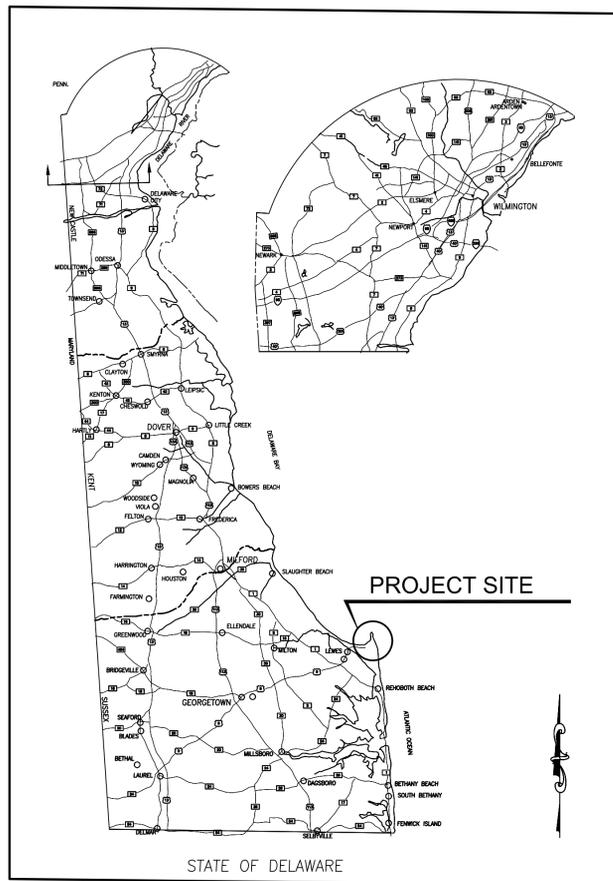


STATE OF DELAWARE
 DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
 DIVISION OF PARKS AND RECREATION

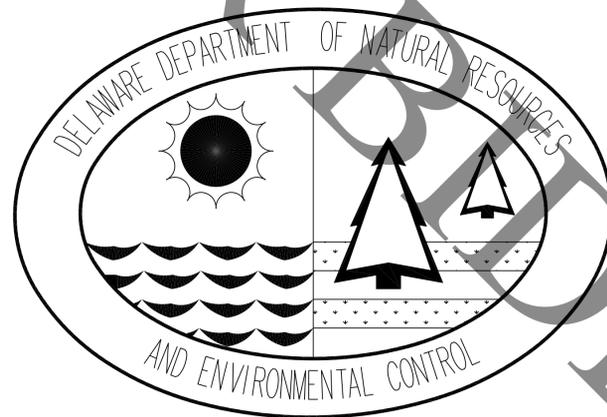
CAPE HENLOPEN STATE PARK CAMPING CABINS



CONTRACT NO.: 2015-CH-300
 SEPTEMBER 25, 2015
 ISSUED FOR BIDDING



LOCATION MAP



SITE MAP

INDEX OF SHEETS FOR CONTRACT NO.
 2015-CH-300

SHEET NO.	TITLE
G-1	COVER SHEET-SHEET INDEX
G-2	GENERAL NOTES, ABBREVIATIONS & SYMBOLS
C-1.2	PROJECT NOTES & LEGEND
C-1.3	SITE MAP
C-1.4	SITE DEMOLITION
C-1.5	PROPOSED SITE PLAN
C-1.6	AERIAL CONTROL
C-1.7	PROFILES AND CROSS SECTIONS
C-1.8	TYPICAL CONSTRUCTION DETAILS
ES-1.1	EROSION AND SEDIMENT CONTROL PLAN
ES-1.2	EROSION AND SEDIMENT CONTROL DETAILS
ES-1.3	EROSION AND SEDIMENT CONTROL DETAILS
ES-1.4	EROSION AND SEDIMENT CONTROL DETAILS
A-1	OPTION ONE SECTIONS, PLANS & ELEVATIONS
A-2	OPTION TWO SECTIONS, PLANS & ELEVATIONS
A-3	DETAILS
E-1	ELECTRICAL PLANS, DETAILS & SCHEDULE

PARKS PROJECT NO. CH -39B

PREPARED FOR:
 OFFICE OF DESIGN & DEVELOPMENT
 DELAWARE DIVISION OF PARKS & RECREATION
 89 KINGS HIGHWAY
 DOVER, DE 19901
 PHONE: (302) 739-9231
 FAX: (302) 739-7026

DATE: 09/25/2015

SYMBOLS

	Interior Elevation Number		Ceiling Type
	Sheet Number		Ceiling Height
	Elevation Or Section Number Sheet Number		W: Wall Finish
	Detail Number Sheet Number		B: Base
	Door Number		F: Floor Finish
	New Column		C:SS-1 Casework Finish
	Existing Column		Revision Number
	Window Type		Accessory / Fixture Type
	Partition Type		Magnetic North
	Working Point Or Control Point		Plan North
	Room Name Room Number		And
			At
			Number Or Pound
			Diameter
			Center Line
			Plate
			Dimension to Face of Material
			Dimension to Centerline of Structure

MATERIALS

	Concrete Masonry Unit		Wood - Continuous Lumber
	Brick		Wood - Blocking
	Concrete		Wood - Finish
	Porous Fill, Stone Or Gravel		Plywood - Small Scale
	Earth		Plywood - Large Scale
	Insulation - Batt, Blanket Or Loose		Gypsum Board
	Insulation - Rigid		Steel
	Glass In Elevation		Stone

STANDARD ABBREVIATIONS

AB	Anchor Bolt	DWG	Drawing	GR	Grade	OC	On Center	STOR	Storage
ADJ	Adjustable	E	East	GYP BD	Gypsum Board	OD	Outside Diameter	STRUCT	Structure
AFF	Above Finished Floor	EA	Each	HB	Hose Bibb	OF/CI	Owner Furnished/ Contractor Installed	SUSP	Suspended
AHU	Air Handling Unit	EIFS	Exterior Insulation and Finish System	HC	Hollow Core	OF/OI	Owner Furnished/ Owner Installed	SYM	Symmetrical
ALUM	Aluminum	EJ	Expansion Joint	HDW	Hardware	OFF	Office	T	Tread
ALT	Alternate	EL	Elevation	HDWD	Hardwood	OH	Overhead	T&G	Tongue & Groove
APC	Acoustic Panel Ceiling	ELEC	Electrical	HM	Hollow Metal	OPG	Opening	TEL	Telephone
APPROX	Approximate	ELEV	Elevator	HORIZ	Horizontal	OPP	Opposite	THK	Thick
ARCH	Architectural	EMER	Emergency	HP	High Point	OSB	Oriented Strand Board	TOC	Top Of Concrete
BD	Board	ENCL	Enclosure	HR	Hour	PCC	Precast Concrete	TOF	Top Of Finish
BITUM	Bituminous	EOS	Edge of Slab	HSS	Hollow Structural Section	PFC	Perimeter Fire Containment System	TOM	Top Of Masonry
BLDG	Building	EPDM	Ethylene Propylene Piene Monomer Rubber	HT	Height	PL	Plate	TOS	Top Of Steel
BLKG	Blocking	EPS	Expanded Polystyrene Insulation	ID	Inside Diameter	PLAM	Plastic Laminate	TPO	Thermoplastic Polyolefin
BM	Beam	EQ	Equal	IN	Inch	PLYWD	Plywood	TYP	Typical
BRG	Bearing	EQUIP	Equipment	INS	Insulation	PR	Pair	UNO	Unless Noted Otherwise
BSMT	Basement	ETR	Existing to Remain	INT	Interior	PSF	Pounds Per Square Foot	VCT	Vinyl Composition Tile
BUR	Built-up Roofing	EW	Each Way	JAN	Janitor	PSI	Pounds Per Square Inch	VERT	Vertical
BW	Both Ways	EWC	Electric Water Cooler	JST	Joist	PSL	Parallel Strand Board	VEST	Vestibule
CAB	Cabinet	EXIST	Existing	JT	Joint	PT	Pressure Treated	VIF	Verify In Field
CB	Catch Basin	EXP	Expansion	LAB	Laboratory	PTAC	Packaged Terminal Air Conditioner	W	West
CCTV	Closed Circuit Television	EXT	Exterior	LAM	Laminate	PTD	Painted	W/	With
CEM	Cement	FA	Fire Alarm	LAV	Lavatory	PVMT	Pavement	W/O	Without
CF/CI	Contractor Furnished / Contractor Installed	FD	Foot Drain	LCC	Lead Coated Copper	R	Riser or Radius	WC	Water Closet
CF/OI	Contractor Furnished / Owner Installed	FDN	Foundation	LP	Low Point	RD	Roof Drain	WD	Wood
CI	Cast Iron	FE	Fire Extinguisher	LTR	Long Term Thermal Resistance	REF	Reference	WH	Water Heater
CIP	Cast-in-place	FEC	Fire Extinguisher Cabinet	LTVR	Long Term Thermal Resistance	REFR	Refrigerator	WIC	Walk-in-Closet
CJ	Control Joint	FHC	Fire Hose Cabinet	LVL	Laminated Veneer Lumber	REINF	Reinforced	WP	Working Point
CLG	Ceiling	FIN	Finish	MAS	Masonry	REQD	Required	WSCT	Wainscot
CLO	Closet	FIXT	Fixture	MAX	Maximum	RES	Resilient	WT	Weight
CMU	Concrete Masonry Unit	FLR	Floor	MDF	Medium Density Fiberboard	RM	Room	WWF	Welded Wire Fabric
CNTR	Center	FLUOR	Fluorescent	MECH	Mechanical	RO	Rough Opening	XPS	Extruded Polystyrene Insulation
COL	Column	FOC	Face Of Concrete	MEP	Mechanical, Electrical, Plumbing	RWC	Rain Water Conductor		
CONC	Concrete	FOF	Face Of Finish	MFR	Manufacturer	S	South		
CONST	Construction	FOM	Face Of Masonry	MIN	Minimum	SC	Solid Core		
CONT	Continuous	FOS	Face Of Studs	MISC	Miscellaneous	SCHED	Schedule		
CORR	Corridor	FRJS	Fire Resistive Joint System	MO	Masonry Opening	SECT	Section		
CRS	Course(s)	FRP	Fiberglass Reinforced Plastic	MOD BIT	Modified Bituminous	SF	Square Feet		
CPT	Carpet	FRT	Fire Retardant Treated	MT	Marble Threshold	SFRM	Spray Fire Resistive Materials		
CT	Ceramic Tile	FT	Foot	MTD	Mounted	SIM	Similar		
DBL	Double	FTG	Footing	MTL	Metal	SPEC	Specification		
DEPT	Department	FURR	Furring	MUL	Mullion	SPM	Single Ply Membrane		
DET	Detail	FUT	Future	N	North	SQ	Square		
DF	Drinking Fountain	GA	Gauge	NIC	Not In Contract	SS	Stainless Steel		
DH	Double Hung	GALV	Galvanized	NO	Number	STA	Station		
DIA	Diameter	GFCI	Ground Fault Circuit Interrupter	NOM	Nominal	STD	Standard		
DIM	Dimension	GL	Glass	NTS	Not To Scale	STL	Steel		
DN	Down								
DS	Downspout								

KEY INFORMATION

- Applicable Code(s) & Regulations For This Project:
2012 IBC (International Building Code With Amendments)
2012 IRC (International Residential Code With Amendments)
ICC/ANSI A117.1-2009 (Accessibility required by IBC)
2010 ADA Standards for Accessible Design
Delaware State Fire Prevention Regulation 2009
2009 Edition of Life Safety NFPA 101
- Occupancy Use Group(s): R
- Construction Type(s): II B
- Project Description: Site improvements & construction of six new camping cabins in the campground located within Cape Henlopen State Park.
- New construction

GENERAL NOTES

- All work shall be in accordance with applicable state and local building codes and all other governing agencies and regulations.
- Contractor shall verify all conditions and dimensions in the field prior to commencement of the work. Verify layout in relation to property, benchmarks, and other fixed conditions. Report discrepancies to the Architect immediately upon discovery.
- Notify Architect of discrepancies regarding the Contract Documents or design intent immediately upon discovery. Contractor shall be responsible for obtaining clarification prior to proceeding with the work or related work.
- Contractor shall obtain all required building permits and licenses.
- Contractor shall remove all rubbish and debris from the site during course of project, and dispose of legally off-site.
- Contractor shall perform all cutting, patching and protection required to complete the work indicated on the Contract Documents.
- Contractor shall provide all inspections and tests required by state and local authorities including but not limited to mechanical and electrical work. Refer to individual drawings and specifications for additional testing requirements.
- Unless indicated otherwise in Specifications, products and manufacturers are noted to establish the type and quality of materials to be provided. Contractor may submit proposed substitutions to the Architect for review, per Section 016000 Product Requirements. Contractor shall include costs associated with proposed substitution, including redesign, and alteration of adjacent work to accept substitution.
- All dimensions are either to face of masonry or the face of stud, unless noted otherwise. Drawings are not to be scaled.
- Install all equipment and materials per manufacturer's instructions and recommendations unless specifically otherwise indicated, or where local codes and regulations take precedence.
- Contractor shall provide supervision while any subcontractors or workers are on the job site and shall supervise and direct all work.
- Contractor shall be solely responsible for all construction means, methods, techniques, sequences, procedures, site safety, and coordinating the work of all trades under the contract.
- No products containing asbestos or other hazardous materials shall be installed on this project or used during the construction of the project. It shall be the responsibility of the Contractor to certify to the Owner that this requirement has been met. Subcontractors shall verify to the Contractor that no asbestos or other hazardous products are used in their work.
- Locations of rated fire/smoke separations and/or fire resistive structural protection are shown on documents. Provide complete assemblies to meet fire resistive requirements of the project including protection of structural elements and fire separation assemblies. Maintain the integrity of these assemblies at openings and penetrations including but not limited to fire or smoke dampers in ductwork, light fixture protection, electrical device box ratings, expansion joints, and sealants. Provide this protection by using complete building component systems approved by recognized authorities such as Underwriters Laboratories, Inc., Factory Mutual, or other building code accepted agencies. It is the responsibility of the Contractor to coordinate subcontractors and suppliers to accomplish this work during bidding, procurement, scheduling, sequencing and construction of the project.
- Delegated Design: When professional design services or certifications related to pre-manufactured structures, systems, materials, or equipment are required by these documents, the Architect/Engineer will specify performance and design criteria that such services must satisfy. The Contractor shall cause such services and certifications to be provided by properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, Shop Drawings, and other related submittals. The Owner and Architect/Engineer shall be entitled to rely upon the accuracy and completeness of those delegated services. The Architect/Engineer will review submittals only for the limited purpose of checking for conformance with the performance and design criteria.

DATE:	DESCRIPTION:	BY:

**CAPE HENLOPEN STATE PARK
CAMPING CABINS
GENERAL NOTES, ABBREVIATIONS & SYMBOLS**



DESIGNED BY:	O.D.D.
DRAWN BY:	O.D.D.
BUILDING NO.:	N/A
DATE:	09\25\2015
SCALE:	AS NOTED
SHEET NO.:	G-2
PARKS PROJECT #:	CH-39B
CONTRACT #:	2015-CH-300

PROJECT NOTES

- THE INTENT OF THIS PROJECT IS TO PROVIDE THE FOLLOWING IMPROVEMENTS AT THE CAPE HENLOPEN CAMPGROUND:
 - CONSTRUCTION AN 18 FOOT WIDE PAVED LOOP ROAD SERVING THE CABIN AREA OF THE CAMPGROUND. THE ROADWAY AND ASSOCIATED IMPROVEMENTS SHALL FOLLOW, AS CLOSELY AS POSSIBLE, THE HORIZONTAL ALIGNMENT AND PATH PROFILE SHOWN ON THE PLANS. MINOR ADJUSTMENT IN THE ALIGNMENT AND/OR PROFILE MAY BE REQUIRED BY THE ENGINEER IN THE FIELD.
 - REMOVAL OF EXISTING EXCESS ASPHALT PAVEMENT.
 - CONSTRUCTION OF SIX (6) NEW CABINS.
 - PLACEMENT OF CONCRETE WALKWAYS TO THE EXISTING AND PROPOSED CABINS.
- THESE PLANS WERE DEVELOPED FROM AERIAL SURVEY PROVIDED BY DNREC STATE PARKS. CONTROL POINTS UTILIZED FOR THE AERIAL SURVEY, AND THE ASSOCIATED SURVEY INFORMATION, HAVE BEEN INCLUDED IN THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL ADDITIONAL PHYSICAL CONTROL AS REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
- EXISTING UTILITIES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME THIS PLAN WAS DEVELOPED. COMPLETENESS OR CORRECTNESS OF THE UTILITIES SHOWN THEREOF IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR EMPLOYING AN UNDERGROUND UTILITY LOCATOR TO LOCATE AND MARK EXISTING UTILITIES WITHIN THE LIMIT OF DISTURBANCE PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MINOR RELOCATION OF WATER LINES AND YARD HYDRANTS THAT CONFLICT WITH PROPOSED CABIN CONSTRUCTION AT NOT ADDITIONAL COST TO THE PROJECT. WORK INCLUDE, BUT IS NOT LIMITED TO, EXCAVATION/TRENCHING. ALL WORK ASSOCIATED WITH WATER SERVICE RELOCATION SHALL BE IN ACCORDANCE WITH SECTION 221113 - FACILITY WATER SERVICE SYSTEM.
- THIS PROJECT IS A LUMP SUM CONTRACT WITH NO SEPARATE PAY ITEMS, UNLESS SPECIFICALLY NOTED UNDER SECTION 012200 - UNIT PRICES.
- PORTIONS OF THIS CONTRACT ARE TO BE CONSTRUCTED IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (STANDARD SPECIFICATIONS) DATED AUGUST 2001 INCLUDING ALL REVISIONS UP TO ADVERTISEMENT OF THIS PROJECT, UNLESS NOTED OTHERWISE IN THESE PLANS OR THE SPECIFICATIONS. ITEMS INCLUDING, BUT NOT LIMITED TO, ASPHALT PAVEMENT, REFER TO THE "STANDARD SPECIFICATIONS" FOR MATERIALS AND METHOD OF CONSTRUCTION.
- ALL EXCAVATION FOR CONSTRUCTION OF THE PROPOSED ROADWAY SHALL BE IN ACCORDANCE WITH SECTION 202 - EXCAVATION AND EMBANKMENT, OF THE STANDARD SPECIFICATIONS.
- CLEARING AND GRUBBING IS ASSUMED TO EXTEND A MINIMUM OF SIX (6) INCHES BELOW EXISTING GRADE FOR THE LENGTH OF THE PROJECT. CLEARING AND GRUBBING WITHIN THE LIMITS OF DISTURBANCE (LOD) SHALL CONSIST OF CLEARING, GRUBBING, REMOVING AND DISPOSING OF ALL TREES, ROOTS, VEGETATION AND DEBRIS UNLESS OTHERWISE INDICATED, EXCEPT SUCH OBJECT(S) THAT ARE DESIGNATED TO REMAIN.
- ALL TREE REMOVAL AND TREE TRIMMING WITHIN THE LIMITS OF DISTURBANCE, REGARDLESS OF SIZE, SHALL BE INCIDENTAL TO THE CONTRACT. INDIVIDUAL TREES ARE NOT SHOWN ON THE DRAWINGS BUT MAY BE REMOVED BY THE CONTRACTOR AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE. TREES GREATER THAN 6" IN DIAMETER SHALL BE FLAGGED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO REMOVAL. THE ENGINEER WILL NOT ACCEPT REMOVAL OF TREES INTENDED TO BE PROTECTED.
- TREES NOT DESIGNATED TO BE REMOVED SHALL BE PROTECTED FROM CONSTRUCTION EQUIPMENT AND COMPACTION OF SOIL WITHIN THE DRIP LINE BY MEANS OF 3'-0" HIGH SENSITIVE AREA PROTECTION (SAP) FENCE, AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS.
- ENDS OF THE PROPOSED ROADWAY SHALL BE TRANSITIONED AS NECESSARY TO MEET THE EXISTING GRADES OF THE EXISTING PAVEMENT. CROSS SLOPES OF ALL NEW ROADWAY SHALL NOT EXCEED A SLOPE OF 1:50.
- CROSS SLOPE OF ALL NEW WALKWAYS SHALL NOT EXCEED A SLOPE OF 1:50. LONGITUDINAL SLOPES OF ALL NEW WALKWAYS SHALL NOT EXCEED 1:20.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT THE CABINS AND THE NEW WALKWAYS IN THE FIELD FOR APPROVAL OF THE OWNER PRIOR TO STARTING CONSTRUCTION. THE OWNER RESERVES THE RIGHT TO ADJUST THE LOCATION OF THE CABINS AND/OR THE WALKWAYS TO AVOID CONFLICT WITH EXISTING SITE FEATURES INCLUDING, BUT NOT LIMITED TO, TREES AND OBJECTIONABLE SLOPES.
- THE CONTRACTOR MAY STORE OR STOCKPILE EQUIPMENT AND/OR MATERIALS WITHIN THE PROJECT SITE LIMIT OF DISTURBANCE (LOD) SHOWN ON PLAN. ADDITIONAL MATERIAL AND EQUIPMENT STORAGE WILL BE ALLOWED IN THE ADJACENT PAVED PARKING LOT OF CAMPGROUND ROAD F. ALL MATERIAL STORED SHALL BE PROTECTED BY ORANGE SAFETY CONES WITH REFLECTOR BANDS. SOIL STOCKPILES ON PAVEMENT SHALL BE PLACED ON GEOTEXTILE FABRIC EXTENDING A MINIMUM OF ONE FOOT PAST THE EDGE OF THE SOIL, AND SHALL INCLUDE SILT FENCE IN ACCORDANCE WITH THE LATEST EDITION OF THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK.
- EXCESS EXCAVATED MATERIAL SHALL BE STOCKPILED WITHIN CAPE HENLOPEN STATE PARK AT A LOCATION TO BE DETERMINED BY THE ENGINEER. ANY ADDITIONAL LOCATIONS FOR STOCKPILE/STORAGE AREAS SHALL BE COORDINATED WITH THE ENGINEER AND APPROVED BY THE DNREC SEDIMENT AND STORMWATER MANAGEMENT PROGRAM PRIOR TO THE START OF WORK. ALL STOCKPILE AREAS SHALL BE STABILIZED DURING CONSTRUCTION, AND REDRESSED AFTER CONSTRUCTION IN ACCORDANCE WITH EROSION AND SEDIMENT CONTROL REQUIREMENTS. COST SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THE PROJECT.
- THE CONTRACTOR IS ADVISED THAT CONTRACTOR EMPLOYEE PARKING SHALL BE LIMITED TO THE EXISTING PAVED PARK PARKING AREAS OF CAMPGROUND ROAD F, IMMEDIATELY ADJACENT TO THE CONSTRUCTION SITE, UNLESS APPROVED BY THE ENGINEER.

