UniStar

Visitor Log

Multi-Agency Site Visit - 8/17/2010

Name	Organization	Phone Number
Jim Dukman	Constellation	410-382-7437
Bob Zepp	USFWS	410-573-4536
Shailaja Polasi	MDE	410-537-3521
Kelly Neff	MDE	410-537-4018
Brenda D. Wuse	CCNPP, LLC	410-495-4913
Shannon D. McDonald	MDE	410-537-3603
Thomas King	EA	410-771-4955
Jim Morris	EA	"
Cidney Scanlon	EA	"
Niles Primrose	MD DNR PPRP	410 260 8672
Laura Quinn	US NRC	301-415-2220
WOODY FRANCIS	Corps of Engineers	410-962-5689
KEVIN MAGERR	EPA	215 814-5724
Genna Reed	EPA	215 814 2766
Julie Van Winkle	EPA	952 807 7989
Greg Giles	EPA	215 814 2764
ANDY DINSMORE	EPA	215 814-2788

AGENDA FOR SITE MEETING
CALVERT CLIFFS NUCLEAR POWER PLANT – UNIT #3
August 17, 2010

Meeting Goals/Objectives

1. **To visit Woodland Branch for the purpose of clarifying the existing condition of the stream and the proposed mitigation.**

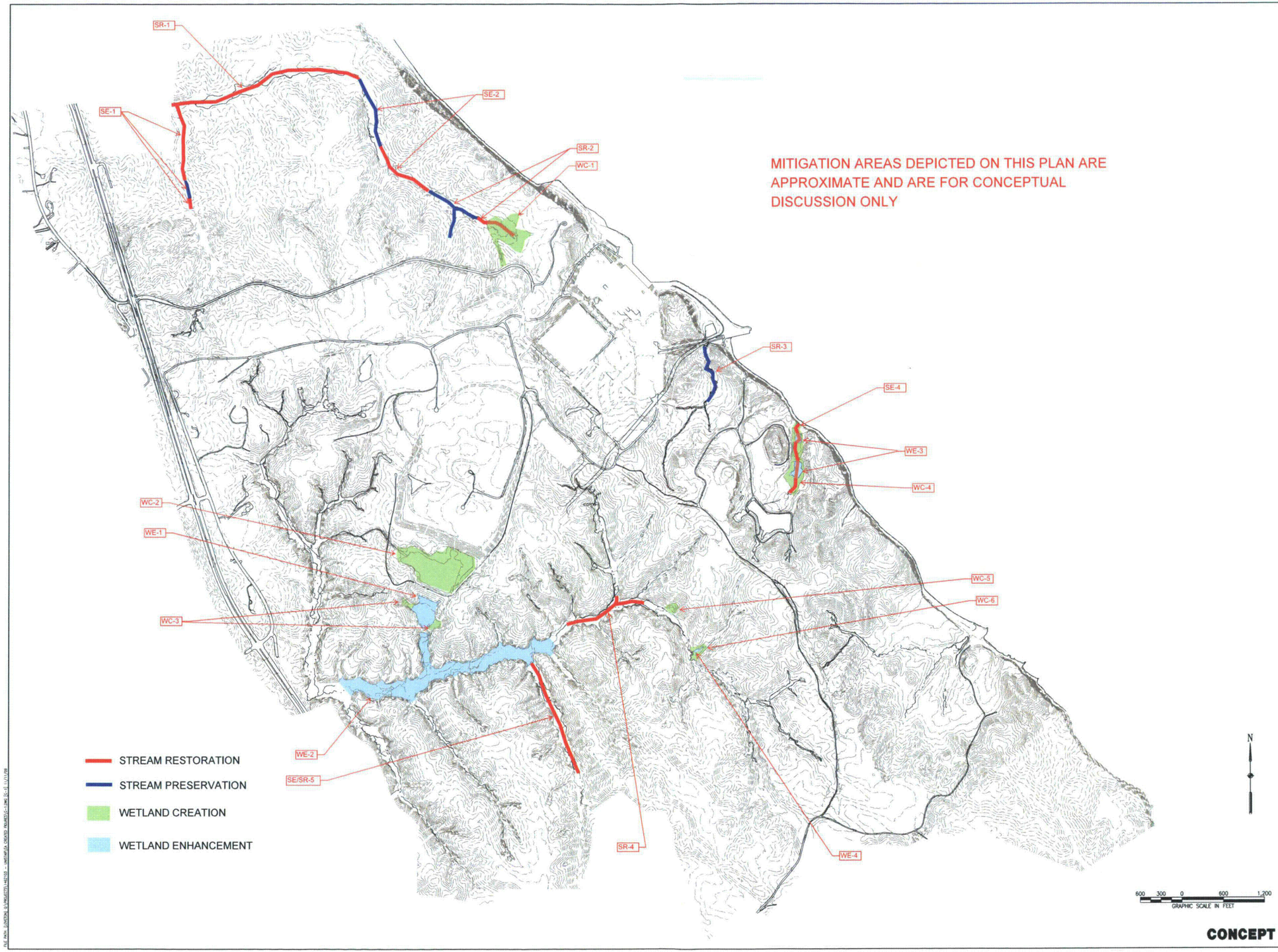
Tuesday 8/17/2010 Meet at Visitors Center/UniStar Office*

