E-FILE STAMP

PROJECT NARRATIVE:

- 2 STORY BUILDING
- RETAIL/COMMERCIAL WITH UNDERGROUND PARKING
- NEW SITE STORMWATER FACILITES 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 = 8,572 SF (0.20 AC)
- PROPOSED TOTAL IMPERVIOUS AREA = 37,909 (0.873 AC)

ESD VOLUME SUMMARY:

(ESDv PROVIDED IN CUBIC FEET)

- TOTAL ESDv REQUIRED= 2,953 CF
- GREEN ROOF: 2,005 CF
  (BASED ON 9,655 SF OF GREEN ROOF @ 8" THICKNESS)
- BIORETENTION: 1,399 CF

TOTAL ESDv PROVIDED= 3,403 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 TOTAL PROPOSED IMPERVIOUS AREA WITHIN THE SITE IS 0.87 ACRES, THERE IS A *INCREASE* OF 0.20 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. 0.20 ACRES MUST BE TREATED AS NEW DEVELOPMENT BY ESD PRACTICES, BECAUSE THERE IS A *INCREASE* OF 0.20 ACRES OF IMPERVIOUS AREA.

A MINIMUM ESD VOLUME OF 2,953 CUBIC FEET SHALL BE TREATED WITHIN POI-1.

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

SWM COMPUTATION SUMMARY

SITE AREA = 46.875 SF (1.076 AC)
EXISTING IMPERVIOUS = 29,337 SF (0.67 AC)
EXISTING PERVIOUS = 17,538 SF (0.41 AC)
% = 0.67/1.076 = 63%
% > 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 = 37,909 SF (0.87 AC)
NET *INCREASE* IN IMPERVIOUS AREA = 0.87-0.67 = 0.20 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

A = 50% OF EXISTING IMPERVIOUSNESS
A = 0.5*0.67= 0.34 AC

ESDv = (1)(0.95)(0.34)/12
ESDv = 0.027 AC-FT = 1,160 CF

ESDv = (Pe)(Rv)(A)/12
Pe = 2.6 INCH (TABLE 5.3)
Rv = 0.05+(0.009)(I) ; I=100%
Rv = 0.05+(0.009*100) = 0.95

A = 100% OF NEW IMPERVIOUSNESS
A = 1*0.20= 0.20 AC

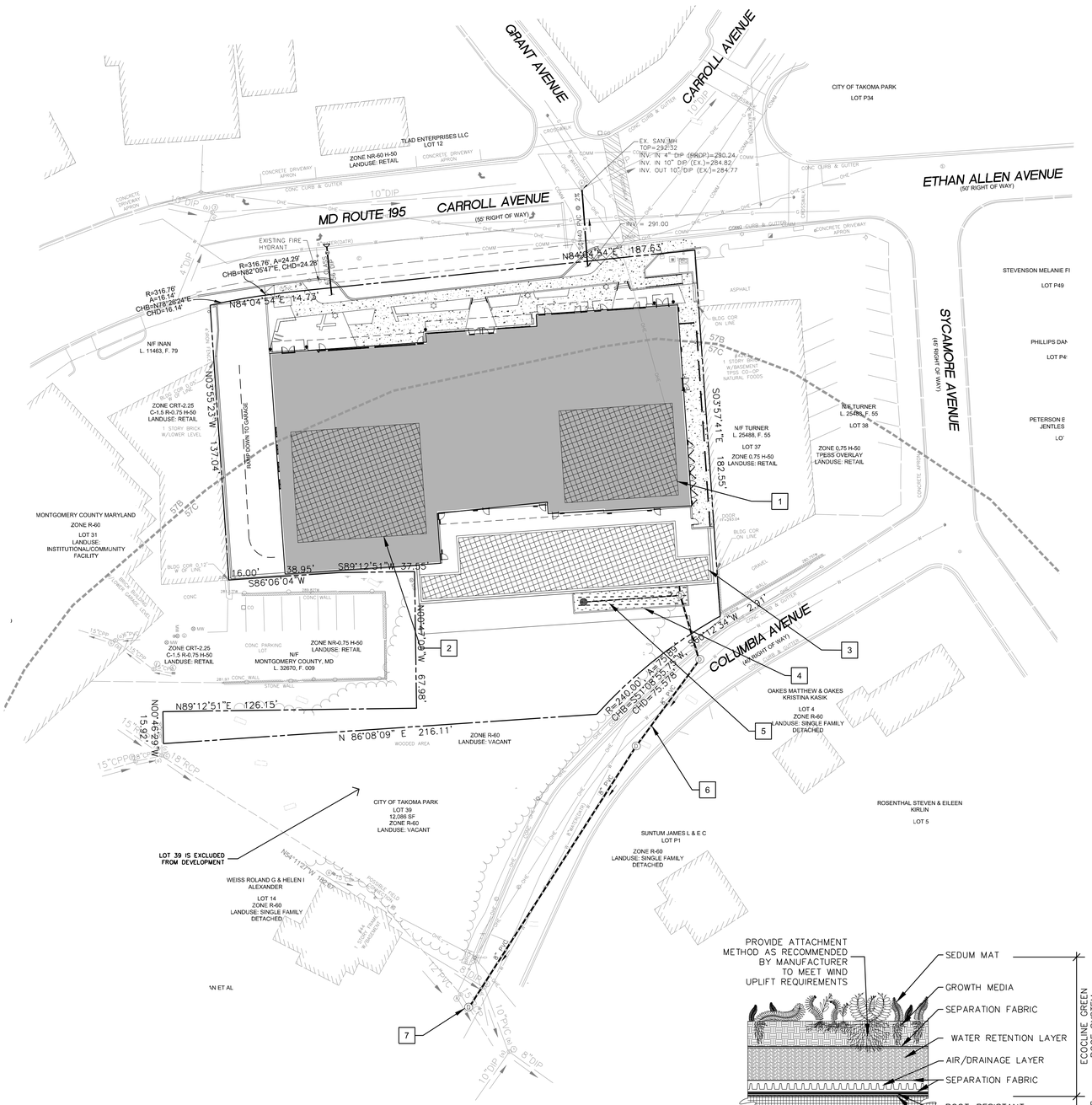
ESDv = (2.6)(0.95)(0.20)/12
ESDv = 0.041 AC-FT = 1,793 CF

