



ATTAR

ENGINEERING, INC

CIVIL STRUCTURAL MARINE

Mr. Adam Causey, Director of Planning & Development
Town of Kittery, Maine
200 Rogers Road
Kittery, Maine 03904

August 4th, 2022
Project No. C277-22

**RE: Preliminary Site Plan Review – Town Review Revisions
Well Field 44 Cannabis Dispensary (Tax Map 29, Lot 1)
41 Route 236, Kittery, Maine**

Dear Mr. Causey:

On behalf of Well Field 44, LLC., I have enclosed for your review and consideration a revised Plan Set and associated attachments for the above-referenced project. Revisions have been made to address comments presented in the July 14th Planning Board meeting.

- After the July 14th Planning Board meeting, the Applicant pursued a more detailed parking calculation for the proposed development that was to include the parking on the abutting Black Bird Business Suites property that this development was proposing to avail itself of for overflow purposes. Attached is a Floor Plan of the abutting Black Bird building, as well as Town Record documents of the Parking Plan and Change of Use approval for said Business Suites use. All of these documents result in the following parking calculation for the abutting property as per §16.7.11.F.(4).(d):

Professional Offices: [2 Parking Spaces per Office Unit]
+ [1 Parking Space per 250 sq. ft. Gross Floor Area]

11 Office Units (all three floors)	= 22 Spaces
2,653 sq. ft. GFA (first floor)	= 10.61 Spaces
3,377 sq. ft. GFA (second floor)	= 13.51 Spaces
700 sq. ft. GFA (third floor)	= 2.8 Spaces

[22 + 10.61 + 13.51 + 2.8] = 48.92 => 49 Spaces Required (45 Existing)

As demonstrated by the above calculation, the abutting Black Bird Business Suites has no available overflow parking to dedicate to this proposed development, as has been previously communicated to the Town. As such, this assertion has been abandoned and the Plan Set has been redesigned to reflect this change as described below. This change also removes several other talking points of the Preliminary SPR thus far, including previous TIA recommendations for the closing of an abutting curb cut to facilitate a one-way exit from this property, the construction of a sidewalk along said one-way road for pedestrian access from overflow parking, and the re-sizing of the existing culverted crossing beneath the gravel access drive currently used for the Boat Yard.

- With the abandonment of use of the abutting property as discussed above, the Plan Set has been redesigned to include the following:
 - Additional parking has been provided on-site, with an additional 4-space stall being added on the north side of the building. The proposed parking lot to the

rear of the proposed building has also been expanded by one space, resulting in 13 total spaces being provided, more than double the 6 required by the Town Code of Ordinances. The location of the proposed building has not changed, and all proposed parking still complies with the setbacks outlined in Table 16.5.30 "Minimum Setbacks from Wetlands and Water Bodies".

- The proposed travelway that previously ended in a hammerhead turnaround to the rear of the building has now been extended to provide full two-way circulation around the entirety of the site. Proposed grading has been provided, and the stormwater management areas have been revised to reflect this change.
 - The one-way exit onto the southerly-abutting property has been removed, as this site redesign which provides more parking and internal vehicle circulation removes the need.
 - A Photometric Plan has been prepared and is included in the Plan Set to depict the proposed lighting around the entire development and demonstrate Dark Sky compliance for all fixtures. Lighting Spec Sheets are also attached for all proposed fixture types.
- With the removal of the proposed one-way exit in the location of the existing gravel access drive for the Boat Yard, the Applicant is now proposing to remove the existing gravel drive in this location, remove the existing 12" culverted crossing, and restore this area to the surrounding wetland grade in addition to the larger restoration proposed in the rear of the property. As requested by the Planning Board, a Wetland Restoration Narrative has been prepared by the project Wetland Scientist Michael Cuomo, CWS#211. This narrative includes both the previously-discussed 10,500 square-foot restoration in the western end of the parcel as well as a 2,500 square-foot section of fill in the area of the gravel access drive for the Boat Yard. Lastly, this narrative also includes a monitoring plan for during-construction and post-construction periods of the proposed development.
 - Regarding an update on the proposal for a right-hand turn lane for southbound traffic and/or left-hand turn lane for northbound traffic within the Route 236 corridor, correspondence is attached between Attar and Diane Morabito, P.E. of Sewall, the Transportation Engineer who prepared and revised the TIA for earlier iterations of this development. This correspondence discusses these turning lane requests and speaks to the additional summer traffic counts that Sewall will be performing to determine if the peak volumes would warrant MDOT requiring such turning lanes. The Applicant will keep the Town informed as this information and subsequent report becomes available.
 - At the July 14th Planning Board meeting the Board requested the Applicant to determine the level of MDEP permitting that this project would be subject to, given the history of wetland fill on the property to support the Boat Storage Use, the wetland alterations proposed as part of this application, as well as the wetland restoration efforts proposed as part of this application. In response to this request, the Applicant contacted Mr. Darren LaPierre, owner of the abutting Black Bird Business Suites and former owner of the subject parcel for the Boat Storage Yard use. Mr. LaPierre provided the Applicant with records to create a complete history of the site preparations and fills to create the Boat Storage Yard, and also provided a recollection of the construction process. To summarize:
 - May 30th, 2006 – Signed Memo prepared by Town of Kittery Planner Jim Noel, approving the Change of Use from Warehousing and Storage to Boat Yard and Marine Storage for the subject parcel.
 - September 29th, 2008 – RFI from Town of Kittery Planning Office requesting an updated Wetland Delineation to support the Change of Use
 - January 5th, 2009 – Wetlands Sketch Plan prepared by Attar Engineering, Inc., signed and sealed by Kenneth A. Wood, P.E.. Plan stamped as received by Town of Kittery on January 26th, 2009 at 10:36am.

- January 21st, 2009 – Signed MDEP Field Determination Form prepared by Chris Coppi, who was present in the field for the above-mentioned Wetland Delineation, stating that the subject parcel qualifies for a one-time wetland alteration exemption of not more than 4,300 square feet.
- February 19th, 2009 – Signed Notice of Decision prepared by Town of Kittery Planner Sandra Mowery and Assistant Code Officer Shelly Bishop, approving Business Occupancy Change for the subject parcel to be developed as a Boat Yard and Marine Storage use, citing the above-referenced MDEP Memo and Wetlands Sketch Plan.
- February 24th, 2009 – Signed Notice of Decision Amendment prepared by Town of Kittery Planner Sandra Mowery and Code Enforcement Officer Heather Ross, with said amendment extending the buffer area abutting Martin Road residences from 30 feet to 40 feet as agreed upon by phone conversation with Mr. LaPierre.

[Start of Construction]

- Then-owner Darren LaPierre completed the majority of the above-described clearing and installed a timber fenceline at the buffer limits abutting the Martin Road residences.
- Prior to fulfillment of the total fill allowed by the permits and approvals, Mr. LaPierre was approached by a Town-contracted Excavating Company working on the sewer line extension beneath a neighboring section of the Route 236 corridor.
- Mr. LaPierre and said Contractor reached an agreement to allow for clean fill from sewer line trench work to be deposited on the subject parcel within the limits and square footages outlined in the permits and approvals.
- Sometime after said agreement was reached and fill from the sewer extension began to be deposited on-site, the Town of Kittery Code Enforcement Officer Bob Marchi was contacted by an abutter to Mr. LaPierre's property with complaints of fill extending within the buffer area and up to the property line.
- Mr. LaPierre arranged for a site visit with Mr. Marchi and during this visit it was determined that the abutter had incorrectly assumed that the constructed timber fence was the property line, instead of a marker for clearing and fill limits. Mr. Marchi determined that Mr. LaPierre was not in violation of his permits and was allowed to continue his operation.

With the historical summary concluded, the Applicant believes that all previous fills on the subject parcel were deposited responsibly and within the limits of the permits and approvals associated with the Boat Storage Yard. With the newly-proposed removal of the existing gravel access drive, the total wetland impacts for the proposed development are 1,367 square feet, with no impacts occurring within the southerly Wetland of Special Significance. The Applicant continues to contend that this application is subject to a NRPA PBR for Activities adjacent to an (assumed) Significant Vernal Pool, and a NRPA PBR for Activities adjacent to a Protected Natural Resource (Wetland of Special Significance).

Thank you for your review and consideration – we look forward to discussing this project at upcoming Planning Board meetings. Please contact me for any additional information or clarifications required.

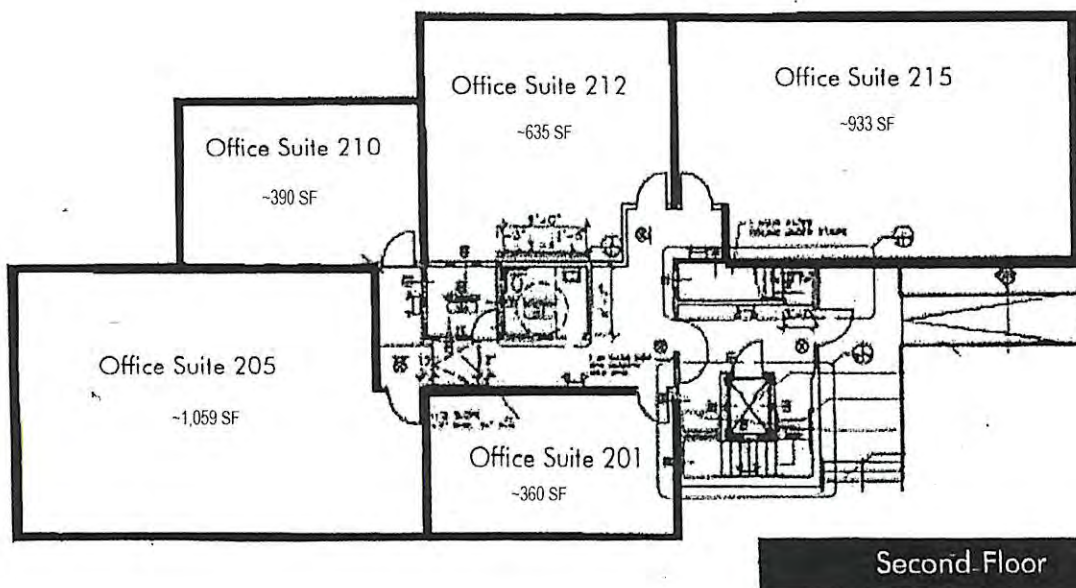
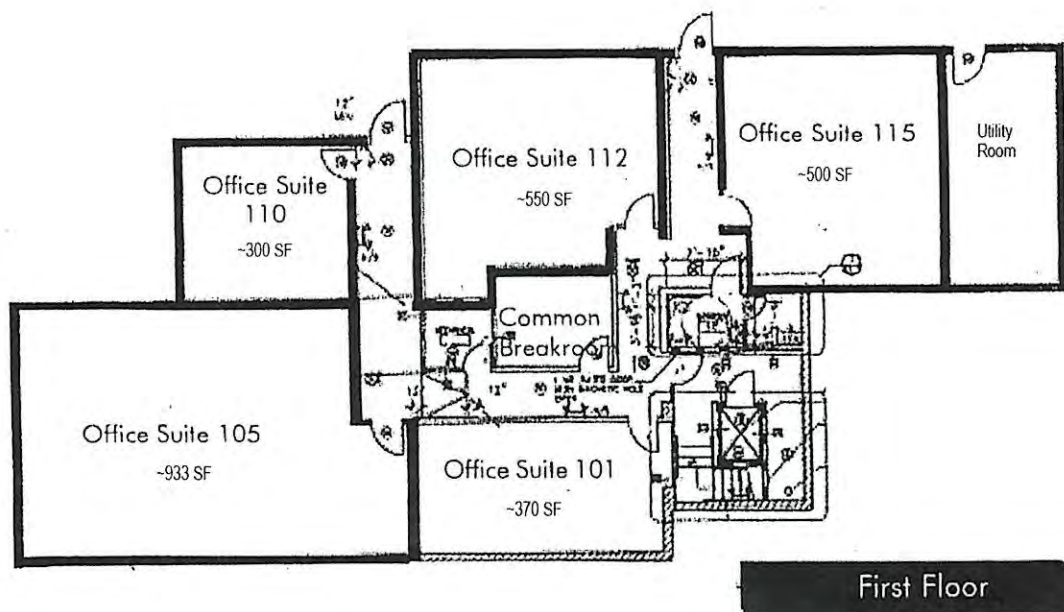
Sincerely;



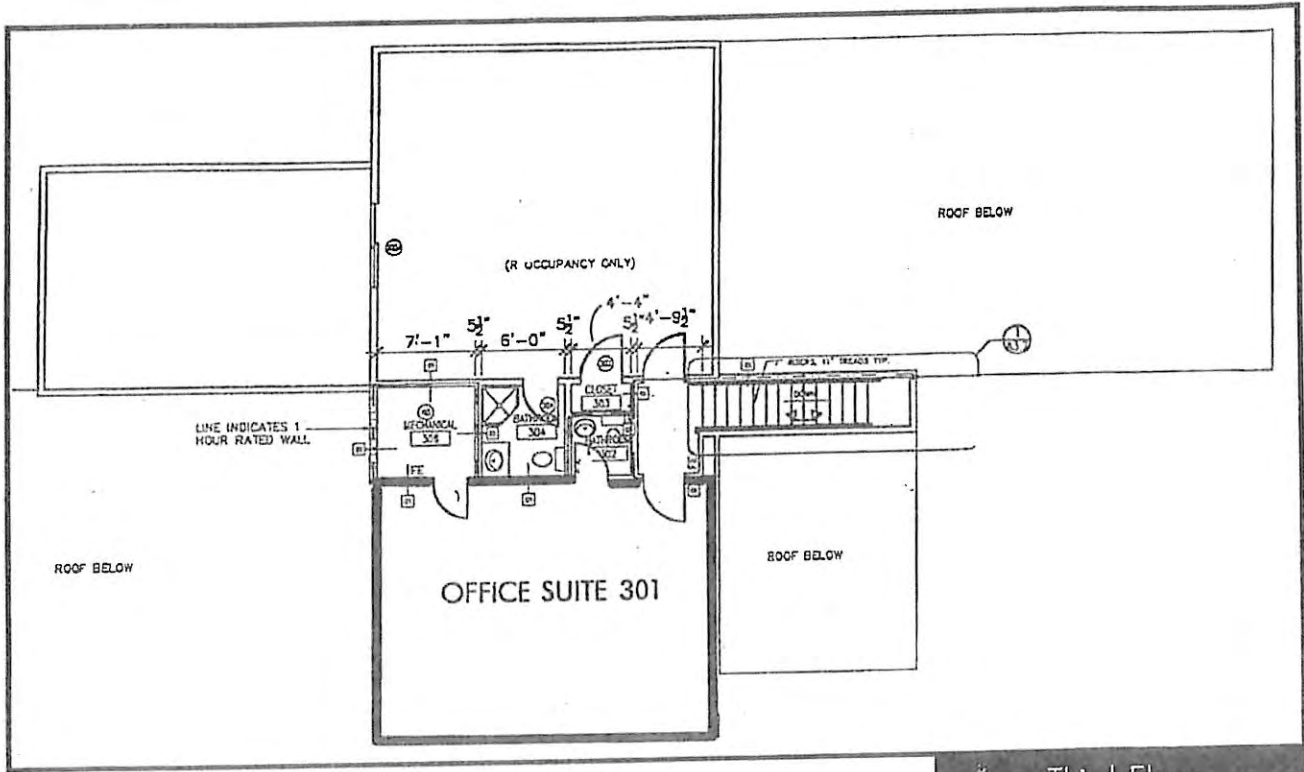
Michael J. Sudak, E.I.
Staff Engineer

37 ROUTE 236, KITTERY, MAINE

FLOOR PLAN



ATTACHMENT A



Third Floor

Master / 205

Mike P. ... Suite

PHILIP & VIOLA PARADIS



NOTES:

- A) Required Parking
 - 12 units @ 2 = 24 spaces
 - 7941sf / 250 = 32 spaces
 - Total = 56 spaces
- B) Parking Available
 - 9 x 19 = 51 spaces
 - H/C = 5 spaces
 - Mail Delv = 1 space
 - Total = 57 spaces
- C) Trees
 - Type a = Sugar Maple
 - Type b = Bradford Pear

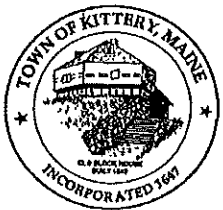
Pine Brook Business Suites
SITE PLAN
Kittery, ME

BUILDING KEY

REVISIONS	
NO.	DATE

SCALE: 1"=30'
DATE: DRAWN BY: BJS
DATE: CHKD BY:

REF. NAME:



Town of Kittery, Maine –Development Department

200 Rogers Road, Kittery, ME 03904
Phone: (207) 475-1308 Fax: (207) 439-6806

PROPERTY OWNER & ADDRESS: Lady Slipper LLC, 37 Route 236 Suite 105, Kittery, ME 03904
APPLICANT NAME & ADDRESS Dick Johnson, Pine Brook Business Corp., 37 Route 236 Suite 105, Kittery, ME 03904
PROPERTY LOCATION: 37 Route 236 Suite 205
MAP LOT: Map 20 Lot 17
APPLICATION: **Business Use Change - Pine Brook**
ZONE(S): Commercial - 2
DATE: **January 3, 2018**

Title 16.10.3.2 Other Development Review, of the Town of Kittery Land Use and Development Code, does not include business use review, per 16.4.3.5, as requiring Planning Board approval.

16.4.3.5 Business Use Changes.

The Planner and the Code Enforcement Officer are to review and approve, or refer to the Planning Board for action, all business use changes which occur that fall below Planning Board review thresholds as outlined in Sections 16.10.3.2 and 16.10.3.6. Approval must be based on compliance with all requirements of this Code.

The Town Planner and Code Enforcement Officer have reviewed the Business Use Change (BUC) & Building Permit applications and makes the following findings:

Purpose

Review and approve to update the record and required parking for the current businesses located at 37 Route # 236.

Approval

1st Floor

Suite 101 – Emera Energy, 373 square feet
Suite 105 – Pine Brook Corp., 997 square feet
Suite 110 – Dr. Phelps, 304 square feet
Suite 112 – Earthshift Global, 541 square feet
Suite 115 – Vacant, 535 square feet

2nd Floor

Suite 201 – Vacant, 373 square feet
Suite 205 – Atlantic Rehab, 1,089 square feet
Suite 210 – Planet Fitness, 524 square feet
Suite 212 – Vacant, 497 square feet
Suite 215 – Cherokee Construction, 1,054 square feet

3rd Floor

Suite 301 – Vacant, 469 square feet

The total square footage for all offices is 6757.

