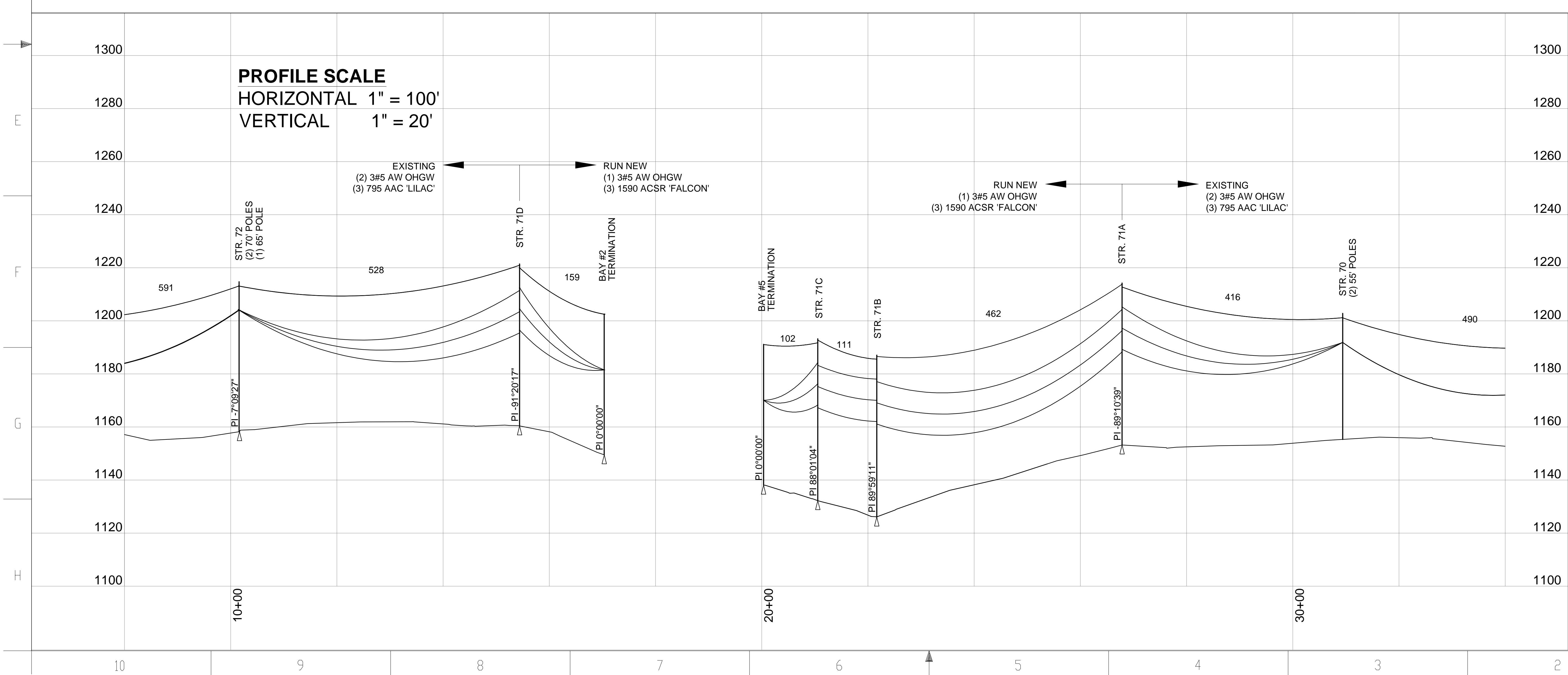


**GENERAL NOTES**

**PROJECT DESCRIPTION**  
INTERCONNECT 115kV LINES 967 & 970 TO NEW READING CENTER SWITCHYARD

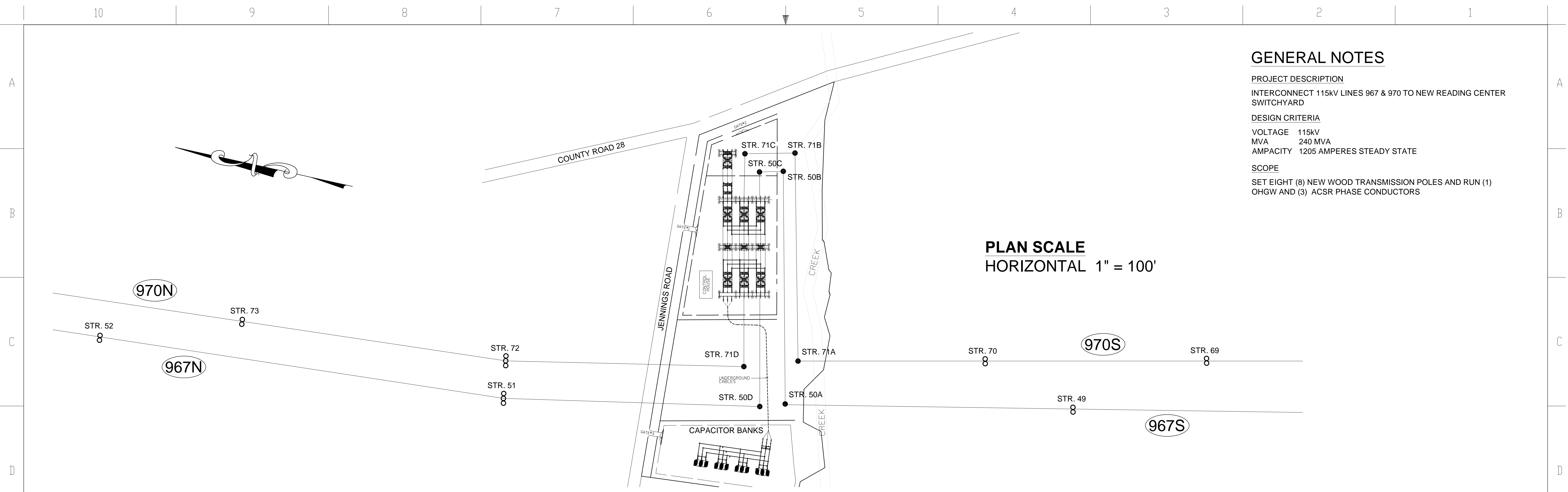
**DESIGN CRITERIA**  
VOLTAGE 115kV  
MVA 240 MVA  
AMPACITY 1205 AMPERES STEADY STATE

**SCOPE**  
SET EIGHT (8) NEW WOOD TRANSMISSION POLES AND RUN (1) OHGW AND (3) ACSR PHASE CONDUCTORS



REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNER	ENGINEER	PROJECT MANAGER
PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.					
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED 'HOLD' RETAINS PRELIMINARY STATUS.					
ORIGINATING PERSONNEL				PROFESSIONAL ENGINEER'S SEAL			
DRAWN BY R. COBY							
CHECKED BY							
LEAD DESIGNER							
ENGINEER/TECH SPECIALIST R. COBY							
PROJECT ENGINEERING MANAGER W. BILENKI							
PROJECT MANAGER							
<b>OneWay</b> to zero harm				ORIGINALY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF STATE: _____ DATE: _____ LIC. NO.: _____			
				<b>WorleyParsons</b> resources & energy			
CLIENT/PROJECT TITLE NYSEG SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT							
GENERAL ARRANGEMENT 115kV INTERCONNECT CIRCUIT I.D. 970							
SCALE As Noted				DRAWING SIZE ARCH D (36" x 24")			
WORLEYPARSONS DWG. NO.				REV			
CAES-1-DW-662-002-001				A			

