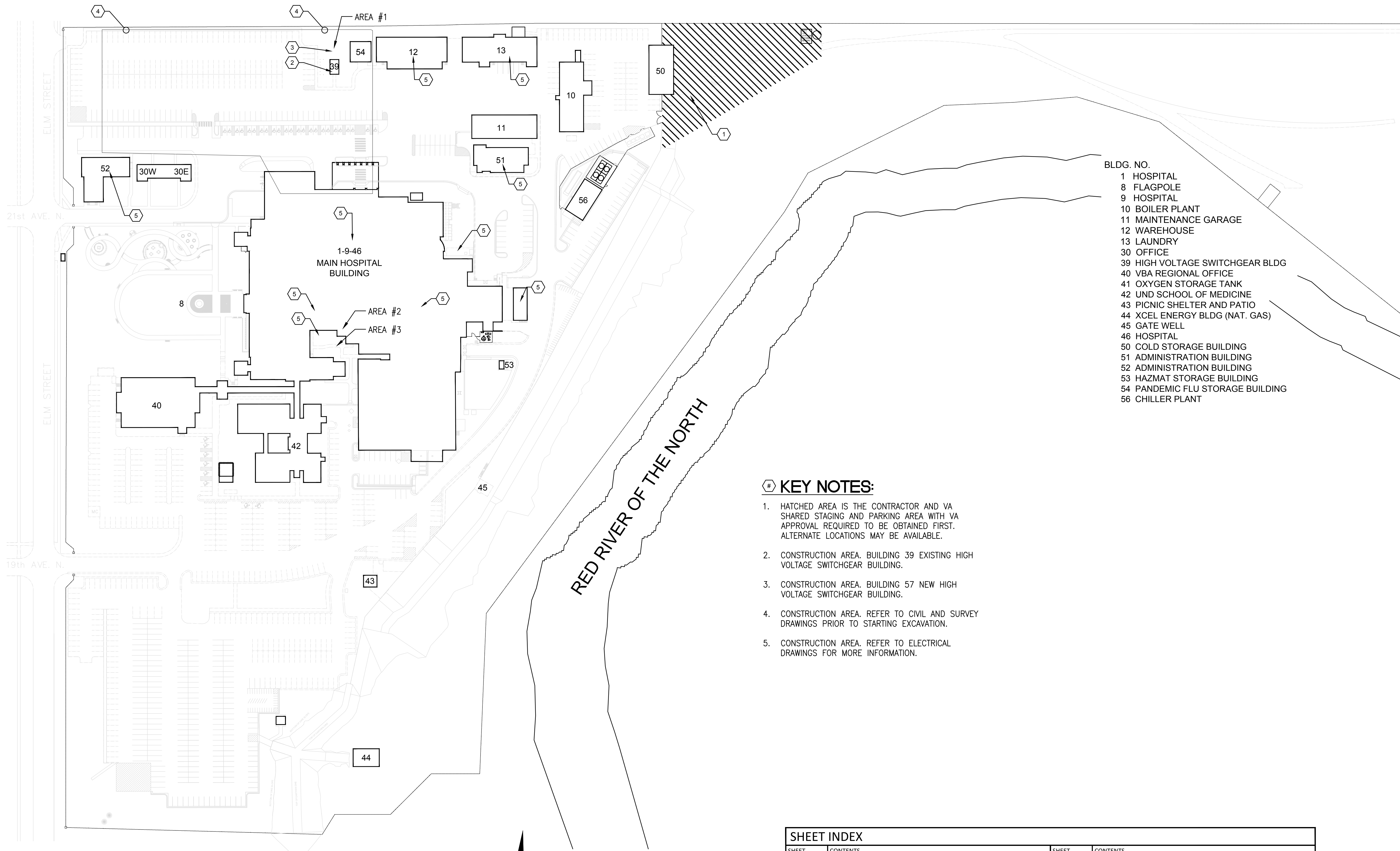


CORRECT ELECTRICAL SYSTEM DEFICIENCIES

Fargo, North Dakota

Project Number: 437-17-103



KEY NOTES:

- HATCHED AREA IS THE CONTRACTOR AND VA SHARED STAGING AND PARKING AREA WITH VA APPROVAL REQUIRED TO BE OBTAINED FIRST. ALTERNATE LOCATIONS MAY BE AVAILABLE.
- CONSTRUCTION AREA. BUILDING 39 EXISTING HIGH VOLTAGE SWITCHGEAR BUILDING.
- CONSTRUCTION AREA. BUILDING 57 NEW HIGH VOLTAGE SWITCHGEAR BUILDING.
- CONSTRUCTION AREA. REFER TO CIVIL AND SURVEY DRAWINGS PRIOR TO STARTING EXCAVATION.
- CONSTRUCTION AREA. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.

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C1.00	OVERALL SITE PLAN	E2.02	BUILDING 12 AND 13 PLAN
C1.01	BUILDING 57 SITE PLAN	E3.01	BUILDING 9 AND 46 PLAN - BASEMENT
C2.01	GRADING PLAN	E5.01	DETAILS
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S5.02	MASONRY DETAILS		
M2.01	BUILDING 39 AND 57 PLAN		
E0.01	SYMBOLS, ABBREVIATIONS AND GENERAL NOTES		
ED1.01	ELECTRICAL DEMOLITION SITE PLAN		
ED1.02	BUILDING 9 AND 46 DEMOLITION PLAN		
ED2.01	BUILDING 39 DEMOLITION PLAN		
ED3.01	BUILDING 9 AND 46 DEMOLITION PLAN - BASEMENT		
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ED7.02	PARTIAL SKV ONE-LINE DIAGRAM - EXISTING		
ED7.03	DISTRIBUTION ONE-LINE DIAGRAM - DEMOLITION		

GENERAL PROJECT NOTES

- IT IS RECOMMENDED AND ENCOURAGED THAT CONTRACTORS VISIT THE PROPOSED CONSTRUCTION SITE PRIOR TO SUBMITTING THEIR BIDS.
- CONTRACTORS SHOULD NOTE THAT THE CAMPUS IS TO BE OCCUPIED DURING THE ENTIRE CONSTRUCTION TIMELINE. THE CONTRACTOR IS TO MEET ALL CURRENT SAFETY STANDARDS TO PROTECT THE CONTRACTOR & OWNER.
- THE CONTRACTOR SHALL PROVIDE CONSTRUCTION FENCING/BARRICADES AND SIGNAGE AROUND THE WORK AREAS AS REQUIRED TO KEEP THE GENERAL PUBLIC OUT OF THE CONSTRUCTION AREAS AND FOR THE SAFETY OF VA EMPLOYEES - REFER TO CONSTRUCTION FENCING PLAN. SEE SHEETS CD1.00 AND C4.00 AND SPECIFICATION SECTION 01 00 00,1.5,I FOR ADDITIONAL REQUIREMENTS.
- THE CONTRACTOR SHALL STRICTLY ADHERE TO THE FARGO VA MEDICAL CENTER PRE-CONSTRUCTION RISK ASSESSMENT (PCRA) REQUIREMENTS AND ALSO THE INFECTION CONTROL RISK MITIGATION (ICRA) REQUIREMENTS.
- CONTRACTORS SHALL PLAN AND COORDINATE WITH ALL OTHER PROJECTS TAKING PLACE ON SITE. VERIFY AND COORDINATE WITH VAMC ENGINEERING.
- FIELD VERIFY ALL EXISTING CONDITIONS & DIMENSIONS BEFORE PROCEEDING WITH NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DESIGN OR COORDINATION ISSUES DISCOVERED DURING FIELD VERIFICATION.
- IF UNDOCUMENTED CONDITIONS ARE UNVEILED BY WORK, IMMEDIATELY CONTACT ARCHITECT, ENGINEERS OF RECORD, AND V.A. PROJECT ENGINEER.
- ALL OWNER PROPERTY IS TO BE SAFEGUARDED FROM DAMAGE. ANY DAMAGED OWNER PROPERTY IS TO BE RESTORED TO ORIGINAL CONDITION PRIOR TO DAMAGE OR REPLACED COMPLETELY, INCLUDING INSTALLATION, LABOR AND PROCUREMENT EXPENSES.
- ALL DEMOLISHED OR WASTE MATERIAL BECOMES THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIED ITEMS DESIGNATED EITHER IN THE PLANS OR VERBALLY REQUESTED BY THE V.A. PROJECT ENGINEER, CHIEF ENGINEER, AND/OR CONTRACTING OFFICER. OFFSITE DISPOSAL OF THE DEMOLISHED ITEMS IS THE RESPONSIBILITY OF THE CONTRACTOR.
- LADDERS MUST BE REMOVED AND LOCKED UP AT THE COMPLETION OF EACH WORKING DAY TO PREVENT UNAUTHORIZED PERSONS FROM HAVING ACCESS. CLEAN UP ALL DEBRIS FROM CONSTRUCTION SITE TO THE SATISFACTION OF THE SUPERINTENDENT AND OWNER OR OWNER'S REPRESENTATIVE. MAINTAIN DAILY CLEANLINESS TO SATISFACTION OF SUPERINTENDENT & OWNER/OWNER'S REPRESENTATIVE.
- ALL CONTRACTORS SHALL COORDINATE WITH VA ENGINEERING REGARDING ACCESS TO RESTRICTED OR DIFFICULT TO ACCESS AREAS.

GENERAL PROJECT PHASING NOTES

NOTE: THERE ARE THREE AREAS IN THE PROJECT THAT WILL REQUIRE PHASING TO COMPLETE THIS PROJECT. THESE PHASES LISTED BELOW ARE HIGH-LEVEL DESCRIPTIONS. FOR MORE DETAIL, REFER TO PROJECT SHEETS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A COMPREHENSIVE PHASING PLAN FOR ALL STAGES OF THIS PROJECT AT NO ADDITIONAL COST TO THE GOVERNMENT FOR THE PHASING PLAN AND WORK ASSOCIATED WITH THE PHASING PLAN. SEE SPECIFICATION SECTION 01 00 00 FOR ADDITIONAL SITE-SPECIFIC REQUIREMENTS.

AREA #1 (BUILDING 39 AND BUILDING 57)

PHASE 1 - CONTRACTOR TO COORDINATE WITH XCEL ENERGY TO RELOCATE GAS AND POWERLINES OUTSIDE OF THE NEW BUILDING 57 FOOTPRINT PER PROJECT DRAWINGS. SEE SHEETS: V1.01, CD1.00, C1.01, C2.01, S2.01, ED1.01, ED2.01 AND ED7.01 FOR ADDITIONAL INFORMATION.

PHASE 2 - CONSTRUCT NEW BUILDING 57 TO HOUSE NEW MEDIUM VOLTAGE SWITCHGEAR AND ASSOCIATED DUCTBANK. INSTALL ELECTRICAL EQUIPMENT IN BUILDINGS THROUGHOUT CAMPUS. SEE SHEETS: C1.00, C1.01, C2.01, C4.00, C5.00, A2.01, S0.01, S2.01, S5.01, S5.02, M2.01, E0.01, E1.01, E2.01, E5.01, E6.01, E7.01.

PHASE 3 - CONTRACTORS TO PERFORM CUTOVER OF EXISTING MEDIUM VOLTAGE SYSTEM. SEE SHEETS: E0.01, ED2.01, ED7.01, E1.01, E2.01, E5.01, E7.01. THIS CUTOVER SHOULD NOT TAKE PLACE AT THE SAME TIME AS CUTOVERS FOR AREA #2.

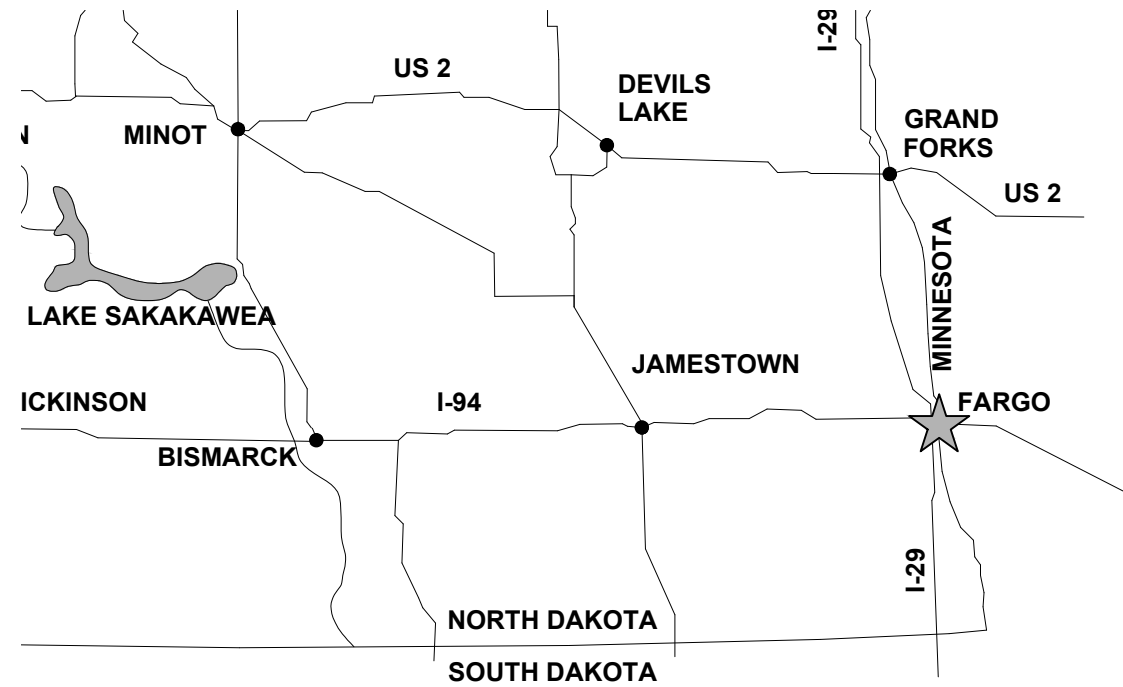
PHASE 4- REMOVAL OF EXISTING ELECTRICAL GEAR IN BUILDING 39.

AREA #2 (BUILDING 46 ATS REPLACEMENT)

PHASE 1 - REPLACE/RELOCATE EXISTING AUTOMATIC TRANSFER SWITCHES AND ASSOCIATED PANELBOARDS PER PROJECT DRAWINGS ED3.10, ED6.01, ED7.03, E3.01, E6.02 AND E7.03. NOTE THIS AREA CANNOT EXPERIENCE ELECTRICAL SERVICE INTERRUPTION AT THE SAME TIME AS THE MEDIUM VOLTAGE CUTOVER IN AREA #1.

AREA #3 BUILDING (9/46 DISTRIBUTION SYSTEMS)

PHASE 1 - REPLACE MEDIUM VOLTAGE TRANSFORMERS AND SWITCH AS SHOWN ON PROJECT DRAWINGS ED1.02, ED7.02, ED7.03, E1.02, E2.02, E7.02 AND E7.03. NOTE THIS AREA CANNOT EXPERIENCE ELECTRICAL SERVICE INTERRUPTION AT THE SAME TIME AS AREA #2.



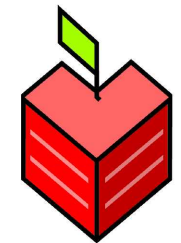
PROJECT LOCATION
NOT TO SCALE (NTS)

1 SITE AREA PLAN
0 40' 80' 120'
SCALE 1" = 80'

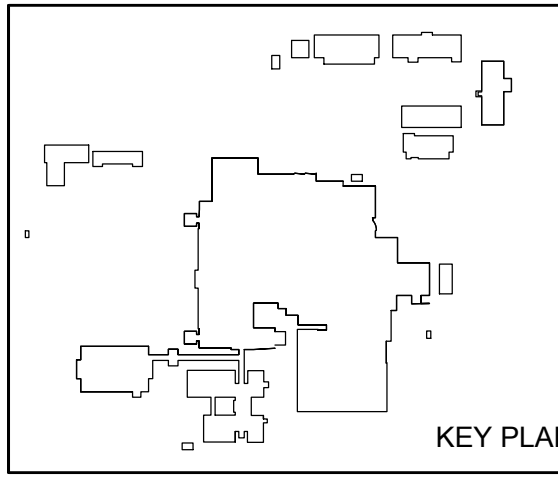
BID DOCUMENTS	04/10/20
Revisions	Date



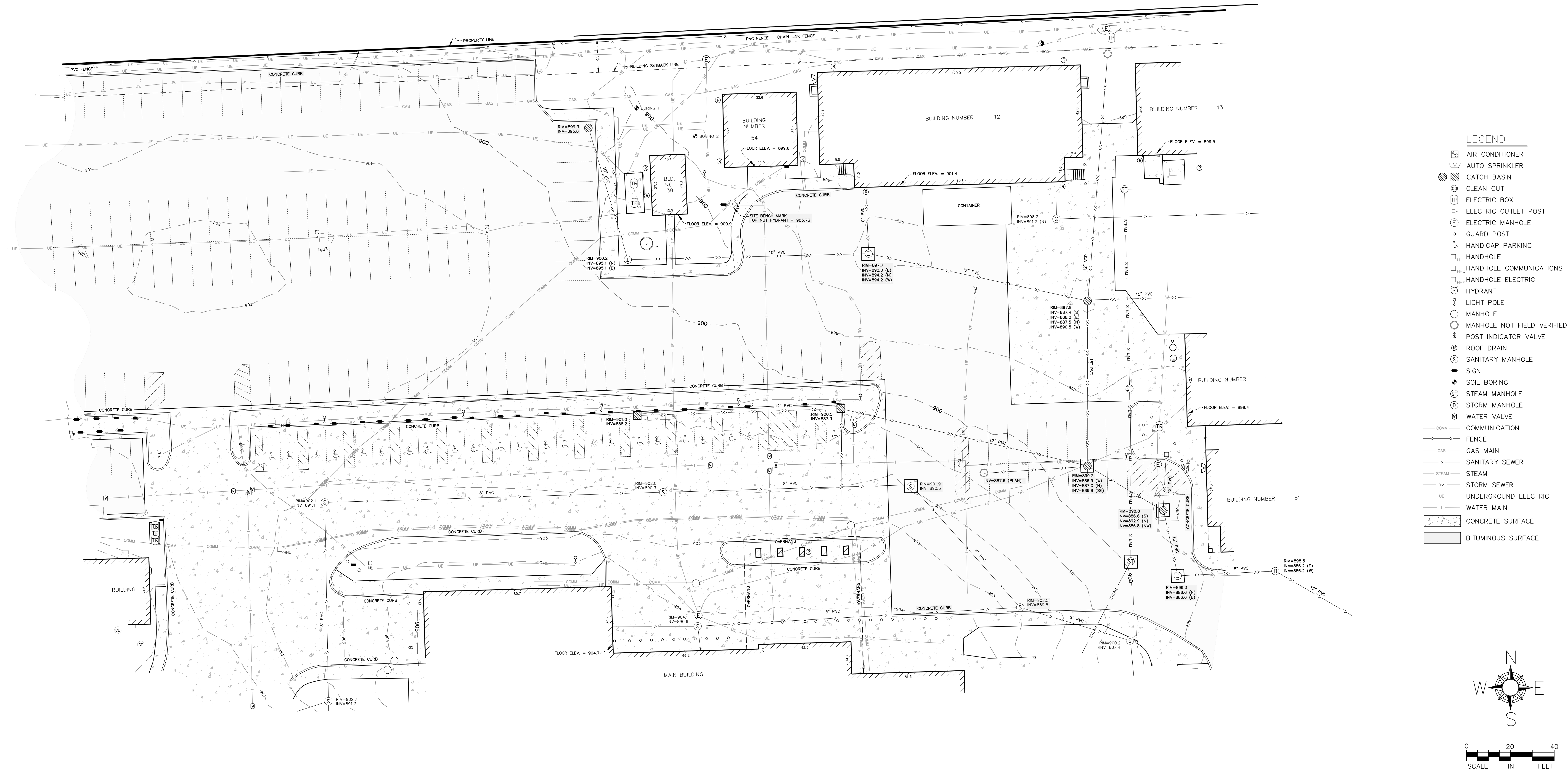
Dept. of Veterans Affairs
Health Care System
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Fargo, ND 58102



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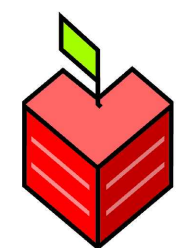
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VA Project No. 437-17-103		Contract No. 36C26318C0103		Scale AS NOTED	
Building No. SITE		AutoCAD File Name 437-17-103-G0.01.dwg		Drawing No. G0.01	
		Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Dwg. 1 of 35	
				Department of Veterans Affairs	



BID DOCUMENTS	04/10/2020
Revisions	Date



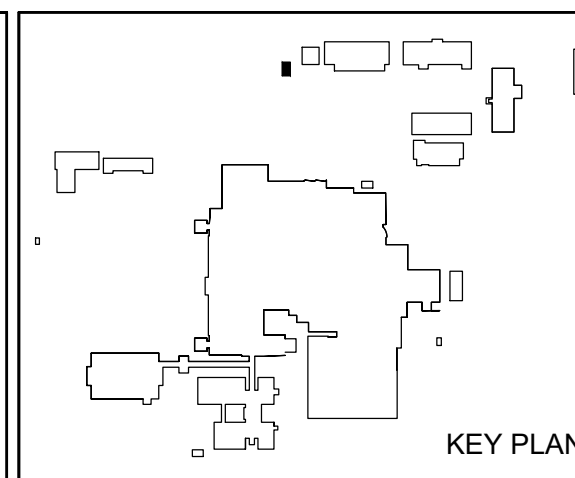
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Drawing Title
**EXISTING CONDITIONS
SURVEY**

VA Project No.
437-17-103

Contract No.
36C26318C0103

Building No.
SITE

AutoCAD File Name
15314_s_base.dwg

Project Title

**CORRECT ELECTRICAL SYSTEM
DEFICIENCIES**

Designed By
N/A

Checked By
DA

Drawn By
NH

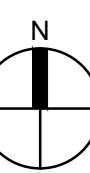
Location
FARGO VA HEALTH CARE SYSTEM
FARGO, ND

Date
APRIL 10, 2020

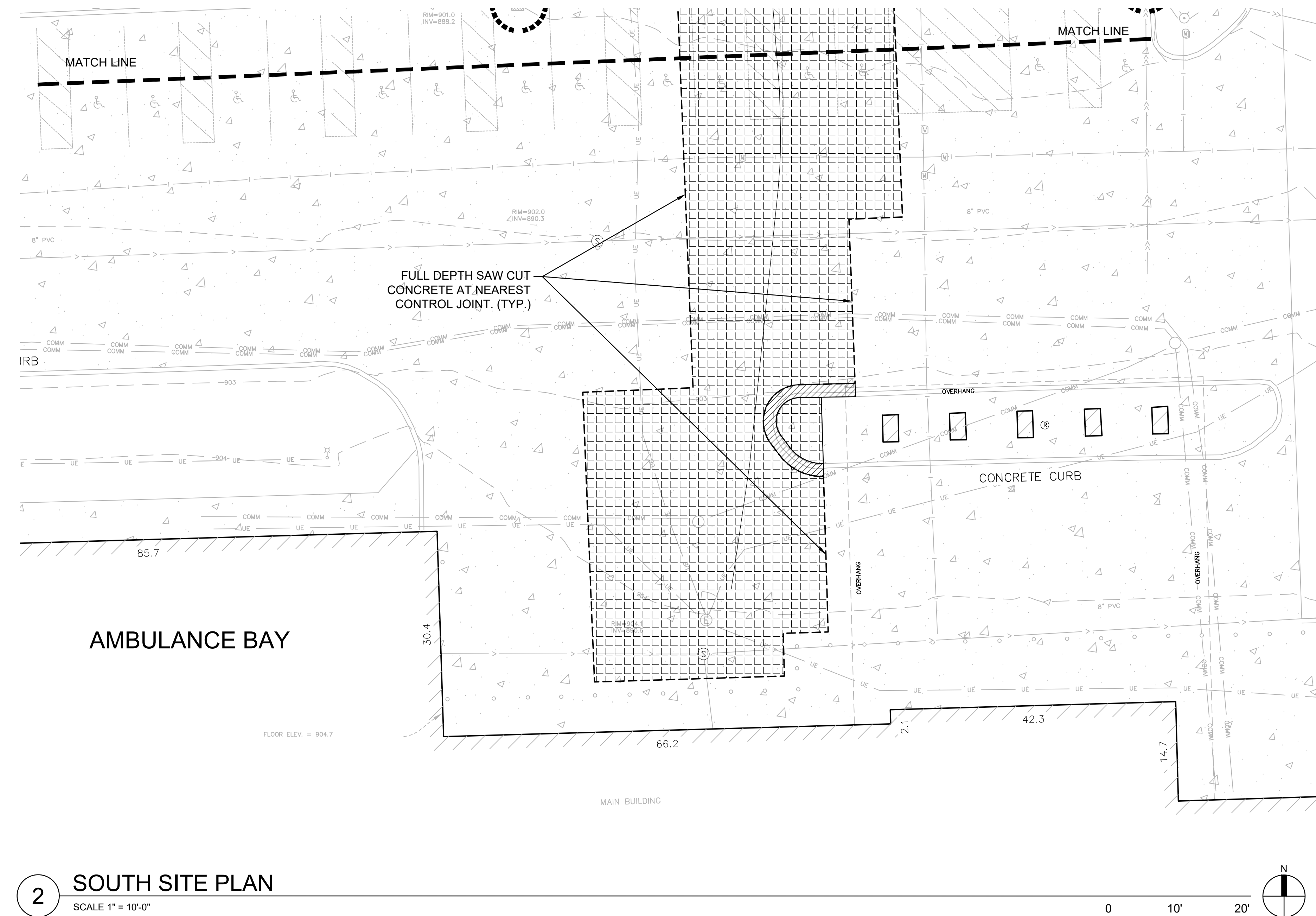
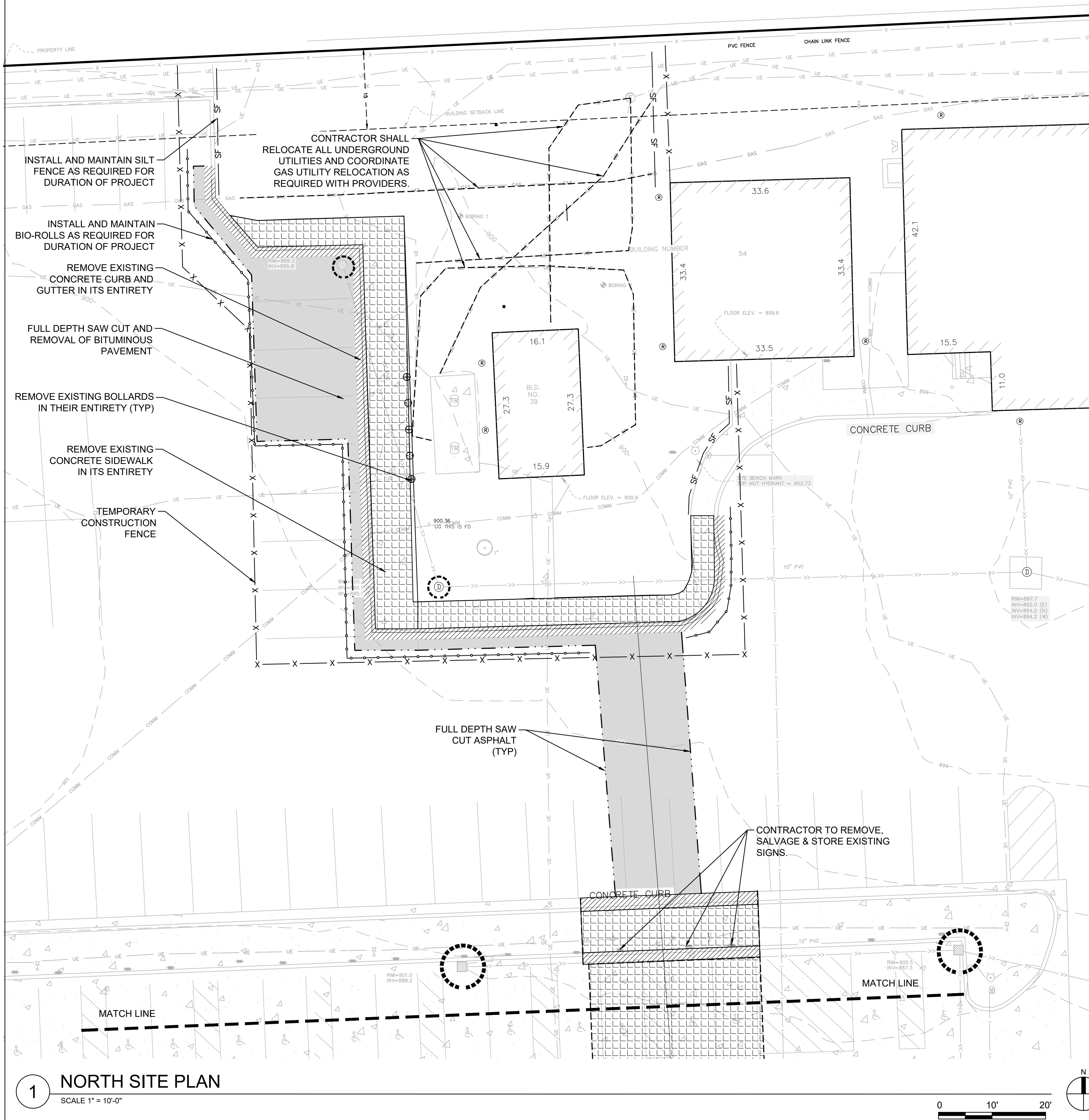
Scale
1" = 20'-0"

Drawing No.
V1.01

Dwg. 2 of 35



Department of
Veterans Affairs



GENERAL NOTES:

1. AMBULANCE BAY SHALL REMAIN OPERATIONAL, WITH THRU-TRAFFIC CAPABILITIES FOR THE DURATION OF THE PROJECT.
2. REFER TO PHASING - TRAFFIC CONTROL PLAN ON C4.00 FOR REQUIRED PHASING OF NEW IMPROVEMENTS

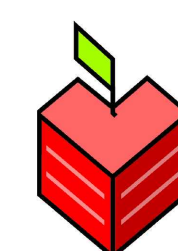
LEGEND

	PROPERTY LIMITS
	INSTALL BIO-ROLLS
	SILT FENCE
	TEMPORARY CONSTRUCTION FENCE
	CONCRETE REMOVAL
	CONCRETE CURB & GUTTER REMOVAL
	FULL DEPTH BITUMINOUS REMOVAL
	CONSTRUCTION LIMITS
	SAW CUT FULL DEPTH ASPHALT
	SAW CUT FULL DEPTH CONCRETE
	INLET PROTECTION

BID DOCUMENTS	04/10/2020
Revisions	Date



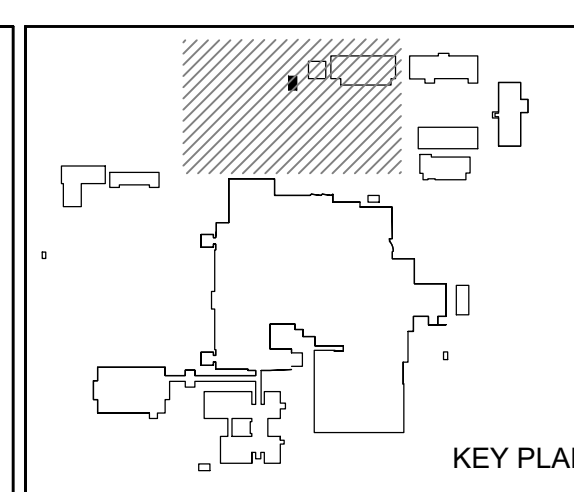
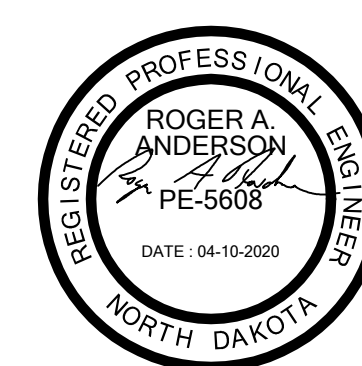
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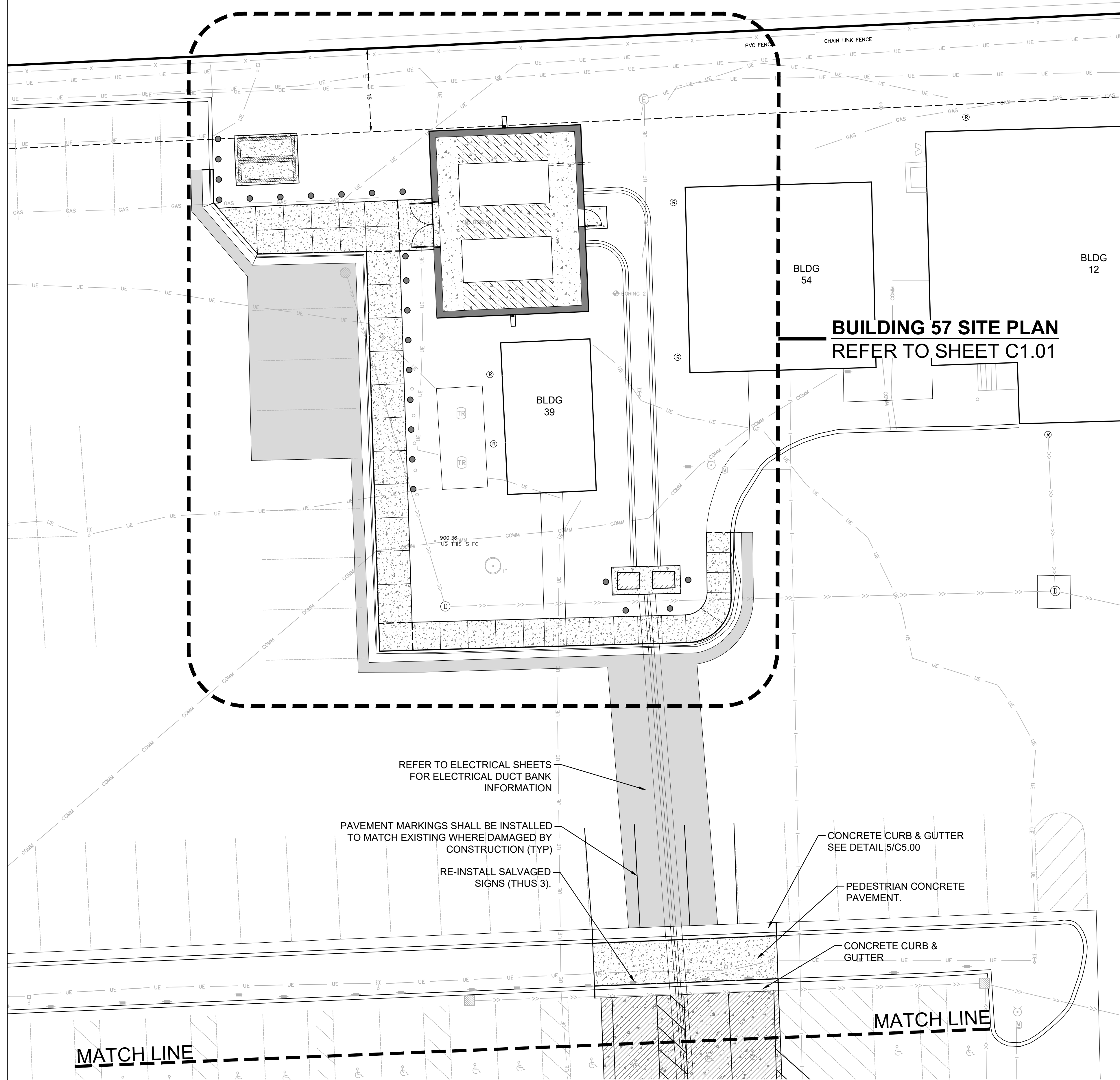
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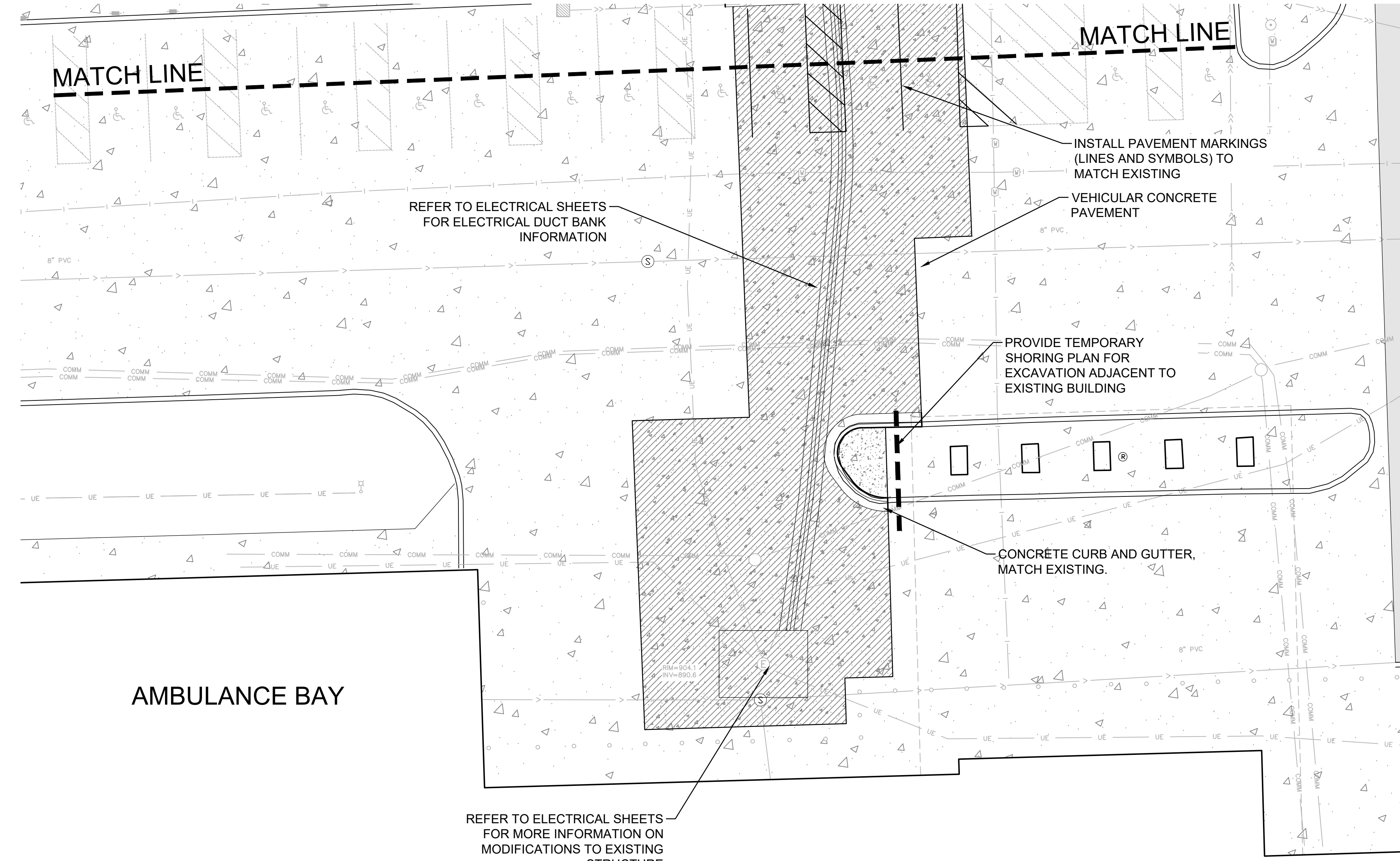


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VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By JD	Checked By BH	Scale 1" = 10'
Building No. SITE	AutoCAD File Name DEMOLITION PLAN.dwg	Drawn By JA	Drawing No. CD1.00	
		Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Dwg. 3 of 35





1 NORTH SITE PLAN
SCALE 1" = 10'-0"



2 SOUTH SITE PLAN
SCALE 1" = 10'-0"

GENERAL NOTES

1. AMBULANCE BAY SHALL REMAIN OPERATIONAL, WITH THRU-TRAFFIC CAPABILITIES FOR THE DURATION OF THE PROJECT.
2. REFER TO PHASING - TRAFFIC CONTROL PLAN ON C4.00 FOR REQUIRED PHASING OF NEW IMPROVEMENTS.
3. COORDINATE EXISTING PAVEMENT ELEVATIONS AND MAINTAIN SMOOTH PAVEMENT GRADES BETWEEN TIE IN LOCATIONS.
4. COORDINATE NEW CONCRETE PAVEMENT JOINTS WITH EXISTING JOINTS IN FIELD.

