

DEVELOPER CMA PROPERTIES, INC. 100 Myers Drive

Charlottesville, VA 22901 Phone (434) 951-1000

LAND OWNER CMA PROPERTIES, INC 100 Myers Drive Charlottesville, VA 22901 Phone (434) 951-1000

ENGINEER Stowe Engineering, PLC 103 Heath Court Winchester, VA 22655 Phone (540) 686-7373

LOCAL UTILITY SERVICE PROVIDERS

WATER AND SEWER FREDERICK WATER 315 TASKER RD STEPHENS CITY, VA 22655 540.868.1061

ELECTRIC SERVICE SHENANDOAH VALLEY ELEC COOP 3463 VALLEY PIKE WINCHESTER, VA 22602 540-450-0111

TELEPHONE SERVICE VERIZON 404 HILLANDALE LANE WINCHESTER, VA 22602 540.665.3153

CABLE SERVICE COMCAST COMMUNICATIONS 195 RAINVILLE ROAD WINCHESTER, VA 22602



CALL BEFORE YOU DIG



CALL 811 FROM YOU CELL PHONE OR 1-800-552-7001 FROM A LAND LINE.

SECTION 56-265.17 OF THE CODE OF VA REQUIRES THAT YOU PROVIDE THREE WORKING DAYS NOTICE TO UTILITY OWNERS BEFORE YOU EXCAVATE, DRILL OR BAST.

SITE PLAN HYUNDAI SALES AND SERVICE FREDERICK COUNTY, VIRGINIA Tax MAP 75 (A) 11L, 11M, & 11N SITE PLAN # xx-23





SCALE 1" = 1000'

PREPARED BY

STOWE ENGINEERING, PLC

103 HEATH COURT WINCHESTER, VA 22602 V 540.686.7373 F 540.301.1100

8) Н	YUNDA			STOWE ENGINEERING, PLC	103 Heath Court Winchester, VA 22602	(540) 686-7373 fax (540) 301-1100 BY
		SHEET INDEX					REVISION
	Sneet Number 1	Sheet N	lame				DATE
	2	GENERAL NOTES SURROUNDING PROPERTIES, OWNE	RS, ZONING & ROADS				NO. I
	4 5	PROPERTY BOUNDARY EXISTING CONDITIONS					
	6 7	DEMOLITION PLAN OVERALL SITE PLAN					
	8	SITE PLAN					
	10	SITE PLAN DETAILS					
	11 12	SITE PLAN DETAILS SITE PLAN DETAILS					⊢
	13 14	UTILITY PLAN					A RC
	15	UTILITY DETAILS			⊢	ive	ISTI STI
	16 17	GRADING PLAN EROSION & SEDIMENT CONTROL NA	RRATIVE		Ш	not	D - D -
	18	PHASE 1 EROSION & SEDIMENT CON			<u>Щ</u>	ore ton	1L 7, <
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	21 22	EROSION & SEDIMENT CONTROL DE OUTDOOR LIGHTING PLAN	TAILS		0)	dai rs .	75 (/ GIS OU
	23	OUTDOOR LIGHTING DETAILS			Щ	un. Iye	NA MA K C
	25	PLANTING PLAN			Ē	Γ Γ Σ	RIC
	26	STORMWATER NARRATIVE	ND WATER PROFILES		F	arte	CRE
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l hereby agi Signature:	ree to install, m	aintain, and inspect Erosion Control Me	asures to protect this site and ensure compliance Date:				
Responsible	e Land Disturbe	r Cert. Number:					
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SHEET 1 OF 27

GENERAL NOTES

- Rev. June 19, 2013 The contractor shall furnish all material, labor and equipment and perform all work to deliver the completed improvements shown or implied as necessary for the completed project ready for use, inclusive of all site restoration and stabilization. Unless otherwise noted, specifications for all work to be in accordance with applicable the Virginia Department of Transportation, the Virginia Department of Environmental Quality, American Water Works Association standards, and Frederick Water Standards and Specifications. All construction shall comply with the latest U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), and Virginia Occupational Safety & Health (VOSHA) rules and regulations. The contractor shall comply with title 59.1, chapter 30 section 406, et. seq. of the code of Virginia (overhead high voltage lines safety act). 4. The contractor shall comply with title 56, chapter 10.3, section 265, et. seq. of the code of Virginia (underground utility damage prevention act). Access for emergency and utility maintenance vehicles shall be maintained. Access for all businesses shall be maintained. 6. The placement of a construction trailer, fencing, parking, and staging areas shall be coordinated with and approved by the property owner and developer. The contractor shall be responsible for hiring a surveyor to provide construction surveying stake out. 8. The owner shall be responsible for hiring a testing firm to provide all earthwork and compaction testing.
- 9. The engineer has attempted to show all subsurface utilities, however, such may exist that are not shown. The contractor shall
- exercise care in this work so as to avoid damage to any utilities. Any damage shall be the responsibility of the contractor. The contractor shall notify Miss Utility of Virginia at least 72 hours prior to digging. 10. All disturbed surfaces shall be restored to the pre-construction condition by the contractor at the contractor's expense.
- 11. The Contractor shall ensure adequate drainage is achieved and maintained on the site during and at the end of construction.
- 12. Any unusual subsurface conditions (e.g., unsuitable soils, springs, sinkholes, voids, caves, etc.) encountered during the course of construction shall be immediately brought to the attention of the engineer. Work shall cease in that vicinity until an adequate design can be determined by the engineer and approved.
- 13. All fill areas, borrow material and undercut areas shall be inspected and approved by a the soils testing firm prior to placement and fill.
- 14. All surfaces and slopes shall provide positive drainage away from the building and parking areas 15. All fill areas, borrow material, footers, and undercut areas shall be inspected and approved by a the geotechnical engineer prior to placement of fill, aggregate, or concrete.
- 16. All subgrade material and backfill in the utility/storm sewer trenches, shall be placed and compacted in accordance with the
- requirements in the geotechnical report. Density tests shall be performed by the soils testing firm. 17. Existing structures, tanks, and other existing features designated to be removed or demolished shall be carefully removed and disposed of at an approved waste disposal site.

DRAINAGE NOTES

- "H" Dimensions and top elevations shown on the plans are measured from the invert out to the top of the structure. "H" dimensions and top elevations are approximate and are provided for estimating purposes. Actual dimensions shall be determined by the contractor from field conditions.
- All drainage structures shall meet the requirements of VDOT road and bridge standards and VDOT specifications. see details in this plan set.
- 3. All structures shall have vdot standard invert shaping IS-1. see detail in this plan set.
- All storm drainage pipe materials shall be as shown on the profiles.

