

Vailsburg Park
Green Infrastructure Information Sheet

Location: 112 S Munn Avenue, Newark, NJ 07106	Site Use: Park
Ward: West	Watershed Name: Elizabeth River
Green Infrastructure Description: Rain garden	Targeted Pollutants: total nitrogen (TN), total phosphorus (TP), and total suspended solids (TSS) in surface runoff
Implementation Date: 6/4/16 Green Infrastructure System: one (1) 400 sq. ft. rain garden Drainage Area: ~1,600 sq. ft. (roadway)	Estimated Stormwater Captured and Treated Per Year: Rain garden: ~ 34,557 gallons
Funding Sources: NJ Department of Environmental Protection 319(h) grant	
Partners/Stakeholders: Rutgers Cooperative Extension Water Resources Program, Essex County Parks, Unified Vailsburg Services Organization, and Newark DIG	
Appendix A: Site Visit pre Installation – condition Appendix B: Digital design renderings Appendix C: A-built Design Plan Appendix D: Vailsburg Park Seven Site Design Pla Appendix E: Project Completed – Photograph of green infrastructure practice	

Vailsburg Park
Green Infrastructure Information Sheet

112 S Munn Avenue, Newark, NJ

Vailsburg Park

Appendix A:

Site Photograph

5/21/2015

Project Site April 21, 2015



112 S Munn Avenue, Newark, NJ

Vailsburg Park

Appendix B:

Site Renderings

08/04-11/2015

Design Renderings September 4-11 , 2015







Vailsburg Park
Green Infrastructure Information Sheet

112 S Munn Avenue, Newark, NJ

Vailsburg Park

Appendix C:

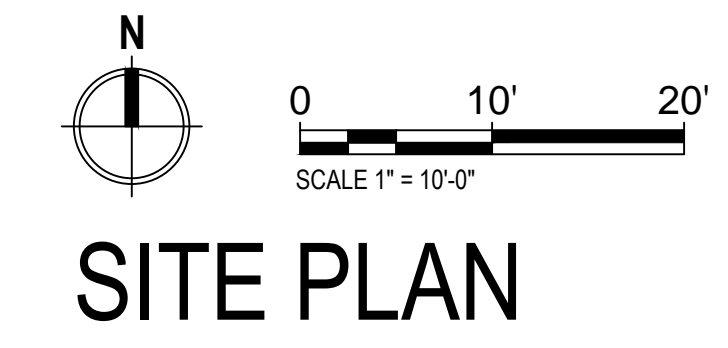
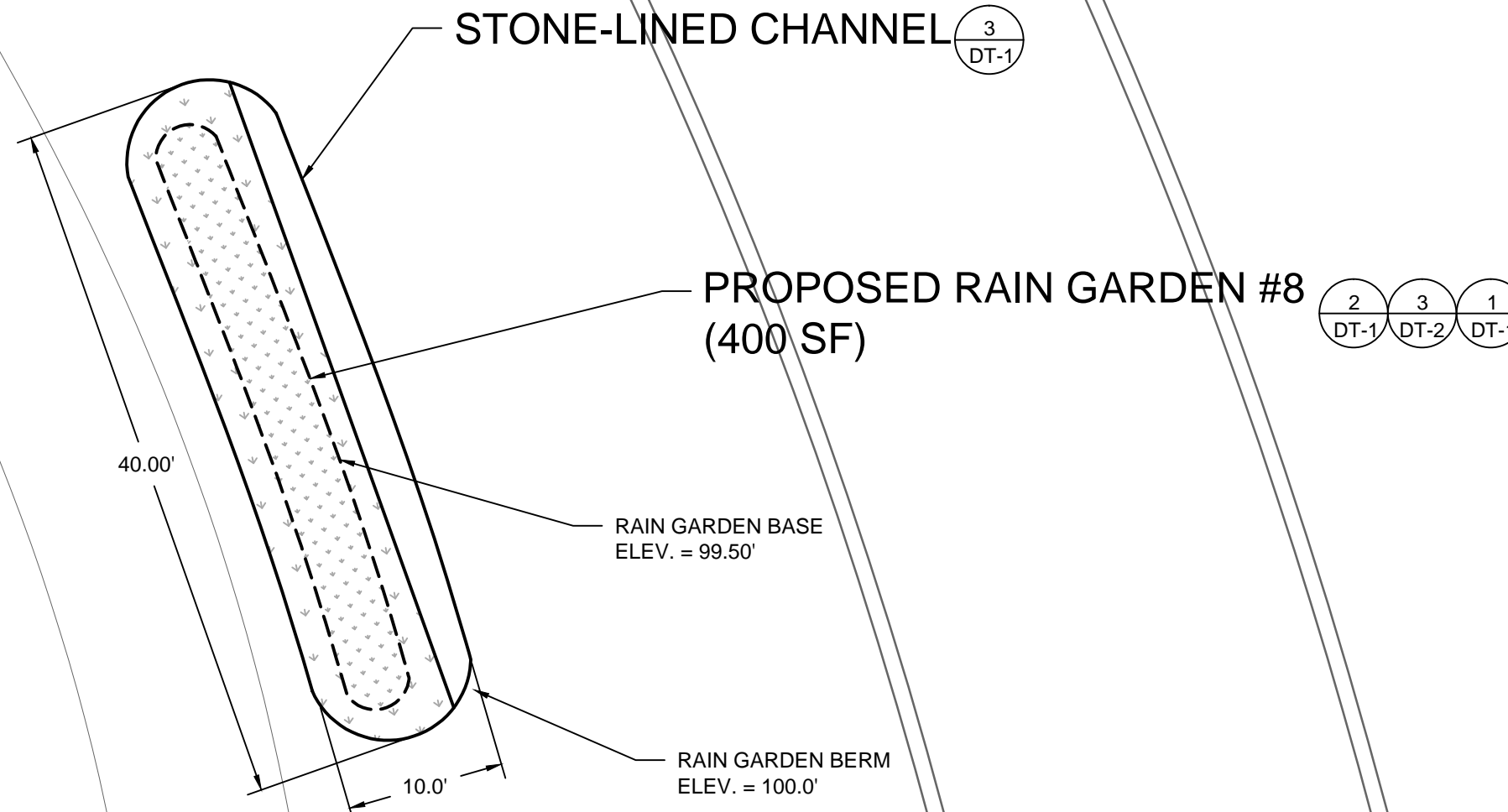
As-built Design Plan