LEGEND

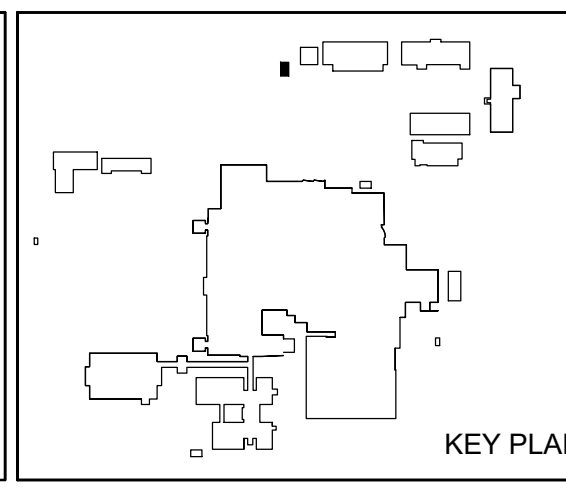
- | | |
|--|----------------------------------|
| | PROPERTY LIMITS |
| | NEW VEHICULAR CONCRETE PAVEMENT |
| | NEW PEDESTRIAN CONCRETE PAVEMENT |
| | NEW ASPHALT PAVEMENT |

BID DOCUMENTS	04/10/2020
Revisions	Date

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Drawing Title OVERALL SITE PLAN	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. SITE	AutoCAD File Name BUILDING 57 SITE PLAN.dwg

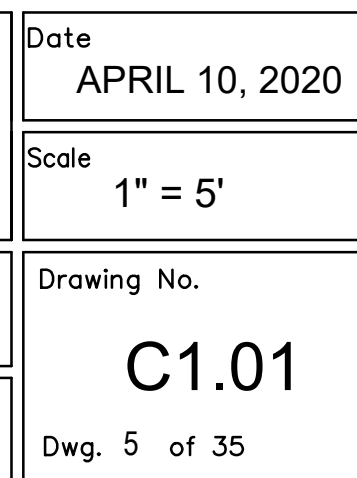
Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By JD	Checked By BH	Drawn By JA
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

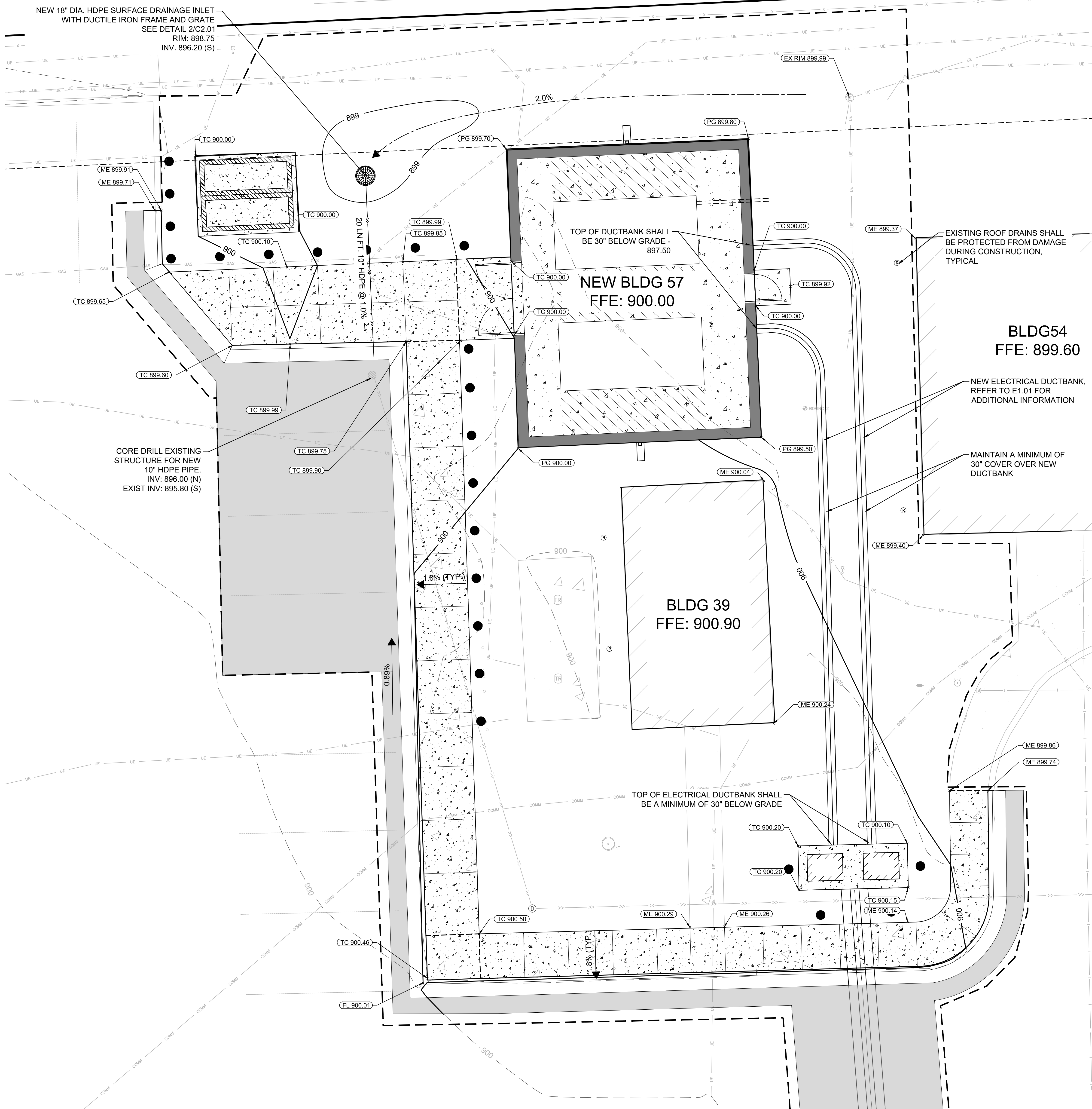
Date APRIL 10, 2020
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Drawing No. C1.00
Dwg. 4 of 35





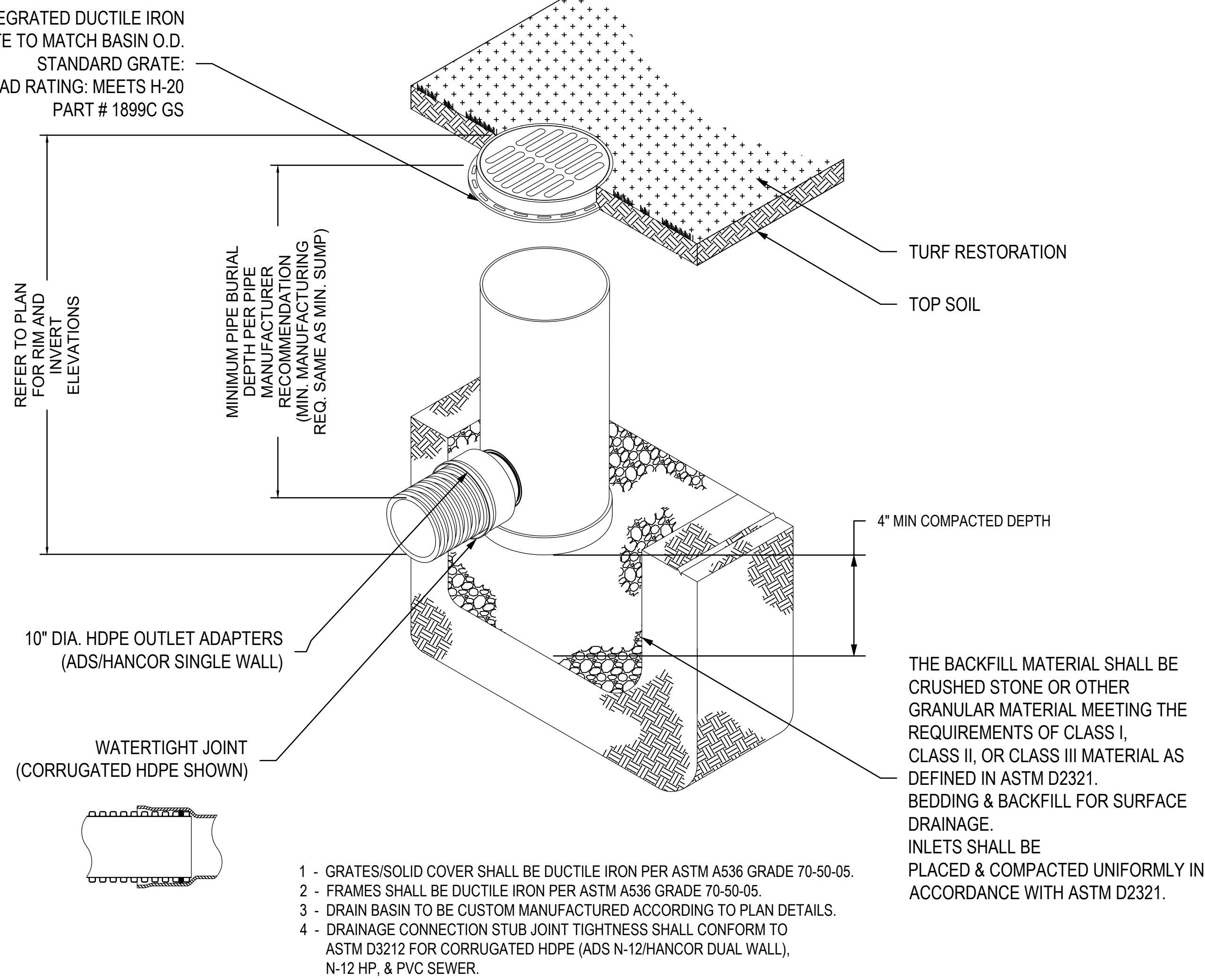
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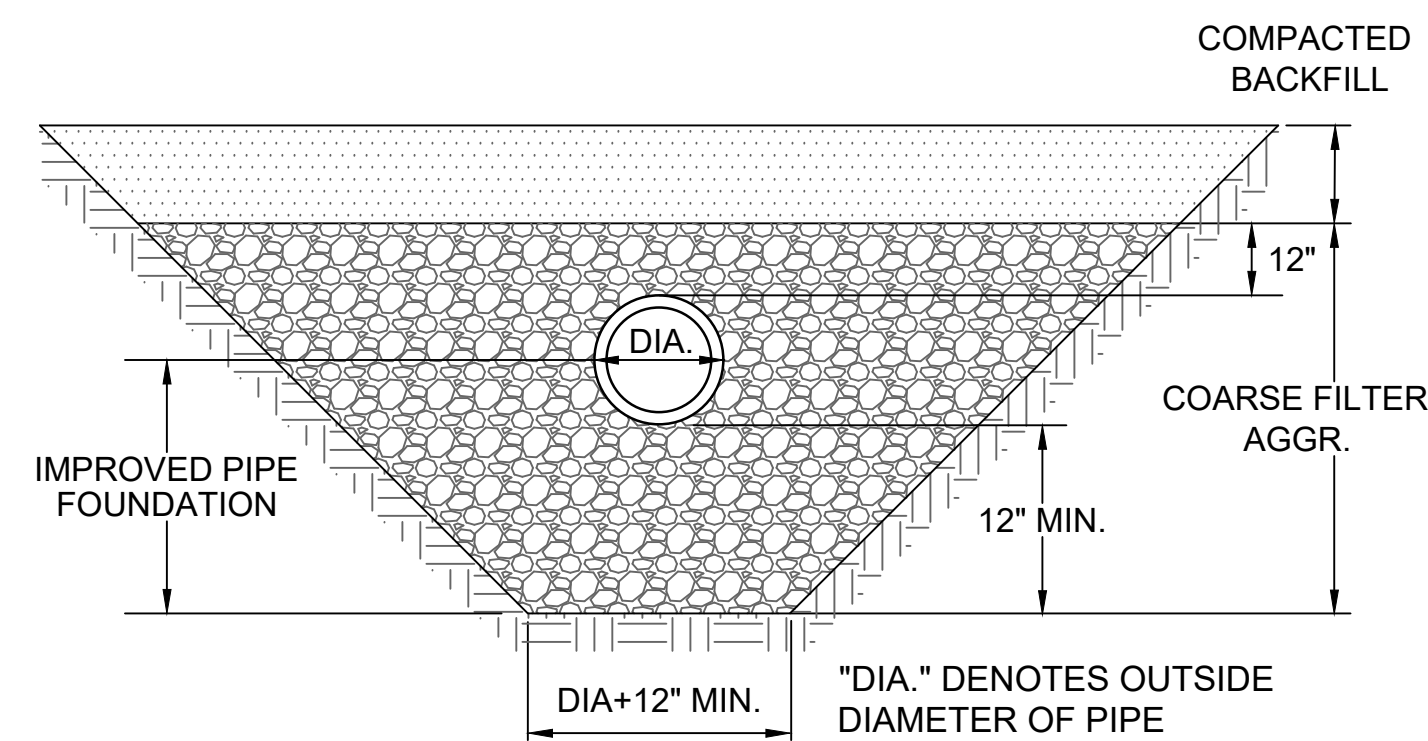


1 BUILDING 57 GRADING AND UTILITIES PLAN
SCALE 1" = 5'-0"

(1, 2) INTEGRATED DUCTILE IRON
FRAME & GRATE TO MATCH BASIN O.D.
STANDARD GRATE:
LOAD RATING: MEETS H-20
PART # 1899C GS



2 HDPE SURFACE DRAINAGE INLET
SCALE: NTS



3 HDPE STORM SEWER PIPE BEDDING
SCALE: NTS

RESTORATION NOTES:

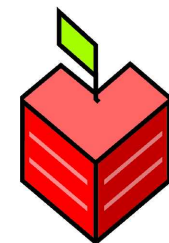
ALL AREAS DISTURBED BY CONSTRUCTION,
NOT DEFINED TO BE REPLACED BY PAVEMENT
SHALL BE RESTORED PER SPECIFICATION
SECTION 31 20 11 EARTHWORK. SEED MIX
SHALL BE APPROVED BY PROJECT ENGINEER.

LEGEND

---	PROPERTY LIMITS
- - -	GRADING LIMITS
---	10" DIA. HDPE STORM SEWER
---	NEW MAJOR CONTOUR
---	NEW MINOR CONTOUR
TC 899.60	TOP OF CONCRETE
ME 900.24	MATCH EXISTING
PE 899.25	PROPOSED GRADE
R	EXISTING ROOF DRAIN



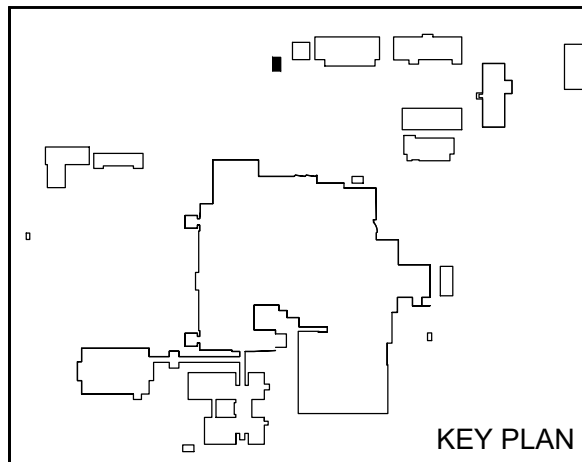
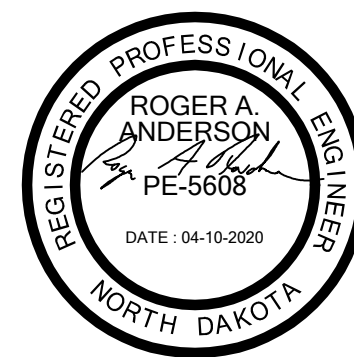
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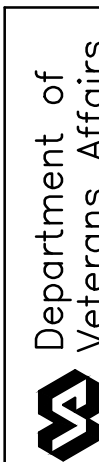
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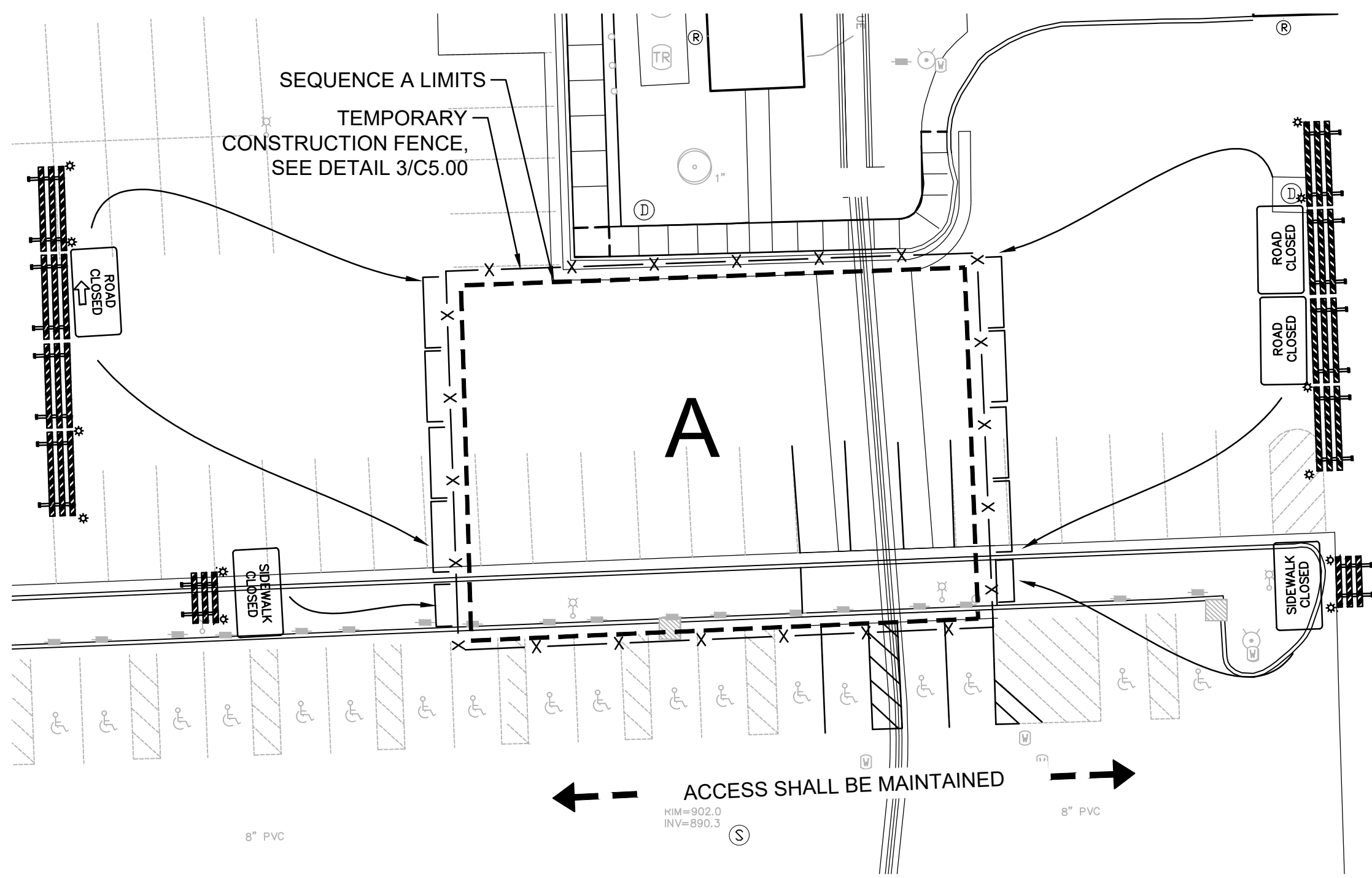


Drawing Title GRADING PLAN	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. SITE	AutoCAD File Name 15314_GRADING.dwg

Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By JWD	Checked By BH	Drawn By JWD
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

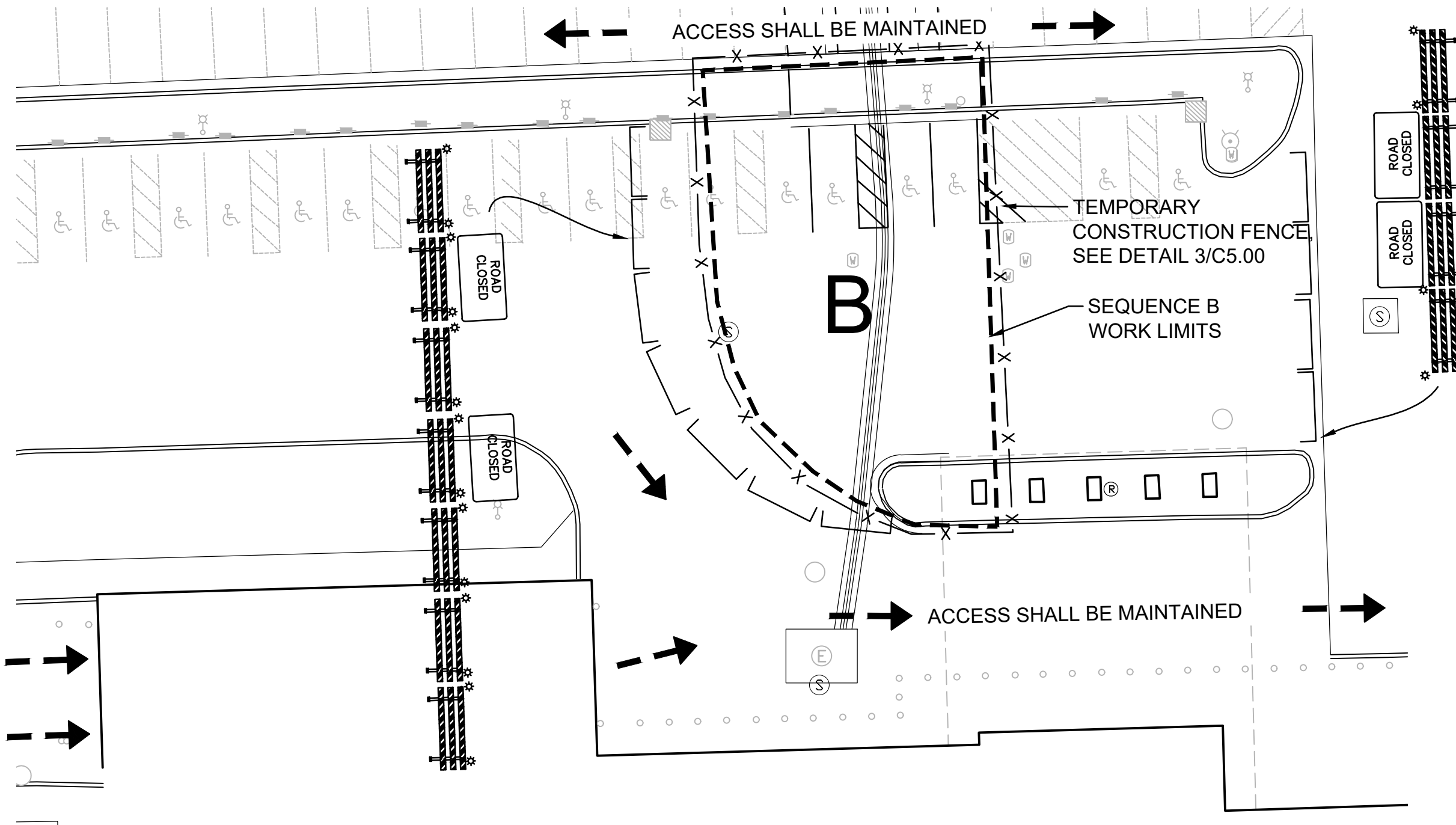
Date APRIL 10, 2020
Scale 1" = 5'
Drawing No. C2.01
Dwg. 6 of 35





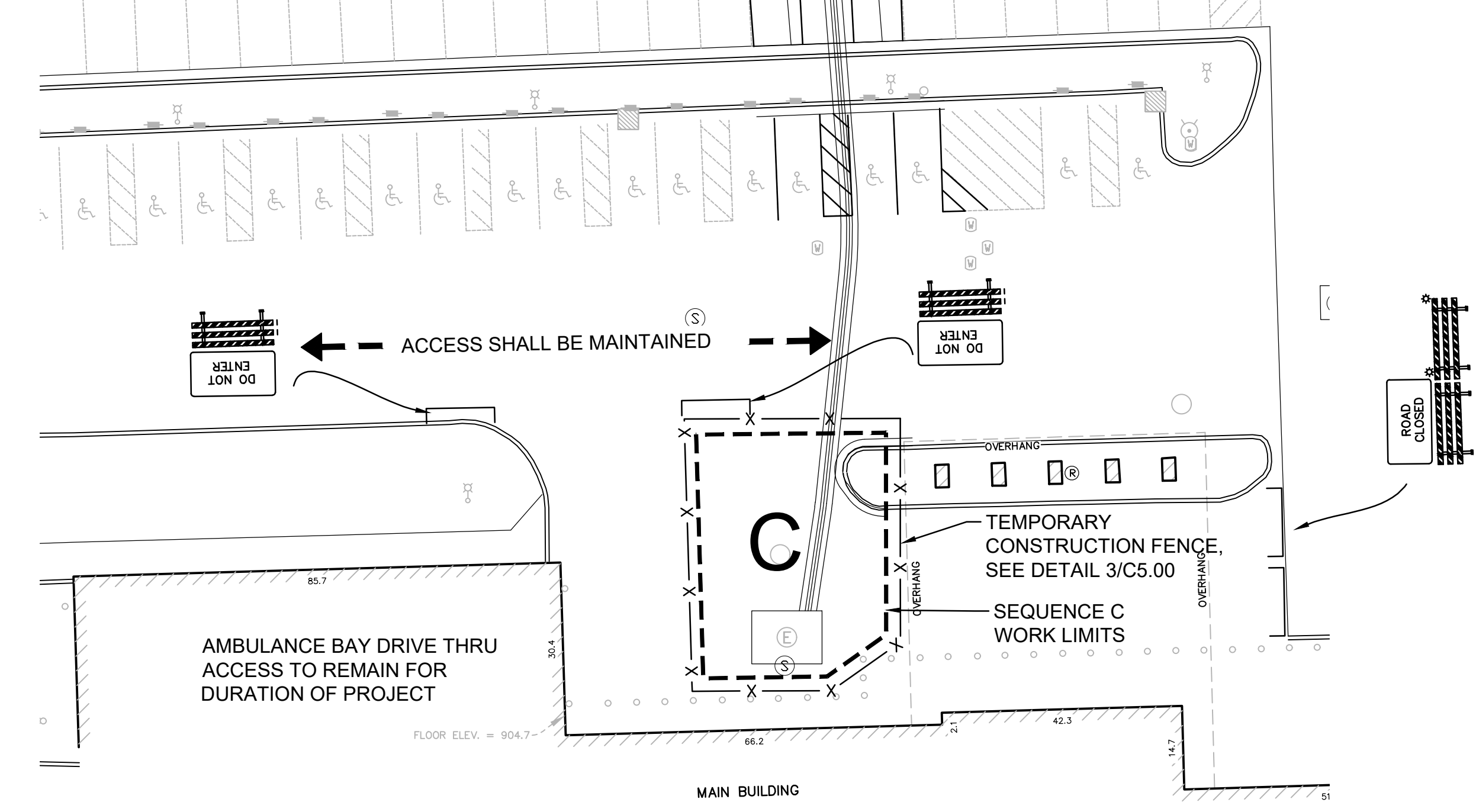
SEQUENCE A:

1. PLACE AND MAINTAIN TRAFFIC / PEDESTRIAN CONTROL DEVICES AND TEMPORARY CONSTRUCTION FENCE, MAINTAINING VEHICULAR ACCESS AND TRAFFIC FLOW TO REMAINDER OF ADJACENT PARKING LOT.
2. SAW CUT AND REMOVE PAVEMENT AS NECESSARY FOR UTILITY INSTALLATION. CONCRETE CURB / GUTTER AND CONCRETE PAVEMENT SHALL BE SAW CUT AT THE NEAREST CONTROL / EXPANSION JOINT.
3. INSTALL UTILITIES PER PROJECT DOCUMENTS
4. REPLACE PAVEMENT AND CONCRETE CURB AND GUTTER
5. PAVEMENT MARKINGS SHALL BE INSTALLED PRIOR TO COMPLETION OF SEQUENCE A.
6. REMOVE TRAFFIC CONTROL DEVICES, OPENING SEQUENCE A TO TRAFFIC PRIOR TO THE START OF SEQUENCE B.



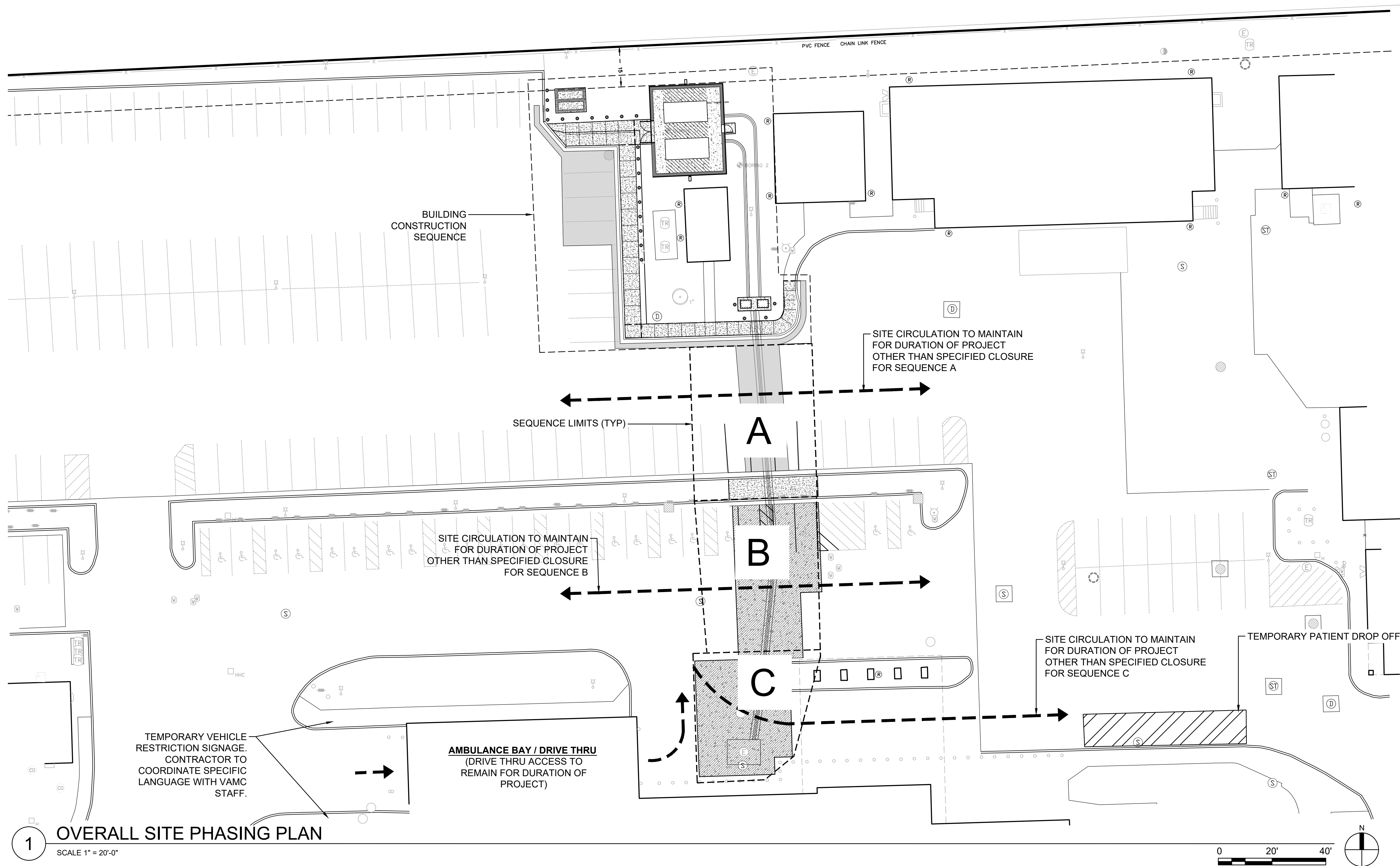
SEQUENCE B:

1. PLACE AND MAINTAIN TRAFFIC / PEDESTRIAN CONTROL DEVICES AND TEMPORARY CONSTRUCTION FENCE, MAINTAINING VEHICULAR ACCESS AND TRAFFIC FLOW TO HOSPITAL ENTRANCE, AMBULANCE BAY AND ADJACENT PARKING LOT.
2. SAW CUT AND REMOVE PAVEMENT AS NECESSARY FOR UTILITY INSTALLATION. CONCRETE CURB / GUTTER AND CONCRETE PAVEMENT SHALL BE SAW CUT AT THE NEAREST CONTROL / EXPANSION JOINT.
3. INSTALL UTILITIES PER PROJECT DOCUMENTS
4. REPLACE PAVEMENT AND CONCRETE CURB AND GUTTER
5. PAVEMENT MARKINGS SHALL BE INSTALLED PRIOR TO COMPLETION OF SEQUENCE B.
6. REMOVE TRAFFIC CONTROL DEVICES, OPENING SEQUENCE B TO TRAFFIC PRIOR TO THE START OF SEQUENCE C.



SEQUENCE C:

1. PLACE AND MAINTAIN TRAFFIC CONTROL DEVICES AND TEMPORARY CONSTRUCTION FENCE, MAINTAINING VEHICULAR ACCESS AND TRAFFIC FLOW TO HOSPITAL ENTRANCE AND AMBULANCE BAY.
2. SAW CUT AND REMOVE PAVEMENT AS NECESSARY FOR UTILITY INSTALLATION. CONCRETE CURB / GUTTER AND CONCRETE PAVEMENT SHALL BE SAW CUT AT THE NEAREST CONTROL / EXPANSION JOINT.
3. PROVIDE TEMPORARY PATIENT DROPOFF WITH SIGNAGE AS INDICATED ON DRAWING 1 / C1.00
4. INSTALL UTILITIES PER PROJECT DOCUMENTS
5. REPLACE PAVEMENT AND CONCRETE CURB AND GUTTER
6. REMOVE TRAFFIC CONTROL DEVICES, OPENING SEQUENCE C TO TRAFFIC.



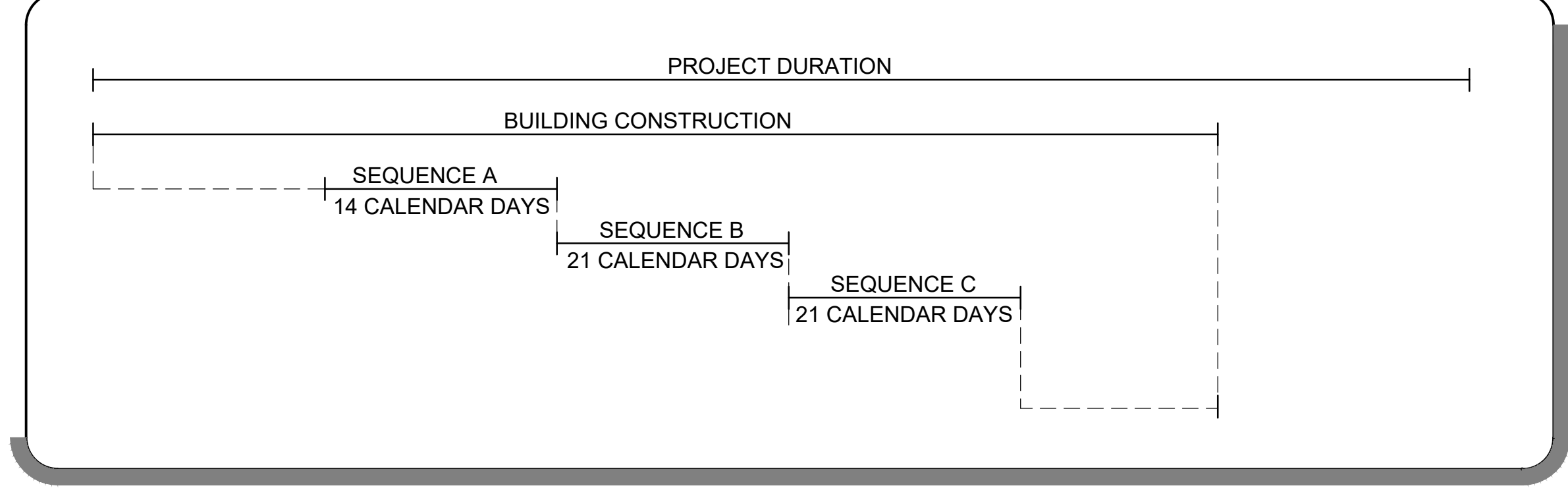
LEGEND:

- PROPERTY BOUNDARY
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- A SEQUENCE AREA
- x TEMPORARY CONSTRUCTION FENCE
- ROAD CLOSED
- TRAFFIC CONTROL
- > TRAFFIC CIRCULATION

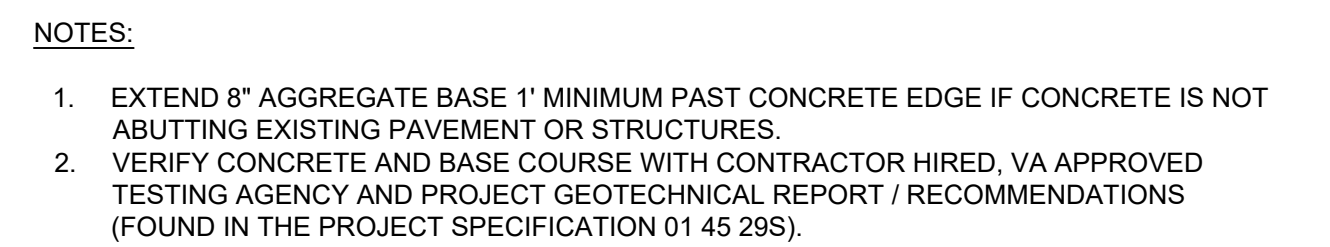
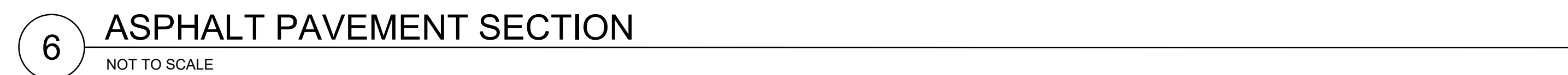
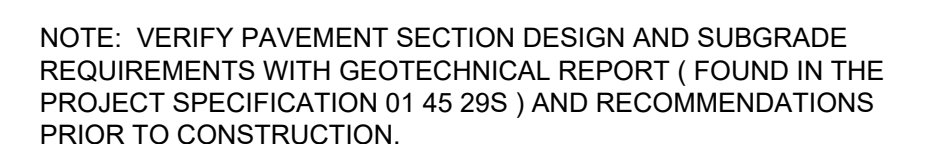
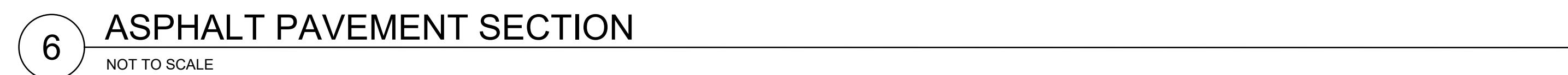
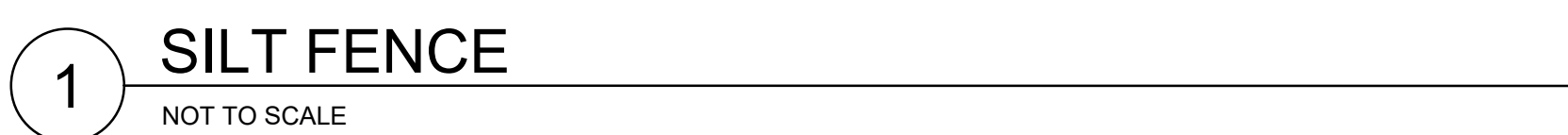
GENERAL NOTES:

1. EACH SEQUENCE SHALL BE COMPLETED IN ITS ENTIRETY PRIOR TO THE START OF THE NEXT SEQUENCE.
2. DELIVERY AND REMOVAL OF EQUIPMENT AND MATERIAL TO AND FROM THE WORK AREAS SHALL BE LIMITED TO 6PM TO 6AM MON-FRI AND WEEKENDS.
3. CONTRACTOR SHALL PROVIDE PROPER SIGNAGE AND PERSONNEL TO GUIDE TRAFFIC DURING CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN PER SEQUENCE. TO OWNER A MINIMUM OF 21 CALENDAR DAYS PRIOR TO EACH SEQUENCE TO ENSURE ADEQUATE ACCESS IS MAINTAINED. NOTIFICATION SHALL BE GIVEN TO THE OWNER IF WORK IS TO BE PERFORMED OUTSIDE OF REGULAR WORKING HOURS.

