## **STONEFIELD**

### STORMWATER OPERATIONS & MAINTENANCE MANUAL

PROPOSED CAR WASH BLOCK 203, LOT 4 575 MILLTOWN ROAD TOWNSHIP OF NORTH BRUNSWICK MIDDLESEX COUNTY, NEW JERSEY

**P**REPARED FOR:

SPARK CAR WASH, LLC

**PREPARED BY:** 

STONEFIELD ENGINEERING & DESIGN, LLC NOVEMBER 14, 2023 PRI-220304

PAUL D. MUTCH JR. PE New Jersey Professional Engineer License # 55094

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#### **I.0 PROJECT DESCRIPTION**

The Applicant is proposing the construction of 4,841 SF single-tunnel Car Wash. The subject property is designated Block 203, Lot 4, commonly known as 575 Milltown Road.

The total project area is 75,959 SF (1.74 acres), the total area of impervious surfaces is 35,260 SF (0.81 ac), which is a reduction of 29,485 SF (0.67 ac) from the existing condition (64,745 SF; 1.48 ac), and the total area of disturbance is 76,086 SF (1.75 acres). Project Figures can be found in Appendix A of this Report.

This Stormwater Operations & Maintenance Manual has been prepared to delineate operational and maintenance responsibilities for the stormwater best management practices (BMPs) proposed to meet the requirements set forth by the Township of North Brunswick, Freehold Soil Conservation District, and the New Jersey Department of Environmental Protection (NJDEP).

### 2.0 PROPOSED DEVELOPMENT

The Applicant, Spark Car Wash, is proposing the demolition of the existing 2-story masonry building and the construction of a new 4,841 SF Single-Tunnel Car Wash Facility. The 1.74-acre subject property is currently comprised of primarily (85.2%) impervious surfaces. The proposed development includes the construction of a single-story 4,841 SF Single-Tunnel Car Wash Facility with associated employee & vacuum parking. Existing access to the site is provided via right ingress/egress driveways on Georges Road & right ingress/egress driveways on Milltown Road. The proposed development will close the existing driveways located along Milltown Road & maintain the driveways along Georges Road. Proposed access to the site is provided via one (1) right ingress/egress only driveway on Milltown & the existing right ingress/egress driveways located along Georges Road. Additional site improvements for the project include parking, lighting, soil erosion measures, utilities, stormwater measures, and landscaping.

### 3.0 STORMWATER MANAGEMENT OPERATIONAL PROCEDURES

Operation and maintenance of the permanent stormwater control BMPs shall be the responsibility of the operator of the project site at the time that the applicable maintenance is required. The current owner and responsible agent of the project is:

#### Spark Car Wash, LLC 575 Milltown Road, North Brunswick, NJ CONTACT: Bob Vallario

A copy of this report shall be kept on-site at all times both during and after construction. Upon reviewing agency approval, the title and date of the maintenance plan as well as the contact information of the current agent responsible for maintaining the stormwater management measures for the project shall be recorded on the deed of the property on which the measures are located. Any future change in this information such as change in property ownership shall also be recorded on the deed.

The current responsible agent shall evaluate the maintenance plan for effectiveness at least annually and revise the plan as necessary. A detailed, written log of all preventative and corrective maintenance performed for each stormwater management measure must be kept, including a record of all inspections and copies of maintenance-related work orders. Upon request from a public entity with jurisdiction over the project area the responsible agent shall make available the maintenance plan and associate logs and other records for review.

#### 3.1 MAINTENANCE EQUIPMENT AND PERSONNEL

The current responsible agent shall ensure that adequate equipment and training is provided to maintenance personnel to perform the required maintenance tasks. Confined Space Entry Certification shall be required by personnel entering underground structures and pipes. The material and equipment necessary for inspection and maintenance activities shall include, but not be limited to, the following:

- Landscape Areas: Material and equipment customary in landscape maintenance practices.
- Street Sweeping: Litter vacuum or leaf/litter blower to collect sediment from asphalt surface, brooms, and disposal bags.

The estimated cost of routine, scheduled maintenance activities is estimated to be approximately \$6,000.00 per year. Approximate breakdown of yearly routine maintenance costs is noted below (excludes structural repairs):

Landscape Areas	\$2,000.00 per year
Sediment Debris and Trash Removal	\$2,000.00 per year
Street Sweeping	\$2,000.00 per year

#### MAINTENANCE COST BREAKDOWN

### 4.0 STORMWATER BMP INVENTORY

The stormwater management measures incorporated into this development are listed below. The corresponding Field Manuals for the stormwater management measures are located in the Appendix of the Maintenance Plan.

#### 4.1 OTHER MAINTENANCE

In addition to the scheduled inspections for the above referenced stormwater BMPs, the following general maintenance tasks shall be performed:

 All stormwater inlets and manholes shall be inspected for debris and sediment accumulation and structural integrity at least four (4) times annually. Debris and sediment removal shall be scheduled as required to maintain stormwater runoff conveyance efficiency and disposed of in compliance with all applicable local, state, and federal waste regulations.

- 2. Street sweeping shall occur at least once (1) monthly in all parking lot areas onsite. Regenerative air equipment shall be used.
- 3. Trash receptacles onsite shall be emptied, and their liners replaced at a minimum of three (3) times per week.
- 4. Landscaping within the developed portions of the site shall be trimmed/mowed twice (2) monthly during the growing season. Reforested portions of the site shall be left undisturbed to vegetate naturally.

### 5.0 STORMWATER BMP PREVENTATIVE MAINTENANCE ACTIONS

As per N.J.A.C. 7:8-5.8(b) & (e), preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including, but not limited to, repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of non-vegetated linings

As per NJDEP BMP Manual Ch. 8 Feb. 2004), maintenance plans should include specific preventative and corrective maintenance tasks such as removal of sediment, trash, and debris; mowing, pruning, and restoration of vegetation; restoration of eroded areas; elimination of mosquito breeding habitats; control of aquatic vegetation; and repair or replacement of damaged or deteriorated components.