CAES-011-DW-662-002-001.dwg  
10/4/2011 10:50:37

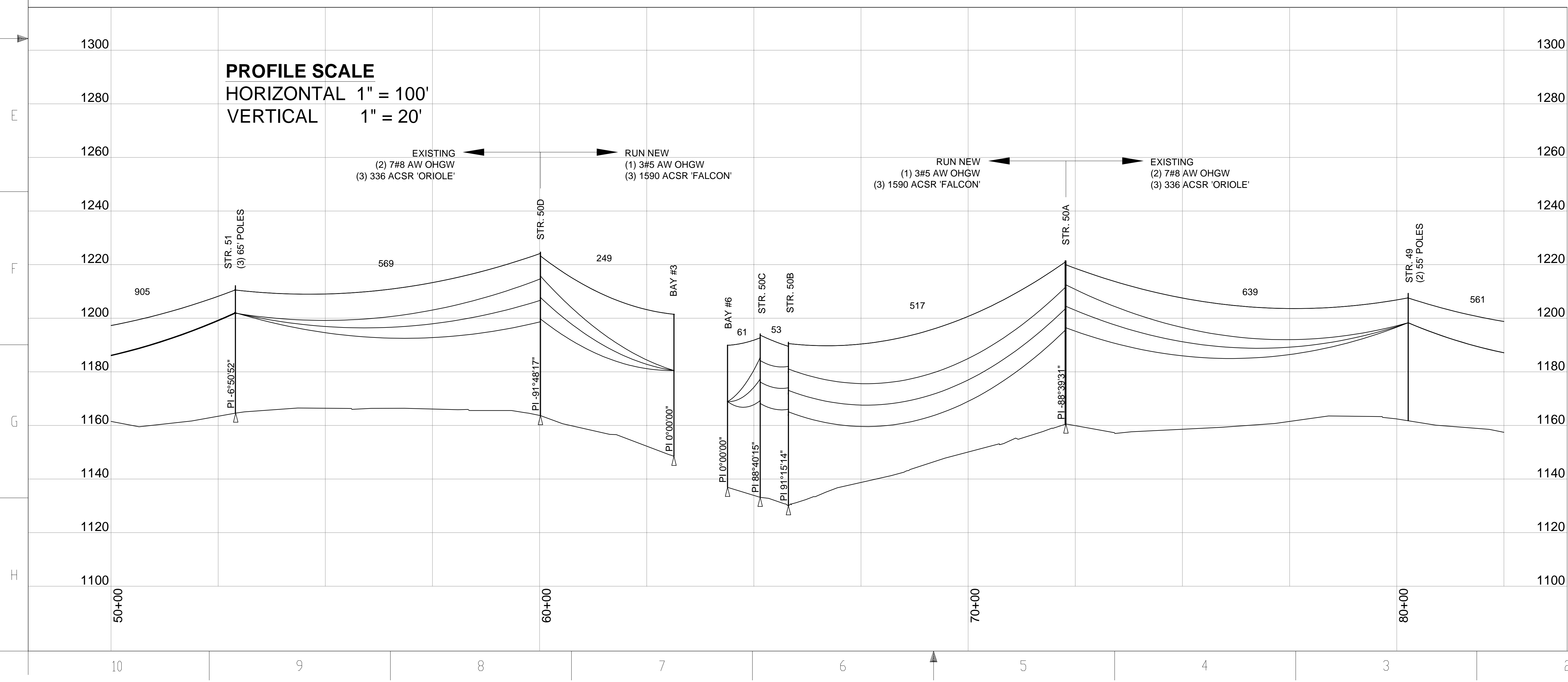


**GENERAL NOTES**

**PROJECT DESCRIPTION**  
INTERCONNECT 115kV LINES 967 & 970 TO NEW READING CENTER SWITCHYARD

**DESIGN CRITERIA**  
VOLTAGE 115kV  
MVA 240 MVA  
AMPACITY 1205 AMPERES STEADY STATE

**SCOPE**  
SET EIGHT (8) NEW WOOD TRANSMISSION POLES AND RUN (1) OHGW AND (3) ACSR PHASE CONDUCTORS



REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	APPROVED	PROJECT

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
L.DE	09/23/11	
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED 'HOLD' RETAINS PRELIMINARY STATUS.
L.DE		

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY R. COBY	
CHECKED BY	
LEAD DESIGNER	
ENGINEER/TECH SPECIALIST R. COBY	
PROJECT ENGINEERING MANAGER W. BILENKI	
PROJECT MANAGER	

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**WorleyParsons**  
resources & energy

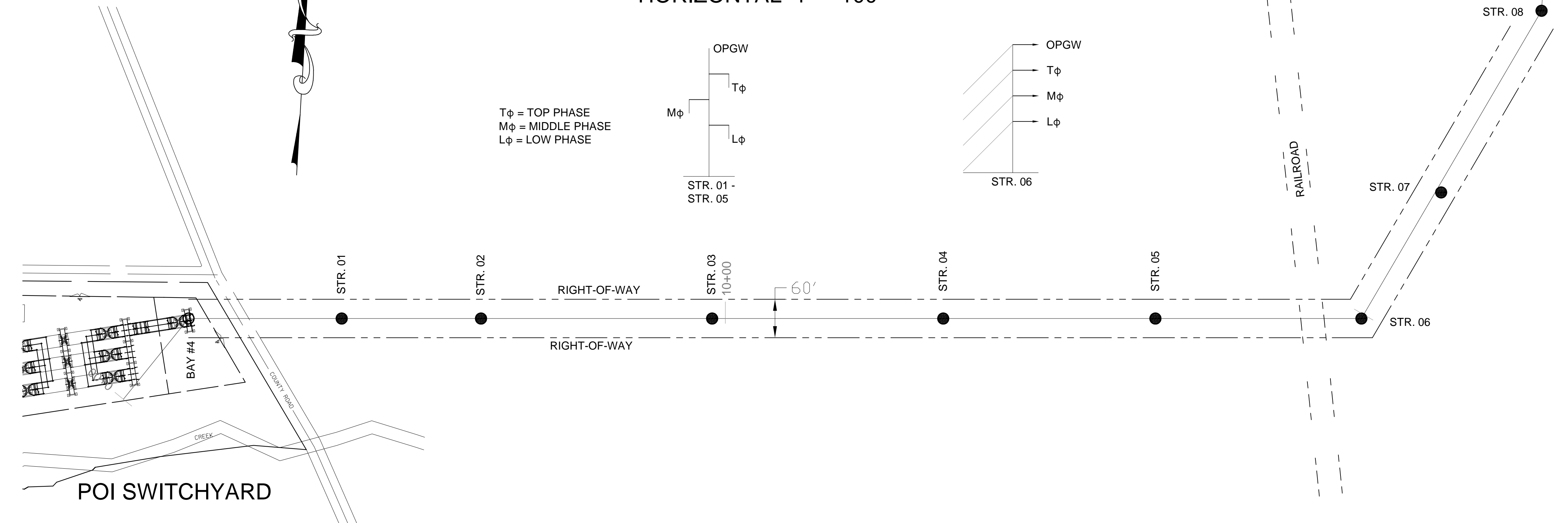
CLIENT/PROJECT TITLE  
NYSEG  
SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

GENERAL ARRANGEMENT  
115kV INTERCONNECT  
CIRCUIT I.D. 967

SCALE As Noted	DRAWING SIZE ARCH D (36" x 24")
WORLEYPARSONS DWG. NO. CAES-1-DW-662-002-001	REV A

CAES-011-DW-662-002-002-001.dwg  
10/4/11 10:20:11

**PLAN SCALE**  
HORIZONTAL 1" = 100'



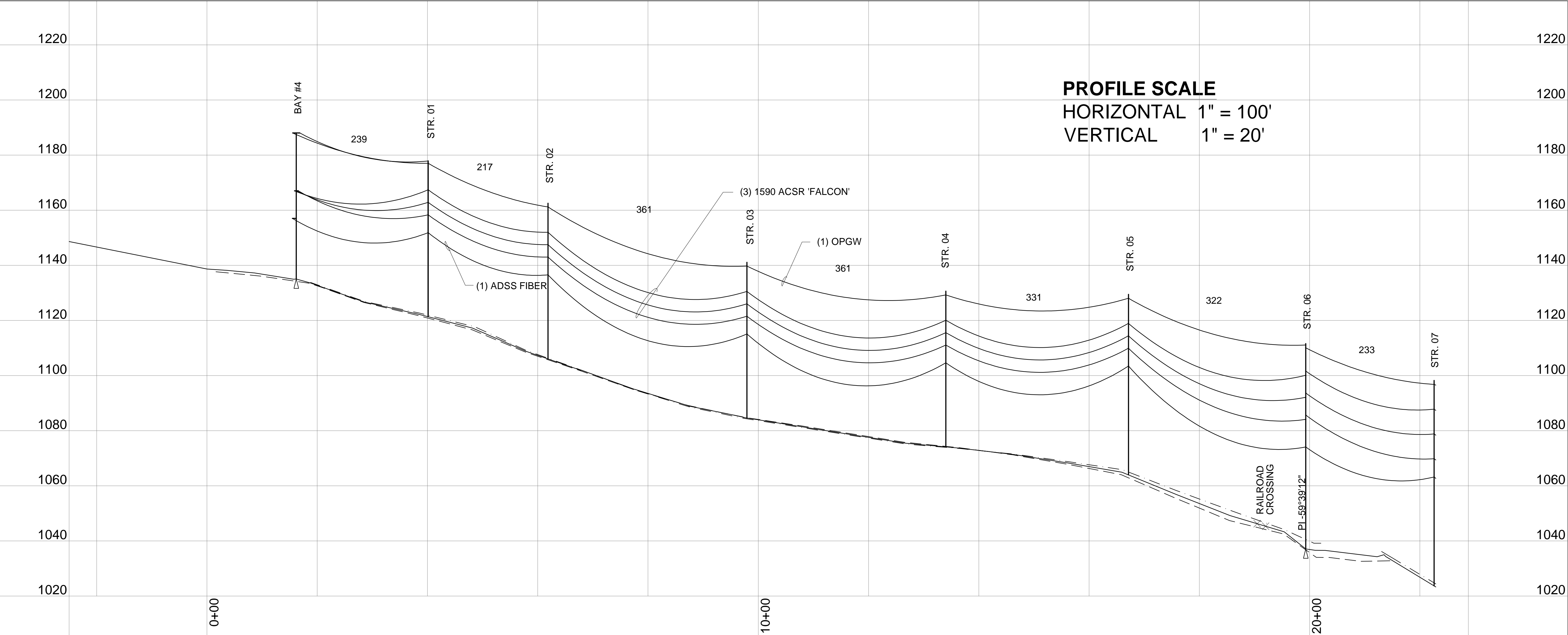
**GENERAL NOTES**

**PROJECT DESCRIPTION**  
 NEW 115kV TRANSMISSION FROM READING CENTER SWITCHYARD TO NEW SENECA COMPRESSED AIR ENERGY STORAGE FACILITY.

**DESIGN CRITERIA**  
 VOLTAGE 115kV  
 MVA 240 MVA  
 AMPACITY 1205 AMPERES STEADY STATE

**SCOPE**  
 SET TWELVE (12) NEW WOOD TRANSMISSION POLES AND RUN NEW  
 (1) OPGW - OPTICAL GROUND WIRE, 115kV (3) ACSR - PHASE CONDUCTOR AND (1) ADSS - FIBER.