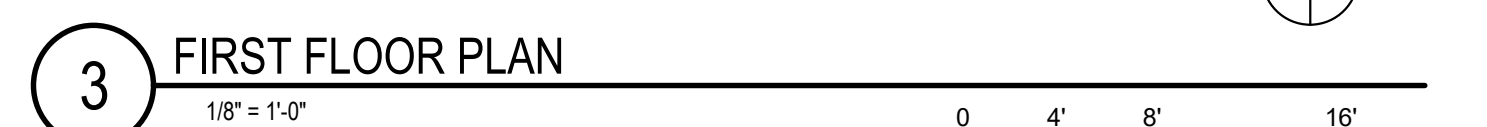
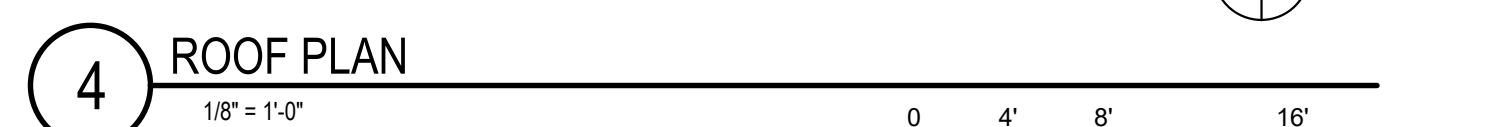
PHASING PLAN

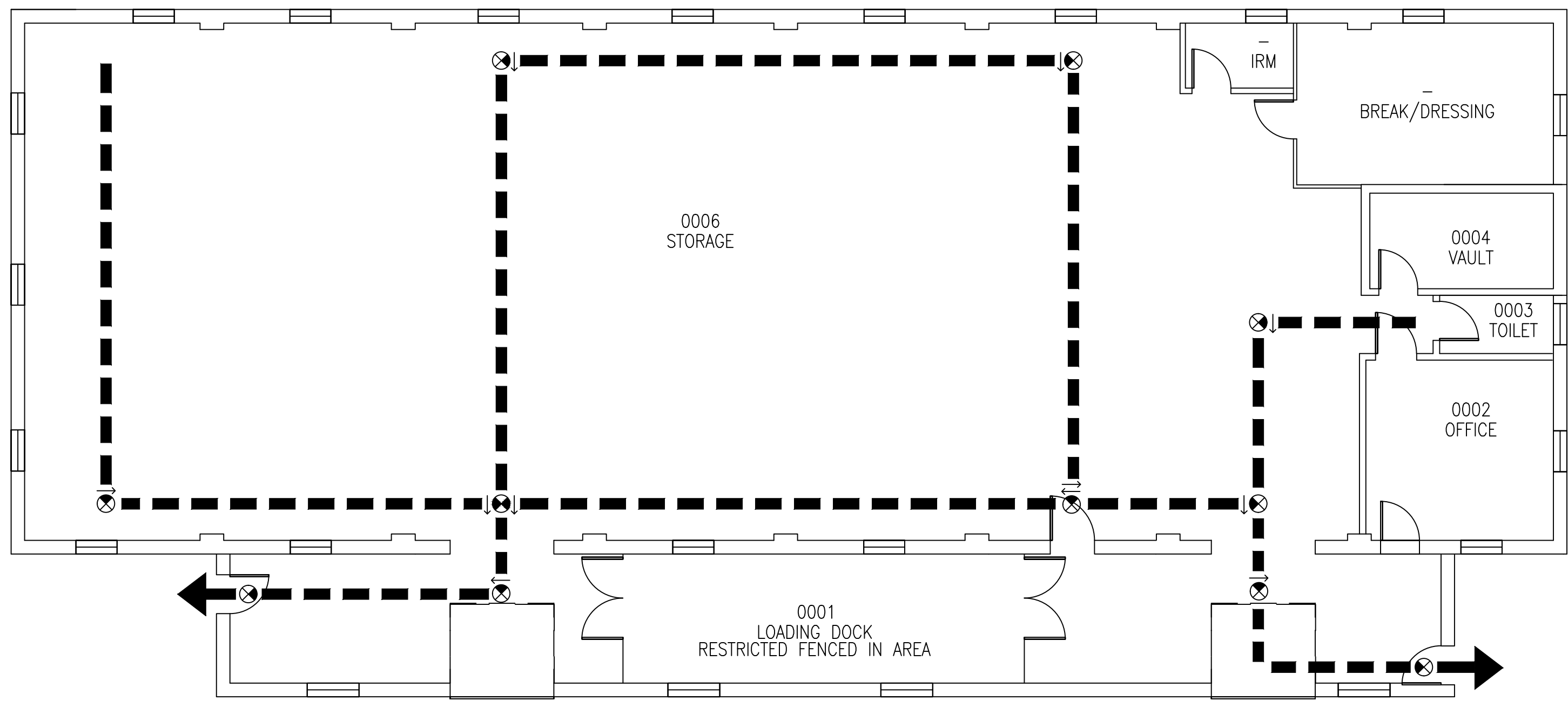


1 OVERALL SITE PHASING PLAN
SCALE 1" = 20'-0"

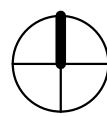


		 <p>Dept. of Veterans Affairs Health Care System 2101 Elm Street North Fargo, ND 58102</p>		 <p>National Facility Solutions, LLC 220 Ramsey Street Hastings, MN 55033 (o) 651.319.0170 www.natfas.com</p>		 <p>ANDERSON 13605 1st Ave. N. #100 Plymouth, MN 55441 P 763.412.4000 F 763.412.4090 ae-mn.com Anderson Engineering of Minnesota, LLC Proj # 153114</p>				 <p>KEY PLAN</p>		<table><tr><td colspan="2">Drawing Title</td><td colspan="2">Project Title</td><td colspan="2">Date</td></tr><tr><td colspan="2" rowspan="2">DETAILS</td><td colspan="2" rowspan="2">CORRECT ELECTRICAL SYSTEM DEFICIENCIES</td><td colspan="2">APRIL 10, 2020</td></tr><tr><td colspan="2">Scale NOT TO SCALE</td></tr><tr><td>VA Project No. 437-17-103</td><td>Contract No. 36C26318C0103</td><td>Designed By JD</td><td>Checked By BH</td><td>Drawn By JA</td><td>Drawing No. C5.00</td></tr><tr><td>Building No. SITE</td><td>AutoCAD File Name DETAILS.dwg</td><td colspan="4">Location FARGO VA HEALTH CARE SYSTEM FARGO, ND</td></tr></table>				Drawing Title		Project Title		Date		DETAILS		CORRECT ELECTRICAL SYSTEM DEFICIENCIES		APRIL 10, 2020		Scale NOT TO SCALE		VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By JD	Checked By BH	Drawn By JA	Drawing No. C5.00	Building No. SITE	AutoCAD File Name DETAILS.dwg	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND				Dwg. 8 of 35		
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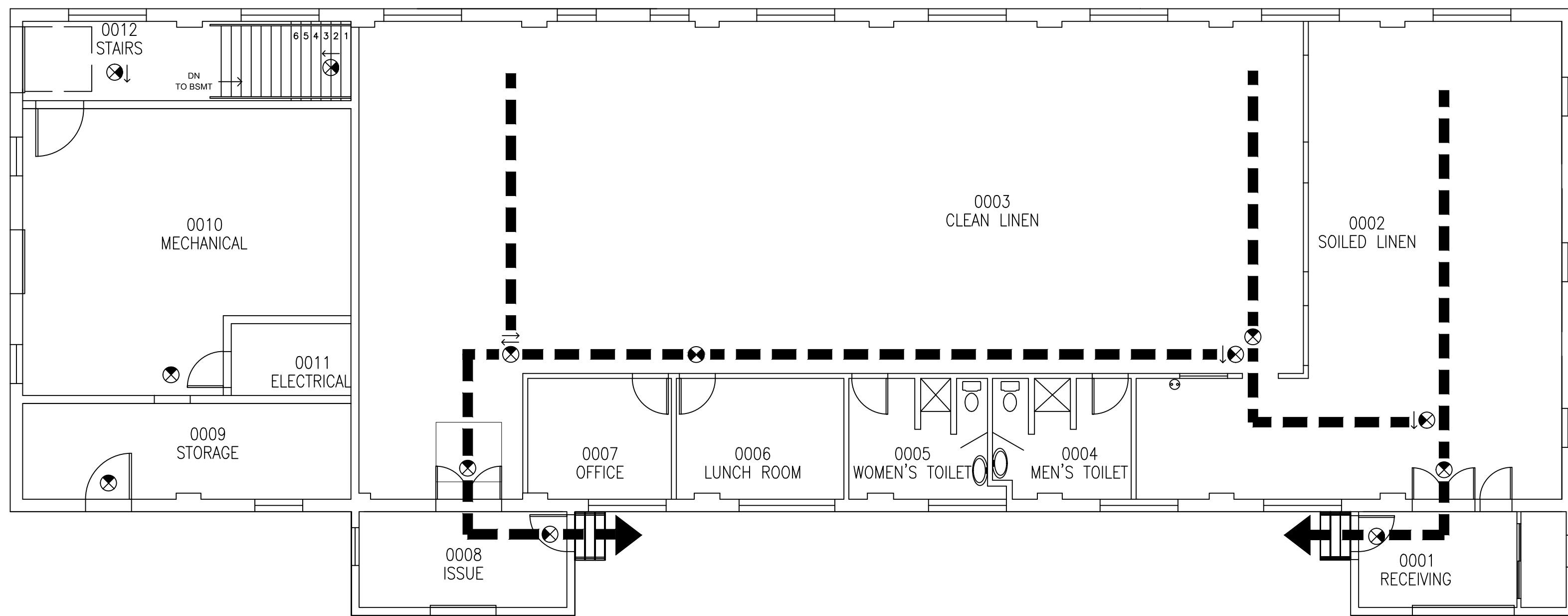




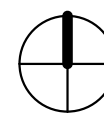
LEGEND
— MEANS OF EGRESS PATH
⊗ EXIT LIGHT AND DIRECTIONAL ARROW



0 4' 8' 16'



LEGEND
— MEANS OF EGRESS PATH
⊗ EXIT LIGHT AND DIRECTIONAL ARROW



0 4' 8' 16'

1 BLDG 12 - FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

2 BLDG 13 - FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

NOTE. WORK INDICATED ON THIS SHEET IS INCLUDED IN A DEDUCT ALTERNATE. REFER TO SPECIFICATIONS

1	BUILDING CODE:		
1.1	2018 INTERNATIONAL BUILDING CODE (IBC) IN ACCORDANCE WITH VETERANS AFFAIRS DESIGN GUIDE PUBLICATIONS		
2	DESIGN LOADS:		
2.1	ROOFS:		
	SUPERIMPOSED DEAD	10 PSF	
	LIVE	20 PSF	
	SNOW:	GROUND SNOW LOAD, P_g	50 PSF
		FLAT ROOF SNOW LOAD, P_f	42 PSF*
	EXPOSURE FACTOR, C_e	1.0	
	IMPORTANCE FACTOR, I_s	1.2	
	THERMAL FACTOR, C_t	1.0	
2.2	FLOORS:		
	LIVE:	TYPICAL	150 PSF
2.3	WIND:		
	BASIC WIND SPEED, V	124	MPH ULTIMATE
	RISK CATEGORY	IV	
	EXPOSURE	C	
	INTERNAL PRESSURE COEFFICIENT, C_{pi}	-0.18	
	COMPONENT DESIGN PRESSURE	SEE TABLE	
2.4	SEISMIC DATA:		
	SITE CLASS	D	
	RISK CATEGORY	IV	
	IMPORTANCE FACTOR, I_s	1.5	
	MAPPED SPECTRAL RESPONSE COEFFICIENT, S_s	0.059	
	MAPPED SPECTRAL RESPONSE COEFFICIENT, S_1	0.019	
	DESIGN SPECTRAL RESPONSE COEFFICIENT, S_{DS}	0.262	
	DESIGN SPECTRAL RESPONSE COEFFICIENT, S_{D1}	0.030	
	SEISMIC DESIGN CATEGORY	A	
2.5	EQUIPMENT:		
	SWITCHGEAR	2000	# (PRELIMINARY)

GENERAL NOTES:

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE SAFETY OF PERSONS AND PROPERTY. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL CITY PRECAUTIONARY REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.

ALL ARCHITECTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. DURING ERECTION OF THE STRUCTURE, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR TEMPORARY GUYING, SHORING, BRACING, FORMING, ETC. TO HOLD THE STRUCTURE IN PROPER POSITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION OF ALL STRUCTURAL MEMBERS INCLUDING LATERAL LOADS, TEMPERATURE DIFFERENTIALS, STOCKPILES OF MATERIAL AND EQUIPMENT. SUCH MEASURES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY AND UNTIL ALL FRAMING AND CONNECTIONS INCLUDING ROOF TRUSSES ARE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND INSPECTION OF SUCH TEMPORARY MEASURES. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

ALL MEASUREMENTS OF THE STRUCTURE SHALL BE TAKEN FROM THE FINISHED CONSTRUCTION, WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW BY THE ENGINEER.

ARCHITECTURAL DRAWINGS, MECHANICAL DRAWINGS, ELECTRICAL DRAWINGS, TELECOMMUNICATION DRAWINGS, FIRE PROTECTION DRAWINGS AND EQUIPMENT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR.

THE CONTRACTOR AND SUBCONTRACTORS SHALL THOROUGHLY REVIEW ALL DRAWINGS AND SPECIFICATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH THE REQUIREMENTS FOR FULL INSTALLATION OF ALL STRUCTURAL SYSTEMS ARE TO BE PART OF THE BID. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE BID.

ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONSTRUCTION DRAWINGS AND/OR SPECIFICATIONS AND/OR EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEED WITH THE WORK.

THE CONTRACTOR SHALL COORDINATE ALL DEPRESSIONS, DIMENSIONS, ELEVATIONS, SLEEVES, CHASES, HANGERS, PENETRATIONS, BLOCK OUTS, ETC. TO BE ACCOMMODATED IN THE STRUCTURE. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION PACKAGE INCLUDING ARCHITECTURAL DRAWINGS, MECHANICAL DRAWINGS, ELECTRICAL DRAWINGS, TELECOMMUNICATION DRAWINGS, FIRE PROTECTION DRAWINGS AND EQUIPMENT DRAWINGS FOR CONCRETE AND MASONRY CONSTRUCTION THE STRUCTURE. UNLESS OTHERWISE SPECIFIED, ALL MEASUREMENTS SHALL BE TAKEN FROM THE FINISHED CONSTRUCTION.

ALL MECHANICAL UNITS SUPPORTED BY ROOF OR FLOOR STRUCTURE ARE SUBJECT TO THE ACCEPTANCE OF THE STRUCTURAL ENGINEER.

DO NOT HANG ANYTHING FROM THE STEEL ROOF DECK.

4.2. ELEVATIONS, DIMENSIONS, DETAILS OF EXISTING STRUCTURAL CONNECTIONS AND OTHER CONDITIONS WHERE THEY AFFECT THIS CONSTRUCTION. NOTIFY THE ENGINEER IF THERE ARE ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS. CONSULT WITH THE STRUCTURAL ENGINEER BEFORE MAKING ANY MODIFICATIONS TO THE EXISTING STRUCTURE NOT INDICATED ON THE CONTRACT DOCUMENTS.

4.3. BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE EXISTING STRUCTURE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRAYOR ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING WORK WHICH ARE TO REMAIN.

THE STRUCTURE IS DESIGNED FOR THE FOLLOWING:

MAXIMUM ALLOWABLE SOIL BEARING CAPACITY	1500 PSF
LATERAL SOIL PRESSURES (EQUIVALENT FLUID PRESSURE)52 PCF (UNSATURATED)
MODULUS OF SUBGRADE REACTION	150 PCI

[illegible]

6.2 CONCRETE MIXES SHALL BE DESIGNED PER ACI 301 PER 03 30 00.

6.3 MATERIAL STRENGTHS:

6.3.1 PROVIDE THE FOLLOWING CONCRETE PROPERTIES:

DESCRIPTION	COMPRESSIVE STRENGTH (f' _c) AT 28 DAYS	MAX AGGREGATE SIZE	SLUMP*	MAX WATER TO CEMENT RATIOS (w/c)
FOOTINGS	3000 PSI	1 1/2"	4" ± 1"	0.57
FOUNDATION WALLS	4000 PSI	3/4"	4" ± 1"	0.45
INTERIOR SLABS ON GRADE	4000 PSI	3/2"	3" ± 1"	0.43
ANY CONCRETE SUBJECT TO FREEZE-THAW CYCLES (5% ENTRAINED AIR ¹)	4500 PSI	3/2"	4" ± 1"	0.45
ALL OTHER CONCRETE	4000 PSI	3/2"	4" ± 1"	0.43

³ THESE W/C RATIOS MAY BE LOWER THAN NECESSARY TO PROVIDE THE SPECIFIED STRENGTHS.

6.3.2	REINFORCING STEEL:	WELDABLE BARS:	ASTM A706, GR. 60
		ALL OTHER BARS: STIRRUPS AND TIES:	ASTM A615, GR. 60
			ASTM A108
6.4	PLACEMENT OF CONCRETE AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI AND CRSI STANDARDS.		
6.5	REMOVAL OF FORMS SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING: ALL FORMS SHALL BE REMOVED IN SUCH A MANNER AS TO PREVENT DAMAGE TO THE CONCRETE.		
6.6	FURNISH THE FOLLOWING CONCRETE COVER ON REINFORCING BARS NOTED ON DRAWING:		
	SLABS ON GRADE:	1 1/2" COVER TOP AND	
	PIERS:	1 1/2" COVER TOP AND	
	FOOTINGS:	2" COVER ON BOTTOM AND SLAB	
	WALLS:	2" COVER WHERE EXPOSED TO WEATHER AND 3/4" OTHERWISE	
6.7	DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED		

6.7 DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR ACCEPTED BY THE ENGINEER.

6.8 PROVIDE CORNER BARMAIL IN SIZE AND SPACING TO LAP HORIZONTAL REINFORCEMENT UNLESS OTHERWISE
DETAILED.

6.9 IN SLAB PROVIDE (2) #4x4" DIAGONAL BARS AT 45 DEGREES AT ALL CORNERS OF OPENINGS AND RE-ENTRANT CORNERS
AT WALL OPENINGS. PROVIDE (2) #4 BARS ON EACH SLAB EXTENDING 2'-0" BEYOND THE OPENING AND (2) #4x4" DIAGONAL
BARS AT 45 DEGREES AT ALL CORNERS.

6.10 COLD WEATHER CONCRETING SHALL FOLLOW PROCEDURES IN ACI 306.

6.11 HOT WEATHER CONCRETING SHALL FOLLOW PROCEDURES IN ACI 305.

6.12 PROVIDE DIMETER CEMENTS FOR ALL JOINTS AS NOTED OTHERWISE. FOR OTHER LAP LENGTHS
REFER TO SCHEDULE (ON PLANS) PROVIDE CLASS B LAP SPICES IN ACCORDANCE WITH ACI 318.

6.13 REINFORCING AND PROVIDE REINFORCING ATTACHMENT TO MEET ALL REQUIREMENTS FOR COMPLIANCE WITH
MINIMUM CONCRETE COVER. BAR SUPPORTS SHALL BE PLASTIC, PLASTIC TIE, EPOXY COATED OR STEEL SPACER
FOR UNCOATED STEEL. BAR SUPPORTS FOR COATED STEEL SHALL BE PLASTIC. PLASTIC COATED OR EPOXY COATED.
FORMS SHALL BE REMOVED IN PLACE UNTIL CONCRETE ATTAINS A COMPRESSED STRENGTH OF 3,000 PSI.

6.15 UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE ALL SHORING.

6.16 SPECIAL ADDITIONAL REQUIREMENTS FOR SLABS ON GRADE:

6.16.1 PROVIDE ALL SHORING FOR CONSTRUCTION OF SLAB ON GRADE CONSTRUCTION (ACI 302.1)

6.16.2 REFER TO GEOTECHNICAL REPORT FOR VAPOR BARRIER, ENGINEERED FILL AND SUBGRADE COMPACTION REQUIREMENTS

6.16.3 PROVIDE ALL JOINTS TO BE LOCATED AT THE CENTER OF THE SLAB. PROVIDE ALL JOINTS TO BE LOCATED AT THE CENTER OF THE SLAB.

6.16.4 SEE DRAWINGS FOR LOCATIONS OF SLAB CONTROL JOINTS. UNLESS OTHERWISE INDICATED, JOINTS SHALL BE PROVIDED
AT 15'-0" OF C/S FOR 6" SLABS, BUT SHALL IN ALL CASES BE PLACED AT EQUAL INTERVALS BETWEEN BUILDING GRS.
JOINTS SHALL BE LOCATED AT THE CENTER OF THE SLAB. PROVIDE ALL JOINTS TO BE LOCATED AT THE CENTER OF THE SLAB.

6.16.5 OTHER DAMAGE.

6.16.6 SLAB SHALL BE FILLED WITH AN ACCEPTED MATERIAL, AS LATE AS POSSIBLE, PREFERABLY AT 4 TO 6 WEEKS
AFTER THE SLAB HAS BEEN CAST. PRIOR TO FILLING, REMOVE ALL DEBRIS FROM THE SLAB JOINTS. FILL IN ACCORDANCE
WITH THE MANUFACTURER'S RECOMMENDATIONS AS FOLLOWS: PRODUCTION AREAS - FILL WITH EPOXY RESIN. OTHER
AREAS - FILL WITH FINE AGGREGATE.

6.16.6.5 PERKINS AND OTHER EXTERIOR SLABS, IF SHOWN ON THE STRUCTURAL DRAWINGS, ARE FOR INFORMATION ONLY
AND SHALL NOT BE CONSIDERED FOR CONSTRUCTION. SEE THE ARCHITECTURAL DRAWINGS FOR THE EXTERIOR SLABS. SEE THE
SITE PLAN, CIVIL DRAWINGS AND ARCHITECTURAL DRAWINGS FOR LOCATIONS, DIMENSIONS, ELEVATIONS, JOINTING
DETAILS AND FINISH DETAILS.

6.16.7 PROVIDE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSION SLAB AREAS AND DRAINS. SLOPE SLAB TO
DRAINS WHERE SHOWN.

7.2	FOR MASONRY STRUCTURES (TMS 602), LATEST ADDITION.	
7.3	MATERIAL STRENGTHS	
7.4	CONCRETE UNIT MASONRY	ASTM C90, f'm=1500 PSI
7.5	BRICK UNIT MASONRY	NORMAL WEIGHT DENSITY CLASSIFICATION
7.6	MORTAR	ASTM C276, SW, f'm=2400 PSI
7.7		ASTM C270
7.8		TYPE M OR S
7.9	LOAD BEARING AND/OR BELOW GRADE	ASTM C476, f'c=2000 PSI
7.10	COREFILL CONCRETE GROUT	8-10 SPM
7.11		3/8" MAX. AGGREGATE
7.12		ASTM A615, GRADE 60
7.13	REINFORCING STEEL	
7.14	GROUT SOLID ALL BELOW GRADE MASONRY, CORES WITH VERTICAL REINFORCING, BOND BEAMS AND LINTELS.	
7.15	VERTICAL WALLS TO BE LAID WITH REINFORCING SHALL BE ALIGNED TO PROVIDE A COORDINATE, UNCONSTRUCTED OPENING CLOSURES WHICH CONTAIN VERTICAL REINFORCEMENT SHALL HAVE A MINIMUM 2" CLEAR OPENING. ALL REINFORCING BARS SHALL BE PLACED TO PROVIDE MASONRY COVERAGE OF NOT LESS THAN 1/2". THE MINIMUM DISTANCE BETWEEN PARALLEL REINFORCING BARS AND REINFORCEMENT IN COLUMNS, SHALL BE EQUAL TO THE NOMINAL DIAMETER OF THE BAR OR 1", WHICHEVER IS GREATER.	
7.16	GROUT LIFT HEIGHT SHALL NOT EXCEED 54"	
7.17	USE WIRE POSITIONERS FOR SECURING REINFORCEMENT IN POSITION.	
7.18	THE USE OF MASONRY CEMENT IS STRICTLY PROHIBITED. ALL MORTAR SHALL MEET THE "PROPORTION SPECIFICATION" OF THE MASONRY CEMENT MANUFACTURER'S PORTLAND CEMENT/CEMENT NON AIR-ENRICHED MORTAR.	
7.19	OTHERWISE INDICATED, ALL WALLS SHALL BE LAID UP IN RUNNING BOND. "TOOTH" BOND CORNERS AND INTERSECTIONS OF LOAD-BEARING WALLS.	
7.20	VERTICAL REINFORCING SHALL BE LAID TO THE GIVEN SIZE AND SPACING AS INDICATED. PROVIDE BARS AT ALL WALL CORNERS, INTERSECTIONS, OPENING EDGES AND EACH SIDE OF CONTROL JOINTS.	
7.21	HOLLOW UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. WEBS SHALL ALSO BE COVERED WITH FULL MORTAR COVERAGE. ALL CONTROL JOINTS TO BE LAID WITH FULL MORTAR COVERAGE.	
7.22	COURSE ON FOOTINGS AND SOLD FOUNDATION WALLS AND IN NON-REINFORCED OR GROUTED Piers, PLASTERS OR COLUMNS SHALL BE GUN "DUP" OR "SOLID" LADDER-TYPE HORIZONTAL JOINT REINFORCEMENT (OR ACCEPTED ALTERNATE) EVERY SECOND COURSE (16" OC) MAXIMUM.	
7.23	CAVITY WALLS SHALL BE CONSTRUCTED AND TIED TOGETHER PER IRC 2109. COORDINATE VENEER ANCHORAGE WITH THE APPROVED CURIAL DRAINAGE SYSTEM AND UNIT MASONRY SPECIFICATION.	
7.24	PROVIDE CONTINUOUS BOND BEAMS WHERE SHOWN, REINFORCED WITH (2) #4 BARS UNO.	
7.25	PROVIDE CONTROL JOINTS (KEYED TIE) AT A MAXIMUM SPACING OF THE LESSER OF 24'-0" OR THREE TIMES THE WALL HEIGHT UNLESS SHOWN OTHERWISE. LOCATE CONTROL JOINTS 2'-0" FROM CORNERS OR 1'-0" FROM CORNERS. DISCONTINUE ALL HORIZONTAL REINFORCING AT CONTROL JOINTS EXCEPT FOR THE BOND BEAMS AT BEARING ELEVATIONS AND MASONRY LINTELS. DISCONTINUE ALL HORIZONTAL JOINT REINFORCING AT CONTROL JOINTS.	
7.26	PROVIDE A MINIMUM OF 3" COUPLERS OF SOLIDLY GROUTED OR BELOW ALL BOND BEAMS AT BEARINGS FOR A WIDTH OF 3'-0", UNLESS DETAIL OTHERWISE ON DRAWINGS.	
7.27	REINFORCING SHALL MATCH THE REINFORCING OF THE WALL BELOW UNLESS OTHERWISE INDICATED ON BRICK/VENEER LINTELS: PROVIDE 7x4x38 (LH) STEEL LINTELS FOR BRICK/VENEER SUPPORT AT OPENINGS LESS THAN 6'-0". A MINIMUM OF 6" BEARING IS REQUIRED ON EACH END FOR LOOSE LINTELS. IF A CONTROL JOINT IS LOCATED AT THE EDGE OF AN OPENING, WRAP THE LOOSE LINTEL BEARING IN A BOND BREAK MATERIAL TO CREATE A "SP" BEARING AT THAT LOCATION.	

2.	MATERIAL SPECIFICATIONS (UNLESS NOTED OTHERWISE):	
	STRUCTURAL STEEL, WIDE FLANGE _____	ASTM A992
	OTHER STRUCTURAL STEEL, ROLLED SHAPES, PLATES & BARS _____	ASTM A572M
	HOLLOW STRUCTURAL SECTIONS _____	ASTM A500, GR B
	STRUCTURAL STEEL PIPE (TYPE E) _____	ASTM A53B, GR B
	CONNECTION BOLTS _____	ASTM F1512 AS25 TYPE 1
	THREADED RODS _____	ASTM A36
	STEEL HEADED STUD ANCHORS (GRADE B) _____	ASTM A108
	ANCHOR RODS _____	ASTM F1554, GR 36
	WELDS (EXCEPT ELECTRODES) _____	AWS D1.1
	NON-SHRINK GROUT (7,000 PSI) _____	ASTM C1107, GR A
3.	ALL STRUCTURAL STEEL, INCLUDING ANCHOR BOLTS, SHALL BE ERECTED AND ERECTED ACCORDING TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360), LATEST ADOPTION AND THE CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL BUILDINGS (AISC 360), LATEST ADOPTION. PROVISIONS OF THE AISC CODE OF STANDARD PRACTICE ARE SPECIFICALLY DELETED FROM THE PROJECT CONTRACT DOCUMENTS. THE FABRICATOR SHALL PROVIDE THIS SCHEDULE FOR THE SUBMITTAL OF SHOP AND ERECTION DRAWINGS A MINIMUM OF 14 DAYS PRIOR TO FIRST SUBMITTAL.	
4.	ALL COLUMNS, ANCHOR BOLTS, BASE PLATES, ETC., HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE BEEN INVESTIGATED FOR EXCESSIVE LOADINGS UNDER UNFINISHED CONDITIONS. UNLESS OTHERWISE SPECIFIED, CONFORMANCE TO OR DEVIATION FROM ALLOWABLE CAPACITIES DURING ERECTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR (SEE GENERAL NOTES).	
	PROVIDED STEELERS, WELDERS, ETC. AS REQUIRED TO DEVELOP REACTIONS AT HSS, PIPE AND WIDE-FLANGE CONNECTIONS.	
5.	BEAMS SHALL BE FABRICATED AND ERECTED FOR PLACEMENT WITH THE NATURAL CAMBER UP.	
	STEEL SUPPLIER SHALL FURNISH BOLTS FOR OSHA BOLTED JOINT CONNECTIONS, DECK AND JOIST BEARING ANGLES OR PLATES, ANGLE FRAMES FOR ROOF OPENING OR ROOF TOP UP SUPPORT AND COLUMN ANCHOR RODS.	
	ALL WELDS SHALL BE FULL PENETRATION WELDS. UNLESS OTHERWISE NOTED, PROJECT CONTRACTORS SHALL WELD ALL FILLET WELDS PER AISRC REQUIREMENTS MEETING MINIMUM THICKNESSES ALLOWED PER THICKNESS OF MATERIAL.	
	WELDED, ALL FILLER MATERIAL, SHALL HAVE A MINIMUM YIELD STRENGTH OF 58 KSI.	
	ALL STEEL SHALL BE GRILLED OR PUNCHED. ALL STEEL SHALL BE PROVIDED WITH SMOOTH EDGES.	
	BURNING OF HOLES AND TORCH CUTTING AT THE SITE ARE NOT PERMITTED.	

9.2 MATERIAL STRENGTHS: PER SDI SPECIFICATIONS.

9.3 STEEL DECKING SHALL BE FABRICATED FROM STEEL TYPE ASTM A663 GRADE A, HAVING A MINIMUM YIELD STRENGTH OF 33 KSI.

9.4 ROOF DECK SHALL BE WIDE RIB STEEL DECK, SIZE AND GAUGE AS INDICATED ON DRAWINGS, DESIGNED, FABRICATED AND TESTED TO WITHSTAND THE SPREAD OF THE STRENGTH OF THE STEEL TYPE AND THE LATEST ADOPTED.

9.5 ROOF DECK END LAPS SHALL BE A MINIMUM OF 6".

9.6 ROOF DECK SHALL SPAN PERPENDICULAR TO SUPPORTS AND INDIVIDUAL PIECES SHALL BE OF SUFFICIENT LENGTH TO COVER A MINIMUM OF TEN SPACES BETWEEN SUPPORTS.

9.7 ALL STEEL DECK WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3.

9.8 ALL STEEL SHALL BE GALVANIZED WITH 50 COATING. ALL DECK WELDS SHALL BE TOUCHED UP WITH GALVANIZING REPAIR PAINT.

9.9 PROVIDE COUNTERS, POUR STOP, FILLERS, AND SUMP AS NECESSARY. ACCESSORIES SHALL BE A MINIMUM OF 20 GAUGE.

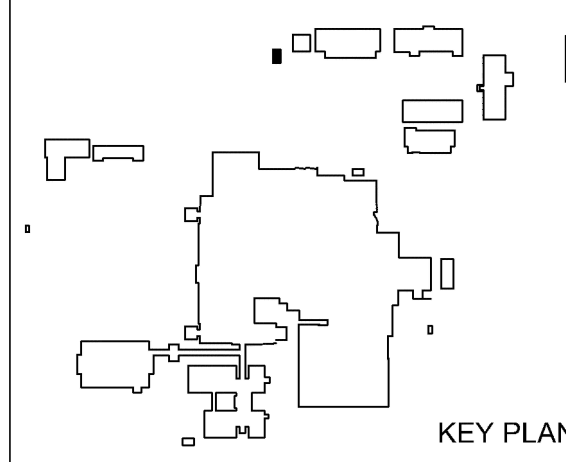
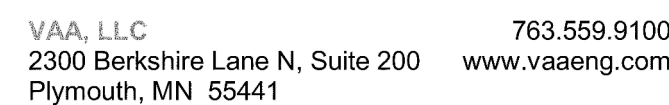
9.10 AT OPENINGS AND EDGES IN ROOF DECK PROVIDE CONTINUOUS SHEET METAL CLOSURES AND CONTINUOUS DECKING AT ALL SPACES AND OPENINGS ARE 12" OR LESSER IN WIDTH OR LENGTH, PROVIDE A STEEL FRAME CAPABLE OF SUPPORTING TRIBUTARY LOADS.

10.0.1 CONTRACTOR SHALL REVIEW, STAMP, SIGN AND DATE ALL SUBMITTALS PRIOR TO FORWARDING TO ARCHITECT/ENGINEER. REVIEWER SHALL BE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. THE REVIEWER SHALL REVIEW THE SUBMITTALS WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE CONTRACTOR'S RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SUBMITTALS. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR THE REVIEW AND COORDINATION OF THE SUBMITTALS.

10.0.2 SHOP DRAWINGS SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. FORMS AND CADD SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. SHOP DRAWINGS SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. REVIEWER SHALL BE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. IN NO CASE SHALL REPRODUCTIONS OF THE CONTRACT BE USED AS A BASIS FOR REVIEW. THE REVIEWER SHALL REVIEW THE SUBMITTALS WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE CONTRACTOR'S RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SUBMITTALS. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR THE REVIEW AND COORDINATION OF THE SUBMITTALS.

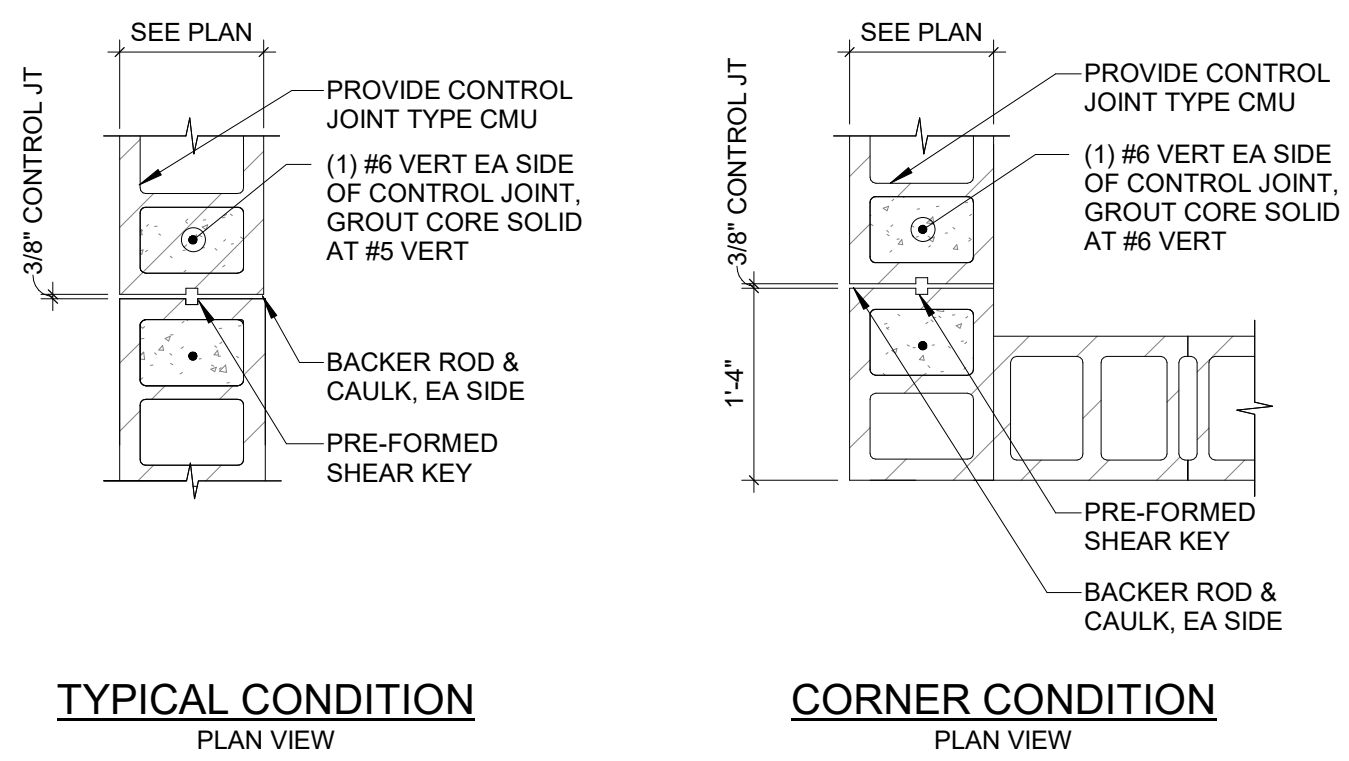
10.0.4 SHOP DRAWINGS SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. FORMS AND CADD SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. SHOP DRAWINGS SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. REVIEWER SHALL BE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. IN NO CASE SHALL REPRODUCTIONS OF THE CONTRACT BE USED AS A BASIS FOR REVIEW. THE REVIEWER SHALL REVIEW THE SUBMITTALS WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE CONTRACTOR'S RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SUBMITTALS. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR THE REVIEW AND COORDINATION OF THE SUBMITTALS.

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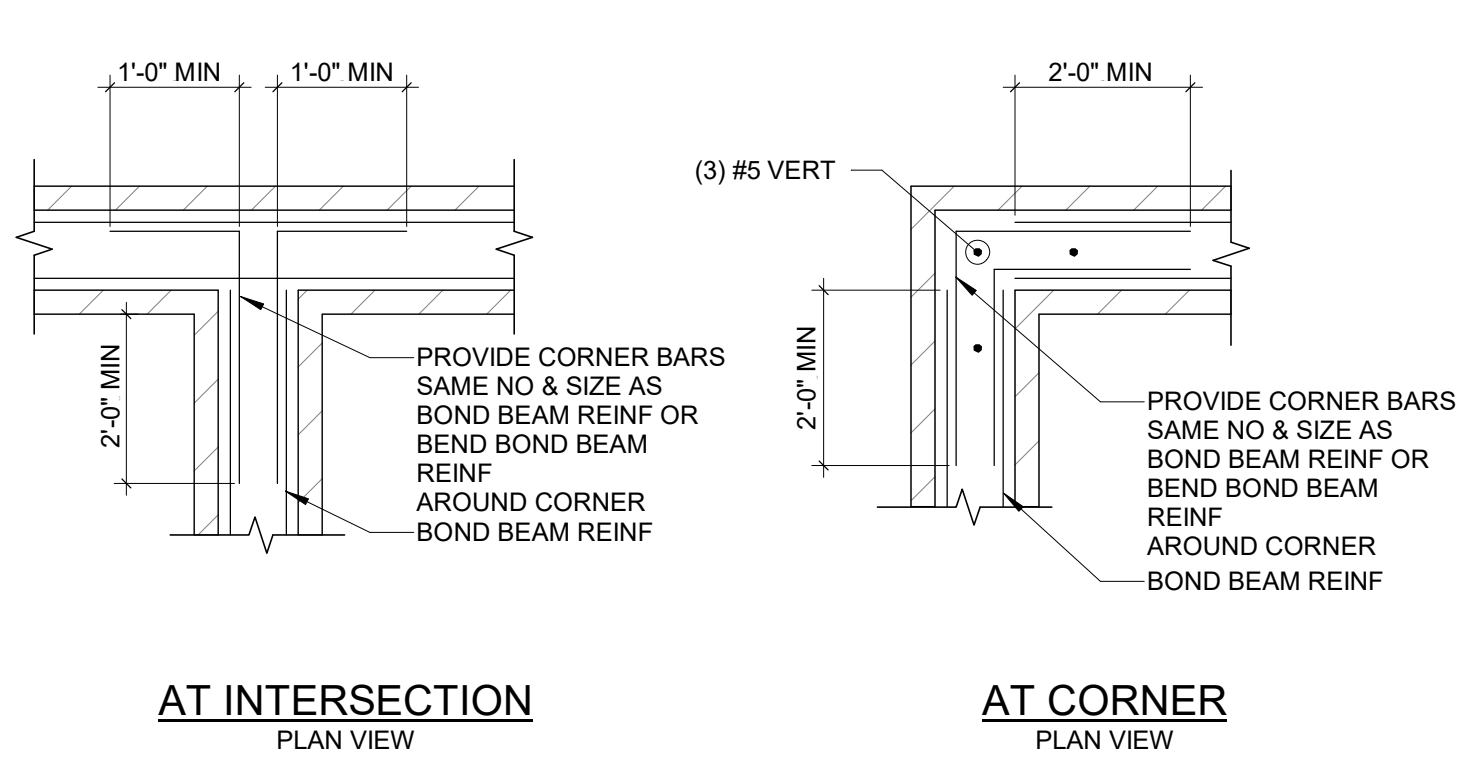


