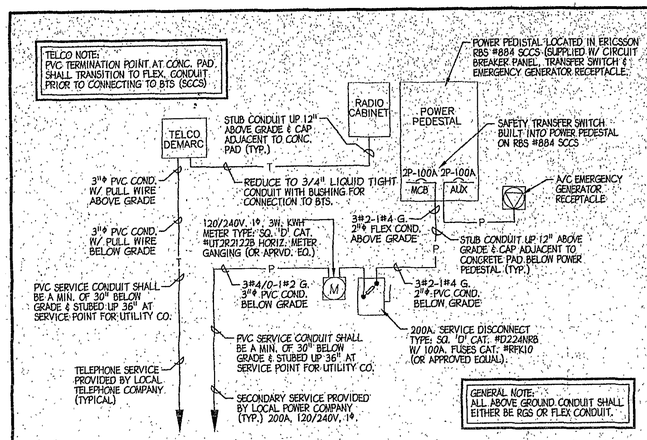
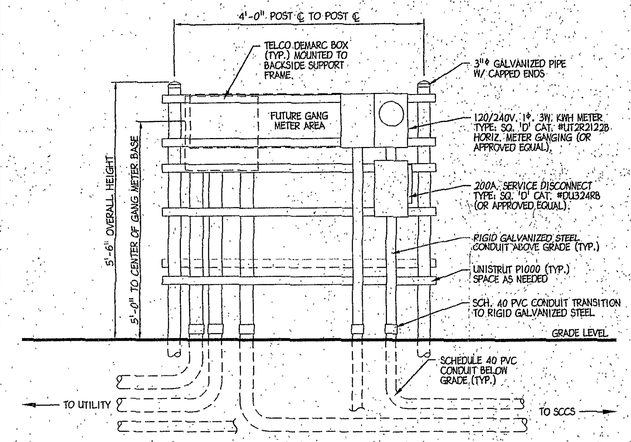
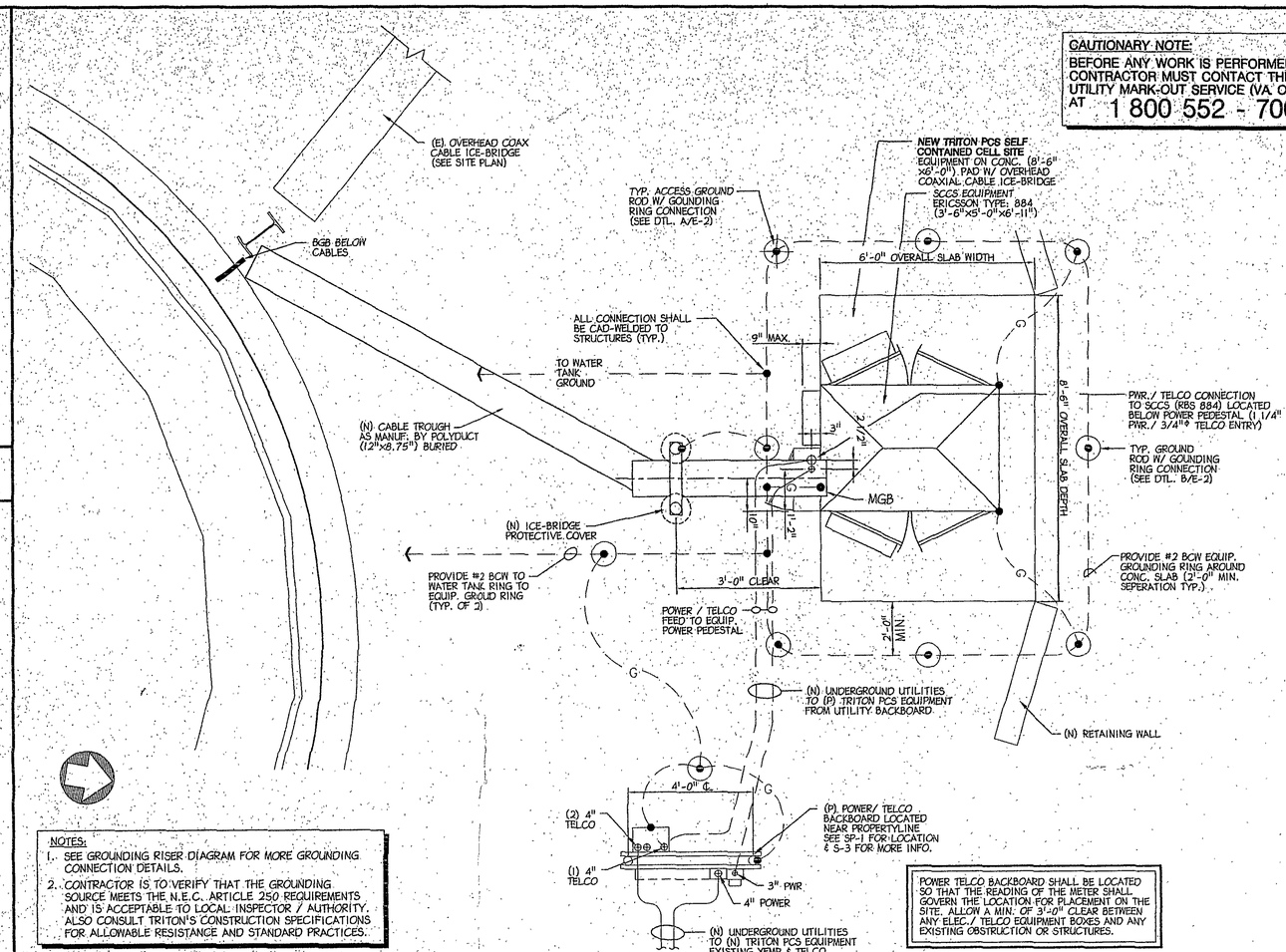