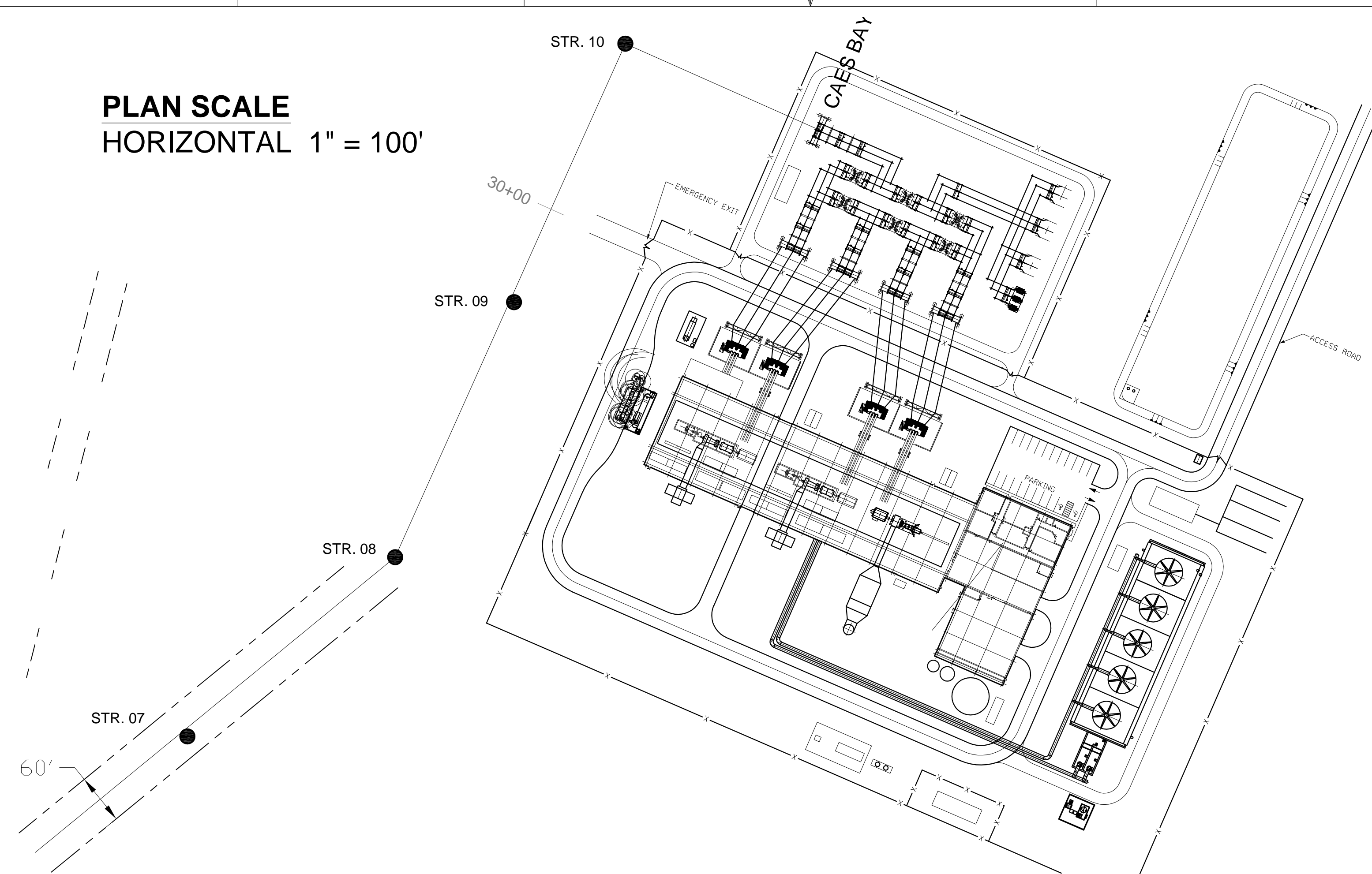
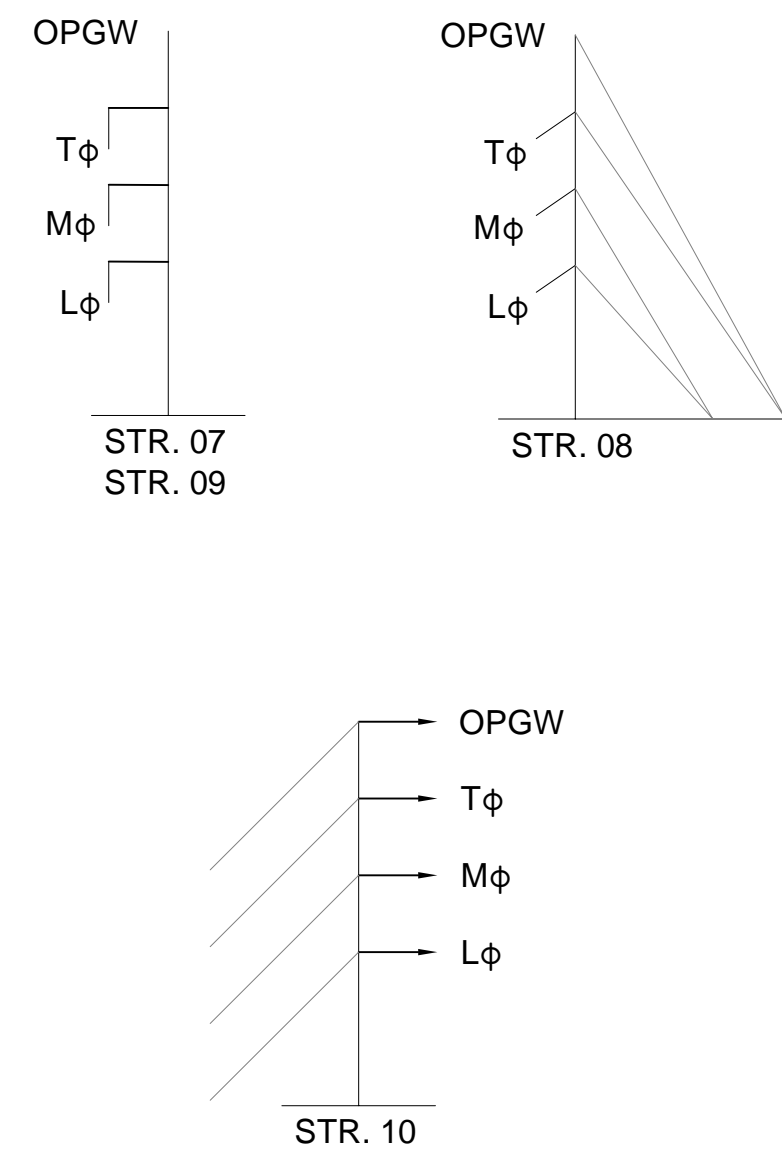
**PROFILE SCALE**  
HORIZONTAL 1" = 100'  
VERTICAL 1" = 20'



REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	ENGINEER/TECH SPECIALIST	PROJECT ENGINEERING MANAGER	PROJECT MANAGER
PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.						
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.						
DRAWN BY		PROFESSIONAL ENGINEER'S SEAL						
CHECKED BY								
LEAD DESIGNER								
ENGINEER/TECH SPECIALIST								
PROJECT ENGINEERING MANAGER								
PROJECT MANAGER								
		<small>ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF</small> Copyright © WorleyParsons Services Pty Ltd. LIC. NO. _____ DATE: _____						
		CLIENT/PROJECT TITLE NYSEG SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT						
SCALE As Noted DRAWING SIZE ARCH D (36" x 24") WORLEYPARSONS DWG. NO. CAES-1-DW-662-002-002 REV A		PLAN & PROFILE CAES TRANSMISSION 115kV CIRCUIT						

CAES-01-DW-662-002-002-002.dwg 10/11/2011 10:05

**PLAN SCALE**  
HORIZONTAL 1" = 100'



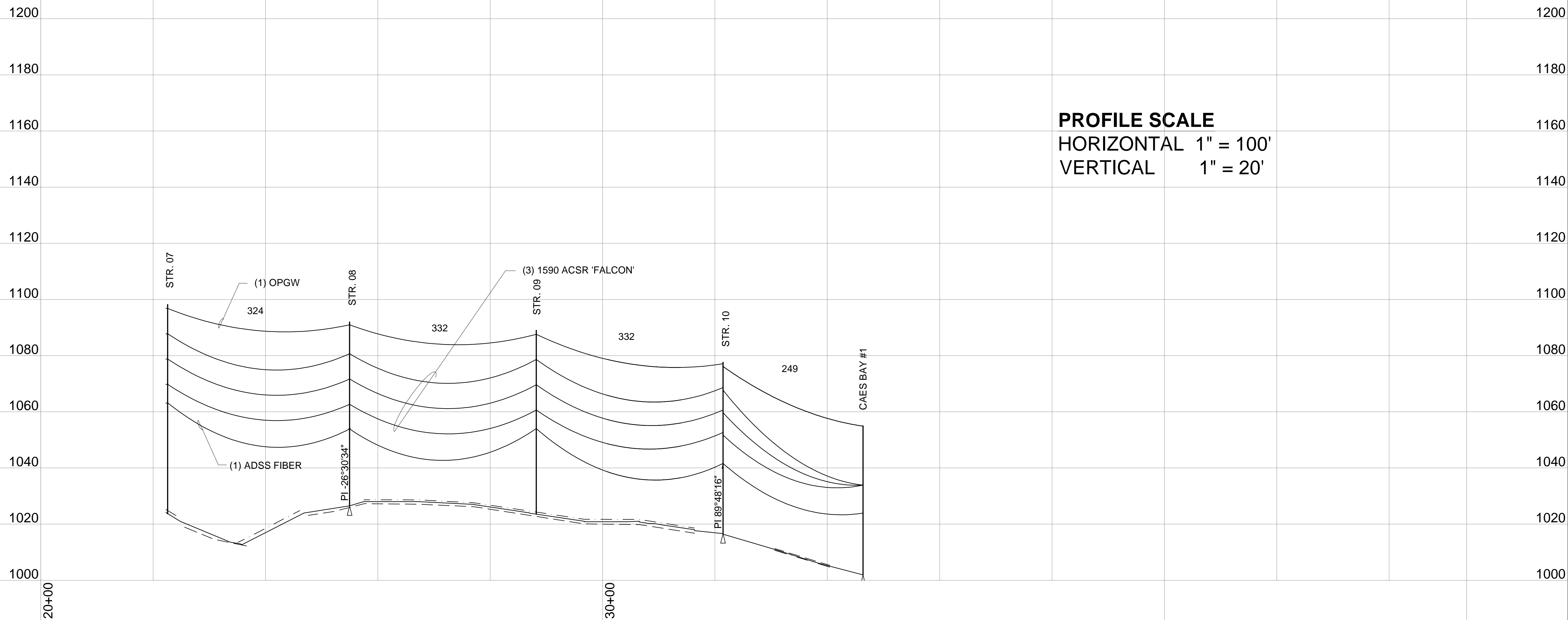
**GENERAL NOTES**

**PROJECT DESCRIPTION**  
NEW 115kV TRANSMISSION FROM READING CENTER SWITCHYARD TO NEW SENECA COMPRESSED AIR ENERGY STORAGE FACILITY.

