METZGER HALL

RUTGERS

MARK HOOPES DESIGN
RAIN GARDENS
PLANTING PLANS
WATER MANAGEMENT

93 LIPMAN DRIVE
NEW BRUNSWICK, NJ

LANDSCAPE ARCHITECT
NJ LICENSE NO XXXXXXXXXXXX

DATE: 12/05/2017

TRUE NORTH

PROJECT NORTH

DEPT. OF
LANDSCAPE ARCHITECTURE
NEW BRUNSWICK, NJ

PROJECT TITLE

METZGER HALL
RAIN GARDEN

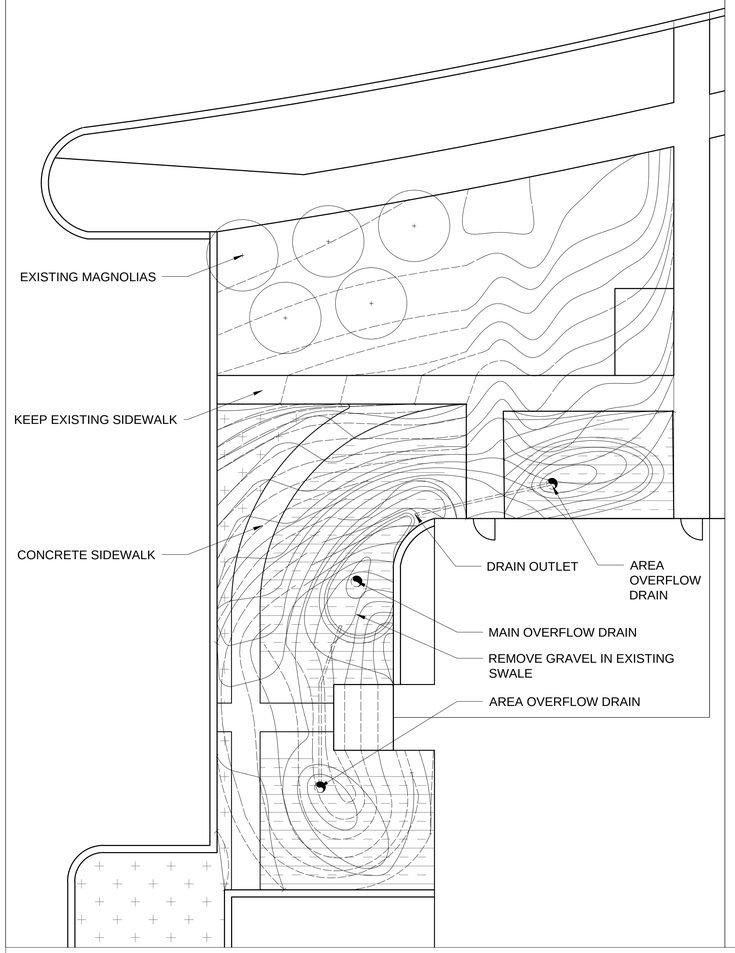
DRAWING TITLE

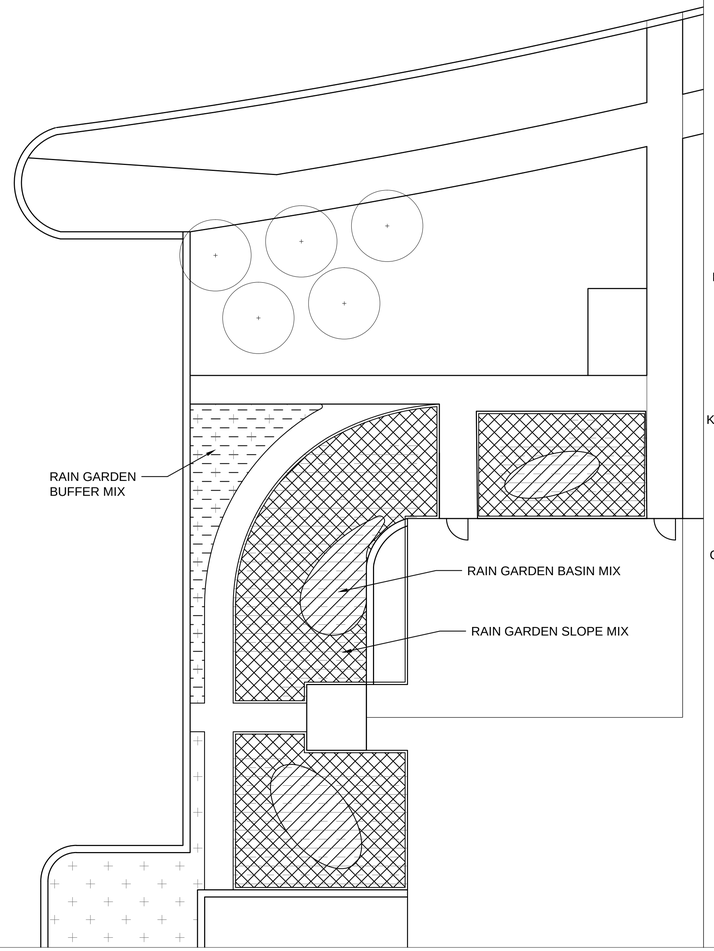
LANDSCAPE
SITE PLAN

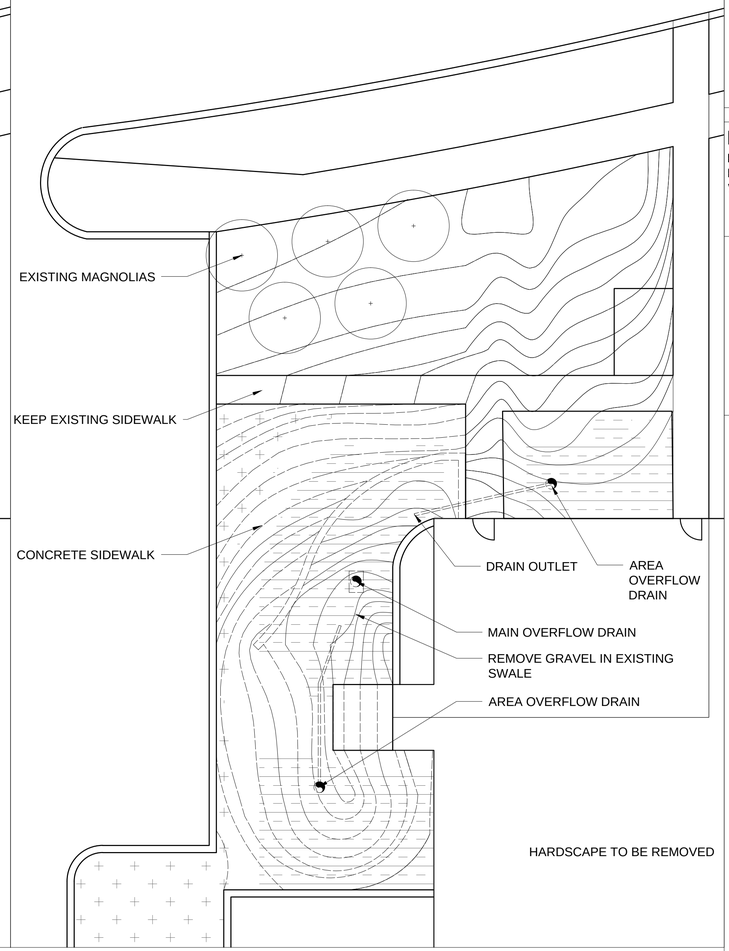
BLDG NO. XXXX	DSR NO. XXXX	DRAWN BY MH
SCALE AS NOTED	DATE 12/05/2017	CHECKED BY MH

DRAWING NUMBER

COVER







3 GRADING PLAN
1"=10'

PROJECT DESCRIPTION

A RAIN GARDEN WILL BE CONSTRUCTED AT THIS LOCATION TO HELP FURTHER THE GOALS OF RUTGERS UNIVERSITY, TO HELP MANAGE STORM WATER ON THE SITE, AND TO ENHANCE THE EXPERIENCE OF SITE USERS. THIS PROJECT WILL BRIDGE THE GAP BETWEEN THE LARGE-SCALE CAMPUS MASTER PLAN , LOCAL WATER MANAGEMENT ISSUES, THE EXPERIENCES OF THE STUDENT, AND THE MAINTENANCE CAPABILITIES OF RUTGERS STAFF. TO DO THIS THE SPACE MUST BE FUNCTIONAL AND BEAUTIFUL.

