

SHEET INDEX

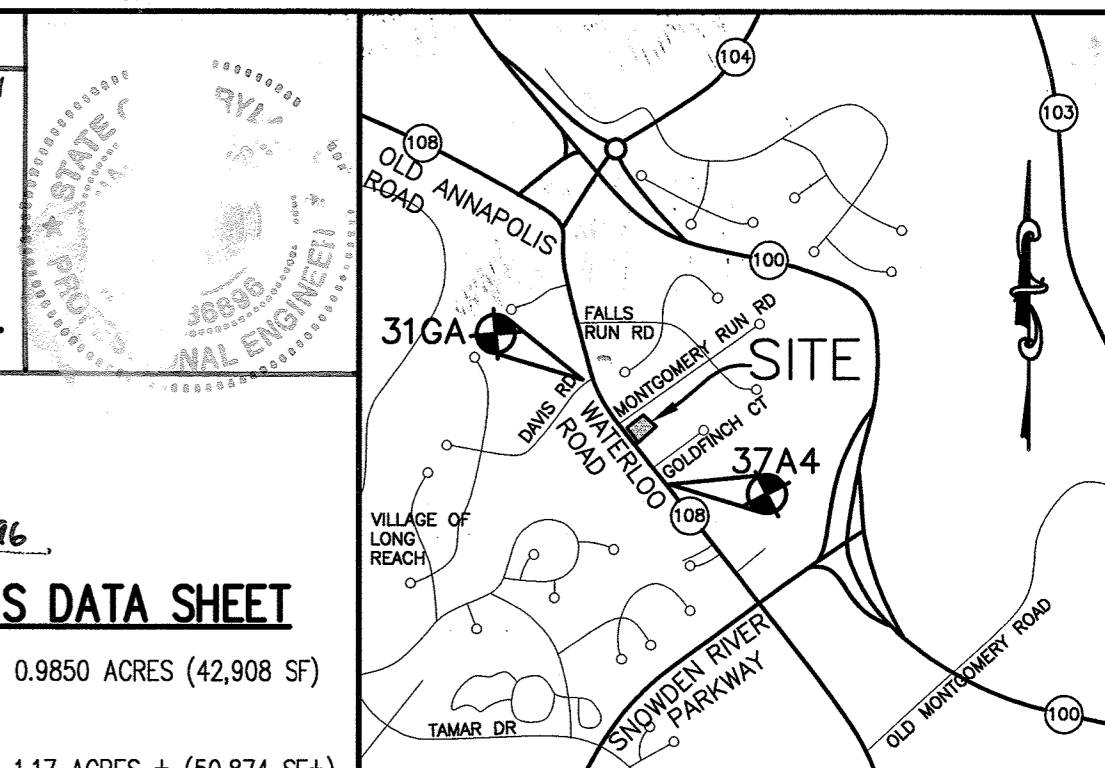
Table with 2 columns: NO, DESCRIPTION. Lists sheets 1 through 11 including Title Sheet, Existing Conditions, Overall Site Development Plan, etc.

Table with 2 columns: NO, DESCRIPTION. Lists sheets 25 through 26 including 25th Site Development Plan, 26th SWM Details.

SITE DEVELOPMENT PLAN
GODDARD SCHOOL

5633 WATERLOO ROAD
PARCEL 286
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.



Signature: SHARON K. CRUZ, dated 1/15/15.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32916, EXPIRATION DATE: 2-15-2017.

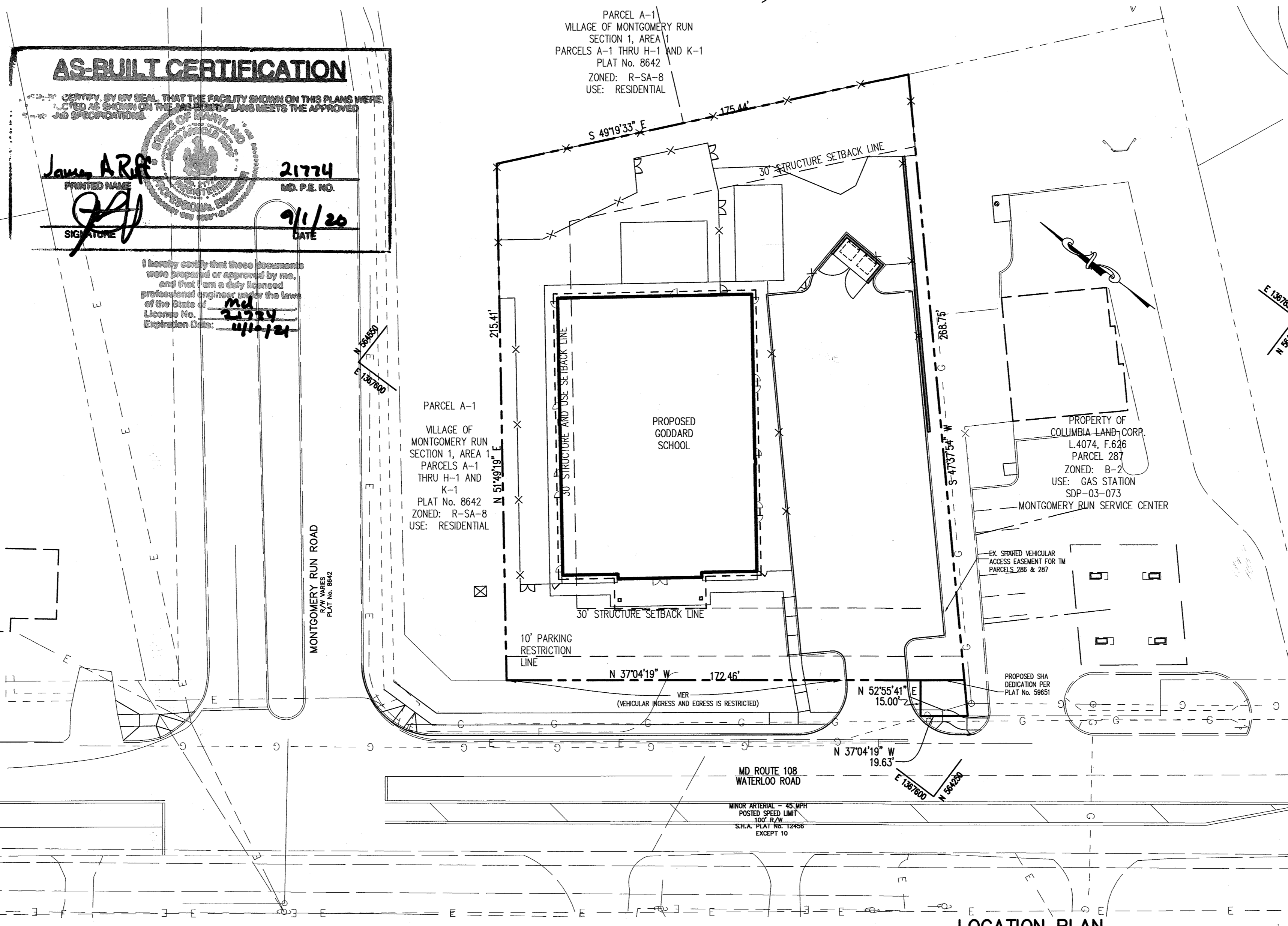
SITE ANALYSIS DATA SHEET

Table with 2 columns: PROPERTY CHARACTERISTICS, QUANTITIES. Lists site area (0.9850 acres), building coverage (22.15%), and other metrics.

VICINITY MAP
SCALE: 1" = 2000'
COPYRIGHT ADD: THE MAP PEOPLE
ADC MAP 4936 B6
PERMITTED USE NO. 20894285

GENERAL NOTES

- 1. SUBJECT PROPERTY ZONED B-1 PER 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS DATED 7/26/06.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.



AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Signature: James A. Rife, dated 9/11/20.

LOCATION PLAN
1" = 30'

- 43. THE FOLLOWING STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:
a. MD-620.02 - STANDARD TYPES A & B CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER

- 44. A WAIVER PETITION, WP-14-113, FOR A WAIVER OF SUBSECTION 16.156(m) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW THE ESTABLISHMENT OF THE DEADLINE FOR SUBMISSION OF SITE DEVELOPMENT PLAN ORIGINALS BEYOND THAT CURRENTLY IN EFFECT WAS APPROVED ON APRIL 30, 2014, SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE PETITIONER SHALL SUBMIT SITE DEVELOPMENT PLAN ORIGINALS TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 180 DAYS OF THE DATE OF THIS LETTER (ON OR BEFORE OCTOBER 27, 2014).

AS-BUILT

ADDRESS CHART
PARCEL NUMBER: 286
STREET ADDRESS: 5633 WATERLOO ROAD

Table with 3 columns: SUBDIVISION NAME, SECT./AREA, PARCEL. Lists parcel 286 details.

APPROVED : DEPARTMENT OF PLANNING AND ZONING

Signature: Scott Weber, dated 5-21-14.
CHIEF, DEVELOPMENT ENGINEERING DIVISION 4 DATE
Signature: Keith S. ... dated 5-27-14.
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Signature: ... dated 5/2/14.
DIRECTOR DATE

REVISION: REMOVE MB #1 + MB #3

OWNER: CHEVY CHASE BANK FSB
ATTN: SCOTT WEBER
14601 SWEITZER LANE
LAUREL, MD 20707
(804) 775-4303

DEVELOPER: DARNESTOWN DEVELOPMENT
ATTN: ROSS FLAX
900 GAITHER ROAD
ROCKVILLE, MD 20850
(301) 330.2300

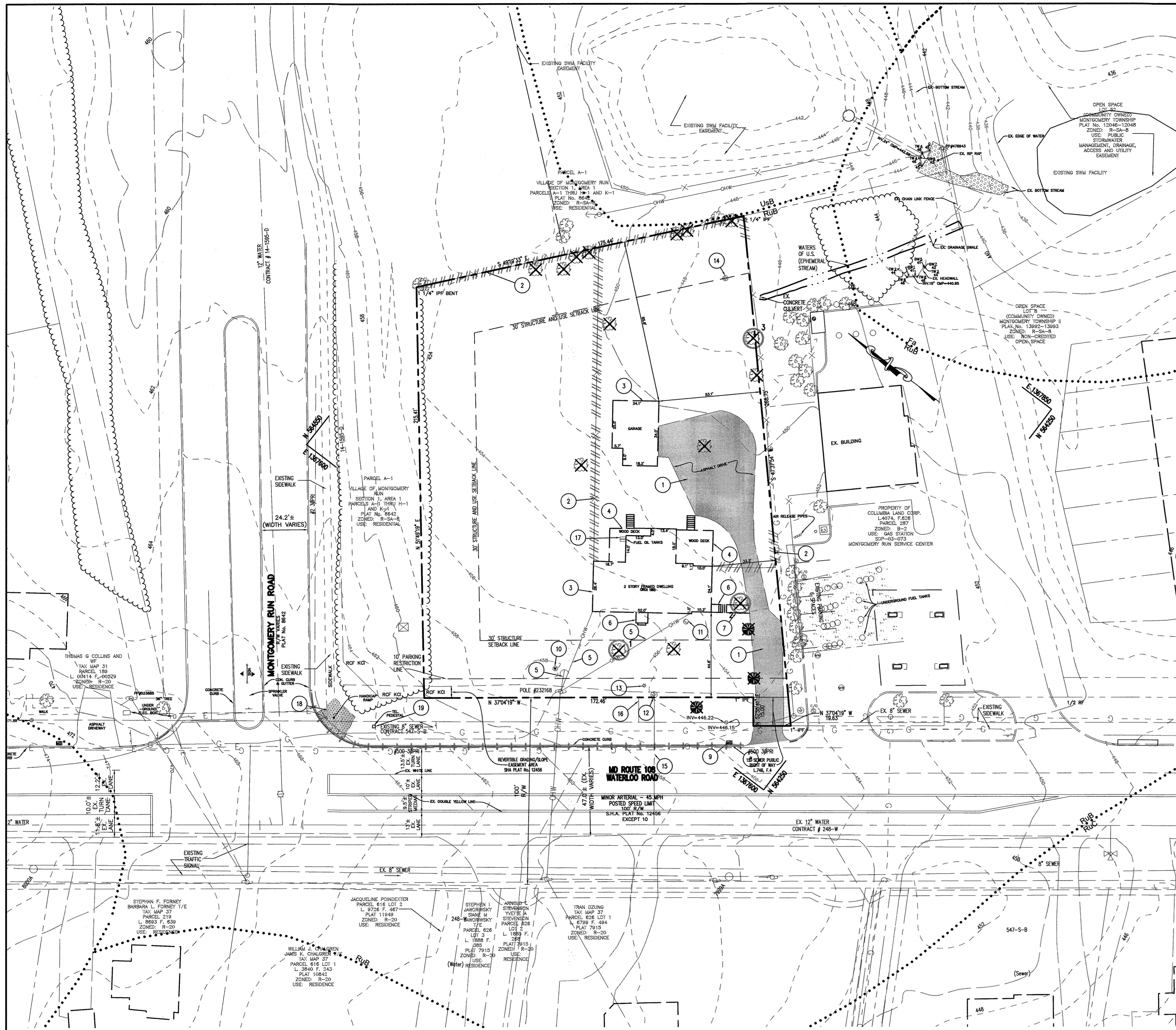
PROJECT: GODDARD SCHOOL
5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
PROPOSED DAY CARE CENTER

TITLE: REVISION SHEET
TITLE SHEET

Pennoni Associates Inc.
8818 Centre Park Drive
Suite 200
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DESIGNED BY: PJS
DRAWN BY: ALC
PROJECT NO.: GODD1201
DATE: FEBRUARY 28, 2014
SCALE: AS SHOWN
DRAWING No. 1 OF 26



**DEMOLITION KEY:**

- 1 REMOVE EXISTING BITUMINOUS PAVING
- 2 REMOVE EXISTING CHAINLINK FENCE(S) AND GATE(S)
- 3 REMOVE EXISTING STRUCTURE
- 4 REMOVE EXISTING WOOD DECK
- 5 REMOVE EXISTING OVERHEAD WIRES
- 6 REMOVE EXISTING STAIRS
- 7 REMOVE EXISTING MACADAM SIDEWALK
- 8 REMOVE EXISTING CURB AND GUTTER
- 9 REMOVE EXISTING MAILBOX
- 10 EX. WELL TO BE ABANDONED
- 11 REMOVE EXISTING ELECTRIC METER
- 12 EX. WATER METER TO BE RETURNED TO BUREAU OF UTILITIES
- 13 REMOVE EX. WATER VALVE
- 14 EX. OUTLET TO BE ABANDONED/REMOVED
- 15 EX. WHC TO BE ABANDONED
- 16 EX. SHC TO BE ABANDONED
- 17 EX. FUEL OIL TANKS TO BE REMOVED
- 18 EX. CONCRETE SIDEWALK TO BE REMOVED
- 19 EX. TEL. PEDESTAL TO BE RELOCATED BEHIND PROPOSED SIDEWALK

**DEMOLITION NOTES**

1. ALL MATERIALS DEMOLISHED, UNLESS IDENTIFIED TO BE SALVAGED (CONCRETE, PAVING, AND OTHER DEBRIS), SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PER FEDERAL, STATE AND LOCAL REGULATIONS. ALL COSTS OF HAULING, DISPOSAL AND TIPPING FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF THE BASE BID.
2. ALL QUANTITIES OF DEMOLITION SHALL BE DETERMINED BY THE CONTRACTOR AND COVERED IN THE BASE BID. CONTRACTOR SHALL MAKE NECESSARY SITE INSPECTIONS PRIOR TO BID TO VERIFY ALL QUANTITIES TO HIS SATISFACTION.
3. CONTRACTOR SHALL REFER TO SEPARATE PLANS IN THE SITE DEVELOPMENT PLAN (STORMWATER MANAGEMENT, SEDIMENT CONTROL, PAVING, ETC.) TO DETERMINE APPROPRIATE SEQUENCE OF ALL DEMOLITION ACTIVITIES.
4. EXISTING TREES NOT SHOWN TO BE REMOVED SHALL REMAIN. CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES TO AVOID DAMAGE TO TREES DURING CONSTRUCTION ACTIVITIES.
5. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY EXISTING UTILITIES.
6. EXISTING UTILITY LINES HAVE BEEN SHOWN USING THE BEST AVAILABLE RECORDS OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL CALL MISS UTILITY TO LOCATE ALL UNDERGROUND UTILITY LINES AND SUPPLEMENT THOSE MARKINGS BY ENGAGING A PRIVATE UTILITY LOCATING COMPANY (AT CONTRACTORS EXPENSE) TO ENSURE THAT ALL EXISTING UTILITIES HAVE BEEN MARKED.
7. EXISTING WELL SHALL BE ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR DEMOLITION INCLUDING UTILITY PERMITS.
9. THE LIMIT OF DEMOLITION INDICATED ON THE PLAN IS APPROXIMATE. CONTRACTOR TO ADJUST AS NECESSARY FOR PROPOSED WORK.

**EXISTING VEGETATION**

COMMUNITY	DOMINANT SPECIES	TYPICAL CALIPER	MATURITY	CONDITION
OPEN FIELD	N/A	N/A	N/A	FAIR TO POOR

**SPECIMEN TREE CHART**

KEY	SPECIES	SIZE	CONDITION
1	ACER RUBRUM (RED MAPLE)	30"	FAIR
2	ACER SACCHARINUM (SILVER MAPLE)	36"	FAIR
3	ACER SACCHARINUM (SILVER MAPLE) TRIPLE TRUNK	36"	POOR

**FOREST STAND DELINEATION NARRATIVE:**

THERE IS NO EXISTING FOREST ON SITE. THE SITE CONSISTS OF OPEN LAWN AREA, TWO STRUCTURES, AND PAVEMENT. THERE ARE TREES LOCATED ON THE SITE AS SHOWN, MOSTLY ALONG THE PERIMETER.

**SOILS CHART**

MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS	EROSION HAZARD	HYDRIC	SLOPE (%)	K FACTOR	HYDROLOGIC GROUP
RUB	Russell and Beltsville soils	Dwellings w/ Basements Very limited	Slight *	No	2-5	0.37	C

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE SOIL DATA MART & WEB SOIL SURVEY

\* BASED ON COMAR, SOILS WITH A K FACTOR OF 0.35 AND SLOPES IN EXCESS OF 5%. THERE ARE 0.47± ACRES OF THIS SITE THAT FALL INTO THAT CATEGORY.

**DEMOLITION LEGEND**

- EX. TREES
- EX. TREES TO BE REMOVED
- EX. BITUMINOUS PAVING TO BE REMOVED
- EX. FENCE TO BE REMOVED
- EX. CURB AND GUTTER TO BE REMOVED
- EX. CONCRETE SIDEWALK TO BE REMOVED

**LEGEND**

- EX. TREES
- EX. SPECIMEN TREE
- SOILS
- EX. TREETLINE
- PROPERTY LINE
- EXISTING 10' CONTOURS
- EXISTING 2' CONTOURS
- EXISTING SEWER
- EXISTING WATER
- EXISTING CURB AND GUTTER
- EXISTING FIRE HYDRANT
- TRANSFORMER
- EXISTING BUILDING
- WATER METER
- WATER VALVE
- UTILITY POLE WITH GUIDE WIRE
- SANITARY MANHOLE
- OVER HEAD WIRES
- UNDERGROUND FUEL TANKS
- GASOLINE PUMP
- FENCE LINE
- ELECTRIC METER
- IRON PIPE FOUND
- REBAR AND CAP FOUND
- REBAR FOUND
- LIGHT POLE
- SIGN
- SANITARY CLEAN OUT
- MONITORING WELL
- ELECTRIC OUTLET
- MAIL BOX
- EXISTING UTILITY EASEMENT

**GENERAL NOTES CONTINUED FROM SHEET 1**

48. DEVIATION FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT FROM THE ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
49. PENNONI SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES, UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.
50. FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH WORK.
51. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO BEGINNING WORK. HE SHALL VERIFY SIZE AND LOCATIONS OF ALL UNDERGROUND UTILITIES AND EXCAVATE TEST PITS AT PROPOSED TIE IN LOCATIONS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WELL IN ADVANCE OF CONSTRUCTION START. START OF CONSTRUCTION BY THE CONTRACTOR SHALL CONSTITUTE FULL ACCEPTANCE OF ALL SITE CONDITIONS BY THE CONTRACTOR.
52. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR CONSTRUCTION PRIOR TO BEGINNING WORK UNLESS PROVIDED BY OWNER. CONTRACTOR SHALL IDENTIFY ALL REQUIRED PERMITS AND ANTICIPATE OBTAINING ALL PERMITS NOT PROVIDED BY OWNER.
53. ALL UTILITIES ARE TO REMAIN UNLESS DESIGNATED TO BE REMOVED AND ALL APPURTENANCES SHALL BE ADJUSTED TO FINISH GRADE.
54. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL STAKE OUT AND VERIFY LOCATIONS OF ALL IMPROVEMENTS AND UTILITY TIE IN LOCATIONS. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES WELL IN ADVANCE OF START OF CONSTRUCTION.
55. SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY THE ENGINEER. IN THE EVENT OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS, THE FIGURED DIMENSIONS SHALL BE HELD.
56. THE CONTRACTOR SHALL ENSURE THAT CURRENT AS-BUILT RECORDS ARE MAINTAINED DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION AS-BUILT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR. FIELD LOCATION OF UTILITIES SHALL BE COORDINATED WITH THE OWNER PRIOR TO COVERING THE LINES. CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF A LICENSED SURVEYOR AND CIVIL ENGINEER TO COMPLETE THE REQUIRED AS-BUILTS.
57. CONTRACTOR SHALL MAINTAIN ALL SEDIMENT CONTROL DEVICES WITHIN THE LIMITS OF THE SITE DURING CONSTRUCTION OF THE SITE IMPROVEMENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AS MAY BE NECESSARY DURING CONSTRUCTION AND/OR REQUIRED BY GOVERNING AGENCIES.

58. A VARIANCE TO THE ZONING REGULATIONS BA N-035% WAS GRANTED ON MARCH 6, 2015 TO REDUCE THE REQUIRED 30-FOOT STRUCTURE AND USE SETBACK FROM A PUBLIC ROAD REAR-OF-WAY TO THREE FEET FOR A MANSION SCREEN WALL IN AS-1 (RESIDENTIAL LIMITED) ZONING DISTRICT. VARIANCE PETITION IS GRANTED PROVIDED, HOWEVER, THAT:

1. THE VARIANCES SHALL APPLY TO THE USES AND STRUCTURES AS DESCRIBED IN THE PETITION AND VARIANCE PLAN ACCEPTED BY DPZ ON DECEMBER 3, 2014, AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS ON THE PROPERTY.
2. PETITIONER SHALL OBTAIN ALL NECESSARY PERMITS.

**SEE SHEET 20 FOR ADDITIONAL DEMOLITION WITHIN THE MD 108 RIGHT-OF-WAY**

**APPROVED : DEPARTMENT OF PLANNING AND ZONING**

*[Signature]* 5-21-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

*[Signature]* 5-27-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

3.8.15 1 ADD GENERAL NOTE 58  
 DATE NO. \_\_\_\_\_ REVISION \_\_\_\_\_

OWNER CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT **GODDARD SCHOOL**  
 5633 WATERLOO RD.

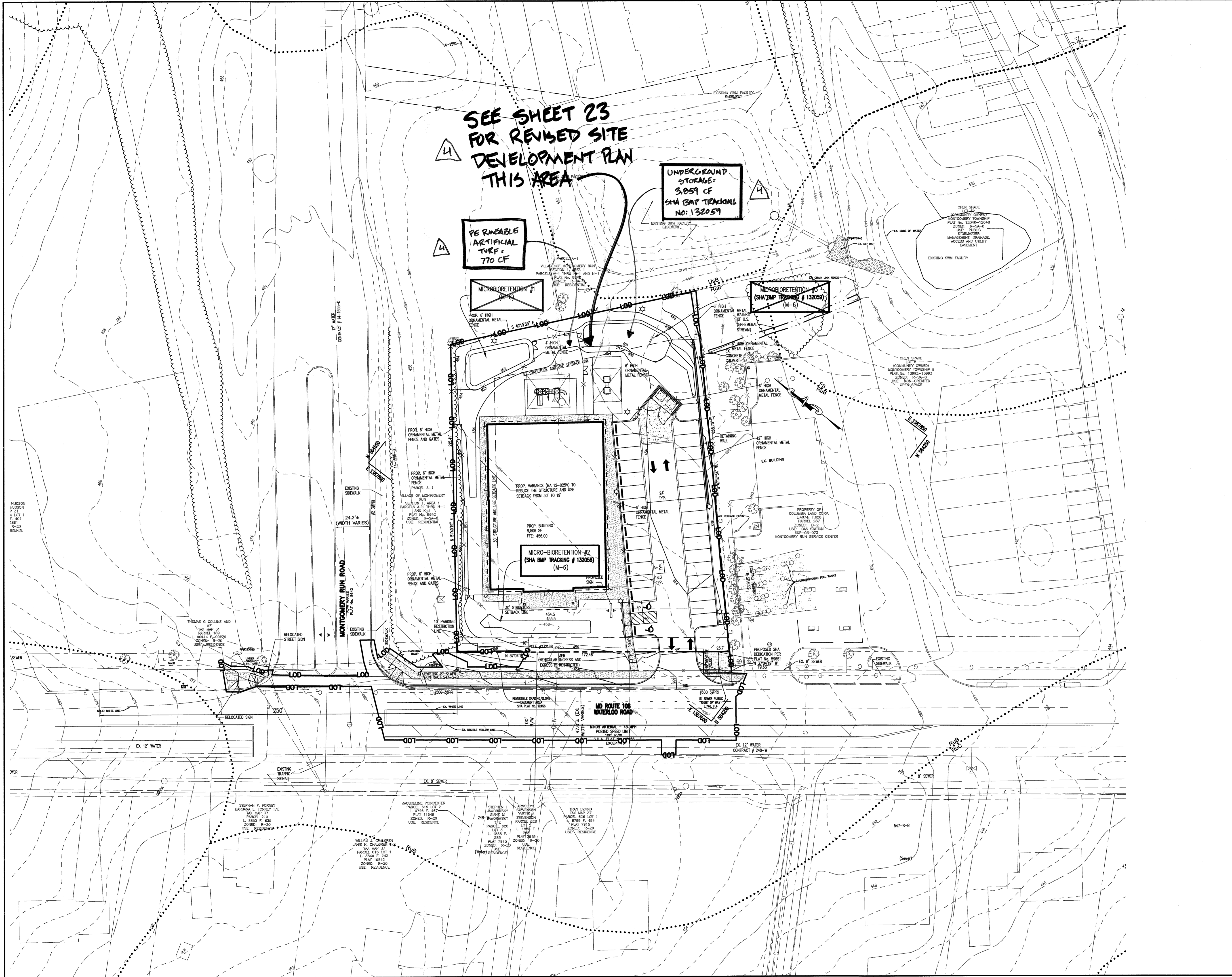
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 659 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

**TITLE EXISTING CONDITIONS, SOILS, FOREST STAND DELINEATION AND DEMOLITION PLAN**

Pennoni Associates Inc.  
 Consulting Engineers 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY : ALC  
 PROJECT No.: GODD1201  
 DATE : FEBRUARY 28, 2014  
 SCALE: 1" = 30'  
 DRAWING No. 2 OF 26

SDP-13-045



**LEGEND**

- PROPERTY LINE
- PROPOSED BUILDING
- PROPOSED CURB & GUTTER
- PROPOSED CENTERLINE OF ROAD
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE DUMPSTER PAD
- PROPOSED FENCE
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED LIGHT

APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Scott Weber* 5-21-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Kathleen Dwyer* 5-27-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Mark J. Leight* 5/28/14  
 DIRECTOR DATE

DATE	NO.	REVISION
9-11-14	4	REMOVE MB #1 + MB #3

OWNER: CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT: **GODDARD SCHOOL**  
 5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

TITLE: **OVERALL SITE DEVELOPMENT PLAN**

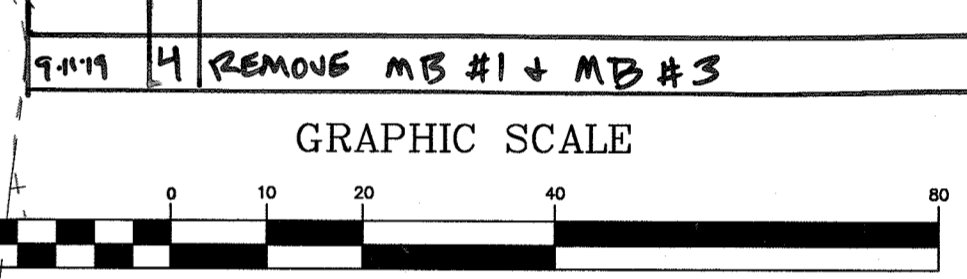
Pennoni Associates Inc.  
 Consulting Engineers  
  
 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT No.: GODD01201  
 DATE: FEBRUARY 28, 2014  
 SCALE: 1" = 30'  
 DRAWING No. 3 OF 26

**SEE SHEET 23 FOR REVISED SITE DEVELOPMENT PLAN IN THIS AREA**

LEGEND	
[Pattern]	PROPOSED P-3 PAVING
[Pattern]	PROPOSED CONCRETE PAVING
[Pattern]	PROPOSED CONCRETE SIDEWALK
[Pattern]	PROPOSED POROUS CONCRETE PAVING
[Pattern]	PROPOSED BUILDING
[Pattern]	PROPOSED CURB & GUTTER
[Symbol]	PROPOSED FENCE
[Symbol]	PROPOSED LIGHT
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	PROPOSED 2' CONTOUR
[Symbol]	PROPOSED 10' CONTOUR
[Symbol]	PROPOSED STORM DRAIN
[Symbol]	PROPOSED FIRE HYDRANT
[Symbol]	PROPOSED WATER
[Symbol]	PROPOSED SEWER
[Symbol]	PROPOSED UTILITY EASEMENT

**SEE SHEETS 20-22 FOR SHA PAVING DETAILS**



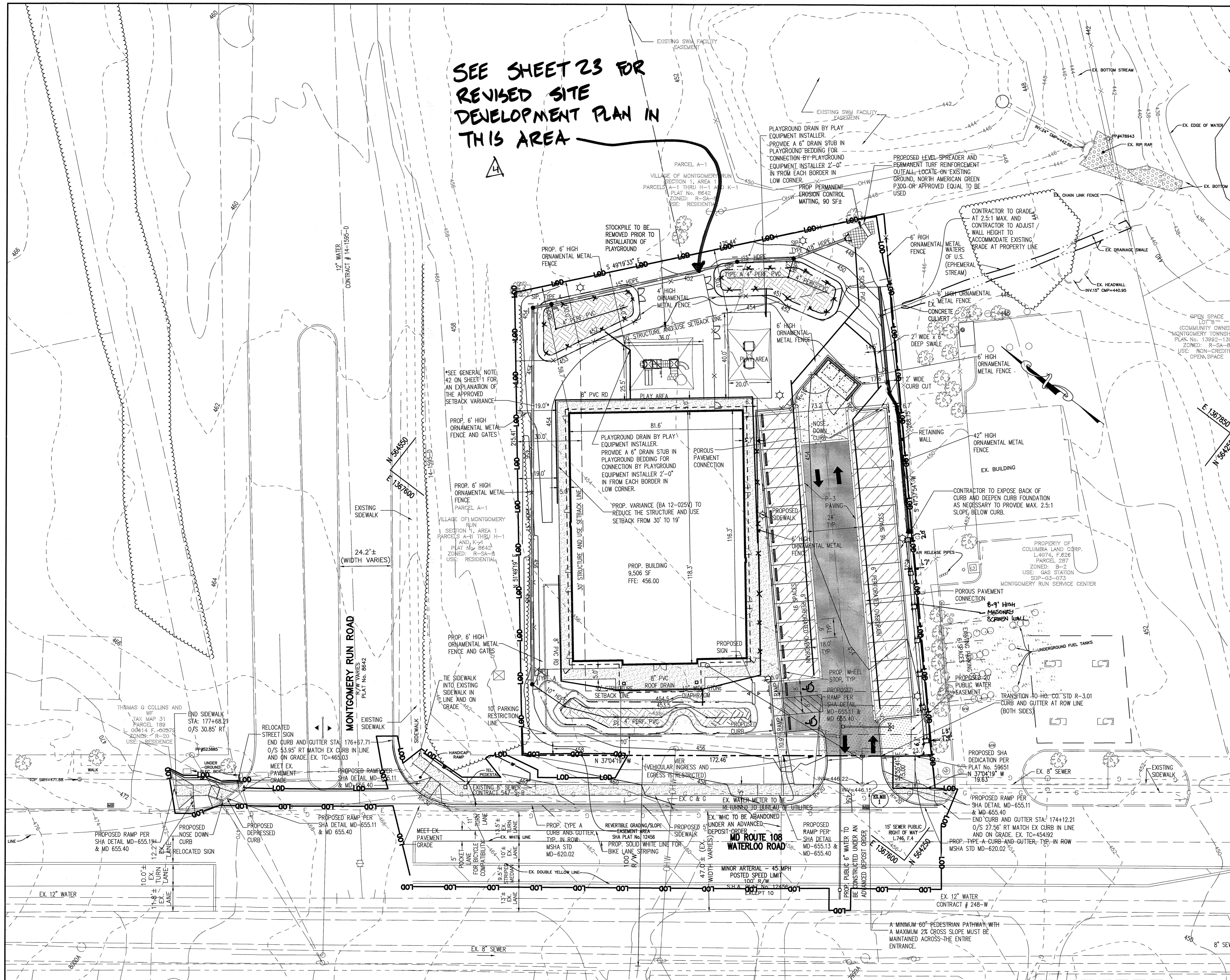
9-11-14 4 REMOVE MB #1 + MB #3	
GRAPHIC SCALE	
(IN FEET) 1 inch = 20 ft.	
5.8.15	3 ADD SCREEN WALL
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Phil Clark</i>	5-21-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Vest Shadrach</i>	5-27-14
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Mark J. Long</i>	5/27/14
DIRECTOR	DATE
0.22.14	2 REVISE FENCE ALONG BUILDING
8.25.14	1 REVISE RETAINING WALL AND MICROBIO #2
DATE NO.	REVISION

OWNER	CHEVY CHASE BANK FSB ATTN: SCOTT WEBER C/O CAPITAL ONE NATIONAL ASSN 14601 SWEITZER LANE LAUREL, MD 20707 (804) 775.4303
DEVELOPER	DARNESTOWN DEVELOPMENT ATTN: ROSS FLAX 900 GAITHER ROAD ROCKVILLE, MD 20850 (301) 330.2300
PROJECT	<b>GODDARD SCHOOL</b> 5633 WATERLOO RD.
AREA TAX MAP	37 PARCEL 286 GRID #1 ZONED B-1 1ST ELECTION DISTRICT L. 659 F. 126 HOWARD COUNTY, MARYLAND PROPOSED DAY CARE CENTER

TITLE	<b>REVISOR SHEET</b> <b>SITE DEVELOPMENT PLAN</b>
Pennoni Associates Inc. Consulting Engineers	8818 Centre Park Drive Suite 200 Columbia, MD 21045 T 410.997.8900 F 410.997.9282

DESIGNED BY:	PJS
DRAWN BY:	ALC
PROJECT No.:	G00DD1201
DATE:	FEBRUARY 28, 2014
SCALE:	1" = 20'
DRAWING No.:	4 OF 26

SDP-13-045



SEE SHEET 23 FOR  
REVISED SITE  
DEVELOPMENT PLAN  
IN THIS AREA

LEGEND	
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	EROSION CONTROL MATTING
---	PROPOSED 2' CONTOUR
---	PROPOSED 10' CONTOUR
---	PROPOSED SPOT ELEVATION
---	PROPOSED BOTTOM OF CURB SPOT ELEVATION
---	PROPOSED TOP OF CURB SPOT ELEVATION
---	PROPOSED LOW POINT SPOT ELEVATION
---	EX. SOILS
---	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
---	STANDARD INLET PROTECTION, TYPE A
---	BORING LOCATION

**ENGINEER'S CERTIFICATE**  
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE  
SHARON K. CRUZ, PE 4/10/14

**DEVELOPER'S CERTIFICATE**  
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE  
ROSS FLAX

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED : DEPARTMENT OF PLANNING AND ZONING  
John K. Robinson 5/6/14  
HOWARD SCD DATE

APPROVED : DEPARTMENT OF PLANNING AND ZONING  
Chief, Development Engineering Division & DATE  
5-21-14

Chief, Division of Land Development DATE  
5-27-14

DIRECTOR DATE  
5/23/14

9-1-14	REVISE MB #1 + MB #3
8-25-14	REVISE RETAINING WALL AND MIGRATED #2
DATE NO.	REVISION

**OWNER**  
CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

**DEVELOPER**  
DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

**PROJECT**  
GODDARD SCHOOL  
5633 WATERLOO RD.

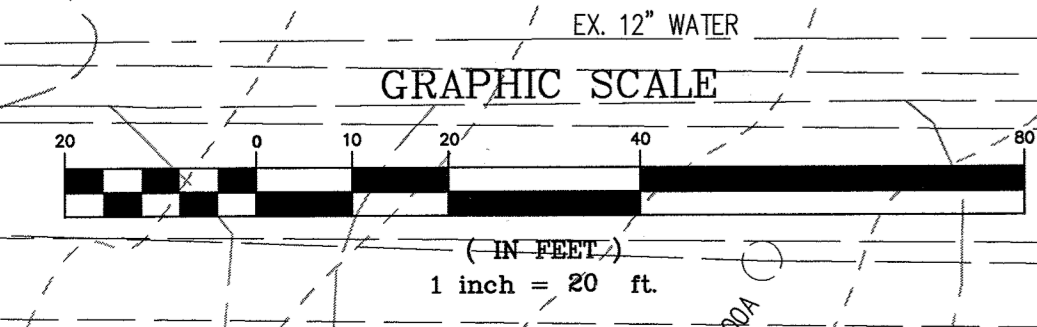
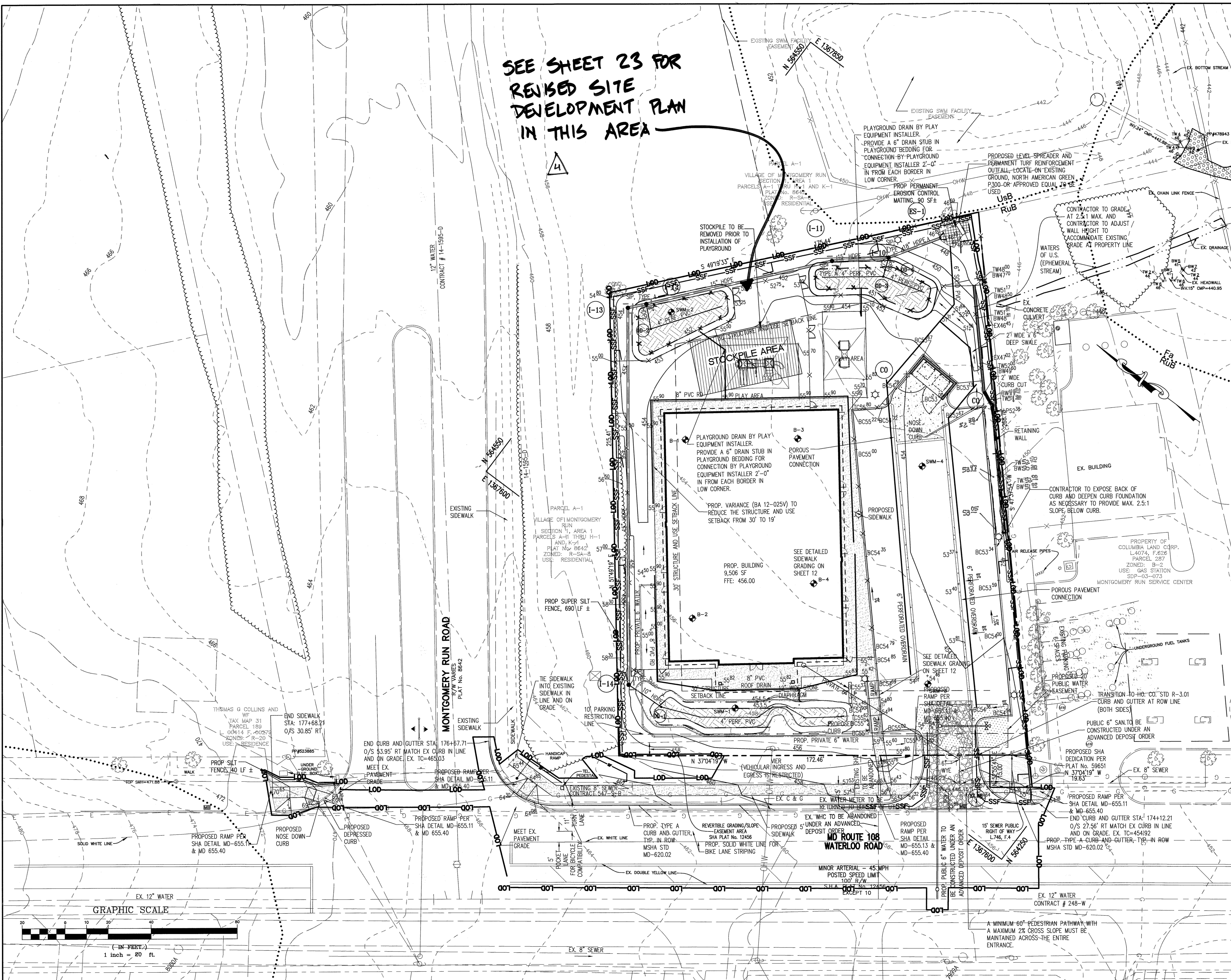
**AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1**  
1ST ELECTION DISTRICT L. 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

**TITLE**  
GRADING AND SEDIMENT CONTROL PLAN

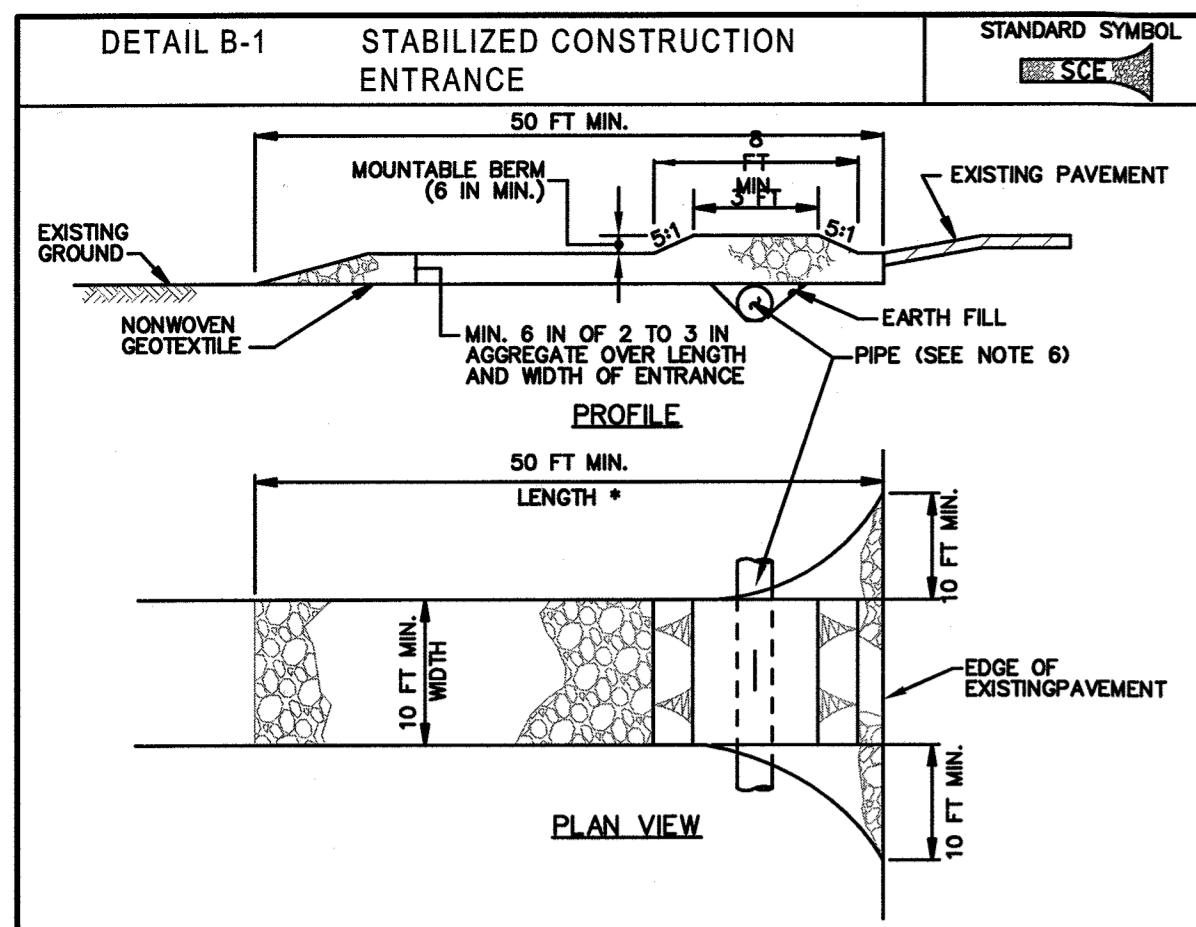
Pennoni Associates Inc.  
Consulting Engineers  
8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT No.: 60001201  
DATE: FEBRUARY 28, 2014  
SCALE: 1" = 20'  
DRAWING No. 5 OF 26

