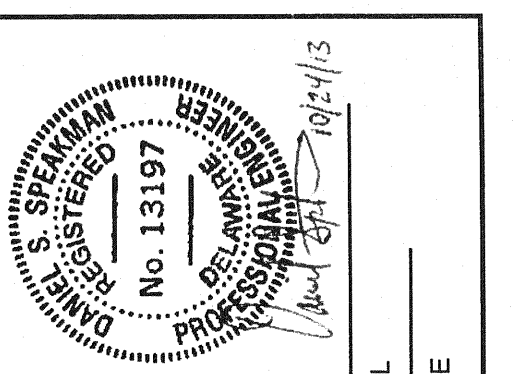
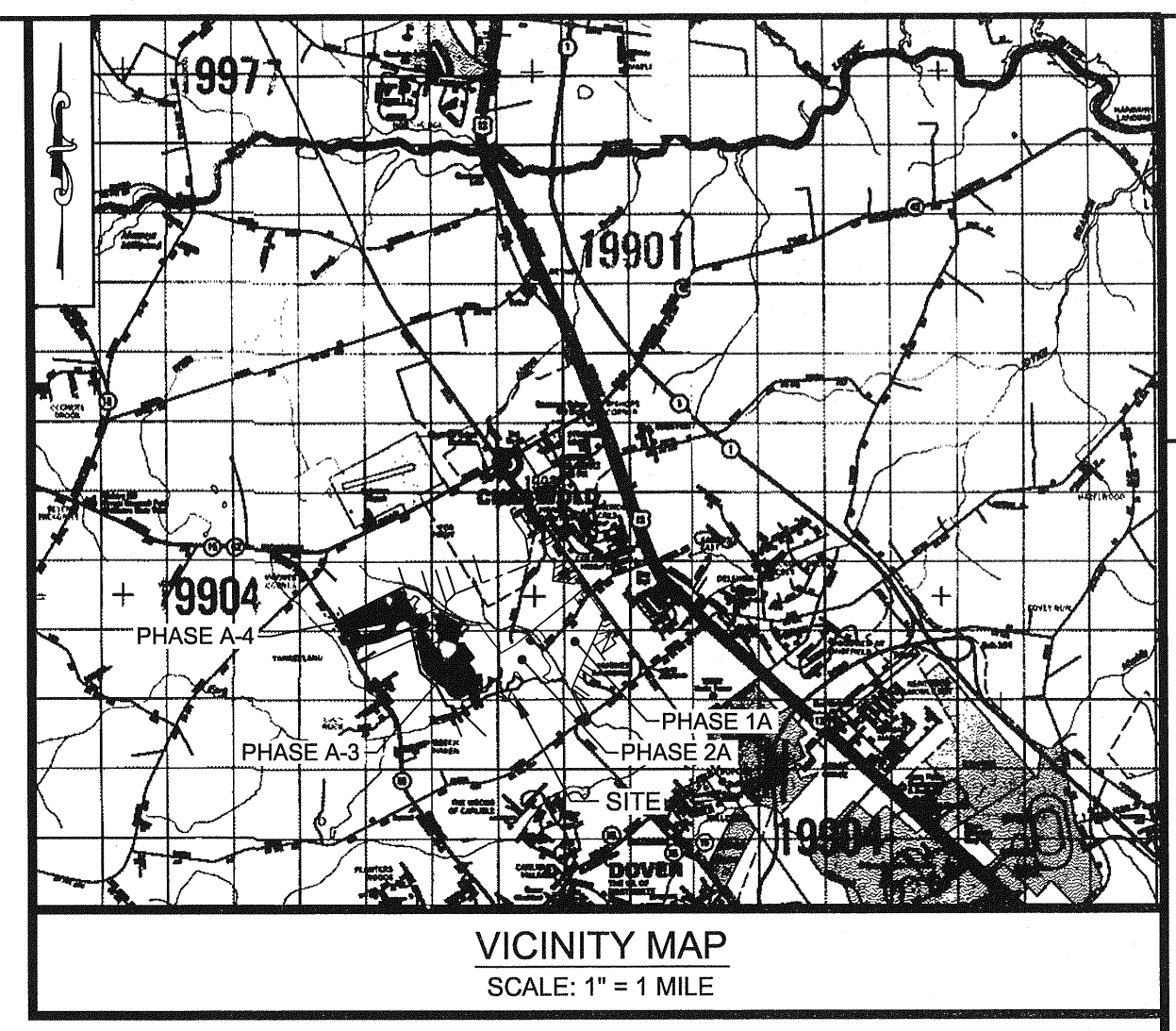
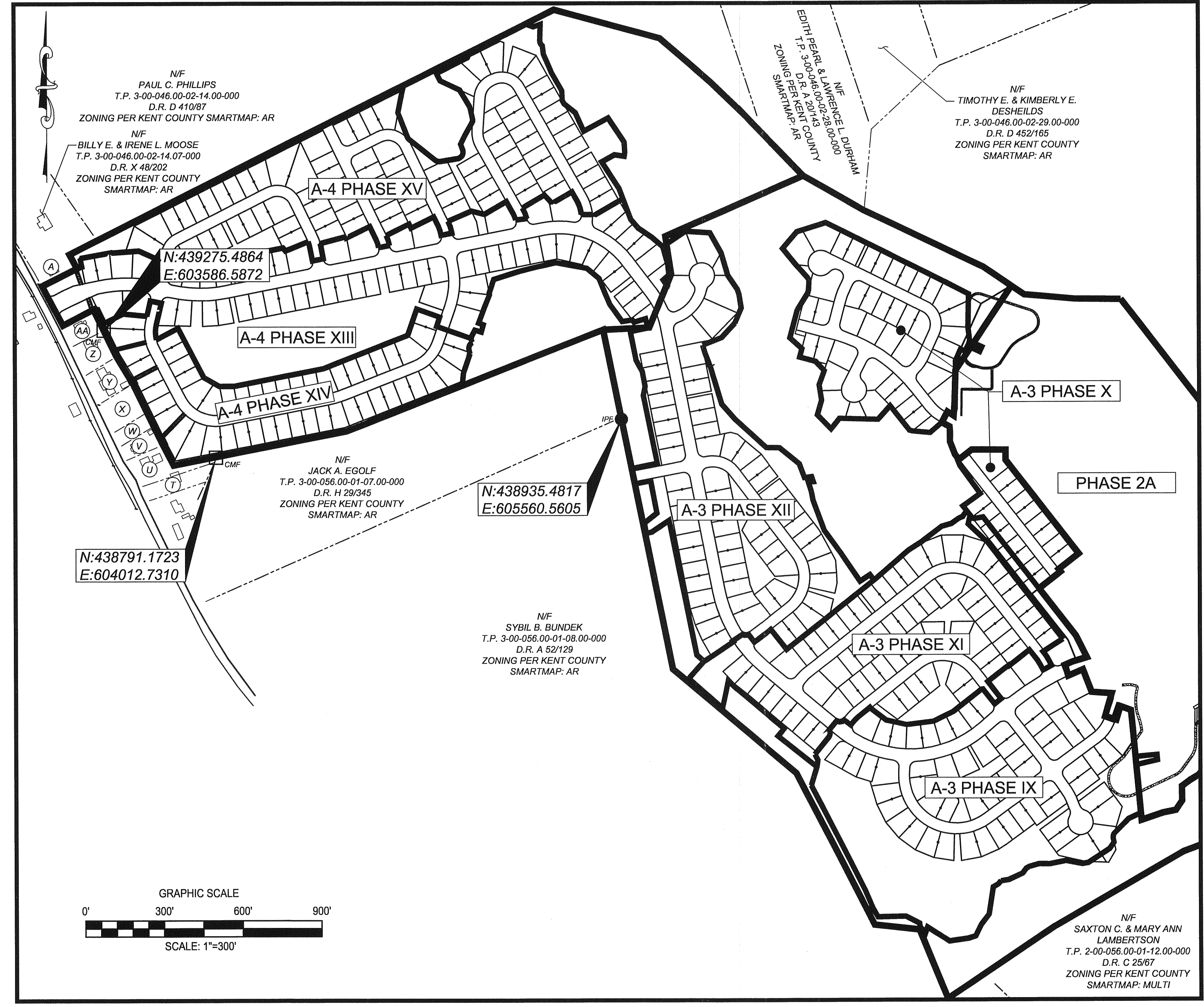


# VILLAGES OF NOBLE'S POND PHASES A-3 & A-4 SEDIMENT AND STORMWATER MANAGEMENT PLANS



ADJOINING PROPERTY OWNERS:		ADJOINING PROPERTY OWNERS:	
A. N.F. DINITA MARIE & FLOYD CARLTON RIDGWAY, II T.P. 03-00-56.01-32.00-000 D.R. H 3869 ZONING PER KENT COUNTY SMARTMAP: AR	S. N.F. ROGER & SANDRA MURRAY T.P. 03-00-56.00-38.00-000 D.R. D 441111 ZONING PER KENT COUNTY SMARTMAP: AR	T. N.F. FLOYD & FRANCIS PRITCHETT T.P. 03-00-56.01-42.00-000 D.R. B 25454 ZONING PER KENT COUNTY SMARTMAP: AR	U. N.F. FLOYD & FRANCIS PRITCHETT T.P. 03-00-56.01-41.00-000 D.R. E 23863, G 18089 ZONING PER KENT COUNTY SMARTMAP: AR
K. N.F. OLIV L. & CHARLENE K. EVANS T.P. 03-00-56.00-01-12.01-000 D.R. T 47009 ZONING PER KENT COUNTY SMARTMAP: AR	V. N.F. DONALD M. & SHIRLEY ANN SEENEY T.P. 03-00-56.01-40.00-000 D.R. Q 32112 ZONING PER KENT COUNTY SMARTMAP: AR	W. N.F. DONALD M. & SHIRLEY ANN SEENEY T.P. 03-00-56.01-39.00-000 D.R. Q 32110 ZONING PER KENT COUNTY SMARTMAP: AR	X. N.F. CLARENCE M. WILSON T.P. 03-00-56.01-38.00-000 D.R. G 2101 ZONING PER KENT COUNTY SMARTMAP: AR
L. N.F. OLIV L. & CHARLENE K. EVANS T.P. 03-00-56.00-01-12.02-000 D.R. D 51201 ZONING PER KENT COUNTY SMARTMAP: AR	Y. N.F. CHARLES L. & GLORIA COTTMAN T.P. 03-00-56.00-35.00-000 D.R. D 18586 ZONING PER KENT COUNTY SMARTMAP: AR	Z. N.F. ELIZABETH J. POORE T.P. 03-00-56.01-35.00-000 D.R. D 447114 ZONING PER KENT COUNTY SMARTMAP: AR	AA. N.F. GLENDON K. & PEGGY J. DURHAM T.P. 03-00-56.01-34.00-000 D.R. R 148105 ZONING PER KENT COUNTY SMARTMAP: AR
M. N.F. RICK A. WELTY T.P. 03-00-56.00-01-19.00-000 D.R. D 345287 ZONING PER KENT COUNTY SMARTMAP: AR			
N. N.F. FIRST KOHEAN BAPTIST CHURCH, INC. T.P. 03-00-56.00-01-32.00-000 D.R. D 51226 ZONING PER KENT COUNTY SMARTMAP: AR			
O. N.F. BARRY N. REYNOLDS T.P. 03-00-56.00-01-34.00-000 D.R. D 553285 ZONING PER KENT COUNTY SMARTMAP: AR			
P. N.F. CHARLES L. & GLORIA COTTMAN T.P. 03-00-56.00-35.00-000 D.R. D 18586 ZONING PER KENT COUNTY SMARTMAP: AR			
Q. N.F. LUCY R. CARNEY T.P. 03-00-56.00-36.00-000 D.R. Q 34339 ZONING PER KENT COUNTY SMARTMAP: AR			
R. N.F. LEONARD R. & DONNA LYNN STARTIT T.P. 03-00-56.00-37.00-000 D.R. D 438221 ZONING PER KENT COUNTY SMARTMAP: AR			