- PLAN NOTES:**
1. CONTRACTOR SHALL SCHEDULE MEETING WITH ENGINEER AND PROPERTY OWNER PRIOR TO MOBILIZATION.
 2. CONTRACTOR SHALL VERIFY ALL INFORMATION INCLUDING ELEVATIONS AND UTILITIES PRIOR TO MOBILIZATION.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED APPROVALS FROM AUTHORITIES WITH JURISDICTION OVER PROPOSED WORK.
 4. CONTRACTOR SHALL COORDINATE AND CONFIRM PROJECT SCHEDULE AND WORKING HOURS WITH ENGINEER AND PROPERTY OWNER AND PROCEED IN ACCORDANCE WITH LOCAL REQUIREMENTS.
 5. CONTRACTOR SHALL COORDINATE UTILITY MARK OUT PRIOR TO MOBILIZATION.
 6. CONTRACTOR SHALL DEMO AND REMOVE ALL EXISTING ASPHALT PAVING AS SHOWN ON PLAN.
 7. CONTRACTOR SHALL HAUL REMOVED DEBRIS OFF SITE UNLESS OTHERWISE NOTED BY PROPERTY OWNER.

LEGEND:

- EXISTING TREELINE
- EXISTING CENTERLINE
- ▭ EXISTING BUILDING
- EDGE OF PAVEMENT
- LIMIT OF WORK

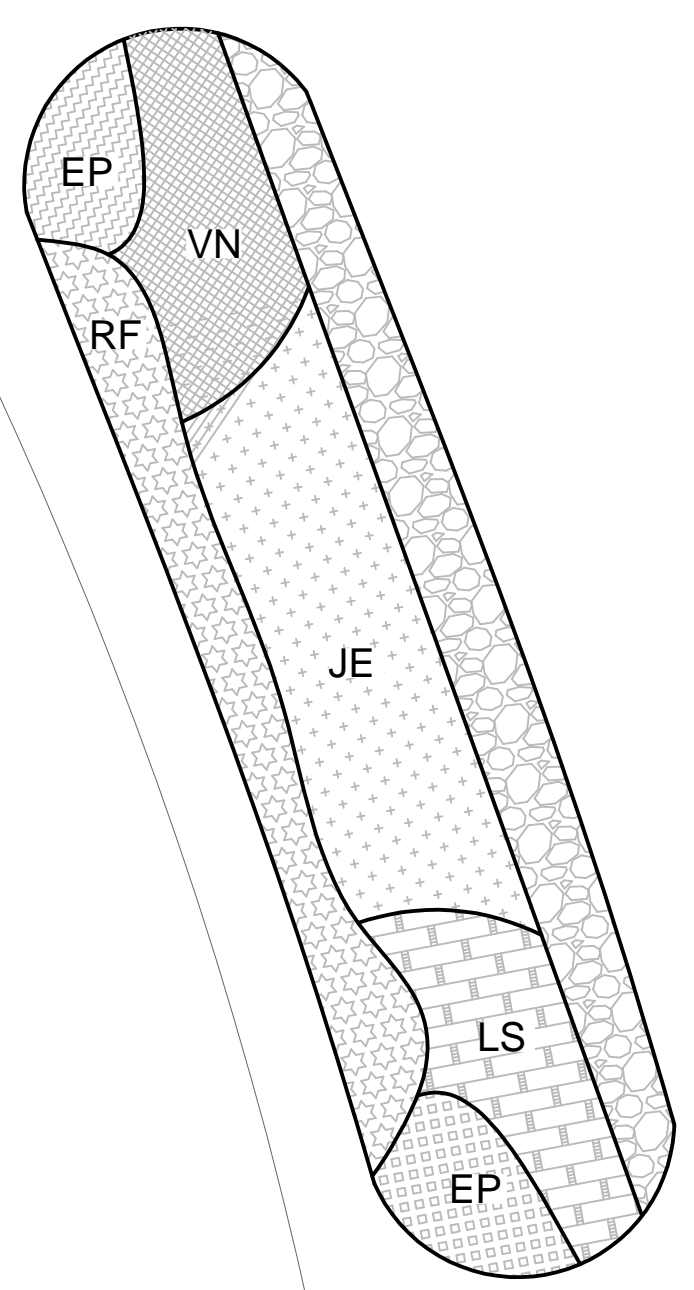
CHRISTOPHER C. OBROPTA, Ph.D., P.E.
 PROFESSIONAL ENGINEER - NJ LICENSE # 37532
 DATE 08/17/15
 APPROVED CCO
 CHECKED HWG
 DRAWN ACC



SITE PLAN

VAILSBURG PARK WILDFLOWER MEADOWS
NEWARK PHASE II 319(H)
 112 S MUNN AVENUE, NEWARK
 ESSEX COUNTY, NJ
PROPOSED SITE PLAN #3

REVISIONS	DATE	DESCRIPTION
No.		

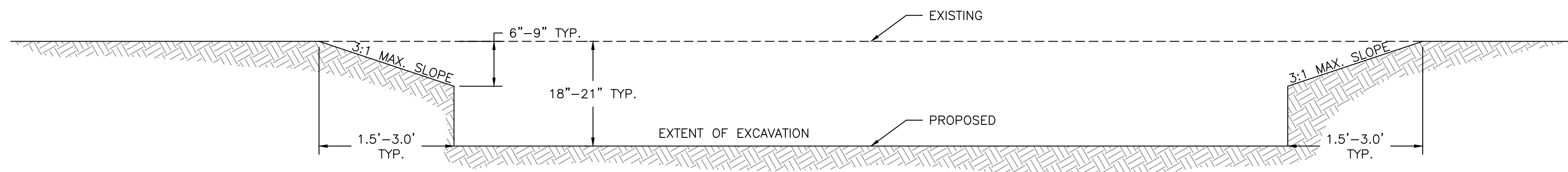


PLANT LIST		
QUANTITY	SIZE	PLANT SPECIES LIST
		Perennials
50	1" PLUG	EP Echinacea purpurea
100	1" PLUG	JE Juncus effusus
50	1" PLUG	LS Lobelia siphilitica
100	1" PLUG	RF Rudbeckia fulgida
50	1" PLUG	VN Veronia novaboracensis

