

Environmental Services

TEL 919 856 7400
FAX 919 856 5855

Floodplain & Stormwater Management
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

Request to Deviate from Impervious Surface Allotment on Individual Residential Lot

Purpose: The request to deviate form is required to initiate an increase in impervious surface area greater than the deeded impervious limit and less than the zoning limit. To qualify, the lot or subdivision must not have been recorded with a "perpetuity statement", i.e. Maximum Impervious Area Square Footage on each Individual Lot will be stringently enforced into perpetuity.

Please complete all spaces below

S#

Site Information				
Subdivision Name / Lot Brass Lantern Subdivision, Lot 11				
Project Street Address 6016 Brass Lantern Court		City Raleigh	State NC	Zip 27606
Date Recorded (Book of Maps, pg) 1983 (Book 1983, Page 843)	Lot # 11	Building Permit #	Pin # 0781-64-4265	
1. Maximum Impervious Surface Allotted (MISA) on Lot--(Recorded or Interpreted)				4,834 sf
2. Existing Impervious Area				4,664 sf
3. Total Impervious Area of Site Plan (Existing and/or Proposed plus additional)				7,605 sf
4. Specify Total Requested - Existing and/or Additional Impervious Surface Above MISA				(#3-#1) 8,952 sf
Applicant Information -Contact Person				
Applicant Prepared By (Name and Title) Scott Jones PE, Sr. Project Engineer		Company Agri-Waste Technology, Inc.		
Street Address 501 N. Salem Street, Suite 203		City Apex	State NC	Zip 27502
Telephone Number (Desk/Cell) 919-367-6318	Fax Number 919-233-1970	Email Address sjones@agriwaste.com		
Property Owner Information				
Property Owner, if different than applicant (Name and Title) Christopher Ackerman, Homeowner		Company		
Street Address 6016 Brass Lantern Court		City Raleigh	State NC	Zip 27606
Telephone Number (Desk/Cell) 919-656-7604	Fax Number	Email Address christopherackerman@gmail.com		
Designer for Stormwater Device Information				
Contractor if different than above (Name and Title) Scott Jones PE, Sr. Project Engineer		Company Agri-Waste Technology, Inc.		
Street Address 501 N. Salem Street, Suite 203		City Apex	State NC	Zip 27502
Telephone Number (Desk/Cell) 919-367-6318	Fax Number 919-233-1970	Email Address sjones@agriwaste.com		

This request for Wake County to approve a deviation from the impervious surface allotment as recorded on the record plat does not relieve the applicant from her or his responsibility to meet all applicable State and Federal Laws, including, but not limited to necessary approvals from Federal Emergency Management Area flood regulations/requirements, Division of Water Quality stormwater or other water quality regulations/requirements, U.S. Army Corps of Engineers Article 404/401 (Wetlands/Streams) jurisdiction/requirements, and/or any Federal, State, County and Local regulations or permit requirements. The approval issued in this letter cannot supersede any other required permit or approval.

II. APPLICANT'S REQUIREMENTS TO COMPLETE PERMIT

1. **Application to Deviate** (*all inspections on hold, until this form is received by Wake County*)
 - Complete and submit **deviation application** (*this form*) with **\$400** permit fee.
2. **Plan Submittal, Review, and Approval** (*foundation inspection on hold- electrical final for pools, until Wake County Water Quality Director approves plan*)
 - Submit a **Stormwater Management Plan (SMP)**. Plan shall comply with the current Wake County stormwater regulations outlined in Article 9 Stormwater Management of the Wake County Unified Development Ordinance (UDO) and designed according to the Stormwater Design Manual. Plan should include same elements of "As Built" survey below.
 - The stormwater planning process can occur in parallel with the on-site wastewater design. Stormwater devices shall meet all setback requirements from well, septic or repair areas. On-site approval shall preclude the stormwater plan approval.
 - After your **SMP** has been approved Environmental Services will prepare a **Letter of Conditional Approval** and place the building permit on a final hold for a CO pending conditions of approval.
3. **Installation, "As-Built" and Agreements** (*Upon receipt of the "As Built" survey along with both Maintenance and Stormwater Agreements, you may call IDPP (919) 856-6060 for a certificate of occupancy; if all other permit requirements have been met*)
 - Comply with approved plan & implement the SMP: Install stormwater device(s).
 - Submit a final "As-Built" survey on 8.5"x14" prepared by a Professional Land Surveyor.