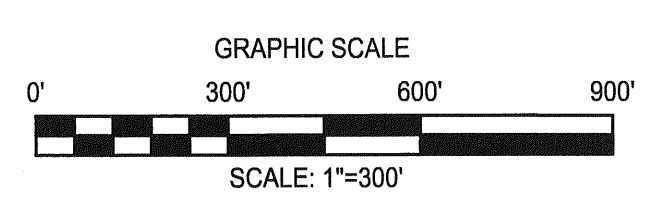
- SITE DATA:**
- APPLICANT/OWNER/DEVELOPER:**  
EDDIE EVANS FARM LLC  
13 NOBLE'S POND CROSSING  
DOVER, DELAWARE 19904  
PHONE: (302) 736-5000  
FAX: (302) 736-5290  
CONTACT: HARRY MILLER, III
  - ENGINEER:**  
McCCRONE, INC.  
106 E. MAIN ST.  
ELKTON, MD 21921  
PHONE: (410) 398-1550  
FAX: (410) 398-5845  
CONTACT: DAN SPEAKMAN, P.E.
  - FLOOD ZONE:**  
PER FEMA F.I.R.M. MAP 100001C0154H, EFFECTIVE DATE 05/05/2003, THIS SITE IS LOCATED WITHIN ZONE A AND AE, AREAS DETERMINED TO BE IN THE 100-YR FLOODPLAIN. A CLOMR HAS BEEN FILED TO REVISE THE FLOODPLAIN DELINEATION AND TO DEFINE AN ELEVATION FOR THE "A" ZONE FLOODPLAIN. THE RESULTING 100-YR FLOODPLAIN LINE IS SHOWN ON THE PLANS.
  - TOPOGRAPHY REFERENCE:**  
DATUM: NAD 83 / NAVD 88 (STATE PLANE)  
(TOPOGRAPHY SHOWN IS ADAPTED FROM ELECTRONIC FILES PROVIDED BY ESP DESIGN SERVICES.)
  - BOUNDARY:**  
PARCEL BOUNDARY IS BASED ON A RECORD PLAT PREPARED BY ESP SERVICES, INC. AND RECORDED AMONG THE LAND RECORDS OF KENT COUNTY, DELAWARE IN PLAT BOOK 80, PAGE 27.
  - PHASE A-3 TOTAL AREA = 90.80 ± AC.**  
A-3 TOTAL DISTURBED AREA = 59.28 ± AC.  
A-3 PHASE IX AREA = 19.05 ± AC.  
A-3 PHASE X AREA = 11.38 ± AC.  
A-3 PHASE XI AREA = 13.55 ± AC.  
A-3 PHASE XII AREA = 15.30 ± AC.
  - PHASE A-4 TOTAL AREA = 60.39 ± AC.**  
A-4 TOTAL DISTURBED AREA = 45.09 ± AC.  
A-4 PHASE XIII AREA = 19.92 ± AC.  
A-4 PHASE XIV AREA = 7.83 ± AC.  
A-4 PHASE XV AREA = 17.34 ± AC.
  - A WETLANDS / WATERS OF THE U.S. DELINEATION WAS PERFORMED BY JCM-ECI IN JANUARY 2006 AND AMENDED BY JCM-ECI IN APRIL 2008. A NON-TIDAL WETLANDS PERMIT WILL BE OBTAINED FOR THE WETLANDS AND WATERS OF THE US IMPACTS IN THIS PHASE OF DEVELOPMENT.**
  - ON-SITE SOILS CONSIST OF:**



**EROSION AND SEDIMENT CONTROL PLAN LEGEND**

DESCRIPTION	EXISTING	PROPOSED
ADJOINING PROPERTY OWNER	N.F. Mr. John Doe	N/A
CONTOURS	41	41
SITE PROPERTY LINE	---	---
ADJOINING PROPERTY LINE	---	---
RIGHT-OF-WAY	---	---
LEASE LOT LINE	N/A	---
PHASE LIMIT	N/A	---
STABILIZED CONST. ENTRANCE	N/A	---
SILT FENCE	N/A	---SF---
REINFORCED SILT FENCE	N/A	---RSF---
SUPER SILT FENCE	N/A	---SSF---
LIMIT OF DISTURBANCE	N/A	---LOD---
RIPRAP OUTLET PROTECTION	N/A	ROP
RIPRAP OUTLET SEDIMENT TRAP	N/A	RST
SKIMMER DEWATERING DEVICE	N/A	SDD
TEMPORARY SEDIMENT BASIN	N/A	TSB
STONE CHECK DAM	N/A	SCD
FLOW ARROW	---	---
SPOT ELEVATION	N/A	40x40
LOT NUMBER	N/A	LOT 400
TEMPORARY BERM	N/A	TB-A1
TEMPORARY SWALE	N/A	TS-A1
SHEET CUT LINE	N/A	---

SOIL SYMBOL	SOIL NAME	HYDROLOGIC SOIL GROUP
Fs	FALLSINGTON LOAM	B/D
Jo	JOHNSTON SILT LOAM	D
Mv	MIXED ALLUVIAL LAND	D
SaB	SASSAFRAS SANDY LOAM, 2 TO 5 PERCENT SLOPES	B
SaC2	SASSAFRAS SANDY LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED	B
SaC3	SASSAFRAS SANDY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	B
SfA	SASSAFRAS LOAM, 0 TO 2 PERCENT SLOPES	B
SfB	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES	B
Wo	WOODSTOWN SANDY LOAM	C
Ws	WOODSTOWN LOAM	C



**INDEX OF DRAWINGS**

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ES-2	CONSTRUCTION NOTES AND SEQUENCE
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ES-8 THROUGH ES-11	EROSION AND SEDIMENT CONTROL DETAILS
SW-1 THROUGH SW-23	STORMWATER MANAGEMENT PLANS AND DETAILS
RD-1 THROUGH RD-19	ROAD & STORM DRAIN PLAN & PROFILES
U-1	UTILITIES OVERALL - PHASE 3A
U-2	UTILITIES OVERALL - PHASE 4A

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**CONSULTANT CERTIFICATION**

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK AND THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

CONSULTANT SIGNATURE: *Daniel Speakman* DATE: 10/24/13 DELAWARE REG. NO.: 13197

DANIEL SPEAKMAN PROJECT MANAGER P.E. 1-410-398-1550  
CONSULTANT NAME AND TITLE (PRINTED OR TYPED) TYPE (P.E., P.L.S., OR R.L.A.) PHONE #

**OWNER / DEVELOPER CERTIFICATION**

"I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN AND I, THE UNDERSIGNED, CERTIFY THAT RESPONSIBLE PERSONNEL CERTIFIED BY DNREC WILL BE IN CHARGE OF ON-SITE CLEARING AND LAND DISTURBING ACTIVITIES."

OWNER/DEVELOPER SIGNATURE: *Harry Miller III* DATE: 10-24-13  
HARRY MILLER III, MEMBER 1-302-736-5000  
OWNER/DEVELOPER NAME (PRINTED OR TYPED) PHONE #

**LIMIT OF DISTURBANCE**

PHASE A-3 = 59.28 ACRES  
PHASE A-4 = 45.09 ACRES  
TOTAL = 104.37 ACRES

THIS SPACE FOR KENT CONSERVATION DISTRICT APPROVAL ONLY

**APPROVED**  
With Conditions  
KENT CONSERVATION DISTRICT

Review by *Daniel C. Chapp* Date 10/30/13  
Review by *[Signature]* Date 10/30/13  
Approved by *[Signature]* Date 10/30/13

- GENERAL NOTES**
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
  - REMOVAL OF MATERIALS FROM THE SITE MUST MEET CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.
  - THE LOCATION OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME THESE DRAWINGS WERE PREPARED. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF THE EXISTING UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION.
  - A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE APPLIED TO ALL DISTURBED AREAS PRIOR TO RECEIVING PERMANENT STABILIZATION.

**REVISIONS**

REV. #	DATE	DESCRIPTION

**McCCRONE**  
Celebrating 75 Years of Quality Service and Innovation

ENGINEERS • SURVEYORS • PLANNERS  
ANNAPOLIS • CENTREVILLE • ELKTON • SALISBURY • WILMINGTON

106 EAST MAIN STREET, SUITE 101  
ELKTON, MARYLAND 21921  
(410) 398-1250  
www.mccrone-llc.com

DATE: FEBRUARY 2013

JOB NUMBER:	DS98182	N/A	MAK	MAK	DSS
SCALE:	N/A	MAK	MAK	MAK	DSS
DRAWN BY:	N/A	MAK	MAK	MAK	DSS
DESIGNED BY:	N/A	MAK	MAK	MAK	DSS
APPROVED BY:	N/A	MAK	MAK	MAK	DSS
FOLDER REFERENCE:	N/A	MAK	MAK	MAK	DSS

SEDIMENT AND STORMWATER MGMT. COVER SHEET

FILE NO. SL-11-01  
**VILLAGES OF NOBLE'S POND  
PHASES 3A & 4A**  
KENTON HUNDRED, KENT COUNTY, DELAWARE

FOR: EDDIE EVANS FARMS, LLC

SHEET NO.: ES-1  
FILE NO.: 1446-B





MATCHLINE SEE SHEET ES-4

MATCHLINE SEE SHEET ES-5

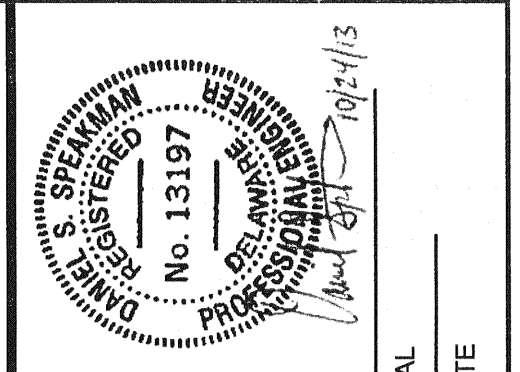
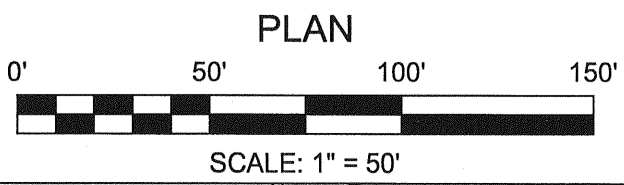
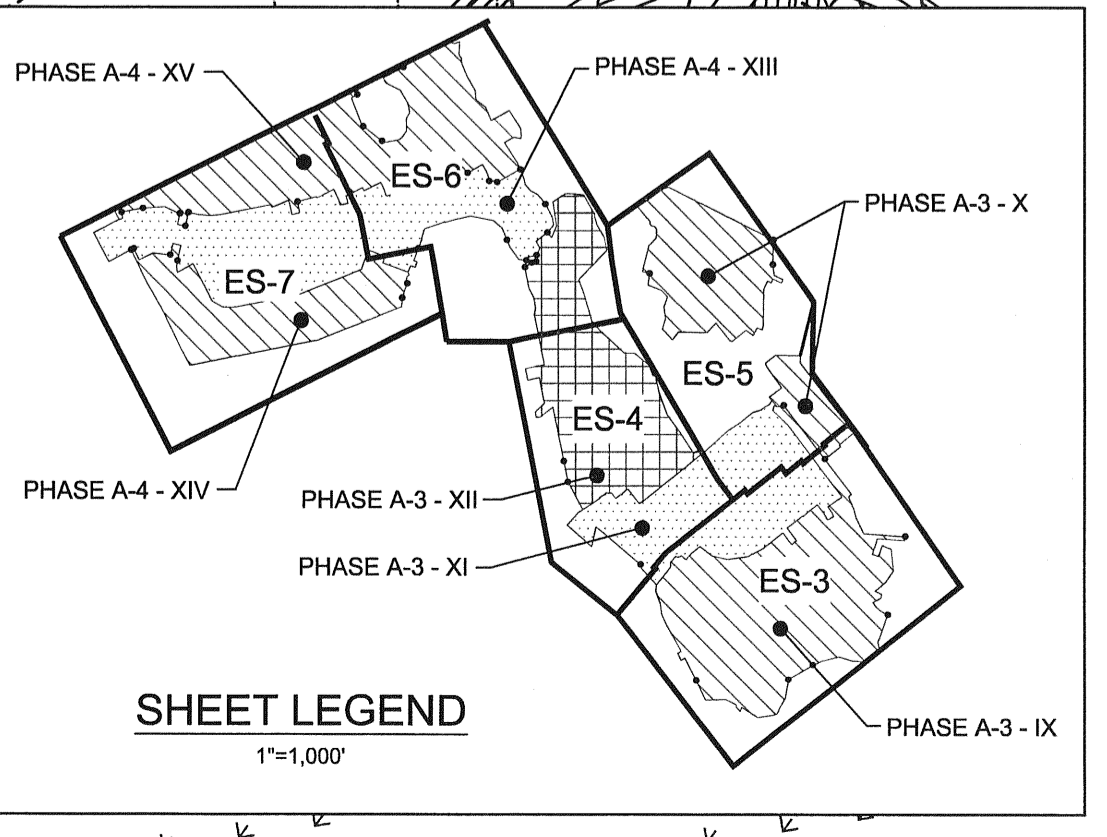
- NOTE:**
1. INLET PROTECTION MEASURES SHALL BE INSTALLED AT ALL PROPOSED CATCHBASINS, IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION (SHEET ES-2) AND THE DETAILS (SHEET ES-6).
  2. SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE FOR EACH PHASE, AND IS SHOWN OFFSET FOR PLAN CLARITY.
  3. FINAL WETLANDS DELINEATION TO BE DETERMINED BY THE ARMY CORPS OF ENGINEERS CURRENTLY UNDER REVIEW.
  4. A TEN FOOT STRIP IS RESERVED AS AN EASEMENT FOR DRAINAGE AND UTILITIES ALONG THE FRONT AND REAR LOT LINES. SIDE LOT LINE EASEMENTS ARE EITHER FIVE FEET OR TEN FEET, DEPENDING ON THE BUILDING SETBACKS FOR EACH LOT.
  5. TEMPORARY SWALES SHALL REMAIN UNTIL THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED. UPON REMOVAL, BIORETENTION FACILITIES SHALL BE CONSTRUCTED WHERE SHOWN PER THE APPROVED STORMWATER MANAGEMENT PLANS.
  6. SEE SHEETS RD-1 THROUGH RD-19 FOR PIPE MATERIALS, INVERTS, AND SLOPES AS WELL AS STRUCTURE TYPES, INVERTS, RIM ELEVATIONS, AND SUMP ELEVATIONS.

