ADDENDUM #3

May 4, 2012

Re: Harrisburg Area Community College
Gettysburg Campus Parking Lot Expansion
Solicitation #RFB12-14

From: Eastern PCM, LLC
Construction Manager – HACC
645 N. 12th Street, Suite 200
Lemoyne, PA 17043

To: All Planholders

This Addendum is hereby made part of the Plans and Project Manual dated April 12, 2012 for the above referenced project. The provisions of this Addendum are intended to supplement the provisions of the Plans and Project Manual and/or supersede them where contradictory thereto.

This Addendum contains changes to the requirements of the Plans and Project Manual. Such changes shall be incorporated into the Plans and Project Manual and shall apply to work with the same meaning and force as if they had been included in the original Plans and Project Manual. Where this Addendum modifies a portion of a paragraph or phrase of the Project Manual, the remaining unmodified portion of the paragraph or phrase shall remain in force.

The conditions and terms of the Plans and Project Manual shall govern work described in this Addendum. Whenever the conditions of work, or the quality or quantity of materials or workmanship are not fully described in this Addendum, the conditions of work etc. included in the Plans and Project Manual for similar items of work shall apply to the work described in this Addendum. If no similar items of work are included in the Plans and Project Manual, the quality of material and workmanship shall be subject to the written acceptance of the Architect.

3.1 CHANGES TO THE PROJECT MANUAL

A. Specification Section 16540 – SITE LIGHTING

a. DELETE paragraph 3.2.F in its entirety.

b. Paragraph 1.2.E: DELETE “meter assembly and panelboard.”

c. Paragraph 1.2.G: DELETE “and installation.”

B. Specification Section 02740 – Asphalt Paving

Paragraph 1.4.B: REVISE to read:

"The liquid asphalt Price Index value for this project (hereafter the "IB") shall be $643.00 /ton as obtained from the Pennsylvania Asphalt Pavement Association (see www.pahotmix.org) for the month of May 2012 in Zone 1."

3.2 CHANGES TO THE DRAWINGS

A. Drawing Sheet 7 – CLARIFICATION: weed barrier shall be installed within all curbed islands and the areas shall be mulched.

B. Drawing Sheet 8 – CLARIFICATION: wood stakes, as shown on the landscape details, are acceptable.

3.3 CLARIFICATIONS

A. The relocated fire hydrant shall be served by a 6" lateral connection.

B. Substitutions requests can be submitted for review and approval after award of contract.

C. Information regarding the existing electrical panel can be obtained by coordinating a site visit with the Construction Manager.

3.4 ATTACHMENTS

A. Drawing 4 – Grading and Utilities Plan

B. Drawing 7 – Lighting and Landscape Plan

C. Drawing 8 – Construction Details

D. Pavement Design Analysis and Soil Classification Report

END OF ADDENDUM

Please sign and return this page, via fax, to Eastern PCM, LLC at (717) 233-1666 indicating receipt of this Addendum.

Harrisburg Area Community College
Gettysburg Campus Parking Lot Expansion
Solicitation #RFB12-14

Addendum #_____ has been received.

Company: _____
Print Company Name

Received By: _____
Print Name Signature

Date: _____

Please check one:

_____ We are bidding as a prime contractor
_____ We are not bidding
_____ We are a sub-contractor

DRAWING REFERENCE: H:\11\11-0139-002\CADD\LD\CONSTRUCTION DOCS\11-0139-002-04-GnU-CON.dwg

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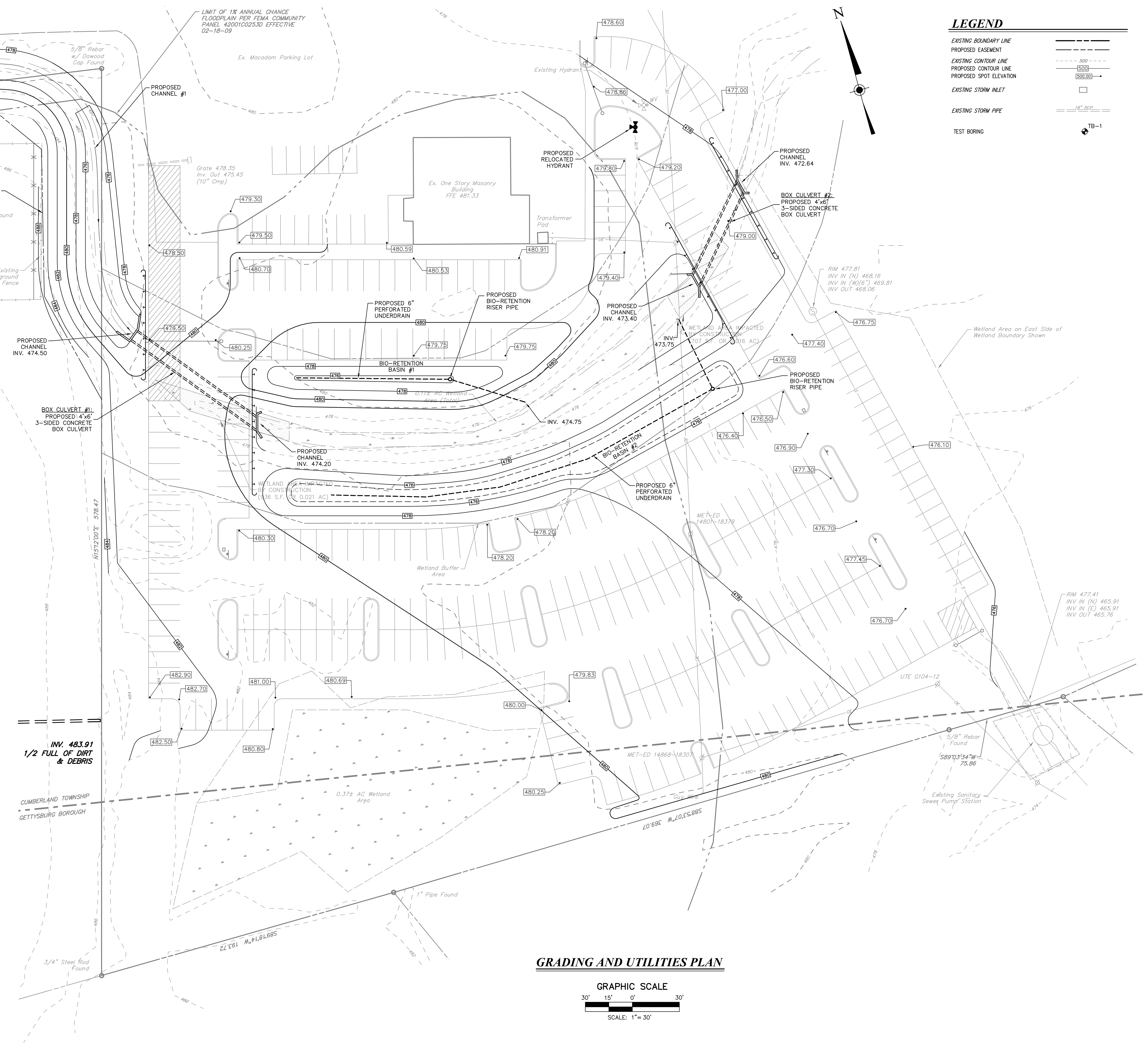

LEGEND

EXISTING BOUNDARY LINE	
PROPOSED EASEMENT	
EXISTING CONTOUR LINE	500
PROPOSED CONTOUR LINE	500
PROPOSED SPOT ELEVATION	500.00
EXISTING STORM INLET	
EXISTING STORM PIPE	14" RCP
TEST BORING	TB-1

GENERAL NOTES

1. ALL EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS AND BENCHMARKS ON THE SITE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. IN THE EVENT OF ANY DISCREPANCY BETWEEN FIELD AND PLAN CONDITIONS, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY.
2. REFERENCE THE SITE PLAN FOR SITE DIMENSIONS AND GEOMETRIC CONTROLS.
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF ACT 287 – PA ONE CALL NOTIFICATION OF UTILITIES PRIOR TO CONSTRUCTION.
4. ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH PADOT SPECIFICATIONS, PUBLICATION 408 AND THE ROADWAY CONSTRUCTION STANDARDS (RC STANDARDS), CURRENT EDITIONS. UNLESS OTHERWISE NOTED OR INDICATED ON THE PLAN.
5. ALL SPOT ELEVATIONS ARE REFERENCED TO THE FINISHED PAVEMENT OR GROUND SURFACE UNLESS OTHERWISE INDICATED.
6. SAWCUT AND SEAL ALL JOINTS WHERE PROPOSED CONSTRUCTION MEETS EXISTING CONDITIONS.
7. ALL FINAL SITE GRADING SHALL BE SMOOTH AND EVEN AND WITHOUT ABRUPT BREAKS OR CHANGES IN GRADE. FINISHED EARTHEN SLOPES SHALL BE ROUNDED TO PROVIDE A UNIFORM AND AESTHETIC LANDSCAPE. GRADING SHALL TIE INTO EXISTING GRADES NO CLOSER THAN 3 FEET FROM ANY PROPERTY LINE UNLESS OTHERWISE AUTHORIZED.
8. NO WORK SHALL OCCUR OUTSIDE OF THE PROPERTY OR RIGHT-OF-WAY LINES UNLESS COVERED BY GRADING OR CONSTRUCTION EASEMENTS.
9. SEE PROFILES AND DETAIL SHEETS FOR ADDITIONAL SITE CONSTRUCTION INFORMATION.
10. CONCRETE BOX CULVERTS SHALL BE 3-SIDED STRUCTURED WITH PRECAST CONCRETE FOOTERS PLACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
11. ALL DESIGN CALCULATIONS FOR THE PRECAST BOX CULVERTS AND ASSOCIATED WING WALLS SHOWN ON THE PLAN ARE TO BE SEALED BY A PROFESSIONAL ENGINEER AND SUBMITTED TO THE ENGINEER AND TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO ISSUANCE OF A BUILDING PERMIT.
12. FOR ANY ITEMS NOT COVERED BY DETAILS OR SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE ENGINEER'S REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
13. THE OWNER OF THE PROPERTY SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL STORM WATER MANAGEMENT FACILITIES (SWALES, PIPING, BASINS, ETC.) AND OTHER BEST MANAGEMENT PRACTICES (BMPS) CONSTRUCTED ON THE PROPERTY.
14. CONTRACTOR SHALL ENSURE THAT ALL MATERIAL (TOPSOIL AND FILL MATERIAL) WITHIN THE EISENHOWER ELEMENTARY SCHOOL PROPERTY IS QUANTIFIED. ANY EXCESS TOPSOIL TAKEN FROM, BUT NOT RE-USED WITHIN THE LIMITS OF THE ELEMENTARY SCHOOL PROPERTY SHALL BE TRANSPORTED TO GETTYSBURG HIGH SCHOOL (1130 OLD HARRISBURG ROAD, GETTYSBURG, PA) TO A STOCKPILE LOCATION DESIGNATED BY THE GETTYSBURG AREA SCHOOL DISTRICT. (3)