The survey shall include:

- A detailed impervious summary for the lot: see UDO 21-11 "Impervious Surface"
 - Location of the stormwater devices and access easement
 - Indicate impervious areas from which stormwater is collected and
 - Conveyance system for routing stormwater from impervious area to device.
 - Location of wells, septic and repair areas
 - Property setbacks, buffers, flood zones or any existing easements
 - Plan and profile views of the stormwater device(s), with supporting calculations
- Sign /notarize Maintenance and Stormwater Agreements.
 - Record both Agreements and "As Built" with Wake County Register of Deeds.

III. APPLICANT'S CERTIFICATION:

I, certify that the information included on this form is, to the best of my knowledge and belief true, accurate, complete, correct and that the proposed lot complies with the requirements of the *Wake County Unified Development Ordinance*.

NAME: Scott P. Jones, PE

SIGNATURE:  PE

Owner/Owners Agent

DATE: December 1, 2023

WAKE COUNTY USE ONLY				
Disposition	S.W. Manager	Date	Dir. Water Quality Division	Date
Accepted				
Denied				
Recommended to Board of Adjustment				
Zoning District/Limit				



Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

Stormwater Management Plan
prepared by Scott Jones, PE (919) 367-6318

Date: 12/1/2023
County: Wake

PROJECT SUMMARY Property is currently at 11.53% impervious; proposed garage addition and driveway extension will exceed current MISA. Proposal is for a single, buried stormwater tank with pump discharge. Proposal accounts for existing 4,644 SF of impervious and proposed additional 2,961 SF of impervious. Proposed new MISA is 8,952 SF which accounts for proposed caputre area and tank storage, allowing future additional impervious beyond that shown in the site plan.

Name:	Christopher Ackerman 6016 Brass Lantern Court Raleigh, NC 27606 Wake County	P.I.N. #:	0781-64-7604	Permit Watershed Swift Creek
		Subdiv:	Brass Lantern Subdivision	
		Lot#:	11	
phone:	919-656-7604	Property address:	6016 Brass Lantern Court, Raleigh, NC 27606	

MISA	4834.68	sq.ft.	Lot area:	40289	sq.ft.
Existing	4644.00	sq.ft.			sq.ft.
adding	2961.00	sq.ft.	Required runoff capture	0.50	inches
Total IS	7605.00	sq.ft.	Projected impervious surface	18.88%	
Overage	2770.32	sq.ft.			

Calculations					
calculated overage	2770.32	sq. ft	Tank #1 capacity installed	1406	gallons
TARGET VOLUME	115.43	cu. ft	Tank #1's mitigation capacity	4511.23	sf
volume as gallons	863.42	gallons			
tankage needed	863.42	gallons			
			Total Tank Capacity	1406.00	gallons
			Total Tank Mitigation Capacity	4511.23	sf
			IS Captured	house roof	1932.00 sq. ft
				garage roof	1156.00 sq. ft
				driveway extension	1030.00 sq. ft
				TOTAL	4118.00 sq. ft
PROPOSED NEW MISA				8952.68	sq. ft

Equipment

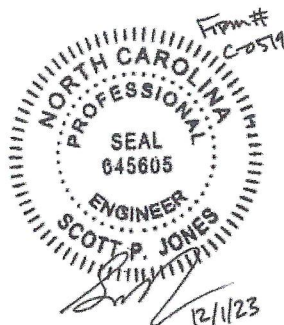
Tank #1 One 1500-gal Shoaf Concrete Pump Tank (Shoaf-1500 PT-353)

Pump Zoeller N57 dewatering pump with pump stand

Controls SJE Rhombus IFS TD panel: IFS 11W914H 8AC 4A 4D 15A 18A WITH 4 FLOATS

Other Catch Basins/Downspout Adapters with Grates

Electrical requirements two circuits: one for pump, 1 for panel/alarm. See design drawings and pump/panel cut sheets
1-120V, 20 amp for pump; 1-120V, 15 amp for panel)



