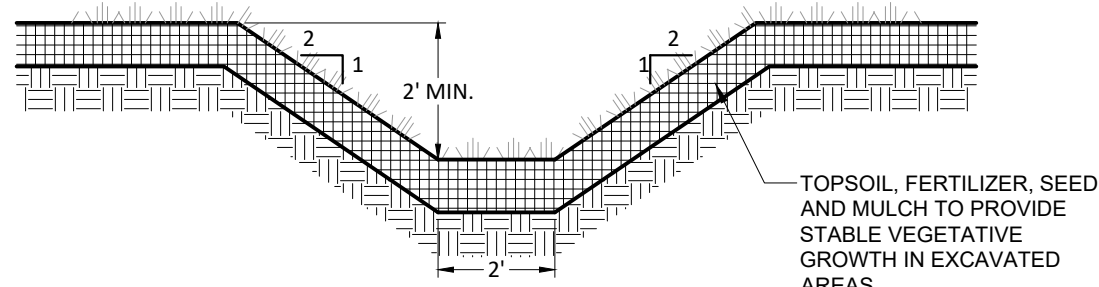


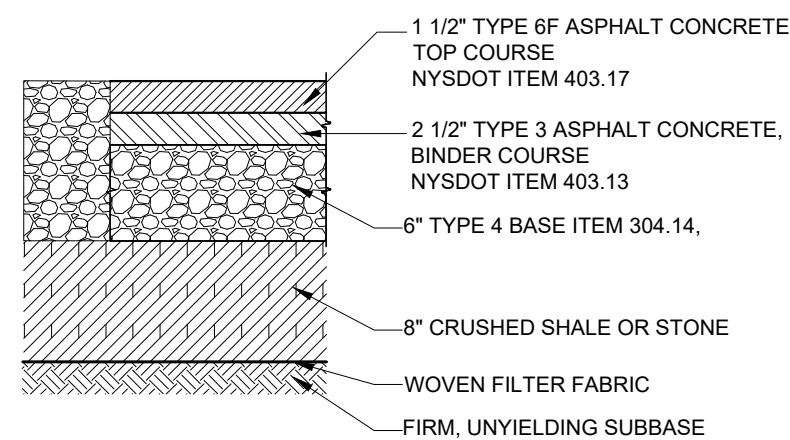
- NOTES:**
1. PIPE BEDDING SHALL BE PEA GRAVEL (3/8 INCH STONE).
 2. ALL STORMWATER PIPING SHALL BE CORRUGATED, SMOOTH LINED, HIGH DENSITY POLYETHYLENE.