#### **5.1** GENERAL MAINTENANCE

In addition to the scheduled inspections for the above referenced stormwater BMPs, a periodic inspection by the Township will be performed. The following additional general maintenance tasks shall be performed.

#### 5.1.1 MONTHLY

- a. Street sweeping shall occur at least once (1) monthly in all parking lot areas onsite. Regenerative air equipment shall be used.
- b. Trash receptacles onsite shall be emptied and their liners replaced at a minimum of three (3) times per week.
- c. Landscaping within the developed portions of the site shall be trimmed/mowed twice (2) monthly during the growing season. Reforested portions of the site shall be left undisturbed to vegetate naturally.

### 5.1.2 QUARTERLY

a. All stormwater inlets and manholes shall be inspected for debris and sediment accumulation and structural integrity at least four (4) times annually. Debris and sediment removal shall be scheduled as required to maintain stormwater runoff conveyance efficiency and disposed of in compliance with all applicable local, state, and federal waste regulations.

### 5.1.3 ANNUALLY

a. A submission to the Township from the owner of the end-of-year maintenance records will be required.

### 6.0 INSPECTION AND LOGS OF ALL PREVENTATIVE AND CORRECTIVE MEASURES

As per N.J.A.C. 7:8-5.8(f), the person responsible for maintenance shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

As per NJDEP BMP Manual Ch. 8 (Feb, 2004), a maintenance plan shall include a schedule of regular inspections and tasks, and detailed logs of all preventative and corrective maintenance performed on the stormwater management measure, including all maintenance-related work orders. The person with maintenance responsibility must retain and, upon request, make available the maintenance plan and associated logs and other records for review by a public entity with administrative, health, environmental, or safety authority over the site. Inspection Checklists in the Field Manual for the stormwater management measures on this site include:

- Appendix C-1: General Inspection Checklist Log
- Appendix C-2: General Preventative Maintenance Log
- Appendix C-3: General Corrective Maintenance Log
- Appendix C-4: Annual Evaluation Records

All inspection and maintenance activities shall be recorded to document frequency of inspection and maintenance, and implementation of corrective action. All regularly scheduled inspections, inspections following one (1) inch of precipitation, maintenance activities, and repairs shall be recorded. Refer to the Appendix of this Manual for the BMP Inspection & Maintenance Log for this facility. This log shall be considered a minimum standard for recording purposes, the Operator and Inspection/Maintenance Personnel are encouraged to supplement the Log with additional notes and photos.

### **7.0 ANNUAL EVALUATION OF THE EFFECTIVENESS OF THE PLAN**

As per N.J.A.C. 7:8-5.8(g), the person responsible for maintenance shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

The responsible party should evaluate the effectiveness of the maintenance plan by comparing the maintenance plan with the actual performance of the maintenance. The items to evaluate may include, but not limited to,

- Whether the inspections have been performed as scheduled;
- Whether the preventive maintenance has been performed as scheduled;
- Whether the frequency of preventative maintenance needs to increase or decrease;
- Whether the planned resources were enough to perform the maintenance;
- Whether the repairs were completed on time;
- Whether the actual cost was consistent with the estimated cost;
- Whether the inspection, maintenance, and repair records have been kept.

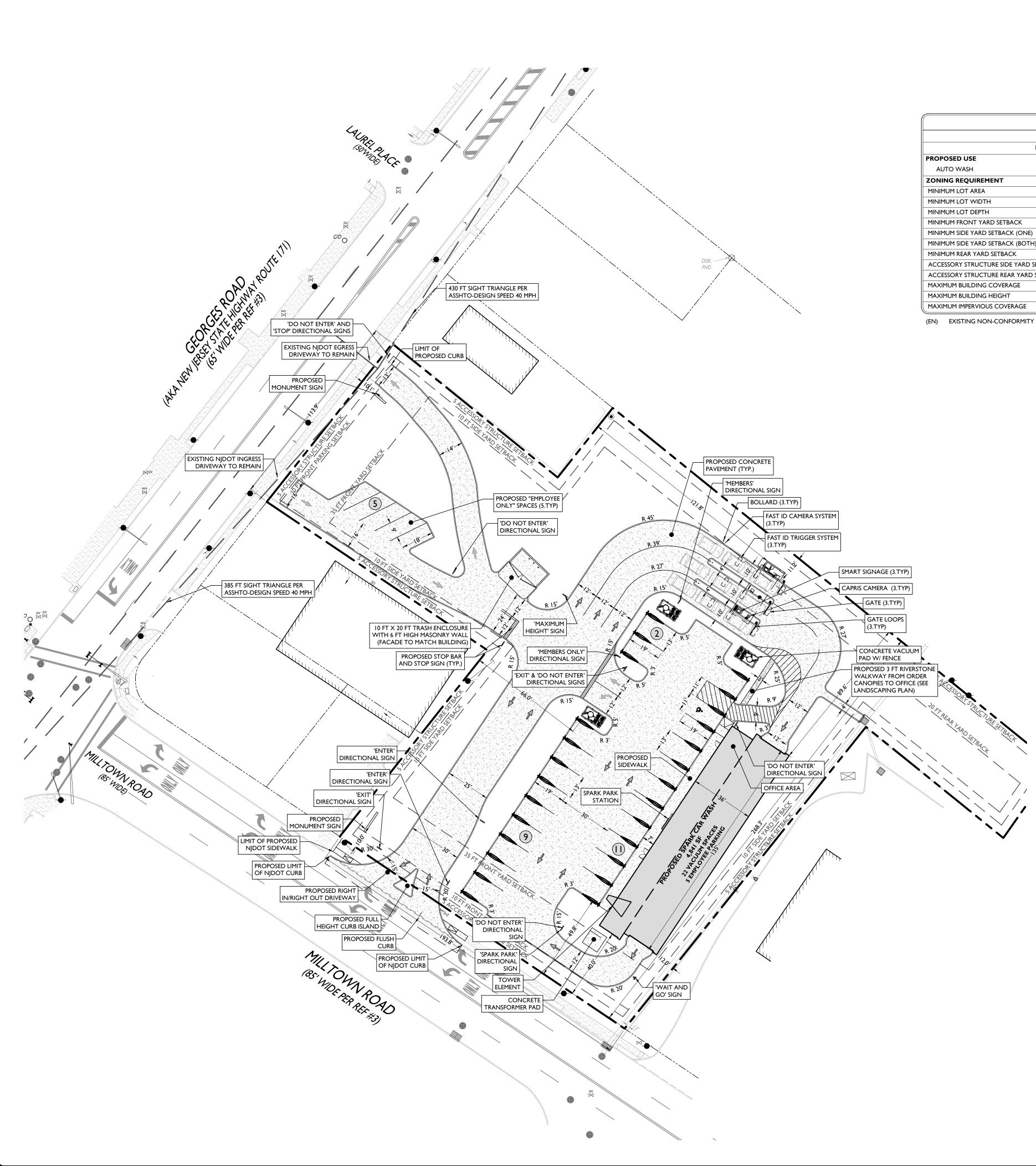
If actual performance of those items has been deviated from the maintenance plan, the responsible party should find the causes and implement solutions in a revised maintenance plan.