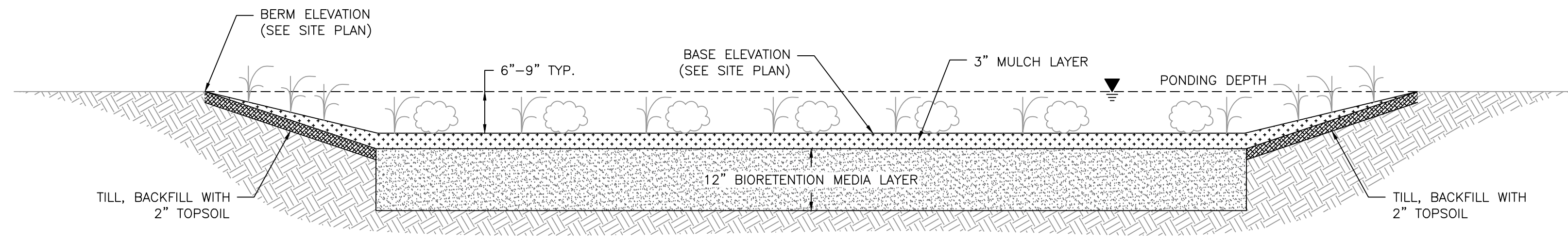
PLANTING PLAN



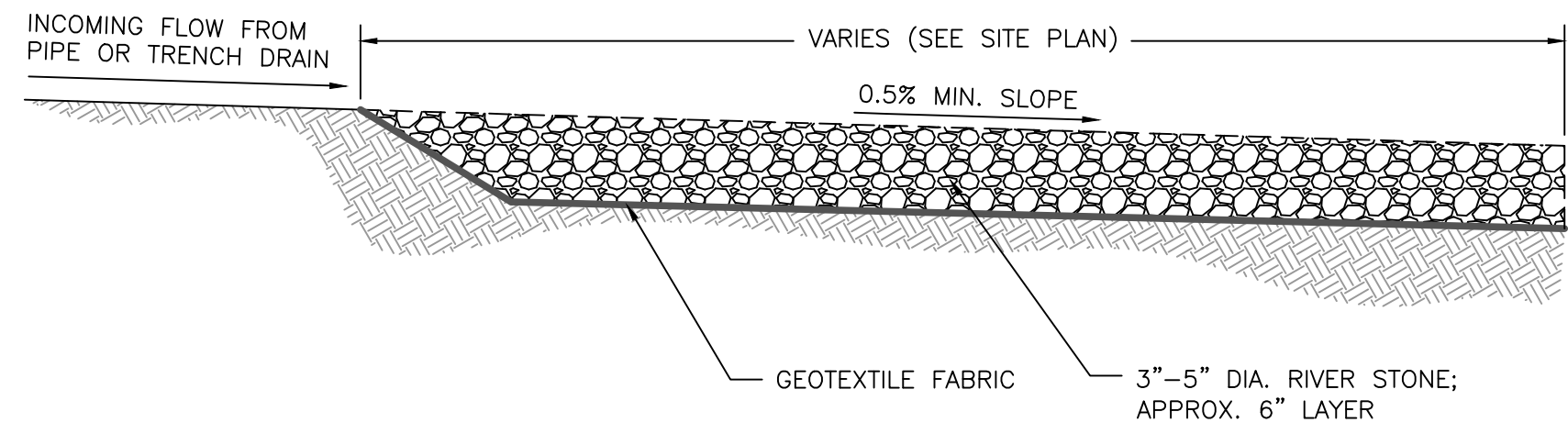
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P-4
 TOTAL # OF SHEETS



1 RAIN GARDEN EXCAVATION SECTION
DT-1 N.T.S.



2 RAIN GARDEN CROSS-SECTION
DT-1 N.T.S.



3 STONE-LINED CHANNEL
DT-1 N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO EXCAVATION INCLUDING ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED ON THESE DRAWINGS AND THE SPECIFICATIONS OR IF, IN THE CONTRACTOR'S OPINION, SAID CONDITIONS CONFLICT WITH THE DESIGNS SHOWN HEREON.
3. THE ENGINEER SHALL INSPECT ALL PLANTING BED AREAS BEFORE MULCHING TO INSURE THAT ADEQUATE DRAINAGE EXISTS. IF ANY AREAS TO BE MULCHED SHOW EVIDENCE OF POOR DRAINAGE, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION.
4. THE CONTRACTOR SHALL AVOID DISTURBING ALL EXISTING TREES. ANY DISTURBANCE TO TREES OR TREE ROOTS MUST BE COORDINATED WITH THE PROPERTY OWNER.
5. DIMENSIONS AND SHAPE WILL VARY, REFER TO SITE PLAN.
6. RIVER STONE PROTECTION DIMENSIONS ARE TYPICAL AND MAY VARY PER SITE. CONSULT THE ENGINEER AND SITE PLAN FOR DIMENSIONS ON A PER SITE BASIS.
7. RIVER STONE PROTECTION SHALL SLOPE TO RAIN GARDEN BASE.
8. REFER TO SITE PLAN TO DETERMINE OUTLET TYPE (ROCK-LINED OVERFLOW OR DRAINTech RISER).
9. REFER TO SITE PLAN FOR ALL ELEVATIONS AND INVERTS.
10. THE CONTRACTOR SHALL EXCAVATE 12" LOWER THAN THE BASE ELEVATION SHOWN ON THE SITE PLANS. THE SLOPES OF THE RAIN GARDEN SHALL BE AT A 2:1 MINIMUM.
11. THE SUBGRADE OF THE RAIN GARDEN SHALL BE LEVEL TO ENSURE PROPER DRAINAGE. CONTRACTOR SHALL OBTAIN ENGINEER APPROVAL PRIOR TO BACKFILLING WITH 12" OF BIORETENTION MEDIA.
12. THE CONTRACTOR SHALL INSTALL OVERFLOW IF SPECIFIED IN SITE PLANS PRIOR TO BACKFILLING WITH BIORETENTION MEDIA.
13. THE BIORETENTION LAYER SHALL BE LEVEL TO ENSURE PROPER DRAINAGE. CONTRACTOR SHALL OBTAIN ENGINEER APPROVAL PRIOR TO SPREADING MULCH AND PLANTING.
14. INLET AND OUTLET PROTECTION SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC.
15. INLETS AND OUTLETS SHALL NOT INHIBIT THE FLOW OF WATER FROM THE STREET. THE RIVER STONE SHALL BE PLACED BELOW THE BOTTOM OF THE PIPE.
16. THE CONTRACTOR SHALL TILL THE BERM SECTION AND BACKFILL WITH TOPSOIL.
17. ALL DISTURBED AREAS EXCLUSIVE OF RAIN GARDEN AND SLOPED BERM SHALL BE RESTORED TO ORIGINAL CONDITIONS BY CONTRACTOR.
18. THE CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH THE PROJECT ENGINEER PRIOR TO ANY WORK ON SITE.