10:00	Introductions/Safety Brief	Robbie Mccready/ Jim Burkman
10:15	Overview of Woodland Branch	EA Engineering
10:45	Site Walk/Ride	All
12:30	Re-cap/Lunch UniStar Office	All

***As instructed, please go first to security at the main gate before making the U-Turn and proceeding to the Visitors Center/UniStar Office.**

Site Contacts

Jim Burkman	**410/382-4437**
Robbie Mccready	**443/532-6757**



MITIGATION AREAS DEPICTED ON THIS PLAN ARE APPROXIMATE AND ARE FOR CONCEPTUAL DISCUSSION ONLY

CONCEPT

NO.	DATE	BY	REVISIONS DESCRIPTION

SEAL

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

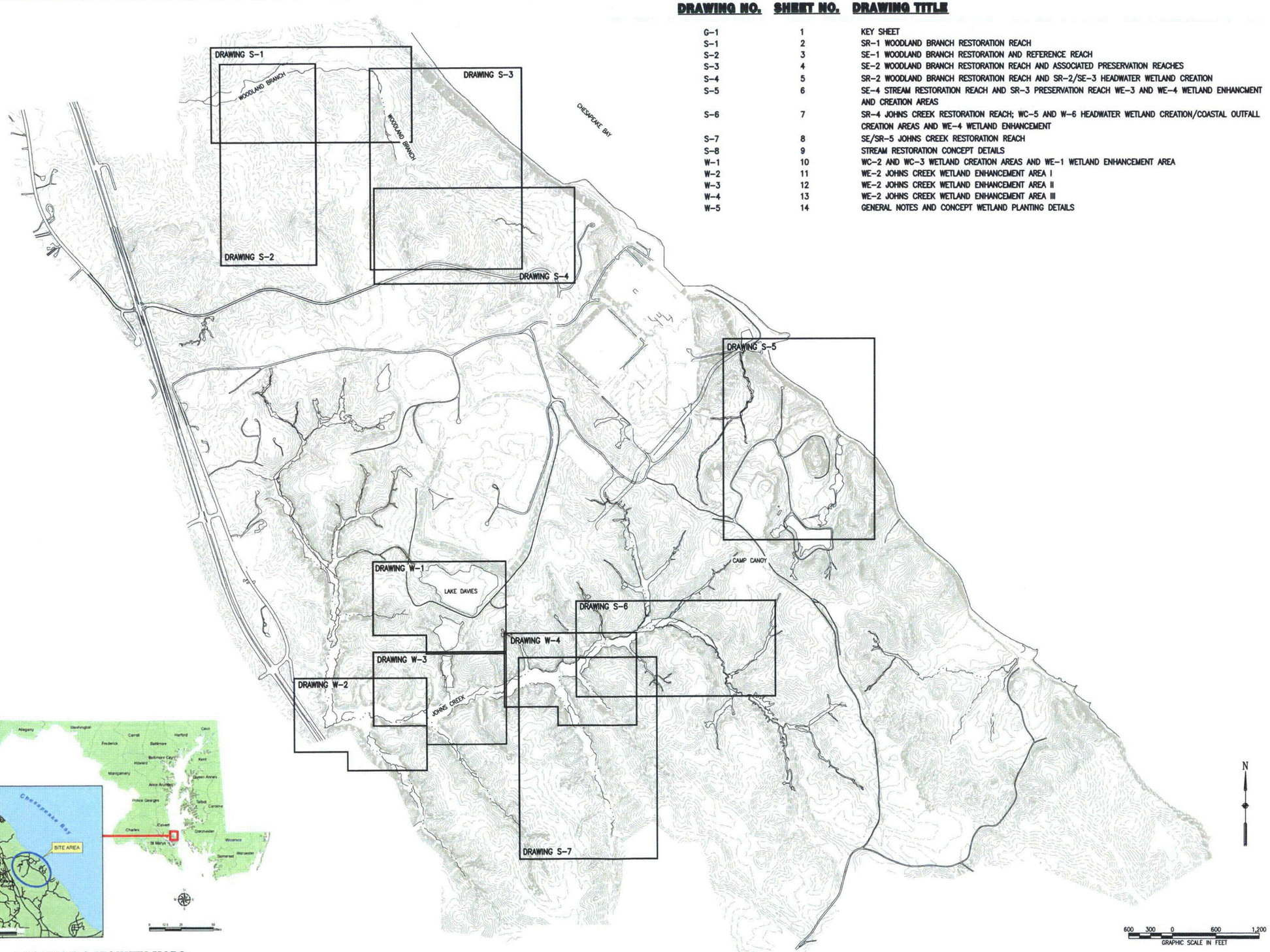
UNISTAR NUCLEAR ENERGY
CALVERT CLIFFS NUCLEAR POWER PLANT
UNIT 3 PHASE II MITIGATION PLAN
LUSBY, MARYLAND