**TEMPORARY SEDIMENT BASIN #5 DESIGN DATA**  
 D.A. = 1630 AC  
 V<sub>1</sub> REQUIRED = 57,924 CF  
 V<sub>2</sub> PROVIDED = 522,350 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 33.42  
 DEWATERING ELEVATION = 37.00  
 EMBANKMENT TOP WIDTH = 12'  
 BOTTOM EL. = 41.00  
 RISER EL. = 39.00  
 RISER DIM. = 48" X 48"  
 PIPE MATERIAL = REINFORCED CONCRETE  
 PIPE LENGTH = 78'  
 PIPE DIA. = 24"  
 PIPE INVERTS = INV. SUP. 35.50  
 INV. DN. 35.50  
 E.S. CREST = 40.00'  
 E.S. DEPTH = 1.0'  
 E.S. LENGTH = 23.0'  
 E.S. WIDTH = 44'  
 ANTI-SLEEP COLLAR = REINFORCED CONCRETE  
 COLLAR DIM. = 7.0' X 7.0'  
 COLLAR SPACING = N/A - 1 COLLAR

**NOTES:**  
 CONSTRUCT TEMPORARY BLOCKADE OVER LOW FLOW ORIFICE USING A SHEET OF EXTERIOR GRADE PRESSURE TREATED PLYWOOD (OSB NOT ACCEPTABLE) ATTACHED TO THE WALL USING DRILLED METAL CONCRETE FASTENERS (TAPCONS) AND SEALED WITH EXTERIOR GRADE SILICONEZED ACRYLIC CAULK. ALL JOINTS ARE TO BE WATERTIGHT. CUT 4" ORIFICE IN WOOD TO CONNECT THE SKIMMER DEWATERING DEVICE. CONTRACTOR SHALL FURNISH A WATERTIGHT ADAPTER TO MAKE THE CONNECTION. WHEN BASIN IS CONVERTED, REMOVE PLYWOOD AND TAPCONS.

**TEMPORARY SEDIMENT BASIN #2 DESIGN DATA**  
 D.A. = 68.10 AC  
 V<sub>1</sub> REQUIRED = 246,386 CF  
 V<sub>2</sub> PROVIDED = 354,762 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 30.60  
 DEWATERING ELEVATION = 33.00  
 EMBANKMENT TOP WIDTH = 12'  
 BOTTOM EL. = 39.00  
 WEIR CREST EL. = 34.10  
 WEIR LENGTH = 28.0'  
 E.S. CREST = 36.20'  
 E.S. DEPTH = 1.5'  
 E.S. LENGTH = 20'  
 E.S. WIDTH = 50'  
 ANTI-SLEEP COLLAR = REINFORCED CONCRETE  
 COLLAR DIM. = 7.0' X 7.0'  
 COLLAR SPACING = N/A - 1 COLLAR

**NOTES:**  
 CONSTRUCT TEMPORARY WEIR CREST (EL. 34.10) STRUCTURE USING A SHEET OF EXTERIOR GRADE PRESSURE TREATED PLYWOOD (OSB NOT ACCEPTABLE) ATTACHED TO THE WALL USING DRILLED METAL CONCRETE FASTENERS (TAPCONS) AND SEALED WITH EXTERIOR GRADE SILICONEZED ACRYLIC CAULK. ALL JOINTS ARE TO BE WATERTIGHT. CUT 4" ORIFICE IN WOOD TO CONNECT THE SKIMMER DEWATERING DEVICE. CONTRACTOR SHALL FURNISH A WATERTIGHT ADAPTER TO MAKE THE CONNECTION. WHEN BASIN IS CONVERTED, REMOVE PLYWOOD AND TAPCONS.



REV. #	DATE	DESCRIPTION

**McCRONE**  
 ENGINEERS ■ SURVEYORS ■ PLANNERS  
 ANNAPOLIS ■ CENTREVILLE ■ ELKTON ■ SALISBURY ■ WILMINGTON

100 ELKTON PARKWAY, SUITE 101  
 ELKTON, MARYLAND 21921  
 (410) 394-1550  
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DATE:	FEBRUARY 2013
JOB NUMBER:	D0390162
SCALE:	1"=50'
DRAWN BY:	MAK
DESIGNED BY:	MAK
APPROVED BY:	DSS
FOLDER REFERENCE:	F-D0390162

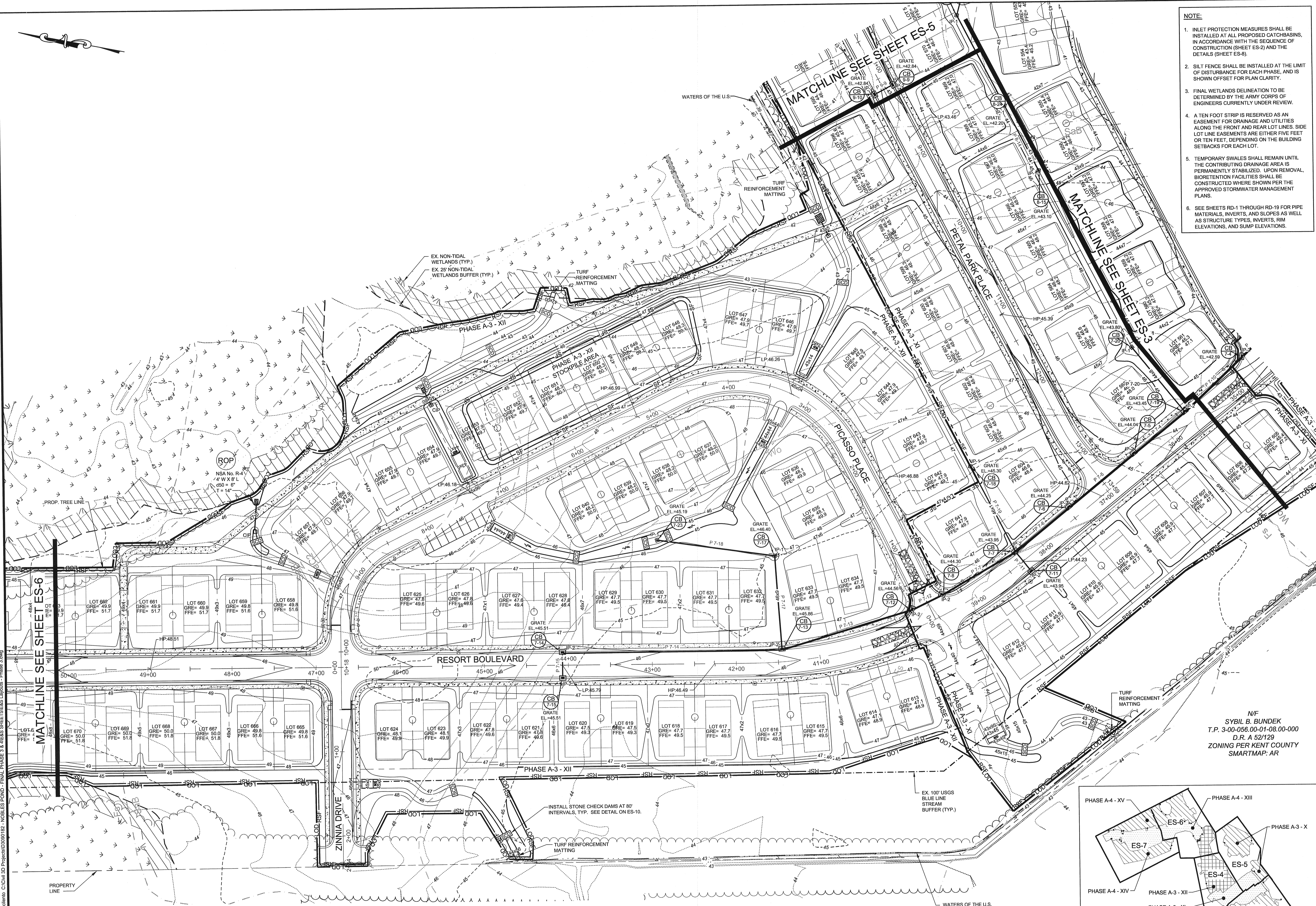
**EROSION & SEDIMENT CONTROL PLAN (1 OF 5)**

FILE NO. SL-11-01  
**VILLAGES OF NOBLES POND PHASES 3A & 4A**  
 KENTON HUNDRED, KENT COUNTY, DELAWARE

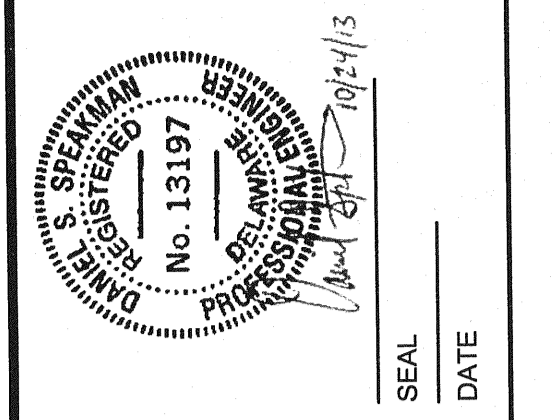
FOR EDDIE EVANS FARMS, LLC

SHEET NO.: **ES-3**

FILE NO.: **1446-B**



- NOTE:**
1. INLET PROTECTION MEASURES SHALL BE INSTALLED AT ALL PROPOSED CATCHBASINS, IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION (SHEET ES-2) AND THE DETAILS (SHEET ES-9).
  2. SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE FOR EACH PHASE, AND IS SHOWN OFFSET FOR PLAN CLARITY.
  3. FINAL WETLANDS DELINEATION TO BE DETERMINED BY THE ARMY CORPS OF ENGINEERS CURRENTLY UNDER REVIEW.
  4. A TEN FOOT STRIP IS RESERVED AS AN EASEMENT FOR DRAINAGE AND UTILITIES ALONG THE FRONT AND REAR LOT LINES. SIDE LOT LINE EASEMENTS ARE EITHER FIVE FEET OR TEN FEET, DEPENDING ON THE BUILDING SETBACKS FOR EACH LOT.
  5. TEMPORARY SWALES SHALL REMAIN UNTIL THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED. UPON REMOVAL, BIORETENTION FACILITIES SHALL BE CONSTRUCTED WHERE SHOWN PER THE APPROVED STORMWATER MANAGEMENT PLANS.
  6. SEE SHEETS RD-1 THROUGH RD-19 FOR PIPE MATERIALS, INVERTS, AND SLOPES AS WELL AS STRUCTURE TYPES, INVERTS, RIM ELEVATIONS, AND SUMP ELEVATIONS.



REV. #	DATE	DESCRIPTION

**McCrone**  
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 ANNAPOLIS ■ CENTREVILLE ■ ELKTON ■ SALISBURY ■ WILMINGTON  
 100 EAST MAIN STREET, SUITE 101  
 ELKTON, MARYLAND 21921  
 (410) 398-1550  
 www.mccrone-inc.com  
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DATE:	FEBRUARY 2013
JOB NUMBER:	D0300192
SCALE:	1"=50'
DRAWN BY:	MAK
DESIGNED BY:	MAK
APPROVED BY:	DBS
FOLDER REFERENCE:	F-0309162

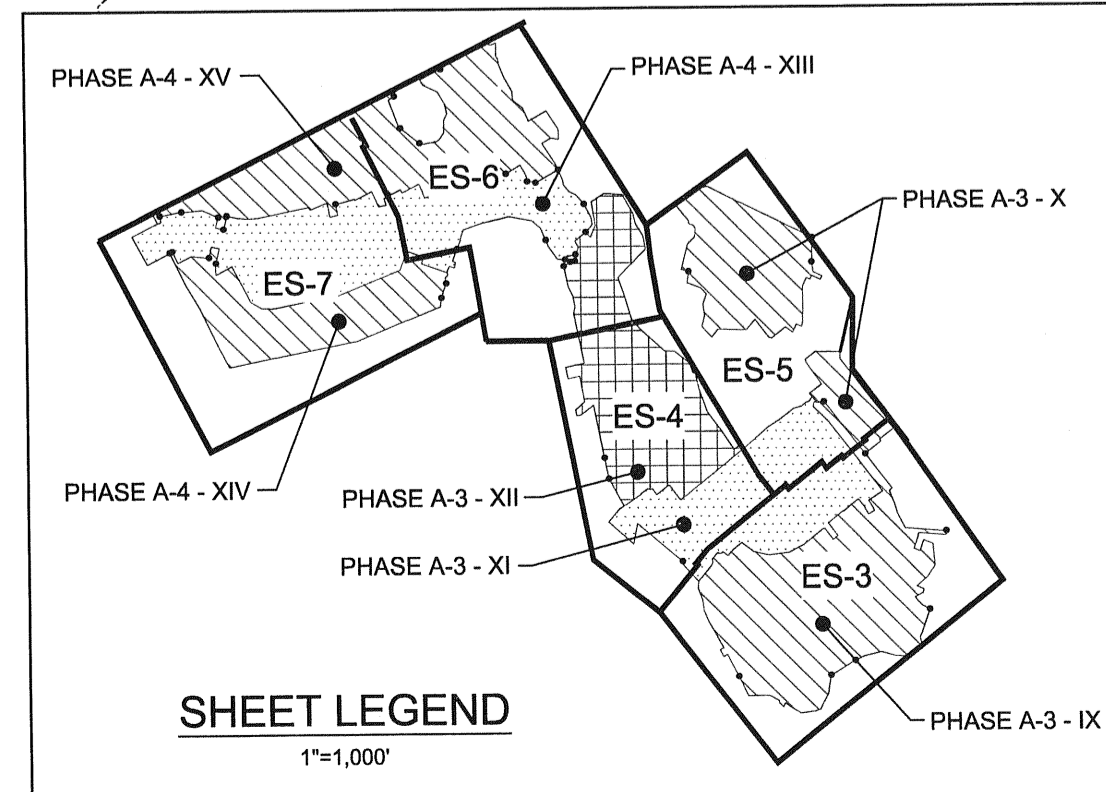
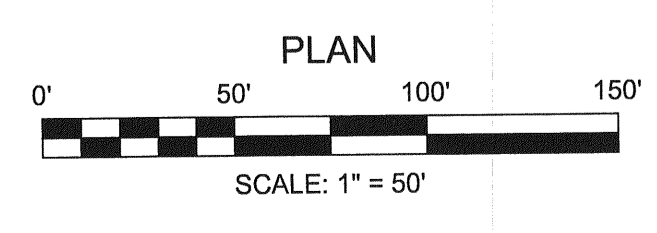
**EROSION & SEDIMENT CONTROL PLAN (2 OF 5)**