Department of
Veterans Affairs

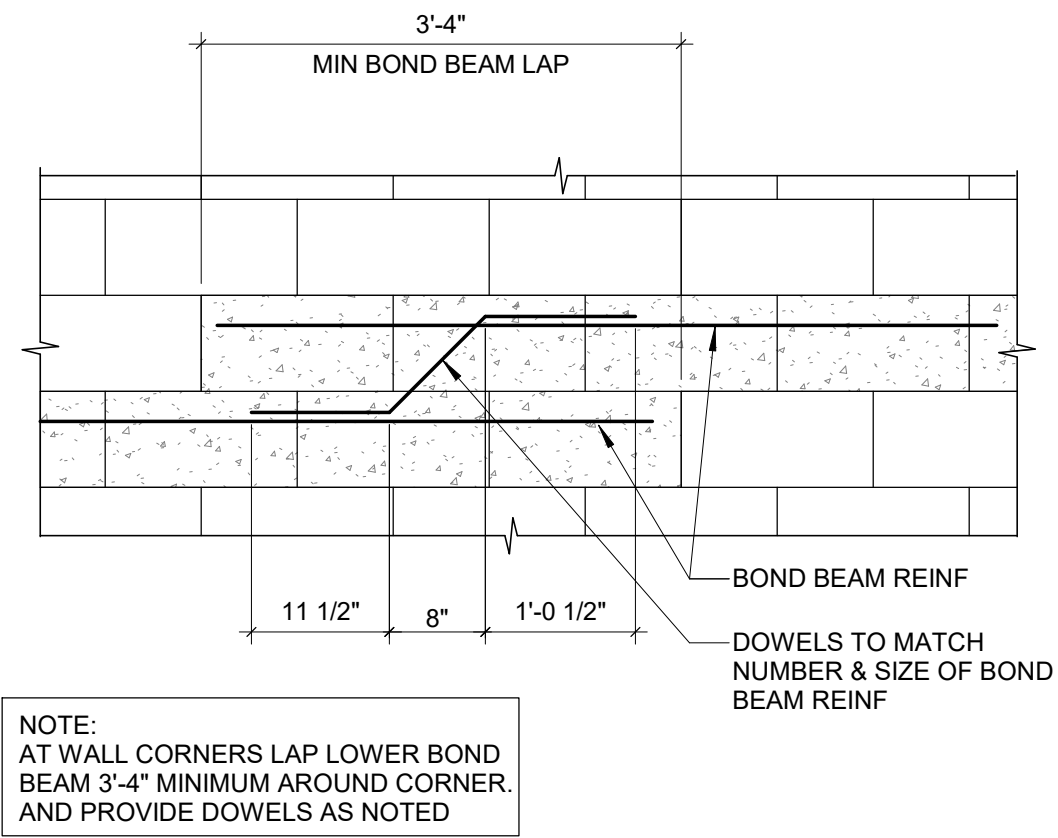




1 TYP CONTROL JOINTS IN CMU WALLS
NO SCALE

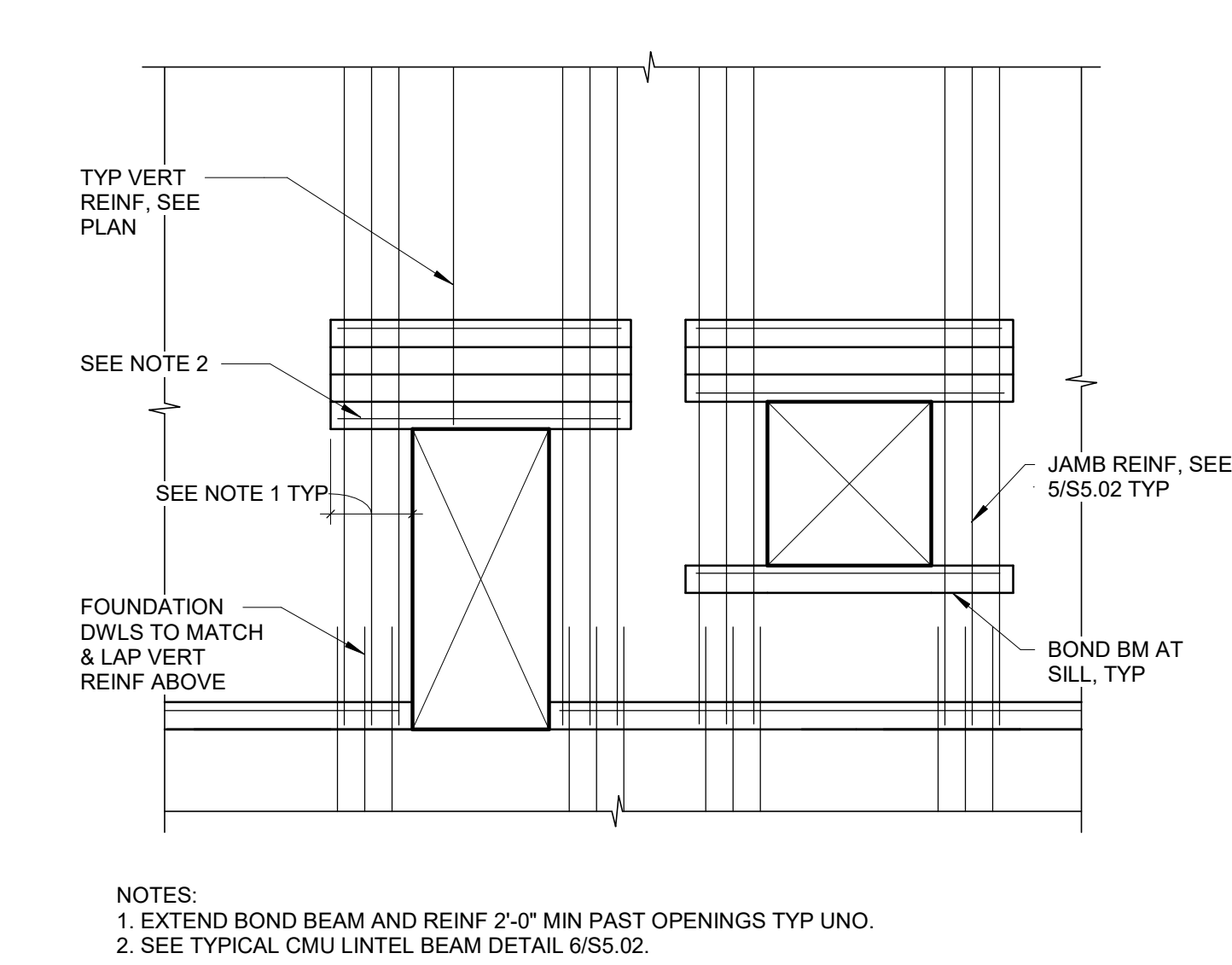


2 TYP CORNER & INTERSECTION REINFORCING IN CMU WALLS
NO SCALE

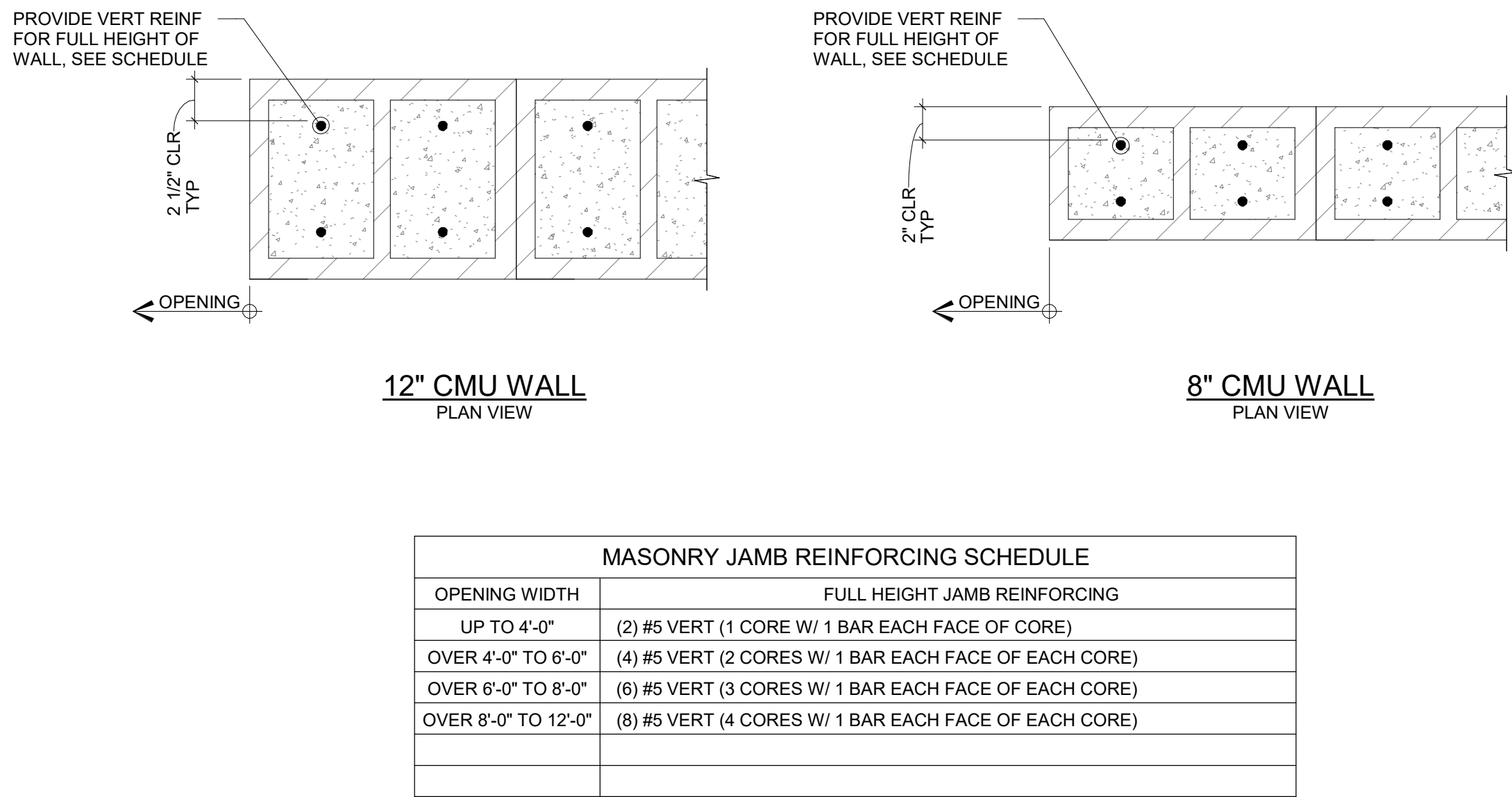


3 TYP STEPPED BOND BM IN CMU WALL
NO SCALE

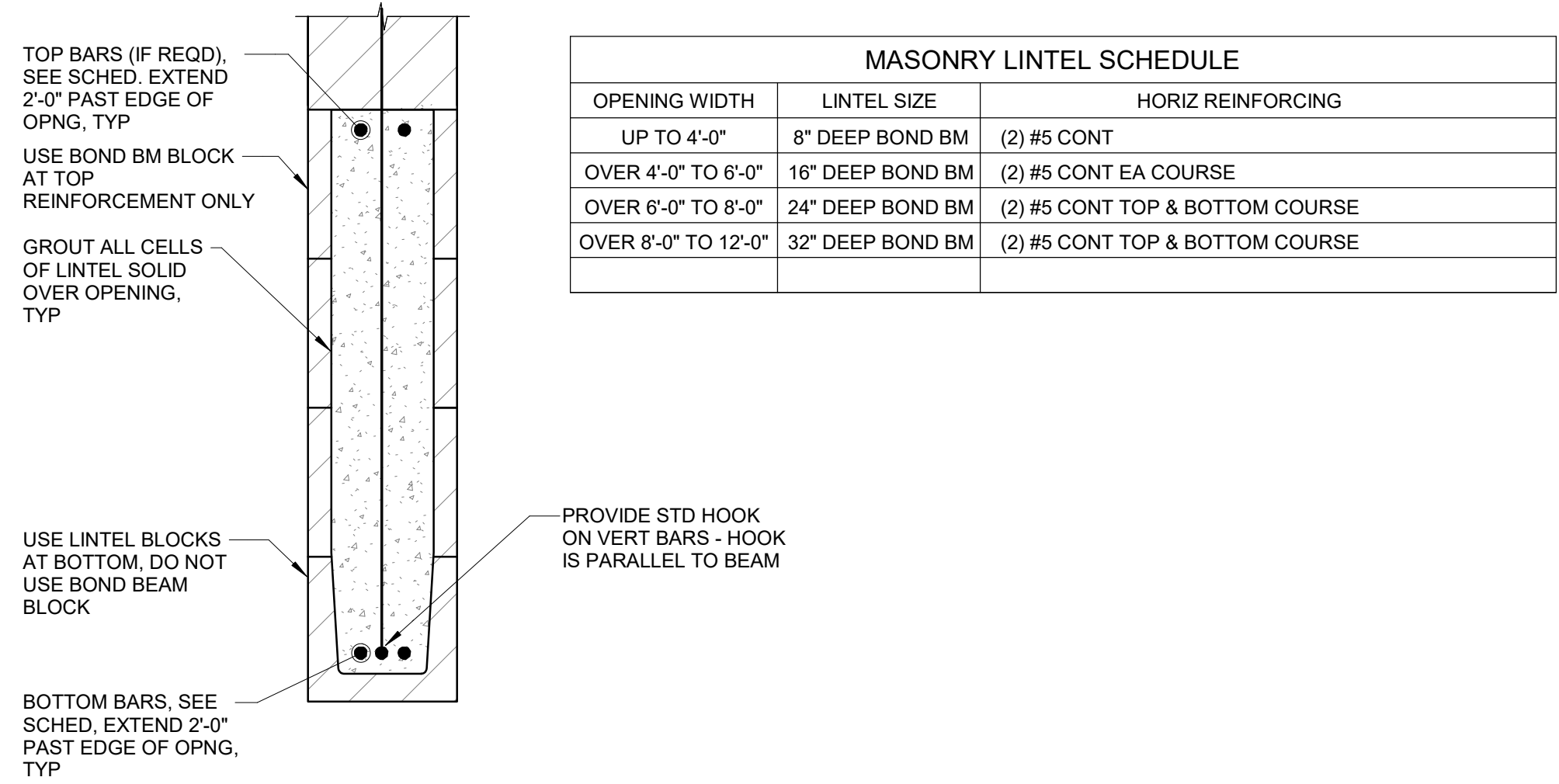
MASONRY REINFORCING LAP REQUIREMENTS					
BAR SIZE	8" CMU		12" CMU		
	CENTERED	EA FACE	CENTERED	EA FACE	
3	16"	16"	16"	16"	HORIZ REINF IN BOND BM TYP
4	21"	26"	21"	23"	
5	26"	40"	26"	35"	HORIZ JOINT REINF LAP ALL SPICES 8" MIN & ALL CORNERS TO BE PREFABRICATED PIECES
6	43"	NA	40"	66"	
7	60"	NA	46"	90"	HOLD GROUT DOWN 1 1/2" FROM HORIZ MORTAR JOINT TO FORM KEVED JOINT BETWEEN GROUT LIFTS
8	92"	NA	61"	135"	
9	118"	NA	73"	170"	VERT REINF AS REQD



4 TYP MASONRY WALL & OPENING REINF
NO SCALE



5 TYP CMU JAMB REINFORCING DETAIL & SCHEDULE
NO SCALE

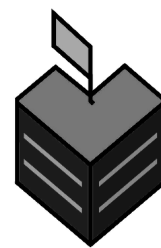


6 TYP CMU LINTEL BEAM DETAIL & SCHEDULE
NO SCALE

BID DOCUMENTS	04/10/20
Revisions	Date



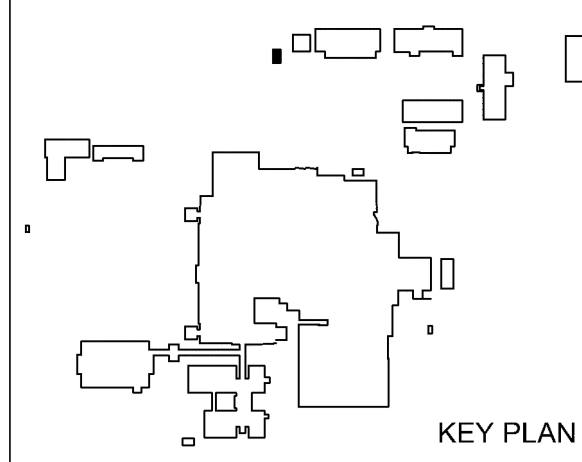
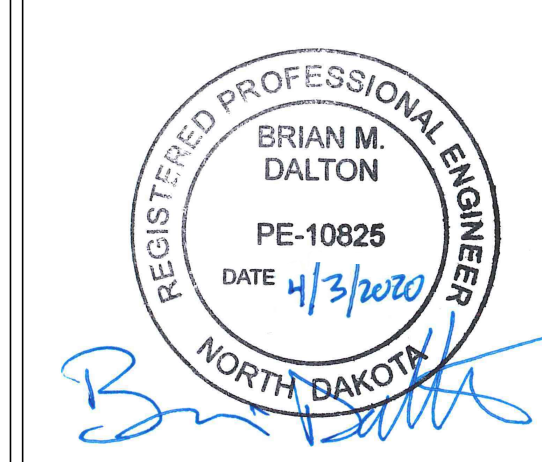
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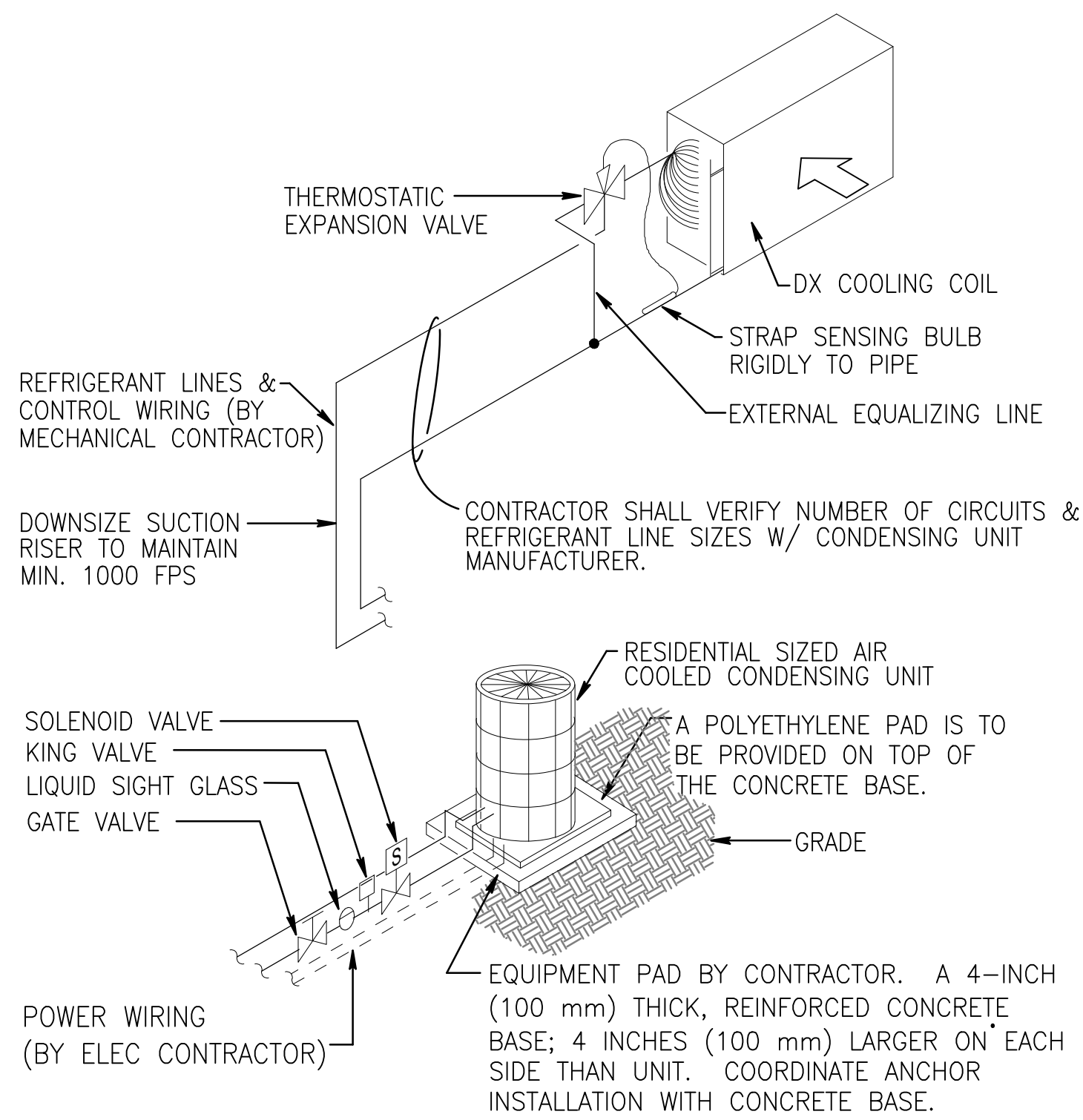
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VAA, LLC
2300 Berkshire Lane N, Suite 200
Plymouth, MN 55441 763.559.9100
www.vaaeng.com



Drawing Title	
MASONRY DETAILS	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. 39, 57	AutoCAD File Name S5.02.dwg



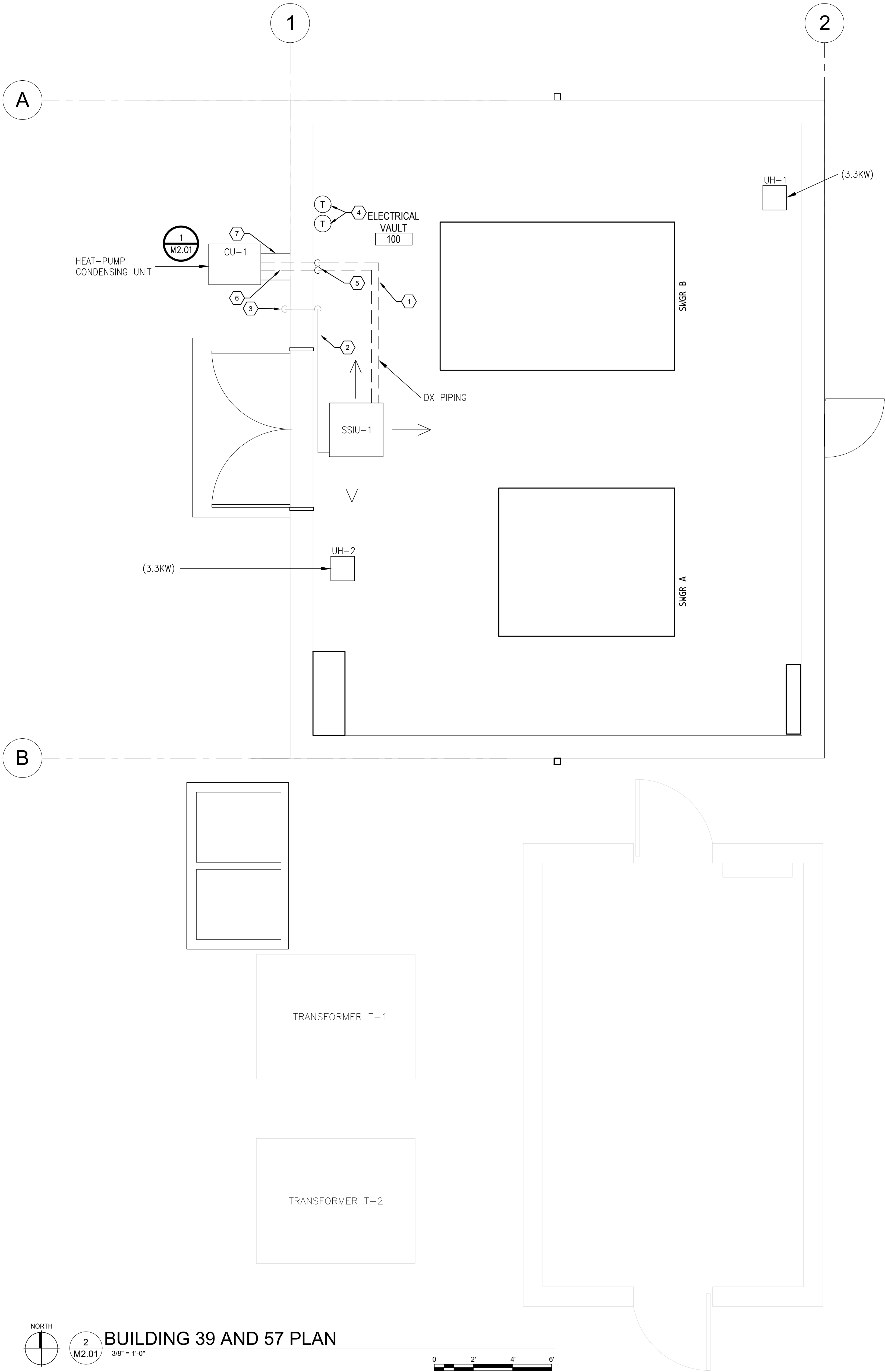
1
M2.01

REFRIGERANT PIPING - RESIDENTIAL SIZED CONDENSING UNIT ON GRADE

CONDENSING UNIT - AIR COOLED SCHEDULE													
MARK	SERVES	TOTAL CAPACITY (MBH)	CONDENSER DATA			ELECTRICAL DATA					WEIGHT (lbs)	BASIS OF DESIGN	MECH NOTES
			FAN NO	NO COMP	AMB TEMP (°F)	V	PH	FLA	MCA	MOCAP			
CU-1	RACU-1	18.0	1	1	95	240	1	7.5	31	30	92	mitsubishi P-PHY-AS18MA7	1, 2
MECHANICAL NOTES:													
1. PROVIDE BAFFLES SYSTEM TO ALLOW THIS UNIT TO OPERATE AT LOW AMBIENT CONDITIONS DOWN TO -20F.													
2. OR APPROVED EQUAL													

SPLIT SYSTEM INDOOR UNIT SCHEDULE											
MARK	LOCATION	COIL DATA			FAN DATA		MOTOR DATA			BASIS OF DESIGN	MECH NOTES
		TOTAL CAPACITY (MBH)	SENS CAPACITY (MBH)	EAT DB/WB (°F)	CFM	ESP (IN)	Kw	V	PH		
SSIU-1	ELEC ROOM	18000	16000	95/75	600	0	1820	240	1	MITSUBISHI PL-A18A7	1
MECHANICAL NOTES: 1. OR APPROVED EQUAL											
ELECTRICAL NOTES:											

UNIT HEATER - ELECTRIC SCHEDULE														
MARK	LOCATION	ELECTRIC COIL DATA				MOTOR DATA				CABINET DATA			BASIS OF DESIGN	MECH NOTES
		CFM (NOM)	KW	EAT DB (°F)	LAT DB (°F)	MCA	MOCF	V	PH	CONFIGURATION	SIZE H x L x D (IN)	FINISH TYPE		
UH-1	MECH ROOM	480	3.3	68	85	9.2	20	240	3	HORIZONTAL	18X15X7	BAKED ENAMEL	TRANE LHEC 032400	1, 2
UH-2	MECH ROOM	480	3.3	68	85	9.2	20	240	3	HORIZONTAL	18X15X7	BAKED ENAMEL	TRANE LHEC 032400	1, 2
MECHANICAL NOTES:														
1. WERED FOR LINE VOLTAGE														
2. OR APPROVED EQUAL														
ELECTRICAL NOTES:														

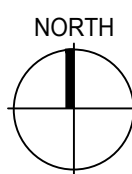


GENERAL NOTES (THIS SHEET)

- SEE DRAWING E2.01 FOR ELECTRICAL CONNECTIONS.
- SEE ED3.01 AND E3.01 FOR EXISTING AND NEW LOCATIONS OF THERMOSTAT MOTOR CONTROL SYSTEM. RELOCATE EXISTING PNEUMATIC THERMOSTAT AND MOTOR CONTROL MODULE AS DIRECTED ON ELECTRICAL DRAWINGS. REROUTE/EXTEND PNEUMATIC TUBING TO THE NEW LOCATION OF MODULE. COORDINATE NEW LOCATION OF THERMOSTAT MOTOR CONTROL MODULE WITH ELECTRICAL CONTRACTOR.

KEY NOTES (THIS SHEET)

- PROVIDE 2" CLOSED CELL FLEXIBLE ELASTOMERIC INSULATION OVER REFRIGERANT SUCTION PIPING.
- ROUTE 5/8" DRAIN LINE AT 2% SLOPE TO WALL, DROP DOWN WALL AND PENETRATE EXTERIOR WALL AT 18" AFF.
- TERMINATE DRAIN WITH INSECT SCREEN. SEAL DRAIN LINE PENETRATION THROUGH WALL.
- PROVIDE ONE THERMOSTAT FOR THE UNIT HEATERS AND ONE FOR SSIU-1. PROVIDE INSULATED BASE ON THERMOSTATS.
- ROUTE THE REFRIGERANT DOWN THE WALL, PENETRATE EXTERIOR WALL AT 18" AFF. SEAL REFRIGERANT LINE PENETRATIONS THROUGH THE WALL.
- EXTERIOR REFRIGERANT PIPING TO BE ENCAPSULATED WITH SPLIT SYSTEM MANUFACTURER'S U-GUARD PROTECTION.
- SECURE U-GUARD PROTECTION TO BUILDING VIA STRUT SUPPORTS



2
M2.01

BUILDING 39 AND 57 PLAN

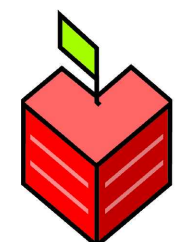
3/8" = 1'-0"

0 2' 4' 6'
SCALE IN FEET

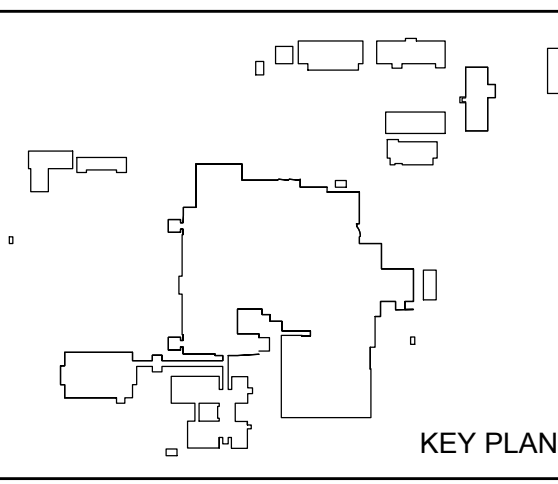
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Drawing Title BUILDING 39 AND 57 PLAN	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. 39, 57	AutoCAD File Name 437-17-103-M2.01.dwg

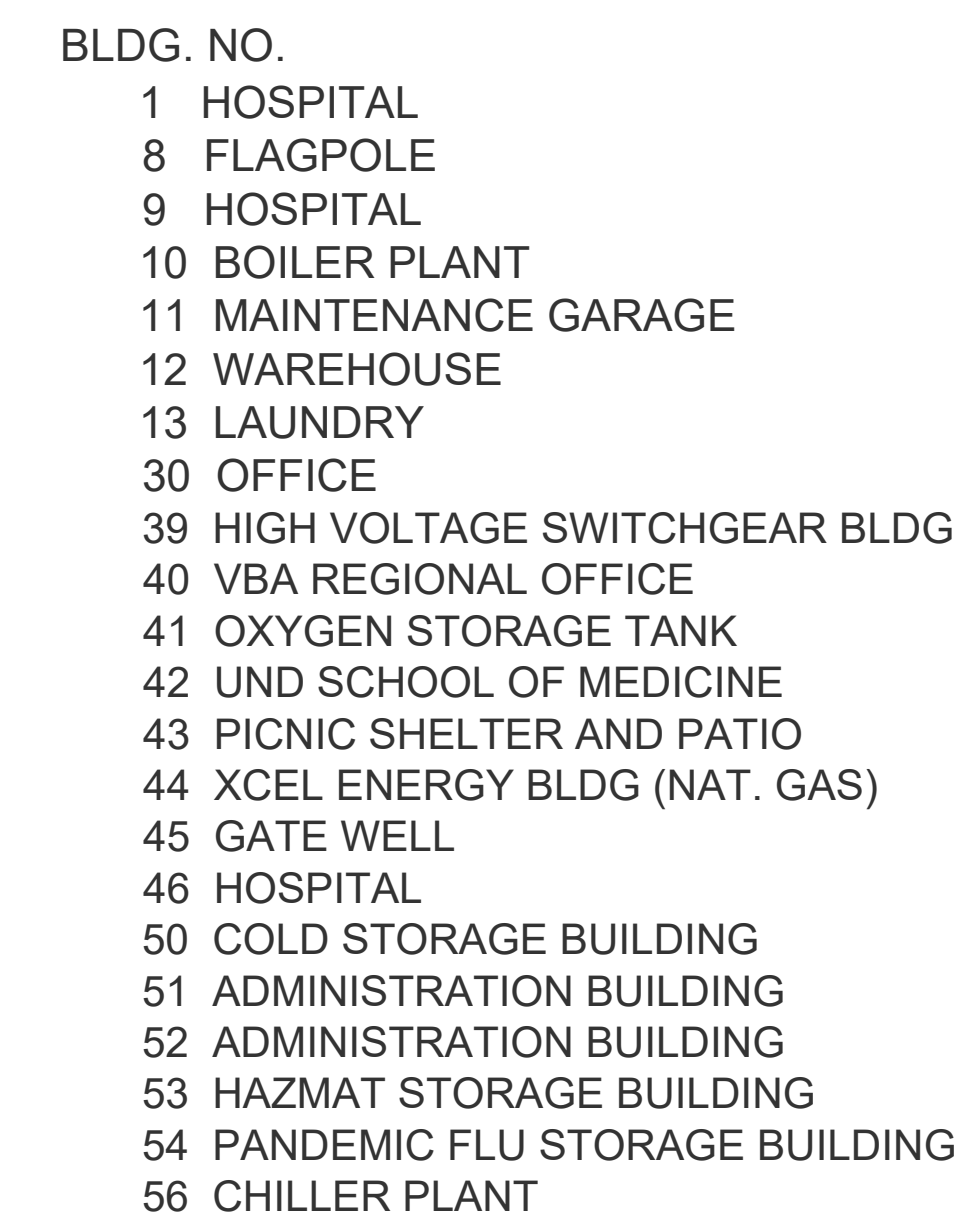
Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By ML	Checked By AH	Drawn By AGJ
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date APRIL 10, 2020
Scale AS NOTED
Drawing No. M2.01
Dwg 15 of 35



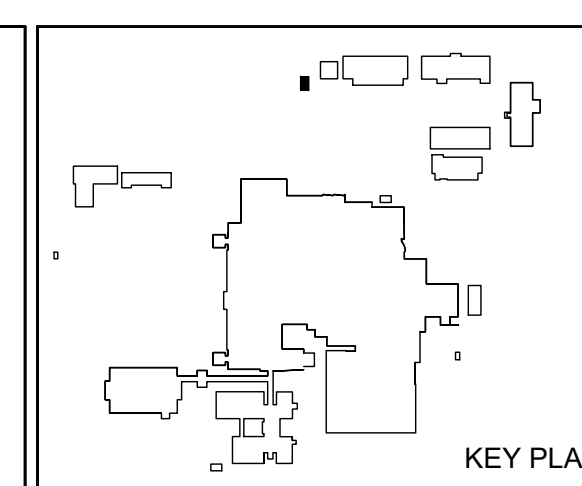
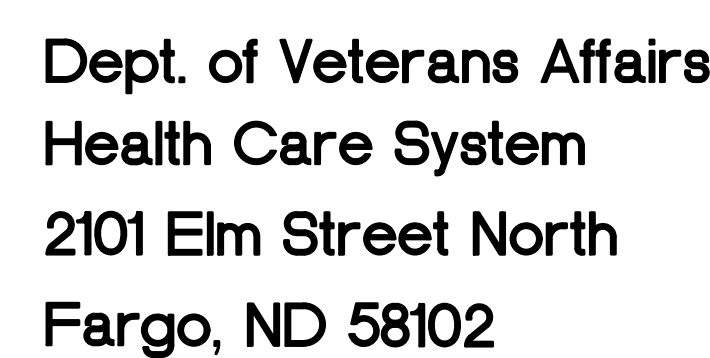
1. SEE DRAWING ED7.01 FOR DEMOLITION ONE-LINE DIAGRAM.
2. SEE DRAWING E7.01 FOR NEW 5KV ONE-LINE DIAGRAM.
3. SEE DRAWING E0.01 FOR WORK SEQUENCE/PHASING PLAN. COORDINATE ALL WORK WITH FARGO VA PROJECT ENGINEER BEFORE STARTING ANY DEMOLITION OR CONSTRUCTION WORK.
4. COORDINATE ANY 5 KV WORK OR OUTAGES WITH FARGO VA PROJECT ENGINEER. ANY ELECTRICAL OUTAGE WILL REQUIRE A MINIMUM OF 21 DAY WRITTEN NOTICE TO FARGO VA PROJECT ENGINEER. FARGO VA PROJECT ENGINEER SHALL PROVIDE OUTAGE AUTHORIZATION AND RETAIN THE RIGHT TO STOP AUTHORIZATION FOR EMERGENCY OPERATION.
5. SEE DRAWING ED2.01 FOR EXISTING BUILDING 39 LAYOUT AND 4160 VOLT SWITCHGEAR A AND SWITCHGEAR B LOCATIONS.
6. ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY.
7. ALL WORK INSIDE MANHOLES AND ON ANY STRUCTURAL ELEMENT OF MANHOLE WILL REQUIRE THAT ALL POWER INSIDE/RUNNING THROUGH MANHOLE BE DEENERGIZED.

- 1 DEMOLISH EXISTING FEEDER FROM XCEL ENERGY SERVICE TRANSFORMER #1 TO SWGR #1 MAIN BREAKER.
- 2 DEMOLISH EXISTING FEEDER FROM XCEL ENERGY SERVICE TRANSFORMER #2 TO SWGR #2 MAIN BREAKER.
- 3 DEMOLISH EXISTING FEEDER #1 FROM MANHOLE 4 TO SWITCHGEAR FEEDER BREAKER #1.
- 4 DEMOLISH EXISTING FEEDER #2 FROM MANHOLE 4 TO SWITCHGEAR FEEDER BREAKER #2.
- 5 DEMOLISH EXISTING FEEDER #3 FROM MANHOLE 4 TO SWITCHGEAR FEEDER BREAKER #3.
- 6 DEMOLISH EXISTING FEEDER #4 FROM MANHOLE 14A TO SWITCHGEAR FEEDER BREAKER #4.
- 7 REROUTE EXISTING 23.9 KV FEEDERS TO XCEL SERVICE TRANSFORMER #1 AND #2 OUT OF WAY OF NEW BUILDING 57. COORDINATE WORK WITH XCEL ENERGY AND FARGO VA PROJECT ENGINEER.



MC - MOTORCYCLE PARKING
 ♿ HANDICAPPED PARKING
 CP - CAR/VAN POOL PARKING

BID DOCUMENT	04/10/20
Revisions	Date



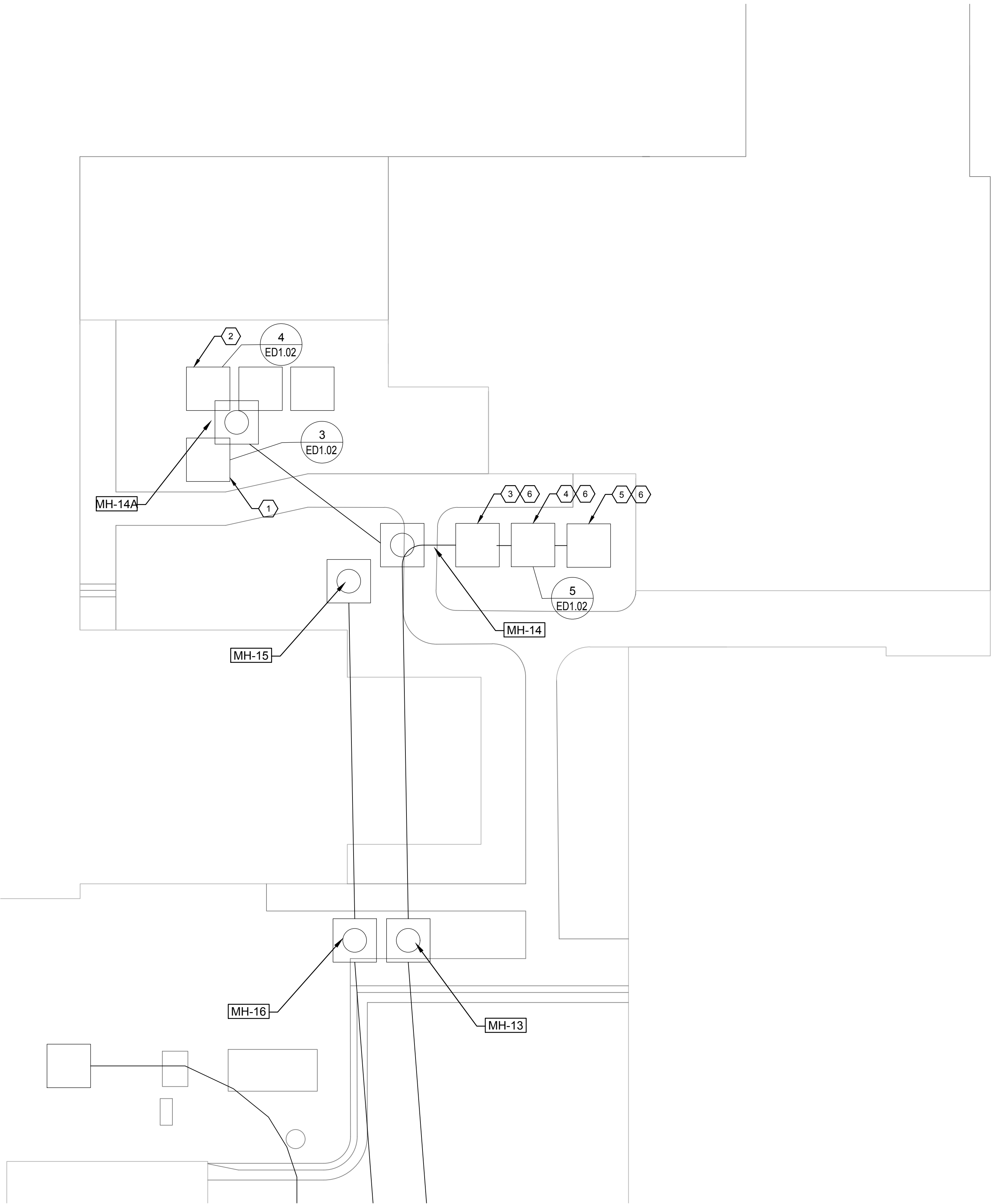
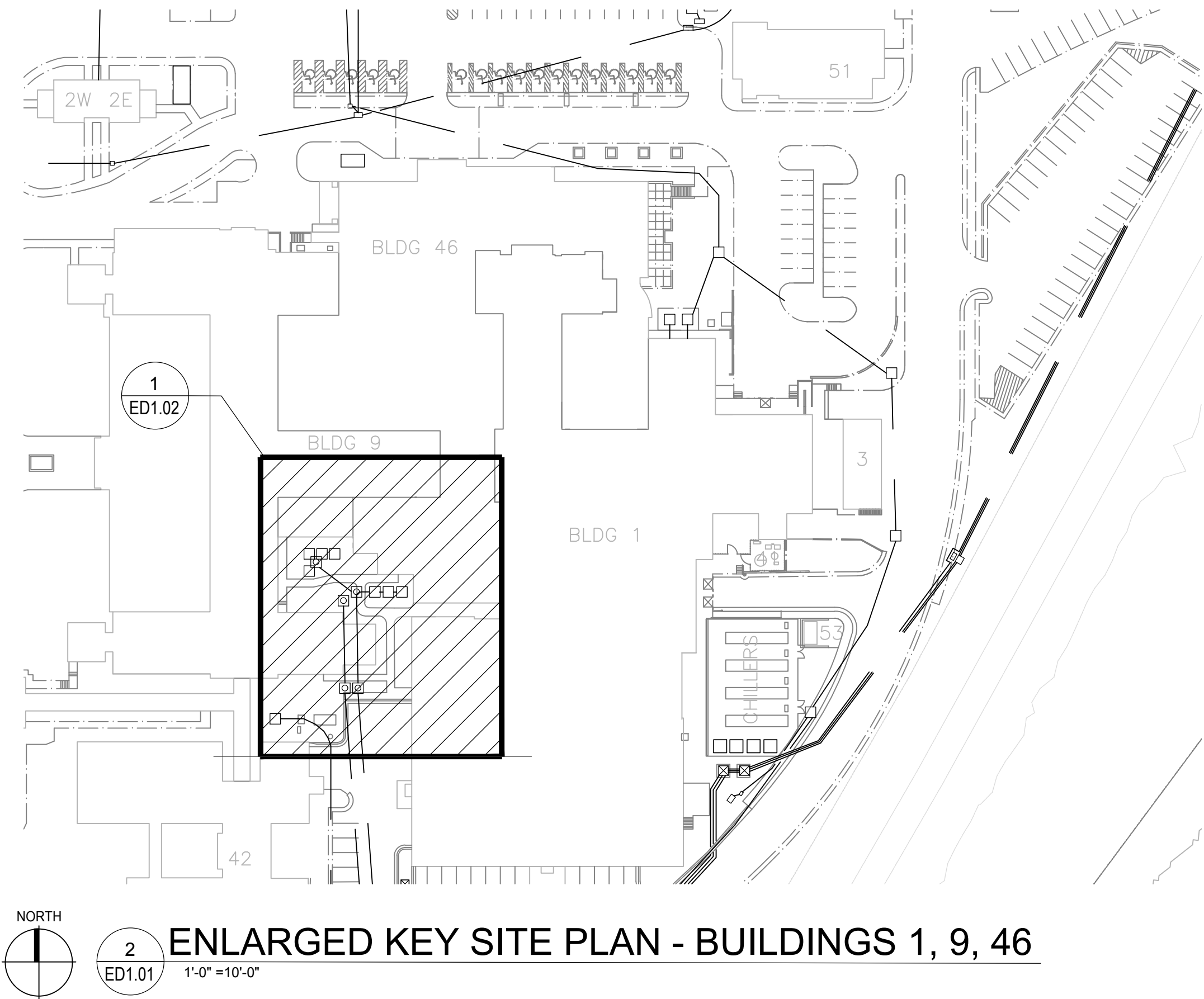
Drawing Title ELECTRICAL DEMOLITION SITE PLAN		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
				Scale AS NOTED
VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By RUH	Checked By SMW	Drawn By APT
Building No. SITE	AutoCAD File Name ED101.dwg	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Drawing No. ED1.01
				Dwg. 17 of 35

GENERAL NOTES (THIS SHEET)

- FOR DEMOLITION ONE LINE DIAGRAM SEE SHEET ED7.01.
- FOR NEW WORK SEE SHEET E1.02.
- ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY. SEE SPECIFICATION SECTION 01 00 00 ARTICLE 1.25 CONFINED SPACE POLICY AND PROCEDURE FOR ADDITIONAL INFORMATION.
- ALL WORK REQUIRING AN ELECTRICAL SERVICE INTERRUPTION NEEDS TO BE COORDINATED WITH VA PROJECT ENGINEER PER SPECIFICATIONS SECTION 01 00 00.

KEY NOTES (THIS SHEET)

- ALTERNATE BID NO. 3: DISCONNECT AND REMOVE EXISTING PAD-MOUNTED TRANSFORMER T9-SCAN AND PREPARE FOR REPLACEMENT WITH NEW. PROTECT EXISTING CABLING FOR TERMINATION TO NEW TRANSFORMER. SEE SHEET E6.02 FOR NEW TRANSFORMER INFORMATION. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE. DISCONNECT AND REMOVE EXISTING MV 4/0 5KV CABLING FROM TRANSFORMER T9-SCAN BACK TO MANHOLE (MH-14). SEE SHEET E1.02 FOR REWORK AND REPLACEMENT.
- DISCONNECT AND REMOVE EXISTING MV 4/0 5KV CABLING FROM TRANSFORMER T9-WEST BACK TO MANHOLE (MH-14). SEE SHEET E1.02 FOR REWORK AND REPLACEMENT. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 4: DISCONNECT AND REMOVE EXISTING PAD-MOUNTED TRANSFORMER T46-WEST AND PREPARE FOR REPLACEMENT WITH NEW. PROTECT EXISTING CABLING FOR TERMINATION TO NEW TRANSFORMER. SEE SHEET E6.02 FOR NEW TRANSFORMER INFORMATION. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE. DISCONNECT AND REMOVE EXISTING MV 4/0 5KV CABLING FROM TRANSFORMER T46-WEST BACK TO MANHOLE (MH-14). SEE SHEET E1.02 FOR REWORK AND REPLACEMENT.
- ALTERNATE BID NO. 4: DISCONNECT AND REMOVE EXISTING PAD-MOUNTED SWITCH AND PREPARE PAD FOR REPLACEMENT WITH NEW. PROTECT EXISTING CABLING FOR TERMINATION TO NEW TRANSFER EQUIPMENT. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 4: DISCONNECT AND REMOVE EXISTING PAD-MOUNTED TRANSFORMER T46-EAST AND PREPARE FOR REPLACEMENT WITH NEW. PROTECT EXISTING CABLING FOR TERMINATION TO NEW TRANSFORMER. SEE SHEET E6.02 FOR NEW TRANSFORMER INFORMATION. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE. DISCONNECT AND REMOVE EXISTING MV 4/0 5KV CABLING FROM TRANSFORMER T46-EAST BACK TO MANHOLE (MH-14). SEE SHEET E1.02 FOR REWORK AND REPLACEMENT.
- REMOVE EXISTING CONCRETE PAD UNDER T46-WEST, PAD MOUNTED SWITCH T46-EAST, AND PREPARE AREA FOR NEW EQUIPMENT PADS. SEE SHEET E1.02 FOR MORE INFORMATION.