GRADING AND UTILITIES PLAN

GRAPHIC SCALE

30' 15' 0' 30'

SCALE: 1"= 30'

PROJ. MGR.-	JSS
DESIGN-	MAK
CADD-	WCS
CHECKED-	MAK

NO.	DATE	REVISION	BY
3	05/03/12	PER ADDENDUM #03	
1	04/20/12	PER ADDENDUM #01	

GRADING AND UTILITIES PLAN
FOR
PARKING LOT EXPANSION
FOR
HACC, CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE
CUMBERLAND TOWNSHIP, ADAMS COUNTY, PENNSYLVANIA

Snyder · Secary & Associates, LLC
ENGINEERS • PLANNERS • DEVELOPMENT CONSULTANTS
2000 LINGLESTOWN ROAD, SUITE 304
HARRISBURG, PA 17110
PHONE : 717.651.1010
FAX : 717.651.1022
www.snydersecary.com

PROJECT NO. 11-0139-002

DATE: 04-05-12

SCALE: 1"=30'

SHEET 4 of 8

DRAWING REFERENCE: H:\11\11-0139-002\CADD\LD\CONSTRUCTION DOCS\11-0139-002-07-LnL-2007-CON.dwg

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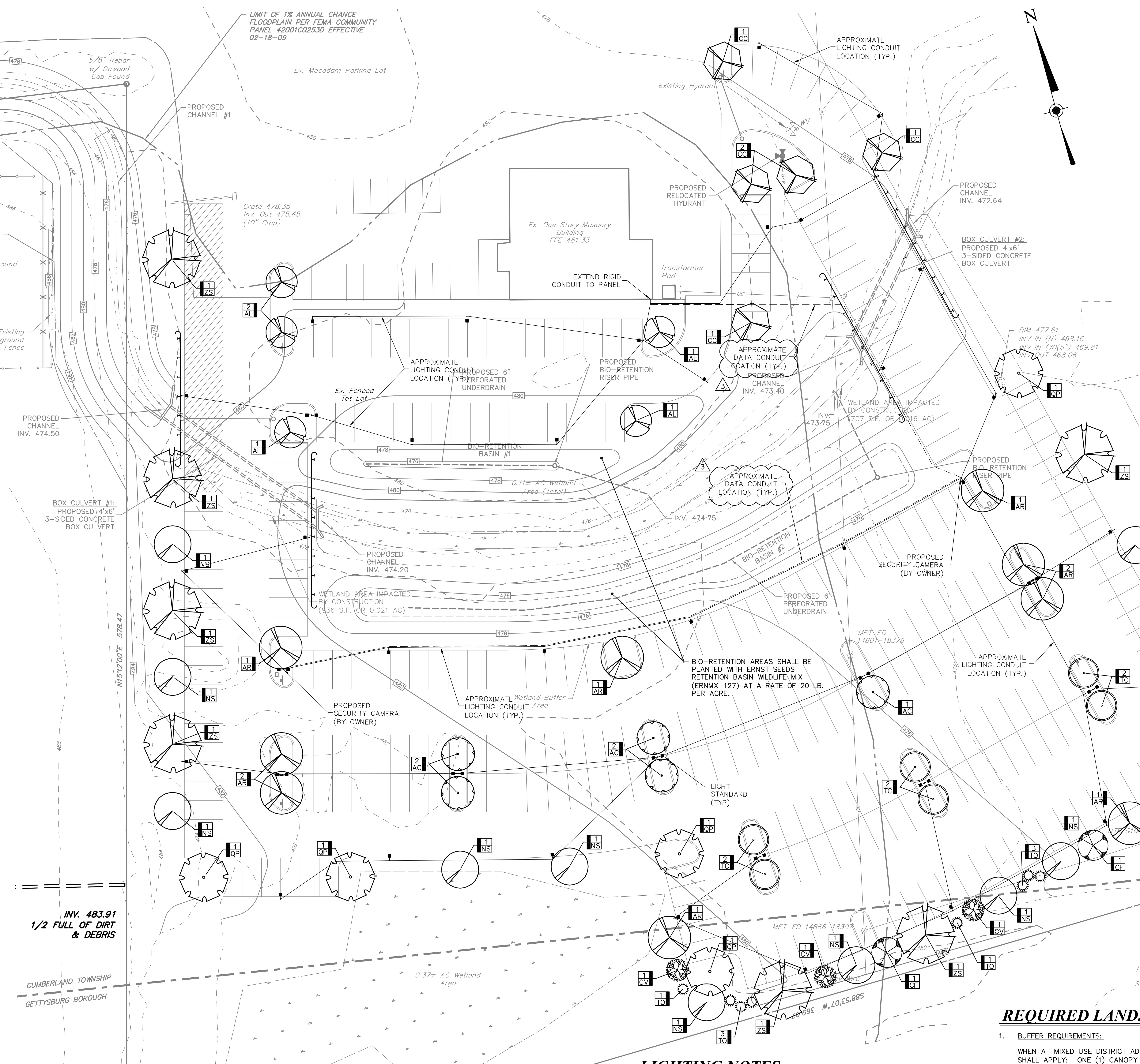

LEGEND

EXISTING BOUNDARY LINE	
PROPOSED RIGHT-OF-WAY	
EXISTING CURB	
PROPOSED CURB	
EXISTING PAVEMENT	
PROPOSED PAVEMENT	
PROPOSED EVERGREEN TREES	
PROPOSED DECIDUOUS TREES	
PROPOSED SHRUB	
LANDSCAPING TAG	15 — QUANTITY PO — IDENTIFICATION SYMBOL
PROPOSED LIGHT STANDARD	(SEE LUMINAIRE SCHEDULE)

LANDSCAPE NOTES

1. PROPOSED TREES AND OTHER VEGETATION SHALL BE GROWN IN A CLIMATE SIMILAR TO THAT OF CUMBERLAND TOWNSHIP, YORK COUNTY. PLANTS SHALL BE IN GOOD HEALTH AND VIGOROUS, FREE OF DISEASE, LARVAE, INSECTS, AND INSECT EGGS.
2. THE REQUIREMENTS FOR THE MEASUREMENTS, BRANCHING, QUALITY, AND BALLING AND BURLAPPING OF TREES SHALL FOLLOW THE CODE OF STANDARDS RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSIZ60, 1–1973, AS AMENDED.
3. PROPOSED TREES SHALL BE PLANTED, GUYED, STAKED, AND HANDLED IN COMPLIANCE WITH ACCEPTED HORTICULTURAL STANDARDS AND STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSIZ60, 1–1973, AS AMENDED.
4. TREES LESS THAN 3" IN CALIPER SHALL BE PROPERLY STAKED AND TREES GREATER THAN 3" SHALL BE GUYED AND PROPERLY PROTECTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF PLANTING. SEE TREE PLANTING DETAIL.
5. ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
6. ANY NYLON ROPE USED IN BALLING TREES MUST BE CUT AND REMOVED FROM THE ROOT BALL.
7. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
8. FERTILIZE ALL PLANTINGS IN ACCORDANCE WITH PENNDOT, PUBLICATION 408 SPECIFICATIONS IN SPRING ONLY. A SOIL TEST SHALL BE PERFORMED BY A QUALIFIED LABORATORY. ADJUSTMENT TO PLANT AND FERTILIZER MATERIAL AND APPLICATION SHALL BE MADE AS AUTHORIZED BY OWNER, UNDER THE DIRECTION OF THE DESIGN PROFESSIONAL, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
9. 3" MULCH SHALL BE PLACED AROUND TREES, SHRUBS, PERENNIALS, AND GROUND COVERS IN CONTINUOUS BEDS. MULCH SHALL BE SHREDDED BARK OR OTHER ORGANIC MULCH AS APPROVED BY THE TOWNSHIP.
10. PRE–EMERGENT HERBICIDE SHALL NOT BE USED ON GROUND COVER AREAS.
11. ALL DISTURBED AREAS NOT LANDSCAPED, PAVED OR BUILT UPON SHALL RECEIVE 4" TOPSOIL, BE SEEDED, FERTILIZED, AND MULCHED IN ACCORDANCE WITH PENNDOT PUBLICATION 408 SPECIFICATIONS, UNLESS OTHERWISE NOTED. REFER TO SEEDING SCHEDULE AND EROSION AND SEDIMENTATION CONTROL PLAN FOR OTHER REQUIREMENTS.
12. MULCH FOR GRASS SEED MIX MUST BE STRAW AS SPECIFIED IN PENNDOT PUBLICATION 408, EXCEPT THAT SLOPES STEEPER THAN 3:1 SHALL RECEIVE EROSION CONTROL BLANKET/MAT AS SPECIFIED IN PENNDOT PUBLICATION 408.
13. WEED BARRIER MAT SHALL BE INSTALLED ON ALL LANDSCAPED AREAS AND INTERIOR ISLANDS EXCEPT GROUND COVER AREAS (UNLESS OTHERWISE NOTED) IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SPECIFICATIONS.
14. NO IRRIGATION SYSTEM IS REQUIRED.
15. ALL PLANT MATERIAL IS SUBJECT TO APPROVAL AND ACCEPTANCE FROM A LANDSCAPE ARCHITECT OR OTHER QUALIFIED DESIGN PROFESSIONAL BEFORE, DURING AND AFTER INSTALLATION.
16. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THIS PLAN PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF ALL PLANTING MATERIALS WITH ONGOING CONSTRUCTION IMPROVEMENTS, UTILITIES, AND OTHER ITEMS TO AVOID CONFLICTS AND INTERFERENCES. FIELD ADJUSTMENTS MAY BE REQUIRED.
17. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL VEGETATION WITHIN PLANTING BEDS AND LAWN AREAS UNTIL THE WORK IS ACCEPTED BY THE OWNER. MAINTENANCE INCLUDES, BUT IS NOT LIMITED TO, WATERING, SPRAYING, MULCHING, AND FERTILIZING.
18. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD.
19. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES PRIOR TO TOTAL ACCEPTANCE OF THE WORK SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE, AND MEET ALL PLANT LIST SPECIFICATIONS.
20. STANDARDS SET FORTH ON "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
21. ALL DAMAGED AREAS SHALL BE REPAIRED AND REFINISHED WITH MATERIALS TO MATCH EXISTING ADJACENT SURFACES.
22. THE OWNER MAY SUPPLEMENT THIS PLAN WITH ADDITIONAL PLANTINGS AS APPROVED BY THE LANDSCAPE ARCHITECT OR OTHER QUALIFIED DESIGN PROFESSIONAL.