GENERAL NOTES

- THE TERM "ENGINEER," "STATE," AND/OR "ARCHITECT" NOTED THROUGHOUT THE CONTRACT PLANS AND SPECIFICATIONS SHALL REFER TO DNREC / STATE PARKS, OR THEIR APPOINTED REPRESENTATIVE. THE TERM "SITE" AND "PARK" MAY BE USED INTERCHANGEABLY THROUGHOUT THESE DOCUMENTS AS A MEANS OF IDENTIFYING BRANDYWINE STATE PARK.
- THE CONTRACTOR SHALL PROTECT ALL FEATURES NOT DESIGNATED TO BE REMOVED. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY DNREC, AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION SHOWN HEREON AS SHOWN ON THESE PLANS AND SPECIFICATIONS, TO A CONDITION COMPARABLE TO THAT EXISTING PRIOR TO CONSTRUCTION, AND TO THE SATISFACTION OF DNREC.
- THE CONTRACTOR SHALL PROVIDE NECESSARY FACILITIES, INCLUDING BUT NOT LIMITED TO RESTROOMS, AND CONSTRUCTION TRAILER DURING CONSTRUCTION. PARK FACILITIES SHALL NOT BE USED.
- THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING ALL DIMENSIONS.
- BEFORE EXCAVATION IS STARTED, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES. ALL EXISTING UTILITIES SHALL BE PROTECTED AND TEMPORARILY SUPPORTED OR RELOCATED AS NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE PERTINENT OWNER/UTILITY COMPANY REQUIREMENTS. ANY UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE PROMPTLY AND FULLY RESTORED TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL DESIGNATE A PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLANS, A PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING THE TRAFFIC CONTROL, AND A PERSON WHO SHALL BE RESPONSIBLE FOR WORKER SAFETY. THE PERSON RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLANS SHALL BE CERTIFIED BY DNREC FOR EROSION AND SEDIMENT CONTROL RESPONSIBILITY (CERTIFIED CONSTRUCTION REVIEWER).
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE AREA WITHIN THE LIMITS OF CONSTRUCTION TO PROHIBIT PUBLIC ACCESS UNTIL COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL DELINEATE THE LIMITS OF CONSTRUCTION IN THE FIELD, PRIOR TO THE START OF WORK, BY MEANS OF SURVEY RIBBON OR OTHER MEANS APPROVED BY THE OWNER. THE CONTRACTOR'S PROCEDURE/METHOD FOR LIMITING ACCESS SHALL BE REVIEWED BY, AND COORDINATED WITH DNREC PRIOR TO THE START OF WORK. THE COST TO INSTALL, RELOCATE, AND MAINTAIN SITE SECURITY SHALL BE INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING OFF-SITE SPOIL AREAS FOR LEGAL DISPOSAL OF EXCESS AND/OR UNSUITABLE MATERIALS AS NECESSARY IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. ALL COST FOR RECYCLING, TRANSPORTING TO, PROCURING AND UTILIZING THE OFF-SITE SPOIL AREAS ARE TO BE INCIDENTAL TO THE CONTRACT.
- IN CASE OF CONFLICT BETWEEN THE "MANUFACTURER'S RECOMMENDATIONS" FOR AN APPROVED MATERIAL AND THE GOVERNING "CONTRACT SPECIFICATIONS" FOR THE MATERIAL, THE MORE RESTRICTIVE OF THE TWO SHALL PREVAIL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONSTRUCTION PLANS PRESENT A CONCEPT OF THE RELATIONSHIP BETWEEN TRAFFIC CONTROL, EROSION CONTROL, ETC. ANY REVISION TO THE DETAILS OR SEQUENCE SHOWN ON THE CONSTRUCTION PLANS SHALL BE PREPARED BY THE CONTRACTOR ON STANDARD DNREC PLAN SHEETS AND SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER. THE PLANS SHALL BE PREPARED IN ACCORDANCE WITH CURRENT DNREC STANDARDS FOR TRAFFIC CONTROL, EROSION AND SEDIMENT CONTROL (PREPARED BY A CERTIFIED CONSTRUCTION REVIEWER), STORM WATER MANAGEMENT, ETC. AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE. ALL REQUIRED CALCULATIONS, REPORTS, ETC. SHALL ALSO ACCOMPANY THE SUBMISSION. THE NUMBER OF COPIES REQUIRED TO BE SUBMITTED FOR REVIEW SHALL BE DETERMINED BY DNREC, DEPENDING ON THE NATURE OF THE PROPOSED REVISION. THE CONTRACTOR SHALL NOTE THAT THE REVISIONS TO THE CONSTRUCTION PLANS, AS WELL AS REVIEW TIME BY DNREC, WILL NOT JUSTIFY A DELAY IN THE CONSTRUCTION SCHEDULE. REVISIONS INVOLVING UTILITIES WILL REQUIRE THE COMPLETION OF A UTILITY STATEMENT APPROVED BY THE RESPECTIVE UTILITIES AS PART OF THE PLAN DOCUMENTS. ALL COSTS INVOLVED IN PREPARING THE PLAN REVISIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY ELEMENTS OF CONSTRUCTION SAFETY. ALL CONSTRUCTION, INCLUDING EXCAVATION, MUST BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, CFR §1926.652(b)(2), AND ALL FEDERAL, STATE AND LOCAL REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SITE SAFETY.
- NO DEBRIS SHALL BE BURIED OR BURNED ON THE SITE UNLESS SPECIFICALLY NOTED WITHIN THESE PLANS OR SPECIFICATIONS.
- THE CONTRACTOR SHALL CONTACT MISS UTILITY TWO (2) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION AT 1-800-282-8555.

DESCRIPTION	UTILITIES	
	EXISTING	PROPOSED
WATERLINE (CHSP/PRIVATE)	— W — W —	N/A
WATER VALVE	WV ○	N/A
HOSE BIB	HB ○	YH ●
SANITARY SEWER (CHSP/PRIVATE)	— S — S — S —	N/A
OVERHEAD ELECTRIC (CITY OF LEWES)	— OH — OH —	N/A
UNDERGROUND ELECTRIC (BY OTHERS)	— E — E —	— E — E —
ELECTRIC TRANSFORMER	□	BY OTHERS *
ELECTRIC METER	□	BY OTHERS *
UTILITY POLE	⊗	N/A

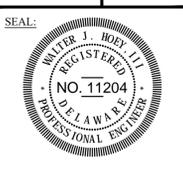
* ELECTRICAL WORK TO BE PERFORMED BY OTHERS, REFER TO ELECTRICAL PLAN. SITE CONTRACTOR SHALL COORDINATE WITH PARKS ELECTRICAL CONTRACTOR.

DESCRIPTION	SITE	
	EXISTING	PROPOSED
WOODEN POST	⊕	N/A
WOODEN FENCE	— X — X —	N/A
SIGN	⊕	⊕
GRAVEL PATH	▨	▨
TRAVERSE POINT IDENTIFIER	6 △ 185.34 TP	N/A
TREELINE	▭	N/A
CONTOUR	--- 151 ---	① 151
TO BE REMOVED	N/A	▭
CONSTRUCTION SAFETY FENCE	N/A	— CSF — CSF —
LIMITS OF DISTURBANCE	N/A	— LOD — LOD —
LIMITS OF CONSTRUCTION	N/A	— LOC — LOC —
BUILDINGS	▭	▭

REFER TO THE EROSION AND SEDIMENT CONTROL PLANS FOR ADDITIONAL LEGEND INFORMATION.

REVISIONS:	DATE:	DESCRIPTION:

CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS
 PROJECT NOTES & LEGEND



CIVIL ENGINEER:
CENTURY ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.13



DESIGNED BY:
WJH

DRAWN BY:
MJP

CHECKED BY:
SLR

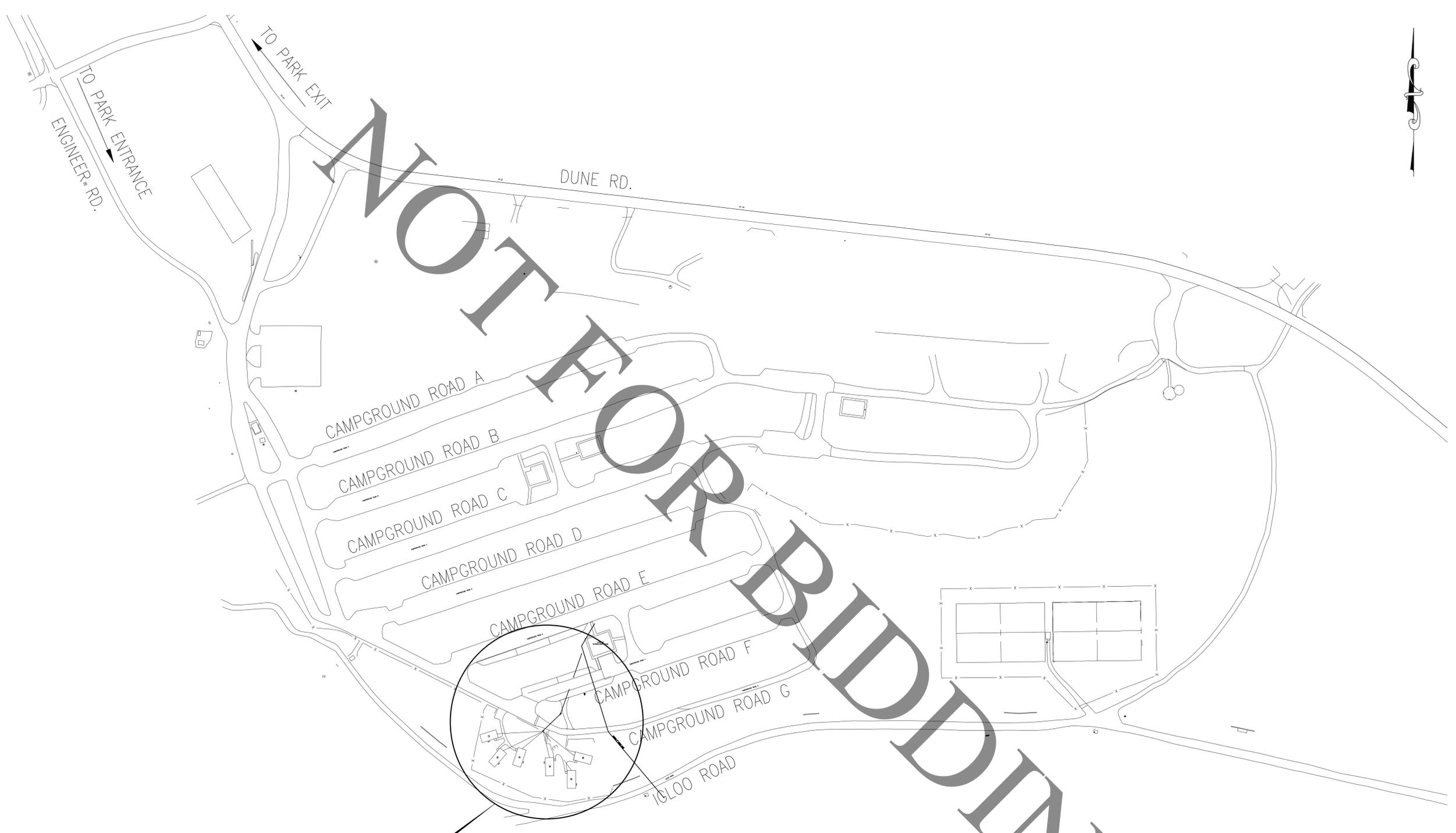
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SEPT. 25, 2015

SCALE:
NONE

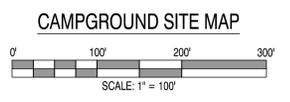
SHEET NO.:
C1.1

CONTRACT NO.:
2015-CH-300

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PROJECT SITE



CAMPGROUND SITE MAP



REVISIONS:	DATE:	DESCRIPTION:	BY:

**CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS
SITE MAP**



CIVIL ENGINEER:
CENTURY ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901
 CEI CONTRACT NO.: 125002.13



DESIGNED BY: **WJH**

DRAWN BY: **MJP**

CHECKED BY: **SLR**

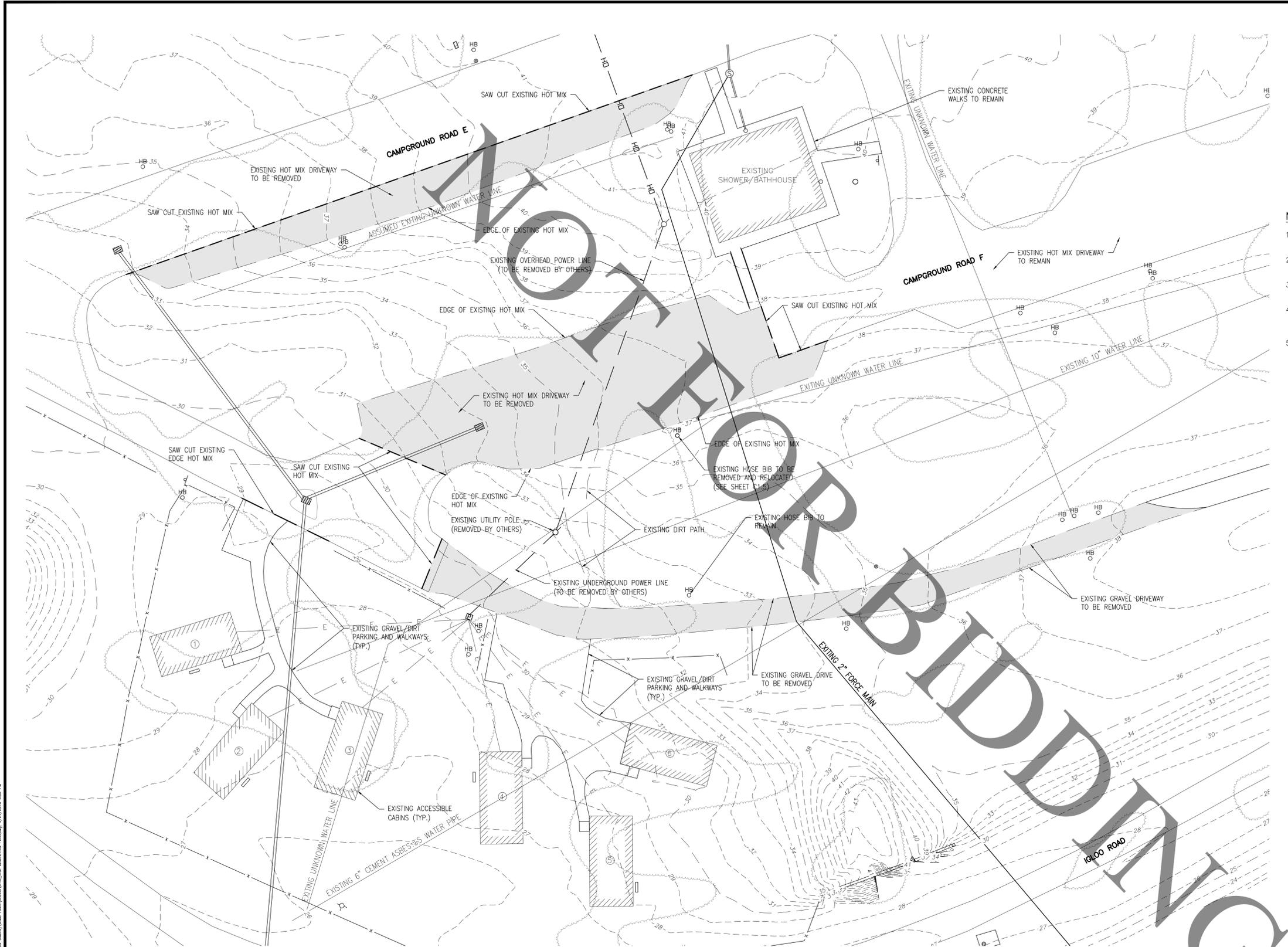
DATE: **SEPT. 25, 2015**

SCALE: **1" = 100'**

SHEET NO.: **C1.2**

CONTRACT NO.: **2015-CH-300**

C:\PROJECTS\125002.02 (DWG) Civil Engineering Services - 2015\125002.13 (Cap. Proposed Cabins)\1. SITE REVISION PLAN.dwg, 9/24/2015 3:32 PM



CAPE HENLOPEN PARTIAL SITE PLAN
 0' 20' 40' 60'
 1" = 20'

NOTES:

1. ALL SAW-CUTTING OF EXISTING HOT-MIX SHALL BE FULL DEPTH TO PRODUCE A NEAT, VERTICAL EDGE.
2. CONTRACTOR TO BACKFILL AREAS OF REMOVED HOT-MIX AND GRAVEL DRIVE WITH STOCKPILED EXCAVATED MATERIAL TO MATCH EXISTING GRADE OR PROPOSED CONTOURS.
3. HOT-MIX ASPHALT REMOVED UNDER THIS CONTRACT SHALL BE LEGALLY DISPOSED OF OFF SITE.
4. GRAVEL DRIVEWAY REMOVED UNDER THIS CONTRACT SHALL BE STOCKPILED WITHIN CAPE HENLOPEN STATE PARK AT A LOCATION TO BE DETERMINED BY THE OWNER. ALL STOCKPILES SHALL BE PROTECTED WITH COMPOST FILTER LOGS.
5. REFER TO EROSION AND SEDIMENT CONTROL PLANS FOR ADDITIONAL INFORMATION.