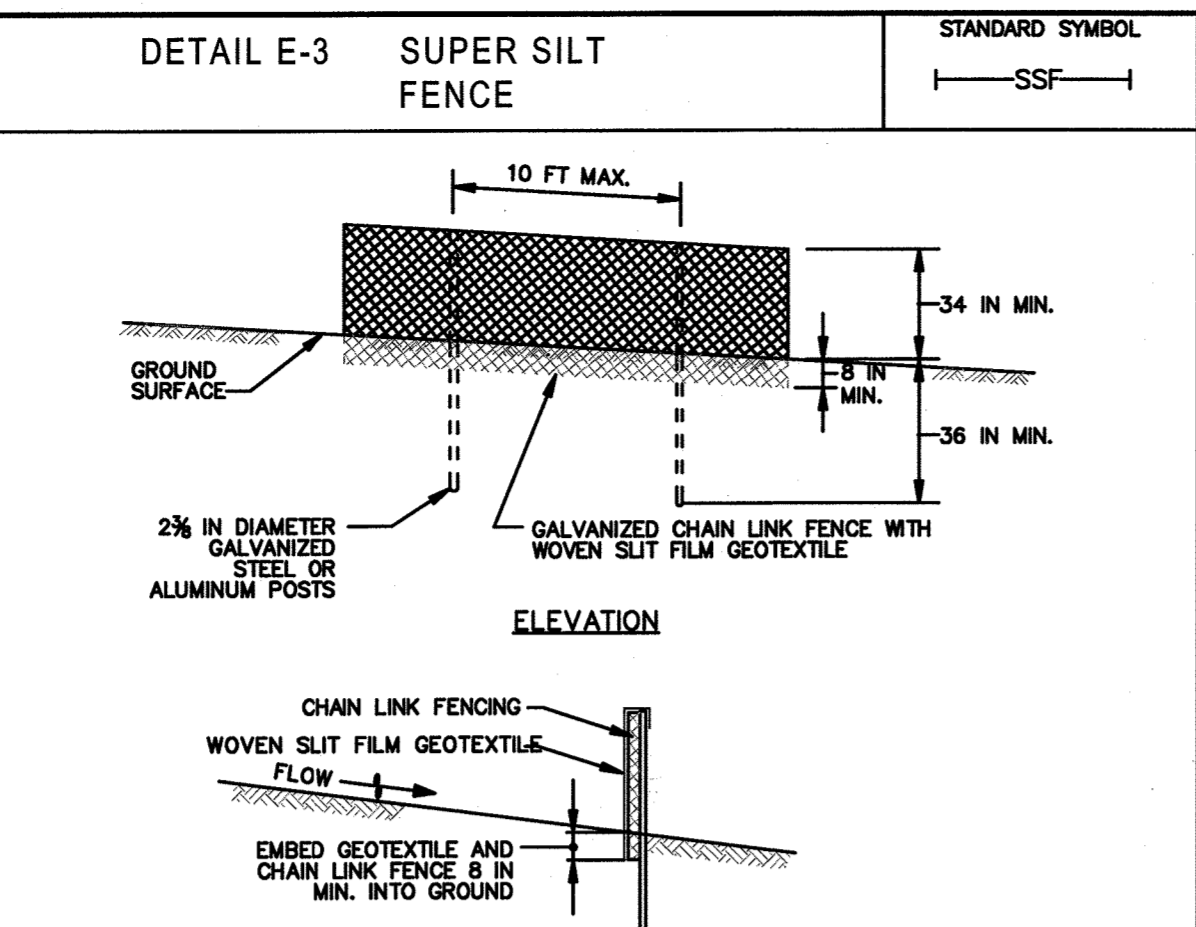
SDP-13-045



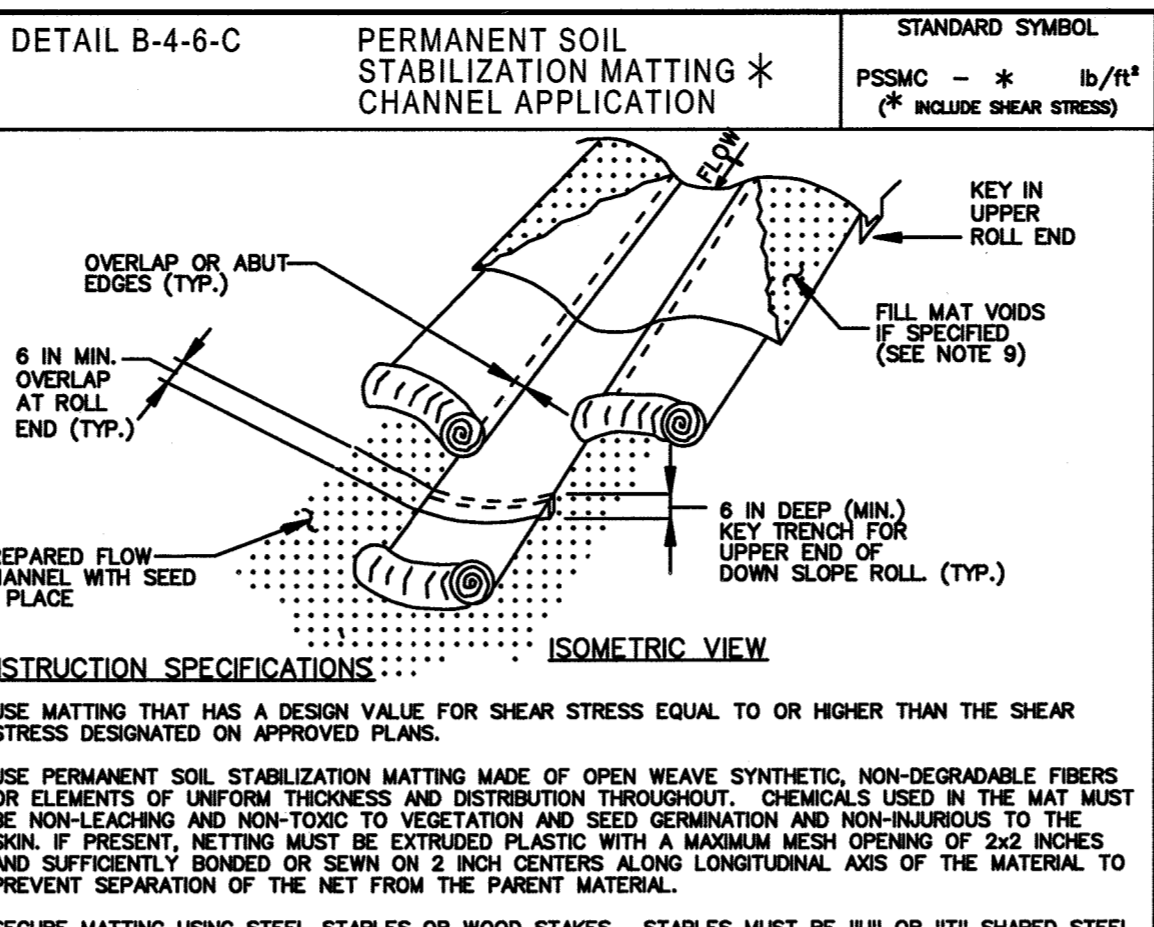
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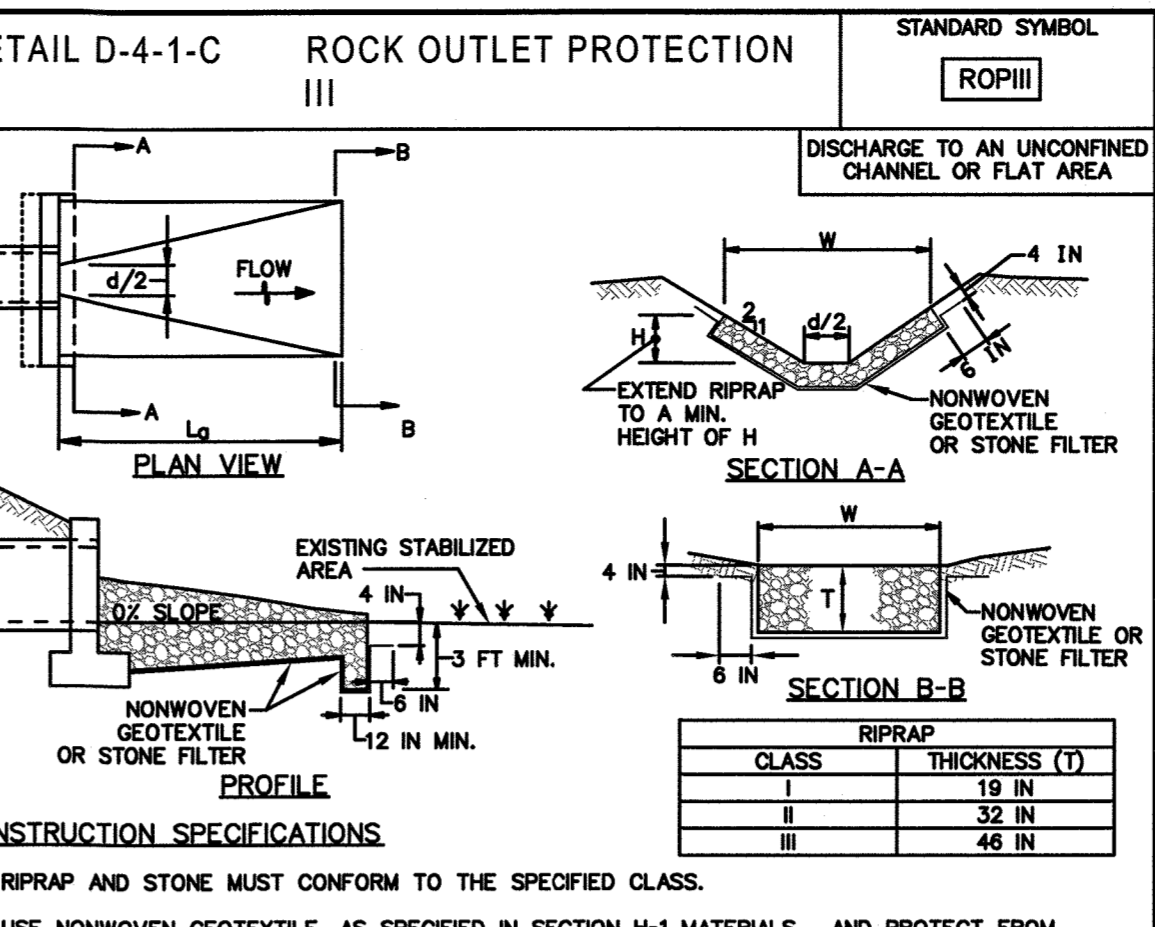
- CONSTRUCTION SPECIFICATIONS**
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (150 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
  - PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5-15 LBS AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
  - PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
  - PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
  - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



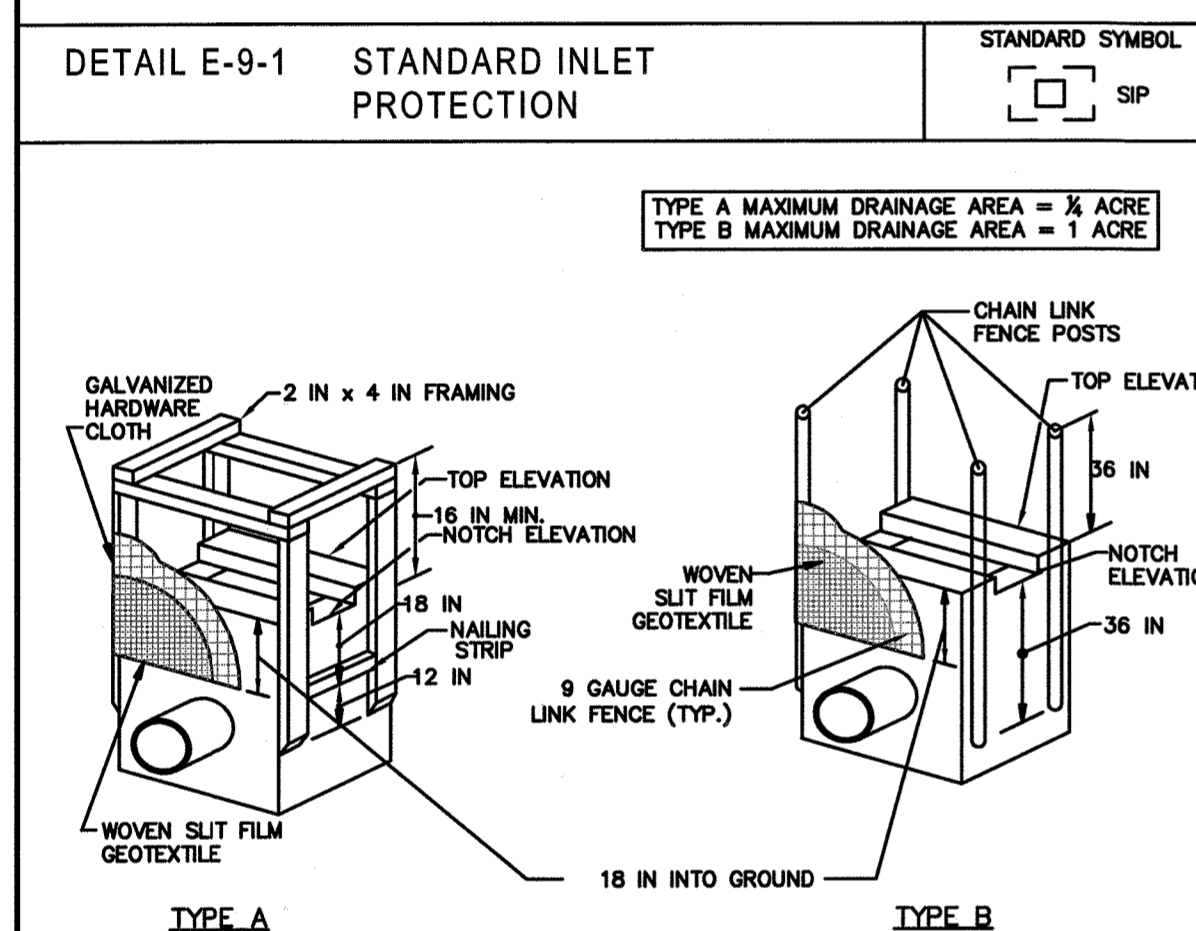
- CONSTRUCTION SPECIFICATIONS**
- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
  - FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUB RINGS.
  - FASTEN WOVEN SILT FIBER GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 9 INCHES INTO THE GROUND.
  - WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
  - EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
  - PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
  - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



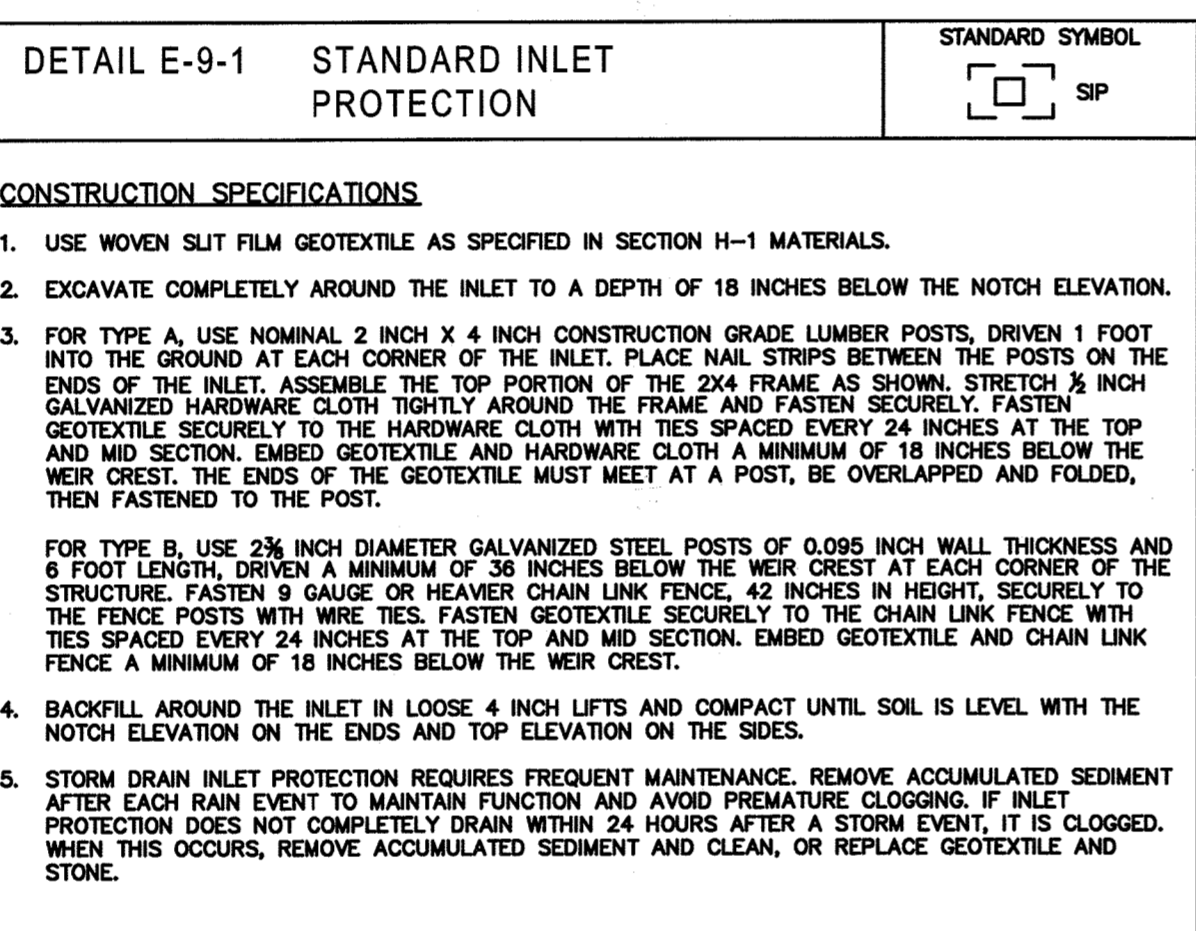
- CONSTRUCTION SPECIFICATIONS**
- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
  - USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SOIL. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 242 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
  - SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST BE PLACED AT 24 INCHES ON CENTER, 1" FROM EACH END. "T" SHAPED STAPLES MUST HAVE A MINIMUM 1/2 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
  - PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS. UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
  - UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAID MATTING SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
  - OVERLAP OR BUTT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLLS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
  - KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
  - STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT MAXIMUM CENTERS THROUGHOUT AND 2 FOOT MAXIMUM CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
  - IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYPED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL CONTACT WITHOUT CRUSHING MAT.
  - ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



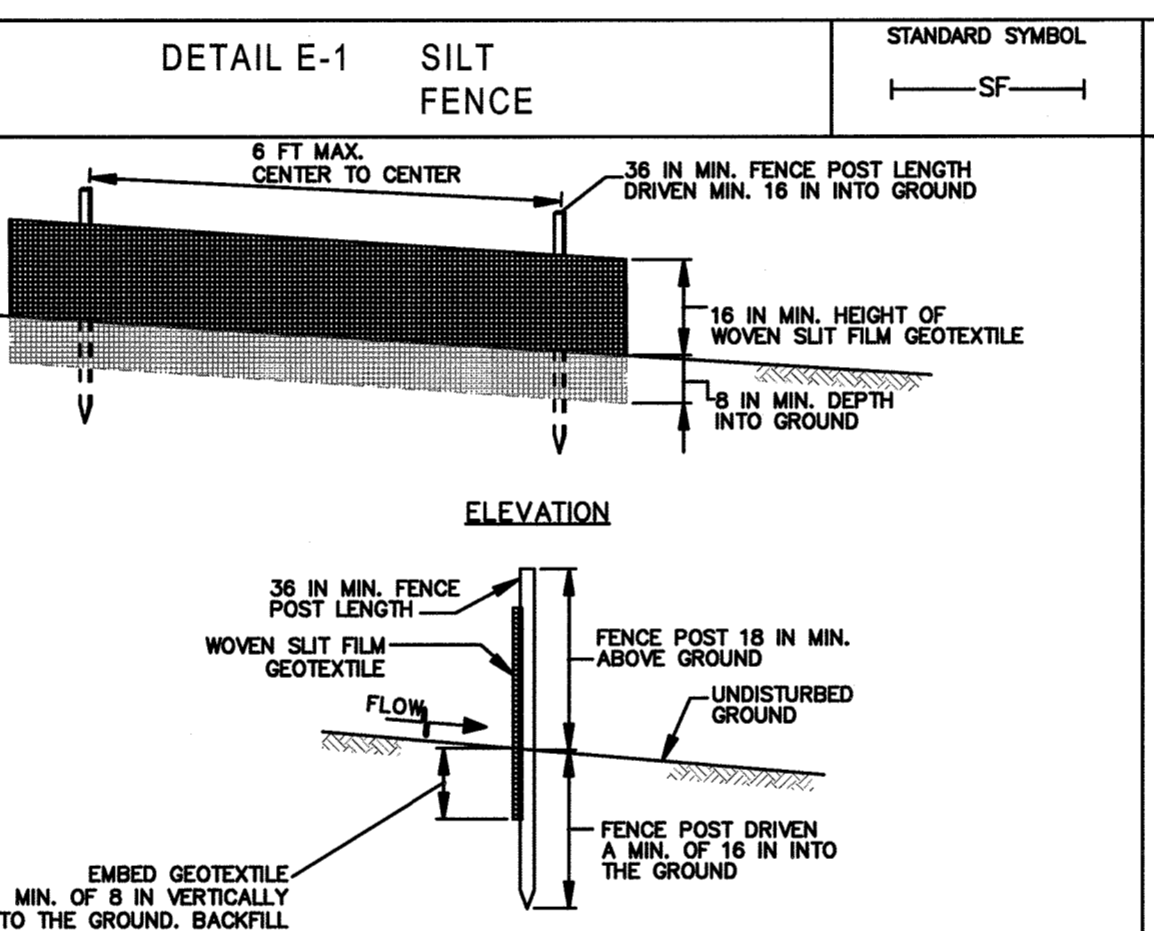
- CONSTRUCTION SPECIFICATIONS**
- RRIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
  - USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, TO PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
  - PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/8 TO 1/2 INCH MINIMUM STONE FOR 8 INCH MINIMUM DEPTH) AND RRIPRAP TO THE REQUIRED LAYS AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  - EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RRIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RRIPRAP.
  - CONSTRUCT RRIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RRIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RRIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
  - WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
  - CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
  - MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RRIPRAP DISLOCHMENT. MAKE NECESSARY REPAIRS IMMEDIATELY.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



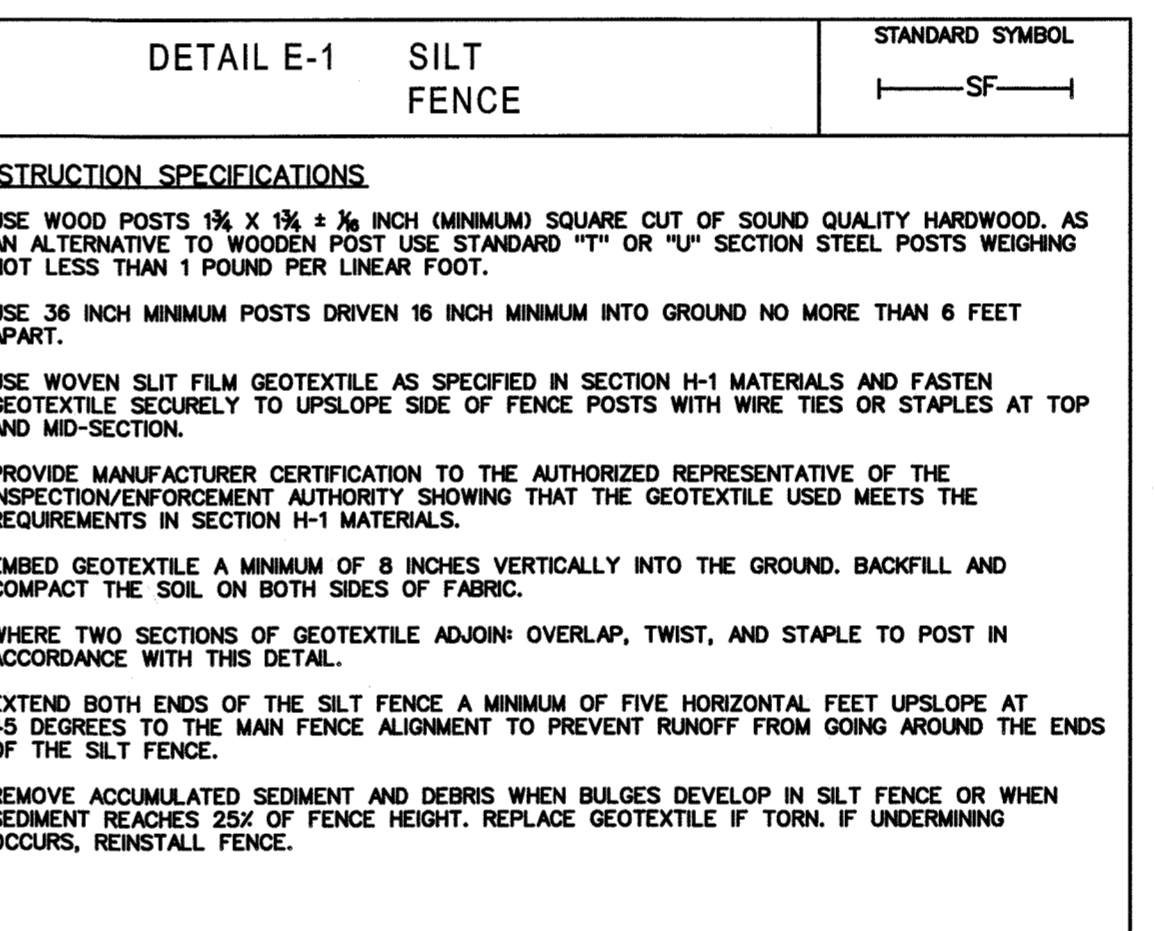
- CONSTRUCTION SPECIFICATIONS**
- USE WOVEN SILT FIBER GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
  - EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
  - FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2x4 FRAME AS SHOWN. STRETCH 1/2 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
  - FOR TYPE B, USE 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
  - BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
  - STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND PREVENT PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



- CONSTRUCTION SPECIFICATIONS**
- USE WOOD POSTS 1 3/4 X 1 3/4 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
  - USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
  - USE WOVEN SILT FIBER GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
  - PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
  - EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
  - WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
  - EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
  - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



- CONSTRUCTION SPECIFICATIONS**
- STEP 1: STAPLE
  - STEP 2: TWINE POSTS TOGETHER
  - STEP 3: STAPLE
  - FINAL CONFIGURATION
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



- CONSTRUCTION SPECIFICATIONS**
- SILT AREA ANALYSIS:
    - TOTAL AREA OF SITE: 0.99 ACRES
    - AREA DISTURBED: 1.17 ACRES
    - AREA TO BE ROOFED OR PAVED: 0.53 ACRES
    - AREA TO BE VEGETATIVELY STABILIZED: 0.46 ACRES
    - TOTAL CUT: 500 CU. YARDS
    - TOTAL FILL: 3,400 CU. YARDS
  - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE COMPLETED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
  - ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
  - ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DETERMINED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE COMPLETED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
  - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHOEVER IS SHORTER.
  - ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

**ENGINEER'S CERTIFICATE**

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SHARON K. CRUZ, PE  
DATE: 4/10/14

**DEVELOPER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

ROSS FLAX  
DATE: 5/6/14

**APPROVED : DEPARTMENT OF PLANNING AND ZONING**

John R. Robertson  
DATE: 5/21/14

**OWNER**  
CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

**DEVELOPER**  
DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

**PROJECT**  
GODDARD SCHOOL  
5633 WATERLOO RD.

**AREA TAX MAP** 37 PARCEL 286 GRID #1 ZONED B-1  
1ST ELECTION DISTRICT - L 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY-CARE CENTER

**TITLE**  
SEDIMENT CONTROL  
NOTES AND DETAILS

**Pennoni Associates Inc.**  
Consulting Engineers  
8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

**DESIGNED BY:** PJS  
**DRAWN BY:** ALC  
**PROJECT No.:** GODD0201  
**DATE:** FEBRUARY 28, 2014  
**SCALE:** NOT TO SCALE  
**DRAWING No.:** 6 OF 26

- SEQUENCE OF CONSTRUCTION**
- COORDINATE ALL UTILITY DISCONNECTION WITH THE APPROPRIATE UTILITY COMPANY AND REMOVE THE UTILITIES ON THE SITE IF NOT TO BE REUSED. OBTAIN THE NECESSARY LETTERS FROM THE UTILITIES NECESSARY TO OBTAIN THE DEMOLITION PERMIT. (2 WEEKS)
  - APPLY FOR AND OBTAIN ALL NECESSARY PERMITS REQUIRED FOR DEMOLITION OF THE EXISTING DWELLING. (1 MONTH)
  - CONDUCT A PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (1 DAY)
  - OBTAIN GRADING PERMIT. (1 DAY)
  - CLEAR AND GRUB AND INSTALL STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER SUPER SILT FENCE. (3 DAYS)
  - UPON APPROVAL OF PERIMETER CONTROL INSTALLATION BY COUNTY INSPECTOR, BEGIN REMOVAL OF THE DWELLING, WOOD DECK, OVERHEAD WIRES, STAIRS, CHAINLINK FENCES & GATES AS IDENTIFIED ON THE DEMOLITION PLAN OR AS NORMALLY REQUIRED TO PREPARE THE SITE FOR CONSTRUCTION. RETURN ALL METERS TO THE APPROPRIATE UTILITY COMPANY AS DIRECTED BY THOSE COMPANIES. (1 WEEK)
  - BEGIN REMOVAL OF PAVED SURFACES. IMMEDIATELY STABILIZE WITH SEED AND MULCH AND WATER AS NECESSARY TO ESTABLISH VEGETATION. (4 DAYS)
  - UPON COMPLETION OF REMOVAL OF PAVEMENT, INSTALL WATER MAIN AND WATER & SEWER HOUSE CONNECTIONS. (1 WEEK)
  - INSTALL STORM DRAIN SYSTEM. DELAY CONSTRUCTION OF MICROBIOTRETENTION UNTIL SITE IS STABILIZED. INSTALL INLET PROTECTION AT EACH STORM DRAIN INLET. (1 WEEK)
  - INSTALL CURB AND GUTTER AND CONCRETE HEADER CURB. CONSTRUCT THE SUBGRADE OF THE ASPHALT AND NON PERMEABLE CONCRETE PAVEMENT ON THE SITE. DO NOT CONSTRUCT EXCAVATE FOR 14. FINISH PAVING AND LANDSCAPING ON THE SITE. (2 WEEKS)
  - UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-4), TEMPORARY SEEDING (SEC. B-4-4), AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

**HOWARD SOIL CONSERVATION DISTRICT**  
**STANDARD SEDIMENT CONTROL NOTES**

**CONSTRUCTION SPECIFICATIONS**

- STEP 1: STAPLE
- STEP 2: TWINE POSTS TOGETHER
- STEP 3: STAPLE
- FINAL CONFIGURATION

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.
PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.
CRITERIA

- A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT...
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
i. SOIL PH BETWEEN 6.0 AND 7.0.
ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE...
b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN...
d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION.

- B. TOPSOILING
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY...
b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON Ivy, THISTLE, OR OTHERS AS SPECIFIED.
c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
6. TOPSOIL APPLICATION
a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

- C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

- 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.
PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.
CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.
CRITERIA

- A. SEEDING
1. SPECIFICATIONS
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE DROUGHT THAW.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
b. DRILL OR CULTPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
i. CULTPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
1. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
B. MULCHING
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
ii. WCFM, INCLUDING DYE, MUST CONTAIN NO IMPERMINATION OR GROWTH INHIBITING FACTORS.
iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL BEHEAVY IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

- I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), OCA-70, PETROSET, TERRA TACK II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.
PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.
CRITERIA

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

Table with columns: Hardness Zone, Seed Mixture, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for Annual Ryegrass, Barley, Oats, and Pearl Millet.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.
PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.
CRITERIA

- A. SEED MIXTURES
1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 1/2 TO 1 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
2. TURFGRASS MIXTURES
a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES
SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"
CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.
c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
WESTERN MD.: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL
MD.: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD. EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

Table for Permanent Seeding Summary with columns: Hardness Zone, Seed Mixture, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for Tall Fescue, Kentucky Bluegrass, and Kentucky Bluegrass/Perennial Ryegrass.

- B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
1. GENERAL SPECIFICATIONS
a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST SUPPORT TOP GROWTH AND THATCH. BROKEN PAIDS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION
d. SOD MUST NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
2. SOD INSTALLATION
a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE
a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION
CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.
PURPOSE
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.
CONDITIONS WHERE PRACTICE APPLIES
AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.
SPECIFICATIONS
1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.
3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLOSD TO THE SURFACE BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION: SPRINKLE SIE WITH WATER UNTIL THE SURFACE IS MOST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.
5. BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURPL FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

Table with columns: U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE, 2011, MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND SLOPES STEEPER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND
B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE
SHARON K. CRUZ, PE 4/10/14
DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE
ROSS FLAX 5/6/14
HOWARD SCD

APPROVED : DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division DATE
Chief, Division of Land Development DATE
DIRECTOR DATE

Form for Sediment Control Notes and Details including Project (Goddard School), Area Tax Map, Title, and Designer/Drawn By information.

SEE SHEET 25 FOR DETAILED SWM PLAN IN THIS AREA

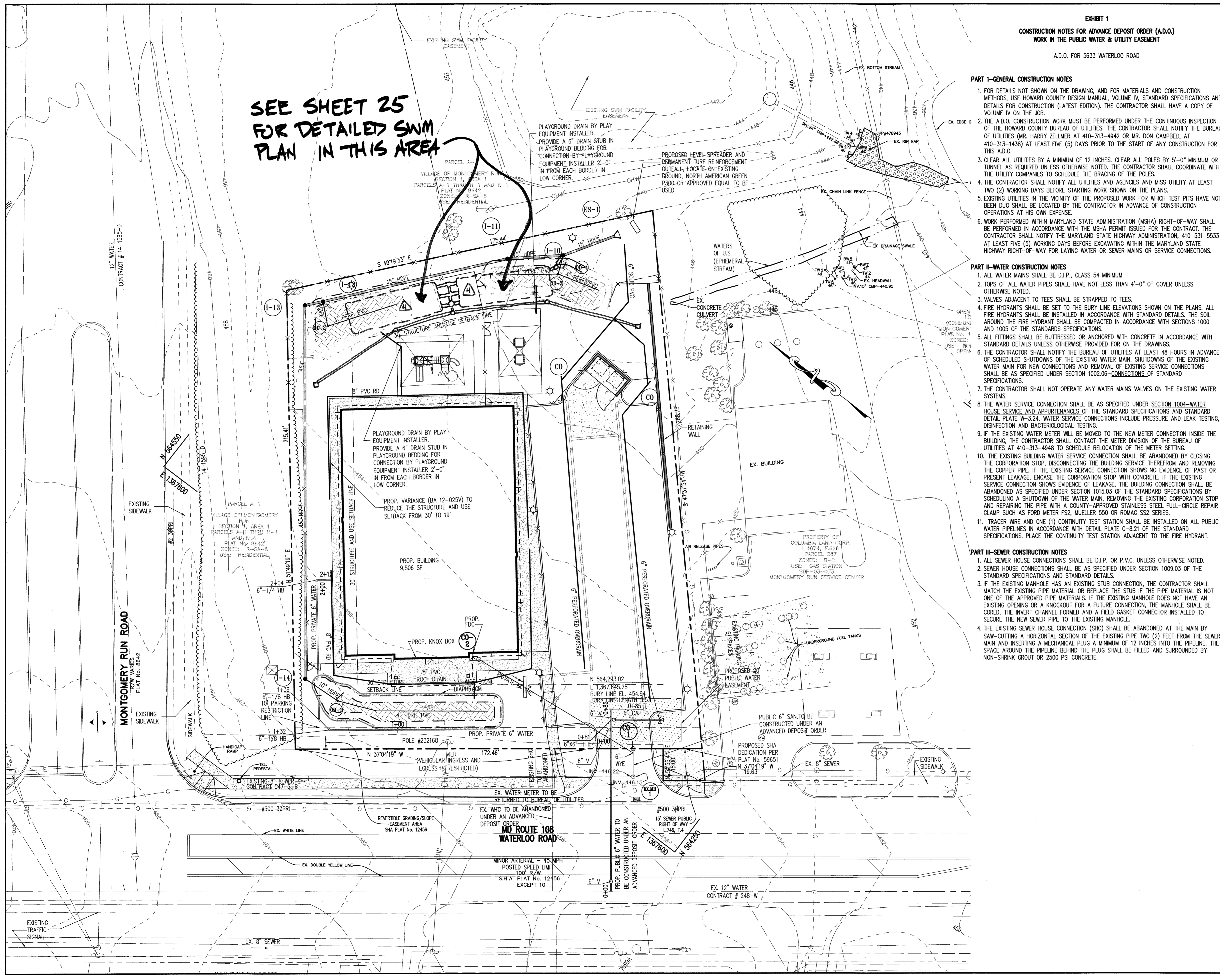


EXHIBIT 1  
CONSTRUCTION NOTES FOR ADVANCE DEPOSIT ORDER (A.D.O.)  
WORK IN THE PUBLIC WATER & UTILITY EASEMENT  
A.D.O. FOR 5633 WATERLOO ROAD

**LEGEND**

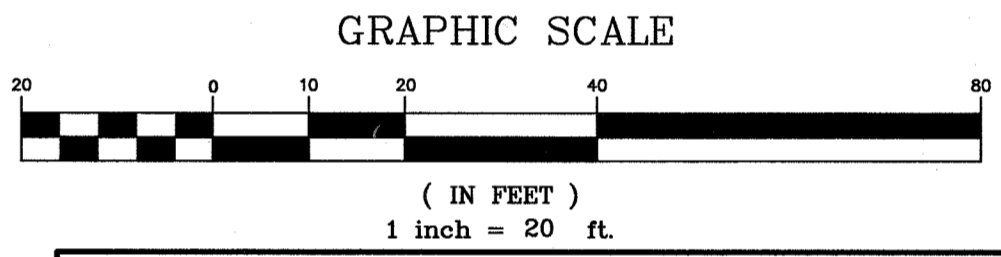
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED UTILITY EASEMENT

NOTE: ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUALS VOL. II AND IV.

- PART I—GENERAL CONSTRUCTION NOTES**
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
  - THE A.D.O. CONSTRUCTION WORK MUST BE PERFORMED UNDER THE CONTINUOUS INSPECTION OF THE HOWARD COUNTY BUREAU OF UTILITIES. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES (MR. HARRY ZELMER AT 410-313-4942 OR MR. DON CAMPBELL AT 410-313-1438) AT LEAST FIVE (5) DAYS PRIOR TO THE START OF ANY CONSTRUCTION FOR THIS A.D.O.
  - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITIES COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
  - THE CONTRACTOR SHALL NOTIFY ALL UTILITIES AND AGENCIES AND MISS UTILITY AT LEAST TWO (2) WORKING DAYS BEFORE STARTING WORK SHOWN ON THE PLANS.
  - EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
  - WORK PERFORMED WITHIN MARYLAND STATE ADMINISTRATION (MSHA) RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE MSHA PERMIT ISSUED FOR THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE MARYLAND STATE HIGHWAY ADMINISTRATION, 410-531-5533 AT LEAST FIVE (5) WORKING DAYS BEFORE EXCAVATING WITHIN THE MARYLAND STATE HIGHWAY RIGHT-OF-WAY FOR LAYING WATER OR SEWER MAINS OR SERVICE CONNECTIONS.

- PART II—WATER CONSTRUCTION NOTES**
- ALL WATER MAINS SHALL BE D.I.P., CLASS 54 MINIMUM.
  - TOPS OF ALL WATER PIPES SHALL HAVE NOT LESS THAN 4'-0" OF COVER UNLESS OTHERWISE NOTED.
  - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
  - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE PLANS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTIONS 1000 AND 1005 OF THE STANDARDS SPECIFICATIONS.
  - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
  - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES AT LEAST 48 HOURS IN ADVANCE OF SCHEDULED SHUTDOWNS OF THE EXISTING WATER MAIN. SHUTDOWNS OF THE EXISTING WATER MAIN FOR NEW CONNECTIONS AND REMOVAL OF EXISTING SERVICE CONNECTIONS SHALL BE AS SPECIFIED UNDER SECTION 1002.06—CONNECTIONS OF STANDARD SPECIFICATIONS.
  - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAINS VALVES ON THE EXISTING WATER SYSTEMS.
  - THE WATER SERVICE CONNECTION SHALL BE AS SPECIFIED UNDER SECTION 1004—WATER HOUSE SERVICE AND APPURTENANCES OF THE STANDARD SPECIFICATIONS AND STANDARD DETAIL PLATE W-3.24. WATER SERVICE CONNECTIONS INCLUDE PRESSURE AND LEAK TESTING, DISINFECTION AND BACTERIOLOGICAL TESTING.
  - IF THE EXISTING WATER METER WILL BE MOVED TO THE NEW METER CONNECTION INSIDE THE BUILDING, THE CONTRACTOR SHALL CONTACT THE METER DIVISION OF THE BUREAU OF UTILITIES AT 410-313-4948 TO SCHEDULE RELOCATION OF THE METER SETTING.
  - IF THE EXISTING BUILDING WATER SERVICE CONNECTION SHALL BE ABANDONED BY CLOSING THE CORPORATION STOP, DISCONNECTING THE BUILDING SERVICE THEREFROM AND REMOVING THE COPPER PIPE. IF THE EXISTING SERVICE CONNECTION SHOWS NO EVIDENCE OF PAST OR PRESENT LEAKAGE, ENCASE THE CORPORATION STOP WITH CONCRETE. IF THE EXISTING SERVICE CONNECTION SHOWS EVIDENCE OF LEAKAGE, THE BUILDING CONNECTION SHALL BE ABANDONED AS SPECIFIED UNDER SECTION 1015.03 OF THE STANDARD SPECIFICATIONS BY SCHEDULING A SHUTDOWN OF THE WATER MAIN, REMOVING THE EXISTING CORPORATION STOP AND REPAIRING THE PIPE WITH A COUNTY-APPROVED STAINLESS STEEL FULL-CIRCLE REPAIR CLAMP SUCH AS FORD METER FS2, MUELLER 550 OR ROMAC SS2 SERIES.
  - TRACER WIRE AND ONE (1) CONTINUITY TEST STATION SHALL BE INSTALLED ON ALL PUBLIC WATER PIPES IN ACCORDANCE WITH DETAIL PLATE G-8.21 OF THE STANDARD SPECIFICATIONS. PLACE THE CONTINUITY TEST STATION ADJACENT TO THE FIRE HYDRANT.

- PART III—SEWER CONSTRUCTION NOTES**
- ALL SEWER HOUSE CONNECTIONS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
  - SEWER HOUSE CONNECTIONS SHALL BE AS SPECIFIED UNDER SECTION 1009.03 OF THE STANDARD SPECIFICATIONS AND STANDARD DETAILS.
  - IF THE EXISTING MANHOLE HAS AN EXISTING STUB CONNECTION, THE CONTRACTOR SHALL MATCH THE EXISTING PIPE MATERIAL OR REPLACE THE STUB IF THE PIPE MATERIAL IS NOT ONE OF THE APPROVED PIPE MATERIALS. IF THE EXISTING MANHOLE DOES NOT HAVE AN EXISTING OPENING OR A KNOCKOUT FOR A FUTURE CONNECTION, THE MANHOLE SHALL BE CORED, THE INVERT CHANNEL FORMED AND A FIELD GASKET CONNECTOR INSTALLED TO SECURE THE NEW SEWER PIPE TO THE EXISTING MANHOLE.
  - THE EXISTING SEWER HOUSE CONNECTION (SHO) SHALL BE ABANDONED AT THE MAIN BY SAW-CUTTING A HORIZONTAL SECTION OF THE EXISTING PIPE TWO (2) FEET FROM THE SEWER MAIN AND INSERTING A MECHANICAL PLUG A MINIMUM OF 12 INCHES INTO THE PIPELINE. THE PLUG AROUND THE PIPELINE BEHIND THE PLUG SHALL BE FILLED AND SURROUNDED BY NON-SHRINK GROUT OR 2500 PSI CONCRETE.



APPROVED : DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 5.21.14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

*[Signature]* 5.27.14  
CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

*[Signature]* 5/27/14  
DIRECTOR DATE

DATE	NO.	REVISION
9-4-19	4	REMOVE MB#1 + MB#3

OWNER: CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

PROJECT: **GODDARD SCHOOL**  
5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
1ST ELECTION DISTRICT L 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

TITLE: **UTILITY PLAN**

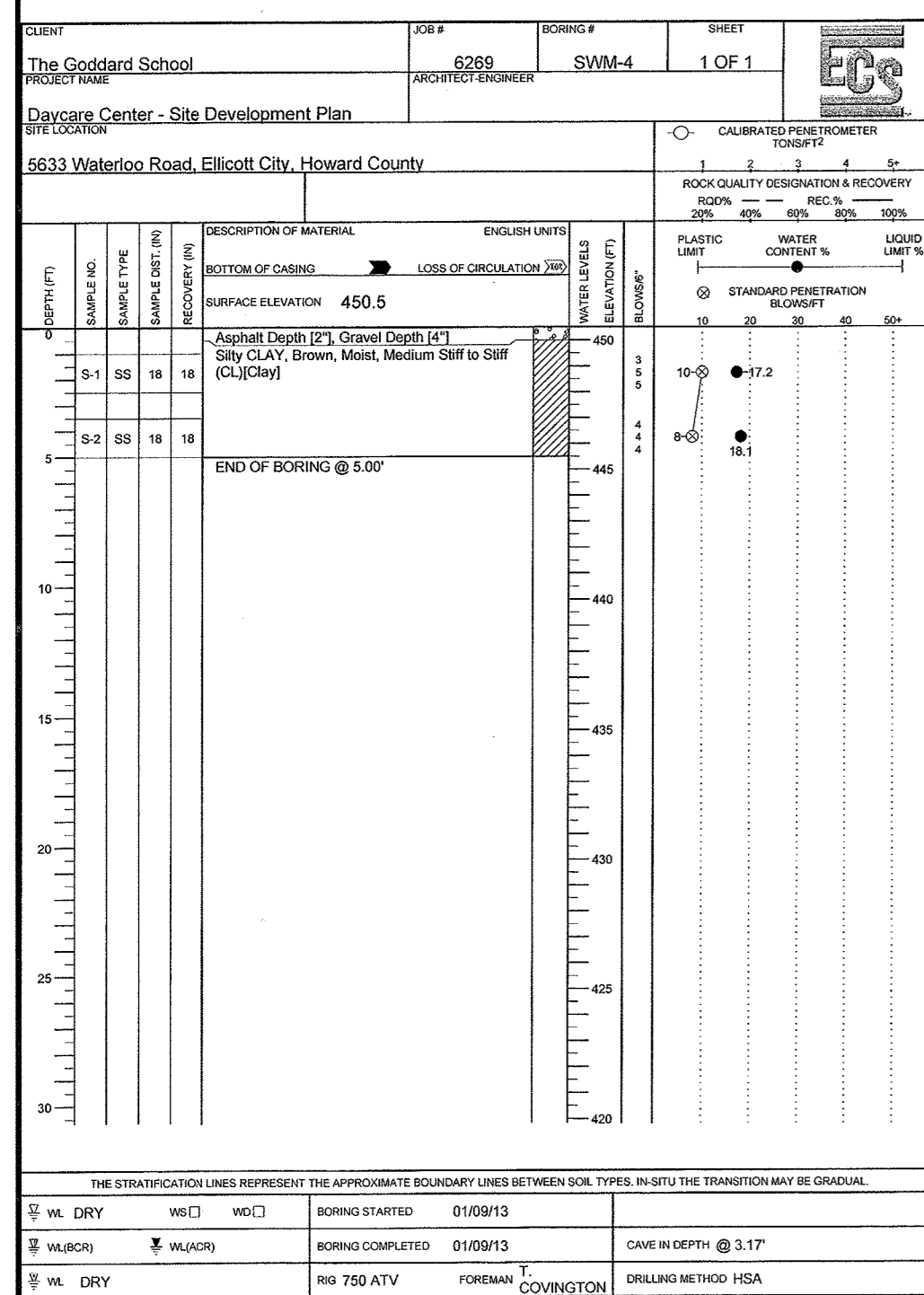
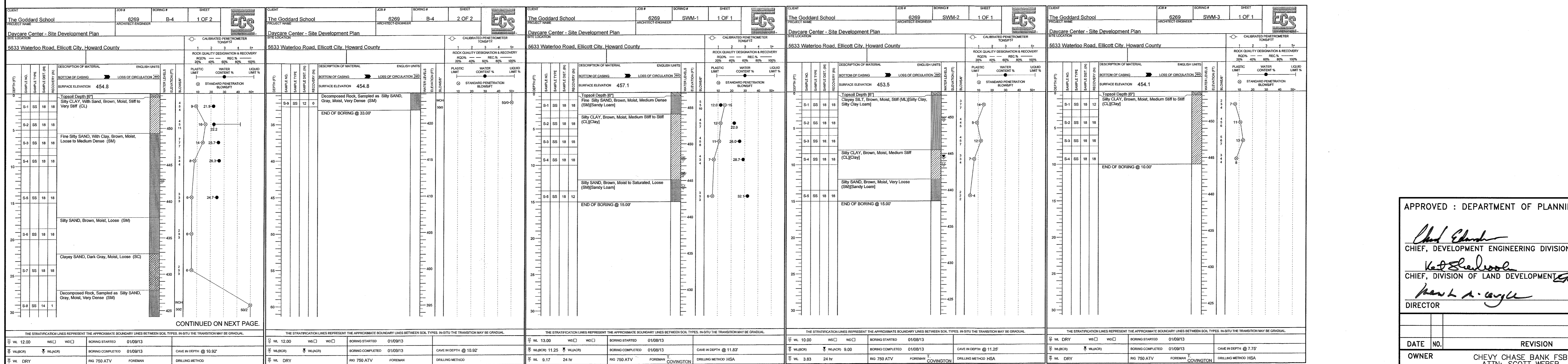
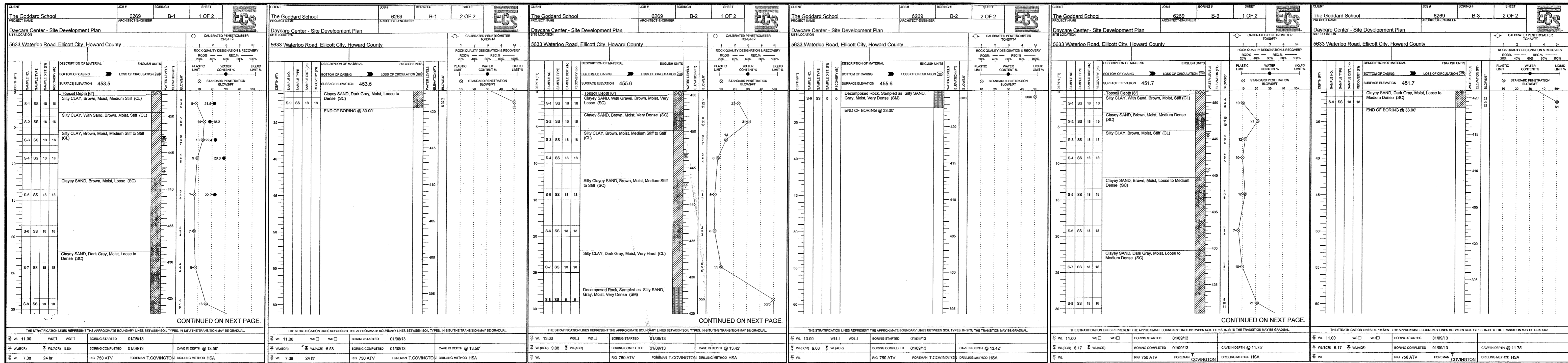
Pennoni Associates Inc.  
Consulting Engineers  
8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

**Pennoni**

SEAL: [Professional Engineer Seal]

DESIGNED BY: PJS  
DRAWN BY: ALIC  
PROJECT No.: G0001201  
DATE: FEBRUARY 28, 2014  
SCALE: 1" = 20'  
DRAWING No. 8 OF 24





APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Chad Glendon* 5-21-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

*W. B. Shadlock* 5-27-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

*Kevin A. Anglin* 5/28/14  
 DIRECTOR DATE

DATE	NO.	REVISION

OWNER: CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT: **GODDARD SCHOOL**  
 5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 659 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

TITLE: **SOIL BORING LOGS**

Pennoni Associates Inc.  
 Consulting Engineers 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT No.: G00D1201  
 DATE : FEBRUARY 28, 2014  
 SCALE: AS SHOWN  
 DRAWING No. 9 OF 22

SEE SHEET 25 FOR DETAILED SWM PLAN IN THIS AREA

LEGEND  
 - - - - - PROPOSED DRAINAGE DIVIDE

ESDv SUMMARY

TREATMENT	75% ESDv REQUIRED	ESDv PROVIDED	75% Pe REQUIRED	Pe PROVIDED
PERMEABLE CONCRETE PAVEMENT (A-2)	600	728 CF	-	-
MICRO-BIORETENTION #1 (M-6)	866	918 CF	-	-
MICRO-BIORETENTION #2 (M-6)	789	932 CF	-	-
MICRO-BIORETENTION #3 (M-6)	823	826 CF	-	-
<b>TOTAL</b>	<b>3,270 CF</b>	<b>3,404 CF</b>	<b>1.47'</b>	<b>1.55'</b>

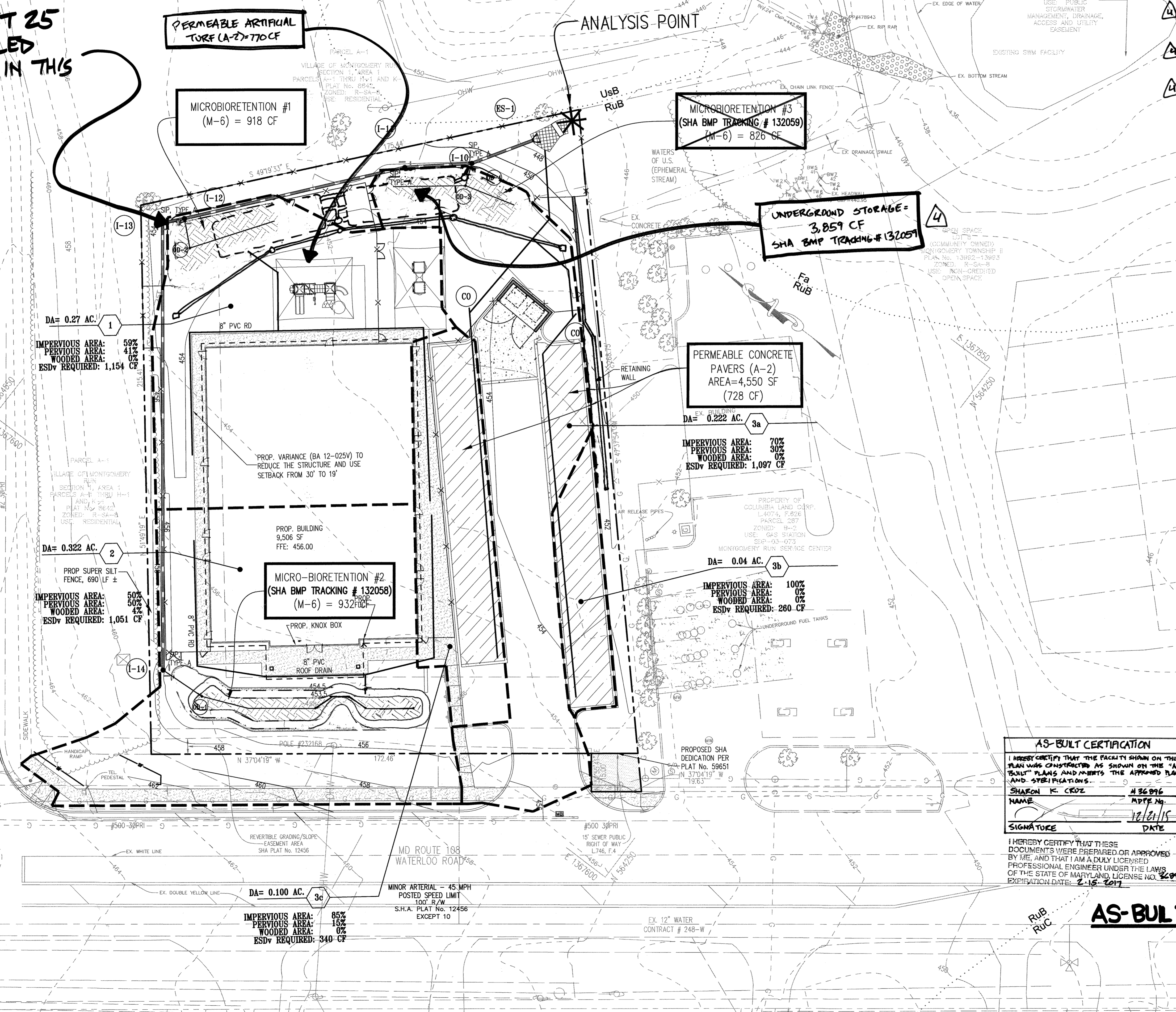
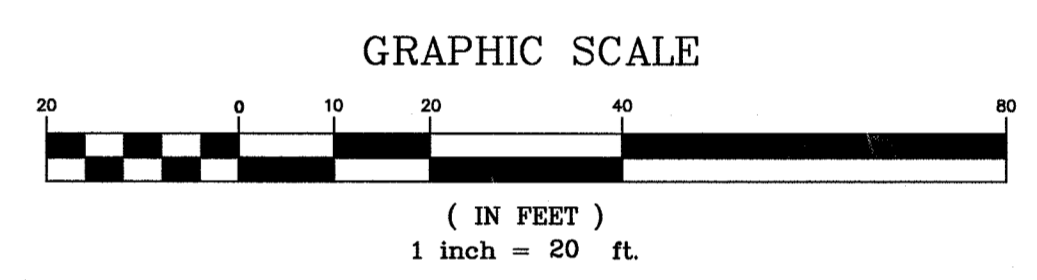
SEE SHEET 24 FOR UPDATED ESDv SUMMARY CHART

10 YEAR

DRAINAGE AREA	AREA (ACRES)	RUNOFF (cfs)	C	P
1	0.272	1.79	0.58	42%
2	0.322	2.03	0.53	50%
3*	0.362	2.59	0.76	23%

\* AREA 3 INCLUDES AREAS 3a, 3b AND 3c.