PLANT SCHEDULE

TREES & SHRUBS					
SYMBOL	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE & ROOT
	AC	5	ACER CAMPESTRE 'PANACEK'	METRO GOLD HEDGE MAPLE	2"–2½" CAL. B&B
	AL	5	AMELANCHIER 'CANADENSIS'	SHADBUSH SERVICEBERRY (TREE FORM)	2" CAL. B&B
	AR	9	ACER RUBRUM 'RED SUNSET'	RED MAPLE	2"–2½" CAL. B&B
	CC	5	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2"–2½" CAL. B&B
	CF	2	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY EASTERN REDBUD	6'–8'HT. B&B
	CV	4	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE	1½"–2" CAL. B&B
	NS	10	NYSSA SYLVATICA	BLACK TUPELO	2"–2½" CAL. B&B
	QP	6	QUERCUS PHELLOS	WILLOW OAK	2–2½" CAL. B&B
	TC	6	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2"–2½" CAL. B&B
	TO	8	THUJA OCCIDENTALIS 'TECHNY'	TECHNY EASTERN ARBORVITAE	6'–7' HT. B&B
	ZS	8	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	2"–2½" CAL. B&B.

LUMINAIRE SCHEDULE

SYMBOL	QUANTITY	CATALOG NUMBER	DESCRIPTION	LAMP	MOUNTING HEIGHT	ARRANGEMENT	LUMENS /LAMP	LLF	WATTAGE
	31	AS1 175M SR3 HS (PROBE)	ARCHITECTURAL ARM–MOUNT CUTOFF LIMUNAIRE WITH SR3 REFLECTOR. BLACK INTERNAL HOUSE SIDE SHIELD.	1–175 WATT CLEAR ED–17 METAL HALITE	16' AFG	SINGLE	12800	0.75	208
	10	AS1 175M SR5 S (PROBE)	ARCHITECTURAL ARM–MOUNT CUTOFF LIMUNAIRE WITH SR5S REFLECTOR. BLACK INTERNAL HOUSE SIDE SHIELD.	1–175 WATT CLEAR ED–17 METAL HALITE	16' AFG	DOUBLE	12800	0.75	426

* ANY SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER AND ENGINEER.

LIGHTING NOTES

1. SITE LIGHTING SCHEME AND LIGHTING FIXTURE PLACEMENT DEPICTED HEREON HAS BEEN PREPARED BY ILLUMINATIONS, INC.
2. THE ELECTRICAL CONTRACTOR SHALL COORDINATE CONNECTION TO ELECTRICAL PANEL FOR SITE LIGHTING DEPICTED HEREON.
3. ALL EQUIPMENT SHALL BE GROUNDED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
4. SITE LIGHTING SHALL HAVE A TIMER AS WELL AS AN ELECTRIC EYE OVERRIDE.
5. CONTRACTOR SHALL PROVIDE ELECTRICAL CONDUIT SIZING IN ACCORDANCE WITH N.E.C. GUIDELINES OR AS SHOWN ON THE DRAWINGS, WHICHEVER IS LARGER.
6. CONTRACTOR SHALL PROVIDE A SEPARATE 2" P.V.C. CONDUIT WITH DATA CABLE (CAT5E AND RG6) TO SECURITY CAMERA LOCATIONS. CABLE LENGTH SHALL ACCOMMODATE CAMERA MOUNTING AT TOP OF SPECIFIED LIGHT POLES. ADDITIONALLY, 125V ELECTRICAL SERVICE SHALL BE PROVIDED TO SECURITY CAMERAS.

3

LIGHTING AND LANDSCAPING PLAN

GRAPHIC SCALE

30' 15' 0' 30'

SCALE: 1"= 30'

REQUIRED LANDSCAPING

1. BUFFER REQUIREMENTS:

   WHEN A MIXED USE DISTRICT ADJOINS A LOW IMPACT DISTRICT, THE FOLLOWING BUFFER REQUIREMENTS SHALL APPLY: ONE (1) CANOPY TREE PER 40 LINEAR FEET, PLUS ONE (1) FLOWERING TREE PER 60 LINEAR FEET, PLUS ONE (1) EVERGREEN TREE PER 60 LINEAR FEET OF BUFFER.

2. INTERIOR PARKING LANDSCAPING:

   AT LEAST 5% OF THE GROSS AREA OF THE INTERIOR OF VEHICULAR USE AREA SHALL BE LANDSCAPED. SHADE TREES SHALL BE PLANTED IN AND PERPETUALLY MAINTAINED IN INTERIOR LANDSCAPED AREAS WITH AT LEAST ONE SHADE TREE PER 300 SQUARE FEET OF INTERIOR LANDSCAPED AREA.

3. PERIMETER PARKING LANDSCAPING:

   FOR ANY OFF–STREET PARKING AREA ACCOMMODATING 20 OR MORE VEHICLE SPACES, A LANDSCAPE STRIP OF AT LEAST 5' IN WIDTH SHALL BE PROVIDED BETWEEN VEHICULAR USE AREAS AND ANY ADJACENT PUBLIC STREET, WALK, OR RIGHT–OF–WAY, OR ANY CONTIGUOUS PROPERTY. THE LANDSCAPE STRIP SHALL BE PERPETUALLY MAINTAINED WITH SHADE TREES WITH AT LEAST ONE TREE PER 35 LINEAL FEET.

PROPOSED LANDSCAPING

1. PROPOSED BUFFER:

   BUFFER LENGTH = 325'±
   325'/40' = 8 CANOPY TREES
   325'/60' = 6 FLOWERING TREES
   325'/60' = 6 EVERGREEN TREES

2. INTERIOR PARKING:

   GROSS VEHICULAR AREA = 158,250± S.F.
   LANDSCAPE ISLANDS = 46,280± S.F.
   INTERIOR LANDSCAPING = 29%±

PROJ. MGR. -	JSS
DESIGN -	MAK
CADD -	WCS
CHECKED -	MAK

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LIGHTING AND LANDSCAPING PLAN
FOR
PARKING LOT EXPANSION
FOR
HACC, CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE
CUMBERLAND TOWNSHIP, ADAMS COUNTY, PENNSYLVANIA

Snyder • Secary & Associates, LLC
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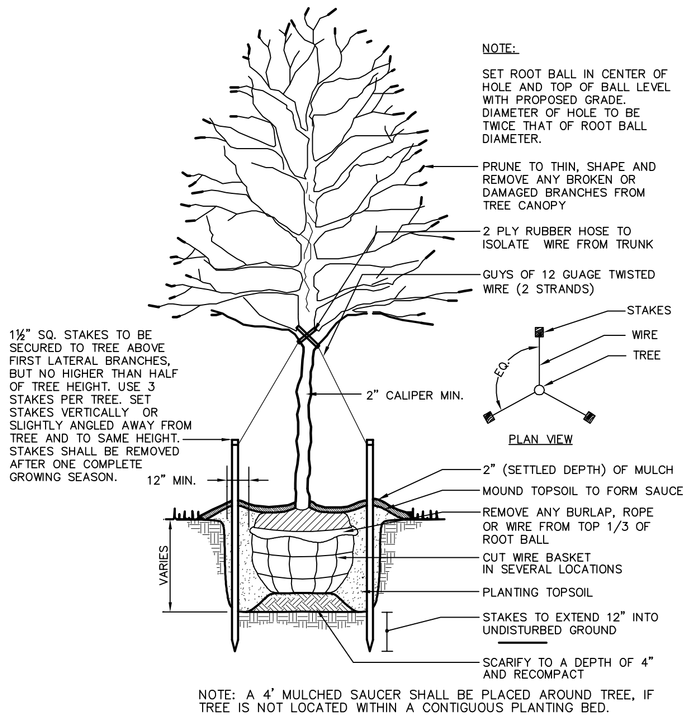
PHONE : 717.651.1010
FAX : 717.651.1022
www.snydersecary.com

PROJECT NO. 11-0139-002

DATE: 04-05-12

SCALE: 1"=30'

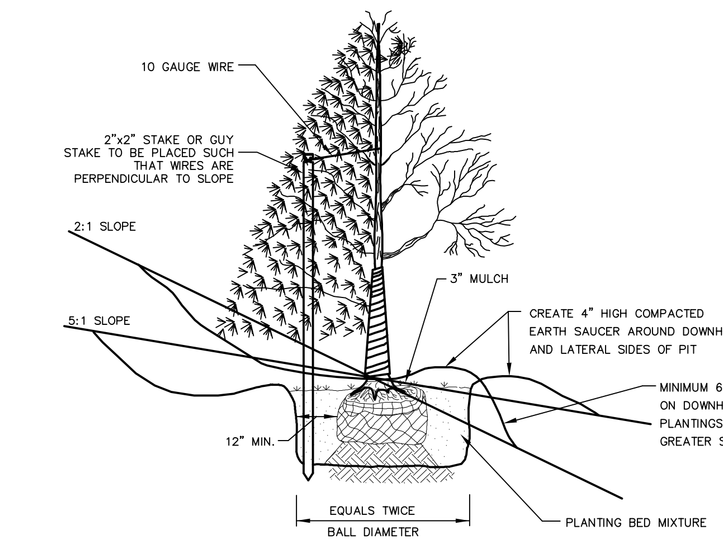
SHEET 7 of 8



NOTE: A 4' MULCHED SAUCER SHALL BE PLACED AROUND TREE, IF TREE IS NOT LOCATED WITHIN A CONTIGUOUS PLANTING BED.