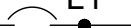


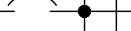
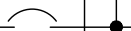

3 T9-SCAN
ED1.02 NTS

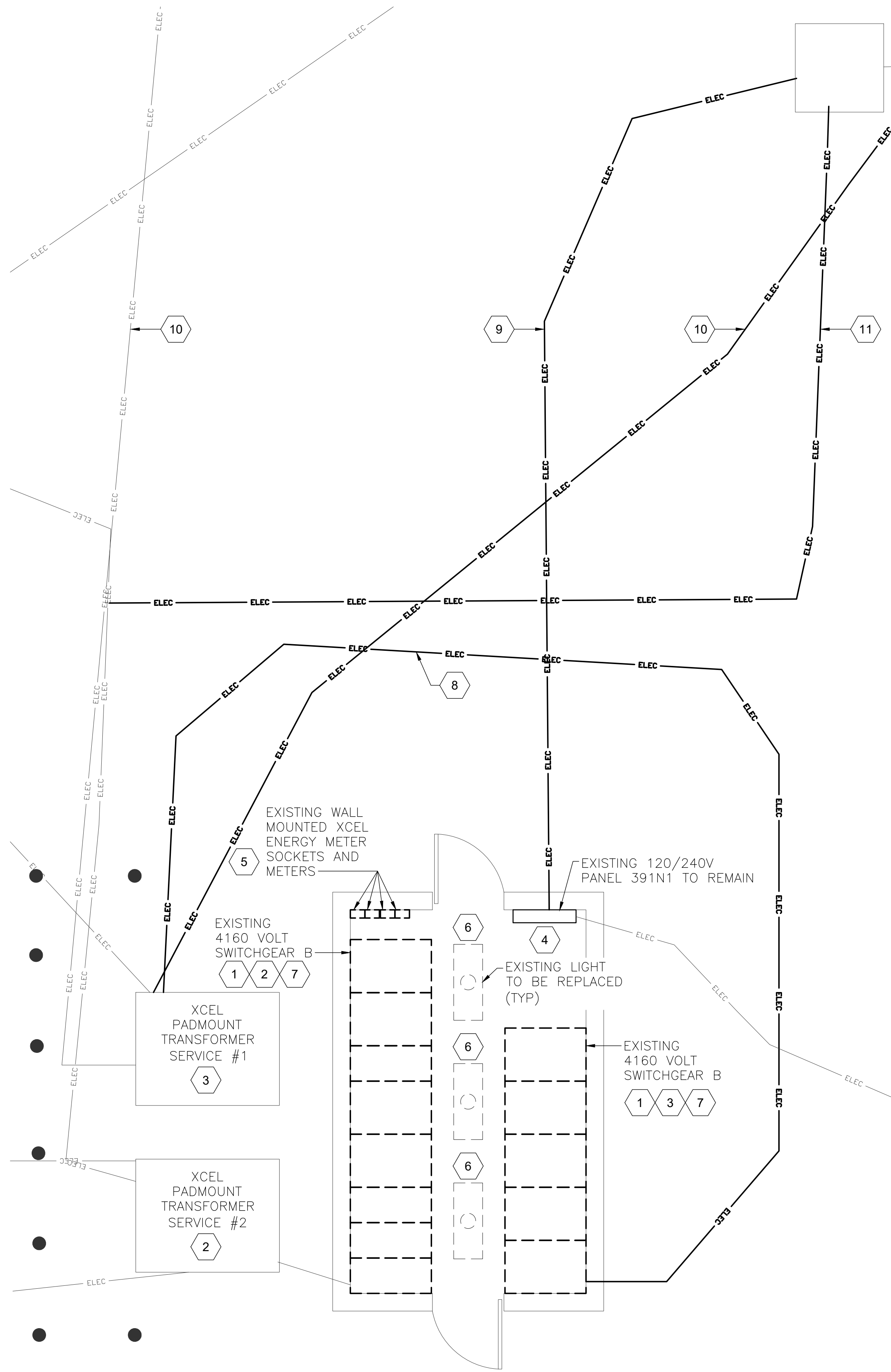


4 T9-WEST
ED1.02 NTS



5 BUILDING 46 - TRANSFER
SWITCH FEEDER 1 AND 2
ED1.02

PANELBOARD:				120/240 _VOLTS_ 1 _PHASE_ 3 _WIRE_		<input checked="" type="checkbox"/> 50 AMP MAIN BREAKER		FEED: <input checked="" type="checkbox"/> TOP <input type="checkbox"/> BOTTOM		LOCATION: BUILDING 39					
TAG NUMBER 391N1				870 AMPS AIC BREAKER @ 240 VOLTS		<input type="checkbox"/> MAIN LUGS ONLY		<input type="checkbox"/> MOUNT:		FEEDER CABLE NUMBER:					
FURNISHED BY CONTRACT <u>EXISTING</u>				50 AMP MAIN BUS <input checked="" type="checkbox"/> SOLID NEUTRAL		<input type="checkbox"/> FEED THRU LUGS		<input type="checkbox"/> FLUSH <input checked="" type="checkbox"/> SURFACE		SOURCE: 4160 VOLT SWITCHGEAR A, BREAKER 3					
INSTALLED BY CONTRACT <u>EXISTING</u>				NEMA ENCLOSURE 1											
LOAD VA	CONDUIT/WIRE/GND	BREAKER		SERVICE	CIRCUIT OR CABLE NUMBER	CIRCUIT BREAKER				CIRCUIT OR CABLE NUMBER	SERVICE	BREAKER		CONDUIT/WIRE/GND	LOAD VA
		TRIP	POLES			BKR NO	POLE NO	PANEL DIAGRAM	POLE NO			BKR NO	TRIP		
-	-	15	1	SPARE		1			2		HEATER	40	2	3/4" C / 2#8 / 1#10	2500
453	3/4" C / 2#12 / 1#12	20	1	LIGHTS & SOUTH RECEPT.		3			4		-	-	-	-	2500
500	3/4" C / 2#12 / 1#12	20	1	OUTSIDE LIGHT POLE EAST		5			6		SPARE	25	2	-	-
360	3/4" C / 2#12 / 1#12	20	1	NORTH RECEPTACLES		7			8		-	-	-	-	-
-	3/4" C / 2#12 / 1#12	40	2	MAIN		9			10		SPARE	20	1	-	-
-	-	-	-	-		11			12		SPARE	20	1	-	-
					TOTAL CONNECTED LOAD:		BUS AMPS:		L1 25 AMPS						
					6250 VA / 26.0 AMPS				L2 27 AMPS						



BUILDING 39 DEMOLITION PLAN
SCALE: 1/4" = 1' - 0"
NORTH
1 ED1.01
SCALE IN FEET

GENERAL NOTES:

- SEE DRAWING ED1.01 FOR DEMOLITION SITE PLAN.
- SEE DRAWING ED7.01 FOR DEMOLITION ON-LINE DIAGRAM.
- SEE DRAWING E0.01 FOR WORK SEQUENCE/PHASING PLAN. COORDINATE ALL WORK WITH FARGO VA PROJECT ENGINEER BEFORE STARTING ANY CONSTRUCTION WORK.
- COORDINATE ANY 5 KV WORK OR OUTAGES WITH FARGO VA PROJECT ENGINEER. ANY ELECTRICAL OUTAGE WILL REQUIRE A MINIMUM OF 21 DAY WRITTEN NOTICE TO FARGO VA PROJECT ENGINEER. FARGO VA PROJECT ENGINEER SHALL PROVIDE OUTAGE AUTHORIZATION AND RETAIN THE RIGHT TO STOP AUTHORIZATION FOR EMERGENCY OPERATION.

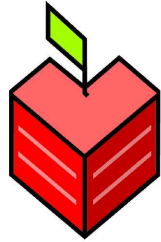
KEYED NOTES:

- DISCONNECT AND REMOVE EXISTING 4160 VOLT SWITCHGEAR WITH MAIN BREAKERS, CAPACITORS AND FUSED SWITCHES AFTER ALL LOADS HAVE BEEN TRANSFERRED TO NEW SWITCHGEAR.
- DEMOLISH EXISTING FEEDER FROM XCEL ENERGY SERVICE TRANSFORMER #2 TO SWGR #2 MAIN BREAKER.
- DEMOLISH EXISTING FEEDER FROM XCEL ENERGY SERVICE TRANSFORMER #1 TO SWGR #1 MAIN BREAKER.
- DEMOLISH CONDUIT & WIRING FROM SWITCHGEAR #2 TO EXISTING 120/240 VOLT PANEL 391N1 AFTER ALL LOADS AND UTILITY SERVICES HAVE BEEN TRANSFERRED TO NEW 4160 VOLT SWITCHGEAR.
- REMOVE EXISTING XCEL ENERGY METERS AND METER SOCKETS FROM NORTH WALL WITH ALL ASSOCIATED CONDUIT & WIRING. TURN OVER METERS TO XCEL ENERGY. COORDINATE WITH XCEL ENERGY.
- DEMOLISH EXISTING SURFACE MOUNTED FIXTURE.
- CAP ALL ABANDONED BELOW GRADE CONDUITS AT 2" ABOVE SLAB.
- DEMOLISH EXISTING FEEDER FROM XCEL ENERGY SERVICE TRANSFORMER #1 TO SWGR #1 MAIN BREAKER.
- DEMOLISH EXISTING FEEDER #4 FROM MANHOLE 14A TO SWITCHGEAR FEEDER BREAKER #4.
- EXISTING 23kV XCEL ENERGY FEEDER TO BE RELOCATED BY XCEL ENERGY PRIOR TO START OF PROJECT CONSTRUCTION. COORDINATE VERIFICATION OF RELOCATION WITH FARGO VA ENGINEER AND XCEL ENERGY REPRESENTATIVE.
- VERIFY EXISTING CONDUIT AND FEEDER LOCATION AND REROUTE OUT OF WAY OF NEW BUILDING 57.

BID DOCUMENT	04/10/20
Revisions	Date

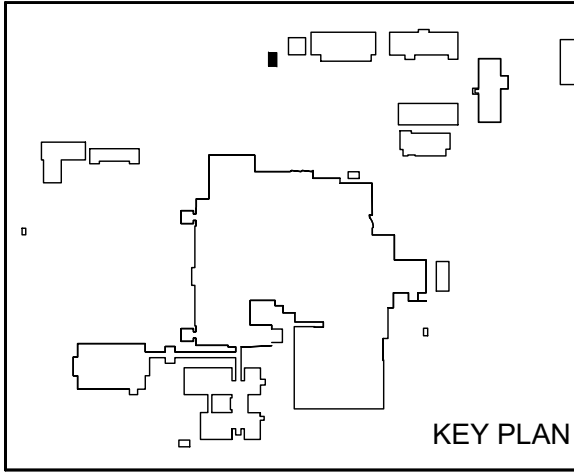
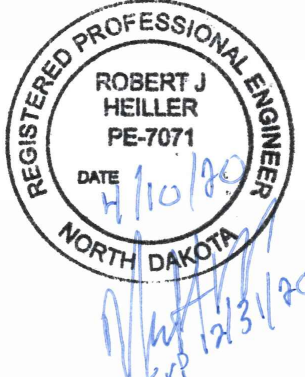


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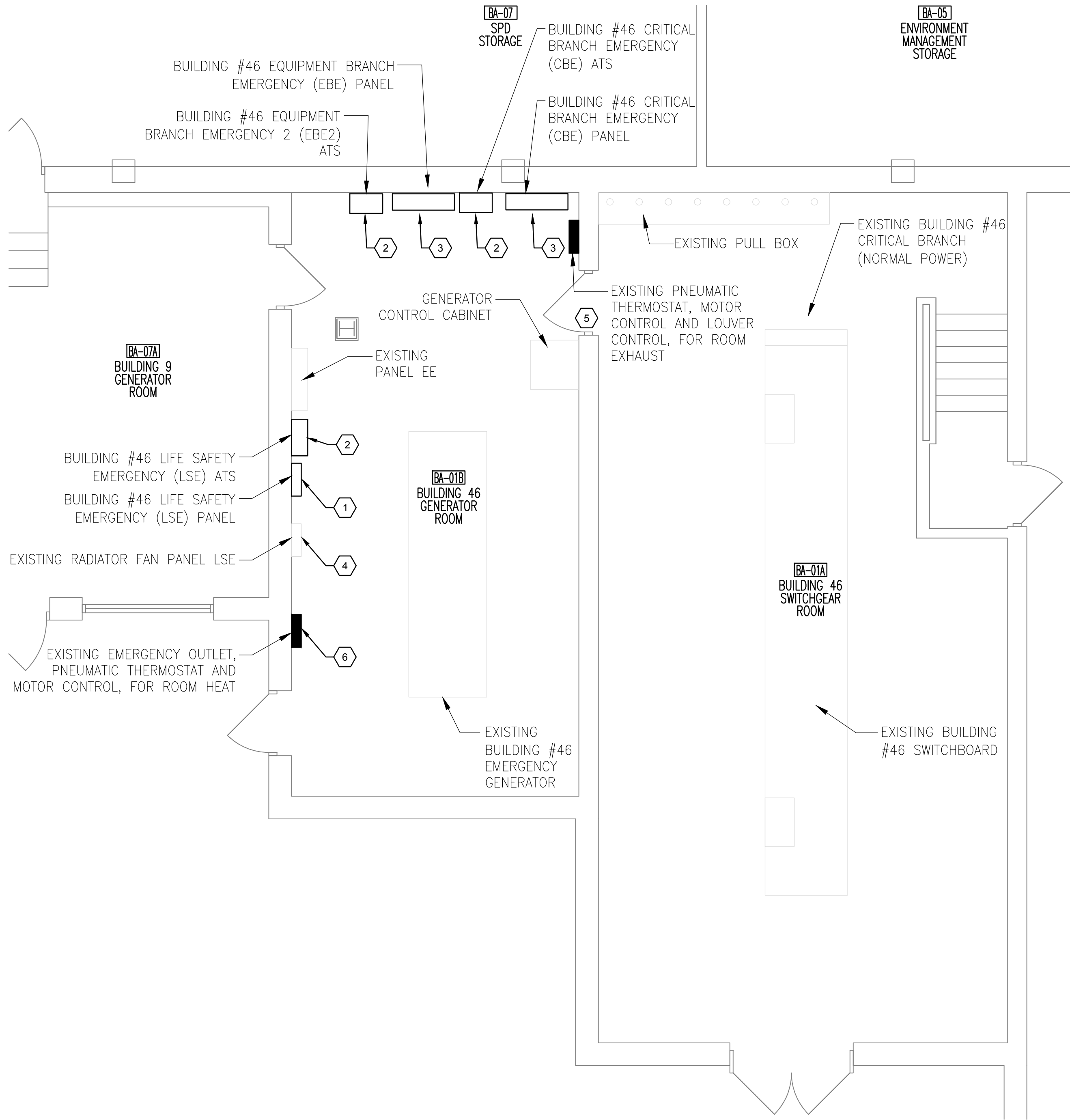
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Drawing Title BUILDING 39 DEMOLITION PLAN		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By RJH	Checked By SMW	Scale AS NOTED
Building No. 39	AutoCAD File Name ED2.01.dwg	Drawn By APT	Drawing No. ED2.01	
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND			Dwg. 19 of 35	





GENERAL NOTES (THIS SHEET)

1. WHEN WORKING ON ELECTRICAL SYSTEMS, ALL WORK SHALL BE PERFORMED WITH SYSTEMS DE-ENERGIZED. ALL SHUT DOWN WORK SHALL BE SCHEDULED FOR APPROVAL BY THE VA PROJECT ENGINEER 21 DAYS IN ADVANCE. SEE SPECIFICATION SECTION 01 00 00, 1.5, K FOR FURTHER REQUIREMENTS.

KEY NOTES (THIS SHEET)

1. DISCONNECT AND REMOVE EXISTING PANEL AFTER ALL LOADS HAVE BEEN TRANSFERRED TO NEW PANEL. SEE SHEET E3.01 AND ED7.02 FOR MORE INFORMATION.
2. DISCONNECT AND REMOVE EXISTING ATS AFTER ALL LOADS HAVE BEEN TRANSFERRED TO NEW SWITCHBOARD ATS. SEE SHEET E3.02 AND ED7.02 FOR MORE INFORMATION.
3. DISCONNECT AND REMOVE EXISTING PANEL AFTER ALL LOADS HAVE BEEN TRANSFERRED TO NEW SWITCHBOARD PANEL. SEE SHEET E3.01 AND ED7.02 FOR MORE INFORMATION.
4. RELOCATE RADIATOR FAN CONTROL, PANEL LSE TO NEW LOCATION ON SOUTH WALL. SEE SHEET E3.01 FOR NEW LOCATION AND NOTES
5. RELOCATE EXISTING PNEUMATIC THERMOSTAT AND MOTOR CONTROL FOR LOUVER AND EXHAUST FAN SOUTH ON THIS WALL TO PROVIDE ROOM FOR NEW EQUIPMENT.
6. RELOCATE EMERGENCY OUTLET, PNEUMATIC THERMOSTAT, AND MOTOR CONTROL FOR ROOM HEAT TO SOUTH WALL. SEE SHEET E3.01 FOR NEW LOCATION AND NOTES.

NORTH
1
ED3.01
1/4" = 1'-0"
BUILDING 9 AND 46 DEMOLITION PLAN - BASEMENT
0 2' 4' 8'

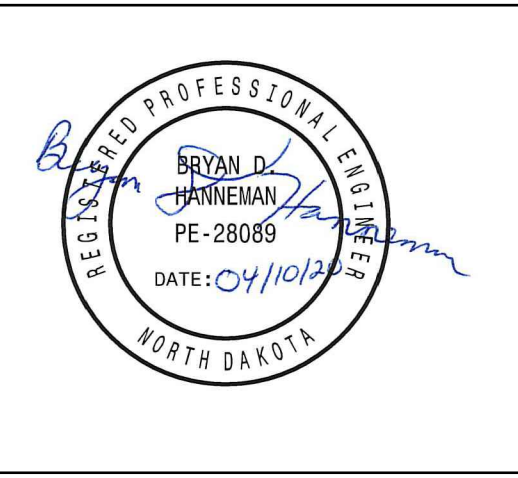
BID DOCUMENTS	04/10/20
Revisions	Date

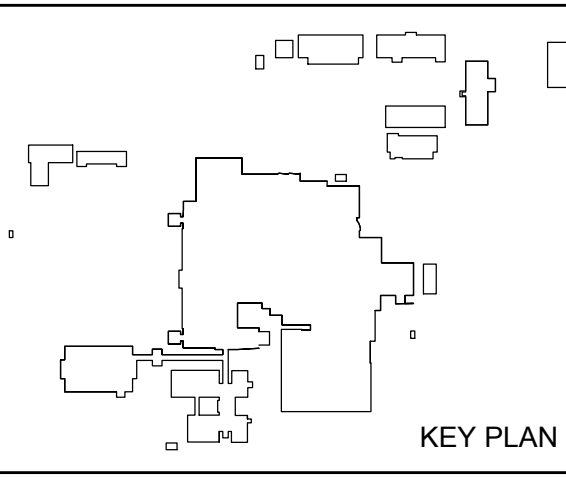


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KEY PLAN

Drawing Title BUILDING 9 AND 46 DEMOLITION PLAN - BASEMENT	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. 9	AutoCAD File Name 437-17-103-ED3.01.dwg

Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By BDH	Checked By TAV	Drawn By AGJ
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date APRIL 10, 2020
Scale AS NOTED
Drawing No. ED3.01
Dwg 20 of 35

Department of
Veterans Affairs



EXISTING PANEL B12P																	
EXISTING	AMPS		MAIN CB AMPS:				100		FLUSH MOUNT				LOCATION:				
PANEL	PHASE								X				BLDG 12 RM 0002				
I.D.	WIRE		MLO	SFL	FTL	TUB SIZE (I.E. 42 CKT)				SURFACE MOUNT				FED FROM:			
B12P	VOLTAGE		120/208						30 CKT				B12P1				
CIRCUIT DESIGNATION			KVA		BREAKER		CKT	CKT	BREAKER		KVA		CIRCUIT DESIGNATION				
			AØ	BØ	CØ	AMP	POLE	#	#	AMP	POLE	AØ	BØ	CØ			
FIRE ALARM								1	2	100	3				MAIN		
WAREHOUSE LIGHTS MIDDLE SECTION								3	4						MAIN		
OUTLETS SO WALL WAREHOUSE								5	6						MAIN		
OUTLETS WAREHOUSE SO WALL								7	8						UNIT HEATER MIDDLE		
OUTLETS SO WALL								9	10						OUTLETS NO WALL		
LOADING DOCK LIFTS								11	12						WEST LIGHTS		
UNIT HEATER								13	14						UNIT HEATERS EAST		
EAST LIGHTS								15	16						WAREHOUSE OUTLETS SO AND TROUBLE LIGHT		
WEST LIGHTS								17	18						LOADING DOCK LIGHTS DOOR		
UNIT HEATER EAST ANNEX								19	20						BREAK ROOM MICROWAVE		
OUTLET OFFICE - EAST & WEST WALL & PIT								21	22						BATHROOM UNIT HEATER LIGHTS AND GFC LOCKER ROOM		
OFFICE LIGHTS								23	24						SECURITY ALARM		
OUTLET OFFICE NO & SO WALL						50	3	25	26						EAST EXHAUST FAN		
BATTERY CHARGER								27	28						WEST DOCK LEVELER		
BATTERY CHARGER								29	30						EAST DOCK LEVELER		

EXISTING TRANSFORMER SCHEDULE					
MARK	LOCATION	MOUNT	KVA	VOLTAGE	
				PRIMARY	SECONDARY
T46-E	BLDG-46 SHEET ED1.20	PAD MOUNT	750	4160	208/120
T46-W	BLDG-46 SHEET ED1.20	PAD MOUNT	750	4160	208/120
T9-E	BLDG-9 SHEET ED1.20	PAD MOUNT	750	4160	208/120
T9 SCAN	BLDG-9 SHEET ED1.20	PAD MOUNT	225	4160	480/277

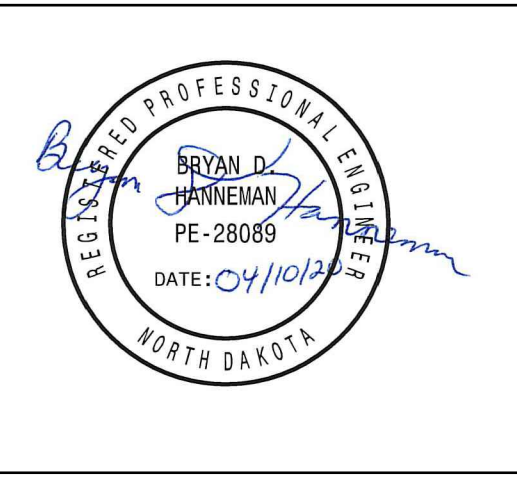
BID DOCUMENTS	04/10/20
Revisions	Date

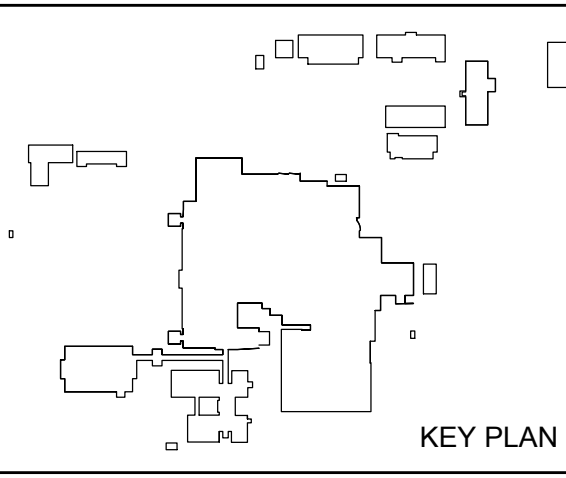


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KEY PLAN

Drawing Title DEMOLITION SCHEDULES		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020	
VA Project No. 437-17-103		Contract No. 36C26318C0103		Scale AS NOTED	
Building No.		Designed By BDH	Checked By TAV	Drawn By AGJ	Drawing No. ED6.01
AutoCAD File Name 437-17-103-ED6.01.dwg		Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Dwg. 21 of 35	

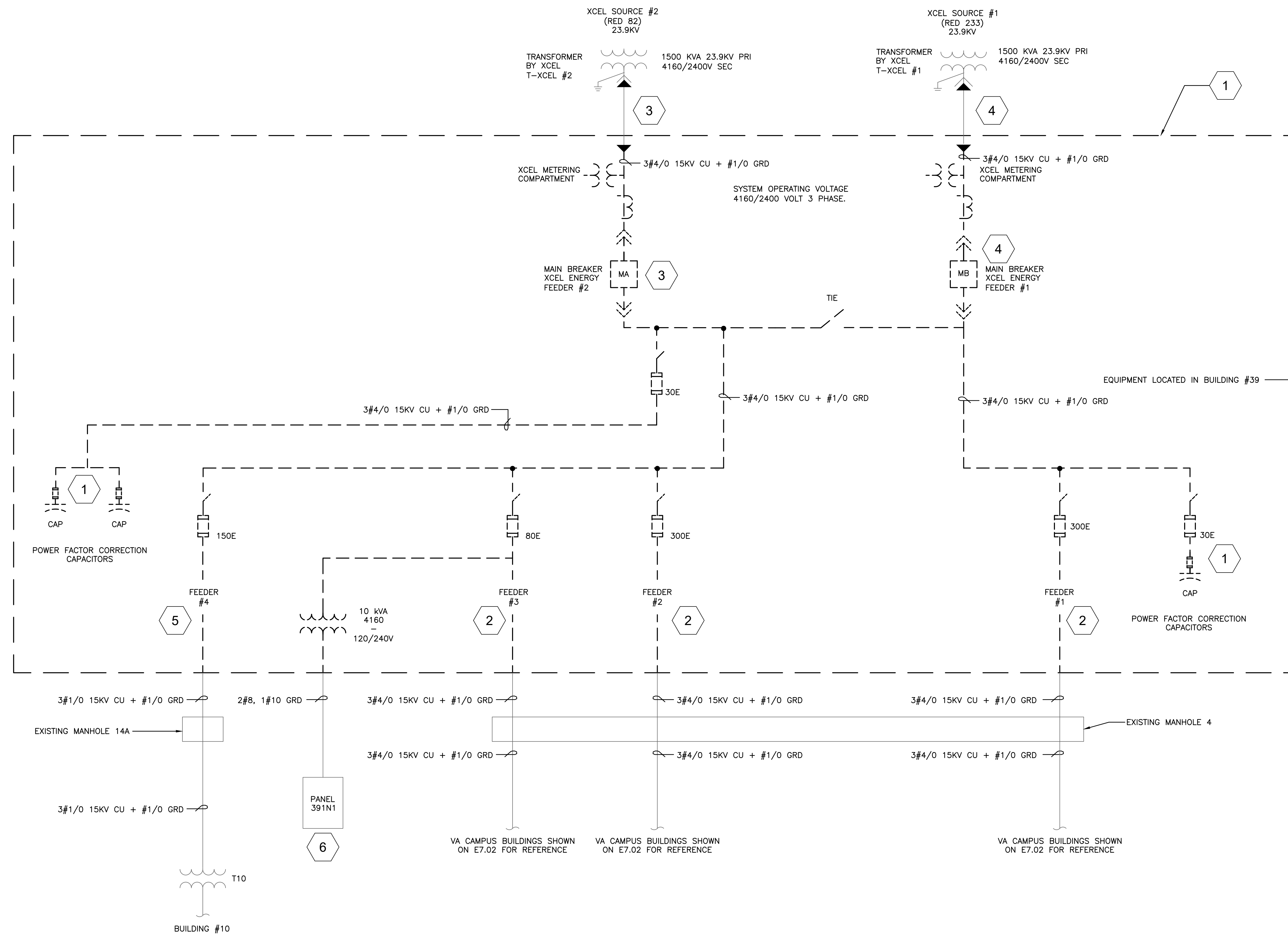
Department of Veterans Affairs

GENERAL NOTES:

- SEE DRAWING ED1.01 FOR DEMOLITION SITE PLAN AND LOCATION OF CONDUITS AND FEEDERS.
- SEE DRAWING E7.01 FOR NEW 5KV ONE-LINE DIAGRAM.
- SEE DRAWING E0.01 FOR WORK SEQUENCE/PHASING PLAN. COORDINATE ALL WORK WITH FARGO VA PROJECT ENGINEER BEFORE STARTING ANY CONSTRUCTION WORK.
- COORDINATE ANY 5 KV WORK OR OUTAGES WITH FARGO VA PROJECT ENGINEER. ANY ELECTRICAL OUTAGE WILL REQUIRE A MINIMUM OF 21 DAY WRITTEN NOTICE TO FARGO VA PROJECT ENGINEER. FARGO VA PROJECT ENGINEER SHALL PROVIDE OUTAGE AUTHORIZATION AND RETAIN THE RIGHT TO STOP AUTHORIZATION FOR EMERGENCY OPERATION.
- SEE DRAWING E2.01 FOR EXISTING BUILDING 39 REVISED LAYOUT, NEW BUILDING 57 LAYOUT AND NEW 4160 VOLT SWITCHGEAR A AND SWITCHGEAR B LOCATIONS.
- ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY. SEE SPECIFICATION SECTION 01 00 00 SECTION 1.25 CONFINED SPACE POLICY AND PROCEDURE FOR ADDITIONAL INFORMATION.
- ALL WORK INSIDE MANHOLES AND ON ANY STRUCTURAL ELEMENT OF MANHOLE WILL REQUIRE THAT ALL POWER INSIDE/RUNNING THROUGH MANHOLE BE DE-ENERGIZED.
- ALL WORK REQUIRING AN ELECTRICAL SERVICE INTERRUPTION NEEDS TO BE COORDINATED WITH VA PROJECT ENGINEER PER SPECIFICATIONS 01 00 00.

KEYED NOTES:

- DISCONNECT AND REMOVE EXISTING 4160 VOLT SWITCHGEAR WITH MAIN BREAKERS, CAPACITORS AND FUSED SWITCHES AFTER ALL LOADS HAVE BEEN TRANSFERRED TO NEW SWITCHGEAR.
- DISCONNECT AND REMOVE EXISTING 4160 VOLT FEEDER BETWEEN 4160 VOLT FUSED SWITCH AND MANHOLE 4. CAP ABANDONED CONDUIT IN BUILDING 39 AT 2" ABOVE SLAB.
- SEE DRAWING E0.01 FOR SEQUENCE OF WORK FOR DEMOLITION OF FEEDER #2 FROM XCEL ENERGY SOURCE #2 TRANSFORMER.
- SEE DRAWING E0.01 FOR SEQUENCE OF WORK FOR DEMOLITION OF FEEDER #1 FROM XCEL ENERGY SOURCE #1 TRANSFORMER.
- DISCONNECT AND REMOVE EXISTING 4160 VOLT FEEDER BETWEEN 4160 VOLT FUSED SWITCH AND MANHOLE 14A. CAP ABANDONED CONDUIT IN BUILDING 39 AT 2" ABOVE SLAB.
- PANEL 391N1 TO REMAIN. DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRING FROM EXISTING SWITCHGEAR CONTROL POWER TRANSFORMER TO PANEL 391N1. SEE E6.01 FOR NEW PANEL POWER SOURCE.

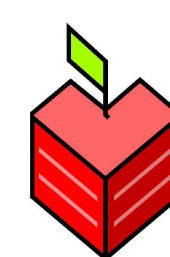


1 PARTIAL 5KV ONE-LINE DIAGRAM - DEMOLITION
ED7.01 NO SCALE

BID DOCUMENT	04/10/20
Revisions	Date

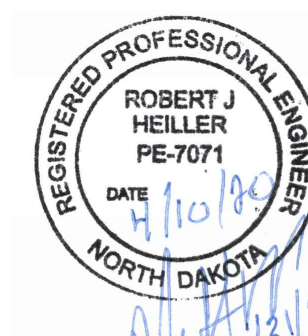


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Drawing Title PARTIAL 5KV ONE-LINE DIAGRAM - DEMOLITION		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103		Contract No. 36C26318C0103		Scale NTS
Building No. SITE		Designed By RJH	Checked By SMW	Drawn By APT
AutoCAD File Name ED7.01.dwg		Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Drawing No. ED7.01 Dwg. 22 of 35

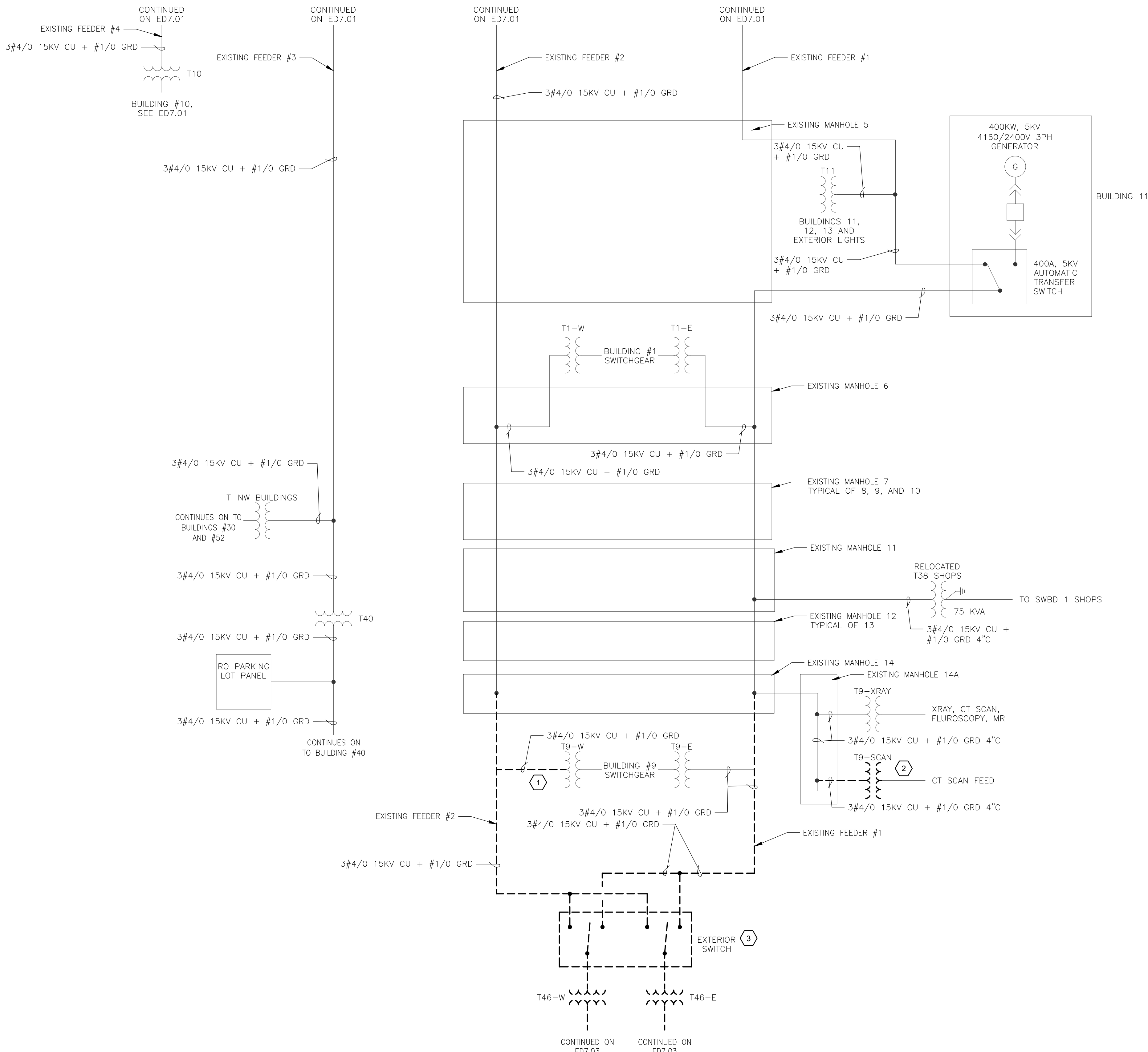


GENERAL NOTES (THIS SHEET)

- SEE DRAWING ED7.01 FOR DEMOLITION 5KV ONE-LINE DIAGRAM AND PHASING PLAN.
- ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY. SEE SPECIFICATION SECTION 01 00 00 ARTICLE 1.25 CONFINED SPACE POLICY AND PROCEDURE FOR ADDITIONAL INFORMATION.
- ALL WORK INSIDE MANHOLES AND ON ANY STRUCTURAL ELEMENT OF MANHOLE WILL REQUIRE THAT ALL POWER INSIDE/RUNNING THROUGH MANHOLE BE DE-ENERGIZED.
- ALL WORK REQUIRING AN ELECTRICAL SERVICE INTERRUPTION NEEDS TO BE COORDINATED WITH VA PROJECT ENGINEER PER SPECIFICATIONS SECTION 01 00 00.
- DASHED LINES INDICATE FEEDER OR EQUIPMENT IS TO BE REMOVED. SEE PARTIAL ONE-LINE DIAGRAM - NEW FOR MORE INFORMATION.

KEY NOTES (THIS SHEET)

- DISCONNECT AND REMOVE FEEDER TO NEAREST MANHOLE SHOWN ON SHEET ED1.02 AND ED7.01.
- ALTERNATE BID NO. 3: DISCONNECT AND REMOVE TRANSFORMER. PROTECT EXISTING CABLING FOR TERMINATION TO NEW TRANSFORMER. SEE SHEET ED1.02 FOR MORE INFORMATION.
- ALTERNATE BID NO. 4: DISCONNECT AND REMOVE T46-W, T46-E, AND EXTERIOR SWITCH. PROTECT EXISTING CABLING FOR TERMINATION TO NEW TRANSFORMERS AND EXTERIOR SWITCH. SEE ED1.02 FOR MORE INFORMATION.

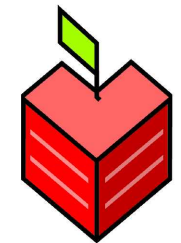


1 PARTIAL ONE-LINE DIAGRAM - EXISTING
E7.02 NO SCALE

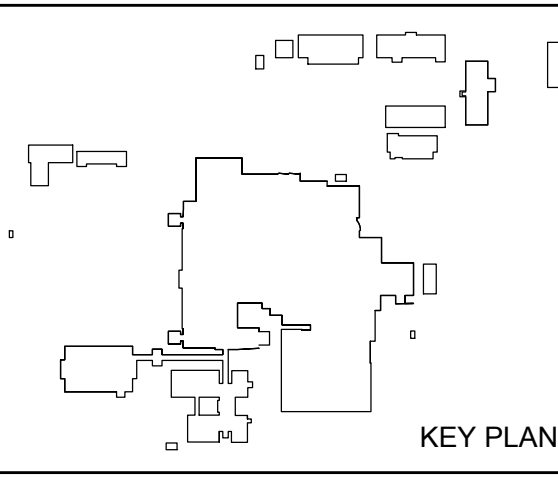
BID DOCUMENTS	04/10/20
Revisions	Date



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Drawing Title	
PARTIAL 5KV ONE-LINE DIAGRAM - EXISTING	
VA Project No.	Contract No.
437-17-103	36C26318C0103
Building No.	AutoCAD File Name
9,46	437-17-103-ED7.02.dwg

Project Title		
CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By	Checked By	Drawn By
BDH	TAV	AGJ
Location		
FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date	APRIL 10, 2020
Scale	NTS
Drawing No.	ED7.02
Dwg 23 of 35	

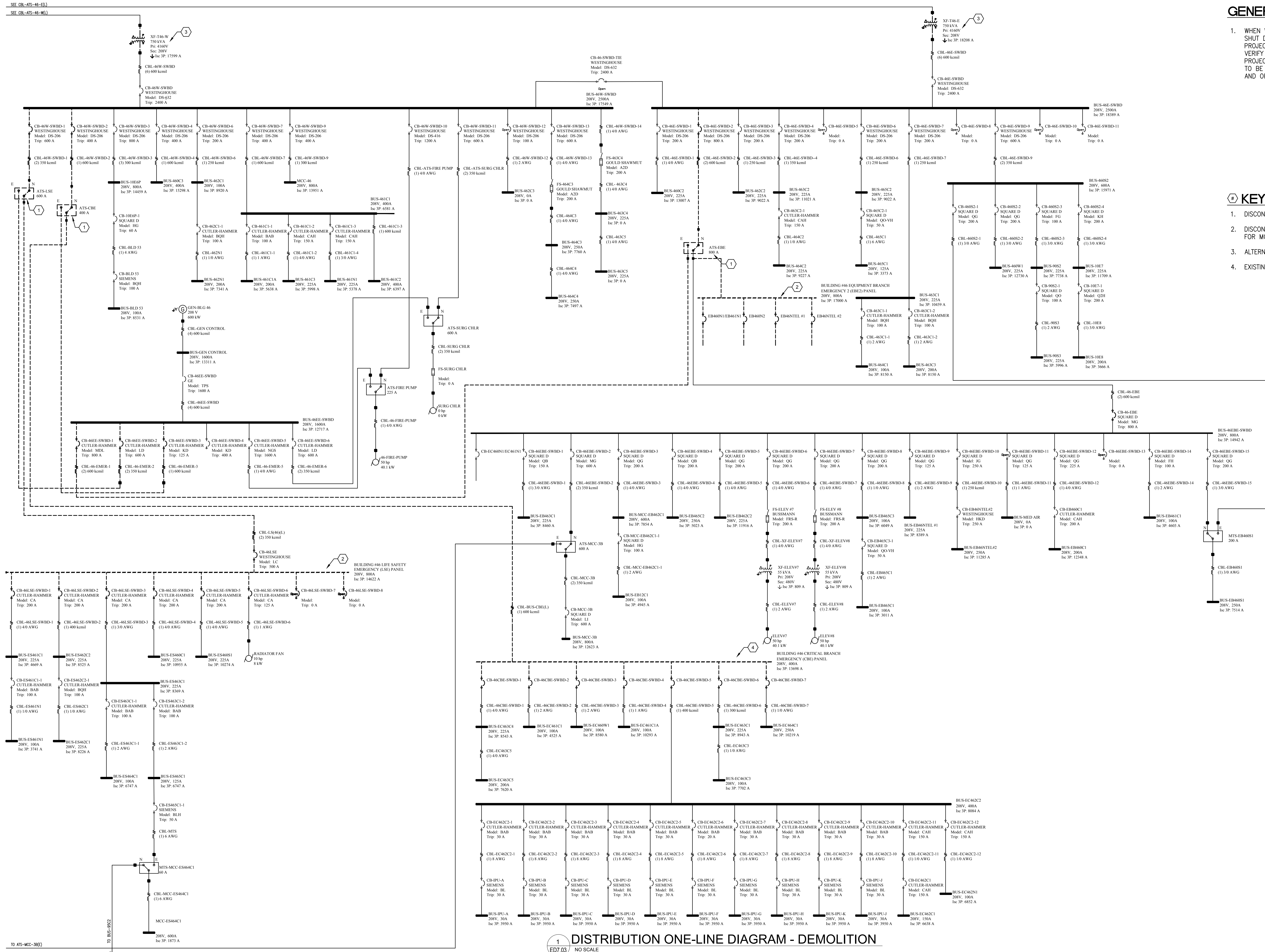


GENERAL NOTES (THIS SHEET)

1. WHEN WORKING ON EMERGENCY SYSTEMS ALL WORK REQUIRING SHUT DOWNS WILL NEED TO BE COORDINATED WITH THE VA SITE PROJECT ENGINEER THREE WEEKS PRIOR TO STARTING WORK. VERIFY ALL PHASING AND AVAILABLE WORK HOURS WITH VA PROJECT ENGINEER. ALL SHUT DOWN WORK WILL BE REQUIRED TO BE EVENING AND NIGHT WORK AND SHALL BE COMPLETED AND OPERATIONAL BY MIDNIGHT.