NOTE: ALL SOILS ON SITE ARE TYPE C.



APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Scott Weber* 5-21-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Scott Weber* 5-21-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Paul A. C. ...* 5-22-14  
 DIRECTOR DATE

9-1-19 2 REMOVE MB #1 + MB #3  
 8-25-14 1 REUSE RETAINING WALL AND MICROBIO #2

OWNER  
 CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER  
 DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT  
**GODDARD SCHOOL**  
 5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 659 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

TITLE  
**STORMWATER MANAGEMENT DRAINAGE AREA MAP**

Pennoni Associates Inc.  
 Consulting Engineers 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT No.: G00D1201  
 DATE : FEBRUARY 28, 2014  
 SCALE: 1" = 20'  
 DRAWING No. 10 OF 25

AS-BUILT CERTIFICATION

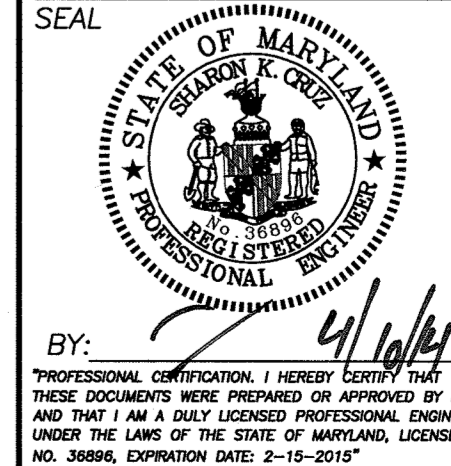
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

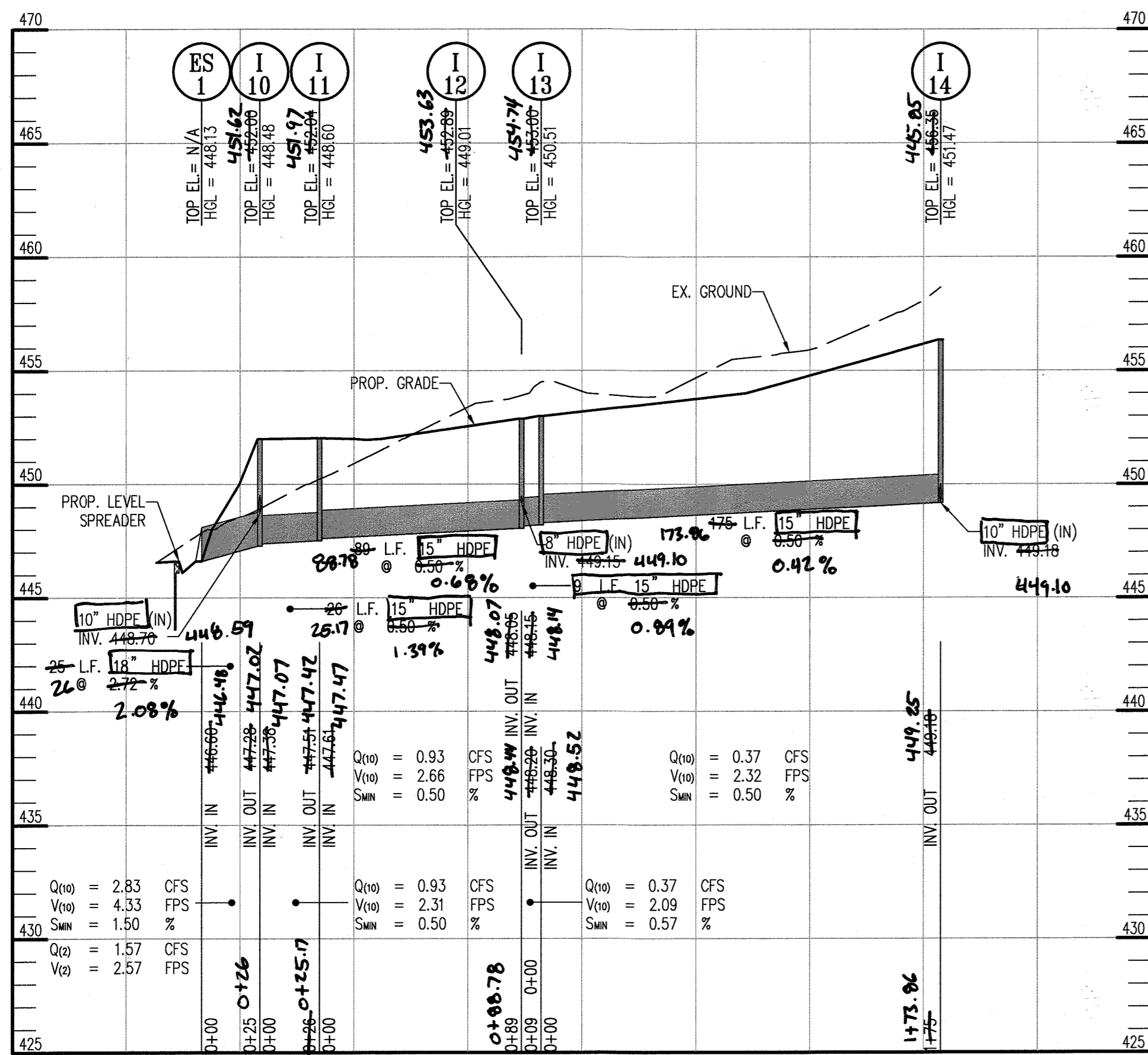
SHARON K. COZZI 4/30/15  
 NAME DATE

SIGNATURE DATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20094. EXPIRATION DATE: 2-15-2017

AS-BUILT

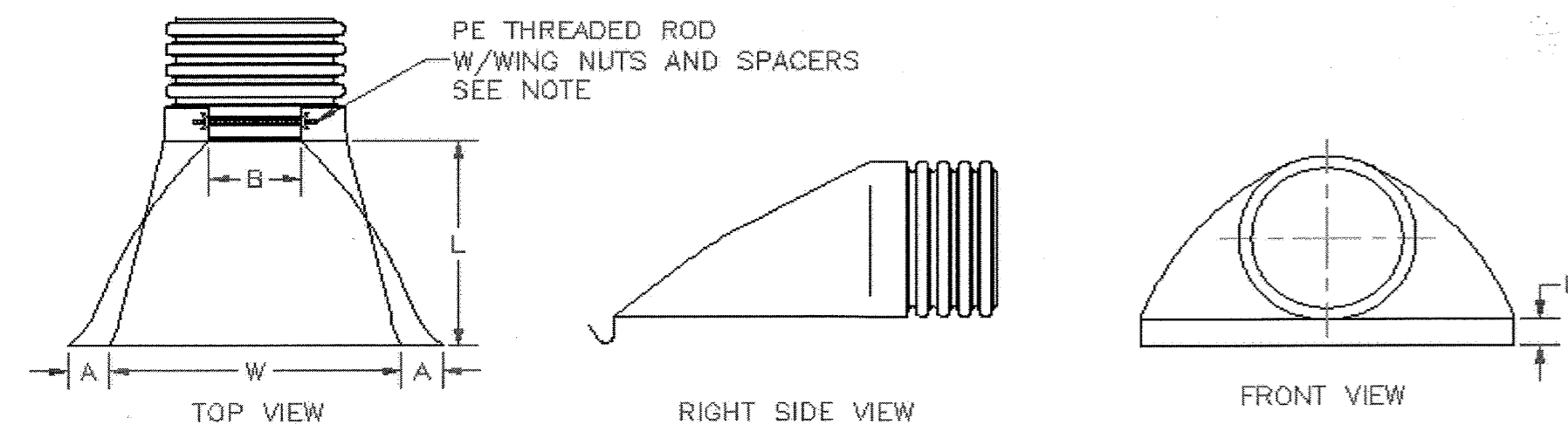




**STORMWATER OUTFALL PROFILE**

SCALE: HOR: 1"=50'  
VERT: 1"=5'

**FLARED END SECTIONS**

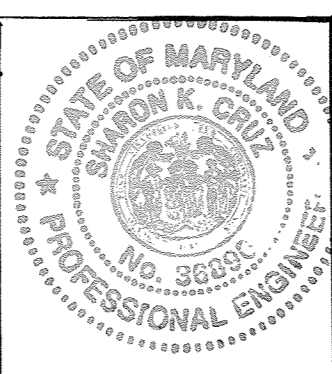


PART #	PIPE SIZE	A	B(MAX)	H	L	W
1210NP	12 in (300 mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	29.0 in (737 mm)
1510NP	15 in (375 mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	29.0 in (737 mm)
1810NP	18 in (450 mm)	7.5 in (191 mm)	15.0 in (381 mm)	6.5 in (165 mm)	32.0 in (813 mm)	35.0 in (889 mm)
2410NP	24 in (600 mm)	7.5 in (191 mm)	18.0 in (457 mm)	6.5 in (165 mm)	36.0 in (914 mm)	45.0 in (1143 mm)
3015NP	30 in (750 mm)	7.5 in (191 mm)	12.0 in (305 mm)	8.6 in (218 mm)	58.0 in (1473 mm)	63.0 in (1600 mm)
3615NP	36 in (900 mm)	7.5 in (191 mm)	25.0 in (635 mm)	8.6 in (218 mm)	58.0 in (1473 mm)	63.0 in (1600 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
**SHARON K. CRUZ**  
 NAME: SHARON K. CRUZ  
 SIGNATURE: [Signature]  
 DATE: 2/21/15



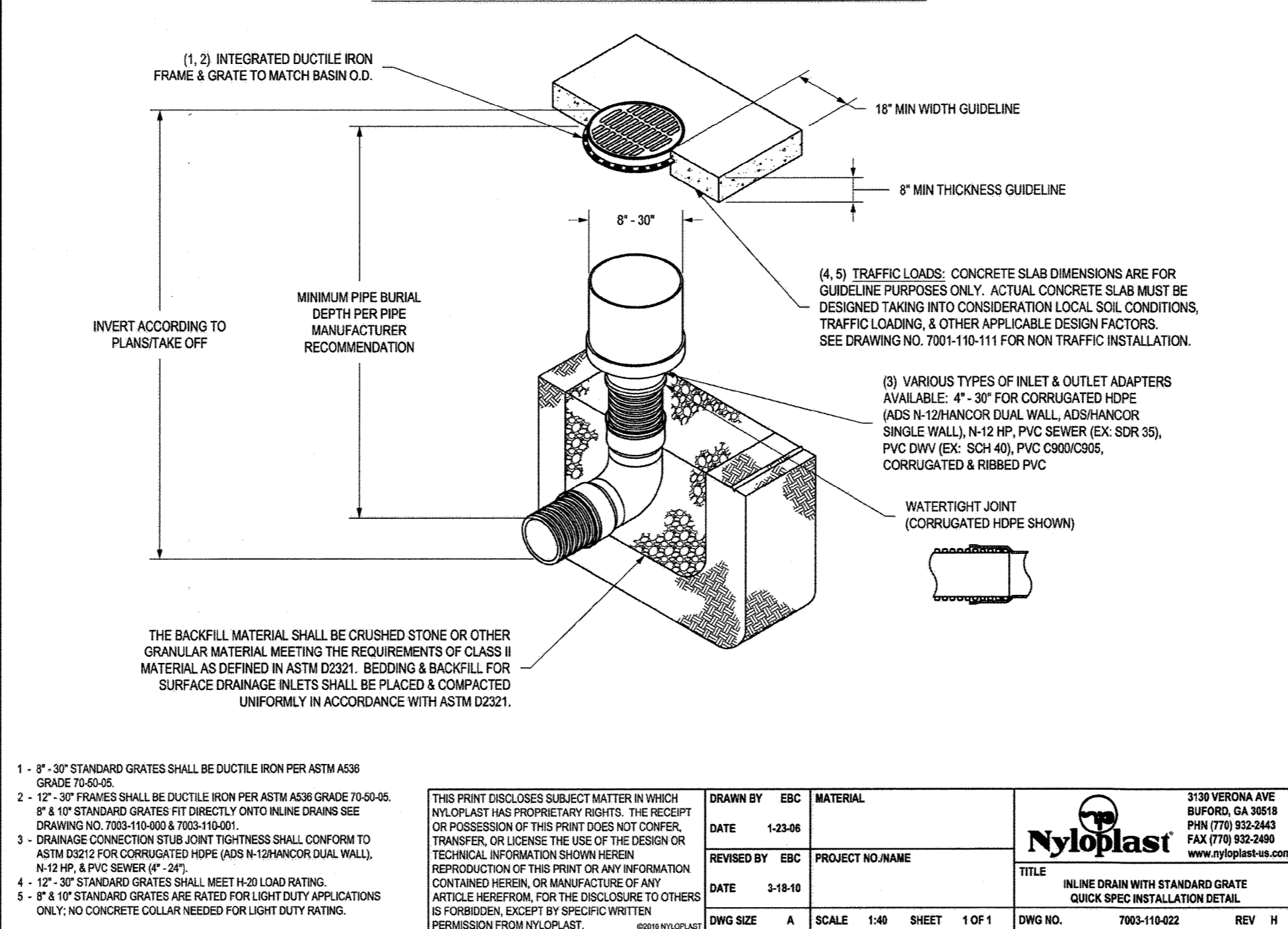
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 36096, EXPIRATION DATE: 2-15-2017.

**AS-BUILT**

**STRUCTURE SCHEDULE**

NUMBER	TYPE	LOCATION		INVERTS		TOP ELEVATION	REMARKS
		STATION	OFFSET	INV IN	INV OUT		
ES-1	18" ADS HDPE FLARED END SECTION	SEE	PLAN	446.60-446.18	446.60-446.48	-	SEE DETAIL THIS SHEET
I-10	NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	447.38-447.07	447.28-447.02	452.00-451.62	SEE DETAIL THIS SHEET
I-11	NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	447.61-447.47	447.51-447.42	452.04-451.97	SEE DETAIL THIS SHEET
I-12	NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	448.15-448.14	448.05-448.07	452.08-453.63	SEE DETAIL THIS SHEET
I-13	NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	448.38-448.52	448.44-448.44	452.00-451.74	SEE DETAIL THIS SHEET
I-14	NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	448.18-449.30	448.18-449.25	452.35-455.05	SEE DETAIL THIS SHEET
OD-1	10" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	448.47-449.39	448.47-449.32	454.75-455.84	SEE DETAIL THIS SHEET
OD-2	8" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	447.67-449.96	447.67-449.06	452.25-454.36	SEE DETAIL THIS SHEET
OD-3	10" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	447.47-447.09	447.47-447.09	452.25-452.19	SEE DETAIL THIS SHEET
OD-4	10" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	447.47-447.06	447.47-447.02	452.25-452.16	SEE DETAIL THIS SHEET

**NYLOPLAST INLINE DRAIN WITH STANDARD GRATE**



- 1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-40-6.
- 2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-40-6.
- 3 - 18" - 30" STANDARD GRATES FIT DIRECTLY ONTO INLINE DRAINS SEE DRAWING NO. 700-110-111 FOR NON TRAFFIC INSTALLATION.
- 4 - DRAINAGE CONNECTION JOINT TIGHTNESS SHALL CONFORM TO ASTM D2013 FOR CORRUGATED HDPE (ADS N-12/NONCORR DUAL WALL), N-12 HP, & PVC SEWER (P-30).
- 5 - 12" - 30" STANDARD GRATES SHALL MEET H20 LOAD RATING.
- 6 - 8" - 18" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY. NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

**Nyloplast**  
 3130 VERONA AVE  
 SUFORD, GA 30619  
 PH: (770) 882-2443  
 FAX: (770) 882-2460  
 www.nyloplast.com

DATE: 1-23-06  
 REVISION: 1-23-06  
 DATE: 3-18-10  
 DWG SIZE: A SCALE: 1:40 SHEET: 1 OF 1 DWG NO.: 700-110-111 REV: H

**HDPE SPECIFICATIONS**

CORRUGATED HIGH-DENSITY POLYETHYLENE STORM DRAIN (HDPE) PIPE FOR ON-SITE DRAINAGE AND UNDERGROUND DETENTION SYSTEM SHALL MEET THE REQUIREMENTS OF AASHTO M294. AASHTO WALL TYPE MAY BE TYPE "S" OR TYPE "D". PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN PE COMPOUNDS AND SHALL CONFORM TO THE APPLICABLE CURRENT EDITION OF THE AASHTO MATERIAL SPECIFICATIONS FOR CELL CLASSIFICATIONS AS DEFINED AND DESCRIBED IN ASTM D3350.

PIPES SHALL BE CONNECTED THROUGH A BELL AND SPIGOT CONNECTION. A RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM F477 SHALL BE SUPPLIED ON THE SPIGOT END. THE PIPE SHALL BE WATER TIGHT TO 10.8 PSI PER A LABORATORY TEST IN ACCORDANCE WITH ASTM D3212. THE PIPE MANUFACTURER SHALL PROVIDE CERTIFICATIONS ON JOINT INTEGRITY.

PIPE TO MANHOLE CONNECTIONS SHALL BE MADE WITH A RUBBER BOOT-TYPE CONNECTION PRECAST INTO THE MANHOLE AND SHALL BE WATER TIGHT.

PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND MANUFACTURER'S RECOMMENDATIONS.

ALL PIPES SHALL BE BEDDED ON 4" TO 6" OF (CLASS I FILL UNDER THE PIPE) AND UP TO 1/2 THE PIPE DIAMETER COMPACTED AT OPTIMUM MOISTURE CONTENT (PLUS OR MINUS 2 PERCENTAGE POINTS), AND TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED IN THE LABORATORY BY ASTM TEST METHOD D-1557-78. ALL ADDITIONAL BACKFILL SHALL MEET PRINCE GEORGE'S COUNTY SPECIFICATIONS.

CORRUGATED HDPE STORM DRAIN SHALL BE N-12 PRO-LINK WT, AS MANUFACTURED BY ADS, INC., COLUMBUS, OH, OR APPROVED EQUAL.

**NOTES:**

- 1) ALL STRUCTURES ARE HOWARD STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.
- 2) LOCATIONS ARE GIVEN TO CENTER OF STRUCTURE.
- 3) ELEVATIONS ARE GIVEN TO TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.
- 4) PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.

**PIPE SCHEDULE**

SIZE	TYPE	LINEAR FOOTAGE
4"	PERFORATED PVC	163
8"	HDPE	6
10"	HDPE	28
15"	HDPE	324
18"	HDPE	25

**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 DATE: 4/10/14

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE  
 SHARON K. CRUZ, PE

**DEVELOPER'S CERTIFICATE**  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 DATE: 4/23/14

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE  
 ROSS FLAX

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOB DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE  
5-21-14

CHIEF, DIVISION OF LAND DEVELOPMENT & DATE  
5-27-14

DIRECTOR DATE  
5/27/14

8.25.14 1 REVISE MICROBIO #2

DATE NO. REVISION

**OWNER**  
 CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

**DEVELOPER**  
 DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

**PROJECT**  
**GODDARD SCHOOL**  
 5633 WATERLOO RD.

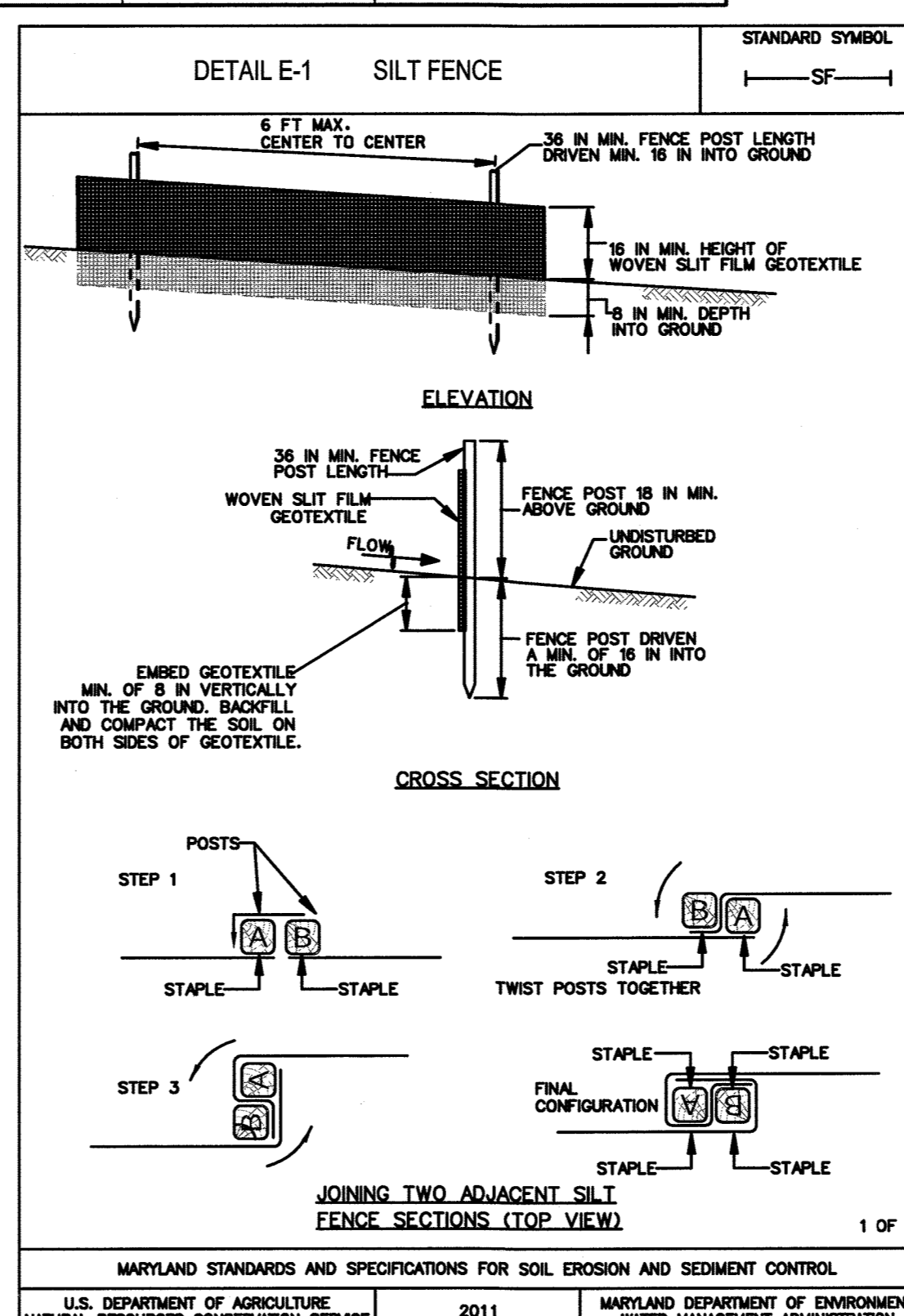
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 658 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

**TITLE**  
**STORM DRAIN PROFILES**

Pennoni Associates Inc. 8818 Centre Park Drive  
 Consulting Engineers Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

**DESIGNED BY:** JSN  
**DRAWN BY:** JSN  
**PROJECT No.:** GODD1201  
**DATE:** FEBRUARY 28, 2014  
**SCALE:** AS SHOWN

**DRAWING No. 11 OF 26**



**CONSTRUCTION SPECIFICATIONS**

1. USE WOOD POSTS 1 1/2 x 1 1/2 x 1/4 INCH (MINIMUM SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 8 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 4:5 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN IF UNDERMINING OCCURS, REINSTALL FENCE.

**DEVELOPER/GENERAL CONTRACTOR PLAYGROUND RESPONSIBILITIES**

- PLAYGROUND STRUCTURE AND SHADE STRUCTURE APPROVALS OR PERMITS IF REQUIRED. APPROVALS AND PERMITTING MAY BE REQUIRED FOR COLOR SCHEME, HEIGHT, MANUFACTURER DESIGN METHODS, ETC.
- UTILITIES CANNOT BE LOCATED UNDER OR OVER PLAYGROUND BOXES.
- ELECTRIC AND WATER ARE NEEDED ON SITE, FOR THE PLAYGROUND INSTALLERS USE. IF NOT, OTHER PRIOR ARRANGEMENTS SHALL BE MADE.
- SOILS WITHIN THE PLAYGROUND BOX DIMENSIONS SHOULD BE SUITABLE FOR PLAYGROUND INSTALLATION. SOILS SHOULD NOT CONTAIN DEBRIS AND COMPACTED TO 97% IN ACCEPTED INCREMENTS CONTAINING SUITABLE SOIL.
- PROVIDE GODDARD SYSTEM INC.'S PROJECT MANAGER WITH A TIMELINE FOR PLAYGROUND INSTALLATION. ROUGH GRADE IS REQUIRED AND SIDEWALKS SHALL BE INSTALLED PRIOR TO PLAYGROUND INSTALLATION, SOI, FENCE AND PARKING LOT TOP COAT.
- LOCATE PLAYGROUND BOXES PER SITE PLAN, EXCAVATED 6" DEEP. PLAYGROUND BOXES CANNOT EXCEED A MAXIMUM 2% GRADE. (DETAIL 18/15)
- SUB-GRADE BACKFILL MUST BE COMPACTED TO AT LEAST 97% AND SHOULD NOT CONTAIN MATERIALS SUCH AS LARGE ROCKS, SCRAP WOOD, CONCRETE SPOILS, ETC. PLAYGROUND INSTALLERS NEED TO DRILL ACCURATE HOLES FOR PLAYGROUND POLE INSTALLATION.
- INSTALL DRAINAGE SYSTEM TO EXCAVATED PLAYGROUND BOXES PER SITE PLAN. (DETAIL 18/15)
- ENSURE ADEQUATE AREA FOR PLAYGROUND INSTALLERS. STAGING AREA NEEDED TO UNLOAD AND PRE-ASSEMBLE APPROX. 1,000 CUBIC FOOT SHIPMENT OF PLAYGROUND EQUIPMENT. HOLDING AREA NEEDED TO RECEIVE DELIVERY OF APPROXIMATELY 40-50 TONS OF CRUSHED STONE. PARKING AREA NEEDED FOR TWO TRUCKS AND ONE 30' TRAILER OF EXCAVATING EQUIPMENT.
- IN ORDER TO AVOID POSSIBLE DAMAGE, PARKING LOTS SHOULD NOT HAVE TOPCOAT APPLIED AND FENCING SHOULD NOT BE INSTALLED UNTIL PLAYGROUND IS COMPLETE. IF FENCING IS INSTALLED, LEAVE OUT NECESSARY SECTIONS TO PROVIDE ACCESS TO PLAYGROUND AREA.
- ONCE COMPACTED CRUSH STONE BASE, BORDER, AND EQUIPMENT ARE IN PLACE, THEY SHOULD NOT BE DRIVEN OR WALKED ON AND SHOULD NOT BE USED FOR STORAGE AREA.
- PLAYGROUND INSTALLATION DESCRIBED ABOVE SHOULD TAKE APPROXIMATELY ONE TO FIVE DAYS, DEPENDING ON SITE CONDITIONS, WEATHER, INSTALLER CREW SIZE, ETC.
- INSTALLATION OF POUR-IN-PLACE SURFACING USUALLY TAKES PLACE ONE TO TWO WEEKS AFTER PLAYGROUND IS INSTALLED, DEPENDING MAINLY ON WEATHER CONDITIONS.
- GENERALLY ONLY THREE OR FOUR PARKING SPACES ARE NEEDED FOR SURFACING INSTALLERS. (ONE OR TWO VEHICLES AND A MIXER STAGING AREA)
- TYPICALLY, TWO MEN MIX THE SURFACING PRODUCT IN THE PARKING LOT AND TRANSPORT BY WHEELBARROW TO PLAYGROUNDS WHERE IT IS Poured AND TROWELED. THEREFORE, NO SPECIAL ALLOWANCES ARE NECESSARY (FENCING CAN BE INSTALLED AND FINISH LANDSCAPING CAN BE COMPLETED)
- THIS IS USUALLY A TWO-DAY INSTALLATION, DEPENDING MAINLY ON WEATHER CONDITIONS. IMPACT COURSE APPLIED ON DAY ONE, AND TOPCOAT (COLOR) APPLIED ON DAY TWO.
- ONCE THE TOPCOAT APPLICATION IS COMPLETE, THE BINDING AGENTS WILL TAKE A MINIMUM 24 HOURS TO CURE. DURING THAT TIME THERE IS TO BE ABSOLUTELY NO WALKING ON, PLACING OBJECTS ON, OR ALLOWING ANY DUST TO ACCUMULATE ON THE TOPCOAT SURFACE.
- FINISH GRADING AND LANDSCAPING MUST BE THE SAME ELEVATION AT THE PLAYGROUND BORDERS.
- ENSURE THAT THE SITE IS SECURE AND THAT OTHER CONTRACTORS WILL NOT BE STORING, WORKING, WALKING, ETC. ON FINISHED PLAYGROUNDS, SURFACES OR BORDERS.

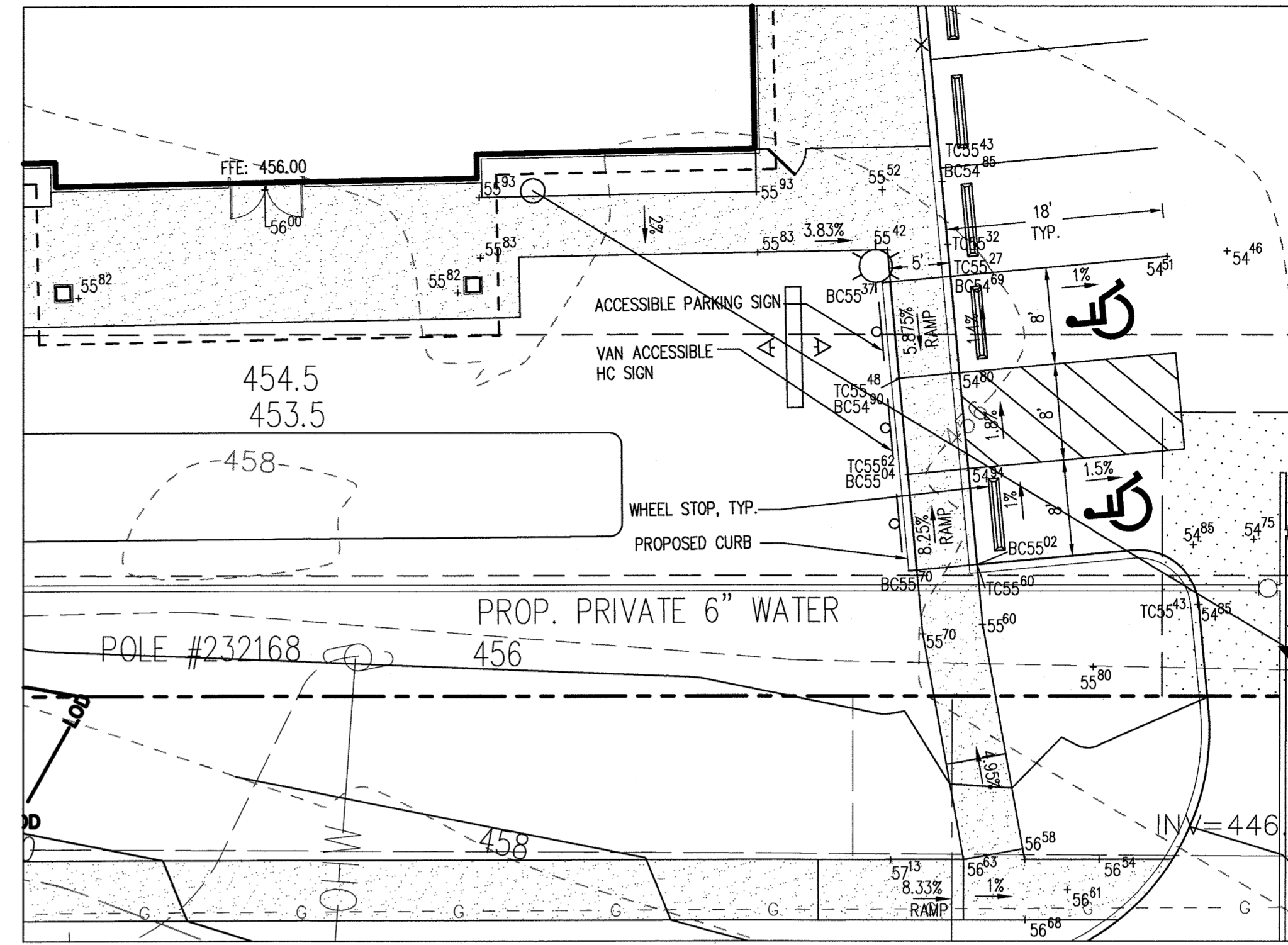
GENERAL NOTES:  
 TIMING IS IMPORTANT TO THE PROJECT MANAGER. GENERAL CONTRACTORS SHOULD BE IN CONSTANT COMMUNICATION REGARDING THE PLAYGROUND INSTALLATION IN ORDER TO AVOID UNNECESSARY AND COSTLY ADDITIONAL EXPENSES.  
 GS'S PLAYGROUND INSTALLERS TRAVEL GREAT DISTANCES, INCURRING EXPENSES FOR BOTH TRANSPORTATION AND LODGING. IN ADDITION THEY ARE REQUIRED TO RESERVE RENTAL MACHINERY IF THEY ARE TURNED AWAY BECAUSE THE SITE IS NOT READY. A TRAVEL CHARGE WILL APPLY. THIS CHARGE COULD BE SIGNIFICANT (\$40.00 PER MAN-HOUR FOR A CREW OF FIVE, LODGING AT \$150 PER ROOM PER NIGHT, AND EQUIPMENT RENTAL DEPOSITS). THEREFORE, FOLLOWING ALL OF THE ABOVE GUIDELINES, ESPECIALLY WITH RESPECT TO DISCLOSING EXCESSIVELY ROCKY CONDITIONS, PROHIBITING THE USE OF LARGE ROCKS, CEMENT, ETC. IN BACKFILL MATERIALS, AND PROVIDING THE PROJECT MANAGER AN ACCURATE TIMELINE, WILL SAVE BOTH MONEY AND TIME.

WATER AND SEWER PIPE SCHEDULE		
SIZE	TYPE	LINEAR FOOTAGE
6" SEWER	PVC SDR 35	84 (PRIVATE) 13 (PUBLIC)
6" WATER	DIP	212 (PRIVATE) 87 (PUBLIC)

SEWER STRUCTURE SCHEDULE							
NUMBER	TYPE	LOCATION		INVERTS		TOP ELEVATION	REMARKS
		NORTHING	EASTING	INV. IN	INV. OUT		
EX MH1	EXISTING MANHOLE	564,287	1,367,616	*	446.15	454.80 (EX) 455.60 (PROP.)	--
CO-1	CLEANOUT	564,295	1,367,627	446.65	446.25	455.20	PROVIDE A TRAFFIC BEARING CLEANOUT
CO-2	CLEANOUT			452.00	446.75	455.80	

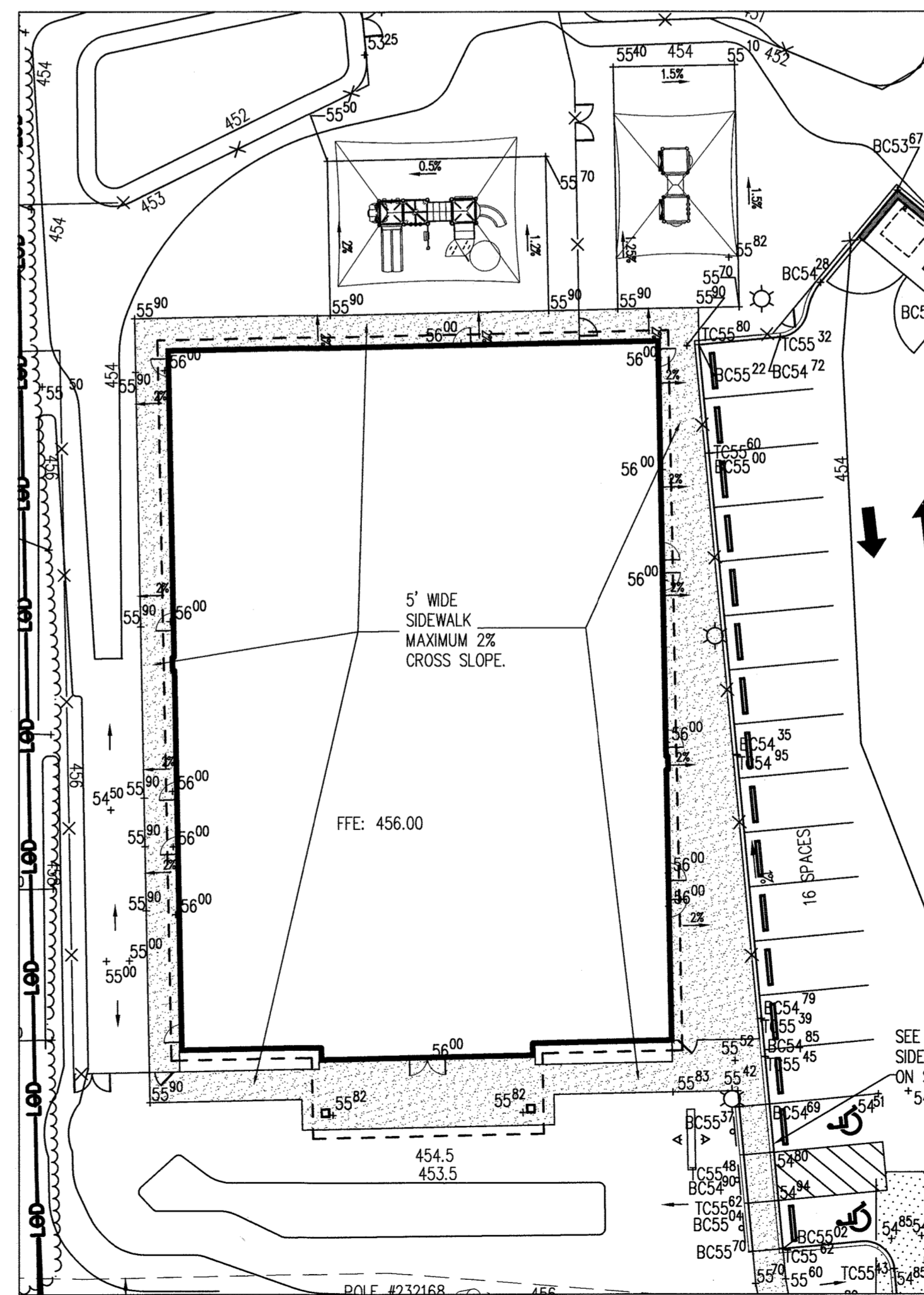
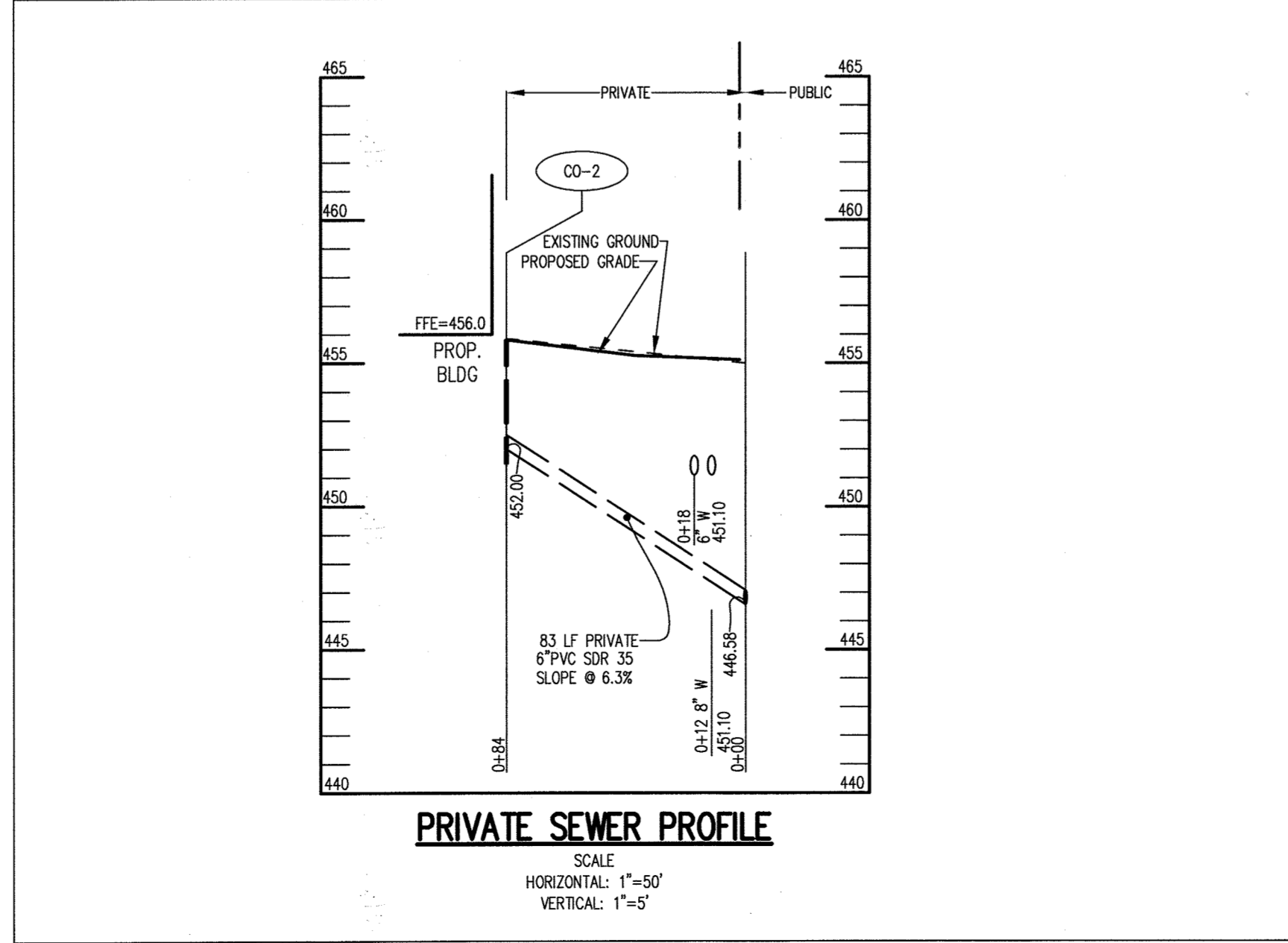
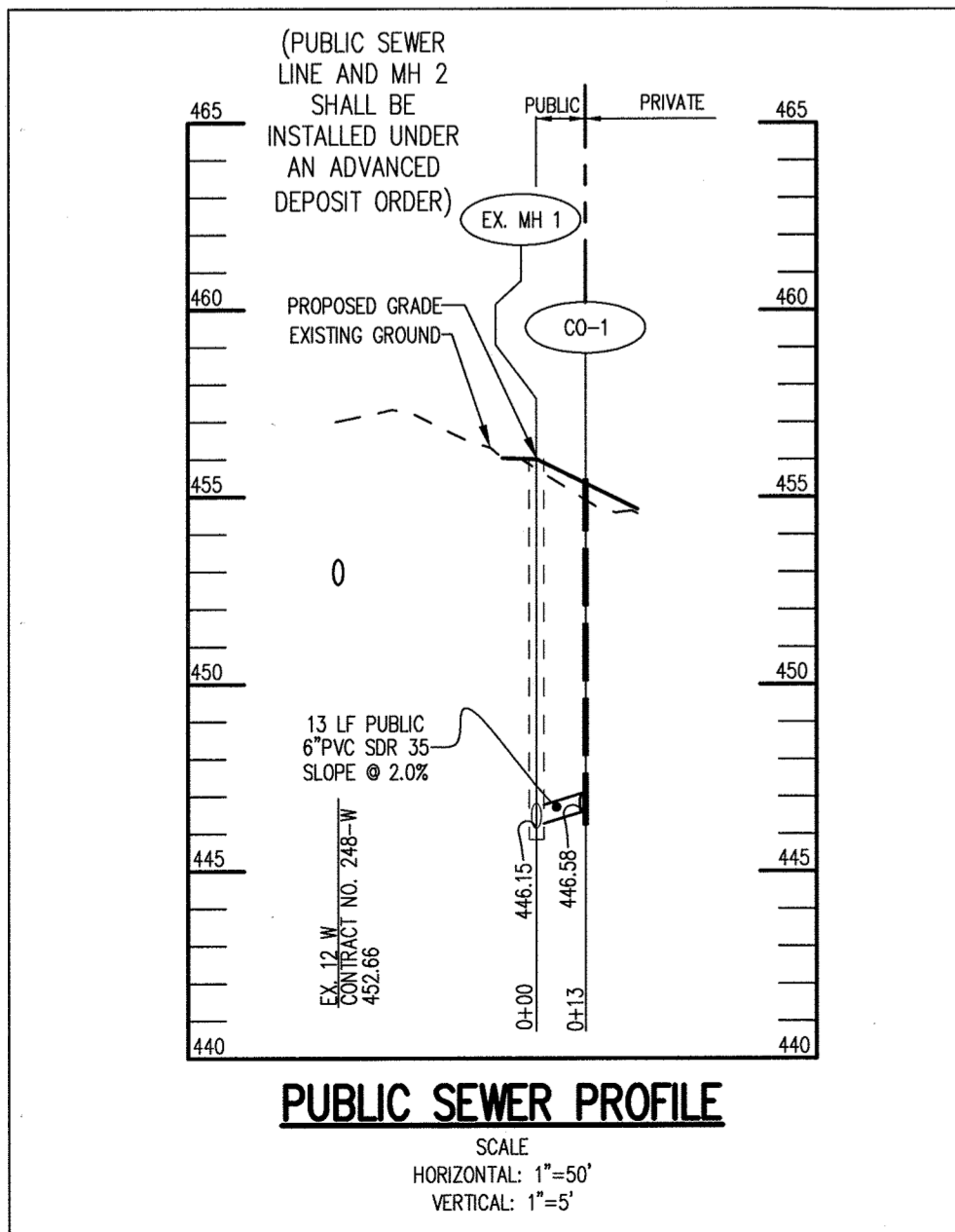
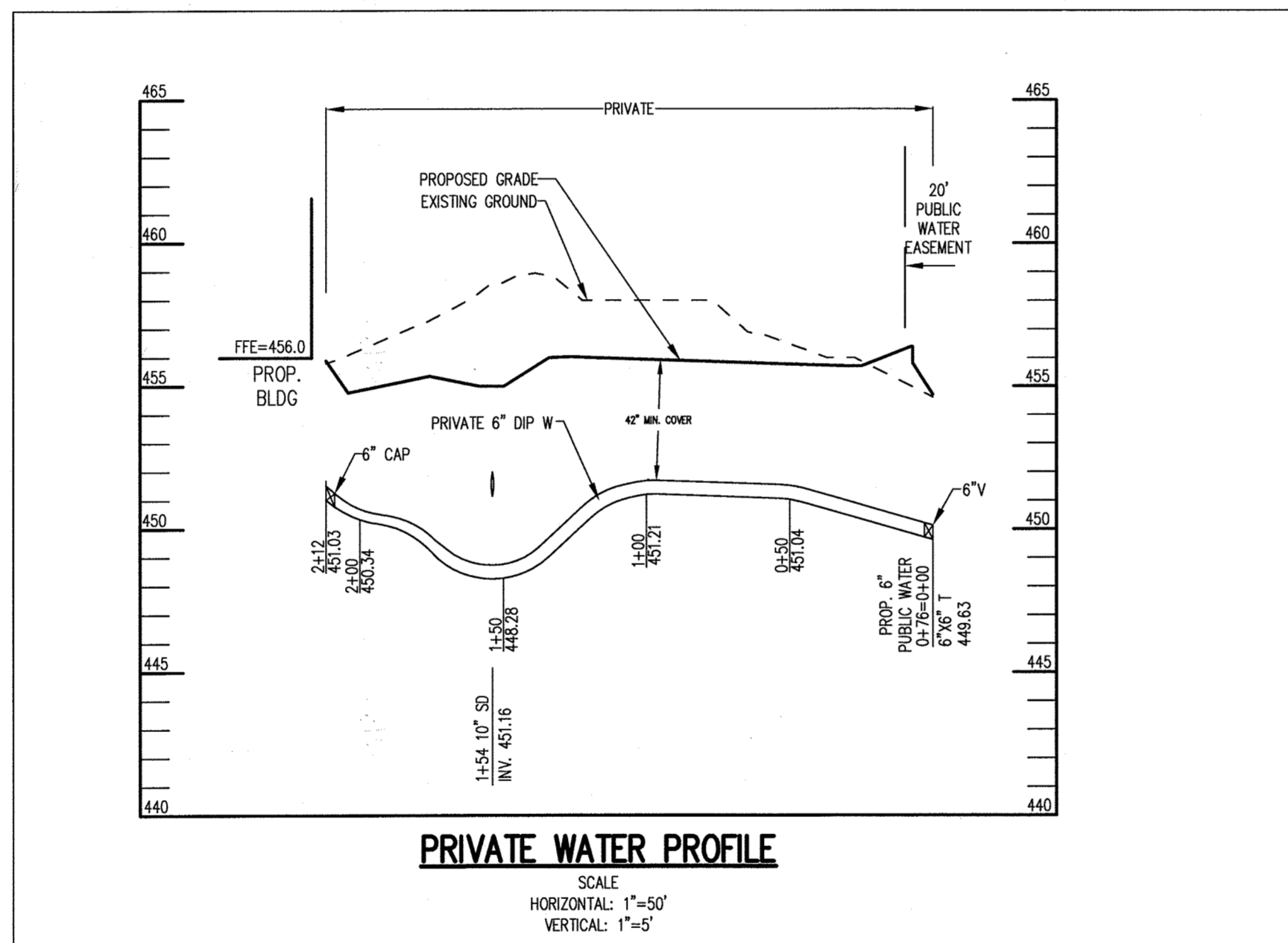
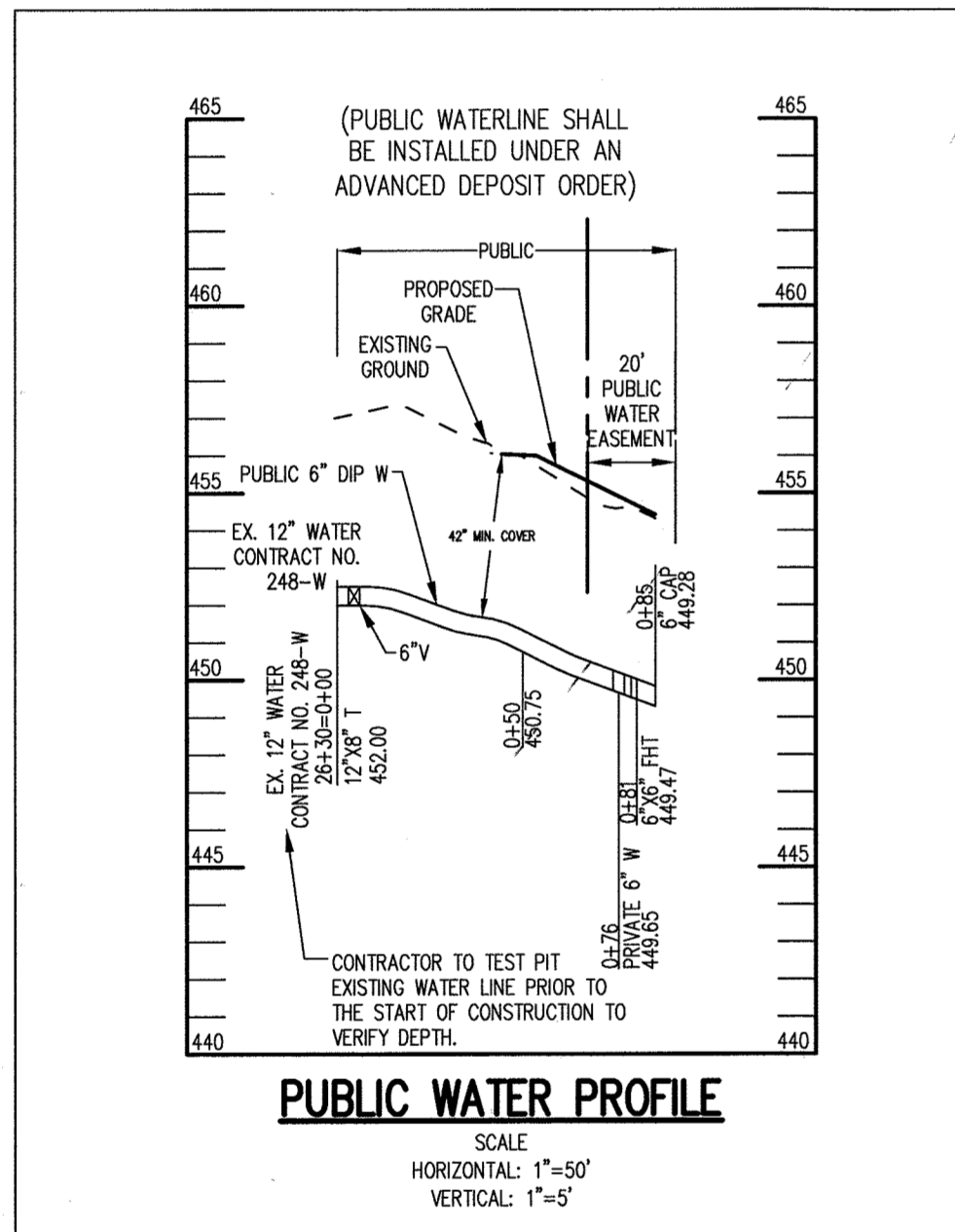
**NOTES**

- ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.
- COORDINATES ARE GIVEN TO CENTER OF STRUCTURE.
- ELEVATIONS ARE GIVEN TO TOP OF LID FOR MANHOLES.
- PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.
- ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUALS VOL. II AND IV.