SPECIFICATIONS:

1. MAX COVER OVER TOP OF PIPE IS 4 FT. CONTACT ADS IF OTHERWISE GREATER.
2. THE APPROVAL OF MATERIALS AND MIXING OF SAND, COMPOST, AND SOIL SHALL BE DONE UNDER THE SUPERVISION OF THE PROJECT ENGINEER/LANDSCAPE ARCHITECT. BIORETENTION MEDIA SHALL CONSIST OF 70% SAND AND 30% COMPOST MIXTURE.
3. SAND SHALL AT THE MINIMUM CONFORM TO THE SIEVE ANALYSIS FOR CONCRETE AGGREGATE SAND (ASTM C-33). USGA TEE/GREEN SIEVE GRADATION MIX IS PREFERABLE WHERE AVAILABLE.
4. UNDERLYING SOILS SHALL BE TILLED/SCARIFIED PRIOR TO SPREADING/MIXING OF BIORETENTION MEDIA.
5. ALL BIORETENTION MEDIA SHALL BE PLACED FROM THE SIDES OF THE FACILITIES, AND IN NO EVENT SHALL ANY TRACKED OR WHEELED EQUIPMENT BE PERMITTED TO CROSS THE RAIN GARDEN.
6. RAIN GARDEN SHALL BE CONSTRUCTED TO DIMENSIONS INDICATED ON THE SITE PLAN.
7. 3-5 INCH DELAWARE RIVER STONE SHALL BE USED FOR STONE CHANNEL AND INLET/OUTLET PROTECTION.
8. NON-DYED, TRIPLE-SHREDED HARDWOOD MULCH SHALL BE USED.
9. PLANTING OF RAIN GARDEN AND SLOPED BERM SHALL BE COMPLETED AS INDICATED ON THE SITE PLAN.
10. THE CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.

CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532

Christopher C. Obropta
DATE 08/17/15

CHECKED HWG
APPROVED CCO
DATE 08/17/15

DRAWN ACC

REVISIONS	DESCRIPTION
No.	DATE

VAILSBURG PARK WILDFLOWER MEADOWS
NEWARK PHASE II 319(H)
112 S MUNN AVENUE, NEWARK
ESSEX COUNTY, NJ

RAIN GARDEN DETAILS



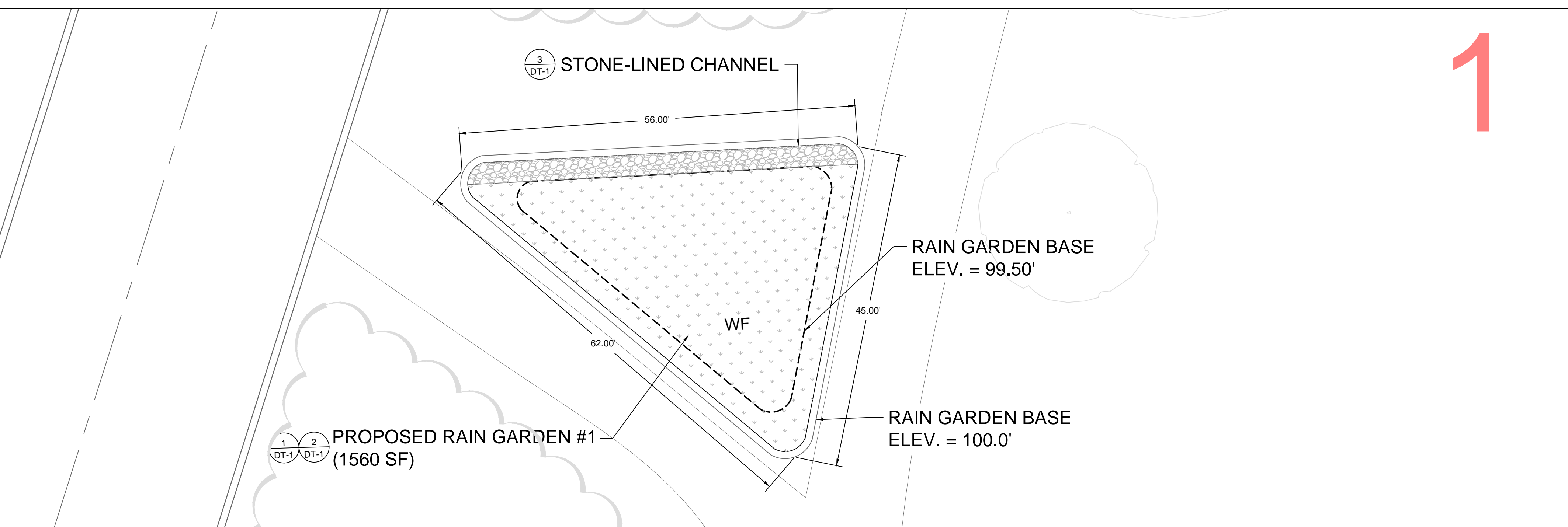
Vailsburg Park
Green Infrastructure Information Sheet