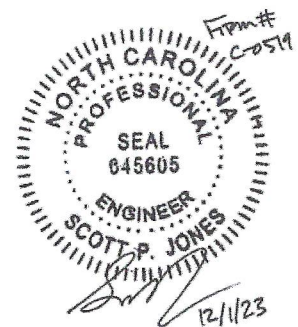
DOSING DETAILS
6016 Brass Lantern Court

Mitigation volume:	1406	gallons	
Discharge period	72	hours	
Dose interval	5.7	hours	
number of doses	12.631579	to discharge mitigation volume	
dose volume	111.3	gallons	
gal/in	27.85	inches	
minimum drawdown	4.0	inches	
dose rate approx.	25	gpm	ESTIMATED: TO BE MEASURED AT STARTUP
pump run time	4.5	minutes	ESTIMATED: VERIFY AS SHOWN BELOW

At the specified dose interval, the timer allows one dose to occur IF the dose-enable float is up. NO dose will occur if the dose-enable float is down. Following a rainfall event, the accumulated water will be discharged from the tank in regularly-spaced doses. If a rainfall event exceeds the design volume, the tank will overflow until the event ends, and then the regular discharge pattern will resume.

impervious surface draining to tanks:

roof	1932.00	
drive	1156.00	
new pool deck/patio	1030.00	sq. ft.
TOTAL	4118.00	sq. ft.
timer enable height	4.00	inches
volume between timer enable and pump off	111.40	gal
approximate rainfall to trigger one dose:	0.04	inches



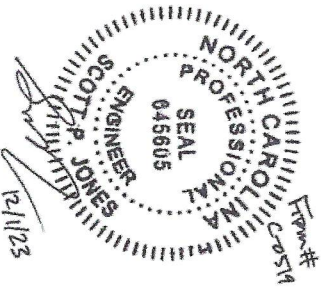
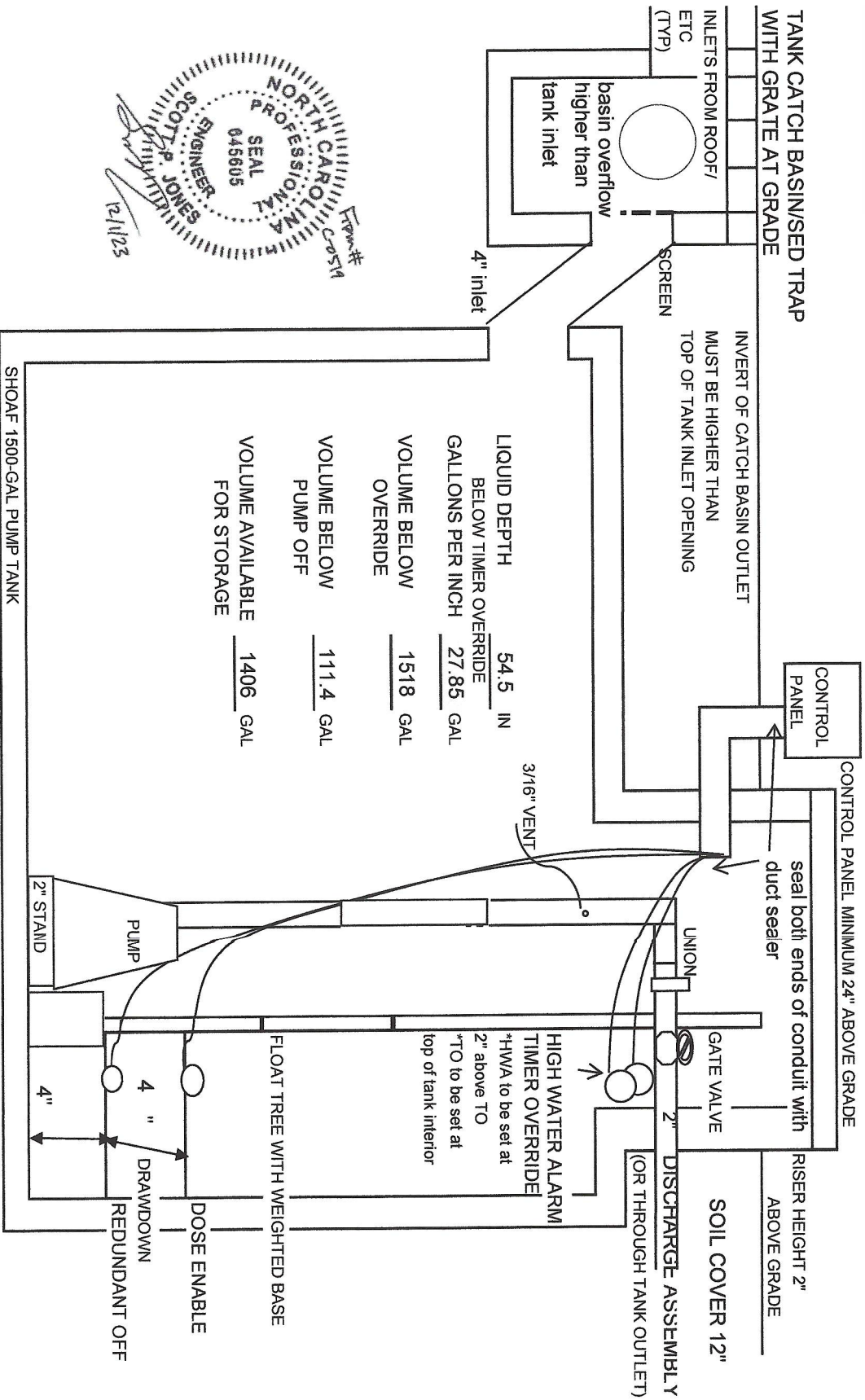
TIMER SETTINGS:

1. Measure pump delivery rate
2. Dose volume (above) divided by pump delivery rate = pump run time
3. TIMER ON = pump run time
4. TIMER OFF = dose interval (above) minus pump run time.

Example: If dose interval = 10 hours, and dose volume = 300 gallons, and pump delivery rate = 25 gal/min, then:
 $300 \text{ gal} / 25 \text{ gpm} = 12 \text{ minutes} = \text{TIMER ON}$
 $10 \text{ hours} - 12 \text{ minutes} = 9 \text{ hours } 48 \text{ minutes} = \text{TIMER OFF}$

NO SCALE

TANK CATCH BASIN/SED TRAP WITH GRATE AT GRADE





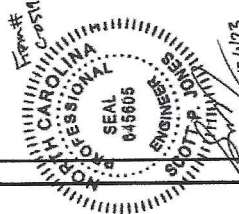
Appl-Water Technology, Inc.
5011 South Lakeshore Dr.
Apex, North Carolina 27602
919-852-0899
www.applwater.com

Ackerman Residence
Site Plan

Owner: Memoranda
Cameron
6016 Brass Lantern Court
Raleigh, NC 27606
919-852-0899
cameron@apptech.com

Property Address:
6016 Brass Lantern Court
Raleigh, NC 27606
Wake County
PIN: 078164265