**NOTES:**

- AN ACCESSIBLE ROUTE SHALL BE PROVIDED BETWEEN HANDICAPPED PARKING TO THE MAIN BUILDING ENTRANCE IN ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMP SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS, EXCEPT AS SUPERSEDED IN CURRENT ADA AND LOCAL STANDARDS THE FOLLOWING SHALL APPLY:
- MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%.
  - A MINIMUM 5'X 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING EGRESS POINTS.
  - ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACES. CONTRACTOR SHALL CHECK ALL SLOPES PRIOR TO PLACING ANY WORK OR WORK MAY BE UNACCEPTABLE.
  - AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS.



APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Paul Edmond* 5-21-14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

*Bob Schaefer* 5-27-14  
CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

*Mark A. Wagle* 5/27/14  
DIRECTOR DATE

DATE	NO.	REVISION

OWNER: CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
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DEVELOPER: DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

PROJECT: GODDARD SCHOOL  
5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
1ST ELECTION DISTRICT L 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

TITLE: WATER/SEWER PROFILES AND SITE DETAILS

Pennoni Associates Inc. 8818 Centre Park Drive  
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DESIGNED BY: PJS  
DRAWN BY : ALC/JSN  
PROJECT No.: G0DD1201  
DATE : FEBRUARY 28, 2014  
SCALE: AS SHOWN  
DRAWING No. 12 OF 26

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)**

- PAVEMENT SURFACES SHOULD BE SWEEPED AND VACUUMED (IF POROUS CONCRETE) TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
- DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE SHOULD BE CLEANED OUT AT REGULAR INTERVALS.
- DEICERS SHOULD BE USED IN MODERATION. DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRE-TREATED SALT. SNOW PLOWING SHOULD BE DONE CAREFULLY WITH BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOWMELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

**PERMEABLE PAVEMENT SEQUENCE OF CONSTRUCTION**

- PERMEABLE PAVEMENT AREAS SHALL BE PROTECTED FROM COMPACTION THROUGHOUT CONSTRUCTION PROCESS.
- UPON STABILIZATION OF ALL AREAS DRAINING ONTO PERMEABLE PAVEMENTS, AND ADJACENT PAVEMENT AND CONCRETE HEADER CURB/CURB AND GUTTER, BEGIN PERMEABLE PAVEMENT INSTALLATION.
- EXCAVATE SUBGRADE BASED ON PERMEABLE PAVEMENT DETAIL AND FINAL GRADES. EXCAVATION SHALL BE PERFORMED WITH LIGHT WEIGHT, WIDE TRACKED EQUIPMENT.
- INSTALL SUB-BASE IN 4" LIFTS AND LIGHTLY ROLL.
- INSTALL PERMEABLE PAVERS.

**OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER OR SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

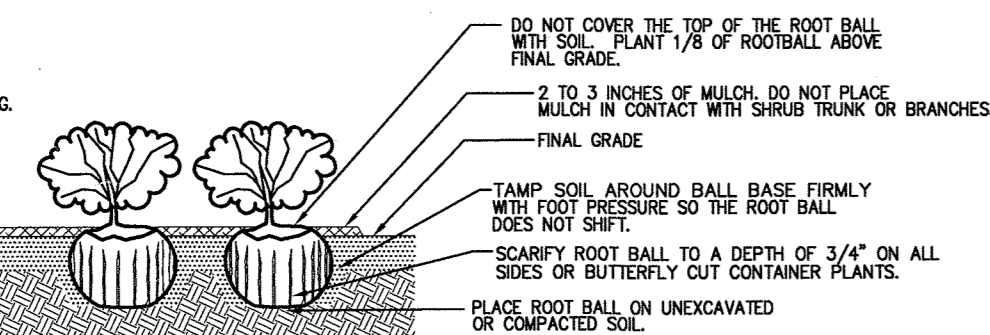
**BIOFILTRATION SPECIFICATIONS**

- THE UNDERDRAIN PIPE MUST BE 4-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00X SLOPE. THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5 FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.
- 4" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 6 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP.
- THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).
- A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE SOIL FILTER/PLANTING MEDIA. THE SAND MUST BE ASTM C33 FINE AGGREGATE CONCRETE SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.
- THE PLANTING MEDIA SHALL CONSIST OF 1/3 PERLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: CONTAIN NO MORE THAN 10% CLAY, 30-55% SILT AND 35-60% SAND. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE FIRST LAYER OF THE PLANTING MEDIA SHALL BE LIGHTLY TILLED TO MIX IT INTO THE SAND LAYER, SO NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
- THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 2 TO 3 INCHES. YEARLY REPLISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

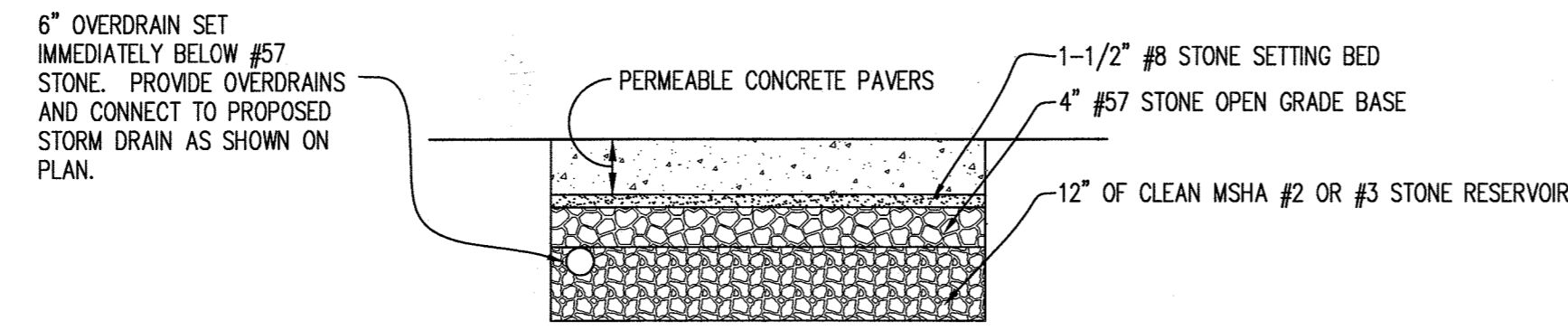
**MICRO-BIORETENTION SEQUENCE OF CONSTRUCTION**

- DO NOT BEGIN BIORETENTION INSTALLATION UNTIL SITE UPSTREAM OF MICRO-BIORETENTION IS STABILIZED AND FINE GRADING HAS BEEN COMPLETED.
- EXCAVATE MICRO-BIORETENTION. CONSTRUCTION SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA. (1 DAY)
- PLACE STONE AND UNDERDRAINS. (1 DAY)
- PLACE SAND LAYER IN LIFTS OF THREE INCHES. (0.5 DAY)
- PLACE PLANTING SOIL AND OBSERVATION WELLS. (1 DAY)
- PLACE MULCH. (0.5 DAY)
- INSTALL PLANT MATERIAL. (1 DAY)
- STABILIZE MICRO-BIORETENTION AREA. (0.5 DAY)

- NOTES:
- SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
  - DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
  - DIG PLANTING PIT 2" WIDER THAN THE DIAMETER OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DEPTH.
  - FOR BARB SHRUBS, REMOVE AND BURGLAP FROM TOP OF ROOT BALL.
  - ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.



**SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS**  
NOT TO SCALE



**NOTES:**

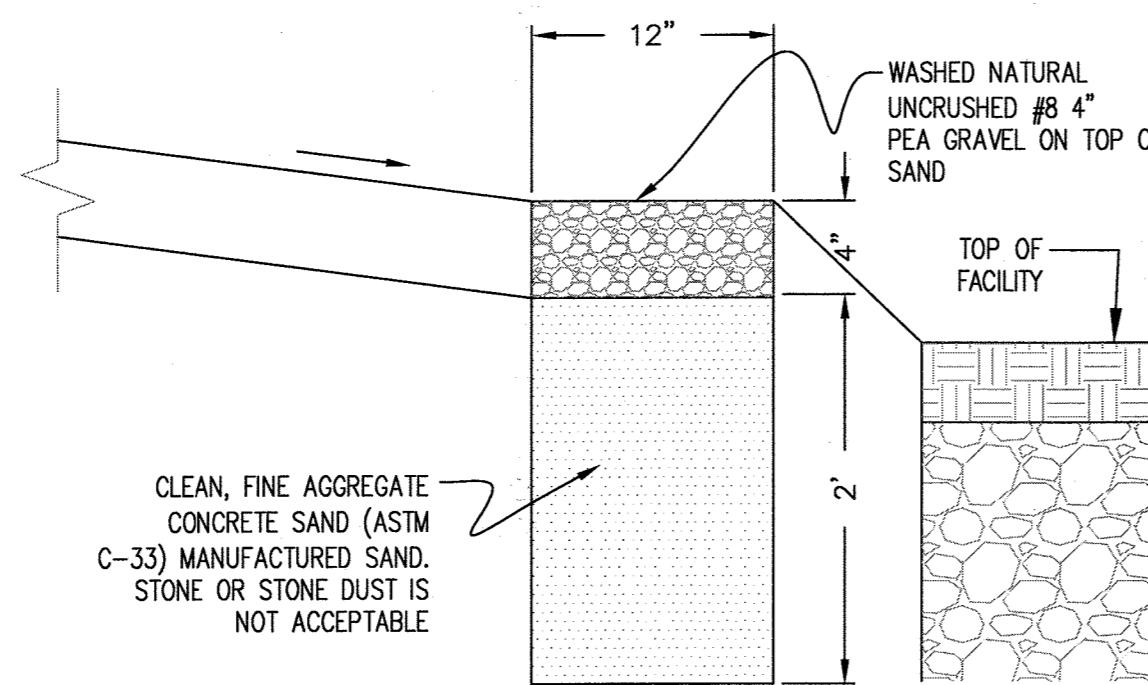
- ALL POROUS PAVEMENT CERTIFIED INSTALLER.
- SIGNS, EIGHTEEN INCHES BY TWENTY FOUR INCHES WITH LETTERING AT LEAST TWO INCHES HIGH SHALL BE PLACED AT THE ENTRANCE TO PARKING AREAS AND IN OTHER LOCATIONS AS DETERMINED OR DIRECTED BY THE COUNTY INSPECTOR. THE SIGNS SHALL READ, "THIS PARKING LOT IS MADE OF POROUS PAVEMENT TO REDUCE STORM WATER RUNOFF. DO NOT USE ABRASIVES ON THE SURFACE OR RESURFACE OR SEAL."
- POROUS PAVEMENT SHALL HAVE A PERMEABILITY RATE OF 8 INCHES PER HOUR OR GREATER. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO PLACEMENT OF ANY POROUS CONCRETE.
- THE BOTTOM OF THE SUB-BASE SHALL BE LEVEL WITH ADJUSTMENTS ACCOMPLISHED BY STEPPING SUBGRADE LEVELS AT 1-FOOT CONTOUR INTERVALS PER THE GEOTECHNICAL REPORT AND ENGINEER'S DIRECTIVE.
- ALL ADJUSTMENT TO EXISTING GRADE SHALL BE ACCOMPLISHED USING SUB-BASE MATERIAL.
- SOILS SHALL NOT BE COMPACTED. CONSTRUCTION SHOULD BE PERFORMED WITH LIGHT WEIGHT WIDE TRACKED EQUIPMENT TO MINIMIZE COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA. LOADED DUMP TRUCKS DELIVERING THE INITIAL SAND MATERIAL SHALL ENTER EACH STEPPED AREA FROM BOTH ENDS AND SHALL LIMIT TRAVEL TO THE MINIMUM WIDTH POSSIBLE TO LIMIT SOIL COMPACTION TO THE MINIMUM AREA POSSIBLE.
- SUB-BASE SHALL BE CLEAR AND FREE OF FINES. THE SUB-BASE SHALL BE PLACED IN LIFTS AND LIGHTLY ROLLED.

**PERMEABLE PAVER PAVING SECTION**  
NOT TO SCALE

**SAND SPECIFICATIONS**

WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS. IN ADDITION TO THE ASTM C-33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS.

- SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C-33 FINE AGGREGATE CONCRETE SAND. AASHTO M-6 GRADATION IS ALSO ACCEPTABLE.
- SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
- SAND MUST BE CLEAN, NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
- MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.

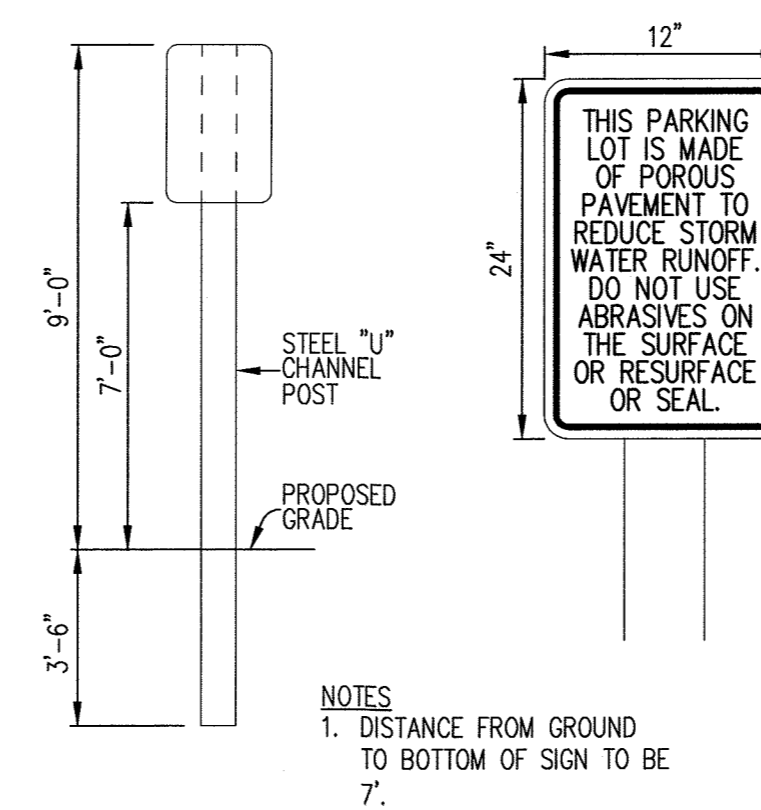


**STONE DIAPHRAGM TYPICAL SECTION**  
(NOT TO SCALE)

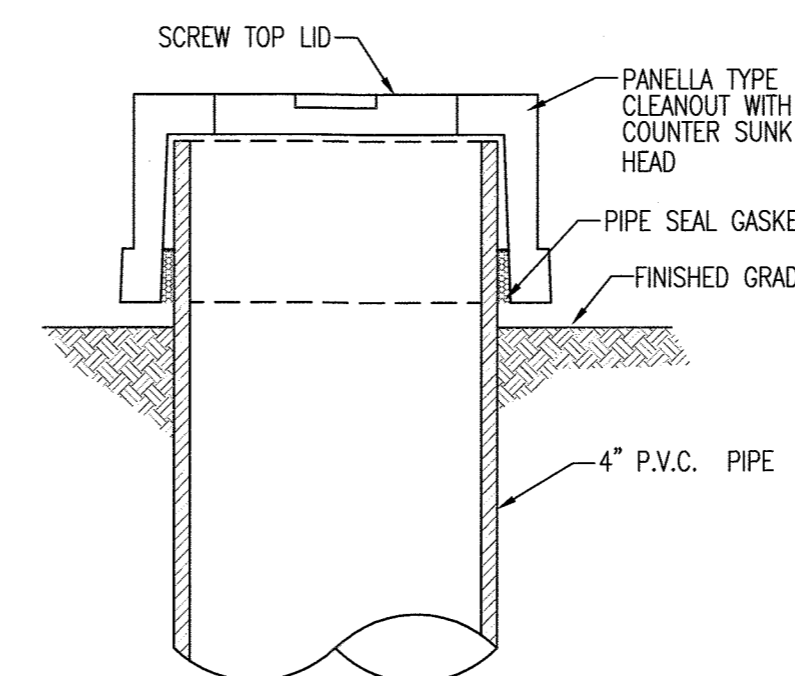
**NOTES:**

- SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
- DO NOT HEAVILY PRUNE THE PLANT AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
- DIG PLANTING PIT 2 TIMES WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL.
- ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.
- DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. PLANT 1/8 OF ROOTBALL ABOVE FINAL GRADE.
- 2 TO 3 INCHES OF MULCH DO NOT PLACE IN CONTACT WITH BASE OF PLANT OR BRANCHES.
- FINAL GRADE
- TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THE ROOT BALL DOES NOT SHIFT.
- SCARIFY ROOT BALL TO A DEPTH OF 3/4" ON ALL SIDES OR BUTTERFLY CUT CONTAINER PLANTS.
- PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.

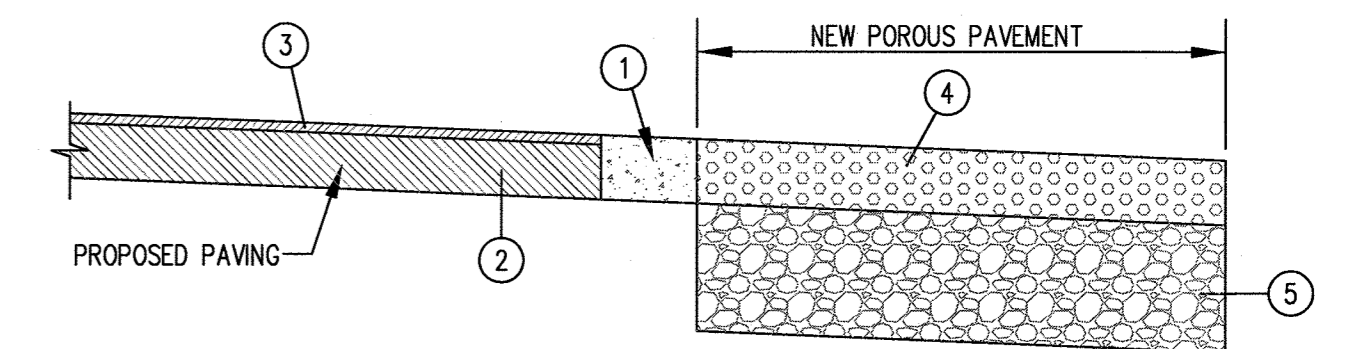
**PERENNIAL/GROUNDCOVER PLANTING DETAIL**  
NOT TO SCALE



**POROUS PAVEMENT SIGN**  
NOT TO SCALE

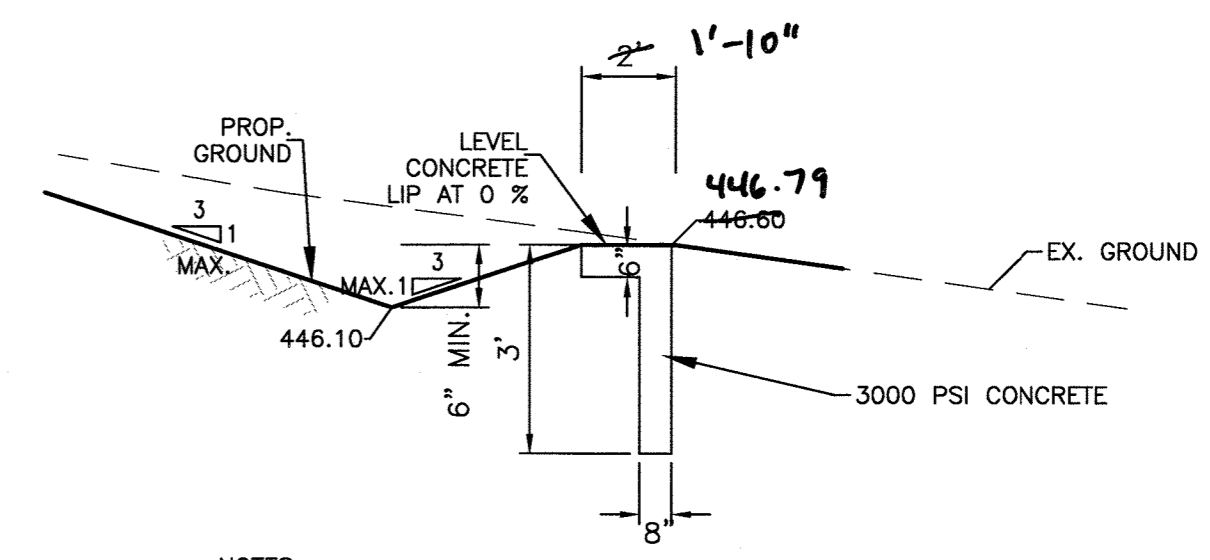


**CLEAN-OUT/OBSERVATION WELL CAP**  
NOT TO SCALE



- INSTALL 12" WIDE BY 8" DEEP FLUSH CONCRETE CURB - MSHA MIX NO 3
- INSTALL SUB BASE GRAVEL AND ASPHALT PAVEMENT PER DETAIL 17 SHEET 15
- 1 1/2" SURFACE COURSE.
- POROUS PAVEMENT PER DETAIL THIS SHEET
- POROUS PAVING BASE PER DETAIL THIS SHEET

**POROUS PAVING CONNECTION DETAIL PROPOSED PAVING**  
NOT TO SCALE



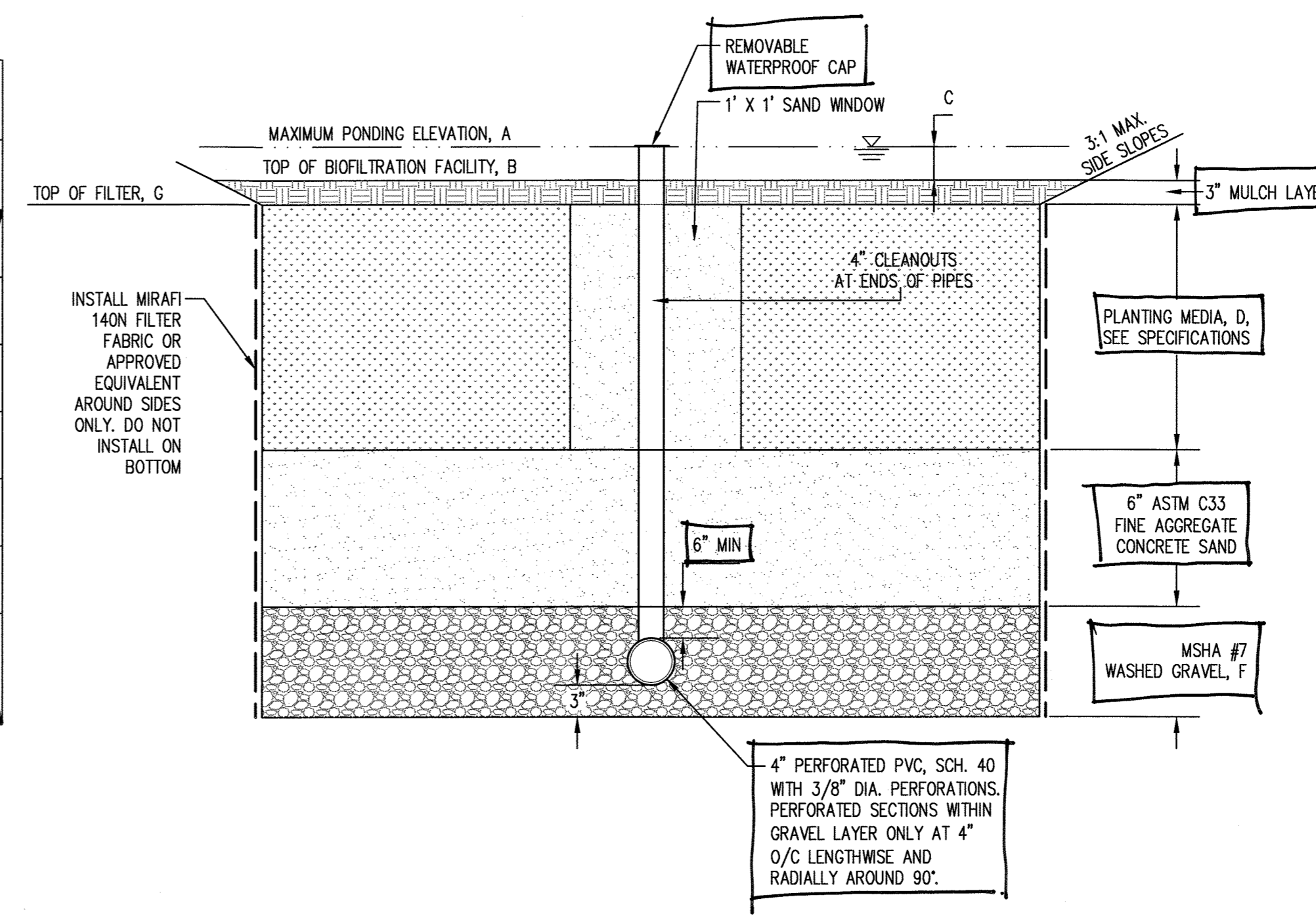
**NOTES:**

- REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
- EXPANSION JOINT TO BE PROVIDED AT 10' INTERVALS. EXPANSION JOINT MATERIAL SHALL BE 1/2" INCH PREFORMED CORK, TRIMMED AND SEALED WITH NON-STAINING, TWO-COMPONENT POLYSULFIDE OR POLYURETHANE ELASTOMERIC TYPE SEALANT COMPYING WITH FS TT-S-00227.
- SCORE THE CONCRETE AT A DEPTH OF 1/3 THE SLAB THICKNESS TO PROVIDE A WEAKENED PLANE TRAVERSE JOINTS AT 5'-0" INTERVALS.
- TURF REINFORCEMENT MATTING SHALL BE NORTH AMERICAN GREEN P300 OR APPROVED EQUAL. MATTING SHALL BE INSTALLED IMMEDIATELY UPSTREAM AND DOWNSTREAM OF THE OUTFALL.

**LEVEL SPREADER DETAIL**  
SCALE: NONE

LEVEL SPREADER DESIGN DATA		
	TOP ELEVATION	WIDTH
1	446.79	8'
AS-BUILT	446.79	5'-10 3/4"

MICRO-BIORETENTION DESIGN DATA			
	1	2	3
A	453.25 454.01	454.75 454.13	452.25 451.65
B	452.25 453.00	453.75 463.13	451.25 450.60
C	1'-5 3/8"	1'-6 1/4"	1'-7 1/4"
D	3.0'	3.0'	3.5'
F	1'-1"	1'-1"	1'-1"
G	452.0 452.75	453.50 452.67	451.0 450.95
SURFACE AREA AT 1' (SF)	600 567	630 573	400 635



**MICRO-BIORETENTION TYPICAL SECTION**  
NOT TO SCALE

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE 'AS BUILT' PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS

**SHARON K. CEOZ** #32,096  
M.P.E. No. 12/21/15  
DATE

**STATE OF MARYLAND**  
SHARON K. CEOZ  
PROFESSIONAL ENGINEER  
NO. 39886

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 36,096. EXPIRATION DATE: 2-15-17

**AS-BUILT**

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Chief, Development Engineering Division* 5-21-14  
DATE

*Chief, Division of Land Development* 5-27-14  
DATE

*Director* 5/21/14  
DATE

9-1-19 4 REMOVE MB #1 + MB #3  
8-25-14 1 REVISE MICROBIO #2

DATE	NO.	REVISION
9-1-19	4	REMOVE MB #1 + MB #3
8-25-14	1	REVISE MICROBIO #2

**OWNER**  
CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

**DEVELOPER**  
DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

**PROJECT**  
**GODDARD SCHOOL**  
5633 WATERLOO RD.

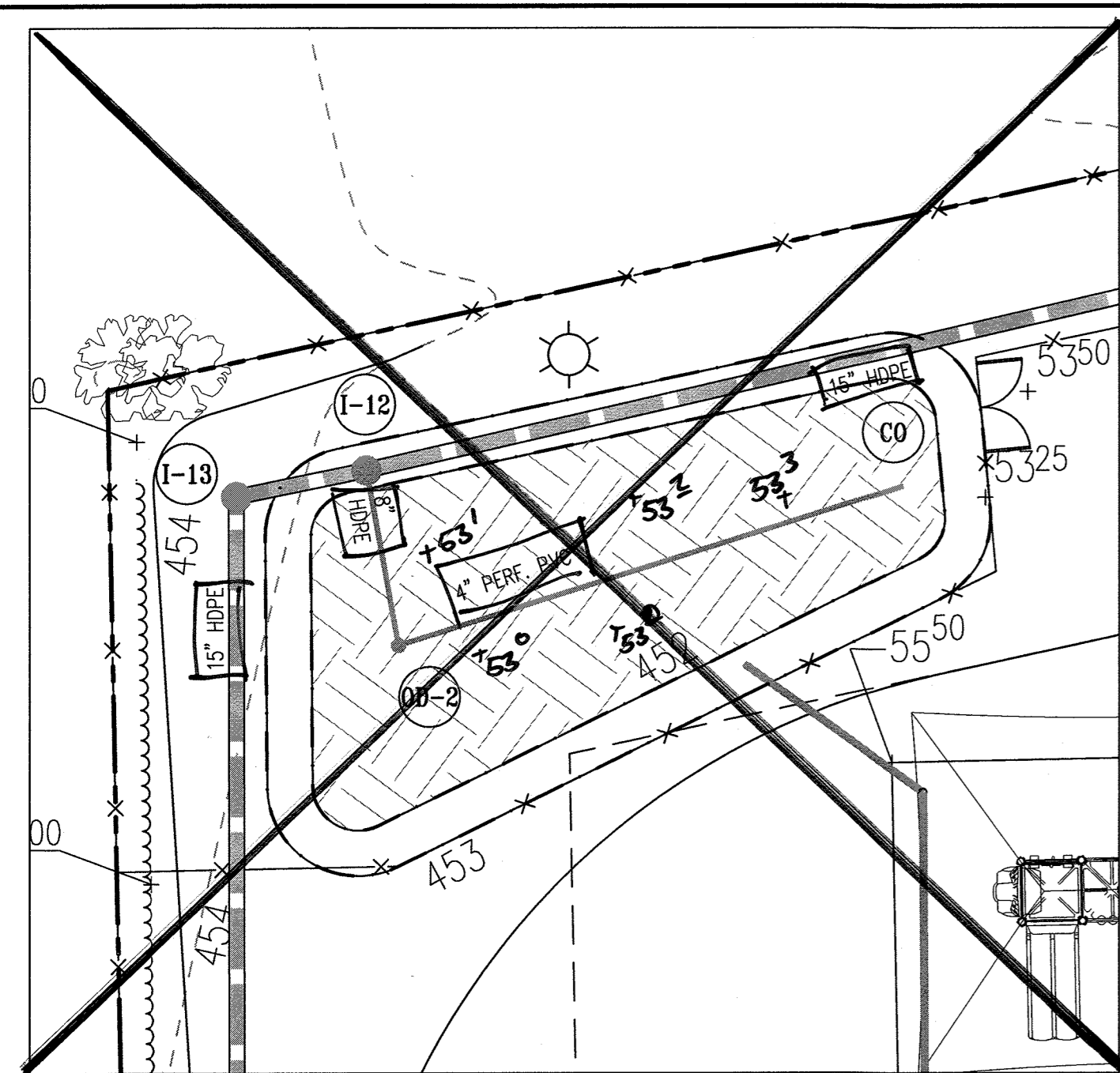
**AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1**  
1ST ELECTION DISTRICT L. 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

**TITLE**  
**STORMWATER MANAGEMENT DETAILS**

Pennoni Associates Inc.  
Consulting Engineers 8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

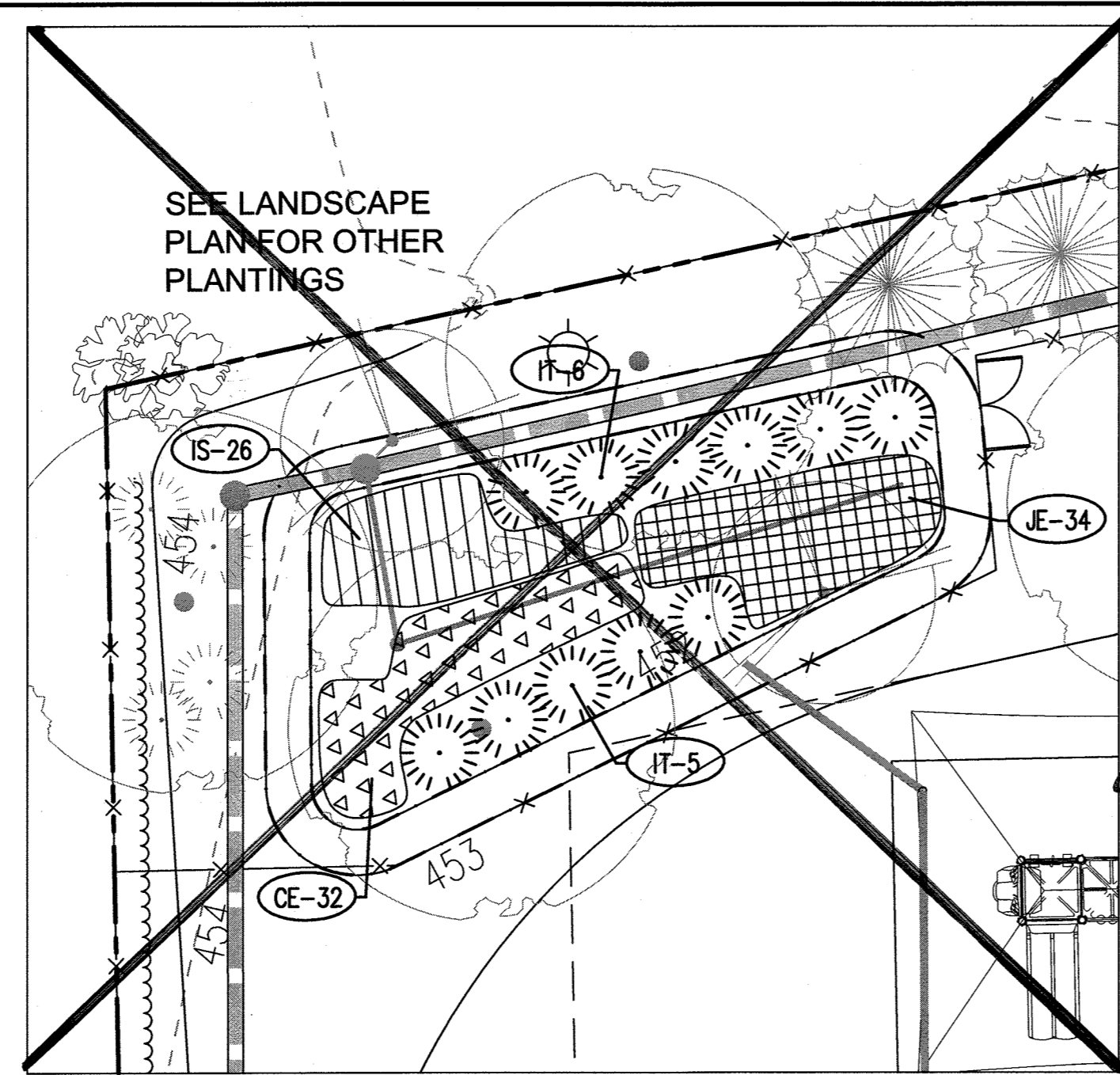
**Pennoni**

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT No.: GODD1201  
DATE: FEBRUARY 28, 2014  
SCALE: AS SHOWN  
DRAWING No. 13 OF 26



MICRO-BIORETENTION #1 DETAIL

SCALE: 1"=10'



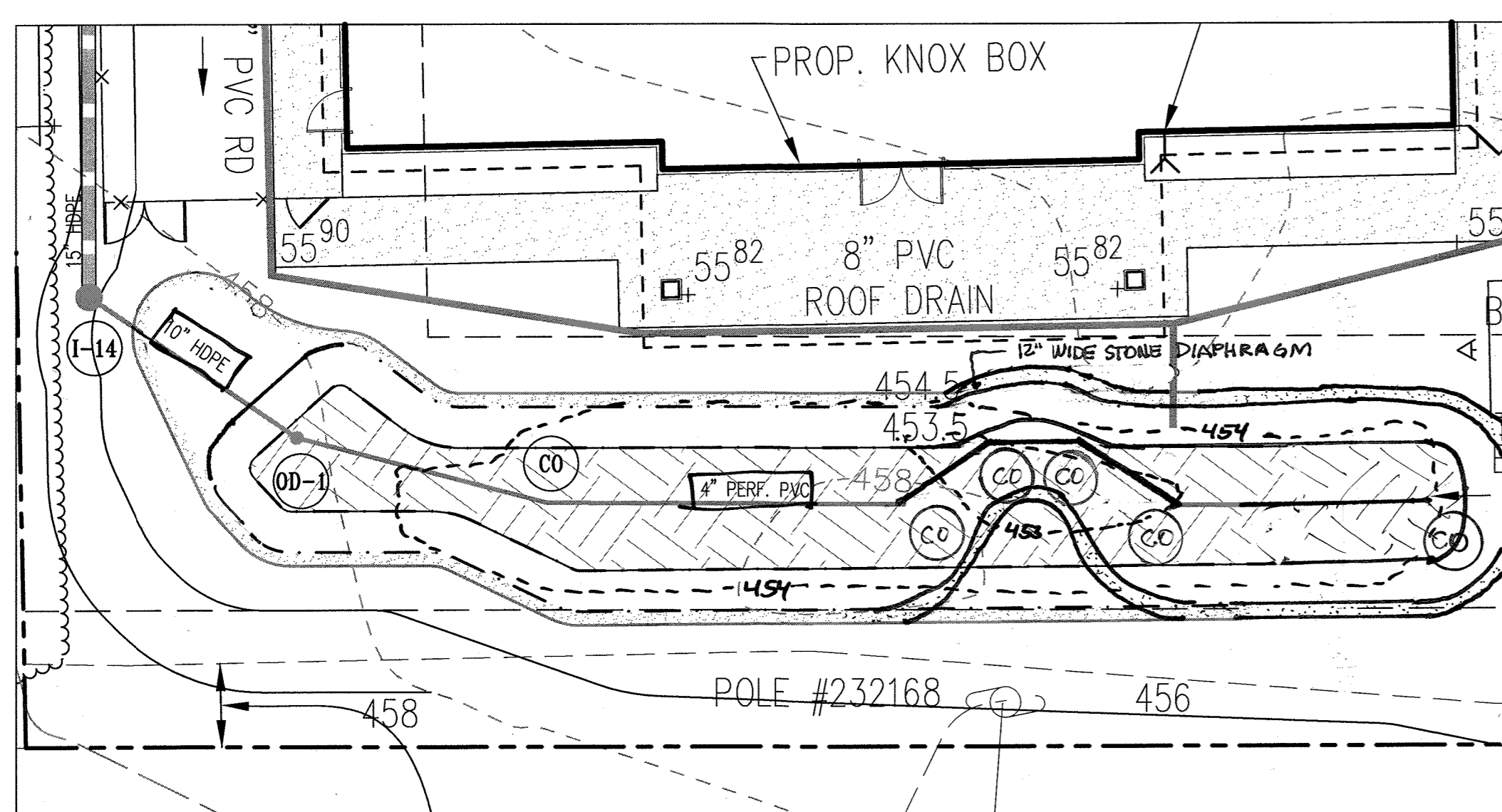
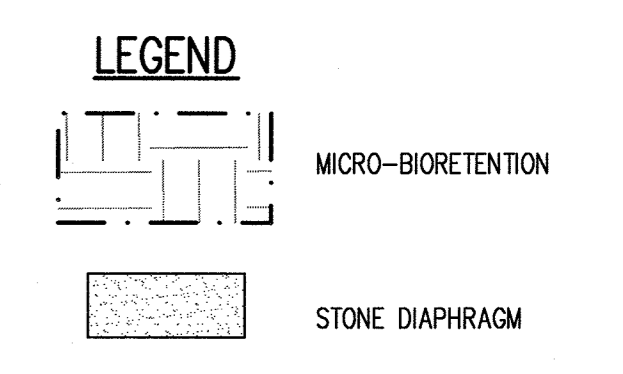
MICRO-BIORETENTION #1 LANDSCAPE PLAN

SCALE: 1"=10'

**MICRO-BIORETENTION #1 PLANT SCHEDULE**

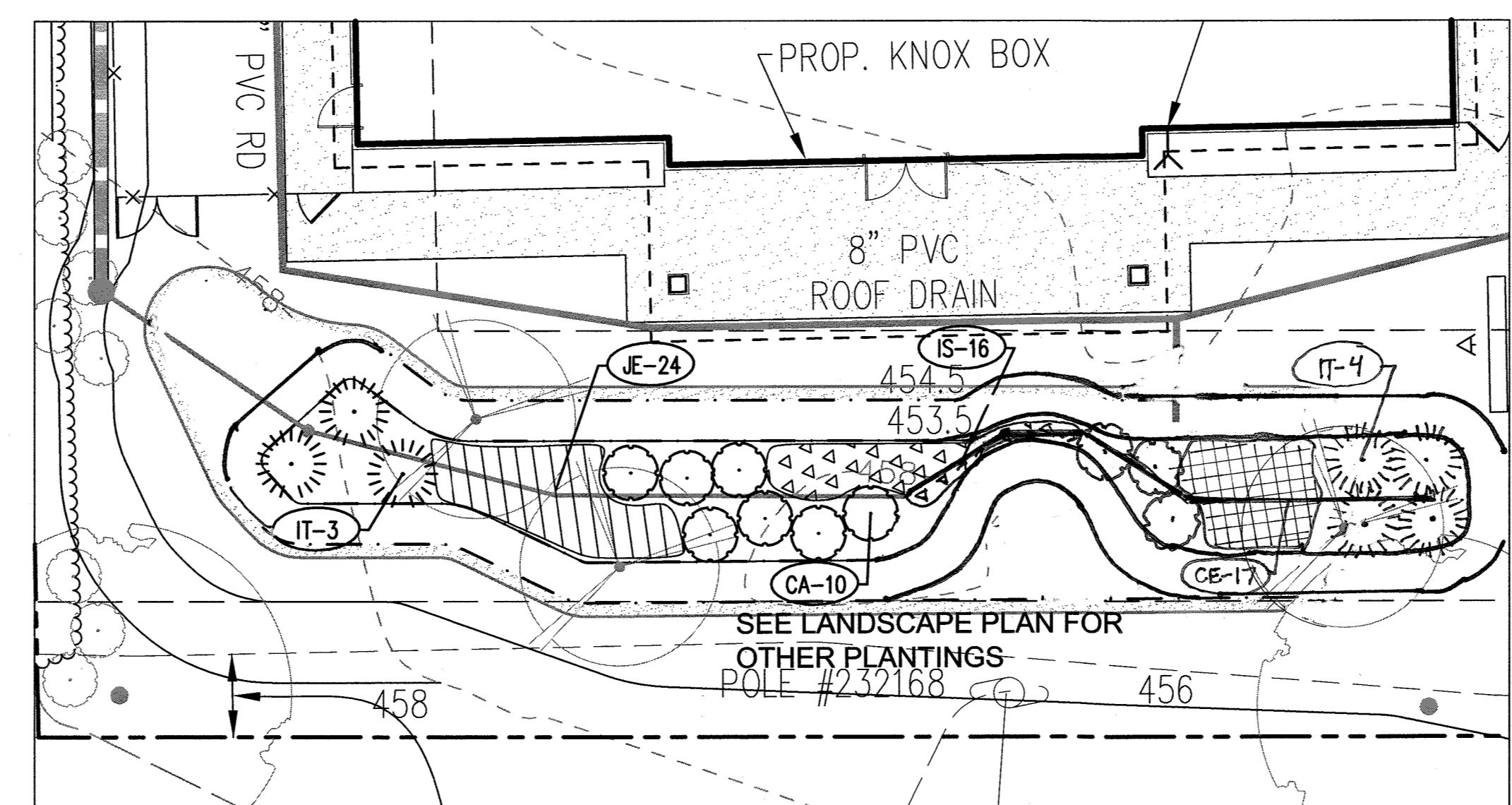
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS	ZONE*
IT	11	ITEA VIRGINICA 'LITTLE HENRY' LITTLE HENRY VIRGINIA SWEETSPIRE	18-24" HT.	CONT.	AS SHOWN	
CE	32	CAREX ELATA 'AUREA' BOWLES GOLDEN SEDGE	2" PEAT POT	CONT.	24" ON CENTER	(1,2),3
JE	34	JUNCUS EFFUSUS SOFT RUSH	1 QUART	CONT.	24" ON CENTER	(1,2),3
IS	26	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 QUART	CONT.	24" ON CENTER	(2,3), 4