KEY NOTES (THIS SHEET)

1. DISCONNECT AND REMOVE EXISTING ATS. SEE SHEET ED3.01
2. DISCONNECT AND REMOVE EXISTING PANEL. SEE SHEET ED3.01 FOR MORE INFORMATION
3. ALTERNATE BID NO. 4: DISCONNECT AND REMOVE EXISTING
4. EXISTING PANELBOARD TO BE RELOCATED. SEE SHEET E7.03

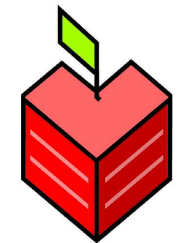


DISTRIBUTION ONE-LINE DIAGRAM - DEMOLITION

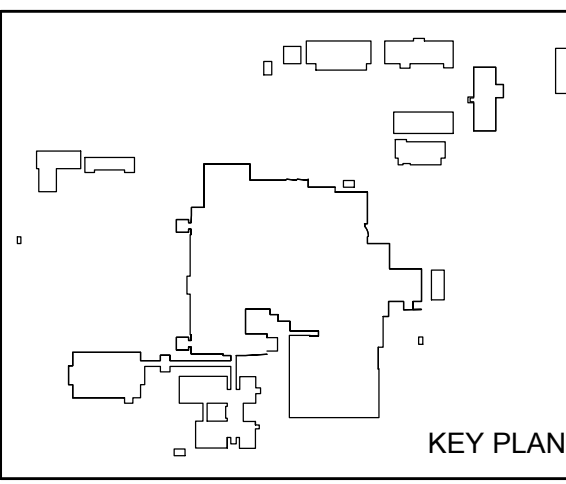
BID DOCUMENTS	04/10/20
Revisions	Date



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Drawing Title DISTRIBUTION ONE-LINE DIAGRAM - DEMOLITION		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103		Contract No. 36C26318C0103		Scale NTS
Building No. 9		Designed By BDH	Checked By TAV	Drawing No. ED7.03
AutoCAD File Name 437-17-103-ED7.03.dwg		Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Dwg. 24 of 35

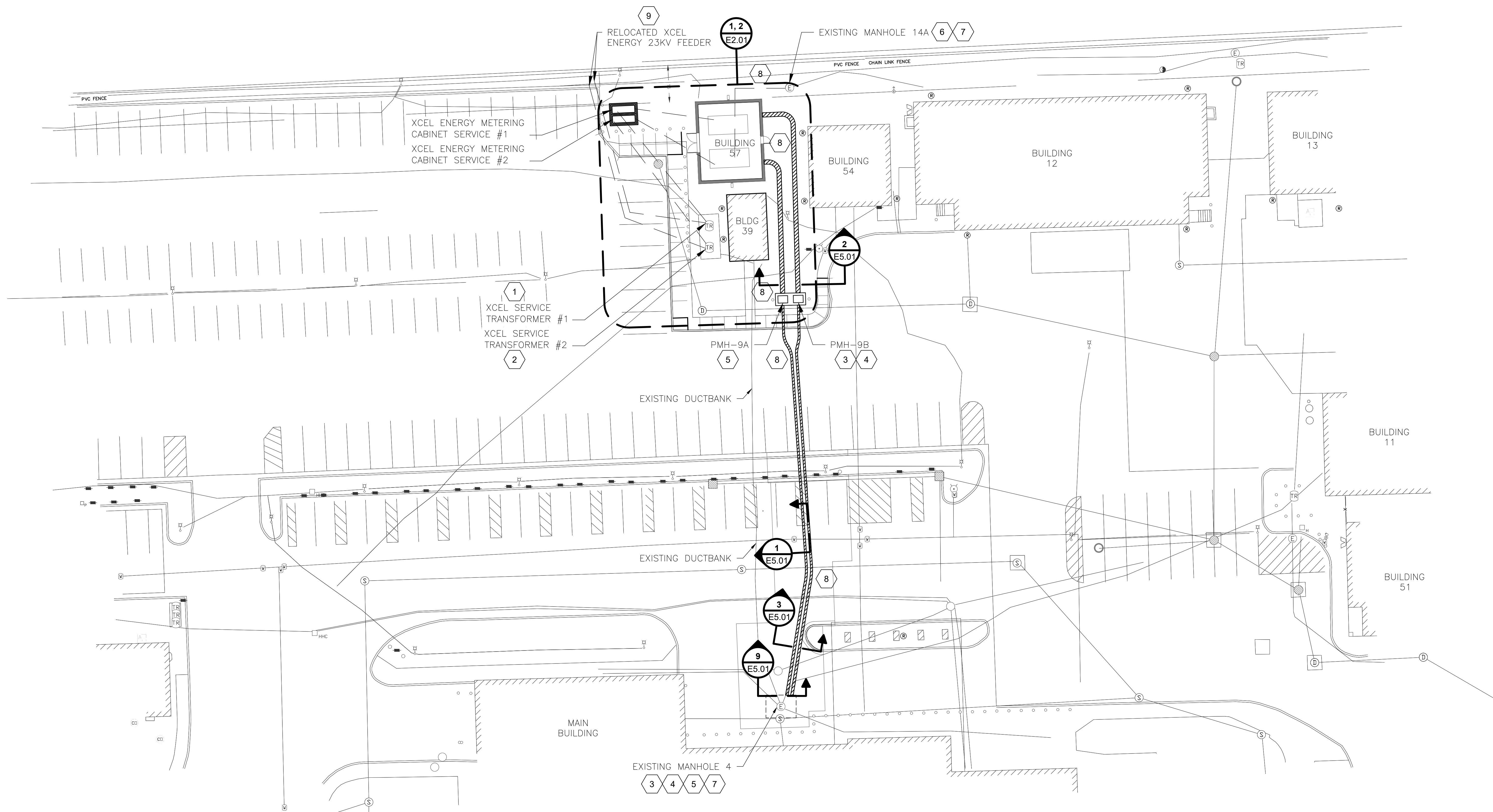


GENERAL NOTES:

1. SEE DRAWING E2.01 FOR BUILDING 57 LAYOUT AND CONTINUATION OF CONDUITS AND FEEDERS.
2. SEE DRAWING E7.01 FOR NEW 5KV ONE-LINE DIAGRAM AND PHASING PLAN.
3. SEE DRAWING E0.01 FOR WORK SEQUENCE/PHASING PLAN. COORDINATE ALL WORK WITH FARGO VA PROJECT ENGINEER BEFORE STARTING ANY CONSTRUCTION WORK.
4. COORDINATE ANY 5 KV WORK OR OUTAGES WITH FARGO VA PROJECT ENGINEER. ANY ELECTRICAL OUTAGE WILL REQUIRE A MINIMUM OF 21 DAY WRITTEN NOTICE TO FARGO VA PROJECT ENGINEER. FARGO VA PROJECT ENGINEER SHALL PROVIDE OUTAGE AUTHORIZATION AND RETAIN THE RIGHT TO STOP AUTHORIZATION FOR EMERGENCY OPERATION.
5. SEE DRAWING E2.01 FOR EXISTING BUILDING 39 REVISED LAYOUT, NEW BUILDING 57 LAYOUT AND NEW 4160 VOLT SWITCHGEAR A AND SWITCHGEAR B LOCATIONS.
6. ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY. SEE SPECIFICATION SECTION 01 00 00 SECTION 1.25 CONFINED SPACE POLICY AND PROCEDURE FOR ADDITIONAL INFORMATION.
7. ALL WORK INSIDE MANHOLES AND ON ANY STRUCTURAL ELEMENT OF MANHOLE WILL REQUIRE THAT ALL POWER INSIDE/RUNNING THROUGH MANHOLE BE DE-ENERGIZED.
8. ALL WORK REQUIRING AN ELECTRICAL SERVICE INTERRUPTION NEEDS TO BE COORDINATED WITH VA PROJECT ENGINEER PER SPECIFICATIONS 01 00 00.

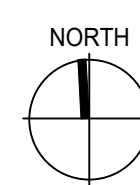
KEYED NOTES:

- 1 PROVIDE NEW FEEDER #1 FROM XCEL ENERGY SERVICE TRANSFORMER #1 TO SWITCHGEAR 1.
- 2 PROVIDE NEW FEEDER #2 FROM XCEL ENERGY SERVICE TRANSFORMER #2 TO SWITCHGEAR 2.
- 3 PROVIDE NEW FEEDER #1 FROM MANHOLE 4 TO PMH-9B TO NEW SWITCHGEAR 1 FEEDER BREAKER #1.
- 4 PROVIDE NEW FEEDER #2 FROM MANHOLE 4 TO PMH-9B TO NEW SWITCHGEAR 2 FEEDER BREAKER #2.
- 5 PROVIDE NEW FEEDER #3 FROM MANHOLE 4 TO PMH-9A TO NEW SWITCHGEAR 1 FEEDER BREAKER #3.
- 6 PROVIDE NEW FEEDER #4 FROM MANHOLE 14A TO NEW SWITCHGEAR #2 FEEDER BREAKER #4.
- 7 ELECTRICAL CONTRACTOR TO VERIFY ALL CABLING SIZES AND TYPES FOR CIRCUITS TO BE SPLICED IN MANHOLE. VERIFICATION TO BE COMPLETED DURING FIRST POWER OUTAGE FOR CORE DRILLING WALL FOR NEW CONDUIT ENTRY POINTS. CONTRACTOR TO DOCUMENT LOCATION AND SIZE OF ALL CONDUIT PENETRATIONS OF ALL MANHOLE WALLS AND ALSO SOURCE OF CONDUIT AND CONDUCTORS. PROVIDE COPY OF MANHOLE DOCUMENTATION TO PROJECT ENGINEER AND ENGINEER OF RECORD. CONTRACTOR TO CLEAN OUT ENTIRE MANHOLE FLOOR OF ALL EXISTING DEBRIS AND MUD DURING CORE DRILLING OUTAGE.
- 8 CONTRACTOR TO PERFORM UTILITY LOCATIONS AND USE POT HOLING TO LOCATE ALL UTILITIES FOR DUCTBANK/CONDUIT ROUTE. SEE SURVEY AND CIVIL SHEETS FOR ADDITIONAL INFORMATION ON UTILITY LOCATIONS.
- 9 COORDINATE RELOCATION OF XCEL ENERGY 23 KV LINES WITH XCEL ENERGY AND FARGO VA PROJECT ENGINEER. RELOCATION WILL BE CONTRACTED DIRECTLY BETWEEN XCEL ENERGY AND FARGO VA MEDICAL CENTER.



1 PARTIAL ELECTRICAL SITE PLAN
SCALE: 1" = 20'

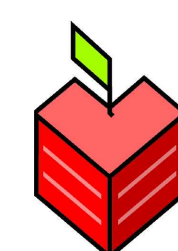
0 10' 20' 40'
SCALE IN FEET



BID DOCUMENT	04/10/20
Revisions	Date



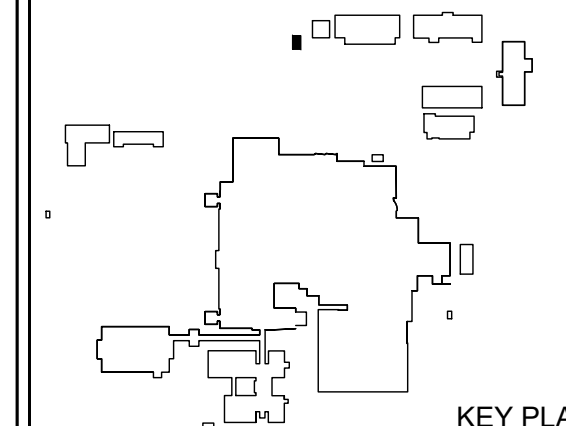
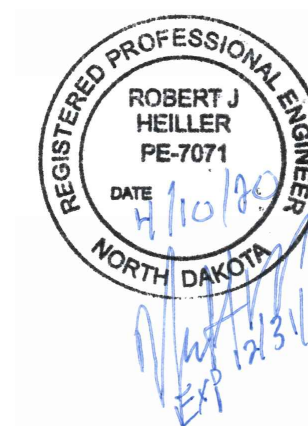
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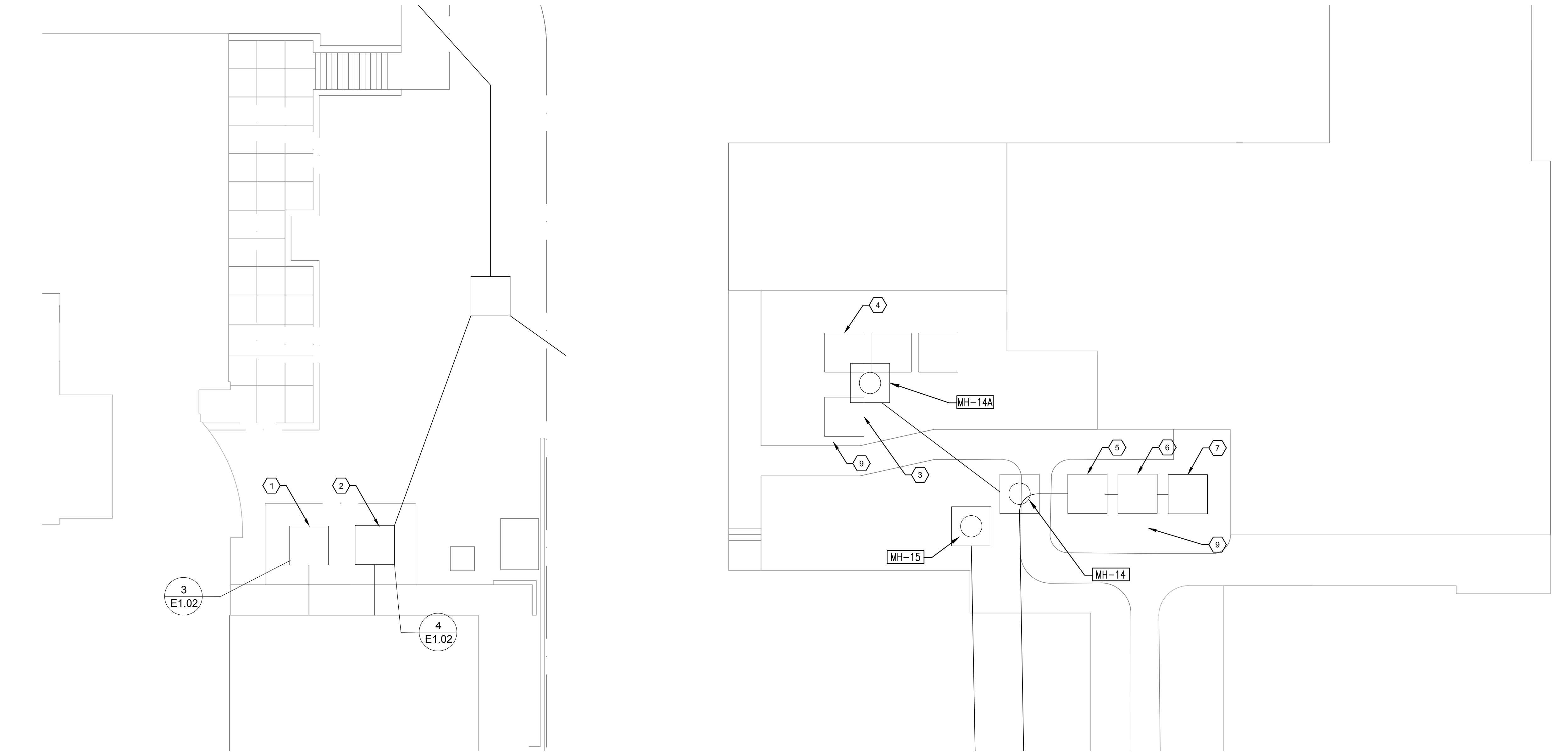
Drawing Title ELECTRICAL SITE PLAN		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By RJH	Checked By SMW	Scale AS NOTED
Building No. SITE	AutoCAD File Name E1.01.dwg	Drawn By APT	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND	Drawing No. E1.01
				Dwg. 25 of 35

GENERAL NOTES (THIS SHEET)

- SEE SHEET E7.01 FOR MEDIUM VOLTAGE ONE-LINE DIAGRAM.
- PRIOR TO BEGINNING WORK, REFER TO SPECIFICATIONS 01 35 26 SECTION CONFINED SPACE FOR SITE SPECIFIC WORK REQUIREMENTS WITHIN MANHOLES.

KEY NOTES (THIS SHEET)

- ALTERNATE BID NO. 1: REFURBISH EXTERIOR PROTECTIVE COATING OF TRANSFORMER T1-WEST BY REPAIRING SURFACES TO COATING MANUFACTURER'S REQUIREMENTS. RECOAT THE ENTIRE TRANSFORMER EXTERIOR SURFACES USING SYSTEM DEFINED IN SPECIFICATION SECTION 09 91 00. PROVIDE NEW TRANSFORMER LABELING TO MATCH SITE NAMING CONVENTION AND AS SPECIFIED. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 1: REFURBISH EXTERIOR PROTECTIVE COATING OF TRANSFORMER T1-EAST BY REPAIRING SURFACES TO COATING MANUFACTURER'S REQUIREMENTS. RECOAT THE ENTIRE TRANSFORMER EXTERIOR SURFACES USING SYSTEM DEFINED IN SPECIFICATION SECTION 09 91 00. PROVIDE NEW TRANSFORMER LABELING TO MATCH SITE NAMING CONVENTION AND AS SPECIFIED. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 1: PROVIDE NEW PAD-MOUNTED TRANSFORMER T9-SCAN. SEE TO SHEET E7.01 FOR MORE INFORMATION. NEW TRANSFORMER TO BE INSTALLED ON EXISTING CONCRETE PAD. NEW TRANSFORMER SHALL BE MANUFACTURED TO ACCOMMODATE PRIMARY CONDUIT LOCATIONS AND SECONDARY CONDUIT AND CONDUCTORS. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- PROVIDE NEW 4/0 5KV PRIMARY CABLE CABLING FROM TRANSFORMER T9-WEST TO MANHOLE (MH-14). SPLICE NEW CABLE TO EXISTING CIRCUIT MANHOLE 14 USING SPECIFIED METHODS. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 4: PROVIDE NEW PAD-MOUNTED TRANSFORMER T46-WEST. SEE SHEET E7.01 FOR MORE INFORMATION. NEW TRANSFORMER TO BE INSTALLED ON NEW EQUIPMENT PAD PER DETAIL 5 THIS SHEET. NEW TRANSFORMER SHALL BE MANUFACTURED TO ACCOMMODATE PRIMARY CONDUIT LOCATIONS AND SECONDARY CONDUIT AND CONDUCTORS. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 4: PROVIDE NEW PAD-MOUNTED SWITCH. NEW SWITCH TO BE INSTALLED ON NEW EQUIPMENT PAD PER DETAIL 5 THIS SHEET. REFER TO SHEET E7.01 FOR MORE INFORMATION. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- ALTERNATE BID NO. 4: PROVIDE NEW PAD-MOUNTED TRANSFORMER T46-EAST. SEE SHEET E7.01 FOR MORE INFORMATION. NEW TRANSFORMER TO BE INSTALLED ON NEW EQUIPMENT PAD PER DETAIL 5 THIS SHEET. NEW TRANSFORMER SHALL BE MANUFACTURED TO ACCOMMODATE PRIMARY CONDUIT LOCATIONS AND SECONDARY CONDUIT AND CONDUCTORS. ALL WORK SHALL BE PERFORMED DURING AN APPROVED OUTAGE.
- PROVIDE NEW AMBER LENS FOR EXISTING MTS-1 (EATON TRANSFER SWITCH CAT # NTVELDB40400BSU) IN ROOM BB-34.
- CONTRACTOR TO PROTECT OR REMOVE/REPLACE EXISTING SIDEWALK/DRIVE TO ACCOMPLISH THIS SCOPE OF WORK. REPLACE SIDEWALK/DRIVE PER SPECIFICATION SECTION: 03 30 53.



1 PARTIAL SITE PLAN - BUILDING 1 TRANSFORMERS
E1.02 1'-0" = 10'-0"

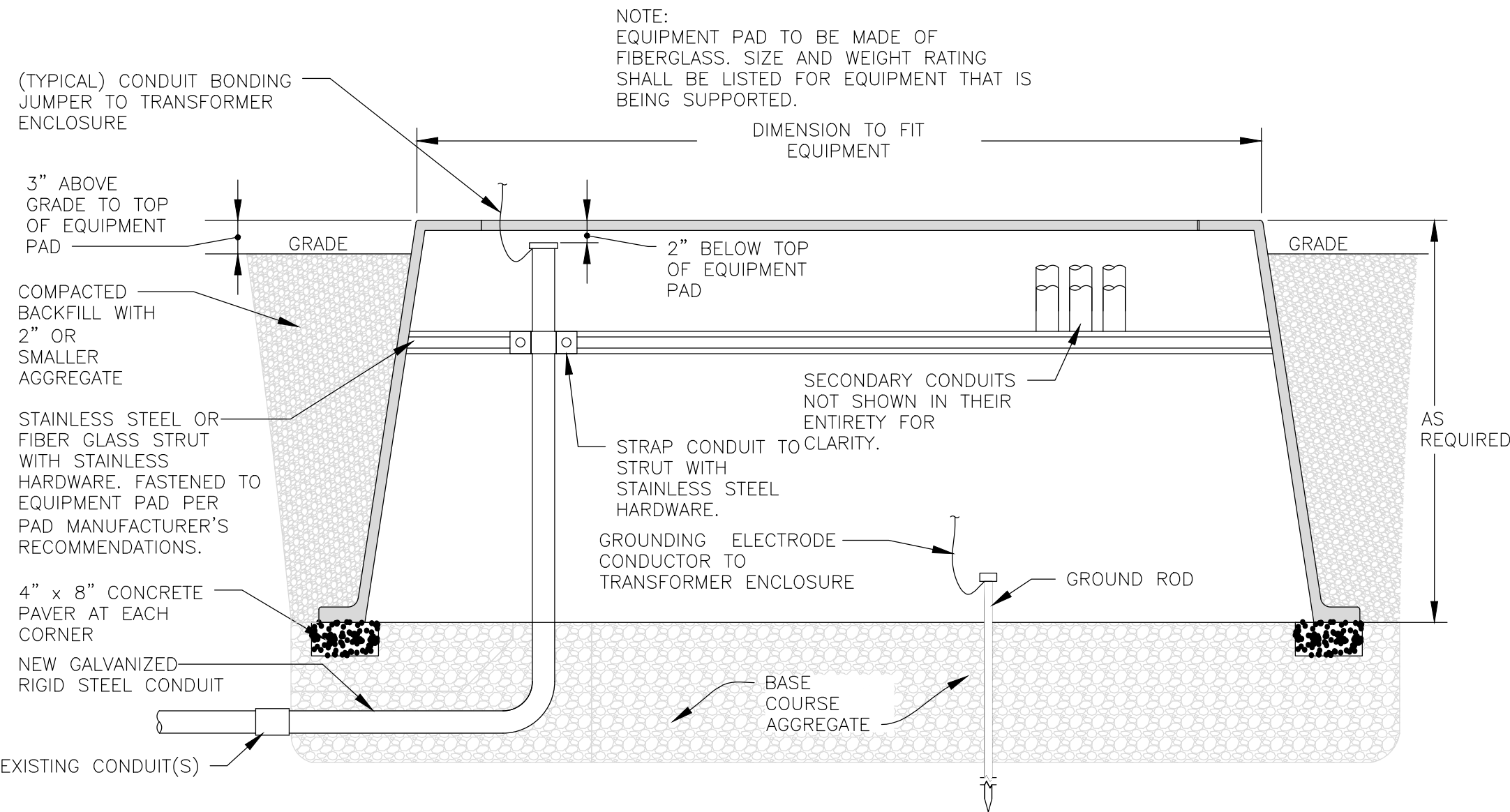
2 PARTIAL SITE PLAN - BUILDINGS 9 AND 46 DISTRIBUTION
E1.02 1'-0" = 10'-0"



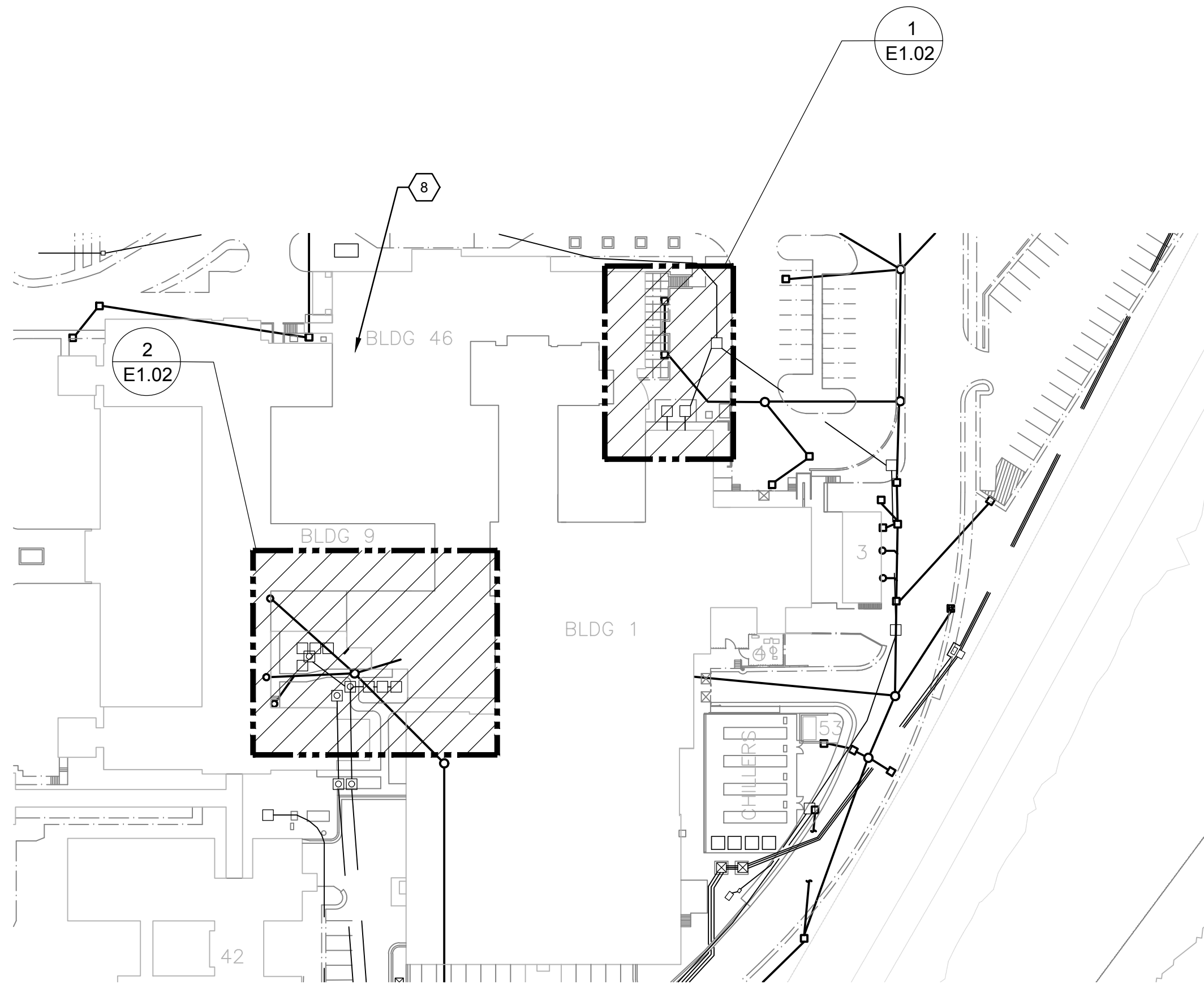
3 T1-WEST
E1.02 NTS



4 T1-EAST
E1.02 NTS



5 EQUIPMENT PAD
E1.02 NTS

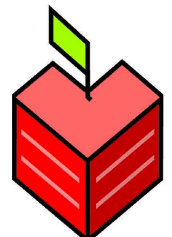


6 ENLARGED KEY SITE PLAN - BUILDINGS 1, 9 AND 46
E1.02 1'-0" = 10'-0"

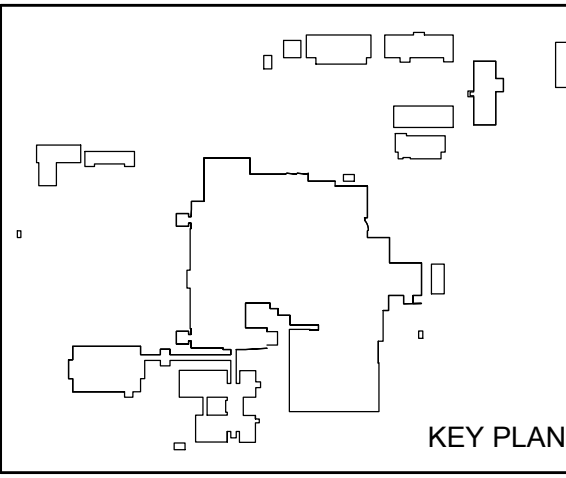
BID DOCUMENTS	04/10/20
Revisions	Date



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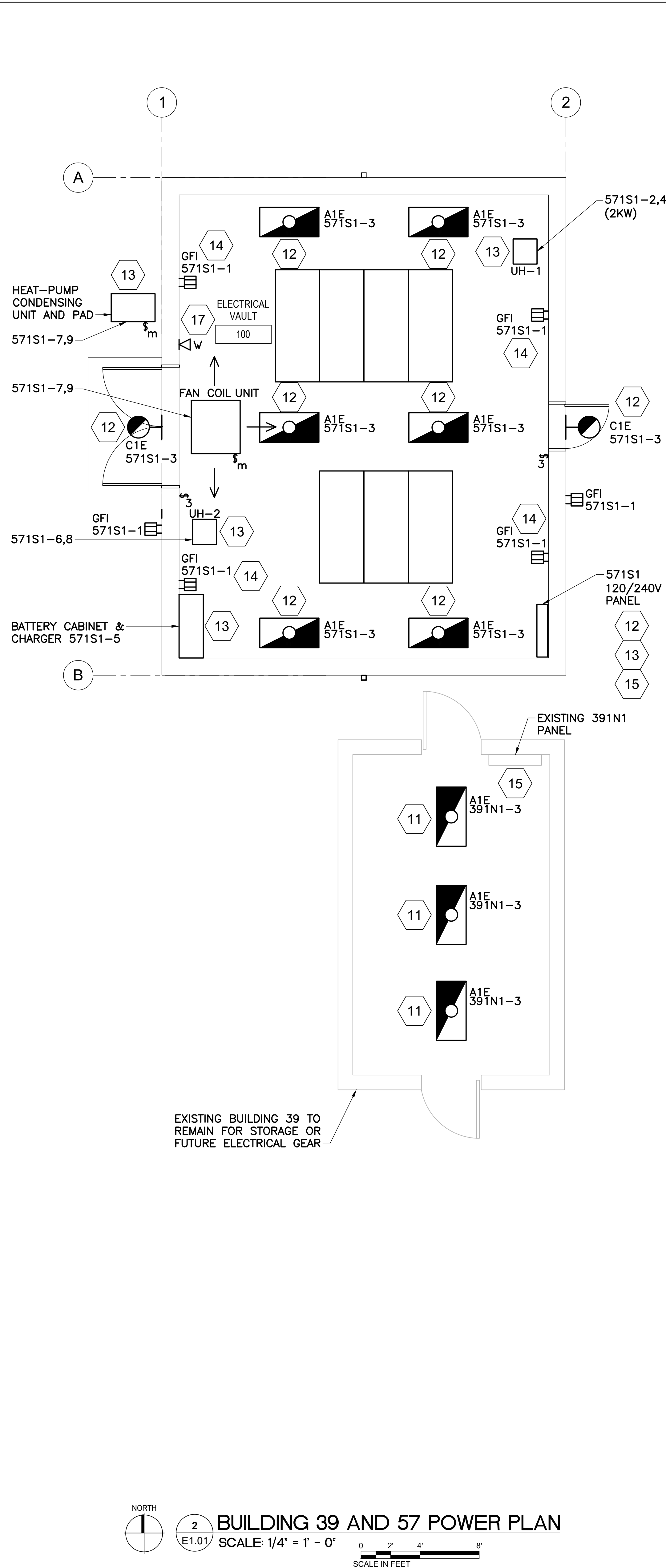
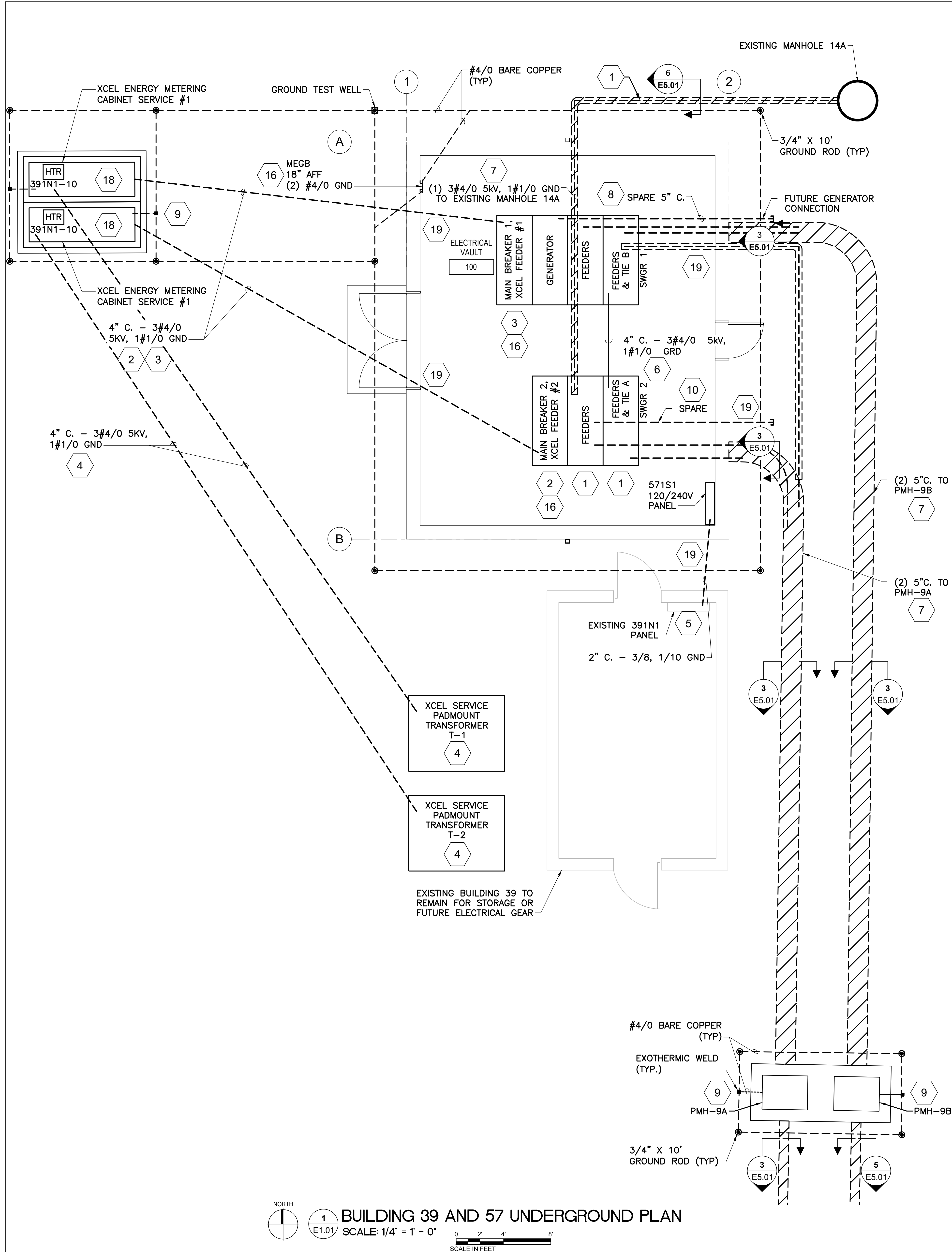


Drawing Title BUILDING 1, 9 AND 46 PLAN	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. 1, 9, 46	AutoCAD File Name 437-17-103-E1.02.dwg

Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By BDH	Checked By TAV	Drawn By AGJ
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date APRIL 10, 2020
Scale AS NOTED
Drawing No. E1.02
Dwg 26 of 35





GENERAL NOTES:

1. SEE DRAWING E6.01 FOR PANEL 571S1 SCHEDULE.
2. SEE DRAWING E7.01 FOR 5KV ONE-LINE DIAGRAM.
3. SEE DRAWING E6.01 FOR PANELBOARD & LIGHT FIXTURE SCHEDULES.
4. SEE DRAWING E0.01 FOR WORK SEQUENCE/PHASING PLAN. COORDINATE ALL WORK WITH FARGO VA PROJECT ENGINEER BEFORE STARTING ANY DEMOLITION OR CONSTRUCTION WORK.
5. COORDINATE ANY 5 KV WORK OR OUTAGES WITH FARGO VA PROJECT ENGINEER. ANY ELECTRICAL OUTAGE WILL REQUIRE A MINIMUM OF 21 DAY WRITTEN NOTICE TO FARGO VA PROJECT ENGINEER. FARGO VA PROJECT ENGINEER SHALL PROVIDE OUTAGE AUTHORIZATION AND RETAIN THE RIGHT TO STOP AUTHORIZATION FOR EMERGENCY OPERATION.

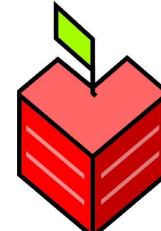
KEYED NOTES:

- 1 PROVIDE NEW 4160 VOLT FEEDERS BETWEEN 4160 VOLT BREAKER F4 AND EXISTING MANHOLE 14A.
- 2 PROVIDE NEW FEEDER #2 FROM XCEL ENERGY SOURCE #2 METERING CABINET TO NEW 5KV SWITCHGEAR, SWGR #2.
- 3 PROVIDE NEW FEEDER #1 FROM XCEL ENERGY SOURCE #1 METERING CABINET TO NEW 5KV SWITCHGEAR, SWGR #1.
- 4 PROVIDE NEW CONDUIT & WIRING FROM EXISTING XCEL ENERGY TRANSFORMER TO NEW 5KV METERING CABINET.
- 5 REFEED EXISTING BUILDING 39 120/240 VOLT PANEL FROM NEW PANEL 571S1 IN BUILDING 57 AFTER ALL NEW SWITCHGEAR IS FULLY OPERATIONAL. SEE E7.01 FOR FEEDER INFORMATION ON ONE-LINE DIAGRAM.
- 6 PROVIDE TIE FEEDER BETWEEN SWITCHGEAR 1 TIE BREAKER 1 AND SWITCHGEAR 2 TIE BREAKER 2. SEE E7.01 ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
- 7 SEE SITE ELECTRICAL DRAWING E1.01 FOR CONTINUATION. SEE ONE-LINE DIAGRAM ON E7.01 FOR FEEDER AND CONDUIT SIZING INFORMATION.
- 8 EXTEND SPARE 5" CONDUIT FOR FUTURE GENERATOR TO 5' OUTSIDE BUILDING FOUNDATION AND CAP. MARK LOCATION WITH LOCATABLE UNDERGROUND AND AT GRADE MARKERS.
- 9 PROVIDE #4/0 BARE COPPER GROUND CONDUCTOR TO EQUIPMENT AS SHOWN.
- 10 SPARE 5" CONDUIT FOR FUTURE LOAD. EXTEND TO 5' OUTSIDE BUILDING FOUNDATION AND CAP. MARK LOCATION WITH LOCATABLE UNDERGROUND AND AT GRADE MARKERS.
- 11 PROVIDE NEW FIXTURE AND WIRE TO EXISTING CIRCUIT. SEE E6.01 FOR PANEL SCHEDULE.
- 12 PROVIDE NEW FIXTURE WITH ASSOCIATED CONDUIT, WIRING AND SWITCHING. CIRCUIT TO PANEL 571S1 AS SHOWN. SEE SHEET E6.01 FOR LIGHT FIXTURE AND PANELBOARD SCHEDULES.
- 13 PROVIDE CONDUIT AND WIRING TO EQUIPMENT SHOWN FROM PANEL 571S1.
- 14 PROVIDE GFCI DUPLEX RECEPTACLE AND CIRCUIT AS SHOWN.
- 15 PROVIDE CONDUIT AND WIRING. SEE SHEETS E6.01 AND E7.01 FOR ADDITIONAL INFORMATION.
- 16 PROVIDE (2) #4/0 BARE COPPER GROUND CONDUCTORS IN 1" PVC CONDUIT FROM MEGB TO SWITCHGEAR #1 AND SWITCHGEAR #2 GROUND BUSES. SEE GROUNDING RISER DETAIL AND MEGB DETAIL ON SHEET E5.01.
- 17 EXTEND EXISTING 2 PAIR PHONE CIRCUIT FROM BUILDING 39 TO BUILDING 57 IN UNDERGROUND 1" PVC CONDUIT.
- 18 PROVIDE 5KV XCEL ENERGY METERING CABINET TO MEET XCEL ENERGY REQUIREMENTS. METERING CABINET SHALL BE APPROVED BY XCEL ENERGY AND FARGO VA PROJECT ENGINEER BEFORE RELEASED FOR MANUFACTURING. MAXIMUM DIMENSIONS SHALL BE 10'-6" L X 46" D AND BE FRONT ACCESS ONLY. ALL MV CABLE TERMINATIONS SHALL BE A MINIMUM OF 48" ABOVE CONCRETE PAD. PROVIDE CONCRETE PAD FOR MOUNTING OF XCEL ENERGY METERING CABINET. PROVIDE SEPARATE 120 VOLT CIRCUIT TO PANEL 391N1 FOR INTERNAL HEATER.
- 19 PROVIDE CONDUIT SLEEVE FOR ALL CONDUITS PENETRATION BUILDING FOUNDATION. SEAL PENETRATION AGAINST WATER AND RODENT INTRUSION AFTER INSTALLING CONDUIT, COORDINATE EXACT LOCATION OF PENETRATION WITH STRUCTURAL FOUNDATION INSTALLER.

