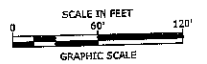




## **APPENDIX A**

# **FITCH STREET SUBSTATION SITE LAYOUT & EROSION AND SEDIMENT CONTROL PLAN**

**SITING  
COUNCIL REVIEW SET**



**Third Taxing District**

**Proposed 115kv Substation**

Fitch Street  
Norwalk, CT

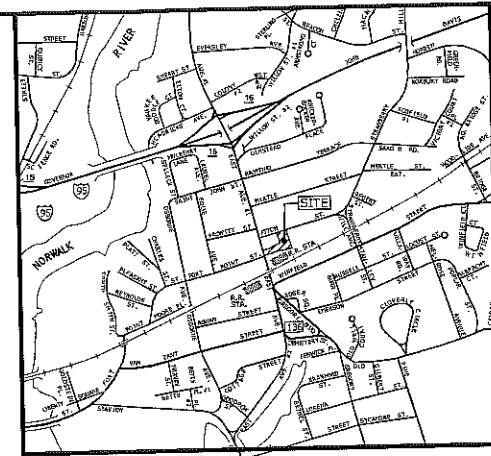
April, 2012

MARK	DATE	DESCRIPTION

**OVERALL SITE LAYOUT PLAN**

SCALE: 1" = 60'

**C1.0**



**LOCATION MAP**  
SCALE: 1"=1000'



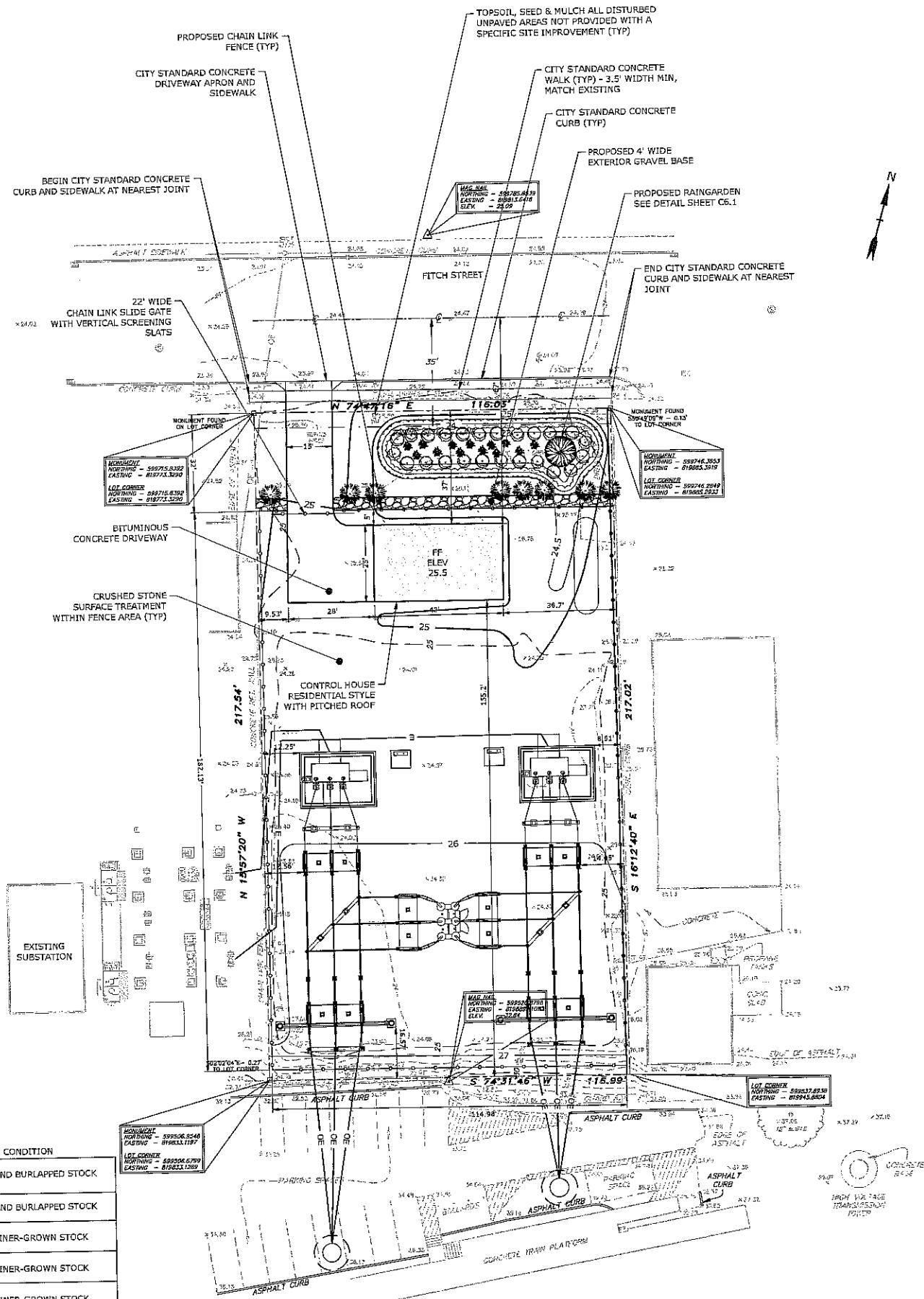
PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

LAYOUT AND MATERIALS PLAN LEGEND:

- 25 — PROPOSED INDEX CONTOUR
- - - 25 - - - EXISTING INDEX CONTOUR
- 24 — PROPOSED INTERMEDIATE CONTOUR
- - - 24 - - - EXISTING INTERMEDIATE CONTOUR
- x 24.25' - EXISTING SPOT ELEVATION
- PROPOSED CONCRETE CURB
- PROPOSED FENCE
- - - PROPOSED SAWCUT LINE
- ⊕ - EXISTING SANITARY MANHOLE
- ⊕ - EXISTING CATCH BASIN
- ⊕ - EXISTING WATER VALVE
- ⊕ - EXISTING WATER METER
- ⊕ - EXISTING HYDRANT
- EXISTING OVERHEAD ELECTRIC SERVICE
- EXISTING UTILITY POLE

PLANT LEGEND

SYMBOL NO.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
1	DECIDUOUS STREET TREE	PER CITY STANDARDS	3" - 3 1/2"	BALLED AND BURLAPPED STOCK
7	THUJA OCCIDENTALIS L.	ARBORVITAE	3" - 3 1/2"	BALLED AND BURLAPPED STOCK
12	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	30" - 36"	CONTAINER-GROWN STOCK
12	CORNUS SERICEA	RED OSIER DOGWOOD	30" - 36"	CONTAINER-GROWN STOCK
100	LOBELIA CARDINALIS	CARDINAL FLOWER	2" PLUG	CONTAINER-GROWN STOCK
100	ASTER NOVAE ANGLIAE	NEW ENGLAND ASTER	2" PLUG	CONTAINER-GROWN STOCK



LAYOUT AND MATERIALS PLAN NOTES:

1. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (1-800-922-4455) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATION.
2. SITE ACCESS GATE SHALL REMAIN CLOSED EXCEPT WHEN NEEDED FOR SERVICE.



1000 Bridgeport Avenue  
Suite 320  
Shelton, CT 06484  
(203) 712-1100

SITING COUNCIL REVIEW SET



Third Taxing District

Proposed 115kV Substation

Fitch Street  
Norwalk, CT  
April, 2012

MARK	DATE	DESCRIPTION

PROJECT NO:	N0695
FILE:	LD-N0695-01.dwg
DRAWN BY:	HDS
CHECKED:	CIC
APPROVED:	JWB

LAYOUT AND MATERIALS PLAN

SCALE: 1" = 20'

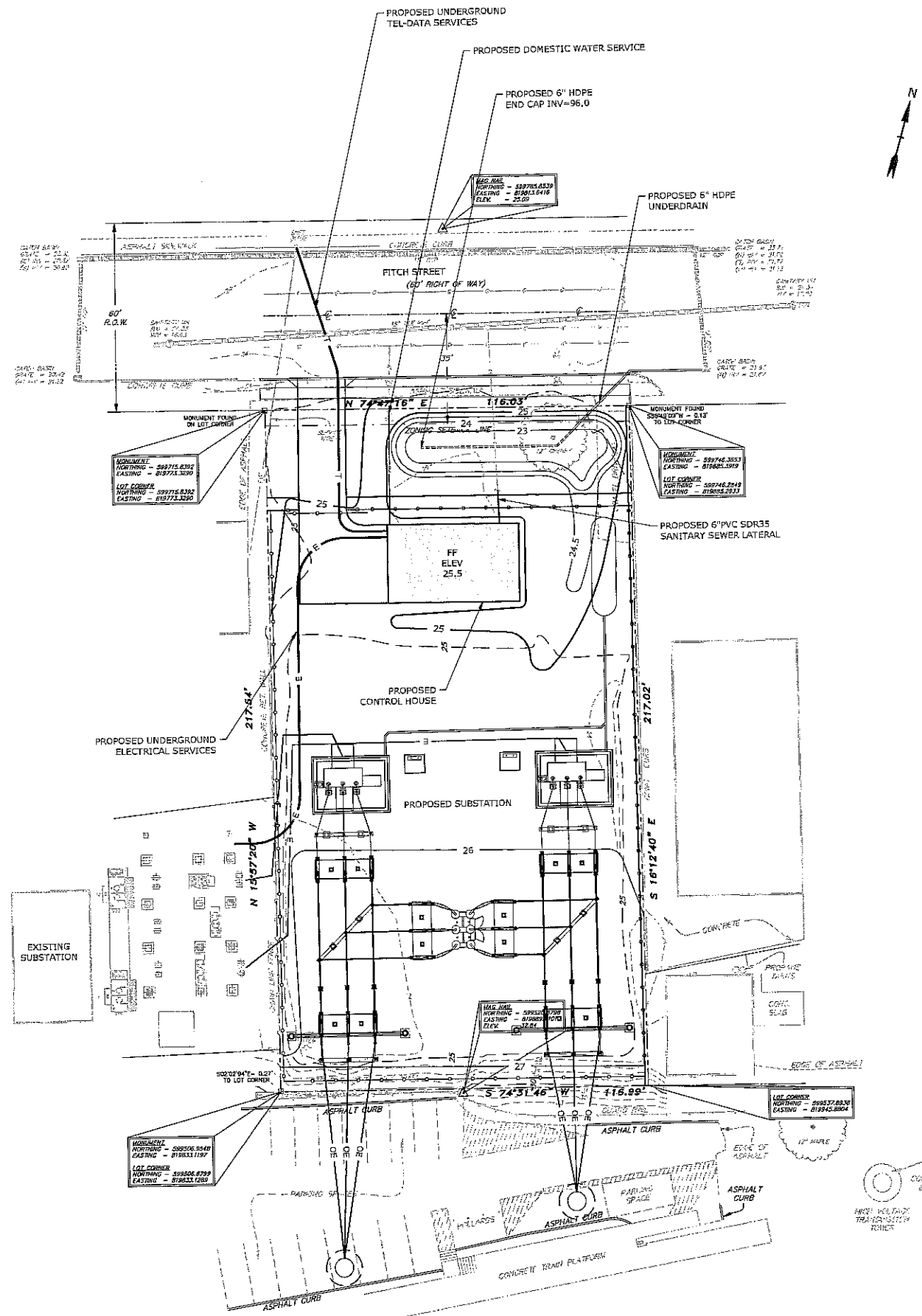
C2.0

PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

Apr 03, 2012 10:05am Plotted By: APW Tighe & Bond, Inc. J:\M01055 Norwalk TOD 61ms Council App\Drawings\LD-N0695-01.dwg