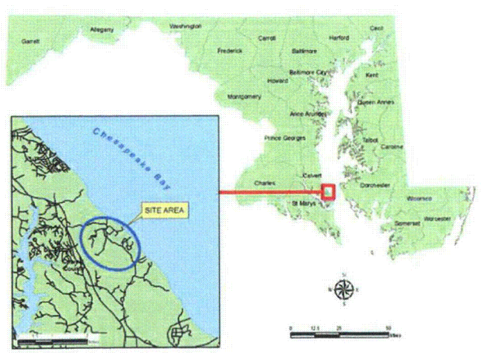
KEY SHEET

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

DATE	NOVEMBER 2009
DESIGNED BY	MP
DRAWN BY	JAP
CHECKED BY	CAT
PROJECT MANAGER	RP
PROJECT NUMBER	14621.03
DRAWING NUMBER	G-1
SHEET NUMBER	1 OF 14

DRAWING NO.	SHEET NO.	DRAWING TITLE
G-1	1	KEY SHEET
S-1	2	SR-1 WOODLAND BRANCH RESTORATION REACH
S-2	3	SE-1 WOODLAND BRANCH RESTORATION AND REFERENCE REACH
S-3	4	SE-2 WOODLAND BRANCH RESTORATION REACH AND ASSOCIATED PRESERVATION REACHES
S-4	5	SR-2 WOODLAND BRANCH RESTORATION REACH AND SR-2/SE-3 HEADWATER WETLAND CREATION
S-5	6	SE-4 STREAM RESTORATION REACH AND SR-3 PRESERVATION REACH WE-3 AND WE-4 WETLAND ENHANCMENT AND CREATION AREAS
S-6	7	SR-4 JOHNS CREEK RESTORATION REACH; WC-5 AND W-6 HEADWATER WETLAND CREATION/COASTAL OUTFALL CREATION AREAS AND WE-4 WETLAND ENHANCEMENT
S-7	8	SE/SR-5 JOHNS CREEK RESTORATION REACH
S-8	9	STREAM RESTORATION CONCEPT DETAILS
W-1	10	WC-2 AND WC-3 WETLAND CREATION AREAS AND WE-1 WETLAND ENHANCEMENT AREA
W-2	11	WE-2 JOHNS CREEK WETLAND ENHANCEMENT AREA I
W-3	12	WE-2 JOHNS CREEK WETLAND ENHANCEMENT AREA II
W-4	13	WE-2 JOHNS CREEK WETLAND ENHANCEMENT AREA III
W-5	14	GENERAL NOTES AND CONCEPT WETLAND PLANTING DETAILS





LOCATION & VICINITY MAPS

CONCEPT

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

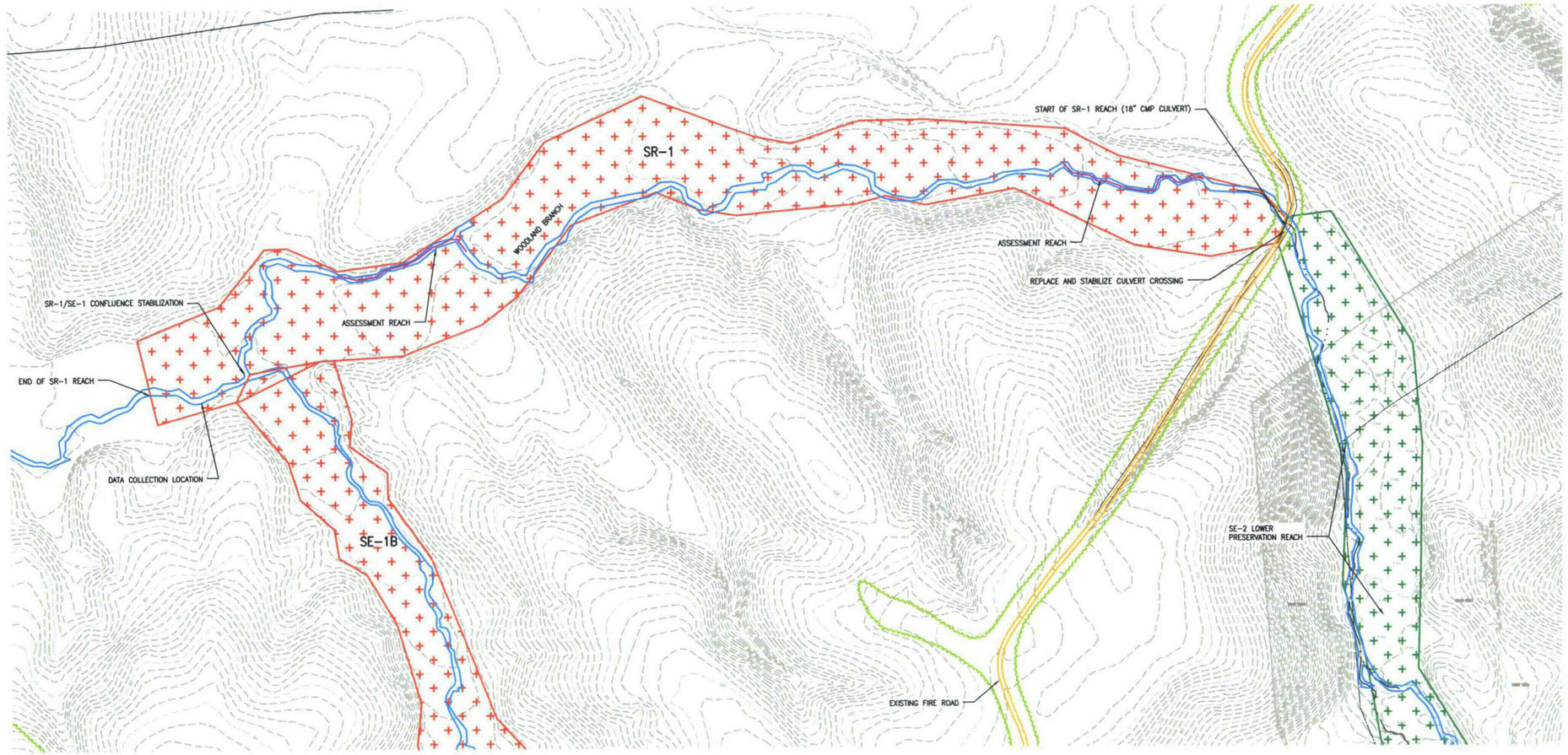
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15453, EXPIRATION DATE: JULY 2, 2011.