REVISIONS:	DATE:	DESCRIPTION:	BY:

**CAPE HENLOPEN STATE PARK
 PROPOSED CAMPGROUND CABINS
 EXISTING SITE - DEMOLITION PLAN**



CIVIL ENGINEER:
CENTURY ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.13



DESIGNED BY:
WJH

DRAWN BY:
MJP

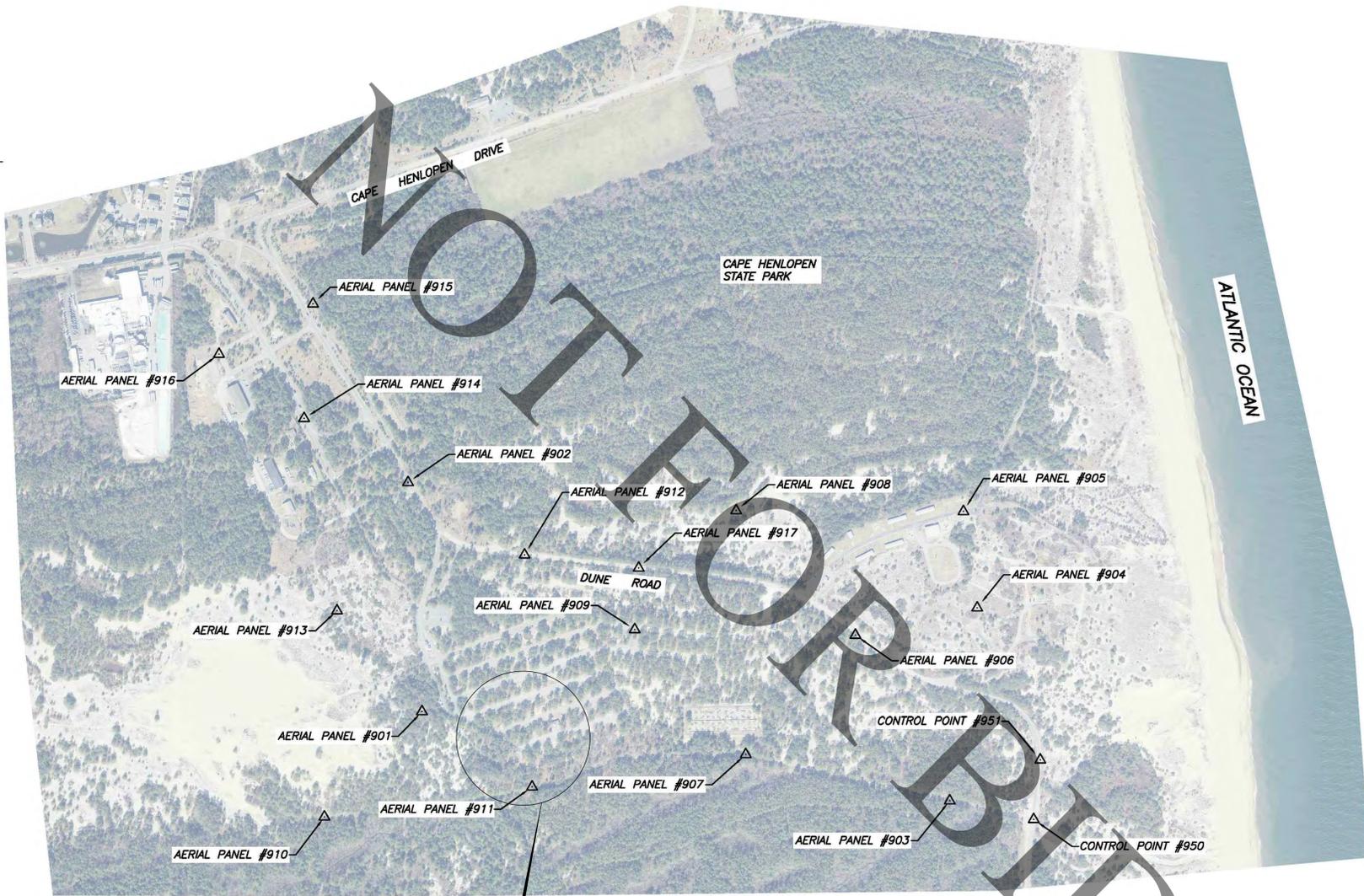
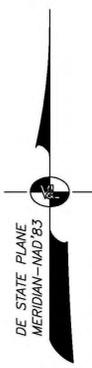
CHECKED BY:
SLR

DATE:
SEPT. 25, 2015

SCALE:
1" = 20'

SHEET NO.:
C1.3

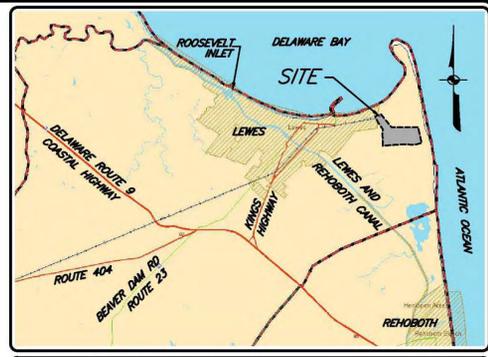
CONTRACT NO.:
2015-CH-300



PROJECT SITE

AERIAL PANEL POINT DATA				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
901	282,448.24	746,619.20	41.21	AERIAL PANEL 1
902	283,684.82	746,543.52	7.20	AERIAL PANEL 2
903	281,968.41	749,478.41	12.44	AERIAL PANEL 3
904	283,007.86	749,627.08	45.24	AERIAL PANEL 4
905	283,528.60	749,552.56	36.66	AERIAL PANEL 5
906	282,860.99	748,966.88	49.34	AERIAL PANEL 6
907	282,218.40	748,374.42	28.66	AERIAL PANEL 7
908	283,533.40	748,322.18	8.87	AERIAL PANEL 8
909	282,891.02	747,772.03	34.81	AERIAL PANEL 9
910	281,881.30	746,090.38	9.39	AERIAL PANEL 10
911	282,043.41	747,216.14	25.53	AERIAL PANEL 11
912	283,293.89	747,175.10	9.88	AERIAL PANEL 12
913	282,992.69	746,158.69	18.15	AERIAL PANEL 13
914	284,030.95	745,980.06	7.52	AERIAL PANEL 14
915	284,649.37	746,028.40	5.39	AERIAL PANEL 15
916	284,377.66	745,518.84	6.32	AERIAL PANEL 16
917	283,223.09	747,793.90	22.07	AERIAL PANEL 17
950	281,867.60	749,933.28	15.03	SET NAIL
951	282,188.95	749,969.30	21.35	SET NAIL

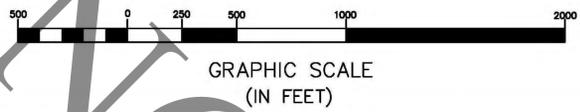
LEGEND:
 ▲ Control Point-Aerial Panel
 N: 281,867.60 Northing Coordinate
 E: 749,933.28 Easting Coordinate
 EL.: 15.03 Elevation



LOCATION PLAN SCALE: 1" = 12,000'

- NOTES:**
- The purpose of this plan is to show control point locations and coordinate information within a portion of Cape Henlopen State Park Campground as requested by Cooper Aerial Surveys Co.
 - Date of Field Survey: May 6, 2015 and May 7, 2015.
 - Datum: Horizontal - Delaware State Plane Meridian - NAD 83' derived from network RTK GPS observations.
 Vertical - North American Vertical Datum - NAVD 88' referenced to NGS Benchmarks "Smith 2005," located as shown - Elevation = 5.14 feet, and "Henio USCG 1995," located as shown - Elevation = 20.98 feet.
 - All measurements shown are in U.S. Survey feet, unless otherwise specified.
 - Aerial photograph is for visual presentation and does not make an attempt to depict with accuracy as to the location of dwellings and other notable physical features. Aerial photograph was obtained from the DEMAC Aerial Data Distribution website (<http://demac.udel.edu/sites/>).

AERIAL SURVEY CONTROL PLAN
 CAPE HENLOPEN STATE PARK
 CAMPGROUND
 PREPARED FOR
 COOPER AERIAL SURVEYS CO.
 LEWES AND REHOBOTH HUNDRED
 SUSSEX COUNTY DELAWARE
 SCALE: 1"=500' MAY 7, 2015



NO.	DATE	REVISION	BY	APPROVED

VANDEMARK & LYNCH, INC. IS NOT RESPONSIBLE FOR ANY MODIFICATION MADE TO THIS PLAN AND/OR CADD FILE WITHOUT ITS WRITTEN AUTHORIZATION.

VANDEMARK & LYNCH, INC.
 ENGINEERS - PLANNERS - SURVEYORS
 4305 MILLER ROAD
 WILMINGTON, DE 19802/(302) 764-7635
 WWW.VANDEMARKLYNCH.COM

FILE NAME
23923-EXHIB-01

PERMANENT FILE: N/A QA REVIEW: SIZE: M

SHEET: 1 OF 1

APPROVED BY: 1

SURVEYED BY: J. CHAMBERS & KELLY
 COMPUTED BY: T. LUNDIN
 PROJECT MANAGER: J. BLANCO
 DRAWN BY: T. LUNDIN

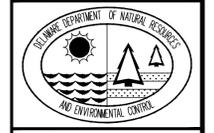
REVISIONS:	BY:
DATE:	DESCRIPTION:

**CAPE HENLOPEN STATE PARK
 PROPOSED CAMPGROUND CABINS**

AERIAL CONTROL

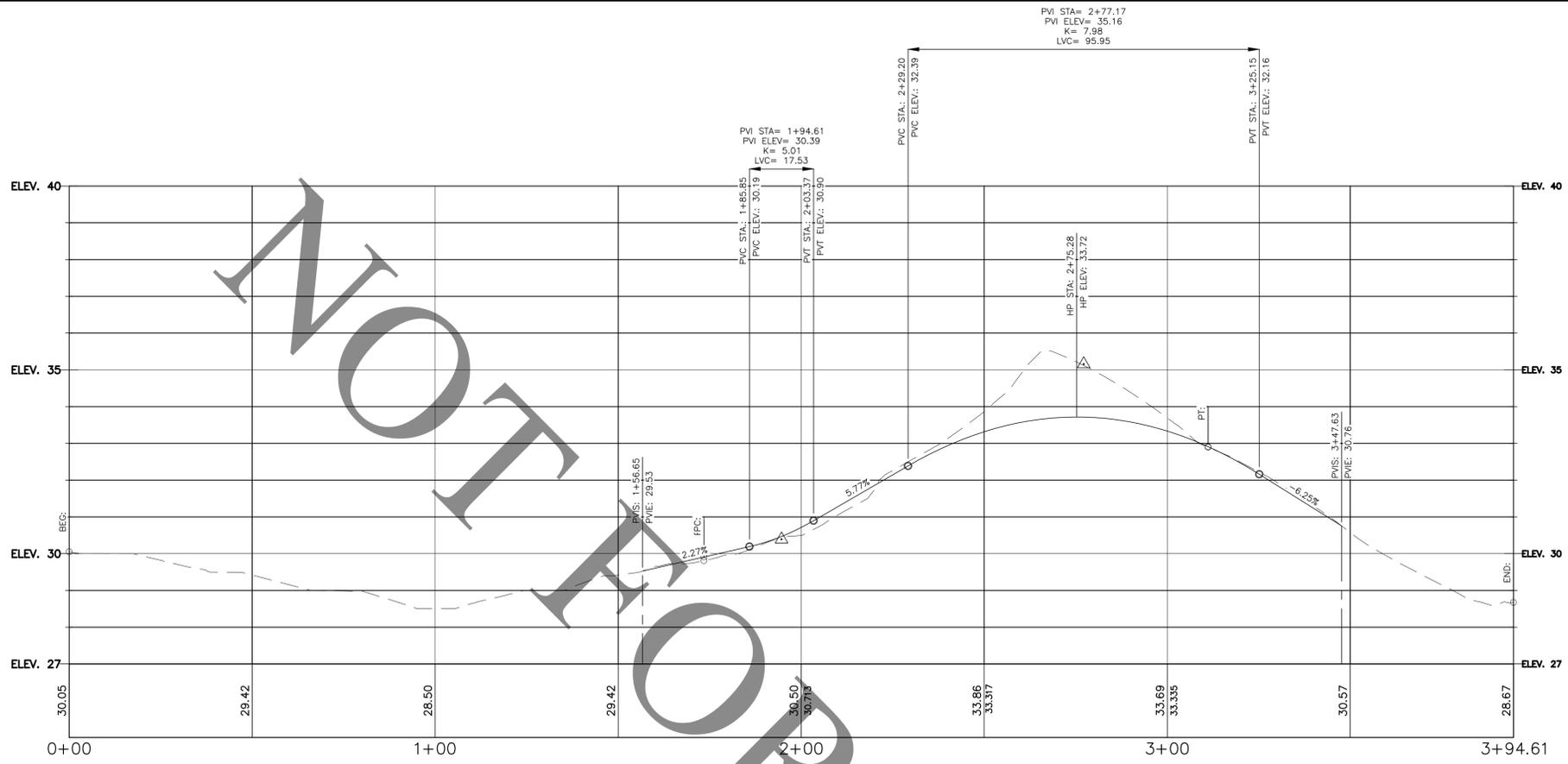


CIVIL ENGINEER:
CENTURY ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901
 CEI CONTRACT NO.: 125002.13

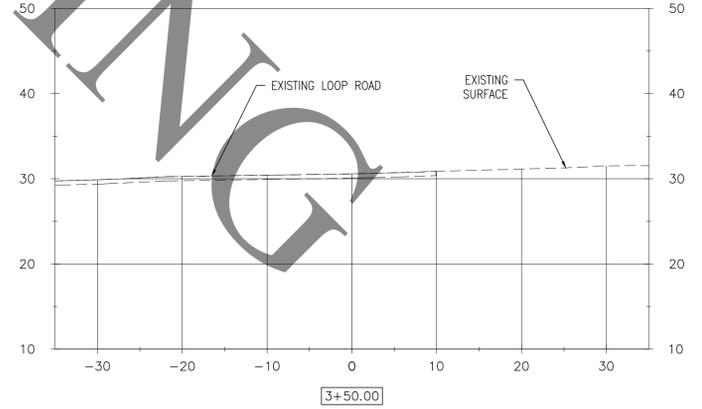
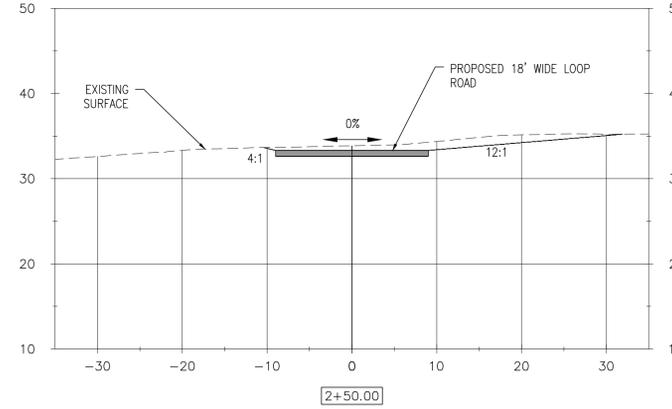
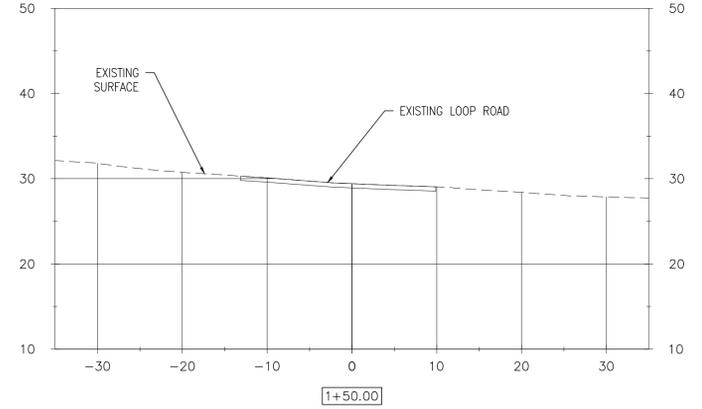
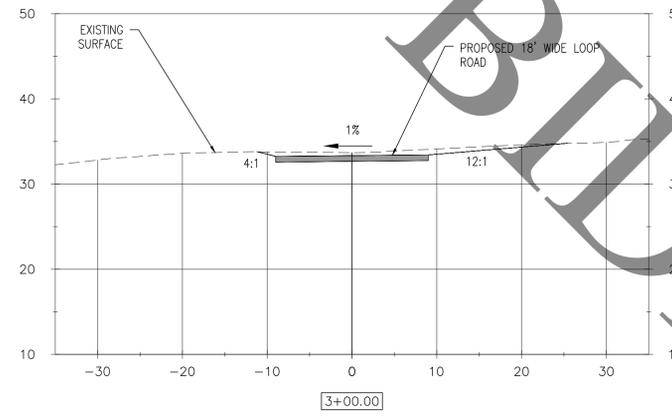
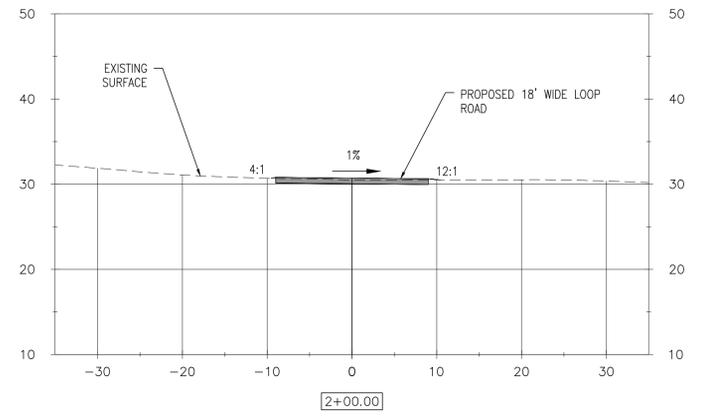


DESIGNED BY:	WJH
DRAWN BY:	MJP
CHECKED BY:	SLR
DATE:	SEPT. 25, 2015
SCALE:	AS SHOWN
SHEET NO.:	C1.5
CONTRACT NO.:	2015-CH-300

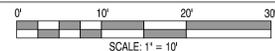
© 2015 V&L ENGINEERING SERVICES, INC. ALL RIGHTS RESERVED. PROJECT: 2015-CH-300. SHEET: C1.5. DATE: 9/24/2015, 3:13 PM.