GRADING NOTES

1. All excavation is unclassified

- 2. Materials The material to be used in embankments shall be free of frozen or organic materials such as leaves, roots, grass, weeds, and all other material not consistent with construction of a stable, homogeneous fill. Embankments shall not be constructed on frozen ground. All proposed fill materials should be approved by the geotechnical engineer prior to placement, and representative samples should be obtained one week prior to placement of that material to allow time for completion of the necessary laboratory tests.
- Site Preparation All vegetation, rootmat, topsoil, asphalt and concrete shall be removed from areas upon which embankment will be constructed. Clearing shall extend ten (10) feet beyond the building and pavement limits, and one additional foot for each foot of proposed fill. Topsoil shall be stockpiled as required by the e&s plan. All sloping areas upon which fill is to be placed should be benched or "notched" so that a smooth interface between existing ground and new fill will not be present. Each layer of fill should be benched into the existing ground a minimum of 3 feet horizontally and the depth of one fill layer. Flat areas upon which fill is to be placed shall be deeply plowed to allow for bonding with the existing material. the controlled fill slopes and embankments should be constructed at the designed 2h:1v slopes or flatter.
- Formation in Layers All fill layers shall be constructed with materials and methods prescribed in the geotechnical report. Any soil placed as engineered fill should be an approved material, free of organic matter or debris. unacceptable engineered fill materials include topsoil, organic materials (oh, ol), construction debris and large rock. all such materials removed during grading operations should be either stockpiled for later use in landscaped areas or placed in approved disposal areas either on or off site. All frozen soil should be removed prior to continuation of fill operations. Borrow fill shall not contain frozen materials at the time of placement. All frost-heaved soil should be removed prior to placement of fill, stone, concrete or asphalt. It is recommended that processed shot rock be utilized as fill within the upper five (5) feet of finish subgrade to provide a weather resilient construction area which can be utilized to reduce concrete slab, pavement section thickness, or foundation size. *The site contractor shall have means of providing water* at all times during structural fill placement. The geotechnical report is entitled Report of Geotechnical Exploration, Hyundai Store, Frederick County, Virginia prepared by Triad Engineering, Winchester, VA.
- As the embankment is consolidated, the slopes shall be carefully dressed to the desired section and maintained to their proper height, dimensions, and shape until the work is accepted. When transporting material with rubber-tired equipment, care shall be taken to see that the trailing units do not follow in the tracks of the preceding unit. At the end of each day's work the embankment shall be dressed to shed any water that might fall during the night.
- 6. All blasting operations shall be performed in accordance with the Fire Marshall's requirements. The contractor shall protect the overhead power lines from fly rock and its associated damage.
- 7. If karst features such as caves, disappearing streams, or large springs are encountered during the project, contact Wil Ondorff of VA DCR (540-394-2552) to document and minimize adverse impacts.

WATER & SEWER NOTES

- 1. The public water and sewer lines are owned by Carter Myers Properties, Inc. and operated by Frederick Water. All construction, connections and activities pertaining to the water and sewer lines shall conform to the requirements prescribed in the Frederick Water Standards and Specifications which can be found at
- https://www.frederickwater.com/sites/default/files/docs_forms_media/frederick_water_standards_and_specifications_2022-04-19_w_std_details.pdf Manhole rims, valve boxes, etc. shall be adjusted to match the surrounding finished grade in lawn area. All others shall be set in accordance with Frederick Water specifications.
- The contractor shall coordinate water and sewer construction with Frederick Water.
- 4. Location marker requirements water line location markers shall be Scotchmark mid-range markers (wheel) part number 1257 or approved equal. sewer line locator markers shall be Scotchmark mid-range markers (wheel) part number 1258 or approved equal.

SIGN NOTES

- 1. One monument sign will be installed to replace the existing sign. The monument sign shall be a maximum of 25 feet in height with a maximum sign area of 150 sq. ft. in accordance with Frederick Co Zoning Ord §165-201.06.3.b.3
- 2. Building mounted signs shall not exceed 1.5 sq ft of sign area per liner ft of wall, up to a maximum of 200sq. ft. in accordance with Frederick Co Zoning Ord §165-201.06.3.d.
- 3. Internal direction signs will be utilized.

OUTDOOR LIGHTING NOTES

1. Outdoor lighting will be installed in accordance with Frederick County zoning ordinance §165-201.7 and these plans.

STORMWATER MANAGEMENT NOTES

1. This project does not increase the impervious area of the site. Storm water quality will be mitigated through the purchase of nutrient credits from a DEQ approved source. Storm water quantity will be managed with the existing onsite systems.

- of way.

V13.All fill areas, borrow material and undercut areas shall be inspected and approved by a VDOT representative prior to placement of fill. A VDOT representative shall be present to insure the soil sample(s) obtained for CBR's is representative of the location. When soil samples are submitted to private laboratories for testing, the samples shall be clearly identified and labeled as belonging to a project to be accepted by VDOT and that testing shall be performed in accordance with all applicable VDOT standards and procedures.

V15.VDOT Standard CD and UD underdrains shall be installed where indicated on these plans and/or as specified by VDOT. V16. A post installation visual/video camera inspection shall be conducted by the Contractor on all pipes identified on the plans as storm sewer pipe and a select number of pipe culverts. For pipe culverts, a minimum of one pipe installation for each size of each material type will be inspected or ten percent of the total amount for each size and material type summarized. All pipe installations on the plans not identified as storm sewer pipe shall be considered as culvert pipe for inspection purposes. Additional testing may be required as directed by the Area Land Use Engineer or their representative.

developer.

V18. Prior to VDOT acceptance of any streets, all required street signage and/or pavement markings shall be installed by the developer in accordance with the Manual On Uniform Traffic Control Devices.

V19. The developer shall provide the VDOT Land Development Office with a list of all material sources prior to the start of construction. Copies of all invoices for materials utilized within any dedicated street right-of-way must be provided to the local VDOT Land Development Office prior to acceptance of the work. Unit and total prices may be obscured.

V20. Aggregate base and subbase materials shall be placed on subgrade by means of a mechanical spreader. Density will be determined using the density control strip in accordance with Section 304 of the VDOT Road and Bridge Specifications and VTM-10. A certified compaction technician shall perform these tests. Certified copies of test reports shall be submitted to VDOT daily, unless specified otherwise. In addition to checking stone depths, a VDOT representative shall be notified and given the opportunity to be present during the construction and testing of the density control strip.

V21. Asphalt concrete pavements shall be placed in accordance with Section 315 of the VDOT Road and Bridge Specifications. Density shall be determined using the density control strip as specified in Section 315 and VTM-76. A certified compaction technician shall perform these tests. Certified copies of test reports shall be submitted to VDOT daily, unless specified otherwise. A VDOT representative shall be notified and given the opportunity to be present during the construction and testing of the control strip.