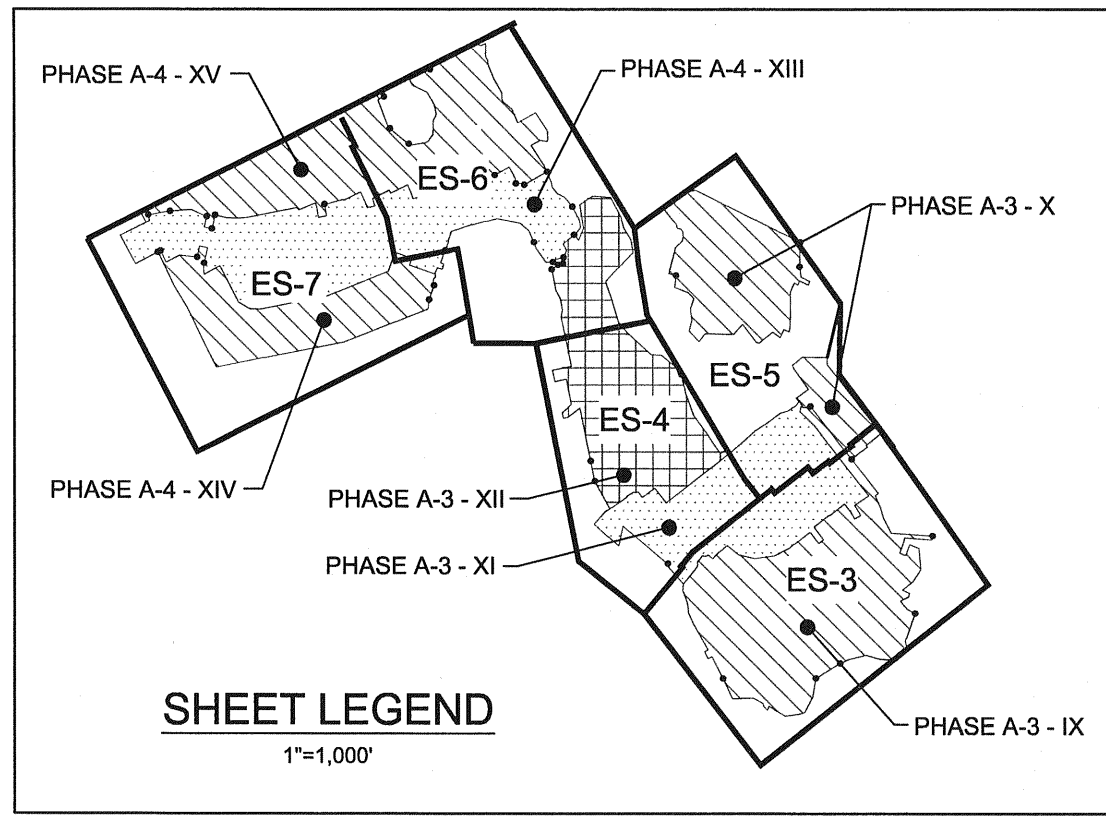
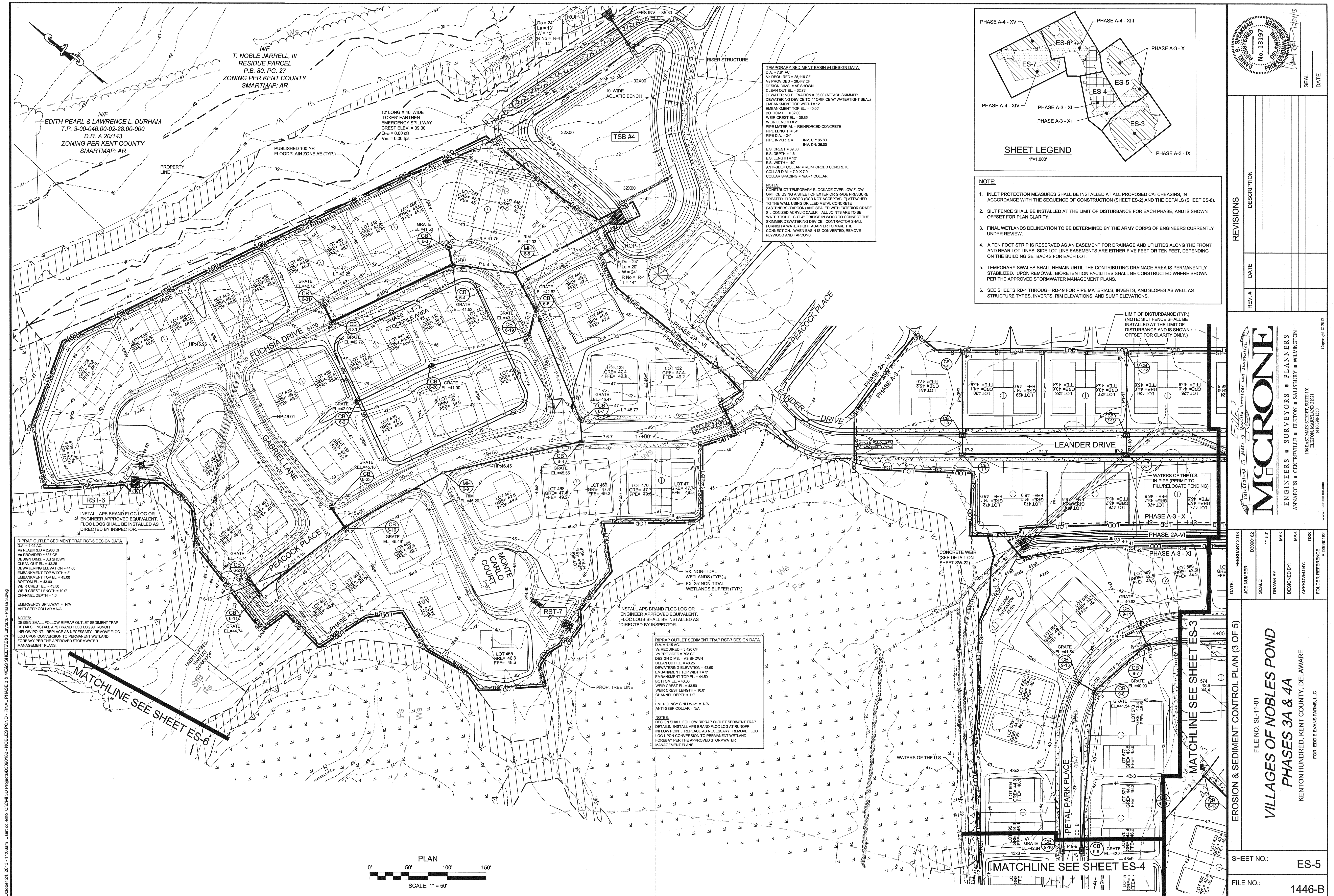
FILE NO. SL-11-01  
**VILLAGES OF NOBLES POND  
 PHASES 3A & 4A**  
 KENTON HUNDRED, KENT COUNTY, DELAWARE  
 FOR EDDIE EVANS FARMS, LLC

SHEET NO.: **ES-4**  
 FILE NO.: **1446-B**

October 24, 2013 11:58am User: c:\cvs\_3d\Projects\13030192 - NOBLES POND - FINAL PHASE 3 & 4A\SHEETS\EROSION - Phase 3.dwg

N/F  
 SYBIL B. BUNDEK  
 T.P. 3-00-056.00-01-08.00-000  
 D.R. A 52/129  
 ZONING PER KENT COUNTY  
 SMARTMAP: AR





- NOTE:**
1. INLET PROTECTION MEASURES SHALL BE INSTALLED AT ALL PROPOSED CATCHBASINS, IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION (SHEET ES-2) AND THE DETAILS (SHEET ES-8).
  2. SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE FOR EACH PHASE, AND IS SHOWN OFFSET FOR PLAN CLARITY.
  3. FINAL WETLANDS DELINEATION TO BE DETERMINED BY THE ARMY CORPS OF ENGINEERS CURRENTLY UNDER REVIEW.
  4. A TEN FOOT STRIP IS RESERVED AS AN EASEMENT FOR DRAINAGE AND UTILITIES ALONG THE FRONT AND REAR LOT LINES. SIDE LOT LINE EASEMENTS ARE EITHER FIVE FEET OR TEN FEET, DEPENDING ON THE BUILDING SETBACKS FOR EACH LOT.
  5. TEMPORARY SWALES SHALL REMAIN UNTIL THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED. UPON REMOVAL, DETENTION FACILITIES SHALL BE CONSTRUCTED WHERE SHOWN PER THE APPROVED STORMWATER MANAGEMENT PLANS.
  6. SEE SHEETS RD-1 THROUGH RD-19 FOR PIPE MATERIALS, INVERTS, AND SLOPES AS WELL AS STRUCTURE TYPES, INVERTS, RIM ELEVATIONS, AND SUMP ELEVATIONS.

**TEMPORARY SEDIMENT BASIN #4 DESIGN DATA**  
 D.A. = 7.81 AC.  
 V<sub>s</sub> REQUIRED = 28,116 CF  
 V<sub>s</sub> PROVIDED = 28,447 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 32.75  
 DEWATERING ELEVATION = 36.00 (ATTACH SKIMMER DEWATERING DEVICE TO 4" ORIFICE W/ WATER TIGHT SEAL)  
 EMBANKMENT TOP WIDTH = 12'  
 EMBANKMENT TOP EL. = 40.07  
 BOTTOM EL. = 32.00  
 WEIR CREST EL. = 36.85  
 WEIR LENGTH = 2'  
 PIPE MATERIAL = REINFORCED CONCRETE  
 PIPE LENGTH = 34'  
 PIPE DIA. = 24"  
 PIPE INVERTS = INV. UP: 35.80  
 INV. DN: 36.00  
 E.S. CREST = 39.00  
 E.S. DEPTH = 1.0'  
 E.S. LENGTH = 12'  
 E.S. WIDTH = 47'  
 ANTI-SEEP COLLAR = REINFORCED CONCRETE  
 COLLAR DIM. = 7.0' X 7.0'  
 COLLAR SPACING = N/A - 1 COLLAR

**NOTES:**  
 CONSTRUCT TEMPORARY BLOCKADE OVER LOW FLOW ORIFICE USING A SHEET OF EXTERIOR GRADE PRESSURE TREATED (P) WOOD (CSB NOT ACCEPTABLE) ATTACHED TO THE WALL USING DRILLED METAL CONCRETE FASTENERS (TAPCON) AND SEALED WITH EXTERIOR GRADE SILICONEZED ACRYLIC CAULK. ALL JOINTS ARE TO BE WATER TIGHT. CUT 4" ORIFICE IN WOOD TO CONNECT THE SKIMMER DEWATERING DEVICE. CONTRACTOR SHALL FURNISH A WATER TIGHT ADAPTER TO MAKE THE CONNECTION. WHEN BASIN IS CONVERTED, REMOVE PLYWOOD AND TAPCONS.

**RIPRAP OUTLET SEDIMENT TRAP RST-6 DESIGN DATA**  
 D.A. = 1.02 AC.  
 V<sub>s</sub> REQUIRED = 2,988 CF  
 V<sub>s</sub> PROVIDED = 637 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 43.25  
 DEWATERING ELEVATION = 44.00  
 EMBANKMENT TOP WIDTH = 7'  
 EMBANKMENT TOP EL. = 45.00  
 BOTTOM EL. = 43.00  
 WEIR CREST EL. = 43.50  
 WEIR LENGTH = 10.0'  
 CHANNEL DEPTH = 1.0'

EMERGENCY SPILLWAY = N/A  
 ANTI-SEEP COLLAR = N/A

**NOTES:**  
 DESIGN SHALL FOLLOW RIPRAP OUTLET SEDIMENT TRAP DETAILS. INSTALL APS BRAND FLOC LOG AT RUNOFF INFLOW POINT. REPLACE AS NECESSARY. REMOVE FLOC LOG UPON CONVERSION TO PERMANENT WETLAND FOREBAY PER THE APPROVED STORMWATER MANAGEMENT PLANS.

**RIPRAP OUTLET SEDIMENT TRAP RST-7 DESIGN DATA**  
 D.A. = 1.15 AC.  
 V<sub>s</sub> REQUIRED = 3,420 CF  
 V<sub>s</sub> PROVIDED = 703 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 43.25  
 DEWATERING ELEVATION = 43.50  
 EMBANKMENT TOP WIDTH = 3'  
 EMBANKMENT TOP EL. = 44.50  
 BOTTOM EL. = 43.00  
 WEIR CREST EL. = 43.50  
 WEIR LENGTH = 10.0'  
 CHANNEL DEPTH = 1.0'

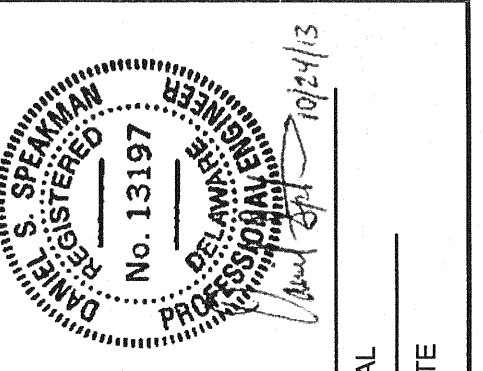
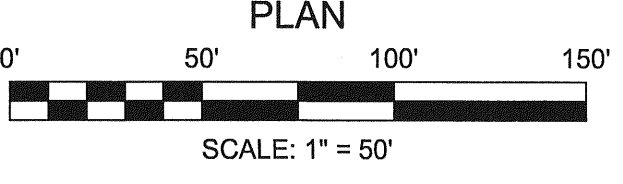
EMERGENCY SPILLWAY = N/A  
 ANTI-SEEP COLLAR = N/A

**NOTES:**  
 DESIGN SHALL FOLLOW RIPRAP OUTLET SEDIMENT TRAP DETAILS. INSTALL APS BRAND FLOC LOG AT RUNOFF INFLOW POINT. REPLACE AS NECESSARY. REMOVE FLOC LOG UPON CONVERSION TO PERMANENT WETLAND FOREBAY PER THE APPROVED STORMWATER MANAGEMENT PLANS.

