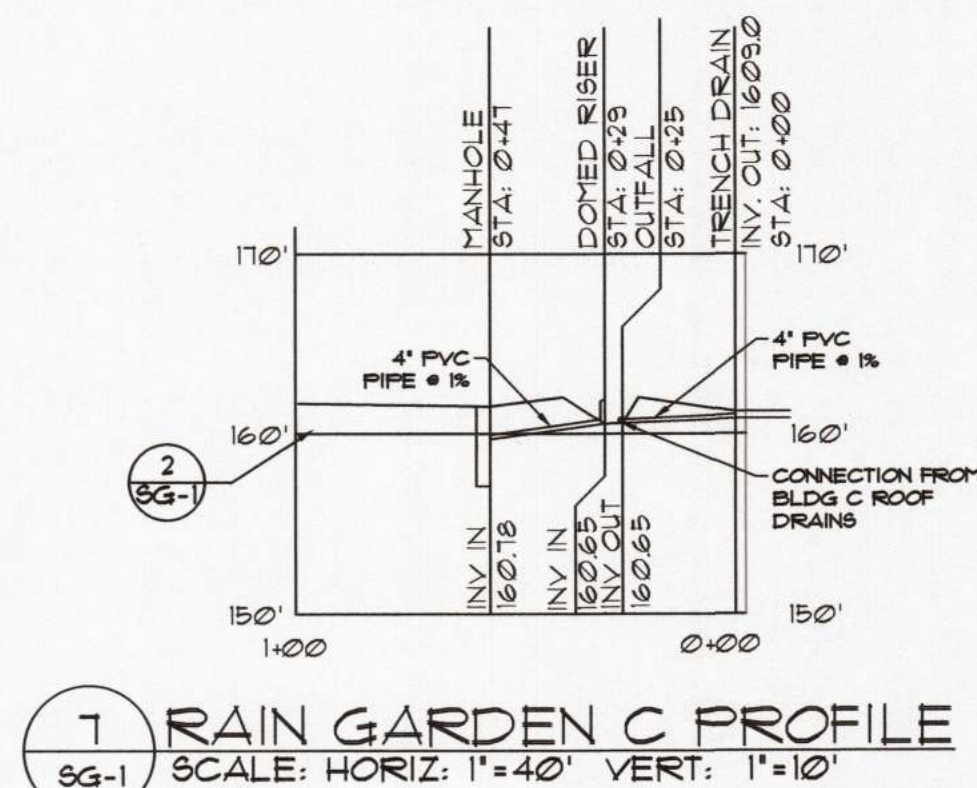
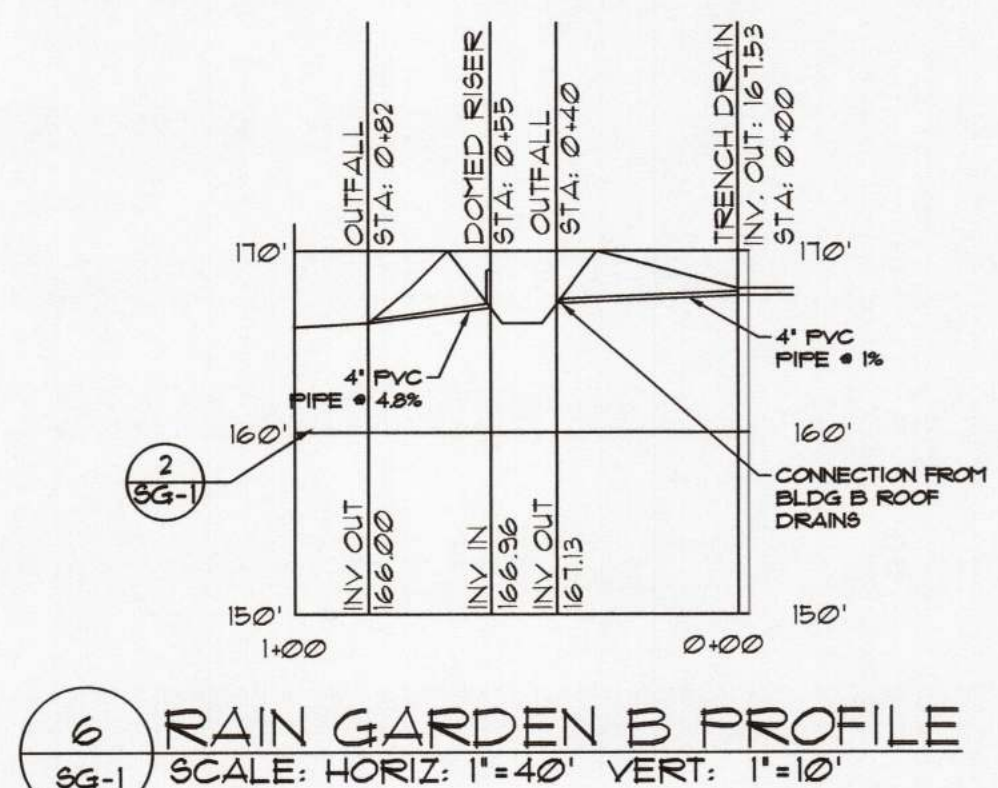