THE RUTGERS MASTER PLAN CALLS FOR BEST MANAGEMENT PRACTICES SUCH AS MANAGING STORM WATER ON SITE, PLANTING OF NATIVE PLANT COMMUNITIES, AND USE OF MORE EFFICIENT OR RECYCLED MATERIALS. THIS OPEN SPACE SHOULD EMBODY THESE PRINCIPLES THROUGH THE INCORPORATION OF LOW MAINTENANCE NATIVE PLANTINGS, A FUNCTIONAL SITE PLAN AND USER EXPERIENCE, AND PLANTINGS THAT ARE AESTHETICALLY PLEASING.

GENERAL NOTES

1. VERIFY LOCATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATION. REPAIR ANY DAMAGE TO EXISTING UTILITIES, PIPES, OR RELATED FACILITIES AT CONTRACTOR'S EXPENSE AND IN A MANNER APPROVED BY LANDSCAPE ARCHITECT.
2. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN THE LAYOUT OF WORK PRIOR TO EXECUTION OF ANY WORK.
3. LANDSCAPE ARCHITECT SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY SITE INSPECTIONS.
4. FOR HORIZONTAL LAYOUT, REFER TO LAYOUT PLAN. FOR VERTICAL LAYOUT, REFER TO GRADING PLAN.
5. THERE SHALL BE REQUIRED OBSERVATIONS BY LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE PRIOR TO EXECUTION OF ANY WORK, INCLUDING AFTER STAKING, PRIOR TO POURING CONCRETE AND PRIOR TO ROUGH GRADING.
6. ALL STORMWATER FROM THE SITE AND FLOWING ONTO THE SITE SHOULD FLOW INTO THE PROPOSED DETENTION BASIN, BIO-SWALES, AND RAIN GARDENS.
7. ANY BUILDINGS WITHIN 10 FEET OF A RAIN GARDEN MUST HAVE WATER PROOFING APPLIED TO THE FOUNDATION.

REQUIRED REVIEWS

THERE SHALL BE REQUIRED REVIEWS BY LANDSCAPE ARCHITECT OR OWNER'S AGENT AT THE FOLLOWING STAGES OF CONSTRUCTION. REQUEST REVIEWS 72 HOURS IN ADVANCE.

1. PROJECT STARTUP & BUILDING/UTILITY PROTECTION FENCING
2. LANDSCAPE EXCAVATION TO SUBGRADE AND PRIOR TO SOIL PLACEMENT & SOIL AMENDING
3. ALL CONCRETE WORK
4. PAVER LAYOUT
5. AT COMPLETION OF SOIL PREPARATIONS AND FINISH PLANT BED GRADES
6. PLANT LAYOUT, INCLUDING TREE PLACEMENT, GROUNDCOVER, PERENNIAL LAYOUT

CONCRETE PREP

1. ROCK SUBGRADE MUST BE PROPERLY WET DOWN PRIOR TO CONCRETE POUR.
2. IT IS RECOMMENDED THAT WET SANDING CONCRETE POURS OCCUR LATER IN THE EVENING AND ACID WASHING/ SEALING THE CONCRETE AS SOON AS POSSIBLE AFTERWARDS TO GREATLY REDUCE THE VULNERABILITY OF THE CONCRETE AS IT CURES OUT IN THE WARM WEATHER.
3. CONCRETE IS A RAW NATURAL MATERIAL AND IT IS IMPOSSIBLE TO DETERMINE WHERE THE CRACKS WILL OCCUR. BY POURING OVER A PROPERLY PREPARED SUBGRADE, REINFORCING WITH REBAR, POURING 3500 PSI CONCRETE AND SCORING CONCRETE IN SQUARE SECTIONS CHANCES OF RANDOM CRACKING ARE REDUCED. HOWEVER, IT WILL STILL CRACK WHERE IT NATURALLY WANTS TO.