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### **APPENDIX A:** PROJECT PLANS (NOT TO SCALE)

### APPENDIX A-I: SITE PLAN



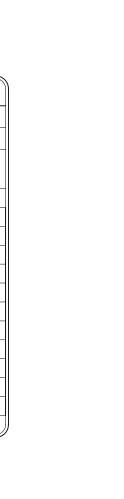
LAND USE AND ZONING						
BLOCK 203, LOT 4						
NEIGHBO	RHOOD COMMERC	AL (C-I)				
PROPOSED USE						
AUTO WASH	NON-PERMITTED US	E (V)				
ZONING REQUIREMENT	REQUIRED	EXISTING	PROPOSED			
MINIMUM LOT AREA	15,000 SF	75,959 SF (1.74 AC)	75,959 SF (1.74 AC)			
MINIMUM LOT WIDTH	100 FT	193.8 FT	193.80 FT			
MINIMUM LOT DEPTH	100 FT	268.3 FT	268.3 FT			
MINIMUM FRONT YARD SETBACK	35 FT	46.3 FT	40.0 FT			
MINIMUM SIDE YARD SETBACK (ONE)	I0 FT	40.3 FT	10.0 FT			
MINIMUM SIDE YARD SETBACK (BOTH)	20 FT	66.9 FT	66.0 FT			
MINIMUM REAR YARD SETBACK	20 FT	146.6 FT	89.6 FT			
ACCESSORY STRUCTURE SIDE YARD SETBACK	5 FT	6.4 FT	123.8 FT			
ACCESSORY STRUCTURE REAR YARD SETBACK	5 FT	15.00 FT	11.2 FT			
MAXIMUM BUILDING COVERAGE	40%	8.2% (6,237 SF)	6.4% (4,841 SF)			
MAXIMUM BUILDING HEIGHT	2.5 STORIES, 30 FT	2 STORY	30 FT; I STORY			
MAXIMUM IMPERVIOUS COVERAGE	80%	85.2% (64,745 SF) (EN)	46.4% (35,260 SF)			

OFF-STREET PARKING REQUIREMEN
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CODE SECTION	REQUIRED	PROPOSED
§ 205-96.E	PARKING AREAS MAY BE LOCATED IN ANY REAR OR SIDE YARD, BUT MAY NOT BE LOCATED IN ANY REQUIRED FRONT YARD AREA EXCEPT WHERE SPECIFICALLY PERMITTED ELSEWHERE.	2 SPACES IN FRONT YARI
§ 205-97.B	MAXIMUM TWO DRIVEWAYS USED AS A MEANS OF INGRESS/EGRESS FOR OFF-STREET PARKING AREAS OF FRONTAGE ON A PUBLIC STREET: 300 FT MINIMUM DRIVEWAY DISTANCE TO THE INTERSECTION OF TWO PUBLIC STREETS: 100 FT	COMPLIES
§ 205-98.A	MINIMUM PARKING SPACE SIZE: 9 FT X 18 FT	9 FT X 18 FT
§ 205-98.B.(2)	ALL DRIVEWAYS SHALL CROSS SIDEWALK AREAS AT GRADE	COMPLIES
§ 205-98.B.(3)	MINIMUM DRIVEWAY/PARKING DISTANCE TO THE NEAREST RIGHT-OF-WAY OF AN INTERSECTING STREET: 100 FT	113.4 FT
§ 205-98.B.(4)	MINIMUM DRIVEWAY WIDTH: ONE-WAY TRAFFIC: 12 FT TWO-WAY TRAFFIC: 25 FT	ONE-WAY: I TWO-WAY:
§ 205-98.B.(5)(A)	DRIVEWAY AISLES FOR PERPENDICULAR PARKING: 25 FT	30.0 FT
§ 205-98.C.(1)	MINIMUM SIDEWALK WIDTH BETWEEN PARKING AREAS AND PRINCIPAL STRUCTURES: 4 FT	7.0 FT
§ 205-98.C.(2)	SIDEWALKS SHALL BE RAISED 6 INCHES ABOVE PARKING, EXCEPT WHERE CROSSING STREETS OR DRIVEWAYS, AND CURBED AS A PROTECTION TO PEDESTRIANS USING THE WALKS	COMPLIES
§ 205-98.C.(3)	SIDEWALKS AND PARKING AREAS MUST BE ARRANGED TO PREVENT CARS FROM EXTENDING OVER SIDEWALK AREAS	DOES NOT COMPLY (V)