3 STORMWATER TRENCH DETAIL
SCALE: N.T.S.



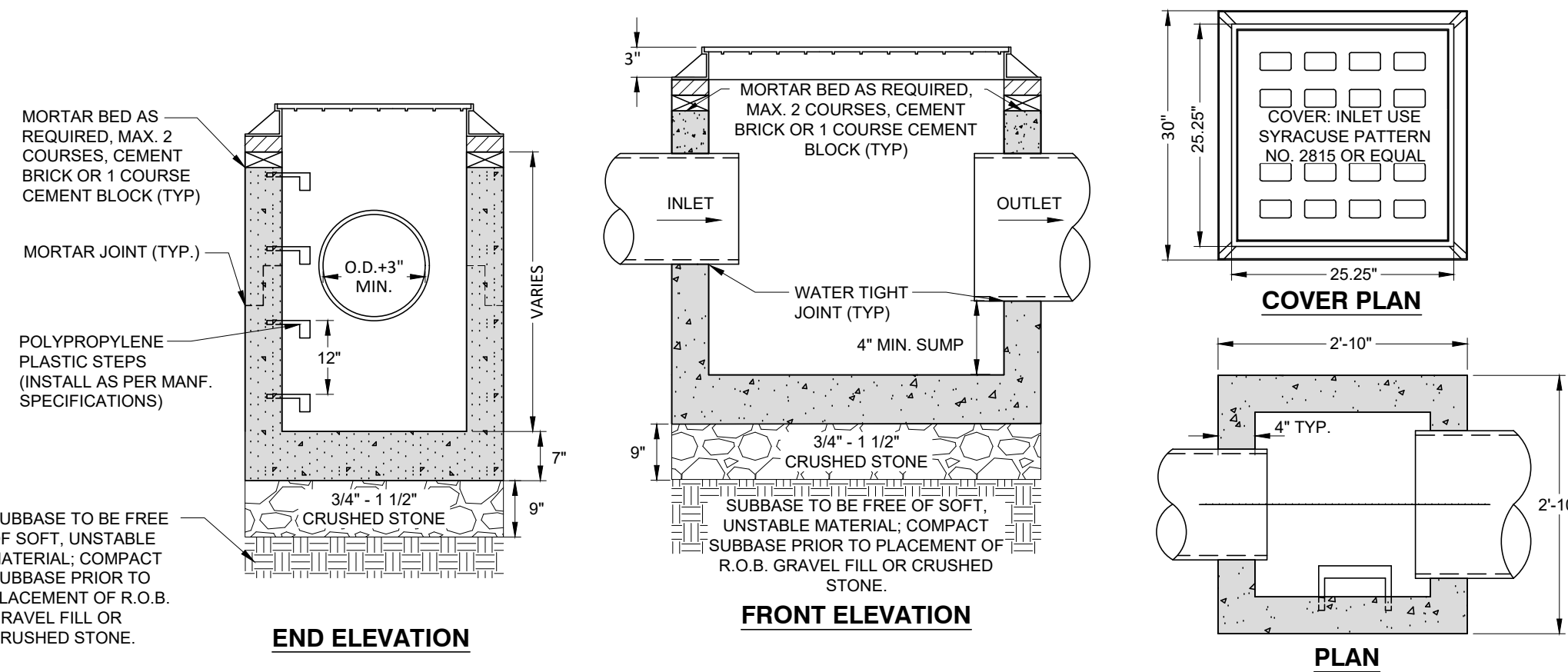
GRASS LINED SWALE SECTION

4 SWALE DETAILS
SCALE: N.T.S.



- NOTES:**
1. PAVEMENT AND SHOULDER CROSS SLOPE SHALL BE MIN. 1/4" PER FOOT.
 2. ASPHALT EMULSION TACK COAT SHALL BE APPLIED TO ALL CONNECTIONS WITH EXISTING EDGES OF PAVEMENT @ 0.15 GALLONS PER SQUARE YARD.
 3. ALL BACKFILL MATERIAL BENEATH ROAD AND SHOULDER SHALL BE COMPACTED IN MAX. 6" LIFTS.
 4. ALL PAVEMENT SHALL BE COMPACTED IN MAX. 3" LIFTS.
 5. ALL MATERIALS SHALL BE COMPACTED TO 97% STANDARD PROCTOR DENSITY.

5 PARKING LOT PAVEMENT DETAIL
SCALE: N.T.S.



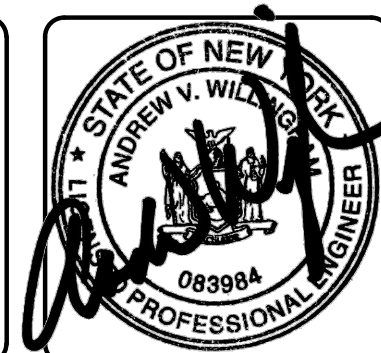
- NOTES:**
1. CATCH BASIN SHALL BE PRE CAST REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
 2. CATCH BASIN, TOP, FRAME, AND GRATE SHALL BE DESIGNED FOR H-20 VEHICULAR LOADING AND 30% IMPACT.
 3. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
 4. BACK FILL USING SELECT MATERIAL, COMPACTED IN 6" LIFTS.
 5. FRAMES AND GRATES SHALL BE SET IN A FULL BED OF MORTAR.
 6. EXCAVATION FOR CATCH BASINS SHALL BE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY'S REQUIREMENTS.
 7. ALL CATCH BASINS SHALL BE MANUFACTURED BY WOODARD'S CONCRETE PRODUCTS INC., MODEL NUMBER: CB-30-30, OR APPROVED EQUAL.

6 PRECAST CATCH BASIN (30"x30")
SCALE: N.T.S.

LEGEND	
	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	EXISTING FOG LINE
	EXISTING CENTERLINE STRIPING
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING BUILDING
	EXISTING BUILDING DECK/OVERHANG
	EXISTING STREAM / DITCH
	EXISTING TREE LINE
	EXISTING STONE WALL
	EXISTING CHAIN LINK FENCE
	EXISTING BOLLARD
	UTILITY POLE WITH GUY WIRE
	EXISTING POLE OR BUILDING MOUNTED LIGHT
	EXISTING SIGN
	EXISTING DRAINAGE CULVERT
	EXISTING DRAINAGE CATCH BASIN
	EXISTING SEPTIC LEACH FIELDS
	EXISTING HYDRANT
	EXISTING WATER VALVE
	EXISTING UTILITY MANHOLE
	EXISTING GAS MAIN
	PROPOSED DRAINAGE CULVERT
	PROPOSED END SECTION
	PROPOSED CATCH BASIN
	PROPOSED SWALE
	PROPOSED 10 FT CONTOUR
	PROPOSED 2 FT CONTOUR
	PROPOSED EDGE OF PAVEMENT

SURVEY NOTES	
1. ALL SITE FEATURES INCLUDING PROPERTY BOUNDARY LINES, STRUCTURE LOCATIONS, TOPOGRAPHY, AND PROPOSED SITE LAYOUT TAKEN FROM MAP TITLED "MAP OF SITEPLAN OF LAND OF TWIN POND ENTERPRISES, INC." PREPARED BY BROOKS & BROOKS LAND SURVEYORS, P.C. - DATED 01 NOVEMBER 2016.	

DRAINAGE INFORMATION	
1. THE PROPOSED DRAINAGE SYSTEM HAS BEEN SIZED BASED ON USGS STREAMSTATS INFORMATION FOR THE PROJECT AREA. THE DRAINAGE AREA TO THE SITE IS APPROXIMATELY 25 ACRES IN SIZE. THE 25 YEAR PEAK FLOOD EVENT FOR THE SITE IS 10.1 CFS.	
2. USING MANNINGS EQUATION $Q=(1.49/n) A R^{2/3} S^{1/2}$ $A=18' \times 9'$ PIPE	



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UNDER ARTICLE 145 (ENGINEERING), SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW, IT IS UNLAWFUL FOR ANY PERSON TO ALTER ANY ITEM ON THIS DRAWING, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED SURVEYOR. IF ANY ITEM IS ALTERED, THE ALTERING ENGINEER AND/OR SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

willingham engineering

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www.willinghamengineering.com

REV	DATE	DESCRIPTION

DRAINAGE IMPROVEMENT PLAN

TWIN POND ENTERPRISES, INC.

2007 ROUTE 9W
TOWN OF MARLBOROUGH, ULSTER COUNTY, NEW YORK

DRAWN BY	CHECKED BY
MLT	AVW
DATE	SCALE
03/22/18	AS NOTED
PROJECT NO.	
17047	
SHEET NO.	
DP-1	