**MATCHLINE SEE SHEET ES-6**

**MATCHLINE SEE SHEET ES-3**

**MATCHLINE SEE SHEET ES-4**



REV. #	DATE	DESCRIPTION

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DATE:	FEBRUARY 2013
JOB NUMBER:	D3030162
SCALE:	1"=50'
DRAWN BY:	MAK
DESIGNED BY:	MAK
APPROVED BY:	
FOLDER REFERENCE:	F:03030162

EROSION & SEDIMENT CONTROL PLAN (3 OF 5)

FILE NO. SL-11-01

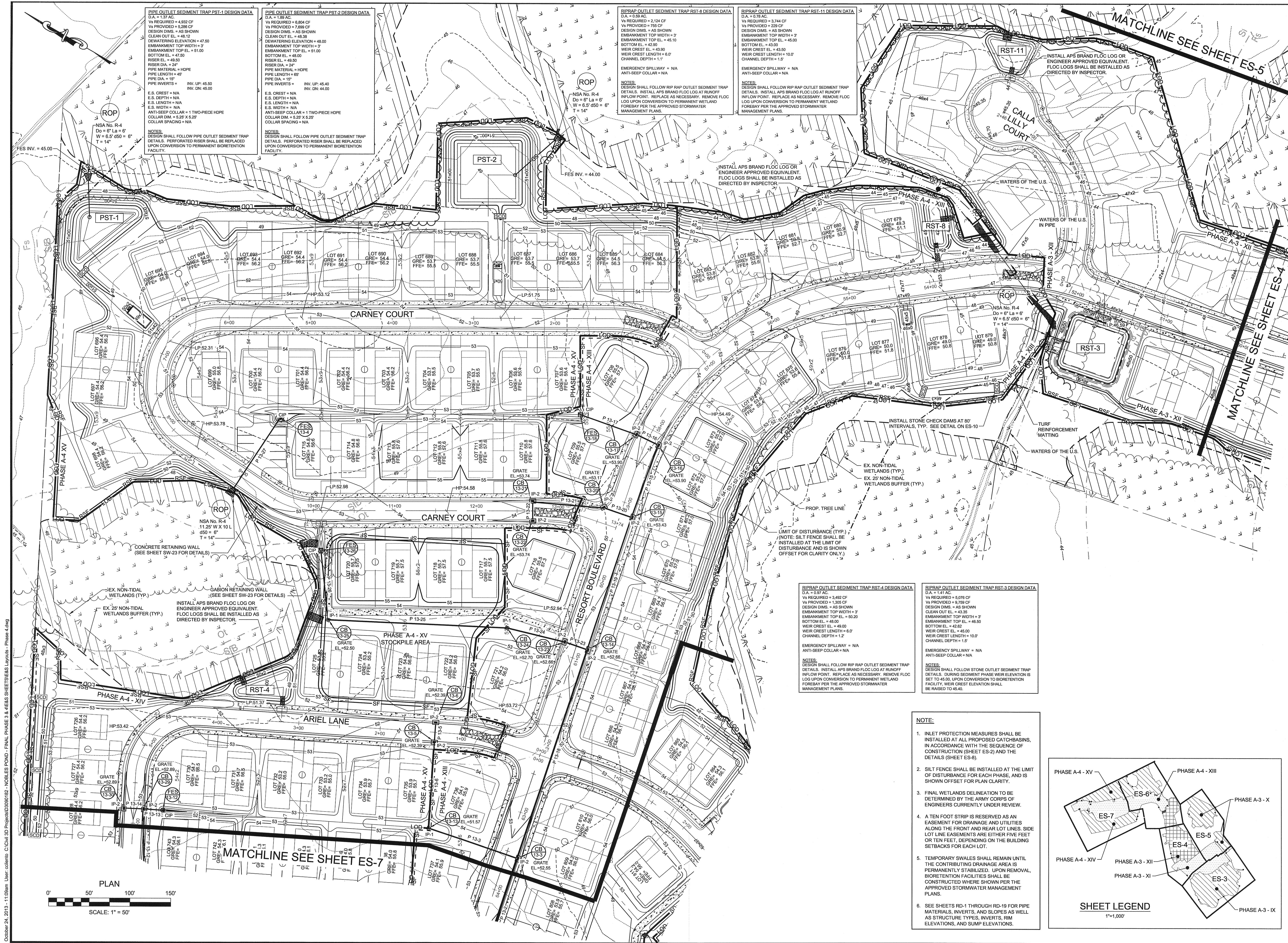
**VILLAGES OF NOBLES POND  
 PHASES 3A & 4A**

KENTON HUNDRED, KENT COUNTY, DELAWARE

FOR: EDDIE EVANS FARMS, LLC

SHEET NO.: ES-5

FILE NO.: 1446-B



**PIPE OUTLET SEDIMENT TRAP RST-1 DESIGN DATA**  
 D.A. = 1.37 AC  
 V<sub>s</sub> REQUIRED = 4,932 CF  
 V<sub>s</sub> PROVIDED = 5,298 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 48.12  
 DEMONSTRATION ELEVATION = 48.00  
 EMBANKMENT TOP WIDTH = 3'  
 BOTTOM EL. = 47.20  
 RISER EL. = 49.20  
 RISER DIA. = 24"  
 PIPE MATERIAL = HDPE  
 PIPE LENGTH = 45'  
 PIPE DIA. = 18"  
 PIPE INVERTS = INV. UP: 45.50  
 INV. DN: 45.00

**NOTES:**  
 DESIGN SHALL FOLLOW PIPE OUTLET SEDIMENT TRAP DETAILS. PERFORATED RISER SHALL BE REPLACED UPON CONVERSION TO PERMANENT BIOTRETENTION FACILITY.

**PIPE OUTLET SEDIMENT TRAP RST-2 DESIGN DATA**  
 D.A. = 1.84 AC  
 V<sub>s</sub> REQUIRED = 6,804 CF  
 V<sub>s</sub> PROVIDED = 7,880 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 48.38  
 DEMONSTRATION ELEVATION = 48.00  
 EMBANKMENT TOP WIDTH = 3'  
 BOTTOM EL. = 48.00  
 RISER EL. = 49.50  
 RISER DIA. = 24"  
 PIPE MATERIAL = HDPE  
 PIPE LENGTH = 60'  
 PIPE DIA. = 18"  
 PIPE INVERTS = INV. UP: 45.40  
 INV. DN: 44.00

**NOTES:**  
 DESIGN SHALL FOLLOW PIPE OUTLET SEDIMENT TRAP DETAILS. PERFORATED RISER SHALL BE REPLACED UPON CONVERSION TO PERMANENT BIOTRETENTION FACILITY.

**RIPRAP OUTLET SEDIMENT TRAP RST-8 DESIGN DATA**  
 D.A. = 0.92 AC  
 V<sub>s</sub> REQUIRED = 2,124 CF  
 V<sub>s</sub> PROVIDED = 2,229 CF  
 DESIGN DIMS. = AS SHOWN  
 EMBANKMENT TOP WIDTH = 3'  
 EMBANKMENT TOP EL. = 46.10  
 BOTTOM EL. = 42.90  
 WEIR CREST EL. = 45.50  
 WEIR CREST LENGTH = 6.0'  
 CHANNEL DEPTH = 1.1'  
 EMERGENCY SPILLWAY = N/A  
 ANTI-SEEP COLLAR = N/A

**NOTES:**  
 DESIGN SHALL FOLLOW RIP RAP OUTLET SEDIMENT TRAP DETAILS. INSTALL APS BRAND FLOC LOG AT RUNOFF INFLOW POINT. REPLACE AS NECESSARY. REMOVE FLOC LOG UPON CONVERSION TO PERMANENT WETLAND FOREBAY PER THE APPROVED STORMWATER MANAGEMENT PLANS.

**RIPRAP OUTLET SEDIMENT TRAP RST-11 DESIGN DATA**  
 D.A. = 0.78 AC  
 V<sub>s</sub> REQUIRED = 2,744 CF  
 V<sub>s</sub> PROVIDED = 2,929 CF  
 DESIGN DIMS. = AS SHOWN  
 EMBANKMENT TOP WIDTH = 3'  
 EMBANKMENT TOP EL. = 46.50  
 BOTTOM EL. = 43.00  
 WEIR CREST EL. = 45.50  
 WEIR CREST LENGTH = 10.0'  
 CHANNEL DEPTH = 1.5'  
 EMERGENCY SPILLWAY = N/A  
 ANTI-SEEP COLLAR = N/A

**NOTES:**  
 DESIGN SHALL FOLLOW RIP RAP OUTLET SEDIMENT TRAP DETAILS. INSTALL APS BRAND FLOC LOG AT RUNOFF INFLOW POINT. REPLACE AS NECESSARY. REMOVE FLOC LOG UPON CONVERSION TO PERMANENT WETLAND FOREBAY PER THE APPROVED STORMWATER MANAGEMENT PLANS.

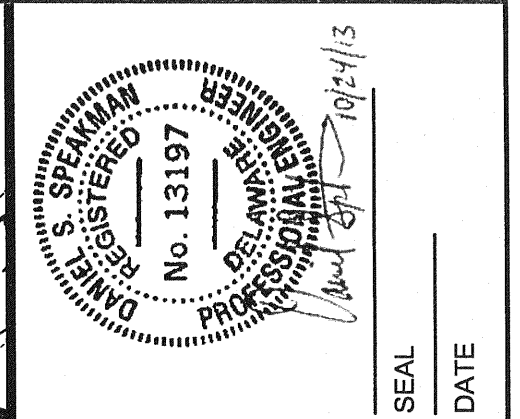
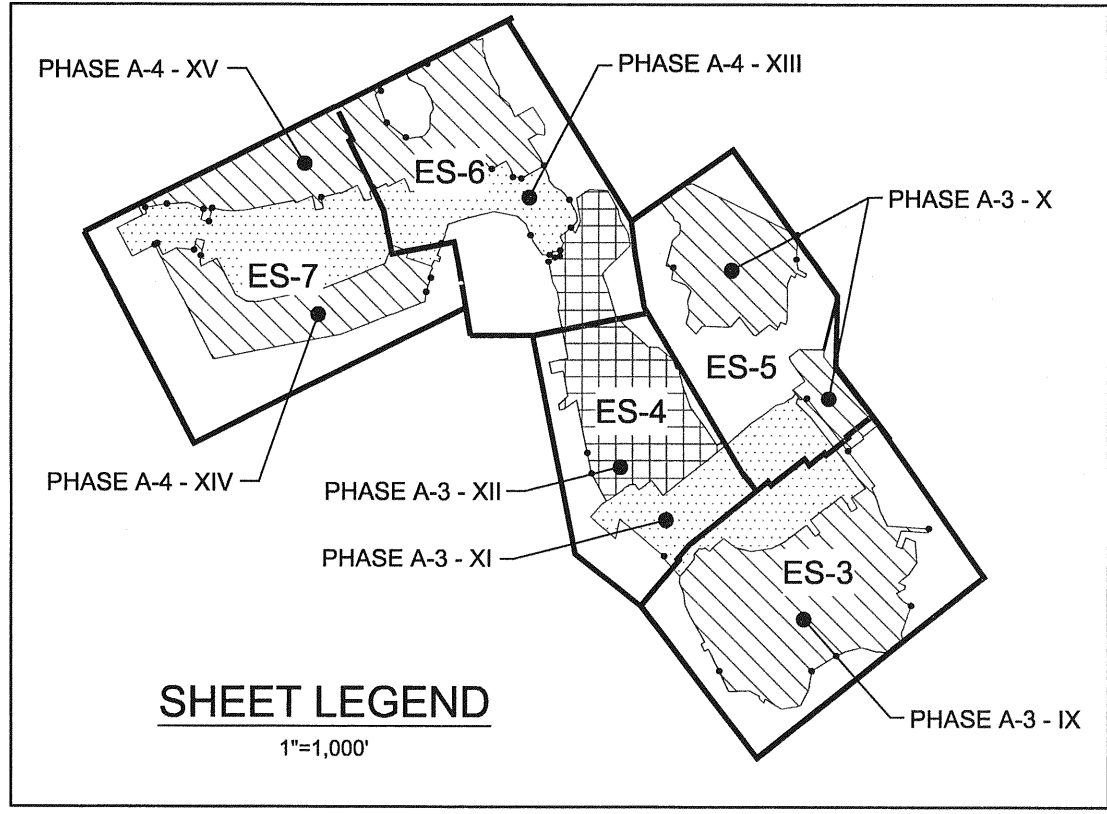
**RIPRAP OUTLET SEDIMENT TRAP RST-4 DESIGN DATA**  
 D.A. = 0.97 AC  
 V<sub>s</sub> REQUIRED = 3,492 CF  
 V<sub>s</sub> PROVIDED = 3,309 CF  
 DESIGN DIMS. = AS SHOWN  
 EMBANKMENT TOP WIDTH = 3'  
 EMBANKMENT TOP EL. = 62.20  
 BOTTOM EL. = 48.00  
 WEIR CREST EL. = 48.00  
 WEIR CREST LENGTH = 6.0'  
 CHANNEL DEPTH = 1.2'  
 EMERGENCY SPILLWAY = N/A  
 ANTI-SEEP COLLAR = N/A

**NOTES:**  
 DESIGN SHALL FOLLOW RIP RAP OUTLET SEDIMENT TRAP DETAILS. INSTALL APS BRAND FLOC LOG AT RUNOFF INFLOW POINT. REPLACE AS NECESSARY. REMOVE FLOC LOG UPON CONVERSION TO PERMANENT WETLAND FOREBAY PER THE APPROVED STORMWATER MANAGEMENT PLANS.

