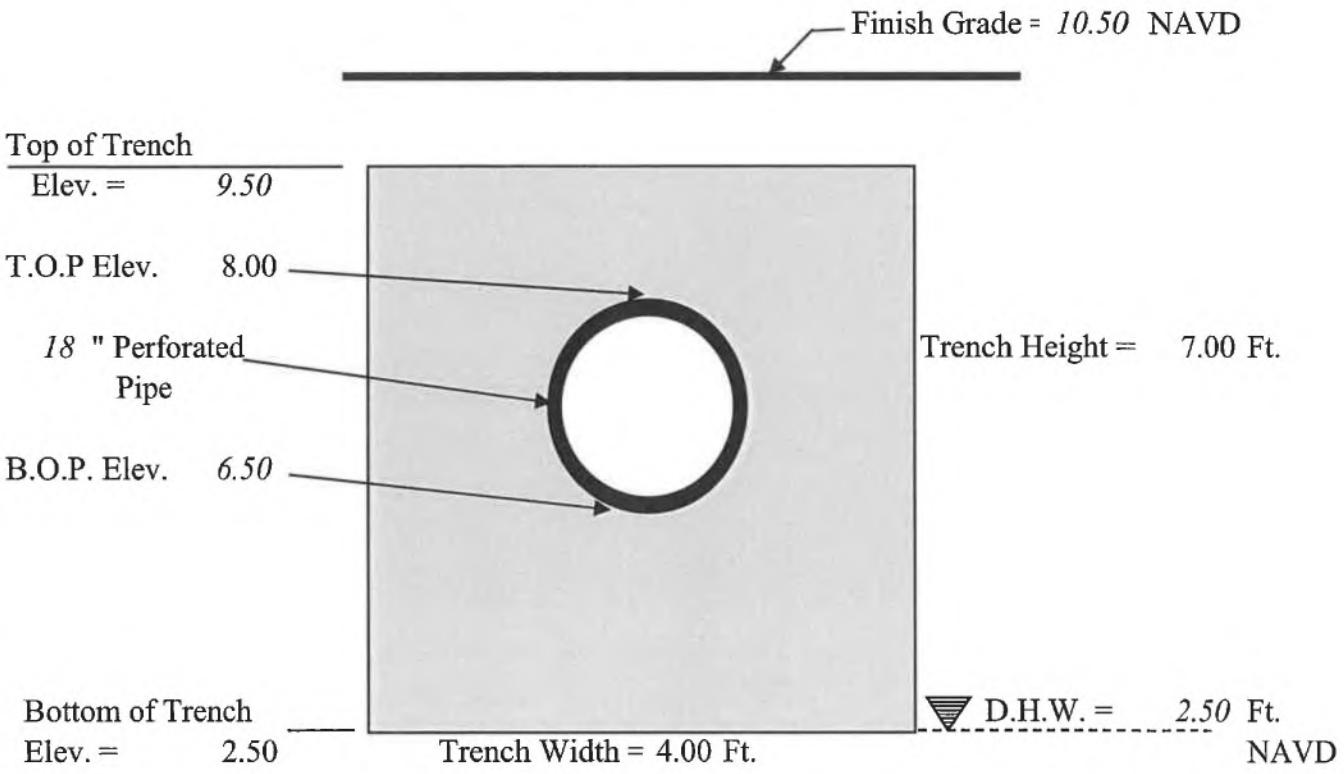
25-year 3-day Rainfall = 15.00" 100-year 3-day Rainfall = 18.00"

4. Exfiltration Design Parameters

The following is a summary of the stormwater design parameters:

Broward Water Table Elevation	= 2.50' NAVD88
Exfiltration Permeability	= 0.000311 K -hydraulic conductivity
Exfiltration Dimensions (Minimum)	= 4' wide x 7' deep x 80' length with 18" perforated pipe at invert 6.50' NAVD

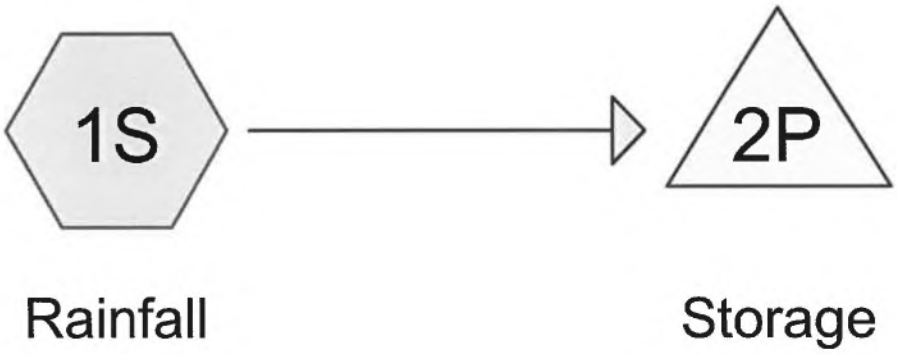
Proposed Exfiltration Trench (18" H.D.P.E.)



EXFILTRATION TRENCH SECTION

$$L = \frac{V}{(K(H2W + 2H2Du - Du^2 + 2H2Ds) + (1.39 \times 10^4)Wdu)}$$

Where	V =	*2.67*	ac-in (Volume to be treated)
	K =	*3.11E-04*	cfs / ft^2 - ft. head (Hydraulic Conductivity)
	Du =	*7.00*	ft. (Non-Saturated Trench Depth)
	Ds =	*0.00*	ft. (Saturated Trench Depth)
	W =	*4.00*	ft. (Width of Trench)
	H2 =	*8.00*	ft. (Depth to Bottom of Trench)
	L =	***80***	ft. (Length of Exfiltration Trench Provided)



Subcat Reach Pond Link

Routing Diagram for PROPOSED CONDITIONS-Peters Road
Prepared by Grace Engineering LLC, Printed 9/23/2021

Summary for Subcatchment 1S: Rainfall

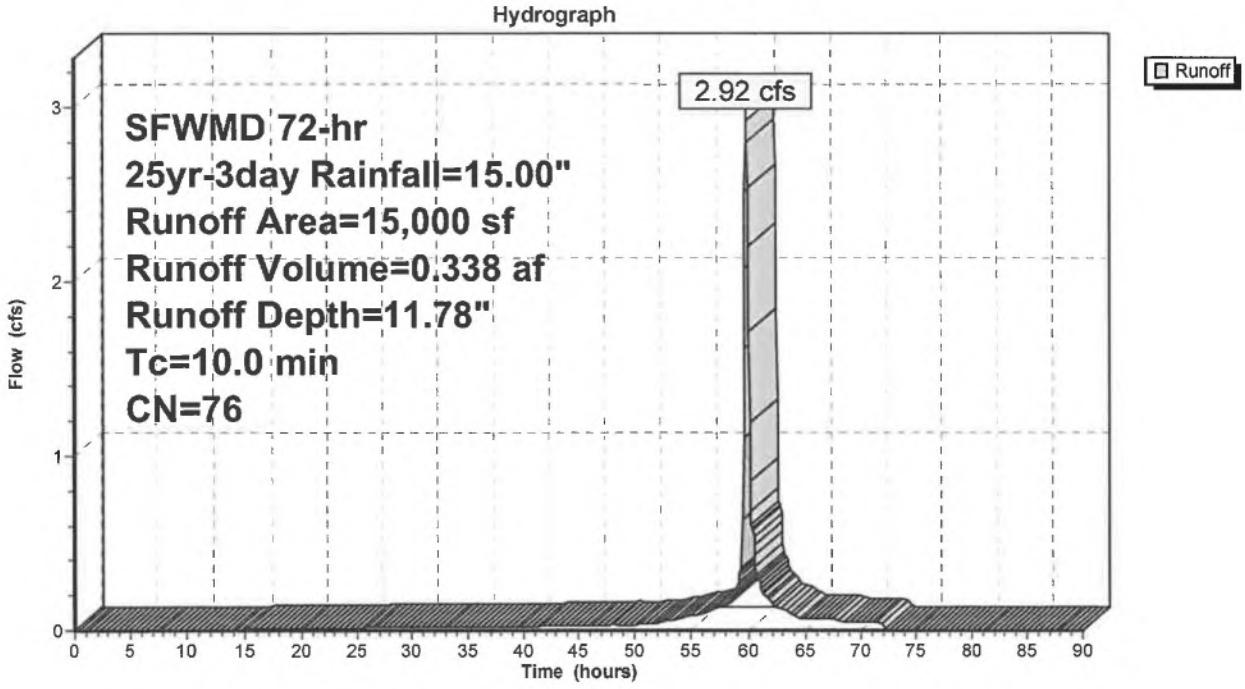
Runoff = 2.92 cfs @ 59.90 hrs, Volume= 0.338 af, Depth=11.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.05 hrs
SFWMD 72-hr 25yr-3day Rainfall=15.00"

	Area (sf)	CN	Description
*	9,302	98	Pavement & Roof
	5,698	39	>75% Grass cover, Good, HSG A
	15,000	76	Weighted Average
	5,698		37.99% Pervious Area
	9,302		62.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: Rainfall



Hydrograph for Subcatchment 1S: Rainfall

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	53.00	4.65	2.25	0.06
1.00	0.07	0.00	0.00	54.00	4.88	2.44	0.07
2.00	0.13	0.00	0.00	55.00	5.16	2.66	0.08
3.00	0.20	0.00	0.00	56.00	5.48	2.93	0.10
4.00	0.27	0.00	0.00	57.00	5.86	3.26	0.12
5.00	0.34	0.00	0.00	58.00	6.31	3.65	0.14
6.00	0.40	0.00	0.00	59.00	6.93	4.20	**0.23**
7.00	0.47	0.00	0.00	60.00	11.20	8.14	**2.54**
8.00	0.54	0.00	0.00	61.00	12.43	9.31	0.28
9.00	0.61	0.00	0.00	62.00	12.99	9.85	0.17
10.00	0.67	0.00	0.00	63.00	13.37	10.21	0.12
11.00	0.74	0.00	0.00	64.00	13.68	10.50	0.09
12.00	0.81	0.01	0.00	65.00	13.87	10.69	0.07
13.00	0.88	0.02	0.00	66.00	14.07	10.88	0.07
14.00	0.95	0.03	0.00	67.00	14.27	11.08	0.07
15.00	1.01	0.04	0.00	68.00	14.47	11.27	0.06
16.00	1.08	0.06	0.01	69.00	14.60	11.40	0.04
17.00	1.15	0.07	0.01	70.00	14.73	11.52	0.04
18.00	1.21	0.09	0.01	71.00	14.87	11.65	0.04
19.00	1.28	0.11	0.01	72.00	**15.00**	**11.78**	0.04
20.00	1.35	0.13	0.01	73.00	15.00	11.78	0.00
21.00	1.42	0.16	0.01	74.00	15.00	11.78	0.00
22.00	1.48	0.18	0.01	75.00	15.00	11.78	0.00
23.00	1.55	0.21	0.01	76.00	15.00	11.78	0.00
24.00	1.62	0.24	0.01	77.00	15.00	11.78	0.00
25.00	1.70	0.27	0.01	78.00	15.00	11.78	0.00
26.00	1.79	0.31	0.01	79.00	15.00	11.78	0.00
27.00	1.88	0.36	0.02	80.00	15.00	11.78	0.00
28.00	1.98	0.40	0.02	81.00	15.00	11.78	0.00
29.00	2.08	0.46	0.02	82.00	15.00	11.78	0.00
30.00	2.19	0.51	0.02	83.00	15.00	11.78	0.00
31.00	2.29	0.57	0.02	84.00	15.00	11.78	0.00
32.00	2.39	0.63	0.02	85.00	15.00	11.78	0.00
33.00	2.49	0.69	0.02	86.00	15.00	11.78	0.00
34.00	2.59	0.75	0.02	87.00	15.00	11.78	0.00
35.00	2.68	0.81	0.02	88.00	15.00	11.78	0.00
36.00	2.78	0.87	0.02	89.00	15.00	11.78	0.00
37.00	2.88	0.93	0.02	90.00	15.00	11.78	0.00
38.00	2.98	1.00	0.02				
39.00	3.07	1.06	0.02				
40.00	3.17	1.13	0.02				
41.00	3.27	1.20	0.02				
42.00	3.37	1.27	0.02				
43.00	3.46	1.34	0.02				
44.00	3.56	1.41	0.02				
45.00	3.66	1.48	0.02				
46.00	3.76	1.55	0.03				
47.00	3.85	1.63	0.03				
48.00	3.95	1.70	0.03				
49.00	4.07	1.79	0.03				
50.00	4.18	1.88	0.03				
51.00	4.31	1.98	0.04				
52.00	4.46	2.10	0.04				

Summary for Pond 2P: Storage

Inflow Area = 0.344 ac, 62.01% Impervious, Inflow Depth = 11.78" for 25yr-3day event
Inflow = 2.92 cfs @ 59.90 hrs, Volume= 0.338 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.05 hrs
Peak Elev= 11.54' @ 72.60 hrs Surf.Area= 9,668 sf Storage= 14,729 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