Required parking is calculated at 1 space per every 250 feet gross floor area plus 2 per each office.

Total gross square footage $6756/250 = 27$, plus 11 offices at 2 spaces per office (22), totals 49 spaces required for entire site.

Parking plan reflects 57 spaces are provided.

Your request appears to be in conformance with *16.10.9.3.1 Minor Modifications and 16.10.3.2 Other Development Review*, and is approved as submitted.

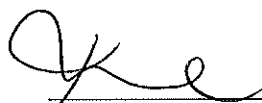
This Notice of Decision IS NOT a building permit or a sign permit.

Any proposed field changes, diversion or revisions to the plan and construction documents after approval shall be reviewed and approved by the Code Enforcement Officer prior to proceeding with the proposed changes.

Any site changes not approved in this Notice of Decision will be in violation of State law and Town Codes.

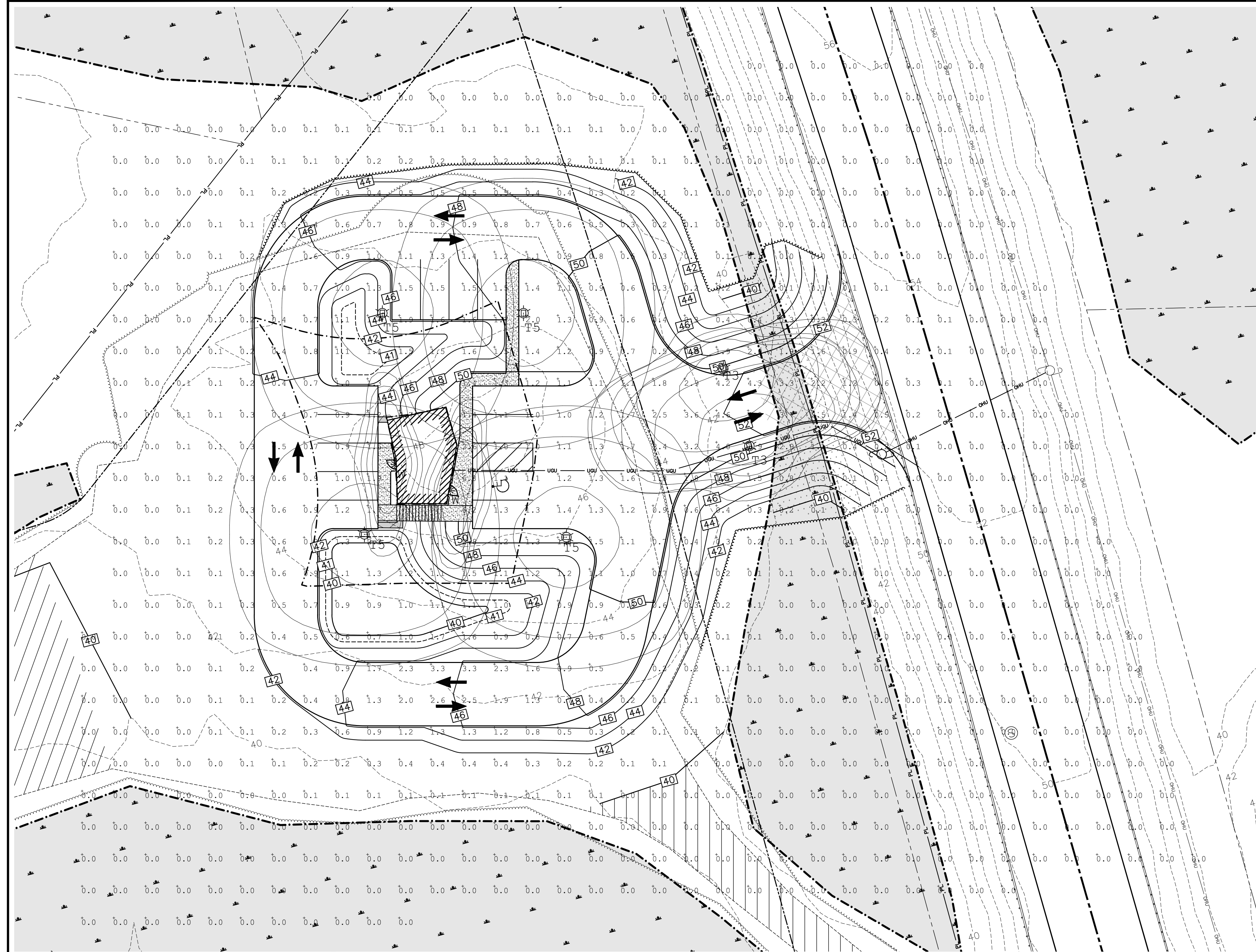
Congratulations, we look forward to working with you.

Sincerely:


_____, 1/11/18
Kendra Amaral
Town Manager


_____, 1/14/18
Robert Marchi
Code Enforcement Officer

Cc: Planning Board Chair, File



PRODUCT DESCRIPTION
The MERU Series is an architectural, low-profile outdoor light, offering "normally On" AC and emergency lighting with powerful LED illumination. The housing is fully sealed and gasketed, and has an IP65 rating. Designed for wall mounting with universal KCO pattern in back-plate for easy installation to most standard size junction boxes. Includes a single 1/2" NPT conduit entry in the top, center of the housing. Illumination provided by 8 high power LEDs which achieve 1,600 lumens in AC and 600 lumens in emergency. LED color at 4000K.

PRODUCT SPECIFICATIONS
CONSTRUCTION
Die cast aluminum housing with superior heat sink • Scratch resistant Polyester powder coat finish • UV resistant polycarbonate lens • Snap-fit housing and mounting plate are held together by four stainless steel clips • Universal mounting pattern molded into the back plate • 1/2" threaded top access for surface conduit installation • Silicone rubber seal with hollow center, shape adaptive design protects the electrical components • Junction box no-ropose seal is attached to the back plate for a weather proof installation • Dark Bronze or White textured finish.

ELECTRICAL
Dual voltage 120/277VAC/60Hz input • Solid state charging and switching • Battery low voltage disconnect • AC power indicator and test switch at the bottom of the unit • Standard with Self Diagnostics to monitor proper operation.

LAMPS
Supplied with eight (8) LG SMD 4000K LEDs • L70 > 72,000hours • 17 Watts total (22 Watts with HI option) • 1600 Lumens in AC mode, 600 Lumens in Emergency mode • Full cut-off optics for Dark Sky compliance

BATTERY
Maintenance-free, long-life rechargeable Ni/Cd battery will operate for a minimum of 90 minutes in the event of a power outage • 24 hour recharge after 90 minute discharge.

CODE COMPLIANCE
UL924 • Listed for wet location applications (0°C-50°C) • Optional "IH" cold weather package for (-40°C-50°C) • IP65 Rated • NFPA 101 Life Safety Code compliant • NEC and OSHA compliant • DLC Listed • RoHS Compliant

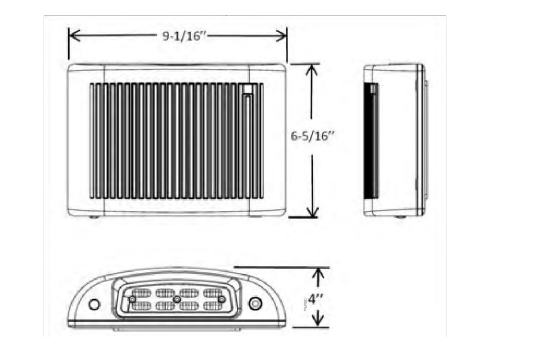
WARRANTY
5-year warranty. Product specifications subject to change without notice.

INSTALLATION
MOUNTING
Suitable for indoor or outdoor wall mounting on junction box, or with surface conduit using the supplied 1/2" threaded top access • Mounting plate has molded universal mounting pattern for simple mounting over junction box.

Model	operation mode	housing color	options
MERU-LED	ACEM - General & Emergency Lighting	DB - Dark Bronze	Self-Diagnostics & Photocell (shaded standard)
	AC - General Lighting	WH - White	IH - Internal Heater
		BL - Black	PIR - Passive Infra-Red Motion Sensor
		NK - Nickel	

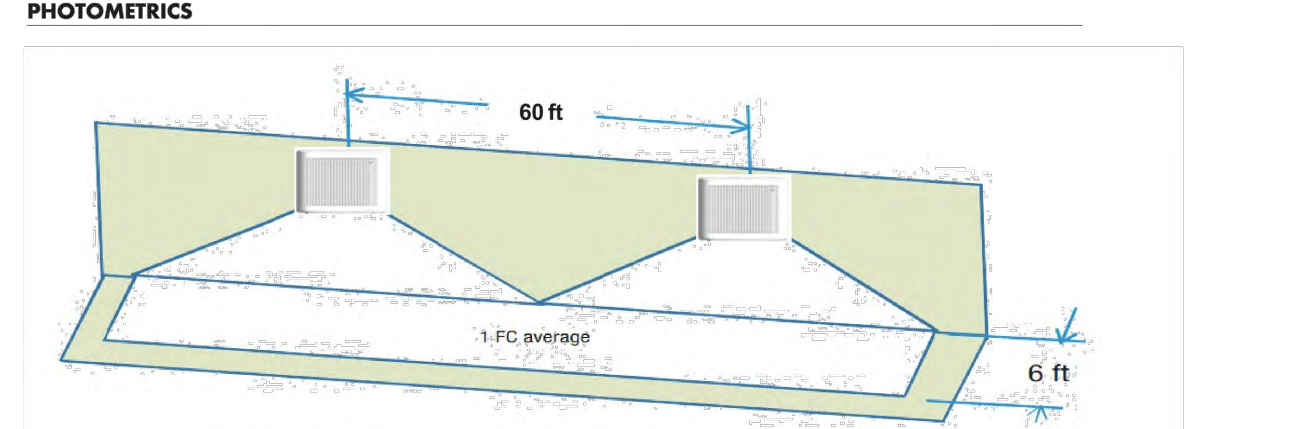
Ordering Example: MERU-AC24DB

Mule Lighting, Inc. 46 Baker Street Providence, RI 02905 800 556-7690 P 401 941-2929 F www.mulelighting.com



ACEM Model (NiCd Battery Backup)

Integral photocell: Unit operates as a dusk to dawn luminaire and in the event of a power failure as an emergency light.
Remote Switched: The integral photocell can be deactivated to allow remote switching for normal operation. In the event of a power failure unit operates as an emergency light.



Note: Meets Life Safety Code standard minimum illumination of 0.1 FC and average illumination of 1.0 FC. Illustration shown is a guideline for corridor center-to-center with 9 ft mounting height and Minimum 80-50-20 reflectance values.

Mounting Height	Center to center distance
7.2ft	45ft
9ft	60ft
10ft	65ft

SELF DIAGNOSTICS

Included Self Diagnostic

Diagnostic Indicator / Test Switch	Green: Power On	Red: Battery Charge Full	Manual Testing
	Yellow: Battery Charge Low	Orange: Battery Charge Very Low	Press button once = 1 minute test
	Red: Battery Charge Critical	Red: Emergency Mode	Press button twice = 5 minute test
	Red: Low Power	Red: Low Power	Press button 3 times = 30 minute test
	Red: Low Power	Red: Low Power	Press button 4 times = 90 minute test

Test Switch & AC Indicator Light

McGraw-Edison

Project	Date

DESCRIPTION
The Gallleon™ Pedestrian Companion LED luminaire's appearance is complementary to the Gallleon area and site luminaire bringing a modern architectural style to lighting applications. Flexible mounting options accommodate a variety of pole configurations and mounting heights, allowing it to be offered as a pedestal or site lighting solution. The Gallleon family of LED products deliver exceptional performance with patented, high-efficiency AccuLED Optics™, providing uniform and energy conscious lighting for parking lots, building and security lighting applications.

SPECIFICATION FEATURES
Construction
Driver enclosure thermally isolated from optics for optimal thermal performance. Heat sink well aluminum housing die-cast with integral external heat sinks to provide superior structural rigidity and an IP65 rated housing. Overall construction passes a 1.5G vibration test to ensure mechanical integrity.

Optics
Choice of sixteen patented, high-efficiency AccuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (-/- 2750 CCT and minimum 70 CRI), Optional 3000K, 5000K and 6000K CCT. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 1200mA, 500mA, and 600mA drive currents.

Electrical
LED drivers are mounted for ease of maintenance. 120/277V 50/60Hz, 347V or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Drivers are provided standard with 0-10V dimming. An optional Eaton proprietary surge protection module is available and designed to withstand 10kV of transient line surge. The Gallleon Pedestrian LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option.

Mounting
The innovative quick mounting arm attaches to new or existing 4-5" round or square poles with 1-1/2" to 4-7/8" drilling patterns without re-drilling. The mast arm adapter fits horizontal 2-3/8" square.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, gray, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

1-2 Light Squares Solid State LED AREA/SITE LUMINAIRE

1-2 Light Squares Solid State LED AREA/SITE LUMINAIRE

CERTIFICATION DATA
UL924 Listed
LM79 L8001 Compliant
IP65 Housing
500 8001
Design-Lights Consortium "Qualified"

ENERGY DATA
Equivalent LED Driver
-0.8 Power Factor
20% Total Harmonic Distortion
120-277V 50/60Hz
347V 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

EPA
Effective Projected Area (Sq. Ft.)
Quick Mount Arm: 0.79

SHIPPING DATA
Approximate Net Weight:
27 lbs. (12.2 kg)

UL 100000261
April 8, 2018 801 AM

Symbol	Qty	Label	Arrangement	Description
[Symbol]	3	T3	Single	GPC-SA1A-735-U-T3 / SSS4A15AFN1 (15' AFG)
[Symbol]	4	T5	Single	GPC-SA1A-735-U-5WQ / SSS4A15SFN1 (15' AFG)
[Symbol]	2	W	Single	MERU-LED-ACEM-CXX-IH / WALL MTD 10' AFG

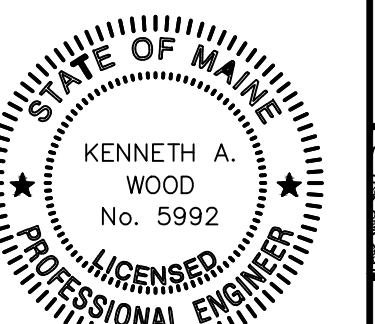


TAX MAP 29, LOT 1

PHOTOMETRIC PLAN
WELL FIELD 44 CANNABIS DISPENSARY
41 ROUTE 236, KITTERY, ME 03904

FOR:
WELL FIELD 44, LLC.
8 DEXTER LANE UNIT 8
KITTERY, MAINE 03904

ATTAR ENGINEERING, INC.
CIVIL • STRUCTURAL • MARINE • SURVEYING
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128



SCALE: 1" = 20'	APPROVED BY: MJS	DRAWN BY: MJS
DATE: 08/04/22	REVISION DATE: -	REVISIONS:

NO.	DESCRIPTION	DATE

JOB NO: C277-21 FILE: WF44 DEV BASE.DWG SHEET: 8

DESCRIPTION

The Galleon™ Pedestrian Companion LED luminaire's appearance is complementary with the Galleon area and site luminaire bringing a modern architectural style to lighting applications. Flexible mounting options accommodate a variety of pole configurations and mounting heights, allowing it to be offered as a pedestrian or site lighting solution. The Galleon family of LED products deliver exceptional performance with patented, high-efficiency AccuLED Optics™, providing uniform and energy conscious lighting for parking lots, building and security lighting applications.

SPECIFICATION FEATURES

Construction

Driver enclosure thermally isolated from optics for optimal thermal performance. Heavy wall aluminum housing die-cast with integral external heat sinks to provide superior structural rigidity and an IP66 rated housing. Overall construction passes a 1.5G vibration test to ensure mechanical integrity.

Optics

Choice of sixteen patented, high-efficiency AccuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K, 5000K and 6000K CCT. Greater than 90%

lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 1200mA, 800mA, and 600mA drive currents.

Electrical

LED drivers are mounted for ease of maintenance. 120-277V 50/60Hz, 347V or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Drivers are provided standard with 0-10V dimming. An optional Eaton proprietary surge protection module is available and designed to withstand 10kV of transient line surge. The Galleon Pedestrian LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option.

Catalog #		Type
Project		
Comments		Date
Prepared by		

Mounting

The innovative quick mounting arm attaches to new or existing 4-5" round or square poles with 1-1/2" to 4-7/8" drilling patterns without re-drilling. The mast arm adapter fits horizontal 2-3/8" tenon.

Finish

Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty

Five-year warranty.

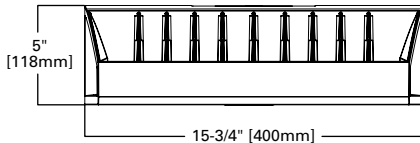


GPC GALLEON PEDESTRIAN COMPANION

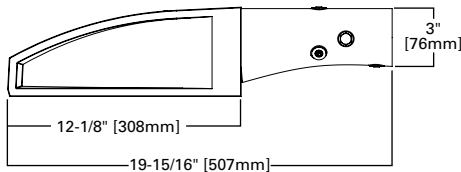
1-2 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

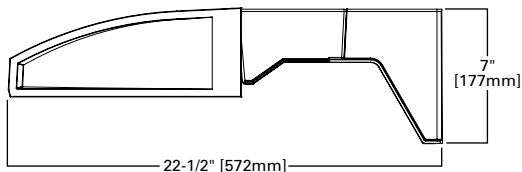
DIMENSIONS



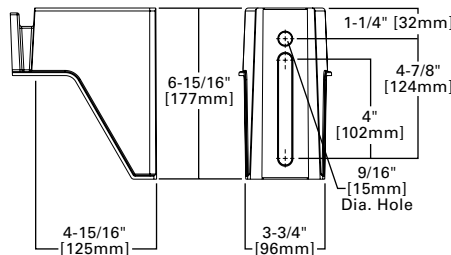
MAST ARM MOUNT



QUICK MOUNT ARM (OVERALL DIMENSIONS)



QUICK MOUNT ARM (POLE MOUNTING DETAILS)



CERTIFICATION DATA

UL/cUL Listed
LM79 / LM80 Compliant
IP66 Housing
ISO 9001
DesignLights Consortium® Qualified*

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V 50/60Hz
347V, 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

EPA

Effective Projected Area (Sq. Ft.)
Quick Mount Arm: 0.73
Mast Arm: 0.62

SHIPPING DATA

Approximate Net Weight:
27 lbs. (12.2 kgs.)