112 S Munn Avenue, Newark, NJ

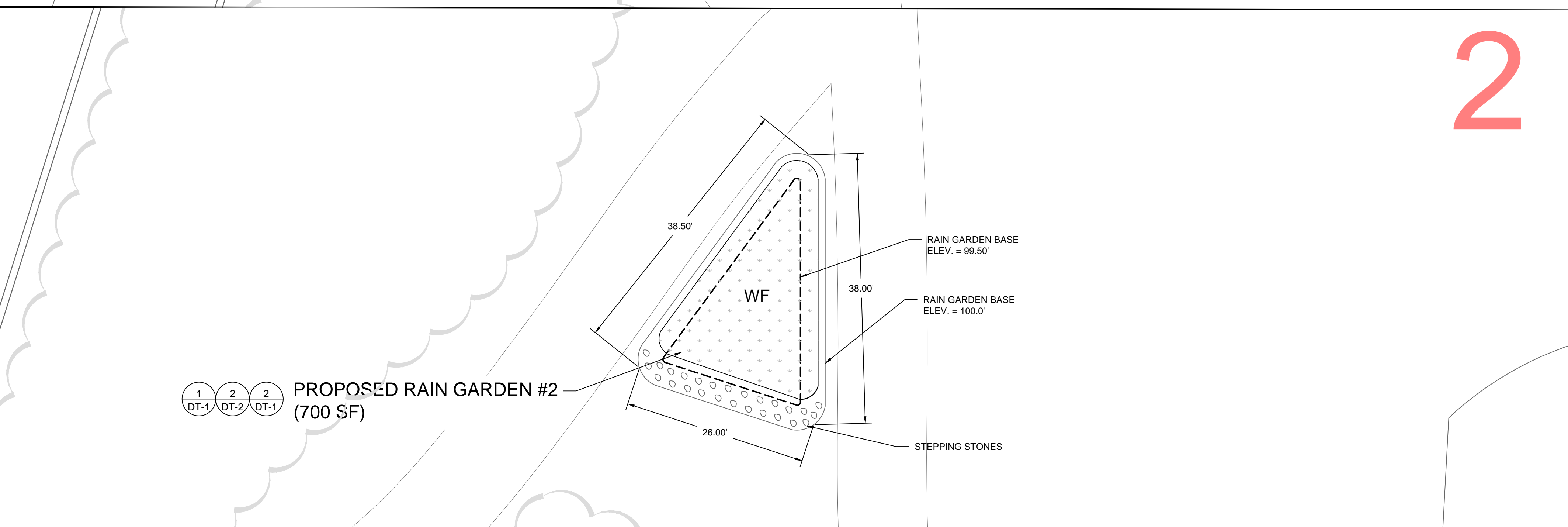
Vailsburg Park

Appendix D:

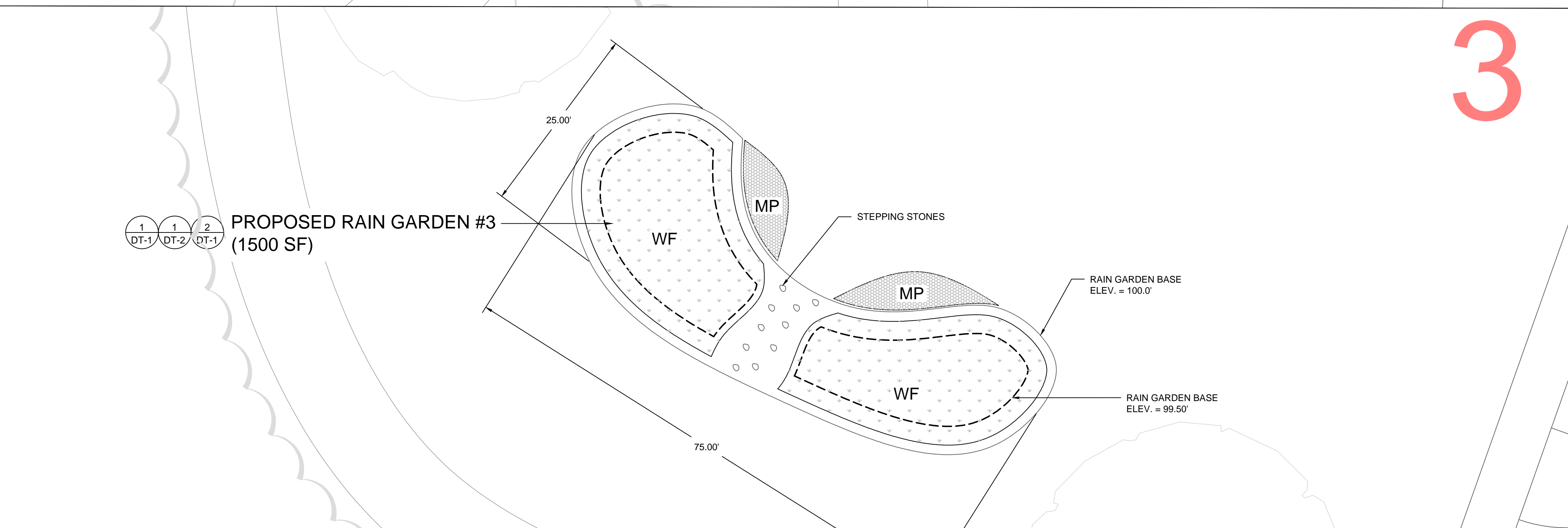
Design Plan



1



2



3

- PLAN NOTES:**
1. CONTRACTOR SHALL SCHEDULE MEETING WITH ENGINEER AND PROPERTY OWNER PRIOR TO MOBILIZATION AND CONSTRUCTION.
 2. CONTRACTOR SHALL VERIFY ALL INFORMATION INCLUDING ELEVATIONS AND UTILITIES PRIOR TO CONSTRUCTION.
 3. CONTRACTOR SHALL VERIFY ALL PROPOSED MATERIALS WITH PROPERTY OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
 4. CONTRACTOR SHALL STAKE OUT LOCATIONS OF PROPOSED RAIN GARDENS, STONE CHANNELS, AND TRENCH DRAIN AND OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLATION.
 5. CONTRACTOR SHALL INSTALL CONVENTIONAL ASPHALT AS SHOWN ON PLAN. THE ASPHALT AND CONCRETE MIXING PLANT, HAULING AND PLACING EQUIPMENT, AND INSTALLATION SHALL BE IN CONFORMANCE WITH NAPA IS 131 AND THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 OR LATEST VERSION.
 6. CONTRACTOR SHALL GRADE SITE AS SHOWN ON PLAN. CUT SOIL SHALL BE REUSED ON SITE FOR FILL LOCATIONS.
 7. CONTRACTOR SHALL HAUL EXCESS SOIL OFF SITE UNLESS OTHERWISE NOTED BY PROPERTY OWNER.
 8. ALL FINISHED ELEVATIONS SHALL MATCH ADJOINING PAVEMENT ENSURING SMOOTH TRANSITIONS AND NO TRIPPING HAZARDS
 9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITIONS.