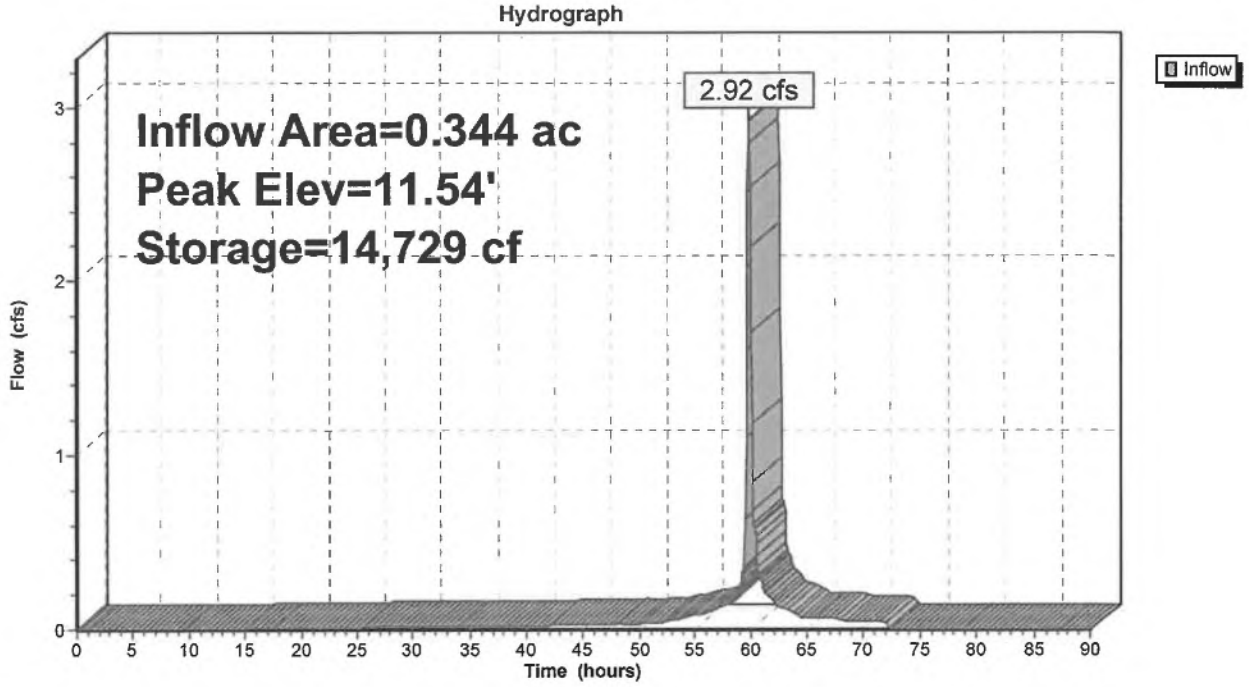
Volume	Invert	Avail.Storage	Storage Description
#1	10.50'	3,624 cf	**Parking Lot (Prismatic)**Listed below (Recalc)
#2	10.50'	7,123 cf	**Landscape Area (Prismatic)**Listed below (Recalc)
#3	6.50'	9,692 cf	**Exfiltration Trench**Listed below
		20,438 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.50	0	0	0
11.65	6,302	3,624	3,624

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.50	0	0	0
12.00	5,698	4,274	4,274
12.50	5,698	2,849	7,123

Elevation (feet)	Cum.Store (cubic-feet)
6.50	0
10.50	9,692

Pond 2P: Storage



Hydrograph for Pond 2P: Storage

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)
0.00	0.00	0	6.50
1.00	0.00	0	6.50
2.00	0.00	0	6.50
3.00	0.00	0	6.50
4.00	0.00	0	6.50
5.00	0.00	0	6.50
6.00	0.00	0	6.50
7.00	0.00	0	6.50
8.00	0.00	0	6.50
9.00	0.00	0	6.50
10.00	0.00	0	6.50
11.00	0.00	4	6.50
12.00	0.00	11	6.50
13.00	0.00	20	6.51
14.00	0.00	33	6.51
15.00	0.00	49	6.52
16.00	0.01	67	6.53
17.00	0.01	87	6.54
18.00	0.01	110	6.55
19.00	0.01	135	6.56
20.00	0.01	162	6.57
21.00	0.01	191	6.58
22.00	0.01	222	6.59
23.00	0.01	255	6.61
24.00	0.01	289	6.62
25.00	0.01	333	6.64
26.00	0.01	384	6.66
27.00	0.02	440	6.68
28.00	0.02	501	6.71
29.00	0.02	566	6.73
30.00	0.02	636	6.76
31.00	0.02	710	6.79
32.00	0.02	781	6.82
33.00	0.02	853	6.85
34.00	0.02	927	6.88
35.00	0.02	1,003	6.91
36.00	0.02	1,081	6.95
37.00	0.02	1,160	6.98
38.00	0.02	1,241	7.01
39.00	0.02	1,323	7.05
40.00	0.02	1,407	7.08
41.00	0.02	1,491	7.12
42.00	0.02	1,578	7.15
43.00	0.02	1,665	7.19
44.00	0.02	1,753	7.22
45.00	0.02	1,843	7.26
46.00	0.03	1,933	7.30
47.00	0.03	2,025	7.34
48.00	0.03	2,117	7.37
49.00	0.03	2,228	7.42
50.00	0.03	2,335	7.46
51.00	0.04	2,463	7.52
52.00	0.04	2,604	7.57
53.00	0.06	2,787	7.65
54.00	0.07	3,012	7.74
55.00	0.08	3,289	7.86
56.00	0.10	3,616	7.99
57.00	0.12	4,016	8.16
58.00	0.14	4,491	8.35
59.00	**0.23**	5,120	8.61
60.00	**2.54**	8,971	10.20
61.00	0.28	11,485	11.12
62.00	0.17	12,218	11.24
63.00	0.12	12,699	11.30
64.00	0.09	13,081	11.35
65.00	0.07	13,333	11.39
66.00	0.07	13,571	11.41
67.00	0.07	13,812	11.44
68.00	0.06	14,056	11.47
69.00	0.04	14,224	11.49
70.00	0.04	14,384	11.51
71.00	0.04	14,543	11.52
72.00	0.04	**14,703**	**11.54**
73.00	0.00	**14,729**	**11.54**
74.00	0.00	14,729	11.54
75.00	0.00	14,729	11.54
76.00	0.00	14,729	11.54
77.00	0.00	14,729	11.54
78.00	0.00	14,729	11.54
79.00	0.00	14,729	11.54
80.00	0.00	14,729	11.54
81.00	0.00	14,729	11.54
82.00	0.00	14,729	11.54
83.00	0.00	14,729	11.54
84.00	0.00	14,729	11.54
85.00	0.00	14,729	11.54
86.00	0.00	14,729	11.54
87.00	0.00	14,729	11.54
88.00	0.00	14,729	11.54
89.00	0.00	14,729	11.54
90.00	0.00	14,729	11.54

Summary for Subcatchment 1S: Rainfall

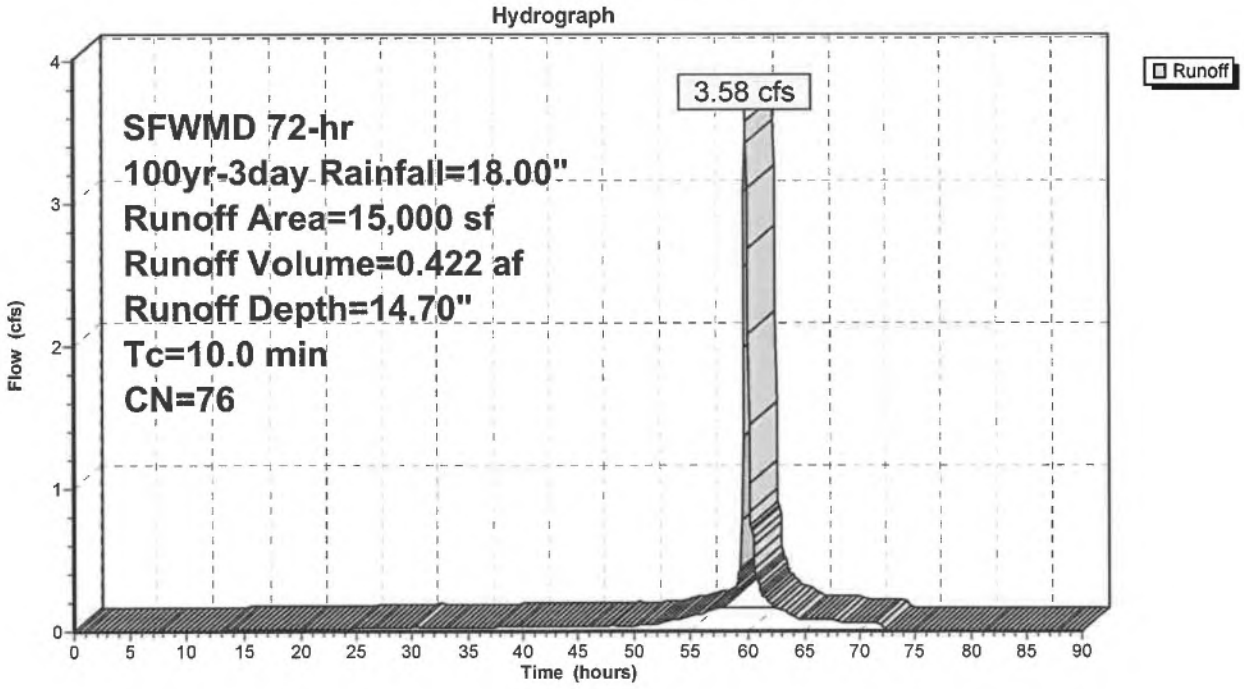
Runoff = 3.58 cfs @ 59.89 hrs, Volume= 0.422 af, Depth=14.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-90.00 hrs, dt= 0.05 hrs
SFWMD 72-hr 100yr-3day Rainfall=18.00"

	Area (sf)	CN	Description
*	9,302	98	Pavement & Roof
	5,698	39	>75% Grass cover, Good, HSG A
	15,000	76	Weighted Average
	5,698		37.99% Pervious Area
	9,302		62.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 1S: Rainfall



Hydrograph for Subcatchment 1S: Rainfall

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.16	0.00	0.00
3.00	0.24	0.00	0.00
4.00	0.32	0.00	0.00
5.00	0.41	0.00	0.00
6.00	0.49	0.00	0.00
7.00	0.57	0.00	0.00
8.00	0.65	0.00	0.00
9.00	0.73	0.00	0.00
10.00	0.81	0.01	0.00
11.00	0.89	0.02	0.00
12.00	0.97	0.03	0.01
13.00	1.05	0.05	0.01
14.00	1.13	0.07	0.01
15.00	1.21	0.09	0.01
16.00	1.30	0.12	0.01
17.00	1.38	0.14	0.01
18.00	1.46	0.17	0.01
19.00	1.54	0.20	0.01
20.00	1.62	0.24	0.01
21.00	1.70	0.27	0.01
22.00	1.78	0.31	0.01
23.00	1.86	0.35	0.01
24.00	1.94	0.39	0.01
25.00	2.04	0.43	0.02
26.00	2.15	0.49	0.02
27.00	2.26	0.55	0.02
28.00	2.38	0.62	0.02
29.00	2.50	0.69	0.03
30.00	2.63	0.77	0.03
31.00	2.75	0.85	0.03
32.00	2.87	0.93	0.03
33.00	2.99	1.01	0.03
34.00	3.10	1.09	0.03
35.00	3.22	1.17	0.03
36.00	3.34	1.25	0.03
37.00	3.45	1.33	0.03
38.00	3.57	1.42	0.03
39.00	3.69	1.50	0.03
40.00	3.81	1.59	0.03
41.00	3.92	1.68	0.03
42.00	4.04	1.77	0.03
43.00	4.16	1.86	0.03
44.00	4.27	1.95	0.03
45.00	4.39	2.04	0.03
46.00	4.51	2.14	0.03
47.00	4.62	2.23	0.03
48.00	4.74	2.32	0.03
49.00	4.88	2.44	0.04
50.00	5.02	2.55	0.04
51.00	5.18	2.68	0.05
52.00	5.35	2.83	0.05
53.00	5.58	3.02	0.07
54.00	5.86	3.26	0.09
55.00	6.19	3.54	0.11
56.00	6.57	3.88	0.12
57.00	7.04	4.29	0.15
58.00	7.58	4.78	0.18
59.00	8.32	5.45	**0.28**
60.00	13.44	10.28	**3.10**
61.00	14.91	11.70	0.34
62.00	15.59	12.35	0.21
63.00	16.04	12.79	0.14
64.00	16.41	13.15	0.11
65.00	16.65	13.38	0.08
66.00	16.89	13.61	0.08
67.00	17.13	13.84	0.08
68.00	17.36	14.08	0.07
69.00	17.52	14.23	0.05
70.00	17.68	14.39	0.05
71.00	17.84	14.54	0.05
72.00	**18.00**	**14.70**	0.05
73.00	18.00	14.70	0.00
74.00	18.00	14.70	0.00
75.00	18.00	14.70	0.00
76.00	18.00	14.70	0.00
77.00	18.00	14.70	0.00
78.00	18.00	14.70	0.00
79.00	18.00	14.70	0.00
80.00	18.00	14.70	0.00
81.00	18.00	14.70	0.00
82.00	18.00	14.70	0.00
83.00	18.00	14.70	0.00
84.00	18.00	14.70	0.00
85.00	18.00	14.70	0.00
86.00	18.00	14.70	0.00
87.00	18.00	14.70	0.00
88.00	18.00	14.70	0.00
89.00	18.00	14.70	0.00
90.00	18.00	14.70	0.00

Summary for Pond 2P: Storage

Inflow Area = 0.344 ac, 62.01% Impervious, Inflow Depth = 14.70" for 100yr-3day event
Inflow = 3.58 cfs @ 59.89 hrs, Volume= 0.422 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-90.00 hrs, dt= 0.05 hrs
Peak Elev= 12.14' @ 72.60 hrs Surf.Area= 12,000 sf Storage= 18,377 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