V22.In accordance with Section 302.03, the foundations for pipe culverts thirty-six (36) inches and larger shall be explored below the bottom of the excavation to determine the type and condition of the foundation. The contractor shall report findings of foundation exploration to the engineer and VDOT for approval prior to placing pipe. Foundation designs shall comply with VDOT Road and Bridge Standard PB-1. Where soft, yielding, or otherwise unsuitable foundation is encountered, the foundation design and/or need for foundation stabilization shall be determined by the engineer and approved by VDOT.

V24. Approval of these plans shall expire five (5) years from the date of the approval letter.

V26. The foundations for all box culverts shall be investigated by means of exploratory borings advanced below proposed foundation elevation to determine the type and condition of the foundation. The contractor shall submit copies of borehole logs and report findings of foundation exploration to the engineer and VDOT for approval prior to constructing box. Foundation designs shall comply with VDOT Road and Bridge Standard PB-1. Contrary to the Standard, where rock is encountered and cast-in-place box is proposed, the thickness of bedding shall be six (6) inches. Where soft, yielding, or otherwise unsuitable foundation is encountered, the foundation design and/or need for foundation stabilization shall be determined by the engineer and approved by VDOT.

Staunton District

VDOT General Notes

Virginia Department of Transportation

V1. All work on this project shall conform to the current editions of and latest revisions to the Virginia Department of Transportation (VDOT) Road and Bridge Specifications and Standards, the Virginia Erosion and Sediment Control Regulations, and any other applicable state, federal or local regulations. In case of a discrepancy or conflict between the Standards or Specifications and Regulations, the most stringent shall govern.

V2. All construction shall comply with the latest U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), and Virginia Occupational Safety & Health (VOSH) Rules and Regulations.

V3. When working within VDOT right-of-way, all traffic control, whether permanent or temporary, shall be in accordance with the current edition of VDOT's Work Area Protection Manual. A transportation management plan needs to be submitted for approval and land use permit issued prior to any execution of work within the VDOT right

V4 The developer shall be responsible for relocating, at his expense, any and all utilities, including traffic signal poles, junction boxes, controllers, etc., owned by VDOT or private / public utility companies. It is the sole responsibility of the developer to locate and identify utility facilities or items that may be in conflict with the proposed construction activity. VDOT approval of these plans does not indemnify the developer from this responsibility.

V5. Design features relating to field construction, regulations, and control or safety of traffic may be subject to change as deemed necessary by VDOT. Any additional expense incurred as a result of any field revision shall be the responsibility of the developer.

V6. If required by the local VDOT Land Development Office, a pre-construction conference shall be arranged and held by the engineer and/or developer with the attendance of the contractor (s), various County agencies, utility companies and VDOT prior to initiation of work.

V7. The contractor shall notify the local VDOT Land Development Office when work is to begin or cease for any undetermined length of time. VDOT requires and shall receive 48 hours advance notice prior to any required or requested inspection.

V8. The contractor shall notify the Traffic Operations Center at (540) 332-9500 for any traffic control plan that impacts a VDOT maintained Interstate or Primary roadway to provide notification of the installation and removal of the work zone.

V9. The contractor shall be responsible for maintaining a VDOT permitted temporary construction entrance(s) in accordance with Section 3.02 of the Virginia Erosion and Sediment Control Handbook. Furthermore, access to other properties affected by this project shall be maintained through construction.

V10.Contractor shall ensure adequate drainage is achieved and maintained on the site during and at the end of construction.

V11. All water and sewer lines within existing or proposed VDOT right-of-way shall have a minimum thirty-six (36) inches cover and when possible shall be installed under roadway drainage facilities at conflict points.

V12. Any unusual subsurface conditions (e.g., unsuitable soils, springs, sinkholes, voids, caves, etc.) encountered during the course of construction shall be immediately brought to the attention of the engineer and VDOT. Work shall cease in that vicinity until an adequate design can be determined by the engineer and approved by VDOT.

V14.All roadway fill, base, subgrade material, and backfill in utility/storm sewer trenches shall be compacted in accordance with the lift thicknesses, density and moisture requirements as specified in the current VDOT Road and Bridge Specifications. Certified copies of test reports shall be submitted to VDOT daily, unless specified otherwise.

V17. The installation of any entrances and mailboxes within any dedicated street right-of-way shall meet VDOT minimum design standards and is the responsibility of the

V23.VDOT Standard Guardrail shall be installed where warranted and/or as proposed on these plans in accordance with VDOT's installation criteria. Final approval of the guardrail layout to be given by VDOT after grading is mostly complete.

V25.VDOT Standard CG-12 Curb Ramps shall be installed where indicated on these plans and/or as specified by VDOT.

		LANDSCA	PING REQUIREMENTS		
PERIMETER LANDSCAPING					
PARKING AREA					
EXISTING IMPERVI	OUS AREA TO BI	E REMOVED (SI	F)		89,378
NEW IMPERVIOUS	AREA TO BE CO	NSTRUCTED (S	F)		76,096
NET INCREASE IN I	MPERVIOUS AR	EA (SF)			-13,282
TRESS REQUIRED					TREES PROVIDED
0	1 TREE/2000 SF	OF IMPERVIO	DUS AREA TO 100,000 SF		0
0	1 TREE/5000 SF	OF IMPERVIO	OUS AREA OVER 100,000 SF		0
35			NEW	PERIMETER TREES	0
HEADLIGHT	HEDGE - SCREE	ENING BUSHES	@ 3' O.C., MIN 3' TALL	SCREENING	not reqd
INTERIOR LANDSCAPING					
New Parking Lot A	rea			none	SE
note: no new park	ing is to be con	structed		lione	
INTERIOR LANDSC	APING REQUIRE	D		n/a	SF
INTERIOR LANDSC/	APING PROVIDE	Ð		n/a	SF
INTERIOR TREES RE	QUIRED IN NEV	V CAR PARKING	G AREA (1 PER 10 PARKING SPACE)	n/a	
INTERIOR TREES PF	ROVIDED			n/a	