BIORETENTION PLANT LIST NOTES:  
 \* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.  
 \*\* ALSO KNOWN AS CAREX STRICTA 'AUREA'



MICRO-BIORETENTION #2 DETAIL

(SHA BMP TRACKING # 132058) SCALE: 1"=10'



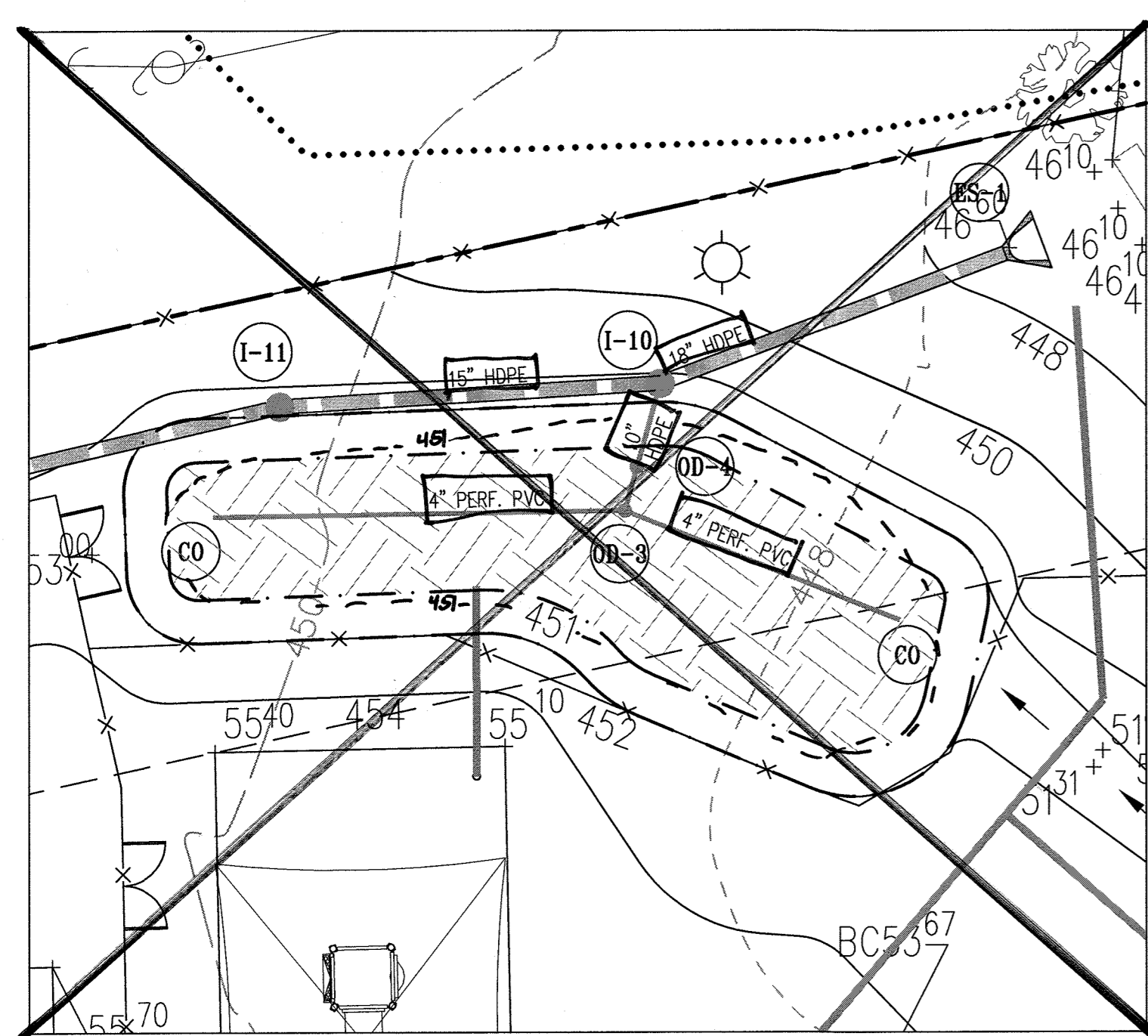
MICRO-BIORETENTION #2 LANDSCAPE PLAN

(SHA BMP TRACKING # 132058) SCALE: 1"=10'

**MICRO-BIORETENTION #2 PLANT SCHEDULE**

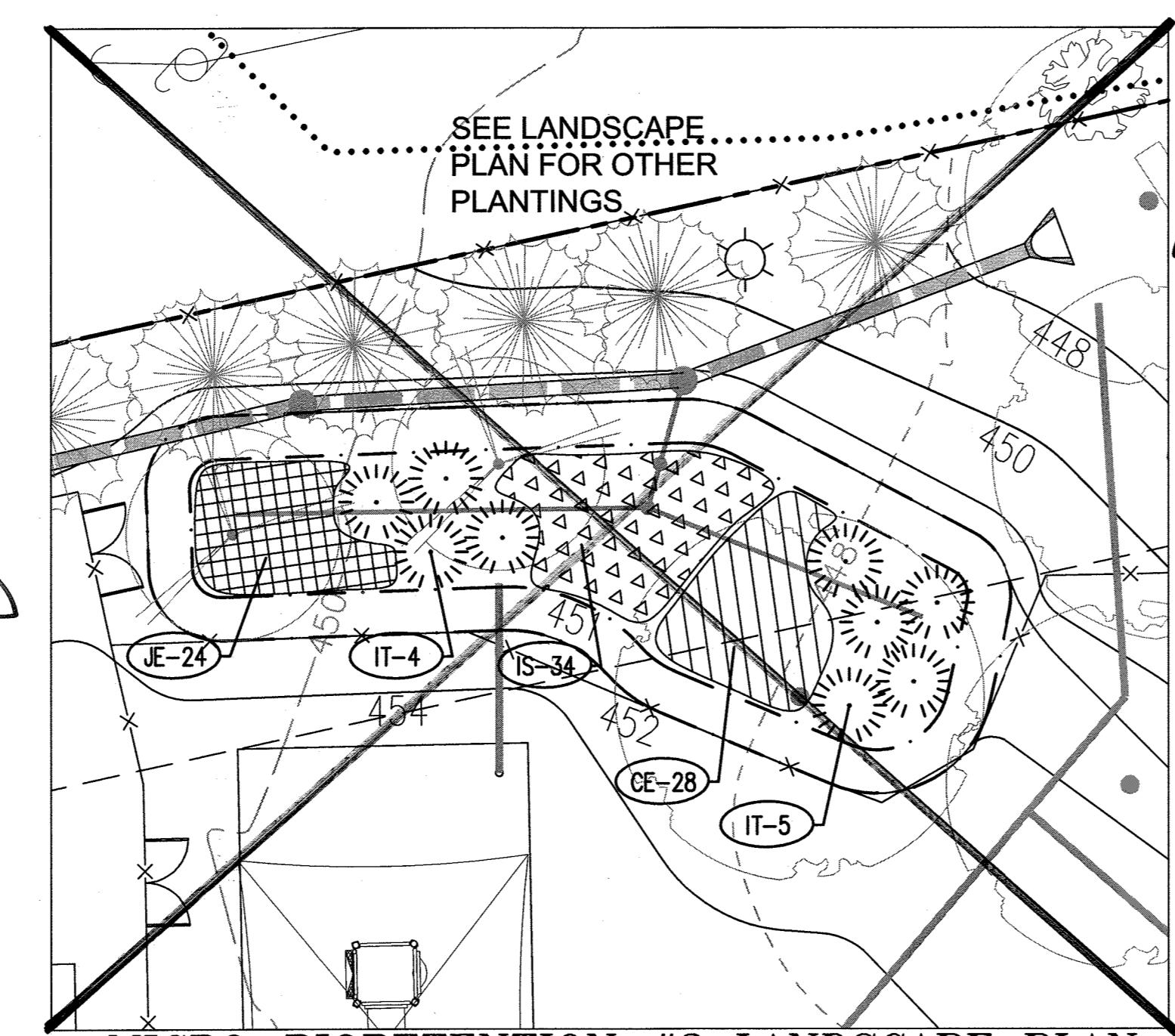
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS	ZONE*
CA	10	CLETHRA ALNIFOLIA 'HUMMINGBIRD' HUMMINGBIRD CLETHRA	18-24" HT.	CONT.	AS SHOWN	
IT	7	ITEA VIRGINICA 'LITTLE HENRY' LITTLE HENRY VIRGINIA SWEETSPIRE	18-24" HT.	CONT.	AS SHOWN	
CE	17	CAREX ELATA 'AUREA' BOWLES GOLDEN SEDGE	2" PEAT POT	CONT.	24" ON CENTER	(1,2),3
JE	24	JUNCUS EFFUSUS SOFT RUSH	1 QUART	CONT.	24" ON CENTER	(1,2),3
IS	16	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 QUART	CONT.	24" ON CENTER	(2,3), 4

BIORETENTION PLANT LIST NOTES:  
 \* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.  
 \*\* ALSO KNOWN AS CAREX STRICTA 'AUREA'



MICRO-BIORETENTION #3 DETAIL

(SHA BMP TRACKING # 132059) SCALE: 1"=10'



MICRO-BIORETENTION #3 LANDSCAPE PLAN

(SHA BMP TRACKING # 132059) SCALE: 1"=10'

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THESE PLANS WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SHARON K. CRUZ 3680#  
 NAME M.P.E. NO.  
 SIGNATURE DATE 2/21/15

**MICRO-BIORETENTION #3 PLANT SCHEDULE**

SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS	ZONE*
IT	9	ITEA VIRGINICA 'LITTLE HENRY' LITTLE HENRY VIRGINIA SWEETSPIRE	18-24" HT.	CONT.	AS SHOWN	
CE	28	CAREX ELATA 'AUREA' BOWLES GOLDEN SEDGE	2" PEAT POT	CONT.	24" ON CENTER	(1,2),3
JE	24	JUNCUS EFFUSUS SOFT RUSH	1 QUART	CONT.	24" ON CENTER	(1,2),3
IS	34	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 QUART	CONT.	24" ON CENTER	(2,3), 4

BIORETENTION PLANT LIST NOTES:  
 \* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.  
 \*\* ALSO KNOWN AS CAREX STRICTA 'AUREA'

APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Scott Weber* 5-21-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

*Kevin S. ...* 5-27-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

*Janet ...* 5/27/14  
 DIRECTOR DATE

9-11-19 4 REMOVE MB #1 & MB #3  
 8-28-14 1 REVISE MICROBIO #2

DATE	NO.	REVISION

OWNER: CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT: **GODDARD SCHOOL**  
 5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 659 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

TITLE: **STORMWATER MANAGEMENT DETAILS**

Pennoni Associates Inc.  
 Consulting Engineers 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

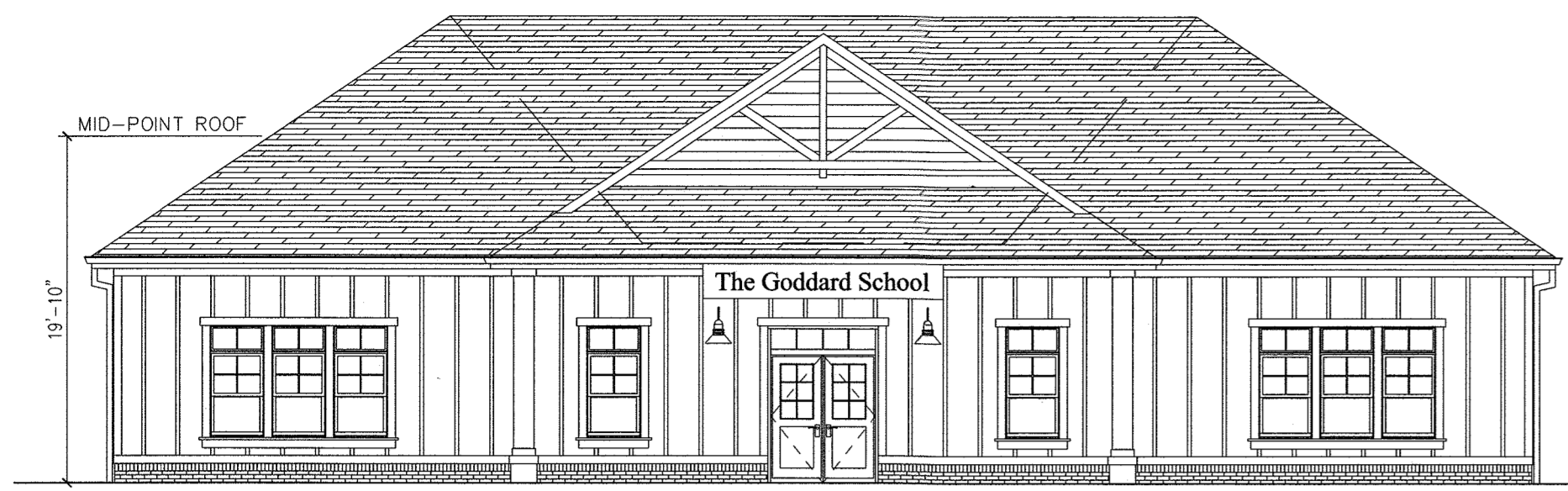
**Pennoni**

SEAL:

DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT No.: GODD1201  
 DATE : FEBRUARY 28, 2014  
 SCALE: 1" = 10'  
 DRAWING No. 14 OF 26

**AS-BUILT**





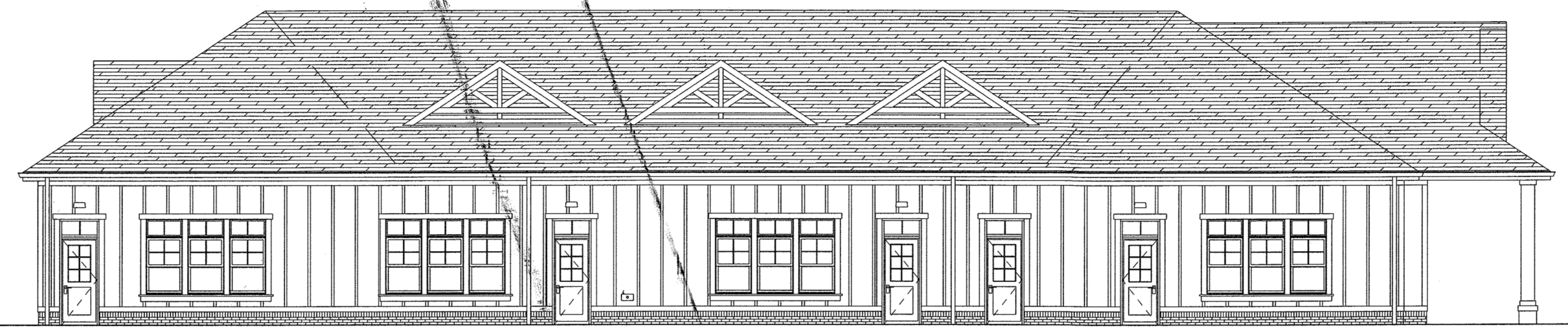
**1** ELEVATION - FRONT (SOUTH)  
NOT TO SCALE



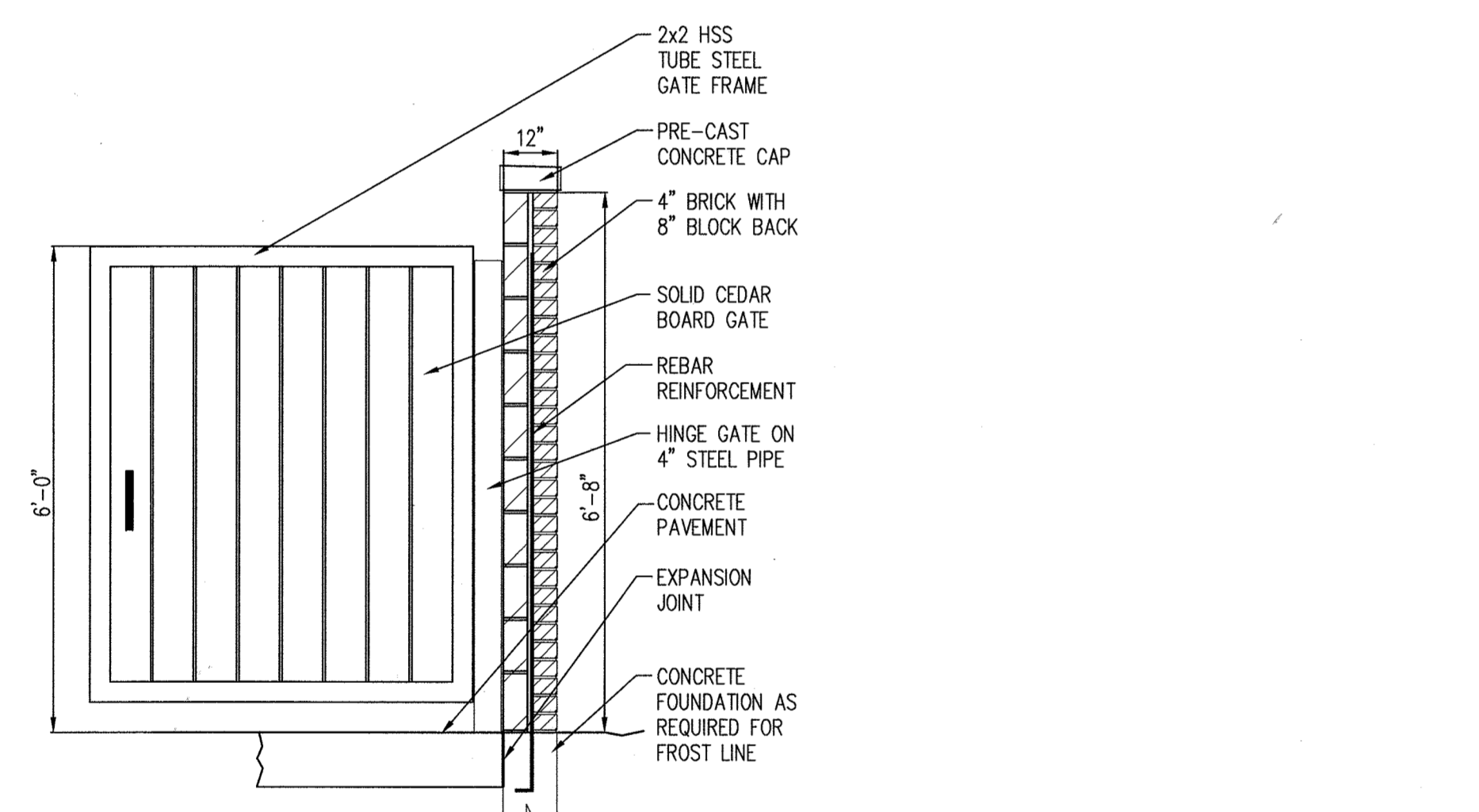
**2** ELEVATION - SIDE (EAST)  
NOT TO SCALE



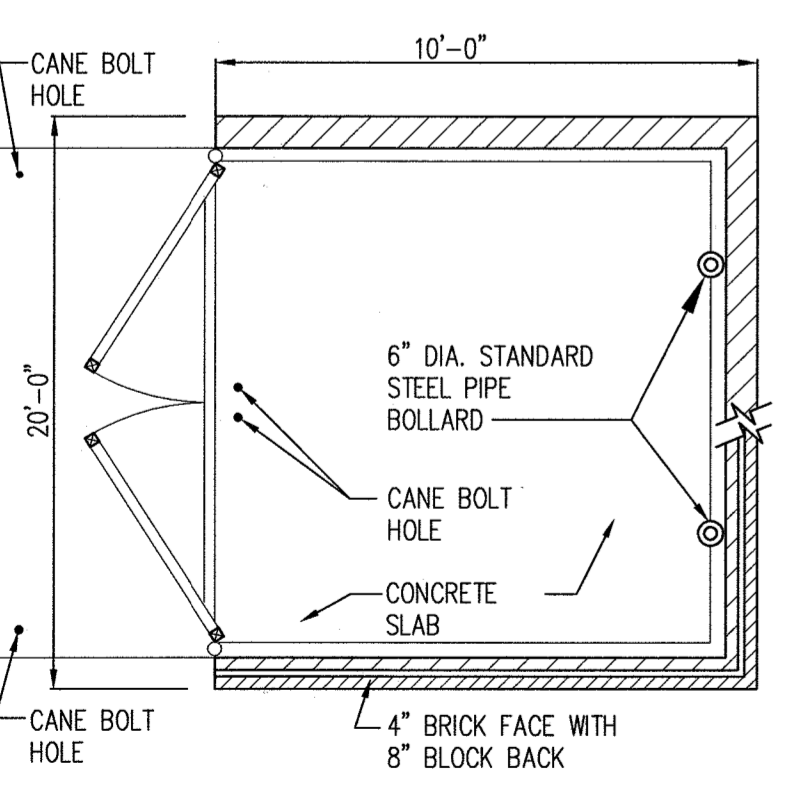
**3** ELEVATION - REAR (NORTH)  
NOT TO SCALE



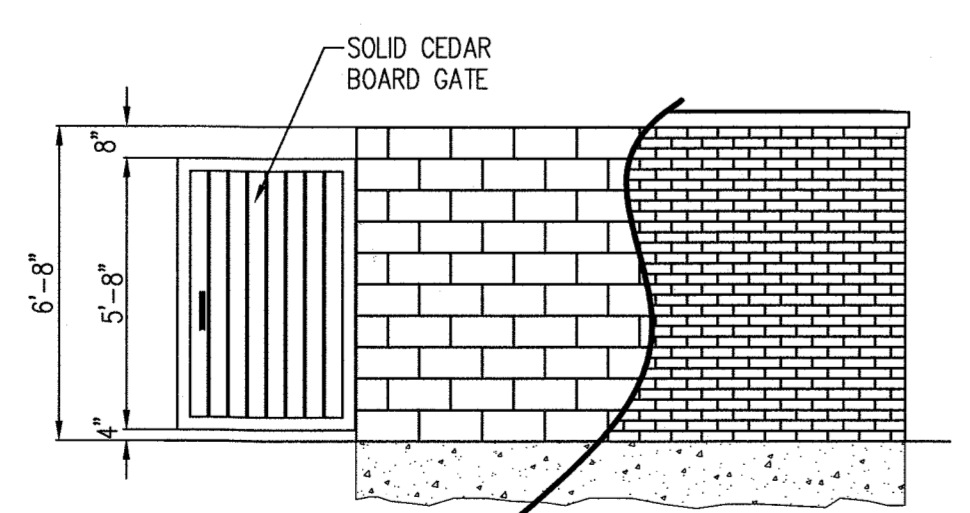
**4** ELEVATION - SIDE (WEST)  
NOT TO SCALE



TYPICAL SECTION



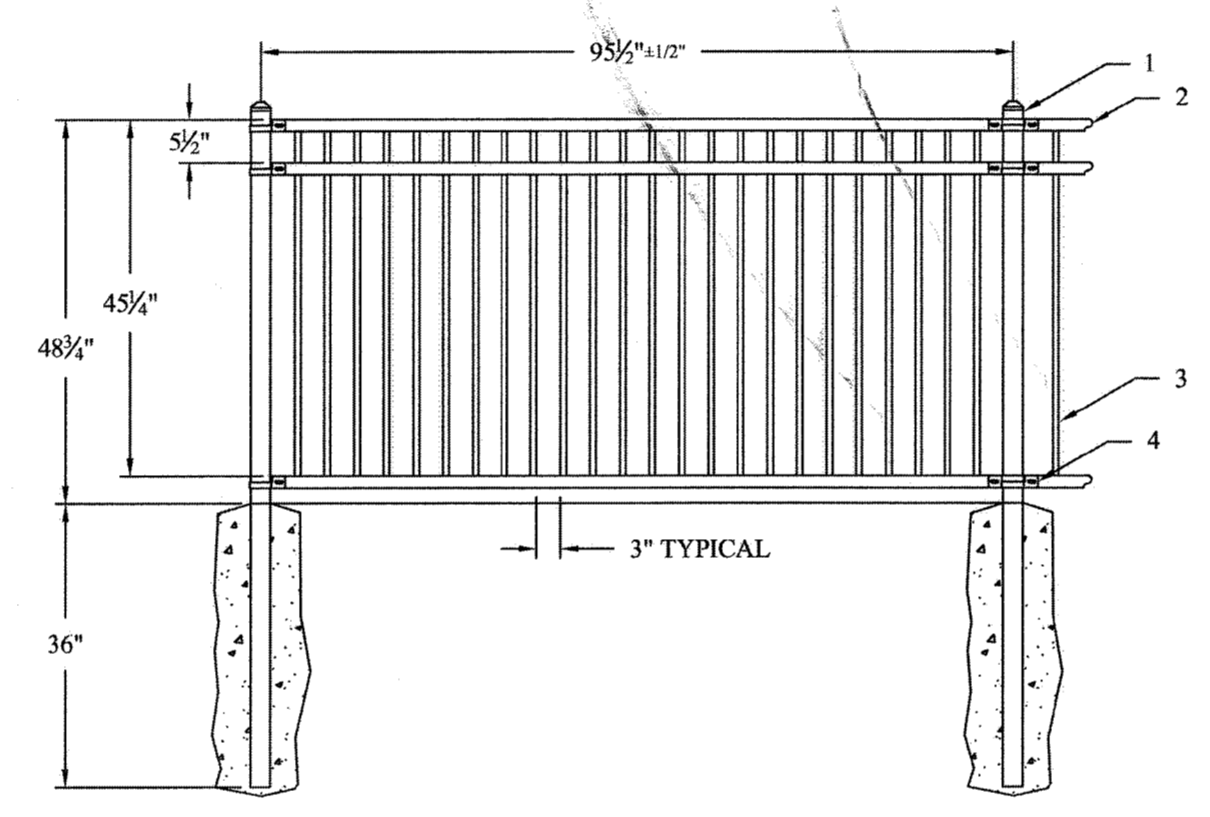
PLAN



CROSS SECTION

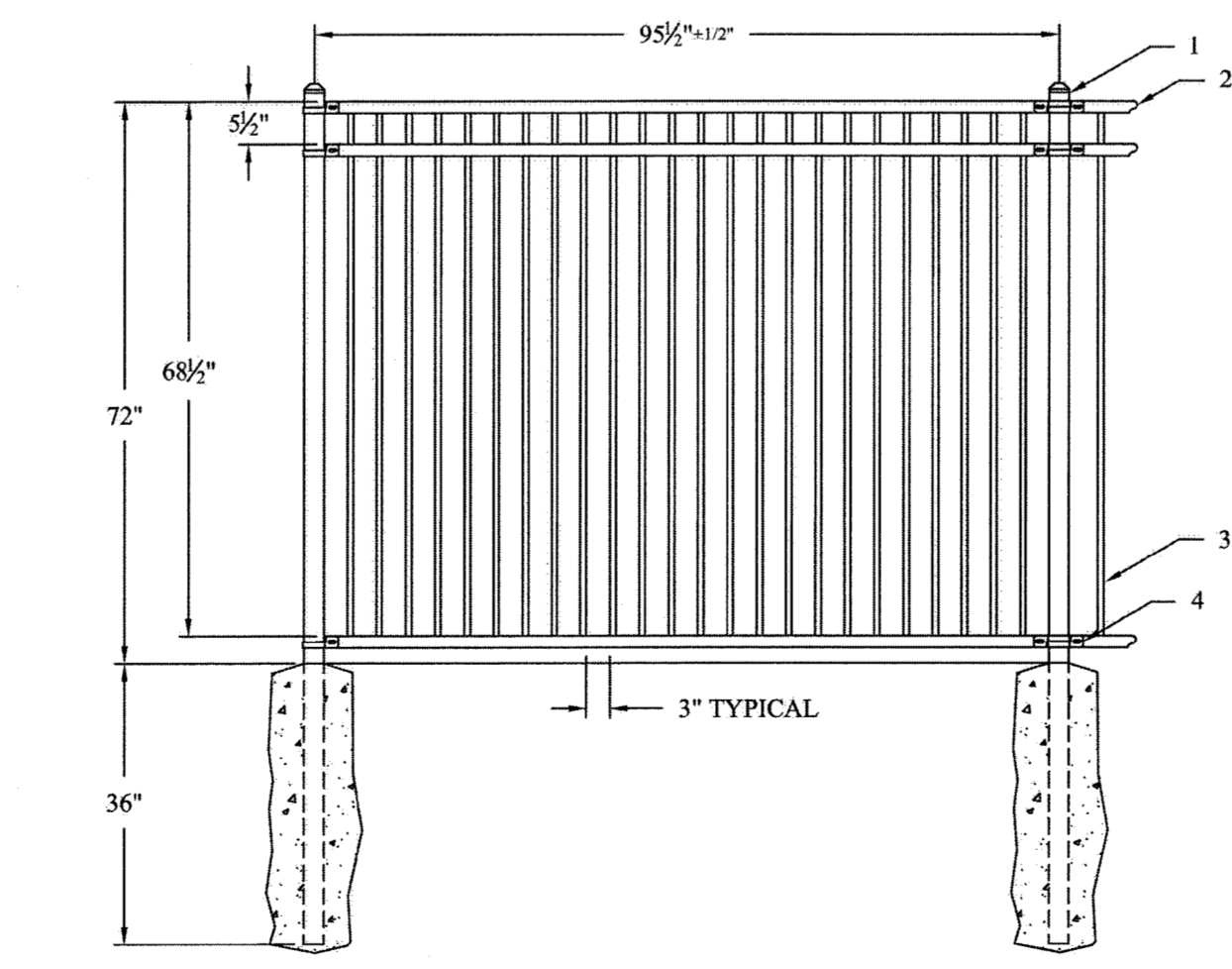
**NOTE: SEE ARCHITECTURAL PLANS FOR FINAL DUMPSTER ENCLOSURE CONSTRUCTION DETAILS.**

**6** DUMPSTER ENCLOSURE DETAILS  
NOT TO SCALE



#	QTY.	DESCRIPTION
1	2	2 1/2\" Sq. POST
2	3	1 1/2\" x 1 1/2\" RIBBED CHANNEL RAIL
3	19	1/2\" Sq. PICKET
4	6	BRACKETS

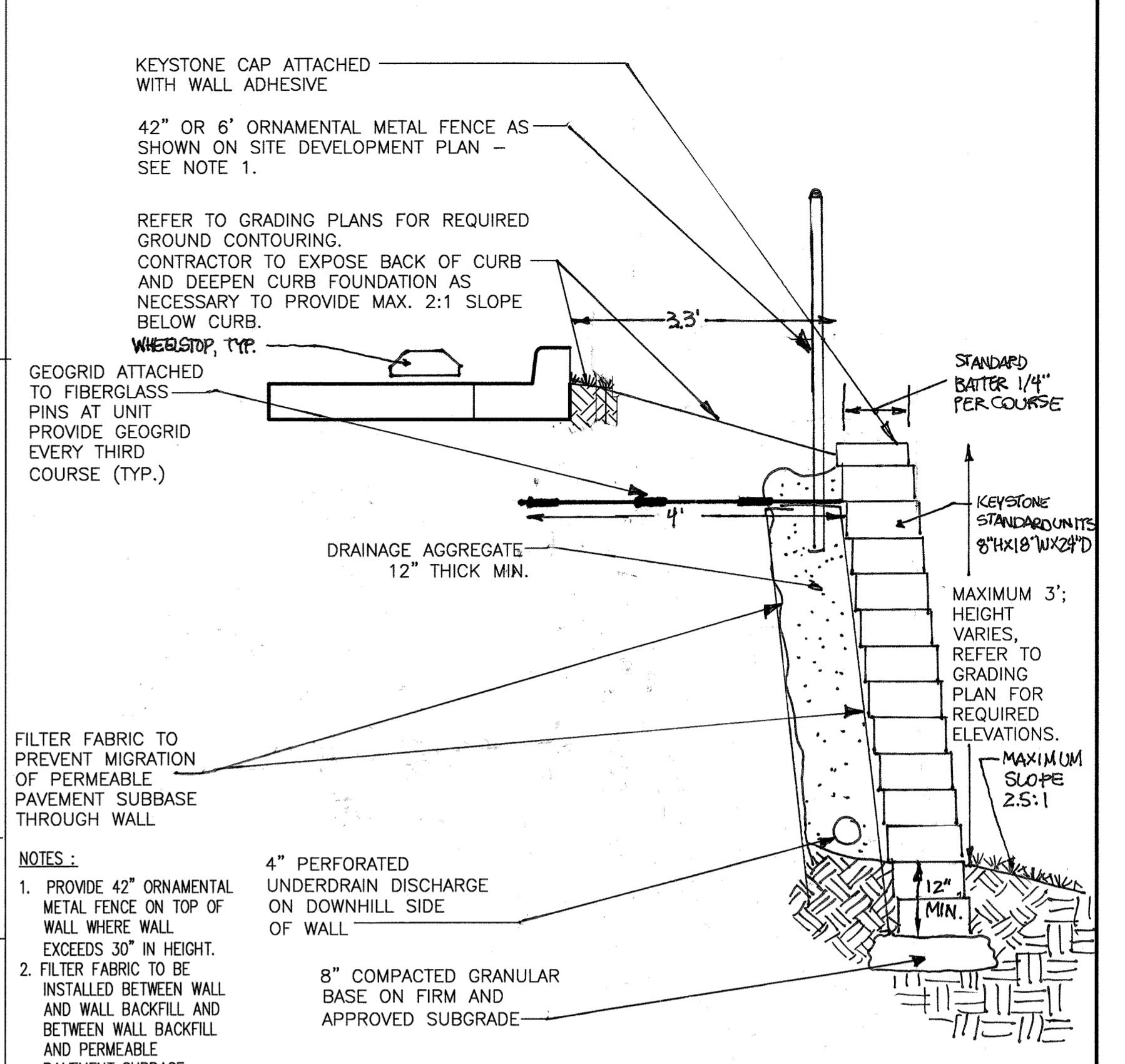
PROPRIETARY INFORMATION  
**AMERISTAR**  
 TITLE: MONTAGE PLUS MAJESTIC 3R FLB 3\" GAP 4\" F PA  
 DATE: 11/07/07 SCALE: DNS SHEET:  
 DRN BY: FGS CHK BY: RTM REV:  
 DRAWING NO. IRMX468-3



#	QTY.	DESCRIPTION
1	2	2 1/2\" Sq. POST
2	3	1 1/2\" x 1 1/2\" RIBBED CHANNEL RAIL
3	19	1/2\" Sq. PICKET
4	6	BRACKETS

PROPRIETARY INFORMATION  
**AMERISTAR**  
 TITLE: MONTAGE PLUS MAJESTIC 3R FLB 3\" GAP 6\" F PA  
 DATE: 11/07/07 SCALE: DNS SHEET:  
 DRN BY: FGS CHK BY: RTM REV:  
 DRAWING NO. IRMX3708-3

**8** 4 - 6' ORNAMENTAL METAL FENCE DETAIL  
NOT TO SCALE



**7** MODULAR BLOCK RETAINING WALL  
NOT TO SCALE

- NOTES:  
 1. PROVIDE 42\"/>

APPROVED : DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: 5-21-14  
 Chief, Division of Land Development: 5-27-14  
 Director: 5/22/14

DATE	NO.	REVISION
8-25-14	1	REUSE RETAINING WALL

OWNER: CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT: **GODDARD SCHOOL**  
 5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 659 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

TITLE: **SITE DETAILS**

Pennoni Associates Inc. Consulting Engineers  
**Pennoni**  
 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY : ALC  
 PROJECT No.: G00D1201  
 DATE : FEBRUARY 28, 2014  
 SCALE: AS SHOWN  
 DRAWING No. 16 OF 26

BY: [Professional Engineer Seal]  
 5-2-14



SEE SHEET 23 FOR REVISED SITE DEVELOPMENT PLAN IN THIS AREA

PERIMETER 2 - TYPE 'C' BUFFER REQUIRED: 175'±

PERIMETER 1 - TYPE 'A' BUFFER REQUIRED: 215'±

PERIMETER 5 - TYPE 'B' BUFFER REQUIRED: 123'±

MD ROUTE 108 WATERLOO ROAD

PERIMETER 4 - TYPE 'E' BUFFER REQUIRED: 68'±

SEE STORMWATER MANAGEMENT SHEET FOR STORMWATER MANAGEMENT PLANTINGS

LEGEND

- EX. TREELINE
- PROPOSED TREELINE
- EX. TREES
- EX. TREES TO BE REMOVED
- PROP. SHADE TREE
- PROP. EVERGREEN TREE
- PROP. SHRUBS
- INTERNAL LANDSCAPE PLANTING
- PERIMETER LANDSCAPE PLANTING
- BIORETENTION LANDSCAPE PLANTING
- REPLACEMENT PLANTING FOR SPECIMEN TREES
- PERIMETER LANDSCAPE EDGE LIMITS
- CREDITED LANDSCAPE ISLAND
- PROP. STREET TREE
- LIMIT OF DISTURBANCE
- SWM PLANTINGS - SEE STORMWATER MANAGEMENT DETAILS SHEET

SHA LANDSCAPE NOTES

1. SHA Standard Specifications. Landscape construction and materials installed within the Maryland State Highway Administration right of way shall conform to SHA 2008 Standard Specifications for Construction and Materials, which shall supersede all other specifications approved for the project within the SHA right of way. Landscape construction shall conform to Sections 701 thru 716, and landscape materials shall conform to Section 920.
2. Erosion & Sediment Control Manager. Soil disturbance such as grading, excavation, soil placement or other activities that involve soil disturbance within the SHA right of way shall be supervised by an Erosion and Sediment Control Manager with a valid SHA "Yellow Card" in conformance with SHA 2008 Specifications for Construction and Materials and any applicable Erosion and Sediment Control Permit.
3. Sidewalk and Driveway Pavement Removal. Areas of sidewalk and driveway removal within the SHA right of way shall be excavated to remove pavements, gravel and compacted soil; such areas shall be restored with subsoil and topsoil as part of Soil Restoration.
4. Soil Restoration. Areas of excavation or drilling in landscaped areas of the SHA right of way shall remove excavated materials and debris, and restore the subgrade with approved subsoil. A layer of approved topsoil at least 4 inch depth shall be placed on all disturbed areas prior to seeding, sodding or other landscaping. Subsoil and topsoil shall be placed in conformance with Section 701 of the SHA Standard Specifications.
5. Turfgrass Sod Establishment shall be performed in all disturbed areas of the SHA right of way, or within the areas indicated in the plans, in conformance with Section 708 of the SHA Standard Specifications.

APPROVED : DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division & DATE  
 Chief, Division of Land Development & DATE  
 Director & DATE

7-11-14 4 REMOVE MB #1 + MB #3  
 7-13-15 1 TREE REVISION

OWNER: CHEVY CHASE BANK FSB  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT: GODDARD SCHOOL  
 5633 WATERLOO RD.

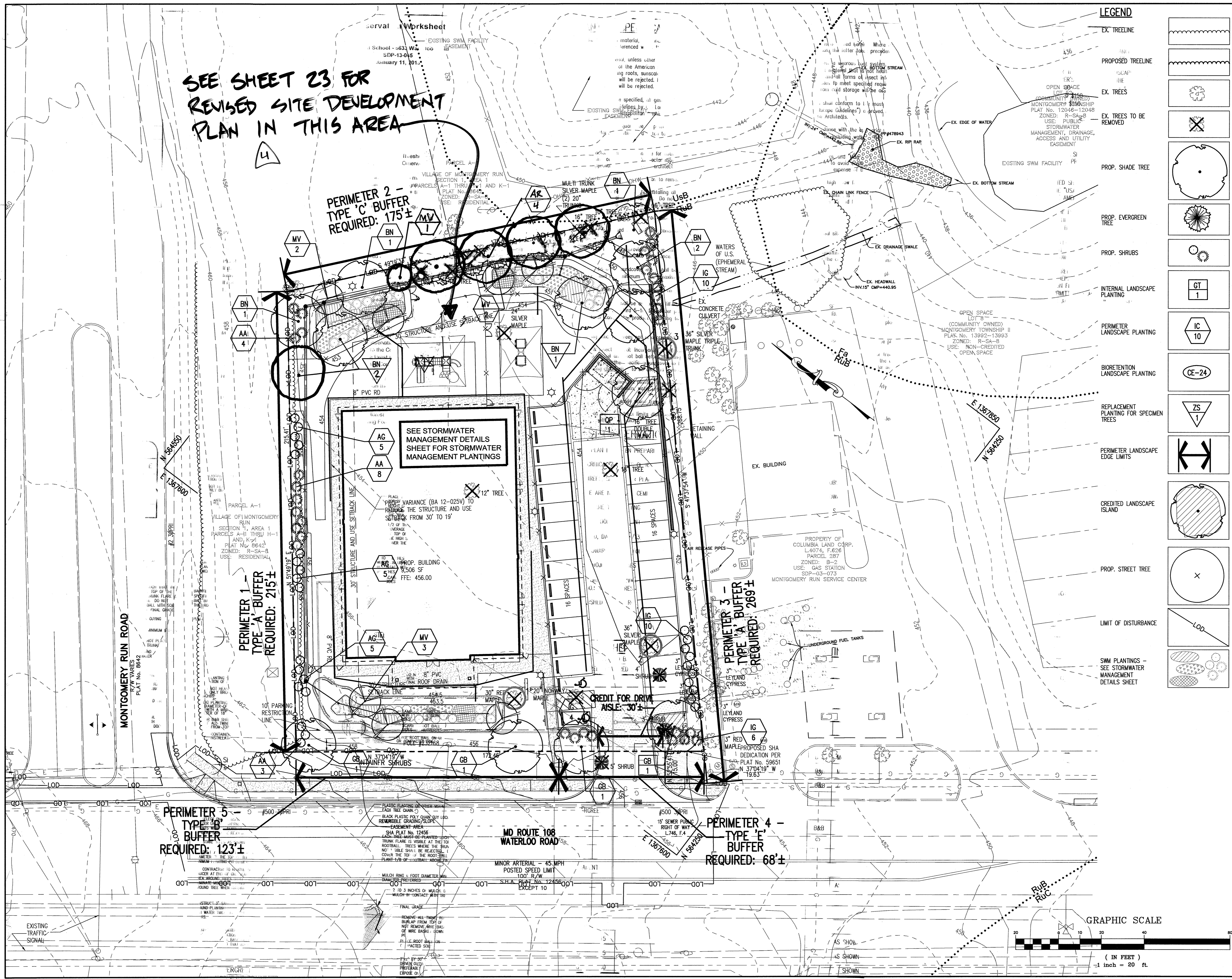
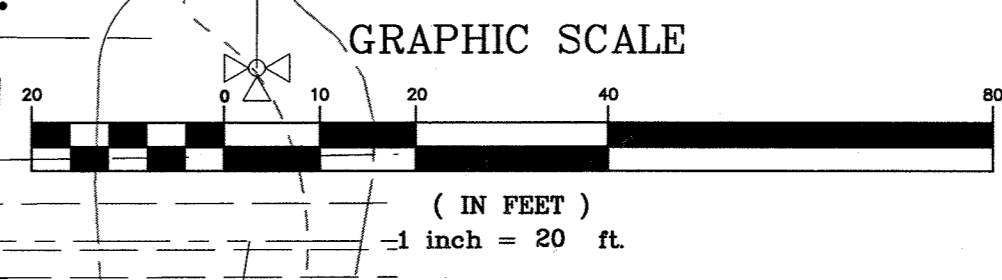
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L. 659 F. 126  
 HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

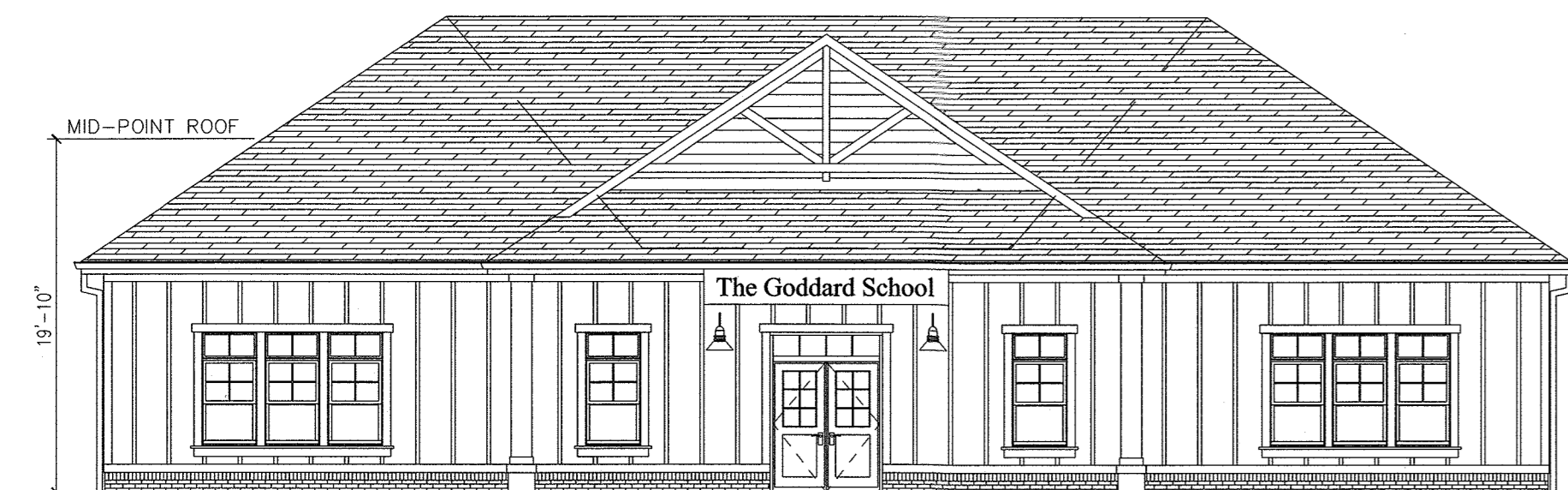
TITLE: LANDSCAPE AND FOREST CONSERVATION PLAN

Pennoni Associates Inc.  
 Consulting Engineers  
 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT No.: G0001201  
 DATE: FEBRUARY 28, 2014  
 SCALE: 1" = 20'  
 DRAWING No. 17 OF 26

SDP-13-045





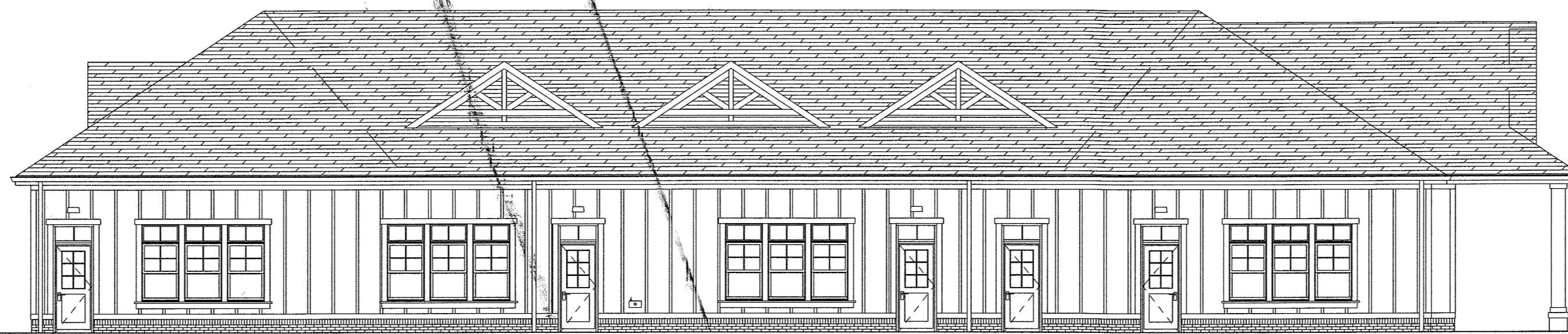
**1** ELEVATION - FRONT (SOUTH)  
16 NOT TO SCALE



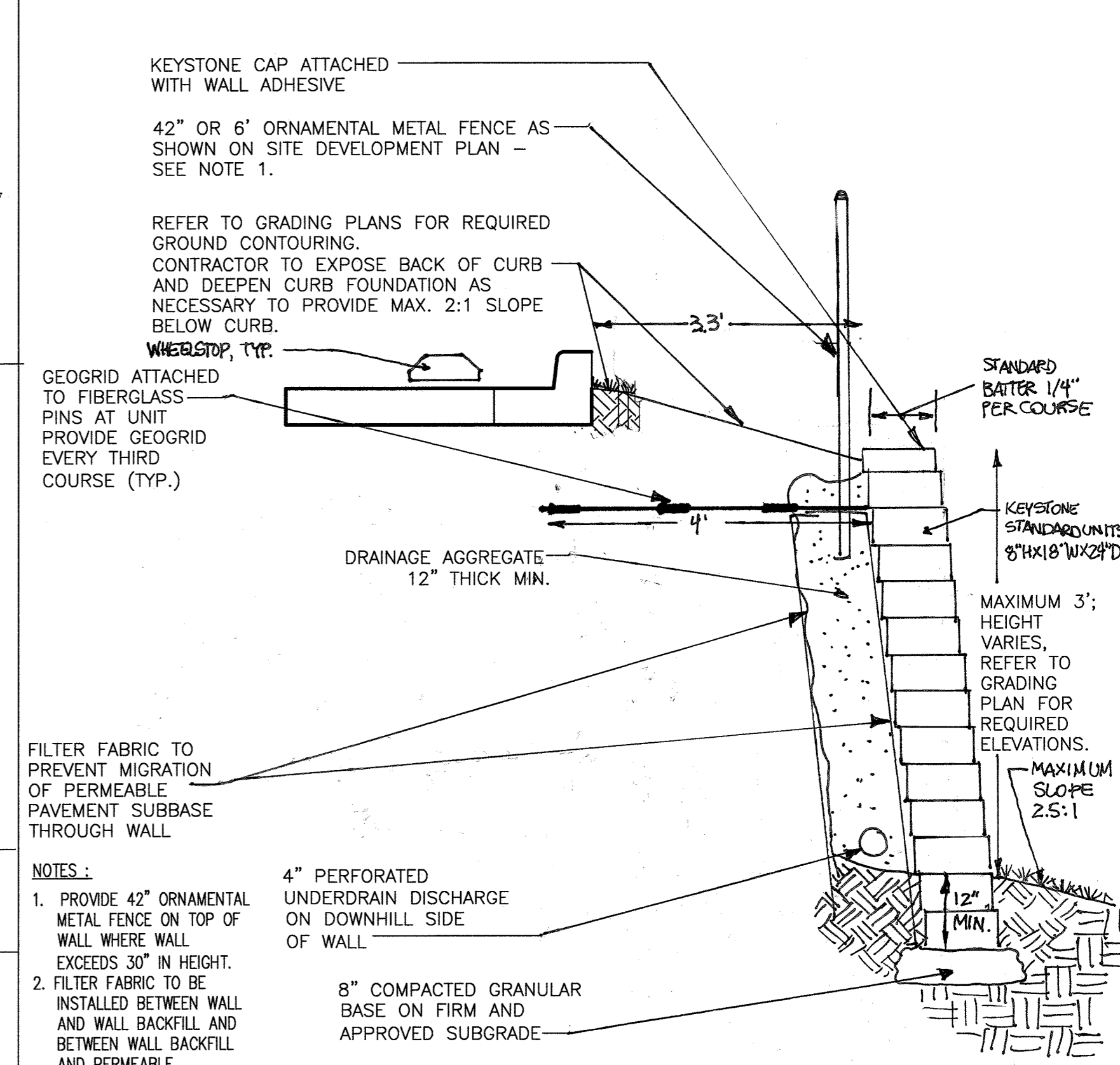
**2** ELEVATION - SIDE (EAST)  
16 NOT TO SCALE



**3** ELEVATION - REAR (NORTH)  
16 NOT TO SCALE



**4** ELEVATION - SIDE (WEST)  
16 NOT TO SCALE



**7** MODULAR BLOCK RETAINING WALL  
16 NOT TO SCALE

KEYSTONE CAP ATTACHED WITH WALL ADHESIVE

42" OR 6' ORNAMENTAL METAL FENCE AS SHOWN ON SITE DEVELOPMENT PLAN - SEE NOTE 1.