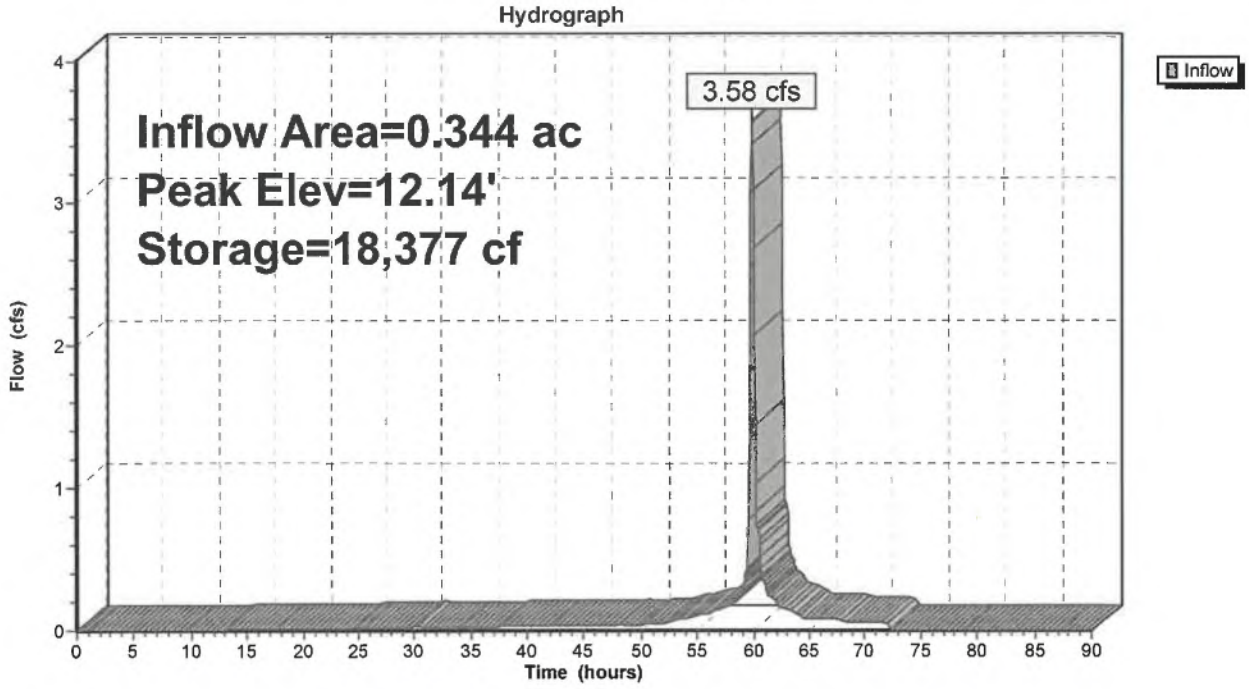
Volume	Invert	Avail.Storage	Storage Description
#1	10.50'	3,624 cf	**Parking Lot (Prismatic)**Listed below (Recalc)
#2	10.50'	7,123 cf	**Landscape Area (Prismatic)**Listed below (Recalc)
#3	6.50'	9,692 cf	**Exfiltration Trench** Listed below
		20,438 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.50	0	0	0
11.65	6,302	3,624	3,624

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.50	0	0	0
12.00	5,698	4,274	4,274
12.50	5,698	2,849	7,123

Elevation (feet)	Cum.Store (cubic-feet)
6.50	0
10.50	9,692

Pond 2P: Storage



Hydrograph for Pond 2P: Storage

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)
0.00	0.00	0	6.50
1.00	0.00	0	6.50
2.00	0.00	0	6.50
3.00	0.00	0	6.50
4.00	0.00	0	6.50
5.00	0.00	0	6.50
6.00	0.00	0	6.50
7.00	0.00	0	6.50
8.00	0.00	0	6.50
9.00	0.00	3	6.50
10.00	0.00	10	6.50
11.00	0.00	22	6.51
12.00	0.01	39	6.52
13.00	0.01	59	6.52
14.00	0.01	82	6.53
15.00	0.01	109	6.55
16.00	0.01	139	6.56
17.00	0.01	173	6.57
18.00	0.01	208	6.59
19.00	0.01	247	6.60
20.00	0.01	288	6.62
21.00	0.01	331	6.64
22.00	0.01	377	6.66
23.00	0.01	424	6.68
24.00	0.01	474	6.70
25.00	0.02	537	6.72
26.00	0.02	609	6.75
27.00	0.02	687	6.78
28.00	0.02	771	6.82
29.00	0.03	861	6.86
30.00	0.03	957	6.89
31.00	0.03	1,057	6.94
32.00	0.03	1,152	6.98
33.00	0.03	1,249	7.02
34.00	0.03	1,348	7.06
35.00	0.03	1,449	7.10
36.00	0.03	1,551	7.14
37.00	0.03	1,656	7.18
38.00	0.03	1,762	7.23
39.00	0.03	1,869	7.27
40.00	0.03	1,978	7.32
41.00	0.03	2,089	7.36
42.00	0.03	2,200	7.41
43.00	0.03	2,313	7.45
44.00	0.03	2,427	7.50
45.00	0.03	2,542	7.55
46.00	0.03	2,658	7.60
47.00	0.03	2,775	7.65
48.00	0.03	2,893	7.69
49.00	0.04	3,035	7.75
50.00	0.04	3,172	7.81
51.00	0.05	3,334	7.88
52.00	0.05	3,513	7.95
53.00	0.07	3,744	8.05
54.00	0.09	4,028	8.16
55.00	0.11	4,376	8.31
56.00	0.12	4,786	8.48
57.00	0.15	5,285	8.68
58.00	0.18	5,877	8.93
59.00	**0.28**	6,655	9.25
60.00	**3.10**	11,382	11.10
61.00	0.34	14,443	11.51
62.00	0.21	15,333	11.60
63.00	0.14	15,917	11.67
64.00	0.11	16,380	11.77
65.00	0.08	16,686	11.83
66.00	0.08	16,975	11.89
67.00	0.08	17,266	11.94
68.00	0.07	17,562	12.00
69.00	0.05	17,766	12.03
70.00	0.05	17,959	12.06
71.00	0.05	18,152	12.10
72.00	0.05	**18,345**	**12.13**
73.00	0.00	**18,377**	**12.14**
74.00	0.00	18,377	12.14
75.00	0.00	18,377	12.14
76.00	0.00	18,377	12.14
77.00	0.00	18,377	12.14
78.00	0.00	18,377	12.14
79.00	0.00	18,377	12.14
80.00	0.00	18,377	12.14
81.00	0.00	18,377	12.14
82.00	0.00	18,377	12.14
83.00	0.00	18,377	12.14
84.00	0.00	18,377	12.14
85.00	0.00	18,377	12.14
86.00	0.00	18,377	12.14
87.00	0.00	18,377	12.14
88.00	0.00	18,377	12.14
89.00	0.00	18,377	12.14
90.00	0.00	18,377	12.14

DYNATECH ENGINEERING CORP.
WWW.DYNATECHENGINEERING.COM

Miami, September 21, 2021

Mr. Ken Allain
c/o William Romberg, Design Tech International
14125 NW 80th Avenue, Suite 303
Miami Lakes, FL 33016

Re: Proposed 3-Story Apartment Building @
4281 Peters Road
Plantation, FL 33317

Dear Mr. Allain:

Pursuant to your request, DYNATECH ENGINEERING CORP. (DEC) completed Percolation Tests on September 20, 2021 at the above referenced project. The purpose of our investigation was to help determine the hydraulic conductivity for storm drainage design.

The above hydraulic conductivity represents an ultimate value. The designer should decide on the required safety factor. This value is based on the existing soils at the location of the test. In the event the test location is changed or the soil removed and replaced; the test results will need to be re-evaluated.

Groundwater was measured immediately at the completion of each boring and was found at an average depth of approximately_7' below existing ground surface at the time of drilling. This immediate depth to groundwater level should not be relied upon alone for project design considerations. Existing ground surface elevation was not provided to us at the time of drilling. Design engineers must verify existing ground elevations as well as FEMA Flood and County highest and lowest groundwater elevation for their design. Fluctuation in water level is anticipated due to seasonal variations and run off as well as varying ground elevations construction dewatering and pumping activities in the area, king tides, flash flooding, storm surge and global warming. Site contractor must familiarize himself with site conditions in the event groundwater controls and dewatering is needed during construction. Surface flooding may result under hurricane conditions and should be taken into consideration in the design of the project. The contractor shall monitor and make sure that groundwater levels on adjacent properties are not adversely impacted due to the contractors dewatering activities. Specialty groundwater and water proofing contractors shall be consulted for all work below the groundwater level. All dewatering volume & effluent discharge must meet local, State & Federal requirements.

In case of existing structures, existing footings, new foundations and proposed drainage lines, provisions shall be made by the structural engineer, the civil engineer, and site contractor to protect all footings from future erosion, undermining and exposure. The geotechnical engineer shall be notified of these conditions to evaluate the applicability of his recommendations. The drainage system installation depth and dimension must be verified in the field during construction.

Re: 4281 Peters Road, Plantation, FL

This report was prepared in compliance with the 2020 Florida Building Code, 7th edition. Site elevations were not provided to us for the test locations. Depths reported on the field boring logs represent the depth below existing ground surface as they existed on the date of drilling. In the event of subsequent filling, excavations or site work, the reported depths must be adjusted to represent proper depths.

The boring log (s) attached present (s) a detailed description of the soils encountered at test location (s). The soil stratification shown on the boring log (s) is based on the examination of the recovered soil samples and interpretation of the driller's field log (s). It indicates only the approximate boundaries between soil types. The actual transitions between adjacent soil types may be gradual. Regardless of the thoroughness of a geotechnical exploration there is always the possibility that conditions may be different from those of the test locations; therefore, DYNATECH ENGINEERING CORP. does not guarantee any subsoil conditions between the bore test holes. In accepting and using this report the client understands and accepts that all data from the borings are strictly for foundation analysis only and are not to be used for excavation or back filling estimates and pricing. Owner and site contractor must familiarize themselves with site conditions prior to bidding. Client recognizes that actual conditions in areas not tested by DEC may differ from those anticipated in DEC's report. Client understands and accepts that this can significantly increase the cost of construction for its future projects. Client agrees that DEC shall not be responsible or liable for any variations in the actual conditions of areas not tested by DEC. This report is not a Phase I and/or Phase II Environmental Site Assessments. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user. Said user must contact DEC in writing to verify applicability of this report for their use. All work must be conducted under the supervision of our geotechnical engineer. The discovery of any site or subsurface conditions during construction which deviate from the information obtained from our subsoil investigation is always likely and should be reported to us for our evaluation. All work shall be conducted in compliance with the Florida Building Code FBC and OSHA workers protection rules and all applicable Federal, State, County and City rules and regulations. In the event, changes, challenges and other value engineering opportunities occur without our knowledge, our recommendations may become compromised and geotechnical related issues may be misconstrued. Therefore, all geotechnical work shall be performed under our supervision to verify compliance with the intent of our recommendations.

It has been a pleasure working with you and look forward to do so in the near future.

Sincerely yours,

Wissam Naamani, P. E.
DYNATECH ENGINEERING CORP.
Florida Reg. No. 39584
Special Inspector No. 757
Certificate of Authorization No.: CA 5491

"This item has been digitally signed and sealed by Wissam Saad Naamani, P.E. on the date adjacent to the seal using a IdenTrust authentication code. Printed copies of this document are not considered signed & sealed and the IdenTrust authentication code must be verified on any electronic copies".

PERCOLATION TESTS

DYNATECH ENGINEERING CORP.
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PERCOLATION TEST ACCORDING TO S.F.W.M.D.
D.O.T. STANDARD TEST

DATE	**: September 20, 2021**
CLIENT	**: MR. KEN ALLAIN c/o DESIGN TECH INTERNATIONAL**
PROJECT	**: Proposed 3-Story Apartment Building @**
PROJECT LOCATION	: 4281 Peters Road, Plantation, FL
LOCATION OF TEST	**: SAS**
DIAMETER OF HOLE	**: 7"**
TEST NO.	**: P-1**

TEST DEPTH (feet)	**0-10'**
AVERAGE FLOW (GPM)	**9.2**
AVERAGE K (CFS/Sq. Ft-Ft Head)	**3.11×10^{-4}**

*** The above hydraulic conductivity represents an ultimate value. The designer should decide on the required safety factor. This value is based on the existing soils at the location of the test.**

Water Table 7'-0" **Below existing ground surface.**

SUBSURFACE INVESTIGATION

Depth Below Ground Surface	Soil Description
0'-0" to 0'-6"	High vegetation and topsoil
0'-6" to 1'-6"	Gray medium sand
1'-6" to 4'-0"	Tan medium sand
4'-0" to 5'-0"	Brown medium sand
5'-0" to 10'-0"	Tan medium sand w/rock fragments

Field Tech: N.V.