UNISTAR NUCLEAR ENERGY
CALVERT CLIFFS NUCLEAR POWER PLANT
UNIT 3 PHASE II MITIGATION PLAN
LUSBY, MARYLAND

KEY SHEET

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

DATE	NOVEMBER 2009
DESIGNED BY	MP
DRAWN BY	JAP
CHECKED BY	GAT
PROJECT MANAGER	RP
PROJECT NUMBER	14621.03
DRAWING NUMBER	G-1
SHEET NUMBER	1 OF 14



LEGEND

- RESTORATION REACH
- REFERENCE / PRESERVATION REACH
- EXISTING STREAM (SURVEYED)
- EXISTING STREAM (FROM MAPPING)
- EXISTING TREELINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING EDGE OF ROAD
- ASSESSMENT REACH

GENERAL NOTES:

1. ASSESSMENT REACHES ARE LOCATED IN PORTIONS OF THE RESTORATION REACHES WHICH ARE TYPICAL OF THE CONDITION OF THE REACH AS A WHOLE, AND/OR SHOW THE TRANSITION BETWEEN IMPAIRED AND STABLE REACHES.
2. CONCEPT PLAN TOPOGRAPHY SOURCE FROM BECHTEL CORPORATION 2007 AND CALVERT COUNTY GIS 2' CONTOURS. UNIT THREE PROPOSED FEATURES CURRENT AS OF OCTOBER 2009 AS PROVIDED BY BECHTEL CORPORATION.

PROPOSED RESTORATION CONCEPT:

1. STABILIZE EXISTING CULVERT CROSSINGS AT FIRE ROAD AND INSTALL ENERGY DISSIPATION LOGS AND RANDOM BOULDERS TO PREVENT DOWNSTREAM CHANNEL INCISION.
2. UPLIFT REACH USING LOG CHANNEL CUT-OFF STRUCTURES. IN MIDDLE PORTION OF REACH, UTILIZE ABANDONED FLOODPLAIN CHANNELS AS NEW CHANNELS, BACKFILLING EXISTING CHANNELS OR CREATING OXBOW WETLANDS. STABILIZE CHANNELS AS NECESSARY WITH LOG AND ROOT STRUCTURES.
3. ENHANCE FLOODPLAIN WITH RIPARIAN PLANTINGS.
4. AT DOWNSTREAM END OF RESTORATION REACH, INSTALL STONE AND LOG STRUCTURES TO TRANSITION TO EXISTING UNRESTORED CHANNEL.
5. SUMMARY: SR-1 2,156 LF OF STREAM RESTORATION