PROPOSED LOOP ROAD PROFILE



PROPOSED LOOP ROAD CROSS SECTIONS



REVISIONS:	DATE:	DESCRIPTION:	BY:

CAPE HENLOPEN STATE PARK
 PROPOSED CAMPGROUND CABINS
 PROFILES AND CROSS SECTIONS



CIVIL ENGINEER:
CENTURY ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.13



DESIGNED BY:
WJH

DRAWN BY:
MJP

CHECKED BY:
SLR

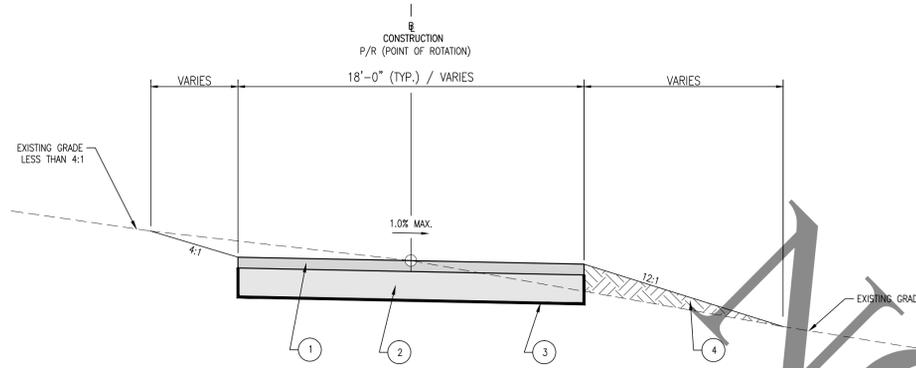
DATE:
SEPT. 25, 2015

SCALE:
AS SHOWN

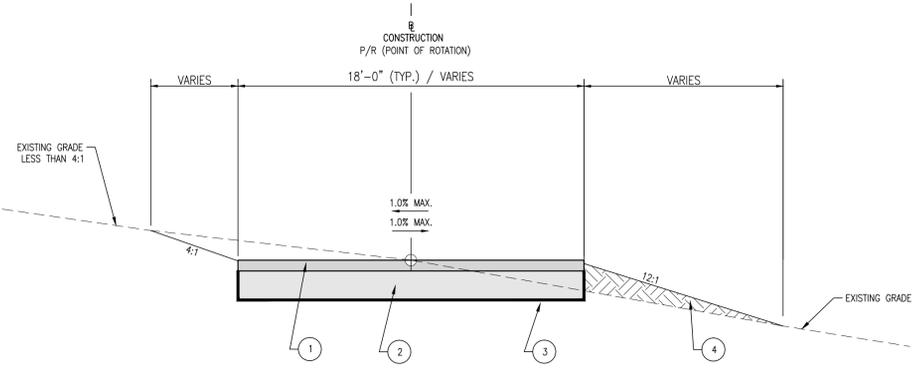
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CONTRACT NO.:
2015-CH-300

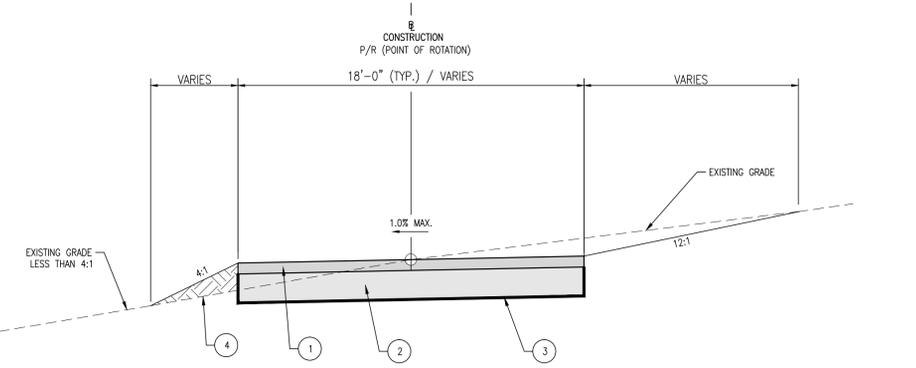
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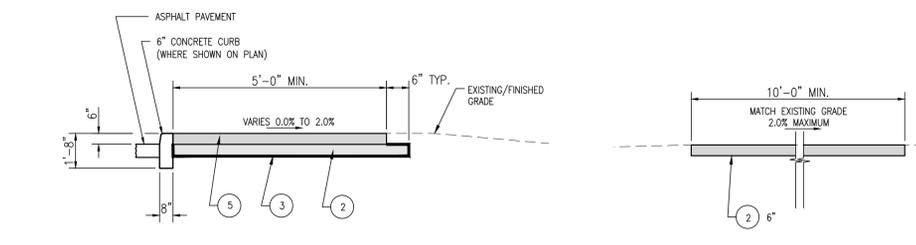
TYPICAL ROADWAY SECTION
1% SLOPE TO THE RIGHT
STATION 1+66.65 - 2+20.00



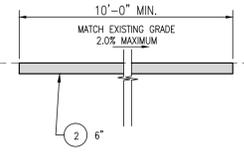
TYPICAL ROADWAY SECTION
TRANSITION
STATION 2+20.00 - 2+50.00



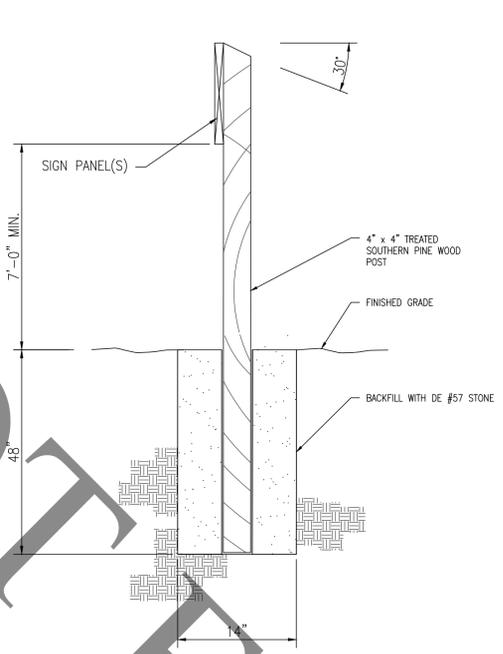
TYPICAL ROADWAY SECTION
1% SLOPE TO THE LEFT
STATION 2+50.00 - 3+30.00



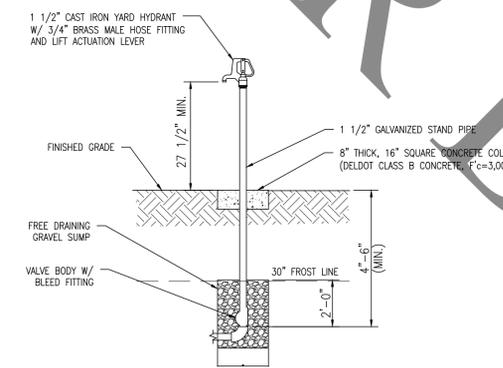
TYPICAL WALKWAY SECTION
SCALE: NONE



TYPICAL GRAVEL DRIVE SECTION
SCALE: NONE



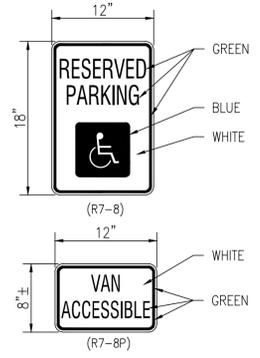
WOOD SIGN POST DETAIL
SCALE: NONE



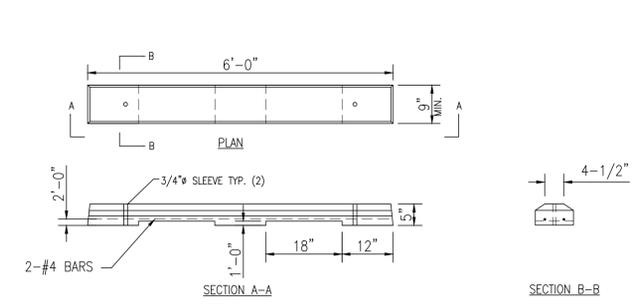
YARD HYDRANT DETAIL
SCALE: NONE

- PAVEMENT NOTES & LEGEND**
- 1 WMA, SUPERPAVE TYPE C, 160 CYRATIONS, PG 64-22 (NON-CARBONATE STONE) (3", PLACE IN TWO 1 1/2" LIFTS) (ITEM NO. 401872)
 - 2 GRADED AGGREGATE BASE COURSE, TYPE B, 8" (ITEM NO. 302005)
 - 3 GEOTEXTILES STABILIZATION (ITEM NO. 713001)
 - 4 FILL WITH EXCAVATED MATERIAL
 - 5 P.C.C. SIDEWALK, 4" (ITEM NO. 705001)
 - 6 GRADED AGGREGATE BASE COURSE, TYPE B, 4" (ITEM NO. 302005)

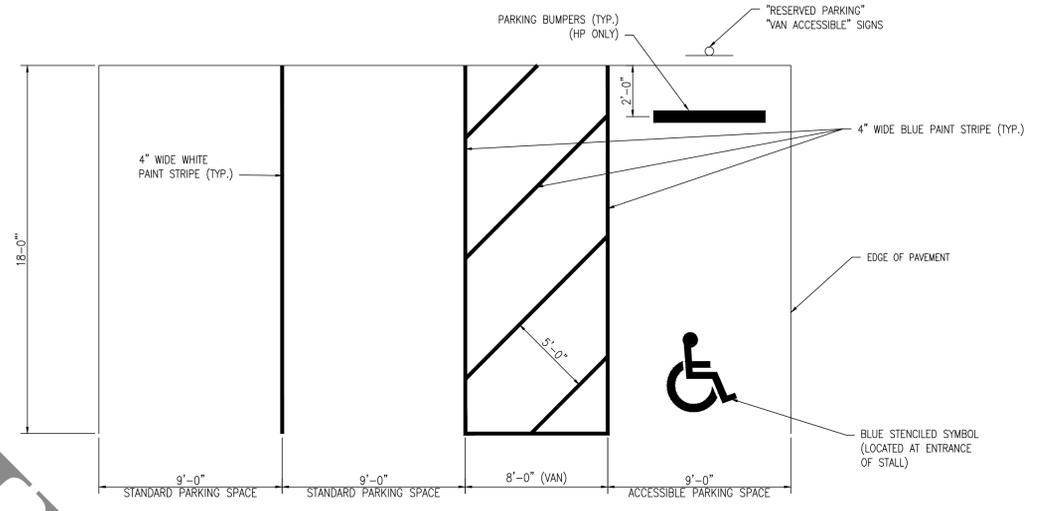
NOTES:
1. REFER TO THE DELDOT AUGUST 2001 "STANDARD SPECIFICATIONS" AND SUBSEQUENT "SUPPLEMENTAL TO AUGUST 2001 SPECIFICATIONS" FOR ALL ITEM NUMBERS HAVING A "0" AS THE FOURTH DIGIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE DELDOT STANDARD SPECIFICATIONS AND SUPPLEMENTALS EITHER ONLINE OR HARD COPY FROM DELDOT TO REFERENCE THESE ITEMS.



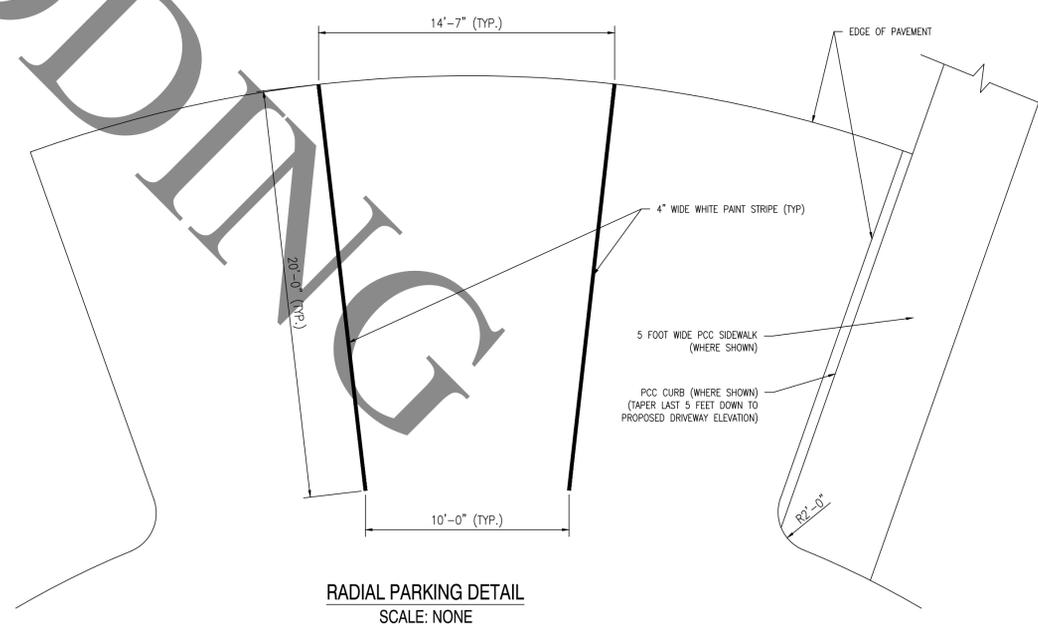
ACCESSIBLE SIGNAGE DETAIL
SCALE: NONE



PARKING BUMPER DETAIL
SCALE: NONE



STANDARD PARKING DETAIL
SCALE: NONE



RADIAL PARKING DETAIL
SCALE: NONE

REVISIONS:

DATE	DESCRIPTION	BY

CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS
TYPICAL CONSTRUCTION DETAILS



CIVIL ENGINEER:
CENTURY ENGINEERING
CONSULTING ENGINEERS, SURVEYORS
4134 N. DUPONT HWY.
DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.13



DESIGNED BY:
WJH

DRAWN BY:
MJP

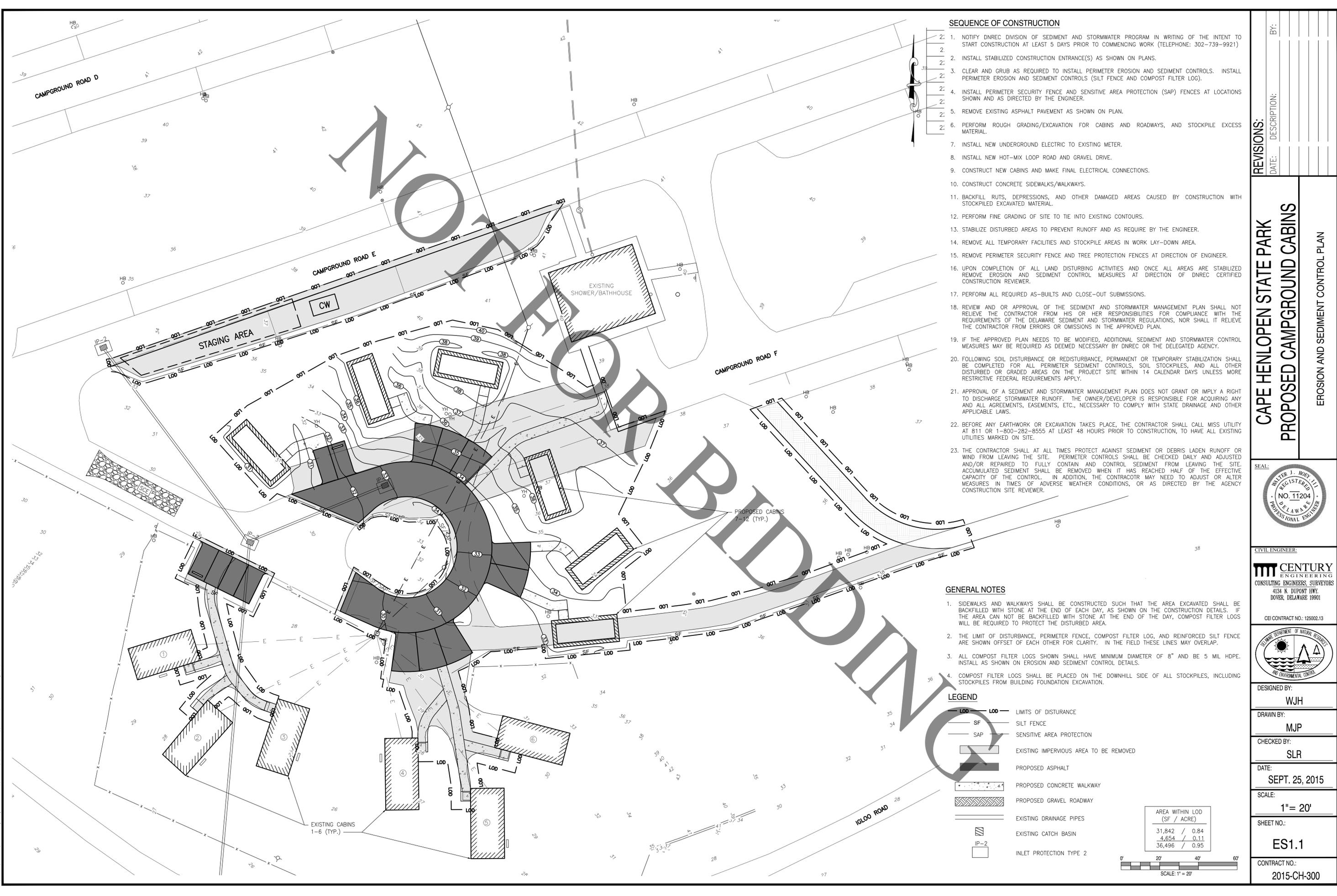
CHECKED BY:
SLR

DATE:
SEPT. 25, 2015

SCALE:
AS NOTED

SHEET NO.:
C1.7

CONTRACT NO.:
2015-CH-300



SEQUENCE OF CONSTRUCTION

1. NOTIFY DNREC DIVISION OF SEDIMENT AND STORMWATER PROGRAM IN WRITING OF THE INTENT TO START CONSTRUCTION AT LEAST 5 DAYS PRIOR TO COMMENCING WORK (TELEPHONE: 302-739-9921)
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE(S) AS SHOWN ON PLANS.
3. CLEAR AND GRUB AS REQUIRED TO INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS (SILT FENCE AND COMPOST FILTER LOG).
4. INSTALL PERIMETER SECURITY FENCE AND SENSITIVE AREA PROTECTION (SAP) FENCES AT LOCATIONS SHOWN AND AS DIRECTED BY THE ENGINEER.
5. REMOVE EXISTING ASPHALT PAVEMENT AS SHOWN ON PLAN.
6. PERFORM ROUGH GRADING/EXCAVATION FOR CABINS AND ROADWAYS, AND STOCKPILE EXCESS MATERIAL.
7. INSTALL NEW UNDERGROUND ELECTRIC TO EXISTING METER.
8. INSTALL NEW HOT-MIX LOOP ROAD AND GRAVEL DRIVE.
9. CONSTRUCT NEW CABINS AND MAKE FINAL ELECTRICAL CONNECTIONS.
10. CONSTRUCT CONCRETE SIDEWALKS/WALKWAYS.
11. BACKFILL RUTS, DEPRESSIONS, AND OTHER DAMAGED AREAS CAUSED BY CONSTRUCTION WITH STOCKPILED EXCAVATED MATERIAL.
12. PERFORM FINE GRADING OF SITE TO TIE INTO EXISTING CONTOURS.
13. STABILIZE DISTURBED AREAS TO PREVENT RUNOFF AND AS REQUIRE BY THE ENGINEER.
14. REMOVE ALL TEMPORARY FACILITIES AND STOCKPILE AREAS IN WORK LAY-DOWN AREA.
15. REMOVE PERIMETER SECURITY FENCE AND TREE PROTECTION FENCES AT DIRECTION OF ENGINEER.
16. UPON COMPLETION OF ALL LAND DISTURBING ACTIVITIES AND ONCE ALL AREAS ARE STABILIZED REMOVE EROSION AND SEDIMENT CONTROL MEASURES AT DIRECTION OF DNREC CERTIFIED CONSTRUCTION REVIEWER.
17. PERFORM ALL REQUIRED AS-BUILTS AND CLOSE-OUT SUBMISSIONS.
18. REVIEW AND OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.
19. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY DNREC OR THE DELEGATED AGENCY.
20. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED FOR ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WITHIN 14 CALENDAR DAYS UNLESS MORE RESTRICTIVE FEDERAL REQUIREMENTS APPLY.
21. APPROVAL OF A SEDIMENT AND STORMWATER MANAGEMENT PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.
22. BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1-800-282-8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ON SITE.
23. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.