(V) VARIANCE

SIGNAGE REQUIREMENTS					
CODE SECTION	REQUIRED	PROPOSED			
§ 205-102.C	NO SIGN SHALL BE LOCATED CLOSER THAN 20 FT TO ANY PROPERTY LINE.	MILLTOWN ROAD: 10.0 FT (V) GEORGES ROAD: 10 FT (V)			
§ 205-102.D	NO SIGN SHALL EXCEED 20 FT IN HEIGHT ABOVE GROUND LEVEL.	MILLTOWN ROAD: 15.0 FT GEORGES ROAD: 15.0 FT			
§ 205-102.K	SIGNS ATTACHED TO THE SIDE OF THE BUILDING SHALL NOT EXCEED MORE THAN 12 INCHES FROM THE FACE OF THE BUILDING	COMPLIES			
§ 205-102.P	FACADE SIGNS AND FREESTANDING SIGNS FOR OFFICE, COMMERCIAL AND INDUSTRIAL USES, PERMITTED IN § 205-105 OF THIS ARTICLE, MAY BE INTERNALLY ILLUMINATED.	COMPLIES			
§ 205-105.A	NONILLUMINATED DIRECTIONAL SIGNS ARE PERMITTED NOT EXCEEDING 3 SF IN AREA.	3.5 SF (V)			
§ 205-150.H.(1)	ANY OFFICE, COMMERICAL OR INDUSTRIAL BUILDING OVER TWO STORIES IN HEIGHT HAVING A GROSS FLOOR AREA OF LESS THAN 10,000 SF SHALL BE PERMITTED ONE FREESTANDING SIGN.	TWO (2) MONUMENT SIGNS (V)			
	THE AREA OF SUCH SIGN SHALL NOT EXCEED 40 SF.	MILLTOWN ROAD: 71.0 SF (V) GEORGES ROAD: 71.0 SF (V)			



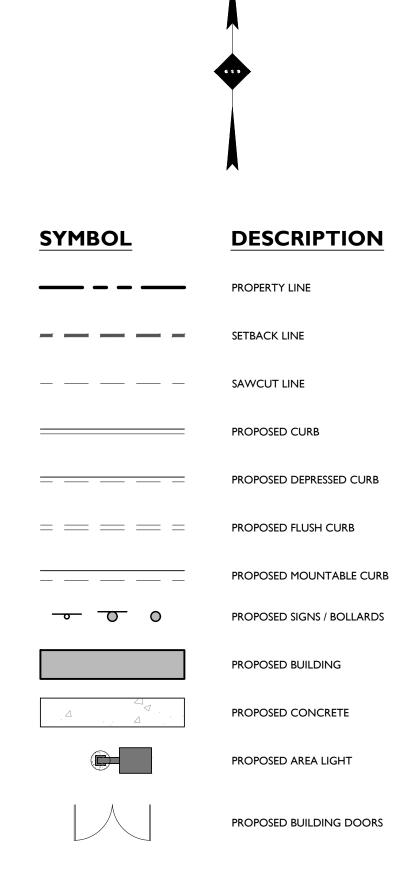
### ITS POSED PACES IN ONT YARD (V)

T X 18 FT MPLIES

4 FT E-WAY: 13 FT

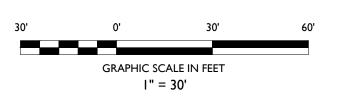
O-WAY: N/A

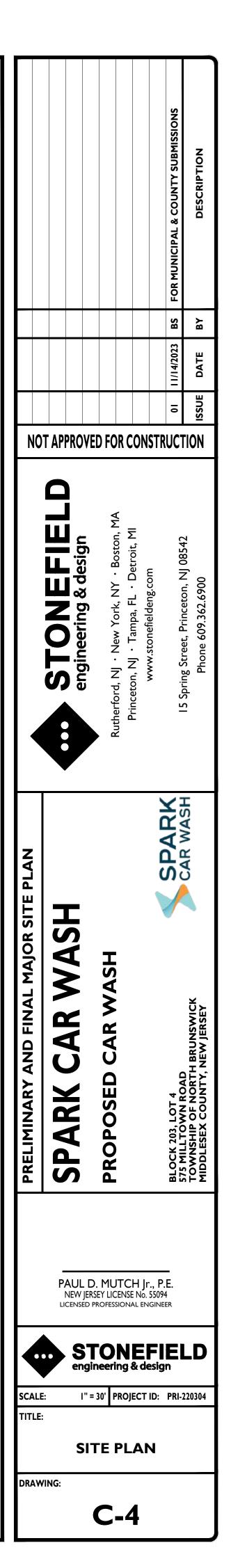
es not MPLY (V)