N

100 50 0 100 200
GRAPHIC SCALE IN FEET

CONCEPT

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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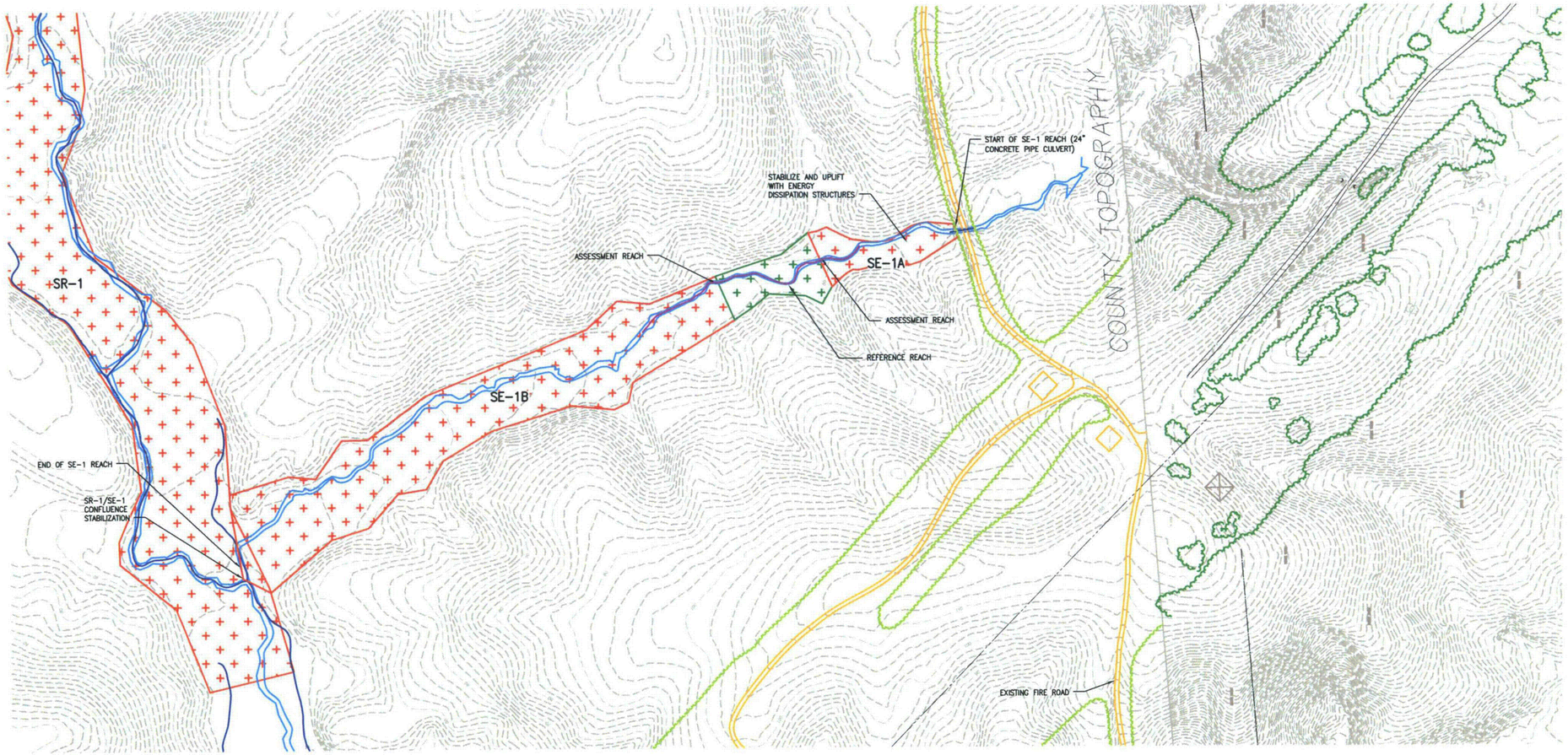
UNISTAR NUCLEAR ENERGY
CALVERT CLIFFS NUCLEAR POWER PLANT
UNIT 3 PHASE II MITIGATION PLAN
LUSBY, MARYLAND

SR-1 WOODLAND BRANCH RESTORATION REACH

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

DATE	NOVEMBER 2009
DESIGNED BY	JJM
DRAWN BY	JJM
CHECKED BY	GAT
PROJECT MANAGER	RP
PROJECT NUMBER	14621.03
DRAWING NUMBER	S-1
SHEET NUMBER	2 OF 14

FILE PATH: Q:\PROJECTS\14621.03 - UNISTAR\EA CREATED FIGURES\CONCEPT_STREAMS_FIGURE.DWG [C-1] 11/4/09



LEGEND

- RESTORATION REACH
- REFERENCE / PRESERVATION REACH
- EXISTING STREAM (SURVEYED)
- EXISTING STREAM (FROM MAPPING)
- EXISTING TREELINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING EDGE OF ROAD
- ASSESSMENT REACH

GENERAL NOTES:

1. ASSESSMENT REACHES ARE LOCATED IN PORTIONS OF THE RESTORATION REACHES WHICH ARE TYPICAL OF THE CONDITION OF THE REACH AS A WHOLE, AND/OR SHOW THE TRANSITION BETWEEN IMPAIRED AND STABLE REACHES.
2. CONCEPT PLAN TOPOGRAPHY SOURCE FROM BECHTEL CORPORATION 2007 AND CALVERT COUNTY GIS 2' CONTOURS. UNIT THREE PROPOSED FEATURES CURRENT AS OF OCTOBER 2009 AS PROVIDED BY BECHTEL CORPORATION.