Respectfully submitted,

Wissam Naamani, P. E.
DYNATECH ENGINEERING CORP.
Florida Reg. No. 39584
Certificate of Authorization No.: CA 5491

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DYNATECH ENGINEERING CORP.
WWW.DYNATECHENGINEERING.COM

PERCOLATION TEST ACCORDING TO S.F.W.M.D.
D.O.T. STANDARD TEST

DATE	**: September 20, 2021**
CLIENT	**: MR. KEN ALLAIN c/o DESIGN TECH INTERNATIONAL**
PROJECT	**: Proposed 3-Story Apartment Building @**
PROJECT LOCATION	: 4281 Peters Road, Plantation, FL
LOCATION OF TEST	**: SAS**
DIAMETER OF HOLE	**: 7"**
TEST NO.	**: P-2**

TEST DEPTH (feet)	**0-10'**
AVERAGE FLOW (GPM)	**9.4**
AVERAGE K (CFS/Sq. Ft-Ft Head)	**3.18×10^{-4}**

*** The above hydraulic conductivity represents an ultimate value. The designer should decide on the required safety factor. This value is based on the existing soils at the location of the test.**

Water Table 7'-0" **Below existing ground surface.**

SUBSURFACE INVESTIGATION

Depth Below Ground Surface	Soil Description
0'-0" to 1'-0"	High vegetation, topsoil and construction debris
1'-0" to 2'-6"	Dark gray medium sand w/roots
2'-6" to 3'-6"	Dark brown medium sand
3'-6" to 4'-6"	Brown medium sand
4'-6" to 5'-0"	Light medium sand
5'-0" to 10'-0"	Tan medium sand w/rock fragments

Field Tech: N.V.

WISSAM SAAD NAAMANI LICENSE No. 39584 STATE OF FLORIDA PROFESSIONAL ENGINEER

Respectfully submitted,

Wissam Naamani, P. E.
DYNATECH ENGINEERING CORP.
Florida Reg. No. 39584
Certificate of Authorization No.: CA 5491

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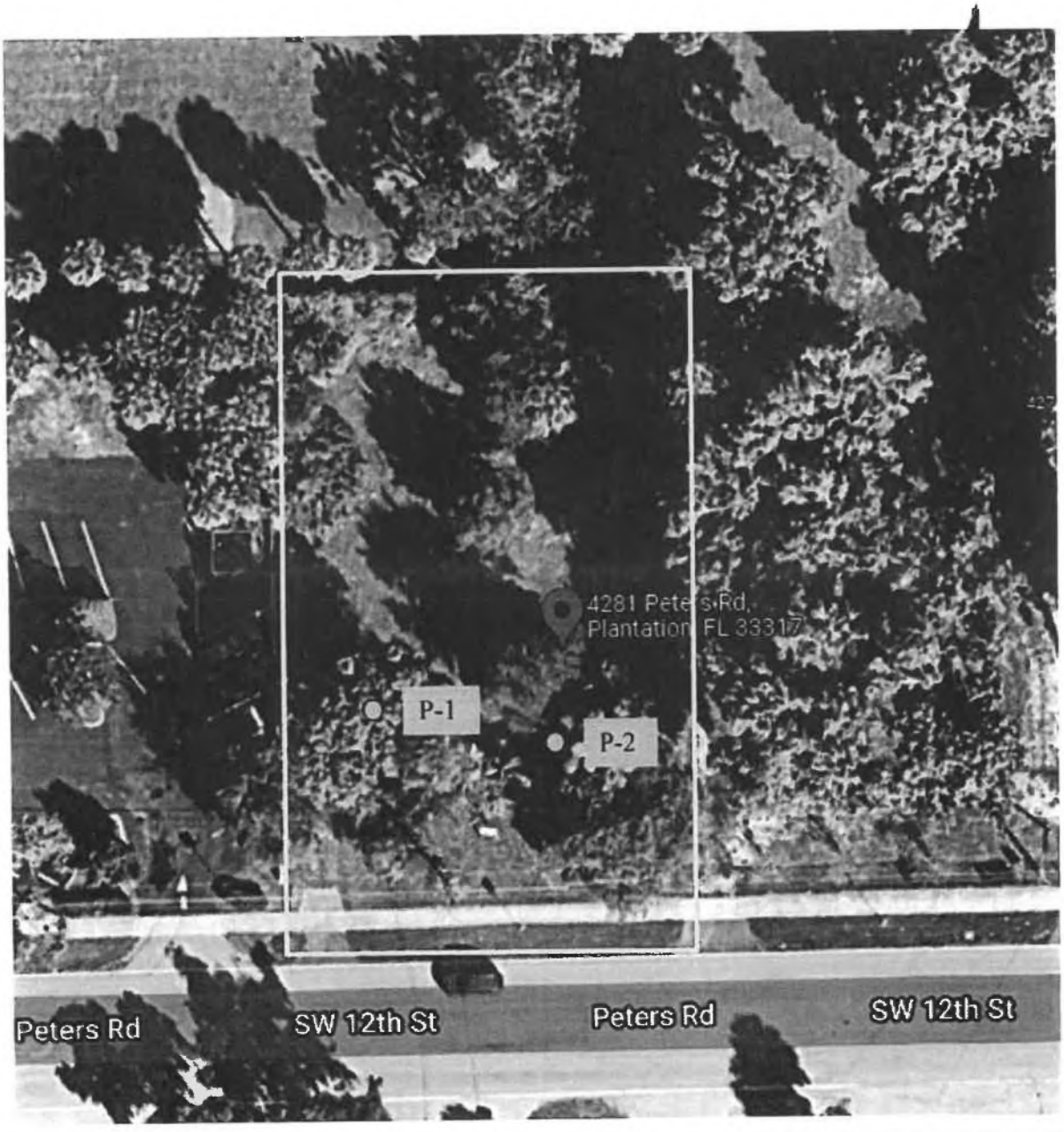
SITE PLAN

○ P-# : Percolation Test Location

N



DYNATECH ENGINEERING CORP.	
Client: Mr. Ken Allain	Scale: N.T.S.
Project: 4281 Peters Road, Miami, FL 33317	Date: September 21, 2021

Law Offices
COKER & FEINER
1404 South Andrews Avenue
Fort Lauderdale, FL 33316-1840

Telephone: (954) 761-3636
Facsimile: (954) 761-1818

Richard G. Coker, Jr., P.A.
Rod A. Feiner
Kathryn R. Coker

rgcoker@coker-feiner.com
rafeiner@coker-feiner.com
krcoker@coker-feiner.com

September 23, 2021

Via Electronic Submittal

Ms. Gayle Easterling, AICP
City of Plantation, Planning & Zoning Department
401 NW 70th Terrace
Plantation, FL 33317

Re: Arkham Apartments
Response to Assignment of LAC Units, Site Plan Elevation and Landscape Plans
PP-21-0018
Response to Initial DRC Comments

Dear Ms. Easterling:

I hope that this finds you and the entire Staff at Plantation safe and well. The Applicant had previously submitted a request for allocation of LAC Units and a Site Plan for an 8 unit apartment complex at 4281 Peters Road. This application was reviewed by DRC and approved to move forward to Planning & Zoning Board provided that all the comments in the noted in the DRC were addressed.

All of the comments have been addressed in the attached submittal. One of the requirements, however, is to provide written responses to the DRC Comments. Please accept this letter as the written responses to the DRC comments. We have responded to each set of comments on a separate sheet to help facilitate review. We have listed the comment and then the response.

Thank you for your cooperation. We look forward to bringing this project to the City of Plantation.

Very Truly Yours,

/s/ Rod A. Feiner

ROD A. FEINER
For the Firm

\tms
Enclosures/Attachments

ZONING REVIEW

Planning & Zoning

In General

1. The applicant is required to provide written responses to policy considerations that the City will evaluate in its legislative review when deciding to enact an ordinance that allocates any residential units to a particular piece of property. Such criteria is set forth in Section 19-71(b)(1-11).

Response: Response to policy considerations contained in Section 19-71(b)(1-11) are attached hereto.

2. This request must undergo a local concurreny review for water, sewer, street, drainage and solid waste. The applicant must present the form to the appropriate City departments for sign off prior to Planning & Zoning Board approval.

Response: Form is attached and completed.

3. A written request for all waivers with justification, if necessary, must be included.

Response: No waivers are being requested with this application.

4. A trust account shall be set up for City Attorney review fees.

Response: Trust Account has been set up with the suggested deposit. See attached Letter and copy of check.

5. When responding to staff comments, please "bubble" any plan changes and specific page number corrected in written responses.

Response: Acknowledged and complied.

6. Provide entire submittal in pdf format, on a CD, flash drive or other means. Submittal shall be separated into folders (e.g. site plan, landscape, civil, etc.)

Response: Acknowledged, see attached flash drive or CD

7. Additional comments may be forthcoming based on resubmittal.

Response: Acknowledged.

Plat

8. A concurrent plat application is also in review. The plat must be recorded prior to issuance of the first development permit.

Response: Acknowledged.

Site Daae

9. Correct the Zoning District to reflect B-HC Gateway Hybrid Commercial.

Response: Acknowledged. See Sheet SP 1.0

10. Provide FAR on the Site Information Table.

Response: FAR has been provided. See Sheet SP 1.0.

Site Plan

11. Consider shifting the drive aisle and parking to the minimum east side setback (7' from back of curb to property line) to provide additional landscape area in the front of the building.

Response: Suggestion implements. See Sheet SP 1.0 as well as Sheets _____

12. Consider adding a double gated entry at the dog park (to prevent unleashed pets from exiting the area while another pet owner enters.

Response: Double gated entry provided. See Sheet SP 1.0.

13. Show the ground floor patio locations on the site plan as a solid line.

Response: Acknowledged and done. See Sheet SP 1.0

14. Provide a color site plan mounted on a 24x36 foam board with P&Z submittal.

Response: Provided

15. Provide a site plan overlaid on an aerial in color with next submittal.

Response: Provided. See Sheet SP 1.2

Floor Plans

16. Graphically show the sliding doors that lead out to the balconies. The floor plans appear to graphically indicate windows.

Response: Acknowledged and provided. See Sheet 1.0 and A 1.0

17. On Sheet A-1.0 indicate the square footage of the unit per code as "interior paint to paint." The minimum paint to paint size is 750 sq. ft. for a 1-bedroom. Increase size or request waiver.

Response: Size of the units have been increased to avoid waiver request. See Sheet A 1.0

Elevations

18. Consider adding an awning or brow above the sliding doors on the 3rd floor to provide shade/shelter to the patios on the east and north face of the building.

Response: The request was considered but the decision was made not to provide an awning. Because of the manner in which the sun and rain impact the balconies (angle of sun, raining sideways) the awning or concrete brow would not be effective.

19. Label the materials on the elevations and provide a material legend.

Response: Acknowledged and corrected. See Sheet A 2.0

20. Indicate the location of the air conditioning and other mechanical equipment. If on rooftop, show the equipment with a dashed line. Code requires screening of all rooftop equipment.

Response: Acknowledged and provided. See Sheet SP 1.0

21. Provide color, product, material samples for staff review with the P&Z submittal.

Response: Provided on color board.

Details

22. Provide an elevation and detail of the perimeter CBS wall.

Response: Provided. See Sheet SP 1.1

23. Provide the color and height of the aluminum picket fence along the front property line. Indicate where the fence begins and ends.

Response: Provided. See Sheet SP 1.1

24. Provide dumpster enclosure details.

Response: Provided and accessibility has been confirmed with Waste Management. See Sheet SP 1.0 and SP 1.1

Lighting

25. Extend the lighting levels on the photometric plan to include the dog park area.

Response: Provided. See Sheet PH-1

26. Provide wall mounted and pole fixture type and details.

Response: Provided. See cut sheets for fixtures and poles

Signage

27. Section 27-173 permits multifamily residential one double faced ground sign when associated with an entry feature. Show location if proposed.

Response: Ground signage is not proposed at the current time.

28. Signage is not part of this review.

Response: Acknowledged.

COMMUNITY REDEVLEOPMENT AGENCY (CRA)

1. The proposed project is consistent with the CRA master plan in that it would redeveloped an existing property and improve the aesthetics within the Plantation Gateway Development District.

Response: None required.

2. The property may be eligible to participate in the Plantation Gateway Façade Improvement Grant Program.

Response: Thank you. This will be investigated before City Council review and the elevations updated accordingly.

LANDSCAPE

In General

- The applicant may be required to execute a developer agreement and post security for all engineering and landscaping related improvements at time of permitting.

Response: Acknowledged and understood.

- This review is preliminary. Full landscape plan & approval is required at time of permitting.

Response: Acknowledge and understood.

Site Plan

1. Contact Mr. Indyli Brown, Environmental Landscape Division Supervisor to request the new Article X — Landscape Standards (PDF) to appropriately update the Landscape Plans. Email: ibrown@plantation.org

   Response: New code received and implemented.

a) For example: Sec. 27-254(22) Shade Trees shall be a minimum height of twelve (12) feet overall, a minimum spread of six (6) feet, and minimum caliper of 2.5 inches at time of installation.

Response: Tree sizes were modified per updated Code; See Sheet L-1

2. Please Identify each Tree group on sheet# L-1 with a "Plant ID" Tag showing Tree Abbreviation and Quantity which should correspond with the Landscape Tree List.

Response: Acknowledged and added. See Sheet L-1

3. Create an "Abbreviation" column within the Landscape "Tree List" to add abbreviations for each proposed tree

Response: Abbreviation column has been added. See Sheet L-1.

4. Create an "Abbreviation" column for the "Shrubs and Groundcovers" where the abbreviations can be relocated from the "Symbol" column. Then, add the symbols from the Plans for each Shrub and Groundcover respectively.

Response: Symbols added as per request. See Sheet L-1.

5. Pursuant Sec. 27-265 Tree Protection During Development:

a) Please add Tree Protection for all Existing Trees to remain on sheet# TD-1

Response. Acknowledged and implemented; See Sheet TD-1

b) Contact Mr. Indyli Brown for a Tree Protection Detail that you can affix to the Tree Disposition in addiction to clearly indicating trees to be protected on the plans.

Response: Added to Sheet TD-1.