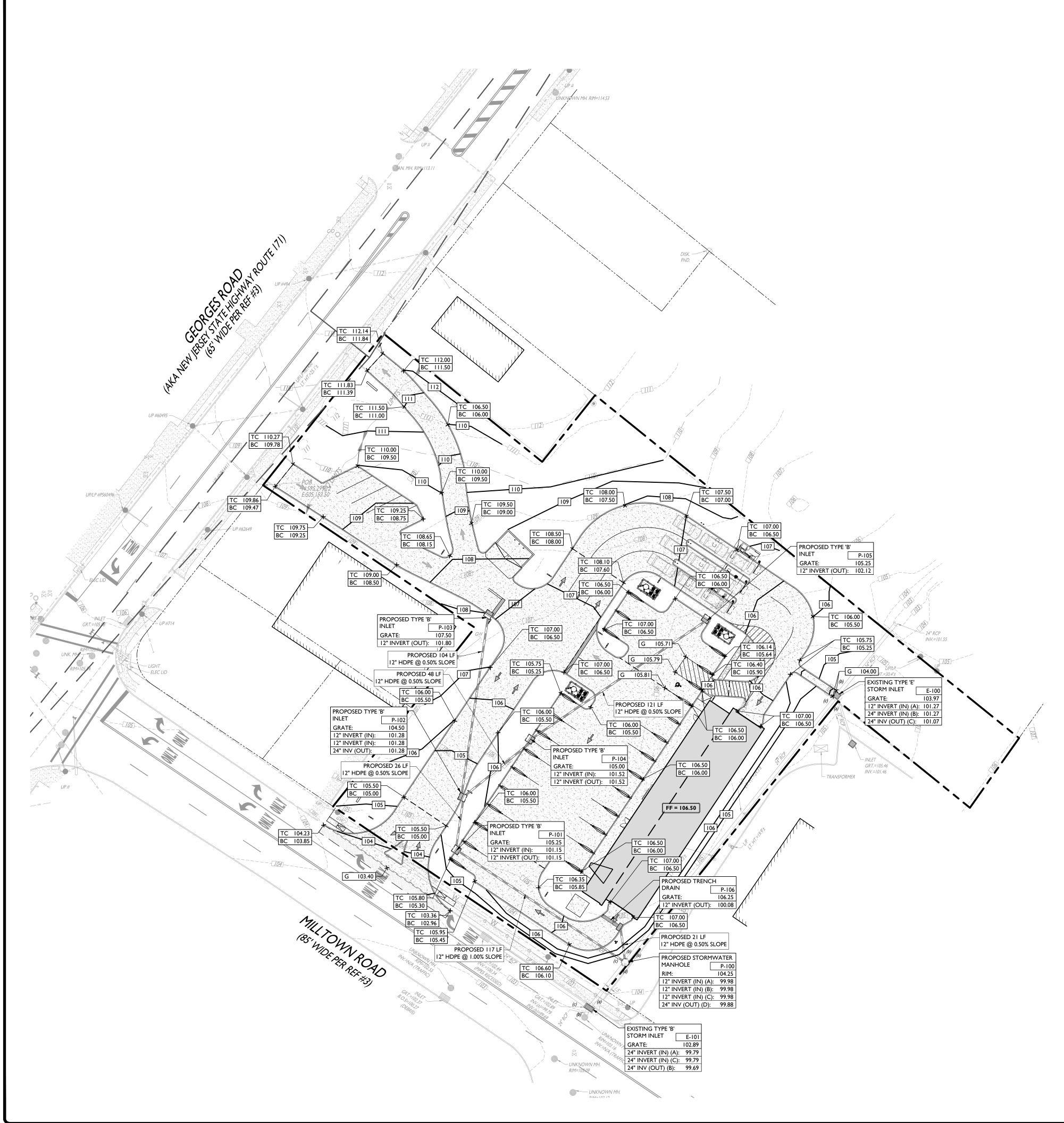
**GENERAL NOTES** 

- I. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. PRIOR TO THE START OF CONSTRUCTION.
- 2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION. 3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY
- LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
- 4. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC
- 5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION. 6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
- 7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS EXPENSE.
- 8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET. 9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN
- ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. 10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE
- GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS. 11. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
- 12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC. BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.

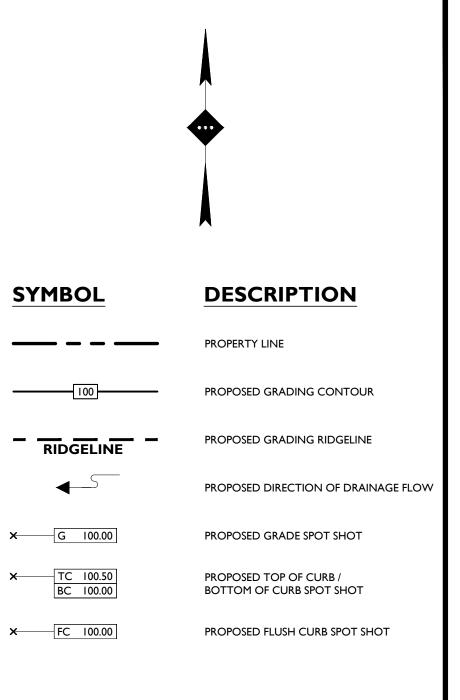




### **APPENDIX A-2: DRAINAGE PLAN**



ZAPRINCETONIPRI/2022/PRI-220304 SPARK CARWASH - 575 MILLTOWN ROAD, NORTH BRUNSWICK TOWNSHIP, NJ/CADD/PLOTICIVIL PLANSILDP-05-GRAD

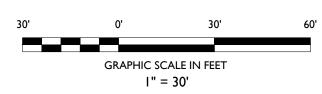


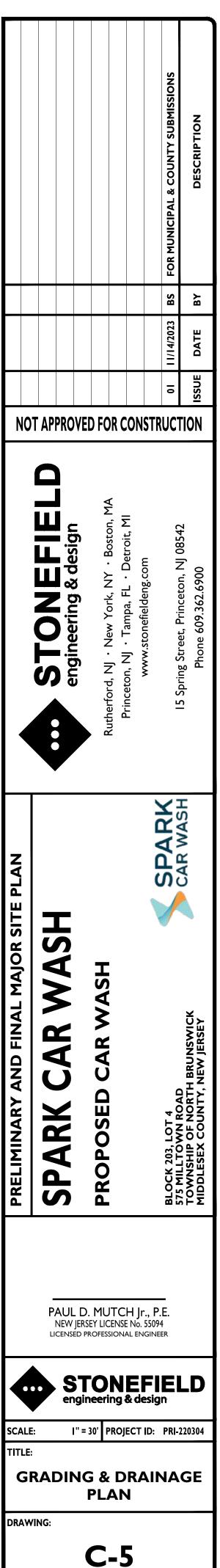
### GRADING NOTES

- I. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
- 2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
- 3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
- THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
   MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
- CURB GUTTER: 0.50%
   CONCRETE SURFACES: 1.00%
- ASPHALT SURFACES: 1.00%
  A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.
- 7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

### ADA NOTES

- I. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
- THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
   THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
- ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
   A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE
- ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
  8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF <sup>1</sup>/<sub>4</sub> INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN <sup>1</sup>/<sub>4</sub> INCHES AND <sup>1</sup>/<sub>2</sub> INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP <sup>1</sup>/<sub>4</sub> INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN I UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
- 9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.