REFER TO GRADING PLANS FOR REQUIRED GROUND CONTOURING. CONTRACTOR TO EXPOSE BACK OF CURB AND DEEPEN CURB FOUNDATION AS NECESSARY TO PROVIDE MAX. 2:1 SLOPE BELOW CURB.

WEEDSTOP, TYP.

GEOGRID ATTACHED TO FIBERGLASS PINS AT UNIT PROVIDE GEOGRID EVERY THIRD COURSE (TYP.)

DRAINAGE AGGREGATE 12" THICK MIN.

STANDARD BATTER 1/4" PER COURSE

KEYSTONE STANDARD UNITS 8"X18"X24"

MAXIMUM 3' HEIGHT VARIES. REFER TO GRADING PLAN FOR REQUIRED ELEVATIONS.

MAXIMUM SLOPE 2.5:1

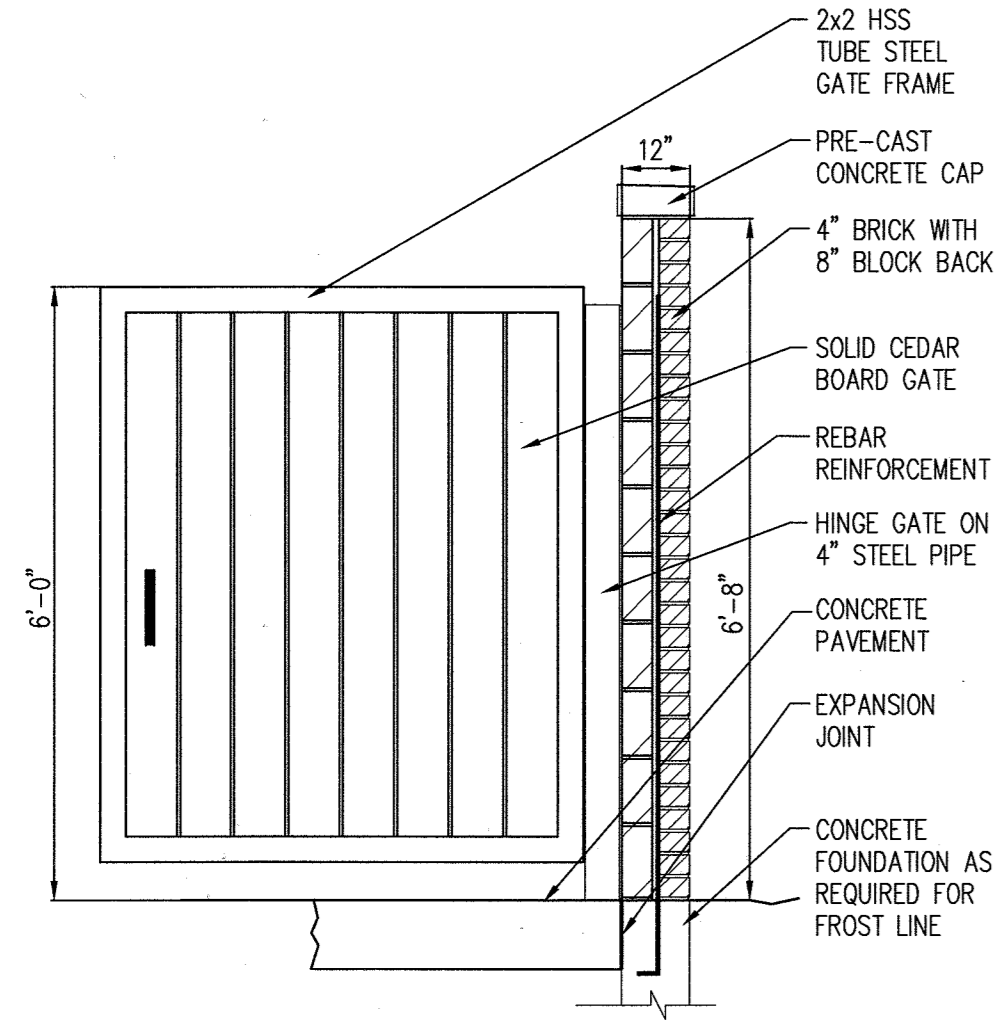
12" MIN.

4" PERFORATED UNDERDRAIN DISCHARGE ON DOWNHILL SIDE OF WALL

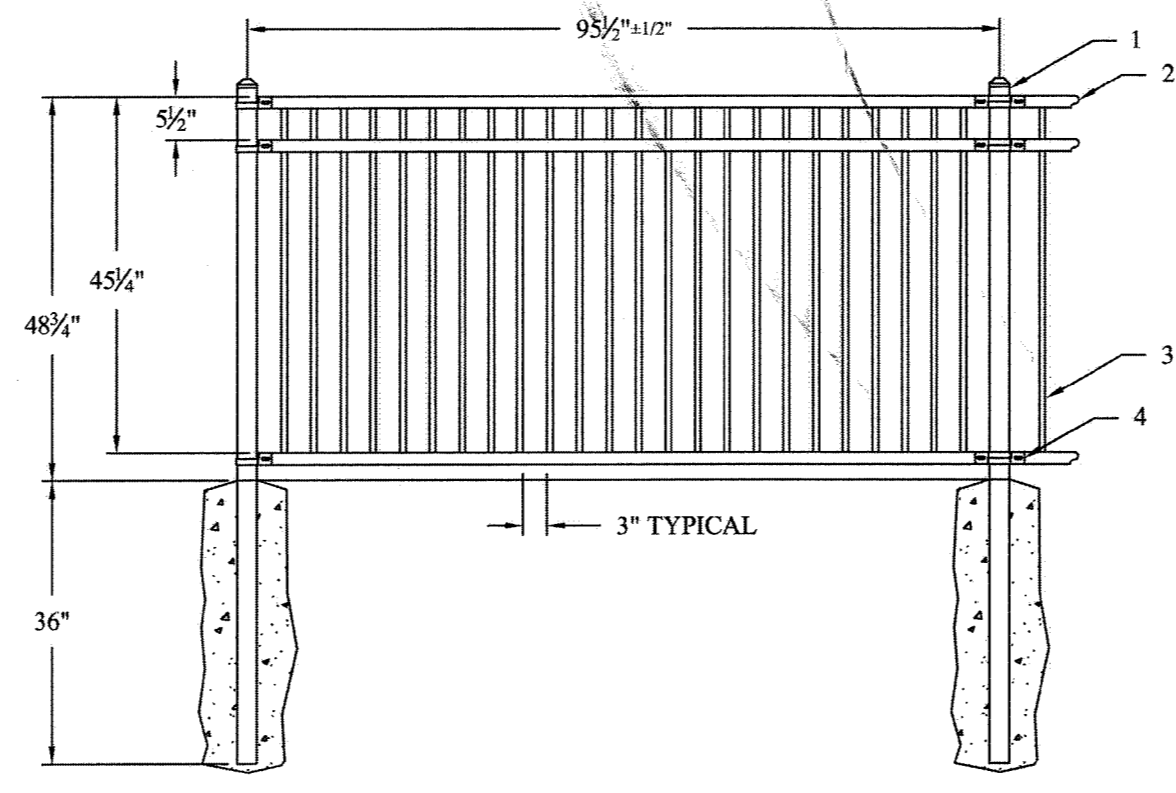
8" COMPACTED GRANULAR BASE ON FIRM AND APPROVED SUBGRADE

NOTES:

- PROVIDE 42" ORNAMENTAL METAL FENCE ON TOP OF WALL WHERE WALL EXCEEDS 30" IN HEIGHT.
- FILTER FABRIC TO BE INSTALLED BETWEEN WALL AND WALL BACKFILL AND BETWEEN WALL BACKFILL AND PERMEABLE PAVEMENT SUBBASE. OR AN EQUIVALENT BARRIER SHALL BE PROVIDED TO ELIMINATE MIGRATION OF PERMEABLE PAVEMENT SUBBASE THROUGH WALL.
- PLEASE REFER TO RETAINING WALL DESIGN PLANS PREPARED BY OTHERS FOR CONSTRUCTION PLANS.

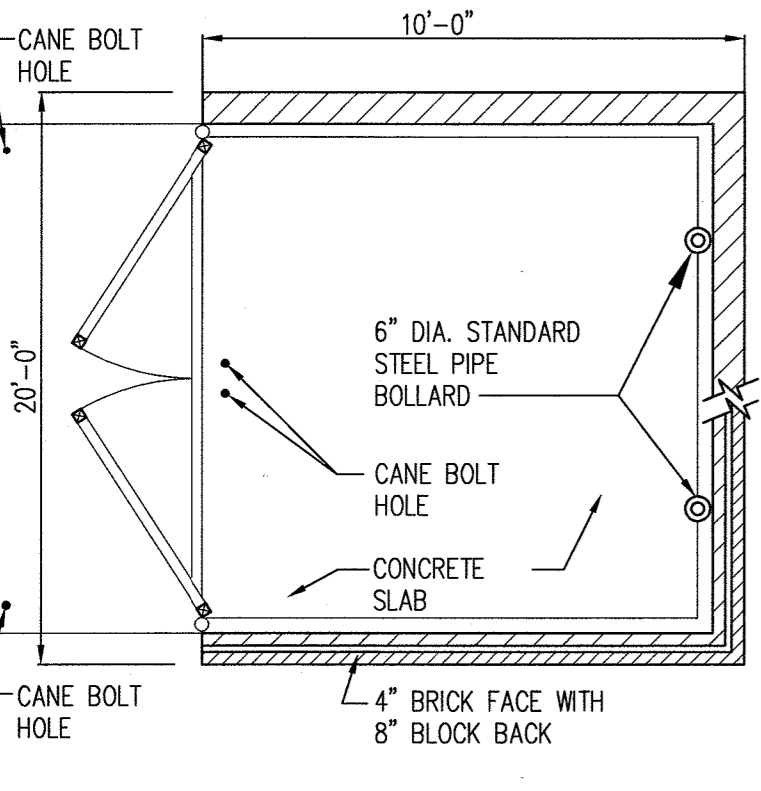


TYPICAL SECTION

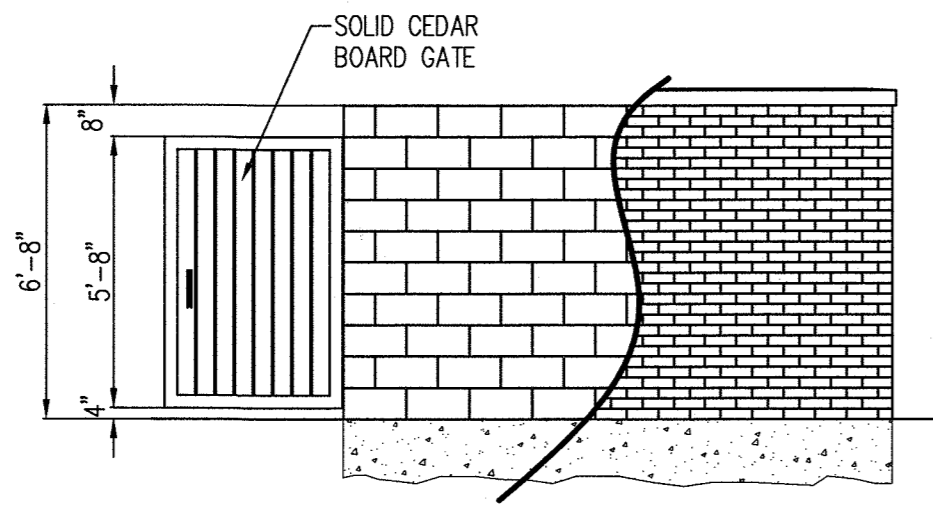


#	QTY.	DESCRIPTION
1	2	3/8" Sq. POST
2	3	1/2" x 1/2" RIBBED CHANNEL RAIL
3	19	3/4" Sq. PICKET
4	6	BRACKETS

<small>PROPRIETARY INFORMATION</small> This drawing is the property of AMERISTAR, Inc. and is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of AMERISTAR, Inc.		1535 N. Maple York, PA 17404 717-333-3423 www.ameristar.com
TITLE: MONTAGE PLUS MAJESTIC 3R FLR 3" GAP 4" F PA		DATE: 11/07/07 SCALE: DNS SHEET:
REV. BY: FGS DATE: 11/21/10 DESCRIPTION: 1/2" x 1/2" RIBBED CHANNEL RAIL	DATE: 11/07/07 SCALE: DNS SHEET:	DRN BY: FGS CHK BY: RIM REV:
DRAWING NO.: 18MX349-3		



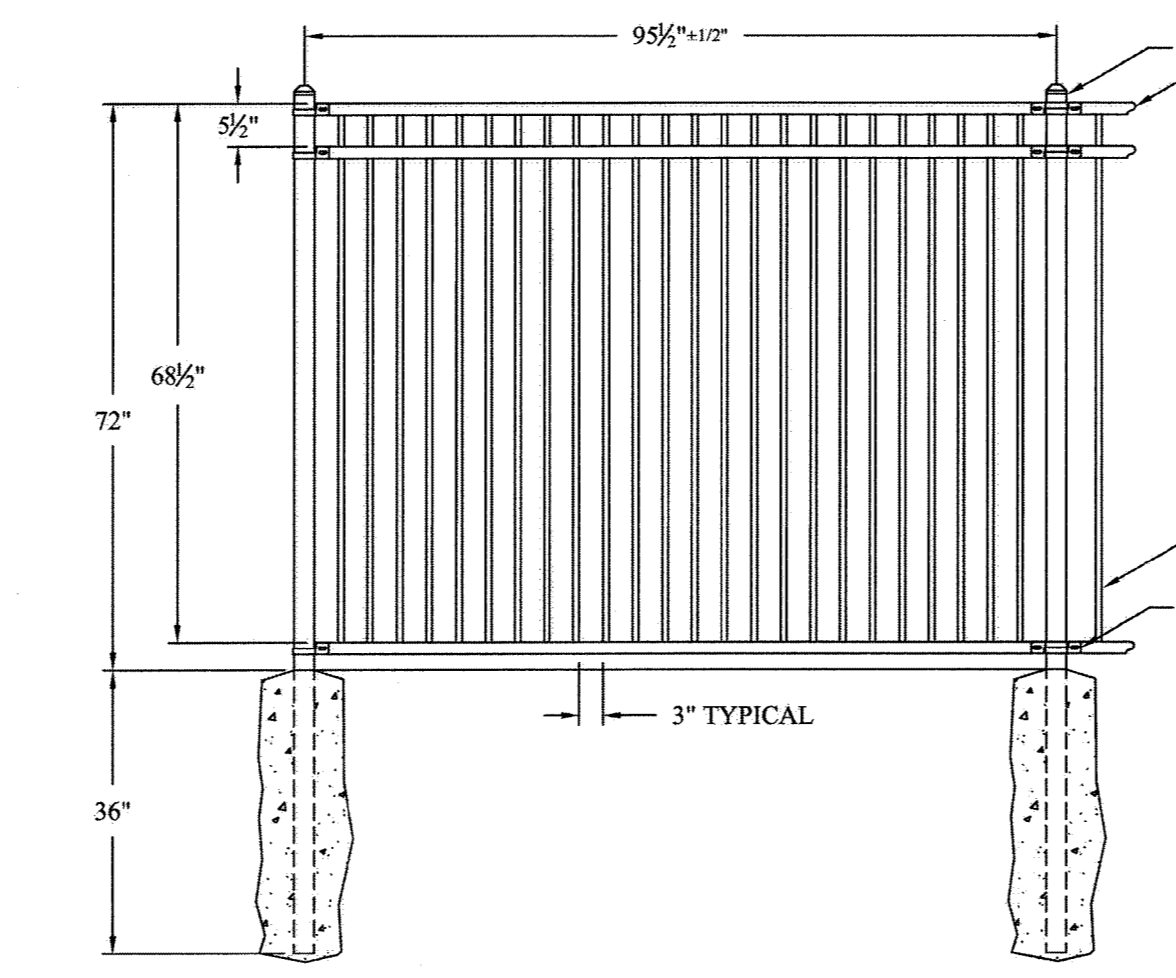
PLAN



CROSS SECTION

NOTE: SEE ARCHITECTURAL PLANS FOR FINAL DUMPSTER ENCLOSURE CONSTRUCTION DETAILS.

**6** DUMPSTER ENCLOSURE DETAILS  
16 NOT TO SCALE



#	QTY.	DESCRIPTION
1	2	3/8" Sq. POST
2	3	1/2" x 1/2" RIBBED CHANNEL RAIL
3	19	3/4" Sq. PICKET
4	6	BRACKETS

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TITLE: MONTAGE PLUS MAJESTIC 3R FLR 3" GAP 4" F PA		DATE: 11/07/07 SCALE: DNS SHEET:
REV. BY: FGS DATE: 11/21/10 DESCRIPTION: 1/2" x 1/2" RIBBED CHANNEL RAIL	DATE: 11/07/07 SCALE: DNS SHEET:	DRN BY: FGS CHK BY: RIM REV:
DRAWING NO.: 18MX370F-3		

**8** 4 - 6' ORNAMENTAL METAL FENCE DETAIL  
16 NOT TO SCALE

APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Scott Weber* 5-21-14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

*Scott Weber* 5-27-14  
CHIEF, DIVISION OF LAND DEVELOPMENT & DATE

*Paul M. Uggler* 5/23/14  
DIRECTOR DATE

8-28-14 | REVISE RETAINING WALL

OWNER: CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

DEVELOPER: DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

PROJECT: GODDARD SCHOOL  
5633 WATERLOO RD.

AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
1ST ELECTION DISTRICT L. 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

TITLE: SITE DETAILS

Pennoni Associates Inc. 8818 Centre Park Drive  
Consulting Engineers Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT No.: G00D1201  
DATE: FEBRUARY 28, 2014  
SCALE: AS SHOWN  
DRAWING No. 16 OF 26

BY: *Scott Weber* 5-12-14  
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21774, EXPIRATION DATE: 11-15-2015

SCHEDULE A - PERIMETER LANDSCAPE EDGE					
PERIMETER	ADJACENT TO PERIMETER PROPERTIES			ADJACENT TO ROADWAYS	
	1	2	3	4	5
LANDSCAPE TYPE	A*	C	A	E	B
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	215±	175±	269±	68±	123±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	NO	NO	NO	YES 30'	NO
LINEAR FEET REMAINING	215'	175±	269±	38±	123±
NUMBER OF PLANTS REQUIRED					
SHADE TREES	4	4	4	1	2
EVERGREEN TREES	0	0	0	0	3
SHRUBS	0	0	0	10	0
NUMBER OF PLANTS PROVIDED					
SHADE TREES	1	6	2	1	2
EVERGREEN TREES	0	0	0	0	0
SMALL FLOWERING TREES	0	0	0	0	0
SHRUBS	30	0	20	10	0

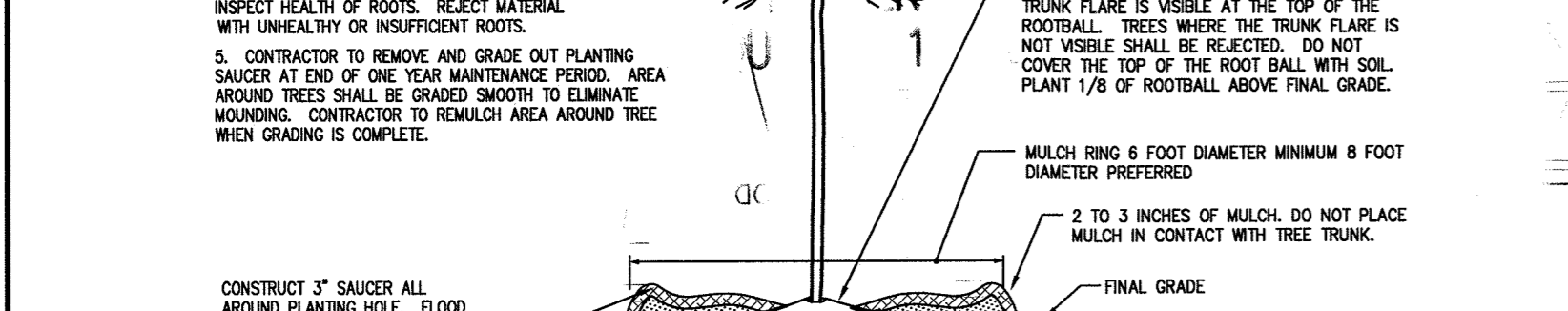
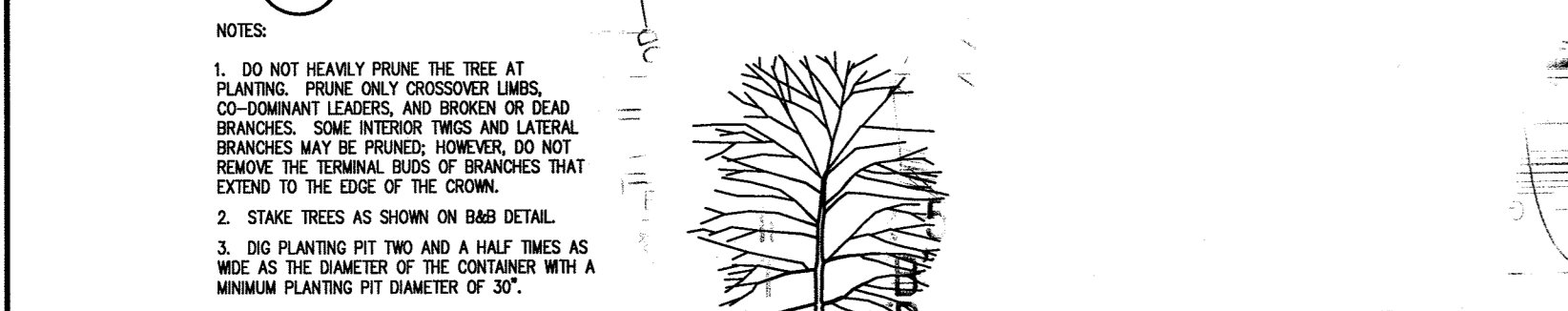
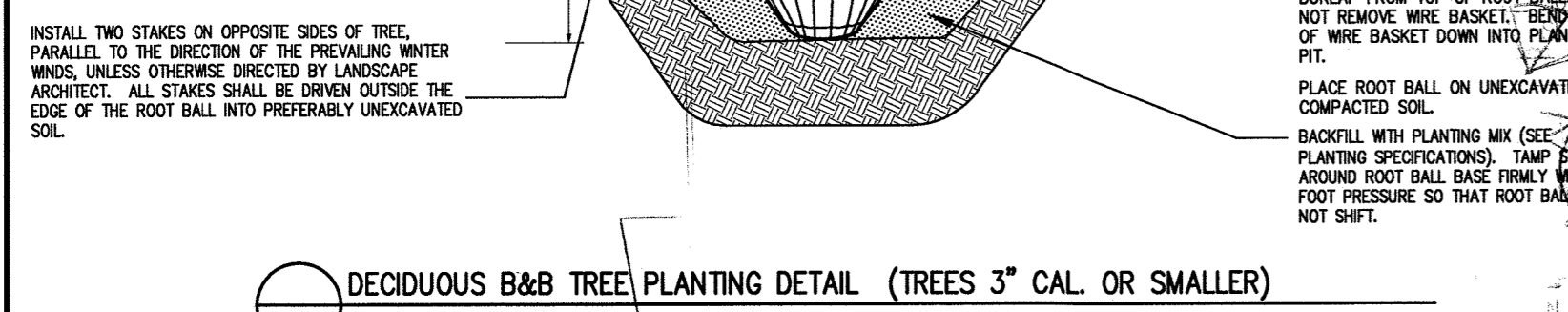
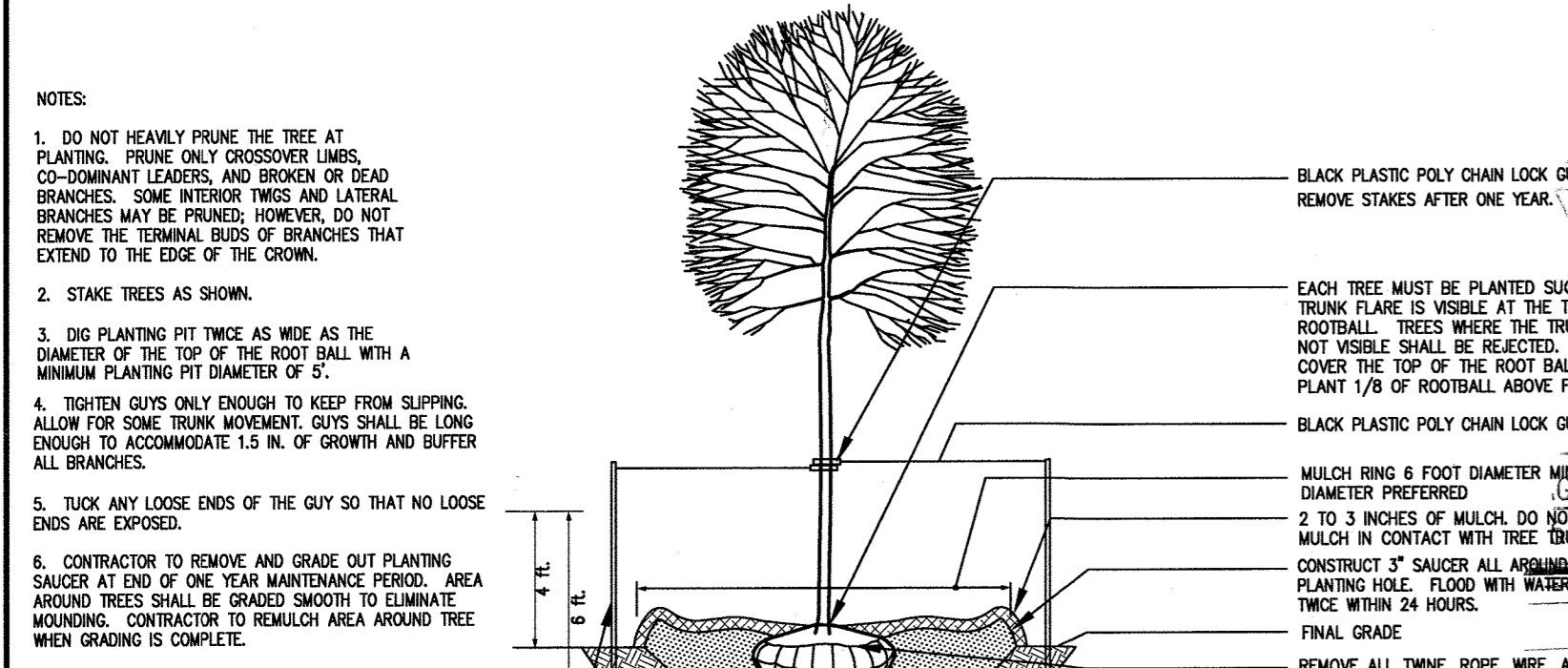
NOTES:  
 \* AN 'A' PERIMETER HAS BEEN USED FOR PERIMETER 1. PERIMETER 1 IS A NON-RESIDENTIAL USE (THE SUBJECT SITE) AGAINST AN APPROXIMATELY 40' WIDE STRIP OF RESIDENTIALLY ZONED LAND, BEYOND WHICH IS THE RIGHT-OF-WAY FOR MONTGOMERY RUN ROAD. THIS STRIP OF LAND HAS A MATURE BUFFER OF WHITE PINES LOCATED WITHIN IT.

SUBSTITUTION NOTES:  
 PERIMETER 1: 30 SHRUBS HAVE BEEN SUBSTITUTED FOR 3 SHADE TREES.  
 PERIMETER 2: 4 FLOWERING TREES HAVE BEEN SUBSTITUTED FOR 2 SHADE TREES.  
 PERIMETER 3: 20 SHRUBS HAVE BEEN SUBSTITUTED FOR 2 SHADE TREES.  
 PERIMETER 5: 3 SMALL FLOWERING TREES HAVE BEEN SUBSTITUTED FOR 3 EVERGREEN TREES.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	1
NUMBER OF PARKING SPACES	32
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	2
NUMBER OF TREES PROVIDED	
SHADE TREES	2
OTHER TREES (2:1 SUBSTITUTION)	-
NUMBER OF ISLANDS PROVIDED	2

STREET TREE CALCULATIONS		
MD ROUTE 108 FRONTAGE	161'/40	4 LARGE TREES
TOTAL TREES REQUIRED		4 LARGE TREES

SPECIMEN TREE CHART				
KEY	SPECIES	SIZE	CONDITION	REMAIN/REMOVE
1	ACER RUBRUM (RED MAPLE)	30"	FAIR	REMOVE
2	ACER SACCHARINUM (SILVER MAPLE)	36"	FAIR	REMOVE
3	ACER SACCHARINUM (SILVER MAPLE) TRIPLE TRUNK	36"	POOR	REMOVE



Howard County Forest Conservation Worksheet

Project Name: **Goddard School - 5633 Waterloo Road**  
 County File #: **SDP-13-045**  
 Date: **January 11, 2013**

**Net Tract Area**  
 A. Total Tract Area  
 B. Other Deductions  
 C. Net Tract Area Net Tract Area = (A-B-C)  
 Land Use Category: **Commercial**  
 Afforestation Threshold (Net Tract Area X .15%)  
 Conservation Threshold (Net Tract Area X .15%)

**Existing Forest Cover**  
 F. Existing Forest Cover within the Net Tract Area  
 G. Area of Forest Above Conservation Threshold  
 If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then  
 H = Existing Forest Cover (F) - Conservation Threshold (G); Otherwise H = 0

**Break Even Point**  
 H. Break Even (Amount of forest that must be retained so that no mitigation is required)  
 (1) If the area of forest above the Conservation Threshold (G) is greater than zero, then  
 H = (0.2 X the area of forest above Conservation Threshold (G)) / Conservation Threshold (E)  
 (2) If the area of forest above the Conservation Threshold (G) is less than or equal to zero, then  
 H = Existing Forest Cover (F)

**Proposed Forest Clearing**  
 J. Total Area of Forest to be Cleared  
 K. Total Area of Forest to be Retained  
 L. Total Area of Forest to be Cleared (J) - Total Area of Forest to be Retained (K)

**Planting Requirements**  
 If the Total Area of Forest to be Cleared (L) is at or above the Break Even Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0).  
 If not, calculate the planting requirement below.

**Reforestation for Clearing Above the Conservation Threshold**  
 (1) If the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then  
 L = the area of forest to be cleared (J) X 0.25; or  
 (2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then  
 L = the area of forest above Conservation Threshold (G) X 0.25

**Reforestation for Clearing Below the Conservation Threshold**  
 (1) If Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then  
 M = 2.0 X (the Conservation Threshold (E) - the forest to be retained (K))  
 (2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then  
 M = 2.0 X Forest to be cleared (J)

**Credit for Retention Above the Conservation Threshold**  
 If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then  
 N = K - E

**Total Reforestation Required P = L + M - N**  
 Total Afforestation Required  
 (1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then  
 Q = the Afforestation Threshold (D) - the Existing Forest Cover (F)  
 Total Planting Requirement R = P + Q

Acres  
 A = 0.99  
 B = 0.99  
 C = 0.99

D = 0.15  
 E = 0.15

F = 0.00  
 G = 0.00

H = 0.00

I = 0.00

J = 0.00  
 K = 0.00

L = 0.00

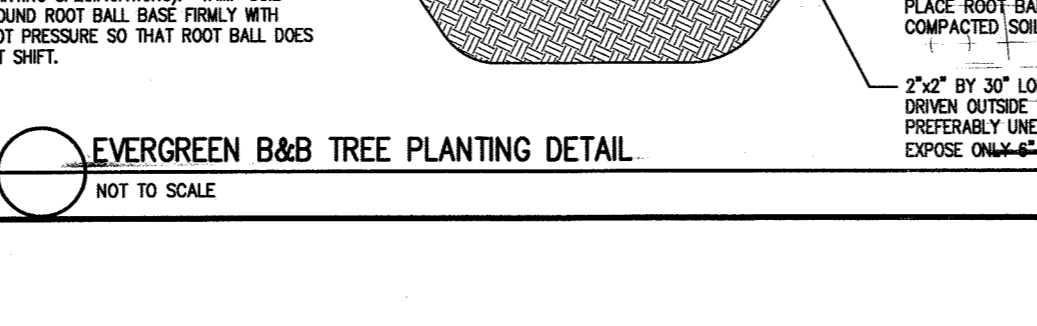
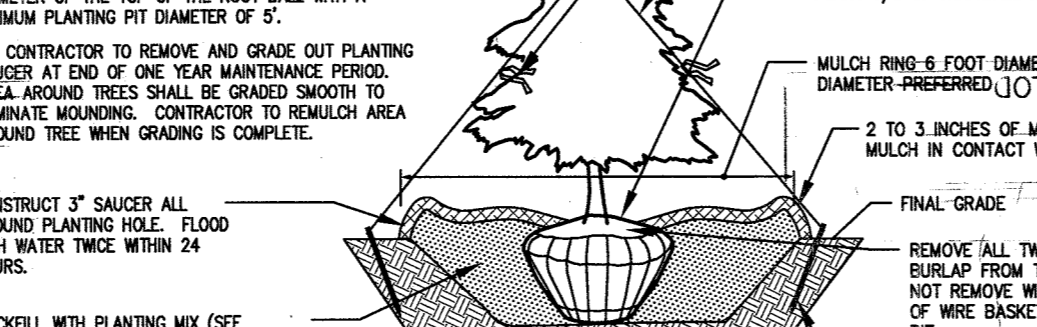
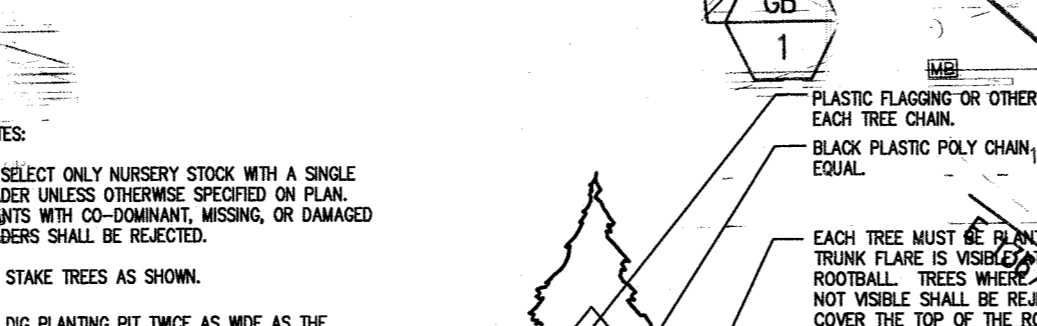
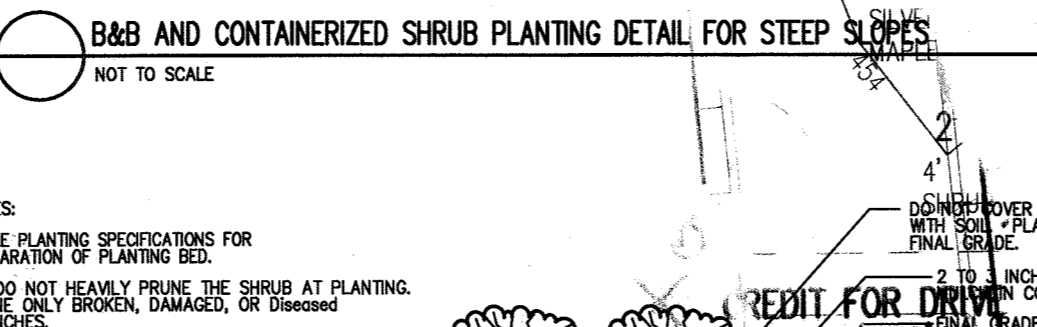
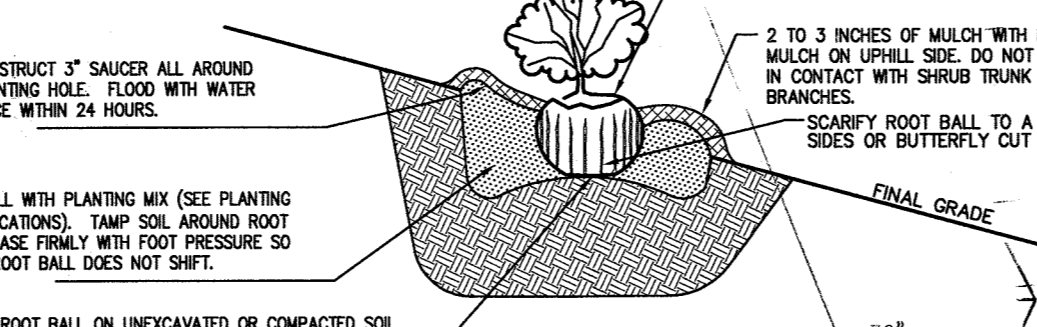
M = 0.00

N = 0.00

P = 0.00  
 Q = 0.15

R = 0.15

NOTES:  
 1. SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.  
 2. DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. BRANCHES ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.  
 3. DIG PLANTING PIT 1/2" WIDER THAN THE DIAMETER OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 30".  
 4. FOR B&B SHRUBS, REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP OF ROOT BALL.  
 5. ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.



PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Landscape Manual of the applicable jurisdiction, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Nursery & Landscape Association (ANLA) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been out back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no headed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractors may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-strengthened hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Eriocarpus plants (Azaleas, Rhododendrons, etc.); top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yew); top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Weed & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to ensure its adaptability to the specific ground cover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

FOREST CONSERVATION GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED USING PHR+A FIELD RUN TOPOGRAPHY.
- NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
- NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
- THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.
- THERE ARE TWO EXISTING BUILDINGS ON THE SITE. THE TWO EXISTING BUILDINGS WILL BE REMOVED. STRUCTURES ARE PROPOSED AS SHOWN.
- THIS SITE DOES NOT CONTAIN SOILS WITH POSSIBLE HYDRIC INCLUSIONS.
- THE FSD, DATED 1/31/13, HAS BEEN PREPARED BY PENNONI ASSOCIATES INC. IN CONJUNCTION WITH THESE PLANS.
- THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- THE FOREST CONSERVATION OBLIGATION FOR THIS PLAN HAS BEEN SATISFIED BY PAYMENT OF A FEE-IN-LIEU (\$0.75 PER SQUARE FOOT) OF \$4,900.50 (0.15 ACRES X 43,560 SF X \$0.75) TO THE HOWARD COUNTY FOREST CONSERVATION FUND.
- WATERSHED IS DEEP RUN.

SCHEDULE E - SPECIMEN TREE REPLACEMENT PLANTINGS

SPECIMEN TREES TO BE REMOVED	3 TREES	MM PH
TOTAL TREES REQUIRED AT 1:1 REPLACEMENT PLANTING	3 TREES	MANUALS

PLANT SCHEDULE					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
<b>SHADE TREES</b>					
BN	8	BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH	10-12' HT.	B&B	MULTI-STEM
GB	4	GINKGO BILOBA 'AUTUMN GOLD' AUTUMN GOLD GINKGO	2.5-3" CAL.	B&B	MALE ONLY
QP	1	QUERCUS PHELLOS MELLOW OAK	2.5-3" CAL.	B&B	AS SHOWN
AK	4	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2.5-3" CAL	B&B	AS SHOWN
<b>EVERGREEN TREES</b>					
IN	0	ILEX X 'NELLIE R. STEVENS' NELLIE STEVENS HOLLY	6-8' HT.	B&B	AS SHOWN
<b>ORNAMENTAL TREES</b>					
MV	8	MAGNOLIA VIRGINIANA SWEETBAY MAGNOLIA	6-8' HT.	B&B	AS SHOWN
<b>SHRUBS</b>					
AA	15	AZALEA 'AUTUMN TWIST' AUTUMN TWIST ENCORE AZALEA	2-2.5' HT.	CONT.	AS SHOWN
AG	15	ABELIA X GRANDIFLORA GLOSSY ABELIA	2-2.5' HT.	CONT.	AS SHOWN (IN PER)
IG	30	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY	15-18" HT.	CONT.	AS SHOWN

GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$3,300.00.  
 24 SHADE TREES @ \$300.00 = \$7,200.00  
 0 ORNAMENTAL TREES @ \$150.00 = \$0.00  
 12 EVERGREEN TREES @ \$150.00 = \$1,800.00  
 10 SHRUBS @ \$30.00 = \$300.00  
 BONDED LANDSCAPING INCLUDES REQUIRED LANDSCAPING PER THE LANDSCAPE MANUAL.
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS "LANDSCAPE PLAN" MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

\_\_\_\_\_  
 SIGNATURE DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT & DATE  
 DIRECTOR DATE

7.15.11 TREE REVISION

DATE	NO.	REVISION
5-21-11		
5-27-14		
5/23/14		

OWNER: CHEVY CHASE BANK FSB  
 ATTN: SCOTT WEBER  
 C/O CAPITAL ONE NATIONAL ASSN  
 14601 SWEITZER LANE  
 LAUREL, MD 20707  
 (804) 725-4303

DEVELOPER: DARNETSTOWN DEVELOPMENT  
 ATTN: BOSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330-2300

PROJECT: GODDARD SCHOOL  
 5633 WATERLOO RD.

AREA TAX MAP: 07 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L 658 F. 126  
 ND HOWARD COUNTY, MARYLAND  
 PROPOSED DAY CARE CENTER

LANDSCAPE AND FOREST CONSERVATION NOTES AND DETAILS

Pennoni Associates Inc. Consulting Engineers  
 8809 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 PROJECT: DRAWN BY: ALC  
 PROJECT No.: G00D1201  
 DATE: FEBRUARY 28, 2014  
 SCALE: AS SHOWN  
 DRAWING No. 18 OF 26

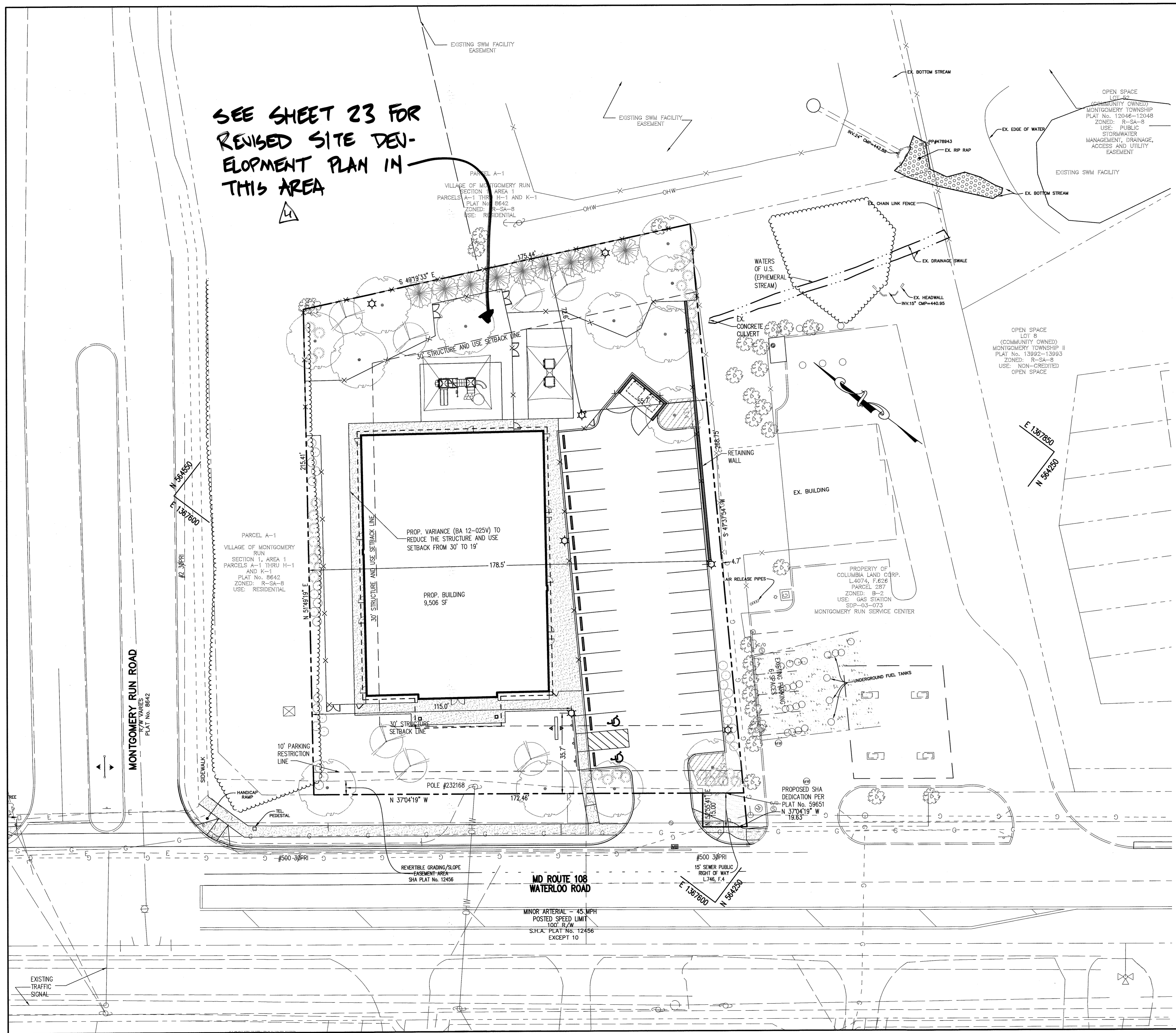
SEE SHEET 23 FOR  
REVISED SITE DEV-  
ELOPMENT PLAN IN  
THIS AREA

**LEGEND**

- ☼ PROPOSED LIGHT (3 TOTAL)
- 4 PROPOSED FLOOD LIGHT (2 TOTAL)

SEE SITE ELECTRICAL PLAN FOR LIGHT FIXTURE  
SCHEDULE AND DETAILS

IN ACCORDANCE WITH SUBSECTION 134.D.2 OF  
THE ZONING REGULATIONS, LIGHT TRESPASS ONTO  
ADJACENT PROPERTIES ZONED OR USED FOR  
RESIDENTIAL PURPOSES SHALL BE LIMITED TO 0.5  
FOOT CANDLES.



APPROVED : DEPARTMENT OF PLANNING AND ZONING

*Chief* 5-21-14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE  
*Director* 5-27-14  
CHIEF, DIVISION OF LAND DEVELOPMENT, DATE  
*Director* 5/28/14  
DIRECTOR, DATE

DATE	NO.	REVISION
9-11-14	4	REMOVE MB #1 + #3

OWNER  
CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

DEVELOPER  
DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
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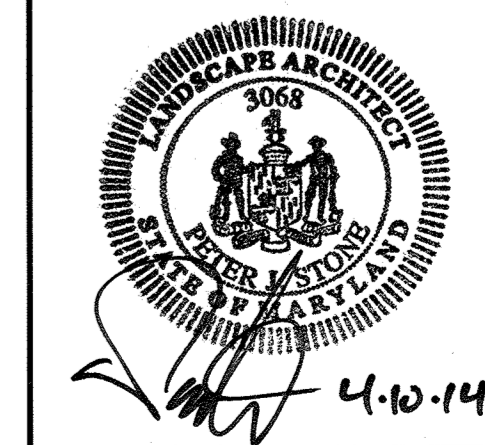
PROJECT  
**GODDARD SCHOOL**  
5633 WATERLOO RD.