POWER AND LUMENS

Number of Light Squares	1				2				
	600mA	800mA	1.0A	1.2A	600mA	800mA	1.0A	1.2A	
Drive Current	600mA	800mA	1.0A	1.2A	600mA	800mA	1.0A	1.2A	
Nominal Power (Watts)	34	44	59	67	66	86	113	129	
Input Current @ 120V (A)	0.3	0.39	0.51	0.58	0.58	0.77	1.02	1.16	
Input Current @ 208V (A)	0.17	0.22	0.29	0.33	0.34	0.44	0.56	0.63	
Input Current @ 240V (A)	0.15	0.19	0.26	0.29	0.3	0.38	0.48	0.55	
Input Current @ 277V (A)	0.14	0.17	0.23	0.25	0.28	0.36	0.42	0.48	
Input Current @ 347V (mA)	0.11	0.15	0.17	0.2	0.19	0.24	0.32	0.39	
Input Current @ 480V (mA)	0.08	0.11	0.14	0.15	0.15	0.18	0.24	0.3	
Optics									
T2	4000K/5000K Lumens	4,204	5,156	6,381	7,000	8,215	10,075	12,470	13,680
	3000K Lumens	3,975	4,874	6,033	6,618	7,767	9,525	11,790	12,934
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2
T2R	4000K/5000K Lumens	4,464	5,474	6,775	7,431	8,723	10,696	13,239	14,523
	3000K Lumens	4,221	5,176	6,406	7,025	8,247	10,113	12,517	13,731
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2
T3	4000K/5000K Lumens	4,285	5,256	6,505	7,135	8,375	10,269	12,710	13,943
	3000K Lumens	4,051	4,969	6,150	6,746	7,918	9,710	12,017	13,182
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2
T3R	4000K/5000K Lumens	4,380	5,372	6,648	7,294	8,561	10,498	12,993	14,253
	3000K Lumens	4,141	5,078	6,286	6,895	8,094	9,925	12,285	13,475
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2
T4FT	4000K/5000K Lumens	4,311	5,286	6,542	7,177	8,422	10,329	12,784	14,024
	3000K Lumens	4,075	4,998	6,185	6,786	7,963	9,766	12,086	13,259
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3
T4W	4000K/5000K Lumens	4,254	5,217	6,458	7,084	8,313	10,195	12,619	13,843
	3000K Lumens	4,023	4,933	6,105	6,698	7,860	9,639	11,931	13,088
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
SL2	4000K/5000K Lumens	4,196	5,147	6,370	6,988	8,202	10,058	12,449	13,656
	3000K Lumens	3,967	4,866	6,022	6,607	7,755	9,509	11,771	12,911
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3
SL3	4000K/5000K Lumens	4,284	5,255	6,504	7,134	8,374	10,268	12,709	13,941
	3000K Lumens	3,849	4,720	5,842	6,408	7,520	9,224	11,415	12,523
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3
SL4	4000K/5000K Lumens	4,071	4,992	6,179	6,778	7,954	9,756	12,074	13,246
	3000K Lumens	3,849	4,720	5,842	6,408	7,520	9,224	11,415	12,523
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3
5NQ	4000K/5000K Lumens	4,420	5,420	6,709	7,358	8,637	10,591	13,108	14,380
	3000K Lumens	4,179	5,124	6,343	6,957	8,166	10,013	12,393	13,595
	BUG Rating	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
5MQ	4000K/5000K Lumens	4,501	5,520	6,831	7,494	8,795	10,786	13,350	14,644
	3000K Lumens	4,256	5,219	6,458	7,085	8,316	10,198	12,622	13,845
	BUG Rating	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2
5WQ	4000K/5000K Lumens	4,513	5,534	6,849	7,514	8,819	10,815	13,385	14,683
	3000K Lumens	4,268	5,232	6,475	7,104	8,338	10,224	12,656	13,882
	BUG Rating	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
SLL/SLR	4000K/5000K Lumens	3,765	4,619	5,716	6,270	7,358	9,023	11,167	12,251
	3000K Lumens	3,560	4,367	5,404	5,927	6,957	8,531	10,559	11,583
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3
RW	4000K/5000K Lumens	4,379	5,370	6,647	7,293	8,558	10,494	12,989	14,250
	3000K Lumens	4,141	5,077	6,285	6,895	8,092	9,922	12,281	13,473
	BUG Rating	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
AFL	4000K/5000K Lumens	4,396	5,390	6,672	7,318	8,590	10,533	13,037	14,301
	3000K Lumens	4,156	5,096	6,308	6,919	8,121	9,959	12,326	13,521
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2

* Nominal lumen data for 70 CRI. BUG rating for 4000K/5000K. Refer to IES files for 3000K BUG ratings.

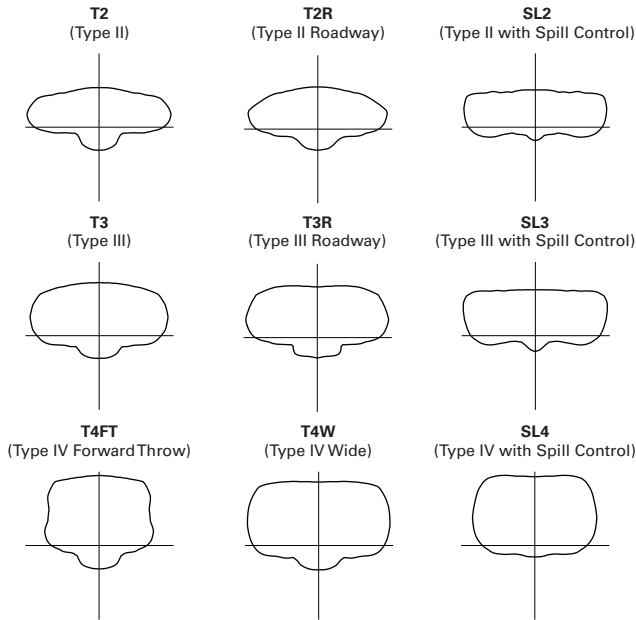


Eaton
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 Peachtree City, GA 30269
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www.eaton.com/lighting

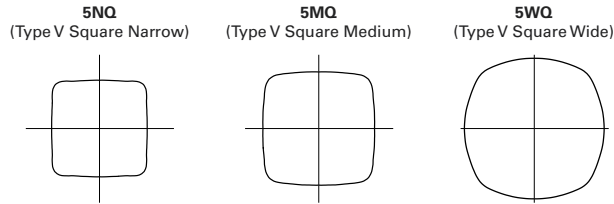
Specifications and
 dimensions subject to
 change without notice.

OPTICAL DISTRIBUTIONS

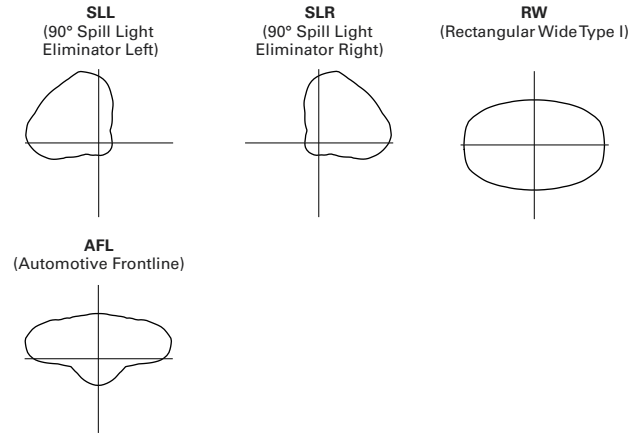
Asymmetric Area Distributions



Symmetric Distributions

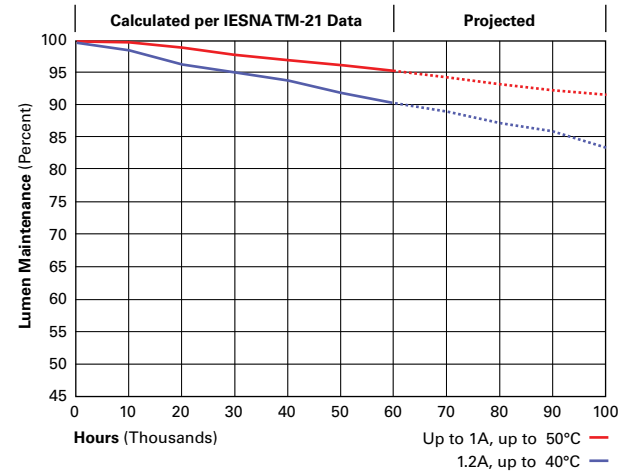


Specialized Distributions



LUMEN MAINTENANCE

Drive Current	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Projected L70 (Hours)
Up to 1A	Up to 50°C	> 95%	> 416,000
1.2A	Up to 40°C	> 90%	> 205,000



LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

CONTROL OPTIONS

0-10V (DIM)

This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (P, R and PER7)

Optional button-type photocontrol (P) and photocontrol receptacles (R and PER7) provide a flexible solution to enable “dusk-to-dawn” lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

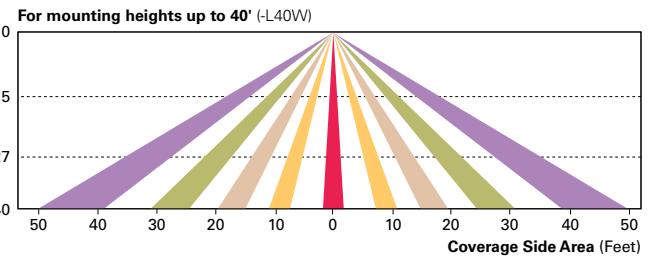
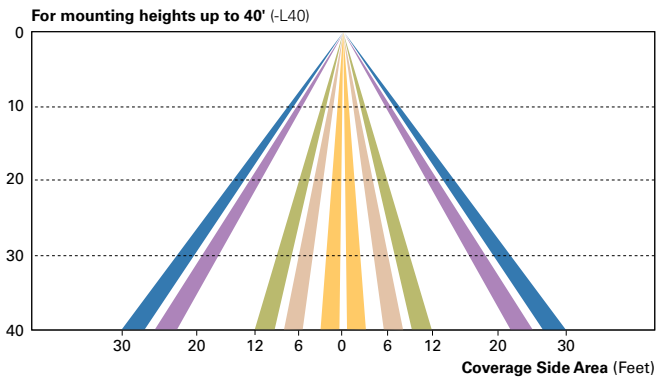
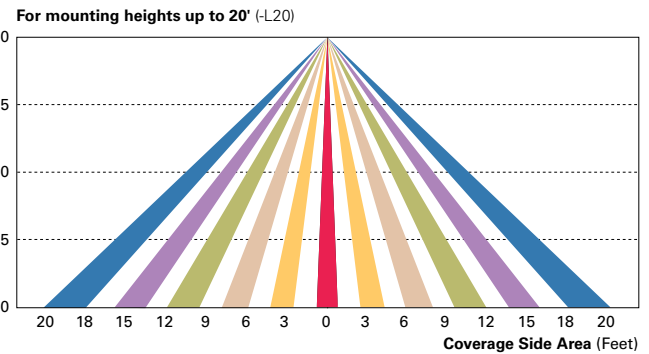
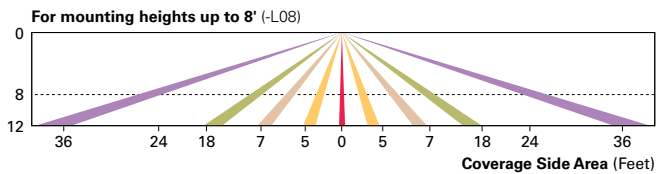
After Hours Dim (AHD)

This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a “dusk-to-dawn” period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (MS/DIM-LXX and MS-LXX)

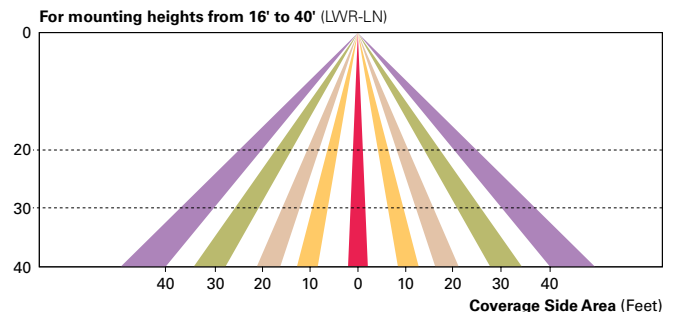
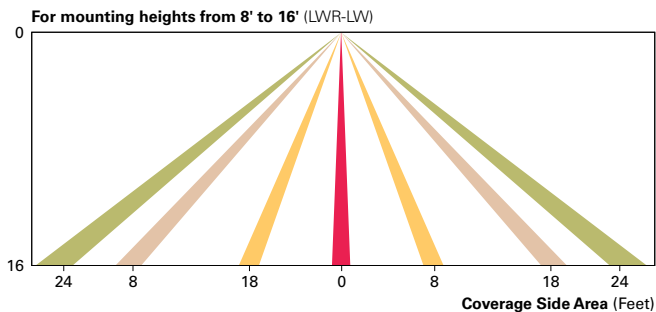
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines.

These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for “dusk-to-dawn” control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters. A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-40'.



LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)

The Eaton’s LumaWatt Pro powered by Enlighted is a connected lighting solution that combines a broad selection of energy-efficient LED luminaires with a powerful integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of building resources, beyond lighting.



WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A)

The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

ORDERING INFORMATION

Sample Number: GPC-AF-02-LED-E1-T3-GM

Product Family	Light Engine	Number of Light Squares ¹	Lamp Type	Voltage	Distribution	Color	Mounting Options
GPC=Galleon Pedestrian Companion	AF=1A Drive Current	01=1 02=2	LED=Solid State Light Emitting Diodes	E1=120-277V 347=347V ² 480=480V ^{2,3}	T2=Type II T2R= Type II Roadway T3=Type III T3R= Type III Roadway T4FT=Type IV Forward Throw T4W=Type IV Wide SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right RW=Rectangular Wide Type I 5NQ=Type V Square Narrow 5MQ=Type V Square Medium 5WQ=Type V Square Wide AFL=Automotive Frontline	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White CC=Custom Color ⁴	QM=Quick Mount Arm for Round or Square Pole ^{5,6} MA=2-3/8" Mast Arm ^{5,7}
Options (Add as Suffix)					Accessories (Order Separately)		
7027=70 CRI / 2700K ⁸ 7030=70 CRI / 3000K ⁸ 8030=80 CRI / 3000K ⁸ 7050=70 CRI / 5000K ⁸ 7060=70 CRI / 6000K ⁸ 600=Drive Current Factory Set to 600mA 800=Drive Current Factory Set to 800mA 1200=Drive Current Factory Set to 1200mA ⁹ F=Single Fused (120, 277 or 347V. Must Specify Voltage) FF=Double Fused (208, 240 or 480V. Must Specify Voltage) 10K=10kV Surge Module DIM=0-10V Dimming Leads ^{10,11} HA=50°C High Ambient ¹² P=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) R=NEMA Twistlock Photocontrol Receptacle PER7=NEMA 7-PIN Twistlock Photocontrol Receptacle ¹³ AHD145=After Hours Dim, 5 Hours ¹⁴ AHD245=After Hours Dim, 6 Hours ¹⁴ AHD255=After Hours Dim, 7 Hours ¹⁴ AHD355=After Hours Dim, 8 Hours ¹⁴ MS-LXX=Motion Sensor for On/Off Operation ^{15,16,17} MS/DIM-LXX=Motion Sensor for Dimming Operation ^{15,16,17} LWR-LW=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height ^{17,18,19} LWR-LN=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height ^{17,18,19} LCF=Light Square Trim Plate Painted to Match Housing ²⁰ MT=Factory Installed Mesh Top L90=Optics Rotated 90° Left R90=Optics Rotated 90° Right HSS=Factory Installed House Side Shield ²¹ CE=CE Marking and Small Terminal Block ²²					OA/RA1013=Photocontrol Shorting Cap OA/RA1016=NEMA Photocontrol - Multi-Tap 105-285V OA/RA1201=NEMA Photocontrol - 347V OA/RA1027=NEMA Photocontrol - 480V MA1252=10kV Circuit Module Replacement MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon MA1037-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon MA1197-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon MA1188-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon MA1189-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon MA1190-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon MA1191-XX=2@120° Tenon Adapter for 2-3/8" O.D. Tenon MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon MA1039-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon MA1192-XX=3@120° Tenon Adapter for 3-1/2" O.D. Tenon MA1193-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon MA1194-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon MA1195-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon FSIR-100=Wireless Configuration Tool for Occupancy Sensor ¹⁶ LS/HSS=Field Installed House Side Shield ^{21,23} WOLC-7P-10A=WaveLinX Outdoor Control Module (7-pin) ²⁴		

- NOTES:**
- Standard 4000K CCT and minimum 70 CRI.
 - Requires the use of a step down transformer. Not available in combination with sensor options at 1200mA.
 - Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
 - Custom colors are available. Setup charges apply. Paint chip samples required. Extended Lead times apply.
 - Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
 - Quick mount arm adapter is factory installed. Pole mounting bracked shipped in box. Suitable for 1.5G. Fits square and round pole up to 6" O.D.
 - Mast arm adapter factory installed (2-3/8" O.D. arm only). Suitable for 3G vibration.
 - Extended lead times apply. Use dedicated IES files when performing layouts.
 - Not available with HA option.
 - Cannot be used with other control options.
 - Low voltage control lead brought out 18" outside fixture.
 - HA option available for single light square only. Not available with 1200mA drive current.
 - Compatible with standard 3-PIN photocontrols, 5-PIN or 7-PIN ANSI controls.
 - Requires the use of P photocontrol or the PER7 or R photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
 - Replace LXX with mounting height in feet for proper lens selection (e.g., L8=8' mounting height). L8, L20, L40, and L40W are available options.
 - The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
 - Includes integral photosensor.
 - Bronze sensor is shipped with Bronze fixtures. White sensor shipped on all other housing color options.
 - LumaWatt wireless sensors are factory installed requiring network components in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information.
 - Not available with HSS option.
 - Only for use with SL2, SL3, SL4, and AFL distributions. The light square trim plate is painted black when the HSS option is selected.
 - CE is not available with the LWR, MS, MS/DIM, P, R or PER7 options. Available in 120-277V only.
 - One required for each light square.
 - Requires 7-pin NEMA twistlock photocontrol receptacle. The WOLC-7 cannot be used in conjunction with additional sensors or controls.