### **APPENDIX A-3:** LANDSCAPING PLAN

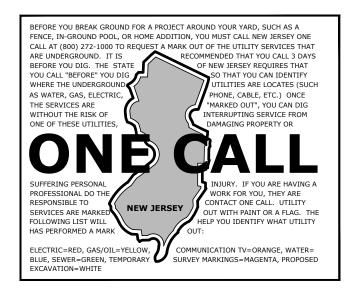
### LANDSCAPING NOTES

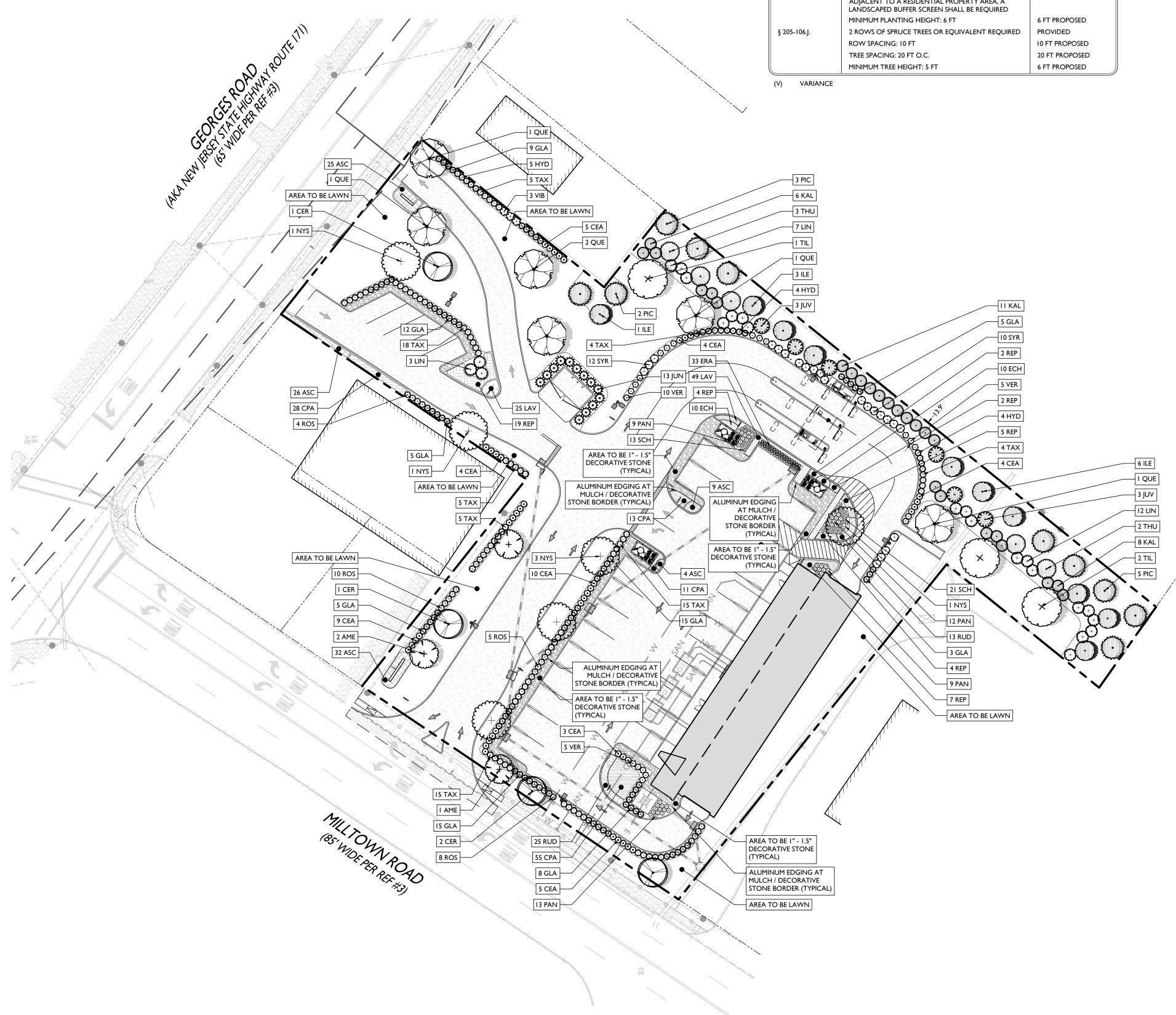
- I. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED.
- 3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM 3 INCH LAYER OF MULCH .
- 4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION
- AREAS SHALL BE 3 FEET HORIZONTAL TO I FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
- 6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING AREAS.

IRRIGATION CONTRACTOR TO PROVIDE A DESIGN FOR AN IRRIGATION SYSTEM SEPARATING PLANTING BEDS FROM LAWN AREA. PRIOR TO CONSTRUCTION, DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE DESIGNER FOR REVIEW AND APPROVAL. WHERE POSSIBLE, DRIP IRRIGATION AND OTHER WATER CONSERVATION TECHNIQUES SUCH AS RAIN SENSORS SHALL BE IMPLEMENTED. CONTRACTOR TO VERIFY MAXIMUM ON SITE DYNAMIC WATER PRESSURE AVAILABLE MEASURED IN PSI. PRESSURE REDUCING DEVICES OR BOOSTER PUMPS SHALL BE PROVIDED TO MEET SYSTEM PRESSURE REQUIREMENTS. DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS,

CONTROLLERS, AND SLEEVES WITHIN HARDSCAPE AREAS.