**DRAINAGE AND UTILITY PLAN LEGEND:**

- 25 - PROPOSED INDEX CONTOUR
- 25 - EXISTING INDEX CONTOUR
- 24 - PROPOSED INTERMEDIATE CONTOUR
- 24 - EXISTING INTERMEDIATE CONTOUR
- 24.57 - EXISTING SPOT ELEVATION
- SS - PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- PROPOSED STORM SEWER PIPE
- EXISTING STORM SEWER PIPE
- EXISTING CATCH BASIN
- PROPOSED WATER SERVICE
- EXISTING WATER SERVICE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING HYDRANT
- PROPOSED ELECTRIC SERVICE
- EXISTING OVERHEAD ELECTRIC SERVICE
- EXISTING UTILITY POLE
- PROPOSED TELEPHONE SERVICE
- EXISTING GAS SERVICE



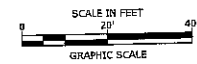
**DRAINAGE AND UTILITY PLAN NOTES:**

- CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (1-800-922-4455) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATION.



1000 Bridgeport Avenue  
Suite 320  
Shelton, CT 06484  
(203) 712-1100

**SITING COUNCIL REVIEW SET**



**Third Taxing District**

**Proposed 115kv Substation**

Fitch Street  
Norwalk, CT

April, 2012

MARK	DATE	DESCRIPTION

PROJECT NO:	N0885
FILE:	DU-N0885-01.dwg
DRAWN BY:	MDS
CHECKED:	CJC
APPROVED:	JWB

**DRAINAGE AND UTILITY PLAN**

SCALE: 1" = 20'

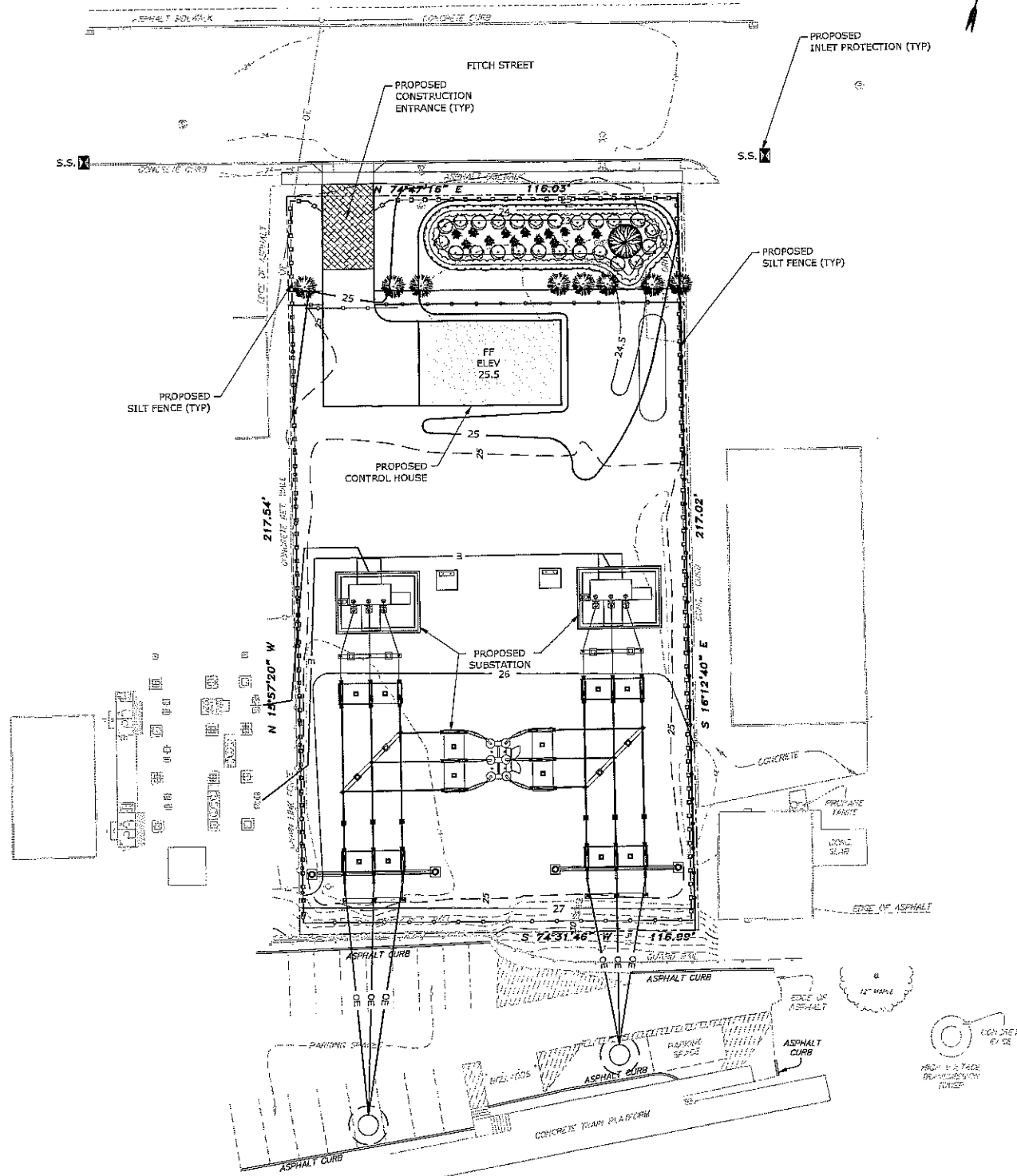
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PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

Apr 03, 2012 10:56am Edited By: AJW  
 Tighe & Bond, Inc. \\N0885 Norwalk TDD-5116.dwg

**SEDIMENTATION AND EROSION CONTROL PLAN LEGEND:**

- - - - - PROPOSED SILT FENCE
- S.S. [Symbol] - PROPOSED SILT SACK
- [Symbol] - PROPOSED HAYBALE RING
- - - - - PROPOSED CONSTRUCTION FENCE
- [Symbol] - PROPOSED CONSTRUCTION FENCE GATE
- [Symbol] - PROPOSED HAYBALE BARRIER
- [Symbol] - PROPOSED CONSTRUCTION ENTRANCE



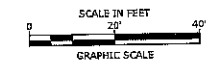
**SEDIMENTATION AND EROSION CONTROL PLAN NOTES:**

1. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (1-800-922-4455) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATION.
2. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" DEP BULLETIN NO 34, AND ALL AMENDMENTS AND ADDENDA THERETO AS PUBLISHED BY THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION.
3. LAND DISTURBANCE SHALL BE KEPT TO THE MINIMUM NECESSARY FOR CONSTRUCTION.
4. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND ELSEWHERE AS ORDERED BY THE OWNER'S REPRESENTATIVE, THE CITY OR THE OWNER.
5. ALL CATCH BASINS SHALL BE PROTECTED WITH SILT SACKS, HAYBALE RING, SILT FENCE OR BLOCK AND STONE INLET PROTECTION THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
6. WHEREVER POSSIBLE, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
7. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING CONSTRUCTION PERIOD AS ORDERED BY THE OWNER'S REPRESENTATIVE, THE CITY OF NORWALK, OR THE OWNER.
8. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
9. SEDIMENT REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.
11. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SILT FENCE/HAYBALES AND ANTI-TRACKING CRUSHED STONE ON-SITE FOR EMERGENCY REPAIRS.
12. THE CONTRACTOR SHALL UTILIZE APPROVED METHODS/MATERIALS FOR PREVENTING THE BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES ONTO ADJACENT PROPERTIES AND SITE AREAS.
13. ALL DRAINAGE STRUCTURES SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR AND CLEANED TO PREVENT THE BUILD-UP OF SILT.
14. THE CONTRACTOR SHALL CAREFULLY COORDINATE THE PLACEMENT OF EROSION CONTROL MEASURES WITH THE PHASING OF CONSTRUCTION.
15. KEEP ALL PAVED ROADWAYS CLEAN, SWEEP BEFORE FORECASTED STORMS OR WEEKLY AS NECESSARY.
16. TREAT ALL UNPAVED SURFACES WITH 4" MINIMUM OF TOPSOIL AND SEEDING PRIOR TO FINAL STABILIZATION.
17. HAYBALE BARRIERS AND SILT FENCING SHALL BE INSTALLED ALONG THE TOE OF CRITICAL CUT AND FILL SLOPES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
18. ALL TRUCKS LEAVING THE SITE MUST BE COVERED.
19. DISTURBED SLOPES SHALL BE TREATED WITH AN EROSION CONTROL SLURRY CONSISTING OF A MIXTURE OF WOOD FIBER MULCH, PLANT SEED AND 3 GALLONS/ACRE OF SILT STOP 540 LIQUID FLOCCULENT. THE FLOCCULENT IS PROVIDED BY HYDROGRASS TECHNOLOGIES, OXFORD MASSACHUSETTS.
20. ALL SEDIMENTATION AND EROSION CONTROLS SHALL BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT. NECESSARY REPAIRS SHALL BE MADE WITHOUT DELAY.
21. PRIOR TO ANY FORECASTED RAINFALL, EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED AND REPAIRED AS NECESSARY.
22. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, EROSION CONTROLS MAY BE REMOVED ONCE AUTHORIZATION TO DO SO HAS BEEN SECURED FROM THE CITY OF NORWALK. DISTURBED AREAS SHALL BE SEEDING AND MULCHED.
23. REFER TO SHEET C5.0 FOR EROSION & SEDIMENTATION CONTROL NOTES, NARRATIVE AND DETAILS.