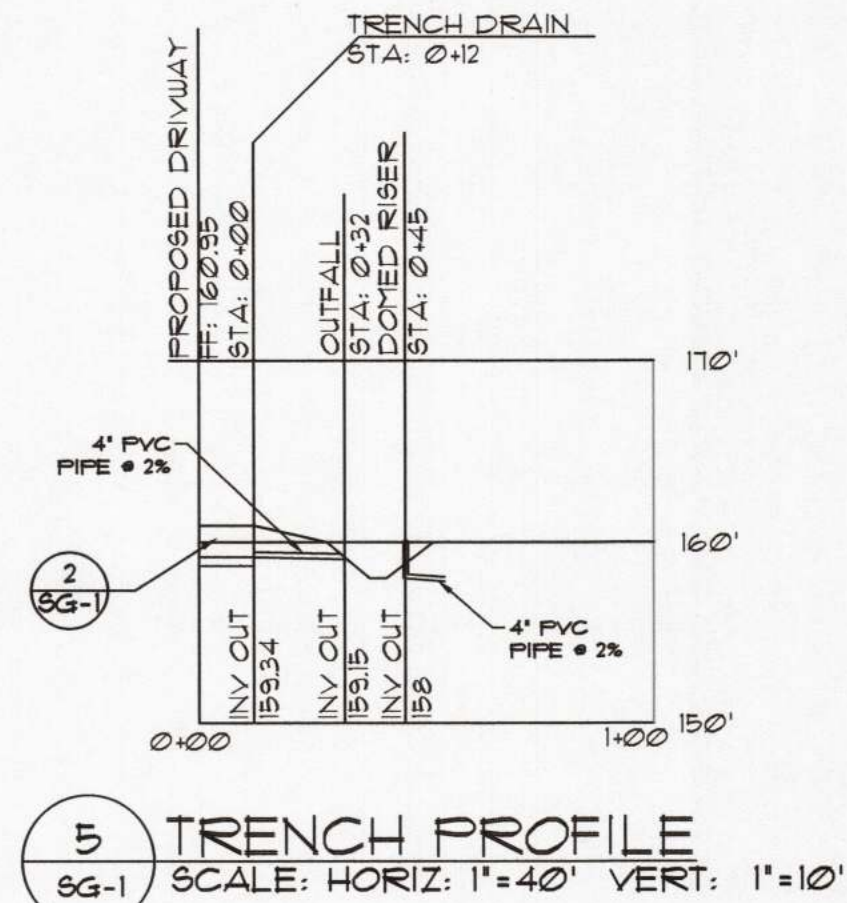
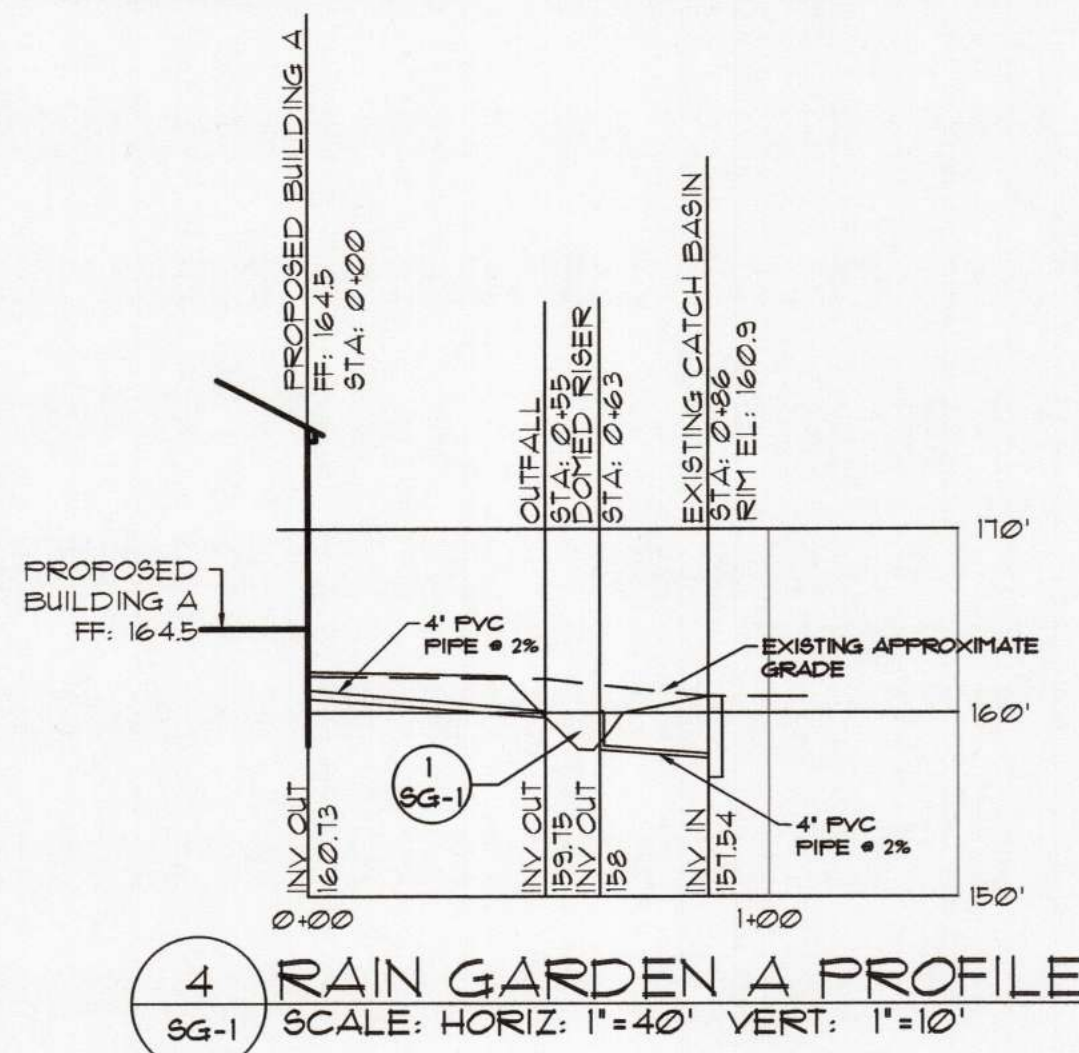