Steel Poles



SSS SQUARE STRAIGHT STEEL

Catalog #		Type
Project		
Comments		Date
Prepared by		

FEATURES

- ASTM Grade steel base plate with ASTM A366 base cover
- Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
- 10'-39' mounting heights
- Drilled or tenon (specify)

DESIGN CONSIDERATIONS

Wind induced vibrations resulting from steady, unidirectional winds and other aerodynamic forces, as well as vibration and coefficient of height factors for non-grounded mounted installations (e.g., installations on bridges or buildings) are not included in this document. The information contained herein is for general guidance only and is not a replacement for professional judgement. Consult with a professional, and local and federal standards, before ordering to ensure product is appropriate for the intended purpose and installation location. Also, please review Eaton's Light Pole White Paper for risk factors and design considerations. [Learn more.](#)

Specifications and dimensions subject to change without notice. Consult your lighting representative at Eaton or visit www.eaton.com/lighting for available options, accessories and ordering information.

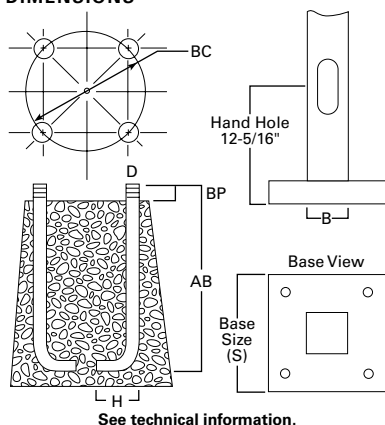
ORDERING INFORMATION

SAMPLE NUMBER: SSA5A20SFM1XG

Product Family	Shaft Size (Inches) ¹	Wall Thickness (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Arm Lengths (Feet)	Options (Add as Suffix)
SSS=Square Straight Steel	4=4" 5=5" 6=6"	A=0.120" M=0.188" X=0.250"	10=10' 15=15' 20=20' 25=25' 30=30' 35=35' 39=39'	S=Square Steel Base	F=Dark Bronze G=Galvanized Steel J=Summit White K=Carbon Bronze L=Dark Platinum R=Hartford Green S=Silver T=Graphite Metallic V=Grey W=White X=Custom Color Y=Black	2=2-3/8" O.D. Tenon (4" Long) 3=3-1/2" O.D. Tenon (5" Long) 4=4" O.D. Tenon (6" Long) 9=3" O.D. Tenon (4" Long) 6=2-3/8" O.D. Tenon (6" Long) 7=4" O.D. Tenon (10" Long) A=Type A Drilling C=Type C Drilling E=Type E Drilling F=Type F Drilling G=Type G Drilling J=Type J Drilling K=Type K Drilling M=Type M Drilling N=Type N Drilling R=Type R Drilling S=Standard Upsweep Arm Z=Type Z Drilling	1=Single 2=2 at 180° 3=Triple ² 4=4 at 90° 5=2 at 90° X=None	X=None 2=2' 3=2.5' 4=4' 6=6' 8=8'	A=1/2" Tapped Hub ³ B=3/4" Tapped Hub ³ C=Convenience Outlet ⁴ E=GFCI Convenience Outlet ⁴ G=Ground Lug H=Additional Hand Hole ⁵ V=Vibration Dampener

NOTES: 1. All shaft sizes nominal. 2. Square poles are 3 at 90°, round poles are 3 at 120°. 3. Tapped Hub is located 5' below the pole top and on the same side of pole as hand hole, unless specified otherwise. 4. Outlet is located 4' above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. 5. Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

DIMENSIONS



Effective Projected Area (At Pole Top)

Mounting Height (Feet)	Catalog Number ^{1,2}	Wall Thickness (Inches)	Base Square ³ (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection ³ (Inches)	Shaft Size ³ (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) ⁴				Max. Fixture Load - Includes Bracket (Pounds)
									80 mph	90 mph	100 mph	110 mph	
MH			S	BC	BP	B	D x AB x H						
10	SSS4A10S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	85	30.0	22.0	17.0	13.0	100
15	SSS4A15S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	118	15.0	11.5	8.7	6.5	100
20	SSS4A20S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	150	8.7	5.9	3.9	2.5	150
20	SSS5A20S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	183	15.4	11.1	7.9	5.5	150
25	SSS4A25S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	181	3.7	1.7	0.3	--	200
25	SSS5A25S	0.120	10-1/2	11	5	5	3/4 x 25 x 3	222	9.3	6.0	3.5	1.6	200
25	SSS6A25S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	284	9.9	6.1	3.5	1.2	200
30	SSS5A30S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	260	4.7	2.1	--	--	200
30	SSS5M30S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	392	10.4	6.4	3.5	1.5	200
30	SSS6A30S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	330	4.3	1.4	--	--	200
30	SSS6M30S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	489	19.0	13.0	8.7	5.6	200
35	SSS5M35S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	453	5.8	2.8	--	--	200
35	SSS6M35S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	564	12.8	7.2	3.7	1.0	200
35	SSS6X35S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	738	16.5	11.0	6.8	3.5	200
39	SSS6M39S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	618	7.3	3.0	--	--	300
39	SSS6X39S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	816	13.0	7.0	3.7	0.8	300

Effective Projected Area (Two Feet Above Pole Top)

Mounting Height (Feet)	Catalog Number ^{1,2}	Wall Thickness (Inches)	Base Square ³ (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection ³ (Inches)	Shaft Size ³ (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) ⁴				Max. Fixture Load - Includes Bracket (Pounds)
									80 mph	90 mph	100 mph	110 mph	
MH			S	BC	BP	B	D x AB x H						
10	SSS4A10S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	85	23.0	17.5	14.0	11.0	100
15	SSS4A15S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	118	13.4	10.0	7.5	5.7	100
20	SSS4A20S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	150	7.6	5.2	3.4	2.1	150
20	SSS5A20S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	183	13.8	9.9	7.1	4.9	150
25	SSS4A25S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	181	3.4	1.6	0.3	--	200
25	SSS5A25S	0.120	10-1/2	11	5	5	3/4 x 25 x 3	222	8.5	5.5	3.2	1.5	200
25	SSS6A25S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	284	9.1	5.6	3.0	1.2	200
30	SSS5A30S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	260	1.8	--	--	--	200
30	SSS5M30S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	392	9.6	5.9	1.9	0.2	200
30	SSS6A30S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	330	4.1	1.3	--	--	200
30	SSS6M30S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	489	18.5	12.5	8.4	5.3	200
35	SSS5M35S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	453	5.5	2.4	--	--	200
35	SSS6M35S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	564	11.8	7.0	3.5	1.0	200
35	SSS6X35S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	738	16.0	10.5	6.4	3.4	200
39	SSS6M39S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	618	7.0	2.4	--	--	300
39	SSS6X39S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	816	12.0	6.7	3.0	0.5	300

NOTES:

1. Catalog number includes pole with hardware kit. Anchor bolts not included. Before installing, make sure proper anchor bolts and templates are obtained.
2. Tenon size or machining for rectangular arms must be specified. Hand hole position relative to drill location.
3. Shaft size, base square, anchor bolts and projections may vary slightly. All dimensions nominal.
4. EPAs based on shaft properties with wind normal to flat. EPAs calculated using base wind velocity as indicated plus 30% gust factor.



MERU Series

LED GENERAL & EMERGENCY LIGHTING



PROJECT: _____
 FIXTURE TYPE: _____
 LOCATION: _____
 CONTACT/PHONE: _____

PRODUCT DESCRIPTION

The MERU Series is an architectural, low-profile outdoor light, offering “normally On” AC and emergency lighting with powerful LED illumination. The housing is fully sealed and gasketed, and has an IP65 rating. Designed for wall mounting with universal K/O pattern in back-plate for easy installation to most standard size junction boxes. Includes a single 1/2” NPT conduit entry in the top, center of the housing. Illumination provided by 8 high power LEDs which achieve 1,600 lumens in AC and 600 lumens in emergency. LED color at 4000K.

PRODUCT SPECIFICATIONS

CONSTRUCTION

Die cast aluminum housing with superior heat sink • Scratch resistant Polyester powder coat finish • UV resistant polycarbonate lens • Snap-fit housing and mounting plate are held together by four stainless steel clips • Universal mounting pattern molded into the back plate • 1/2" threaded top access for surface conduit installation • Silicone rubber seal with hollow center, shape adaptive design protects the electrical components • Junction box neoprene seal is attached to the back plate for a weather proof installation • Dark Bronze or White textured finish.

ELECTRICAL

Dual voltage 120/277VAC 60Hz input • Solid state charging and switching • Battery low voltage disconnect • AC power indicator and test switch at the bottom of the unit • Standard with Self Diagnostics to monitor proper operation.

LAMPS

Supplied with eight (8) LG SMD 4000K LED'S • L70 > 72,000hours • 17 Watts total (32 Watts with IH option) • 1600 Lumens in AC mode, 600 Lumens in Emergency mode • Full cut-off optics for Dark Sky compliance

BATTERY

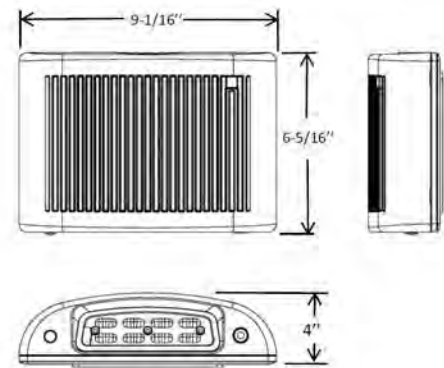
Maintenance-free, long-life rechargeable NiCad battery will operate fixture for a minimum of 90 minutes in the event of a power outage • 24 hour recharge after 90 minute discharge.

CODE COMPLIANCE

UL924 • Listed for wet location applications (0°C-50°C) • Optional "IH" cold weather package for (-40°C-50°C) • IP65 Rated • NFPA 101 Life Safety Code compliant • NEC and OSHA compliant • DLC Listed • RoHS Compliant

WARRANTY

5-year warranty. Product specifications subject to change without notice.



ACEM Model (NiCad Battery Backup)

Integral photocell: Unit operates as a dusk to dawn luminaire and in the event of a power failure as an emergency light.

Remote Switched: The integral photocell can be defeated to allow remote switching for normal operation. In the event of a power failure unit operates as an emergency light.

INSTALLATION

MOUNTING

Suitable for indoor or outdoor wall mounting on junction box, or with surface conduit using the supplied 1/2" threaded top access • Mounting plate has molded universal mounting pattern for simple mounting over junction box.

ORDERING INFORMATION

model	operation mode	housing color	options
MERU-LED	ACEM = General & Emergency Lighting AC = General Lighting	DB = Dark Bronze WH = White BK = Black NK = Nickel	Self-Diagnostics & Photocell (Included Standard) IH = Internal Heater PIR = Passive Infra-Red Motion Sensor
Ordering Example: MERU-ACEM-DB			





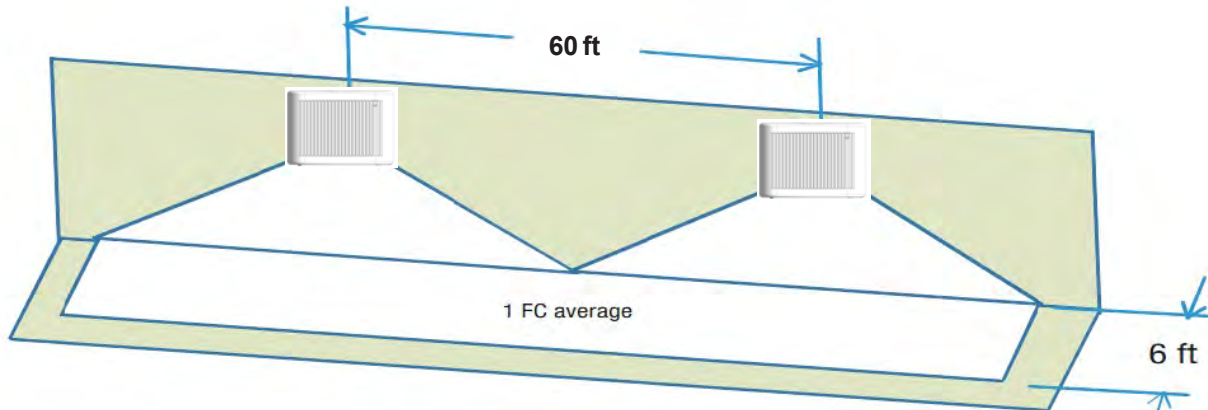
MERU Series

LED GENERAL & EMERGENCY LIGHTING



PROJECT: _____
 FIXTURE TYPE: _____
 LOCATION: _____
 CONTACT/PHONE: _____

PHOTOMETRICS



Note: Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Illustration shown is a guideline for corridor center-to-center with 9 ft mounting height and Minimum 80-50-20 reflectance values.

Mounting Height	Center to center distance
7.2ft	45ft
9ft	60ft
10ft	65ft

SELF DIAGNOSTICS

Included Self Diagnostic

Diagnostic Indicator / Test Switch	● Ready	Manual Testing Press button once - 1 minute test Press button twice - 5 minute test Press button 3 times - 30 minute test Press button 4 times - 90 minute test
	● In Test	
	● Battery Circuit Fault	
	● Battery Capacity Failure	
	● Charger Failure	
	● Transformer Fault	
	● Lamp Failure	

Full self-test, self-diagnostic system is standard in every unit, performs a monthly test as well as continuously monitoring all functions to ensure reliability, a manual test may be initiated at any time



Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
207 363 4532
mcuomosoil@gmail.com

4 August 2022

Wetland Restoration Sequence and Goals

Well Field 44, LLC
41 Route 236, Kittery
2 August 2022

1. Two areas are to be restored. The larger is about 10,500 square feet at the westerly side of the project site. The second is about 2,500 square feet at the south easterly corner of the project site.
2. The limit of the restoration areas will be marked on the ground with paint. The toe of slope and top of slope will be marked. The slope will be no steeper than 3:1.
3. The applicant will secure a capable excavation or landscape contractor to perform the restoration. The contractor will be responsible for DigSafe markout. The wetland scientist will meet with the selected contractor to review the intent and goals of this restoration.
4. The contractor will notify the wetland scientist in advance when work will occur. The wetland scientist will make site inspections while the restoration work is taking place.
5. The contractor will remove material from filled wetlands to the elevation of the remnant wetland. The work shall be sequenced so the contractor will not enter the wetland with equipment or vehicles. Any buried waste or large trash will be removed from the site and disposed of properly. Any clean fill will be reused on the site or removed from the site and placed legally elsewhere. A slope will be created from the toe of slope to the top of slope painted line.
6. Exposed soils within the wetland shall be seeded with one of the following wetland seed mixes at the rate the supplier specifies:
 - <https://newp.com/wp-content/uploads/2018/04/WETMIX2018.pdf>
 - <http://www.vermontwetlandplants.com/marsh-swamp-bog-mix/>
 - <https://www.stoneyridgeenv.com/environmental-permitting-plants->

seeds.html

7. Exposed soils within the wetland shall be mulched with salt marsh hay at the rate of 1 bale of hay per 500 square feet. Estimated wetland area to be seeded and mulched is +/-13,000 square feet.

8. 'Erosion Control Mix' or equivalent will be installed as a berm at the re-established wetland boundary toe of slope.

<https://www.casella.com/products/earthlife-products/mulch/erosion-control-mix>

9. Exposed upland soils on the newly created slope shall be seeded with one of the following and mulched at the rate of 1 bale of hay per 500 square feet.

<https://www.tractorsupply.com/tsc/product/barenbrug-k31-plus-clover-40-lb-25694>

<https://willistonvillagehardware.com/catalog/product/116751/agway-conservation-green-10-lb>

10. Seed and mulch shall be applied immediately upon finishing of any section of the work. Optimal time of year for seeding is autumn, winter, or spring. Seeding may be delayed depending on when the work is done. Mulching will proceed even if seeding is delayed.

11. When the above wetland restoration work is done, the wetland scientist will document with photos and send a report to Attar Engineering and the town.

12. A monitoring visit will be made by the wetland scientist about 12 months after finishing the wetland restoration work. If the restored wetlands are dominated by non-invasive species (75% area covered), the restoration will be considered 'complete'. A report with photos will be sent to Attar Engineering and the town.

13. Alternately, if the restored wetlands have more than 25% coverage of invasive species, plant-specific treatment by a licensed herbicide applicator will be performed. One month later the wetland scientist will revisit the site and document invasive plant mortality. A report with photos will be sent to Attar Engineering and the town, and the restoration will be considered 'complete'.

End

From: [Mike Sudak](#)
To: ["Diane Morabito"](#)
Cc: [Ken Wood](#); [Wyatt](#)
Subject: RE: 41 Route 236, Kittery - Additional TIA Request
Date: Wednesday, August 3, 2022 12:53:00 PM
Attachments: [image001.png](#)

Hi Diane,

We are in agreement on your recommendation and I just cleared it with my Client, so you are welcome to proceed as you have described.

Please let me know if there is anything Attar can do to facilitate this counts study.

Thanks,
-Mike

From: Diane Morabito <mordi@sewall.com>
Sent: Wednesday, August 3, 2022 12:11 PM
To: Mike Sudak <mike@attarengineering.com>
Subject: RE: 41 Route 236, Kittery - Additional TIA Request

Hi Mike,

The TIA was performed for a larger facility, which would have greater trips. The volumes had high seasonal factors given the time of year the counts were done. I am 99 % certain a right turn lane would not be warranted by the volumes. I recommend that we do new summer counts to obtain actual peak volumes (rather than factoring the previous December volumes) and that we then reassess the need for a left-turn lane (if it meets the warrant) since I think it will be marginal with the lower volumes. It is unlikely MaineDOT would allow it to be built if warrants aren't met. I estimate the cost to do new summer PM counts, re-evaluate LOS and turn lane warrants [REDACTED] This does not include a formal write up for later submission to the town.

I think this is the best approach to take. Let me know if we should proceed.