1000 Bridgeport Avenue  
Suite 320  
Shelton, CT 06484  
(203) 712-1100

**SITING COUNCIL REVIEW SET**



**Third Taxing District**

**Proposed 115kV Substation**

Fitch Street  
Norwalk, CT

April, 2012

MARK	DATE	DESCRIPTION
PROJECT NO:		N0895
FILE:		SE-N0895-01.dwg
DRAWN BY:		MDS
CHECKED:		CJC
APPROVED:		JWB

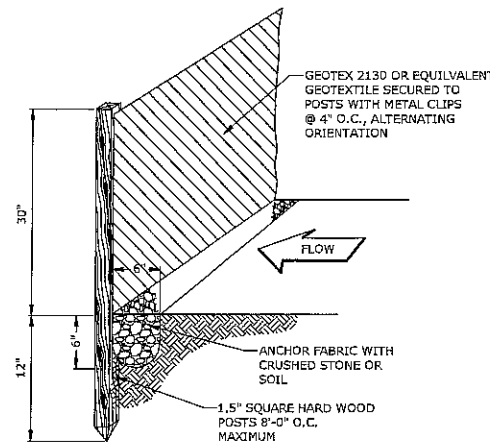
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SCALE: 1" = 20'

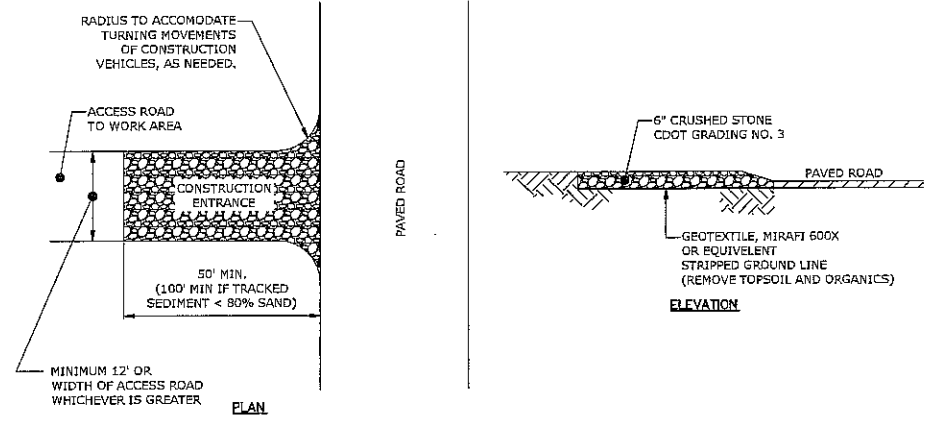
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PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

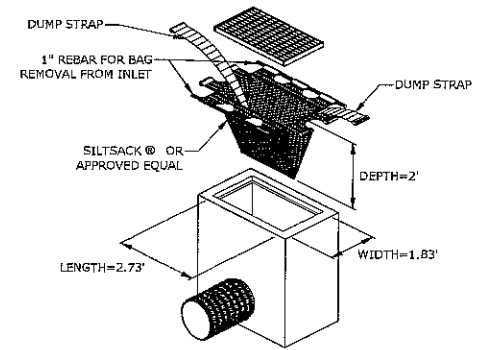
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Tighe & Bond, Inc. 25 Wynton Avenue, Norwalk, CT 06855-1100



**SILT FENCE**  
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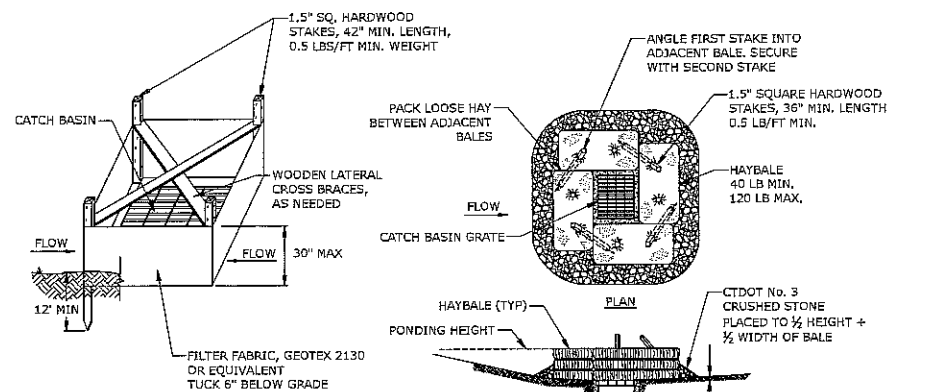


**CONSTRUCTION ENTRANCE**  
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SILTSACK MANUFACTURED BY:  
ACF ENVIRONMENTAL  
2831 CARDWELL ROAD  
RICHMOND, VIRGINIA 23237

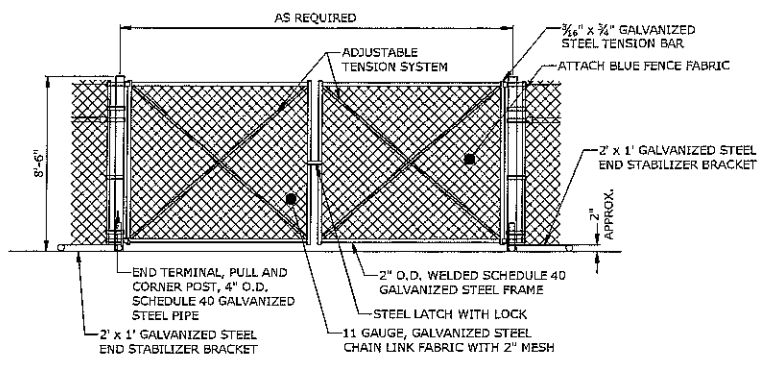
**SILTSACK®**  
NO SCALE



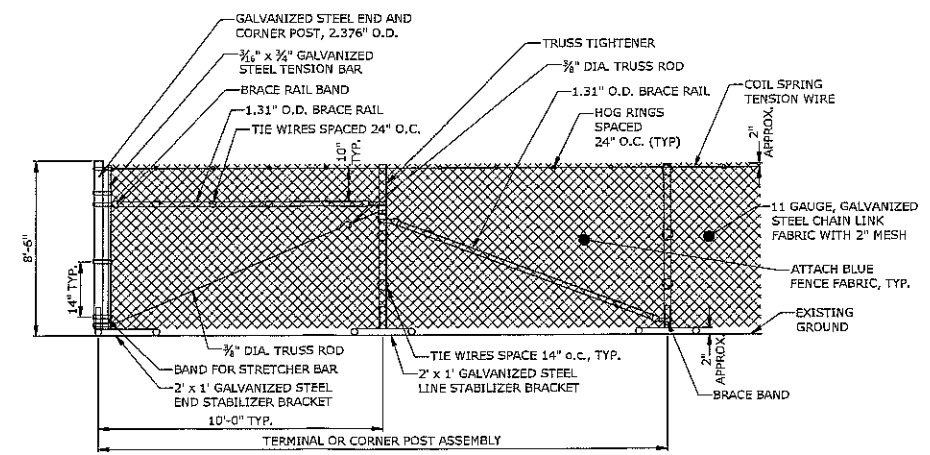
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NO SCALE

**HAYBALE FILTER INSTALLATION AT CATCH BASIN AT LOW POINTS**  
NO SCALE

**CATCH BASIN EROSION CONTROL**  
NO SCALE



**8' TEMPORARY CHAIN LINK CONSTRUCTION GATE**  
NO SCALE



**8' TEMPORARY CHAIN LINK CONSTRUCTION FENCE**  
NO SCALE

**SEDIMENTATION AND EROSION NARRATIVE:**

1. THE THIRD TAXING DISTRICT IS PROPOSING TO CONSTRUCTION A 115/27.5KV SUBSTATION ON A 0.58 ACRE PARCEL ON 6 FITCH STREET IN NORWALK, CONNECTICUT. THE PROPOSED CONSTRUCTION INCLUDES A NEW SUBSTATIONS, UTILITY POLE, OVERHEAD WIRES, A CONTROL HOUSE, CHAIN LINK SECURITY FENCING, DRIVEWAY, LANDSCAPING AND GRAVEL SURFACE TREATMENT. IN ADDITION, THE PROPOSED PROJECT INCLUDES THE INSTALLATION OF THE PROPOSED CONTROL BUILDING UTILITIES INCLUDING ELECTRICAL AND TEL-DATA SERVICES, SANITARY SEWER LATERAL, AND DOMESTIC WATER SERVICE.