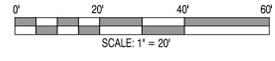
GENERAL NOTES

1. SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED SUCH THAT THE AREA EXCAVATED SHALL BE BACKFILLED WITH STONE AT THE END OF EACH DAY, AS SHOWN ON THE CONSTRUCTION DETAILS. IF THE AREA CAN NOT BE BACKFILLED WITH STONE AT THE END OF THE DAY, COMPOST FILTER LOGS WILL BE REQUIRED TO PROTECT THE DISTURBED AREA.
2. THE LIMIT OF DISTURBANCE, PERIMETER FENCE, COMPOST FILTER LOG, AND REINFORCED SILT FENCE ARE SHOWN OFFSET OF EACH OTHER FOR CLARITY. IN THE FIELD THESE LINES MAY OVERLAP.
3. ALL COMPOST FILTER LOGS SHOWN SHALL HAVE MINIMUM DIAMETER OF 8" AND BE 5 MIL HDPE. INSTALL AS SHOWN ON EROSION AND SEDIMENT CONTROL DETAILS.
4. COMPOST FILTER LOGS SHALL BE PLACED ON THE DOWNHILL SIDE OF ALL STOCKPILES, INCLUDING STOCKPILES FROM BUILDING FOUNDATION EXCAVATION.

LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- SAP — SENSITIVE AREA PROTECTION
- EXISTING IMPERVIOUS AREA TO BE REMOVED
- PROPOSED ASPHALT
- PROPOSED CONCRETE WALKWAY
- PROPOSED GRAVEL ROADWAY
- EXISTING DRAINAGE PIPES
- EXISTING CATCH BASIN
- IP-2 — INLET PROTECTION TYPE 2

AREA WITHIN LOD (SF / ACRE)	
31,842	0.84
4,654	0.11
36,496	0.95

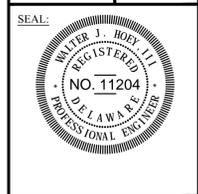


REVISIONS:

DATE:	DESCRIPTION:

**CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS**

EROSION AND SEDIMENT CONTROL PLAN



CIVIL ENGINEER:
M CENTURY
 ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.13



DESIGNED BY:
WJH

DRAWN BY:
MJP

CHECKED BY:
SLR

DATE:
SEPT. 25, 2015

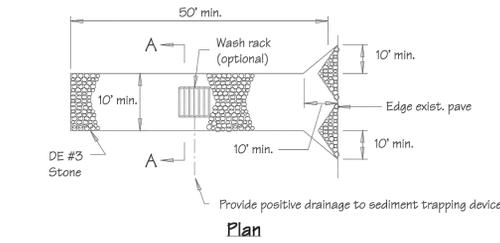
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1" = 20'

SHEET NO.:
ES1.1

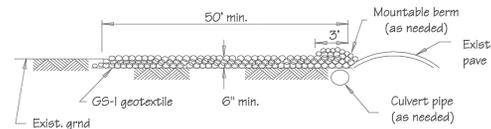
CONTRACT NO.:
2015-CH-300

C:\PROJECTS\155626.DWG (DNREC - Civil Engineering Services - 2015) \155626.DWG (Cape Henlopen Cabins) \155626.DWG (155626) - 9/24/2015 3:14 PM

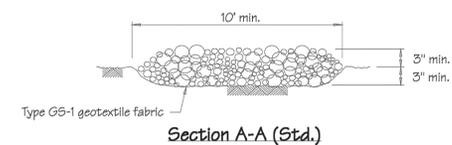
Standard Detail & Specifications
Stabilized Construct. Entrance



Plan



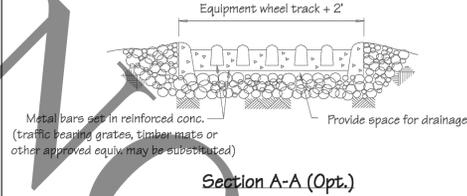
Profile



Section A-A (Std.)

Source: Adapted from VA ESC Handbook	Symbol: SCE	Detail No. DE-ESC-3.4.7 Sheet 1 of 2 Date: 12/03
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Standard Detail & Specifications
Stabilized Construct. Entrance

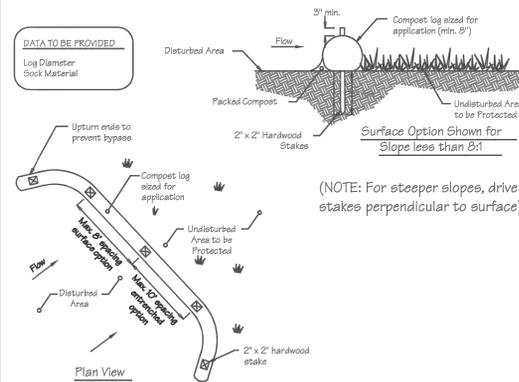


Section A-A (Opt.)

- Construction Notes:**
- Stone size - Use DE #3 stone.
 - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 - Thickness - Not less than size (6) inches.
 - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Geotextile - Type GS-1; placed over the entire area prior to placing of stone.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Vehicle wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Inspection - Periodic inspection and needed maintenance shall be provided after each rain.

Source: Adapted from VA ESC Handbook	Symbol: SCE	Detail No. DE-ESC-3.4.7 Sheet 2 of 2 Date: 12/03
--	-----------------------	--

Standard Detail & Specifications
Compost Filter Log



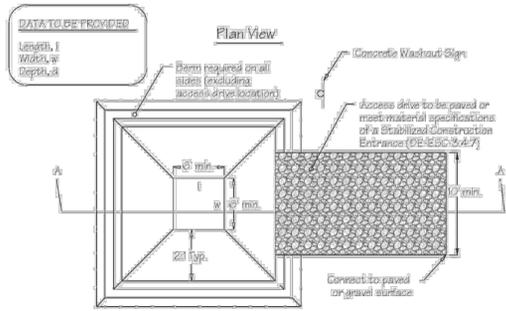
Source: Adapted from MD Sids & Specs for ESC & Filtrex International	Symbol: CFL	Detail No. DE-ESC-3.1.7 Sheet 1 of 2 Date: 03/13
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Standard Detail & Specifications
Compost Filter Log

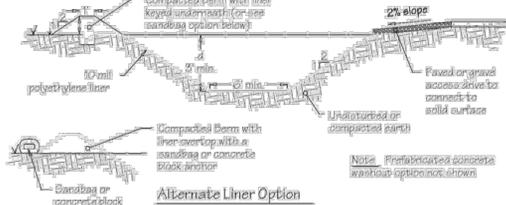
- Construction Notes:**
- Prior to installation, clear bedding area of obstructions including rocks or debris larger than 1 inch and fill in any sharp depression areas.
 - Fill the sock fabric using a pneumatic blower so that the logs are rigid and do not deform. Terminate at the desired length.
 - For trenched applications, excavate 2 to 4 inches below grade along the width and length of the compost filter log.
 - Install the compost filter logs perpendicular to the flow direction and parallel to the slope with the beginning and end of the installation pointing up the slope a minimum of 1 foot elevation difference. On sites where this is not possible, upturn at a minimum length of 10' at a 30 degree angle to prevent runoff bypass.
 - For untrenched applications, blow or hand pack soil, mulch, or compost on the upslope side of the log, filling the bottom void area.
 - Stake the filled log every 10 feet maximum through the center of the sock for trenched applications, or every 8 feet for untrenched. The stake shall be a 2" by 2" hardwood. It should extend 12" below grade and protrude at least 3" above the top of the sock. If located on a slope greater than 8:1, the stake shall be angled downslope at a 45 degree angle to prevent the force of the water from dislodging to log.
 - When the length of the compost filter log needed exceeds the available compost filter sock length, the next sock shall be overlapped a minimum of 12" before being filled, and a stake placed through both socks at the overlap.
 - Remove accumulated sediment when it has reached half of the effective height of the log.
 - Inspect weekly and after rain event. If sock is degrading or the sock is falling, vegetate to secure the compost, replace the log, or reinforce with an additional log. If the log has been crushed due to construction equipment, it can be "fluffed" back to its effective height. If the effective height can no longer be restored, the log shall be replaced or reinforced with an additional compost filter log.

Source: Adapted from MD Sids & Specs for ESC & Filtrex International	Symbol: CFL	Detail No. DE-ESC-3.1.7 Sheet 2 of 2 Date: 03/13
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Standard Detail & Specifications
Concrete Washout



Section A-A



Alternate Liner Option

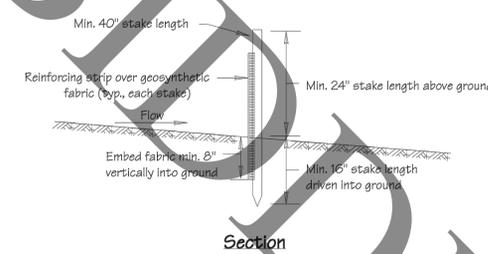
Source: Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	Symbol: CW	Detail No. DE-ESC-3.6.2 Sheet 1 of 2 Date: 03/13
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Standard Detail & Specifications
Concrete Washout

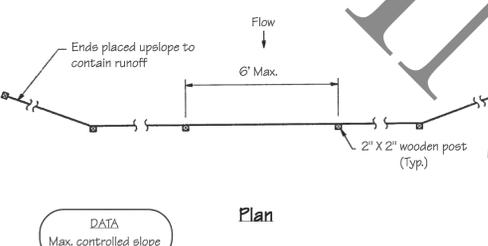
- Construction Notes:**
- Locate washout area a minimum of 50 feet from open channels, storm drain inlets, wetlands or waterbodies.
 - Locate washout area so that it is accessible to concrete equipment (service with a minimum 10 foot wide gravel accessway), but so it is not in a highly active construction area causing accidental damage.
 - Minimum dimensions for prefabricated units are 4 feet by 4 feet by 1 foot deep with a minimum 4mil polyethylene plastic liner. Minimum dimensions for constructed concrete washout areas are 6 feet by 6 feet by 3 feet deep, with a minimum 10mil polyethylene liner, 2:1 side slopes, and a 1 foot high by 1 foot wide compacted fill berm.
 - The liner must be free of tears or holes and placed over smooth surfaces to prevent puncturing. For excavated washouts, anchor the liner underneath the berm or overtop with sandbags or concrete blocks to hold in place.
 - Provide a sign designating the washout area, and for large construction sites, provide signs throughout directing traffic to its location.
 - Allow washed out concrete mixture to harden through evaporation of the wastewater. Once the facility has reached 75 percent of its capacity, remove the hardened concrete by reusing the broken aggregate onsite, recycling, or disposing of offsite. The hardened material can be buried on site with minimum of 1 foot of clean, compacted fill.
 - Apply a new liner before reusing the station for additional washouts after maintenance has occurred.

Source: Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	Symbol: CW	Detail No. DE-ESC-3.6.2 Sheet 2 of 2 Date: 03/13
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Standard Detail & Specifications
Silt Fence



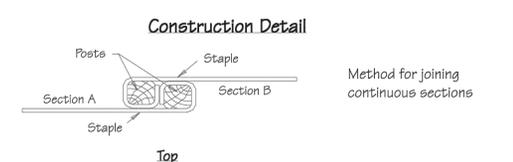
Section



Plan

Source: Adapted from MD Sids. & Specs. for ESC	Symbol: SF	Detail No. DE-ESC-3.1.2.1 Sheet 1 of 2 Date: 6/05
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Standard Detail & Specifications
Silt Fence



- Construction Notes:**
- Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
 - When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
 - Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.
- Materials:**
- Stakes: Steel (either T or U) or 2" x 2" hardwood
 - Geosynthetic Fabric: Type GD-1
 - Reinforcing strip: Wooden lath, plastic strip or other approved equivalent
 - Prefabricated Unit: Geofab, Envirofence, or approved equivalent

Source: Adapted from MD Sids. & Specs. for ESC	Symbol: SF	Detail No. DE-ESC-3.1.2.1 Sheet 2 of 2 Date: 6/05
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REVISIONS:
DATE: _____ DESCRIPTION: _____

CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS
EROSION AND SEDIMENT CONTROL DETAILS

SEAL:
WALTER J. HOEY, III
REGISTERED
NO. 11204
DELAWARE
PROFESSIONAL ENGINEER

CIVIL ENGINEER:
CENTURY
ENGINEERING
CONSULTING ENGINEERS, SURVEYORS
4134 N. DUPONT HWY.
DOVER, DELAWARE 19901
CEI CONTRACT NO.: 125002.13

DESIGNED BY:
WJH

DRAWN BY:
MJP

CHECKED BY:
SLR

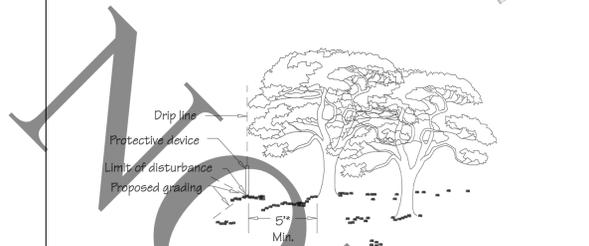
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SEPT. 25, 2015

SCALE:
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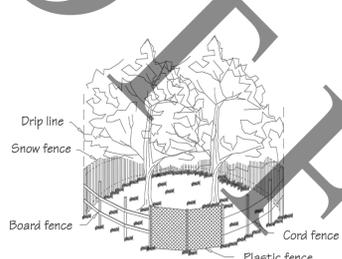
SHEET NO.:
ES1.2

CONTRACT NO.:
2015-CH-300

Standard Detail & Specifications
Sensitive Area Protection



Location of Sensitive Area Protection



Methods of Sensitive Area Protection

Source: Adapted from VA ESC Handbook	Symbol: SAP	Detail No. DE-ESC-3.7.2 Sheet 1 of 3 Date: 03/13
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Standard Detail & Specifications
Sensitive Area Protection

Construction Notes:

Fencing shall be installed at the extents of all sensitive areas. For trees, the fencing shall be installed outside the dripline (mature canopy) and at no time within 5 feet of the trunk. Personnel must be instructed to honor protective devices. The devices described are suggested only, and are not intended to exclude the use of other devices which will protect the trees to be retained. If silt fence is to be used for demarcation purposes, appropriate signage shall be provided a minimum of every 20 feet denoting the area as a sensitive area protection zone.

Materials:

- Snow Fence - Standard 40-inch high snow fence shall be placed at the limits of clearing on standard steel posts set 6 feet apart.
- Board Fence - Board fencing consisting of 4-inch square posts set securely in the ground and protruding at least 4 feet above the ground shall be placed at the limits of clearing with a minimum of two horizontal boards between posts. For tree protection, if it is not practical to erect a fence at the drip line, construct a triangular fence nearer the trunk. The limits of clearing will still be located at the drip line, since the root zone within the drip line will still require protection.
- Plastic Fencing - 40-inch high "international orange" plastic (polyethylene) web fencing secured to conventional metal "T" or "U" posts driven to a minimum depth of 18 inches on 6-foot minimum centers shall be installed at the limits of clearing. The fence should have the following minimum physical qualities:
 - Tensile yield: Average 2,000 lbs. per 4-foot width (ASTM D638)
 - Ultimate tensile yield: Average 2,900 lbs. per 4-foot width (ASTM D638)
 - Elongation at break (%): Greater than 1000% (ASTM D638)
 - Chemical resistance: Inert to most chemicals and acids

Source: Adapted from VA ESC Handbook	Symbol: SAP	Detail No. DE-ESC-3.7.2 Sheet 2 of 3 Date: 03/13
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Standard Detail & Specifications
Sensitive Area Protection

- Cord Fence - Posts with a minimum size of 2 inches square or 2 inches in diameter set securely in the ground and protruding at least 4 feet above the ground shall be placed at the limits of clearing with two rows of cord 1/4-inch or thicker at least 2 feet apart running between posts with strips of colored surveyor's flagging tied securely to the string at intervals no greater than 3 feet.
- Earth Berms - Temporary earth berms shall be constructed according to specifications for a Temporary Earth Dike with the base of the berm on the sensitive area side located along the limits of clearing. Earth berms may not be used for this purpose if their presence will conflict with drainage patterns.
- Trunk Armoring (Tree Protection Only) - As a last resort, a tree trunk can be armored with burlap wrapping and 2-inch studs wired vertically no more than 2 inches apart to a height of 5 feet encircling the trunk. If this alternative is used, the root zone within the drip line will still require protection. Nothing should ever be nailed to a tree.

Maintenance:

Fencing and armoring devices shall be in place before any excavation or grading is begun, shall be kept in good repair for the duration of construction activities, and shall be the last items removed during the final cleanup after the completion of the project.

Source: Adapted from VA ESC Handbook	Symbol: SAP	Detail No. DE-ESC-3.7.2 Sheet 3 of 3 Date: 03/13
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Standard Detail & Specifications
Dust Control

Temporary Methods:

- Mulches - See **DE-ESC-3.4.5**, Standard Detail and Specifications for Mulching.
- Vegetative cover - See **DE-ESC-3.4.3**, Std. Detail and Specifications for Vegetative Stabilization.
- Adhesives - Use on mineral soils only (not effective on muck soils). Keep traffic off these areas. The following table may be used for general guidance.