**DESIGN CRITERIA**  
VOLTAGE 115kV  
MVA 240 MVA  
AMPACITY 1205 AMPERES STEADY STATE

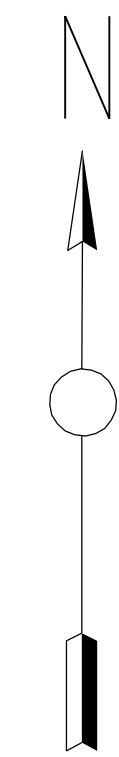
**SCOPE**  
SET TWELVE (12) NEW WOOD TRANSMISSION POLES AND RUN NEW (1) OPGW - OPTICAL GROUND WIRE, 115kV (3) ACSR - PHASE CONDUCTOR AND (1) ADSS - FIBER.

**PROFILE SCALE**  
HORIZONTAL 1" = 100'  
VERTICAL 1" = 20'



REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNER	ENGINEER/TECH	PROJECT
PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.					
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.					
ORIGINATING PERSONNEL		PROFESSIONAL ENGINEER'S SEAL					
DRAWN BY		R. COBY					
CHECKED BY							
LEAD DESIGNER							
ENGINEER/TECH SPECIALIST		R. COBY					
PROJECT ENGINEERING MANAGER		W. BILENKI					
PROJECT MANAGER							
<b>OneWay</b> to zero harm		ORIGINALY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF					
Copyright © WorleyParsons Services Pty Ltd		LIC. NO. _____ STATE _____ DATE _____					
<b>WorleyParsons</b> resources & energy		CLIENT/PROJECT TITLE					
		NYSEG SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT					
		PLAN & PROFILE CAES TRANSMISSION 115kV CIRCUIT					
SCALE As Noted		DRAWING SIZE ARCH D (36" x 24")		REV			
WORLEYPARSONS DWG. NO.		CAES-1-DW-662-002-002		A			

CAES-01-DW-662-002-002-002.dwg  
10/4/2011 11:21:05



**LEGEND:**

- PROPERTY BOUNDARY
- x-x- FENCE
- OFFSET FROM R.O.W.
- NYSEG RIGHT OF WAY
- OFFSET FROM CREEK
- 1160 GRADE CONTOUR LINE

**NOTE:**

1. GRADE CONTOUR LINE; CREEK BOUNDARY AND WIDTH ARE APPROXIMATE.
2. COORDINATES ARE REFERENCED FROM TOWN OF READING TAX MAP #43.00 (POINT LOCATIONS ARE APPROXIMATE).
3. CLOUDED AREA SHOWS CAPACITOR BANKS AND BUS ARRANGEMENT IF REQUIRED.
4. TRANSMISSION LINE CONDUCTOR SIZE IS TO BE 1590 KCMIL ACSR, 54/19 STRANDING

**PRELIMINARY DRAWING**

REV	DATE	DESCRIPTION	BY	CHKD	APP'D
A	08/21/11	INITIAL ISSUE FOR REVIEW & COMMENT	MA	MA	BJW/BJM/JBH

INFORMATION ONLY - NOT TO BE USED FOR CONSTRUCTION.  
 LDE B. WILLIAMS 08-02-11  
 APPROVED STATUS DATE REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY M. APEWAJOYE	
CHECKED BY	
LEAD DESIGNER M. APEWAJOYE	
ENGINEER/TECH SPECIALIST B. WILLIAMS	
PROJECT ENGINEERING MANAGER W. BILENKI	
PROJECT MANAGER M. HOLDRIDGE	

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 PREPARED BY DATE  
 CHECKED BY DATE

**WorleyParsons**  
 resources & energy

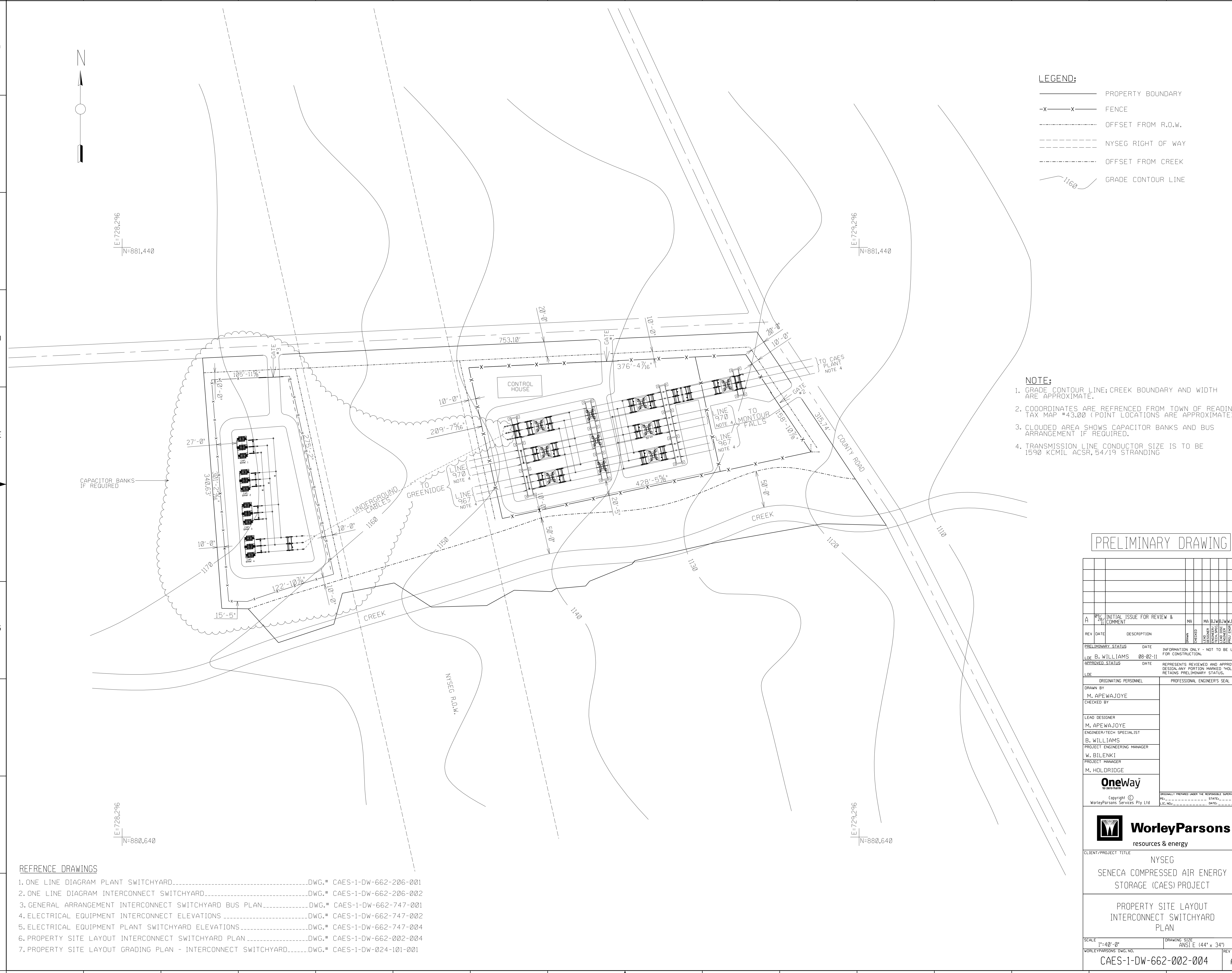
CLIENT/PROJECT TITLE  
 NYSEG  
 SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

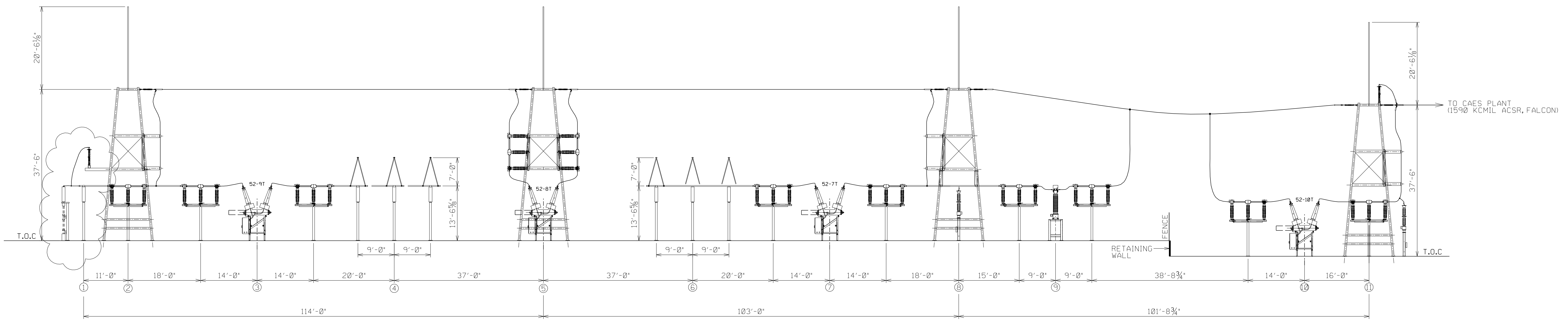
PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN

SCALE 1"=40'-0" DRAWING SIZE ANSI E (44" x 34")  
 WORLEYPARSONS DWG. NO. CAES-1-DW-662-002-004 REV A

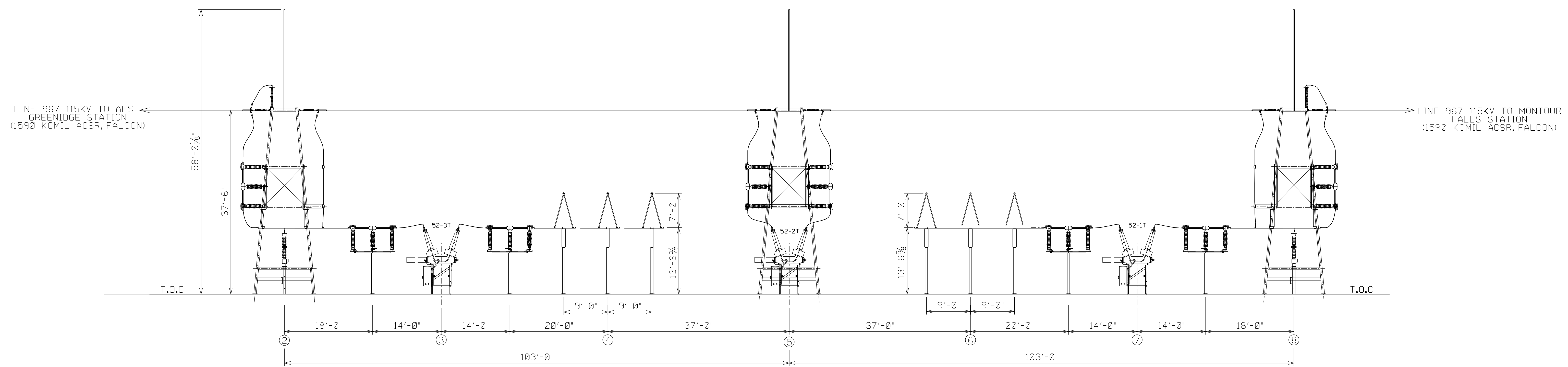
**REFERENCE DRAWINGS**

1. ONE LINE DIAGRAM PLANT SWITCHYARD.....DWG.# CAES-1-DW-662-206-001
2. ONE LINE DIAGRAM INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-662-206-002
3. GENERAL ARRANGEMENT INTERCONNECT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-001
4. ELECTRICAL EQUIPMENT INTERCONNECT ELEVATIONS.....DWG.# CAES-1-DW-662-747-002
5. ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-004
6. PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN.....DWG.# CAES-1-DW-662-002-004
7. PROPERTY SITE LAYOUT GRADING PLAN - INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-024-101-001

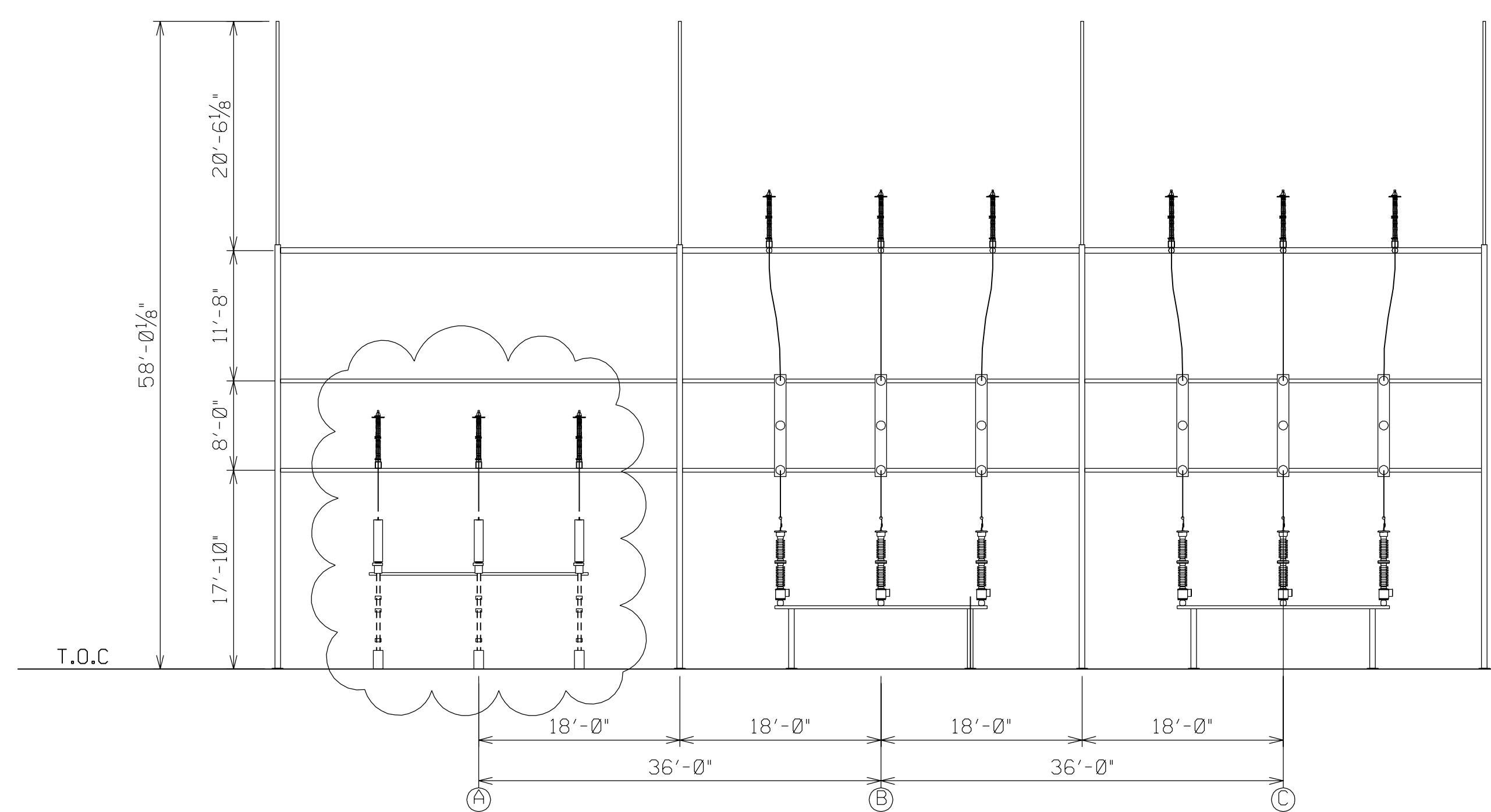




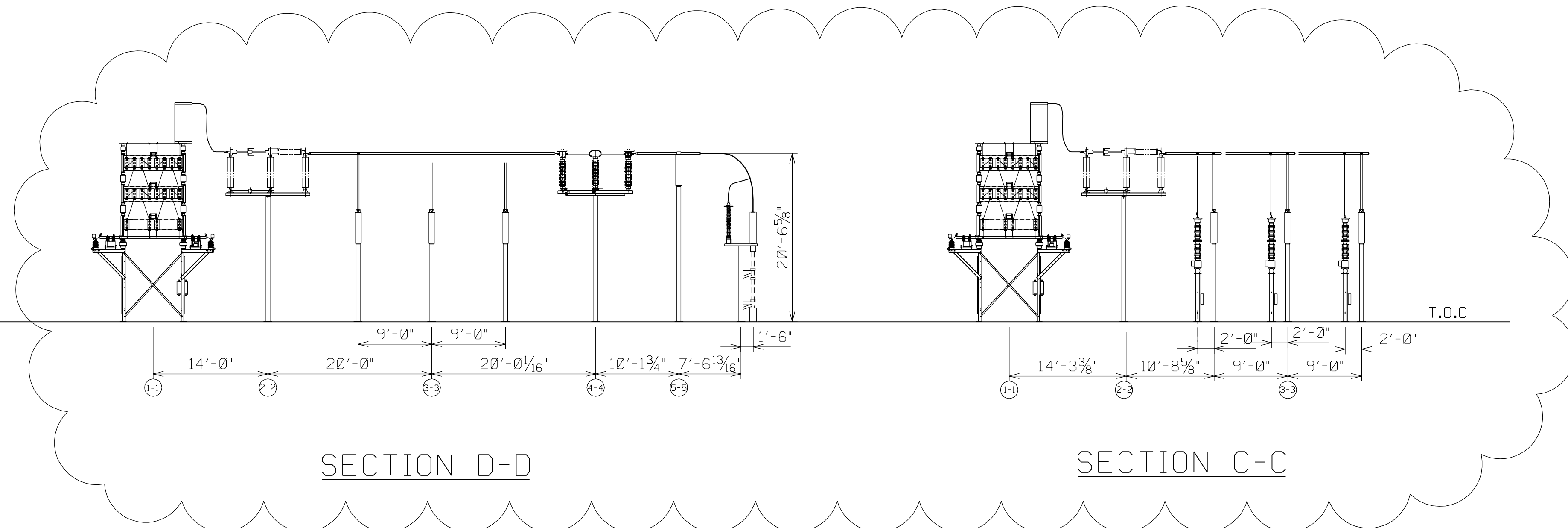
SECTION C-C



SECTION A-A



SECTION B-B



SECTION D-D

SECTION C-C

REFERENCE DRAWINGS

- ONE LINE DIAGRAM PLANT SWITCHYARD.....DWG.# CAES-1-DW-662-206-001
- ONE LINE DIAGRAM INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-662-206-002
- GENERAL ARRANGEMENT INTERCONNECT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-001
- GENERAL ARRANGEMENT PLANT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-003
- ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-004
- PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN.....DWG.# CAES-1-DW-662-002-004
- PROPERTY SITE LAYOUT GRADING PLAN - INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-024-101-001

NOTE

CLOUDED AREA AND SECTIONS SHOWS CAPACITOR BANKS AND BUS ARRANGEMENT IF REQUIRED.

PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	MA	MA	BJM	WJB	MH
A	08/28/11	INITIAL ISSUE FOR REVIEW & COMMENT					
B	08-02-11	REPRESENTS REVIEWED AND APPROVED DESIGN, ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.					