Diane

Diane W. Morabito, PE, PTOE

Vice President Traffic Engineering

T: +1. 207.817.5440 | **F:** +1. 207.827.3641 | **E:** diane.morabito@sewall.com

77 Exchange Street | Suite 401 | Bangor, Maine 04401



From: Mike Sudak <mike@attarengineering.com>
Sent: Wednesday, August 3, 2022 11:28 AM
To: Diane Morabito <mordi@sewall.com>
Cc: Ken Wood <Ken@attarengineering.com>; Wyatt <wyatt@attarengineering.com>
Subject: 41 Route 236, Kittery - Additional TIA Request

Good Morning Diane,

Thanks again for helping me out with the Eliot Planning Board last week, I'm very pleased to finally have that project moving forward. This is Eliot's first Subdivision Application in years (at least the duration of Planner Brubaker's tenure), so there have certainly been some hurdles to overcome while everyone gets comfortable.

At any rate, I'd like to change subjects to the project in Kittery that you helped Brian with during this past winter/spring that I've now taken over with his departure – the marijuana dispensary on Route 236 near Martin Road. I was before the Planning Board the end of last month discussing this application and have made quite a few changes to the site since you've likely last had eyes on it. To briefly provide overview:

- The one-way exit that was proposed onto the southerly-abutting property for existing trips and overflow parking has been abandoned (after further research, the abutting property has no surplus of parking that we could avail ourselves of).
- We are proposing to remove the existing gravel road entirely, restoring the wetland to its original grade.
- Some additional parking has been added on-site, and the travelway has been designed to allow full circulation back to the proposed entrance onto Route 236.

While this topic has been discussed by the Planning Board throughout the approvals process, now that it is our sole means of egress to and from the site, the proposed entrance is going to be heavily scrutinized by the Town. I have attached an excerpt from your original TIA in December of last year, specifically the section related to turn lanes in the Route 236 corridor.

The Planning Board is of the opinion that they would like to see both a right-hand turn lane for southbound traffic and a left-hand turn lane for northbound traffic to be constructed, if possible. You're welcome to use the attached Grading & Utility Plan as reference, but I am skeptical of the Route 236 corridor in this area having the capacity for such a buildout of even one turning lane, let alone two. This section is guardrailed and has steep slopes in the range of 10'-12' high.

What I'm looking for (maybe someday I'll learn to be less long-winded) is if you think it appropriate to provide an opinion on the constructability of such turning lanes (if one or both are possible/practical). I have engaged the MDOT as this is a State-maintained corridor but have not heard back yet, and in the meantime I wanted to reach out to you and get your opinion.

Take care, talk soon.

-Mike

Michael J. Sudak, E.I.

Civil Engineer

Attar Engineering, Inc.

1284 State Road

Eliot, Maine 03903

Ph: (207) 439-6023

Fax: (207) 439-2128

Cell: (978) 317-3398



**TOWN OF KITTELY, MAINE
PLANNING OFFICE**

**PO Box 808, Kittery, Maine 03904
(207) 439-6807 Ext. 307**

COPY

**Mr. Darren LaPierre
Island Marine Service
32 Rt. 236
Kittery, Me. 03904**

May 30, 2006

Re: Operation of Boat Yard, Map 29 Lot 44 zoned C-2

Mr. LaPierre,

I have reviewed your revised site plan prepared by Civil Consultants, Inc. of So. Berwick, Me. for your boat yard. As you are probably aware, a boat yard in the C-2 (commercial – 2 zone) is a permitted use.

The narrative you have provided with your application makes the description of use for the property much more clear. Be aware that the addition of any exterior lighting on the property will have to be compliant with section 16.08.020 Standards for Exterior Lighting.

You may remember our discussion some time ago regarding storage of any type within the flood plane. Storage within the flood plane was prohibited per the approved plan for Interstate Moving and Storage (1994). Storage in this area is to continue to be prohibited.

It does appear that on a seasonal average, this particular use does not exceed the intensity of the previous storage and warehousing business that existed prior to your purchase and use of the property.

Per section 16.28.260 *Site Review Threshold*, the CEO and I concur that the current use as a boat yard, being a permitted use, and no greater intensity of use than the previous warehousing and storage use, is approved. However, be advised that this section does require that both the planner and CEO are responsible to assure that this use, (boat yard) is to maintain compliance at all times with the Kittery Land Use and Development Code/Zoning Ordinance.

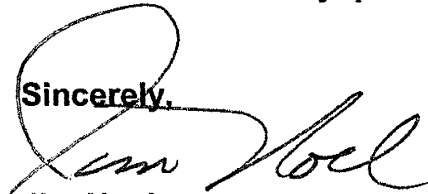
It is your responsibility, as I'm sure you are aware, to maintain all safeguards to prevent any pollutants from your business activities to enter

the adjacent wetlands or allowed to be spilled into the soils. We are therefore requesting a copy of all necessary permits that you have received from the Maine Department of Environmental Protection or any other State agency that is responsible to monitor the use and or disposal of products used in your business such as coolants, chemicals, and petroleum products etc.

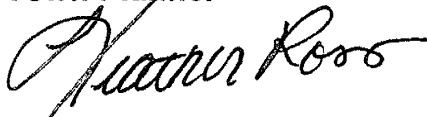
Be advised that the only *use* that you are approved for is that which falls within the definition of *boat yard* as defined within the Kittery Land Use and Development Code. Any other uses without appropriate approval will be considered a violation of the LUDC. Any additional uses will likely need to be approved by the planning board, zoning board of appeals or both.

Contact me with any questions you have on this matter.

Sincerely,



Jim Noel,
Town Planner



Heather Ross, CEO



TOWN OF KITTERY

Planning Office
200 Rogers Rd. Kittery, Maine 03904
(207) 475-1323

Request For Additional Information

Property Owner: Lapierre Propertise, LLC
Applicant: Island Marine Service c/o Darren Lapierre
Mailing Address: 32 Route 236 Kittery, ME 03904
Property Location: 41 Route 236 Kittery, ME 03904
Map Lot: Map 29 Lot 1
Proposed
Activity/Project: Boat Yard and Storage
Date: September 29, 2008

Re: Business Occupancy Change

The Planning and Code Enforcement offices have reviewed your application for a boat yard and marine storage located at 41 Route 236.

Please be advised; that the Town Planner and Code Enforcement Officer are in need of additional information for the project cited above in the Commercial 2 District (C2). Specifically, a wetlands delineation performed by a state licensed soil scientist will be needed for the property at 41 Route 236, in order to determine the project is appropriate for this site.

Please provide the requested information to the Planning Office located at the address provided above in order to complete the administrative review for the business occupancy change.

Sincerely,

Michael Asciola
Planning Clerk
Town of Kittery
Phone: 207-475-1323
Fax: 207-439-6806



DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND AND WATER QUALITY

1/21/200

CONTACT ID 7506

FIELD DETERMINATION FORM

CONTACT

DARREN LAPIERRE
ISLAND MARINE SERVICE
32 ROUTE 236
KITTERY ME 03904
2074393810

DIRECTIONS

Rt 95 south to Rt 236 exit in Kittery. Follow Rt 236 north for less than 1/4 of a mile from the turnpike to Island Marine Service on the right.

PROPERTY OWNER

LAPIERRE, DARREN
ISLAND MARINE SERVICE
KITTERY ME 03904

STAFF COPPI, CHRIS

RESOURCE FW

SITE TOWN KITTERY

MAP LOT

29 1

MEMO

On January 20, 2009, Darren Lapierre and Chris Coppi met on site at 32 Route 236 for a wetland setback determination and to discuss permitting requirements for a proposed boat storage area. The property contains a freshwater wetland with less than 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water as defined by the Natural Resources Protection Act (NRPA).

Island Marine Service is proposing to clear, strip, and grade 2 acres of upland area including areas to the wetland edge. The entire 2 acre area will be revegetated with grass. Less than 1 acre of this area will be used for the access road, and associated turnaround areas. The remaining area will be used for seasonal boat storage. A stormwater permit by rule is required for this activity which includes submitting a erosion control and site plan to scale indicating the location of the access road, turnaround area, and storage area.

Under the NRPA, the Department regulates activities in the wetland but not within 75 feet of the edge of the wetland. The property qualifies for a one-time only wetland alteration exemption of no more than 4,300 square feet of alteration which can include removing vegetation and placing fill material in the wetland. A NRPA permit will be required for wetland alterations exceeding this amount.

NAME: Chris Coppi 1/21/09

RECEIVED 1/15/2009 SITE VISIT 1/20/2009 COMPLETED 1/21/2009



TOWN OF KITTEERY

Planning Office
200 Rogers Rd. Kittery, Maine 03904
(207) 475-1323

NOTICE OF DECISION

Property Owner: Lapierre Properties, LLC
Applicant: Island Marine Service c/o Darren Lapierre
Mailing Address: 32 Route 236 Kittery, ME 03904
Property Location: 41 Route 236 Kittery, ME 03904
Map Lot: Map 29 Lot 1
Proposed Activity/Project: Boat Yard and Storage
Date: February 19, 2009

Re: Business Occupancy Change

The Planning and Code Enforcement offices have reviewed your latest application for Business Occupancy Change for the property located at 41 Route 236, as an expansion of your existing business, Island Marine Services, by developing this property as a boat yard and marine storage.

Your latest submission received on February 17, 2009 included a site plan with wetlands sketch prepared by Attar Engineering, Inc. and correspondences from the State of Maine, Department of Environmental Protection (DEP). A DEP Field Determination Form prepared by Chris Coppi, describes a site visit on January 20, 2009, and a one-time approval to alter a 4,300 square foot wetland. The report also details project requirements set forth by DEP.

Please be advised; that the Town Planner and Code Enforcement Officer approve your Business Occupancy Change for the project cited above in the Commercial 2 District (C2) based upon the following findings:

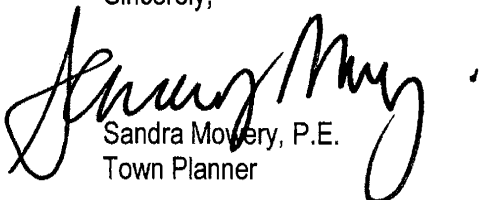
- Your proposed project is in compliance with zoning regulations for the Commercial 2 District (C2).
- You are working with DEP develop your project in compliance with state and local wetlands and environmental law.

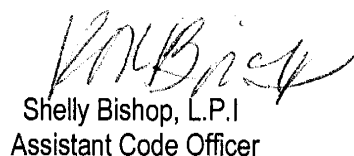
Review Threshold - In accordance with Section 16.16.020(E) the Land Use and development Code, the Town Planner and Code Enforcement Officer shall review and approve or refer the applicant to the Planning Board.

This approval of Change of Business Occupancy **IS NOT** a building permit or a sign permit.

Any proposed field changes, diversion from or revisions to the plans and construction documents after approval shall be reported to the Code Enforcement Officer prior to proceeding with the proposed changes. Any site changes not approved in this Notice of Decision will be in violation of State law and Town ordinances.

Sincerely,


Sandra Mowery, P.E.
Town Planner


Shelly Bishop, L.P.I.
Assistant Code Officer



TOWN OF KITTERY

Planning Office
200 Rogers Rd. Kittery, Maine 03904
(207) 475-1323

NOTICE OF DECISION AMENDMENT

Property Owner: Lapierre Properties, LLC
Applicant: Island Marine Service c/o Darren Lapierre
Mailing Address: 32 Route 236 Kittery, ME 03904
Property Location: 41 Route 236 Kittery, ME 03904
Map Lot: Map 29 Lot 1
Proposed Activity/Project: Boat Yard and Storage
Date: February 24, 2009

Re: Business Occupancy Change

This letter is in follow-up to our earlier phone conversation. Upon further review of your site plan submitted February 17, 2009, the Planning and Development Office discovered that the proposed 30 foot buffer area abutting the residential lots on Martin Rd. will need to be expanded to 40 feet, in order to comply with the town ordinance. The following ordinance sections related to buffering standards are applicable to your project.

“16.32.430 Buffer areas.

Any nonresidential yard setback space abutting an existing or potential residential area shall be maintained as a buffer strip by the developer. Such buffer area shall be for the purpose of eliminating any adverse effects upon the environmental or aesthetic qualities of abutting properties or any type of nuisance affecting the health, safety, welfare and property values of the residents of Kittery. (Land use and dev. code § 8.10.3, 1994)”

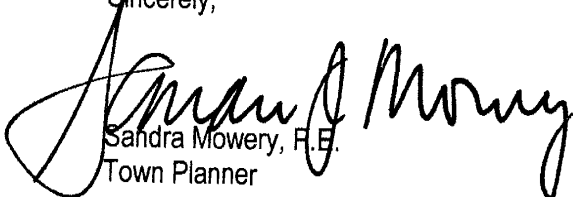
“16.12.110 Commercial—C.

5. *The following space standards apply in the C-1, C-2, and C-3 sub-districts:*

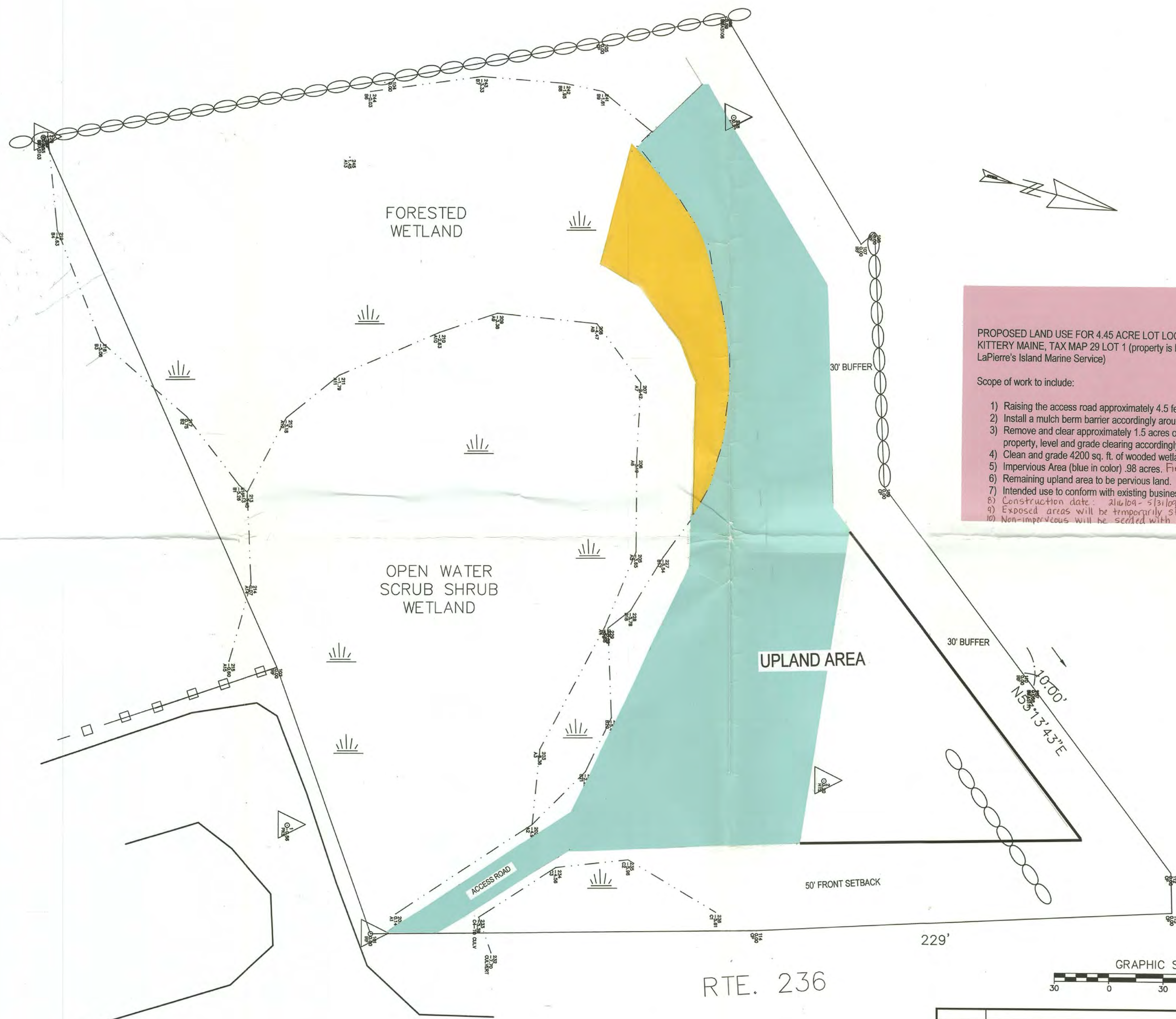
*Minimum rear and side yards. 30 feet
Except as may be required by the buffer provisions of this title, and except where the side and/or rear yards of the proposed nonresidential use abut a residential district or use, in which case a minimum of forty (40) feet shall be required.”*

In our phone conversation this afternoon you were informed of this information and acknowledged you would extend the buffer area from 30 feet to 40 feet. We are not requesting that you submit a revised site plan to the office for review for this minor adjustment at this time. However, if this adjustment causes you to further alter your site plan we will need to be informed and may require you to submit a revised site plan. Any site changes not approved in this Notice of Decision will be in violation of state law and town ordinances.

Sincerely,


Sandra Mowery, P.E.
Town Planner


Heather Ross
Code Enforcement Officer



1/22/2009

PROPOSED LAND USE FOR 4.45 ACRE LOT LOCATED AT 42 ROUTE 236, KITTERY MAINE, TAX MAP 29 LOT 1 (property is located across the street from LaPierre's Island Marine Service)

Scope of work to include:

- 1) Raising the access road approximately 4.5 feet to meet with Route 236.
- 2) Install a mulch berm barrier accordingly around defined wetlands on property.
- 3) Remove and clear approximately 1.5 acres of the upland area on the property, level and grade clearing accordingly.
- 4) Clean and grade 4200 sq. ft. of wooded wetlands (yellow in color).
- 5) Impervious Area (blue in color) .98 acres. Finalized with gravel.
- 6) Remaining upland area to be pervious land.
- 7) Intended use to conform with existing business practices
- 8) Construction date: 2/10/09 - 5/31/09
- 9) Exposed areas will be temporarily stabilized during construction.
- 10) Non-impervious will be seeded with grass.

