

LEGEND

- OVERHEAD TRANSMISSION LINE
- BUILDING
- ACCESS ROAD
- PUBLIC ROADWAY
- DRIVEWAY
- MAJOR CONTOUR LINE WITH ELEVATION
- MINOR CONTOUR LINE
- ELECTRICAL STRUCTURE (EXISTING)
- APPROXIMATE EDGE OF RIGHT-OF-WAY
- EDGE OF WETLAND
- WATERCOURSE
- WETLAND FLAG
- EDGE OF WOODED AREA
- STONE WALL
- RETAINING WALL
- PATH
- CHAIN LINK FENCE
- 50' PERIMETER WETLAND
- 100' RIVERBANK WETLAND
- ELECTRICAL STRUCTURE (PROPOSED)
- CULVERT (APPROXIMATE LOCATION)
- LIMIT OF DISTURBANCE
- HAYBALES

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

- NOTES:**
- PLANIMETRIC BASE MAPPING:**
 PLANIMETRIC BASE MAPPING WAS DEVELOPED BY JAMES W. SEWALL COMPANY FROM APRIL 15, 2007, 1:7200 SCALE COLOR AERIAL PHOTOGRAPHY. GROUND CONTROL BASED ON NAD 83 UTM ZONE 18N, AND VERTICALLY NAVD 88. SCANNED AERIAL PHOTOGRAPHY WAS UTILIZED TO PERFORM AEROTRIANGULATION AND DEVELOP EXTERIOR ORIENTATION PARAMETERS, WHICH WERE THEN USED IN SUBSEQUENT PHOTOGRAMMETRIC COMPILATION AND ORTHORECTIFICATION PROCESSES.
HORIZONTAL ACCURACY: BASED ON 2ND ORDER CONTROL AS REPORTED, THE ESTIMATED HORIZONTAL (POSITIONAL) ACCURACY IS 2.5' +/- BASED ON NATIONAL MAP ACCURACY STANDARDS.
VERTICAL ACCURACY: BASED ON 3RD ORDER CONTROL AS REPORTED, NINETY PERCENT OF THE ELEVATIONS DETERMINED FROM THE SOLID-LINE TOPOGRAPHIC CONTOURS WILL HAVE ACCURACY WITH RESPECT TO TRUE ELEVATION OF ONE-HALF CONTOUR INTERVAL OR BETTER, AND THE REMAINING TEN PERCENT OF SUCH ELEVATIONS WILL NOT BE IN ERROR BY MORE THAN ONE CONTOUR INTERVAL. WHERE THE GROUND IS OBTAINED BY VEGETATIVE COVER OR OTHER OBJECTS, THE CONTOURS WILL BE APPROXIMATE AND APPEAR AS DASHED LINES ON THE MAP BASE.
 - SURVEY STANDARDS:**
 PURSUANT TO RULE 7.03 (1) OF THE RIDEM RULES AND REGULATIONS GOVERNING THE ADMINISTRATION AND ENFORCEMENT OF THE RHODE ISLAND FRESHWATER WETLANDS ACT, AND WITH SPECIFIC REFERENCE TO SECTION 01.00 OF THE 1994 PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING PREPARED BY THE RHODE ISLAND SOCIETY OF PROFESSIONAL LAND SURVEYORS, THESE DRAWINGS ARE THE RESULT OF LIMITED FIELD INVESTIGATIONS INCORPORATED TO A PLANIMETRIC BASE MAP AND COMBINED WITH VARIOUS OTHER SOURCES OF INFORMATION AND WOULD PROPERLY BE DESIGNATED AS CLASS IV - COMPILATION MAP. THESE DRAWINGS ARE NOT INTENDED TO BE SUITABLE FOR CONSTRUCTION AND SHOULD NOT BE CONSTRUED TO REPRESENT PROFESSIONAL LAND SURVEY.
 - RIGHT-OF-WAY BOUNDARY LOCATION IS BASED ON TRANSMISSION LINE SHEET (T-SHEET) NO. 1952-13 DATED 3/1938 (LAST REVISED 3/31/2006) PROVIDED BY NATIONAL GRID.**
 - NO CHANGES TO GRADE PROPOSED.**
 - EXCEPT AS OTHERWISE NOTED BELOW, WETLAND DELINEATION IN THIS AREA WAS PERFORMED BY ENSR BETWEEN MAY 2007 AND NOVEMBER 2007. WETLAND FLAGS WERE LOCATED IN THE FIELD WITH A TRIMBLE GEO XT OR GEO XH GPS RECEIVER. FIELD DATA WERE POST-PROCESSED, DIFFERENTIALLY CORRECTED, AND BACK-CHECKED ON A SERIES OF 1:2000 SCALE AERIAL PHOTO BASE MAPS.**
 - WETLAND FLAGS 28-340A THROUGH 38-340E, 28-341A THROUGH 28-341B, AND 29-297 THROUGH 29-300: WETLAND DELINEATION PERFORMED BY VANASSE HANGEN BRUSTLIN, INC., PROVIDENCE, RI. WETLAND FLAGS WERE LOCATED IN THE FIELD ON FEBRUARY 9, 2009 WITH A TRIMBLE GEO XH GPS RECEIVER. FIELD DATA WERE CORRECTED WITH A TRIMBLE GEOBEACON RECEIVER USING REAL-TIME DIFFERENTIAL GP, AND BACK-CHECKED ON AN AERIAL PHOTO BASE MAP.**
 - 100-YEAR FLOOD ELEVATION TO THE WEST OF THE SUBSTATION HAS BEEN ESTIMATED TO BE ELEVATION 230 (NGVD 29, FEMA FLOOD INSURANCE RATE MAP, TOWN OF NORTH SMITHFIELD, RI COMMUNITY PANEL NUMBER 440021-0010-C, REV. 12/3/1993). APPROXIMATE NAVD 88 ELEVATION=229.2'.**
 - THE ELUR AREA REPRESENTS AN ENVIRONMENTAL LAND USE RESTRICTION REQUIRING SPECIFIC SOIL HANDLING PROCEDURES FOR WORK PERFORMED IN THAT AREA. THE LOCATION OF THE E.L.U.R. AND ASSOCIATED LOW OCCUPANCY AREA DEPICTED ON THIS PLAN IS APPROXIMATE (REF: WOONSOCKET SUBSTATION NO. 2 SURVEY, LOW OCCUPANCY & E.L.U.R. BOUNDARIES FOR A.P. 9, LOTS 596, 599, 633 & 639 SITUATED IN N. SMITHFIELD, RHODE ISLAND. 1 OF 1 SHEETS. PREPARED FOR THE NARRAGANSETT ELECTRIC CO. BY GAROFALO & ASSOCIATES, INC., PROVIDENCE, RI 1/5/2005)**