**RIPRAP OUTLET SEDIMENT TRAP RST-3 DESIGN DATA**  
 D.A. = 1.41 AC  
 V<sub>s</sub> REQUIRED = 6,076 CF  
 V<sub>s</sub> PROVIDED = 6,759 CF  
 DESIGN DIMS. = AS SHOWN  
 CLEAN OUT EL. = 43.20  
 EMBANKMENT TOP WIDTH = 3'  
 EMBANKMENT TOP EL. = 46.50  
 BOTTOM EL. = 42.00  
 WEIR CREST EL. = 45.00  
 WEIR CREST LENGTH = 10.0'  
 CHANNEL DEPTH = 1.0'  
 EMERGENCY SPILLWAY = N/A  
 ANTI-SEEP COLLAR = N/A

**NOTES:**  
 DESIGN SHALL FOLLOW STONE OUTLET SEDIMENT TRAP DETAILS. DURING SEDIMENT PHASE WEIR ELEVATION IS SET TO 46.00. UPON CONVERSION TO BIOTRETENTION FACILITY, WEIR CREST ELEVATION SHALL BE RAISED TO 45.40.

- NOTE:**
1. INLET PROTECTION MEASURES SHALL BE INSTALLED AT ALL PROPOSED CATCHBASINS, IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION (SHEET ES-2) AND THE DETAILS (SHEET ES-8).
  2. SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE FOR EACH PHASE, AND IS SHOWN OFFSET FOR PLAN CLARITY.
  3. FINAL WETLANDS DELINEATION TO BE DETERMINED BY THE ARMY CORPS OF ENGINEERS CURRENTLY UNDER REVIEW.
  4. A TEN FOOT STRIP IS RESERVED AS AN EASEMENT FOR DRAINAGE AND UTILITIES ALONG THE FRONT AND REAR LOT LINES. SIDE LOT LINE EASEMENTS ARE EITHER FIVE FEET OR TEN FEET, DEPENDING ON THE BUILDING SETBACKS FOR EACH LOT.
  5. TEMPORARY SWALES SHALL REMAIN UNTIL THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED. UPON REMOVAL, BIOTRETENTION FACILITIES SHALL BE CONSTRUCTED WHERE SHOWN PER THE APPROVED STORMWATER MANAGEMENT PLANS.
  6. SEE SHEETS RD-1 THROUGH RD-19 FOR PIPE MATERIALS, INVERTS, AND SLOPES AS WELL AS STRUCTURE TYPES, INVERTS, RISE ELEVATIONS, AND SUMP ELEVATIONS.

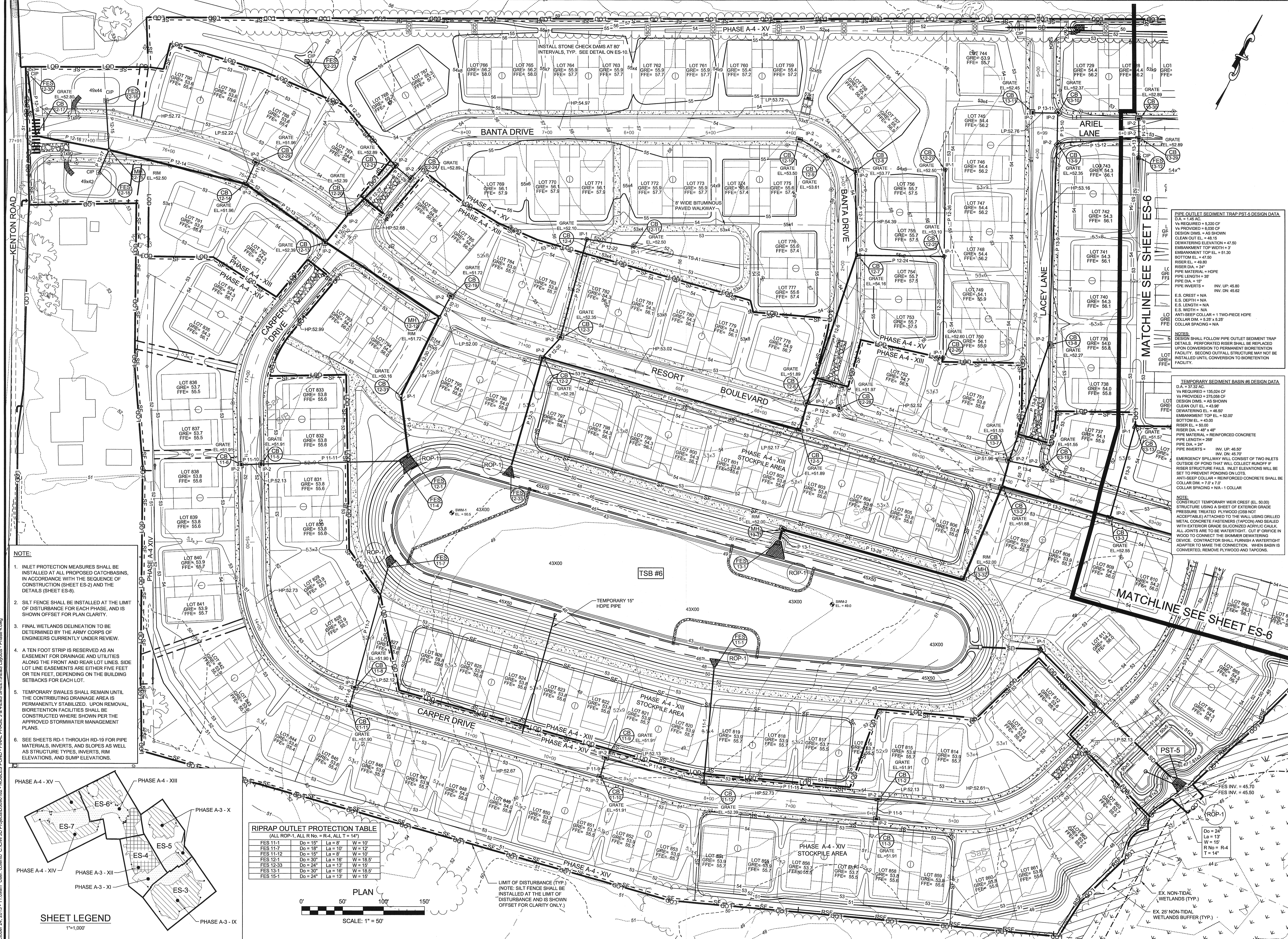


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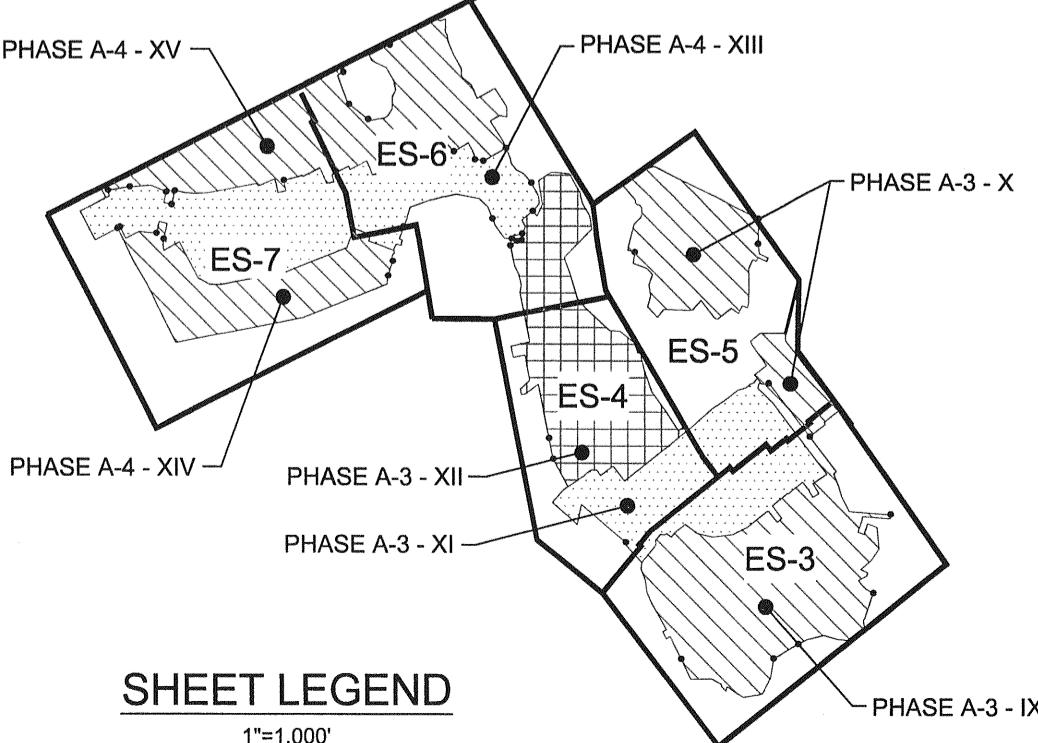
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DATE:	FEBRUARY 2013
JOB NUMBER:	D3080182
SCALE:	1"=50'
DRAWN BY:	MAK
DESIGNED BY:	MAK
APPROVED BY:	DSS
FOLDER REFERENCE:	F-03080182

EROSION & SEDIMENT CONTROL PLAN (4 OF 5)  
 FILE NO. SL-11-01  
**VILLAGES OF NOBLES POND PHASES 3A & 4A**  
 KENTON HUNDRED, KENT COUNTY, DELAWARE  
 FOR: EDDIE EVANS FARMS, LLC  
 SHEET NO.: **ES-6**  
 FILE NO.: **1446-B**

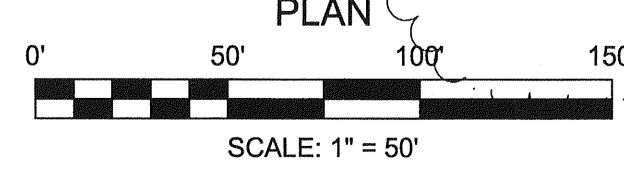


- NOTE:**
1. INLET PROTECTION MEASURES SHALL BE INSTALLED AT ALL PROPOSED CATCHBASINS, IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION SHEET ES-2) AND THE DETAILS (SHEET ES-8).
  2. SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE FOR EACH PHASE, AND IS SHOWN OFFSET FOR PLAN CLARITY.
  3. FINAL WETLANDS DELINEATION TO BE DETERMINED BY THE ARMY CORPS OF ENGINEERS CURRENTLY UNDER REVIEW.
  4. A TEN FOOT STRIP IS RESERVED AS AN EASEMENT FOR DRAINAGE AND UTILITIES ALONG THE FRONT AND REAR LOT LINES. SIDE LOT LINE EASEMENTS ARE EITHER FIVE FEET OR TEN FEET, DEPENDING ON THE BUILDING SETBACKS FOR EACH LOT.
  5. TEMPORARY SWALES SHALL REMAIN UNTIL THE CONTRIBUTING DRAINAGE AREA IS PERMANENTLY STABILIZED. UPON REMOVAL, BIORETENTION FACILITIES SHALL BE CONSTRUCTED WHERE SHOWN PER THE APPROVED STORMWATER MANAGEMENT PLANS.
  6. SEE SHEETS RD-1 THROUGH RD-19 FOR PIPE MATERIALS, INVERTS, AND SLOPES AS WELL AS STRUCTURE TYPES, INVERTS, RIM ELEVATIONS, AND SUMP ELEVATIONS.



**RIPRAP OUTLET PROTECTION TABLE**  
(ALL ROP-1, ALL R No. = R-4, ALL T = 14")

FES	Do	La	W
FES 11-1	Do = 15"	La = 8'	W = 10'
FES 11-7	Do = 15"	La = 10'	W = 12'
FES 11-12	Do = 15"	La = 8'	W = 10'
FES 12-1	Do = 30"	La = 16'	W = 18.5'
FES 12-33	Do = 24"	La = 13'	W = 15'
FES 13-1	Do = 30"	La = 16'	W = 18.5'
FES 15-1	Do = 24"	La = 13'	W = 15'



LIMIT OF DISTURBANCE (TYP.)  
(NOTE: SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF DISTURBANCE AND IS SHOWN OFFSET FOR CLARITY ONLY.)