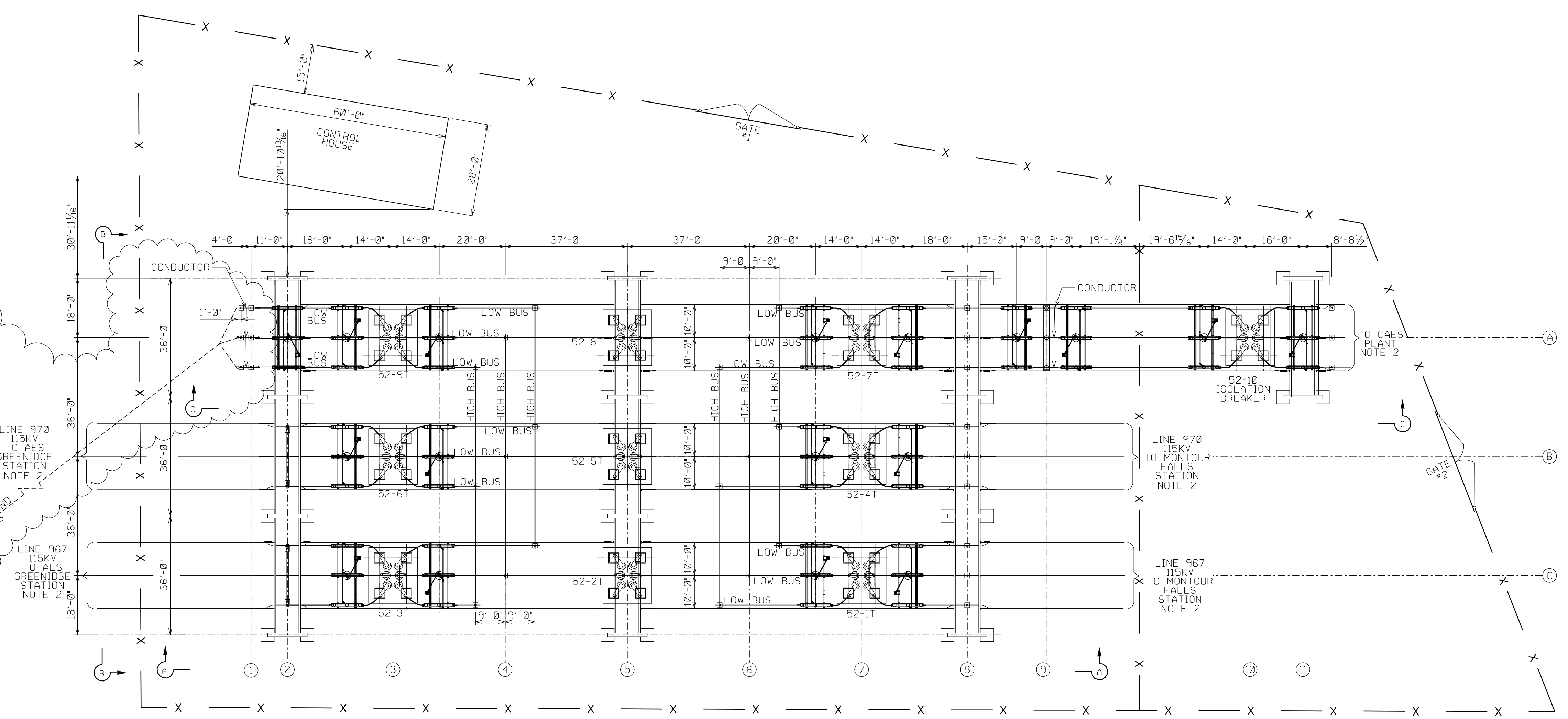
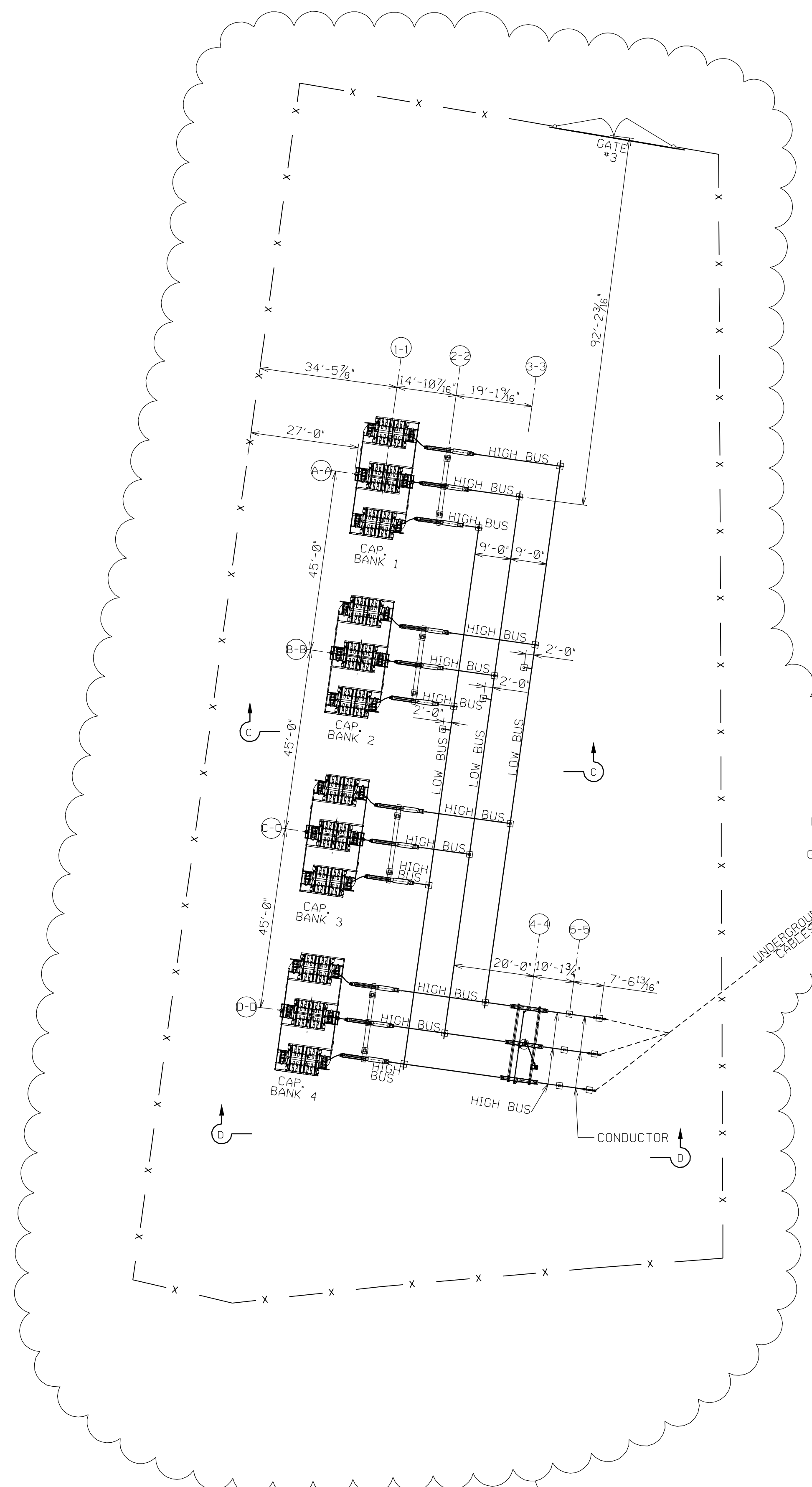
DRAWN BY M. APEWAJOYE CHECKED BY LEAD DESIGNER M. APEWAJOYE ENGINEER/TECH SPECIALIST B. WILLIAMS PROJECT ENGINEERING MANAGER W. BILENKI PROJECT MANAGER M. HOLDRIDGE	PROFESSIONAL ENGINEER'S SEAL ORIGINAL PREPARED UNDER THE RESPONSIBLE SUPERVISION OF PREPARED BY STATE LIC. NO. DATE
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CLIENT/PROJECT TITLE  
 NYSEG  
 SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

ELECTRICAL EQUIPMENT INTERCONNECT SWITCHYARD ELEVATIONS

SCALE 1"=10'-0"	DRAWING SIZE ANSI E (44" x 34")
WORLEYPARSONS DWG. NO. CAES-1-DW-662-747-002	REV A



CAPACITOR BANKS IF REQUIRED

PRELIMINARY DRAWING

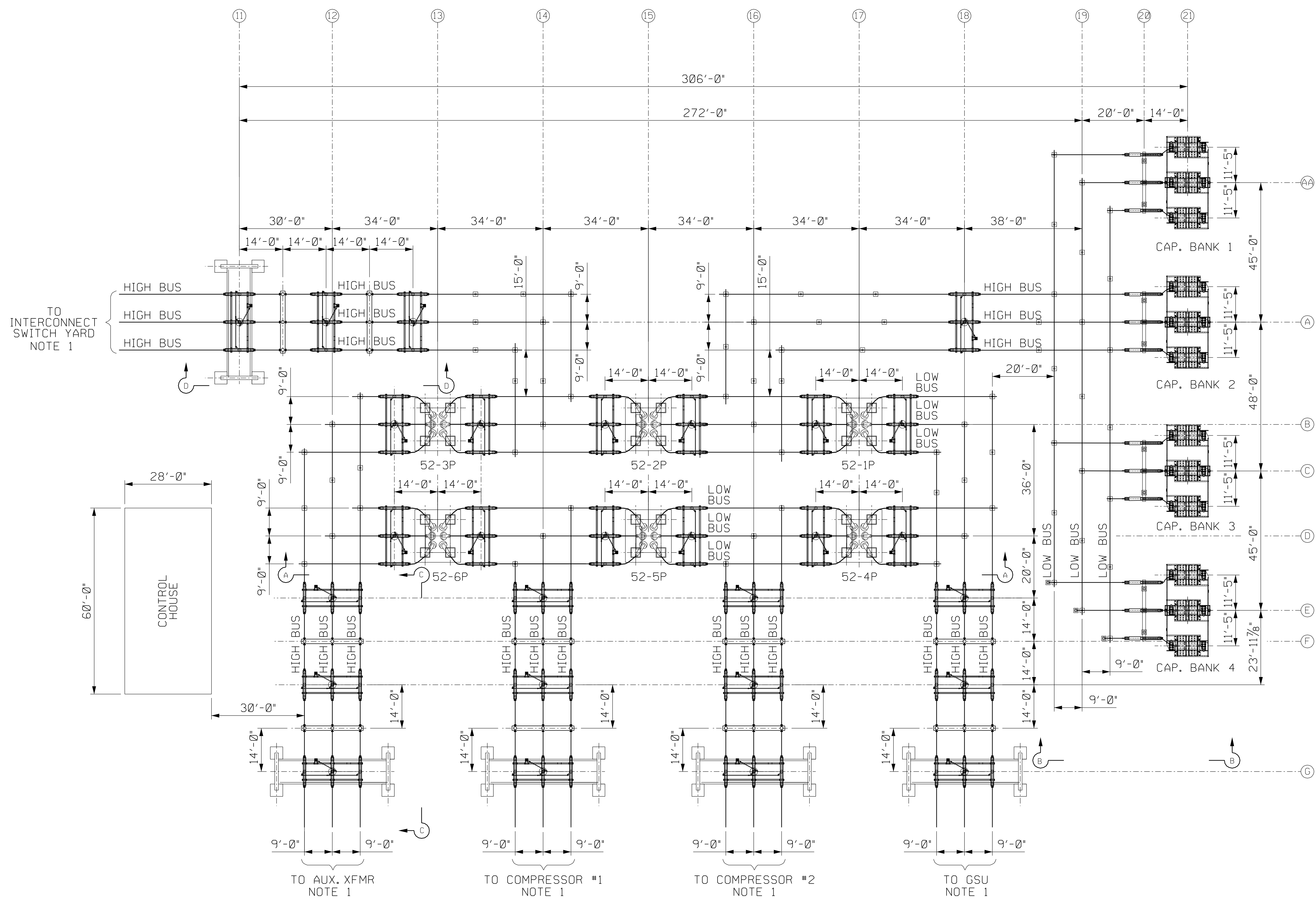
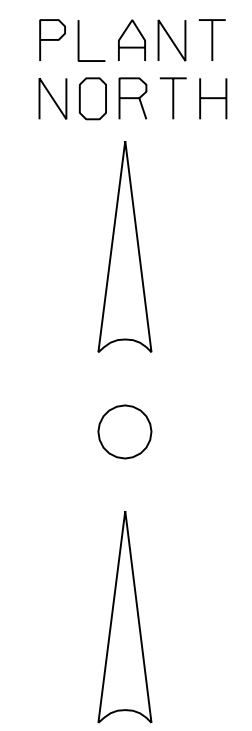
REV	DATE	DESCRIPTION	MA	MA	BJ	WJ	WJ	MH	
A	08/28/11	INITIAL ISSUE FOR REVIEW & COMMENT							
PRELIMINARY STATUS			DATE		INFORMATION ONLY - NOT TO BE USED FOR CONSTRUCTION.				
APPROVED STATUS			DATE		REPRESENTS REVIEWED AND APPROVED DESIGN, ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.				