AC	ACRE
@	AT
BM	BENCH MARK
BLDG	BUILDING
BRL	BUILDING RESTRICTION
CL	CENTERLINE
CL	RATIONAL RUNOFF CO
CG	CURB & GUTTER
СН	CHORD
со	CLEAN OUT
CON	CONCRETE
СМР	CORRUGATED METAL P
СР	CONCRETE POST
СҮ	CUBIC YARDS
XING	CROSSING
DI	DROP INLET
DIA	DIAMETER
DNG	DRAINAGE
EL / ELEV	EELVATION
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTNG
FC	FACE OF CURB
FH	FIRE HYDRANT
FF	FIRST FLOOROR FINISH
FL	FLOW LINE
F	FORCE MAIN
GA	GUY ANCHOR
GM	GAS METER
GV	GATE VALVE
HP	HIGH POINT
IE	INVERT ELEVATION
IRF	IRON ROD FOUND
IRS	IRON ROD SET
LAT	LATERAL
LF	LINEAR FEET
LOS	LANDSCAPE OPEN SPAC
LT	LEFT
LTP	LIGHT POLE
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
OS	OFFSET

ARC

Owner
Proposed Project Description
Property Identification Number
Total Area (AC)
Developed Area (Existing AC)
Developed Area (after this proje
Woodlands Disturbed (%)
Zoning
Existing Use
Proposed Use
Finished Floor Area (existing) SF
Finished Floor Area (proposed)
FAR Allowed
FAR Provided
Minimum Greenspace Area
Greenspace Provided
Setbacks (from edge of pavemer
Front
Side (north)
Side (south)
Rear
Maximum Building Height
Previsouly Approved Plans

PROJECT SUM

Master Development Plans: Site Plans:

PARKING TABULA	ATION	
	REQUIRED	PROVIDED
1 space/400 SF of enclosed Floor Area (8,900 sf)	22	36
1 space/3000 SF of outdoor display area (3606 sf)	1	111
2 spaces per service bay (19 bays)	38	72
New Vehicle Lot		193
TOTAL	61	412
HANDICAPPED PARKING (13VAC5-63-250. Chapter 11 Accessibility)		
Enclosed Floor Area (sales area) @ 7441 sf)	3	3
TOTAL	3	3
LOADING SPACES (1 PER 40,000 SF)	1	1

	ABBF	REVIATIOI	<u>VS</u>	1, PLC
		PRL	PARKING RESTRICTION LINE	NG 2660
		PCC	POINT OF COMPOUND CURVATURE	2 A 2 37.111
		PCR	POINT OF CURB RETURN	BH 5-7 01
		PC PP		ath 386
NLINE		PRC	POINT OF REVERSE CURVATURE	He (C)
		PVI	POINT OF VERTICAL INTERSECTION	3 H (5.
EFFICIEN	ΙT	PVC	POINT OF VERTICAL CURVATURE OR	B B B a X
			POLYVINYL CHLORIDE	$\mathbf{M}_{\mathbf{f}}$
		PVMT		
		PVI PT		
PIPE		PL	PROPERTY LINE	
		PROP	PROPOSED	
		PW	PRROCESS WATER- SANITARY	
		R	RADIUS	
		RED		
		RT	RIGHT	
		ROW	RIGHT-OF-WAY	
		SAN	SANITARY	
		SEW	SEWER	
		SHLD	SHOLDER	
		SHI	SHEET SIGHT DISTANCE	
		SF	SQUARE FOOT	
ED FLOO	DR	STA	STATION	
		SWM	STORMWATER MANAGEMENT	
		STM	STORMWATER MANAGEMENT	
		SY	SQUARE YARDS	
		TS	TOP OF SIDEWALK	
		TW	TOP OF WALL	
		TYP	TYPICAL	
		UE	UNDERGROUND ELECTRIC	
		UG		
CE				
CL		VC	VERTICAL CURVE	
		W	WATER	
		WL	WATER LINE	
		WM	WATER METER	
		WS		
		VV VV	WASTE WATER	
			7	
		Nerties Inc	-	
	9 802 SE buildi	ng addition and	-	
	parking ar	rea revision		
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	7.	.64		
	6.	.36		
AC)	6.	.36	-	1 1 1 1 1 1 1 1 1 1
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	Auto Sale	s & Service		
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	22	154		
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	3	6%	-	
	Required	Provided]	
	50'	217'		
	0	105'		
	0	84'	-	
	0	544'	-	ALL DOCUMENTS PREPARED BY STOWE ENGINEERING A INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. TH ARE NOT INTENDED TO BE SUITABLE FOR RELISE BY THE OWN
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r Area (S	3,900 sf) 2	2	36	11

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JULY 27, 2023

OF 27

AS SHOWN

PROJECT NUMBER:

SCALE:

DRAWN BY:

CHECKED BY:

SHEET



0 200 Scale in feet

	PROPERTY OWNER & L	AND USE I	NDEX TABLE
ID	Owner	Zoning	Land Use
1	John W. Truban	B2	undeveloped
2	Garden of Eden, LLC	B2	Auto sales and service
3	CMA Properties, Inc.	B2	Auto sales and service
4	Orange Partners, LLC	B2	Commercial
5	Aldi, Inc	B2	Commercial
6	Orange Partners, LLC	B2	undeveloped

		STOWE ENGINEERING, PLC		103 Heath Court	Winchester, VA 22602	(540) 686-7373	fax (540) 301-1100	
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VEHICLE DISPLAY PAD DETAILS

VEHICLE DISPLAY PAD

Locate display pads along the front line of display vehicles to attract the attention of potential sales customers.

Locations & Features

 Possible locations for Display Pads include: the Main Customer Entry Drive, adjacent to the Hyundai Brand Sign, and at the corners of the dealership property.

 Display pad is hexagonal in shape, sized as indicated above, constructed with poured-inplace concrete with a stamped or scored surface as shown. Install in-ground exterior uplighting at the perimeter of Display Pad as shown.

Concrete finish may be colored to match or complement the GDSI 2.0 color scheme.

	STOWE ENGINEERING, PLC		103 Heath Court	Winchester, VA 22602	(540) 686-7373	fax (540) 301-1100	
							BΥ
							REVISION
							NO. DATE
ALL INST OR C PROJI	COLUMENT OF THE STATES ON THE	S PREF F SERVIC EXTENS REUSE STOW	Hyundai Store	Carter Myers Automotive	LOT 75 (A) 11L		
PRC	DJECT N		THY S NO. 28 NO. 28 NO.			1262.0 7, 202	sers
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FREDERICK WATER **Construction Notes**

