

E-FILE STAMP

**PROJECT NARRATIVE:**

- 2 STORY COMMERCIAL BUILDING
- RETAIL/COMMERCIAL WITH UNDERGROUND PARKING
- NEW SITE STORMWATER FACILITIES AND STORM DRAIN PIPE

**SITE DATA:**

- SITE AREA = 46,875 SF (1.076 AC)
- EXISTING IMPERVIOUS AREA = 29,337 SF (0.673 AC)
- PROPOSED NEW IMPERVIOUS AREA = 8,215 SF (0.189 AC)
- PROPOSED TOTAL IMPERVIOUS AREA = 37,552 (0.862 AC)

**ESD VOLUME SUMMARY:**  
(ESDv PROVIDED IN CUBIC FEET)

- TOTAL ESDv REQUIRED = 2,545
- GREEN ROOF #1: 1,546 CF  
(BASED ON 11,535 SF OF GREEN ROOF @ 8" THICKNESS)
- BIORETENTION #2: 1,690 CF

TOTAL ESDv PROVIDED = 3,235 CF

**SWM NARRATIVE:**

THE TAKOMA JUNCTION PROJECT HAS BEEN DEVELOPED TO COMPLY WITH THE ENVIRONMENTAL SITE DESIGN REQUIREMENTS AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE). THE STORMWATER MANAGEMENT DESIGN CALCULATIONS FOR THIS PROJECT ARE BASED UPON THE ENVIRONMENTAL SITE DESIGN (ESD) CRITERIA ESTABLISHED BY THE STORMWATER MANAGEMENT ACT OF 2007.

THE ESDV FOR POI-1 WAS CALCULATED BASED ON AN EXISTING SITE IMPERVIOUS AREA OF 0.67 ACRES. THE AREA'S SITE IMPERVIOUSNESS IS 69%. AS THIS IS GREATER THAN 40% THIS PROJECT IS SUBJECT TO REDEVELOPMENT REQUIREMENTS. THE PROJECT SHALL EITHER DECREASE EXISTING IMPERVIOUSNESS WITHIN THE LOD BY 50% OR PROVIDE TREATMENT FOR AN EQUIVALENT AREA. THE PROJECT IS THEREFORE REQUIRED TO TREAT OR REDUCE THE IMPERVIOUS AREA ON SITE BY 0.34 ACRES. THE PROPOSED IMPERVIOUS AREA WITHIN THE SITE IS 0.86 ACRES. THERE IS A *INCREASE* OF 0.19 ACRES OF IMPERVIOUS AREA.

a. 0.34 ACRES MUST BE TREATED AS REDEVELOPMENT BY ESD PRACTICES. BASED ON A TARGET PE OF 1.0, AN RV OF 0.95 AND AN AREA OF 0.34 ACRES.

b. 0.19 ACRES MUST BE TREATED AS NEW DEVELOPMENT BY ESD PRACTICES, BECAUSE THERE IS A *INCREASE* OF 0.19 ACRES OF IMPERVIOUS AREA.

A MINIMUM ESD VOLUME OF 2,545 CUBIC FEET SHALL BE TREATED WITHIN POI-1.

ESD SHALL BE MET WITH ONE GREEN ROOF FACILITY AND ONE BIORETENTION FACILITY.

**SWM COMPUTATION SUMMARY**

SITE AREA = 39,190 SF (0.8997 AC)  
 EXISTING IMPERVIOUS = (29,337 SF (0.67 AC))  
 EXISTING PERVIOUS = 13,019 SF (0.18 AC)  
 $\% = 0.67 / 0.97 = 69\%$   
 $\% > 40\%$

EXISTING SITE IMPERVIOUSNESS IS GREATER THAN 40%, THEREFORE THE SITE IS SUBJECT TO REDEVELOPMENT REQUIREMENTS. THE PROJECT SHALL EITHER DECREASE EXISTING IMPERVIOUSNESS WITHIN THE LOD BY 50% OR PROVIDE TREATMENT FOR AN EQUIVALENT AREA.