PROFESSIONAL ENGINEER SEAL

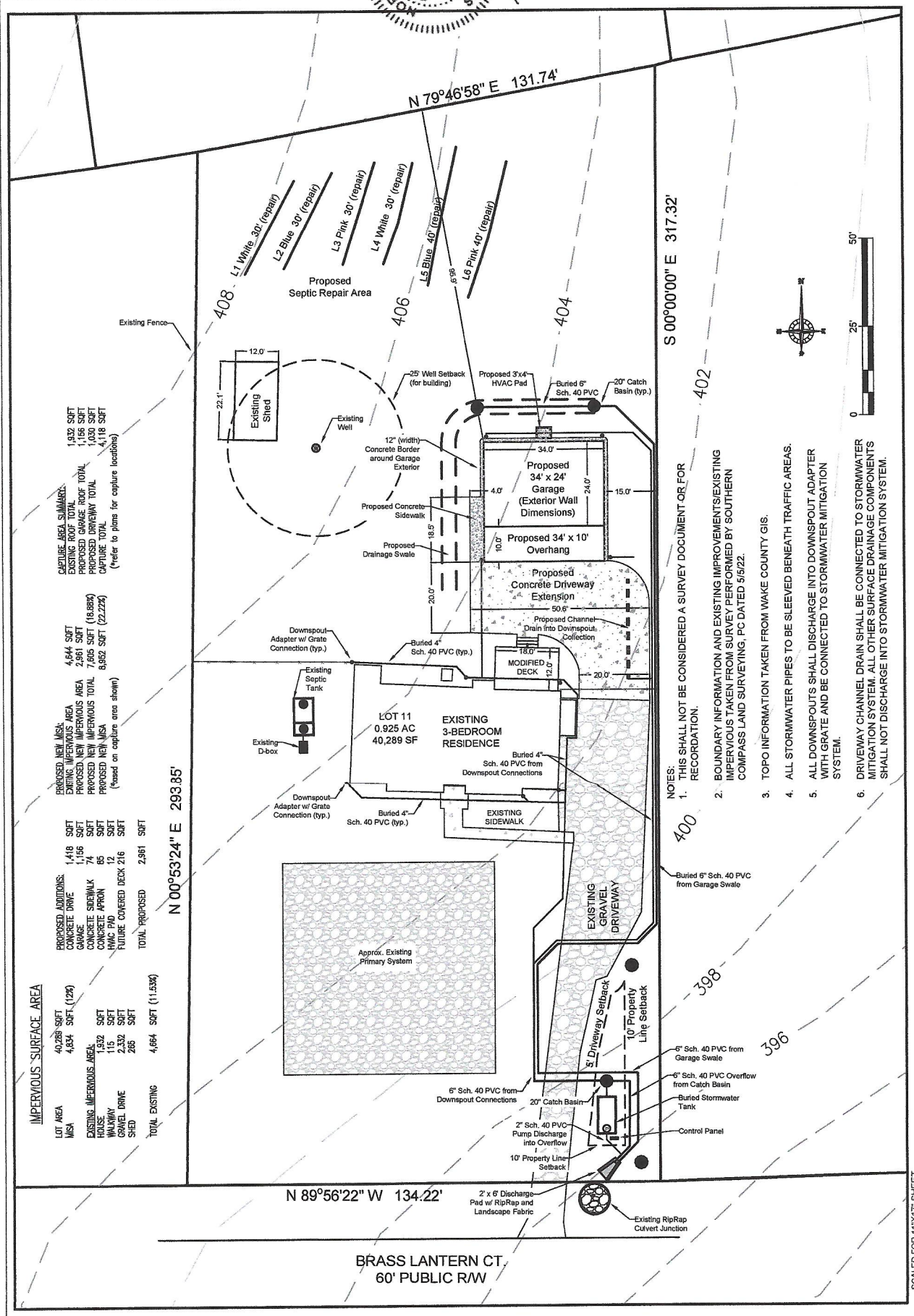


FINAL DESIGN
NOT RELEASED FOR CONSTRUCTION
REV. ISSUED DATE DESCRIPTION

SHEET TITLE
Site Plan

DRAWN BY: S. Jerns
CHECKED BY: S. Jerns
RELEASED BY: S. Jerns
CREATED ON: 11/28/2023
REVISED ON:

DRAWING NUMBER
SP-1



CAPTURE AREA SUMMARY:
EXISTING FOOT TOTAL: 1,432 SQFT
PROPOSED DRIVEWAY TOTAL: 1,039 SQFT
CAPTURE TOTAL: 4,118 SQFT
(refer to plans for capture locations)

PROPOSED NEW WSA:
EXISTING IMPERVIOUS AREA: 4,644 SQFT
PROPOSED NEW IMPERVIOUS TOTAL: 7,665 SQFT (18,895)
PROPOSED NEW WSA: 8,852 SQFT (22,224)
(based on capture area shown)

PROPOSED ADDITIONS:
CONCRETE DRIVEWAY: 1,418 SQFT
CONCRETE SIDEWALK: 1,156 SQFT
CONCRETE APRON: 74 SQFT
HWC PAD: 85 SQFT
FUTURE COVERED DECK: 216 SQFT
TOTAL PROPOSED: 2,961 SQFT

IMPERVIOUS SURFACE AREA
LOT AREA: 40,289 SQFT
EXISTING IMPERVIOUS AREA: 4,644 SQFT (12%)
HOUSE: 1,332 SQFT
WALKWAY: 115 SQFT
GRAVEL DRIVE: 2,332 SQFT
SHED: 265 SQFT
TOTAL EXISTING: 4,664 SQFT (11.53%)

N 00°53'24" E 293.85'

N 89°56'22" W 134.22'

BRASS LANTERN CT,
60' PUBLIC R/W

S 00°00'00" E 317.32'

N 79°46'58" E 131.74'