BUILDING AND UTILITY PROTECTION NOTES

1. CONTRACTOR TO PROTECT AND PRESERVE ALL BUILDINGS AND UTILITIES FROM HARM BY THE WORK OR INDIVIDUALS OR EQUIPMENT INVOLVED IN EXECUTING THE WORK.
2. PROVIDE PROTECTIVE FENCING AROUND ALL UTILITIES AND WHERE EQUIPMENT MAY ENCOUNTER BUILDINGS. ALL WORK WITHIN 1 FOOT OF BUILDINGS AND UTILITIES MUST BE DONE BY HAND.
3. LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR DAMAGE DONE TO BUILDINGS OR UTILITIES.

SYMBOLS & ABBREVIATION IDENTIFICATION

	DRAIN PIPE	T.O.W.	TOP OF WALL
	EXISTING TOPOGRAPHY	B.O.W.	BOTTOM OF WALL
100'	PROPOSED TOPOGRAPHY	T.O.C.	TOP OF CURB
		B.O.C.	BOTTOM OF CURB
		F.F.E.	FINISHED FLOOR ELEVATION

+ PROPOSED TREE

PROPOSED SHRUB

2 SOILS PLAN
1"=10'

SITE CONTEXT

METZGER HALL IS A DORMITORY ON THE RUTGERS BUSCH CAMPUS IN PISCATAWAY, NJ. THE PART OF THE SITE INCLUDED IN THE PROJECT CURRENTLY USES HARDSCAPE FEATURES SUCH AS DRAINS, GRAVEL, RIVER ROCK, AND WALLS TO MANAGE THE STORM WATER. THERE IS A DESIRE PATH CUTTING THROUGH THE SITE, AND MOST OF THE SOIL IS HIGHLY COMPACTED.

THE SITE IS BORDERED ON THREE SIDES BY IMPERMEABLE SURFACES: A ROAD, A PARKING LOT, AND A BUILDING. WHILE THESE SURFACES DO NOT INFILTRATE WATER, MOST OF THESE ALSO DO NOT SHED WATER ONTO THE SITE. ONLY A SMALL PORTION OF THE BUILDING ROOF AND THE NEARBY SIDEWALKS DRAIN ONTO THIS SITE. BECAUSE THIS SITE IS SO SMALL, THIS GIVES THE OPPORTUNITY TO MANAGE ALL THE WATER DRAINING ONTO IT WITHOUT THE SYSTEM BECOMING OVERWHELMED.

THE SITE IS ON THE NORTH SIDE OF THE BUILDING, CAUSING THE SITE TO BE QUITE SHADY. THIS CREATES THE ADDITIONAL CHALLENGE OF FINDING PLANTS THAT ARE TOLERANT OF BOTH RAIN GARDEN CONDITIONS AND SHADY SITES. LUCKILY THE BUSCH CAMPUS RAIN GARDEN IS NEARBY. WHILE LARGER, THAT GARDEN HAS SIMILAR CONDITIONS TO THIS SITE, ESPECIALLY IN REGARDS TO SUNLIGHT. BY OBSERVING WHAT PLANTS AND STRATEGIES ARE SUCCESSFUL THERE, I CAN HAVE A BETTER IDEA OF WHAT WILL BE SUCCESSFUL ON THIS SITE