6. Pursuant Sec. 27-262(a) Staff suggest to consider relocating any tree and(or) palm proposed for removal if they have a sustainable vigor, justified by an ISA Certified Arborist with corresponding the Condition Percentage (%) column within "Existing Tree Schedule" on sheet# TD-1.

a) Please be Advised: For the purpose of Public Works- Environmental Landscape Di-vision Tree Removal/ Relocation permit which is outside of the scope of the Building Department permit you will need to again adhere the following code reference:

Sec. 27-262(a) Tree Removal — All properties: "In the evaluation of a tree removal permit, all attempts shall be made to preserve, relocate, and(or) protect trees in lieu of replacement and(or) payment into the tree trust fund."

Response: The trees needed to be removed due to significant development.

7. Provide a dedicated "Landscape Elevations" sheet to show all facades with vegetations, Tree and(or) palms with Five-year growth lines for tree/palms.

Response: 5-year growth elevations were added to the drawing set.

8. Please adhere to Bufferyard width requirements on Table 255-1 of Sec. 27-255(b)(7)

a) Adequate waiver will be required if Site proposal does not suffice.

Response: Acknowledged and implemented. See Sheet L-1

Planting Plan

1. Please state the species of ALL existing trees on sheet# TD-1 within "Existing Tree Schedule"

a) Please utilize the specific Common name and add the Botanical name for ALL tree and palms.

Response: Existing landscape has been updated with arborist information. See Sheet TD-1

2. Please add a Condition percentage (%) column for ALL Existing trees within "Existing Tree Schedule" on sheet# TD-1.

Response: A condition percentage has been added to the legend. See, Sheet TD-1.

3. Please be Advised: ISA tree values are required for all trees/palms proposed for removal and/or relocation. Add a Tree Value column within the "Existing Tree Schedule" to show monetary value of removal and or relocated trees.

a) Please be Advised: Attach a copy of the Table and Tree Disposition to the Tree Removal Permit application submitted directly to Public Works — Environmental Landscape Division.

Response: ISA tree values have been added to the scheduled, See Sheet TD-1.

4. Reposition the trunks of the proposed Oak trees at least 5' distance from the sidewalk for sustainability.

Response: Oak trees have been adjusted to be 5 feet from the sidewalk. See Sheet L-1

5. Please propose Root Barriers along any infrastructure or walkway not governed by an adjacent Type "D" curb.

a) Pursuant Sec. 27-254(10) All shade trees installed within fifteen (15) feet of public infrastructure shall utilize a Root Barrier system, as approved by the city.

b) Pursuant Sec. 27-251 Root Barrier shall mean a mechanical guide that redirects tree roots down and away from hardscapes to prevent root damage. Barriers shall be:

1. Panel 0.085 Thick polypropylene
2. Zipper Joint System
3. Rounded edges
4. 24" depth
5. Anti-lift pads

Response: Deep root barriers have been added to the plans. See Sheet L-1 for location and Sheet L-2 for details.

6. Please affix a Root Barrier Detail on sheet# L-2 "Landscape Details".

Response: Root barrier detail has been added. See Sheet L-2

7. Staff requires correcting the height of the proposed "CG" around Dumpster enclosure to 4'.

a) A change of species may be needed.

Response: Clusias have been changed to match the 4' requirements. See Sheet L-1, landscape list.

8. Pursuant Sec. 27-254 Please light pole 15' clearance radius on sheet L-1 to adhere to code and verify proposed tree canopy will not be in conflict.

Response: Clearance around light poles have been added, there are no conflicts with trees.

9. Please adhere to LPZ Planting requirements pursuant Sec. 27-255(d)(5) One shade tree (or group of three palm), 15 shrubs, and 40 groundcover plants are required every 30 lineal feet of the Landscape pedestrian zone.

Response: LPZ legend has been added to show fulfillment of requirements. See Sheet L-1.

10. Please adhere to Shade trees dimension requirements pursuant the building height for LPZ planting using Table 255-3 of Sec. 27-255(d)(6).

a) Buildings up to 26'-36' height require, 30% Palms to extend over roofline, Tree Heights: 14', Distance: 7' from Building.

b) Adequate waiver will be required if Landscape proposal does not suffice.

Response: Specifications have been changed to match requirements of Code. See Sheet L-1

11. Please adhere to LPZ width pursuant the building height pursuant Sec. 27-255(d)(2)

a) The width of the landscape pedestrian zone shall be 50 percent of the height of the building or 10 feet, whichever is greater. Height for this purpose shall be measured to the top of the parapet wall or one-half of the roof height for a pitched roof. Façade heights: East 30.5', North 29.3', South 30.5', West 29.3'

b) Adequate waiver will be required if Landscape proposal does not suffice.

Response: LPZ width matches requirement of Code. See Sheet L01 for dimension.

12. Please correct Second line of "Planting Notes" on sheet# L-3 to state ONLY Melaleuca, Eucalyptus or Recycled mulch will be applied.

Response: Planting notes have been adjusted. See Sheet L-3.

13. Staff recommends revising the Last line of "Planting Note" on sheet# L-3 as our soils in the City of Plantation lack certain elements; however, Phosphorus is in excess. Your note should state the following: "A site soil analysis will be conducted and the corresponding Fertilization Schedule will be posted within the Landscape Notes prior to Permitting."

Response: Planting notes have been adjusted. See Sheet L-3.

14. Please show all above ground equipment and its respective landscape screening on Landscape Plans if applicable.

Response: Base plans have been coordinated between architect and landscape architect and all structures are shown on landscape plans

ENGINEERING

1. Please provide surface water license approval from Broward County.

Response: The project has been submitted to Broward County for a Surface Water License and the License will be provided at time of permitting.

2. Provide drainage calculations.

Response: Drainage calculations attached.

3. Paving, Grading and Drainage (PGD) plan does not show roof drain connections to system (if being utilized).

Response: Roof drain connections have been added to the PGD Plan. See Sheet C-2.

4. PGD Plan does not grading. Please provide detailed existing and proposed grades on the PGD Plans.

Response: The PGD Plan has been upgraded to include this information. See Sheet C-2.

5. PGD POLan does not show connection to offsite drainage system (if applicable).

Response: An offsite drainage connection or system is not proposed.

6. A Surface Water Pollution Prevention Plan (SWPPP) will need to be provided at time of permitting.

Response: Acknowledged. However, a proposed SWPPP Plan has been added to Sheet C-4.

7. Provide approval letter from Waste Management stating they will be able to pick up dumpster without roll-out.

Response: According to Mr. Andrew Kandy of Waste Management, the plan is approved and a letter was sent directly to the City of Plantation on or about July 13, 2021. See Mr. Kandy's e-mail of that date.

8. Location of ADA parking and access maybe better served and provide a safer route at different locations.

Response: We believe to the contrary and have not changed the ADA parking space.

9. Provide dumpster enclosure details.

Response: Provided. See Sheet SP 1.1.

10. Sidewalk shall not continue through driveway, but shall maintain standard sidewalk grading throughout that section.

Response: Acknowledged and implemented. The sidewalk has been removed from the driveway, but the standard grading is maintained. See Sheet C-2.

11. ADA truncated dome mats to be installed in sidewalk on each side of driveway.

Response: Acknowledged. See Sheet C-1.

12. Directions Arrows are not required for pavement markings.

Response: Directional arrows have been removed.

13. Provide signage on pavement marking and signage plan.

Response: Acknowledged. See Sheet C-1

14. No Parking signage will be required at North end of parking lot.

Response: Added. See Sheet C-1.

15. With parking count low, please provide reasons for the "parking is first come first served."

Response: This comment was made at the suggestion of City Zoning Staff. Units do not have reserved parking spaces at this project, even though some parking spaces might be located nearer to the Unit. This clarifies the intent that there are no reserved parking spaces.

FIRE

No objections as to this Site, Elevation and Landscape Plan approval with the understanding that the applicant and/or owner are aware of the following City of Plantation Fire Department comments (Numbered 1-11) and will comply with each comment by affirming in written plan and/or plan submittal.

Response: Acknowledged and the applicant/owner will comply with each comment (numbered 1-11) at the time of permitting.

POLICE

1. I did not see a specific description of the picket fence. The fence should be constructed similar to the fence pictured below. Note the decorative top without a flat rail. This type of fence is also referred over a concrete wall.

Response: Detail has been provided. See Sheet SP 1.1

2. There is no Dog Park Rules or signage included in the plans. There is no mention of the hours the park is open. A photometric survey must be submitted for the Dog Park. The recreation areas require 2-3 footcandles while in operation, if the park will be open at night. The lighting can be lowered to one footcandle when the park is closed. Also, please include a table that summarizes the total calculations to provide information to the reviewer.

Response: The photometric plan has been extended to include the dog park. See Sheet PH-1 for the calculation summary.

3. The photometric survey for the parking lot is acceptable.

Response. Acknowledged.

Utilities

1. To provide sewer service to this site as shown on the plans, the City of Plantation must enter in an Interlocal Agreement with Broward County. Broward County contact is Jeremy Seiden.

Response: Acknowledged. The Owner/Applicant has already contacted Jeremy Seiden at Broward County Utilities and there is both sufficient capacity and an already existing framework to accommodate the drainage. See e-mail between Owner/Applicant's Attorney and Mr. Seiden attached hereto.

2. Water capacities shall be paid to Plantation Utilities, Sewer capacities will be due to Broward County.

Response: Acknowledged.

3. Domestic and irrigation services must be fed independently for the proposed fire services.

Response: Acknowledged. See Sheet C-3

4. Proponent must agree to all on and offsite improvements needed to support the development of this project. Thus will include design, funding, permitting and installation and conveyance to the City of Plantation.

Response: Acknowledged and agreed.

5. This review is preliminary and considered conceptual. Final comments will be provided at the time of permitting.

Response: Acknowledged and understood.

6. Additional pre-design meetings is required with the Utilities Department.

Response: Understood, this will be done before submittal of building permits.

7. A trust account must be maintained with Utilities during the entire project.

Response: Acknowledged.

8. Office and onsite improvements and equipment may be required at proponent's expense to support the project.

Response: Acknowledged, understood and agreed. This will be resolved at permitting.

9. Provide plan for vacating easements as necessary.

Response: No easements need to be vacated to support this project.

10. Show all new and existing water and sewer lines and easements on landscaping and drainage plans.

Response: Acknowledged and implemented. See Sheet C-2 and landscape plan

11. Maintain all utilities and utility easements for water and wastewater system access.

Response: Acknowledged. However, no existing or proposed utility easements, all public utilities will be in the right-of-way.

12. Full Utilities plan review and approval are required prior to permitting.

Response: Acknowledged.

13. No structures are allowed to be installed in Utility easements.

Response: Acknowledged.

14. Prior to Building Permit or Occupational License the following comments must be addressed

Response. Acknowledged and the 6 bullet points comments will be addressed prior to building permit issuance.

SATISFACTION OF ALLOCATION OF UNITS CRITERIA

1. Whether there is a change in population, socio-economic factors, or physical development of property near or affecting the subject property, which change was unforeseen or unanticipated, and which change has created a present problem or opportunity that justifies utilizing any portion of the LAC residential unit allowance.

There has been a changing in socio-economic factors as well as physical development of property near or affecting the subject site which justifies utilizing the LAC residential unit allowance. The property is near the US 441 corridor and is just north of the Hard Rock Hotel/Casino.

US 441 was always a major thoroughfare throughout Broward County. Recently, however, many members of the younger workforce are travelling to their work utilizing either rideshare or public transportation. The socio-economic factors of the younger workforce show that they have little desire to own a car or other vehicle. Thus, these members of the workforce want to be situated near a major thoroughfare where public transportation is near and readily available. In addition, the younger workforce desire a their amenities to be located within walking distance of their residence. US 441 provides the amenities for this younger workforce.

The proposed project is comprised of 8 one-bedroom units. The project was specifically designed by the younger workforce who want to utilize the nearby US 441 corridor and public transportation/ride sharing for their transportation. It was also anticipated that the majority of the renters of these units would be working along the nearby US 441 corridor in association with the development of the new employment opportunities that would arise from the development of the Hard Rock Hotel and the associated projects.

There has also been a change in physical development. The Hard Rock Hotel has opened and expanded south of property. That property, and proposed surrounding development that will become associated with that property over the next 5-15 years, has impacted the surrounding properties. In light of the development of the Hard Rock Hotel it is anticipated that many new jobs will be created at either the Hard Rock Hotel or the uses which are developed around the Hard Rock Hotel. This development increases the need for residential property near US 441 so members of the workforce can easily commute to and from their place of employment.

2. Whether the project as proposed offers significant benefits not otherwise available to the city (for example, does the planning, design, and development of the property exceed the minimum otherwise required land development requirements in terms of reserving appropriate open space, development themes, taking advantage of natural and manmade conditions or environments, controlling pedestrian and vehicular traffic systems, substantially intensifying landscape or providing landscape contributions to the city, and improving or maintaining public infrastructure or giving the city a contribution in aide of infrastructure improvements or maintenance? Does the planning, design, and development of the property exceed setbacks and building separations? Is the planning, design, and development of the property compatible with

the size and scale [building height, mass, and elevations] of existing or planned surrounding and nearby buildings and structures? Does the planning, design, and development of the property meet many or all of the aspirational principles that govern site design considerations, and reflect an orderly and creative arrangement of buildings and land uses as appropriate?).

3. The extent to which the project contributes to the tax base, adds employment, and provides other positive economic impacts.

The project will contribute to the tax base of the City. The subject site is extremely small, especially after the dedication of the required right-of-way occurs. Currently the property is vacant land and due its small size it is not likely to be developed for a commercial purpose. A residential apartment complex will contribute to the tax base of the City and its assessed value will not be capped since it will not be subject to homestead exemption. The value of the property will continue to increase resulting in larger taxes paid to the City.