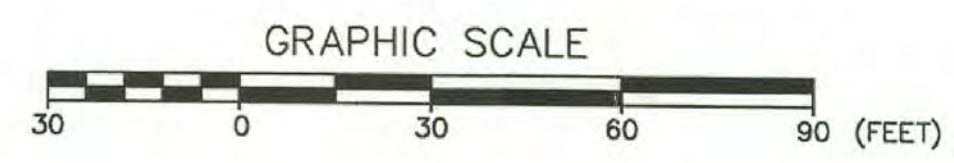
LEGEND	
WETLAND BOUNDARY	--- · · · · ·
PROPERTY LINE	— — — — —
EXT FENCE	— — — — —
UTILITY POLE	⊕
EDGE OF PAVEMENT	— — — — —

GENERAL NOTES

1. THIS PLAN PROVIDES THE LOCATION OF WETLANDS FOR ISLAND MARINE SERVICE AT 41 ROUTE 236, H.L. DOW HIGHWAY IN KITTERY, MAINE.
2. WETLANDS WERE IDENTIFIED AND DELINEATED BY CHRIS COPPI AND KENNETH A. WOOD ON DECEMBER 16, 2008 AND LOCATED IN THE FIELD ON DECEMBER 18, 2008 BY ATTAR ENGINEERING, INC.
3. BOUNDARY SURVEY INFORMATION WAS PROVIDED BY REFERENCE 1.

REFERENCES

1. "STANDARD BOUNDARY SURVEY FOR PROPERTY AT 41 ROUTE 236, KITTERY, MAINE" DATED 05/06/2008, PREPARED BY EASTERLY SURVEYING, INC.



WETLANDS SKETCH ISLAND MARINE 41 ROUTE 236 KITTERY, ME 03904		
FOR:		
DARREN LAPIERRE 32 ROUTE 236 KITTERY, ME 03904		
ATTAR ENGINEERING, INC. CIVIL • STRUCTURAL • MARINE 1284 STATE ROAD - ELIOT, MAINE 03903 PHONE: (207)439-6023 FAX: (207)439-2128		
SCALE: 1" = 30'	APPROVED BY:	DRAWN BY:
DATE: 01/05/09	<i>Attar</i>	NCA
JOB NO: COXX-08	CAD FILE: ISLAND MARINE	REVISION : DATE - : -
		SHEET 1 OF 1



NO.	DESCRIPTION	DATE

RTE. 236

229'

50' FRONT SETBACK

OPEN WATER
SCRUB SHRUB
WETLAND

FORESTED
WETLAND

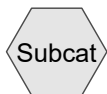
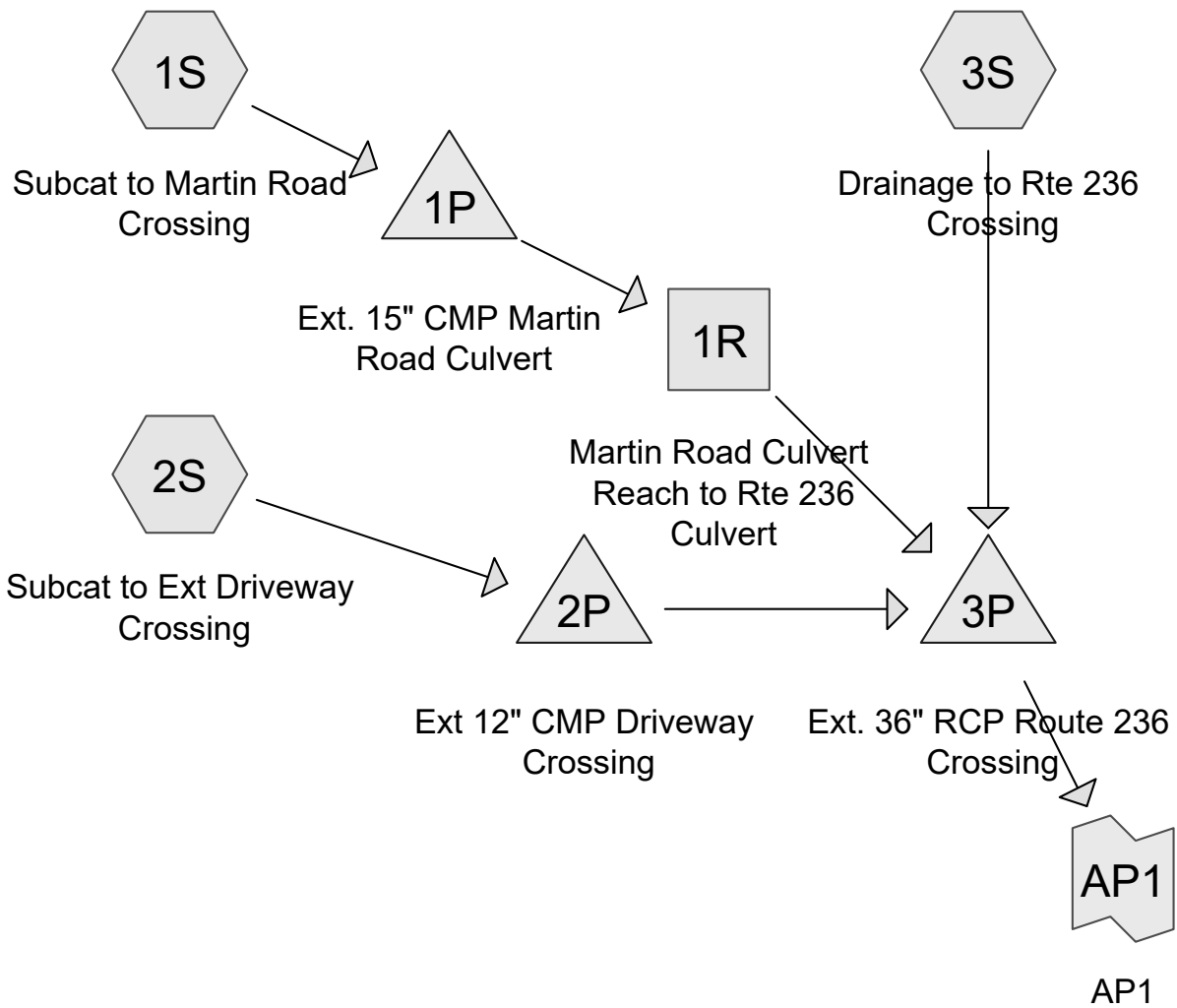
UPLAND AREA

30' BUFFER

30' BUFFER

ACCESS ROAD

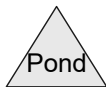
N58°13'43"E
10.00'



Subcat



Reach



Pond



Link

Routing Diagram for WF44 SWA EXT

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WF44 SWA EXT

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.306	46	2 acre lots, 12% imp, HSG A (1S, 2S)
4.258	77	2 acre lots, 12% imp, HSG C (1S, 2S)
54.930	82	2 acre lots, 12% imp, HSG D (1S, 2S)
4.883	77	Brush, Fair, HSG D (1S, 2S)
0.955	96	Gravel surface, HSG D (2S, 3S)
0.533	98	Paved parking, HSG C (1S, 2S)
4.384	98	Paved parking, HSG D (1S, 2S, 3S)
0.344	36	Woods, Fair, HSG A (1S)
0.689	73	Woods, Fair, HSG C (1S)
17.356	79	Woods, Fair, HSG D (1S, 2S, 3S)
4.517	82	Woods/grass comb., Fair, HSG D (3S)
95.156	81	TOTAL AREA

WF44 SWA EXT

Type III 24-hr 2 YEAR STORM Rainfall=3.33"

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Page 3

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat to Martin Runoff Area=1,905,022 sf 12.81% Impervious Runoff Depth>1.37"
 Flow Length=2,053' Tc=38.0 min CN=80 Runoff=38.51 cfs 5.002 af

Subcatchment 2S: Subcat to Ext Runoff Area=1,929,172 sf 12.87% Impervious Runoff Depth>1.43"
 Flow Length=3,194' Tc=60.4 min CN=81 Runoff=31.70 cfs 5.262 af

Subcatchment 3S: Drainage to Rte 236 Runoff Area=310,792 sf 13.95% Impervious Runoff Depth>1.66"
 Flow Length=1,095' Tc=17.3 min CN=84 Runoff=10.66 cfs 0.988 af

Reach 1R: Martin Road Culvert Reach to Avg. Flow Depth=0.07' Max Vel=0.39 fps Inflow=1.31 cfs 0.677 af
 n=0.070 L=744.0' S=0.0121 '/' Capacity=1,793.41 cfs Outflow=1.30 cfs 0.564 af

Pond 1P: Ext. 15" CMP Martin Road Peak Elev=49.63' Storage=307,858 cf Inflow=38.51 cfs 5.002 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=1.31 cfs 0.677 af

Pond 2P: Ext 12" CMP Driveway Crossing Peak Elev=40.81' Storage=251,020 cf Inflow=31.70 cfs 5.262 af
 12.0" Round Culvert n=0.013 L=30.0' S=0.0167 '/' Outflow=1.65 cfs 0.834 af

Pond 3P: Ext. 36" RCP Route 236 Crossing Peak Elev=40.57' Storage=11,849 cf Inflow=10.69 cfs 2.387 af
 36.0" Round Culvert n=0.011 L=100.0' S=0.0050 '/' Outflow=6.79 cfs 2.270 af

Link AP1: AP1 Inflow=6.79 cfs 2.270 af
 Primary=6.79 cfs 2.270 af

Total Runoff Area = 95.156 ac Runoff Volume = 11.252 af Average Runoff Depth = 1.42"
87.08% Pervious = 82.859 ac 12.92% Impervious = 12.297 ac

WF44 SWA EXT

Type III 24-hr 10 YEAR STORM Rainfall=5.34"

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Page 4

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat to Martin Runoff Area=1,905,022 sf 12.81% Impervious Runoff Depth>2.95"
 Flow Length=2,053' Tc=38.0 min CN=80 Runoff=82.60 cfs 10.765 af

Subcatchment 2S: Subcat to Ext Runoff Area=1,929,172 sf 12.87% Impervious Runoff Depth>3.02"
 Flow Length=3,194' Tc=60.4 min CN=81 Runoff=66.98 cfs 11.159 af

Subcatchment 3S: Drainage to Rte 236 Runoff Area=310,792 sf 13.95% Impervious Runoff Depth>3.36"
 Flow Length=1,095' Tc=17.3 min CN=84 Runoff=21.18 cfs 1.995 af

Reach 1R: Martin Road Culvert Reach to Avg. Flow Depth=0.12' Max Vel=0.55 fps Inflow=3.23 cfs 1.848 af
 n=0.070 L=744.0' S=0.0121 '/' Capacity=1,793.41 cfs Outflow=3.23 cfs 1.645 af

Pond 1P: Ext. 15" CMP Martin Road Peak Elev=50.10' Storage=508,857 cf Inflow=82.60 cfs 10.765 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=3.23 cfs 1.848 af

Pond 2P: Ext 12" CMP Driveway Crossing Peak Elev=41.55' Storage=468,716 cf Inflow=66.98 cfs 11.159 af
 12.0" Round Culvert n=0.013 L=30.0' S=0.0167 '/' Outflow=3.06 cfs 1.733 af

Pond 3P: Ext. 36" RCP Route 236 Crossing Peak Elev=41.07' Storage=21,205 cf Inflow=21.46 cfs 5.374 af
 36.0" Round Culvert n=0.011 L=100.0' S=0.0050 '/' Outflow=13.31 cfs 5.153 af

Link AP1: AP1

Inflow=13.31 cfs 5.153 af
 Primary=13.31 cfs 5.153 af

Total Runoff Area = 95.156 ac Runoff Volume = 23.919 af Average Runoff Depth = 3.02"
87.08% Pervious = 82.859 ac 12.92% Impervious = 12.297 ac

WF44 SWA EXT*Type III 24-hr 25 YEAR STORM Rainfall=6.60"*

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Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat to Martin Runoff Area=1,905,022 sf 12.81% Impervious Runoff Depth>4.02"
 Flow Length=2,053' Tc=38.0 min CN=80 Runoff=111.47 cfs 14.658 af

Subcatchment 2S: Subcat to Ext Runoff Area=1,929,172 sf 12.87% Impervious Runoff Depth>4.10"
 Flow Length=3,194' Tc=60.4 min CN=81 Runoff=89.98 cfs 15.120 af

Subcatchment 3S: Drainage to Rte 236 Runoff Area=310,792 sf 13.95% Impervious Runoff Depth>4.47"
 Flow Length=1,095' Tc=17.3 min CN=84 Runoff=27.89 cfs 2.660 af

Reach 1R: Martin Road Culvert Reach to Avg. Flow Depth=0.13' Max Vel=0.60 fps Inflow=4.14 cfs 2.454 af
 n=0.070 L=744.0' S=0.0121 '/' Capacity=1,793.41 cfs Outflow=4.14 cfs 2.219 af

Pond 1P: Ext. 15" CMP Martin Road Peak Elev=50.41' Storage=652,211 cf Inflow=111.47 cfs 14.658 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=4.14 cfs 2.454 af

Pond 2P: Ext 12" CMP Driveway Crossing Peak Elev=42.01' Storage=623,596 cf Inflow=89.98 cfs 15.120 af
 12.0" Round Culvert n=0.013 L=30.0' S=0.0167 '/' Outflow=3.67 cfs 2.138 af

Pond 3P: Ext. 36" RCP Route 236 Crossing Peak Elev=41.34' Storage=27,795 cf Inflow=28.55 cfs 7.017 af
 36.0" Round Culvert n=0.011 L=100.0' S=0.0050 '/' Outflow=17.45 cfs 6.745 af

Link AP1: AP1

Inflow=17.45 cfs 6.745 af
 Primary=17.45 cfs 6.745 af

Total Runoff Area = 95.156 ac Runoff Volume = 32.438 af Average Runoff Depth = 4.09"
87.08% Pervious = 82.859 ac 12.92% Impervious = 12.297 ac

WF44 SWA EXT

Type III 24-hr 25 YEAR STORM Rainfall=6.60"

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Page 2

Summary for Subcatchment 1S: Subcat to Martin Road Crossing

Runoff = 111.47 cfs @ 12.52 hrs, Volume= 14.658 af, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
13,186	98	Paved parking, HSG C
84,109	98	Paved parking, HSG D
24,295	46	2 acre lots, 12% imp, HSG A
14,995	36	Woods, Fair, HSG A
157,513	77	2 acre lots, 12% imp, HSG C
30,028	73	Woods, Fair, HSG C
177,718	77	Brush, Fair, HSG D
362,281	79	Woods, Fair, HSG D
1,040,897	82	2 acre lots, 12% imp, HSG D
1,905,022	80	Weighted Average
1,661,002		87.19% Pervious Area
244,020		12.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0750	0.12		Sheet Flow, SF 1 Woods: Light underbrush n= 0.400 P2= 3.33"
18.4	875	0.0251	0.79		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
12.5	1,128	0.0022	1.50	1,953.86	Channel Flow, CF 1 Area= 1,300.0 sf Perim= 701.0' r= 1.85' n= 0.070 Sluggish weedy reaches w/pools
38.0	2,053	Total			

Summary for Subcatchment 2S: Subcat to Ext Driveway Crossing

Runoff = 89.98 cfs @ 12.80 hrs, Volume= 15.120 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
76,151	46	2 acre lots, 12% imp, HSG A
27,952	77	2 acre lots, 12% imp, HSG C
10,053	98	Paved parking, HSG C
31,291	96	Gravel surface, HSG D
63,490	98	Paved parking, HSG D
34,997	77	Brush, Fair, HSG D
333,371	79	Woods, Fair, HSG D
1,351,867	82	2 acre lots, 12% imp, HSG D
1,929,172	81	Weighted Average
1,680,913		87.13% Pervious Area
248,259		12.87% Impervious Area

WF44 SWA EXT

Type III 24-hr 25 YEAR STORM Rainfall=6.60"

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Page 3

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.1	50	0.0200	0.07		Sheet Flow, SF 1 Woods: Light underbrush n= 0.400 P2= 3.33"
27.7	1,393	0.0281	0.84		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
20.6	1,751	0.0057	1.42	708.86	Channel Flow, CF 1 Area= 500.0 sf Perim= 601.0' r= 0.83' n= 0.070 Sluggish weedy reaches w/pools
60.4	3,194	Total			

Summary for Subcatchment 3S: Drainage to Rte 236 Crossing

Runoff = 27.89 cfs @ 12.23 hrs, Volume= 2.660 af, Depth> 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
10,297	96	Gravel surface, HSG D
43,366	98	Paved parking, HSG D
60,382	79	Woods, Fair, HSG D
196,747	82	Woods/grass comb., Fair, HSG D
310,792	84	Weighted Average
267,426		86.05% Pervious Area
43,366		13.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0600	0.11		Sheet Flow, SF 1 Woods: Light underbrush n= 0.400 P2= 3.33"
4.9	351	0.0569	1.19		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
4.6	694	0.0094	2.49	995.12	Channel Flow, CF 1 Area= 400.0 sf Perim= 301.0' r= 1.33' n= 0.070 Sluggish weedy reaches w/pools
17.3	1,095	Total			

Summary for Reach 1R: Martin Road Culvert Reach to Rte 236 Culvert

[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 0.13'

Inflow Area = 43.733 ac, 12.81% Impervious, Inflow Depth > 0.67" for 25 YEAR STORM event
 Inflow = 4.14 cfs @ 18.87 hrs, Volume= 2.454 af
 Outflow = 4.14 cfs @ 19.45 hrs, Volume= 2.219 af, Atten= 0%, Lag= 34.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.60 fps, Min. Travel Time= 20.6 min
 Avg. Velocity = 0.45 fps, Avg. Travel Time= 27.7 min

WF44 SWA EXT

Type III 24-hr 25 YEAR STORM Rainfall=6.60"

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Page 4

Peak Storage= 5,114 cf @ 19.11 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 4.00' Flow Area= 400.0 sf, Capacity= 1,793.41 cfs

50.00' x 4.00' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 12.5 ' / ' Top Width= 150.00'
Length= 744.0' Slope= 0.0121 ' / '
Inlet Invert= 48.50', Outlet Invert= 39.50'