TOTAL ESDv REQUIRED = 2,953 CF

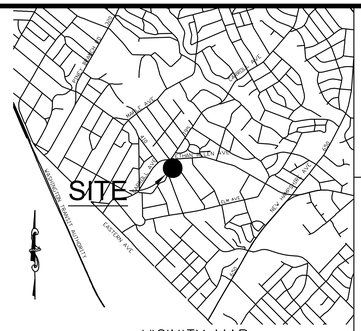
ESD SHALL BE MET WITH THE USE OF ONE GREEN ROOF FACILITY AND ONE BIORETENTION FACILITY.

ESDv PROVIDED = 3,403 CF*

*ESDv PROVIDED BY SWM FACILITIES EXCEEDS REQUIRED VOLUME BY OVER 1.3%



0 30' 60'
SCALE: 1"=30'



VICINITY MAP
SCALE: 1"=2000'

LEGEND

- UNDERGROUND PARKING GARAGE BOUNDARY
- PROPOSED BUILDING
- GREEN ROOF
- BIORETENTION FACILITY
- PLANTING AREA
- NYLOPLAST DRAIN BASIN WITH GRATE INLET TOP
- STORM DRAIN MANHOLE
- PROPERTY LINE
- SOIL LIMITS AND TYPE (2UC)

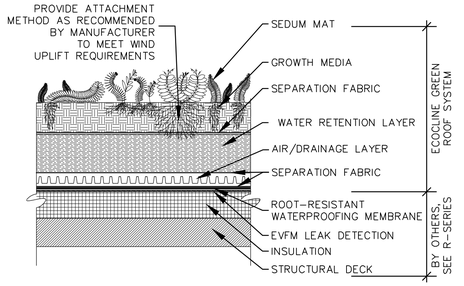
KEYNOTES

1. GREEN ROOF #1 – 2,590 SF
2. GREEN ROOF #2 – 3,525 SF
3. GREEN ROOF #3 – 3,540 SF
4. SWM #2 BIORETENTION (PLANTER BOX)
5. 4" PERF. PVC UNDERDRAIN
6. 8" PVC STORM DRAIN
7. CONNECT PROP. STORM TO PUBLIC STORM SEWER WITH PROP. DOGHOUSE MANHOLE

MAPPED SOIL TYPES

SOIL TYPE: 57B – CHILLIUM SILT LOAM, 3–8% SLOPES
SOIL TYPE: 57C – CHILLIUM SILT LOAM, 8–15% SLOPES

HYDROLOGIC SOIL GROUP: B (BASED ON NRCS)



1. VERIFY FULL ROOF WARRANTY IS IN TACT BASED ON GREEN ROOF SECTION / DESIGN AND LAYOUT SHOWN. DO NOT INSTALL ANY COMPONENT OF GREEN ROOF OR IN ANY FASHION THAT NULLIFIES WARRANTY OF ANY PART OF THE ROOF SYSTEM.
2. VERIFY STRUCTURAL CAPACITY AND WIND UPLIFT COMPLIANCE WITH STRUCTURAL ENGINEER.
3. PROVIDE ROOT PROTECTION LAYER, WATERPROOFING, INSULATION, AND EVFM LAYER AS DIRECTED BY ARCHITECT / BUILDING ENVELOPE CONSULTANT. SHOWN HERE FOR REFERENCE ONLY.

ECOCLINE 2+2 GREEN ROOF TYPICAL SECTION
NOT TO SCALE

DEVELOPER'S CERTIFICATE

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

DEVELOPER: NEIGHBORHOOD DEVELOPMENT COMPANY (COMPANY) JINGJING LIU (CONTACT PERSON)

ADDRESS: 3232 GEORGIA AVENUE NW, SUITE 100, WASHINGTON, DC 20010

EMAIL: JLIU@NEIGHBORHOODDEVELOPMENT.COM

SIGNATURE: Jingjing Liu

AMT LLC
PROFESSIONAL ENGINEERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
10 G STREET, NE, SUITE 430
WASHINGTON, DC. 20002
PH: (202) 289-4545
FAX: (202) 289-5051

SITE PLAN #820190090

TAKOMA JUNCTION

13TH ELECTION DISTRICT
CITY OF TAKOMA PARK
MONTGOMERY COUNTY, MARYLAND
TAX MAP: JN51
WSSC GRID: 208NE01 & 209NE01

DATE	REVISION

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18317 EXPIRATION DATE: 01/07/2020

SWM CONCEPT PLAN

DESIGNED: AMC
CHECKED: BCJ
SCALE: AS SHOWN
FILE NO.: 114-123
DATE: OCTOBER 2020

C3.01