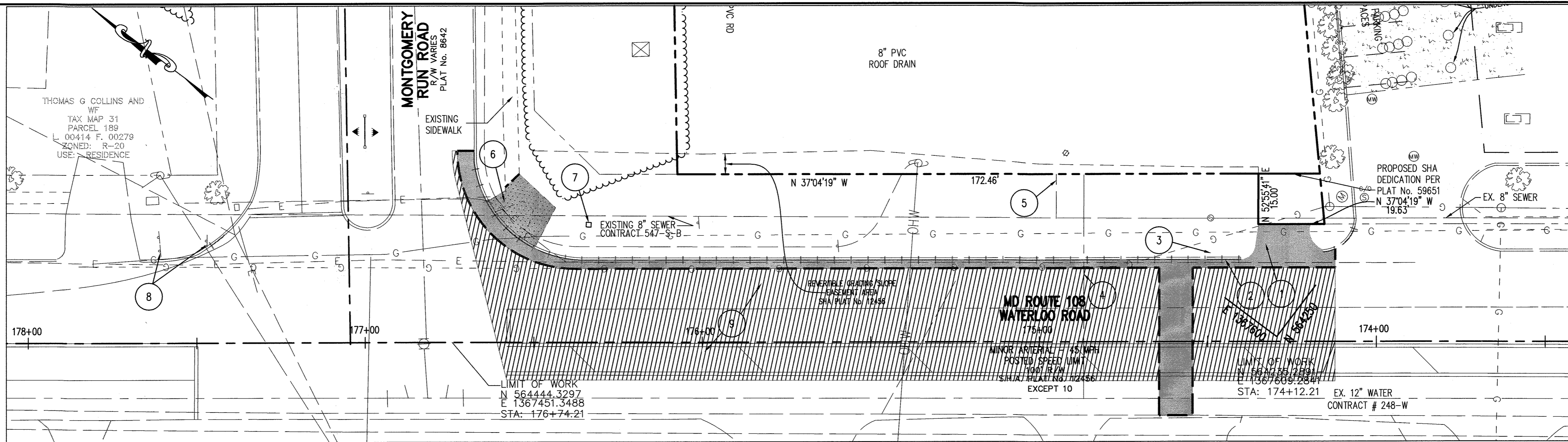
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
1ST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

TITLE  
**LIGHTING PLAN**

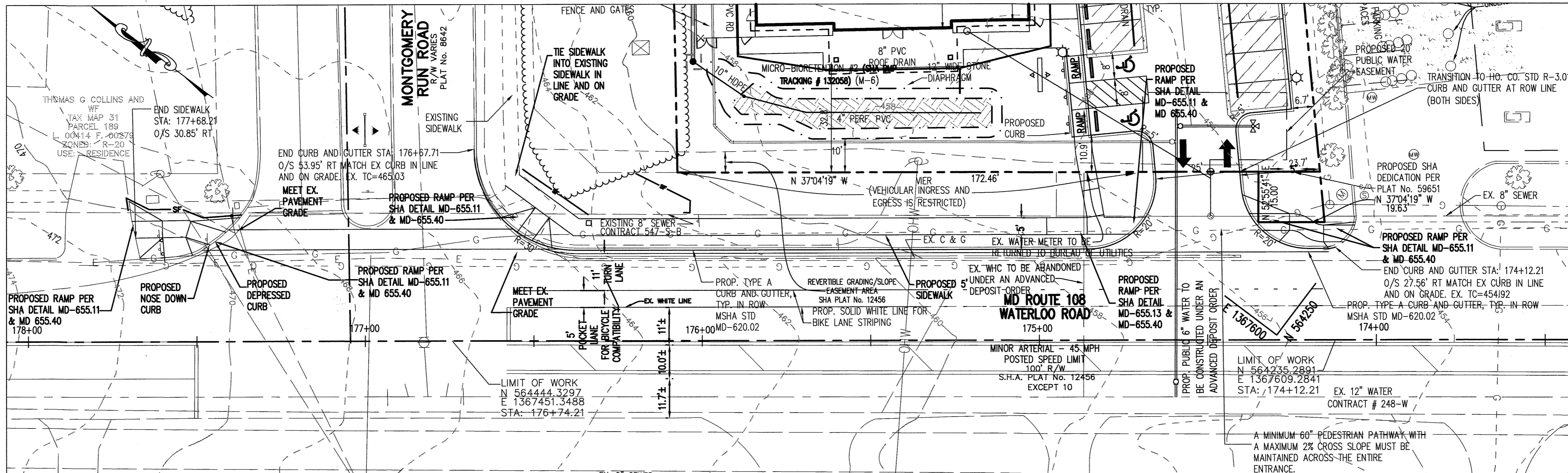
Pennoni Associates Inc.  
Consulting Engineers  
8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY : ALC  
PROJECT No.: GODD01201  
DATE : FEBRUARY 28, 2014  
SCALE: 1" = 20'  
DRAWING No. 19 OF 26

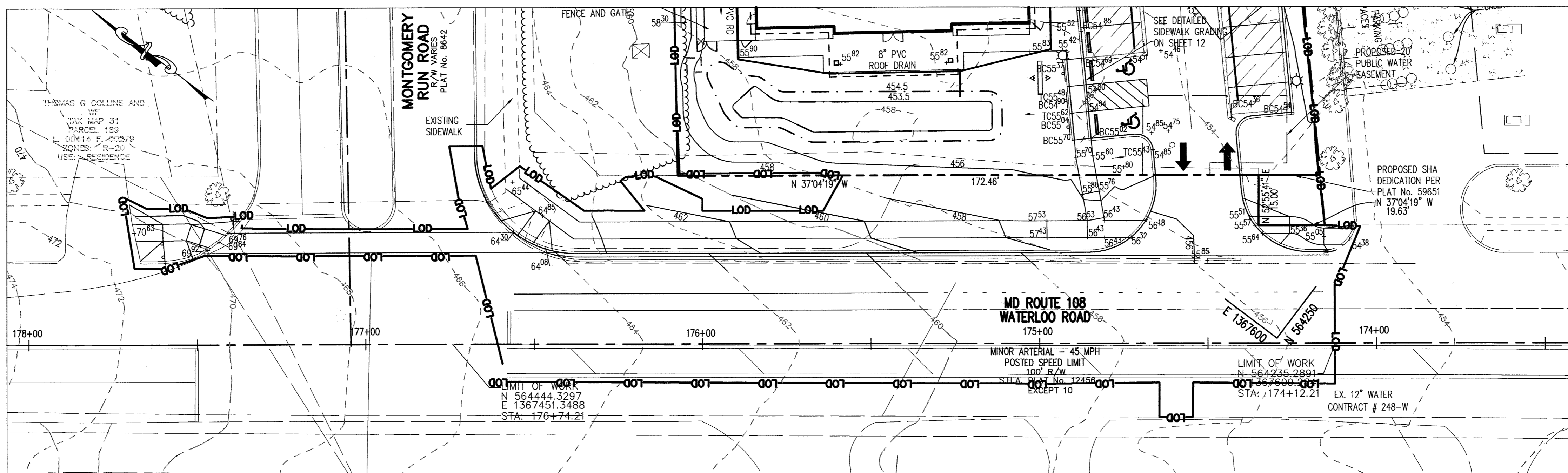




**DEMOLITION PLAN**  
SCALE: 1" = 20'



**SITE PLAN**  
SCALE: 1" = 20'



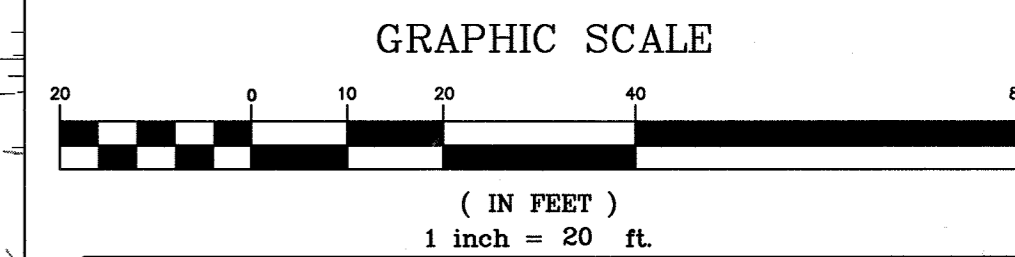
**GRADING PLAN**  
SCALE: 1" = 20'

- DEMOLITION KEY:**
- 1 REMOVE EXISTING BITUMINOUS PAVING
  - 2 REMOVE EXISTING CURB AND GUTTER
  - 3 REMOVE EXISTING MAILBOX
  - 4 EX. WHC TO BE ABANDONED
  - 5 EX. SHC TO BE ABANDONED
  - 6 EX. CONCRETE SIDEWALK TO BE REMOVED
  - 7 EX. TEL. PEDESTAL TO BE RELOCATED BEHIND PROPOSED SIDEWALK
  - 8 EX. SIGN TO BE RELOCATED OUTSIDE OF PROPOSED SIDEWALK
  - 9 EX. PAVEMENT TO BE MILLED

BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
AT  
**1-800-257-7777**  
AT LEAST 48 HOURS PRIOR TO EXCAVATION

- DEMOLITION LEGEND**
- EX. BITUMINOUS PAVING TO BE REMOVED
  - EX. CURB AND GUTTER TO BE REMOVED
  - EX. CONCRETE SIDEWALK TO BE REMOVED
  - SAW CUT
  - EX. PAVEMENT TO BE MILLED

- NOTES:**
1. SEE DEMOLITION NOTES ON SHEET 2 OF SDP-13-045.
  2. PAVEMENT REPAIRS FOR INSTALLATION OF PUBLIC WATER CONNECTION SHALL BE FULL DEPTH PAVING SECTION SEE DETAIL, SHEET 21.



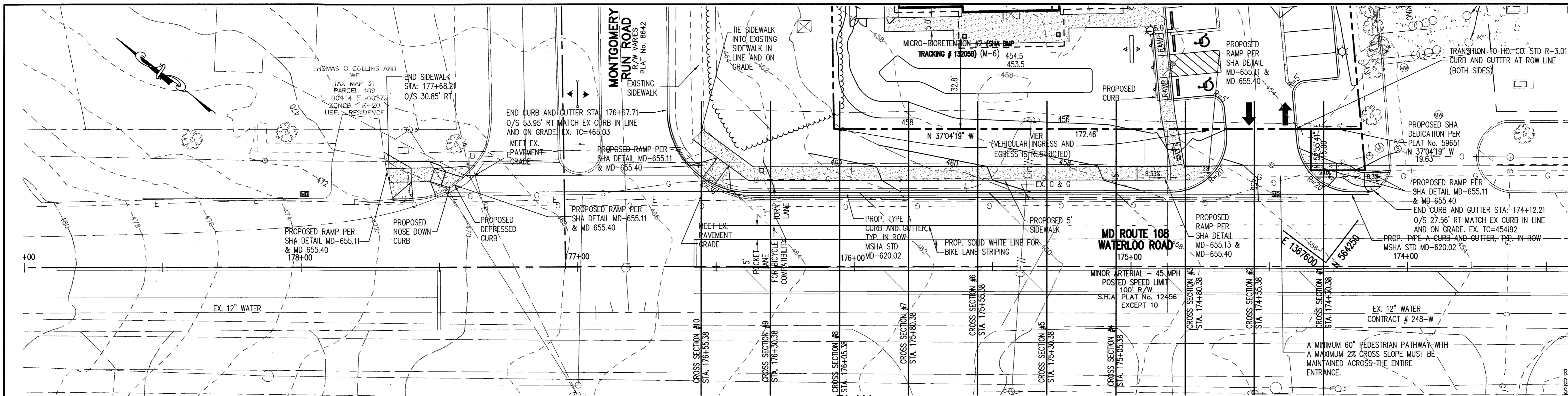
**APPROVED :** DEPARTMENT OF PLANNING AND ZONING

*Chief* 5-21-14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chief* 5-27-14  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

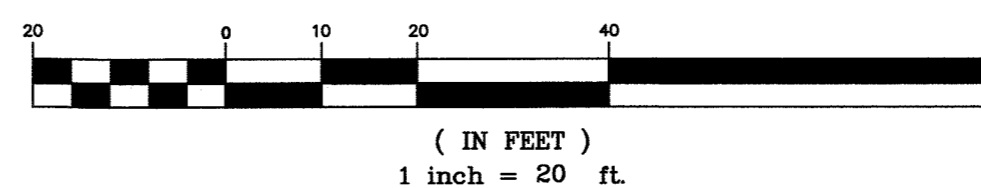
*Director* 5/23/14  
DIRECTOR DATE

DATE	NO.	REVISION
OWNER	CHEVY CHASE BANK FSB ATTN: SCOTT WEBER C/O CAPITAL ONE NATIONAL ASSN 14601 SWEETZER LANE LAUREL, MD 20707 (804) 775.4303	
DEVELOPER	DARNESTOWN DEVELOPMENT ATTN: ROSS FLAX 900 GAITHER ROAD ROCKVILLE, MD 20850 (301) 330.2300	
PROJECT	<b>GODDARD SCHOOL</b> 5633 WATERLOO RD.	
AREA TAX MAP	37 PARCEL 286 GRID #1 ZONED B-1 1ST ELECTION DISTRICT L. 659 F. 126 HOWARD COUNTY, MARYLAND PROPOSED DAY CARE CENTER	
TITLE	<b>MD ROUTE 108</b> <b>ROAD IMPROVEMENT PLAN</b>	
Pennoni Associates Inc. Consulting Engineers 8818 Centre Park Drive Suite 200 Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
DESIGNED BY:	PJS	
DRAWN BY:	ALC	
PROJECT NO.:	G00D1201	
DATE:	FEBRUARY 28, 2014	
SCALE:	1" = 20'	
DRAWING NO.:	20 OF 26	



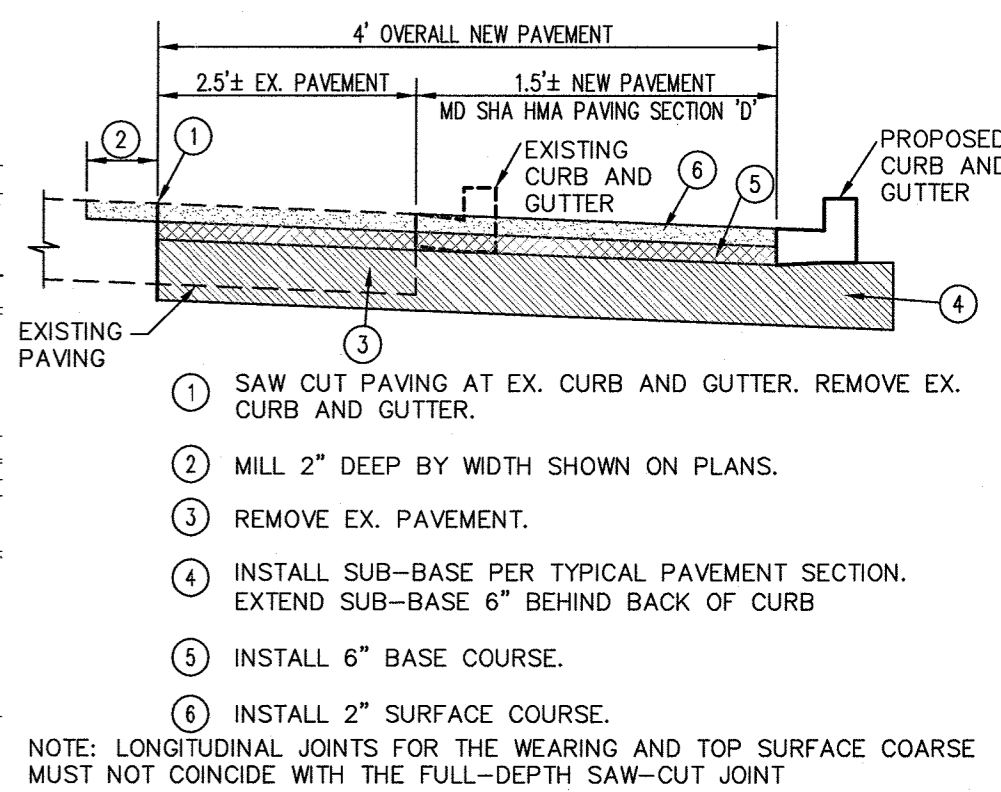
PLAN  
SCALE: 1" = 20'

GRAPHIC SCALE



**NOTES:**

1. AT TIME OF CONSTRUCTION, CONTRACTOR SHALL VERIFY ELEVATION OF EXISTING PAVEMENT ALONG SAW CUT LINE. CONSTRUCTION OF WIDENING TO BE BASED ON THIS ELEVATION.



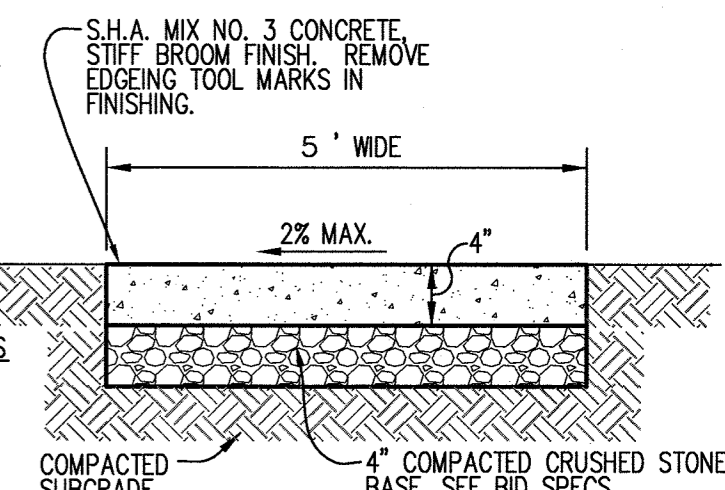
**PAVEMENT CONNECTION DETAIL**  
NOT TO SCALE

- 1 SAW CUT PAVING AT EX. CURB AND GUTTER. REMOVE EX. CURB AND GUTTER.
- 2 MILL 2" DEEP BY WIDTH SHOWN ON PLANS.
- 3 REMOVE EX. PAVEMENT.
- 4 INSTALL SUB-BASE PER TYPICAL PAVEMENT SECTION. EXTEND SUB-BASE 6" BEHIND BACK OF CURB
- 5 INSTALL 6" BASE COURSE.
- 6 INSTALL 2" SURFACE COURSE.

NOTE: LONGITUDINAL JOINTS FOR THE WEARING AND TOP SURFACE COARSE MUST NOT COINCIDE WITH THE FULL-DEPTH SAW-CUT JOINT

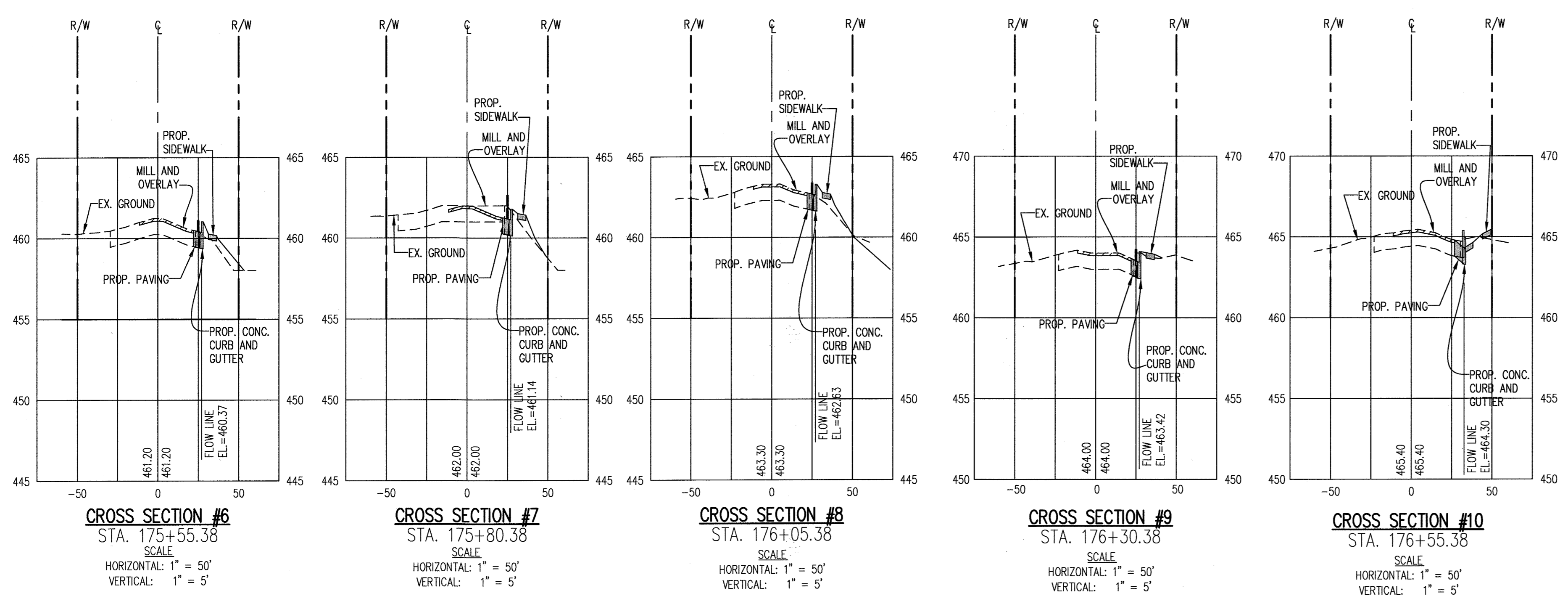
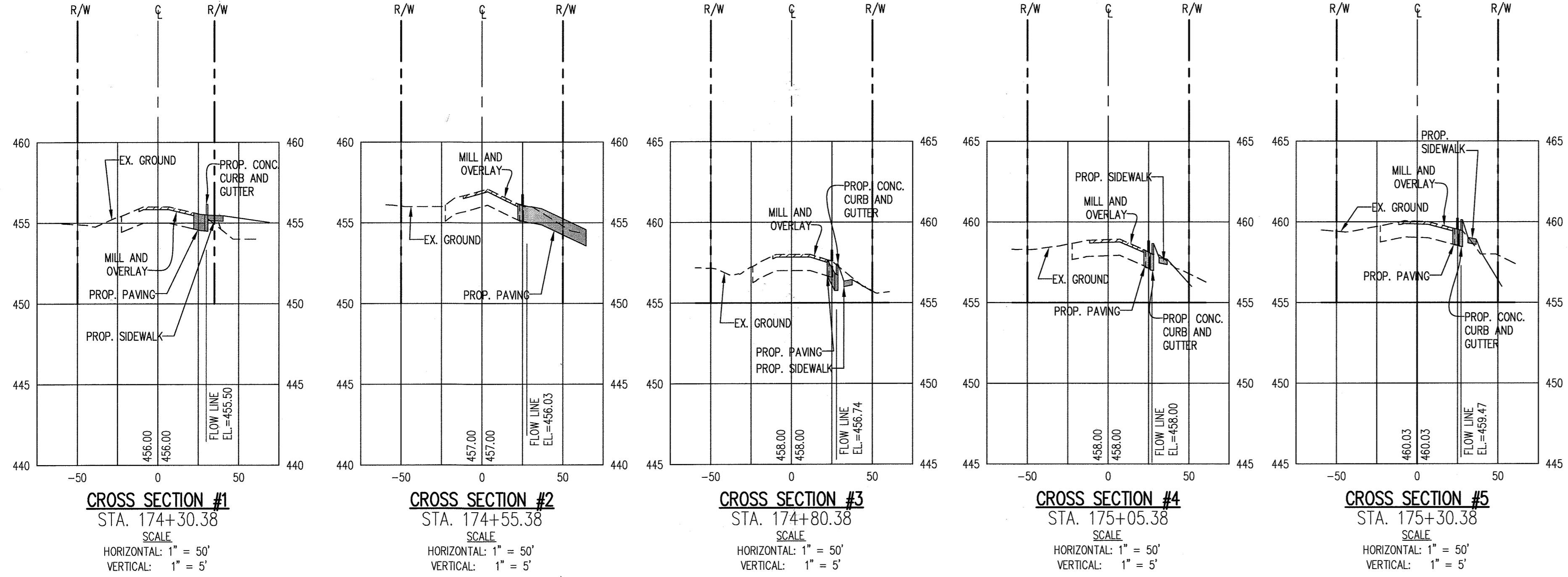
REFER TO HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DETAIL R-3.05) FOR ALL SPECIFICATIONS.

REFER ALSO TO THE MARYLAND DEPT. OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS - 2008.



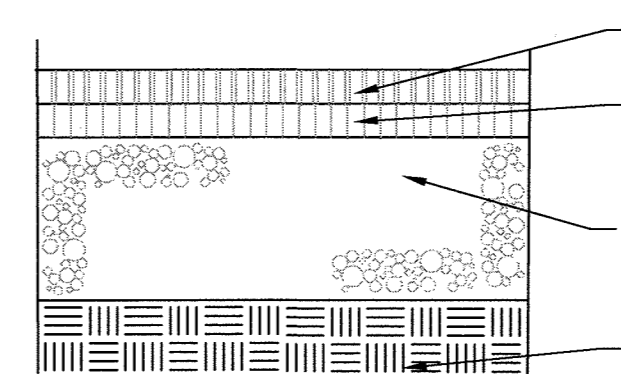
- NOTES:**
1. PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.) PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES.
  2. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
  3. ALL SIDEWALKS TO BE 5' WIDE.

**OFF-SITE SIDEWALK DETAIL**  
NOT TO SCALE  
HC DPW STD. R-3.05



BEFORE BEGINNING CONSTRUCTION CONTACT  
"MISS UTILITY"  
AT  
1-800-257-7777  
AT LEAST 48 HOURS PRIOR TO EXCAVATION

NOTE: FOR ON SITE PAVING DETAIL, SEE SHEET 15



**TYPICAL DETAIL FOR PAVING WITHIN SHA RW - MD SHA HMA PAVING SECTION 'D'**  
NOT TO SCALE

- NOTE:** SEE APPENDIX D OF THE MARYLAND STATE HIGHWAY ACCESS MANUAL ENGINEERING ACCESS PERMITS DIVISION
1. ALL PAVING SUBGRADE SHOULD BE CONSTRUCTED TO COMPLY WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
  2. PRIOR TO PLACEMENT OF STONE BASE, THE ENTIRE SUBGRADE SHOULD BE PROOF ROLLED IN ACCORDANCE WITH SECTION 204 OF THE MSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION MATERIALS. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH MATERIAL MEETING THE REQUIREMENT OF GEOSYNTHETIC STABILIZED SUBGRADE USING GRADED AGGREGATE BASE (SEE SECTION 211 OF THE MSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION MATERIALS).
  3. THE PAVING SECTION SHOWN HAS NOT BEEN DESIGNED FOR ACTUAL SOIL CONDITIONS, IN PLACE COMPACTION RESULTS, OR TRAFFIC VOLUMES SPECIFIC TO THIS PROJECT. IT IS RECOMMENDED THAT THE USER CONSULT WITH A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER FOR A SPECIFIC PAVING DESIGN BASED ON THE APPROPRIATE PARAMETERS PRIOR TO INSTALLATION OF THIS PAVING SECTION.
  4. THIS PAVING SECTION SHALL BE USED FOR ALL PAVEMENT WITHIN THE MARYLAND STATE HIGHWAY ADMINISTRATION RIGHT-OF-WAY.

APPROVED : DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *Scott Weber* 5-21-14  
 Chief, Division of Land Development: *Katherine* 5-27-14  
 Director: *Dr. Michael* 5/27/14

DATE NO. REVISION

**OWNER**  
CHEVY CHASE BANK FSB  
ATTN: SCOTT WEBER  
C/O CAPITAL ONE NATIONAL ASSN  
14601 SWEITZER LANE  
LAUREL, MD 20707  
(804) 775.4303

**DEVELOPER**  
DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

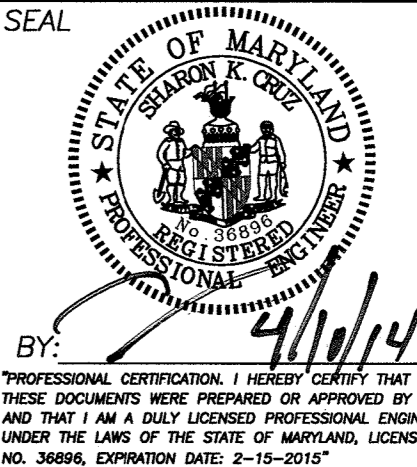
**PROJECT**  
GODDARD SCHOOL  
5633 WATERLOO RD.

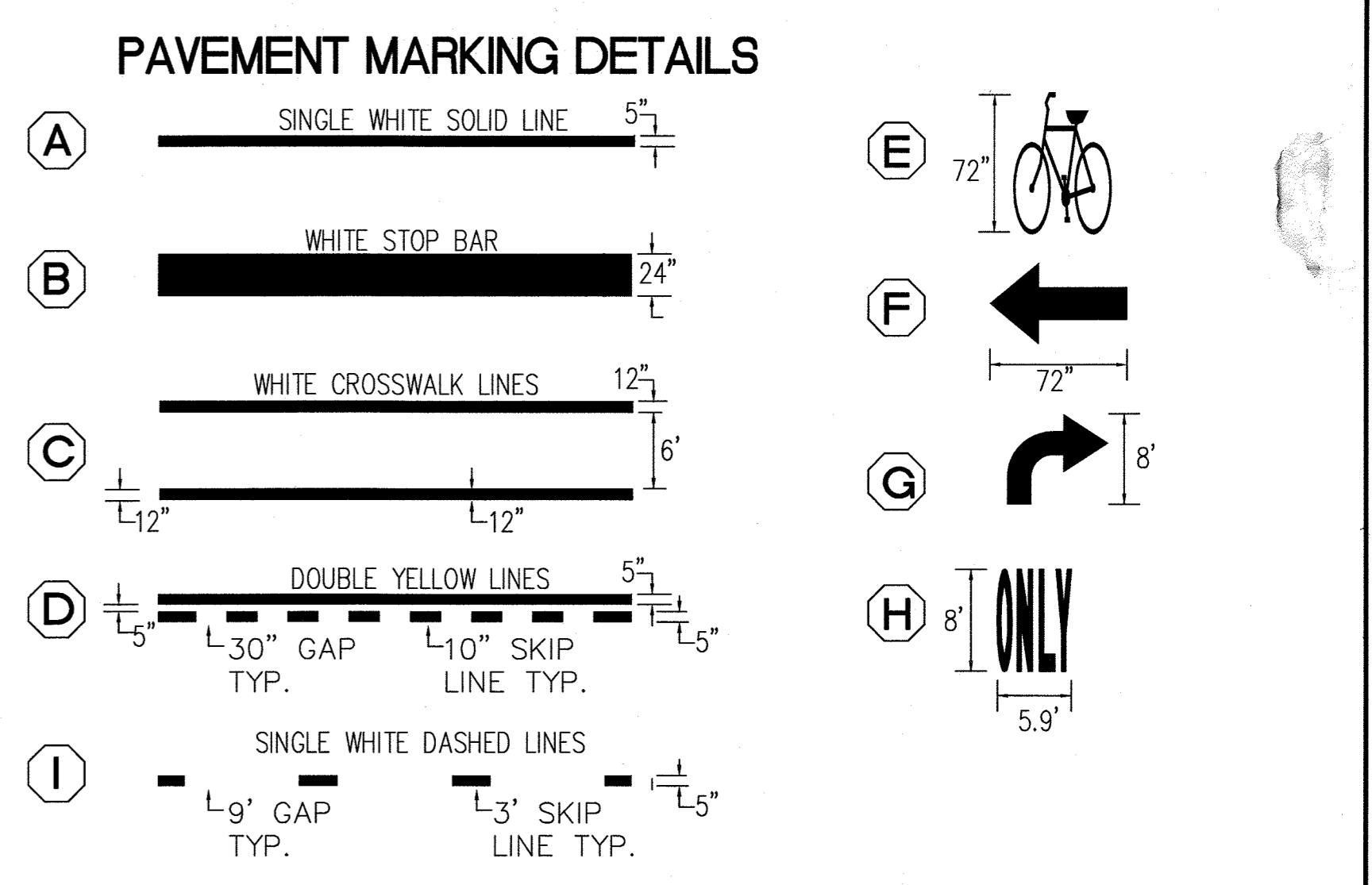
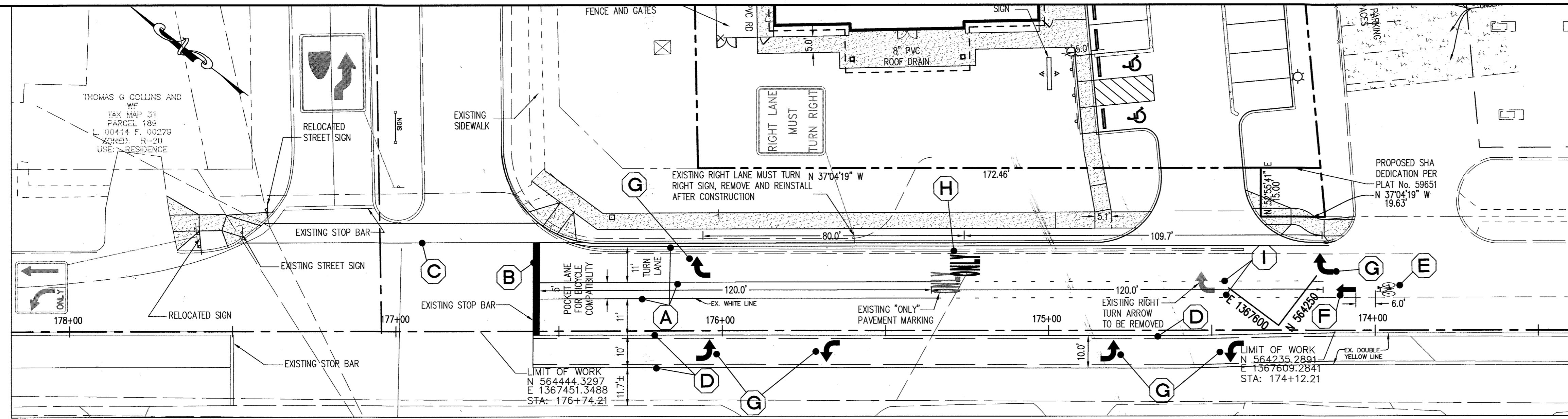
**AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1**  
1ST ELECTION DISTRICT L. 659 F. 126  
HOWARD COUNTY, MARYLAND  
PROPOSED DAY CARE CENTER

**TITLE**  
MD ROUTE 108 CROSS SECTIONS

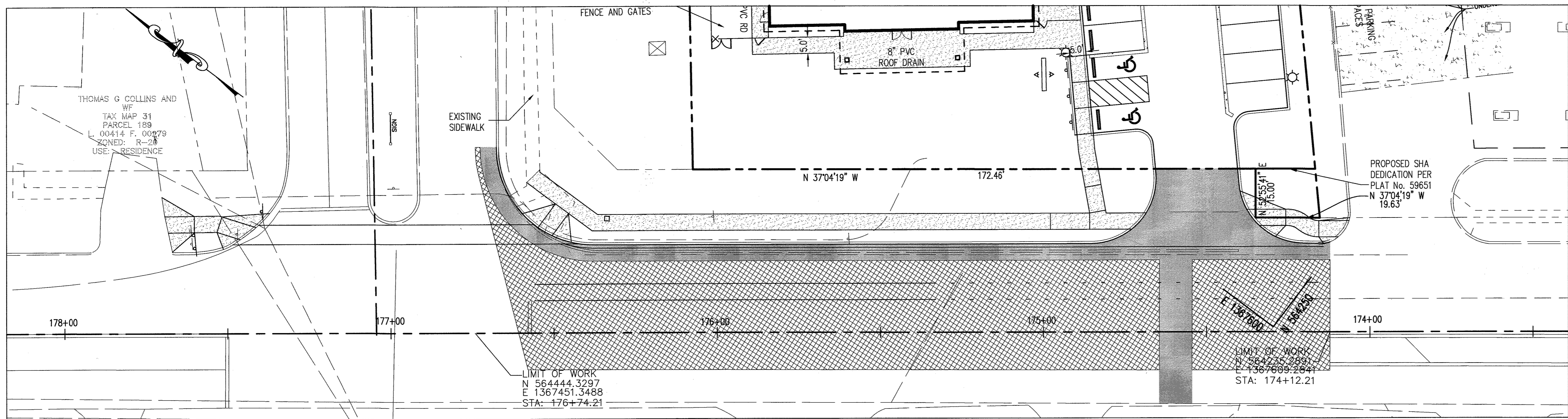
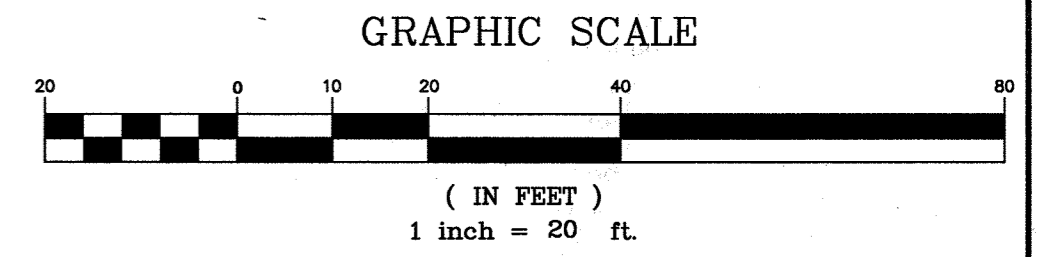
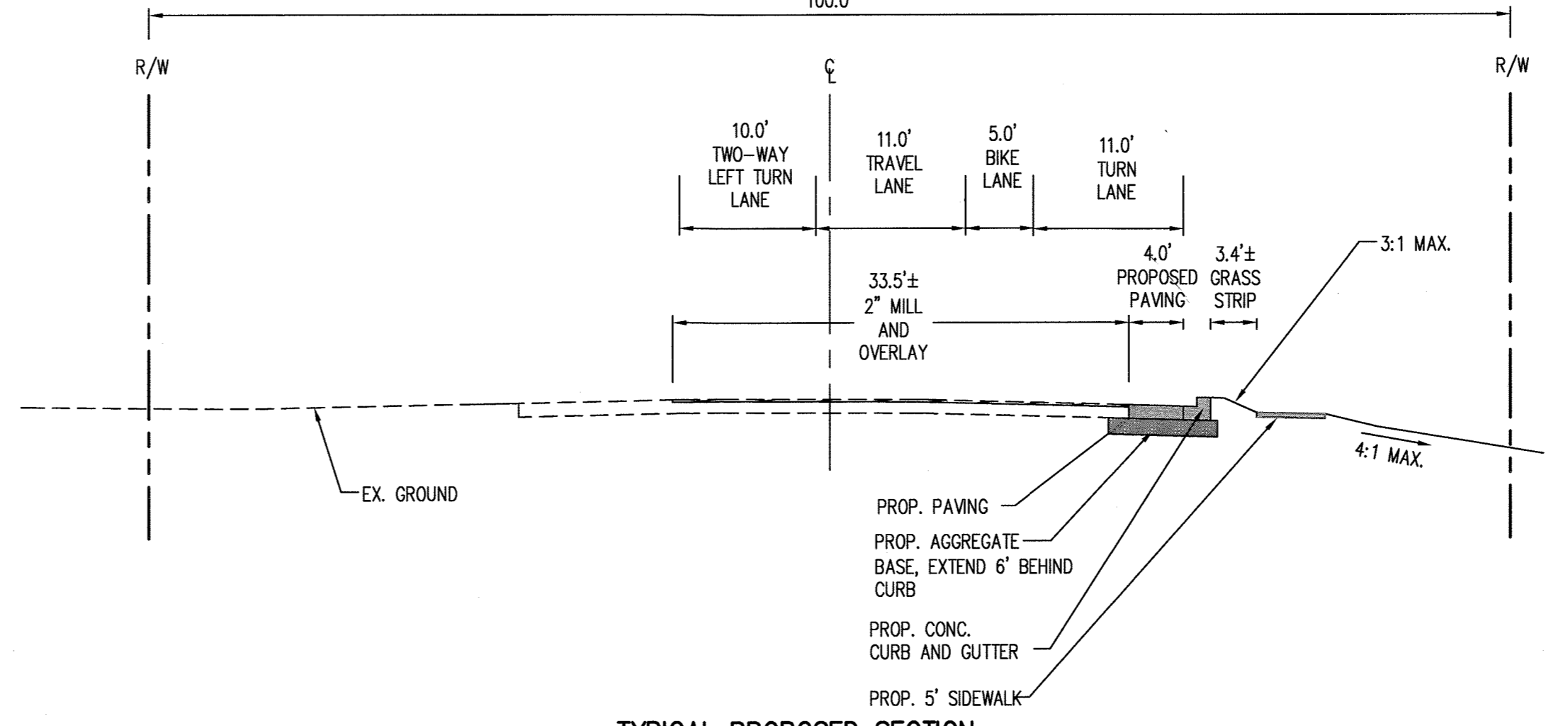
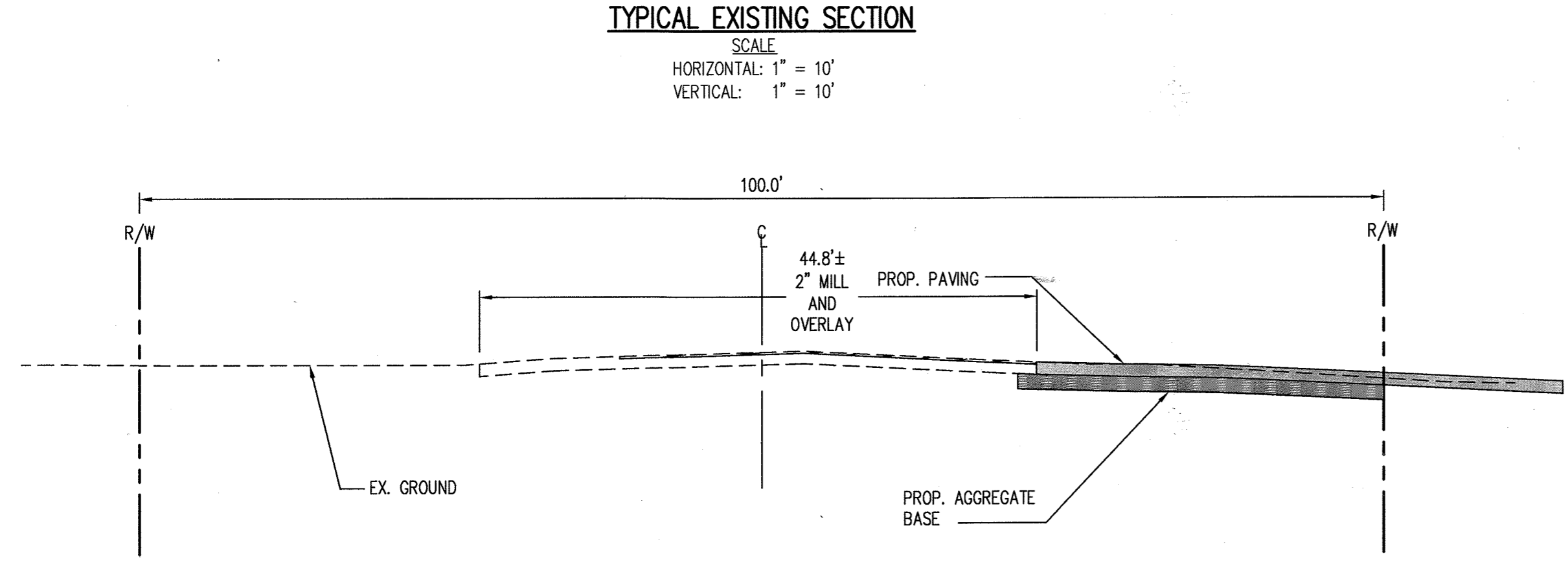
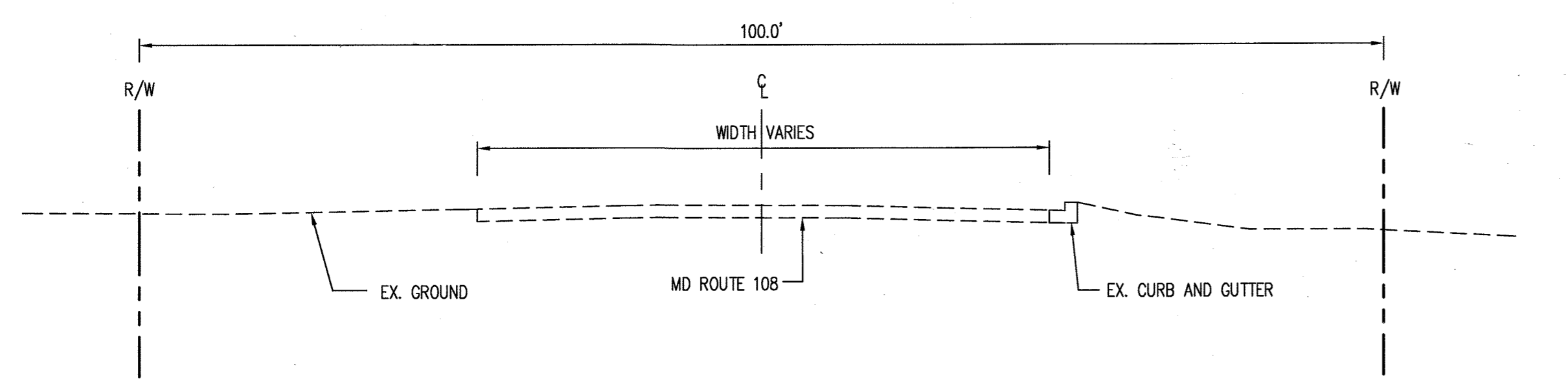
Pennoni Associates Inc.  
Consulting Engineers  
8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

**DESIGNED BY:** PJS  
**DRAWN BY:** ALC  
**PROJECT No.:** GODD1201  
**DATE:** FEBRUARY 28, 2014  
**SCALE:** AS SHOWN  
**DRAWING No.:** 21 OF 26

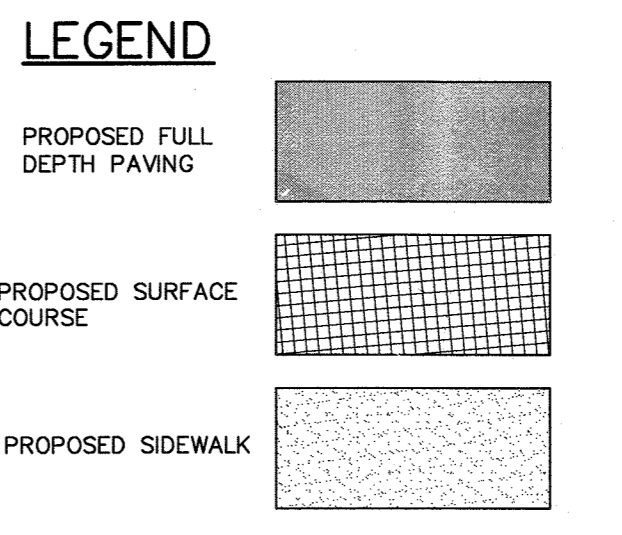




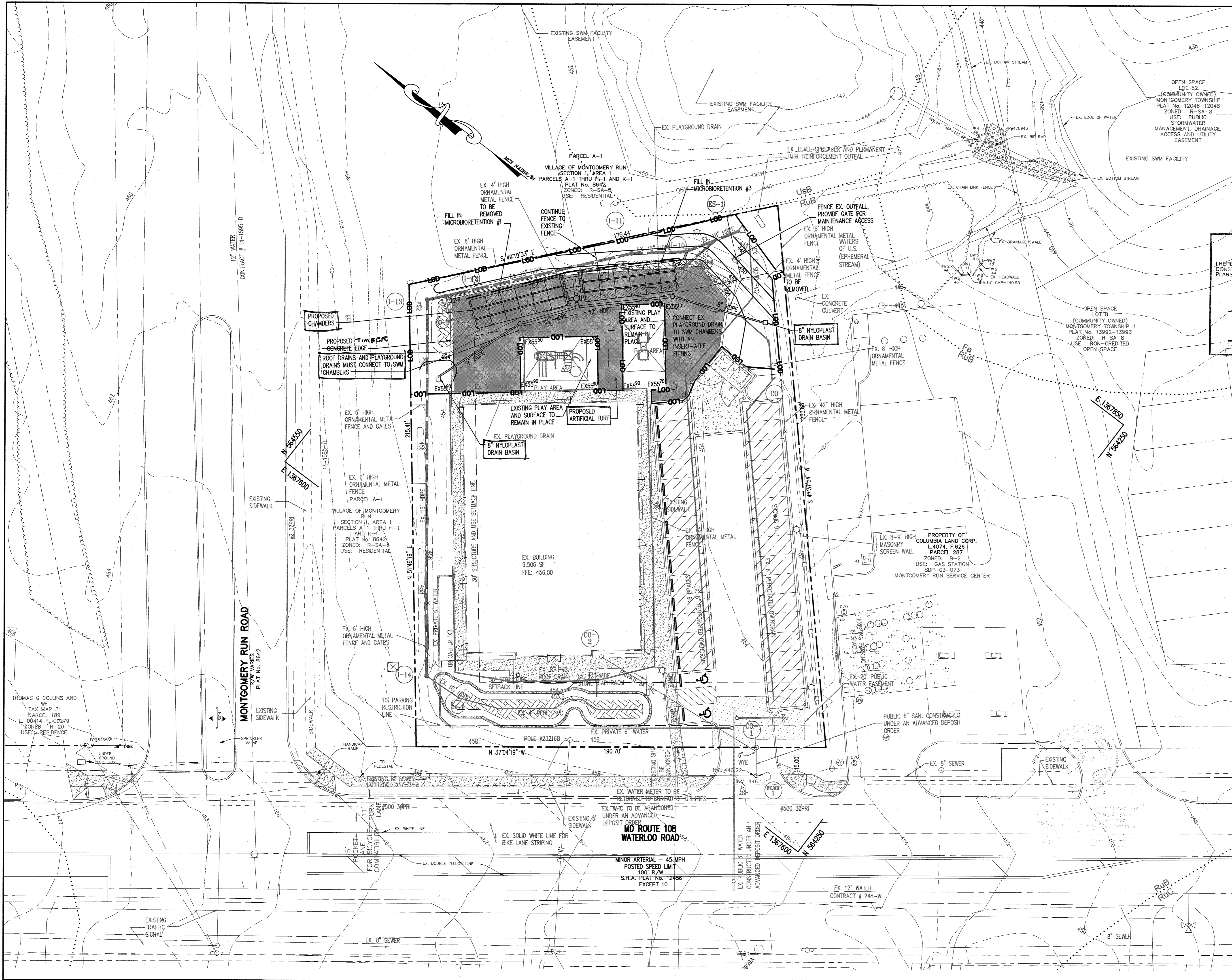
- PAVEMENT MARKING SPECIFICATIONS**
- A 5" SINGLE WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKINGS - SOLID
  - B 24" HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
  - C 12" HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
  - D 5" DOUBLE YELLOW LEAD FREE THERMOPLASTIC PAVEMENT MARKINGS - SOLID AND DASHED
  - E BIKE SYMBOL
  - F BIKE, ARROW
  - G TURN LANE-USE ARROW
  - H "ONLY" PAVEMENT MARKING
  - I 5" SINGLE WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKINGS - DASHED



BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
AT  
**1-800-257-7777**  
AT LEAST 48 HOURS PRIOR TO EXCAVATION



APPROVED : DEPARTMENT OF PLANNING AND ZONING	
Chief, Development Engineering Division	5-21-14 DATE
Chief, Division of Land Development	5-27-14 DATE
Director	5-27-14 DATE
DATE NO.	REVISION
OWNER	CHEVY CHASE BANK FSB ATTN: SCOTT WEBER C/O CAPITAL ONE NATIONAL ASSN 14801 SWEITZER LANE LAUREL, MD 20707 (804) 775.4303
DEVELOPER	DARNESTOWN DEVELOPMENT ATTN: ROSS FLAX 900 GATHER ROAD ROCKVILLE, MD 20850 (301) 330.2300
PROJECT	<b>GODDARD SCHOOL</b> 5633 WATERLOO RD.
AREA	TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1 1ST ELECTION DISTRICT L. 659 F. 126 HOWARD COUNTY, MARYLAND PROPOSED DAY CARE CENTER
TITLE	<b>MD ROUTE 108 ROAD IMPROVEMENT PLAN</b>
Pennoni Associates Inc. Consulting Engineers	8818 Centre Park Drive Suite 200 Columbia, MD 21045 T 410.997.8900 F 410.997.9282
SEAL	DESIGNED BY: PJS DRAWN BY: ALC PROJECT No.: GODD1201 DATE: FEBRUARY 28, 2014 SCALE: 1" = 20' DRAWING No. 22 OF 26



**LEGEND**

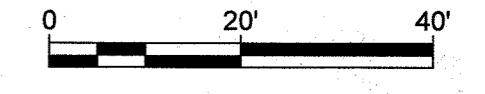
	PROPOSED ARTIFICIAL TURF
	LOD - LIMIT OF DISTURBANCE (9,181 SF)
	302 - PROPOSED 2' CONTOUR
	300 - PROPOSED 10' CONTOUR
	PROPOSED STORM DRAIN

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY BY MY SEAL THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

**James ARoff** 21774  
 PRINTED NAME MD. P.E. NO.  
**JARoff** 9/1/20  
 SIGNATURE DATE

STATE OF MARYLAND  
 REGISTERED PROFESSIONAL ENGINEER  
 License No. 21774  
 Expiration Date: 11/01/21



APPROVED : DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3/10/20  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/11/20  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 3-13-2020  
 DIRECTOR DATE

2/20	Rev. SWM to Underground
DATE NO.	REVISION
OWNER	DARNESTOWN DEVELOPMENT LLC ATTN: ROSS FLAX 900 GAITHER ROAD ROCKVILLE, MD 20850 (301) 330.2300
DEVELOPER	DARNESTOWN DEVELOPMENT ATTN: ROSS FLAX 900 GAITHER ROAD ROCKVILLE, MD 20850 (301) 330.2300
PROJECT	<b>GODDARD SCHOOL</b> 5633 WATERLOO RD.
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1	1ST ELECTION DISTRICT L. 15460 F. 00103 HOWARD COUNTY, MARYLAND DAY CARE CENTER

**TITLE**  
 ADDITIONAL SHEET  
 REVISED SITE DEVELOPMENT PLAN

Pennoni Associates Inc.  
 Consulting Engineers  
**Pennoni**  
 8818 Centre Park Drive  
 Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

SEAL

STATE OF MARYLAND  
 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: PJS  
 DRAWN BY : PJS/ALC  
 PROJECT No.: G00D1201  
 DATE : SEPT. 9, 2019  
 SCALE: 1" = 20'  
 DRAWING No. 23 OF 26



ESDv SUMMARY		
TREATMENT	ESDv REQUIRED	ESDv PROVIDED
EXISTING PERMEABLE CONCRETE PAVEMENT (A-2)	-	728 CF
EXISTING MICRO-BIORETENTION #2 (M-6)	-	1,434 CF
PERMEABLE ARTIFICIAL TURF	-	770 CF
<b>TOTAL</b>	<b>4,903 CF</b>	<b>2,672 CF</b>
<b>ADDITIONAL CPV</b>	<b>REQUIRED</b>	<b>PROVIDED</b>
STORMCHAMBERS AND SURROUNDING STONE	3,665 CF	3,859 CF

SOILS CHART							
MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS	EROSION HAZARD	HYDRIC	SLOPE (%)	K FACTOR	HYDROLOGIC GROUP
RuB	Russett and Beltsville soils	Dwellings w/ Basements	Very limited	Slight *	No	2-5	0.37 C

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE SOIL DATA MART & WEB SOIL SURVEY  
 \* BASED ON COMAR, SOILS WITH A K FACTOR OF 0.35 AND SLOPES IN EXCESS OF 5%. THERE ARE 0.47± ACRES OF THIS SITE THAT FALL INTO THAT CATEGORY.