**DISTURBANCE AND PHASING:**

1. THE PROJECT IS ANTICIPATED TO BE CONSTRUCTED IN A SINGLE PHASE. THE TOTAL DISTURBED AREA IS 0.58 ACRES.

**SEDIMENTATION AND EROSION CONTROL NARRATIVE:**

1. FLAG THE LIMITS OF CONSTRUCTION NECESSARY TO FACILITATE THE PRECONSTRUCTION MEETING.
2. HOLD PRECONSTRUCTION MEETING. (REMEMBER TO CALL BEFORE YOU DIG 1-800-922-4455).
3. FLAG REMAINDER OF THE LIMITS OF CONSTRUCTION AND TREE PROTECTION ZONES. SECURE AREAS FROM VEHICULAR TRAFFIC AND PEDESTRIAN ACCESS.
4. INSTALL THE CONSTRUCTION ENTRANCE.
5. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENTATION PLAN.
6. CUT TREES WITHIN THE DEFINED CLEARING LIMITS AND REMOVE CUT WOOD, CHIP BRUSH AND SLASH, STOCKPILE CHIPS FOR FUTURE USE OR REMOVE OFF SITE.
7. CONSTRUCT TEMPORARY SETTLING BASINS AND/OR SUMP PITS, AS REQUIRED.
8. STRIP AND STOCKPILE ALL TOPSOIL THAT IS WITHIN THE FOOTPRINT OF THE CONSTRUCTION SITE AND REFERENCE STOCKPILE MANAGEMENT FOR EROSION AND SEDIMENT CONTROLS. (SEE 2002 CT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL CHAPTER 4, PART II ON STOCKPILE MANAGEMENT). REMOVE TREE STUMPS TO AN APPROVED DISPOSAL SITE.
9. MAKE ALL CUTS AND FILLS REQUIRED, ESTABLISH THE SUBGRADE FOR THE TOPSOIL AREAS, DRIVEWAY AND GRAVEL COMPOUND AS REQUIRED AND BENCH THE CONTROL BUILDING TO A SUBGRADE. ALLOW A REASONABLE AMOUNT OF AREA AROUND THE FOOTPRINT OF THE BUILDING FOR THE CONSTRUCTION ACTIVITIES.
10. BEGIN CONSTRUCTION OF THE CONTROL HOUSE AND SUBSTATION.
11. PRIOR TO INSTALLING SURFACE WATER CONTROLS SUCH AS TEMPORARY DIVERSIONS AND STONE DIKES, INSPECT EXISTING CONDITIONS TO ENSURE DISCHARGE LOCATIONS ARE STABLE. IF NOT STABLE, REVIEW DISCHARGE CONDITIONS WITH THE DESIGN ENGINEER AND IMPLEMENT ADDITIONAL STABILIZATION MEASURES PRIOR TO INSTALLING WATER SURFACE CONTROLS.
12. INSTALL ALL SANITARY SEWER LATERAL, DRAINAGE SYSTEMS, DOMESTIC WATER SERVICE, AND UTILITIES TO WITHIN 5 FEET OF THE CONTROL HOUSE OR AS OTHERWISE MODIFIED BY THE DESIGN ENGINEER TO ADJUST FOR UNFORESEEN SITE CONDITIONS.
13. PREPARE SUB-BASE, SLOPES, DRIVEWAY, SUBSTATION COMPOUND, AND ANY OTHER AREA OF DISTURBANCE FOR FINAL GRADING.
14. INSTALL PROCESS AGGREGATE IN DRIVEWAY AREA AND GRAVEL SURFACE TREATMENT IN SUBSTATION COMPOUND.
15. PLACE TOPSOIL WHERE REQUIRED. COMPLETE THE PERIMETER LANDSCAPE PLANTINGS.
16. FINE GRADE, RAKE, SEED AND MULCH.
17. UPON SUBSTANTIAL COMPLETION OF THE CONTROL HOUSE COMPLETE THE BALANCE OF SITE WORK AND STABILIZATION OF ALL OTHER DISTURBED AREAS. INSTALL PAVING.
18. WHEN ALL OTHER WORK HAS BEEN COMPLETED, REPAIR AND SWEEP ALL PAVED AREAS. INSPECT THE DRAINAGE SYSTEM AND CLEAN AS NEEDED.
19. AFTER SITE IS STABILIZED REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS (E.G. GEOTEXTILE SILT FENCES).

PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL



1000 Bridgeport Avenue  
Suite 320  
Shelton, CT 06484  
(203) 712-1100

**SITING COUNCIL REVIEW SET**

**Third Taxing District**

**Proposed 115kv Substation**

**Fitch Street Norwalk, CT**

**April, 2012**

MARK	DATE	DESCRIPTION
PROJECT NO:		N0895
FILE:	SE-N0895-02.dwg	
DRAWN BY:		NDS
CHECKED:		CIC
APPROVED:		JWB

**S & E SEQUENCE, NARRATIVE AND DETAILS**

SCALE: AS NOTED

**C5.0**

Apr 03, 2012 10:57am Plotted By: ANK  
 Tighe & Bond, Inc. 1:WV0895 Norwalk, CTDD Billing Council App/DRAWINGS/0\_Curren/ct/115kv/115kv-02.dwg

**SITING  
COUNCIL REVIEW SET**

**Third Taxing District**

**Proposed 115kv Substation**

Fitch Street  
Norwalk, CT

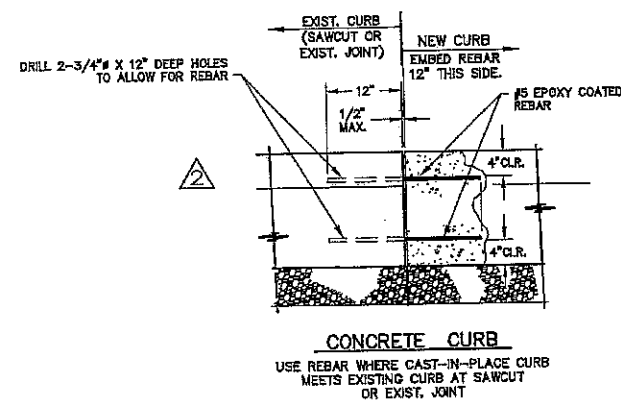
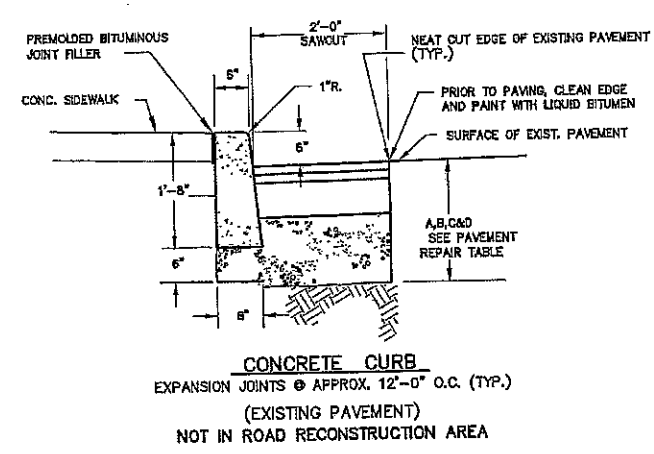
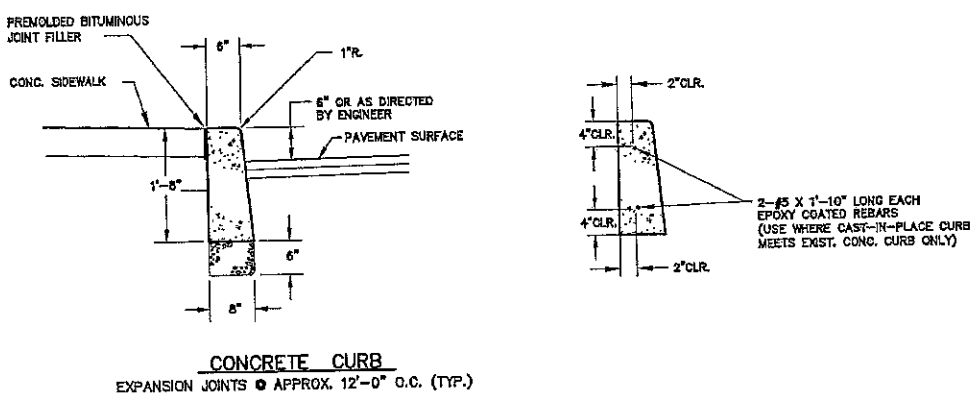
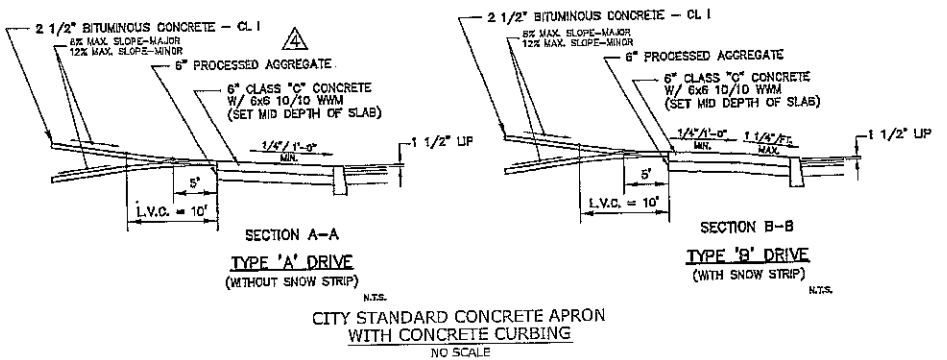
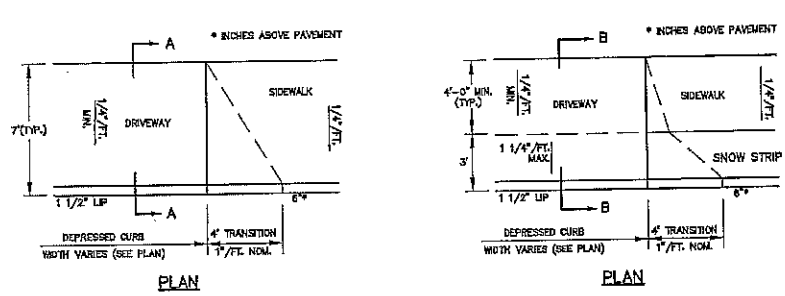
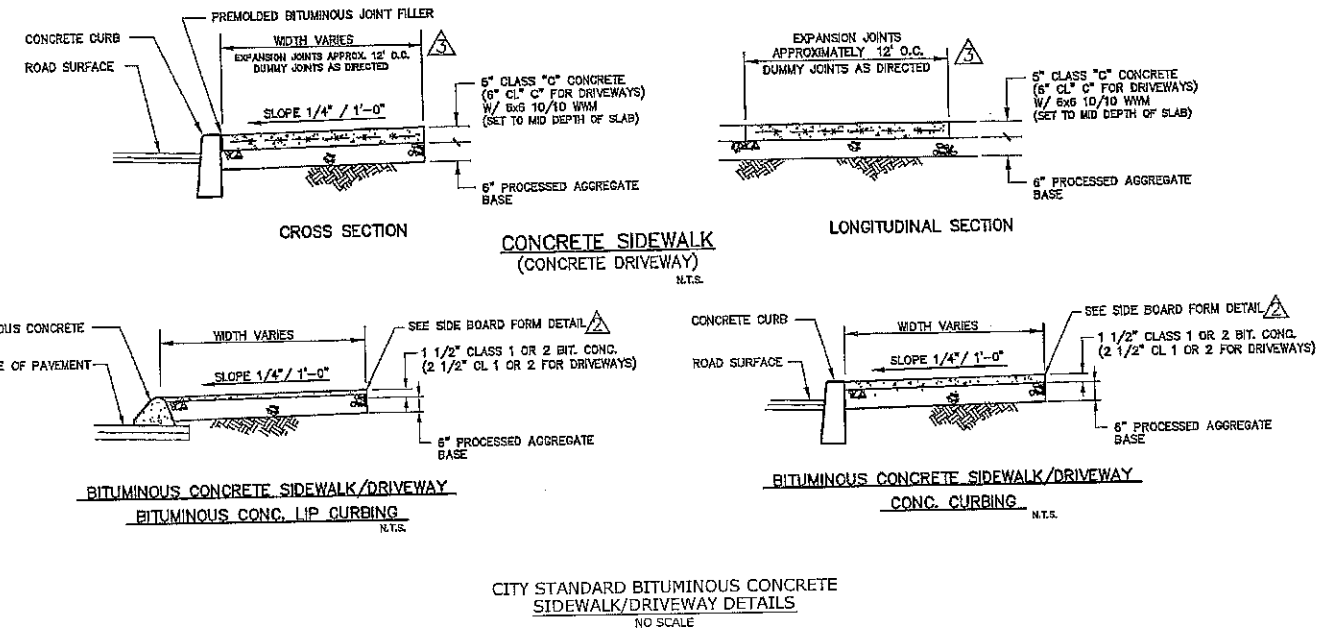
April, 2012