1 EXISTING CONDITIONS AND REMOVALS
1"=10'

RAIN GARDEN MIX: ERNMX-180
SOURCE: ERNST SEED
RATE: .5 LBS PER 1000 SF

MIX COMPOSITION
31.7% SCHIZACHYRIUM SCOPARIUM
20.0% ELYMUS RIPARIUS
10.0% CAREX VULPINOIDEA
10.0% PANICUM RIGIDULUM
4.0% ECHINACEA PURPUREA
3.0% COREOPSIS LANCEOLATA
3.0% RUDBECKIA HIRTA
2.0% AGROSTIS PERENNANS
2.0% CAREX SCOPARIA
2.0% CHAMAECRISTA FASCICULATA
2.0% EUPATORIUM COELESTINUM
2.0% LIATRIS SPICATA
1.0% ASCLEPIAS INCARNATA,
1.0% ASTER LAEVIS
1.0% ASTER NOVAE-ANGLIAE
1.0% JUNCUS EFFUSUS
1.0% JUNCUS TENUIS
1.0% PENSTEMON DIGITALIS
0.5% BAPTISIA AUSTRALIS
0.5% MONARDA FISTULOSA
0.5% RUDBECKIA FULGIDA VAR. FULGIDA
0.5% SENNA HEBECARPA
0.3% SOLIDAGO JUNCEA

PLANTING SCHEDULE		
BOTANICAL NAME	COMMON NAME	SIZE
CAREX TESTACEA 'PRAIRIE FIRE'	PRAIRIE FIRE SEDGE	#2
ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	BRILLIANTISSIMA RED CHOKEBERRY	#3 (2-3')
MYRICA PENSYLVANICA	BAYBERRY	#3 (15-18")

CREEPING RED FESCUE MIX:
FESRUB-01
SOURCE: ERNST SEED
RATE: 3 LBS PER 1000 SF

MIX COMPOSITION
100% FESTUCA RUBRA

RUTGERS

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0 5" 10" 20'
0 5' 1' 2'

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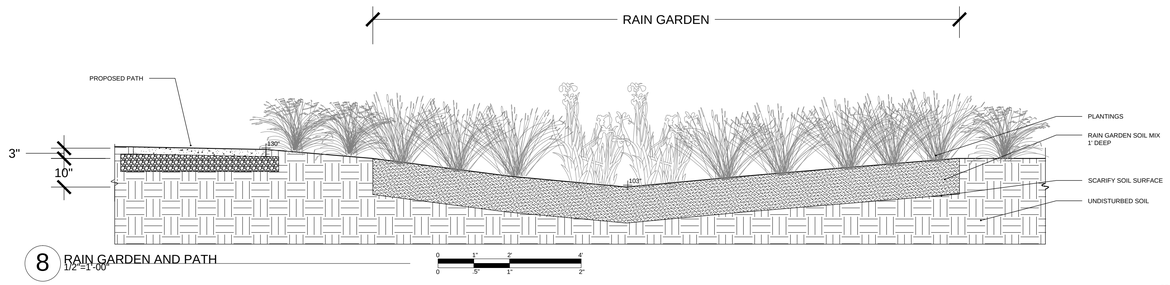
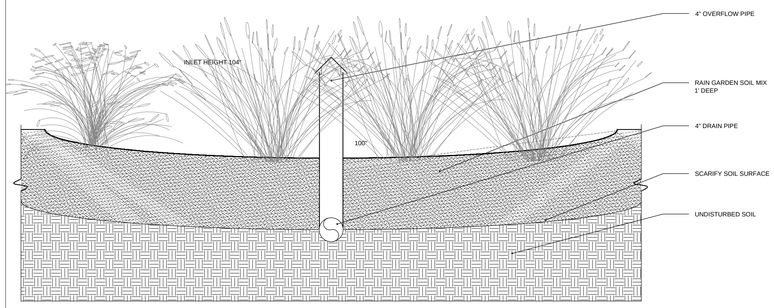
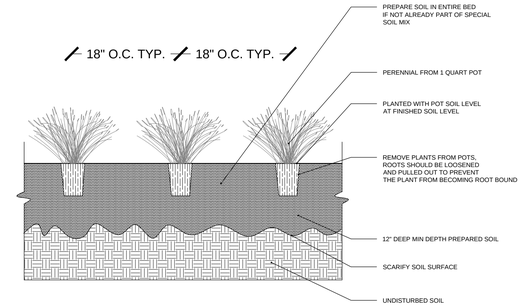
LA-001