Summary for Pond 1P: Ext. 15" CMP Martin Road Culvert

Inflow Area = 43.733 ac, 12.81% Impervious, Inflow Depth > 4.02" for 25 YEAR STORM event
Inflow = 111.47 cfs @ 12.52 hrs, Volume= 14.658 af
Outflow = 4.14 cfs @ 18.87 hrs, Volume= 2.454 af, Atten= 96%, Lag= 381.1 min
Primary = 4.14 cfs @ 18.87 hrs, Volume= 2.454 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 49.00' Surf.Area= 231,086 sf Storage= 119,579 cf
Peak Elev= 50.41' @ 18.87 hrs Surf.Area= 469,035 sf Storage= 652,211 cf (532,632 cf above start)
Flood Elev= 52.50' Surf.Area= 556,200 sf Storage= 1,713,635 cf (1,594,056 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 178.3 min (981.3 - 803.0)

Volume	Invert	Avail.Storage	Storage Description
#1	48.00'	1,999,122 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
48.00	8,072	0	0
50.00	454,100	462,172	462,172
52.00	526,650	980,750	1,442,922
53.00	585,750	556,200	1,999,122

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	15.0" Round CMP_Round 15" L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 49.00' / 48.50' S= 0.0100 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.14 cfs @ 18.87 hrs HW=50.41' (Free Discharge)
↑**1=CMP_Round 15"** (Inlet Controls 4.14 cfs @ 3.37 fps)

Summary for Pond 2P: Ext 12" CMP Driveway Crossing

Inflow Area = 44.288 ac, 12.87% Impervious, Inflow Depth > 4.10" for 25 YEAR STORM event
 Inflow = 89.98 cfs @ 12.80 hrs, Volume= 15.120 af
 Outflow = 3.67 cfs @ 20.00 hrs, Volume= 2.138 af, Atten= 96%, Lag= 431.7 min
 Primary = 3.67 cfs @ 20.00 hrs, Volume= 2.138 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Starting Elev= 40.00' Surf.Area= 210,051 sf Storage= 58,153 cf
 Peak Elev= 42.01' @ 20.00 hrs Surf.Area= 351,062 sf Storage= 623,596 cf (565,443 cf above start)
 Flood Elev= 43.00' Surf.Area= 406,736 sf Storage= 996,917 cf (938,764 cf above start)

Plug-Flow detention time= 526.8 min calculated for 0.801 af (5% of inflow)
 Center-of-Mass det. time= 165.7 min (984.4 - 818.8)

Volume	Invert	Avail.Storage	Storage Description
#1	39.50'	1,431,905 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.50	22,560	0	0
40.00	210,051	58,153	58,153
42.00	350,230	560,281	618,434
44.00	463,241	813,471	1,431,905

Device	Routing	Invert	Outlet Devices
#1	Primary	40.00'	12.0" Round CMP_Round 12" L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 40.00' / 39.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.67 cfs @ 20.00 hrs HW=42.01' (Free Discharge)
 ↑1=CMP_Round 12" (Inlet Controls 3.67 cfs @ 4.68 fps)

Summary for Pond 3P: Ext. 36" RCP Route 236 Crossing

[62] Hint: Exceeded Reach 1R OUTLET depth by 1.81' @ 12.45 hrs
 [81] Warning: Exceeded Pond 2P by 0.80' @ 12.40 hrs

Inflow Area = 95.156 ac, 12.92% Impervious, Inflow Depth > 0.88" for 25 YEAR STORM event
 Inflow = 28.55 cfs @ 12.24 hrs, Volume= 7.017 af
 Outflow = 17.45 cfs @ 12.49 hrs, Volume= 6.745 af, Atten= 39%, Lag= 15.4 min
 Primary = 17.45 cfs @ 12.49 hrs, Volume= 6.745 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Starting Elev= 39.50' Surf.Area= 5,400 sf Storage= 2,210 cf
 Peak Elev= 41.34' @ 12.49 hrs Surf.Area= 25,988 sf Storage= 27,795 cf (25,585 cf above start)
 Flood Elev= 49.50' Surf.Area= 70,300 sf Storage= 153,260 cf (151,050 cf above start)

Plug-Flow detention time= 29.2 min calculated for 6.672 af (95% of inflow)
 Center-of-Mass det. time= 12.7 min (924.3 - 911.6)

WF44 SWA EXT

Type III 24-hr 25 YEAR STORM Rainfall=6.60"

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Page 6

Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	153,260 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	3,440	0	0
40.00	7,360	5,400	5,400
42.00	35,100	42,460	47,860
44.00	70,300	105,400	153,260

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	36.0" Round RCP_Round 36" L= 100.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 39.50' / 39.00' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

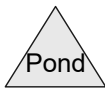
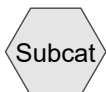
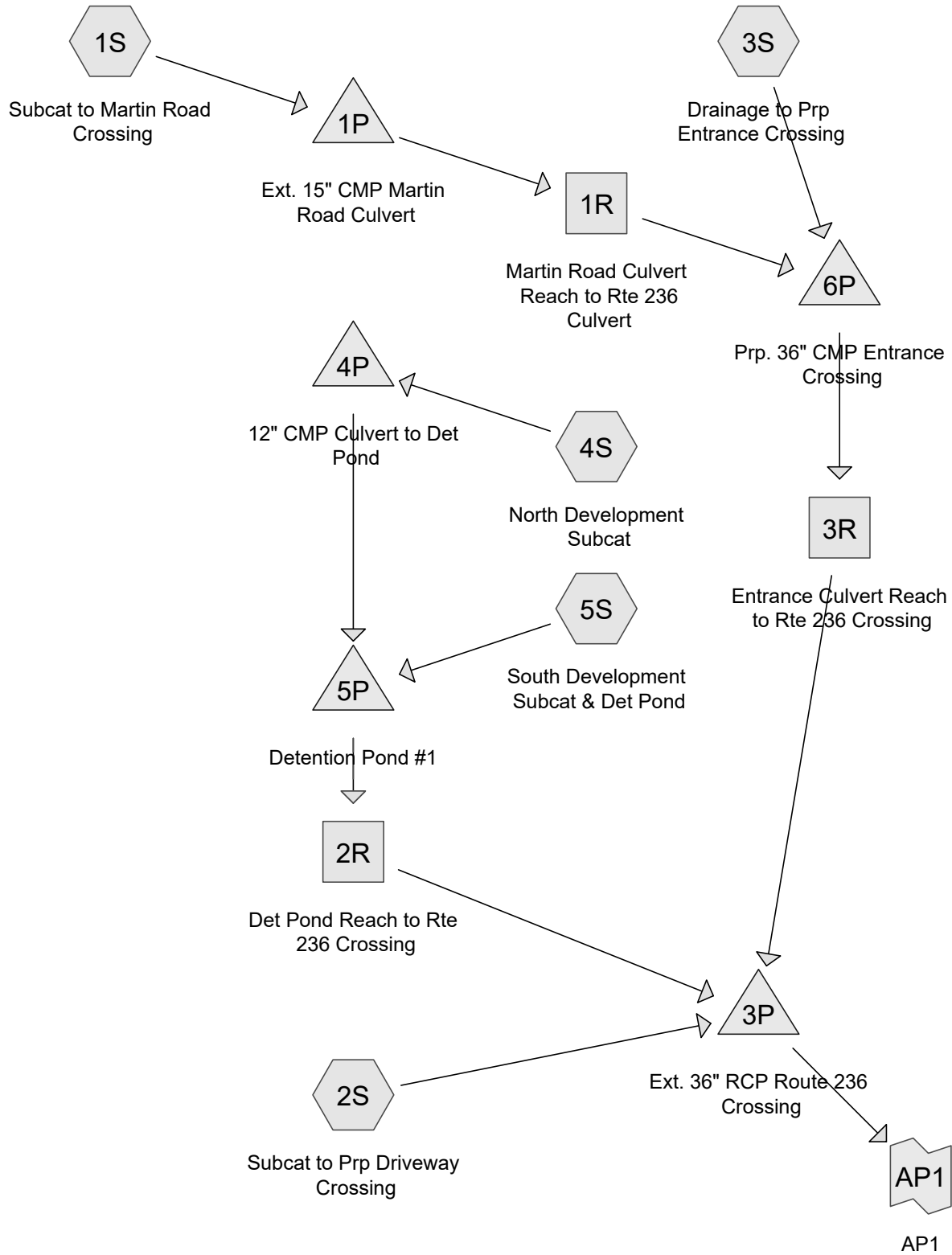
Primary OutFlow Max=17.43 cfs @ 12.49 hrs HW=41.34' (Free Discharge)

↑1=RCP_Round 36" (Barrel Controls 17.43 cfs @ 5.48 fps)

Summary for Link AP1: AP1

Inflow Area = 95.156 ac, 12.92% Impervious, Inflow Depth > 0.85" for 25 YEAR STORM event
 Inflow = 17.45 cfs @ 12.49 hrs, Volume= 6.745 af
 Primary = 17.45 cfs @ 12.49 hrs, Volume= 6.745 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



Routing Diagram for WF44 SWA DEV
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WF44 SWA DEV

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.306	46	2 acre lots, 12% imp, HSG A (1S, 2S)
4.258	77	2 acre lots, 12% imp, HSG C (1S, 2S)
55.016	82	2 acre lots, 12% imp, HSG D (1S, 2S)
0.540	80	>75% Grass cover, Good, HSG D (2S, 3S, 4S, 5S)
4.883	77	Brush, Fair, HSG D (1S, 2S)
0.018	96	Gravel surface, HSG D (3S)
0.533	98	Paved parking, HSG C (1S, 2S)
4.719	98	Paved parking, HSG D (1S, 2S, 3S, 4S, 5S)
0.012	98	Roofs, HSG D (4S, 5S)
0.344	36	Woods, Fair, HSG A (1S)
0.689	73	Woods, Fair, HSG C (1S)
17.667	79	Woods, Fair, HSG D (1S, 2S, 3S)
4.171	82	Woods/grass comb., Fair, HSG D (3S)
95.156	81	TOTAL AREA

WF44 SWA DEV

Type III 24-hr 2 YEAR STORM Rainfall=3.33"

Prepared by {enter your company name here}

Printed 8/2/2022

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Page 3

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat to Martin Runoff Area=1,905,022 sf 12.81% Impervious Runoff Depth>1.37"
 Flow Length=2,053' Tc=33.8 min CN=80 Runoff=40.72 cfs 5.010 af

Subcatchment 2S: Subcat to Prp Runoff Area=1,946,168 sf 13.28% Impervious Runoff Depth>1.43"
 Flow Length=3,232' Tc=61.6 min CN=81 Runoff=31.53 cfs 5.306 af

Subcatchment 3S: Drainage to Prp Runoff Area=278,095 sf 14.10% Impervious Runoff Depth>1.66"
 Flow Length=880' Tc=15.9 min CN=84 Runoff=9.88 cfs 0.885 af

Subcatchment 4S: North Development Runoff Area=7,250 sf 64.19% Impervious Runoff Depth>2.34"
 Flow Length=48' Slope=0.0950 '/' Tc=2.9 min CN=92 Runoff=0.51 cfs 0.032 af

Subcatchment 5S: South Development Runoff Area=8,451 sf 57.92% Impervious Runoff Depth>2.16"
 Flow Length=44' Slope=0.1000 '/' Tc=2.6 min CN=90 Runoff=0.56 cfs 0.035 af

Reach 1R: Martin Road Culvert Reach to Avg. Flow Depth=0.06' Max Vel=0.43 fps Inflow=1.31 cfs 0.685 af
 n=0.070 L=529.0' S=0.0161 '/' Capacity=2,066.93 cfs Outflow=1.30 cfs 0.611 af

Reach 2R: Det Pond Reach to Rte 236 Avg. Flow Depth=0.02' Max Vel=0.08 fps Inflow=0.67 cfs 0.052 af
 n=0.070 L=226.0' S=0.0011 '/' Capacity=1,761.91 cfs Outflow=0.25 cfs 0.050 af

Reach 3R: Entrance Culvert Reach to Avg. Flow Depth=0.24' Max Vel=0.46 fps Inflow=5.90 cfs 1.417 af
 n=0.070 L=147.0' S=0.0034 '/' Capacity=950.98 cfs Outflow=5.81 cfs 1.387 af

Pond 1P: Ext. 15" CMP Martin Road Peak Elev=49.63' Storage=307,905 cf Inflow=40.72 cfs 5.010 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=1.31 cfs 0.685 af

Pond 3P: Ext. 36" RCP Route 236 Crossing Peak Elev=40.34' Storage=242,182 cf Inflow=36.80 cfs 6.743 af
 36.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=4.03 cfs 2.120 af

Pond 4P: 12" CMP Culvert to Det Pond Peak Elev=41.38' Storage=87 cf Inflow=0.51 cfs 0.032 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=0.46 cfs 0.032 af

Pond 5P: Detention Pond #1 Peak Elev=40.98' Storage=1,021 cf Inflow=1.00 cfs 0.067 af
 Primary=0.67 cfs 0.052 af Secondary=0.00 cfs 0.000 af Outflow=0.67 cfs 0.052 af

Pond 6P: Prp. 36" CMP Entrance Crossing Peak Elev=41.43' Storage=10,742 cf Inflow=9.89 cfs 1.496 af
 36.0" Round Culvert n=0.013 L=40.0' S=0.0125 '/' Outflow=5.90 cfs 1.417 af

Link AP1: AP1 Inflow=4.03 cfs 2.120 af
 Primary=4.03 cfs 2.120 af

Total Runoff Area = 95.156 ac Runoff Volume = 11.268 af Average Runoff Depth = 1.42"
86.70% Pervious = 82.502 ac 13.30% Impervious = 12.653 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat to Martin Runoff Area=1,905,022 sf 12.81% Impervious Runoff Depth>2.96"
Flow Length=2,053' Tc=33.8 min CN=80 Runoff=87.41 cfs 10.780 af

Subcatchment 2S: Subcat to Prp Runoff Area=1,946,168 sf 13.28% Impervious Runoff Depth>3.02"
Flow Length=3,232' Tc=61.6 min CN=81 Runoff=66.73 cfs 11.252 af

Subcatchment 3S: Drainage to Prp Runoff Area=278,095 sf 14.10% Impervious Runoff Depth>3.36"
Flow Length=880' Tc=15.9 min CN=84 Runoff=19.64 cfs 1.786 af

Subcatchment 4S: North Development Runoff Area=7,250 sf 64.19% Impervious Runoff Depth>4.18"
Flow Length=48' Slope=0.0950 '/' Tc=2.9 min CN=92 Runoff=0.88 cfs 0.058 af

Subcatchment 5S: South Development Runoff Area=8,451 sf 57.92% Impervious Runoff Depth>3.98"
Flow Length=44' Slope=0.1000 '/' Tc=2.6 min CN=90 Runoff=1.00 cfs 0.064 af

Reach 1R: Martin Road Culvert Reach to Avg. Flow Depth=0.10' Max Vel=0.60 fps Inflow=3.23 cfs 1.865 af
n=0.070 L=529.0' S=0.0161 '/' Capacity=2,066.93 cfs Outflow=3.23 cfs 1.734 af

Reach 2R: Det Pond Reach to Rte 236 Avg. Flow Depth=0.03' Max Vel=0.08 fps Inflow=1.16 cfs 0.107 af
n=0.070 L=226.0' S=0.0011 '/' Capacity=1,761.91 cfs Outflow=0.55 cfs 0.103 af

Reach 3R: Entrance Culvert Reach to Avg. Flow Depth=0.36' Max Vel=0.60 fps Inflow=11.98 cfs 3.374 af
n=0.070 L=147.0' S=0.0034 '/' Capacity=950.98 cfs Outflow=11.87 cfs 3.322 af

Pond 1P: Ext. 15" CMP Martin Road Peak Elev=50.10' Storage=508,855 cf Inflow=87.41 cfs 10.780 af
15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=3.23 cfs 1.865 af

Pond 3P: Ext. 36" RCP Route 236 Peak Elev=40.96' Storage=441,068 cf Inflow=77.19 cfs 14.677 af
36.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=11.10 cfs 6.121 af

Pond 4P: 12" CMP Culvert to Det Pond Peak Elev=41.52' Storage=128 cf Inflow=0.88 cfs 0.058 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=0.80 cfs 0.058 af

Pond 5P: Detention Pond #1 Peak Elev=41.23' Storage=1,331 cf Inflow=1.77 cfs 0.122 af
Primary=1.16 cfs 0.107 af Secondary=0.00 cfs 0.000 af Outflow=1.16 cfs 0.107 af

Pond 6P: Prp. 36" CMP Entrance Crossing Peak Elev=41.91' Storage=18,997 cf Inflow=19.73 cfs 3.521 af
36.0" Round Culvert n=0.013 L=40.0' S=0.0125 '/' Outflow=11.98 cfs 3.374 af

Link AP1: AP1 Inflow=11.10 cfs 6.121 af
Primary=11.10 cfs 6.121 af

Total Runoff Area = 95.156 ac Runoff Volume = 23.941 af Average Runoff Depth = 3.02"
86.70% Pervious = 82.502 ac 13.30% Impervious = 12.653 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat to Martin Runoff Area=1,905,022 sf 12.81% Impervious Runoff Depth>4.03"
 Flow Length=2,053' Tc=33.8 min CN=80 Runoff=118.01 cfs 14.678 af

Subcatchment 2S: Subcat to Prp Runoff Area=1,946,168 sf 13.28% Impervious Runoff Depth>4.10"
 Flow Length=3,232' Tc=61.6 min CN=81 Runoff=89.68 cfs 15.247 af

Subcatchment 3S: Drainage to Prp Runoff Area=278,095 sf 14.10% Impervious Runoff Depth>4.48"
 Flow Length=880' Tc=15.9 min CN=84 Runoff=25.86 cfs 2.381 af

Subcatchment 4S: North Development Runoff Area=7,250 sf 64.19% Impervious Runoff Depth>5.34"
 Flow Length=48' Slope=0.0950 '/' Tc=2.9 min CN=92 Runoff=1.12 cfs 0.074 af

Subcatchment 5S: South Development Runoff Area=8,451 sf 57.92% Impervious Runoff Depth>5.14"
 Flow Length=44' Slope=0.1000 '/' Tc=2.6 min CN=90 Runoff=1.27 cfs 0.083 af

Reach 1R: Martin Road Culvert Reach to Avg. Flow Depth=0.12' Max Vel=0.65 fps Inflow=4.14 cfs 2.476 af
 n=0.070 L=529.0' S=0.0161 '/' Capacity=2,066.93 cfs Outflow=4.14 cfs 2.323 af