In addition, and as mentioned previously, it is anticipated that the majority of the residents in the City will be employed within the City or just south of the City limits. As a result thereof the residents of this project will use local businesses and thereby add to the positive economic impacts of local businesses in the City.

4. The extent to which the project impacts public services (e.g., fire, EMS, school, police, water, wastewater, stormwater, and other services), and generates negative secondary effects of odors, fumes, noise, traffic, or crime.

The project will not impact public services. There is more than sufficient capacity for both water, sewer and solid waste to accommodate an 8 unit/one bedroom apartment complex. In addition, there will be no negative secondary effects generated as a residential use generates minimal noise, fumes, traffic or crime. The project will meet all requirements of the fire code and has accommodated the requests by the City Police Department to implement CEPTED procedures.

5. The extent to which the property has potential to be developed in a desirable manner under its present land use and zoning scheme without the application of LAC residential unit allowance and whether such foreseeable development is or is not more beneficial to the community.

The property is not likely to be developed for a use which does not need LAC residential units. Any development on the property will require the dedication of right-of-way. This shrinks the depth of the property making the property extremely undesirable for any non-residential use. In addition, the property is adjacent to the City's new park which makes a residential use ideally situated for this property.

6. The nature and types of uses surrounding the subject property and whether the development proposal is compatible and complements those uses.

The application of LAC units to the project makes the project compatible and complements the surrounding uses. The properties to the north of the project are a City Park and residential uses. A residential project is both compatible with an adjacent park and a residential use is also compatible with the nearby residential uses. The other nearby properties are of a commercial nature without being heavily industrial. These uses are compatible with a residential use because these commercial uses may serve as a job base for the residents and will otherwise help serve the residents.

7. The extent to which the proposed development is consistent with specific goals, objectives or policies of the city comprehensive plan (including specifically, the goals objectives, and policies of the local activity center future land use designation), as well as, if applicable, the Plan of Redevelopment of the Plantation Community Redevelopment Agency or the Plantation Midtown Plan.

8. The extent to which LAC residential units will remain available for future use by the city under this section's requirements and under any possible regulatory scheme.

The Applicant is only requesting an allocation of 8 units which leaves plenty of LAC units available for the future use by the City. In addition, should for some reason the project not be constructed the City can always rescind the allocation of units.

9. The extent to which the utilization of LAC residential units serves or does not serve the public's health, safety, or welfare.

The utilization of LAC residential units serves the public's health, safety and welfare as it encourages development within the City. In addition, the public's health, safety and welfare is satisfied by the project complying with Police and Fire requirements. Finally, the project is located next to a public park and near other residential uses thus promoting safe neighborhoods.

10. *The future land use and needs of the community.*

The future land use and needs of the community will be satisfied by allocating residential units to this project in that allowing residential units will create a diverse community that will be able to utilize the public transportation systems in the area and will also contribute to the work force and take advantage of other commercial uses in the community.

11. Such other policy considerations that may not be set forth above but which are nonetheless considered by the city governing body to be reasonable and appropriate under the circumstances.

Not applicable at this time.

VERIFICATION OF OWNERSHIP

To: City of Plantation

Re: Arkham Apartments

With the understanding that this Verification of Ownership is furnished to the City of Plantation, as inducement and acceptance to accept a development application covering the real property, hereinafter described, it is hereby certified that the following report reflects a comprehensive search of the Public Records affecting the above described property covered the period from the beginning of time through September 7, 2021, inclusive of the following described property:

See attached Exhibit "A"

I am of the opinion that on the last mentioned date, the fee simple title to the above-described property was vested in:

Names of all Owner(s) of Record:

Lynda E. Chasteen and Larry A. Pittman, Jr.

Subject to the following:

Mortgages of Record: None.

Liens and Encumbrances:

A. Educational Mitigation Agreement between Broward County, Florida and the City of Plantation and the School Board of Broward County recorded in OR Book 41568, Page 1629 of the Public Records of Broward County, Florida.

B. Notice of Creation of New Impact Fees and Revising Certain Existing Impact Fees in the City of Plantation, recorded in OR Book 50063, Page 402 of the Public Records of Broward County, Florida.

C. Courtesy Norice of City of Plantation Special Risk Properties Ordinance, recorded in Instrument No. 113989986 of the public Records of Broward County, Florida.

D. Encroachment Agreement between Florida Gas Transportation Company, LLC and MCImetro Access Transmission Services Corp., recorded in Instrument No. 116624997 of the Public Records of Broward County, Florida.

I HEREBY CERTIFY that the foregoing report reflects a comprehensive search of the Public Records of Broward County, Florida, affecting the above described property. I further

certify that I am an attorney-at-law duly admitted to practice in the State of Florida and a member in good standing of the Florida Bar.

Respectfully submitted this 21st day of September, 2021.

ROD A. FEINER, ESQ.
Fla. Bar No. 0039853
Coker & Feiner
1404 S. Andrews Ave.
Fort Lauderdale, FL 33316
Telephone: (954) 761-3636
E-mail:rafeiner@coker-feiner.com

EXHIBIT "A" – LEGAL DESCRIPTION

The South 185 feet of the East 100 fees of the South Half (S1/2) of the Southeast Quarter (SE1/4) of the Southwest Quarter (SW1/4) of the Southeast Quarter (SE1/4) of Section 12, Township 50 South, Range 41 Ease, less easement for road, of the Public Records of Broward County, Florida.

Waste Management Inc. of Florida

1800 N. Military Trail
Suite 201
Boca Raton, Florida 33431

July 14, 2021

William Romberg/Carlos Cardoso
Design Tech International
14125 NW 80th Ave.
Suite 303
Miami Lakes, Florida 33016

Re : 4281 Peters Rd., Plantation

Dear Mr. Romberg and Mr. Cardoso:

Pursuant to your request, please be advised that the initial site plan that you have provided to Waste Management has been approved for the dumpster service/enclosures.

If I can be of further assistance, please do not hesitate to contact me.

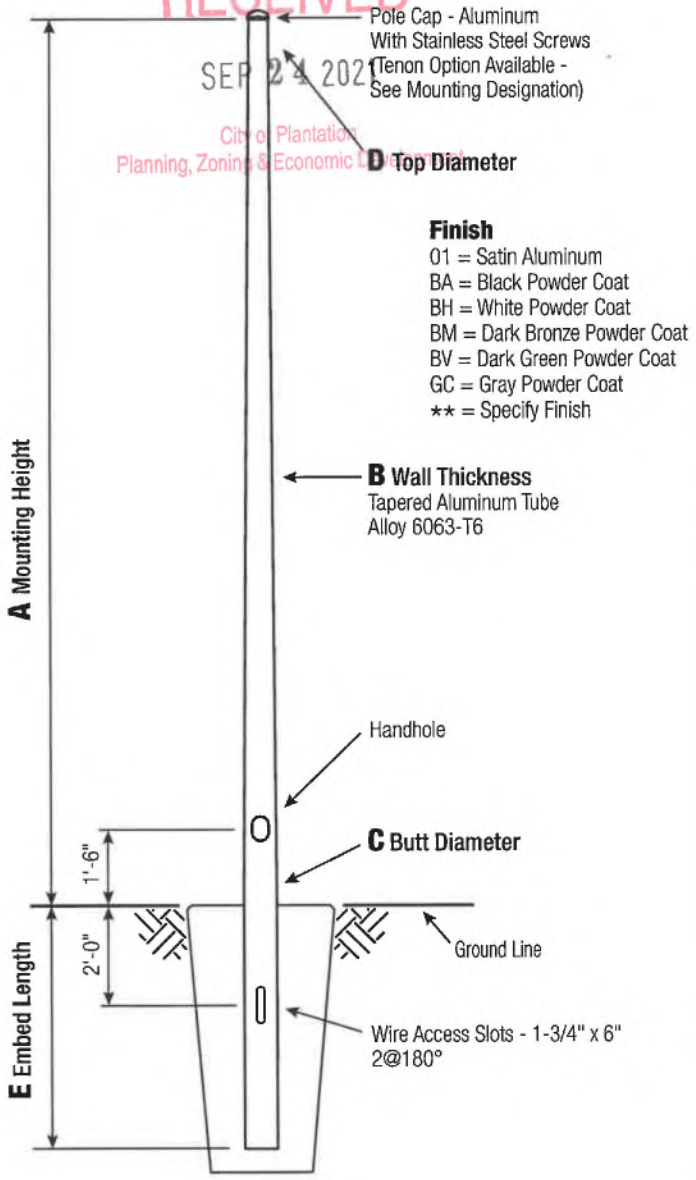
Thank you.

Sincerely,

Kay Bernagozzi-Hurley
Franchised Account Manager

RTA

Round Tapered Aluminum Pole
No Arm — Direct Buried



WARNING:
Do not install light pole without luminaire.

Satin Aluminum or Powder Coated Finish per Customer Specification.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Total Lum. Weight	Maximum EPA 90	100	110	120	130	Old Cat. Number	Catalog Number
16	0.125"	5	60	8.0	6.0	5.4	4.2	3.2	87907-0316X	RTA16B5AE-**

C Butt Dia.	D Top Dia.	E Embed
5	3	3'

C and D Dimensions in Inches

Customer Name:		
Project:	Location:	
Notes:		Quantity:

RTA16B5AE - [ ]
CATALOG NUMBER — FINISH

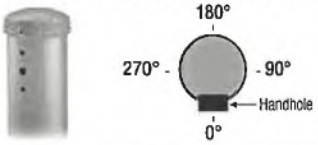
Pole
The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole
2-1/2" x 5" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision is provided as part of the handhole.

Embed Detail
Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.

Vibration Damper
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation
***Side Drill Mount** - For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.*



Tenon Mount - Welded or Spun
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.

EPA Notes: *Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.*

hapco pole products
26252 Hillman Highway
Abingdon, VA 24210
800.368.7171
www.hapco.com

VCPG LED
Parking Garage

Buy American

Catalog Number

Notes

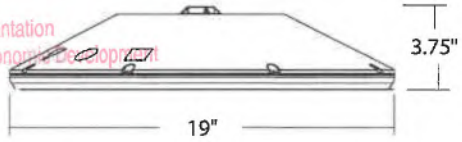
Type

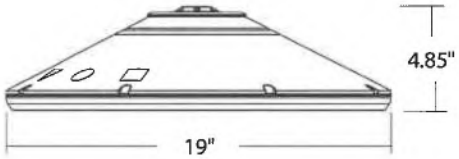
Specifications

Diameter: 19"

Height: 3.75" (4.85" with Up-Light)

Weight (max, with no options): 18 lbs





A+ Capable options indicated by this color background.

Introduction

The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high angle glare, while its precision molded acrylic lens eliminates LED pixilation and delivers the required minimums, verticals and uniformity. The dedicated up-light module option reduces the contrast between the luminaire and the ceiling creating a more visually comfortable environment.

The VCPG LED delivers up to 87% in energy savings when replacing 175W metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the VCPG LED luminaire provides significant maintenance savings over traditional luminaires.

Ordering Information

EXAMPLE: VCPG LED V4 P4 40K 70CRI T5M MVOLT SRM DNAXD

VCPG LED

Series	LED Light Engines	Package	Color Temperature	Color Rendering Index	Distribution	Voltage		Mounting
VCPG LED	V4[1] 4 Light Engines V8[1] 8 Light Engines	P1[1] P2[1] P3[1] P4[1] P5[1] P6[1] P7[1]	30K 3000 K 35K 3500 K 40K 4000 K 50K 5000 K	70CRI 80CRI	T5M Type V, medium T5R[2] Type V, rectangular T5W Type V, wide T5E Type V entry LANE[2] Drive lane	MVOLT 347 480	For ordering with fuse 120 208 240 277 347 480	**Shipped included** PM Pendant mount standard (24-inch length supply leads) SRM Surface mount (24-inch length supply leads) ARM Arm mount (use RSXWBA accessory to mount to a wall) **Shipped separately** YK Yoke/trunnion mount[3]

Options

Shipped installed

UPL1	Up-Light: 500 lumens
UPL2	Up-Light: 700 lumens
E8WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (8W, -20°C min)[4,5,6]
E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)[4,5,6]
HA	High ambient (50°C, only P1-P4)
SF	Single fuse (120V, 277V, 347V)
DF	Double fuse (208V, 240V, 480V)
SPD10KV	10KV Surge Pack
LDS36	36in (3ft) lead length
LDS72	72in (6ft) lead length
LDS108	108in (9ft) lead length
DMG	External 0-10V leads (no controls)[7]

Shipped Separately

WG	Wire Guard
BDS	Bird Shroud[8]
HS	House Side Shield

Standalone Sensors/Controls[2]

PIR	Motion/ambient sensor for 8-15' mounting heights
PIRH	Motion/ambient sensor for 15-30' mounting heights
PIR3FC3V	Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output
PIRH3FC3V	Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output
PIR3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output[9]
PIRH3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output[9]

Networked Sensors/Controls[2]

NLTAIR2 PIR	nLIGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights
NLTAIR2 PIRH	nLIGHT AIR Wireless enabled motion/ambient sensor for 15'-30' mounting heights
NLTAIR2 PIR924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[10]
NLTAIR2 PIRH924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[10]

Finish

DWHXD	White
DNAXD	Natural aluminum
DDBXD	Dark bronze
DBLXD	Black

Ordering Information Cont.