DECIDUOUS TREE PLANTING

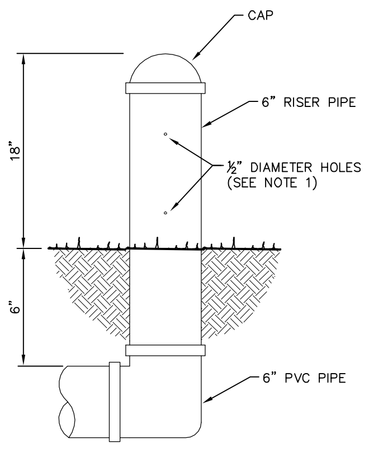
NOT TO SCALE



REFER TO OTHER PLANTING DETAILS FOR ADDITIONAL REQUIRMENTS.

TREE/SHRUB ON SLOPE PLANTING

NOT TO SCALE

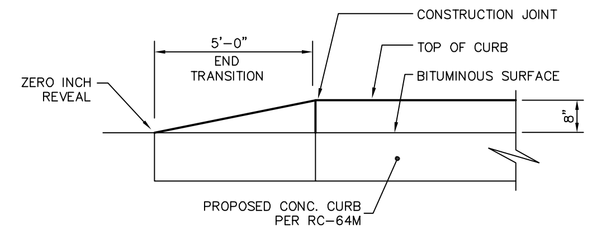


NOTE 1:

BASIN #1: (2) ½" DIAMETER HOLES @ EL. 476.25 & EL. 476.92
BASIN #2: (2) ½" DIAMETER HOLES @ EL. 475.25 & EL. 475.92

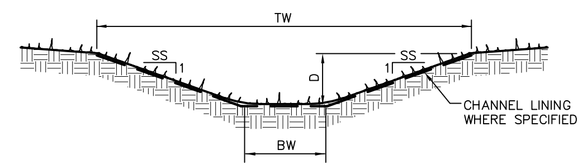
BIO-RETENTION RISER DETAIL

NOT TO SCALE



END CURB TRANSITION

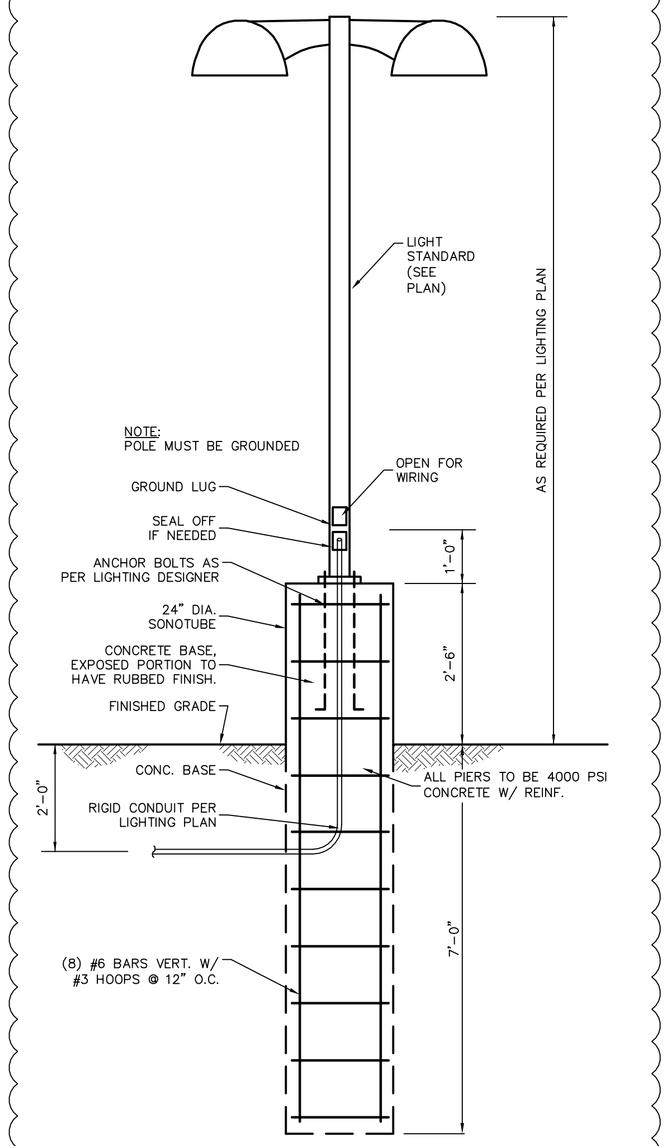
NOT TO SCALE



SWALE DESIGNATION	CHANNEL SLOPE (%)	SS	BW (FT.)	D (MIN.) (FT.)	TW (FT.)	CHANNEL LINING
CHANNEL #1	1.30	2:1	6.0	3.1	18.4	NAG SC-150
DIV. CHANNEL	1.50	2:1	3.0	1.0	6.0	NONE

PROPOSED CHANNEL DETAIL

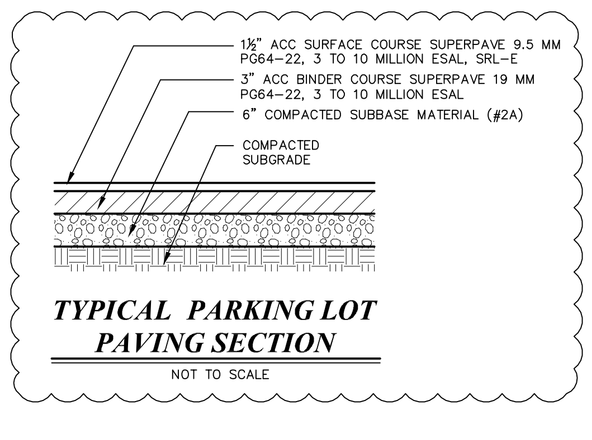
NOT TO SCALE



TYPICAL LIGHT STANDARD DETAIL

NOT TO SCALE

3



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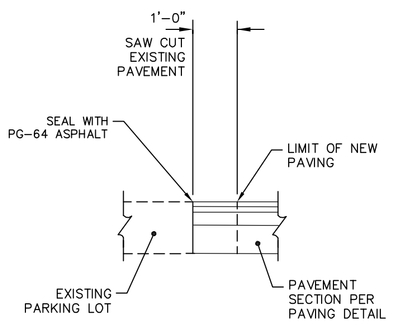
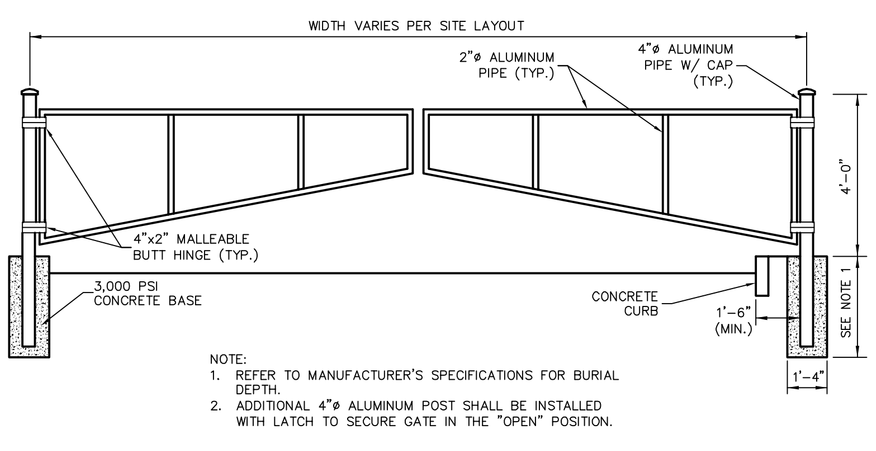
TYPICAL PARKING LOT PAVING SECTION

NOT TO SCALE



SAW CUT DETAIL

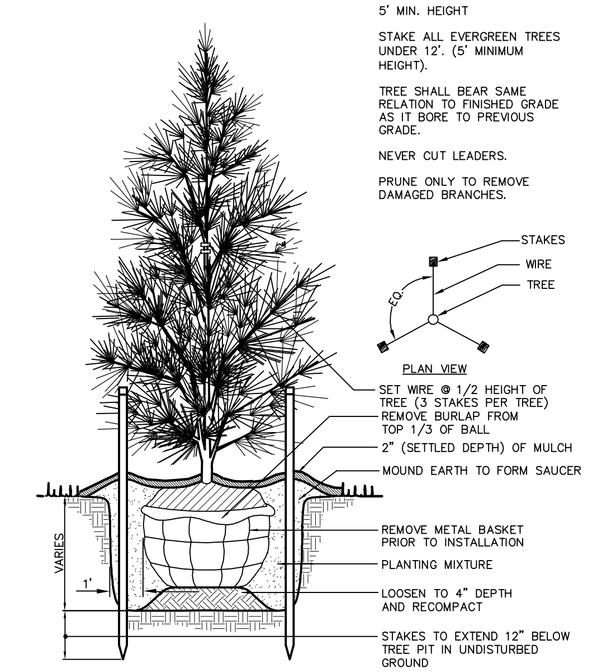
NOT TO SCALE



NOTE:
1. REFER TO MANUFACTURER'S SPECIFICATIONS FOR BURIAL DEPTH.
2. ADDITIONAL 4"ø ALUMINUM POST SHALL BE INSTALLED WITH LATCH TO SECURE GATE IN THE "OPEN" POSITION.