Type of Emulsion	Water Dilution	Type of Nozzle	Apply Gal./Ac.
Latex emulsion	12.5:1	Fine spray	235
Resin-in-water emulsion	4:1	Fine spray	300
Acrylic emulsion (non-traffic)	7:1	Coarse spray	450
Acrylic emulsion (traffic)	3.5:1	Coarse spray	350

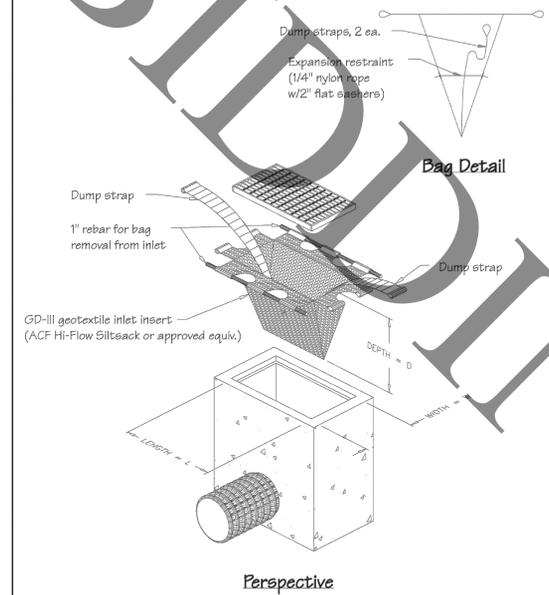
- Tillage - For emergency temporary treatment, scarify the soil surface to prevent or reduce the amount of blowing dust until a more appropriate solution can be implemented. Begin the tillage operation on the windward side of the site using a chisel-type plow for best results.
- Sprinkling - Sprinkle site with water until the surface is moist. Repeat as needed.
- Calcium Chloride - Apply as flakes or granular material with a spreader at a rate that will keep the soil surface moist. Re-apply as necessary.
- Barriers - Place barriers such as solid board fences, snow fences, hay bales, etc. at right angles to the prevailing air currents at intervals of approx. 10X their height.

Permanent Methods:

- Vegetative cover - See **DE-ESC-3.4.3**, Std. Detail and Specifications for Vegetative Stabilization.
- Stone - Apply layer of crushed stone or coarse gravel to protect soil surface.

Source: Adapted from VA ESC Handbook	Symbol:	Detail No. DE-ESC-3.4.8 Sheet 1 of 1 Date: 12/03
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Standard Detail & Specifications
Inlet Protection - Type 2



Source: Adapted from ACF Products, Inc.	Symbol: IP-2	Detail No. DE-ESC-3.1.5.2 Sheet 1 of 2 Date: 12/03
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Standard Detail & Specifications
Inlet Protection - Type 2

Notes:

- This practice shall only be used in situations in which Inlet Protection - Type 1 cannot be used due to site constraints. These include, but are not limited to partially completed parking areas, streets, roads, etc.
- It may be necessary to transition from Type 1 to Type 2 Inlet Protection as construction proceeds.
- For areas where there is a concern for oil run-off or spills, insert shall meet one of the above specifications with an oil-absorbent pillow or shall be made completely from an oil-absorbent material with a woven pillow.

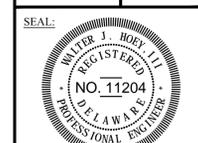
Materials:

The geotextile inlet insert shall meet or exceed the specifications of Type GD-III geotextile in accordance with Appendix A-3 of the Delaware Erosion & Sediment Control Handbook.

Source: Adapted from ACF Products, Inc.	Symbol: IP-2	Detail No. DE-ESC-3.1.5.2 Sheet 2 of 2 Date: 12/03
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REVISIONS:	DATE:	DESCRIPTION:

CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS
EROSION AND SEDIMENT CONTROL DETAILS



CIVIL ENGINEER:
CENTURY ENGINEERING
CONSULTING ENGINEERS, SURVEYORS
4134 N. DUPONT HWY.
DOVER, DELAWARE 19901
CEI CONTRACT NO.: 125002.13



DESIGNED BY:
WJH
DRAWN BY:
MJP
CHECKED BY:
SLR

DATE:
SEPT. 25, 2015

SCALE:
NOT TO SCALE

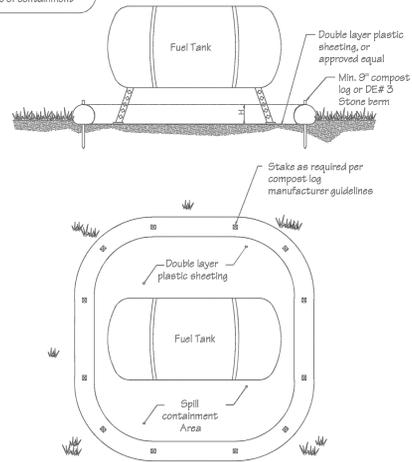
SHEET NO.:
ES1.3

CONTRACT NO.:
2015-CH-300

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

DATA TO BE PROVIDED

Volume of Potential Pollution
 Height of containment
 Area of containment
 Volume of containment



Source: Delaware ESC Handbook	Symbol:	Detail No. DE-ESC-3.6.1 Sheet 1 of 5 Date: 03/13
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Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Pollution Prevention - Spill Prevention

- Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
 - Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
 - Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
 - Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
 - Place a "Fueling Area" sign next to each fueling area.
 - Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
 - Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
 - Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
 - If fueling is to take place at night, make sure the fueling area is sufficiently illuminated.
 - Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
- CLEAN UP SPILLS**
- If it is safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
 - Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
 - Do not bury spills or wash them down with water.
- LEAKS AND DRIPS**
- Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
 - Do not allow oil, grease, fuel or chemicals to drip onto the ground.
 - Have spill kits and clean up material on-site.
 - Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
 - Store contaminated waste in sealed containers constructed of suitable material. Label these containers properly.
 - Clean up all spills and leaks. Promptly dispose of waste and spent clean up materials.

Source: Delaware ESC Handbook	Symbol:	Detail No. DE-ESC-3.6.1 Sheet 2 of 5 Date: 03/13
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Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

1. Material Inventory

Document the storage and use of the following materials:

- Concrete
- Detergents
- Paints (enamel and latex)
- Cleaning solvents
- Pesticides
- Wood scraps
- Fertilizers
- Petroleum based products

2. Good housekeeping practices

- Store only enough product required to do the job.
- All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
- Substances shall not be mixed.
- When possible, all of a product shall be used up prior to disposal of the container.
- Manufacturers' instructions for disposal shall be strictly adhered to.
- The site foreman shall designate someone to inspect all BMPs daily.

3. Waste management practices

- All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
- Waste materials shall be salvaged and/or recycled whenever possible.
- The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source: Adapted from USEPA Pub. 840-B-92-002	Symbol:	Detail No. DE-ESC-3.6.1 Sheet 3 of 5 Date: 03/13
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Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

- Trash shall be disposed of in accordance with all applicable Delaware laws.
 - Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
 - If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.
- 4. Equipment maintenance practices**
- If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
 - If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
 - Drip pans shall be used for all equipment maintenance.
 - Equipment shall be inspected for leaks on a daily basis.
 - Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
 - Fuel nozzles shall be equipped with automatic shut-off valves.
 - All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.
- 5. Spill prevention practices**
- Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
 - Warning signs shall be posted in hazardous material storage areas.
 - Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
 - Low or non-toxic substances shall be prioritized for use.

Source: Adapted from USEPA Pub. 840-B-92-002	Symbol:	Detail No. DE-ESC-3.6.1 Sheet 4 of 5 Date: 03/13
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Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

- Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.
- 6. Education**
- Best management practices for construction site pollution control shall be a part of regular progress meetings.
 - Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

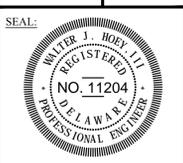
CONTACT INFORMATION

DNREC 24-Hour Toll Free Number 800-662-8802
DNREC Solid & Hazardous Waste Branch 302-739-9403

Source: Adapted from USEPA Pub. 840-B-92-002	Symbol:	Detail No. DE-ESC-3.6.1 Sheet 5 of 5 Date: 03/13
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REVISIONS:	BY:
DATE:	DESCRIPTION:

CAPE HENLOPEN STATE PARK
PROPOSED CAMPGROUND CABINS
 EROSION AND SEDIMENT CONTROL DETAILS



CENTURY ENGINEERING
 CONSULTING ENGINEERS, SURVEYORS
 4134 N. DUPONT HWY.
 DOVER, DELAWARE 19901

CEI CONTRACT NO.: 125002.13



DESIGNED BY:
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DRAWN BY:
MJP

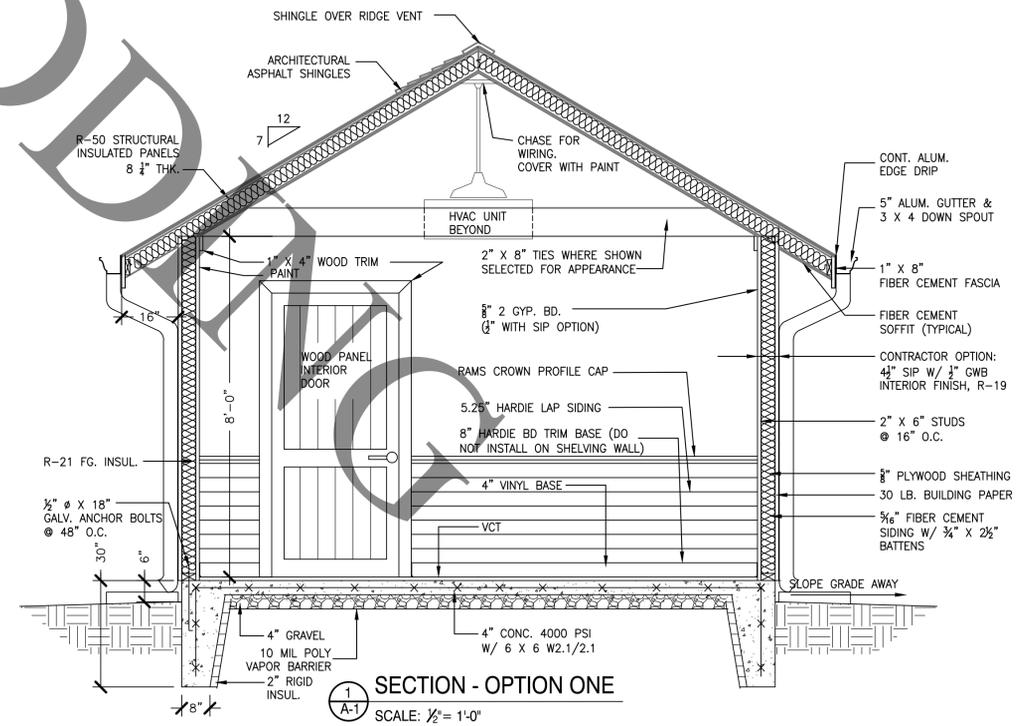
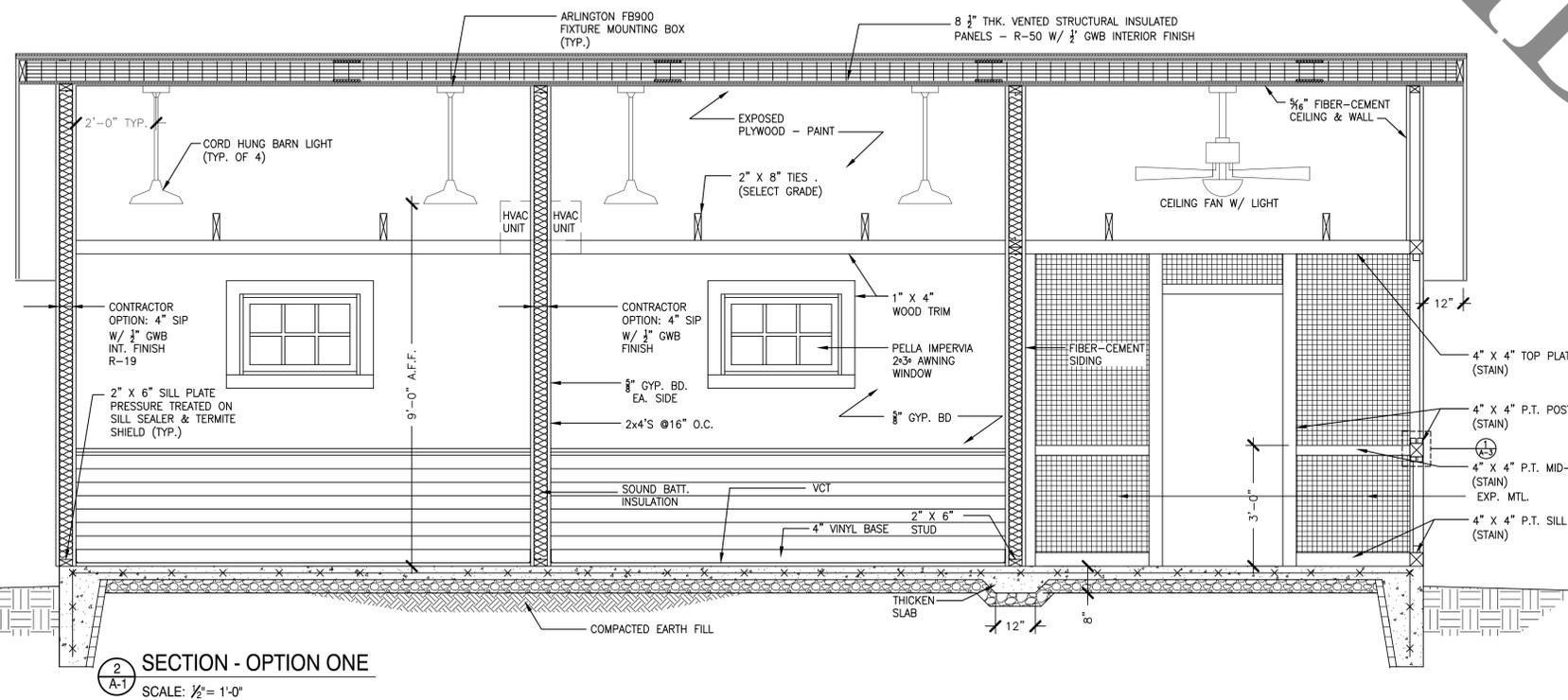
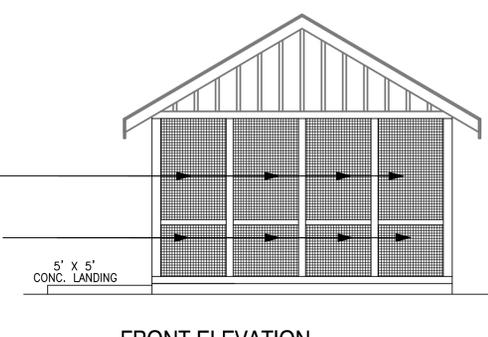
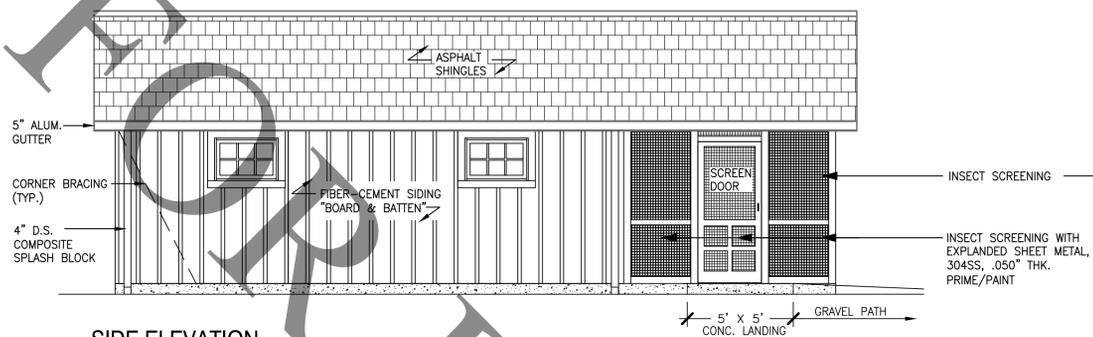
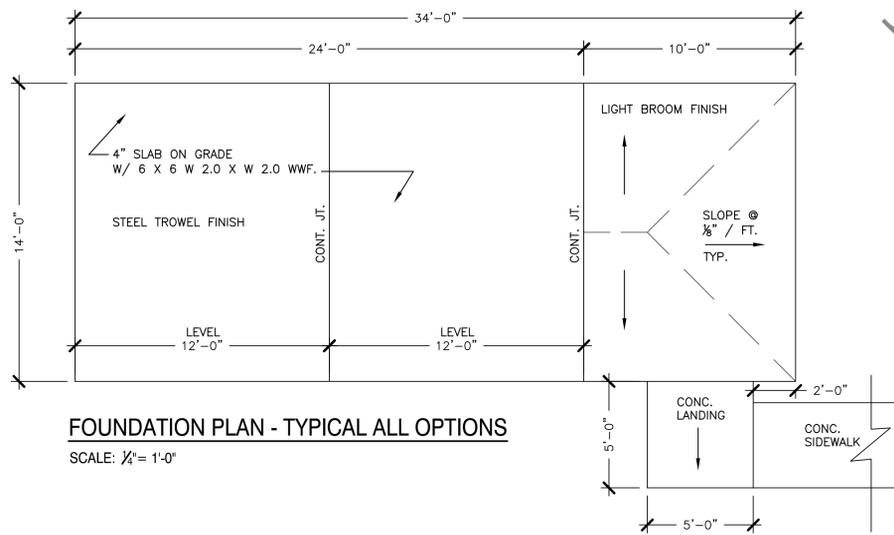
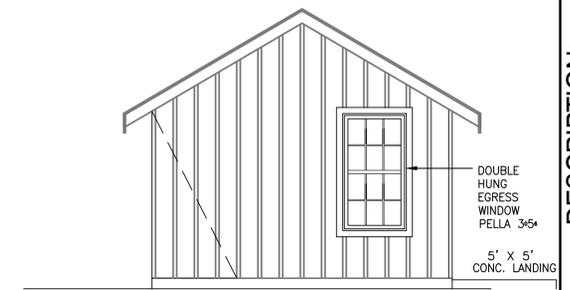
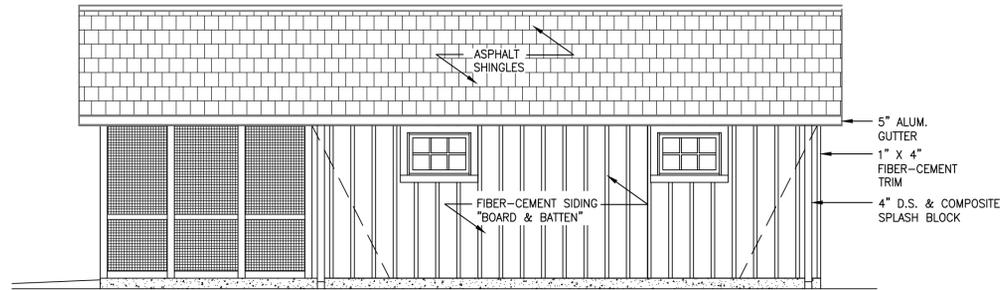
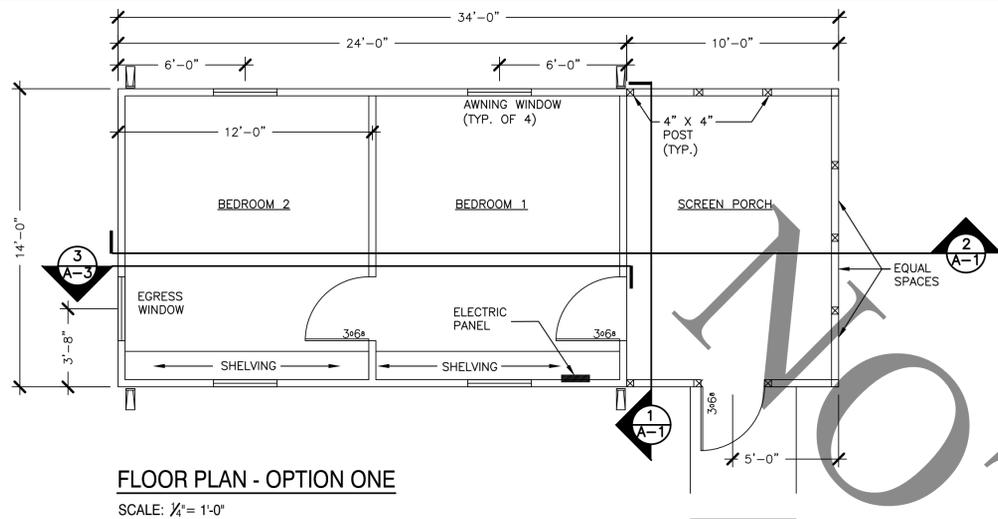
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DATE:
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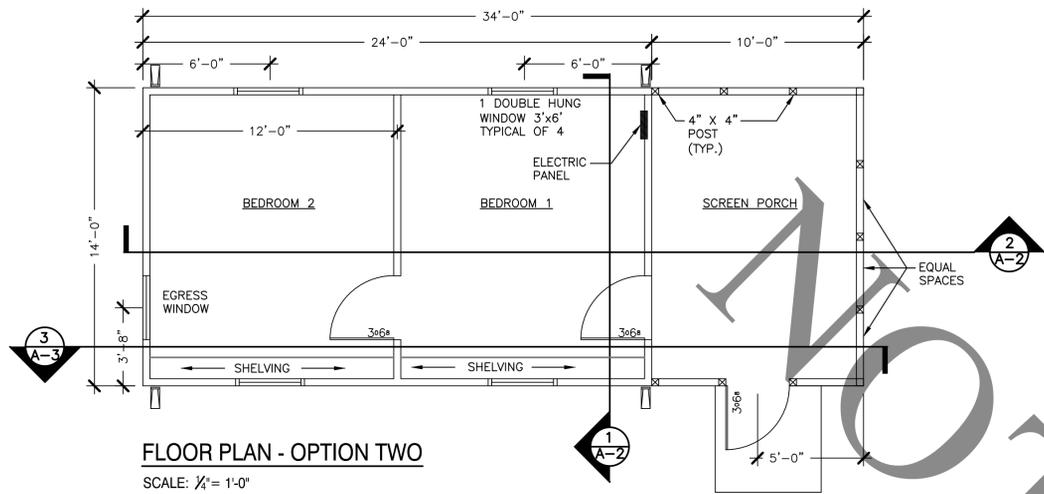
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SHEET NO.:
ES1.4