Accessories
Ordered and shipped separately

VCPGBDS DWHXD U	Bird shroud for PM (specify finish)
VCPGBDS YK DWHXD U	Bird shroud for YK (specify finish)
VCPGUBDS DWHXD U	Bird shroud for PM with Up-Light (specify finish)
VCPGUBDS YK DWHXD U	Bird shroud for YK with Up-Light (specify finish)
VCPGSRM U	Surface mount kit, with no Up-Light
VCPGUSRM U	Surface mount kit, with Up-Light
VCPGWG U	Wire guard
SLVSQ	Quick mount pendant swivel kit, square
SLVRD	Quick mount pendant swivel kit, round
VCPG YK DWHXD U	Yoke mount kit (specify finish)
RSXWBA DWHXD U	RSX WBA wall bracket (specify finish)

NOTES
1. P1-P6 not available with V8. P7 not available with V4.
2. Not available with P7.
3. Only vertical height adjustment. No angle adjustment. Use PM and SLVSQ or SLVRD for mounting to angled ceiling or canopies.
4. Not available with 347V or 480V.
5. E8WC and E10WH only rated up to 35°C ambient.
6. E8WC & E10WH only available with P1-P4 packages.
7. DMG option not available with standalone or networked sensors/controls.
8. BDS not available with UPL1 or UPL2.
9. Power interruption delay >30 milliseconds required for operation. Refer sequence of operations on page 4 for more details.
10. Not available with P6 & P7. Power interruption delay >200 milliseconds required for operation. Refer sequence of operations on page 4 for more details.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	Watts	Distribution Type	30K (3000K, 70 CRI)		35K (3500K, 70 CRI)		40K (4000K, 70 CRI)		50K (5000K, 70 CRI)	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	27W	T5E	3,581	135	3,670	138	3,815	144	3,876	146
		T5M	3,620	136	3,710	140	3,856	145	3,917	147
		T5W	3,592	135	3,681	139	3,827	144	3,888	146
		T5R	3,464	130	3,550	134	3,690	139	3,749	141
		LANE	3,507	132	3,594	135	3,736	141	3,796	143
P2	34W	T5E	4,577	135	4,691	138	4,876	144	4,954	146
		T5M	4,626	136	4,741	140	4,928	145	5,007	147
		T5W	4,591	135	4,705	139	4,891	144	4,968	146
		T5R	4,427	130	4,537	134	4,716	139	4,791	141
		LANE	4,482	132	4,594	135	4,775	141	4,851	143
P3	43W	T5E	5,808	134	5,952	137	6,187	143	6,286	145
		T5M	5,870	135	6,015	139	6,253	144	6,353	146
		T5W	5,825	134	5,970	138	6,205	143	6,304	145
		T5R	5,617	130	5,757	133	5,984	138	6,079	140
		LANE	5,688	131	5,829	134	6,059	140	6,155	142
P4	56W	T5E	7,391	131	7,575	135	7,874	140	7,999	142
		T5M	7,470	133	7,656	136	7,958	141	8,085	144
		T5W	7,414	132	7,597	135	7,898	140	8,023	143
		T5R	7,149	127	7,326	130	7,615	135	7,737	137
		LANE	7,238	129	7,418	132	7,711	137	7,834	139
P5	82W	T5E	10,189	124	10,442	127	10,854	132	11,027	134
		T5M	10,298	125	10,553	128	10,970	134	11,145	136
		T5W	10,220	124	10,473	128	10,887	133	11,060	135
		T5R	9,855	120	10,099	123	10,498	128	10,665	130
		LANE	9,978	121	10,226	124	10,629	129	10,799	131
P6	108W	T5E	12,878	120	13,197	123	13,719	127	13,937	129
		T5M	13,015	121	13,338	124	13,865	129	14,086	131
		T5W	12,917	120	13,237	123	13,760	128	13,979	130
		T5R	12,455	116	12,764	119	13,268	123	13,480	125
		LANE	12,611	117	12,924	120	13,435	125	13,649	127
P7	122W	T5E	15,503	125	15,887	128	16,515	133	16,778	135
		T5M	15,668	126	16,057	129	16,691	135	16,957	137
		T5W	15,549	125	15,935	129	16,564	134	16,828	136

Up-light Lumen Output

Up-light Option	Watts	Lumens
UPL1	6.5W	519
UPL2	8.5W	715

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.926
35K	0.945
40K	0.967
50K	0.965

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.94	0.89

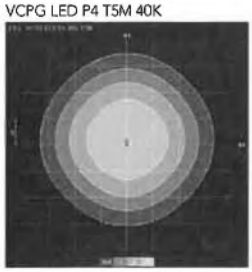
Electrical Load

Power Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	27W	0.22	0.13	0.12	0.10	0.08	0.06
P2	34W	0.28	0.16	0.14	0.13	0.10	0.08
P3	43W	0.37	0.21	0.18	0.16	0.13	0.09
P4	56W	0.48	0.28	0.24	0.21	0.16	0.12
P5	82W	0.68	0.40	0.35	0.30	0.24	0.18
P6	108W	0.91	0.52	0.45	0.39	0.32	0.23
P7	124W	1.03	0.59	0.51	0.44	0.37	0.27

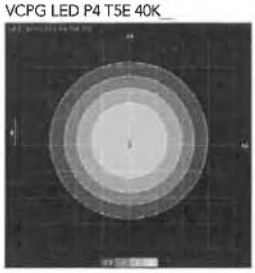
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting VCPG LED homepage.
Tested in accordance with IESNA LM-79 and LM-80 standards

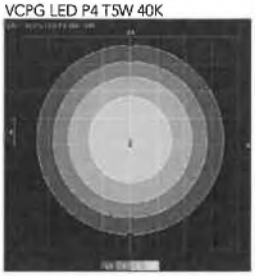
VCPG LED P4 T5M 40K



VCPG LED P4 T5E 40K_

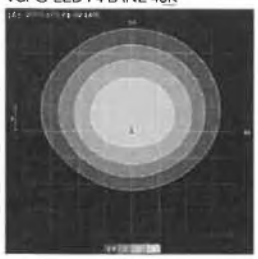


VCPG LED P4 T5W 40K



VCPG LED P4 T5R 40K_

VCPG LED P4 LANE 40K



Control/Sensor Options

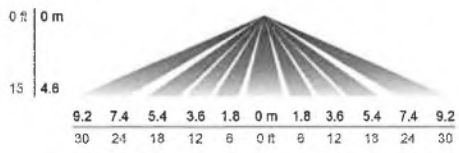
Motion/Ambient Sensor (PIR_, PIRH)

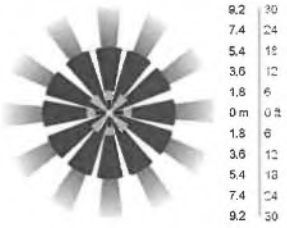
Motion/Ambeint sensor (Sensor Switch MSOD) is integrated into the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

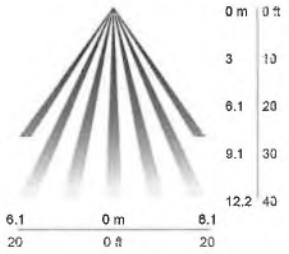
PIR HIGH VIEW



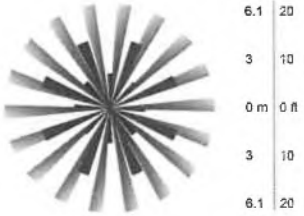


PIRH

SIDE VIEW



TOP VIEW



Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR3FC3V or PIRH3FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 3fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec

Sequence of Operations for UL924 Listed Controls/Sensors (PIR3FC3V924, PIRH3FC3V924, XAD924, NLTAIR2 PIR924, NLTAIR2 PIRH924)

The UL924 listed control/sensor ("device") is designed to provide full light output for 90 minutes following power loss ("Egress Mode"), ignoring both manual and automatic dimming/occupancy/daylight control signals during this time. The sequence of operations is as follows:

- Normal condition: device can dim and turn off the luminaire as normal, in response to automatic and manual control.
- Utility power fails, and luminaire loses power.
- Backup power source activates, transfer switch moves the emergency circuit powering the luminaire onto the backup source, and luminaire regains power.
- The device detects this power interruption, if it is >30ms (for PIR3FC3V924, PIRH3FC3V924, XAD924) or >200ms (for NLTAIR2 PIR924, NLTAIR2 PIRH924).
- The device ignores all dimming commands and controls the driver to full light output for 90 minutes.
- The device resumes normal dimming controls after 90 minutes.

These UL924 listed controls/sensors are not intended for use with Non-interruptible central emergency power systems. The power interruption, when transferring from normal utility power to emergency backup power, is required for the controller to activate its Egress Mode and provide full light output.

Mounting, Options & Accessories

PM – Pendant Mount
(compatible with ¾ NPT, pendant stem provided by others)

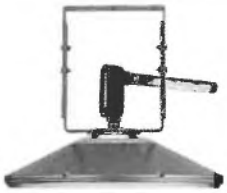
D = 19"
H = 4.1"

SRM – Surface Mount

D = 19"
H = 4.1"

SRM – Surface Mount with Up-Light

D = 19"
H = 5.3"



YK – Yoke/Trunnion Mount

D = 19"
H (Yoke) = 10"-18"

ARM – Arm Mount

L = 28"
W = 19"
H = 8"

PIR & PIRH – Motion/ Ambient sensor

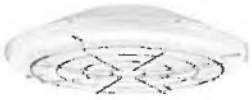
D = 19"
H = 4.6" (no up-light)
or 5.6" (with up-light)

BDS – Bird shroud for pendant mount

D = 19"
H = 8"

BDS – Bird shroud for yoke mount

D = 19"
H (Yoke) = 10"-18"



WG – Wire guard

D = 19"
H = 4.9" (no uplight)
or 5.9" (with up-light)

HS – House side shield

D = 19"
H = 7.1" (no up-light) or
8.1" (with up-light)

FEATURES & SPECIFICATIONS

INTENDED USE
The visually comfortable optics, energy savings, and long life of the VCPG LED Parking Garage luminaire make it an ideal choice for new commercial installations and retrofit parking garage opportunities. It is designed to meet or exceed recommended illuminance criteria when installed as a direct replacement of most HID parking garage luminaires. Its modern dayform and aesthetics also make it appealing for indoor low-bay applications.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is separated from the heat generating light engines and mounted in direct contact with the casting to promote low operating temperatures, higher lumen maintenance and long life. The housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down application.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS
Light guide technology provides a diffused light source, reducing glare from direct view of the LEDs. The light source is recessed into the luminaire, further reducing the high angle glare from the luminaire. A combination of precision molded micro prismatic acrylic lenses and back reflectors provide five different photometric distributions tailored specifically to parking garage applications. Up-light option comes with a dedicated light engine and custom optic designed to efficiently spread light on to the ceiling, thus reducing the cave effect.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L89/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 6.0 KV surge rating. When ordering the SPD10KV option, a separate 10kV (5kA) surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2). Luminaire is 0-10V dimmable down to 10% or lower.

INSTALLATION
Standard configuration accepts a rigid or free-swinging 3/4" NPT stem for pendant mounting. The surface mount option attaches to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with set screws. Also, available with a yoke/trunnion mount option with 3/4" NPT provision for flexible conduit entry (conduit by others); height can be adjusted from 10-18". Supply leads are 24" in length as standard. Longer supply leads are available as additional options. Design can withstand up to a 3.0 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. IP66 rated for outdoor applications. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [illegible] to confirm which versions are qualified.

BUY AMERICAN
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FARS, DFARS and DOT. Please refer to [illegible] for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
[illegible]

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

D-Series Size 0
LED Area Luminaire

Catalog Number

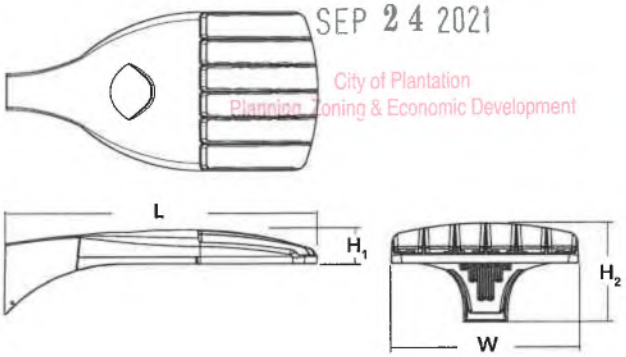
Notes

Type

Buy American

Specifications

EPA:	0.95 ft² (.09 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height$_1$:	3" (7.62 cm)
Height$_2$:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7[1] P4[1] **Rotated optics** P10[2] P12[2] P11[2] P13[1,2]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short[3] T5S Type V short[3] T5M Type V medium[3] T5W Type V wide[3] BLC Backlight control[4] LCCO Left corner cutoff[4] RCCO Right corner cutoff[4]	MVOLT (120V-277V)[5,6] XVOLT (277V-480V)[7,8,9] 120[6] 208[6] 240[6] 277[6] 347[6] 480[6]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[10] WBA Wall bracket[3] SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[11] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[12]

Control options		Other options		Finish
Shipped installed		**Shipped installed**		DDBXD Dark bronze
NLTAIR2 nLight AIR generation 2 enabled[13,14]	PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[19,20]	HS House-side shield[22]		DBLXD Black
PIRHN Network, high/low motion/ambient sensor[15]	PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[19,20]	SF Single fuse (120, 277, 347V)[6]		DNAXD Natural aluminum
PER NEMA twist-lock receptacle only (control ordered separate)[16]	PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[19,20]	DF Double fuse (208, 240, 480V)[6]		DWHXD White
PER5 Five-pin receptacle only (control ordered separate)[16,17]	PIRH1FC3V High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[19,20]	L90 Left rotated optics[2]		DDBTXD Textured dark bronze
PER7 Seven-pin receptacle only (leads exit fixture) (control ordered separate)[16,17]	FAO Field adjustable output[21]	R90 Right rotated optics[2]		DBLBXD Textured black
DMG 0-10V dimming extend out back of housing for external control (control ordered separate)[18]		DDL Diffused drop lens[22]		DNATXD Textured natural aluminum
		HA 50°C ambient operations[1]		DWHGXD Textured white
		BAA Buy America(n) Act Compliant		
		Shipped separately		
		BS Bird spikes[23]		
		EGS External glare shield		