- NOTES:
1. THIS SHALL NOT BE CONSIDERED A SURVEY DOCUMENT OR FOR RECORDATION.
 2. BOUNDARY INFORMATION AND EXISTING IMPROVEMENTS/EXISTING IMPERVIOUS TAKEN FROM SURVEY PERFORMED BY SOUTHERN COMPASS LAND SURVEYING, PC DATED 5/5/22.
 3. TOPO INFORMATION TAKEN FROM WAKE COUNTY GIS.
 4. ALL STORMWATER PIPES TO BE SLEEVED BENEATH TRAFFIC AREAS.
 5. ALL DOWNSPOUTS SHALL DISCHARGE INTO DOWNSPOUT ADAPTER WITH GRATE AND BE CONNECTED TO STORMWATER MITIGATION SYSTEM.
 6. DRIVEWAY CHANNEL DRAIN SHALL BE CONNECTED TO STORMWATER MITIGATION SYSTEM. ALL OTHER SURFACE DRAINAGE COMPONENTS SHALL NOT DISCHARGE INTO STORMWATER MITIGATION SYSTEM.

SCALED FOR 11"X17" SHEET



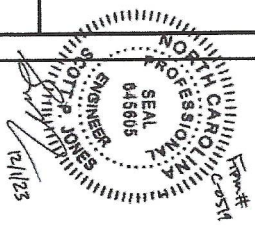
Engineers and Scientists
AquaVista Technology, Inc.
5000 W. Highway 100
Apex, North Carolina 27502
919-859-0899
www.aqvista.com

Ackerman Residence
Site Plan

Owner Information:
Ackerman Residence
6016 Davis Station Court
Raleigh, NC 27608
davisackerman@gmail.com