PROPOSED IMPERVIOUS = 37,552 SF (0.86 AC)  
 NET INCREASE IN IMPERVIOUS AREA = 0.86-0.67 = 0.68 AC

**ESDv TARGETS:**

**REDEVELOPMENT:**  
 $ESDv = (Pe)(Rv)(A)/12$   
 $Pe = 1$  INCH  
 $Rv = 0.05 + (0.009)(I) ; I=100\%$   
 $Rv = 0.05 + (0.009*100) = 0.95$

$ESDv = (1)(0.95)(0.34)/12$   
 $ESDv = 0.027$  AC-FT = **1.161 CF**

**NEW DEVELOPMENT:**  
 $ESDv = (Pe)(Rv)(A)/12$   
 $Pe = 2.4$  INCH (TABLE 5.3)  
 $Rv = 0.05 + (0.009)(I) ; I=88\%$   
 $Rv = 0.05 + (0.009*88) = 0.84$

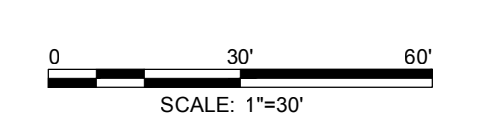
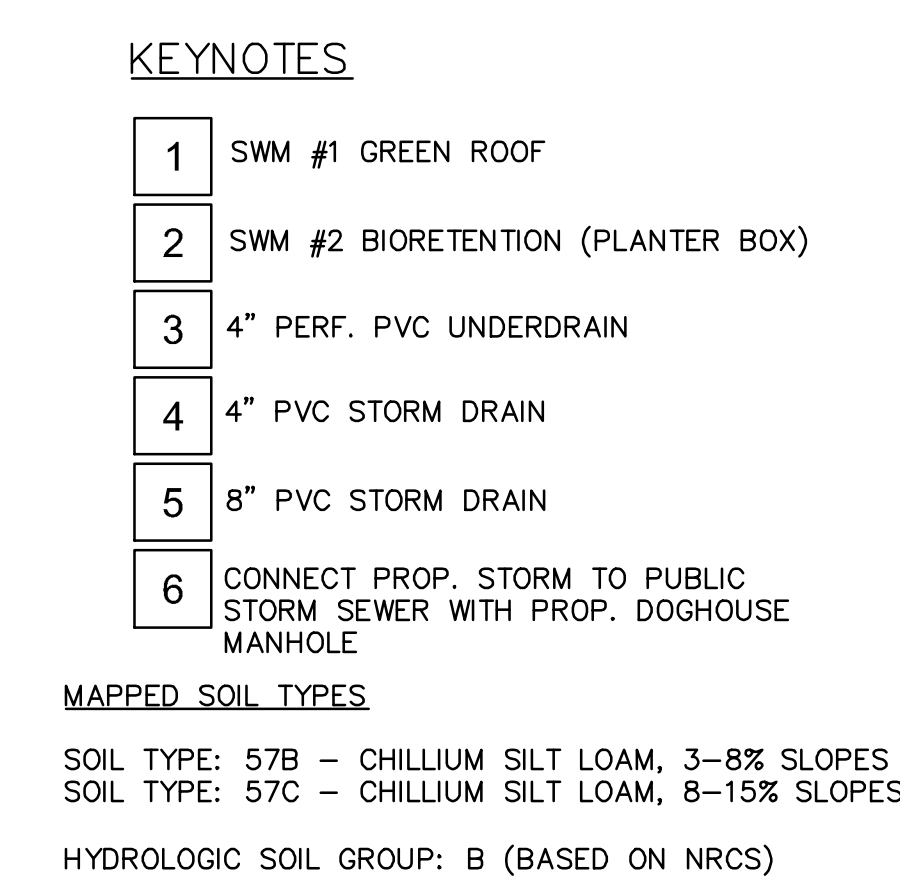
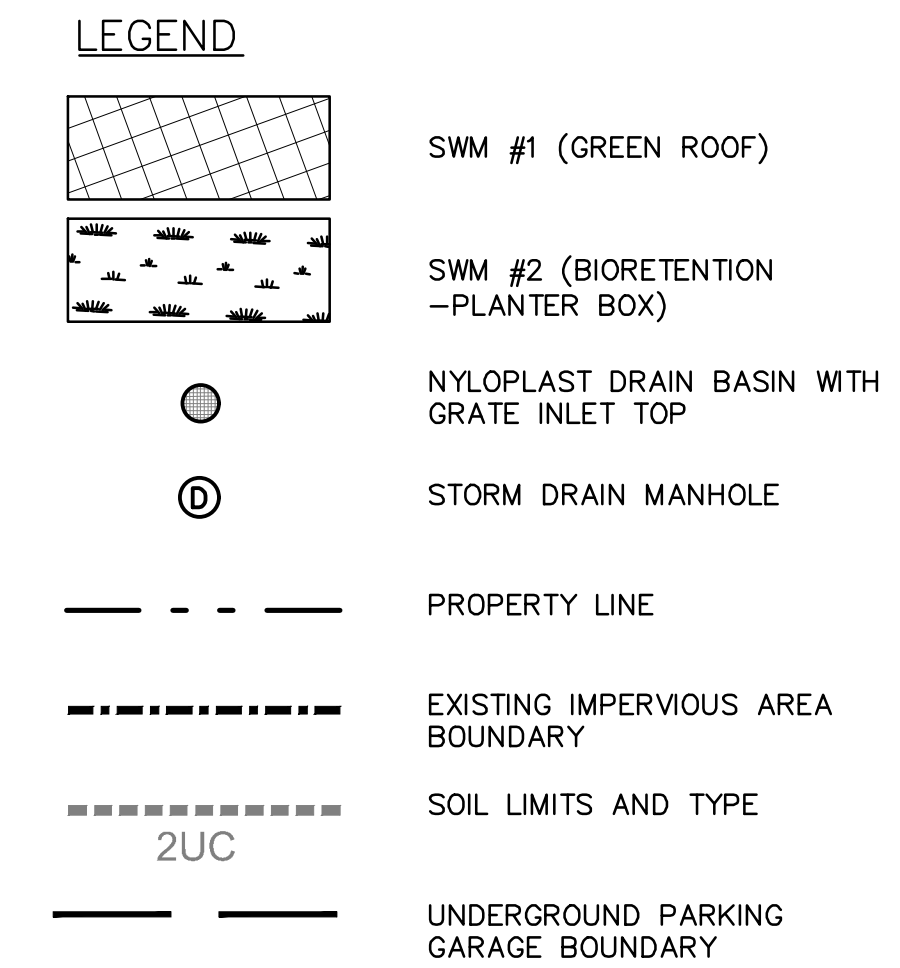
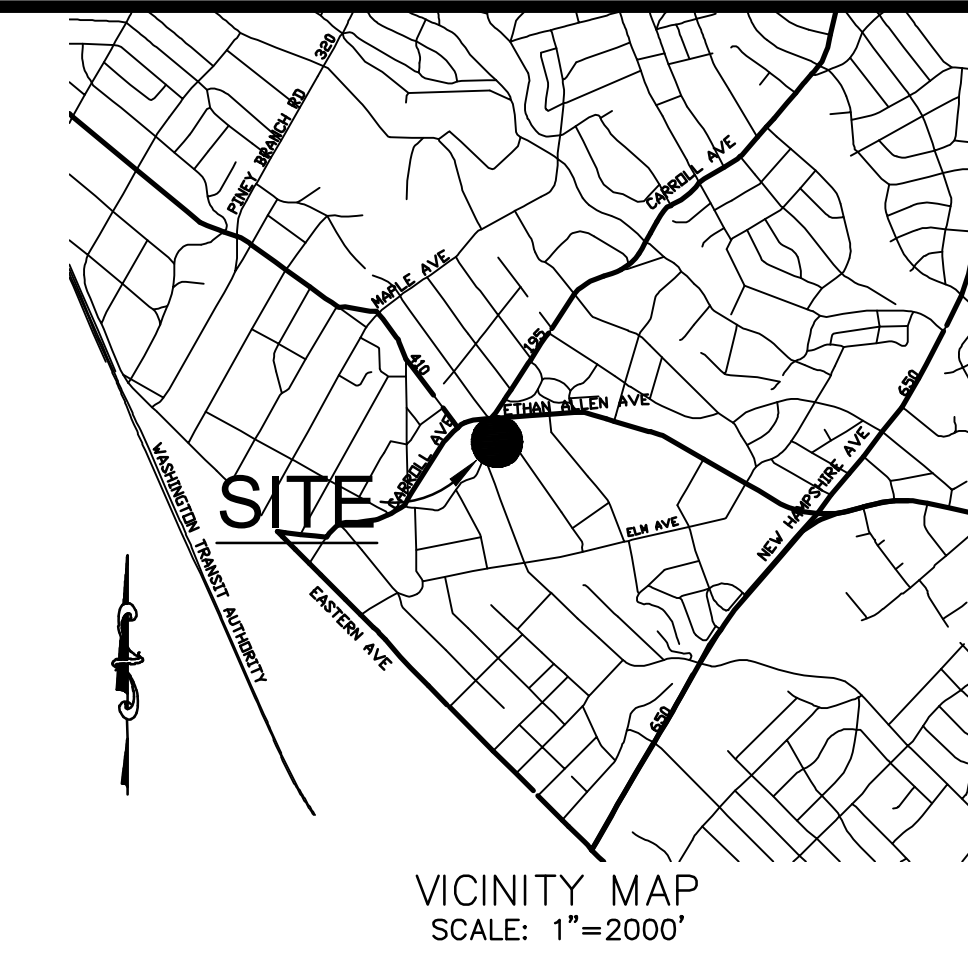
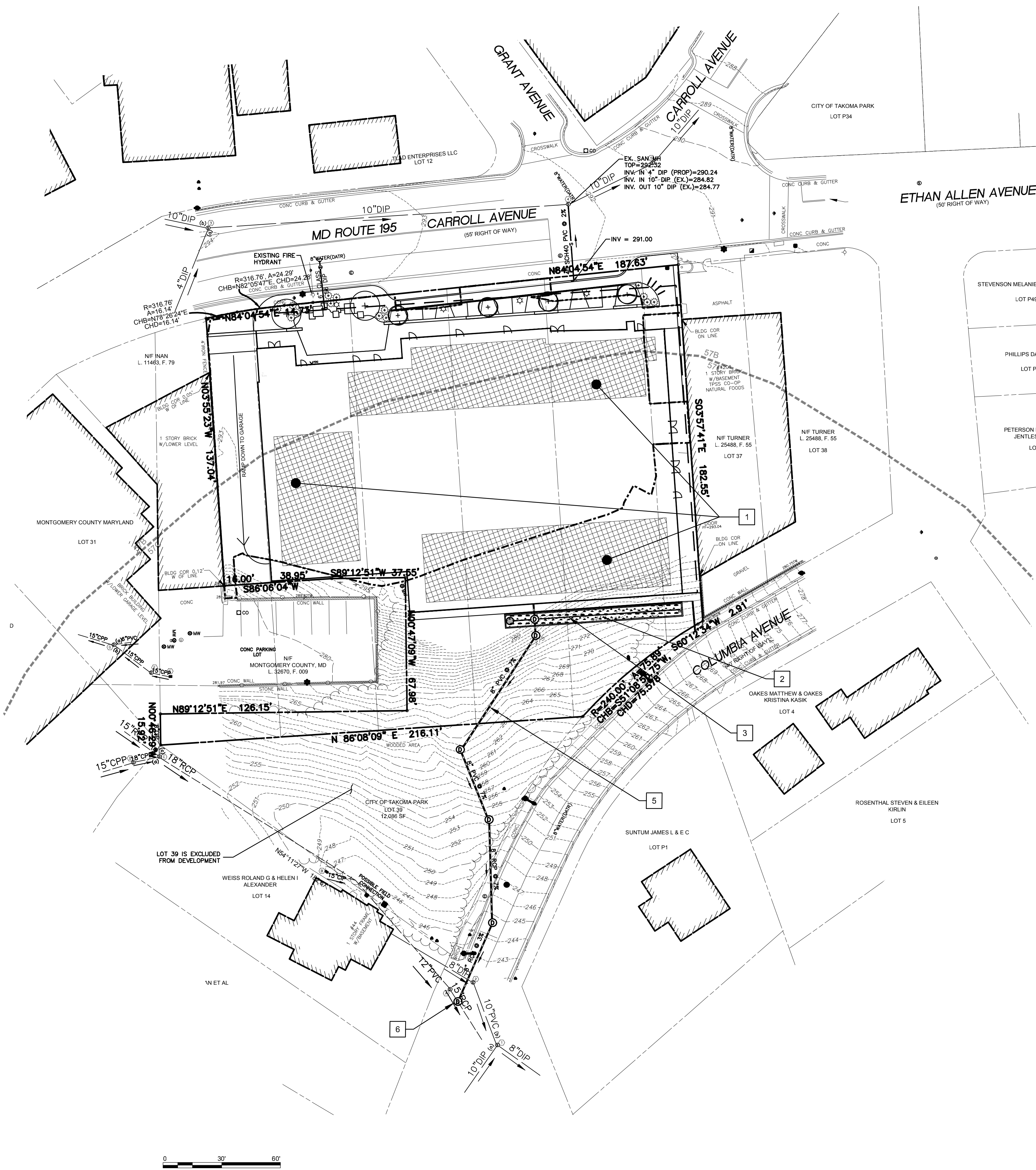
$ESDv = (2.4)(0.84)(0.19)/12$   
 $ESDv = 0.031$  AC-FT = **1.384 CF**