- 2. The contractor shall adhere to Frederick Water standards and specifications in effect at the time of construction.
- 3. The contractor shall schedule a pre-construction meeting with the Frederick Water Inspector prior to Building Inspections. Both Frederick County Building Inspections and Frederick Water will inspect the installation of those facilities. Both inspections shall be scheduled by Contractor.
- 4. The contractor shall connect a new sewer line to an existing manhole by core drilling the manhole.
- 5. A new water (or forced sewer) main shall be connected to an existing main by a a cut-in tee with accompanying valves.
- Inspector.
- Adjust Frederick Water facilities to grade as required by the Frederick Water Inspector. a.
- 7. meter is installed:
- a. The meter box, with its frame and cover, must be properly aligned with the yoke bar.
- The frame and cover shall be set to final grade.
- С.
- All components of the meter box assembly shall be in proper working order.
- For services that connect to existing lines:
- Frederick Water shall furnish and install: а.
- all %"x¾", ¾", 1", 1½" and 2" water services
- ii. all sewer services.
- b. The owner/developer shall:
- engineering assistant.
- submit an Application for Service and pay the required fees.
- required). The assembly must meet ASSE standard number 1015 or 1013.
- 10. required). The assembly shall meet ASSE standard number 1048 or 1047. Any privately owned fire line, the backflow prevention unit. Radio read remotes are required.
- 11. Frederick Water shall review the mechanical plan(s) for design and material approval of a building's: a. domestic water meter and its backflow prevention device, and/or its
- b. Fire service line's water meter and backflow prevention device.
- 12. substantial completion is issued and water meters released.

1. Frederick Water's Water and Sewer Standards and Specifications are available at www.frederickwater.com

commencing installation of any water or sewer facilities. Contractor shall also arrange for inspection of said facilities by Frederick Water. Oil water separators and/or grease traps may be required by Frederick County

Exact locations of water and sewer services on new lines are to be coordinated with Frederick Water's

Frederick Water's maintenance division shall furnish and install all water meters through 2 inch in size. It is the contractor's responsibility to have the meter box assembly installed correctly. Before a permanent

The distance between the top of the cover and the yoke bar shall be between 20 and 23 inches.

coordinate (or have the contractor coordinate) the location of the service lateral with Frederick Water's

All water service lines must have a backflow prevention assembly (double check valve or RPZ, as

All fire lines must have a backflow prevention assembly (detector double check valve or RPZ, as interior or exterior, shall also have a fire service meter. This assembly shall be installed immediately before

DEQ must also approve sewer pump stations. Frederick Water requires a copy of DEQ's Certificate to Operate and a copy of the station's DEQ approved O&M manual. These documents must be received before

	STOWE ENGINEERING, PLC	103 Heath Court Winchester, VA 22602 (540) 686-7373 fax (540) 301-1100
		BY
		REVISION
l		0. DATE
l		N
	UTILITY DETAILS	Hyundai Store Carter Myers Automotive LOT 75 (A) 11L BACK CREEK MAGISTERIAL DISTRICT FREDERICK COUNTY, VIRGINIA
	ALL DOCUMENTS P INSTRUMENTS OF SEF ARE NOT INTENDED T OR OTHERS ON EXT PROJECT.ANY REUSI ADAPTATION BY STO SOLE RISK.	REPARED BY STOWE ENGINEERING ARE RVCE IN RESPECT OF THE PROJECT. THEY TO BE SUITABLE FOR REUSE BY THE OWNER INSIONS OF THE PROJECTOR ANY OTHER E WITHOUT WRITTEN VERIFICATION OR WWE ENGINEERING WILL BE AT THE USERS
	T UNON PROJECT NUME	thy S. Stowe MOTHY S. STOWE Lic. No. 21924 1/28/25 STONAL ENGINE SER: 1262.0
	DATE: SCALE:	JULY 27, 2023 AS SHOWN
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	SHEET	15 OF 27

Erosion and Sediment Control Narrative

Project Description This project consists of remodeling and expandintg a auto dealership and supporting site features. 3.0 acres of land will be disturbed with the construction of this project.

Date of Construction

Construction is planned to begin the 3rd quarter of 2023 and end in the 3rd quarter of 2024.

Existing Site Conditions The site is currently a used car dealership store.

Adjacent Property

The project is located in the Kernstown area of Frederick County south of Route 37, and between I-81 and Route 11.

Offsite Areas

There are no planned off-site borrow or disposal areas associated with this project.

For the project area, generalized soils data contained on the USDA Natural Resource Conservation Service's Web Soil Survey shows the project area with 100% Oaklet silt loam with 2-7% slopes.

Geology

No rock outcrops or karst features were observed. **Critical Erosion Areas**

Areas where concentrated stormwater is discharging will be critical.

Erosion and Sediment Control Measures Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook. The minimum standards of the handbook shall be adhered to unless otherwise waived or approved by a variance.

CONSTRUCTION NARRATIVE

The work shall generally be carried out in the following sequence:

PHASE 1

- 1. Hold pre-construction meeting on-site with the inspector. The Frederick County inspector shall have 48 hours notice to schedule an on-site pre-construction inspection following the issuance of a land disturbance permit. The certified responsible land disturber must attend the
- pre-construction meeting
- Install the construction entrance. Temporary Construction Entrance (3.02) installed at the entrance to the site to minimize mud carried onto the roadway.
- Clearing and grubbing for sediment control and sediment trapping devices only. Silt Fence Barrier (3.05) is to be installed down-slope of work areas and around the on-site stockpile area to filter sediment-laden runoff from sheet flow as indicated on the plans.
- 4. Construct and/or place sediment trapping and sediment control devices.

PHASE 2

- 1. Clear and grub the remainder of the site. Topsoil that is to be used in the final grading of grassed areas shall be stripped and stockpiled on site for later use. The excess topsoil shall be removed and disposed of by the contractor. All stockpiles shall be stabilized with seeding and surrounded with silt fence.
- Rough grade the site.
- 3. Storm drain structures and pipe shall be installed. Inlet protection (3.07) shall be installed as shown on the plans around inlets to filter sediment-laden runoff. The area shall be stabilized upon completion of grading.
- 5. Final grading.
- 6. Top Soiling (3.30) and Surface Roughening (3.29) shall be applied to all areas that will be seeded.
- Permanent Seeding (3.32) shall be applied as soon as the grading operations are completed. 8. Remove erosion and sediment control measures within 30 days from when they are no longer needed and with approval of the inspector.

Vegetative Practices

Temporary seeding (3.31) soil stabilization shall be applied to denuded areas within seven days after the final grading is complete on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days, but less than one year. Permanent stabilization shall be applied to areas that are to be left dormant for more than one

Stockpile areas shall be surrounded with silt fence and protected by mulch and/or temporary seeding immediately after grading. Diversion dike and temporary sediment trap embankments shall be compacted by machine, seeded and mulched (hay mulch or straw) for temporary and/or permanent vegetative cover immediately after construction.

Vegetative stabilization shall be uniform, mature enough to survive, and adequate to inhibit erosion. Any areas not meeting these requirements shall be reseeded.