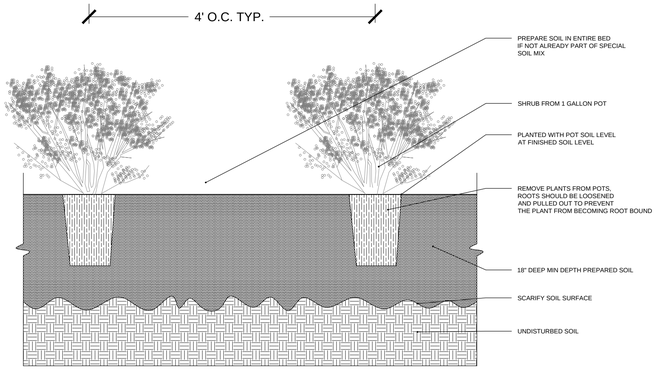
8 RAIN GARDEN AND PATH
1/2"=1'-00"



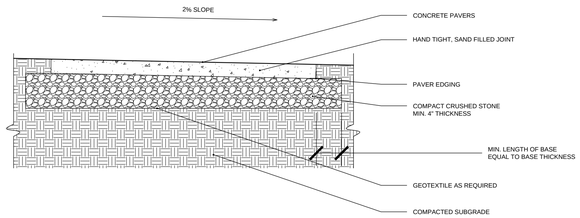
7 BIOSWALE
1"=1'-00"



4 TYPICAL PERENNIAL PLANTING
1"=1'-00"



6 TYPICALSHRUB PLANTING
1"=1'-00"

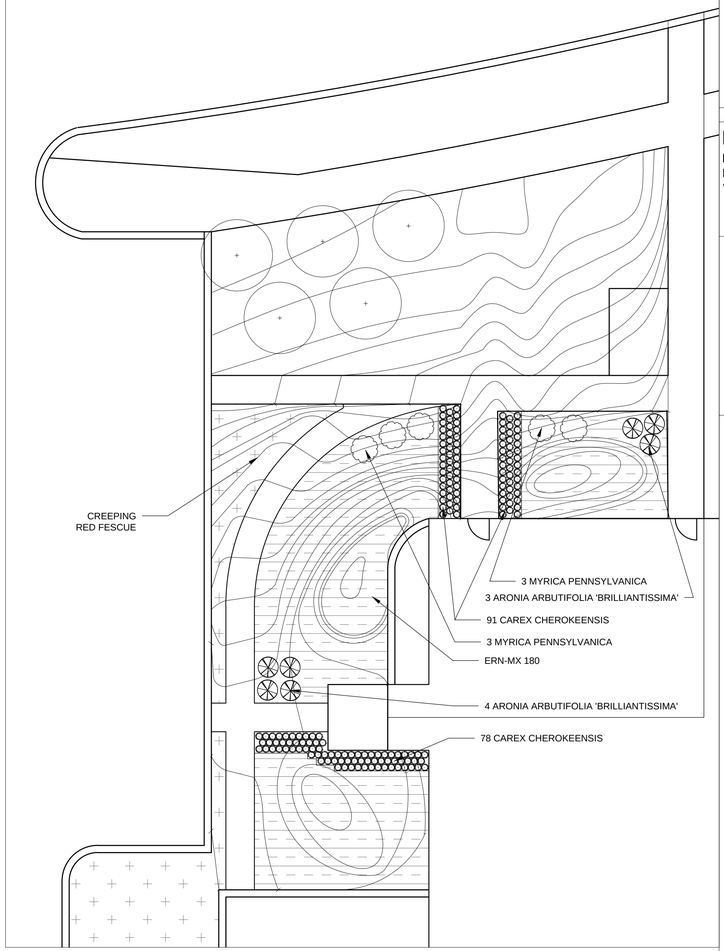


3 TYPICAL PATH SECTION
1"=1'-00"

NATIONAL STORMWATER CALCULATOR REPORT		
GARDEN	0%	30%
LAWN	62%	26%
IMPERVIOUS	38%	44%
AVERAGE ANNUAL RAINFALL	49.3 IN	49.3 IN
AVERAGE ANNUAL RUNOFF	16.85 IN	.53 IN
INFILTRATION	62%	93%
EVAPORATION	4%	6%
RUNOFF	34%	1%

5 STORMWATER CALCULATIONS

2 RAIN CATCHMENT AREA
NTS



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LA-002