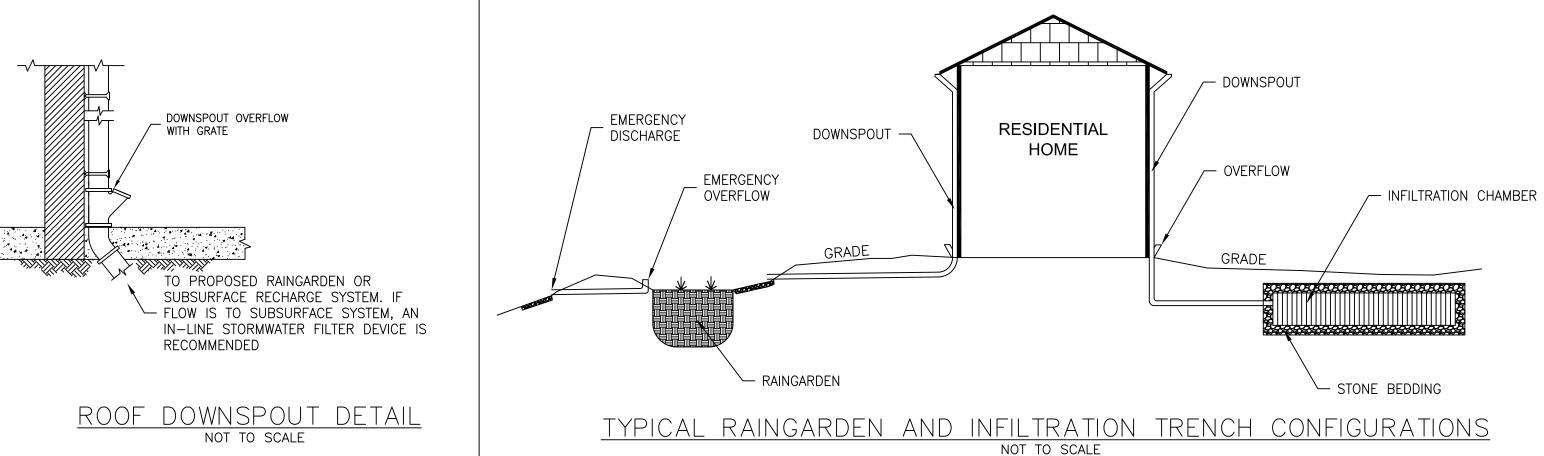
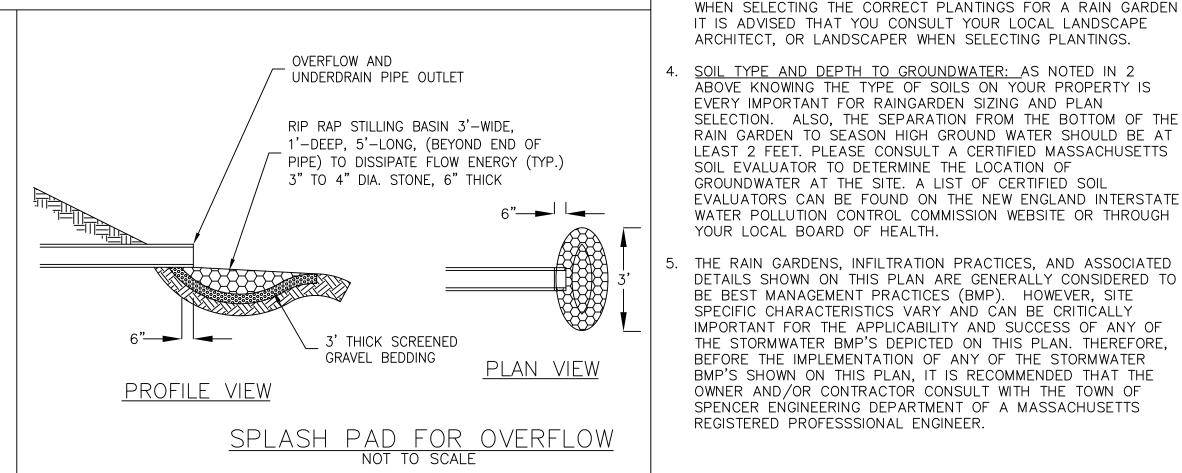