Management Practices

Construction will be carried out so that grading operations can begin and end as quickly as possible. Sediment trapping measures will be installed as the first step in grading. These measures will be seeded and mulched immediately following

installation

Temporary seeding or other stabilization will follow immediately after grading. Areas which are not to be disturbed will be clearly marked by flags, signs, etc. The job superintendent shall be responsible for the installation and maintenance of all erosion and sediment control practices. Maintenance of these measures throughout the project is critical to the effectiveness of the program. Devices listed herein are considered to be minimum erosion and sediment controls. Addition E&S measures may be necessary due to contractor phasing or other unforeseen conditions. It is the contractor's responsibility to provide measures in addition to those shown in order to control erosion and contain sediment on the site. All measures shall be installed in accordance with the Virginia Erosion and Sediment Control Handbook. After achieving adequate stabilization, the temporary E&S controls will be cleaned up and removed.

Permanent Stabilization

All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be done with Kentucky 31 Tall Fescue according to Std. & Spec. 3.32. PERMANENT SEEDING, of the handbook, Mulch (straw or fiber) will be installed over fill slopes which have been brought to final grade and have been seeded to protect the slopes from hill and gully erosion and to allow the seed to germinate properly will be used on relatively flat areas. In all seeding operations, seed, fertilizer, and lime will be applied before mulching.

STORMWATER MANAGEMENT

This project does not increase the impervious area of the site. The existing on-site stormwater management system will be used to manage stormwater runoff.

MAINTENANCE

In general, all erosion and sediment control measures will be checked daily and after each rainfall event. The following items are to be checked: 1. The gravel construction entrance shall be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.

- 2. The silt fence shall be checked after each storm event. Silt shall be cleaned out and repairs made when needed.
- 3. The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and reseeded as needed.
- 4. The contractor shall be responsible for keeping all roads and travel ways, both public and private, clean of all dust and mud at all times. 5. All downstream properties and waterways shall be provided adequate protection from erosion and sediment deposition.

SEEDING SCHEDULE

- 1. All permanent seeding shall be in accordance with section 3.32 of the VESCH.
- 2. On non-rock surfaces, spread topsoil at a minimum depth of four inches.
- 3. Incorporate pulverized agricultural lime into the soil at a rate of 92 lbs. per 1000 sq. ft. (2 tons per acre).
- 4. Fertilize with 10-10-10 fertilizer at a rate of 23 lbs. per 1000 sq. ft. (1000 lbs. per acre).
- 5. Seed all areas with a seed mix consisting of 67% Kentucky 31 Tall Fescue and 33% Red Top Clover.
- 6. Mulch all seeded areas with straw mulch applied at a rate of 3,500 lbs. per acre anchored with cutback or emulsified asphalt applied at a rate of 200 gallons per acre.

DUST CONTROL

- 1. Temporary seeding shall be applied to all disturbed areas subject to little or no construction traffic.
- 2. All haul roads and other heavy traffic routes shall be sprinkled with water until the surface is wet. This process shall be repeated as needed to control dust.

less than three acres.

b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected. 8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope

drain structure.

b. Excavated material shall be placed on the uphill side of trenches.

c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property. d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

e. Restabilization shall be accomplished in accordance with this chapter.

17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:

a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

(a)All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and (b)

system. c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall: (1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or

(2)

(3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre- development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man- made channel; or provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements. e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.

f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

MINIMUM CONSTRUCTION EROSION & SEDIMENT CONTROL STANDARDS 9VAC25-840-40. Minimum standards.

A VESCP must be consistent with the following criteria, techniques and methods:

Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than Program (VSMP) Permit Regulations. 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The Regulations shall be deemed to satisfy the requirements of Minimum Standard 19. applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.

4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

a. No more than 500 linear feet of trench may be opened at one time.

f. Applicable safety requirements shall be complied with.

b. Adequacy of all channels and pipes shall be verified in the following manner:

(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or

(2)(a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.

Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or

Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;

g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.

h. All on-site channels must be verified to be adequate.

i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.

j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24- hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the

forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1- 44.15:65 of the Act.

I. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§62.1-44.15:24 et seq. of the Code of Virginia) 1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management

m. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMP) Permit

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III - 9

Source: Michigan Soil Erosion and Sedimentation Guide

III - 278

Plate 3.29-4

Source: Va. DSWC

III - 287

Rate (lbs./acre) 50 - 100 60 - 100 50

- Improved Perennial Ryegrass * 0-10% Kentucky Bluegrass 0-10% High-Maintenance Lawn Minimum of three (3) up to five (5) varieties 125 lbs. of bluegrass from approved list for use in Virginia. General Slope (3:1 or less) - Kentucky 31 Fescue 128 lbs. - Red Top Grass 2 lbs. <u>20 lbs.</u> 150 lbs. - Seasonal Nurse Crop ** Low-Maintenance Slope (Steeper than 3:1) 108 lbs. - Kentucky 31 Fescue - Red Top Grass 2 lbs. - Seasonal Nurse Crop ** 20 lbs. - Crownvetch *** 20 lbs. 150 lbs. * Perennial Ryegrass will germinate faster and at lower soil temperatures than fescue, thereby providing cover and erosion resistance for seedbed. ** Use seasonal nurse crop in accordance with seeding dates as stated below: March, April through May 15th Annual Rye May 16th through August 15th Foxtail Millet August 16th through September, October Annual Rye November through February Winter Rye *** If Flatpea is used, increase to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or lowmaintenance mixture during warmer seeding periods; add 10-20 lbs/acre in mixes.

8.

6.

Adhesive

Anionic

Asphalt Emulsion

Latex Emulsion

Resin in Water

Acrylic Emulsion

Acrylic Emulsion

Std. & Spec. 3.3).

(Traffic)

Source: Va. DSWC

(Non-Traffic)

III - 302

3.39

TABLE 3.39-A		
IVES USED FOR DUST C	CONTROL	
Water Dilution <u>(Adhesive: Water)</u>	Ap Type of <u>Nozzle Gall</u>	plication Rate ons/Acre
7:1	Coarse Spray	1,200
12.5:1	Fine Spray	235
4:1	Fine Spray	300
7:1	Coarse Spray	450
3.5:1	Coarse Spray	350

Stone - Stone can be used to stabilize roads or other areas during construction using crushed stone or coarse gravel (see CONSTRUCTION ROAD STABILIZATION,

7. <u>Barriers</u> - A board fence, wind fence, sediment fence, or similar barrier can help to control air currents and blowing soil. Place barriers perpendicular to prevailing air currents at intervals of about 15 times the barrier height. Where dust is a known problem, existing windbreak vegetation should be preserved.

<u>Calcium Chloride</u> - This chemical may be applied by mechanical spreader as loose, dry granules or flakes at a rate that keeps the surface moist but not so high as to cause water pollution or plant damage. Application rates should be strictly in accordance with suppliers' specified rates.