Intersection of Greenville Road and Village Way Approximately 500 Feet North

Intersection of Greenville Road and Cross Street Approximately 500 Feet South

I:\RI-DATA\PROJECTS\72144\00\CAD\EVP\PLANS\SET\WOONSOCKET SUB EXPANSION\72144_WOONSOCKET_SUB_PLAN August 28, 2009 8:04:20 AM DWHITE Plotted Friday, August 28, 2009 8:05:42 AM White, Dave

NOTES:

- CULVERT LOCATIONS ARE APPROXIMATE - NOT FIELD LOCATED.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED October 21, 2009 File # 09-0206
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
Martin Wenczek

REVISIONS		BY	REV'D	APVD
REV	DATE	DESCRIPTION		

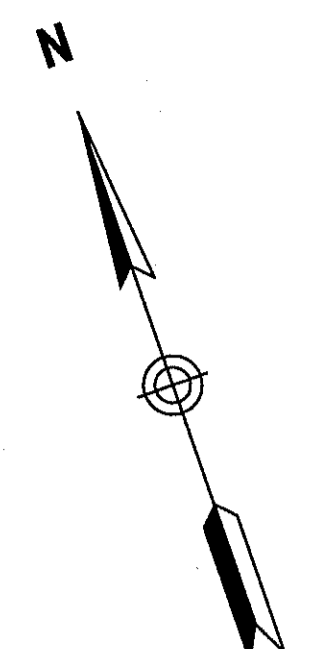
WORK #	X
PROJ. #	72144
FILENAME:	X

EXISTING CONDITIONS

nationalgrid

WOONSOCKET SUBSTATION IMPROVEMENTS
 76 GREENVILLE ROAD NORTH SMITHFIELD, R.I.
 A.P. 9 LOTS 596, 599, 633 & 639
 115kV AND 13.8kV UPGRADES
 ENVIRONMENTAL PERMITTING
 PREPARED BY NATIONAL GRID