PROPOSED RESTORATION CONCEPT:

1. INSTALL ENERGY DISSIPATION LOGS AND ROUGHNESS ELEMENTS TO PREVENT DOWNSTREAM CHANNEL INCISION BELOW EXISTING CULVERT.
2. UPLIFT REACH USING LOG CHANNEL CUT-OFF STRUCTURES. IN MIDDLE PORTIONS OF THE REACH, DOWNSTREAM OF REFERENCE, UTILIZE ABANDONED FLOODPLAIN CHANNELS AS NEW CHANNELS, BACKFILLING EXISTING CHANNELS OR CREATING OXBOW WETLANDS. STABILIZE CHANNELS AS NECESSARY WITH LOG AND ROOT STRUCTURES.
3. ENHANCE FLOODPLAIN WITH RIPARIAN PLANTINGS.
4. AT DOWNSTREAM END OF RESTORATION REACH, INSTALL STONE AND LOG STRUCTURES TO TRANSITION TO SR-1 RESTORATION REACH (CONFLUENCE STABLIZATION).
5. SUMMARY: 182 LF OF PRESERVATION (REFERENCE), 1,218 LF OF STREAM RESTORATION

N

100 50 0 100 200
GRAPHIC SCALE IN FEET

CONCEPT

NO.	DATE	BY	REVISIONS DESCRIPTION

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UNISTAR NUCLEAR ENERGY
CALVERT CLIFFS NUCLEAR POWER PLANT
UNIT 3 PHASE II MITIGATION PLAN
LUSBY, MARYLAND

SE-1 WOODLAND BRANCH RESTORATION AND REFERENCE REACH

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

DATE	NOVEMBER 2009
DESIGNED BY	JJM
DRAWN BY	JJM
CHECKED BY	GAT
PROJECT MANAGER	RP
PROJECT NUMBER	14621.03
DRAWING NUMBER	S-2
SHEET NUMBER	3 OF 14

FILE PATH: (LOVETON) Q:\PROJECTS\14621.03 - UNISTAR\EA CREATED FIGURES\CONCEPT_STREAMS_FIGURE.DWG [C-2] 11/4/09

LEGEND

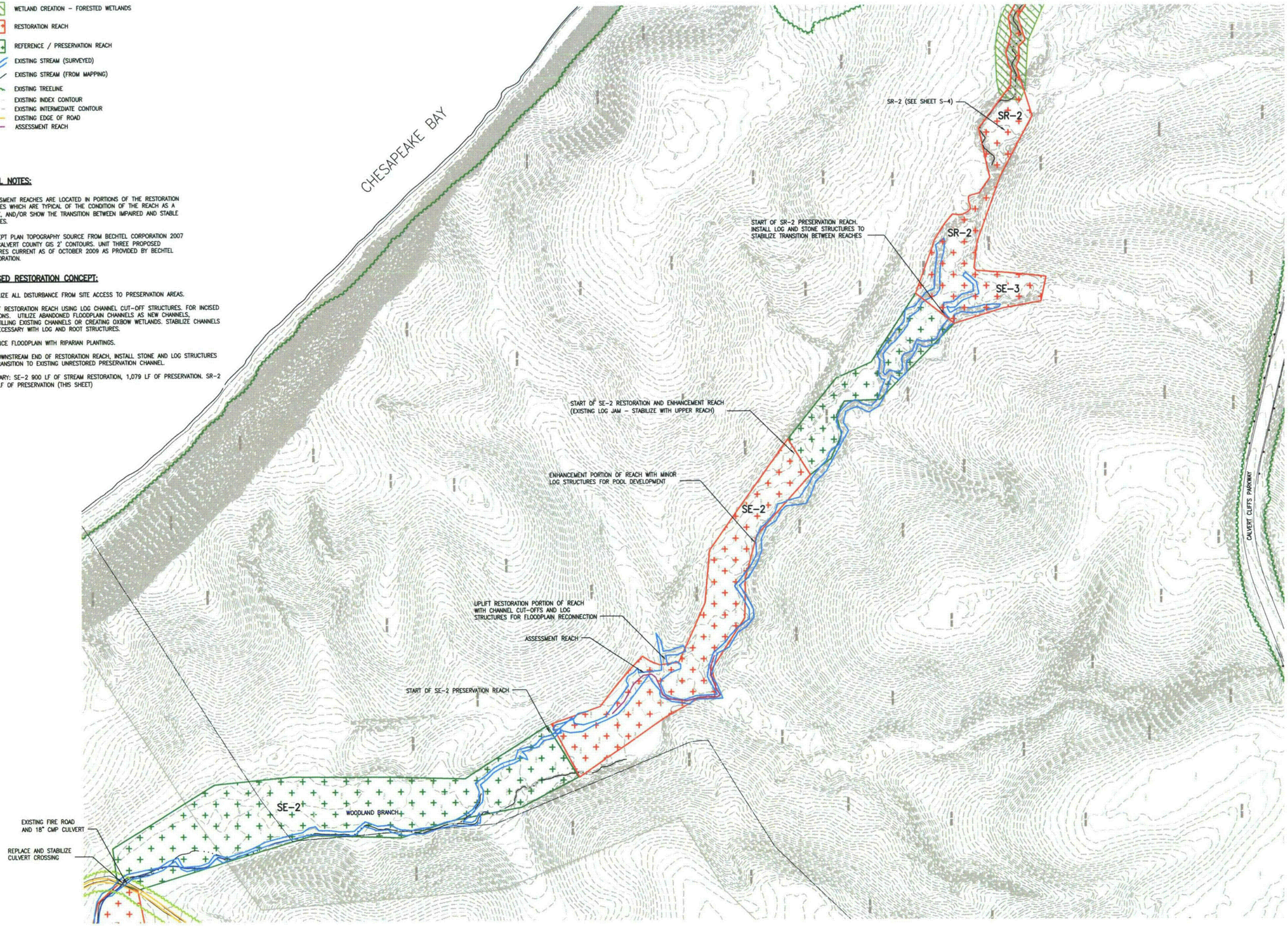
- WETLAND CREATION – FORESTED WETLANDS
- RESTORATION REACH
- REFERENCE / PRESERVATION REACH
- EXISTING STREAM (SURVEYED)
- EXISTING STREAM (FROM MAPPING)
- EXISTING TREELINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING EDGE OF ROAD
- ASSESSMENT REACH