MARK	DATE	DESCRIPTION
PROJECT NO:		N895
FILE:	DS-N895-02.dwg	
DRAWN BY:		MDS
CHECKED BY:		CJC
APPROVED:		JWB

CITY OF NORWALK  
STANDARD ROADWAY  
DETAILS

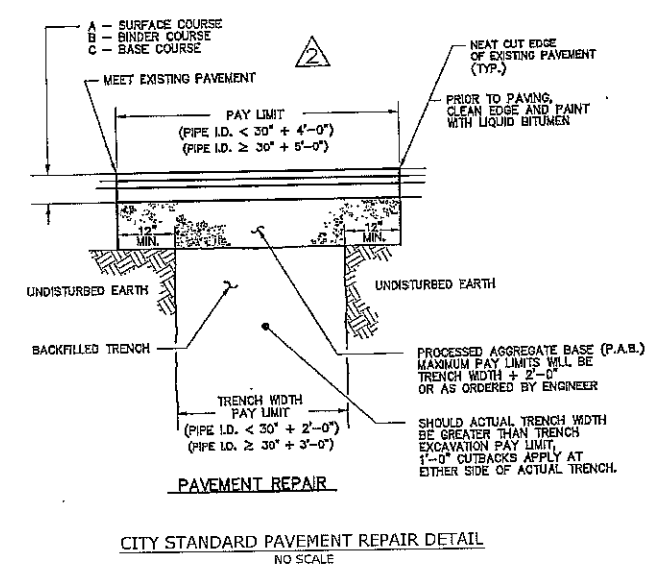
SCALE: AS NOTED

**C6.0**



**CITY STANDARD CONCRETE CURB DETAILS**  
NO SCALE

PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

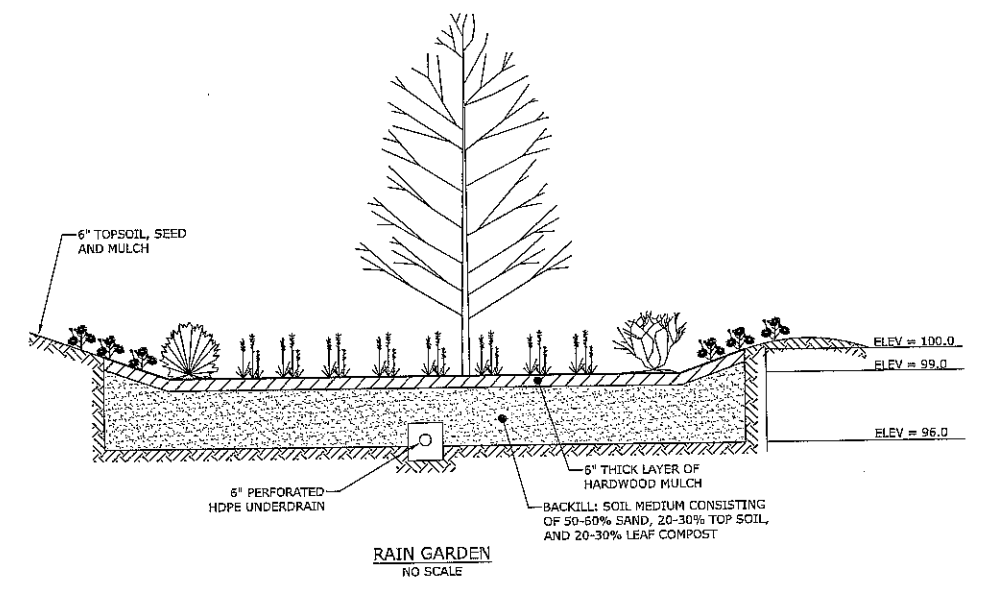


Air 03\_2012-10:57am Plotted By: APW Tighe & Bond, Inc. 33000855 Norwalk TDD Siting Council Rep.DS\DRAWINGS\B3\_Courts\at\104435-N895-02.dwg

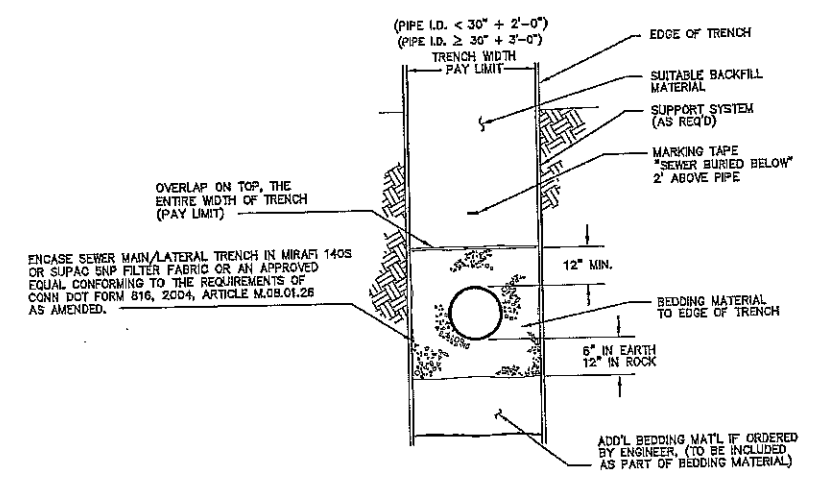


**SITING  
 COUNCIL REVIEW SET**

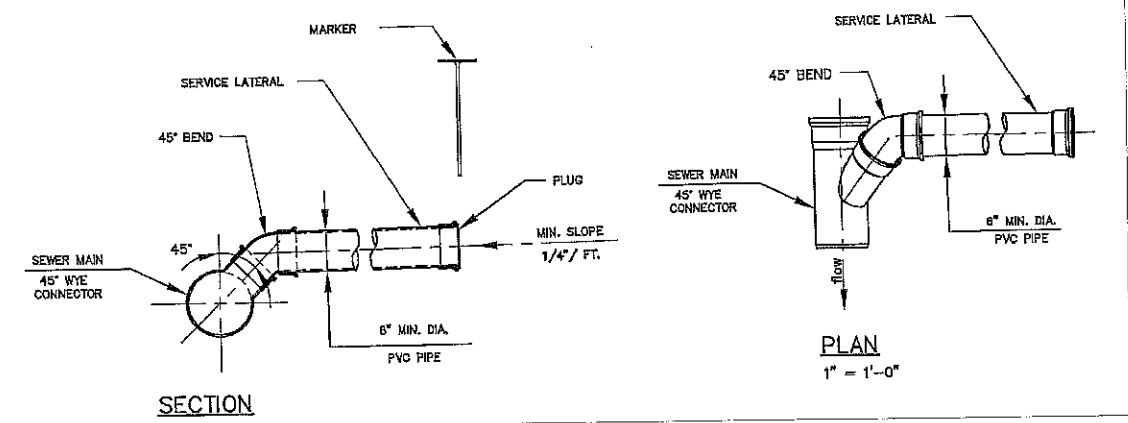
**Third Taxing District**  
  
 Proposed 115kv Substation  
  
 Fitch Street  
 Norwalk, CT  
  
 April, 2012



**RAIN GARDEN**  
NO SCALE



**CITY STANDARD SANITARY SEWER  
 TYPICAL TRENCH SECTION**  
NO SCALE



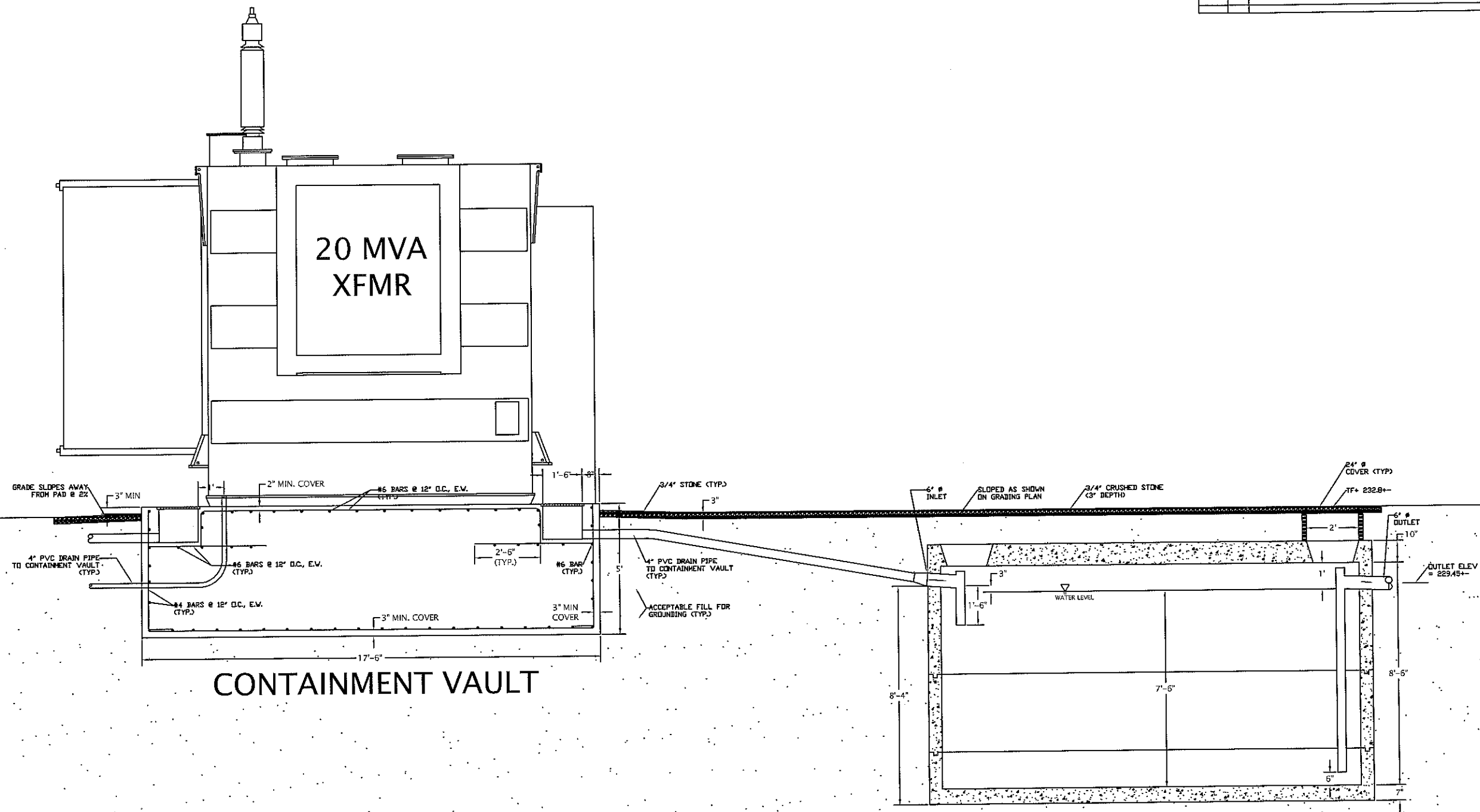
**CITY STANDARD SANITARY SEWER  
 STANDARD SERVICE LATERAL CONNECTION**  
NO SCALE