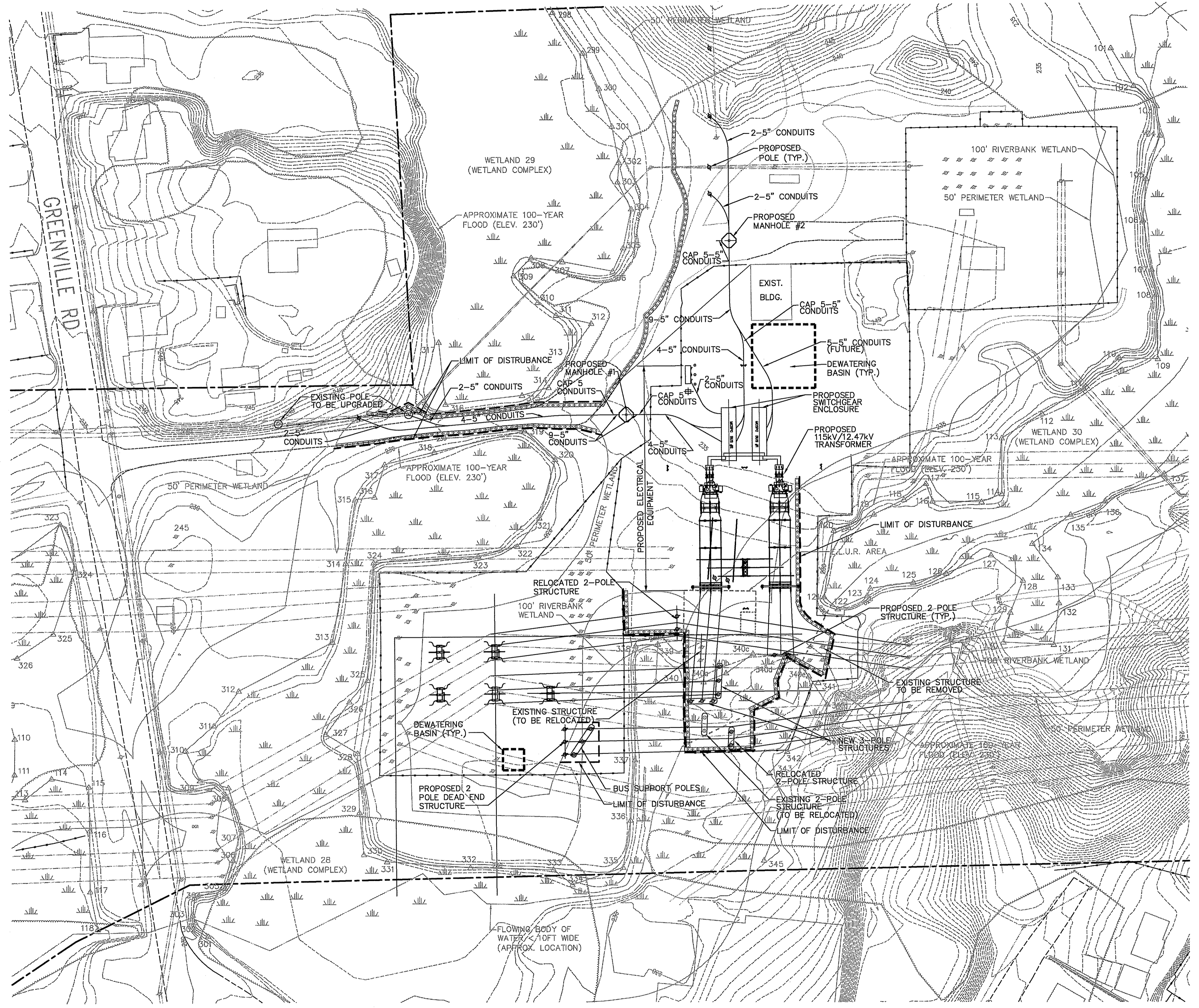
SCALE 1"=50' DATE 07-31-09 BY JF RV JS AP



LEGEND

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- CONSTRUCTION NOTES:**
1. THE AREA OF PROPOSED SITE DISTURBANCE WITHIN PALUSTRINE WETLANDS IS LOCATED WITHIN THE EXISTING FENCELINE OF THE SUBSTATION COMPOUND.
 2. CONSTRUCTION WITHIN PALUSTRINE WETLAND WILL BE INITIATED BY MOWING EXISTING VEGETATION WITHIN THE LIMIT OF DISTURBANCE AS IDENTIFIED ON THESE SITE PLANS. EFFORT WILL BE MADE TO AVOID SOIL DISTURBANCE AND TO PRESERVE EXISTING ROOT STRUCTURE OF PLANTS WITHIN THIS AREA.
 3. BEST MANAGEMENT PRACTICES CONSISTING OF STAKED HAY BALES WILL BE DEPLOYED AT THE LIMIT OF DISTURBANCE AS SHOWN ON THESE PLANS PRIOR TO ANY CONTEMPLATED SOIL DISTURBANCE IN THESE AREAS.
 4. EXISTING SOILS WITHIN THE PALUSTRINE WETLAND ARE PRIMARILY SANDY AND FIRM. IF CONDITIONS WARRANT BASED UPON ANTECEDENT WEATHER CONDITIONS OR UNANTICIPATED SOIL CONDITIONS, SWAMP MATS MAY BE DEPLOYED WITHIN THIS OR OTHER AREAS WITHIN THE IDENTIFIED LIMIT OF DISTURBANCE TO CREATE A STABLE WORK PLATFORM.
 5. PROPOSED WOOD POLES WILL BE INSTALLED AS SHOWN ON THESE SITE PLANS AS PRACTICABLE IN CONJUNCTION WITH SCHEDULED OR AVAILABLE ELECTRICAL OUTAGES. CONDUCTORS WILL BE TRANSFERRED TO OR STRUNG FROM NEW POLE STRUCTURES.
 6. EXISTING WOOD POLES WILL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.
 7. DISTURBED SOILS WILL BE SMOOTHED TO MATCH ADJACENT GRADE AND MULCHED TO PROMOTE STABILIZATION. IN DEVELOPED PORTIONS OF THE SUBSTATION COMPOUND, DISTURBED AREAS WILL BE TREATED IN A MANNER CONSISTENT WITH ADJACENT AREAS, E.G. CRUSHED STONE, ETC.
 8. HAY BALES AND OTHER BMPs EMPLOYED DURING THE CONSTRUCTION WORK WILL BE REMOVED FOLLOWING CONSTRUCTION.