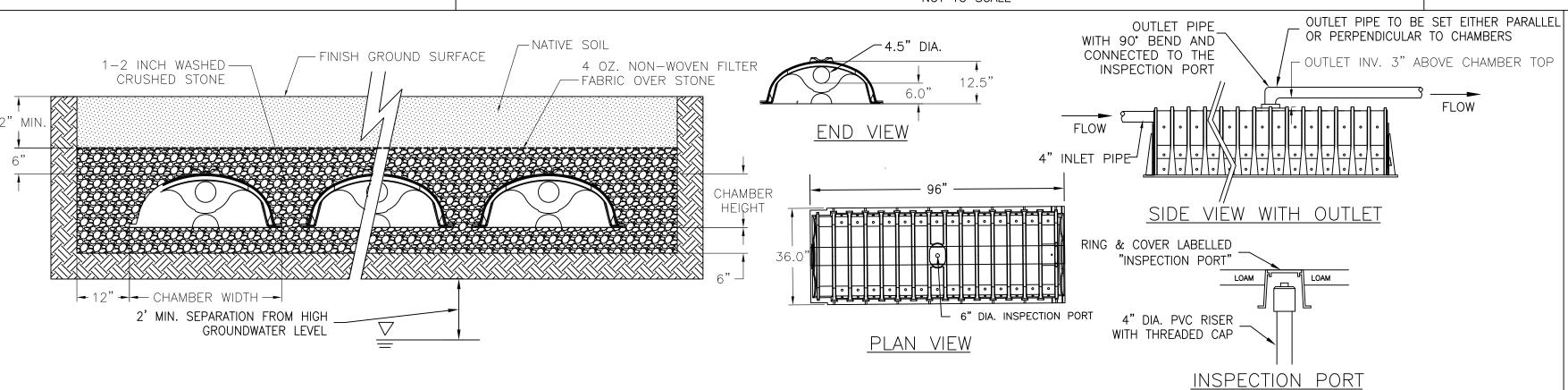
NOTES:

- 1. THE BIORETENTION SOIL MIX SHALL CONSIST OF A UNIFORM MIXTURE OF TWO PARTS (40% BY VOLUME) COARSE SAND (MASSDOT MATERIAL SPECIFICATION M1.04.0 TYPE A), TWO PARTS (40% BY VOLUME) TOPSOIL (MASSDOT SPECIFICATION M1.05.0 OR M1.06.1) AND ONE PART (20% BY VOLUME) HARDWOOD CHIPS.
- 2. THE LARGEST STONE SIZE SHALL BE 2" DIAMETER IN THE TOPSOIL.

- 3. 30 MIL PVC LINER PROTECTION LINER SUBGRADE SHALL BE FREE OF ROCKS, STONES, ANY ORGANICS, VEGETATION OR FOREIGN MATERIAL, STICKS, SHARP OBJECTS, HARD NODULES, SUBSURFACE VOIDS, SOFT AREAS, PROTRUSIONS, OR DEBRIS OF ANY KIND. UNLESS EXISTING SUBGRADE CONSISTS OF SANDY SOILS FREE OF ROCKS AND PROTRUSIONS, THEN APPROPRIATE BEDDING SHOULD BE USED TO PROTECT THE LINER. APPROPRIATE BEDDING SHOULD BE SAND AS TYPICALLY USED FOR SEPTIC SYSTEMS IN THE STATE OF MASSACHUSETTS (A.K.A. TITLE 5 SAND) PLACED WITH A DEPTH OF 6" MIN.; AND WHERE BEDDING SAND IS NOT AVAILABLE, USE A LAYER OF16 OZ. NON-WOVEN GEOTEXTILE DESIGNED FOR PUNCTURE PROTECTION.
- 4. RAIN GARDENS CAN EITHER BE LINED OR UNLINED WITH AN IMPERMEABLE BARRIER. THE USE OF A LINER DEPENDS ON THE PROXIMITY TO GROUND WATER IN THE LOCATION OF THE RAINGARDEN. SEE RAINGARDEN NOTES BELOW.