PLANS AND SPECIFICATIONS ARE  
 SUBJECT TO REVISIONS PENDING  
 FINAL SITING COUNCIL APPROVAL

MARK	DATE	DESCRIPTION
PROJECT NO:	N0895	
FILE:	DS-N0895-02.dwg	
DRAWN BY:	MDS	
CHECKED:	CJC	
APPROVED:	JWB	
CITY OF NORWALK STANDARD UTILITY DETAILS		
SCALE:	AS NOTED	

**C6.1**

REVISIONS			DATE	BY
ZONE	REV	DESCRIPTION		



**CONTAINMENT VAULT**

**10,000 GALLON CONCRETE  
 TANK OIL/WATER SEPARATOR  
 SHARED BY 2 TRANSFORMERS**

**SIDE VIEW**

TRANSFORMER PAD WITH TANK.DWG

LAYOUT

FILE	TRANSFORMER PAD WITH TANK.DWG
DWG TYPE	LAYOUT
CLIENT	THIRD TAXING DISTRICT EAST NORWALK, CONNECTICUT
FOR DESCRIPTION	TRANSFORMER PAD/CONTAINMENT/VAULT 10,000 GALLON TANK OIL/WATER SEPARATOR
DRAWN:	N.S.A
APPROVED:	J.A.C
DRAWN DATE:	9/17/2012
PLOTTED DATE:	4/12/2013
SCALE:	N/A
REV:	0
JOB NUMBER:	12-1008
SHEET NUMBER:	E8
1 OF 1	

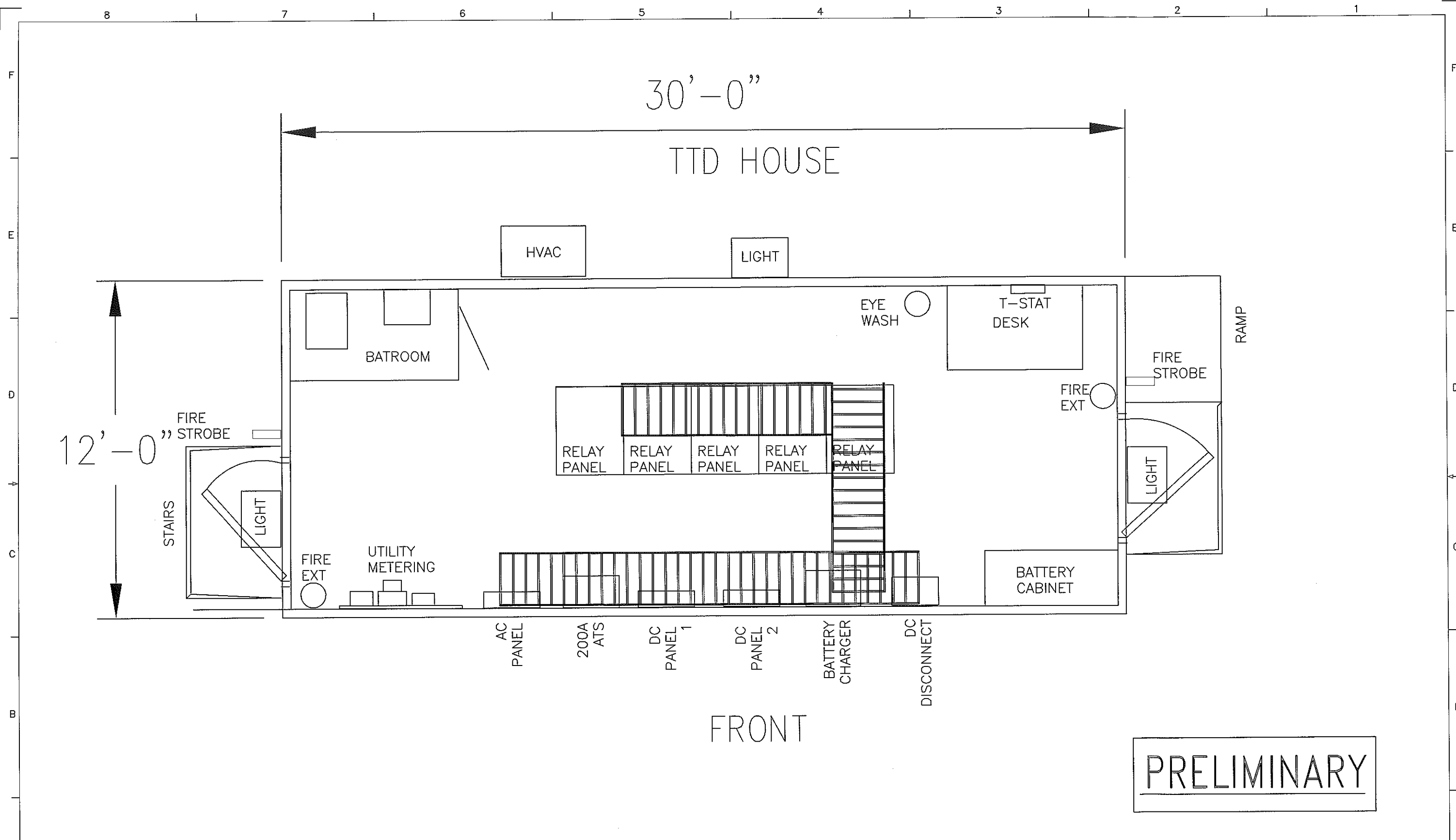
**APPENDIX B**

**SUBSTATION DRAWINGS**

30'-0"

TTD HOUSE

12'-0"



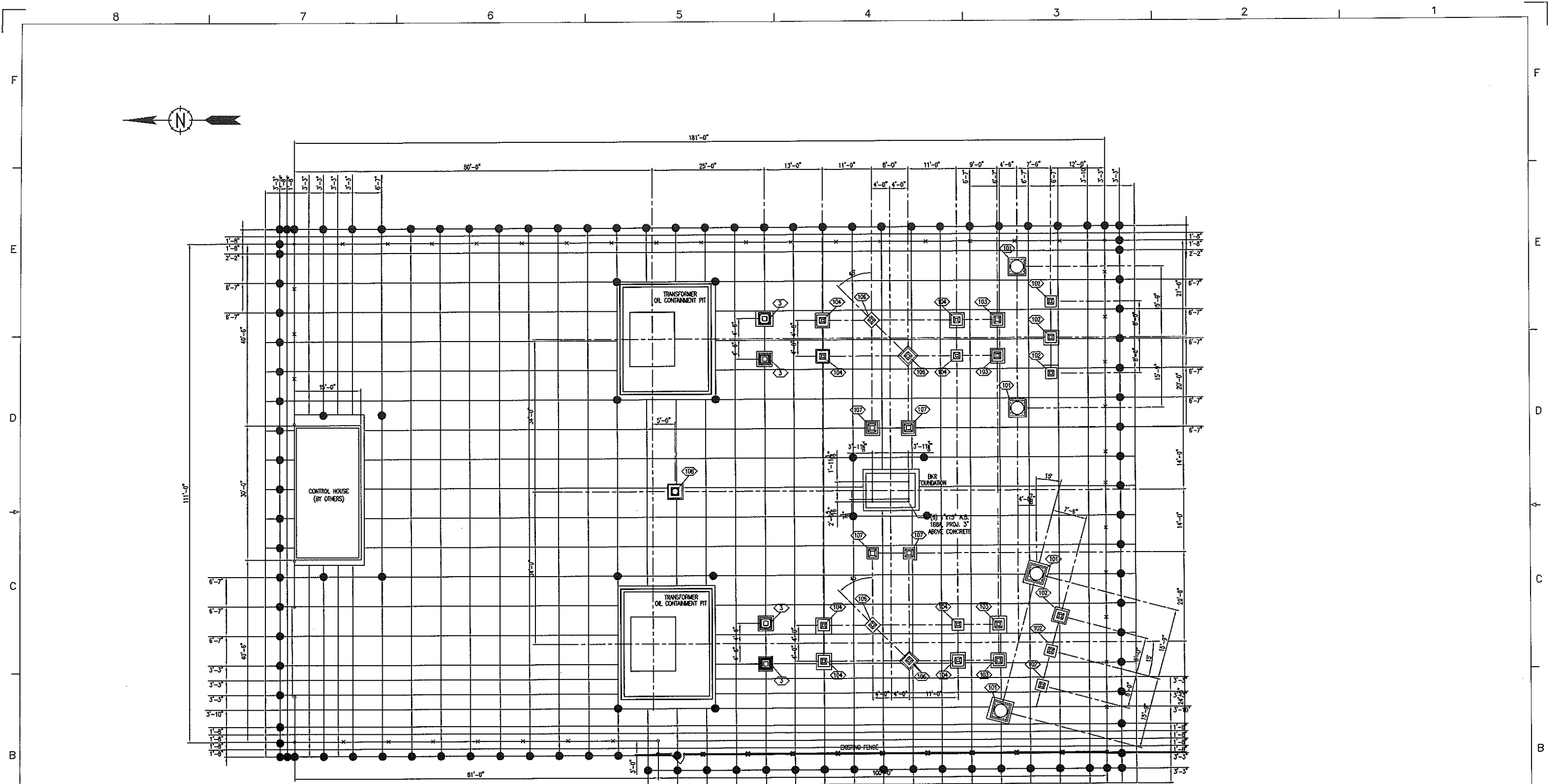
FRONT

**PRELIMINARY**

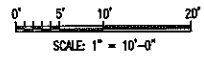
REVISION	DATE	BY
A	12/28/2013	REVISION

THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON ELECTRICAL. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.