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REVISIONS				
REV	DATE	DESCRIPTION	BY	APPROVED

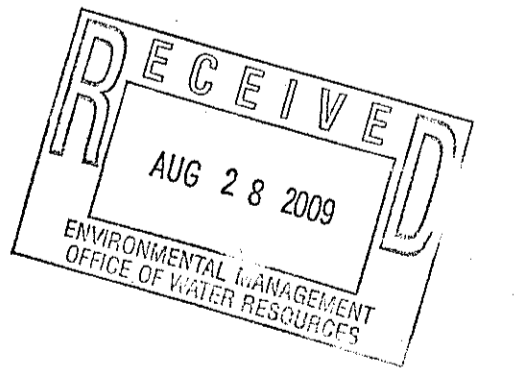
WORK #	X
PROJ. #	72144
FILENAME:	X

PROPOSED CONDITIONS

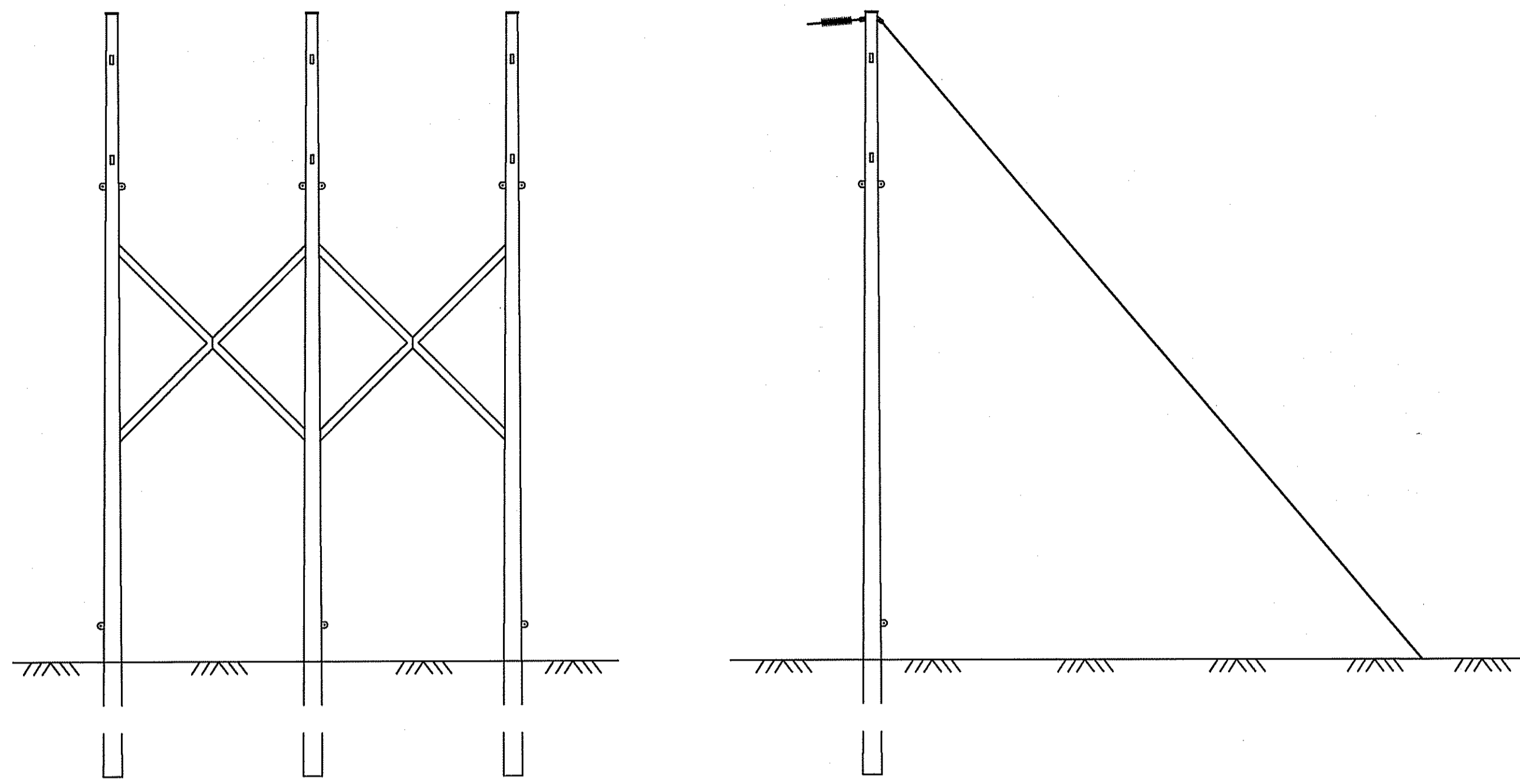
nationalgrid

WOONSOCKET SUBSTATION IMPROVEMENTS
76 GREENVILLE ROAD NORTH SMITHFIELD, R.I.
A.P. 9 LOTS 596, 599, 633 & 639
115kV AND 13.8kV UPGRADES
ENVIRONMENTAL PERMITTING
PREPARED BY NATIONAL GRID