III - 416

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Have questions? Call us at (800) 436-7800

PERFORMANCE (CONT.)

DELIVERED LUMENS	*											
			3000K CCT			4000K CCT			5000K CCT			
Lumen Package	Distribution	CRI	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Wattage
	2		45133	123	B5-U0-G4	46856	128	B5-U0-G4	46789	128	B5-U0-G4	
	3]	46737	128	B4-U0-G5	48521	133	B4-U0-G5	48452	132	B4-U0-G5]
401	5W	70	45478	124	B5-U0-G4	47214	129	B5-U0-G4	47147	129	B5-U0-G4	401
40L	FT	10	46723	128	B4-U0-G5	48507	133	B4-U0-G5	48438	132	B4-U0-G5	
	FTA		45187	123	B5-U0-G4	46912	128	B5-U0-G4	46845	128	B5-U0-G4	
	AM		46622	127	B4-U0-G3	48402	132	B4-U0-G3	48333	132	B4-U0-G3	
	2		50179	115	B5-U0-G4	52095	119	B5-U0-G4	52021	119	B5-U0-G4	
	3]	51963	119	B4-U0-G5	53947	123	B4-U0-G5	53870	123	B4-U0-G5]
55L	5W	70	50563	115	B5-U0-G4	52493	120	B5-U0-G4	52418	120	B5-U0-G4	438
	FT] /0	50539	115	B4-U0-G5	52468	120	B4-U0-G5	42394	120	B4-U0-G5	
	FTA]	50239	115	B5-U0-G4	52157	119	B5-U0-G4	52082	119	B5-U0-G4]
	AM]	52223	119	B4-110-63	54216	124	B4-110-63	54139	124	R4-110-63]

ELECTRICAL D	ATA (AMPS)*						DELIVERED LUM	ENS*						
Lumens	120V	208V	240V	277V	347V	480V			Pho	sphor Convert	ed Amber (Pea	ak 610mm)		
9L	0.52	0.30	0.26	0.22	0.18	0.13	Lumen Package	Distribution	Delive	red Lumens	Efficacy	BUG Rating	Wattage	
121	0.71	0.41	0 35	0 31	0.24	018		2		5848	80	B2-U0-G2		
101	117	0.65	0.55	0.40	0.20	0.10		3		6018	82	B1-U0-G2		
10L	1.13	0.03	0.00	0.49	0.59	0.20	01	5W		5471	74	B3-U0-G1		
24L	1.55	0.77	0.6/	0.58	0.46	0.55	91	FT		5801	79	B1-U0-G2	/4	
30L	1.78	1.02	0.89	0.77	0.61	0.44		FTA		5924	81	B1-U0-G1		
36L	2.12	1.22	1.06	0.92	0.73	0.53		AM		5995	81	B1-U0-G1		
42L	2.62	1.51	1.31	1.13	0.90	0.65		2		7530	74	B2-U0-G2		
48L	3.05	1.76	1.53	1.32	1.05	0.76		3		7749	76	B1-U0-G2		
551	3 65	2 11	1.83	1 58	1 26	0.91	121	5W		7045	69	B3-U0-G2	102	
	5.05	2.11	1.05	1.50	1.20	0.51	122	FT		7470	73	B2-U0-G2	102	
DECOMMEND			2500					FTA		7628	75	B2-U0-G2		
RECOMMENDE	ED LUMEN MAI	INTENANCE' (J-25°()					AM	_	7720	76	B1-U0-G1		
Ambient	Intial ²	25	25h ² 50hr ² 75hr ² 100hr ²			2		9311	69	B2-U0-G2				
9L - 18L	100%	98	3%	96%	93%	91%		3		9582	71	B2-U0-G2		
24L - 48L	100%	100% 93%		86%	79%	72%	18L	5W	_	8712	65	B3-U0-G2	135	
55L	100%	92	1%	82%	74%	67%		FT		9237	68	B2-U0-G2		
RECOMMENDE	ED LUMEN MA	INTENANCE ¹ (4	10°C)					FTA		9433	70	B2-U0-G2		
Ambient	Intial ²	25	h ²	50hr ²	75hr ²	100hr ²		2		9540	63	B2-00-01 R2-110-62		
9L - 18L	100%	97	7%	93%	89%	85%		3 11273		11273	64	B2-00-62	2	
24L - 48L	100%	90)%	81%	72%	64%		5W	-	10249	59	B3-U0-G2	177	
DECOMMENDE		INTENANCEI (:0ºC)				24L	FT		10867	62	B2-U0-G2	1/5	
Ambiant	Intial		h ²	50hr ²	75hr2	100br2		FTA		11097	63	B2-U0-G2		
	100%	23	u 0/	00%	0.49/	70%		AM		11230	64	B2-U0-G1		
9L - TOL C	100%	9	D/0	90/0	04/0	79/0	ELECTRICAL DAT	A - PHOSPHOR	CONVERTE) AMBER (AM	PS)*			
'Electrical data at	25°C (//ºF). Actua	al wattage may d	lifter by +/-10%				Lumens	120V	208V	240V	2777	347V	480V	
							qi	0.62	0 36	0 31	0.27	0.21	0.15	
-							121	0.85	0.50	0.31	0.27	0.21	0.13	
I. Lumen mainten	nance values at 25	5C are calculated	per TM-21 base	d on LM-80 data	and in-situ testing		18L	1.13	0.65	0.56	0.49	0.39	0.28	
In accordance w within six times	vith IESNA TM-21-' s the IESNA LM-80	11, Projected Valu)-08 total test du	es represent int ration for the d	erpolated value evice under test	e based on time dui ting.	ations that are	24L	1.47	0.85	0.73	0.64	0.51	0.37	
. In accordance with IESNA TM-27-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 "LEDs are frequently updated therefore values are nominal.														

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Have questions? Call us at (800) 436-7800 PHOTOMETRICS

IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%. See the individual product page on <u>https://www.lsicorp.com/</u> for detailed photometric data.