Rain Garden A Design Calculations:

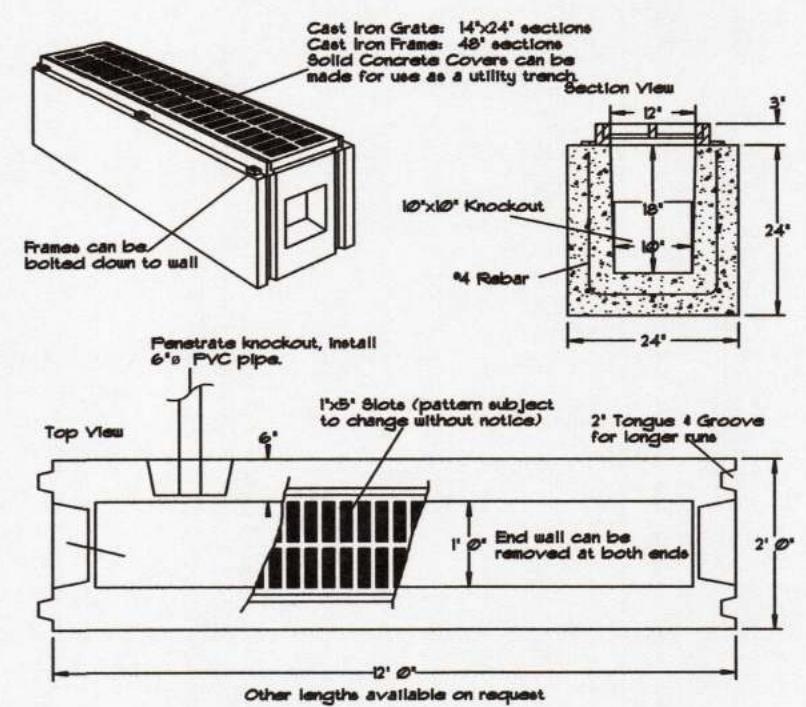
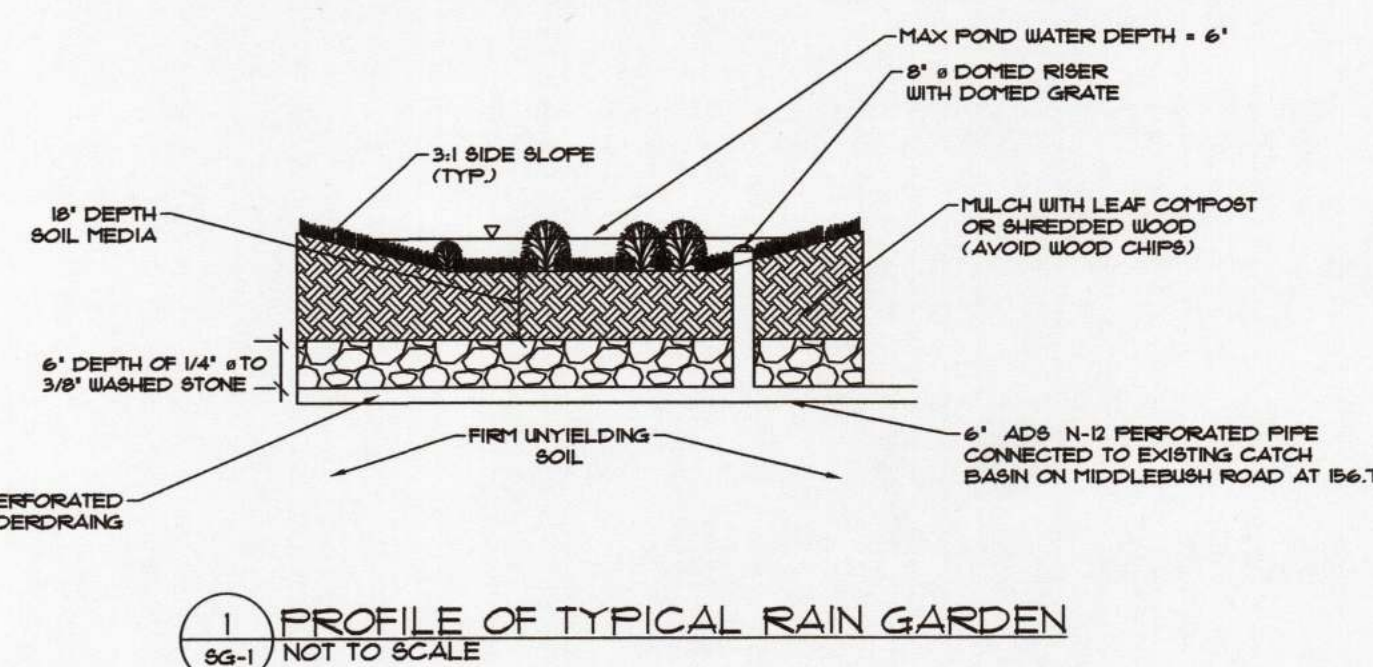
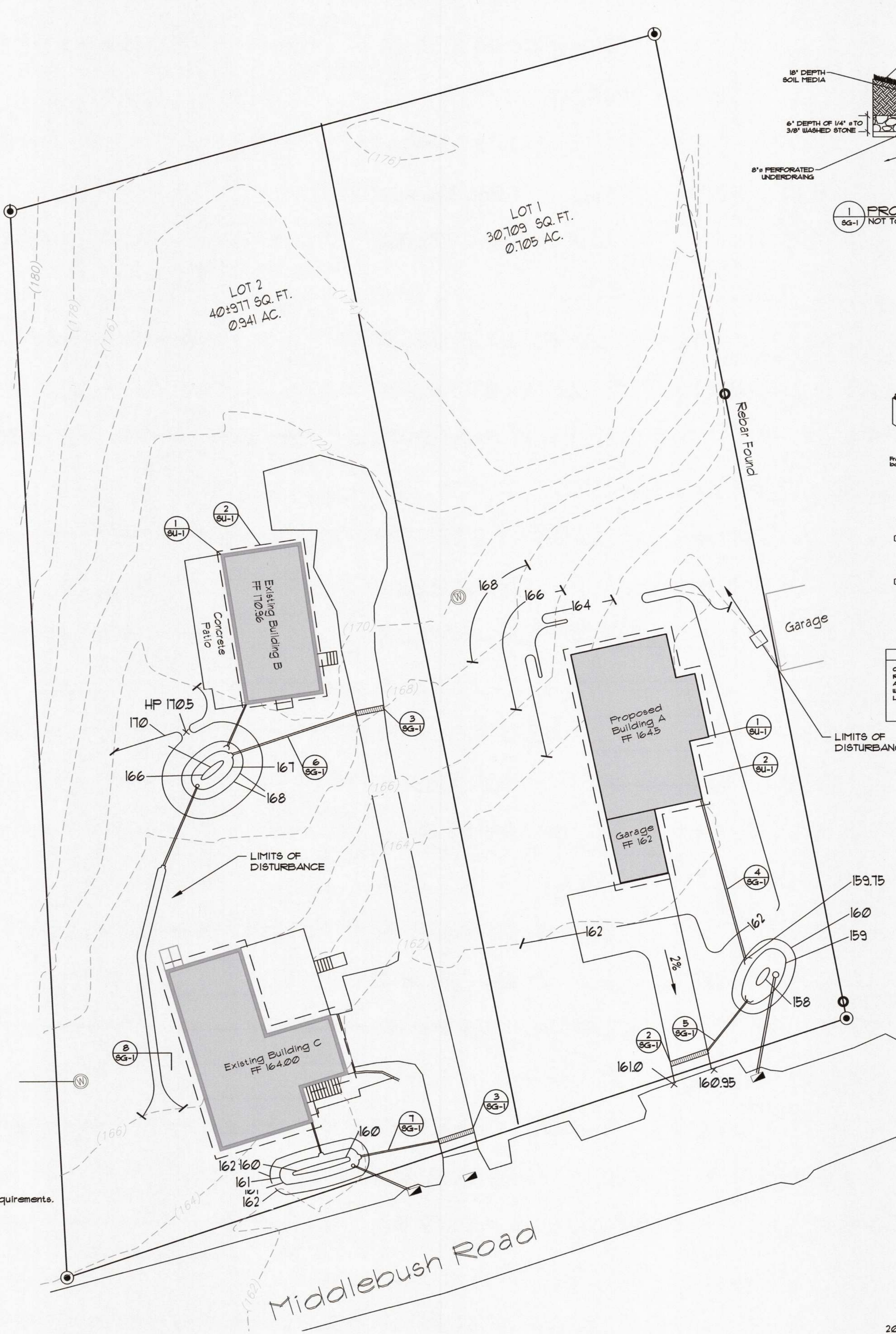
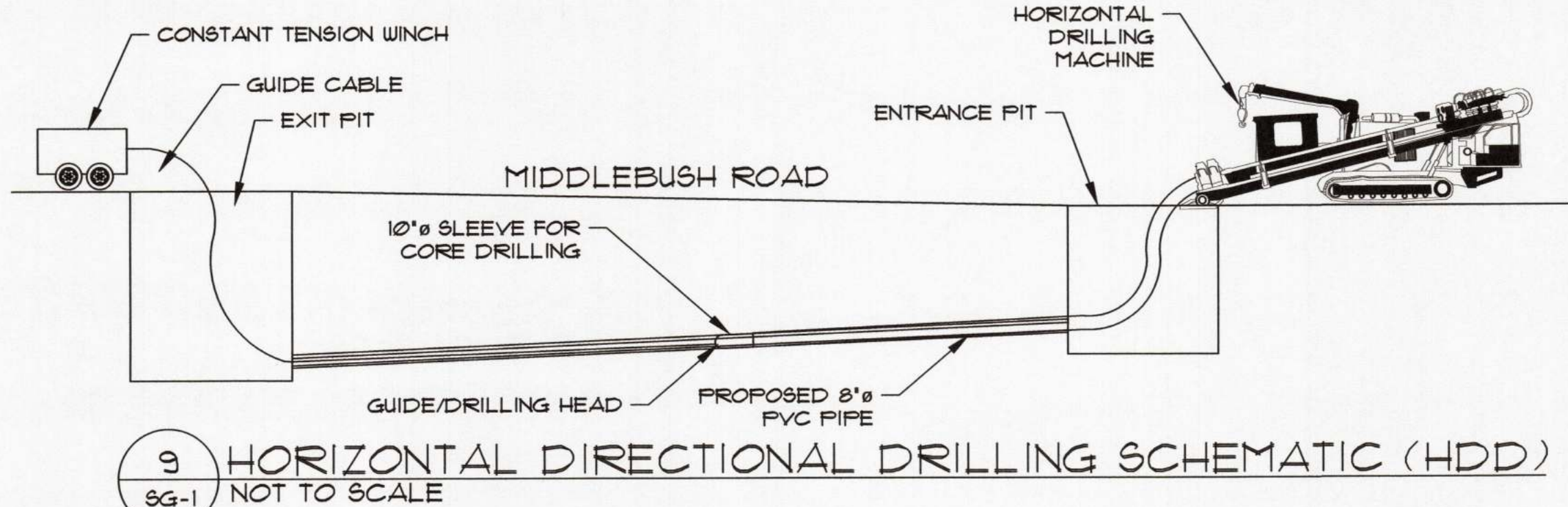
3,149 S.F. area from driveway & house
P = 90% Rainfall = 11
RV = $0.05 + 0.0009(1) = 0.05 + 0.0009(100) = 0.95$
I = Percentage of Area Draining to the Site 100%
A = Area Draining to practice (Treatment Area) = 3,149 S.F.
WQV = $(11)(0.95)(3,149)$ divided by 12 = 2,742 C.F.
WQV = 2,742 C.F.
Solve for drainage layer and soil media storage.
Volume: $VSM = ARG \times DDL \times PSM$
VDL = $ARG \times DDL \times PDL$
Where:
ARG = Proposed rain garden surface area = 300 S.F.
DDL = Depth of Soil Media = 18 inches - 15 Ft.
DDL = Depth of Drainage Layer = 6 inches - 0.5 Ft.
PSM = Porosity of Soil Medium = 0.20
DDL = Porosity of Drainage Layer = 0.40
VSM = $300 \text{ S.F.} \times 15 \text{ Ft.} \times 0.20 = 900 \text{ S.F.}$
VDL = $300 \text{ S.F.} \times 0.5 \text{ Ft.} \times 0.40 = 60 \text{ S.F.}$
WQV = $90 \text{ S.F.} + 60 \text{ C.F.} + (0.50 \times 300 \text{ S.F.})$
WQV = 2,142 C.F. is less than 300 C.F.
Proposed design for treating area of 3,149 S.F. exceeds the WQV requirements.