Reach 2R: Det Pond Reach to Rte 236 Avg. Flow Depth=0.04' Max Vel=0.09 fps Inflow=1.39 cfs 0.142 af
 n=0.070 L=226.0' S=0.0011 '/' Capacity=1,761.91 cfs Outflow=0.75 cfs 0.137 af

Reach 3R: Entrance Culvert Reach to Avg. Flow Depth=0.43' Max Vel=0.66 fps Inflow=15.81 cfs 4.525 af
 n=0.070 L=147.0' S=0.0034 '/' Capacity=950.98 cfs Outflow=15.70 cfs 4.464 af

Pond 1P: Ext. 15" CMP Martin Road Peak Elev=50.41' Storage=652,236 cf Inflow=118.01 cfs 14.678 af
 15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=4.14 cfs 2.476 af

Pond 3P: Ext. 36" RCP Route 236 Peak Elev=41.33' Storage=568,843 cf Inflow=103.57 cfs 19.848 af
 36.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=16.31 cfs 9.066 af

Pond 4P: 12" CMP Culvert to Det Pond Peak Elev=41.59' Storage=153 cf Inflow=1.12 cfs 0.074 af
 12.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=1.01 cfs 0.074 af

Pond 5P: Detention Pond #1 Peak Elev=41.39' Storage=1,548 cf Inflow=2.25 cfs 0.157 af
 Primary=1.39 cfs 0.142 af Secondary=0.00 cfs 0.000 af Outflow=1.39 cfs 0.142 af

Pond 6P: Prp. 36" CMP Entrance Crossing Peak Elev=42.17' Storage=24,440 cf Inflow=26.09 cfs 4.703 af
 36.0" Round Culvert n=0.013 L=40.0' S=0.0125 '/' Outflow=15.81 cfs 4.525 af

Link AP1: AP1 Inflow=16.31 cfs 9.066 af
 Primary=16.31 cfs 9.066 af

Total Runoff Area = 95.156 ac Runoff Volume = 32.463 af Average Runoff Depth = 4.09"
86.70% Pervious = 82.502 ac 13.30% Impervious = 12.653 ac

Summary for Subcatchment 1S: Subcat to Martin Road Crossing

Runoff = 118.01 cfs @ 12.46 hrs, Volume= 14.678 af, Depth> 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
13,186	98	Paved parking, HSG C
84,109	98	Paved parking, HSG D
24,295	46	2 acre lots, 12% imp, HSG A
14,995	36	Woods, Fair, HSG A
157,513	77	2 acre lots, 12% imp, HSG C
30,028	73	Woods, Fair, HSG C
177,718	77	Brush, Fair, HSG D
362,281	79	Woods, Fair, HSG D
1,040,897	82	2 acre lots, 12% imp, HSG D
1,905,022	80	Weighted Average
1,661,002		87.19% Pervious Area
244,020		12.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	50	0.0750	0.29		Sheet Flow, SF 1 Range n= 0.130 P2= 3.33"
18.4	875	0.0251	0.79		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
12.5	1,128	0.0022	1.50	1,953.86	Channel Flow, CF 1 Area= 1,300.0 sf Perim= 701.0' r= 1.85' n= 0.070 Sluggish weedy reaches w/pools
33.8	2,053	Total			

Summary for Subcatchment 2S: Subcat to Prp Driveway Crossing

Runoff = 89.68 cfs @ 12.81 hrs, Volume= 15.247 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
76,151	46	2 acre lots, 12% imp, HSG A
27,952	77	2 acre lots, 12% imp, HSG C
10,053	98	Paved parking, HSG C
34,997	77	Brush, Fair, HSG D
73,197	98	Paved parking, HSG D
13,850	80	>75% Grass cover, Good, HSG D
354,389	79	Woods, Fair, HSG D
1,355,579	82	2 acre lots, 12% imp, HSG D
1,946,168	81	Weighted Average
1,687,756		86.72% Pervious Area
258,412		13.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.1	50	0.0200	0.07		Sheet Flow, SF 1 Woods: Light underbrush n= 0.400 P2= 3.33"
27.7	1,393	0.0281	0.84		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
21.8	1,789	0.0053	1.37	683.53	Channel Flow, CF 1 Area= 500.0 sf Perim= 601.0' r= 0.83' n= 0.070 Sluggish weedy reaches w/pools
61.6	3,232	Total			

Summary for Subcatchment 3S: Drainage to Prp Entrance Crossing

Runoff = 25.86 cfs @ 12.21 hrs, Volume= 2.381 af, Depth> 4.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
767	96	Gravel surface, HSG D
39,205	98	Paved parking, HSG D
3,521	80	>75% Grass cover, Good, HSG D
52,906	79	Woods, Fair, HSG D
181,696	82	Woods/grass comb., Fair, HSG D
278,095	84	Weighted Average
238,890		85.90% Pervious Area
39,205		14.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0600	0.11		Sheet Flow, SF 1 Woods: Light underbrush n= 0.400 P2= 3.33"
4.9	351	0.0569	1.19		Shallow Concentrated Flow, SCF 1 Woodland Kv= 5.0 fps
3.2	479	0.0094	2.49	995.12	Channel Flow, CF 1 Area= 400.0 sf Perim= 301.0' r= 1.33' n= 0.070 Sluggish weedy reaches w/pools
15.9	880	Total			

Summary for Subcatchment 4S: North Development Subcat

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.12 cfs @ 12.05 hrs, Volume= 0.074 af, Depth> 5.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

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Type III 24-hr 25 YEAR STORM Rainfall=6.60"

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Page 4

Area (sf)	CN	Description
308	98	Roofs, HSG D
4,346	98	Paved parking, HSG D
2,596	80	>75% Grass cover, Good, HSG D
7,250	92	Weighted Average
2,596		35.81% Pervious Area
4,654		64.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	48	0.0950	0.28		Sheet Flow, SF 1 Grass: Short n= 0.150 P2= 3.33"

Summary for Subcatchment 5S: South Development Subcat & Det Pond

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.27 cfs @ 12.04 hrs, Volume= 0.083 af, Depth> 5.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR STORM Rainfall=6.60"

Area (sf)	CN	Description
210	98	Roofs, HSG D
4,685	98	Paved parking, HSG D
3,556	80	>75% Grass cover, Good, HSG D
8,451	90	Weighted Average
3,556		42.08% Pervious Area
4,895		57.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	44	0.1000	0.28		Sheet Flow, SF 1 Grass: Short n= 0.150 P2= 3.33"

Summary for Reach 1R: Martin Road Culvert Reach to Rte 236 Culvert

[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 0.12'

Inflow Area = 43.733 ac, 12.81% Impervious, Inflow Depth > 0.68" for 25 YEAR STORM event
Inflow = 4.14 cfs @ 18.79 hrs, Volume= 2.476 af
Outflow = 4.14 cfs @ 19.16 hrs, Volume= 2.323 af, Atten= 0%, Lag= 21.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.65 fps, Min. Travel Time= 13.5 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 17.7 min

Peak Storage= 3,347 cf @ 18.93 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 4.00' Flow Area= 400.0 sf, Capacity= 2,066.93 cfs

50.00' x 4.00' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 12.5 '/' Top Width= 150.00'
Length= 529.0' Slope= 0.0161 '/'
Inlet Invert= 48.50', Outlet Invert= 40.00'



Summary for Reach 2R: Det Pond Reach to Rte 236 Crossing

[79] Warning: Submerged Pond 5P Primary device # 1 OUTLET by 0.04'

Inflow Area = 0.360 ac, 60.82% Impervious, Inflow Depth > 4.71" for 25 YEAR STORM event
Inflow = 1.39 cfs @ 12.15 hrs, Volume= 0.142 af
Outflow = 0.75 cfs @ 13.23 hrs, Volume= 0.137 af, Atten= 46%, Lag= 64.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.09 fps, Min. Travel Time= 42.7 min
Avg. Velocity = 0.08 fps, Avg. Travel Time= 45.7 min

Peak Storage= 1,938 cf @ 12.51 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 4.00' Flow Area= 1,200.0 sf, Capacity= 1,761.91 cfs

200.00' x 4.00' deep channel, n= 0.070 Sluggish weedy reaches w/pools
Side Slope Z-value= 25.0 '/' Top Width= 400.00'
Length= 226.0' Slope= 0.0011 '/'
Inlet Invert= 39.75', Outlet Invert= 39.50'



Summary for Reach 3R: Entrance Culvert Reach to Rte 236 Crossing

[79] Warning: Submerged Pond 6P Primary device # 1 OUTLET by 0.43'

Inflow Area = 50.117 ac, 12.97% Impervious, Inflow Depth > 1.08" for 25 YEAR STORM event
Inflow = 15.81 cfs @ 12.45 hrs, Volume= 4.525 af
Outflow = 15.70 cfs @ 12.55 hrs, Volume= 4.464 af, Atten= 1%, Lag= 6.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.66 fps, Min. Travel Time= 3.7 min
Avg. Velocity = 0.34 fps, Avg. Travel Time= 7.2 min

Peak Storage= 3,489 cf @ 12.49 hrs
 Average Depth at Peak Storage= 0.43'
 Bank-Full Depth= 4.00' Flow Area= 400.0 sf, Capacity= 950.98 cfs

50.00' x 4.00' deep channel, n= 0.070 Sluggish weedy reaches w/pools
 Side Slope Z-value= 12.5 '/' Top Width= 150.00'
 Length= 147.0' Slope= 0.0034 '/'
 Inlet Invert= 40.00', Outlet Invert= 39.50'



Summary for Pond 1P: Ext. 15" CMP Martin Road Culvert

Inflow Area = 43.733 ac, 12.81% Impervious, Inflow Depth > 4.03" for 25 YEAR STORM event
 Inflow = 118.01 cfs @ 12.46 hrs, Volume= 14.678 af
 Outflow = 4.14 cfs @ 18.79 hrs, Volume= 2.476 af, Atten= 96%, Lag= 380.0 min
 Primary = 4.14 cfs @ 18.79 hrs, Volume= 2.476 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Starting Elev= 49.00' Surf.Area= 231,086 sf Storage= 119,579 cf
 Peak Elev= 50.41' @ 18.79 hrs Surf.Area= 469,037 sf Storage= 652,236 cf (532,657 cf above start)
 Flood Elev= 52.50' Surf.Area= 556,200 sf Storage= 1,713,635 cf (1,594,056 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 179.8 min (979.5 - 799.6)

Volume	Invert	Avail.Storage	Storage Description
#1	48.00'	1,999,122 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
48.00	8,072	0	0
50.00	454,100	462,172	462,172
52.00	526,650	980,750	1,442,922
53.00	585,750	556,200	1,999,122

Device	Routing	Invert	Outlet Devices
#1	Primary	49.00'	15.0" Round CMP_Round 15" L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 49.00' / 48.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.14 cfs @ 18.79 hrs HW=50.41' (Free Discharge)
 ↳ **1=CMP_Round 15"** (Inlet Controls 4.14 cfs @ 3.37 fps)

Summary for Pond 3P: Ext. 36" RCP Route 236 Crossing

[63] Warning: Exceeded Reach 2R INLET depth by 1.57' @ 15.80 hrs

[63] Warning: Exceeded Reach 3R INLET depth by 1.10' @ 15.95 hrs

Inflow Area = 95.156 ac, 13.30% Impervious, Inflow Depth > 2.50" for 25 YEAR STORM event
 Inflow = 103.57 cfs @ 12.79 hrs, Volume= 19.848 af
 Outflow = 16.31 cfs @ 15.74 hrs, Volume= 9.066 af, Atten= 84%, Lag= 177.0 min
 Primary = 16.31 cfs @ 15.74 hrs, Volume= 9.066 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Starting Elev= 39.50' Surf.Area= 143,350 sf Storage= 37,675 cf
 Peak Elev= 41.33' @ 15.74 hrs Surf.Area= 362,652 sf Storage= 568,843 cf (531,168 cf above start)
 Flood Elev= 49.50' Surf.Area= 452,670 sf Storage= 1,685,450 cf (1,647,775 cf above start)

Plug-Flow detention time= 274.0 min calculated for 8.201 af (41% of inflow)
 Center-of-Mass det. time= 144.4 min (983.2 - 838.8)

Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	1,685,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	7,350	0	0
40.00	279,350	143,350	143,350
42.00	405,040	684,390	827,740
44.00	452,670	857,710	1,685,450

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	36.0" Round RCP_Round 36" L= 100.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 39.50' / 39.00' S= 0.0050 1/8" Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=16.31 cfs @ 15.74 hrs HW=41.33' (Free Discharge)
 ↳1=RCP_Round 36" (Barrel Controls 16.31 cfs @ 5.19 fps)

Summary for Pond 4P: 12" CMP Culvert to Det Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.166 ac, 64.19% Impervious, Inflow Depth > 5.34" for 25 YEAR STORM event
 Inflow = 1.12 cfs @ 12.05 hrs, Volume= 0.074 af
 Outflow = 1.01 cfs @ 12.08 hrs, Volume= 0.074 af, Atten= 10%, Lag= 1.8 min
 Primary = 1.01 cfs @ 12.08 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 41.59' @ 12.08 hrs Surf.Area= 339 sf Storage= 153 cf

Plug-Flow detention time= 6.1 min calculated for 0.074 af (99% of inflow)
 Center-of-Mass det. time= 4.4 min (750.8 - 746.4)

Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	1,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	175	0	0
42.00	450	313	313
44.00	980	1,430	1,743

Device	Routing	Invert	Outlet Devices
#1	Primary	41.00'	12.0" Round CMP_Round 12" L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 41.00' / 40.50' S= 0.0100 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.98 cfs @ 12.08 hrs HW=41.58' (Free Discharge)
 ↳1=CMP_Round 12" (Inlet Controls 0.98 cfs @ 2.05 fps)

Summary for Pond 5P: Detention Pond #1

- [82] Warning: Early inflow requires earlier time span
- [92] Warning: Device #4 is above defined storage
- [79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.39'

Inflow Area = 0.360 ac, 60.82% Impervious, Inflow Depth > 5.22" for 25 YEAR STORM event
 Inflow = 2.25 cfs @ 12.05 hrs, Volume= 0.157 af
 Outflow = 1.39 cfs @ 12.15 hrs, Volume= 0.142 af, Atten= 38%, Lag= 6.1 min
 Primary = 1.39 cfs @ 12.15 hrs, Volume= 0.142 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 41.39' @ 12.15 hrs Surf.Area= 1,376 sf Storage= 1,548 cf

Plug-Flow detention time= 68.8 min calculated for 0.142 af (90% of inflow)
 Center-of-Mass det. time= 35.7 min (786.7 - 751.0)

Volume	Invert	Avail.Storage	Storage Description
#1	40.00'	4,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
40.00	890	0	0
41.00	1,200	1,045	1,045
42.00	1,650	1,425	2,470
43.00	2,130	1,890	4,360

Device	Routing	Invert	Outlet Devices
#1	Primary	40.00'	12.0" Round CMP_Round 12" L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 40.00' / 39.75' S= 0.0063 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

#2	Device 1	40.60'	6.0" Vert. Orifice/Grate X 2.00 C= 0.600
#3	Device 1	42.00'	2.0" x 2.0" Horiz. Orifice/Grate C= 0.600 in 24.0" Grate (1% open area) Limited to weir flow at low heads
#4	Secondary	43.00'	20.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=1.39 cfs @ 12.15 hrs HW=41.39' (Free Discharge)

↑1=CMP_Round 12" (Passes 1.39 cfs of 2.81 cfs potential flow)

↑2=Orifice/Grate (Orifice Controls 1.39 cfs @ 3.53 fps)

↑3=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=40.00' (Free Discharge)

↑4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: Prp. 36" CMP Entrance Crossing

[62] Hint: Exceeded Reach 1R OUTLET depth by 2.13' @ 12.45 hrs

Inflow Area = 50.117 ac, 12.97% Impervious, Inflow Depth > 1.13" for 25 YEAR STORM event
 Inflow = 26.09 cfs @ 12.21 hrs, Volume= 4.703 af
 Outflow = 15.81 cfs @ 12.45 hrs, Volume= 4.525 af, Atten= 39%, Lag= 14.0 min
 Primary = 15.81 cfs @ 12.45 hrs, Volume= 4.525 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Starting Elev= 40.50' Surf.Area= 5,263 sf Storage= 1,351 cf
 Peak Elev= 42.17' @ 12.45 hrs Surf.Area= 22,976 sf Storage= 24,440 cf (23,090 cf above start)
 Flood Elev= 46.00' Surf.Area= 48,500 sf Storage= 89,900 cf (88,549 cf above start)

Plug-Flow detention time= 31.9 min calculated for 4.494 af (96% of inflow)
 Center-of-Mass det. time= 15.0 min (898.5 - 883.4)

Volume	Invert	Avail.Storage	Storage Description
#1	40.00'	89,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
40.00	140	0	0
42.00	20,630	20,770	20,770
44.00	48,500	69,130	89,900

Device	Routing	Invert	Outlet Devices
#1	Primary	40.50'	36.0" Round CMP_Round 36" L= 40.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 40.50' / 40.00' S= 0.0125 1/ S= 0.0125 1/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=15.80 cfs @ 12.45 hrs HW=42.17' (Free Discharge)

↑1=CMP_Round 36" (Barrel Controls 15.80 cfs @ 5.66 fps)

Summary for Link AP1: AP1

Inflow Area = 95.156 ac, 13.30% Impervious, Inflow Depth > 1.14" for 25 YEAR STORM event
Inflow = 16.31 cfs @ 15.74 hrs, Volume= 9.066 af
Primary = 16.31 cfs @ 15.74 hrs, Volume= 9.066 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Well Field 44 Cannabis Dispensary - Existing Condition Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)
AP1	6.79	13.31	17.45

Rainfall Event Totals (in.)	
2-Year	3.33
10-Year	5.34
25-Year	6.60

Well Field 44 Cannabis Dispensary - Developed Condition Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)
AP1	4.03	11.10	16.31

Well Field 44 Cannabis Dispensary - Change in Peak Flows

Analysis Point	2 Year Storm (cfs)	10 Year Storm (cfs)	25 Year Storm (cfs)
AP1	-2.76	-2.21	-1.14

Headwater Elevations: 25-Year Rainfall Event

Analysis Point	Existing Elev. (ft)	Developed Elev. (ft)	Location in Analysis
1P	50.41	50.41	Martin Road Crossing (15" CMP)
2P	42.01	N/A	Ext. On-Site Driveway: 12" Culvert Removed
3P	41.34	40.34	Route 236 Crossing (36" RCP)