NOTE 1: STONE SHALL BE COMPRISED OF 3"-5" DIAMETER CLEAN, WASHED RIVER STONE. ALL AREAS OF EROSION PROTECTION STONE SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC (GEOTEX 801 BY PROPEX OR APPROVED EQUIVALENT).

- LEGEND:**
- EXISTING TREELINE
 - EXISTING CENTERLINE
 - EXISTING BUILDING
 - EDGE OF PAVEMENT
 - LIMIT OF WORK

PLANT LIST

QUANTITY	SIZE	PLANT SPECIES LIST
MIX	MIX	Perennials WF Wildflower
6	GALLON	Shrubs MP <i>Myrica pensylvanica</i>

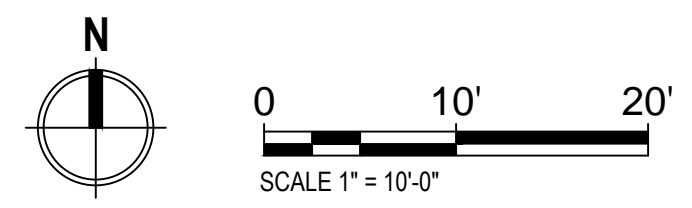
CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532
DATE 08/17/15

VAILSBURG PARK WILDFLOWER MEADOWS
NEWARK PHASE II 319(H)
112 S MUNN AVENUE, NEWARK
ESSEX COUNTY, NJ
PROPOSED SITE PLAN #1

RUTGERS
New Jersey Agricultural
Experiment Station

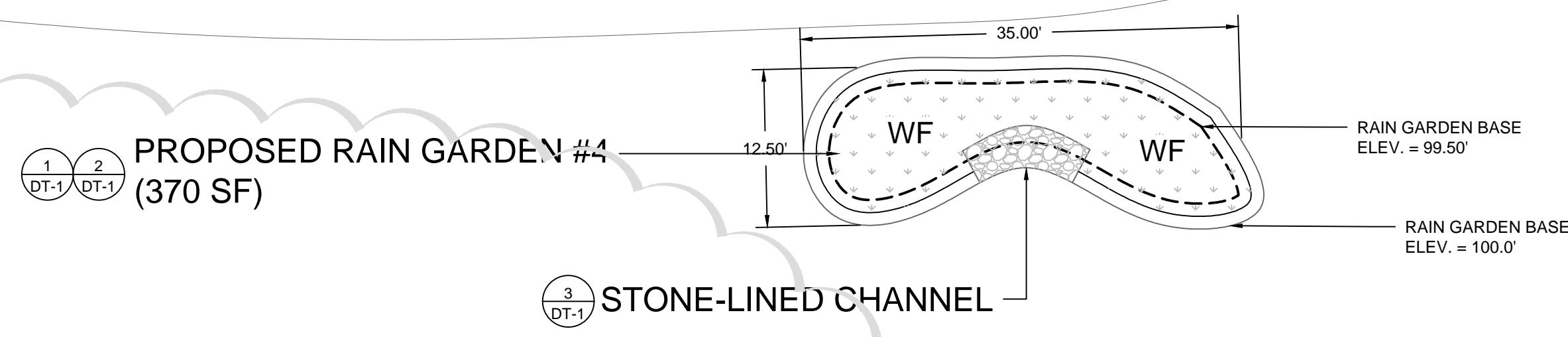
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TOTAL # OF SHEETS
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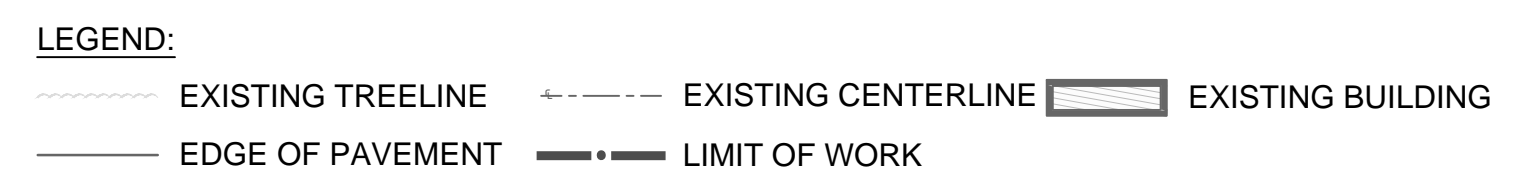