Property Information:
Ackerman Residence
Raleigh, NC 27608
File: 07814406

PROFESSIONAL ENGINEER SEAL



FINAL DESIGN
NOT RELEASED FOR CONSTRUCTION
REV. ISSUED DATE DESCRIPTION

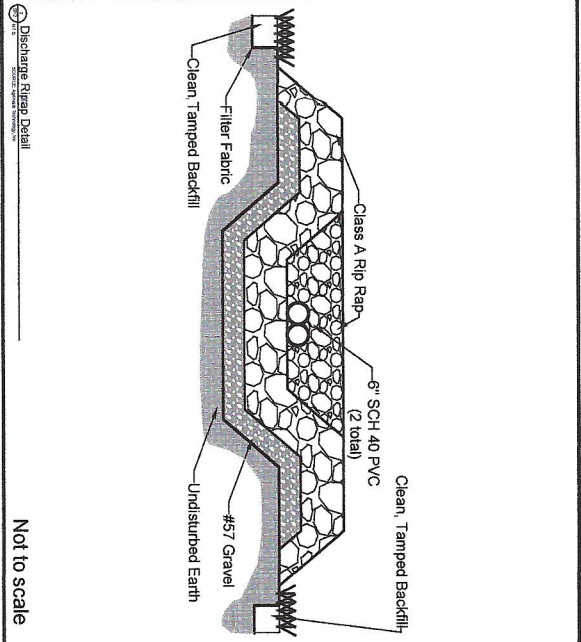
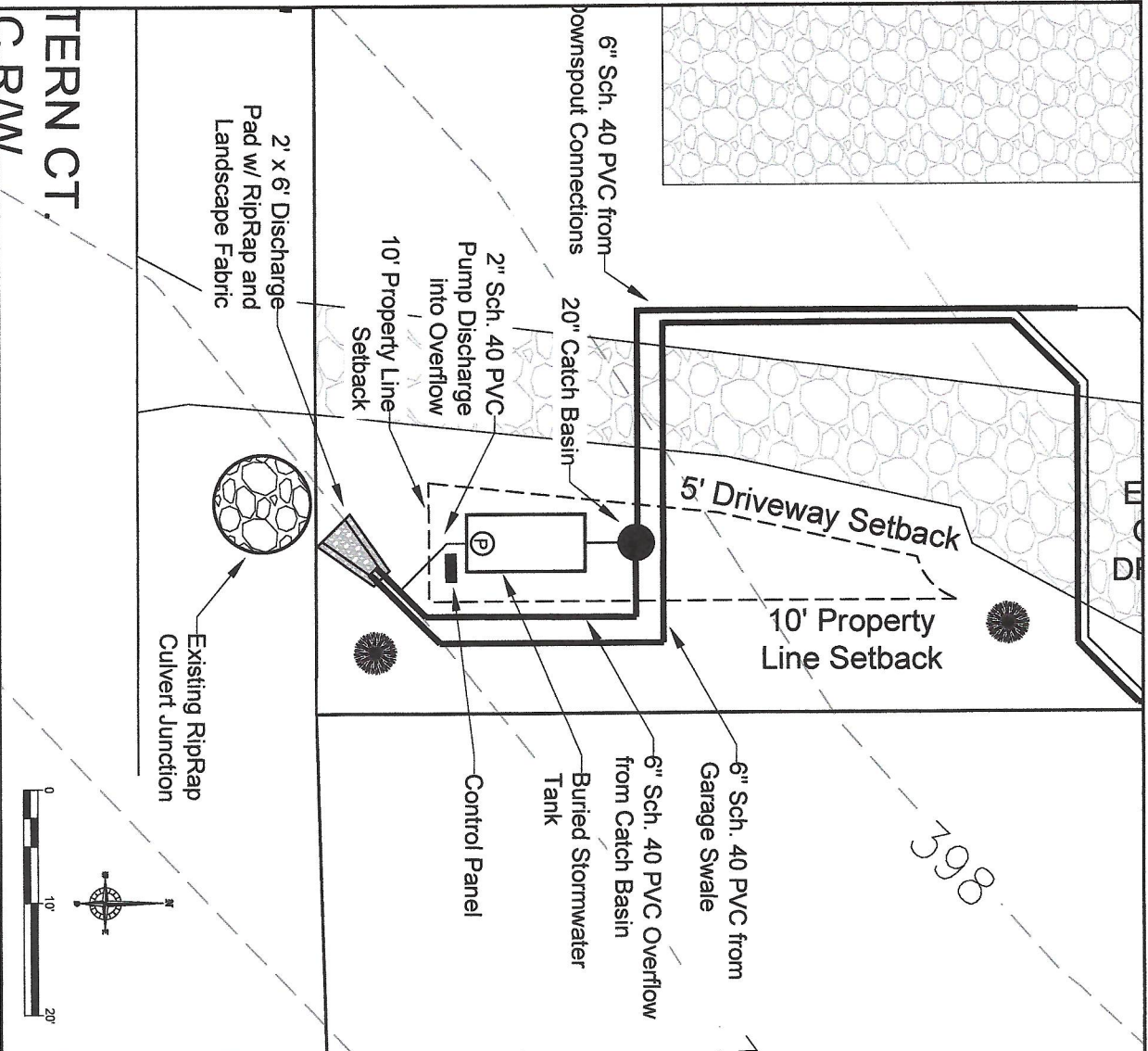
SHEET TITLE
Tank Layout

DRAWN BY: S. J. [Signature]
CHECKED BY: S. J. [Signature]
REVISIONS BY: [Blank]
RELEASED BY: [Blank]
RELEASED ON: 11/28/2023

DRAWING NUMBER
SP-2

NOTES:

- Location of system components shall be adjusted by Contractor to meet site constraints.
- All system piping to be Sch. 40 PVC. Piping shall be sleeved beneath traffic areas.
- Access riser(s) shall be single-piece risers and sealed to tank(s). If a concrete tank is used, a cast in place riser adapter shall be used.
- All tank access risers to contain safety net or inner lid.
- Tanks shall be buried with 12" min. burial depth, 36" max. burial depth.
- All plastic tanks (if used) shall be equipped with anti-floation measures.
- Contractor shall verify all elevations and ensure capture areas shown are directed to holding tank. Additional stormwater diversions and collections shall be installed as needed to provide for capture area.
- All electrical or power wiring to be installed in electrical conduit buried to a minimum depth of 18".
- Electrical service from residence to be installed by licensed electrician under the residence building permit.
- Separate circuits for each pump and alarm/control panel are required (1-120V, 20 amp; 1-120V, 15 amp).
- Pump Settings:
 - Flowrate = 25 gpm (to be set at startup)
 - Pump ON Time = 4.5 minutes
 - Pump OFF Time = 3.7 hours



TERN CT.
CRAW

SCALED FOR 11"x17" SHEET