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY M. APEWAJOYE	
CHECKED BY	
LEAD DESIGNER M. APEWAJOYE	
ENGINEER/TECH SPECIALIST B. WILLIAMS	
PROJECT ENGINEERING MANAGER W. BILENKI	
PROJECT MANAGER M. HOLDRIDGE	
<b>OneWay</b> by WSP   WSP	ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF PREPARED BY _____ STATE _____ DATE _____ WORLEYPARSONS SERVICES PLY LTD. LIC. NO. _____
<b>WorleyParsons</b> resources & energy	
CLIENT/PROJECT TITLE	
NYSEG SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT	
GENERAL ARRANGEMENT INTERCONNECT SWITCHYARD BUS PLAN	
SCALE: 1'-20'-0"	DRAWING SIZE: ANSI E (44" x 34")
WORLEYPARSONS DWG. NO. CAES-1-DW-662-747-001	REV A

- REFERENCE DRAWINGS**
- ONE LINE DIAGRAM PLANT SWITCHYARD.....DWG.# CAES-1-DW-662-206-001
  - ONE LINE DIAGRAM INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-662-206-002
  - GENERAL ARRANGEMENT PLANT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-003
  - ELECTRICAL EQUIPMENT INTERCONNECT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-002
  - ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-004
  - PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN.....DWG.# CAES-1-DW-662-002-004
  - PROPERTY SITE LAYOUT GRADING PLAN - INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-024-101-001

**NOTE**

- CLOUDED AREA SHOWS CAPACITOR BANKS AND BUS ARRANGEMENT IF REQUIRED.
- TRANSMISSION LINE CONDUCTOR SIZE IS TO BE 1500 KCMIL ACSR, 54/19 STRANDING



PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	DESIGNED	CHECKED	DATE	DESCRIPTION
A	09/28/11	INITIAL ISSUE FOR REVIEW & COMMENT	MAC	MA	BJW	BJW
REV	DATE	DESCRIPTION	DESIGNED	CHECKED	DATE	DESCRIPTION
PRELIMINARY STATUS		DATE	INFORMATION ONLY - NOT TO BE USED FOR CONSTRUCTION.			
APPROVED STATUS		DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.			
LDE		DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.			
ORIGINATING PERSONNEL		PROFESSIONAL ENGINEER'S SEAL				
DRAWN BY		M. CLEMENT				
CHECKED BY		M. APEWAJOYE				
LEAD DESIGNER		M. APEWAJOYE				
ENGINEER/TECH SPECIALIST		B. WILLIAMS				
PROJECT ENGINEERING MANAGER		W. BILENKI				
PROJECT MANAGER		M. HOLDRIDGE				
OneWay		Copyright © WorleyParsons Services Pty Ltd				
ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF		STATE: _____ LIC. NO.: _____ DATE: _____				

**NOTE:**  
1. TRANSMISSION LINE CONDUCTOR SIZE IS TO BE 1590 KCMIL ACSR, 54/19 STRANDING.

- REFERENCE DRAWINGS**
- 1. ONE LINE DIAGRAM PLANT SWITCHYARD.....DWG.# CAES-1-DW-662-206-001
  - 2. ONE LINE DIAGRAM INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-662-206-002
  - 3. GENERAL ARRANGEMENT PLANT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-003
  - 4. ELECTRICAL EQUIPMENT INTERCONNECT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-002
  - 5. ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-004
  - 6. PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN.....DWG.# CAES-1-DW-662-002-004
  - 7. PROPERTY SITE LAYOUT GRADING PLAN INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-024-101-001

**WorleyParsons**  
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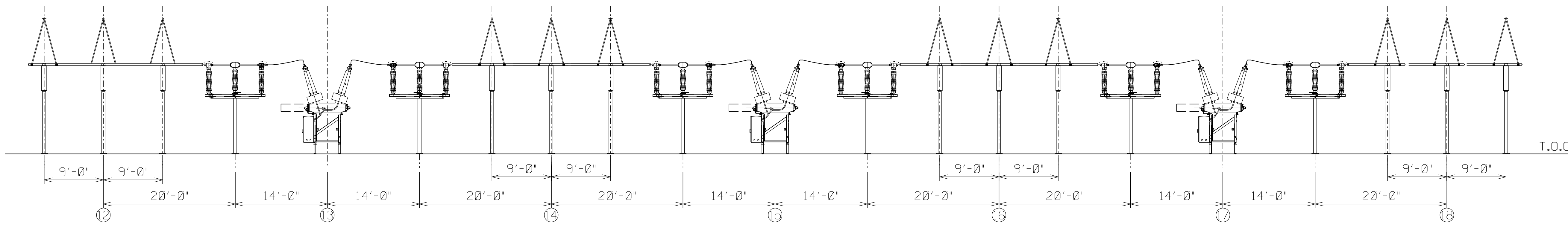
CLIENT/PROJECT TITLE  
NYSEG  
SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

GENERAL ARRANGEMENT  
PLANT SWITCHYARD  
BUS PLAN

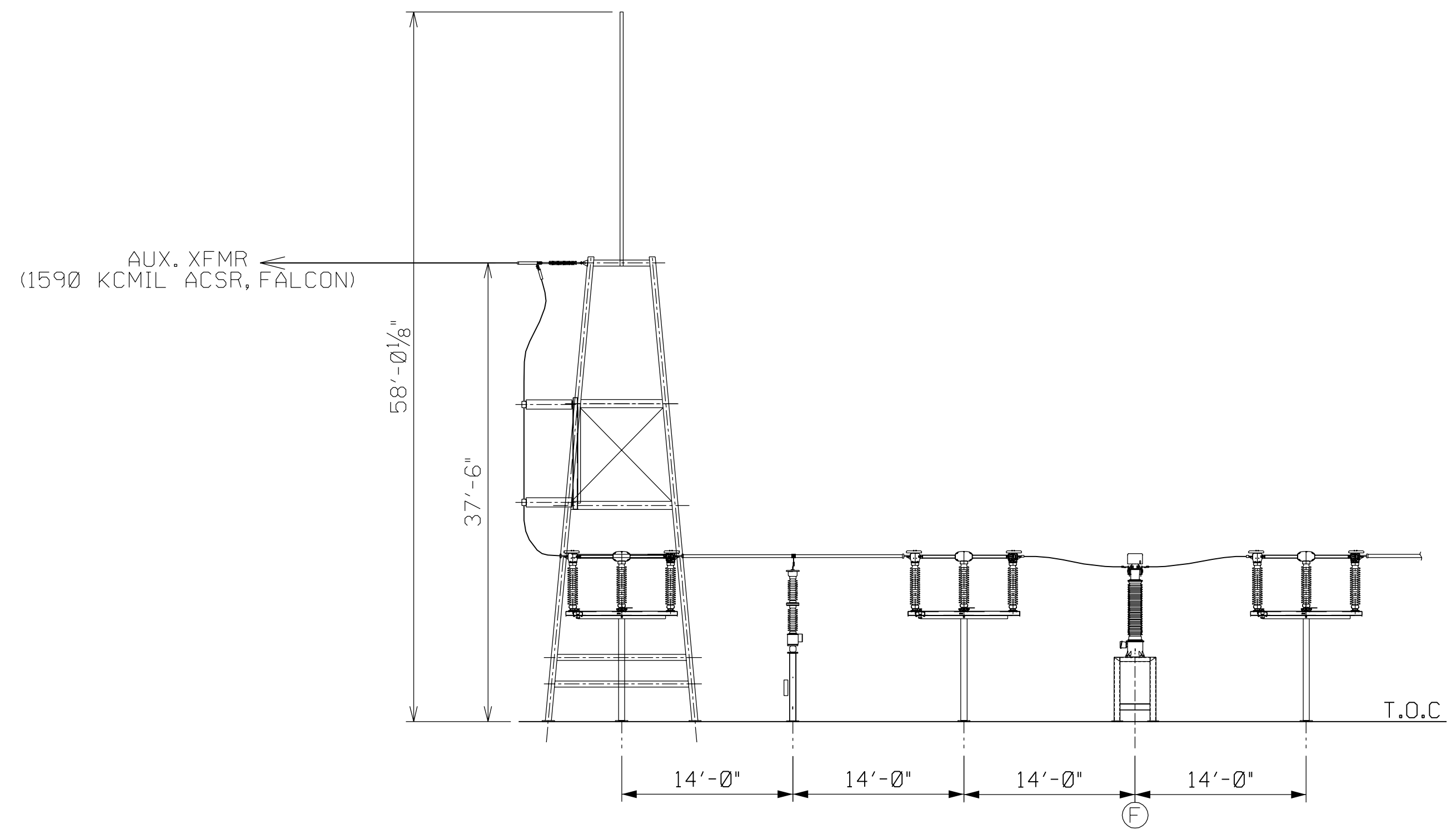
SCALE: 1" = 20'  
DRAWING SIZE: ARCH D (36' x 24')