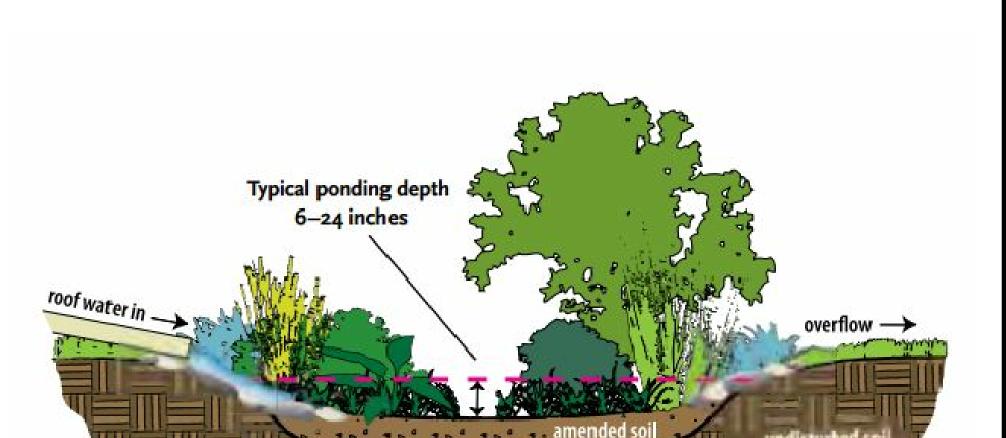






NOT TO SCALE TYPICAL PLASTIC INFILTRATION CHAMBER DETAILS FOR RECHARGE OF STORMWATER TO THE GROUND NOT TO SCALE

- 1. PLASTIC INFILTRATION CHAMBERS SUCH AS THE ONE SHOWN ABOVE CAN BE USED IN CERTAIN SITUATIONS TO STORE AND ULTIMATELY INFILTRATE STORMWATER BACK INTO THE GROUNDWATER. THE MAIN BENEFIT TO AN INFILTRATION CHAMBER IS THAT WATER CAN BE STORED ON SITE WITHOUT DISTURBING THE NATURAL LANDSCAPE OF THE SITE. THESE CHAMBERS ARE BURIED UNDERGROUND AND CAN HAVE PAVEMENT, LAWN, OR LANDSCAPED AREAS ABOVE THEM.
- 2. FOR A SYSTEM LIKE THIS TO BE INSTALLED A MASSACHUSETTS SOIL EVALUATOR WOULD NEED TO IDENTIFY THE SOILS ON SITE AND DETERMINE THE LOCATION OF SEASONAL HIGH GROUNDWATER. THESE TWO PIECES OF INFORMATION WILL ALLOW FOR THE PROPER DESIGN AND PLACEMENT OF AN INFILTRATION SYSTEM THAT WILL NOT ONLY WORK BUT ALSO PROTECT THE ENVIRONMENT
- 3. THE EXAMPLE SHOWN IS A TYPICAL PREFABRICATED PLASTIC INFILTRATION CHAMBER MANUFACTURED BY CULTEC. THESE CHAMBERS COME IN A VARIETY OF SIZES AND CAN BE CONSTRUCTED IN DIFFERENT CONFIGURATIONS TO BETTER SUITE THE NEEDS OF A PARTICULAR SITE.
- 4. PLEASE NOTE THERE ARE OTHER MANUFACTURES OF PLASTIC INFILTRATION SYSTEMS THAT MAY BE BETTER SUITED FOR YOUR PROJECT. EXAMPLES OF OTHER MANUFACTURES INCLUDE: INFILTRATOR WATER TECHNOLOGIES, CONTECH, AND STORMTECH.



PVC SOLVENT WELD -30 MIL PVC LINER -

PVC BOOT

GRADE

SLOPE 3:1

INSTALL PIPE BOOT AT BASE -

LINER PENETRATION FOR

ON THE TYPE OF SOIL FOUND ON THE SITE BECAUSE THE SOIL WILL DETERMINE THE EXFILTRATION RATE (INCHES OF WATER THAT CAN BE ABSORBED BY THE SOIL PER HOUR). AN AREA WITH POORLY DARINING SOILS WILL HAVE A LARGER RAIN GARDEN WHERE AS A SITE WITH POROUS SOILS WILL HAVE A

PLANTING: THERE ARE MANY CONSIDERATIONS TO TAKE INTO

ACCOUNT WHEN SELECTING PLANTS FOR YOUR RAINGARDEN.

STORMWATER POLLUTION IN STREAMS AND LAKES SO IT IS

GARDEN SHOULD NOT BE WETLAND PLANTS. IN FACT THE

FIRST OFF, FERTILIZERS AND PESTICIDES OFTEN CONTRIBUTE TO

IMPORTANT TO SELECT PLANTS THAT NEED NO CHEMICAL INPUT SECOND IT SHOULD BE NOTED THAT PLANTINGS IN A RAIN

PLANTS YOU SELECT FOR YOUR RAIN GARDEN SHOULD BE ABLE TO TOLERATE BOTH BEING WET FOR EXTENDED PERIODS OF TIME AND BEING DRY FOR EXTENDED PERIODS OF TIME. SOIL TYPES WILL ALSO INFLUENCE WHAT TYPES OF PLANTINGS ARE BEST FOR YOUR RAINGARDEN. SINCE THERE ARE SO MANY VARIABLES

SMALLER RAIN GARDEN.

UNDERDRAIN OUTLET PIPE.

SET AT TOE OF LINER SLOPE

PIPE BOOT

N.T.S.

RAINGARDEN ILLUSTRATION

Stantec Consulting Services Inc. 400 CROWN COLONY DRIVE QUINCY MASSACHUSETTS 02169 Tel. 617.786.7960 Fax. 617.786.7962 www.stantec.com

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Legend

Notes

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Client/Project TOWN OF SPENCER 157 MAIN STREET, SPENCER, MA 01562

RAIN GARDEN AND INFILTRATION CHAMBER DESIGN GUIDE

Quincy, Massachusetts

Project No. Scale 195150340 N.T.S. REV 0 Sheet Drawing No. Revision

of 01