SCALE 1"=50' DATE 07-31-09 BY JF RV JF AP



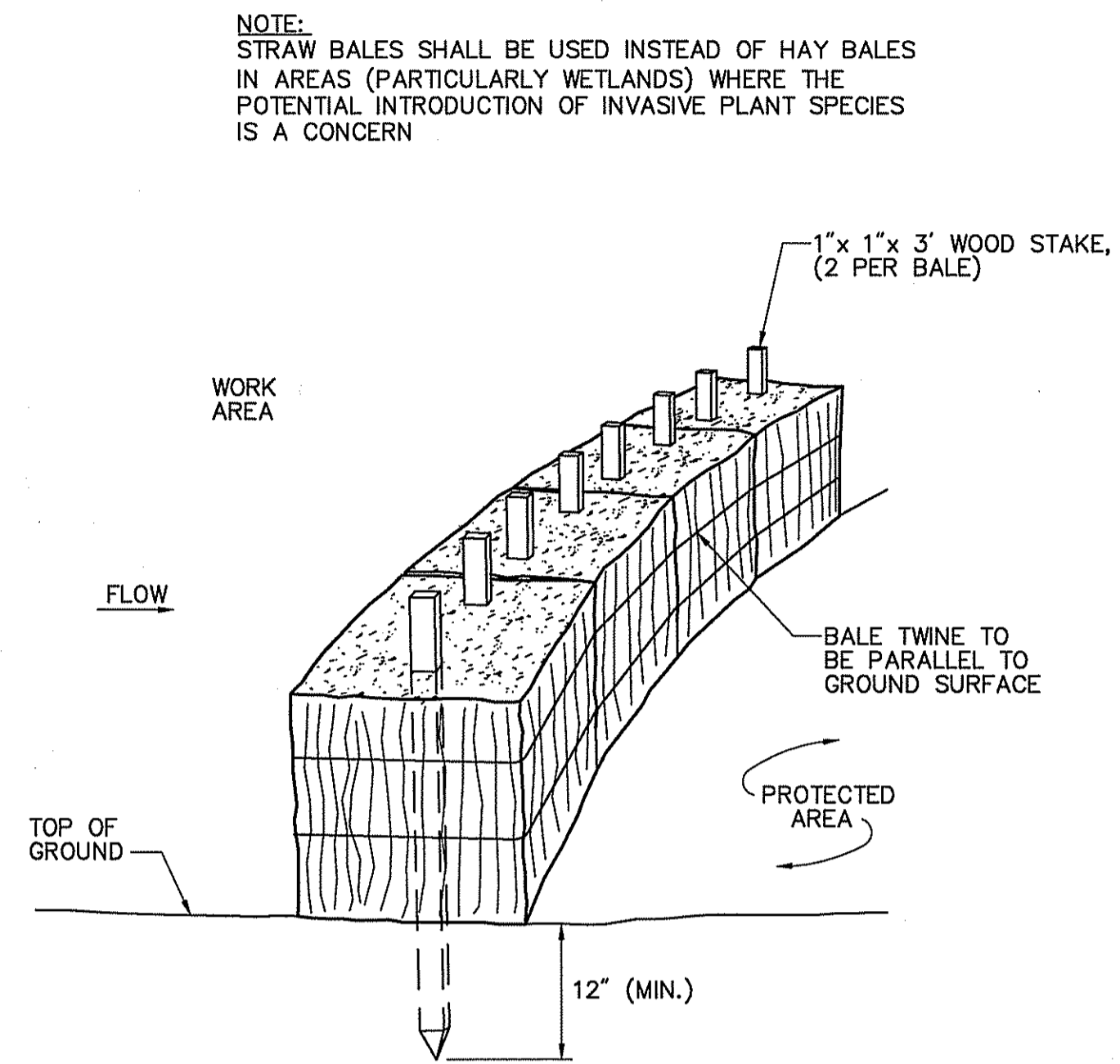
I:\PI-Data\Projects\72144\09\CAD\VIEW\PLANSET\WOONSOCKET SUB EXPANSION\72144_WOONSOCKET_SUB_PLAN August 28, 2009 8:16:50 AM DWITE Plotted Friday, August 28, 2009 8:21:26 AM White, Dove



115kV Three-Pole Standard Structure Detail

N.T.S.