PROPOSED SECURITY GATE DETAIL

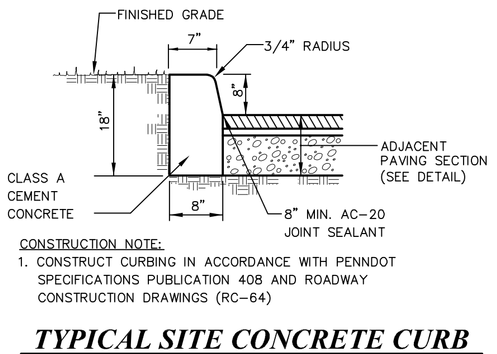
NOT TO SCALE



NOTE: A 4' MULCHED SAUCER SHALL BE PLACED AROUND TREE, IF TREE IS NOT LOCATED WITHIN A CONTIGUOUS PLANTING BED.

EVERGREEN TREE PLANTING

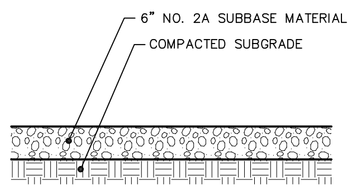
NOT TO SCALE



CONSTRUCTION NOTE:
1. CONSTRUCT CURBING IN ACCORDANCE WITH PENNDOT SPECIFICATIONS PUBLICATION 408 AND ROADWAY CONSTRUCTION DRAWINGS (RC-64)

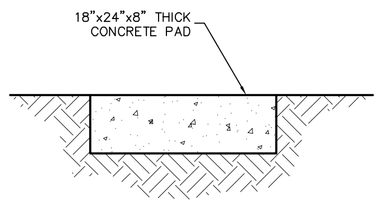
TYPICAL SITE CONCRETE CURB

NOT TO SCALE



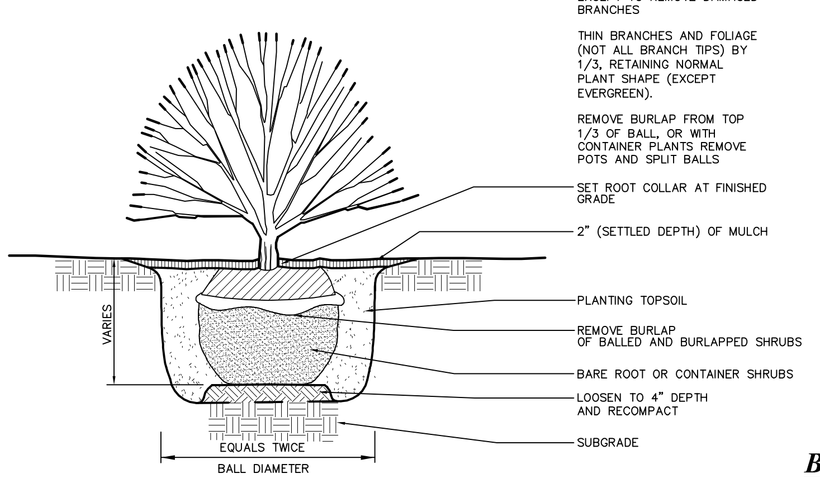
GRAVEL DRIVE

NOT TO SCALE



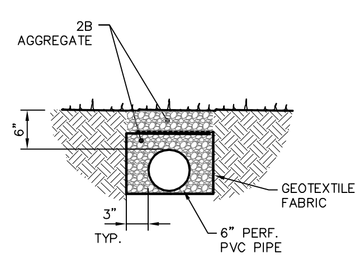
CALL BOX BASE DETAIL

NOT TO SCALE



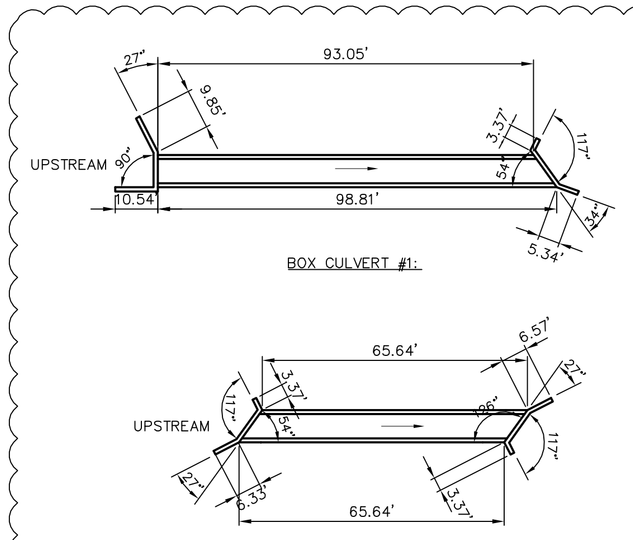
SHRUB PLANTING

NOT TO SCALE



BIO-RETENTION UNDERDRAIN DETAIL

NOT TO SCALE



NOTE:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN PER ASTM C1433 SPECIFICATIONS FOR BOX CULVERT.
3. REINFORCEMENT PER MANUFACTURER'S SPECIFICATIONS.
4. DESIGNED AASHTO H-20 LOADING, 1 TO 5 FEET COVER.
5. TONGUE & GROOVE JOINT SEALED WITH NEOPRENE GASKETS.

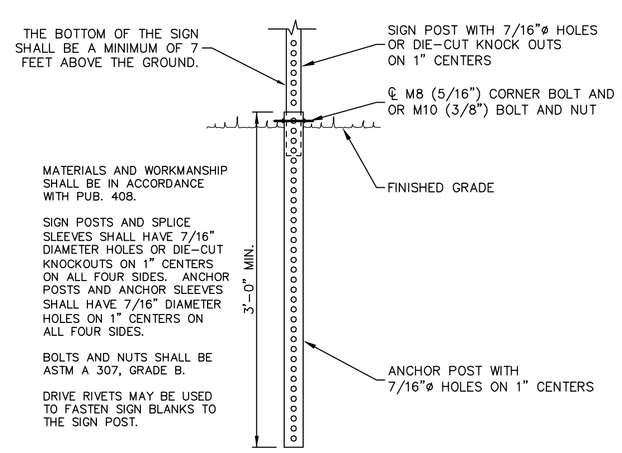
3

PRECAST CONCRETE BOX CULVERT DETAIL

NOT TO SCALE

SIGN SHALL ADHERE TO PA DOT R1-1 30" x 30" STANDARDS

SIGNAGE



INSTALLATION DETAIL

STOP SIGN & POST

NOT TO SCALE

PROJ. MGR. -	JSS
DESIGN -	MAK
CADD -	WCS
CHECKED -	MAK

NO.	DATE	REVISION	BY
3	05/03/12	PER ADDENDUM #03	
1	04/26/12	PER ADDENDUM #01	

CONSTRUCTION DETAILS
FOR
PARKING LOT EXPANSION
FOR
HACC, CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE
CUMBERLAND TOWNSHIP, ADAMS COUNTY, PENNSYLVANIA

Snyder · Secary & Associates, LLC
ENGINEERS • PLANNERS • DEVELOPMENT CONSULTANTS
2000 LINGLESTOWN ROAD, SUITE 304
HARRISBURG, PA 17110
PHONE : 717.651.1010
FAX : 717.651.1022
www.snydersecary.com

PROJECT NO.
11-0139-002

DATE: 04-05-12

SCALE: NTS

SHEET
8 of 8

ADVANTAGE ENGINEERS

May 1, 2012

Mr. Mitchell A. Kemp, P.E.
Snyder-Secary & Associates, LLC
200 Linglestown Road, Suite 304
Harrisburg, PA 17110

RE: Pavement Design Analysis
Gettysburg HACC Parking Expansion
Cumberland Township, Adams County, Pennsylvania
Advantage Project No.: 120008501

Dear Mr. Kemp:

In accordance with your request, Advantage Engineers, LLC (Advantage) has completed a pavement design analysis for the proposed flexible pavement associated with the parking lot expansion for Gettysburg HACC in Cumberland Township, Adams County, Pennsylvania. This correspondence serves to transmit the results of our evaluation and our recommendations.

Two (2) bulk samples of on-site soil were retrieved from hand-excavated test pits, which extended to maximum depths of approximately 24 inches below existing site grades and subjected to the following testing:

- Standard Classification Testing - ASTM D2487
- Standard Proctor Analysis - ASTM D698
- California Bearing Ratio (CBR) - ASTM D1883

The results of these analyses are presented below in Table I. Graphical depictions of the gradation analyses, moisture-density curves from the standard proctor testing and the stress vs. strain curves from the CBR analyses are attached for review.

TABLE I

STANDARD PROCTOR & CALIFORNIA BEARING RATIO (CBR) ANALYSIS RESULTS			
SAMPLE NUMBER	SOIL CLASSIFICATION	MAXIMUM DRY DENSITY @ OPTIMUM MOISTURE CONTENT	CBR RESULTS (ASTM D1883)
120008501-S1	Lean Clay with Sand (CL)	110.6 pcf @ 15.3%	3
120008501-S2	Lean Clay with Sand (CL)	101.4 pcf @ 21.1%	5

The flexible pavement section provided herein was designed in accordance with AASHTO Design Guide and is based on an average laboratory-determined CBR value of 4 for the subgrade soils. The design section has been determined for a design life of 20 years, with a reliability level of 85%, an overall standard deviation of 0.35, and a Terminal Service Index of 2.0.

Specific traffic loading information was not available at the time of this writing; therefore, it was estimated that the new parking lot expansion will receive 50,000 ESALs over its design life. Incorporating the above design life ESALs into the AASHTO flexible pavement design methodology yields a structural number (SN) of 2.3 for the proposed standard duty pavement section.