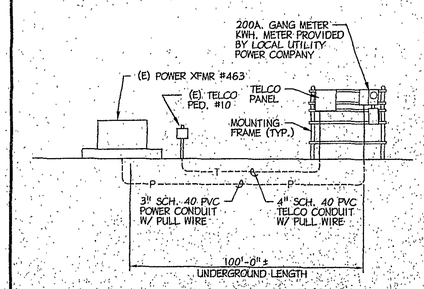
2 E-1 **SINGLE LINE DIAGRAM**
N.T.S.



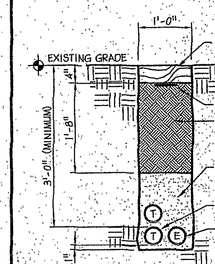
3 E-1 **ELECTRICAL & TELCO SERVICE ELEVATION**
N.T.S.



1 E-1 **ELECTRICAL PLAN**
1/4" = 1'- 0"



4 E-1 **ELECTRICAL / TELEPHONE RISER**
N.T.S.



5 E-1 **DUCT BANK DETAIL**
N.T.S.

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST EDITION) AND APPLICABLE LOCAL CODES.
2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
3. ALL ELECTRICAL ITEMS SHALL BE UL APPROVED OR LISTED ALL WIRES SHALL BE COPPER THHN/ THWN. GROUND WIRES SHALL BE BARE, TIN-COATED OR GREEN INSULATED.
4. CONDUCTORS SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, SCHEDULE 40 PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT AS INDICATED.
5. OBTAIN ALL PERMITS, PAY PERMIT FEES AND SCHEDULE INSPECTIONS.
6. OBTAIN LOCAL POWER AND TELEPHONE COMPANY APPROVAL AND COORDINATE WITH UTILITY COMPANIES SERVICE ENTRANCE REQUIREMENTS.
7. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING AND ALL ITEMS IDENTICAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.
8. REFER TO STRUCTURAL DRAWINGS FOR PHYSICAL LOCATIONS OF SURFACE-MOUNTED GROUND BARS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELD") TO ANTENNA MASTS, FENCE POSTS, TOWER STEEL AND GROUNDING RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. ALL GROUND BAR CONNECTIONS SHALL BE MADE WITH TWO-HOLED LUGS.
9. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS. GROUNDING SHALL NOT EXCEED 100.0 FT. BETWEEN GROUND KITS.
10. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH MINIMUM 12 IN. RADIUS.
11. PROVIDE GROUND RODS AND GROUND RING AS SHOWN ON SITE PLAN AND GROUNDING RISER DIAGRAM. TEST AND VERIFY THAT THE IMPEDANCE DOES NOT EXCEED 5 OHMS TO GROUND BY MEANS OF BIDDLE-MEGGER TESTER. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE.
12. PROVIDE 4 IN. SCH. 40 PVC BELOW OR RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE WITH PULL WIRE BETWEEN TELEPHONE COMPANY DEMARCATION POINT AND THE TELCO PANEL CONDUCTOR TYPE: CATEGORY 5, 6 PAIR SHIELDED CABLE.
13. PROVIDE 3 IN. SCH. 40 PVC BELOW OR RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE WITH PULL WIRE BETWEEN UTILITY SERVICE SUPPLY AND NEW ELECTRICAL DISTRIBUTION PANEL.
14. INSTALL #2 COPPER STRANDED WIRE WITH GREEN INSULATION FOR ABOVE GRADE GROUNDING AND #2 BARE SOLID TINNED COPPER WIRE FOR BELOW GRADE GROUNDING. UNLESS OTHERWISE SPECIFIED.
15. GROUNDING CONDUCTORS FROM ABOVE THE GROUND TO THE BELOW-GRADE GROUNDING RING SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH A PVC PIPE. PVC PIPE SHALL EXTEND AT LEAST 12 IN. ABOVE AND 12 IN. BELOW THE GRADE LEVEL.
16. BONDING OF GROUND CONDUCTORS (NEUTRAL) AND GROUNDING CONDUCTORS SHALL BE AT THE SERVICE DISCONNECT DEVICE, BONDING JUMPER SHALL BE INSTALLED PER NEC ARTICLE 250-26.
17. ALL ABOVE GROUND CADWELDING SHALL BE COATED WITH A ZINC RICH PAINT.
18. IF CODES REQUIRE VERTICAL RISER TO BE ISOLATED IN THE CONDUIT, PVC CONDUIT IS PREFERRED. IF METALLIC CONDUIT SHOULD BE REQUIRED, GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF THE CONDUIT AND BONDED TO GROUND BARS USING #2 AWG THWN STRANDED COPPER CONDUCTORS WITH GREEN INSULATOR.
19. WHEN BONDING TO MAIN COLD WATER LINE, BRASS GROUNDING CLAMP MUST BE INSTALLED WITHIN A MAXIMUM DISTANCE OF 5 FEET ALONG THE LENGTH OF PIPE FROM POINT OF ENTRY INTO BUILDING WITH WATER PIPE FOR A MINIMUM OF 4 LINEAR INCHES.
20. ALL LATEST PUBLISHED STANDARDS OF THE FOLLOWING ASSOCIATIONS/ORGANIZATIONS SHALL BE FOLLOWED AND APPLIED WHERE APPLICABLE, AS MINIMUM REQUIREMENTS.