CONTRACT NO.:
2015-CH-300

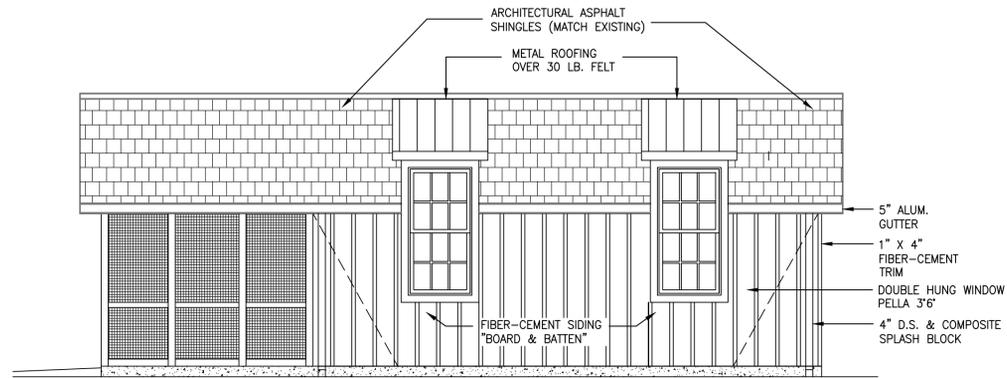


DATE:	DESCRIPTION:	BY:
	8-20-15	DEM. SUBMISSION
CAPE HENLOPEN STATE PARK CAMPING CABINS		
OPTION ONE SECTIONS, PLANS & ELEVATIONS		
DESIGNED BY:	O.D.D.	
DRAWN BY:	O.D.D.	
BUILDING NO.:	N/A	
DATE:	09/25/2015	
SCALE:	AS NOTED	
SHEET NO.:	A-1	
PARKS PROJECT #:	CH-39B	
CONTRACT #:	2015-CH-300	



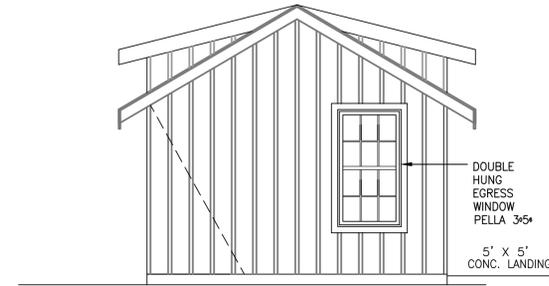
FLOOR PLAN - OPTION TWO

SCALE: 1/4" = 1'-0"



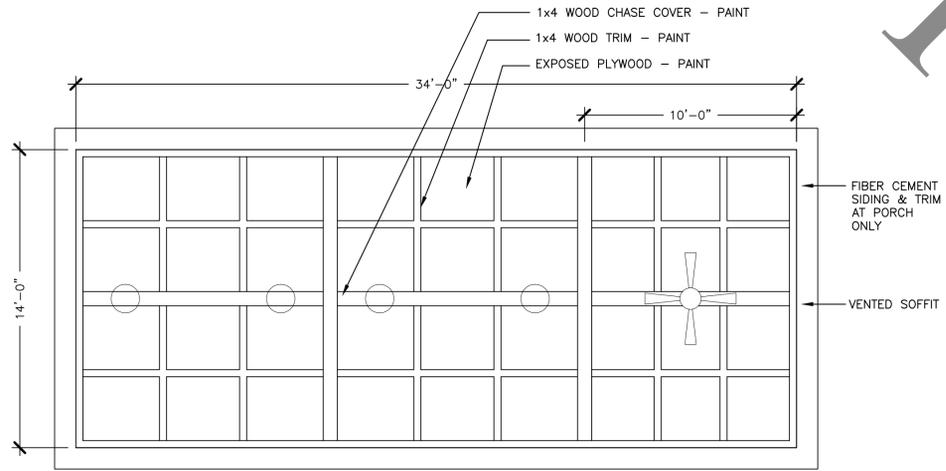
SIDE ELEVATION

SCALE: 1/4" = 1'-0"



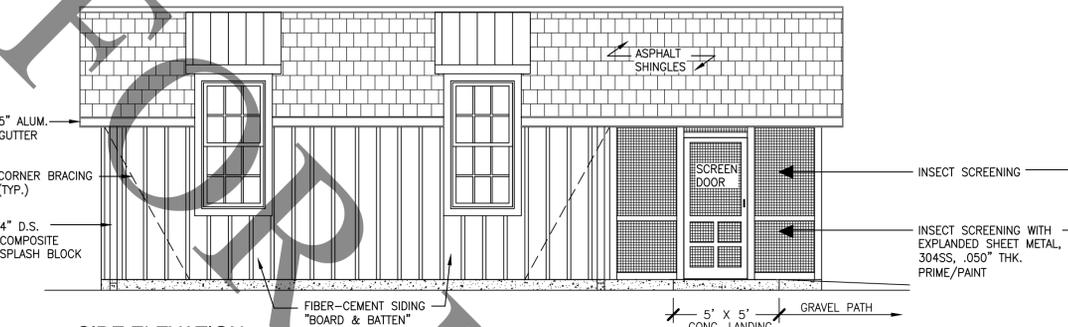
REAR ELEVATION

SCALE: 1/4" = 1'-0"



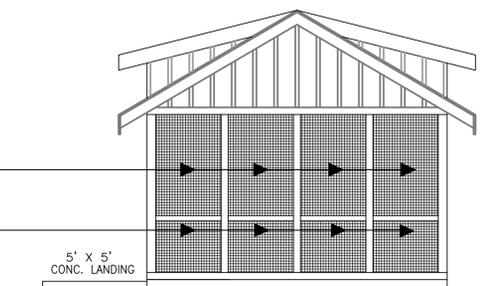
REFLECTED CEILING PLAN - OPTION ONE (OPTION TWO SIMILAR)

SCALE: 1/4" = 1'-0"



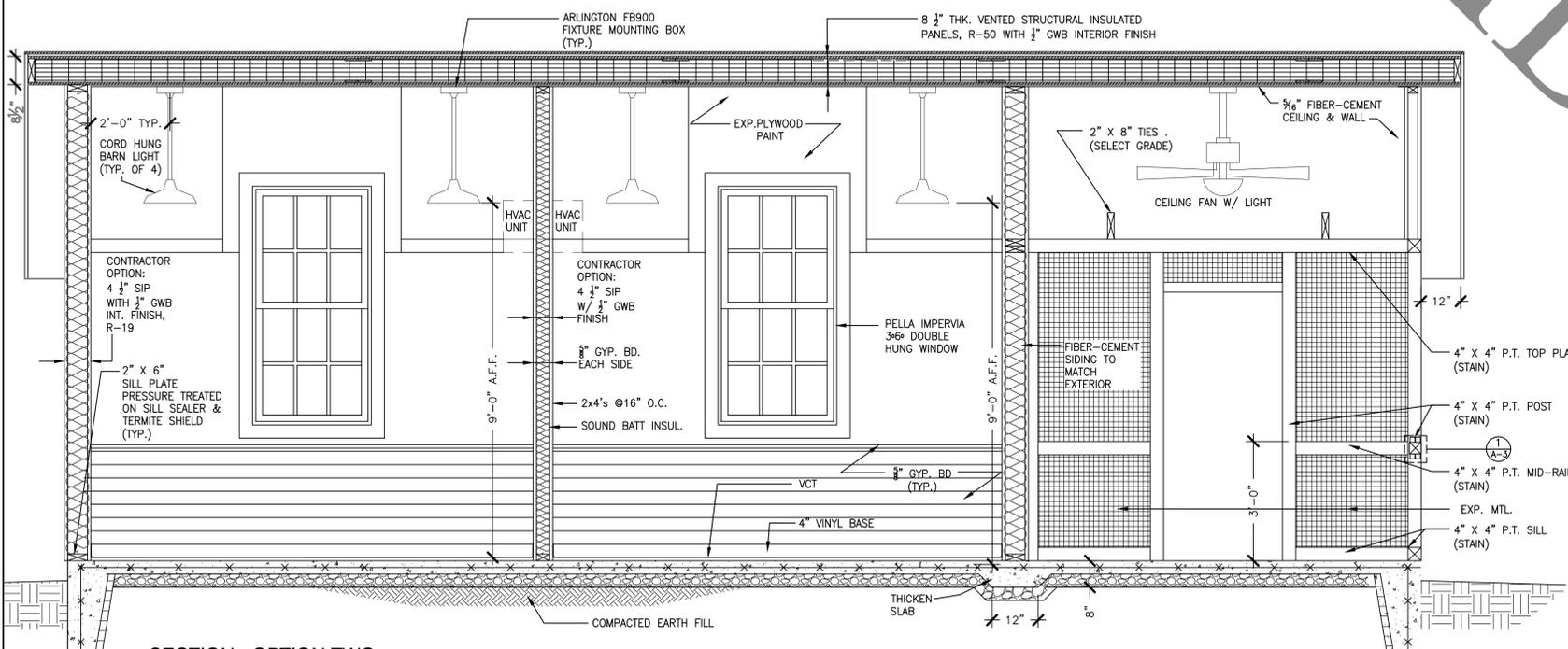
SIDE ELEVATION

SCALE: 1/4" = 1'-0"



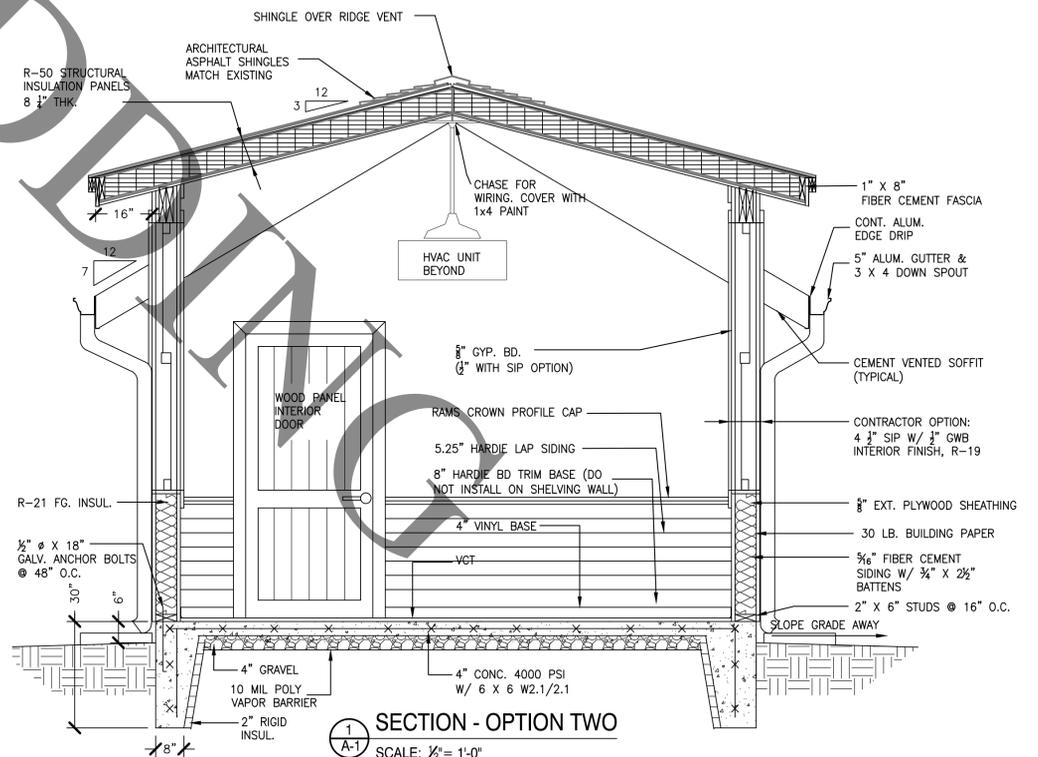
FRONT ELEVATION

SCALE: 1/4" = 1'-0"



SECTION - OPTION TWO

SCALE: 1/2" = 1'-0"



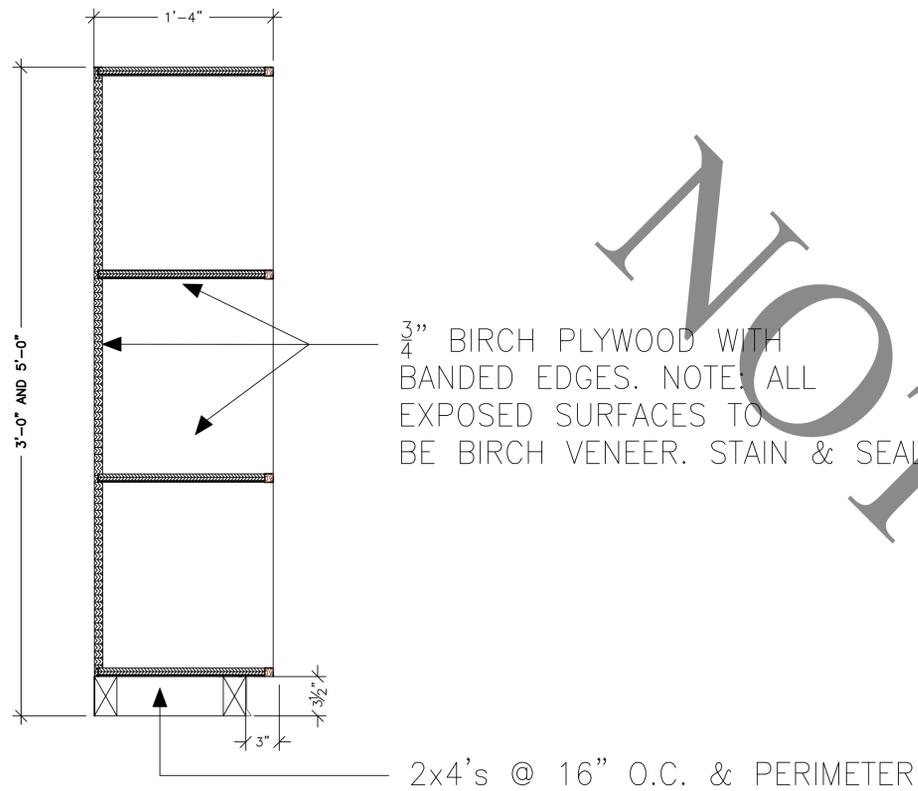
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SCALE: 1/2" = 1'-0"

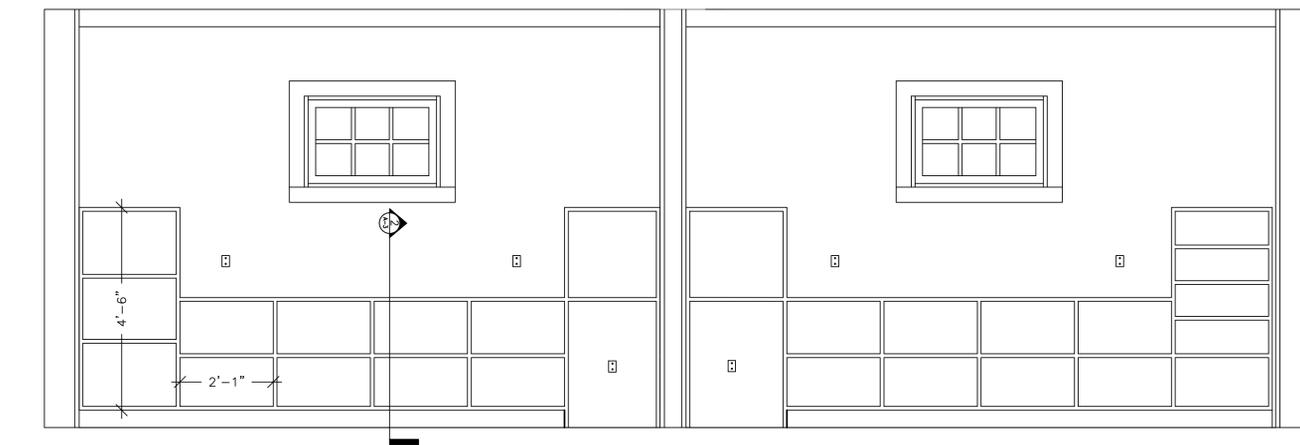
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8-20-15	DPM SUBMISSION	