The thickness of the pavement section was determined using the following structural formula:

- $SN = a_1D_1 + a_2D_2 + a_3D_3$

where:

- a_1, a_2, a_3 = Structural coefficients for stabilized base, wearing course, and sub-base materials, respectively
- D_1, D_2, D_3 = Thickness of stabilized base, wearing coarse, and sub-base layers, respectively

The layer coefficients (a_1, a_2, a_3) used for the pavement design equation represent the ability of each material in the pavement section to support the design traffic loads. The elastic (resilient) modulus for each material in the pavement section (i.e. sub-base, base coarse, wearing coarse) is often used to establish the layer coefficient for these materials. Absent resilient modulus testing for each of the pavement components, the following values were assigned for this analysis.

- $a_1 = 0.34$
- $a_2 = 0.44$
- $a_3 = 0.11$

Based on the above structural number, the flexible pavement section was calculated to be the following:

9.5 mm Wearing Course	1.5 inches
19 mm Binder Course	3.0 inches
PennDOT 2A Aggregate Base Course	6.0 inches

Proper drainage will be an important consideration for the overall performance of the pavement design recommended above. We have assumed that proper grading to provide suitable runoff from the pavement surface and beyond the limits of the paved areas will be provided. **Pavements in cut areas may also require some under drainage considerations, which should be evaluated during construction.**

As minor cracking in the pavement section occurs with age, and if water is allowed to pond on the surface, seepage into the base-course material may weaken the subgrade, which can enhance degradation of the pavement section. Maintenance of this pavement will be critical to limiting its strength loss over the life of the pavement.

We recommend that the sub-base be placed as soon as possible after the subgrade has been approved. The asphalt should also be placed as soon as possible after the sub-base has been tested and approved. These recommendations are provided in an effort to help prevent the subgrade and the sub-base from being disturbed by weather and construction traffic. It will also help reduce the potential for the sub-base from becoming contaminated with soil. We also recommend that the flexible pavement section be prepared and placed according to PennDOT specifications. It should be noted that the pavement design has considered the standard loading for its intended use. The design does not consider construction traffic loadings which

would make the section substantially more expensive. The general contractor and paving contractor should be advised that they must control the construction traffic so as to limit disturbance of previously approved subgrade, stone sub-base, and/or completed asphalt.

We trust that this is the information you require. Should you have any questions regarding the above information or if we may be of further assistance, please do not hesitate to contact our office.

Sincerely,
ADVANTAGE ENGINEERS, LLC

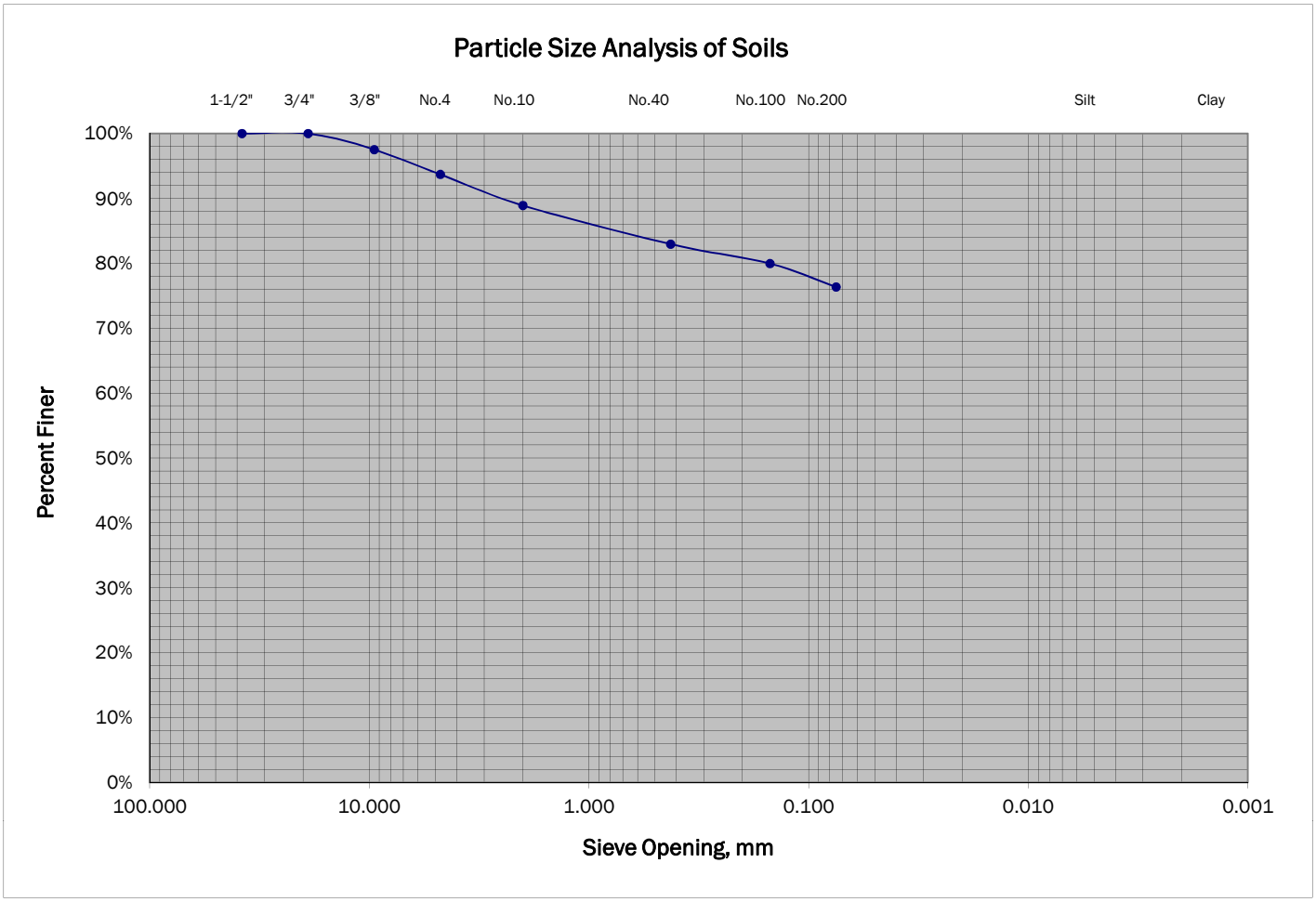
David J. Buckwalter
Project Manager

Daniel R. Schauble, Jr.
Director of Geotechnical Services

Attachments:
Standard Classification Reports
Standard Laboratory Compaction
California Bearing Ratio

Soil Classification Report

Per ASTM Designations D 2487 - 00 and D 2488 - 00



As-Received Moisture: 13.8%								
USCS Classification: Lean Clay with Sand - (CL)								
Gravel: 6.3%	**Coarse:** 0.0%			**Fine:** 6.3%				
Sand: 17.3%	**Coarse:** 4.8%	**Medium:** 6.0%		**Fine:** 6.6%				
Silt:	**Clay:**		**Colloids:**					
Gravel Description: Grey to red subangular to angular								
Sand Description: Red to grey subangular								
Consistency: N/A		**Dry Strength:** Medium						
Dilatancy: Slow		**Toughness:** Medium						
Structure: N/A		**Cementation:** N/A						
Boring:								
Sample: S1	**Depth:**							
Project: Gettysburg HACC								
Client: Snyder, Secary & Associates, LLC.								
Advantage Project Number: 120008501								

Particle Size Distribution

US Standard Sieve Size		Opening (mm)	%Finer
GRAVEL Coarse	1-1/2"	38.0	100.0%
	3/4"	19.0	100.0%
Fine	3/8"	9.50	97.5%
	No. 4	4.75	93.7%
SAND Coarse	No. 10	2.00	88.9%
Medium	No. 40	0.425	82.9%
	No. 100	0.150	80.0%
Fine	No. 200	0.075	76.4%
Hydrometer Analysis	Silt Size	0.005	
	Clay Size	0.001	

D_{60}:	D_{30}:	D_{10}:	Cu:	Cc:

Atterberg Limits **LL:** 31 **PL:** 23 **PI:** 8

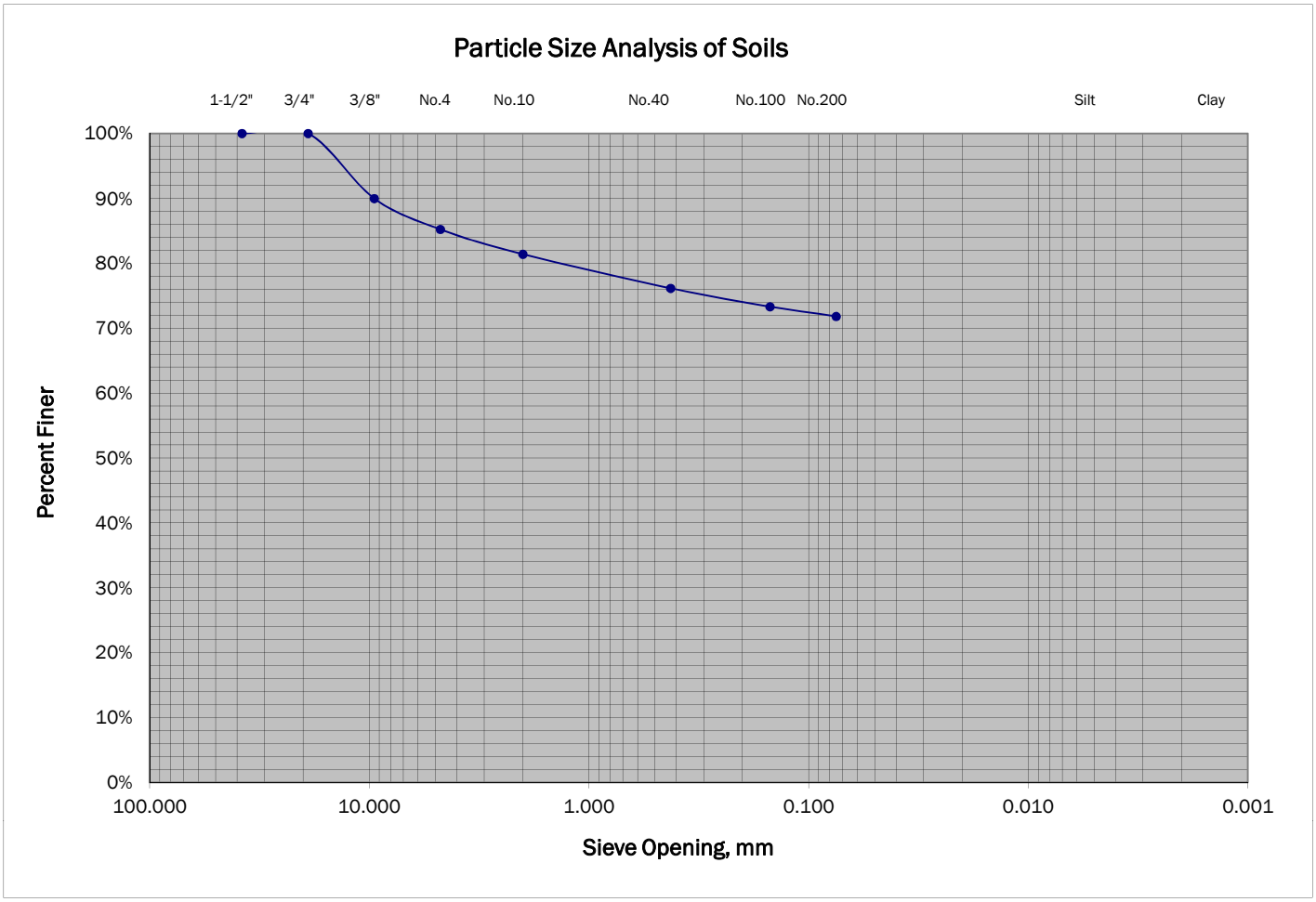
Description: Red brown

Remarks: Sample #1

Report Date: April 25, 2012

Soil Classification Report

Per ASTM Designations D 2487 - 00 and D 2488 - 00



As-Received Moisture: 22.0%						**Particle Size Distribution**			
USCS Classification: Lean Clay with Sand - (CL)						US Standard Sieve Size		Opening (mm)	%Finer
Gravel: 14.8%	**Coarse:** 0.0%			**Fine:** 14.8%		Coarse	1-1/2"	38.0	100.0%
Sand: 13.4%	**Coarse:** 3.8%	**Medium:** 5.2%		**Fine:** 4.3%		**GRAVEL**	3/4"	19.0	100.0%
Silt:	**Clay:**	**Colloids:**				Fine	3/8"	9.50	90.0%
Gravel Description: Angular to subangular							No. 4	4.75	85.2%
						Coarse	No. 10	2.00	81.4%
Sand Description: Angular to subangular						Medium	No. 40	0.425	76.1%
						SAND	No. 100	0.150	73.3%
Consistency: N/A		**Dry Strength:** Medium				Fine	No. 200	0.075	71.8%
Dilatancy: Slow		**Toughness:** Medium				Hydrometer Analysis	Silt Size	0.005	
Structure: N/A		**Cementation:** N/A					Clay Size	0.001	
						D_{60}:	D_{30}:	D_{10}:	Cu: Cc:
Boring:						**Atterberg Limits**	**LL:** 42	**PL:** 24	**PI:** 18
Sample: S2	**Depth:**					**Description:** Red brown			
Project: Gettysburg HACC									
						Remarks: Sample #2			
Client: Snyder, Secary & Associates, LLC.									
Advantage Project Number: 120008501						**Report Date:** April 25, 2012			

Construction Materials Laboratory Test Report

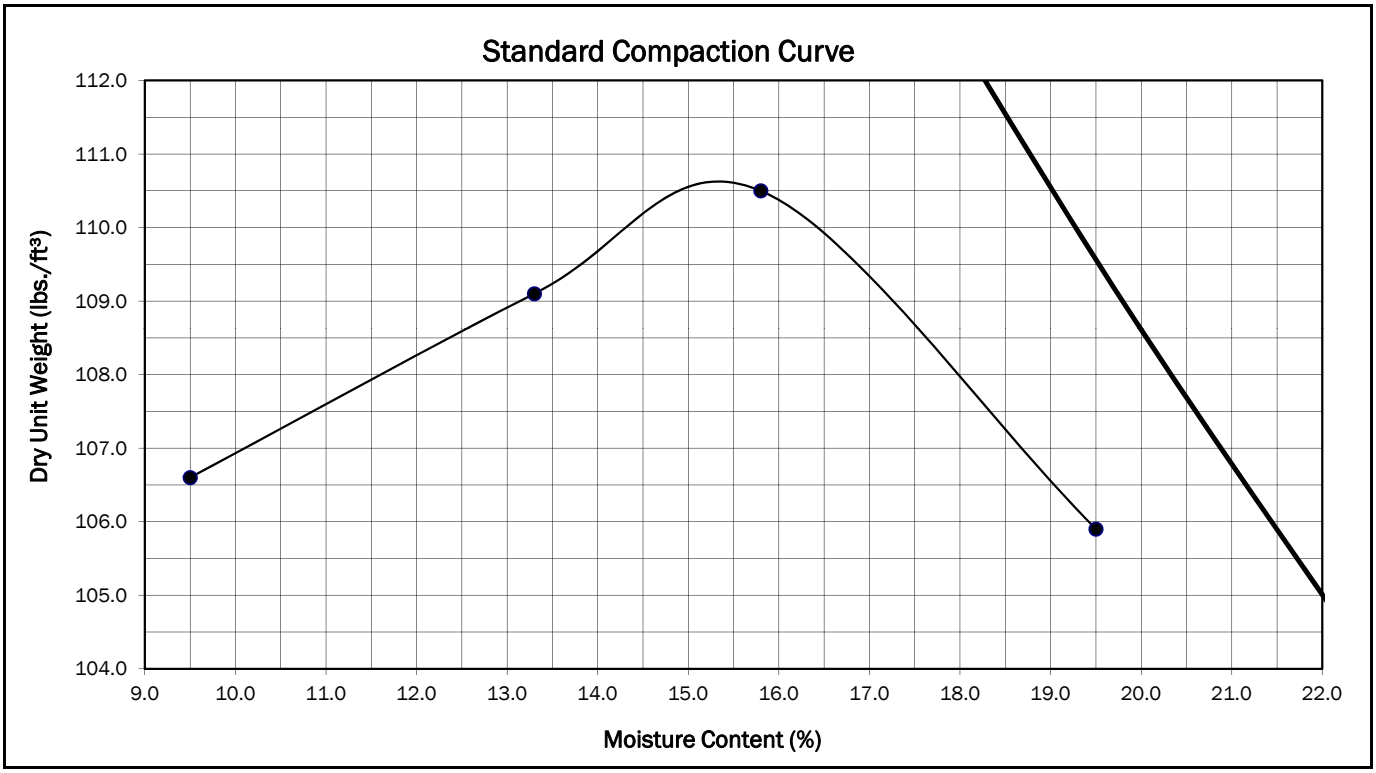
Laboratory Compaction Characteristics Using Standard Effort

Per ASTM Designation D 698 - 07, Method C ~ AASHTO Designation T 99 - 01, Method D

Date:	April 25, 2012		**Project :**	Gettysburg HACC	
Client:	Snyder, Secary & Associates, LLC		**Advantage Project Number:**	120008501	
Sample Description:	Red brown		**Sample ID:**	120008501-S1	
Rammer Used:	Manual	**Preparation Method:**	Moist	**As Received Moisture:**	13.8%

Test Data

	Point #1	Point #2	Point #3	Point #4
Wet Density (lbs./ft.³):	116.7	123.6	127.9	126.6
Moisture Content (%):	9.5	13.3	15.8	19.5
Dry Density (lbs./ft.³):	106.6	109.1	110.5	105.9



Maximum Dry Unit Weight:	**110.6 lbs./ft.³**	**Optimum Moisture Content:**	**15.3 %**

Reviewed by: _____

910 Century Drive, Mechanicsburg, Pennsylvania 17055
(717) 458-0800 (717) 458-0801(fax)

Construction Materials Laboratory Test Report

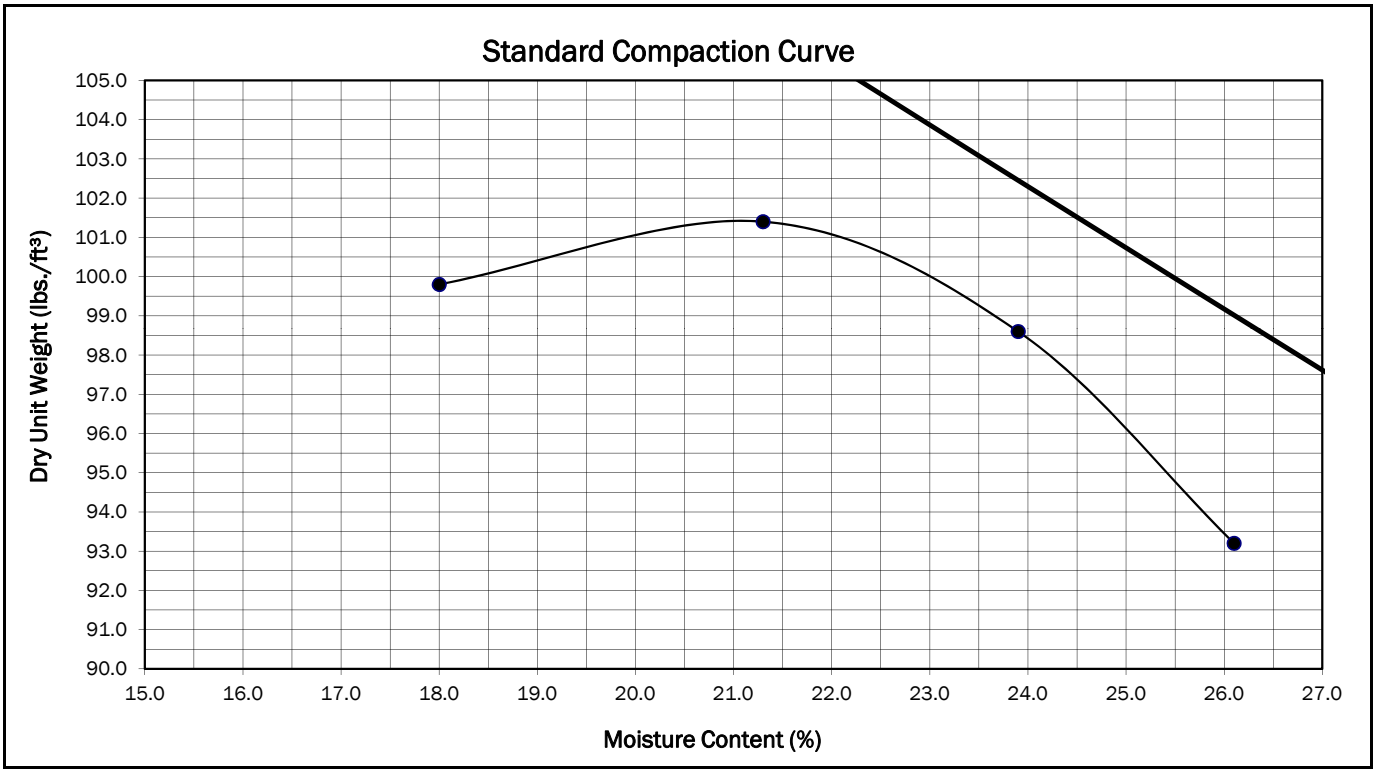
Laboratory Compaction Characteristics Using Standard Effort