BID DOCUMENT	04/10/20
Revisions	Date

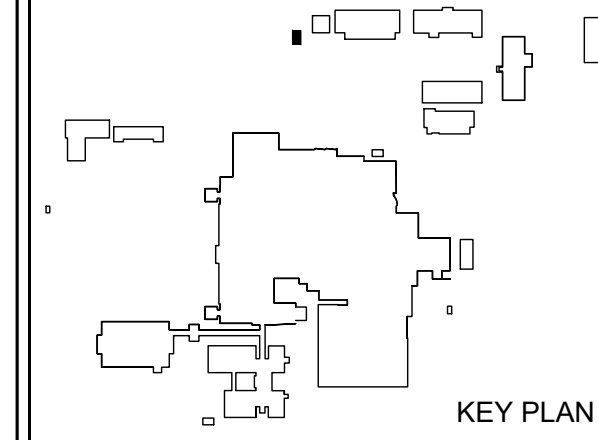
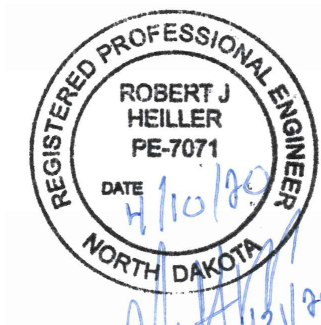


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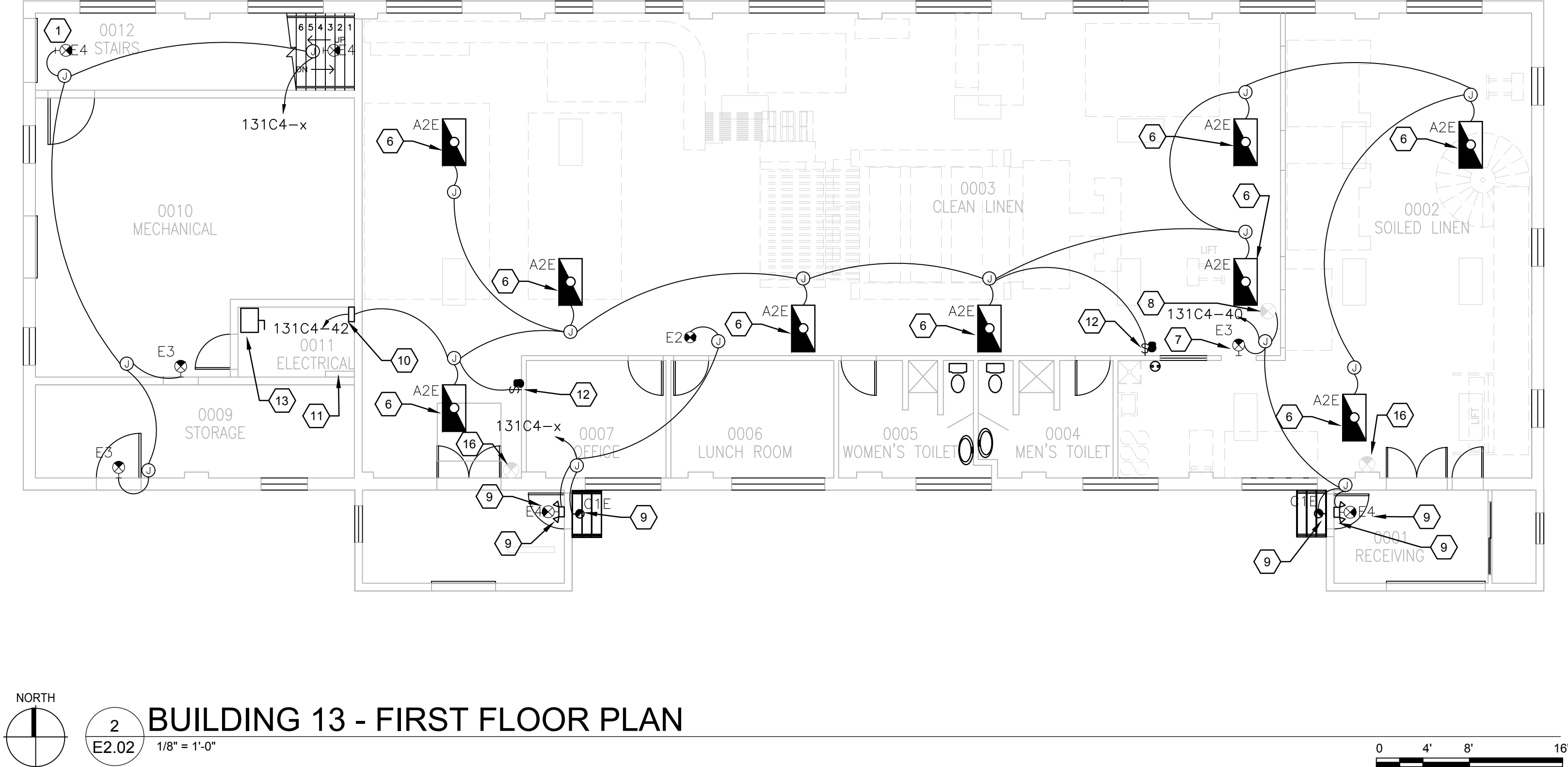
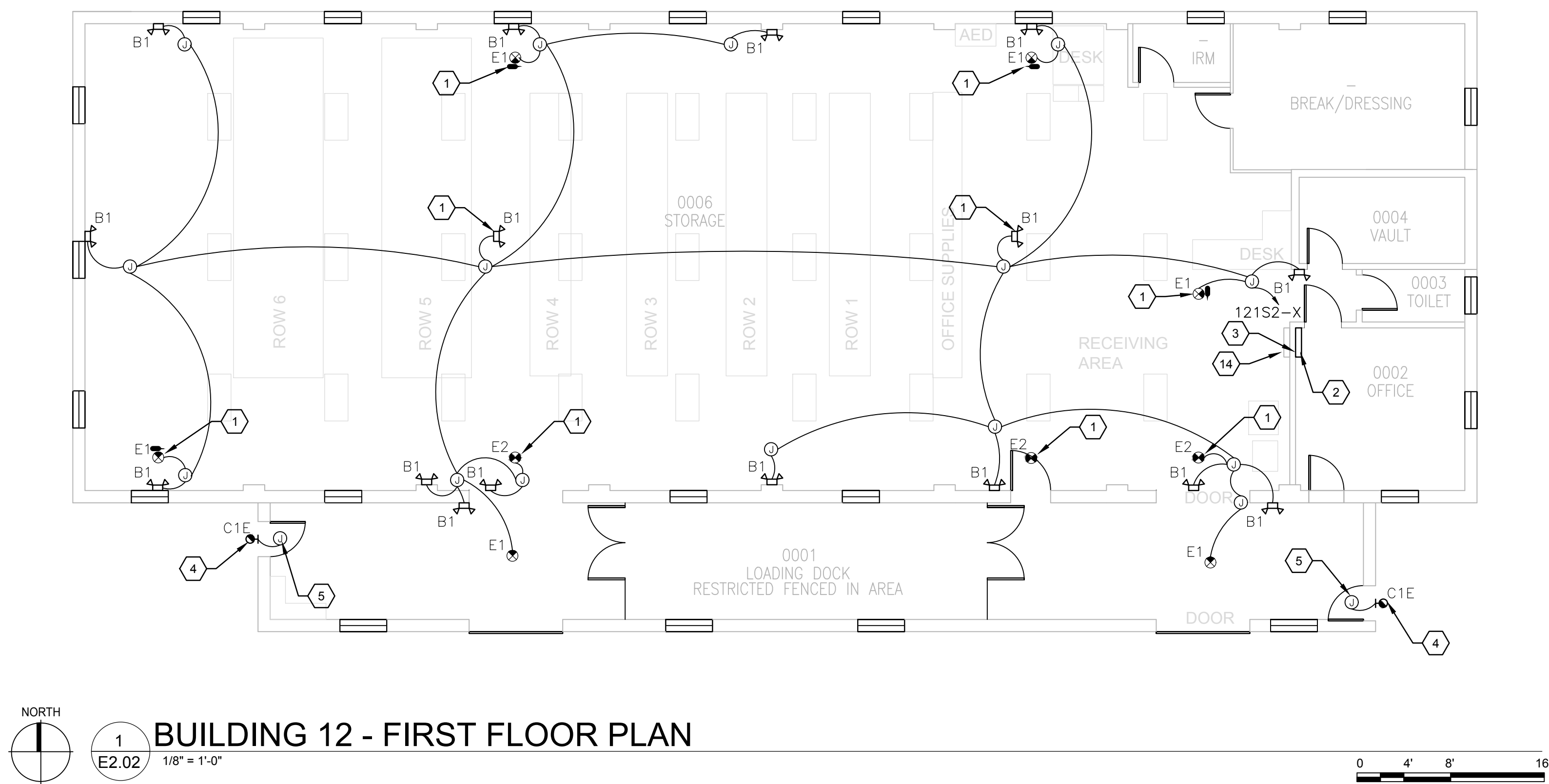
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Drawing Title BUILDING 39 AND 57 PLAN		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By RJH	Checked By SMW	Scale AS NOTED
Building No. 39, 57	AutoCAD File Name E2.01.dwg	Drawn By APT	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND	Drawing No. E2.01
Dwg. 27 of 35				





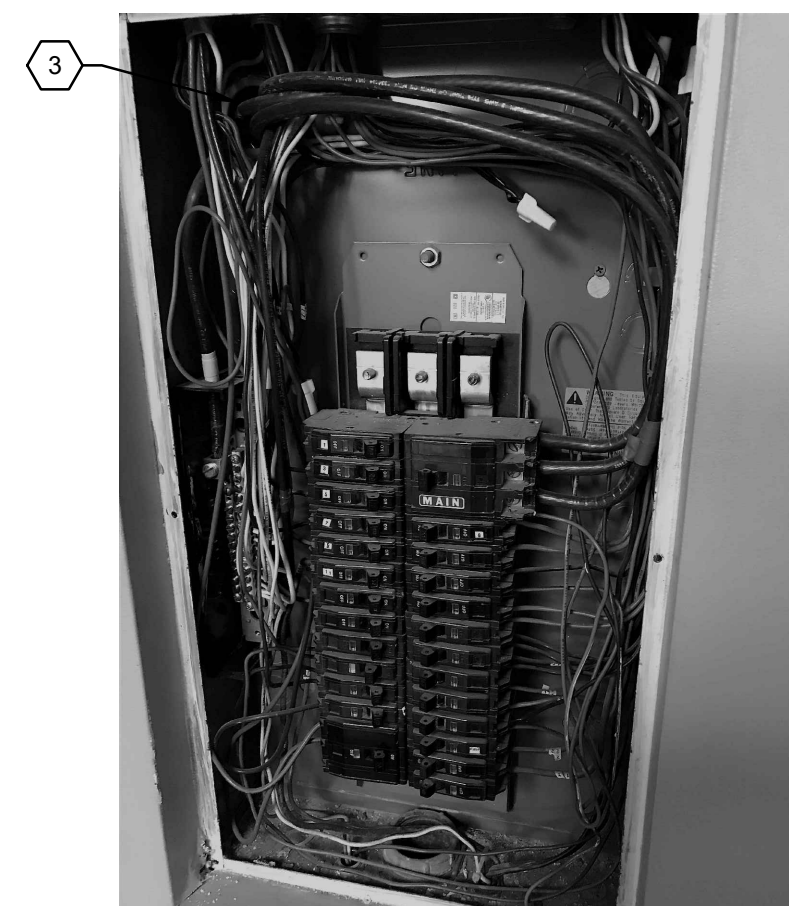
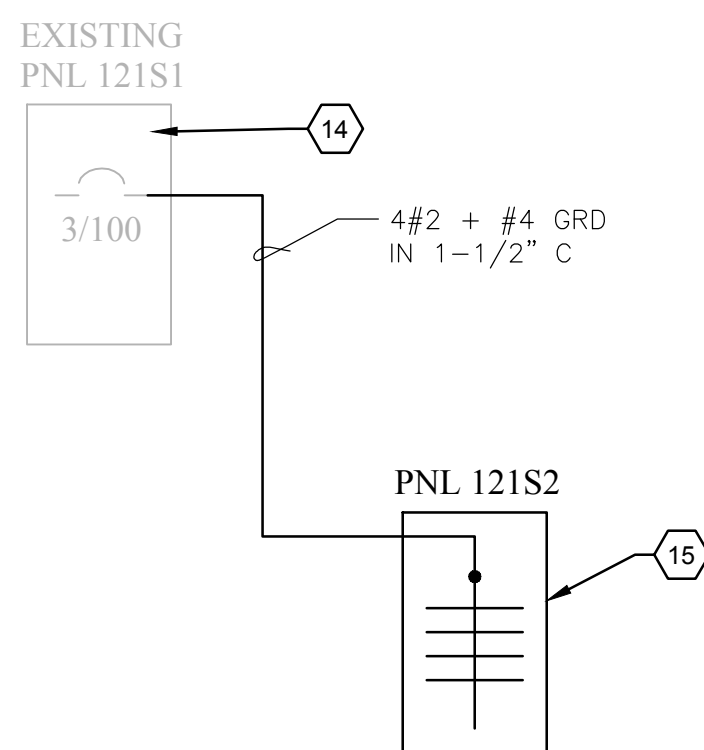
- CONTRACTOR TO PROVIDE CALCULATIONS WITH FIXTURE SUBMITTALS DEMONSTRATING THAT EGRESS PATHWAY IS ILLUMINATED ACCORDING TO THE GUIDELINES SET FORTH IN NFPA 101 AND IESNA HB-10 TO VA PROJECT ENGINEER. SEE SHEET A2.02 FOR ESTABLISHED EGRESS PATH. FIELD VERIFY PERFORMANCE AFTER INSTALLATION. INCLUDE CERTIFICATION BY INSPECTION AGENCIES WITH FINAL O&M SUBMITTALS.
- WORK IN THIS AREA IS TO BE SCHEDULED WITH THE VA PROJECT ENGINEER.

#

- CEILING IN THIS AREA IS EXPOSED STRUCTURE. PROVIDE NEW EXIT FIXTURE AND SUPPORT FROM STRUCTURE SO FIXTURE IS AT 10'-0" AFF.
- REPLACE EXISTING PANELBOARD B12P WITH NEW 200 AMP 42 CIRCUIT FLUSH PANEL NAMED PNL 12AS2. RE-TERMINATE EXISTING WIRES TO NEW BREAKERS. PATCH AND PAINT EXISTING WALL TO MATCH EXISTING. SEE SHEET E6.02 FOR MORE INFORMATION.
- REWORK CONDUIT NIPPLE FROM EXISTING PNL B12P1 THROUGH WALL TO NEW PANEL 12AS2 ON OPPOSITE SIDE OF WALL.
- REMOVE EXISTING FIXTURE AND REPLACE WITH NEW FIXTURE AS INDICATED.
- EXTEND NEW EXIT CIRCUIT TO EXISTING LOCAL EXIT SIGN CIRCUIT.
- REPLACE EXISTING LIGHT FIXTURE WITH NEW LED EMERGENCY LIGHTING WITH NEW CONDUIT AND WIRING BACK TO STANDBY INVERTOR POWER PACK.
- PROVIDE NEW EXIT FIXTURE AS NOTED. EXTEND NEW EXIT CIRCUIT TO EXISTING LOCAL EXIT SIGN CIRCUIT.
- REMOVE EXISTING LIGHT FIXTURE AND ASSOCIATED WIRE AND CONDUIT TO NEAREST JUNCTION BOX.
- PROVIDE NEW FIXTURES AS NOTED. CONDUIT AND WIRING TO BE FED FROM PANEL 131C4. SIZE FIXTURE BATTERY TO SUPPORT ALL THREE FIXTURES IN POWER FAILURE MODE.
- PROVIDE NEW BATTERY BACKUP WITH INVERTER TO SUPPORT NEW EMERGENCY LIGHTS.
- PROVIDE BREAKER CONDUIT AND WIRE FROM EXISTING PANEL TO BATTERY BACKUP INVERTER.
- PROVIDE EMERGENCY RELAY SWITCH BYPASS FOR EMERGENCY FIXTURE BYPASS DURING

POWER OUTAGE. (WATT STOPPER OR RIB) COORDINATE FINAL LOCATION WITH OWNER.

- PROVIDE 3 SECONDARY 60 AMP CIRCUIT BREAKER DISCONNECTS FOR EXISTING TRANSFORMERS. PROVIDE STRUT STANDOFFS TO SUPPORT STACKED DISCONNECTS. RELOCATE TRANSFORMERS TO THE EAST 1 FOOT TO MAKE ROOM FOR DISCONNECTS. REWORK EXISTING CONDUITS TO ACCOMMODATE. CONFIRM DISCONNECT LAYOUT WITH ENGINEER PRIOR TO INSTALLATION. PROVIDE SKETCH WITH NEC WORKING SPACE REQUIREMENTS SHOWN.
- PROVIDE NEW PANEL PLACARD FOR PANEL B12P1 AND UPDATE PANEL DIRECTORY PER SPECIFICATION TO REFLECT NEW NAME "PNL 121S1".
- SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
- REPLACE EXISTING LIGHT FIXTURE WIRE AND CONDUIT WITH NEW BACK TO INVERTOR.



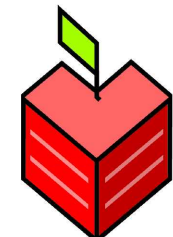
ALTERNATE BID NO. 2: DELETE ALL WORK ASSOCIATED WITH SHEET E2.02.

3 NEW PARTIAL ONE-LINE
E2.02 NTS

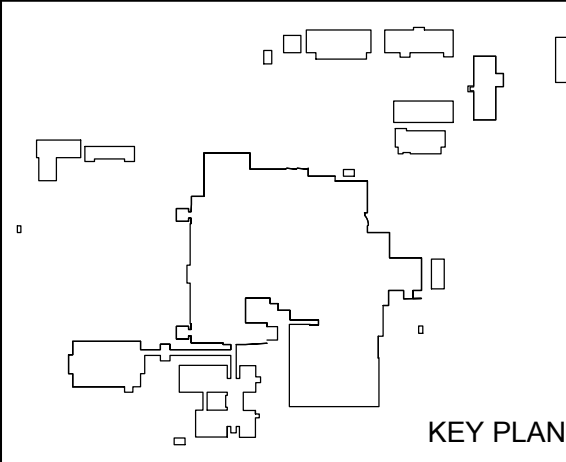
4 EXISTING PANEL B12P - INTERIOR
E2.02 NTS



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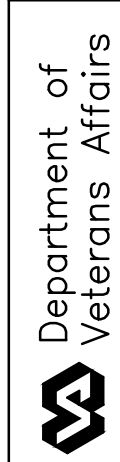
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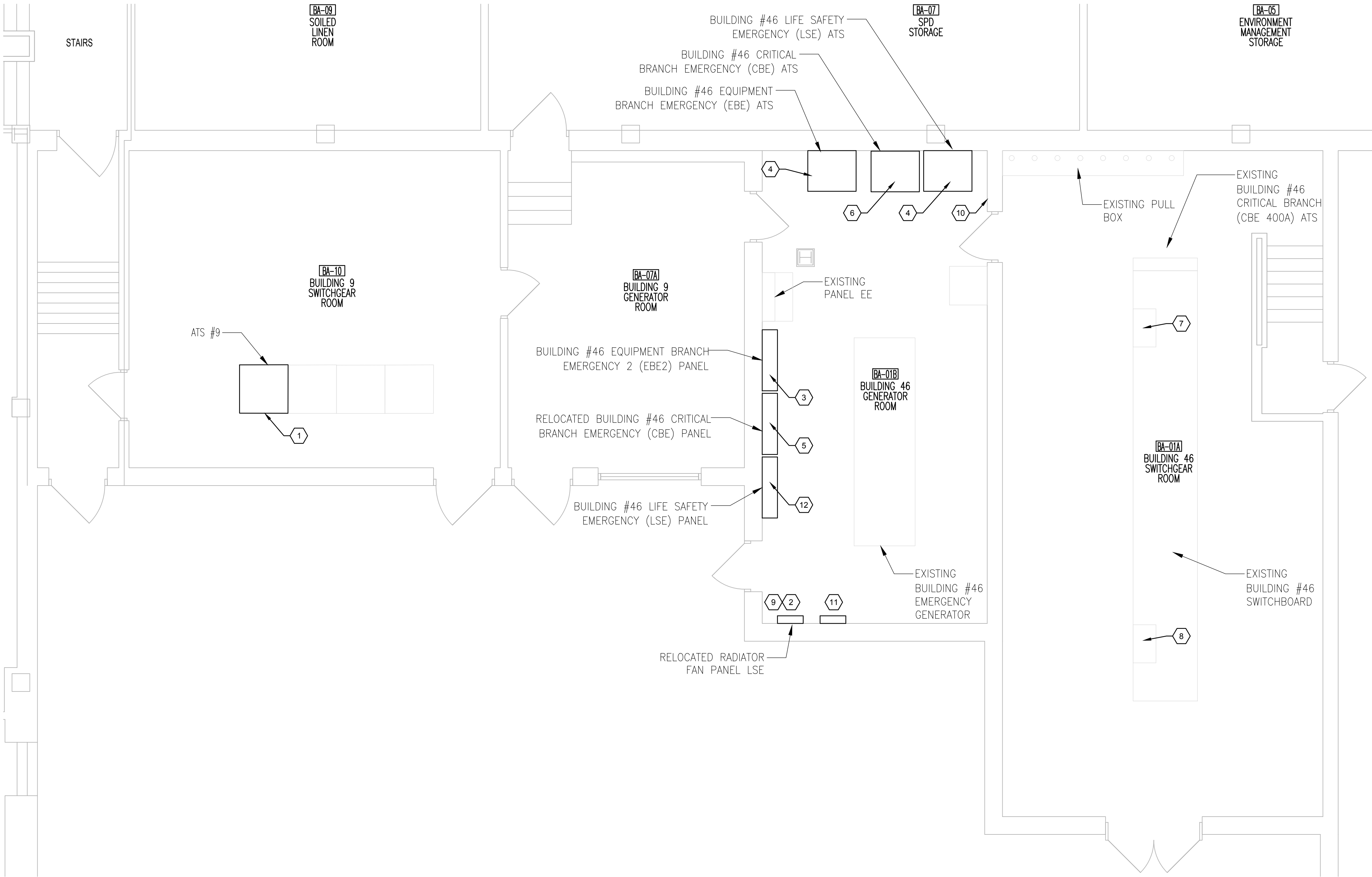


Drawing Title	
BUILDING 12 AND 13 PLAN	
VA Project No.	437-17-103
Contract No.	36C26318C0103
Building No.	12, 13
AutoCAD File Name	437-17-103-E2.02.dwg

Project Title		
CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By	Checked By	Drawn By
BDH	TAV	AGJ
FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date	APRIL 10, 2020
Scale	AS NOTED
Drawing No.	E2.02
Dwg. 28 of 35	





BUILDING 9 AND 46 PLAN - BASEMENT
1
E3.01
1/4" = 1'-0"
0 2' 4' 8'

GENERAL NOTES (THIS SHEET)

1. WHEN WORKING ON ELECTRICAL SYSTEMS ALL WORK SHALL BE PERFORMED WITH SYSTEMS DE-ENERGIZED. ALL SERVICE INTERRUPTION WORK SHALL BE SCHEDULED FOR APPROVAL BY THE VA PROJECT ENGINEER 21 DAYS IN ADVANCE. SEE SPECIFICATION SECTION 01 00 00, 1.5, K FOR FURTHER REQUIREMENTS.
2. ALL TEMPORARY FEEDERS SHALL BE INSTALLED IN METALLIC CONDUIT.
3. THE CONSTRUCTION SEQUENCE IS PROVIDED AS INFORMATIONAL ONLY AND INTENDED TO CONVEY THE CONTRACTOR A BASIS OF DESIGN FOR THE REPLACEMENT OF THE CRITICAL, LIFE SAFETY, AND EQUIPMENT BRANCH EMERGENCY SYSTEMS. CONTRACTOR TO SUBMIT FOR APPROVAL A DETAILED SCHEDULE WITH PROPOSED OUTAGE DURATION AT EQUIPMENT SHOP DRAWING REVIEW.

KEY NOTES (THIS SHEET)

1. PROVIDE RIGID FLAME RESISTANT ELECTRICAL INSULATING LAMINATE TO INSIDE OF DOOR TO PREVENT COVER CONTACT WITH BUS IN EXISTING ATS (EATON BIC3C3X40800XSU). PROVIDE DANGER LABEL THAT STATES: "DANGER ELECTRICAL HAZARD. TURN OFF POWER BEFORE SERVICING."
2. NEW LOCATION OF EXISTING RADIATOR FAN CONTROL PANEL LSE. PROVIDE STRUT STANDOFF OF PANEL TO ACHIEVE REQUIRED WORKING CLEARANCE IN FRONT OF PANEL.
3. PROVIDE NEW PANELBOARD WITH RELOCATED FEEDER BREAKERS. SEE SHEET E6.02 AND E7.03 FOR MORE INFORMATION.
4. PROVIDE NEW 4-POLE 800AMP AUTOMATIC TRANSFER SWITCH PER SPECIFICATION SECTION 26 36 23. PROVIDE JUNCTION BOX OVERHEAD AND INTERCEPT/EXTEND CIRCUITS TO ACCOMMODATE NEW LOCATION. SEE SHEET E7.03 FOR MORE INFORMATION.
5. PROVIDE NEW PANEL TUB WITH RELOCATED INTERIOR AND COVER. PROVIDE JUNCTION BOX OVERHEAD AND EXTEND CIRCUITS TO ACCOMMODATE NEW PANELBOARD CONFIGURATION. SEE SHEET E6.02 AND E7.03 FOR MORE INFORMATION.
6. PROVIDE NEW 4-POLE 400AMP AUTOMATIC TRANSFER SWITCH PER SPECIFICATION SECTION 26 36 23. PROVIDE JUNCTION BOX OVERHEAD AND INTERCEPT/EXTEND CIRCUITS TO ACCOMMODATE NEW LOCATION. SEE SHEET E7.02 FOR MORE INFORMATION.
7. PROVIDE NEW CONDUIT AND WIRE TO NEW LSE ATS FROM EXISTING CIRCUIT. SEE SHEET E7.03 FOR MORE INFORMATION.
8. PROVIDE NEW CONDUIT AND WIRE TO NEW EBE ATS FROM EXISTING CIRCUIT. SEE SHEET E7.03 FOR MORE INFORMATION.
9. PROVIDE TEMPORARY OPERATION OF REMOTE RADIATOR FROM EMERGENCY SYSTEM.
10. REINSTALL EXISTING EXHAUST FAN CONTROLS OUTSIDE OF REQUIRED WORKING SPACE IN FRONT OF NEW ATS EQUIPMENT.
11. NEW LOCATION OF EXISTING ROOM HEAT CONTROLS.
12. PROVIDE NEW PANELBOARD. SEE SHEET E6.02 AND E7.03 FOR MORE INFORMATION.

SCOPE AND SEQUENCE OF WORK

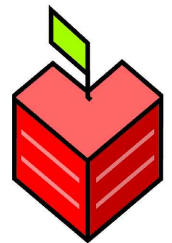
THE SCOPE OF WORK AND WORK SEQUENCE SHALL BE AS FOLLOWS:

1. CLEAN AND REINSTALL AS SHOWN HVAC AND ASSOCIATED ELECTRICAL SYSTEMS FROM WEST AND EAST WALLS OF BA01B IN PREPARATION FOR NEWLY INSTALLED EQUIPMENT.
2. INSTALL NEW PANEL LSE
3. INSTALL TEMPORARY FEEDER TO NEW PANEL LSE FROM LOAD OF EXISTING ATS LSE AND REVISE AND REFEED BRANCH FEEDERS FROM EXISTING TO NEW PANEL LSE
4. REMOVE EXISTING PANEL LSE
5. INSTALL NEW PANEL CBE
6. INSTALL TEMPORARY FEEDER TO NEW PANEL CBE FROM LOAD OF EXISTING ATS CBE AND REVISE AND REFEED BRANCH FEEDERS FROM EXISTING TO NEW PANEL CBE
7. REMOVE EXISTING PANEL CBE
8. INSTALL NEW ATS LSE
9. REVISE AND REFEED NORMAL, EMERGENCY, AND LOAD FEEDERS FOR NEW ATS LSE
10. REMOVE EXISTING ATS LSE
11. INSTALL NEW PANEL EBE
12. INSTALL TEMPORARY FEEDER TO NEW PANEL EBE FROM LOAD OF EXISTING ATS EBE AND REVISE AND REFEED BRANCH FEEDERS FROM EXISTING TO NEW PANEL EBE
13. REMOVE EXISTING PANEL EBE
14. REMOVE EXISTING ATS CBE
15. INSTALL NEW ATS CBE
16. REVISE AND REFEED NORMAL, EMERGENCY, AND LOAD FEEDERS FOR NEW ATS CBE
17. REMOVE EXISTING ATS EBE
18. INSTALL NEW ATS EBE
19. REVISE AND REFEED NORMAL, EMERGENCY, AND LOAD FEEDERS FOR NEW ATS EBE

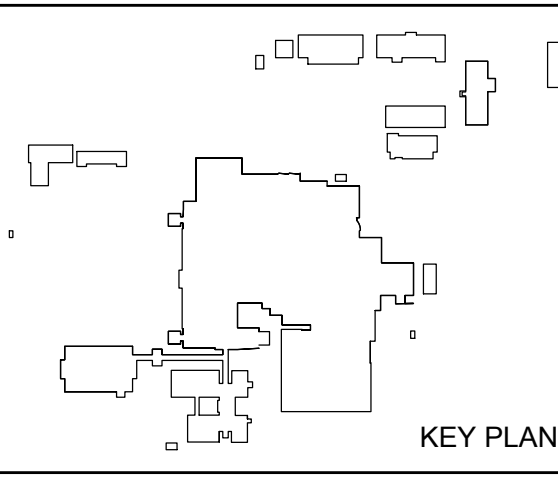
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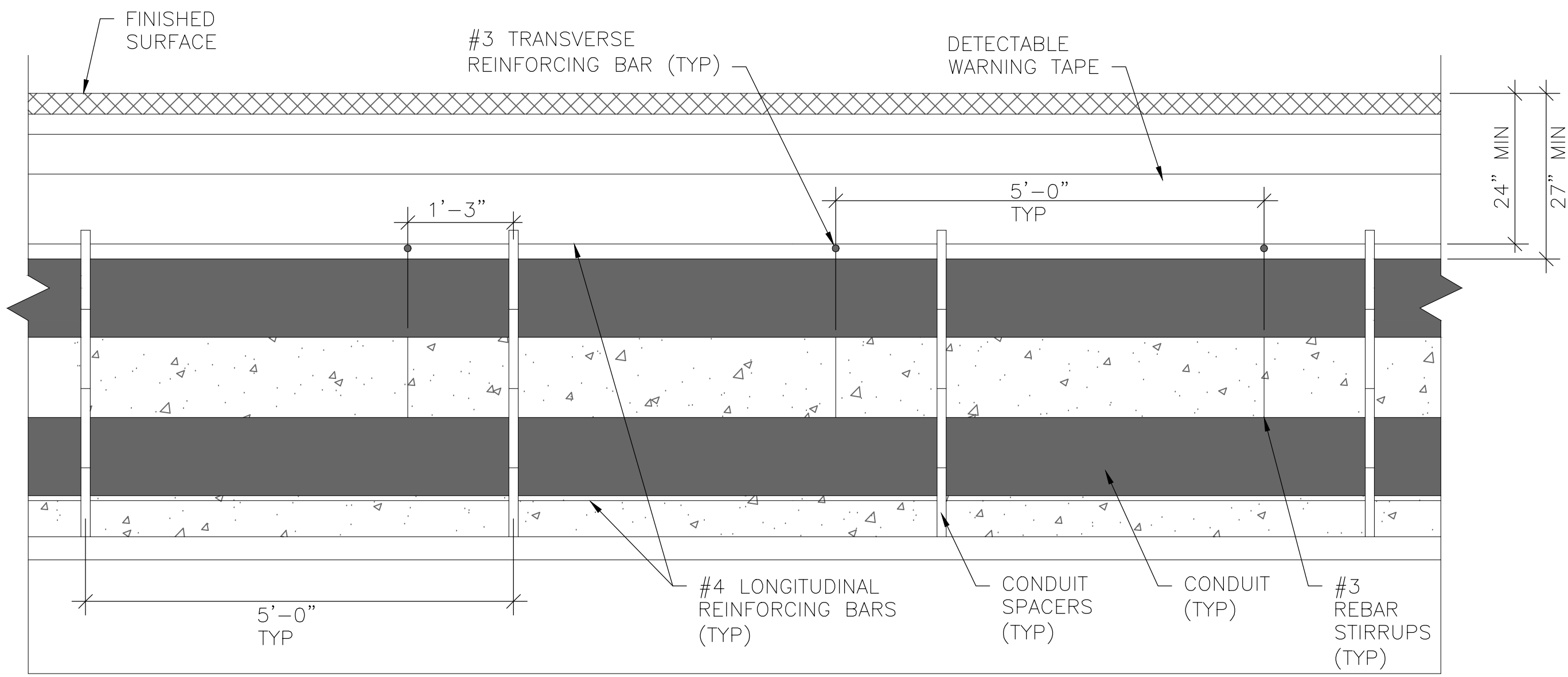


Drawing Title BUILDING 9 AND 46 PLAN - BASEMENT	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. 9, 46	AutoCAD File Name 437-17-103-E3.01.dwg

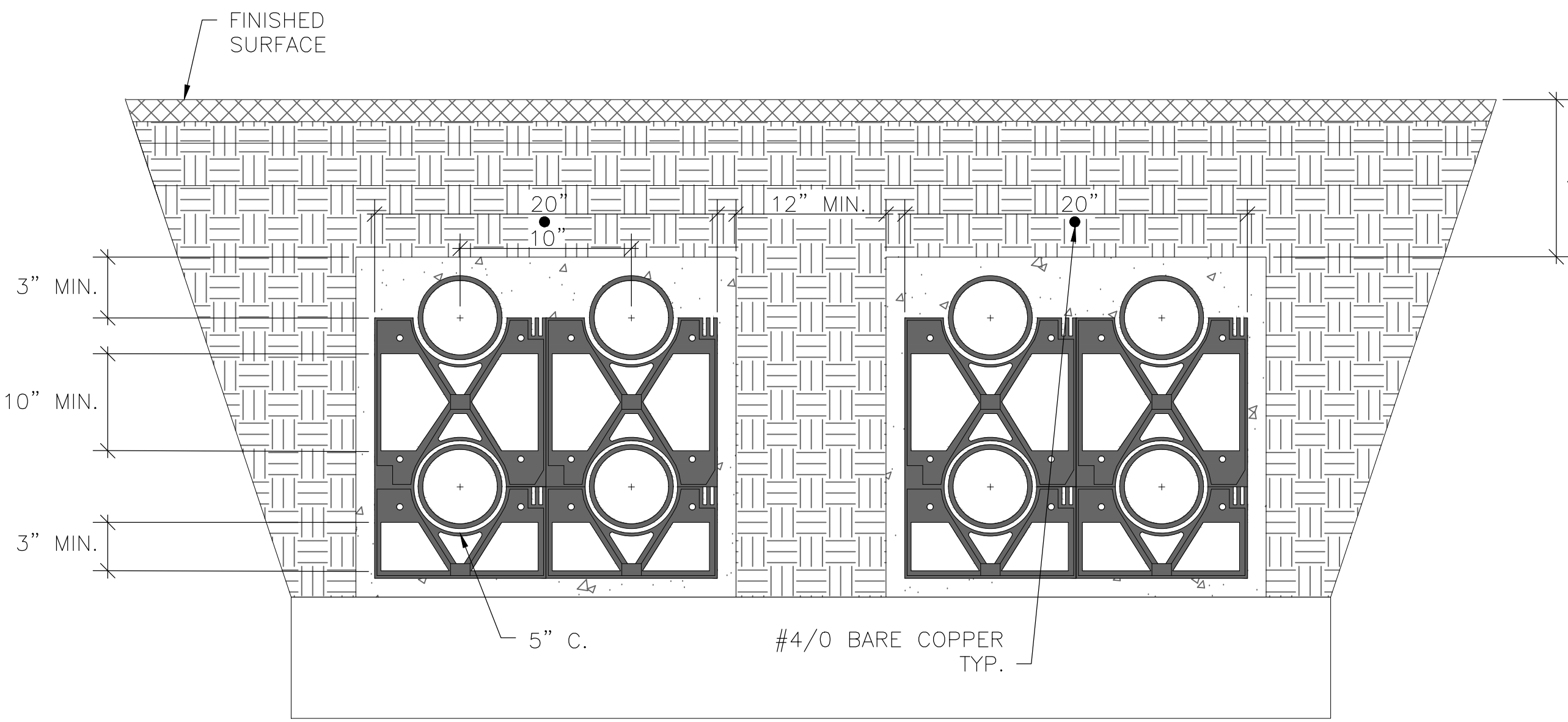
Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By BDH	Checked By TAV	Drawn By AGJ
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date APRIL 10, 2020
Scale AS NOTED
Drawing No. E3.01
Dwg. 29 of 35