DFTR CBE	DATE 2/20/2013	<b>EATON</b>   Electrical Services & Systems	
ENGR CBE	DATE 2/28/2013	TITLE Third Taxing District House Layout-Preliminary	
SCALE	NONE	TYPE PROPOSAL	Layout
CAD FILENAME	PRODUCT CODE X	REVISION A	G.O. EMP00441
			DWG <b>E-23-001</b>
			SHEET 1 OF 1



ANCHOR BOLT PLAN VIEW



A	REVISION
	A 3/27/2013 Mod Study

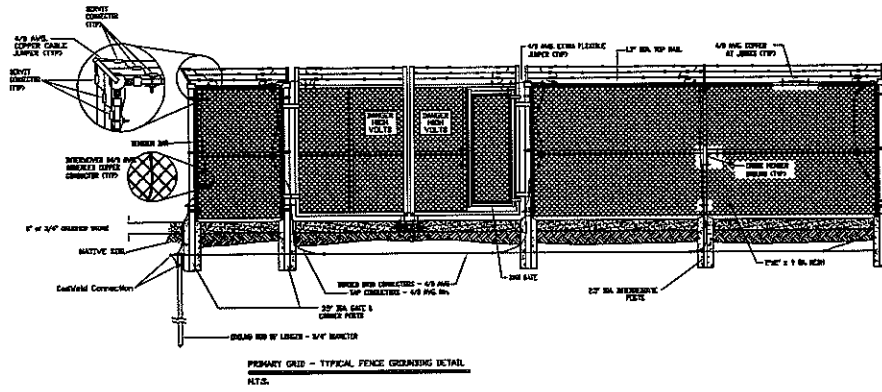
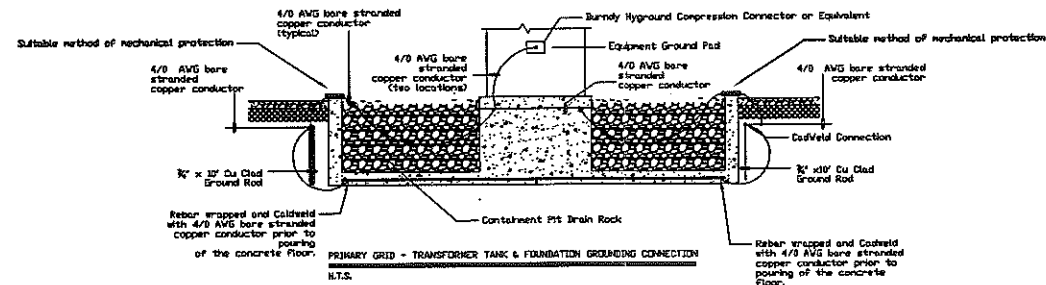
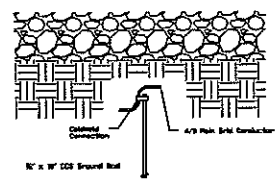
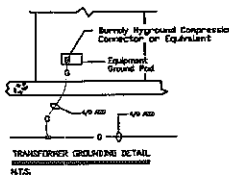
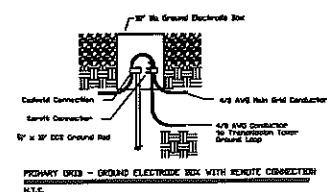
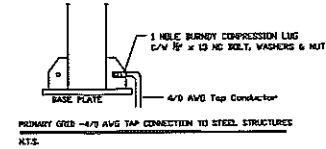
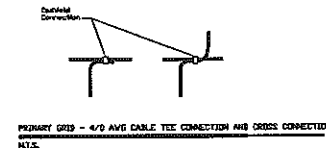
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DFTR	TJ	DATE	3/27/2013
ENGR	CBE	DATE	3/37/2013
SCALE	1"=10'		

EATON   Electrical Services & Systems	
TITLE THIRD TAXING DISTRICT FITCH STREET STATION	
TYPE 115 kV SUBSTATION - Ground Grid Layout	
Electrical	
G.O.	EMP00441
DWG	E-28-001
SHEET 1 OF 1	

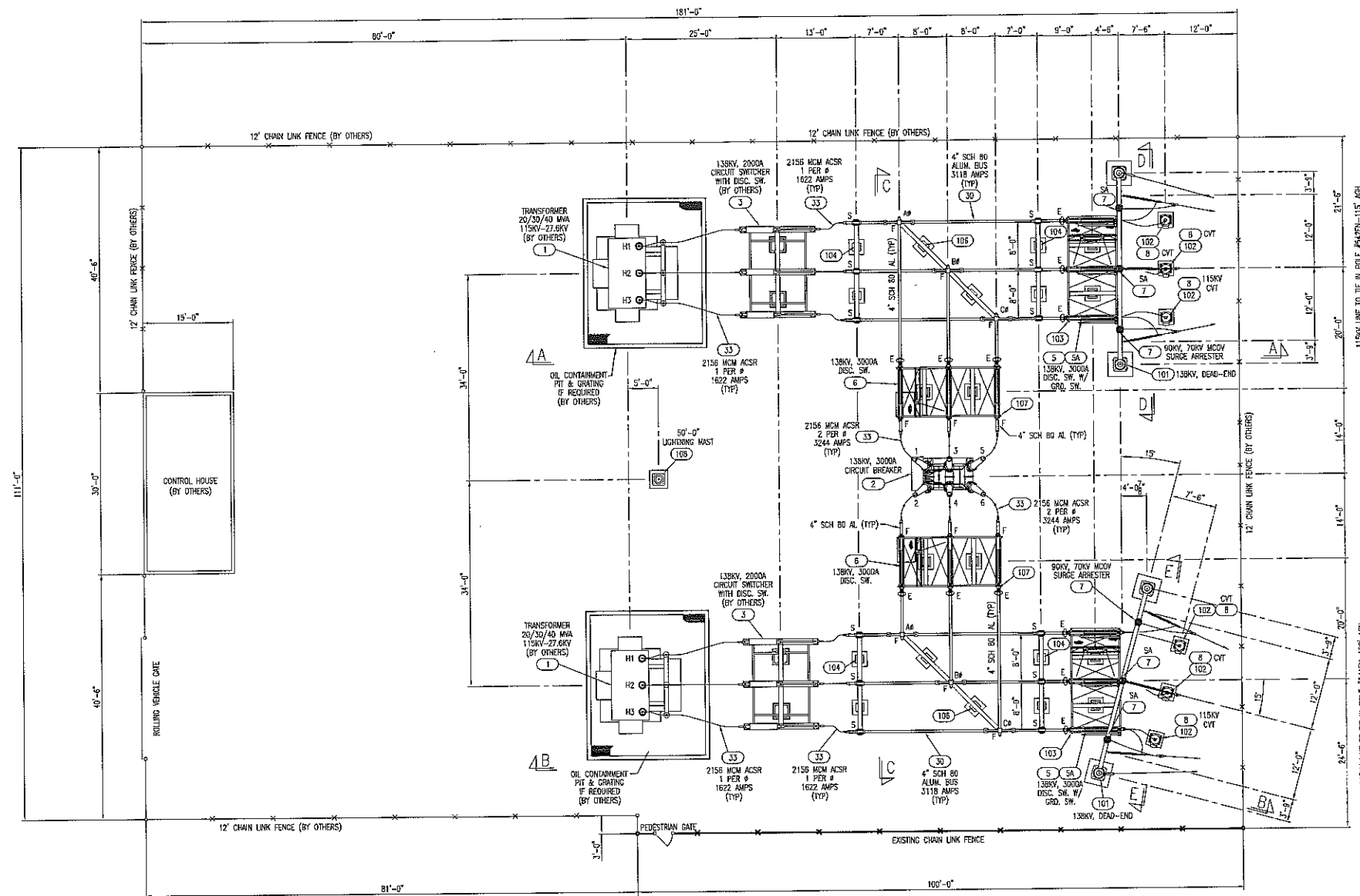
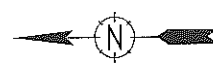
**Construction Notes**

1. The construction of Station Ground Grid shall comply with the rules in the most recent National Electrical Code (NEC).
2. Ground grid conductors are to be 4/0 AWG copper, equipment tap conductors are to be 4/0 AWG copper and fence tap conductors are to be 4/0 AWG copper
3. The ground conductor shall be connected to the rods using approved exothermic welds(Cadweld). Where the conductors intersect or form a T connection, they shall be connected using Cadweld.
4. Ground grid conductors are to be buried 18" below rough grade in native soil, backfilled with native soil and compacted.
5. Ground rods shall be 3/4" x 10' (minimum) in length, copper clad steel.
6. 6" of clean, clear stone (3/4" Dia. Minimum) is to be evenly spread over the substation area, extending 1'-2' beyond the perimeter buried grid conductors as per the grounding system details.
7. 4/0 AWG bare copper ground grid tap conductor shall connect to opposite sides of the power transformers grounding pads using approved connectors.
8. Gradient control mat at the switch operating handle is to be 4' x 6' hot dipped galvanized steel mesh.
9. Ground grid tap conductors shall connect to the gradient control mat at opposite corners and continue up to the switch handle flexible jumper.
10. All metal structures within the substation area are to be bonded to the main ground grid with a 4/0 AWG bare copper ground grid tap conductor. The tap conductor end connecting to the metal structure shall be terminated with a compression lug and bolted to the metal structure.
11. Where the grid conductors intersect a concrete equipment pad, a 4/0 AWG loop shall encircle the equipment pad. The grid conductors shall attach to the loop.
12. The ground grid shall be connected to the fence at each end post, corner post, gate post and at intermediate posts at intervals not exceeding 40'. The 4/0 AWG tap conductors shall be braided through the fence mesh, connecting to the bottom tension wire, mid rails and top rails, extending to connect to the barbed wire. The gate frame shall be bonded to the gatepost by a flexible braid.
13. Gate stops shall be installed to prevent the double gates from opening beyond 90 degrees when swung outwards.
14. The buried grid conductors shall extend a minimum distance of 39" beyond the maximum gate swing.
15. The ground electrode boxes shall be hot dipped galvanized steel. The box lid shall be at the top elevation of the stone covering.
16. Metal rebar forming part of the oil containment foundation for the transformer shall be bonded to the substation ground grid.
17. Where insufficient overburden exists, any rock should be drilled to allow for 10' of vertical installation for the rod. After installation of the rod, the drilled hole should be backfilled with conducting concrete or bentonite.
18. The ground grid shall be interconnected (minimum 2 locations) to the transmission tower ground loop by a 4/0 AWG bare copper cable. The interconnecting cables shall be buried 6 feet minimum below grade.
19. The transmission tower cables shall be connected to the station ground grid using mechanical connectors to facilitate isolation of the tower grounds for grid testing.