SITE PLAN

4



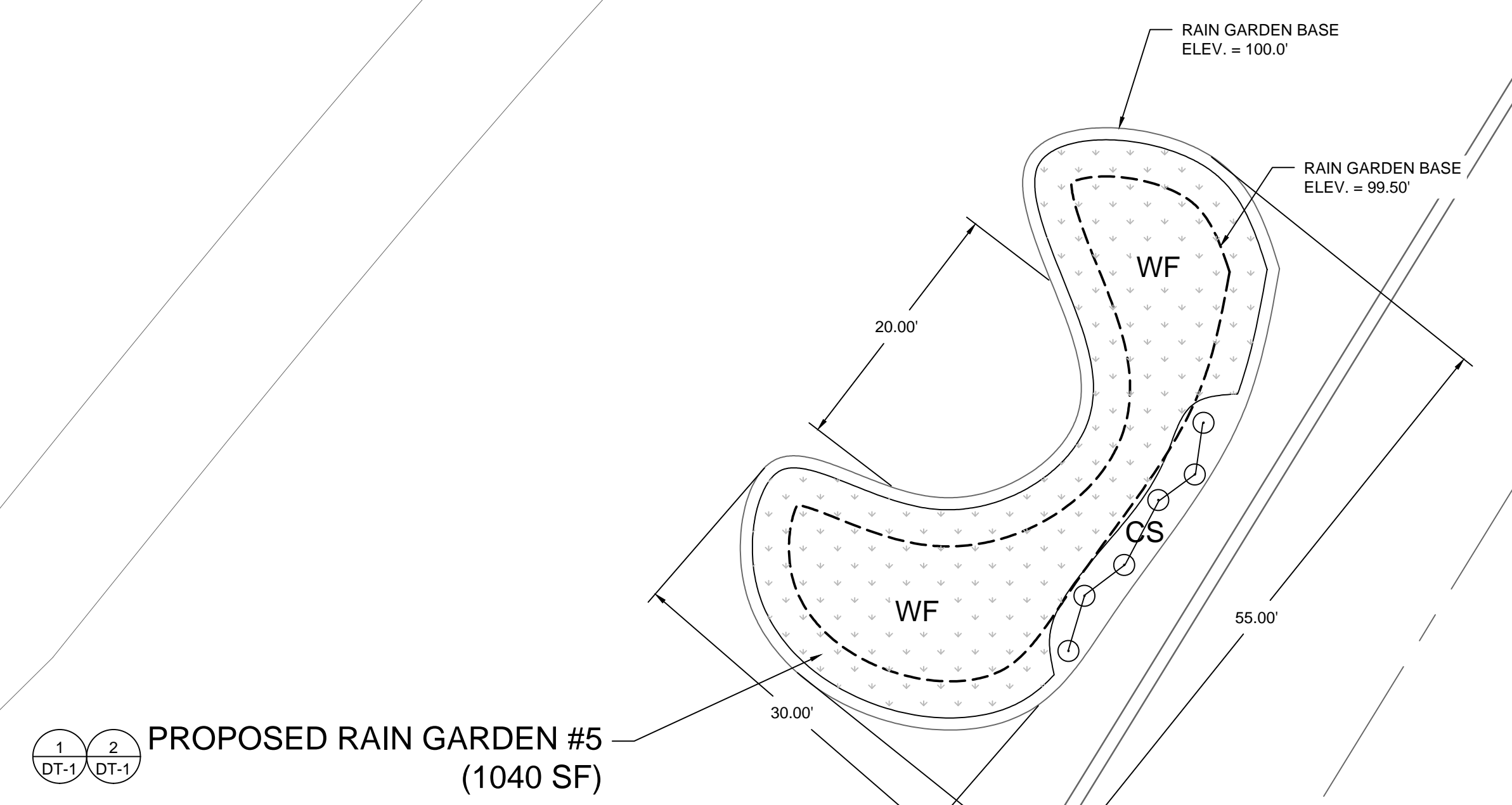
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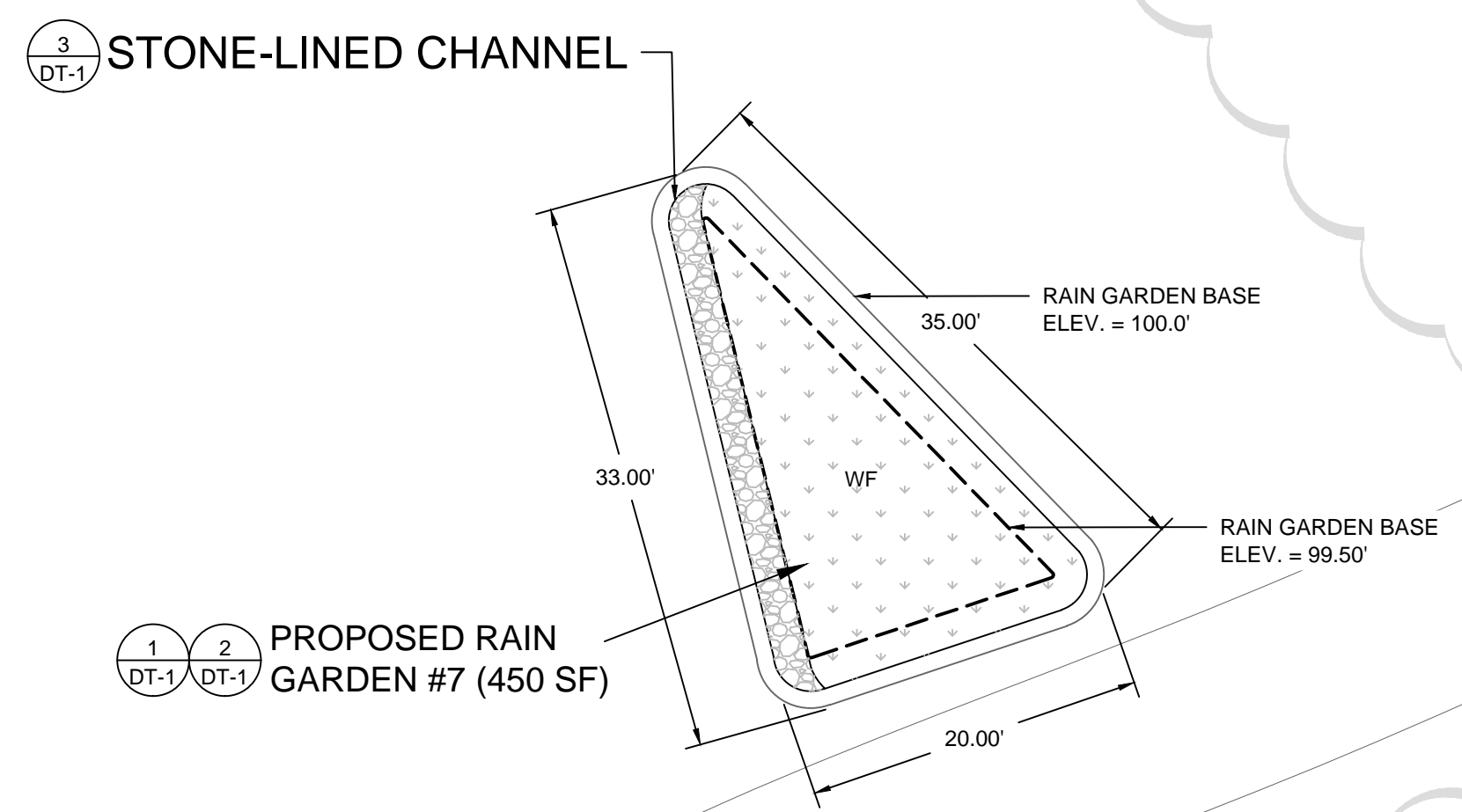
PLANT LIST