WORLDWIDE PROJECTS DWG. NO. CAES-1-DW-662-747-003  
REV A

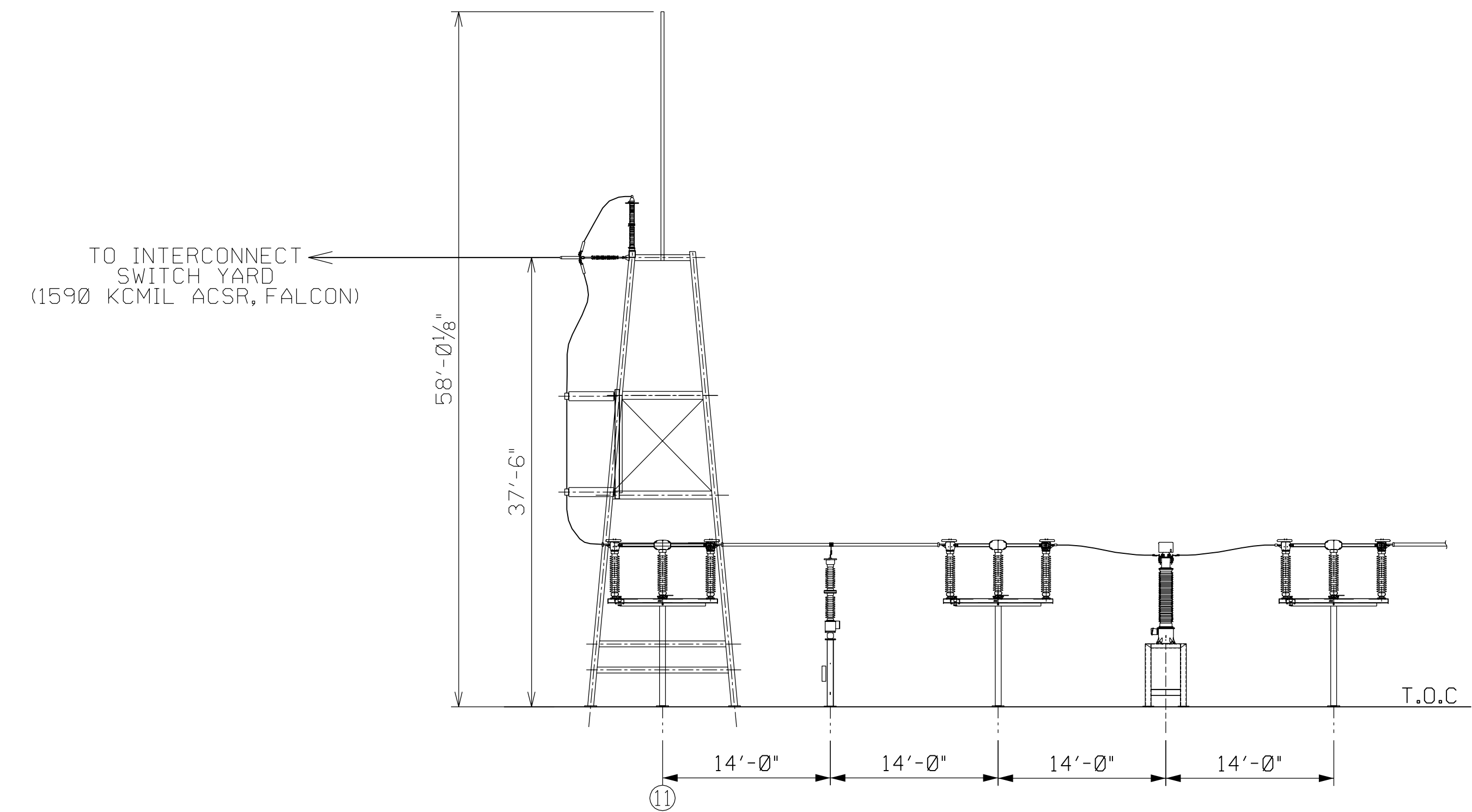




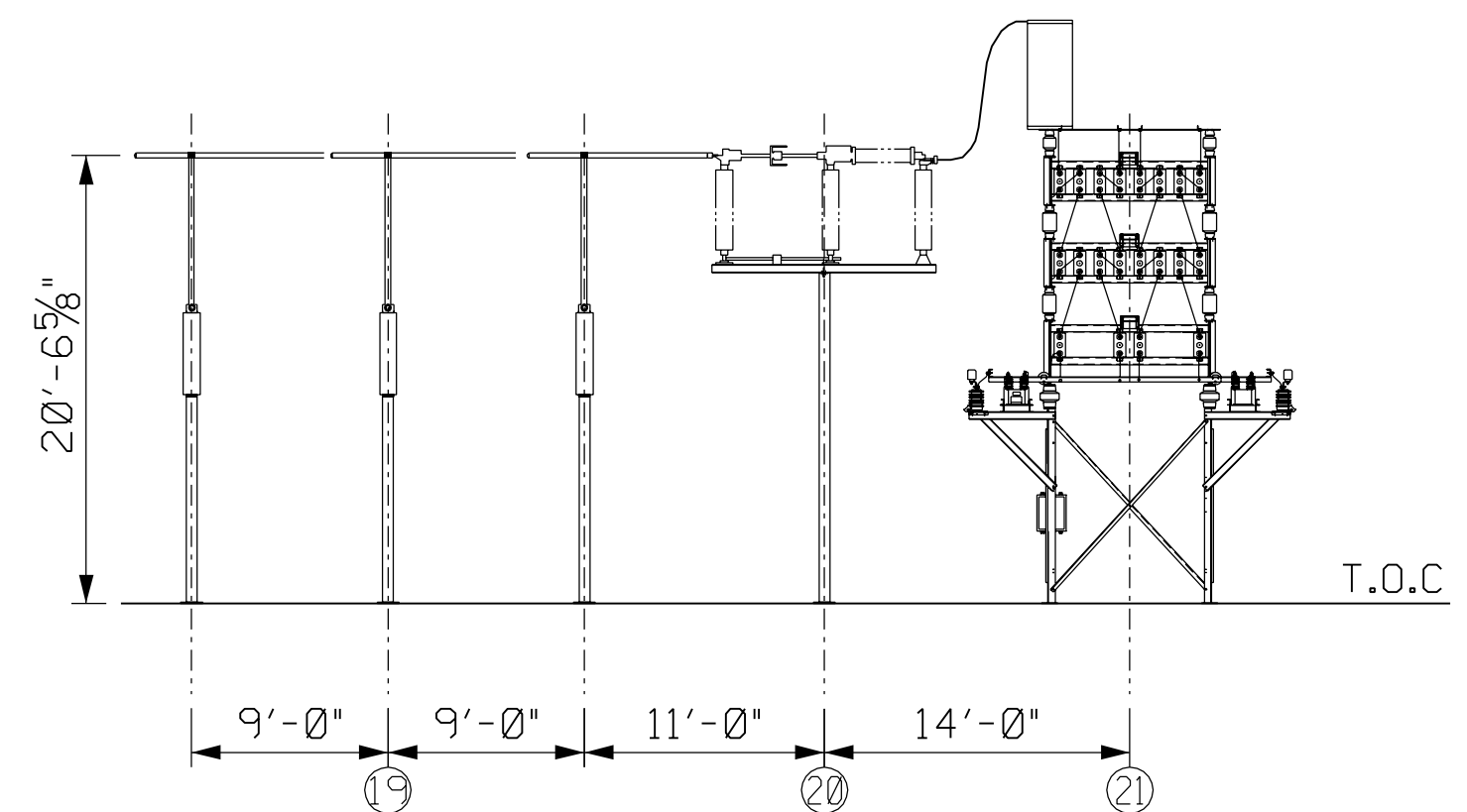
SECTION A-A



SECTION C-C



SECTION D-D



SECTION B-B

PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	DATE	DESCRIPTION
A	09/28/11	INITIAL ISSUE FOR REVIEW & COMMENT						

PRELIMINARY STATUS: INFORMATION ONLY - NOT TO BE USED FOR CONSTRUCTION.  
 APPROVED STATUS: REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY D. PRESSEY	
CHECKED BY	
LEAD DESIGNER M. APEWAJOYE	
ENGINEER/TECH SPECIALIST B. WILLIAMS	
PROJECT ENGINEERING MANAGER W. BILENKI	
PROJECT MANAGER M. HOLDRIDGE	

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to zero harm  
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CLIENT/PROJECT TITLE  
 NYSEG  
 SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

ELECTRICAL EQUIPMENT  
 PLANT SWITCH YARD  
 ELEVATIONS

SCALE: 3/32" = 1'  
 DRAWING SIZE: ARCH D (36' x 24')

CAES-1-DW-662-747-004 A

REFERENCE DRAWINGS

- ONE LINE DIAGRAM PLANT SWITCHYARD.....DWG.# CAES-1-DW-662-206-001
- ONE LINE DIAGRAM INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-662-206-002
- GENERAL ARRANGEMENT INTERCONNECT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-001
- GENERAL ARRANGEMENT PLANT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-003
- ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-004
- PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN.....DWG.# CAES-1-DW-662-002-004
- PROPERTY SITE LAYOUT GRADING PLAN INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-024-101-001