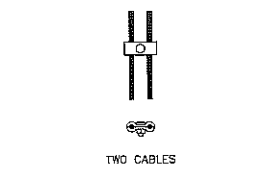


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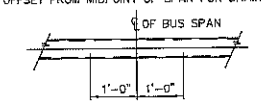
THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON ELECTRICAL. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.		DATE: 3/27/2013	EATON   Electrical Services & Systems	
CAD FILENAME: M-0001	PRODUCT CODE: X	DATE: 3/37/2013	TITLE: THIRD TAXING DISTRICT FITCH STREET STATION	
REVISION: A		SCALE: 1"=10'	TYPE: 115 KV SUBSTATION - Ground Grid Details	
		G.D. EMP00441	DWG: E-28-002	SHEET: 1 OF 1



- GENERAL NOTES**
- CABLE BUS RUNS THAT HAVE TWO OR MORE CABLES PER PHASE REQUIRE CABLE SPACERS, ITEM 43. PLACE CABLE SPACERS PER DETAIL BELOW. SPACERS SHOULD BE PLACED AS NOTED:
    - LONG CABLE RUNS OVER 11'-0" SHOULD HAVE SPACERS 3'-0" FROM CABLE TERMINATION POINTS, AND SPACERS PLACED AT EQUAL SPACINGS, MAXIMUM SPACING 4'-0".
    - MEDIUM CABLE RUNS OVER 6'-0" & UNDER 11'-0" SHOULD HAVE SPACERS 3'-0" FROM CABLE TERMINATION POINT, MAXIMUM SPACING 4'-0".
    - SHORT CABLE RUNS OVER 3'-0" & UNDER 6'-0" SHOULD HAVE SPACERS PLACED MID POINT OF RUN, MAXIMUM SPACING 4'-0".

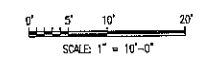


- STAINLESS STEEL BOLTED HARDWARE WILL BE USED FOR ALL ELECTRICAL CONNECTIONS INCLUDING COPPER TO COPPER, ALUMINUM TO ALUMINUM OR COPPER TO ALUMINUM REGARDLESS OF THICKNESS OF CONDUCTORS.
- SURFACE OF ALL ALUMINUM CONNECTIONS SHALL BE FIRST CLEANED, COATED WITH OXIDE INHIBITING COMPOUND ITEM 46, AND BRUSHED WITH STAINLESS STEEL BRUSH TO DISLODGE OXIDES BEFORE BOLTING.
- DRILL (2) 1/4" DIA. HOLES ON UNDERSIDE OF ALL HORIZONTAL BUS SPANS, WITH A 1'-0" OFFSET FROM MIDPOINT OF SPAN FOR DRAINAGE. SEE DETAIL BELOW.



- PLACE 795 KOMIL 26/7 ACSR CABLE ITEM 32 INSIDE OF ALL HORIZONTAL BUS RUNS OF 4" SPS. ALUMINUM TUBING, FOR DAMPING.
- ALL BELOW GRADE GROUNDING BY OTHERS.

GENERAL ELECTRICAL PLAN VIEW

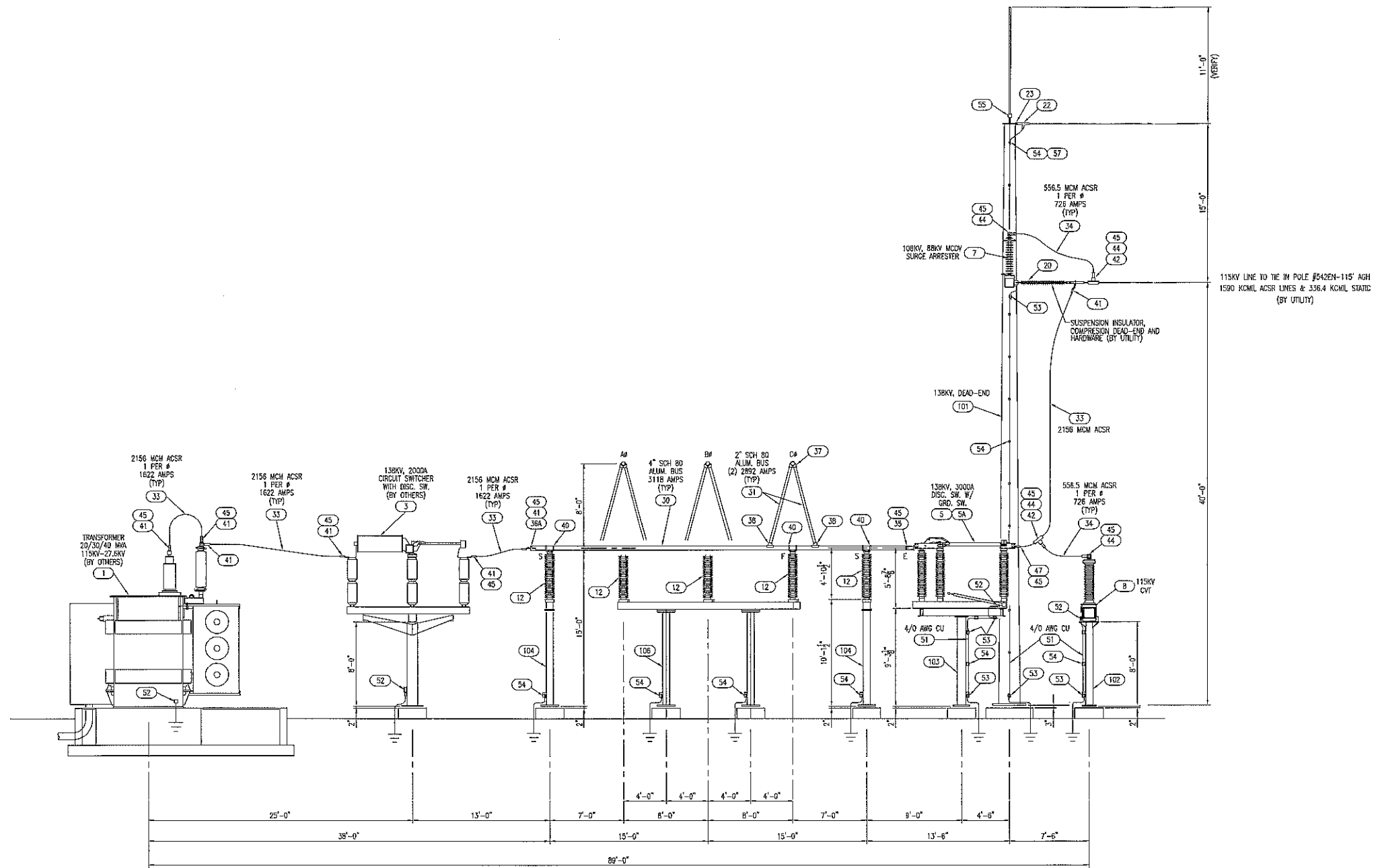


- LEGEND**
- (XX) INDICATES ITEM NUMBER AS LISTED PER THE BILL OF MATERIAL.
  - (SP) INDICATES SPLICE.
  - (S) INDICATES SLIP FIT BUS SUPPORT CONDUCTOR FITTING.
  - (F) INDICATES FIXED BUS SUPPORT CONDUCTOR FITTING OR FIXED TYPE TERMINAL CONNECTOR.
  - (E) INDICATES EXPANSION TYPE CONNECTOR.
  - (NS) INDICATES NEAR SIDE.
  - (FS) INDICATES FAR SIDE.
  - (TYP) INDICATES TYPICAL.

- REFERENCE DRAWINGS**
- FOR ELEVATION A-A, SEE DRAWING E12-227-02
  - FOR ELEVATION B-B, SEE DRAWING E12-227-03
  - FOR ELEVATION C-C, SEE DRAWING E12-227-04
  - FOR ELEVATION D-D & E-E, SEE DRAWING E12-227-05
  - FOR FENCE GROUNDING DETAILS, SEE DRAWING E12-227-06

HAMBY, YOUNG DWG E12-227-01-R3

A	REVISION	DATE	<b>EATON</b>   Electrical Services & Systems TITLE: THIRD TAXING DISTRICT FITCH STREET STATION TYPE: 115 KV SUBSTATION - GENERAL ELECTRICAL PLAN VIEW Mechanical
	A	3/20/2013	
THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON ELECTRICAL. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.		DFT:R CBE DATE: 3/20/2013 ENGR: CBE DATE: 3/20/2013 SCALE: 1"=10' G.O.: EMP00441 DWG: M-22-001 SHEET: 1 OF 1	
CAD FILENAME		PRODUCT CODE	REVISION
		X	A



NORTH-SOUTH ELEVATION A-A (LOOKING EAST)

GENERAL NOTES  
 1. SEE DRAWING E12-227-01 FOR GENERAL NOTES AND LEGENDS.

HAMBY YOUNG DWG E12-227-02-R3

A	REVISION	Eden Block	DATE	3/20/2013	DTR CBE	DATE	3/20/2013	Eaton   Electrical Services & Systems		
	A							3/20/2013	TITLE	THIRD TAXING DISTRICT FITCH STREET STATION
					SCALE	3/16" = 1'		TYPE	115 kV SUBSTATION - GENERAL ELECTRICAL ELEVATION A-A	Mechanical
G.O.			EMPO0441	DWG	M-22-002	SHEET		1 OF 1		