CAPE HENLOPEN STATE PARK
CAMPING CABINS
OPTION TWO SECTIONS, PLANS & ELEVATIONS

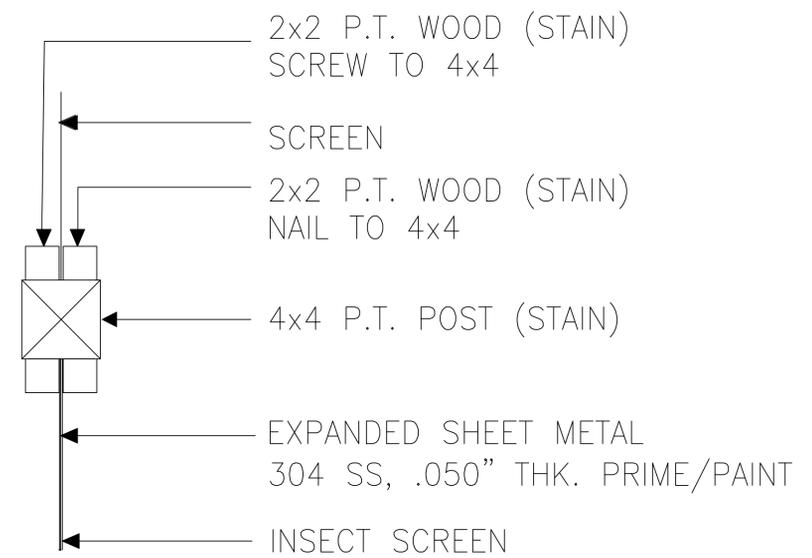
DESIGNED BY:	O.D.D.
DRAWN BY:	O.D.D.
BUILDING NO.:	N/A
DATE:	09/25/2015
SCALE:	AS NOTED
SHEET NO.:	A-2
PARKS PROJECT #:	CH-39B
CONTRACT #:	2015-CH-300



2 **SHELVING SECTION**
 A-3 SCALE: 1 1/2" = 1'-0"



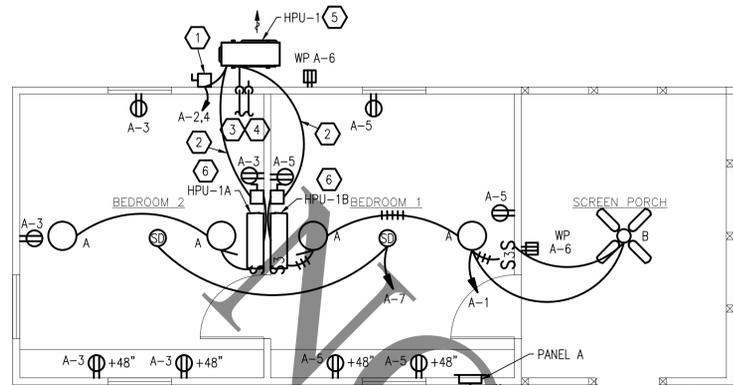
3 **SHELVING ELEVATION**
 A-3 SCALE: 1/2" = 1'-0"



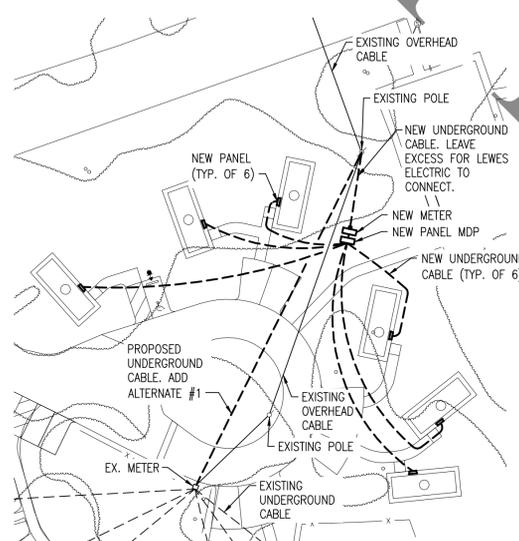
1 **PORCH POST DETAIL**
 A-3 SCALE: 3" = 1'-0"

NOT FOR BIDDING

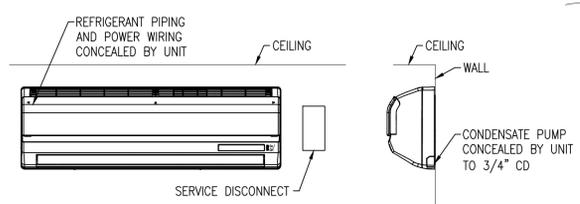
DATE:	DESCRIPTION:	BY:		
DATE: 8/20/13	DESCRIPTION: DFM SUBMISSION	BY:		
CAPE HENLOPEN STATE PARK CAMPING CABINS				
SECTION, ELEVATION & POST DETAIL				
DESIGNED BY:				
O.D.D.				
DRAWN BY:				
O.D.D.				
BUILDING NO.:				
N/A				
DATE:				
09\25\2015				
SCALE:				
AS NOTED				
SHEET NO.:				
A-3				
PARKS PROJECT #:				
CH-39B				
CONTRACT #:				
2015-CH-300				



TYPICAL CABIN FLOOR PLAN
SCALE: 1/4"=1'-0"



SITE PLAN
SCALE: 1"=40'



INSTALLATION DETAIL - HPU-1A
SCALE: 1"=1'-0"

VRF HEAT PUMP SCHEDULE

DESIGNATION	HPU-1A,1B
MANUFACTURER	MITSUBISHI
MODEL	MSZ-FE09NA
NOMINAL CAPACITY (TONS)	3/4
MOTOR F.L.A.	0.76
VOLTS/PHASE	230/1
MIN. CIRCUIT AMPS	1
ACCESSORIES	A
A= DRAIN PAN LEVEL SENSOR CUT-OFF SWITCH.	

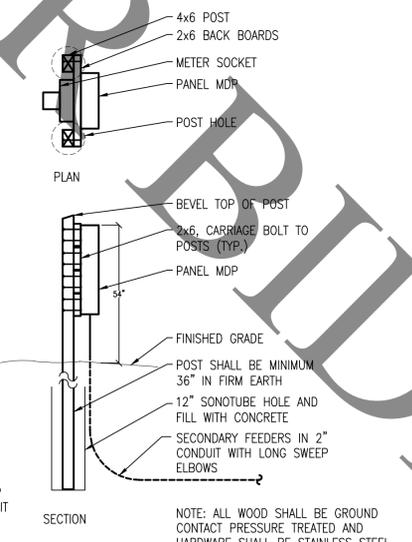
DESIGNATION	HPU-1
MANUFACTURER	MITSUBISHI
MODEL	MXZ-2B20NA-1
NOMINAL COOLING CAP. (MBH)	18.0
INPUT POWER (KW)	1.44
SEER	18.0
NOMINAL HEATING CAP. (MBH)	22.0
INPUT POWER (KW)	1.35
HSPF	8.9
VOLTS/PHASE	230/1
MIN. CIRCUIT AMPS	15
MAX. OVERCURRENT PROTECTION	20
ACCESSORIES	A
A= SEACOAST PROTECTION.	

DESIGNATION	THERMOSTAT
MANUFACTURER	MITSUBISHI
MODEL	PAC-YT33CRAU

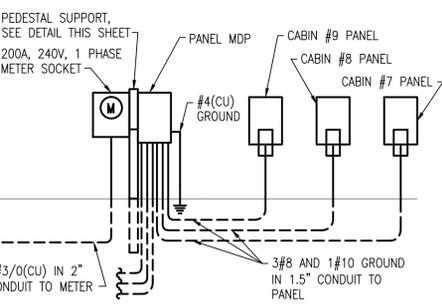
NOTE: COOLING CAPACITIES RATED AT 80°F DB/67°F WB INDOOR CONDITIONS AND 95°F DB OUTDOORS. HEATING CAPACITIES RATED AT 70°F DB INDOORS AND 47°F DB OUTDOORS.

GENERAL PROVISIONS AND SPECIFICATIONS FOR ELECTRICAL WORK

1. CODES: COMPLY WITH LATEST EDITION OF THE NATIONAL, STATE AND LOCAL CODES, INCLUDING THE 2012 INTERNATIONAL CODE COUNCIL (ICC) BUILDING CODES, 2011 NATIONAL ELECTRIC CODE (NFPA 70), NFPA 72 AND 101, DELAWARE CODE, CITY OF LEWES ELECTRIC COMPANY, AND OTHER APPLICABLE STANDARDS. OBTAIN BUILDING PERMITS AND PROVIDE ALL REQUIRED INSPECTIONS. CONTRACTOR SHALL BE LICENSED IN THE STATE OF DELAWARE.
2. COORDINATION: COORDINATE ALL WORK WITH OTHER TRADES. DRAWINGS, THOUGH TO SCALE, ARE DIAGRAMMATIC, CONVEYING INTENT OF EQUIPMENT AND SYSTEM INSTALLATION AND OPERATION. REPOSITIONING OF EQUIPMENT SHALL BE MADE TO ALLOW FOR ACCESS, SERVICING, AND COORDINATION, OR BY OWNER DIRECTION. COORDINATE WITH CITY OF LEWES ELECTRIC COMPANY FOR ALL WORK AND EQUIPMENT ASSOCIATED WITH THE PRIMARY CABLE INSTALLATION. COMPLY WITH ALL CITY OF LEWES ELECTRIC COMPANY REQUIREMENTS AND REGULATIONS.
3. SHOP DRAWINGS: SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS TO BE FURNISHED.
4. RECORD DRAWINGS: FURNISH ONE SET OF CLEAN DRAWINGS AT COMPLETION OF WORK. MODIFY AS REQUIRED TO SERVE AS "AS-BUILT" DRAWINGS. DRAWINGS SHALL BE MARKED "RECORD DRAWINGS SHOWING SIGNIFICANT CHANGES" AND BE SIGNED AND DATED BY THE CONTRACTOR. FURNISH ONE SET OF SHOP DRAWINGS AND MAINTENANCE MANUALS IN BROCHURE FORM FOR OWNER'S FILE, AT COMPLETION OF WORK.
5. ACCEPTANCE AND WARRANTY: MAKE ARRANGEMENTS FOR ALL REQUIRED INSPECTIONS AND FURNISH CERTIFICATE OF ACCEPTANCE AT COMPLETION OF JOB FROM LOCAL AUTHORITY. UPON ACCEPTANCE OF WORK BY OWNER AND THE LOCAL AUTHORITY, PROVIDE A ONE YEAR WARRANTY FOR ALL NEW ELECTRICAL EQUIPMENT AND WORKMANSHIP. FURNISH TO OWNER ALL MANUFACTURER'S WARRANTIES.
6. EXISTING SITE UTILITIES ARE SHOWN TO BEST AVAILABLE INFORMATION, HOWEVER NO ASSURANCES ARE MADE AS TO ACTUAL TYPE, LOCATION, DEPTH, MATERIALS, OR SERVICE OF ANY EXISTING UTILITY. CONTRACTOR SHALL NOTIFY MISS UTILITY, HAND DIG, AND TAKE ANY OTHER MEASURES TO DETERMINE EXACT FIELD CONDITIONS PRIOR TO STARTING WORK.
7. PROVIDE ALL MATERIAL AND LABOR AND MAKE FINAL CONNECTIONS TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTION. CONFIRM LOCATION, QUANTITY, AND TYPE OF CONNECTIONS WITH EQUIPMENT SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS BEFORE COMMENCING WORK. PROVIDE ALL CUTTING REQUIRED FOR ELECTRICAL INSTALLATION UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR. DO NOT CUT OR DAMAGE ANY STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL BY THE OWNER.
8. OUTLET AND JUNCTION BOXES SHALL BE PROVIDED AT EACH AND EVERY LOCATION INDICATED ON THE DRAWINGS AND AS REQUIRED AT JUNCTION AND PULL POINTS. A SINGLE SWITCH OR RECEPTACLE BOX WITH COMMON COVER PLATE SHALL BE USED WHERE MORE THAN ONE DEVICE IS TO BE INSTALLED IN A SINGLE LOCATION. COVERPLATES SHALL BE STAINLESS STEEL OR SHALL MATCH THE DEVICE. ALL BOXES SHALL BE LABELED AS TO SOURCE, VOLTAGE, PHASE, CIRCUIT NUMBER, AND DESIGNATION.
9. ALL BUILDING WIRING SHALL BE COPPER, SOLID OR STRANDED, RATED FOR 600 VOLTS AND HAVE THIN OR THWN INSULATION. WIRING SIZES SHALL BE BASED ON 75°C. NO WIRE SMALLER THAN #12 SHALL BE USED FOR LIGHTING OR RECEPTACLE BRANCH CIRCUITS. ALL CABIN WIRING SHALL BE CONCEALED IN WALLS AND CEILINGS.
10. NON-METALLIC (NM) CABLE MAY BE USED WHERE PERMITTED BY CODE FOR LIGHTING AND BRANCH CIRCUIT WIRING WHERE CONCEALED IN WALLS, CRAWL SPACE, AND CHASES. EXTERIOR CONDUIT EXPOSED OR BELOW GRADE SHALL BE SCHEDULE 80 PVC. SEALTITE FLEXIBLE CONDUIT WITH WATERPROOF TYPE FITTINGS SHALL BE USED WHERE BRANCH CIRCUIT WIRING IS EXPOSED TO WEATHER OR IN DAMP LOCATIONS. BOXES AND HARDWARE SHALL BE COMPATIBLE WITH CABLES OR CONDUIT.
11. PROVIDE ENGRAVED, PHENOLIC NAMEPLATE WITH IDENTIFICATION FOR EACH PANELBOARD, SAFETY SWITCH, STARTER, OR OTHER MAJOR ELECTRICAL EQUIPMENT.
12. PROVIDE GROUNDED NEUTRAL FOR THE SECONDARY POWER DISTRIBUTION SYSTEM AND AN EQUIPMENT GROUNDING SYSTEM TO PROPERLY SAFEGUARD THE EQUIPMENT AND PERSONNEL. THE GROUNDING SYSTEM SHALL COMPLY WITH ALL REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.



METER & PANEL PEDESTAL SUPPORT
SCALE: NONE



POWER RISER DIAGRAM
SCALE: NONE

SPECIAL NOTES (APPLY TO THIS DRAWING ONLY)

1. 60A, 240V, 1 PHASE, NEMA 3R DISCONNECT. INSTALL AT TOP OF HEAT PUMP UNIT.
2. PROVIDE 3 #12 AND 1 #12 GROUND POWER WIRING AND CONTROL WIRING FROM OUTDOOR UNIT TO INDOOR UNIT AS RECOMMENDED BY MANUFACTURER.
3. PROVIDE REFRIGERANT PIPING, POWER WIRING, AND CONTROLS BETWEEN HEAT PUMP INDOOR AND OUTDOOR UNITS PER MANUFACTURER'S INSTALLATION INSTRUCTION.
4. PROVIDE PROTECTIVE PVC ENCLOSURE OF EXPOSED REFRIGERANT AND CONDENSATE DRAIN PIPING. SPILL CONDENSATE ONTO GRADE.
5. PROVIDE CONCRETE PAD, SET LEVEL ON GRADE, AND SUPPORT RAILS FOR HEAT PUMP OUTDOOR UNIT.
6. INSTALL HEAT PUMP INDOOR UNIT HIGH ON WALL.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION AND/OR SPECIFICATION
⊖	RECEPTACLE - 20A, 125V DUPLEX, EQUAL TO HUBBELL HBL5362, MH 1'-6" UON.
⊖	RECEPTACLE - 20A, 125V. DUPLEX, GROUND FAULT INTERRUPTER TYPE (GFI), EQUAL TO HUBBELL GF20L, MH 1'-6", UON.
⊖	RECEPTACLE - 20A, 125V. DUPLEX, WEATHER RESISTANT GROUND FAULT INTERRUPTER TYPE (GFI), EQUAL TO HUBBELL GFR5362SGI, MH 1'-6", UON.
⊖	DISCONNECT SWITCH - UNFUSED, AT TOP OF EQUIPMENT SERVED, OUTDOOR EQUAL TO SQUARE D UFP222R, INDOOR EQUAL TO SQUARE D FS2.
—	CONDUIT AND WIRING - EXPOSED ABOVE GRADE OR IN WALLS; BELOW GRADE
—	BRANCH CIRCUIT OR HOMERUN TO PANEL - LETTER AND NUMBER INDICATES PANEL AND BRANCH CIRCUIT NUMBER. NUMBER OF CROSSLINES INDICATES NUMBER OF CONDUCTORS PLUS GROUND CONDUCTOR (NOT SHOWN). 2#12 CONDUCTORS PLUS 1#12 GROUND IN 1/2" CONDUIT UON.
S S	SWITCH - SINGLE POLE EQUAL TO HUBBELL SNAP12211, THREE WAY EQUAL TO HUBBELL SNAP12231, MH 4'-0", 125V, 20A.
WP	WEATHERPROOF COVER FOR RECEPTACLES SHALL BE EQUAL TO HUBBELL WP26M WITH CLEAR PLASTIC COVER
UON	UNLESS OTHERWISE NOTED
AFF	ABOVE FINISHED FLOOR

TYPE	SYMBOL	DESCRIPTION	LAMPS	MOUNTING	MANUFACTURER/CATALOG. NO.
A	○	16" PENDANT FIXTURE WITH COMPACT FLUORESCENT LAMP SUSPENDED FROM CEILING 9' AFF TO BOTTOM OF FIXTURE. FINISH TO BE CHOSEN BY ARCHITECT.	23W CFL MED BASE	CEILING SUSPENDED	PROGRESS: P5094-
B	⊗	52" CEILING FAN/LIGHT COMBINATION UNIT.	19W CFL	CEILING MOUNTED	HUNTER BEAUFORT: 23697

POLE NO.	TRIP AMP	BKR POLE	WIRE	COND	SERVES	LOAD K.V.A.	POLE NO.	TRIP AMP	BKR POLE	WIRE	COND	SERVES	
1	20*	1	2#12	1#12	-	0.8	2	20**	2	2#12	1#12	-	HPU-1
3	20*	1	2#12	1#12	-	0.9	4	20*	1	2#12	1#12	-	RECEPT. ON PORCH, OUTSIDE
5	20*	1	2#12	1#12	-	0.9	6	20*	1	2#12	1#12	-	RECEPT. ON PORCH, OUTSIDE
7	20L	1	2#12	1#12	-	0.5	8						
9	20*						10						
11							12						
							19						

PANEL NOTES: SINGLE ASTERISK DENOTES ARC FAULT CIRCUIT BREAKER. DOUBLE ASTERISK DENOTES HACR BREAKER. L DENOTES LOCK ON BREAKER HANDLE.

POLE NO.	TRIP AMP	BKR POLE	WIRE	COND	SERVES	LOAD K.V.A.	POLE NO.	TRIP AMP	BKR POLE	WIRE	COND	SERVES	
1						3.4	2	40	2	2#8	1#10	1"	CABIN #8
3	40	2	2#8	1#10	1"	1.9	4	40	2	2#8	1#10	1"	CABIN #10
5	40	2	2#8	1#10	1"	1.9	6	40	2	2#8	1#10	1"	CABIN #11
7	40	2	2#8	1#10	1"	3.4	8	40	2	2#8	1#10	1"	CABIN #12
9	40	2	2#8	1#10	1"	1.9	10	40	2	2#8	1#10	1"	SPACE
11	20	1					12						
13	20	1					14						
15	20	1					16						
17							18						
19							20						

CLAGGETT ENGINEERING
122 NORTH HARRISON STREET
EASTON, MARYLAND 21601
TEL (410) 820-9173

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 Delaware, License Number 8782, Expiration Date June 2016.
CE# DNR1501

BY:	
DATE:	
DESCRIPTION:	

**CAPE HENLOPEN STATE PARK
CAMPING CABINS**
ELECTRICAL PLANS, DETAILS AND SCHEDULES



DESIGNED BY:	LGC
DRAWN BY:	SLW
BUILDING NO.:	N/A
DATE:	08/05/2015
SCALE:	AS NOTED
SHEET NO.:	E-1
PARKS PROJECT #:	CH-39B
CONTRACT #:	2015-CH-300