Per ASTM Designation D 698 - 07, Method C ~ AASHTO Designation T 99 - 01, Method D

Date:	April 25, 2012		**Project :**	Gettysburg HACC	
Client:	Snyder, Secary & Associates, LLC		**Advantage Project Number:**	120008501	
Sample Description:	Red brown		**Sample ID:**	120008501-S2	
Rammer Used:	Manual	**Preparation Method:**	Moist	**As Received Moisture:**	22.0%

Test Data

	Point #1	Point #2	Point #3	Point #4
Wet Density (lbs./ft.³):	117.8	123.0	122.1	117.6
Moisture Content (%):	18.0	21.3	23.9	26.1
Dry Density (lbs./ft.³):	99.8	101.4	98.6	93.2



Maximum Dry Unit Weight:	**101.4 lbs./ft.³**	**Optimum Moisture Content:**	**21.1 %**

Reviewed by: _____

910 Century Drive, Mechanicsburg, Pennsylvania 17055
(717) 458-0800 (717) 458-0801(fax)

Construction Materials Laboratory Test Report

CBR (California Bearing Ratio) of Laboratory-Compacted Soils

Materials Tested in Accordance with ASTM Designation D 1883 - 99

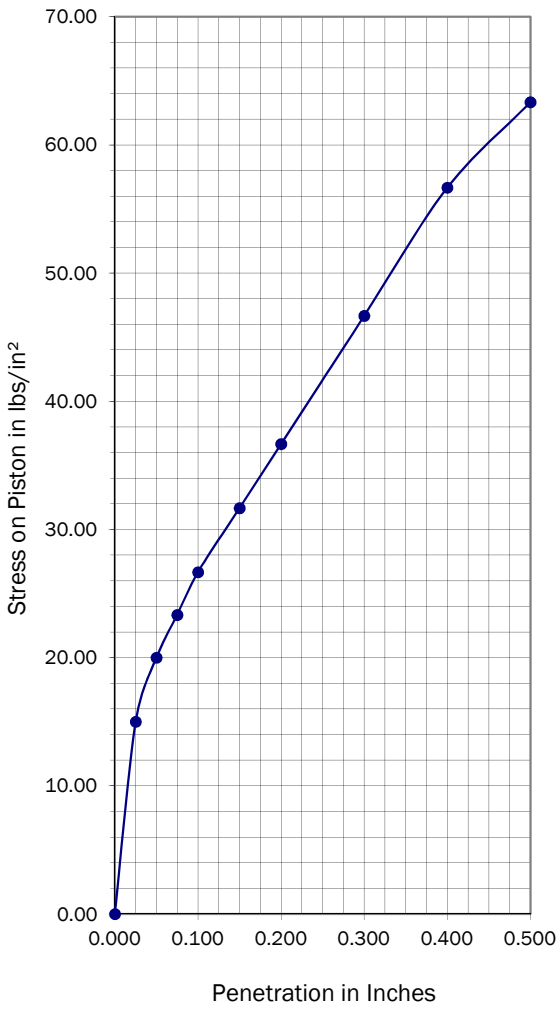
Report Date:	April 27, 2012	**Project:**	Gettysburg HACC
Client:	Snyder, Secary & Associates, LLC.	**Project Number:**	120008501

Date Tested:	April 27, 2021
Compaction Method:	Standard
Sample ID:	120008501-S1
Sample Description: Red to brown lean clay with sand	

Sample Maximum Dry Density:	110.6 lbs/ft³
Sample Optimum Moisture Content:	15.3 %
Specified Percentage of Compaction:	95.0 %
Dry Density of Sample Before Soaking:	107.0 lbs/ft³
Moisture Content of Sample Before Soaking:	17.2 %
Compaction of Test Sample Before Soaking:	96.7%
Dry Density of Sample After Soaking:	97.2 lbs/ft³
Moisture Content of Sample After Soaking:	26.2 %
Compaction of Test Sample After Soaking:	87.9%
Swell of Sample (% of Initial Sample Height):	2.94%
Length of Time Sample was Soaked:	96.0 Hrs
Surcharge Amount:	
Special Sample Preparation and/or Testing Procedures Used:	

Bearing Ratio of Sample @ 0.100" of Penetration:	2.67
Bearing Ratio of Sample @ 0.200" of Penetration:	2.44
Bearing Ratio of Sample @ 0.300" of Penetration:	2.46
Bearing Ratio of Sample @ 0.400" of Penetration:	2.46
Bearing Ratio of Sample @ 0.500" of Penetration:	2.44
California Bearing Ratio of Sample:	2.67

Load-Penetration Curve



The results stated on this report relate only to the material specifically identified.
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Reviewed by: _____

telecommunications | environmental | geotechnical
6520 Stonegate Drive, Suite 110, Allentown, Pennsylvania 18106
(610) 366-7120 (610) 366-7121 (fax)

Construction Materials Laboratory Test Report

CBR (California Bearing Ratio) of Laboratory-Compacted Soils

Materials Tested in Accordance with ASTM Designation D 1883 - 99

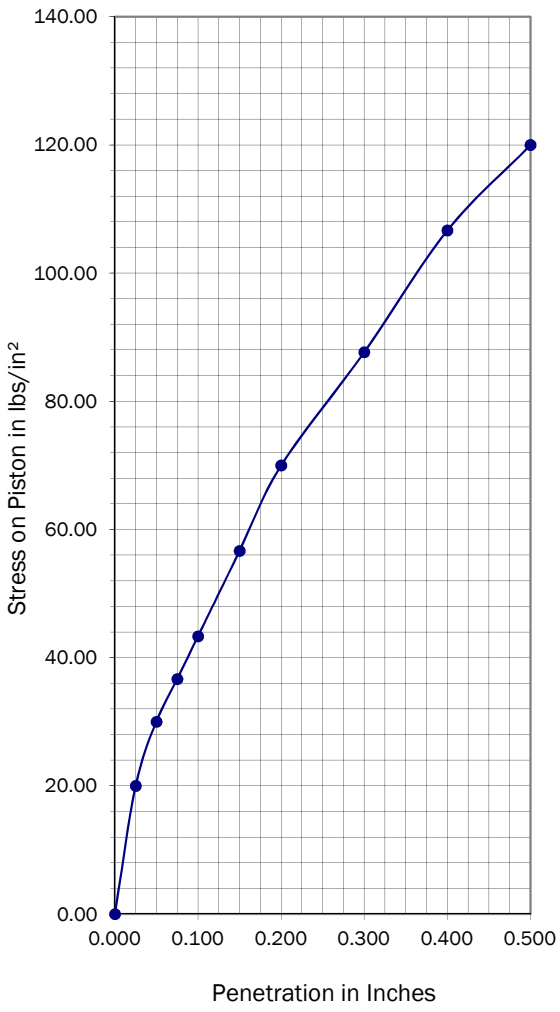
Report Date:	April 27, 2012	**Project:**	Gettysburg HACC
Client:	Snyder, Secary & Associates, LLC.	**Project Number:**	120008501

Date Tested:	April 27, 2021
Compaction Method:	Standard
Sample ID:	120008501-S2
Sample Description: Red Brown Lean Clay with Sand - (CL)	

Sample Maximum Dry Density:	101.4 lbs/ft³
Sample Optimum Moisture Content:	21.1 %
Specified Percentage of Compaction:	101.4 %
Dry Density of Sample Before Soaking:	97.6 lbs/ft³
Moisture Content of Sample Before Soaking:	17.9 %
Compaction of Test Sample Before Soaking:	96.3%
Dry Density of Sample After Soaking:	#VALUE!
Moisture Content of Sample After Soaking:	
Compaction of Test Sample After Soaking:	#VALUE!
Swell of Sample (% of Initial Sample Height):	1.25%
Length of Time Sample was Soaked:	96.0 Hrs
Surcharge Amount:	
Special Sample Preparation and/or Testing Procedures Used:	

Bearing Ratio of Sample @ 0.100" of Penetration:	4.33
Bearing Ratio of Sample @ 0.200" of Penetration:	4.67
Bearing Ratio of Sample @ 0.300" of Penetration:	4.61
Bearing Ratio of Sample @ 0.400" of Penetration:	4.64
Bearing Ratio of Sample @ 0.500" of Penetration:	4.62
California Bearing Ratio of Sample:	4.67

Load-Penetration Curve



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