Rain Garden B Design Calculations:

2,681 S.F. area from driveway & house
P = 90% Rainfall = 11
RV = $0.05 + 0.0009(1) = 0.05 + 0.0009(100) = 0.95$
I = Percentage of Area Draining to the Site 100%
A = Area Draining to practice (Treatment Area) = 2,681 S.F.
WQV = $(11)(0.95)(2,681)$ divided by 12 = 2,334 C.F.
WQV = 2,334 C.F.
Solve for drainage layer and soil media storage.
Volume: $VSM = ARG \times DDL \times PSM$
VDL = $ARG \times DDL \times PDL$
Where:
ARG = Proposed rain garden surface area = 250 S.F.
DDL = Depth of Soil Media = 18 inches - 15 Ft.
DDL = Depth of Drainage Layer = 6 inches - 0.5 Ft.
PSM = Porosity of Soil Medium = 0.20
DDL = Porosity of Drainage Layer = 0.40
VSM = $250 \text{ S.F.} \times 15 \text{ Ft.} \times 0.20 = 750 \text{ S.F.}$
VDL = $250 \text{ S.F.} \times 0.5 \text{ Ft.} \times 0.40 = 50 \text{ S.F.}$
WQV = $75 \text{ S.F.} + 50 \text{ C.F.} + (0.50 \times 250 \text{ S.F.})$
WQV = 2,234 C.F. is less than 250 C.F.
Proposed design for treating area of 2,681 S.F. exceeds the WQV requirements.