MRM-LED-30L-SIL-3-40-70CRI Luminaire Data Type 3 Distribution Description Delivered Lumens

Total Flux

Page 5/9 Rev. 07/20/23

SPEC.1020.B.0422

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Page 6/9 Rev. 07/20/23 SPEC.1020.B.0422

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Page 7/9 Rev. 07/20/23 SPEC.1020.B.0422

uick Linl	<u>Back to Q</u>								
		000K CCT	5		DOK CCT	40		OOK CCT	30
Wattage	BUG Rating	Efficacy	Delivered Lumens	BUG Rating	Efficacy	Delivered Lumens	BUG Rating	Efficacy	s
	B2-U0-G2	159	9853	B2-U0-G2	159	9853	B2-U0-G2	159	
	B2-U0-G2	160	9926	B2-U0-G2	160	9926	B2-U0-G2	160	
	B3-U0-G2	153	9504	B3-U0-G2	153	9504	B3-U0-G2	153	
62	B2-U0-G3	159	9856	B2-U0-G3	159	9856	B2-U0-G3	159	
	B2-U0-G2	160	9900	B2-U0-G2	160	9900	B2-U0-G2	160	
	B2-U0-G1	162	10019	B2-U0-G1	162	10019	B2-U0-G1	162	
	B3-U0-G2	155	13135	B3-U0-G2	155	13135	B3-U0-G2	155	
	B2-U0-G2	156	13232	B2-U0-G2	156	13232	B2-U0-G2	156	
85	B4-U0-G2	149	12669	B4-U0-G2	149	12669	B4-U0-G2	149	
	B2-U0-G3	155	13138	B2-U0-G3	155	13138	B2-U0-G3	155	
	B2-U0-G2	155	13196	B2-U0-G2	155	13196	B2-U0-G2	155	
	B2-U0-G2	157	13355	B2-U0-G2	157	13355	B2-U0-G2	157	
	B3-U0-G3	143	19318	B3-U0-G3	143	19318	B3-U0-G3	143	
135	B3-U0-G3	144	19461	B3-U0-G3	144	19461	B3-U0-G3	144	
	B4-U0-G2	138	18633	B4-U0-G2	138	18633	B4-U0-G2	138	
	B3-U0-G3	143	19324	B3-U0-G3	143	19324	B3-U0-G3	143	
	B3-U0-G3	144	19408	B3-U0-G3	144	19408	B3-U0-G3	144	
	B3-U0-G2	145	19641	B3-U0-G2	145	19641	B3-U0-G2	145	
	B4-U0-G3	147	25957	B4-U0-G3	147	25957	B4-U0-G3	147	
	B3-U0-G4	149	26149	B3-U0-G4	149	26149	B3-U0-G4	149	
	B5-U0-G3	142	25037	B5-U0-G3	142	25037	B5-U0-G3	142	
176	B3-U0-G4	148	25964	B3-U0-G4	148	25964	B3-U0-G4	148	
	B3-U0-G3	148	26077	B3-U0-G3	148	26077	B3-U0-G3	148	
	B3-U0-G2	150	26393	B3-U0-G2	150	26393	B3-U0-G2	150	
	B4-U0-G3	140	32417	B4-U0-G3	140	32417	B4-U0-G3	140	
	B3-U0-G4	141	32656	B3-U0-G4	141	32656	B3-U0-G4	141	
	B5-U0-G3	135	31267	B5-U0-G3	135	31267	B5-U0-G3	135	
232	B3-U0-G4	140	32424	B3-U0-G4	140	32424	B3-U0-G4	140	
	B4-U0-G3	140	32566	B4-U0-G3	140	32566	B4-U0-G3	140	
	B3-U0-G3	142	32960	B3-U0-G3	142	32960	B3-U0-G3	142	
	B4-U0-G4	133	38275	B4-U0-G4	133	38275	B4-U0-G4	133	
	B4-U0-G5	134	38557	B4-U0-G5	134	38557	B4-U0-G5	134	
	B5-U0-G4	128	36917	B5-U0-G4	128	36917	B5-U0-G4	128	
288	B4-U0-G5	133	38283	B4-U0-G5	133	38283	B4-U0-G5	133	
	B4-U0-G4	134	38450	B4-U0-G4	134	38450	B4-U0-G4	134	
1	B3-U0-G3	135	38916	B3-U0-G3	135	38916	B3-U0-G3	135	

 41083
 131
 B4-U0-64
 42652
 136
 B5-U0-64
 42591
 136
 B5-U0-64

 42389
 135
 B4-U0-63
 44007
 140
 B4-U0-63
 43944
 140
 B4-U0-63

Page 4/9 Rev. 07/20/23 SPEC.1020.B.0422

	STOWE ENGINEERING, PLC		103 Heath Court	Winchester, VA 22602	(540) 686-7373	fax (540) 301-1100	X
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STORM WATER NARRATIVE:

LIMITS OF STUDY

FOR THE PURPOSE OF THIS PLAN WE ARE ANALYZING TO THE LIMITS OF THE PROPERTY.

QUANTITY AND QUALITY ANALYSIS

EXISTING STORM WATER MANAGEMENT FACILITIES HAVE BEEN APPROVED AND ARE EXISTING ON SITE.

OUR ANALYSIS CONSISTED OF A COMPARISON OF EXISTING GREEN SPACE WITH PROPOSED GREEN SPACE AFTER DEVELOPMENT OF THIS PLAN. PRE-DEVELOPMENT GREEN SPACE IS 108,570± SF (2.49± AC.). THE POST DEVELOPMENT GREEN SPACE HAS INCREASED THE GREEN SPACE TO 114,917± SF. (2.64± AC.). THE EQUATES TO A REDUCTION OF 6,347± SF (0.15± AC.) IN IMPERVIOUS. BECAUSE WE HAVE DECREASED IMPERVIOUS AREA THIS PROJECT WILL NOT HAVE AN ADVERSE AFFECT ON EXISTING FACILITIES.

IT IS OUR OPINION WE HAVE MET THE INTENT FOR STORM WATER MANAGEMENT.

STOWE ENGINEERING, PLC	103 Heath Court Winchester, VA 22602 (540) 686-7373 fax (540) 301-1100
	BY
	REVISION
	NO. DATE
STORMWATER MANAGEMI	Hyundai Store Carter Myers Automotive LOT 75 (A) 11L BACK CREEK MAGISTERIAL DISTRICT FREDERICK COUNTY, VIRGINIA
ALL DUCUMENTS OF SEP ARE NOT INTENDED T PROJECT.ANY REUSE ADAPTATION BY STO SOLE RISK.	REPARED BY STORE ENGINEERING ARE WICE IN RESPECT OF THE PROJECT. THE ENSIONS OF THE PROJECTS ANY OTHER ENSIONS OF THE PROJECTOR ANY OTHER EWITHOUT WRITTEN VERIFICATION OR WE ENGINEERING WILL BE AT THE USERS WE ENGINEERING WILL BE AT THE USERS HALTTH ON HMY S. STOWE Lic. No. 21924 /28/25 STONAL ENGINE
PROJECT NUME DATE: SCALE: DRAWN BY:	BER: 1262.0 JULY 27, 2023 AS SHOWN TSS
CHECKED BY:	TSS