TOTAL ESDv REQUIRED = **2,545 CF**

ESD SHALL BE MET WITH THE USE OF ONE GREEN ROOF FACILITY AND ONE BIORETENTION FACILITY.

ESDv PROVIDED = **3,235 CF\***

\*ESDv PROVIDED BY SWM FACILITIES EXCEEDS REQUIRED VOLUME BY OVER 25%



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**SITE PLAN #820190090**  
**TAKOMA JUNCTION**  
 13TH ELECTION DISTRICT  
 CITY OF TAKOMA PARK  
 MONTGOMERY COUNTY, MARYLAND  
 TAX MAP: JN51  
 WSSC GRID: 208NE01 & 209NE01



**STORMWATER MANAGEMENT PLAN**

DESIGNED	AMC
CHECKED	BCJ
SCALE	AS SHOWN
FILE NO.	114-123
DATE	JANUARY 2019

**C3.01**

**DEVELOPER'S CERTIFICATE**

THE UNDERSIGNED AGREES TO EXECUTE ALL THE FEATURES OF THE PLAN APPROVAL NO. 820190090 INCLUDING APPROVAL CONDITIONS, DEVELOPMENT PROGRAM, AND CERTIFIED SITE PLAN.

DEVELOPER: NEIGHBORHOOD DEVELOPMENT COMPANY JINGJING LIU  
 CONTACT PERSON \_\_\_\_\_

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SIGNATURE: \_\_\_\_\_