(ANSI)	AMERICAN NATIONAL STANDARDS INSTITUTE
(ASTM)	AMERICAN SOCIETY FOR TESTING MATERIALS
(ICEA)	INSULATED CABLE ENGINEERS ASSOCIATION
(NEMA)	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
(NESC)	NATIONAL ELECTRICAL SAFETY CODE
(UL)	UNDERWRITER'S LABORATORIES

21. ALL CONDUIT STUB UP LOCATIONS MUST COORDINATE WITH THE EQUIPMENT LAYOUT.
22. PROVIDE EQUIPMENT WITH HIGHER FAULT CURRENT RATINGS AS NEEDED TO MATCH AVAILABLE FAULT CURRENT.
23. AFTER TESTING BY CONTRACTOR, OWNER OR ENGINEER, CORRECT ANY DEFICIENCIES AND REPLACE MATERIALS AND EQUIPMENT SHOWN TO BE DEFECTIVE OR UNABLE TO PERFORM AT DESIGN OR RATED CAPACITY.
24. CONTRACTOR SHALL CONDUCT A CONTINUITY AND INSULATION TEST ON CONDUCTORS BETWEEN SERVICE DISCONNECT SWITCH AND POWER CABINET.

A E-1 **NOTES AND LEGEND**
N.T.S.

LEGEND

SAFETY DISCONNECT SWITCH UNLESS NOTED OTHERWISE	AC GENERATOR CONNECTOR
PANEL BOARD	COPPER GROUND BAR (1/4"x4"x12") UNLESS NOTED OTHERWISE
KILOWATT HOUR METER	EXOTHERMIC WELD CONNECTION
TRANSFORMER	COMPRESSION FITTING GROUND CONNECTION
CIRCUIT BREAKER	COAXIAL CABLE SHIELD GROUND KIT CONNECTION
MANUAL TRANSFER SWITCH	ACCESS GROUND ROD
LIGHT FIXTURE	GROUND ROD
LIGHT SWITCH	P — POWER CONDUIT
	T — TELCO CONDUIT
GFI DUPLEX RECEPTACLE	G — GROUND CONDUIT

ABBREVIATIONS

A	AMPERE	SN	SOLID NEUTRAL	TGB	TOP GROUND BAR
C	CONDUIT	SW	SWITCH	BGB	BOTTOM GROUND BAR
G	GROUND	V	VOLT	MGB	MASTER GROUND BAR
KWH	KILOWATT HOUR	W	WIRE	(E)	EXISTING
P	POLE	Ø	PHASE	(N)	NEW

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SEAL BLOCK

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA.
ROBIN J. KOHN No. 010566 ARCHITECT
ROBIN J. KOHN AIA – VA. #010566 12.31.98

TRITON PCS
Incorporated.

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Tel. (804) 323-9500 FAX (804) 323-1560

APPROVALS

Triton PCS _____
LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____

PROJECT NO.	DRAWN BY	CHECK BY
TR-005	EMH	RJK

SUBMITTALS

NO.	DATE	ISSUE
0	06-05-97	TIV DATE
1	06-25-97	ISSUED FOR REVIEW (ZONING)
2	07-17-98	ISSUED FOR REVIEW (CONST.)
3	07-24-98	ISSUED FOR CONSTRUCTION
4	08-04-98	REISSUED FOR CONSTRUCTION
5	09-18-98	REVISED ANTENNA HEIGHT
6	10-08-98	FINAL CONSTRUCTION REVISIONS
7	10-23-98	OWNER REVISIONS
8	12-10-98	REVISED CHANGES
9	3-16-99	AS BUILT DESCRIPTION

GRAPHIC SCALE
0 1 2

PROJECT
HIGHWAY 220
RO-1-429-A
ROANOKE CITY PUBLIC WORKS
1423 SUMMIT LANE
ROANOKE, VA 24011

AS - BUILT COPY

SHEET TITLE
ELECTRICAL PLAN
SERVICE RISER PLAN,
ELECTRICAL DIAGRAM,
NOTES & DETAILS

SHEET NUMBER
E-1

HIGHWAY 220 429-A
HIGHWAY 220 429-A
HIGHWAY 220 429-A
HIGHWAY 220 429-A