Ordering Information

Accessories

Ordered and shipped separately

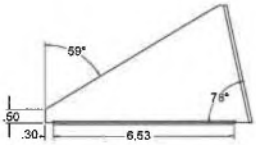
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [24]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [24]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [24]
DSHORT SBK U	Shorting cap [24]
DSX0HS 20C U	House-side shield for P1,P2,P3 and P4 [22]
DSX0HS 30C U	House-side shield for P10,P11,P12 and P13 [22]
DSX0HS 40C U	House-side shield for P5,P6 and P7 [22]
DSX0DDL U	Diffused drop lens (polycarbonate) [22]
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) [25]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [12]
DSX0EGS (FINISH) U	External glare shield

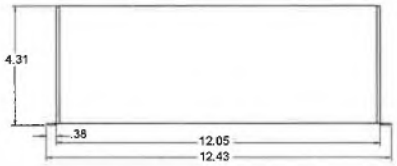
For more control options, visit [illegible] and [illegible] online. Link to [illegible]

NOTES

1 HA not available with P4, P7, and P13.
2 P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
3 Any Type 5 distribution with photocell, is not available with WBA.
4 Not available with HS or DDL.
5 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF).
7 XVOLT only suitable for use with P4, P7 and P13.
8 XVOLT operates with any voltage between 277V and 480V.
9 XVOLT not available with fusing (SF or DF) and not available with PIR, PIRH, PIR1FC3V, PIRH1FC3V.
10 Suitable for mounting to round poles between 3.5" and 12" diameter.
11 Universal mounting brackets intended for retrofit on existing pre-drilled poles only. 1.5 G vibration load rating per ANCI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8.
12 Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
13 Must be ordered with PIRHN.
14 Sensor cover available only in dark bronze, black, white and natural aluminum colors.
15 Must be ordered with NLTAIR2. For more information on nLight Air 2 [illegible]
16 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
17 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
18 DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIR1FC3V or PIRH1FC3V, FAO.
19 Reference Controls Options table on page 4.
20 Reference Motion Sensor Default Table on page 4 to see functionality.
21 Not available with other dimming controls options.
22 Not available with BLC, LCCO and RCCO distribution.
23 Must be ordered with fixture for factory pre-drilling.
24 Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.
25 For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8

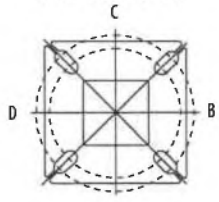
EGS – External Glare Shield

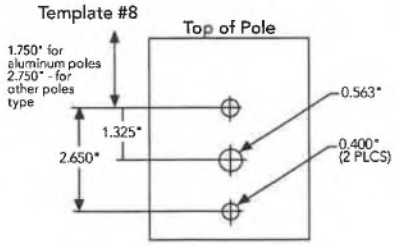




Drilling

HANDHOLE ORIENTATION
(from top of pole)





Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS
		Minimum Acceptable Outside Pole Dimension					
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"		3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"		4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

DSX0 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX0 LED	0.950	1.900	1.830	2.850	2.850	3.544

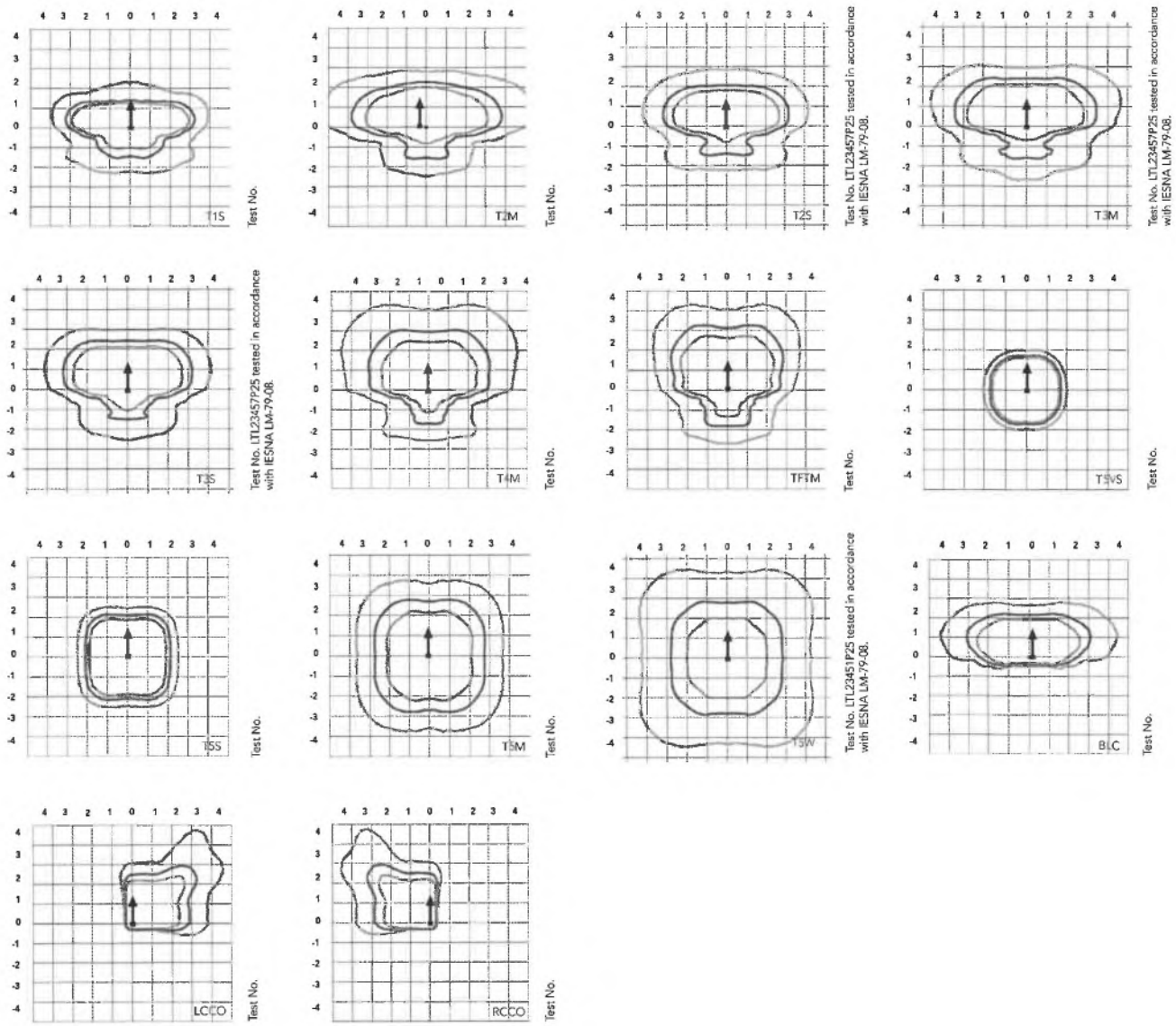
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 0 homepage.

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').

LEGEND

- 0.1 fc
- 0.5 fc
- 1.0 fc



Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°C**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use when motion sensor is used as dusk to dawn control.						

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Controls Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CLAIRity Pro app.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	20	530	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126
				T5VS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131
				T5S	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131
				T5M	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130
				T5W	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77
P2	20	700	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124
				T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124
				T2M	5,593	1	0	1	114	6,025	1	0	1	123	6,102	1	0	1	125
				T3S	5,417	1	0	2	111	5,835	1	0	2	119	5,909	2	0	2	121
				T3M	5,580	1	0	2	114	6,011	1	0	2	123	6,087	1	0	2	124
				T4M	5,458	1	0	2	111	5,880	1	0	2	120	5,955	1	0	2	122
				TFTM	5,576	1	0	2	114	6,007	1	0	2	123	6,083	1	0	2	124
				T5VS	5,799	2	0	0	118	6,247	2	0	0	127	6,327	2	0	0	129
				T5S	5,804	2	0	0	118	6,252	2	0	0	128	6,332	2	0	1	129
				T5M	5,789	3	0	1	118	6,237	3	0	1	127	6,316	3	0	1	129
				T5W	5,834	3	0	2	119	6,285	3	0	2	128	6,364	3	0	2	130
				BLC	4,572	1	0	1	93	4,925	1	0	1	101	4,987	1	0	1	102
				LCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76
				RCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76
P3	20	1050	71W	T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120
				T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120
				T5VS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125
				T5S	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125
				T5M	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125
				T5W	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73
P4	20	1400	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116
				T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116
				T2M	9,831	2	0	2	107	10,590	2	0	2	115	10,724	2	0	2	117
				T3S	9,521	2	0	2	103	10,256	2	0	2	111	10,386	2	0	2	113
				T3M	9,807	2	0	2	107	10,565	2	0	2	115	10,698	2	0	2	116
				T4M	9,594	2	0	2	104	10,335	2	0	3	112	10,466	2	0	3	114
				TFTM	9,801	2	0	2	107	10,558	2	0	2	115	10,692	2	0	2	116
				T5VS	10,193	3	0	1	111	10,981	3	0	1	119	11,120	3	0	1	121
				T5S	10,201	3	0	1	111	10,990	3	0	1	119	11,129	3	0	1	121
				T5M	10,176	4	0	2	111	10,962	4	0	2	119	11,101	4	0	2	121
				T5W	10,254	4	0	3	111	11,047	4	0	3	120	11,186	4	0	3	122
				BLC	8,036	1	0	2	87	8,656	1	0	2	94	8,766	1	0	2	95
				LCCO	5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71
				RCCO	5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P5	40	700	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133
				T5VS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138
				T5S	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138
				T5M	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138
				T5W	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81
P6	40	1050	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117
				T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121
				T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118
				TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121
				T5VS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125
				T5S	15,426	3	0	1	115	16,618	4	0	1	124	16,828	4	0	1	126
				T5M	15,387	4	0	2	115	16,576	4	0	2	124	16,786	4	0	2	125
				T5W	15,506	4	0	3	116	16,704	4	0	3	125	16,915	4	0	3	126
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74
P7	40	1300	166W	T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112
				T5VS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116
				T5S	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117
				T5M	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116
				T5W	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68
				RCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P10	30	530	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141
				T5VS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141
				T5W	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83
P11	30	700	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130
				T2S	8,545	3	0	3	119	9,205	3	0	3	128	9,322	3	0	3	129
				T2M	8,699	3	0	3	121	9,371	3	0	3	130	9,490	3	0	3	132
				T3S	8,412	3	0	3	117	9,062	3	0	3	126	9,177	3	0	3	127
				T3M	8,694	3	0	3	121	9,366	3	0	3	130	9,484	3	0	3	132
				T4M	8,530	3	0	3	118	9,189	3	0	3	128	9,305	3	0	3	129
				TFTM	8,750	3	0	3	122	9,427	3	0	3	131	9,546	3	0	3	133
				T5VS	8,812	3	0	0	122	9,493	3	0	0	132	9,613	3	0	0	134
				T5S	8,738	3	0	1	121	9,413	3	0	1	131	9,532	3	0	1	132
				T5M	8,736	3	0	2	121	9,411	3	0	2	131	9,530	3	0	2	132
				T5W	8,657	4	0	2	120	9,326	4	0	2	130	9,444	4	0	2	131
				BLC	7,187	3	0	3	100	7,742	3	0	3	108	7,840	3	0	3	109
				LCCO	5,133	1	0	2	71	5,529	1	0	2	77	5,599	1	0	2	78
				RCCO	5,126	3	0	3	71	5,522	3	0	3	77	5,592	3	0	3	78
P12	30	1050	104W	T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127
				T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130
				T5VS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130
				T5W	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76
P13	30	1300	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123
				T2S	14,355	4	0	4	112	15,465	4	0	4	121	15,660	4	0	4	122
				T2M	14,614	3	0	3	114	15,744	4	0	4	123	15,943	4	0	4	125
				T3S	14,132	4	0	4	110	15,224	4	0	4	119	15,417	4	0	4	120
				T3M	14,606	4	0	4	114	15,735	4	0	4	123	15,934	4	0	4	124
				T4M	14,330	4	0	4	112	15,438	4	0	4	121	15,633	4	0	4	122
				TFTM	14,701	4	0	4	115	15,836	4	0	4	124	16,037	4	0	4	125
				T5VS	14,804	4	0	1	116	15,948	4	0	1	125	16,150	4	0	1	126
				T5S	14,679	3	0	1	115	15,814	3	0	1	124	16,014	3	0	1	125
				T5M	14,676	4	0	2	115	15,810	4	0	2	124	16,010	4	0	2	125
				T5W	14,544	4	0	3	114	15,668	4	0	3	122	15,866	4	0	3	124
				BLC	7919	3	0	3	62	8531	3	0	3	67	8639	3	0	3	67
				LCCO	5145	1	0	2	40	5543	1	0	2	43	5613	1	0	2	44
				RCCO	5139	3	0	3	40	5536	3	0	3	43	5606	3	0	3	44

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The DSX0 LED area luminaire has a number of control options. DSX Size 0, comes standard with 0-10V dimming driver. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS
The DSX0 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C to 50°C ambient with HA option. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buyamerican for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.