**PIPE OUTLET SEDIMENT TRAP PST-5 DESIGN DATA**  
D.A. = 1.45 AC  
VS REQUIRED = 3,200 CF  
VS PROVIDED = 8,000 CF  
DESIGN DIVS. = AS SHOWN  
CLEAN OUT EL. = 48.15  
DEWATERING ELEVATION = 47.50  
EMBANKMENT TOP WIDTH = 3'  
BOTTOM EL. = 47.50  
RISER EL. = 49.00  
RISER DIA. = 24"  
PIPE MATERIAL = HDPE  
PIPE LENGTH = 30'  
PIPE DIA. = 15"  
PIPE INVERTS = INV. UP: 45.80  
INV. DN: 45.82

**TEMPORARY SEDIMENT BASIN R#6 DESIGN DATA**  
D.A. = 37.32 AC  
VS REQUIRED = 135,034 CF  
VS PROVIDED = 275,058 CF  
DESIGN DIVS. = AS SHOWN  
CLEAN OUT EL. = 43.99  
DEWATERING EL. = 46.50  
EMBANKMENT TOP EL. = 52.00  
BOTTOM EL. = 43.00  
RISER EL. = 50.00  
RISER DIA. = 48" x 48"  
PIPE MATERIAL = REINFORCED CONCRETE  
PIPE LENGTH = 288'  
PIPE DIA. = 24"  
PIPE INVERTS = INV. UP: 46.50  
INV. DN: 46.50

EMERGENCY SPILLWAY WILL CONSIST OF TWO INLETS OUTSIDE OF POND THAT WILL COLLECT RUNOFF IF RISER STRUCTURE FAILS. INLET ELEVATIONS WILL BE SET TO PREVENT PONDS ON LOTS.  
ANTI-SHEEP COLLAR = REINFORCED CONCRETE SHALL BE COLLAR DIA. = 7.0' x 7.0'  
COLLAR SPACING = N/A - 1 COLLAR

**NOTE:**  
CONSTRUCT TEMPORARY WEIR CREST (EL. 50.00) STRUCTURE USING A SHEET OF EXTERIOR GRADE PRESSURE TREATED PLYWOOD (OSB NOT OSB/FIBER) ATTACHED TO THE WALL USING DRILLED METAL CONCRETE FASTENERS (TAPCON) AND SEALED WITH EXTERIOR GRADE SILICONIZED ACRYLIC CAULK. ALL JOINTS ARE TO BE WATER TIGHT. CUT UP CONCRETE IN WOOD TO CONNECT THE SKIMMER DEWATERING DEVICE. CONTRACTOR SHALL FURNISH A WATER TIGHT ADAPTER TO MAKE THE CONNECTION. WHEN BASIN IS CONVERTED, REMOVE PLYWOOD AND TAPCONS.

SEAL DATE

REV. #	DATE	DESCRIPTION

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DATE: FEBRUARY 2013	JOB NUMBER: D3060162	SCALE: 1"=50'	DRAWN BY: MAK	DESIGNED BY: MAK	APPROVED BY: DSS	FOLDER REFERENCE: F-D3060162
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**EROSION & SEDIMENT CONTROL PLAN (5 OF 5)**

FILE NO. SL-11-01  
**VILLAGES OF NOBLES POND  
PHASES 3A & 4A**  
KENTON HUNDRED, KENT COUNTY, DELAWARE  
FOR: EDDIE EVANS FARMS, LLC

SHEET NO.: **ES-7**  
FILE NO.: **1446-B**







**Standard Detail & Specifications**  
**Site Pollution Prevention**

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

**1. Material Inventory**  
Document the storage and use of the following materials:  
a. Concrete  
b. Detergents  
c. Paints (enamel and latex)  
d. Cleaning solvents  
e. Pesticides  
f. Wood scraps  
g. Fertilizers  
h. Petroleum based products

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

**3. Waste management practices**  
a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.  
b. Waste materials shall be salvaged and/or recycled whenever possible.  
c. 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: **DE-ESC-3.6.1**  
Detail No. DE-ESC-3.6.1 Sheet 1 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Site Pollution Prevention**

**Notes (cont.)**  
d. Trash shall be disposed of in accordance with all applicable Delaware laws.  
e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.  
f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheathing which is overlapped and anchored.

**4. Equipment maintenance practices**  
a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.  
b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.  
c. Drip pans shall be used for all equipment maintenance.  
d. Equipment shall be inspected for leaks on a daily basis.  
e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.  
f. Fuel nozzles shall be equipped with automatic shut-off valves.  
g. 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**  
a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.  
b. Warning signs shall be posted in hazardous material storage areas.  
c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.  
d. Low or non-toxic substances shall be prioritized for use.

Source: Adapted from USEPA Pub. 840-B-92-002  
Symbol: **DE-ESC-3.6.1**  
Detail No. DE-ESC-3.6.1 Sheet 2 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Site Pollution Prevention**

**Notes (cont.)**  
e. Contact information for Delaware's Emergency Response Team, shall be prominently posted.  
6. **Education**  
a. Best management practices for construction site pollution control shall be a part of regular progress meetings.  
b. 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: 800-442-8802  
DNREC Emergency Response Team: 302-739-3694  
DNREC Solid & Hazardous Waste Branch: 302-739-3689

Source: Adapted from USEPA Pub. 840-B-92-002  
Symbol: **DE-ESC-3.6.1**  
Detail No. DE-ESC-3.6.1 Sheet 3 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Tree Protection**

**Location of Tree Protection**

**Methods of Tree Protection**

**Construction Notes:**  
Any device may be used which will effectively protect the roots, trunk and top of trees retained on the site. However, trees to be retained within 40 feet of a proposed building or excavation shall be protected by fencing. 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.

**Materials:**  
1. Snow Fence - Standard 40-inch high snow fence shall be placed at the limits of clearing on standard steel posts set 6 feet apart.  
2. 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. 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.  
3. 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:  
a. Tensile yield: Average 2,000 lbs. per 4-foot width (ASTM D638)  
b. Ultimate tensile yield: Average 2,900 lbs. per 4-foot width (ASTM D638)  
c. Elongation at break (%): Greater than 100% (ASTM D638)  
d. Chemical resistance: Inert to most chemicals and acids

Source: Adapted from VA ESC Handbook  
Symbol: **TP**  
Detail No. **DE-ESC-3.7.2**  
Sheet 1 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Tree Protection**

**Construction Notes:**  
1. Snow Fence - Standard 40-inch high snow fence shall be placed at the limits of clearing on standard steel posts set 6 feet apart.  
2. 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. 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.  
3. 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:  
a. Tensile yield: Average 2,000 lbs. per 4-foot width (ASTM D638)  
b. Ultimate tensile yield: Average 2,900 lbs. per 4-foot width (ASTM D638)  
c. Elongation at break (%): Greater than 100% (ASTM D638)  
d. Chemical resistance: Inert to most chemicals and acids

Source: Adapted from VA ESC Handbook  
Symbol: **TP**  
Detail No. **DE-ESC-3.7.2**  
Sheet 2 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Tree Protection**

**Construction Notes:**  
4. 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 or 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.  
5. Earth Berms - Temporary earth berms shall be constructed according to specifications for a Temporary Earth Dike with the base of the berm on the true side located along the limits of clearing. Earth berms may not be used for this purpose if their presence will conflict with drainage patterns.  
6. Additional Trees - Additional trees may be left standing as protection between the trunks of the trees to be retained and the limits of clearing. However, in order for this alternative to be used, the trunks of the trees in the buffer must be no more than 6 feet apart to prevent passage of equipment and material through the buffer. These additional trees shall be reexamined prior to the completion of construction and either be given sufficient treatment to ensure survival or be removed.  
7. Trunk Armoring - As a last resort, a tree trunk can be armored with bark 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: **TP**  
Detail No. **DE-ESC-3.7.2**  
Sheet 3 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Riprap Outlet Protection - 1**

**Construction Notes:**  
1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.  
2. The riprap shall conform to the grading limits as shown on the plan.  
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.  
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the filter cloth. Hand placement will be required to the extent necessary to prevent damage to the conduits, structures, etc.

**DATA**  
Pipe diameter (D<sub>p</sub>)  
Apron length (L)  
Apron width (W)  
Riprap size (R No.)  
Riprap thickness (T)

**Construction Notes:**  
NOTE: Key into exist. gnd  
 $T_w < 0.5 D_p$

Source: Adapted from MD Sds. & Specs. for ESC  
Symbol: **ROP-1**  
Detail No. **DE-ESC-3.3.10.1**  
Sheet 1 of 2  
Date: 12/03

**Standard Detail & Specifications**  
**Riprap Outlet Protection - 1**

**Construction Notes:**  
1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.  
2. The riprap shall conform to the grading limits as shown on the plan.  
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.  
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the filter cloth. Hand placement will be required to the extent necessary to prevent damage to the conduits, structures, etc.

**DATA**  
Pipe diameter (D<sub>p</sub>)  
Apron length (L)  
Apron width (W)  
Riprap size (R No.)  
Riprap thickness (T)

**Construction Notes:**  
NOTE: Key into exist. gnd  
 $T_w < 0.5 D_p$

Source: Adapted from MD Sds. & Specs. for ESC  
Symbol: **ROP-1**  
Detail No. **DE-ESC-3.3.10.1**  
Sheet 2 of 2  
Date: 12/03

**Standard Detail & Specifications**  
**Riprap Outlet Protection - 2**

**Construction Notes:**  
1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.  
2. The riprap shall conform to the grading limits as shown on the plan.  
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.  
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the conduits, structures, etc.

**DATA**  
Pipe diameter (D<sub>p</sub>)  
Apron length (L)  
Apron width (W)  
Riprap size (R No.)  
Riprap thickness (T)

**Construction Notes:**  
NOTE: Key into exist. gnd  
 $T_w > 0.5 D_p$

Source: Adapted from MD E&S Manual  
Symbol: **ROP-2**  
Detail No. **DE-ESC-3.3.10.2**  
Sheet 1 of 2  
Date: 12/03

**Standard Detail & Specifications**  
**Riprap Outlet Protection - 2**

**Construction Notes:**  
1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.  
2. The riprap shall conform to the grading limits as shown on the plan.  
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.  
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the conduits, structures, etc.

**DATA**  
Pipe diameter (D<sub>p</sub>)  
Apron length (L)  
Apron width (W)  
Bottom width (b)  
Riprap depth (d)  
Riprap size (R No.)  
Riprap thickness (T)

**Construction Notes:**  
NOTE: Key into exist. gnd  
 $T_w > 0.5 D_p$

Source: Adapted from MD E&S Manual  
Symbol: **ROP-2**  
Detail No. **DE-ESC-3.3.10.2**  
Sheet 2 of 2  
Date: 12/03

**Standard Detail & Specifications**  
**Stone Check Dam**

**Profile**

**Section**

**Plan**

**DATA**  
Slope (S)  
Spacing (X)  
Length of weir (L)  
Height of stone (Y)

**Construction Notes:**  
1. Swales and channels shall be prepared in accordance with the construction specifications described in the Standards and Specifications for Temporary Berm, Temporary Swale, Vegetated Channel, or Diversions.  
2. The check dam shall be constructed of 4" to 8" riprap. The riprap shall be placed so that it completely covers the width of the channel.  
3. The top of the check dam shall be constructed so that the center is approximately 4" lower than the outer edges, forming a weir that the water can flow across. The minimum length of weir shall be 4'.  
4. The maximum height of the check dam at the center of the weir must not exceed three (3) feet.  
5. Maximum spacing between dams should be the distance in the channel where the toe of the upstream dam is at the same elevation as the top of the downstream dam.

Source: Adapted from MD Sds. & Specs. for ESC  
Symbol: **SCD**  
Detail No. **DE-ESC-3.3.6**  
Sheet 1 of 2  
Date: 12/03

**Standard Detail & Specifications**  
**Stone Check Dam**

**Profile**

**Section**

**Plan**

**DATA**  
Slope (S)  
Spacing (X)  
Length of weir (L)  
Height of stone (Y)

**Construction Notes:**  
1. Swales and channels shall be prepared in accordance with the construction specifications described in the Standards and Specifications for Temporary Berm, Temporary Swale, Vegetated Channel, or Diversions.  
2. The check dam shall be constructed of 4" to 8" riprap. The riprap shall be placed so that it completely covers the width of the channel.  
3. The top of the check dam shall be constructed so that the center is approximately 4" lower than the outer edges, forming a weir that the water can flow across. The minimum length of weir shall be 4'.  
4. The maximum height of the check dam at the center of the weir must not exceed three (3) feet.  
5. Maximum spacing between dams should be the distance in the channel where the toe of the upstream dam is at the same elevation as the top of the downstream dam.

Source: Adapted from MD Sds. & Specs. for ESC  
Symbol: **SCD**  
Detail No. **DE-ESC-3.3.6**  
Sheet 2 of 2  
Date: 12/03

**Standard Detail & Specifications**  
**Dust Control**

**Temporary Methods:**  
1. Mulches - See DE-ESC-3.A.5, Standard Detail and Specifications for Mulching.  
2. Vegetative cover - See DE-ESC-3.A.3, Std. Detail and Specifications for Vegetative Stabilization.  
3. 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 Emission	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

4. 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.  
5. Sprinkling - Sprinkle site with water until the surface is moist. Repeat as needed.  
6. 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.  
7. 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:**  
1. Vegetative cover - See DE-ESC-3.A.3, Std. Detail and Specifications for Vegetative Stabilization.  
2. Stone - Apply layer of crushed stone or coarse gravel to protect soil surface.