Source: National Grid



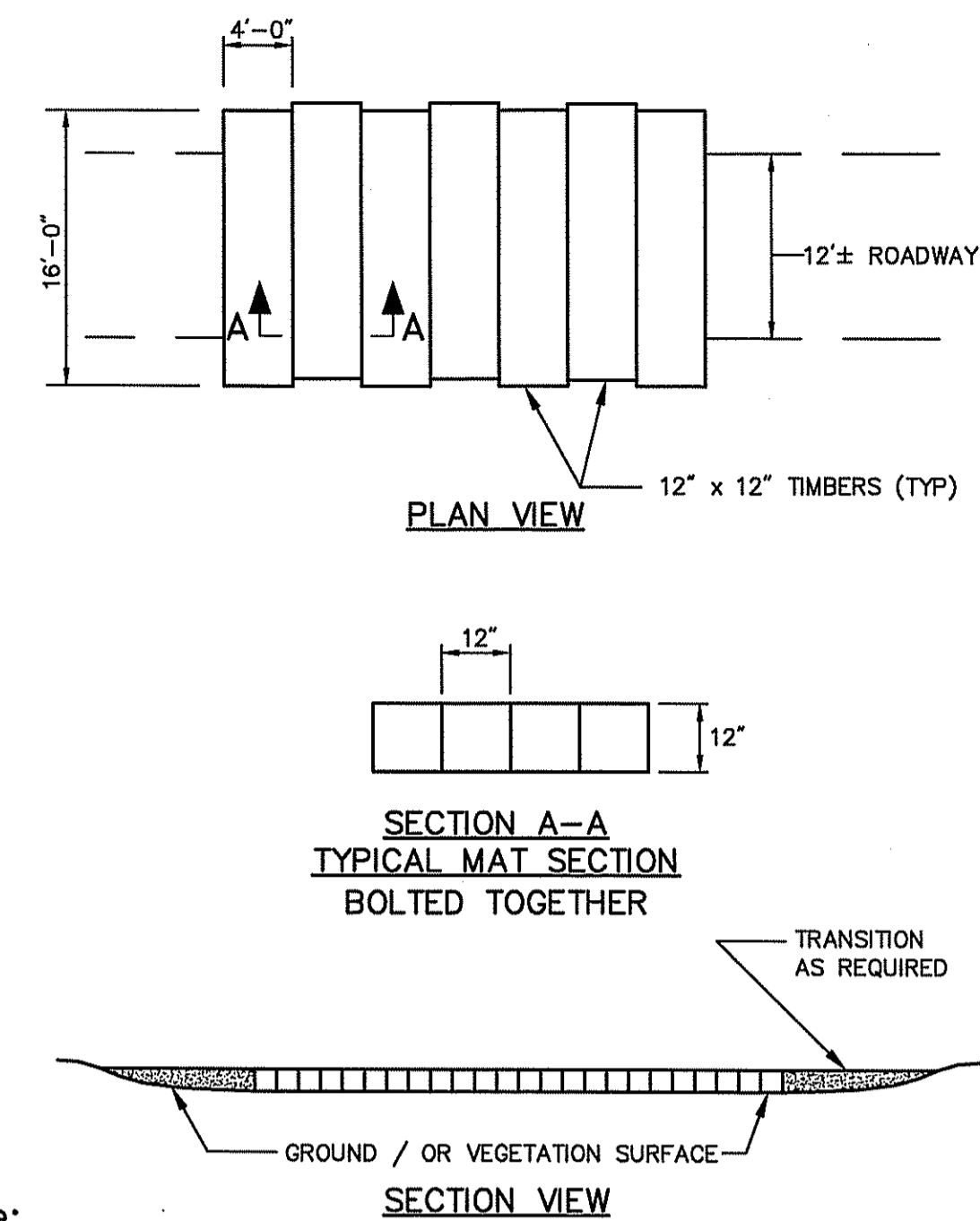
Hay Bale Barrier (Non-Embedded)

N.T.S.