ALL SOILS ARE HYDROLOGIC GROUP C

**LEGEND**

- MICRO-BIORETENTION (M-6)
- PERMEABLE CONCRETE PAVING (A-2)
- DRAINAGE AREA
- PROPOSED CONTOURS 455
- PROPOSED SWM CHAMBER
- PROPOSED ARTIFICIAL TURF
- SOILS
- LIMIT OF DISTURBANCE (LOD)
- LOD AREA: 9,181 SF OR 0.21 AC



APPROVED : DEPARTMENT OF PLANNING AND ZONING	
<i>James A. Ruff</i>	3.10.20
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>John G. ...</i>	3/11/2020
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>...</i>	3-13-2020
DIRECTOR	DATE

2/20	Rev. SWM TO Underground
DATE NO.	REVISION
OWNER	DARNESTOWN DEVELOPMENT LLC ATTN: ROSS FLAX 900 GAITHER ROAD ROCKVILLE, MD 20850 (301) 330.2300
DEVELOPER	DARNESTOWN DEVELOPMENT ATTN: ROSS FLAX 900 GAITHER ROAD ROCKVILLE, MD 20850 (301) 330.2300
PROJECT	<b>GODDARD SCHOOL</b> 5633 WATERLOO RD.
AREA TAX MAP	37 PARCEL 286 GRID #1 ZONED B-1 1ST ELECTION DISTRICT L 15460 F. 00103 HOWARD COUNTY, MARYLAND DAY CARE CENTER

TITLE	<b>ADDITIONAL SHEET</b> <b>SWM DRAINAGE AREA MAP</b>
Pennoni Associates Inc. Consulting Engineers	8818 Centre Park Drive Suite 200 Columbia, MD 21045 T 410.997.8900 F 410.997.9282
<b>Pennoni</b>	

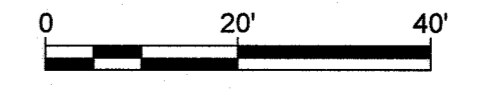
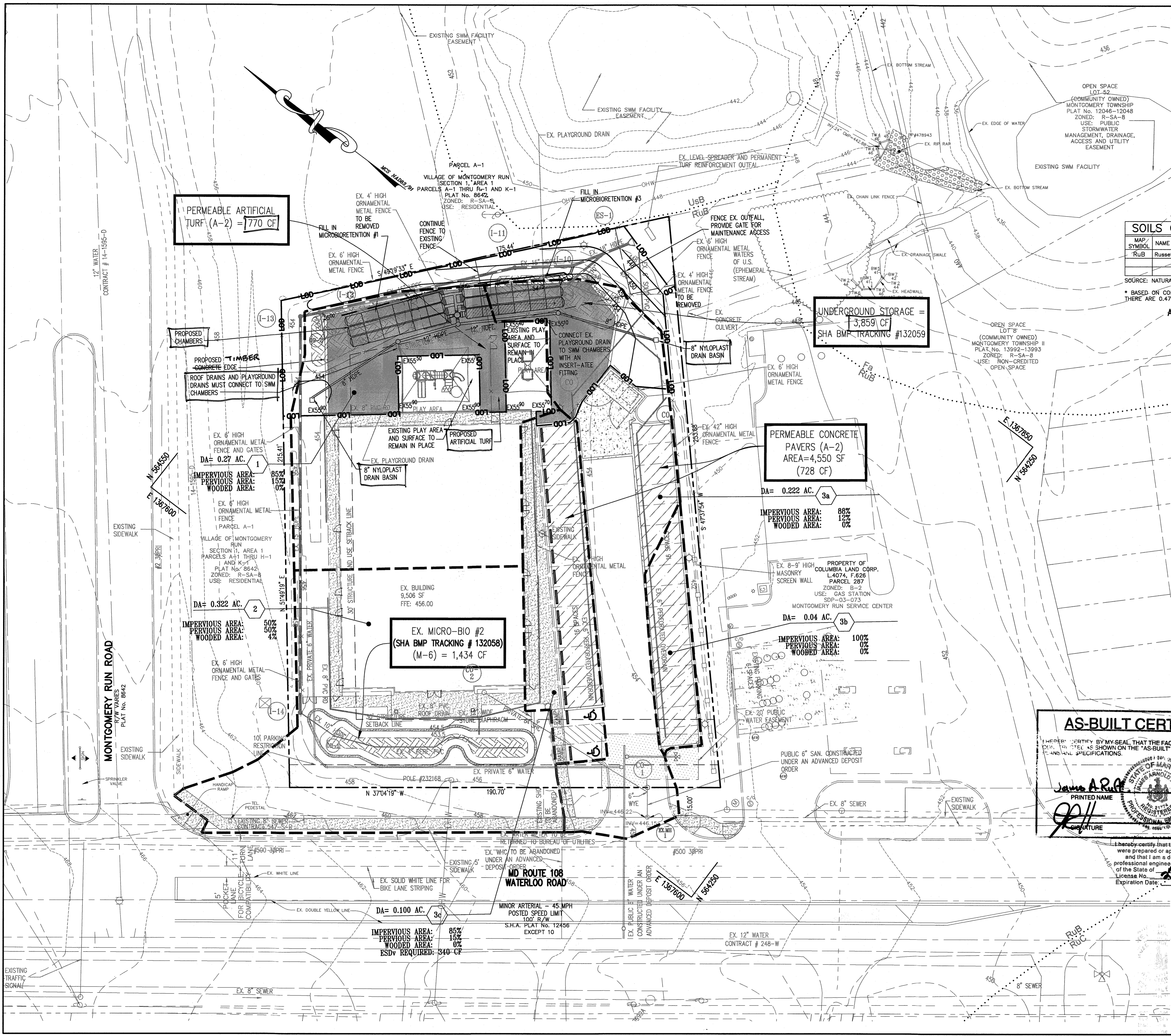
DESIGNED BY: PJS
DRAWN BY : PJS/ALC
PROJECT No.: G00D1201
DATE : SEPT. 9, 2019
SCALE: 1" = 20'
DRAWING No. 24 OF 26

**AS-BUILT CERTIFICATION**




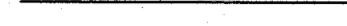

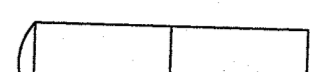
I HEREBY CERTIFY BY MY SEAL THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED SPECIFICATIONS.

*James A. Ruff*  
PRINTED NAME  
*JAR*  
SIGNATURE

21774  
MD. P.E. NO.  
9/16/20  
DATE



**LEGEND**

-  PROPOSED ARTIFICIAL TURF
-  LOD LIMIT OF DISTURBANCE (9,181 SF)
-  302 PROPOSED 2' CONTOUR
-  300 PROPOSED 10' CONTOUR
-  PROPOSED STORM DRAIN
-  PROPOSED STORM CHAMBERS

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY BY MY SEAL THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

James R. P...  
 PRINTED NAME  
 21774  
 MD. P.E. NO.  
 9/1/20  
 SIGNATURE

I hereby certify that these documents were prepared by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21774, Expiration Date: 9/1/2020

APPROVED : DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3-10-20  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
 NY  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 3/10/20  
 DIRECTOR DATE  
 3-13-2020

2/20 Rev. SWM TO UNDERGROUND  
 DATE NO. REVISION

OWNER DARNESTOWN DEVELOPMENT LLC  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

DEVELOPER DARNESTOWN DEVELOPMENT  
 ATTN: ROSS FLAX  
 900 GAITHER ROAD  
 ROCKVILLE, MD 20850  
 (301) 330.2300

PROJECT **GODDARD SCHOOL**  
 5633 WATERLOO RD.

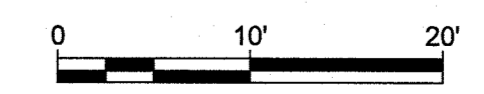
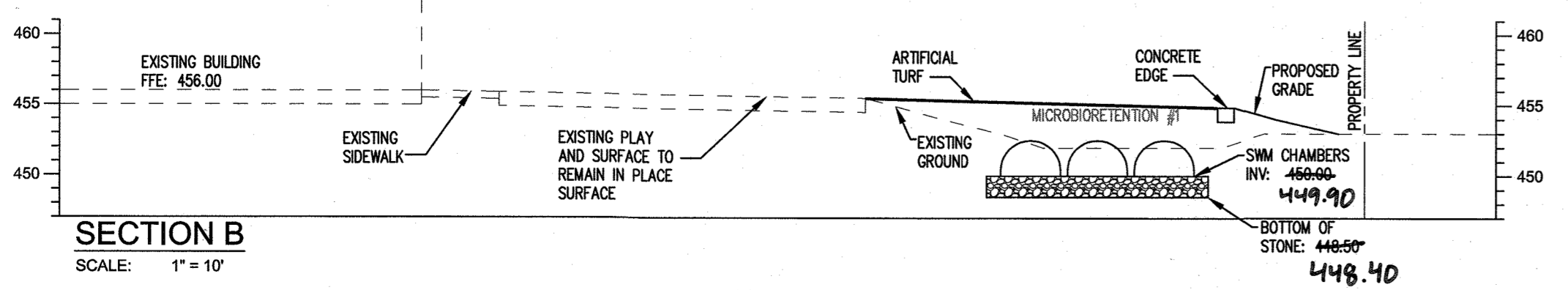
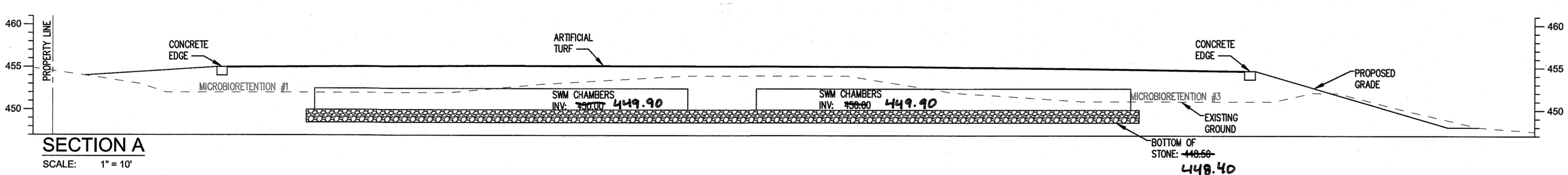
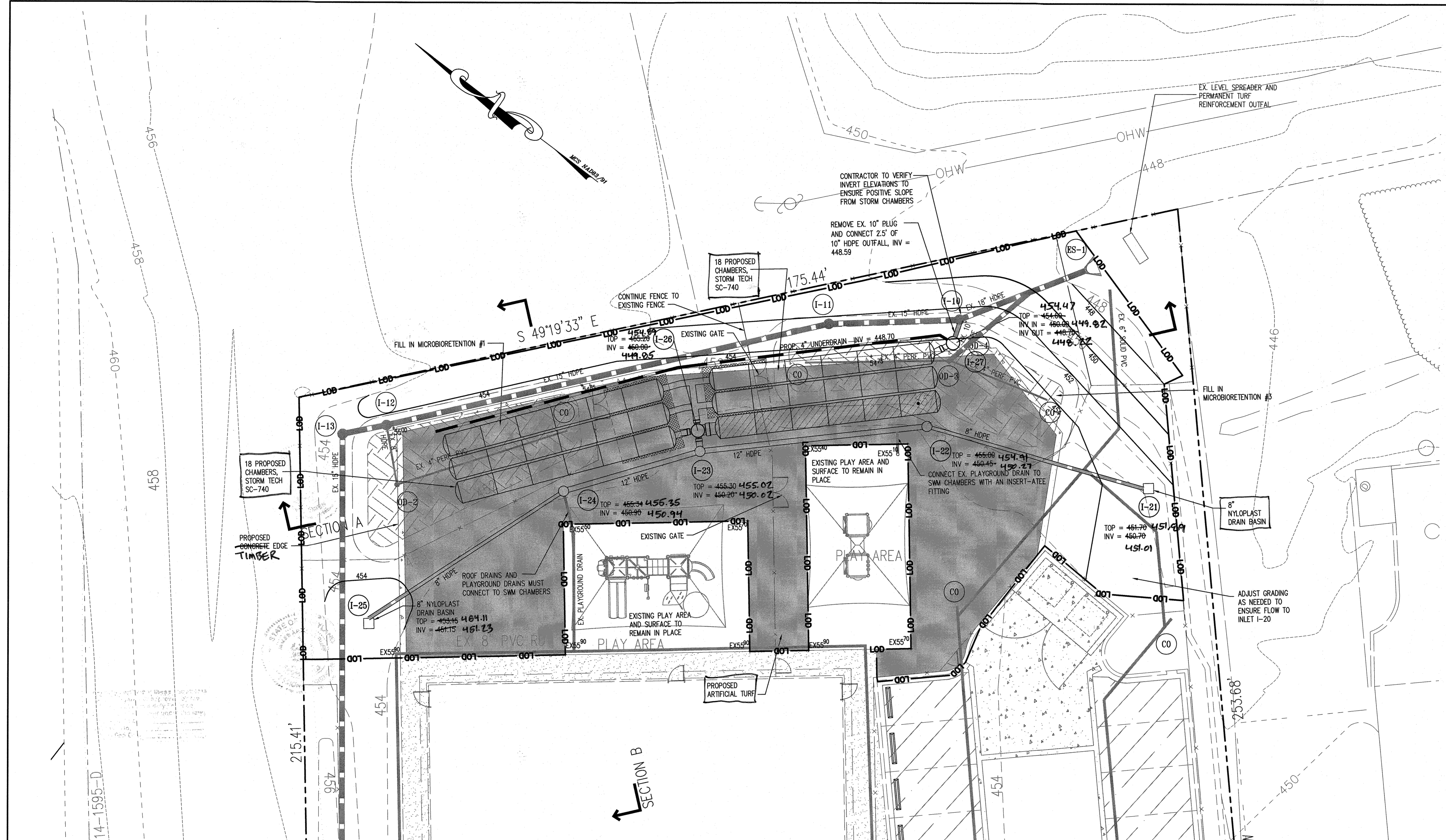
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
 1ST ELECTION DISTRICT L 15460 F. 00103  
 HOWARD COUNTY, MARYLAND  
 DAY CARE CENTER

TITLE **ADDITIONAL SHEET**  
**DETAILED SWM PLAN**

Pennoni Associates Inc. 8818 Centre Park Drive  
 Consulting Engineers Suite 200  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY : PJS/ALC  
 PROJECT No.: G0001201  
 DATE : SEPT. 9, 2019  
 SCALE: 1" = 10'  
 DRAWING No. 25 OF 26

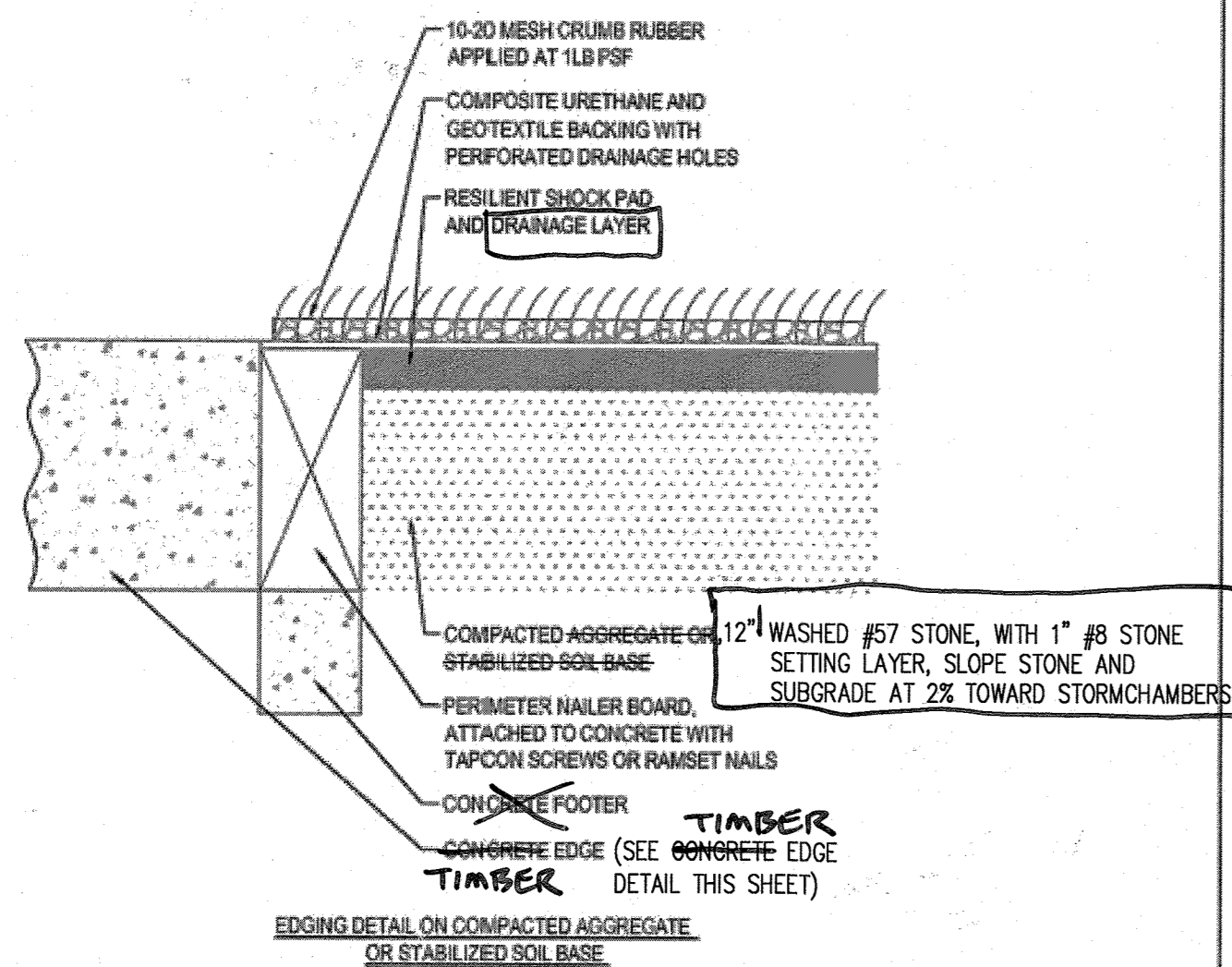
BY: *[Signature]*  
 PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30886, EXPIRATION DATE: 3-15-2021



T:\Projects\GODDARD\G0001201 - Goddard School Site DESIGN\Pub\SDP\SDP13-045.dwg

**ForeverLawn®**

FOREVERLAWN  
8007 BEESON ST.  
LOUISVILLE, OH 44641  
TOLL FREE: 1-866-992-7876  
PHONE: (866) 992-7876  
FAX: (866) 212-1925  
www.foreverlawn.com



- NOTES:
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - DO NOT SCALE DRAWING.
  - THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
  - ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
  - CONTRACTOR'S NOTE FOR PRODUCT AND COMPANY INFORMATION VISIT [www.CADDdetails.com/info](http://www.CADDdetails.com/info) AND ENTER REFERENCE NUMBER 1148-019

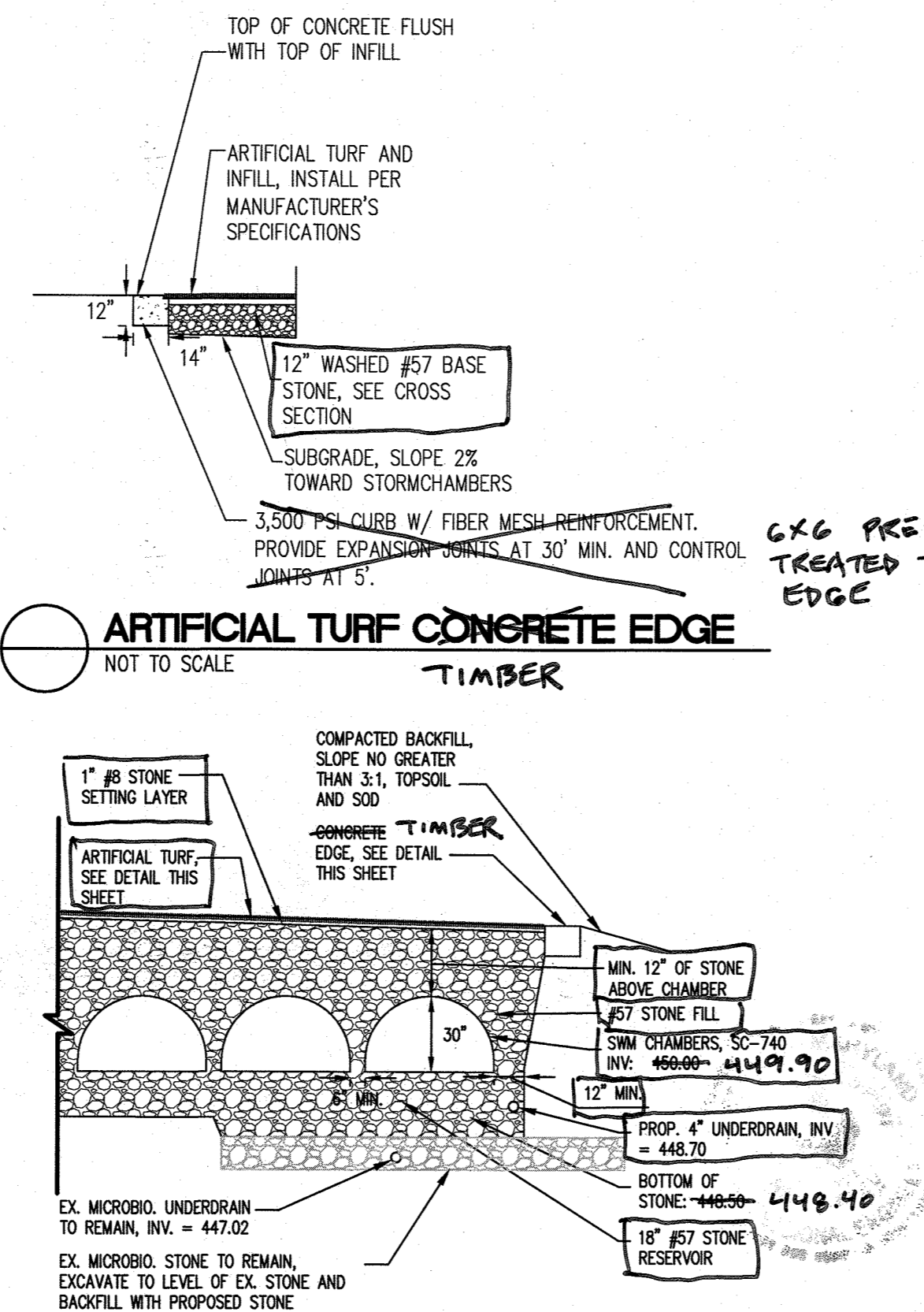
**SPORTSGRASS®**

ATHLETIC TURF: SPORTSGRASS® SYSTEM - COMPACTED AGGREGATE OR STABILIZED SOIL BASE

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY BY MY SEAL, THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

STATE OF MARYLAND  
JAMES A. RUFF  
PRINTED NAME  
21774  
MD. P.E. NO.  
9/1/20  
DATE  
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
Expiration Date: 11/10/24



**ARTIFICIAL TURF CONCRETE EDGE**  
SCALE: 1"=5'

**STORM DRAIN STRUCTURE SCHEDULE**

ID	RIM ELEVATION	INV IN (FROM)	INV OUT (TO)	TYPE	NORTHING	EASTING
I-21	451.20-09	450.03	450.70 (8" HDPE) I-22	8" NYLOPLAST DRAIN BASIN	564411.5095	1367786.9546
I-22	455.00	450.45 (8" HDPE @ 0.56%) I-21	450.45 (12" HDPE) I-23	24" DRAIN BASIN, SOLID TOP	564453.2887	1367770.4169
I-23	455.20	450.20 (12" HDPE @ 0.56%) I-22	450.00	24" DRAIN BASIN, SOLID TOP	564486.6488	1367739.7601
I-24	455.31	450.00 (12" HDPE @ 0.54%) I-25	450.00 (12" HDPE) I-23	24" DRAIN BASIN, SOLID TOP	564502.1480	1367717.5070
I-25	455.15	450.94	451.46 (8" HDPE) I-24	8" NYLOPLAST DRAIN BASIN	564516.8116	1367673.9350
I-26	455.20	450.00	450.00	30" DRAIN BASIN, SOLID TOP	564488.4051	1367742.7186
I-27	454.00	450.00	448.70 (EX. 10" HDPE)	30" DRAIN BASIN, SOLID TOP	564458.3690	1367785.1827

**STORM DRAIN PIPE SCHEDULE**

SIZE	TYPE	LENGTH (ft)	QTY
8"	HDPE	91'	
12"	HDPE	73'	
4"	UNDERDRAIN	103'	
	CHAMBERS, STORM TECH SC-740		36

**OPERATION AND MAINTENANCE SCHEDULE FOR STORMCHAMBERS**

- ANNUAL INSPECTION OF STORMCHAMBER FACILITY IS REQUIRED. INSPECT TO ENSURE THAT SEDIMENT HAS NOT BUILT UP IN ISOLATOR ROW.
- IF SEDIMENT HAS ACCUMULATED TO A DEPTH OF GREATER THAN 3", CLEAN ISOLATOR ROW USING A JETVAC PER STORMTECH SPECIFICATIONS.
- CLEAN ALL UPSTREAM MANHOLES AND DRAIN BASINS.
- REPLACE ALL GRATES AND COVERS.

**STORMCHAMBER SPECIFICATIONS**

- SYSTEM TO BE STORMTECH STORMCHAMBER SYSTEM OR EQUAL AS APPROVED BY ENGINEER. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.
- PIPE AND GEOTEXTILE SHALL BE AS SHOWN ON PLANS OR APPROVED BY ENGINEER.
- STONE SHALL BE WASHED #57 STONE. CONTRACTOR SHALL SUBMIT PRODUCT SHEETS FOR APPROVAL PRIOR TO INSTALLATION.
- DRAIN BASINS UPSTREAM OF CHAMBERS SHALL ALL HAVE 24" SUMPS.
- GRATES ON INLETS SHALL BE ADA GRATES, AND SHALL BE LOCKING TYPE GRATES.
- ALL OTHER DRAIN BASINS SHALL HAVE LOCKING TYPE SOLID COVERS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF DRAIN BASINS FOR ENGINEER APPROVAL PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VERIFY INVERTS OF EXISTING STORM DRAIN CONNECTIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO MAKING CONNECTIONS.
- CONTRACTOR IS RESPONSIBLE FOR HAVING CONSTRUCTION OF SYSTEMS OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER AND PROVIDING OWNER REGULAR PROGRESS REPORTS AS WELL AS A CERTIFICATION LETTER AT THE COMPLETION OF CONSTRUCTION.
- CONTRACTOR SHALL SURVEY SUBGRADE ELEVATIONS PRIOR TO THE PLACEMENT OF STONE, AND PRIOR TO THE INSTALLATION OF THE CHAMBERS TO VERIFY COMPLIANCE WITH APPROVED PLANS.

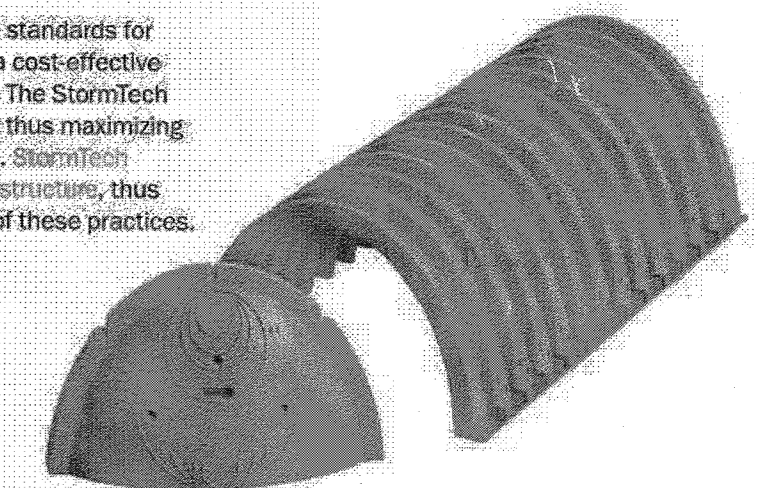
**SEQUENCE OF CONSTRUCTION**

- STAKEOUT LIMITS OF DISTURBANCE AND INSTALL SILT FENCE ALONG ALL SIDES OF THE WORK AREA. PROVIDE INLET PROTECTION FOR THE EXISTING INLETS TO ENSURE THAT SEDIMENT DOES NOT ENTER THE STORM DRAIN SYSTEM. PROVIDE TEMPORARY BYPASS FROM ROOF DRAIN AND PLAYGROUND DRAINS TO ENSURE A CLEAN WORK AREA.
- REMOVE EXISTING FENCE WITHIN LIMIT OF WORK AS NOTED ON PLANS. PROTECT EXISTING PLAYGROUND AREAS TO REMAIN DURING THE COURSE OF CONSTRUCTION.
- BEGIN GRADING. ALL MICROBIORETENTION SOIL WITHIN THE AREA OF THE ARTIFICIAL TURF IS TO BE REMOVED. THIS MAY BE RE-USED IN AREAS WHERE GRASS IS TO BE ESTABLISHED IF SUFFICIENT COMPACTION CAN BE ACHIEVED TO RESULT IN A STABLE SURFACE. THE EXISTING STONE AND UNDER DRAINS BENEATH THE MICROBIORETENTION MAY BE RETAINED IN PLACE.
- UPON REACHING SUBGRADE, SURVEY AND VERIFY THAT ELEVATIONS MATCH PROPOSED DESIGN. PRIOR TO INSTALLATION OF BASE STONE OBTAIN FROM CHAMBER SUPPLIER SHOP DRAWINGS AND SUBMIT TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL.
- BEGIN INSTALLATION OF STONE LAYER. PLACE STONE IN 6" LIFTS, COMPACTING EACH LIFT WITH FOUR PASSES OF A VIBRATORY ROLLER.
- UPON COMPLETION OF STONE, SURVEY AND VERIFY STONE ELEVATION, AND BEGIN INSTALLATION OF CHAMBERS AND ASSOCIATED PIPING AND FABRICS. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- INSTALL STORM DRAIN AND MAKE CONNECTIONS TO CHAMBERS AND CONNECTIONS FROM EXISTING DRAIN PIPES TO PROPOSED DRAINS. GRADE AREAS AROUND INLETS TO ACHIEVE POSITIVE DRAINAGE TO INLETS. PROVIDE INLET PROTECTION AT NEW INLETS. VERIFY OUTFALL ELEVATIONS PRIOR TO MAKING CONNECTIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO MAKING CONNECTIONS.
- BACKFILL CHAMBERS WITH STONE PER MANUFACTURER'S SPECIFICATIONS. PLACE 8" STONE OVER CHAMBERS IN 4" LIFTS. CONSTRUCT STONE BERM AND TURF UNDERDRAIN PIPING AS SHOWN. CONSTRUCT CONCRETE TURF EDGE AS SHOWN. PROTECT STONE AREAS FROM CONTAMINATION BY SEDIMENT.
- COMPLETE SITE GRADING OUTSIDE OF THE CONCRETE EDGE AND STABILIZE AREA WITH A THICK STAND OF NATURAL GRASS.
- BEGIN TURF INSTALLATION PER MANUFACTURER'S SPECIFICATIONS INCLUDING REMAINING STONE, FINISHING STONE, TURF, AND TURF INFILL.
- COMPLETE PROPOSED FENCE WORK. REPLACE AND RESET EXISTING FENCES AS NOTED ON PLAN.
- COMPLETE SITE STABILIZATION AND REMOVE ALL SEDIMENT CONTROLS.

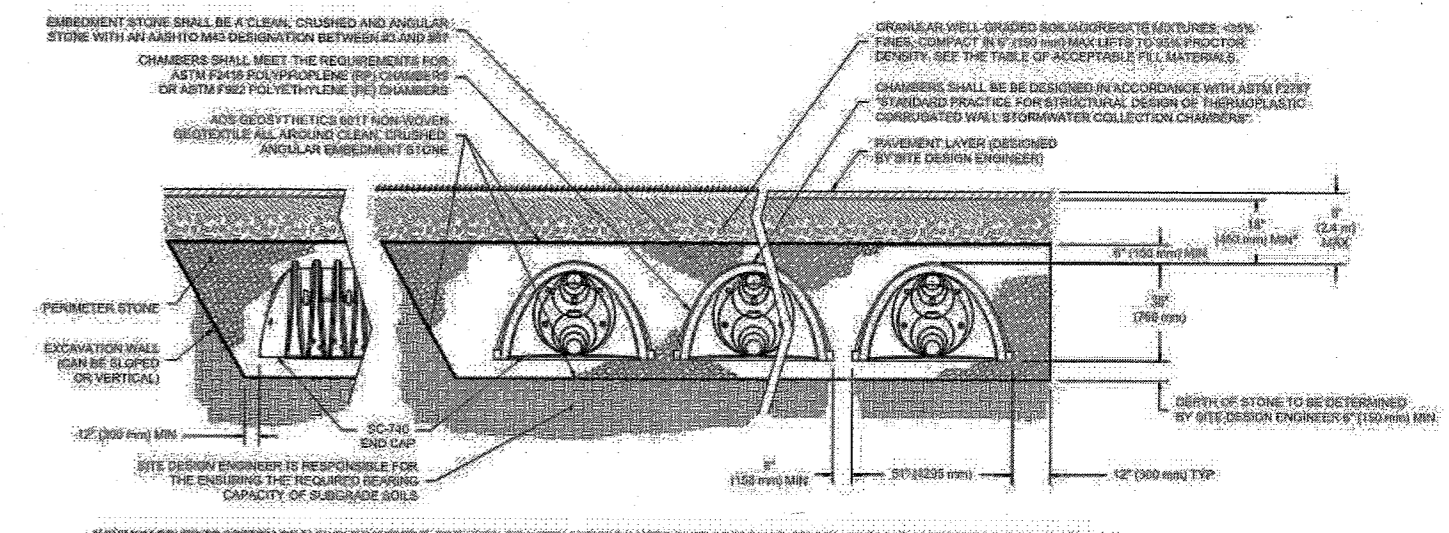
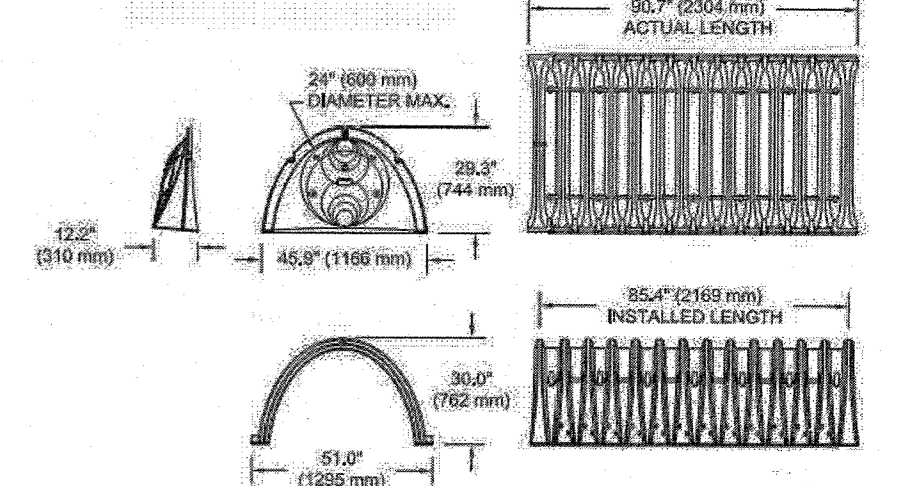
**StormTech**

**STORMTECH SC-740 CHAMBER**

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.



**STORMTECH SC-740 CHAMBER**  
(not to scale)  
Nominal Chamber Specifications  
Size (L x W x H)  
85.4" x 51" x 30"  
2,170 mm x 1,295 mm x 762 mm  
Chamber Storage  
45.9 ft<sup>3</sup> (1.30 m<sup>3</sup>)  
Min. Installed Storage\*  
74.9 ft<sup>3</sup> (2.12 m<sup>3</sup>)  
Weight  
74.0 lbs (33.6 kg)  
Shipping  
30 chambers/pallet  
60 end caps/pallet  
12 pallets/truck  
\*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.



**NOTE**  
CONTRACTOR SHALL USE STORMTECH (R) OR APPROVED EQUAL. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

APPROVED : DEPARTMENT OF PLANNING AND ZONING  
[Signature]  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 3-10-20  
[Signature]  
CHIEF, DIVISION OF LAND DEVELOPMENT & B  
DATE: 3/10/20  
[Signature]  
DIRECTOR  
DATE: 3-13-2020

2/20 Rev. SUM TO UNDERGROUND

DATE	NO.	REVISION

OWNER: DARNESTOWN DEVELOPMENT LLC  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

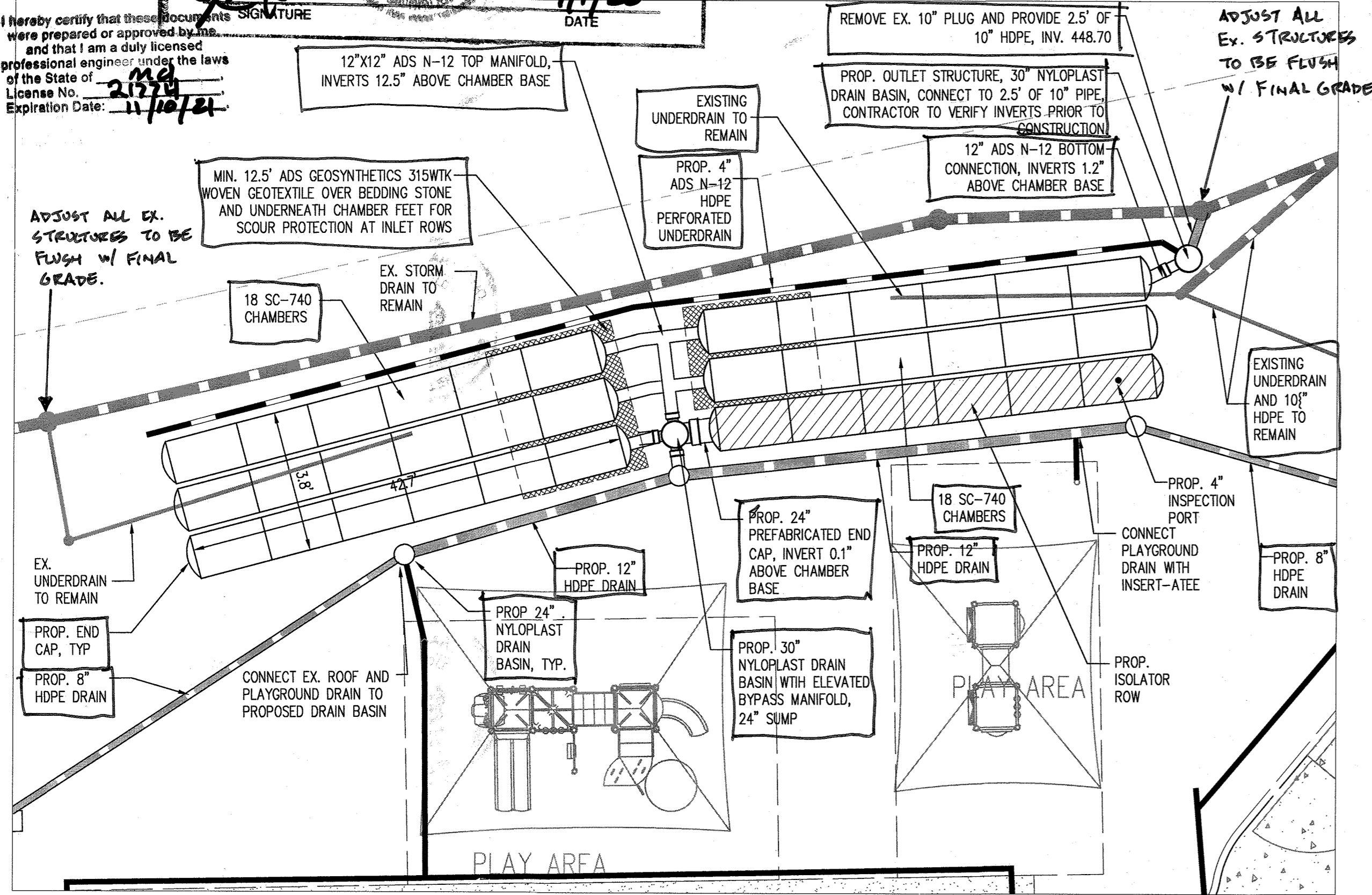
DEVELOPER: DARNESTOWN DEVELOPMENT  
ATTN: ROSS FLAX  
900 GAITHER ROAD  
ROCKVILLE, MD 20850  
(301) 330.2300

PROJECT: **GODDARD SCHOOL**  
5633 WATERLOO RD.

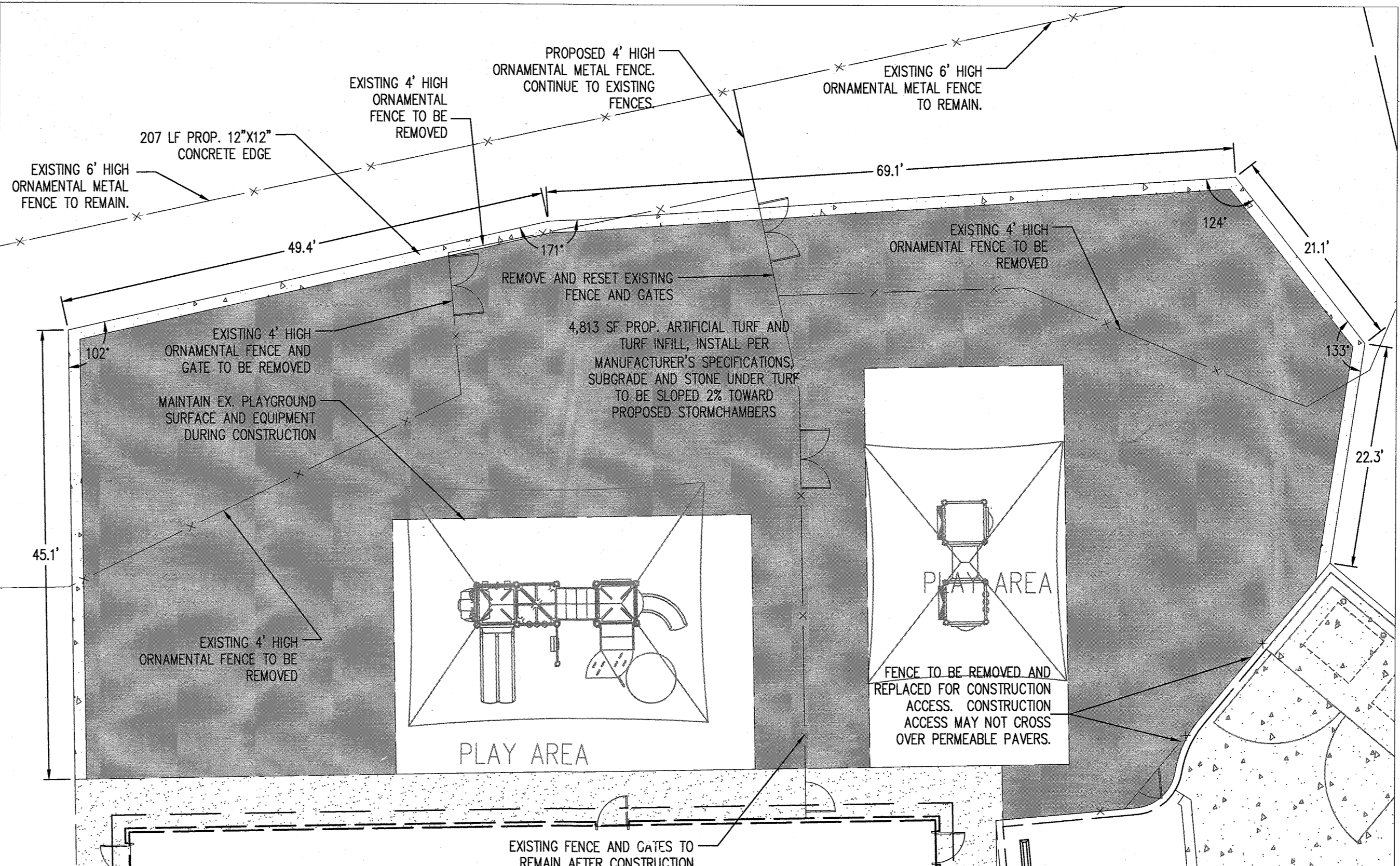
AREA TAX MAP 37 PARCEL 286 GRID #1 ZONED B-1  
1ST ELECTION DISTRICT L. 15460 F. 00103  
HOWARD COUNTY, MARYLAND  
DAY CARE CENTER

TITLE: **ADDITIONAL SHEET**  
**SWM DETAILS**

Pennoni Associates Inc.  
Consulting Engineers  
8818 Centre Park Drive  
Suite 200  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282



**DETAILED STORMCHAMBER PLAN**  
SCALE: 1"=10'



**DETAILED ARTIFICIAL TURF PLAN**  
SCALE: 1"=10'

DESIGNED BY: PJS  
DRAWN BY: PJS/ALC  
PROJECT No.: GODD1201  
DATE: SEPT. 9, 2019  
SCALE: AS SHOWN  
DRAWING No. 26 OF 26