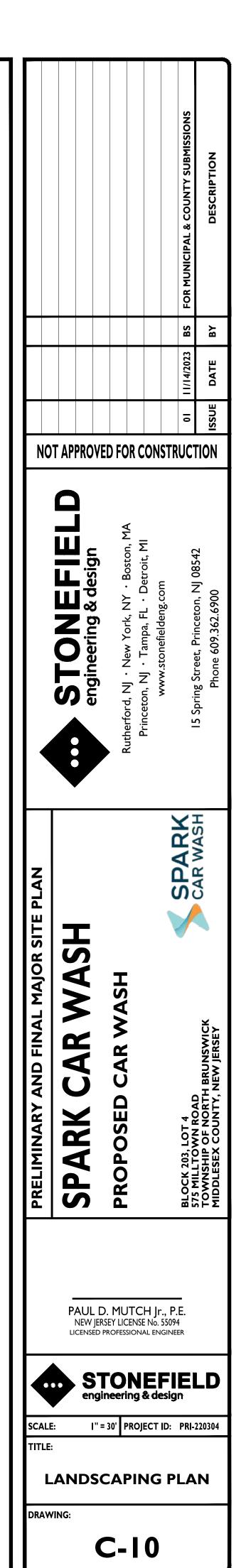
**IRRIGATION NOTE:** 

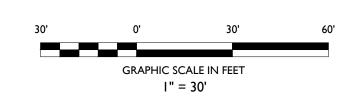




LANDSCAPING AND BUFFER REQUIREMENTS				
CODE SECTION	REQUIRED	PROPOSED		
	C-1 NEIGHBORHOOD COMMERCIAL BUFFERS			
§ 205-66.B.	WHERE A PROPOSED COMMERCIAL DEVELOPMENT ABUTS A RESIDENTIAL ZONE/USE: ADDITIONAL 30 FT BUFFER STRIP SHALL BE ADDED TO ANY REQUIRED REAR OR SIDE YARD	13.9 FT PROVIDED (V		
	PARKING LOT BUFFER			
§ 205-96.A.	SPECIAL BUFFER PLANTING REQUIRED ALONG SIDE/REAR PROPERTY LINES TO SCREEN FROM ADJACENT RESIDENTIAL ZONE/USE	PROVIDED		
	BUFFER PLANTINGS			
§ 205-106.A.	SOLID AND CONTINUOUS SCREEN CONSISTING OF LAWN, EVERGREEN TREES, DECIDUOUS TREES, AND SHRUBS REQUIRED WITHIN BUFFER AREAS	SCREEN PLANTINGS PROVIDED		
§ 205-106.B.	THE ENTIRE BUFFER AREA AND ALL REQUIRED YARD AREAS NOT OCCUPIED BY PARKING AREAS SHALL BE PLANTED WITH GRASS SEED OR SOD AND SUCH SHRUBBERY OR TREES	PROVIDED		
§ 205-106.C.	MINIMUM PLANTING HEIGHT: 3 FT	3 FT PROPOSED		
	PARKING LOT BUFFER PLANTINGS			
§ 205-106.E.	WHEN A PARKING AREA OF 4 OR MORE VEHICLES IS ADJACENT TO A RESIDENTIAL PROPERTY AREA, A LANDSCAPED BUFFER SCREEN SHALL BE REQUIRED	PROVIDED		
	MINIMUM PLANTING HEIGHT: 6 FT	6 FT PROPOSED		
§ 205-106.J.	2 ROWS OF SPRUCE TREES OR EQUIVALENT REQUIRED	PROVIDED		
	ROW SPACING: 10 FT	10 FT PROPOSED		
	TREE SPACING: 20 FT O.C.	20 FT PROPOSED		
	MINIMUM TREE HEIGHT: 5 FT	6 FT PROPOSED		

				CHEDULE			
DECIDUOUS TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
€ +	NYS	6	NYSSA SYLVATICA	TUPELO	3" - 3.5" CAL	B&B	NATIVE, SALT TOLERANT
$\bigotimes$	QUE	6	QUERCUS RUBRA	RED OAK	3" - 3.5" CAL	B&B	NATIVE, SALT TOLERANT
$(\times)$	TIL	3	TILIA AMERICANA	AMERICAN LINDEN	3" - 3.5" CAL	B&B	NATIVE
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
$\odot$	ILE	10	ILEX OPACA	AMERICAN HOLLY	6` - 7` HT	B&B	NATIVE, SALT TOLERANT
	JUV	6	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6` - 7` HT	B&B	NATIVE, DROUGHT TOLERANT, SALT TOLERANT
244 274 274	JUN	13	JUNIPERUS VIRGINIANA 'J.N. SELECT GREEN'	EMERALD FEATHER EASTERN REDCEDAR	6` - 7` HT	B&B	NATIVE, DROUGHT TOLERANT SALT TOLERANT
0	PIC	10	PICEA GLAUCA	WHITE SPRUCE	6` - 7` HT	B&B	NATIVE
$\odot$	THU	5	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	6` - 7` HT	B&B	NATIVE
ORNAMENTAL TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
(Ŧ)	AME	3	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY	6` - 7` HT	B&B	NATIVE, DROUGHT TOLERANT, SALT TOLERANT, OVERHEAD UTILITY SAFE
$\bigcirc$	CER	4	CERCIS CANADENSIS	EASTERN REDBUD	6` - 7` HT	B&B	NATIVE, OVERHEAD UTILITY SAFE
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
(*)	CEA	44	CEANOTHUS AMERICANUS	NEW JERSEY TEA	18" - 24"	POT	NATIVE
÷	HYD	13	HYDRANGEA ARBORESCENS	WILD HYDRANGEA	18" - 24"	POT	NATIVE, DROUGHT TOLERANT
(+)	VER	20	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	18" - 24"	ΡΟΤ	NATIVE, SALT TOLERANT
÷	LIN	22	LINDERA BENZOIN	SPICEBUSH	36" - 42"	РОТ	NATIVE, SALT TOLERANT
(+)	ROS	27	ROSA VIRGINIANA	VIRGINIA ROSE	18" - 24"	ΡΟΤ	NATIVE, DROUGHT TOLERANT, SALT TOLERANT
(+)	SYR	22	SYRINGA PATULA 'MISS KIM'	MISS KIM KOREAN LILAC	18" - 24"	POT	NON NATIVE
Œ	VIB	3	VIBURNUM DENTATUM	VIBURNUM	18" - 24"	POT	NATIVE, SALT TOLERANT
EVERGREEN SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
0	GLA	77	ILEX GLABRA `COMPACTA`	COMPACT INKBERRY	18" - 24"	POT	NATIVE
0	KAL	25	KALMIA LATIFOLIA	MOUNTAIN LAUREL	36" - 42"	B&B	NATIVE, DROUGHT TOLERANT
O	TAX	71	TAXUS CANADENSIS	CANADA YEW	18" - 24"	POT	NATIVE, DROUGHT TOLERANT
GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS NATIVE,
Will be the	ERA	33	ERAGROSTIS SPECTABILIS	PURPLE LOVEGRASS	I GAL.	POT	DROUGHT TOLERANT, SALT TOLERANT
Supervised States	PAN	43	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	I GAL.	POT	NATIVE, DROUGHT TOLERANT, SALT TOLERANT
દુંરે	SCH	34	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	I GAL.	POT	NATIVE, DROUGHT TOLERANT SALT TOLERANT
	CODE	QTY			SIZE	CONTAINER	REMARKS NATIVE,
	REP CODE	43 QTY	JUNIPERUS COMMUNIS 'REPANDA' BOTANICAL NAME	REPANDA COMMON JUNIPER COMMON NAME	I GAL.	POT	DROUGHT TOLERANT, SALT TOLERANT REMARKS
	ASC	96	ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	24" o.c.	I GAL. POT	NATIVE, DROUGHT TOLERANT, SALT TOLERANT
	СРА	107	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	24" o.c.	I GAL. POT	NATIVE, DROUGHT TOLERANT
	ECH	20	ECHINACEA PURPUREA 'KIM'S KNEE HIGH'	KIM'S KNEE HIGH CONEFLOWER	18" o.c.	I GAL. POT	NATIVE, DROUGHT TOLERANT
	LAV	74	LAVANDULA ANGUSTIFOLIA 'HIDCOTE'	HIDCOTE ENGLISH LAVENDER	18" o.c.	I GAL. POT	NON NATIVE, DROUGHT TOLERANT
	RUD	38	RUDBECKIA FULGIDA 'LITTLE GOLDSTAR'	LITTLE GOLDSTAR CONEFLOWER	24" o.c.	I GAL. POT	NATIVE, DROUGHT TOLERANT