Source: VHB/NGRID EG-303

12/08

REV LD_653

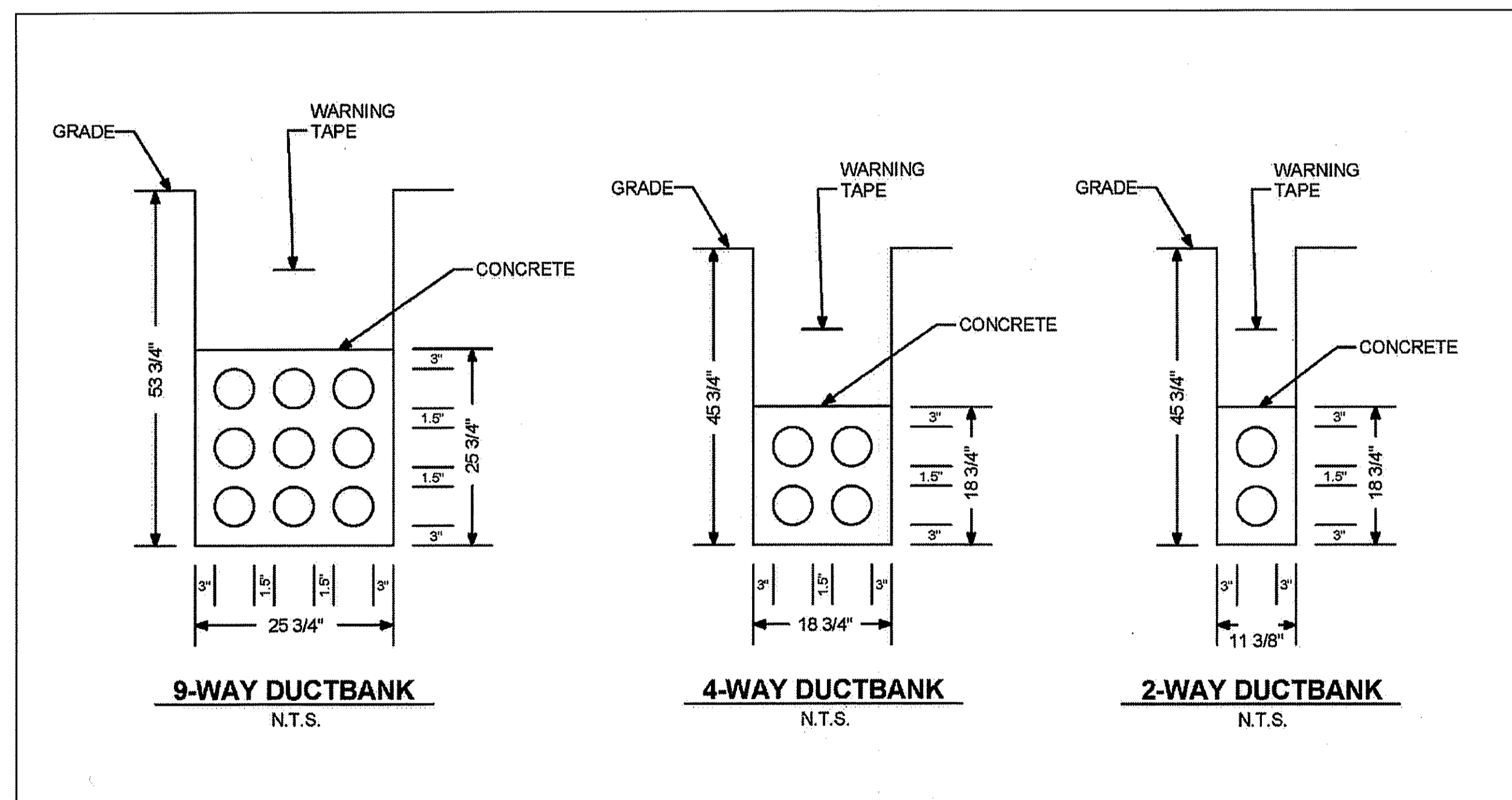


Note:

- 1. TO BE INSTALLED AS NECESSARY TO ACCESS POLES AND CLEAR VEGETATION.

Swamp Mat Detail

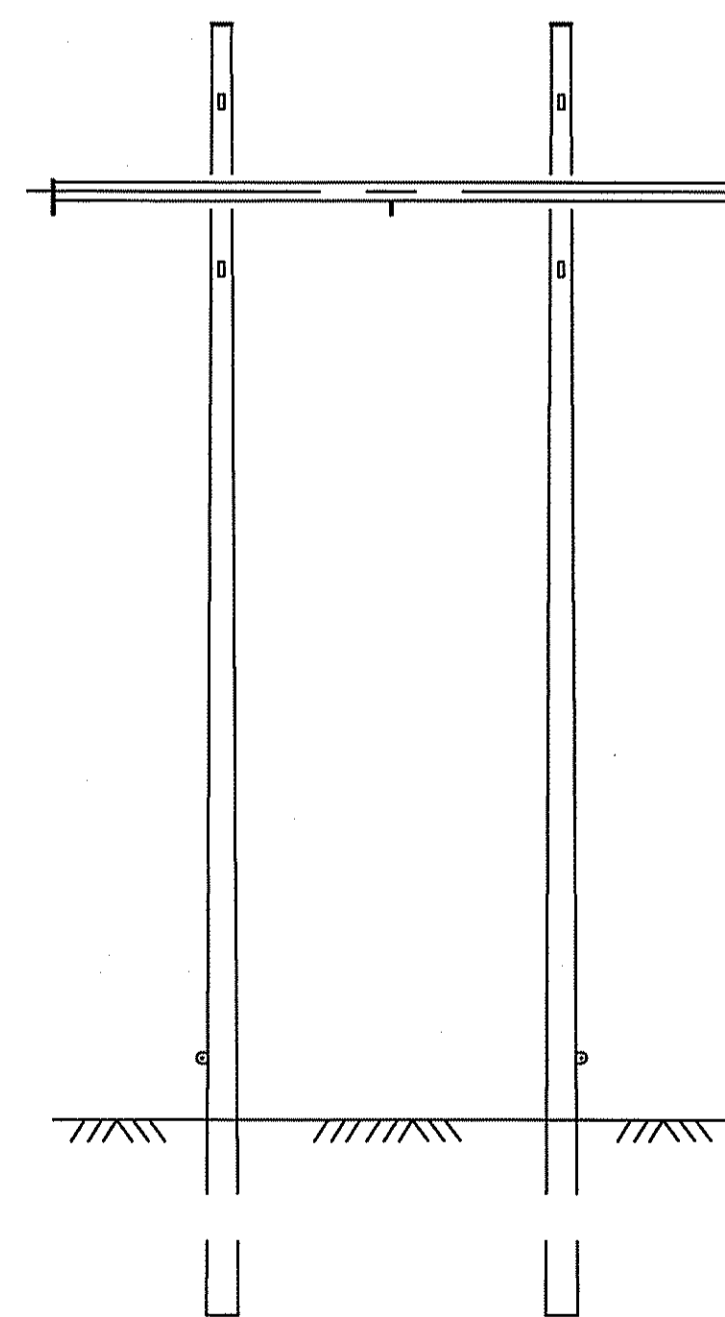
N.T.S.



Standard Trench Details

N.T.S.