QUANTITY	SIZE	PLANT SPECIES LIST
MIX	MIX	Perennials WF <i>Wildflower</i>
6	GALLON	Shrubs MP <i>Cornus Sericea</i>

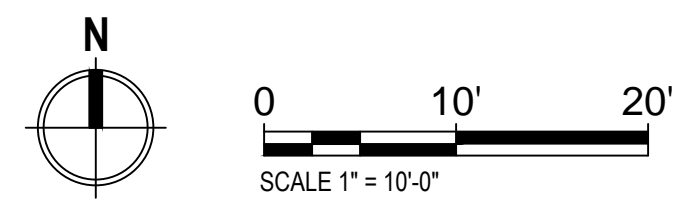
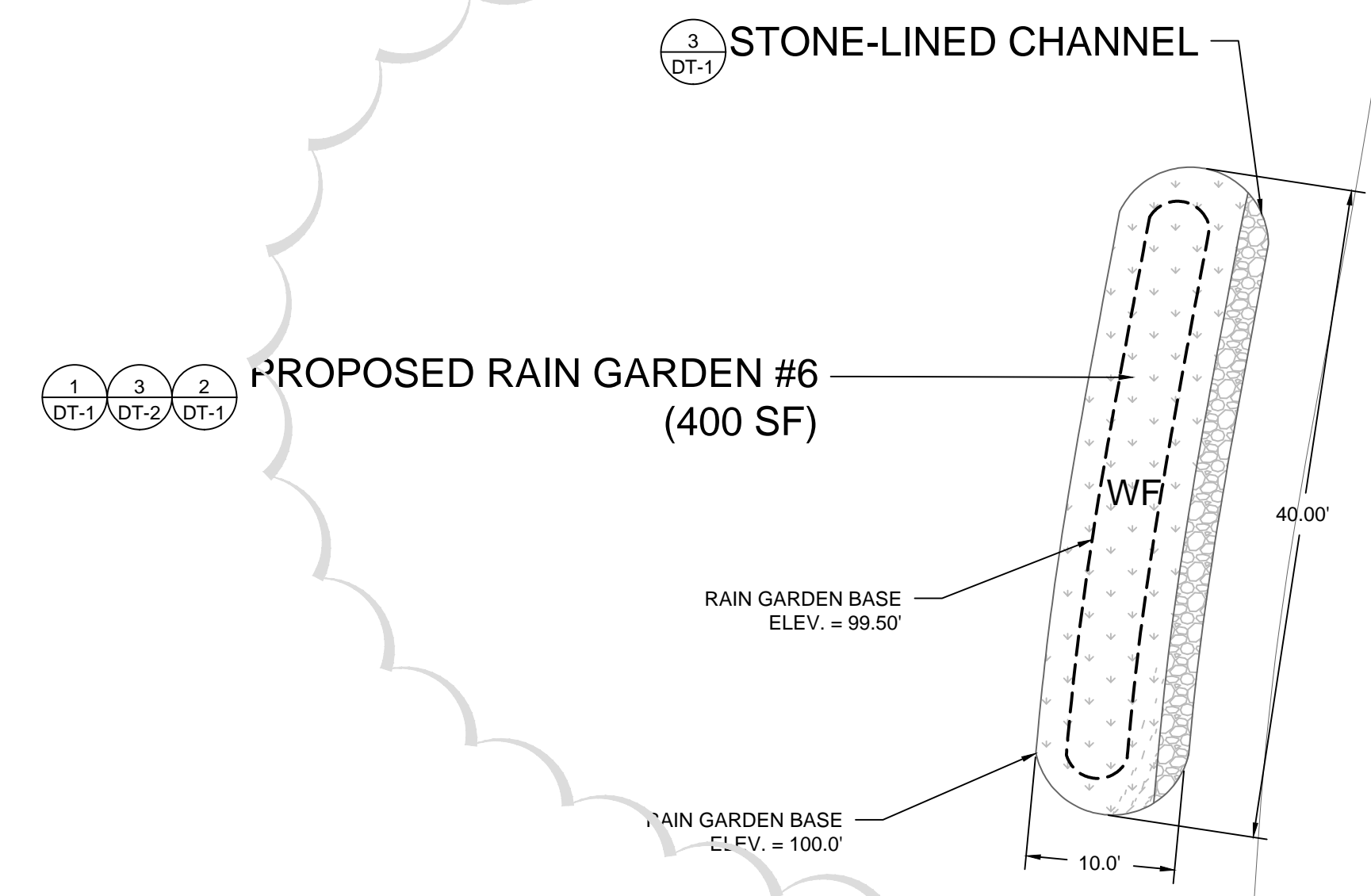
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7



6



SITE PLAN

CHRISTOPHER C. OBROPTA, Ph.D., P.E.
PROFESSIONAL ENGINEER - NJ LICENSE # 37532

DATE 08/17/15

APPROVED CCO

CHECKED HWG

DRAWN ACC

REVISIONS

No.	DATE	DESCRIPTION

VAILSBURG PARK WILDFLOWER MEADOWS
NEWARK PHASE II 319(H)
112 S MUNN AVENUE, NEWARK
ESSEX COUNTY, NJ

PROPOSED SITE PLAN #2

RUTGERS
New Jersey Agricultural
Experiment Station

SHEET #
P-3

TOTAL # OF SHEETS
5

112 S Munn Avenue, Newark, NJ

Vailsburg Park

Appendix E:

Project Completed – Photograph of green infrastructure
practice

Project Completed June 17, 2016