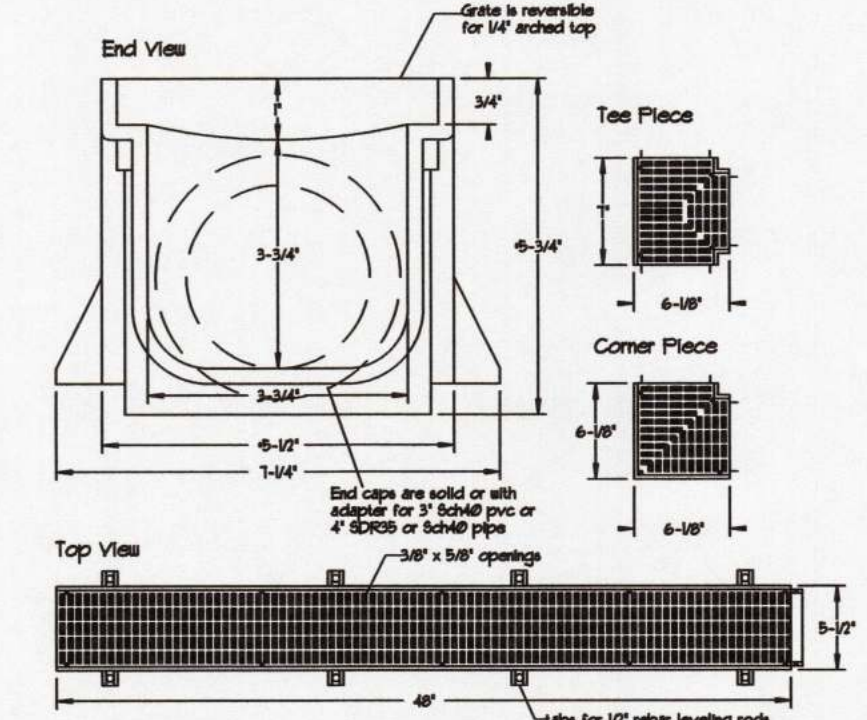
Rain Garden B Design Calculations:

3,259 S.F. area from driveway & house
P = 90% Rainfall = 11
RV = $0.05 + 0.0009(1) = 0.05 + 0.0009(100) = 0.95$
I = Percentage of Area Draining to the Site 100%
A = Area Draining to practice (Treatment Area) = 3,259 S.F.
WQV = $(11)(0.95)(3,259)$ divided by 12 = 3,36 C.F.
WQV = 3,36 C.F.
Solve for drainage layer and soil media storage.
Volume: $VSM = ARG \times DDL \times PSM$
VDL = $ARG \times DDL \times PDL$
Where:
ARG = Proposed rain garden surface area = 350 S.F.
DDL = Depth of Soil Media = 18 inches - 15 Ft.
DDL = Depth of Drainage Layer = 6 inches - 0.5 Ft.
PSM = Porosity of Soil Medium = 0.20
DDL = Porosity of Drainage Layer = 0.40
VSM = $350 \text{ S.F.} \times 15 \text{ Ft.} \times 0.20 = 1,050 \text{ S.F.}$
VDL = $350 \text{ S.F.} \times 0.5 \text{ Ft.} \times 0.40 = 70 \text{ S.F.}$
WQV = $105 \text{ S.F.} + 70 \text{ C.F.} + (0.50 \times 350 \text{ S.F.})$
WQV = 3,36 C.F. is less than 350 C.F.
Proposed design for treating area of 3,259 S.F. exceeds the WQV requirements.