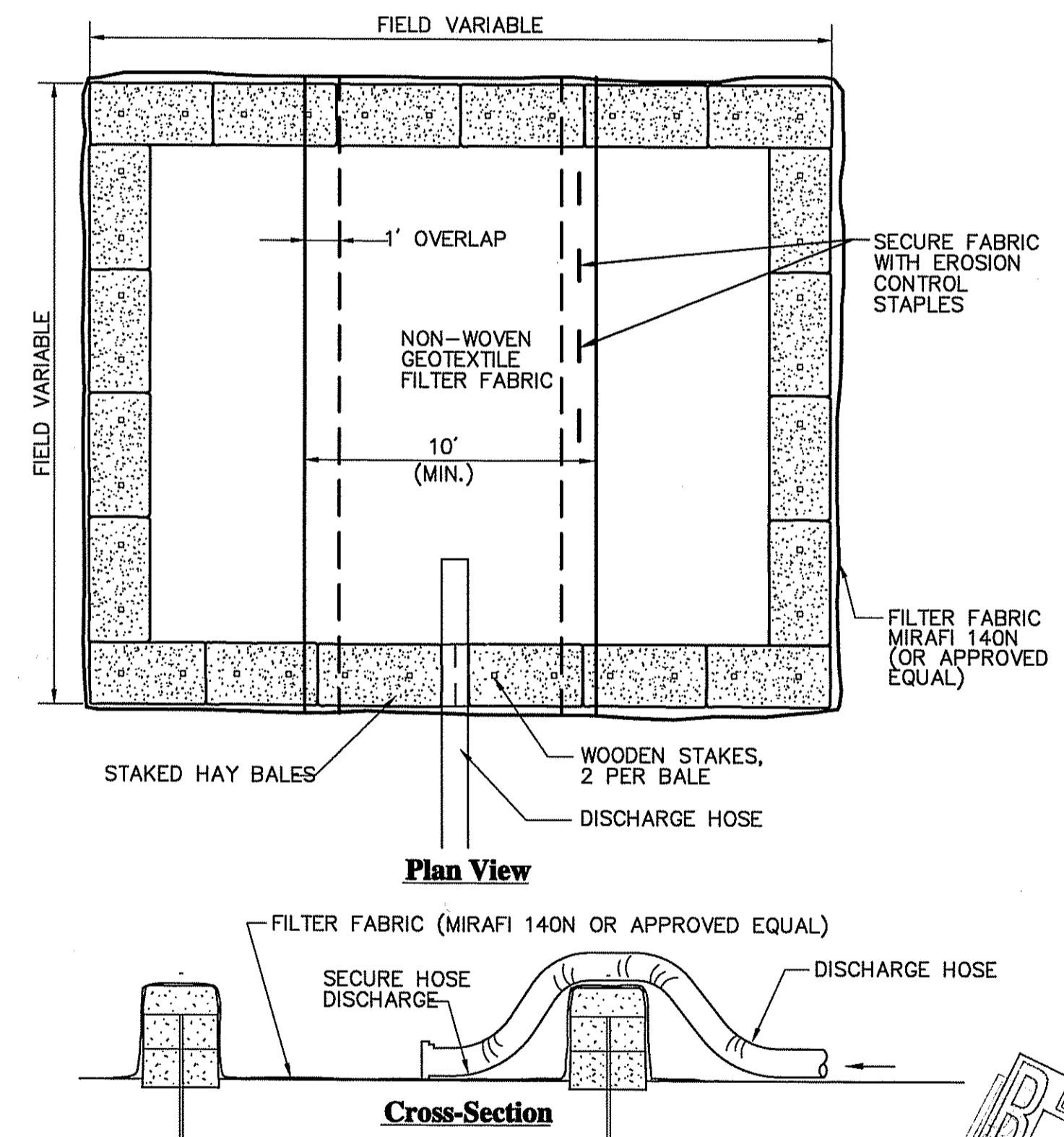
Source: National Grid



115kV Two-Pole Standard Structure Detail

N.T.S.

Source: National Grid



Dewatering Haybale Basin

N.T.S.

Source: VHB

3/02

LD_690

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Matthew Worswick

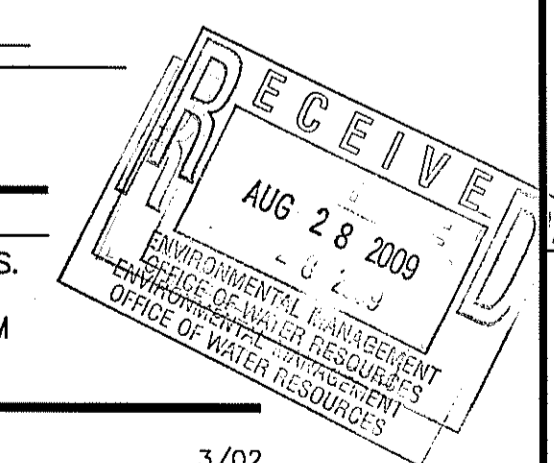
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WORK # X
 PROJ. # 72144
 FILENAME: X

nationalgrid

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SCALE AS NOTED DATE 07-31-09 BY RV AP



\\R-DATA\PROJECTS\72144\00\CAD\LEV\PLANSET\WOODSOCKET SUB EMISSION\72144 WOODSOCKET SUB DETAILS August 26, 2009 8:12:52 AM DWIHITE Plotted Friday, August 26, 2009 8:12:44 AM White Dove