GENERAL NOTES:

1. ASSESSMENT REACHES ARE LOCATED IN PORTIONS OF THE RESTORATION REACHES WHICH ARE TYPICAL OF THE CONDITION OF THE REACH AS A WHOLE, AND/OR SHOW THE TRANSITION BETWEEN IMPAIRED AND STABLE REACHES.
2. CONCEPT PLAN TOPOGRAPHY SOURCE FROM BECHTEL CORPORATION 2007 AND CALVERT COUNTY GIS 2' CONTOURS. UNIT THREE PROPOSED FEATURES CURRENT AS OF OCTOBER 2009 AS PROVIDED BY BECHTEL CORPORATION.

PROPOSED RESTORATION CONCEPT:

1. STABILIZE ALL DISTURBANCE FROM SITE ACCESS TO PRESERVATION AREAS.
2. UPLIFT RESTORATION REACH USING LOG CHANNEL CUT-OFF STRUCTURES. FOR INCISED PORTIONS. UTILIZE ABANDONED FLOODPLAIN CHANNELS AS NEW CHANNELS, BACKFILLING EXISTING CHANNELS OR CREATING OXBOW WETLANDS. STABILIZE CHANNELS AS NECESSARY WITH LOG AND ROOT STRUCTURES.
3. ENHANCE FLOODPLAIN WITH RIPARIAN PLANTINGS.
4. AT DOWNSTREAM END OF RESTORATION REACH, INSTALL STONE AND LOG STRUCTURES TO TRANSITION TO EXISTING UNRESTORED PRESERVATION CHANNEL.
5. SUMMARY: SE-2 900 LF OF STREAM RESTORATION, 1,079 LF OF PRESERVATION. SR-2 477 LF OF PRESERVATION (THIS SHEET)



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UNISTAR NUCLEAR ENERGY
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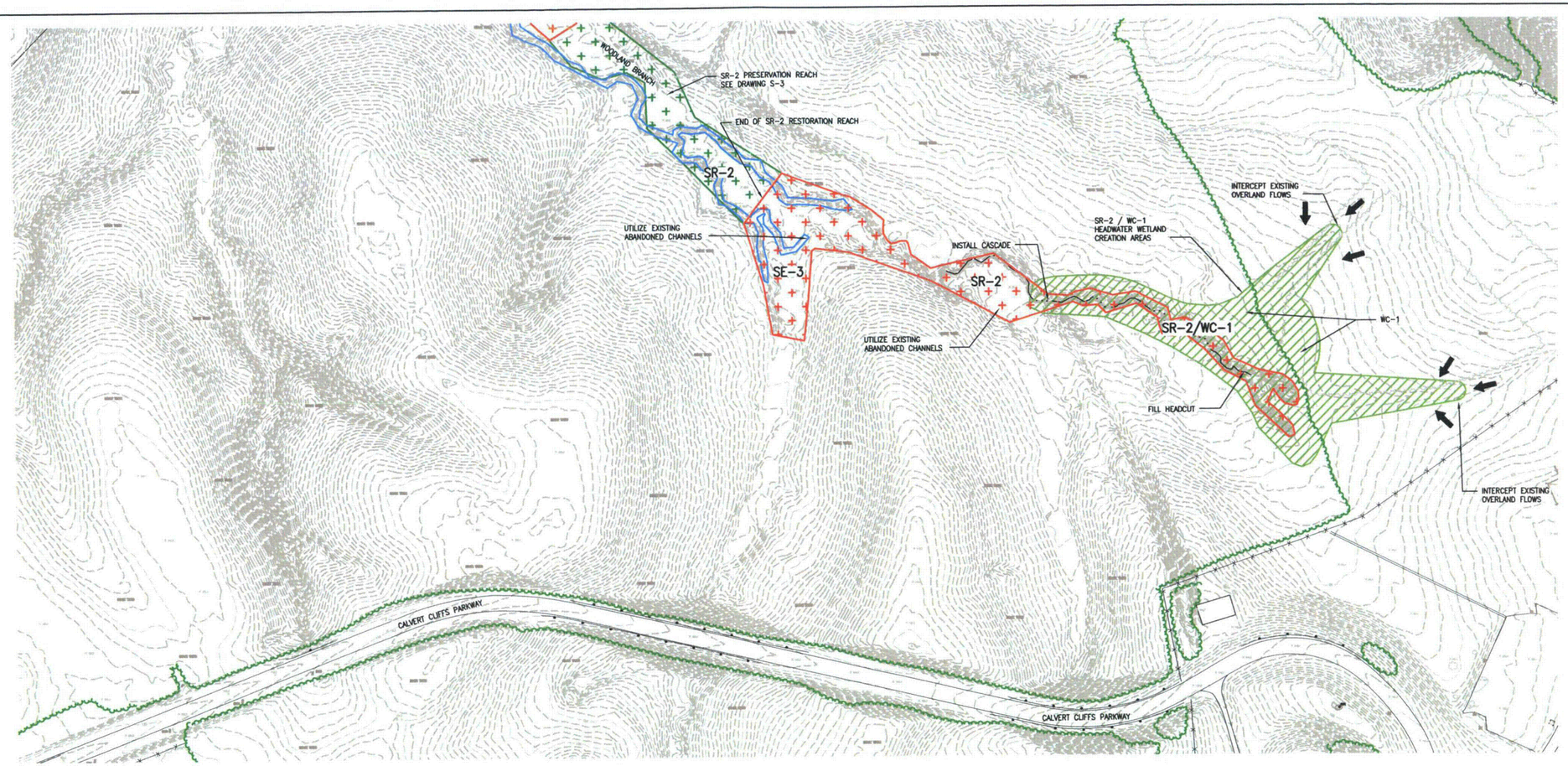
UNIT 3 PHASE II MITIGATION PLAN
LUSBY, MARYLAND