### **APPENDIX B:** INSPECTION CHECKLISTS

### APPENDIX B-I: GENERAL INSPECTION CHECKLIST LOG

### INSPECTION CHECKLIST LOG

- 1. The responsible party shall report issues to the local authority and mosquito commission as required by local ordinances and regulatory authorities.
- 2. The maintenance crew should fill out the checklist in the field manual when performing each inspection/maintenance task.
- 3. After the maintenance task is performed, the checklist should be filed in the Maintenance Plan and recorded in the log below.

Cycle of Inspection	Stormwater Management Measure No.	Checklist No.	Date(s) of Inspection
(Ist Quarter)			
(2nd Quarter)			
(3rd Quarter)			
(4th Quarter)			
(Unscheduled			
Inspection; e.g., after I" rain)			
(Ist Quarter)			
(2nd Quarter)			
(3rd Quarter)			
(4th Quarter)			
(Unscheduled Inspection; e.g., after I" rain)			
(Ist Quarter)			
(2nd Quarter)			
(3rd Quarter)			
(4 <sup>th</sup> Quarter)			
(Unscheduled Inspection; e.g., after I" rain)			

	Stormwater Management Measure		Date(s) of Inspection	
Cycle of Inspection	No.	Checklist No.		
(Ist Quarter)				
(2nd Quarter)				
(3rd Quarter)				
(4th Quarter)				
(Unscheduled Inspection; e.g., after I" rain)				
,				
(Ist Quarter)				
(2nd Quarter)				
(3rd Quarter)	-			
(4 <sup>th</sup> Quarter)	+			
(Unscheduled Inspection; e.g., after I" rain)				

### APPENDIX B-2: GENERAL PREVENTATIVE MAINTENANCE LOG

### **PREVENTATIVE MAINTENANCE LOG**

MAINTENANCE SCHEDULE	STORMWATER MANAGEMENT MEASURE NO.	PREVENTATIVE MAINTENANCE RECORD NO.	DATE(S) OF MAINTENANCE
(Ist Quarter)			
(2nd Quarter)			
(3rd Quarter)			
(4th Quarter)			
(Unscheduled			
Maintenance			
work; e.g., after			
l" rain)			
(Ist Quarter)			
(2nd Quarter)			
(3rd Quarter)			
(4th Quarter)			
(Unscheduled			
Inspection; e.g.,			
after 1" rain)			

### APPENDIX B-3: GENERAL CORRECTIVE MAINTENANCE LOG

### **CORRECTIVE MAINTENANCE LOG**

Maintenance	Stormwater Management	Corrective Maintenance Record	Date(s) of
Schedule	Measure No.	No.	Maintenance
(Ist Quarter)			
(2nd Quarter)			
(2nd Querter)			
(3rd Quarter)			
(4th Quarter)			
(Unscheduled			
Maintenance			
work; e.g., after			
l" rain)			
(Ist Quarter)			
(2nd Quarter)			
(2nd Quarter)			
(3rd Quarter)			
(4th Quarter)			
(Unscheduled			
Inspection; e.g.,			
after I" rain)			

# **APPENDIX B-4:** ANNUAL EVALUATION RECORD

#### **ANNUAL EVALUATION RECORD**

As per N.J.A.C. 7:8-5.8(g), the person responsible for maintenance shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

The responsible party should evaluate the effectiveness of the maintenance plan by comparing the maintenance plan with the actual performance of the maintenance. The items to evaluate may include, but not limited to,

- Whether the inspections have been performed as scheduled;
- Whether the preventive maintenance has been performed as scheduled;
- Whether the frequency of preventative maintenance needs to increase or decrease;
- Whether the planned resources were enough to perform the maintenance;
- Whether the repairs were completed on time;
- Whether the actual cost was consistent with the estimated cost;
- Whether the inspection, maintenance, and repair records have been kept.

If actual performance of those items has been deviated from the maintenance plan, the responsible party should find the causes and implement solutions in a revised maintenance plan.

Evaluator(s)	Date of Evaluation	Decision
		Maintain current version OR
		Revise current version
		Revision date
		(also update the last revision date on the cover page)
		Requires a new deed recording
		(also update the last recording information on the cover page)
		Maintain current version OR
		Revise current version
		Revision date
		(also update the last revision date on the cover page)
		Requires a new deed recording
		(also update the last recording information on the cover page)
		Maintain current version OR
		Revise current version
		Revision date
		(also update the last revision date on the cover page)
		Requires a new deed recording
		(also update the last recording information on the cover page)