Source: Adapted from VA ESC Handbook  
Symbol: **DE-ESC-3.A.8**  
Detail No. DE-ESC-3.A.8 Sheet 1 of 1  
Date: 12/03

**Standard Detail & Specifications**  
**Stream Diversion Channel**

**Perspective**

Source: Adapted from VA ESC Handbook  
Symbol: **SD**  
Detail No. **DE-ESC-3.5.2.3**  
Sheet 1 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Stream Diversion Channel**

**Section A-A (Low velocity lining)**

**Section A-A (High velocity lining)**

**DATA**  
Channel bottom width (B)  
Lining specification

Source: Adapted from VA ESC Handbook  
Symbol: **SD**  
Detail No. **DE-ESC-3.5.2.3**  
Sheet 2 of 3  
Date: 12/03

**Standard Detail & Specifications**  
**Stream Diversion Channel**

**Construction Notes:**  
1. Diversion channel shall be operational prior to any in-stream construction.  
2. Minimum width of bottom shall be 6' or equal to the bottom width of the existing streambed, whichever is less.  
3. Maximum steepness of sideslopes shall be 2:1. Depth and grade may be variable, depending on site conditions, but shall be sufficient to ensure continuous flow of water in the diversion.  
4. Channel lining shall be as specified and installed in accordance with the appropriate detail. Liners shall be secured at the upstream and downstream ends with riprap or other non-erodible material which will allow normal flow of the stream. This material shall not have soil mixed in. Additional material may be placed along the length of the diversion, as needed, to secure the liner.  
5. If a single or continuous liner is not available or is impractical, upstream sections shall overlap downstream sections by a min. of 12".  
6. Liner shall be entrenched at the top of the slope or slope break as shown in the detail. Silt fence or other perimeter control shall be provided unless the liner is extended far enough to prevent sediment from reaching the stream.  
7. Liners shall be secured to the side slopes of the diversion channel using staples and patterns similar to those used for erosion control matting; wooden stakes shall not be used for this purpose.  
8. Stream flow shall be diverted away from the work area in the original streambed using non-erodible, impervious materials such as riprap with geotextile, jersey barriers, sand bags, wood planking, sheet piling, etc. These materials shall be placed so as to prevent or reduce water backing up into the construction area.  
9. Water in the construction area shall be pumped to an approved dewatering practice.  
10. Once in-stream construction has been completed and all disturbed areas stabilized, the downstream flow barrier in the original stream shall be removed first. The upstream flow barrier shall then be removed and the material placed in the upstream end of the diversion, thus redirecting flow back to the original stream channel. The diversion shall then be sealed at the downstream end.  
11. Once the diversion has been sealed at both ends, backfilling of the diversion channel may begin. Liner material, if used, shall be buried or removed and properly disposed of in accordance with the job specifications.  
12. All disturbed areas shall be stabilized in accordance with the approved plan.

Source: Adapted from VA ESC Handbook  
Symbol: **SD**  
Detail No. **DE-ESC-3.5.2.3**  
Sheet 3 of 3  
Date: 12/03

**TYPICAL LOT CONSTRUCTION E & S MEASURES**

Source: Adapted from VA ESC Handbook  
Symbol: **SD**  
Detail No. **DE-ESC-3.5.2.3**  
Sheet 3 of 3  
Date: 12/03

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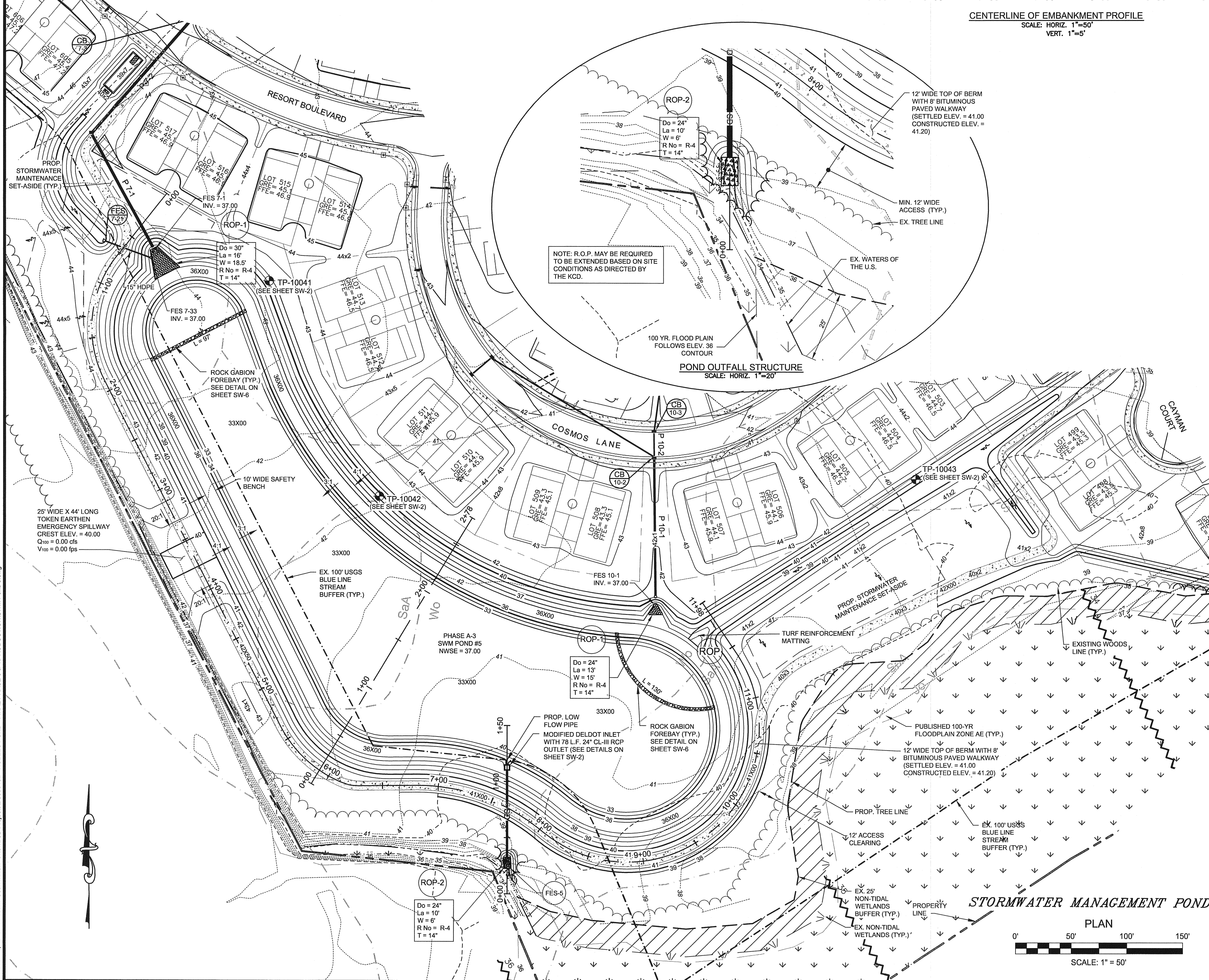
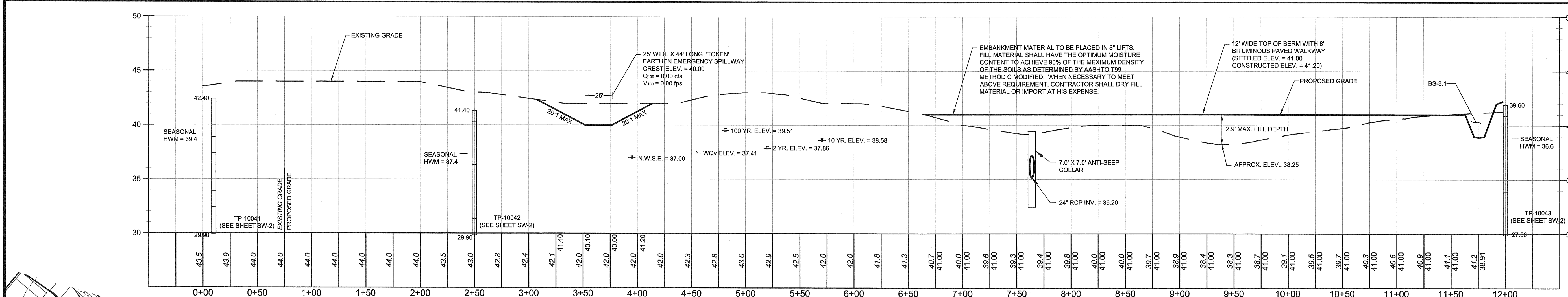
DATE: FEBRUARY 2013  
JOB NUMBER: D3000182  
SCALE: N/A  
DRAWN BY: MJK  
DESIGNED BY: MJK  
APPROVED BY: DSS  
FOLDER REFERENCE: F-D3000182

**EROSION & SEDIMENT CONTROL DETAILS**

FILE NO. SL-11-01  
**VILLAGES OF NOBLES POND PHASES 3A & 4A**  
KENTON HUNDRED, KENT COUNTY, DELAWARE  
FOR: EDDIE EVANS FARMS, LLC

SHEET NO.: ES-10  
FILE NO.: 1446-B

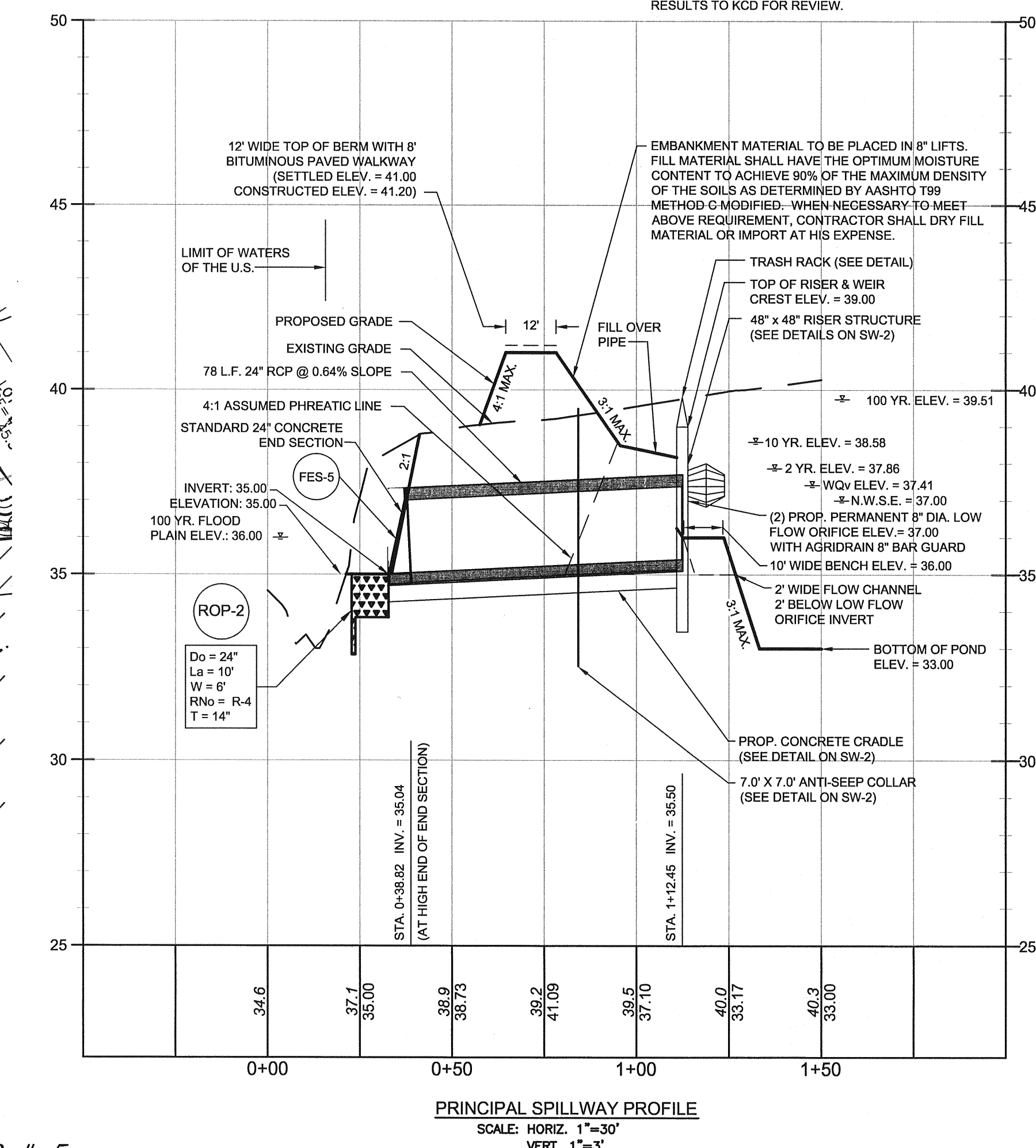
October 24, 2013 - 11:03am User: mkrnb C:\Users\mkra\3D Projects\143901182 - NOBLES POND - FINAL PHASE 3 & 4\PRODUCTIONS\SWM Pond 5.dwg



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NOTE: EMBANKMENT FILL SHALL BE SUPERVISED AND TESTED BY A QUALIFIED TESTING COMPANY. SUPPLY RESULTS TO KCD FOR REVIEW.



SEAL  
DATE

**REVISIONS**

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**STORMWATER MANAGEMENT POND 5 PLAN & PROFILES**

FILE NO. SL-11-01  
**VILLAGES OF NOBLES POND**  
**PHASES 3A & 4A**  
KENTON HUNDRED, KENT COUNTY, DELAWARE

FOR: EDDIE EVANS FARMS, LLC

DATE: FEBRUARY 2013  
JOB NUMBER: D3090102  
SCALE: AS SHOWN  
DRAWN BY: MAK  
DESIGNED BY: MAK  
APPROVED BY: DSS  
FOLDER REFERENCE: F-10000102

SHEET NO.: SW-1  
FILE NO.: 1446-B