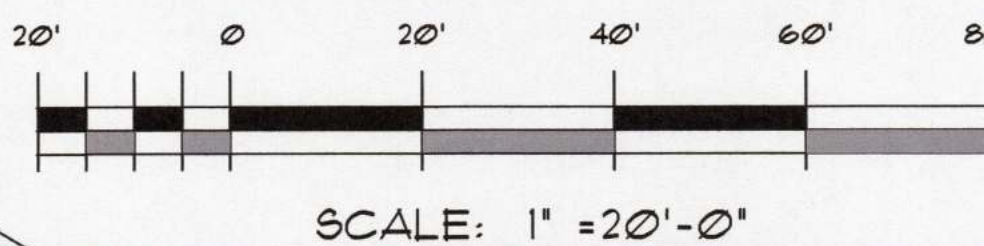


SPECIFICATIONS	PRECAST TRENCH DRAIN
Concrete Min. Strength: 4,000 psi at 28 days	HEAVY DUTY MODEL TD-HD
Reinforcement: #4 Rebar / ASTM A63	
Air Entrainment: 5%	
Weight: 3,000 lbs	Woodard's Concrete Products, Inc.
Load Rating: H20 / ASTM C801	625 Light Road, Buffalo, NY 14205
	(607) 341-3471 / Fax: 341-1850
	Page 31 02/05/05

3 SHALLOW TRENCH DRAIN
SCALE: HORIZ: 1"=40' VERT: 1"=10'



SPECIFICATIONS		POLYLOK HEAVY DUTY TRENCH DRAIN	
Material: Polyethylene Plastic		WOODARD'S CONCRETE PRODUCTS, INC. 625 Light Road, Buffalo, NY 14205 (607) 341-3471 / Fax: 341-1850 3/25/05	
Pipe Connection: 2" SCH40, 4" SDR35, or			
4" SCH40 pvc			
Load Rating: H20 off-street location			



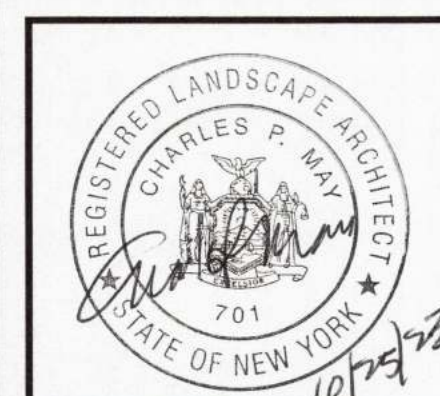
STATE LAW PROHIBITS ANY PERSON FROM ALTERING ANYTHING ON THIS DRAWING AND/OR THE ACCOMPANYING SPECIFICATION, UNLESS IT IS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL. WHERE SUCH ALTERATIONS ARE MADE THE LICENSED PROFESSIONAL MUST SIGN, SEAL, DATE, AND DESCRIBE THE FULL EXTENT OF THE ALTERATION ON THE DRAWING AND/OR IN THE SPECIFICATION.

REVISIONS	DESCRIPTION
DATE	BY
NO.	

CHARLES P. MAY & ASSOCIATES, P.C.

DESIGN PROFESSIONALS

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Pittsford, New York 14534
(607) 341-3471 / Fax: 341-1850
Email: charlesmay@cpma.com Website: www.charlesmayassociates.com



39 MIDDLEBUSH ROAD

WAPPINGER FALLS
DUTCHESS COUNTY, NEW YORK 12590
TAX MAP ID. NO. 1356689-6157-01-458871

DATE	DRAWN	CHECKED
10-25-23	JDC	CPM
SCALE: 1" = 20'-0"		
SHEET TITLE		
SITE GRADING PLAN		

PROJECT NUMBER
2023-03

SG-1
DRAWING NUMBER

SHEET 4 of 10