SE-2 WOODLAND BRANCH RESTORATION REACH AND ASSOCIATED PRESERVATION REACHES

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

DATE	NOVEMBER 2009
DESIGNED BY	JJM
DRAWN BY	JJM
CHECKED BY	GAT
PROJECT MANAGER	RP
PROJECT NUMBER	14621.03
DRAWING NUMBER	S-3
SHEET NUMBER	4 OF 14



LEGEND

- WETLAND CREATION – FORESTED WETLANDS
- RESTORATION REACH
- REFERENCE / PRESERVATION REACH
- OVERLAND FLOW DIRECTION
- EXISTING STREAM (SURVEYED)
- EXISTING STREAM (FROM MAPPING)
- EXISTING TREELINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING EDGE OF ROAD
- ASSESSMENT REACH

PROPOSED RESTORATION CONCEPT:

1. HEADWATER WETLAND AREAS EXTEND TO INTERCEPT AND INFILTRATE OVERLAND FLOW IN EXISTING GRASSLAND AREAS. CREATION TO INCLUDE PRESERVING EXISTING TREES WHERE POSSIBLE.
2. UPLIFT UPPERMOST INCISED AREAS OF SR-2 REACH THROUGH MASS FILL AND GRADE CONTROL DEVICES, AND INSTALL INFILTRATION PRACTICES IN HEADWATER WETLAND AREAS.
3. ENHANCE REACH WITH RIPARIAN AND HEADWATER WETLAND PLANTINGS.
4. AT DOWNSTREAM END OF WETLAND AREA, INSTALL STONE AND LOG STRUCTURES TO TRANSITION TO EXISTING ABANDONED FLOODPLAIN CHANNEL. INSTALL CHANNEL CUTOFFS TO CREATE OXBOW WETLANDS IN EXISTING INCISED CHANNEL.
5. TRANSITION TO EXISTING PRESERVATION REACH CHANNEL WITH STONE / LOG STRUCTURES.
6. SUMMARY: SR-2 1,471 LF OF STREAM RESTORATION, SE-3 200 LF OF STREAM RESTORATION, AND APPROXIMATELY 2.2 ACRES OF HEADWATER WETLAND CREATION

GENERAL NOTES:

1. ASSESSMENT REACHES ARE LOCATED IN PORTIONS OF THE RESTORATION REACHES WHICH ARE TYPICAL OF THE CONDITION OF THE REACH AS A WHOLE, AND/OR SHOW THE TRANSITION BETWEEN IMPAIRED AND STABLE REACHES.
2. CONCEPT PLAN TOPOGRAPHY SOURCE FROM BECHTEL CORPORATION 2007 AND CALVERT COUNTY GIS 2' CONTOURS. UNIT THREE PROPOSED FEATURES CURRENT AS OF OCTOBER 2009 AS PROVIDED BY BECHTEL CORPORATION.

N

100 50 0 100 200
GRAPHIC SCALE IN FEET

CONCEPT

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UNISTAR NUCLEAR ENERGY
CALVERT CLIFFS NUCLEAR POWER PLANT
UNIT 3 PHASE II MITIGATION PLAN
LUSBY, MARYLAND

SR-2 WOODLAND BRANCH RESTORATION REACH
AND SR-2/SE-3 HEADWATER WETLAND CREATION

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

DATE	NOVEMBER 2009
DESIGNED BY	JJM
DRAWN BY	JJM
CHECKED BY	GAT
PROJECT MANAGER	RP
PROJECT NUMBER	14621.03
DRAWING NUMBER	S-4
SHEET NUMBER	5 OF 14