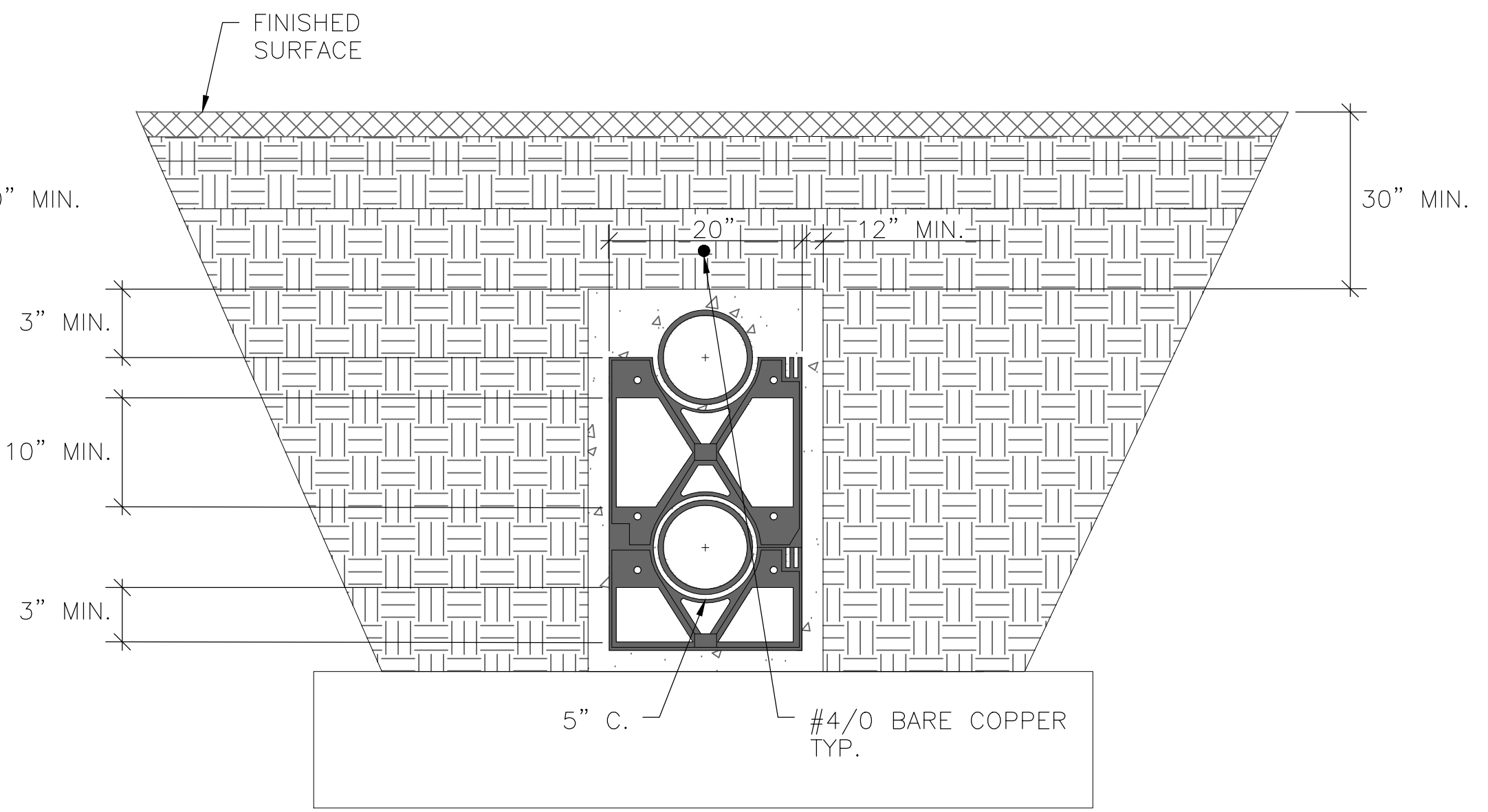




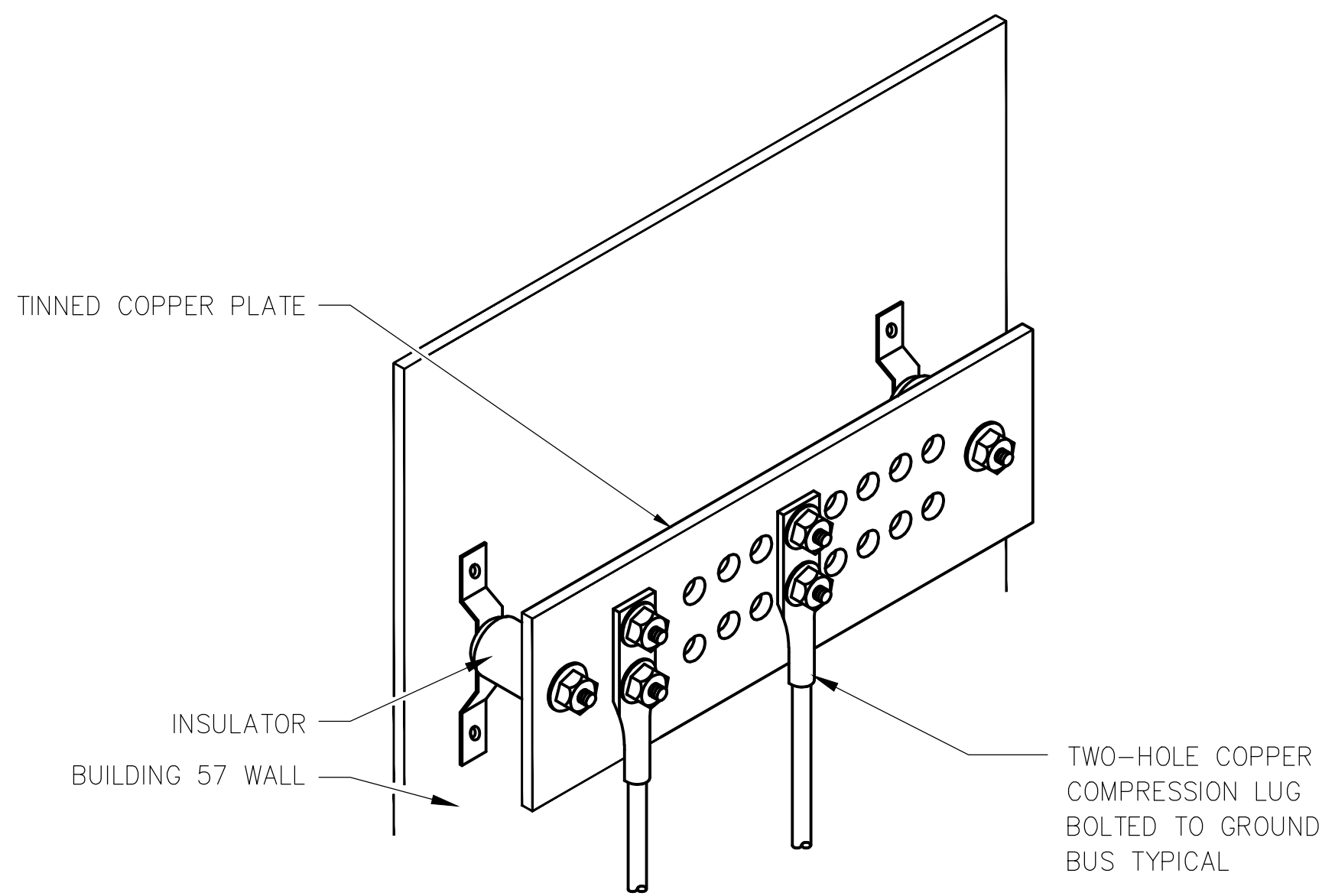
1 CONDUIT DUCTBANK LONGITUDINAL SECTION
SCALE: NTS



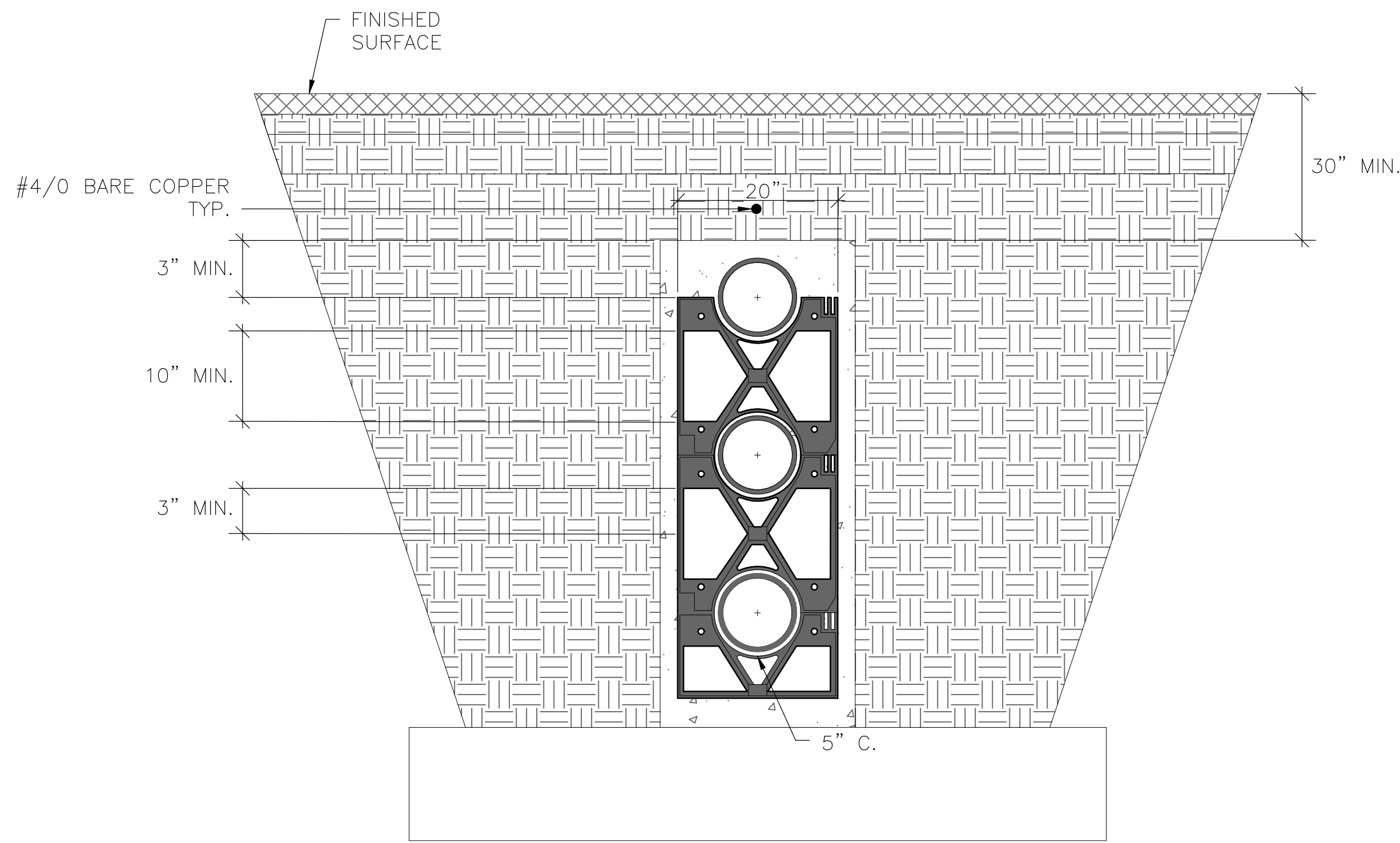
2 CONDUIT DUCTBANK CROSS SECTION
SCALE: NTS



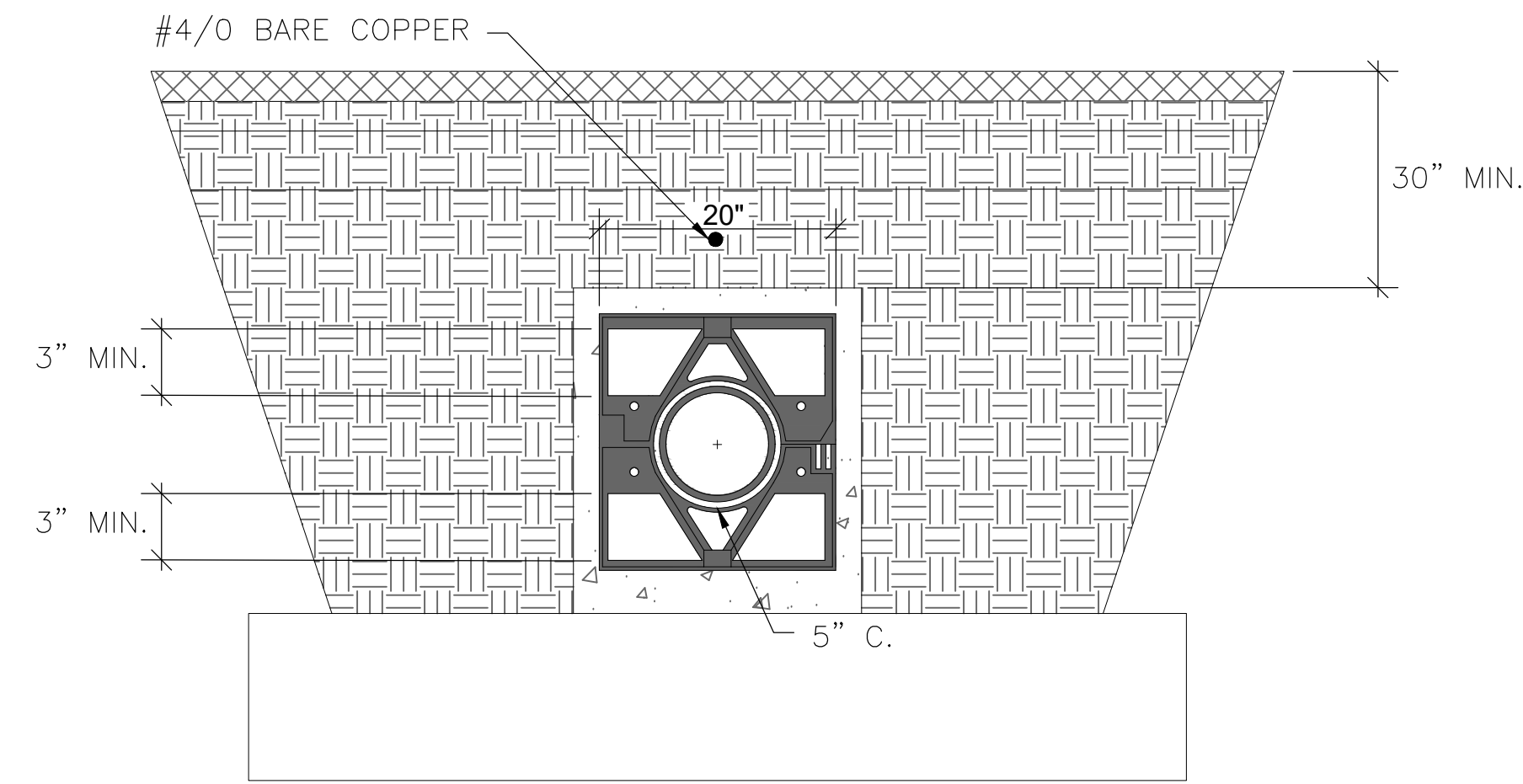
3 CONDUIT DUCTBANK CROSS SECTION
SCALE: NTS



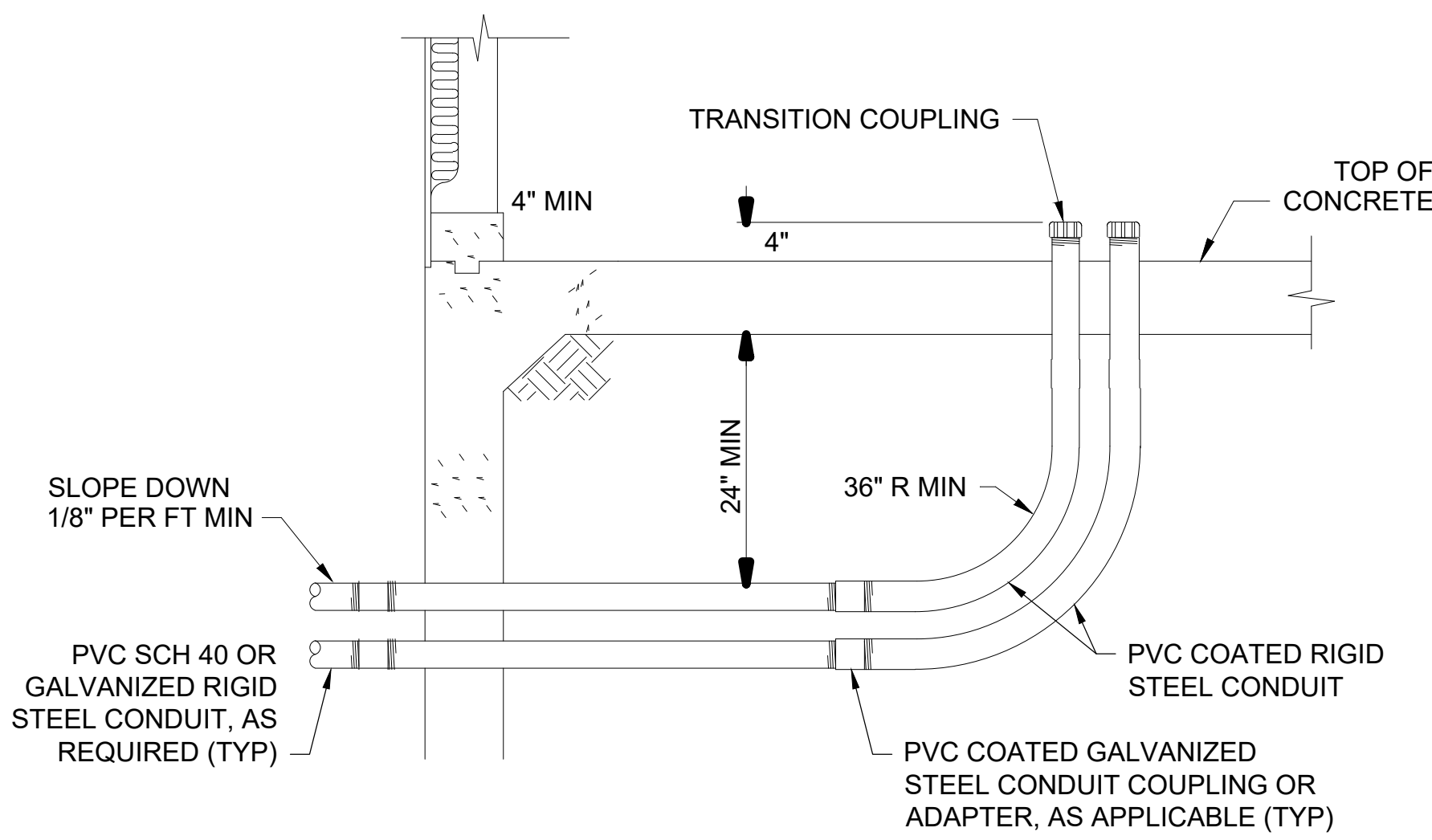
4 BUILDING 57 MAIN ELECTRICAL GROUNDING BAR
SCALE: NTS



5 CONDUIT DUCTBANK CROSS SECTION
SCALE: NTS

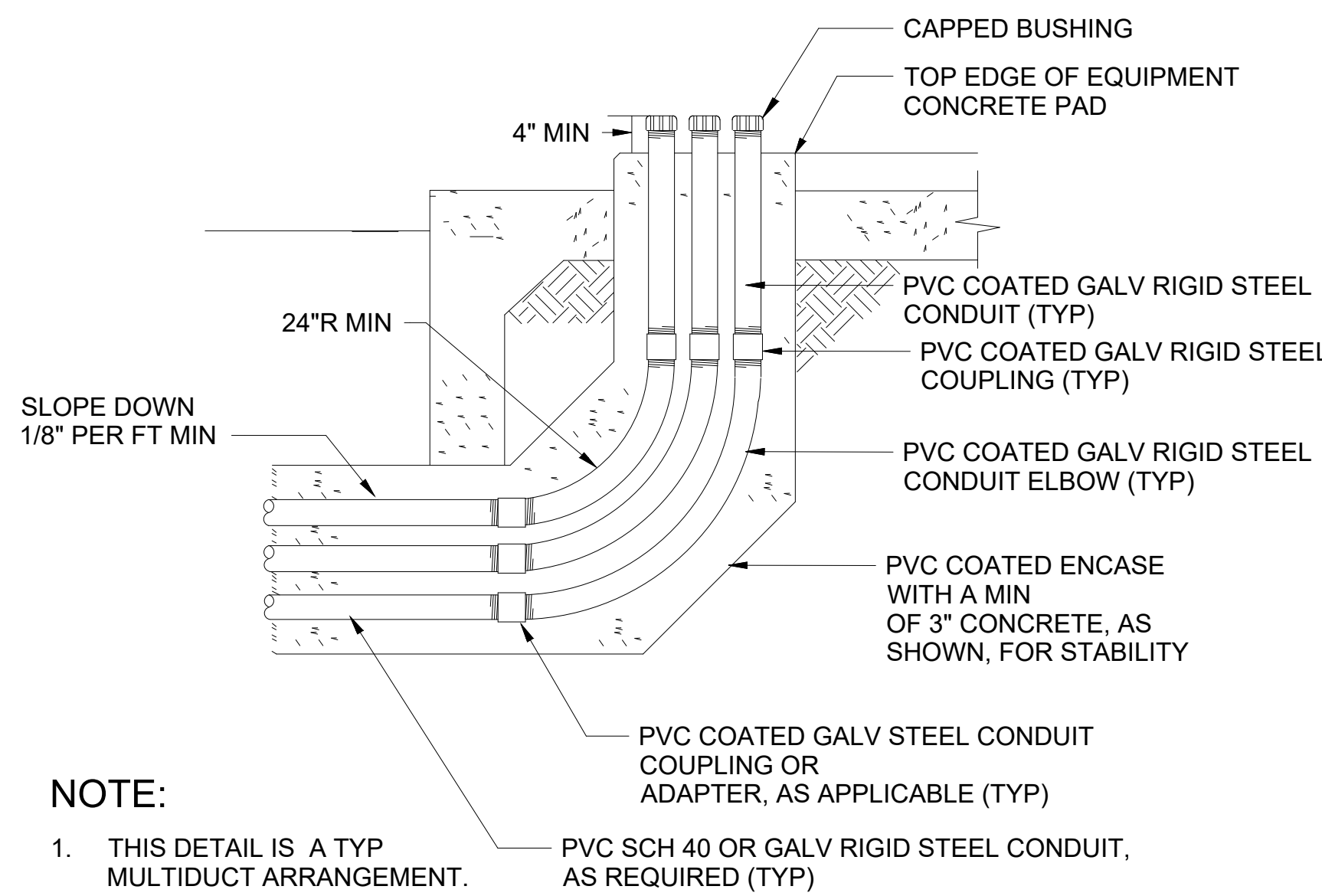


6 CONDUIT DUCTBANK CROSS SECTION
SCALE: NTS



NOTE:
1. THIS DETAIL IS A TYP
MULTIDUCT ARRANGEMENT.

7 TYPICAL LV STUBBED CONDUIT RISER
SCALE: NTS

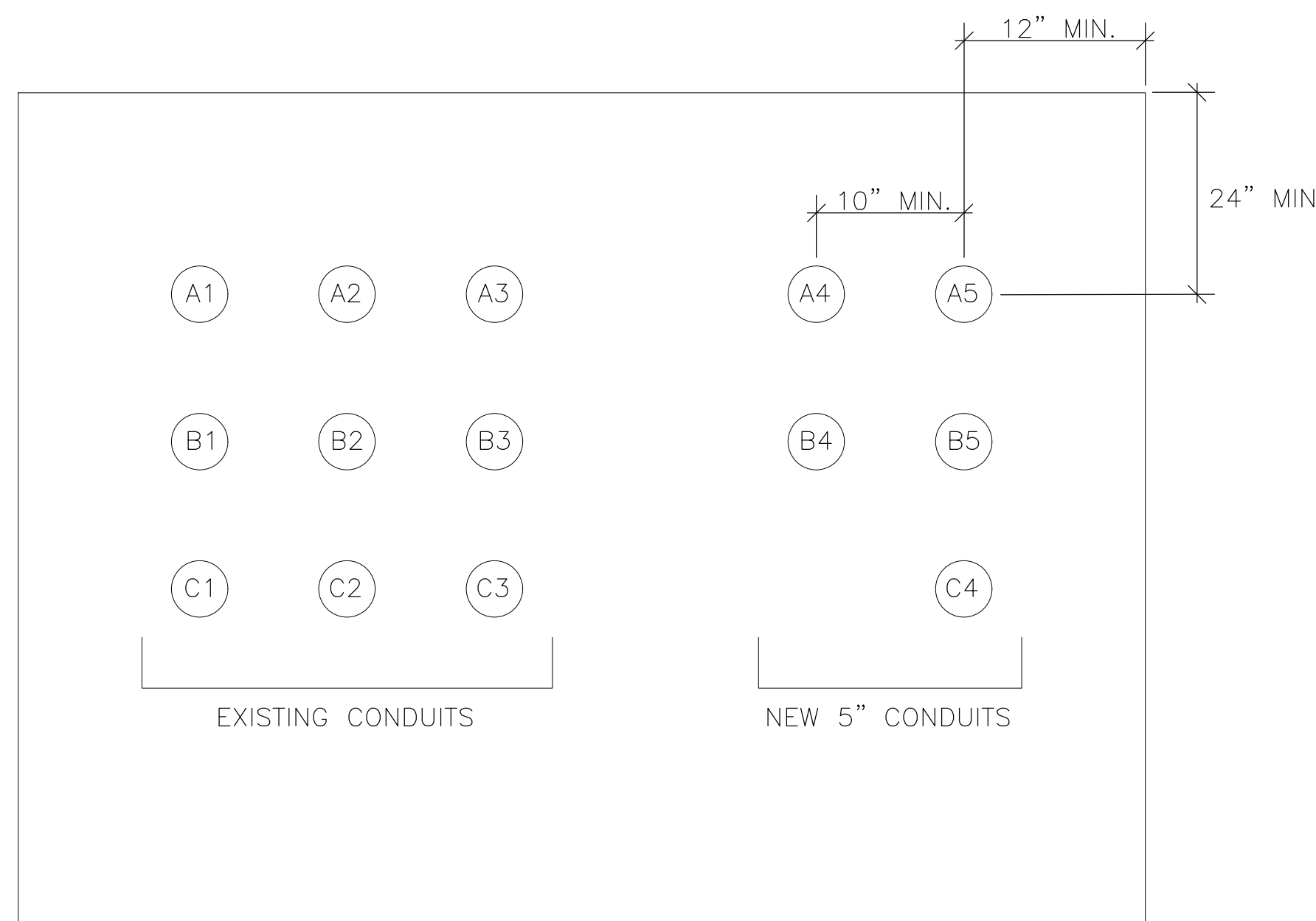


NOTE:
1. THIS DETAIL IS A TYP
MULTIDUCT ARRANGEMENT.

8 TYPICAL LV OR MV STUBBED DUCTBANK RISER
SCALE: NTS

CONDUIT TABLE	
CONDUIT	SOURCE
A1	SPARE
A2	FEEDER #2 EXISTING SWITCHGEAR
A3	FEEDER #3 EXISTING SWITCHGEAR
A4	FEEDER #3 NEW PMH-9A
A5	FEEDER #2 NEW PMH-9B
B1	SPARE
B2	FEEDER #1 EXISTING SWITCHGEAR
B3	SPARE EXISTING SWITCHGEAR
B4	SPARE PMH-9A
B5	FEEDER #1 NEW PMH-9B
C1	SPARE
C2	SPARE
C3	FEEDER #1 EXISTING BUILDING 11
C4	SPARE

1 CONTRACTOR TO FIELD VERIFY CIRCUIT DURING FIRST POWER
OUTAGE IN MANHOLE FOR CORE DRILLING NORTH WALL

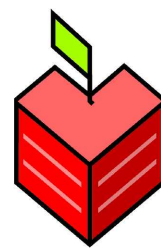


9 EXISTING MANHOLE 4 CONDUIT ENTRY
SCALE: NTS

BID DOCUMENT	04/10/20
Revisions	Date

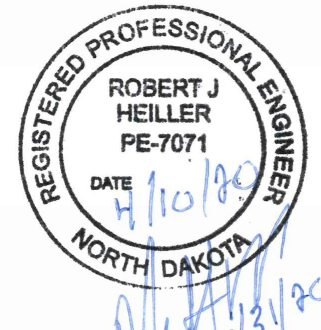


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Drawing Title DETAILS		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103		Contract No. 36C26318C0103		Scale NONE
Building No. SITE		Designed By RJH	Checked By SMW	Drawn By APT
AutoCAD File Name E5.01.dwg		Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Drawing No. E5.01 Dwg. 30 of 35



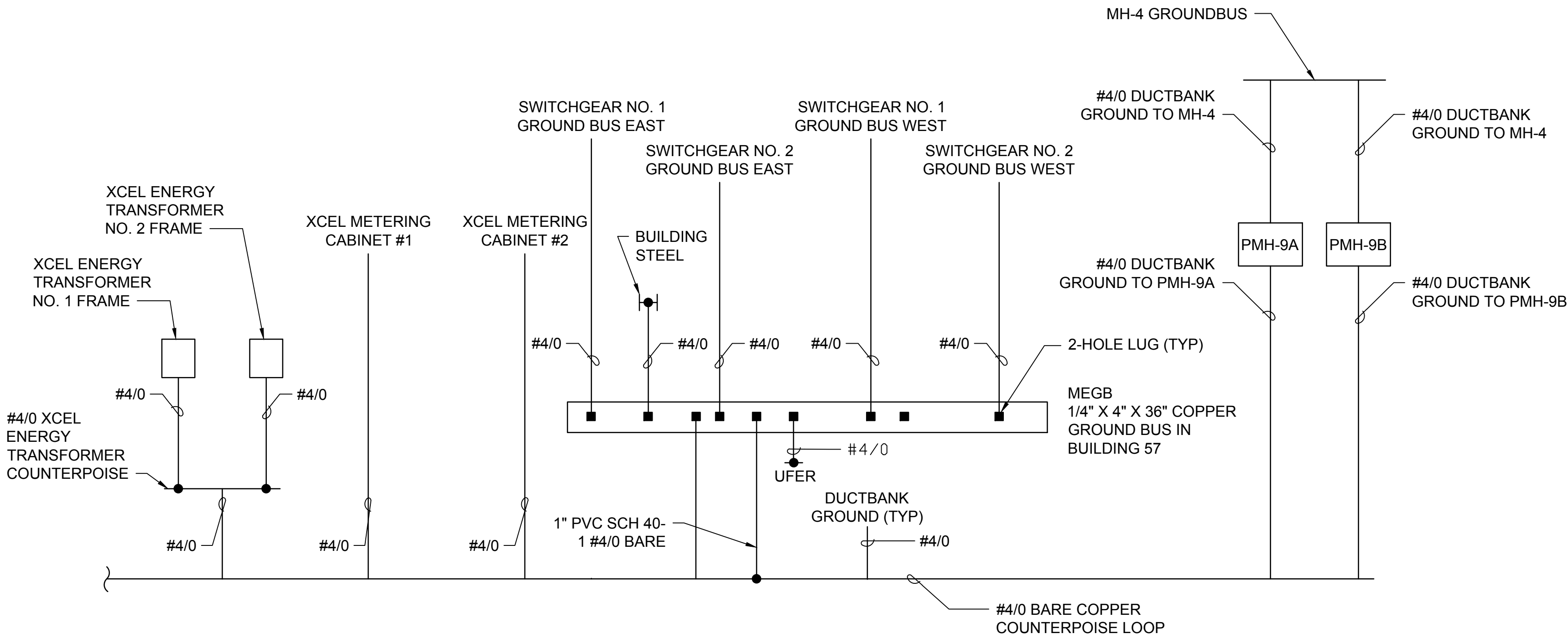
LIGHT FIXTURE SCHEDULE											
TYPE	DESCRIPTION	MANUFACTURER	MODEL	CATALOG NUMBER	LAMP TYPE	LUMENS	COLOR TEMP	VOLTAGE	WATTAGE	DESIGN LOAD	MOUNTING
* A1E	4' ENCLOSED AND GASKETED HIGH BAY WITH FROSTED LENS WITH EMERGENCY BATTERY PACK AND PHOTOCELL	COLUMBIA	LXEW	LXEW4-40L-FAW-EDU-ELL14	LED	11958	4000K	120V	91 W	91 VA	CHAIN HUNG
* A2E	2'X4' LAYIN LED PANEL WITH EMERGENCY BATTERY PACK AND PHOTOCELL	METALUX	24FP	24FP644C	LED	6838	4000K	120V	62.2 W	62.2 VA	CEILING
* B1	EMERGENCY LIGHT W/REMOTE CAPACITY AND INTERNAL BATTERY	EATON	SEL		LED	309	-	120V	5.1 W	5.1 VA	WALL
* C1E	EXTERIOR BUILDING MOUNTED WALLPACK WITH -30° C BATTERY PACK AND PHOTOCELL	HUBBELL OUTDOOR LIGHTING	SLING SERIES	SG2-50-4K7-120-DB-PCU-EH	LED	5526	4000K	120V	29 W	29 VA	WALL
* E1 & E2	EXIT SIGN	DUAL LITE	SE	SE-**-R-W-E	LED	-	-	120V	3.8 W	3.8 VA	UNIV
* E3 & E4	EXIT SIGN	DUAL LITE	SE	SE-**-R-W	LED	-	-	120V	3.8 W	3.8 VA	UNIV

* - OR EQUAL MANUFACTURER, MODEL, AND CATALOG NUMBER WITH SIMILAR PERFORMANCE REQUIREMENTS AS STATED IN LIGHT FIXTURE SCHEDULE.
** - SEE DRAWING FOR FACE TYPE.

PANELBOARD:				120/240 VOLTS 1 PHASE 3 WIRE				<input checked="" type="checkbox"/> 50 AMP MAIN BREAKER		FEED:		LOCATION: BUILDING 39				
TAG NUMBER 391N1				10,000 AMPS AIC BREAKER @ 240 VOLTS				<input type="checkbox"/> MAIN LUGS ONLY		<input checked="" type="checkbox"/> TOP <input type="checkbox"/> BOTTOM		FEEDER CABLE NUMBER:				
FURNISHED BY CONTRACT EXISTING				50 AMP MAIN BUS <input checked="" type="checkbox"/> SOLID NEUTRAL				<input type="checkbox"/> FEED THRU LUGS		MOUNT:		SOURCE: 571S1				
INSTALLED BY CONTRACT EXISTING				NEMA ENCLOSURE 1				<input type="checkbox"/> FLUSH <input checked="" type="checkbox"/> SURFACE								
LOAD VA	CONDUIT/WIRE/GND	BREAKER TRIP POLES		SERVICE	CIRCUIT OR CABLE NUMBER	CIRCUIT BREAKER				CIRCUIT OR CABLE NUMBER	SERVICE	BREAKER TRIP POLES		CONDUIT/WIRE/GND	LOAD VA	
-	-	15	1	SPARE		BKR NO	POLE NO	PANEL DIAGRAM	POLE NO	BKR NO						
						1		L1		2			40	2	3/4" C / 2#8 / 1#10	2500
453	3/4" C / 2#12 / 1#12	20	1	LIGHTS & SOUTH RECEPT.		3		L2		4			-	-	-	2500
500	3/4" C / 2#12 / 1#12	20	1	OUTSIDE LIGHT POLE EAST		5				6			SPARE	25	2	-
360	3/4" C / 2#12 / 1#12	20	1	NORTH RECEPTACLES		7				8			-	-	-	-
-	3/4" C / 2#12 / 1#12	40	2	MAIN		9				10			SPARE	20	1	-
-	-	-	-	-		11				12			SPARE	20	1	-
TOTAL CONNECTED LOAD: BUS AMPS: L1 25 AMPS L2 27 AMPS																
6250 VA / 26.0 AMPS																

NOTES:
1 ELECTRICAL CONTRACTOR TO FIELD VERIFY CIRCUIT LOAD, BREAKER SIZE/POLES, CONDUCTOR SIZE, AND CONDUIT SIZE FOR EACH CIRCUIT. PROVIDE AS-RECORDED DOCUMENTATION FOR FUTURE OWNER MAINTENANCE AND RECORDS.

PANELBOARD:				120/240 VOLTS 1 PHASE 3 WIRE				<input checked="" type="checkbox"/> 50 AMP MAIN BREAKER		FEED: <input checked="" type="checkbox"/> TOP <input type="checkbox"/> BOTTOM		LOCATION: BUILDING 57		
TAG NUMBER 571S1				10,000 AMPS AIC BREAKER @ 240 VOLTS				<input type="checkbox"/> MAIN LUGS ONLY				FEEDER CABLE NUMBER:		
FURNISHED BY CONTRACT				175 AMP MAIN BUS <input checked="" type="checkbox"/> SOLID NEUTRAL				<input type="checkbox"/> FEED THRU LUGS		MOUNT: <input type="checkbox"/> FLUSH <input checked="" type="checkbox"/> SURFACE		SOURCE: 4160 VOLT SWITCHGEAR A		
INSTALLED BY CONTRACT				NEMA ENCLOSURE 1										
LOAD VA	CONDUIT/WIRE/GND	BREAKER	SERVICE	PANEL	CIRCUIT OR CABLE NUMBER	CIRCUIT BREAKER				CIRCUIT OR CABLE NUMBER	SERVICE	BREAKER	CONDUIT/WIRE/GND	LOAD VA
						BKR NO	POLE	POLE DIAGRAM	POLE NO					
1080	3/4" C / 2#12 / 1#12	20 1	RECEPTACLES			1		2		UNIT HEATER UH-1	20 2	3/4" C / 2#12 / 1#12	1667	
604	3/4" C / 2#12 / 1#12	20 1	LIGHTING			3			4	-	-	-	1667	
500	3/4" C / 2#12 / 1#12	20 1	BATTERY CHARGER			5			6	UNIT HEATER UH-2	20 2	3/4" C / 2#12 / 1#12	1667	
910	3/4" C / 2#12 / 1#12	30 2	SSIU-1/CU-1			7			8	-	-	-	1667	
910	-	- -	-			9		10	METERING CAB. #1 HEATER	20 1	3/4" C / 2#12 / 1#12	500		
3000	1" C / 3#6 / 1#10	50 2	391N1			11		12	METERING CAB. #2 HEATER	20 1	3/4" C / 2#12 / 1#12	500		
3250	-	- -	-			13		14	SPARE	20 1	-	-		
-	-	20 1	SPARE			15		16	SPARE	20 1	-	-		
-	-	20 1	SPARE			17		18	SPARE	20 1	-	-		
TOTAL CONNECTED LOAD:						BUS AMPS:		L1 79.8 AMPS						
16,255 VA / 67.6 AMPS								L2 69.6 AMPS						



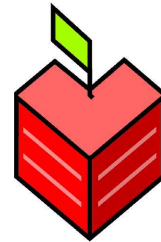
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E6.01

GROUNDING RISER DIAGRAM
SCALE: NTS

BID DOCUMENT	04/10/20
Revisions	Date

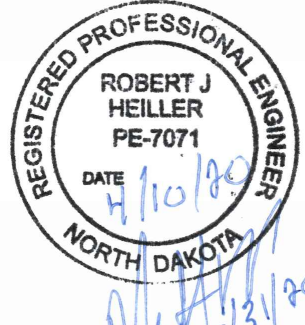


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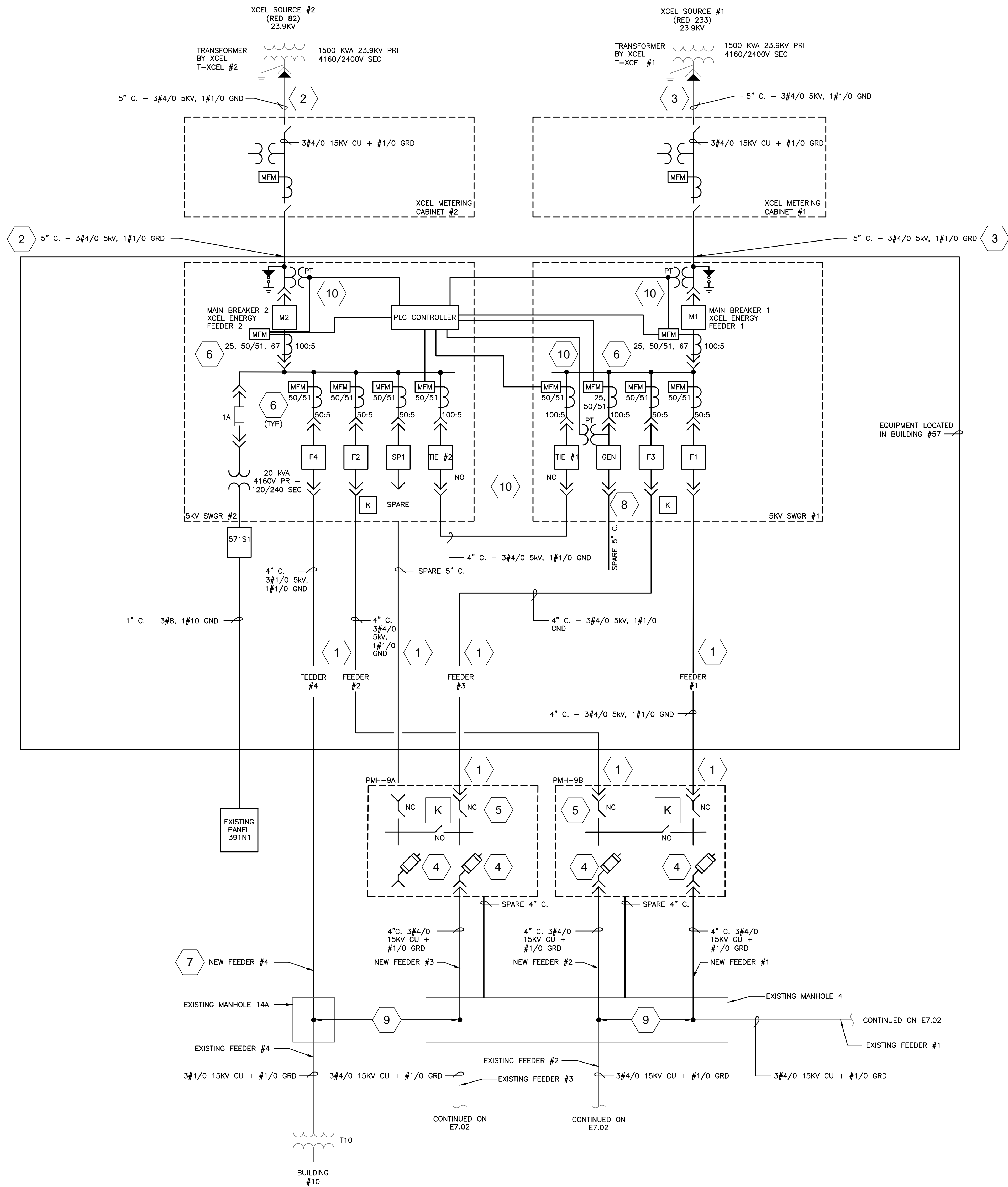
Drawing Title		Project Title		Date
SCHEDULES		CORRECT ELECTRICAL SYSTEM DEFICIENCIES		APRIL 10, 2020
VA Project No.	Contract No.	Designed By	Checked By	Scale
437-17-103	36C26318C0103	RJH	SMW	NONE
Building No.	AutoCAD File Name	Location	Drawn By	Drawing No.
39, 57	E6.01.dwg	FARGO VA HEALTH CARE SYSTEM FARGO, ND	APT	E6.01
				Dwg. 31 of 36

GENERAL NOTES:

- SEE DRAWING E2.01 FOR BUILDING 57 LAYOUT AND CONTINUATION OF CONDUITS AND FEEDERS AND NEW 4160 VOLT SWITCHGEAR A AND SWITCHGEAR B LOCATIONS..
- SEE DRAWING ED7.01 FOR DEMOLITION 5KV ONE-LINE DIAGRAM AND PHASING PLAN.
- SEE DRAWING E0.01 FOR WORK SEQUENCE/PHASING PLAN. COORDINATE ALL WORK WITH FARGO VA PROJECT ENGINEER BEFORE STARTING ANY DEMOLITION OR CONSTRUCTION WORK.
- COORDINATE ANY 5 KV WORK OR OUTAGES WITH FARGO VA PROJECT ENGINEER. ANY ELECTRICAL OUTAGE WILL REQUIRE A MINIMUM OF 21 DAY WRITTEN NOTICE TO FARGO VA PROJECT ENGINEER. FARGO VA PROJECT ENGINEER SHALL PROVIDE OUTAGE AUTHORIZATION AND RETAIN THE RIGHT TO STOP AUTHORIZATION FOR EMERGENCY OPERATION.
- SEE DRAWING E2.01 FOR EXISTING BUILDING 39 REVISED LAYOUT.
- ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY. SEE SPECIFICATION SECTION 01 00 00 SECTION 1.25 CONFINED SPACE POLICY AND PROCEDURE FOR ADDITIONAL INFORMATION.
- ALL WORK INSIDE MANHOLES AND ON ANY STRUCTURAL ELEMENT OF MANHOLE WILL REQUIRE THAT ALL POWER INSIDE/RUNNING THROUGH MANHOLE BE DE-ENERGIZED.
- ALL WORK REQUIRING AN ELECTRICAL SERVICE INTERRUPTION NEEDS TO BE COORDINATED WITH VA PROJECT ENGINEER PER SPECIFICATIONS 01 00 00.

KEYED NOTES:

- PROVIDE NEW 4160 VOLT FEEDERS BETWEEN 5KV SWITCHGEAR BREAKER, AND PMH-9A OR PMH-9B AS SHOWN ON ONE-LINE DIAGRAM ON DRAWING E7.01, SEE DRAWING E1.01 FOR SITE PLAN.
- PROVIDE NEW FEEDER #2 FROM XCEL ENERGY SOURCE #2 TRANSFORMER XCEL METERING CABINET #2 TO NEW 5KV SWGR #2.
- PROVIDE NEW FEEDER #1 FROM XCEL ENERGY SOURCE #1 TRANSFORMER TO XCEL METERING CABINET TO NEW 5KV SWGR #1.
- PROVIDE NEW 5 KV FEEDER FROM MANHOLE 4 TO NEW PMH SWITCH. PROVIDE NEW LOAD BREAK ELBOW TERMINATIONS AT PMH SWITCH.
- PROVIDE NEW PMH SWITCH WITH INTERLOCK ISOLATION SWITCH.
- MULTI FUNCTION RELAY, SUCH AS SEL OR BASLER.
- PROVIDE 5 KV FEEDER FROM MANHOLE 14A TO NEW SWITCHGEAR #2 FEEDER BREAKER #4.
- PROVIDE TEMPORARY 5KV #4/0 FEEDER FROM SPARE BREAKER GEN TO EXISTING SWITCHGEAR #1 MAIN BREAKER DURING TRANSITION OF XCEL ENERGY SERVICE #2 FEEDER AND 5KV FEEDERS #2 AND #4 TO NEW SWITCHGEAR #1 AND #2.
- PROVIDE SPLICE FROM NEW CABLE TO EXISTING CABLE IN MANHOLE. CONTRACTOR TO VERIFY EXISTING CABLE SIZE AND TYPE DURING OUTAGE TO COREDRILL FOR NEW CONDUIT(S). CONTRACTOR TO PROVIDE AN ADDITIONAL 15 FT OF NEW CABLE FOR EACH PHASE OF EACH CABLE SPLICE AND SUPPORT IN MANHOLE.
- PROVIDE PROGRAMMABLE LOGIC CONTROLLER (PLC) BASED CONTROLLER TO CONTROL MAIN-TIE-TIE-MAIN TRANSFER CONTROL WITH ALL OPEN TRANSITION SWITCHING. PROVIDE CONTROL FOR FUTURE GENERATOR ALSO USING OPEN TRANSITION SWITCHING. SEE SPECIFICATION 26 13 13 FOR ADDITIONAL SWITCHGEAR REQUIREMENTS.

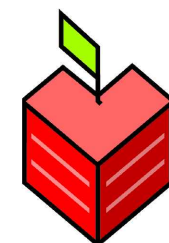


1 PARTIAL 5KV ONE-LINE DIAGRAM - NEW
E7.01 NO SCALE

BID DOCUMENT	04/10/20
Revisions	Date



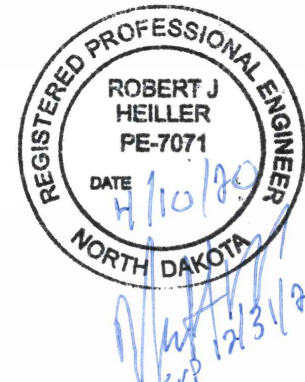
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Drawing Title PARTIAL 5KV ONE-LINE DIAGRAM - NEW		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		Date APRIL 10, 2020
VA Project No. 437-17-103		Contract No. 36C26318C0103		Scale NONE
Building No. SITE		AutoCAD File Name E7.01.dwg	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND	Drawn By APT
		Designed By RJH	Checked By SMW	Drawing No. E7.01
				Dwg. 33 of 35



GENERAL NOTES (THIS SHEET)

- SEE DRAWING ED7.01 FOR DEMOLITION 5KV ONE-LINE DIAGRAM AND PHASING PLAN.
- ALL MANHOLES ARE CONSIDERED AS A CONFINED SPACE AND ALL PROPER SAFETY PRECAUTIONS, PLANNING, AND DOCUMENTATION WILL BE REQUIRED FOR ENTRY.
- ALL WORK INSIDE MANHOLES AND ON ANY STRUCTURAL ELEMENT OF MANHOLE WILL REQUIRE THAT ALL POWER INSIDE/RUNNING THROUGH MANHOLE BE DE-ENERGIZED.
- ALL WORK REQUIRING AN ELECTRICAL SERVICE INTERRUPTION NEEDS TO BE COORDINATED WITH VA PROJECT ENGINEER PER SPECIFICATIONS SECTION 01 00 00.

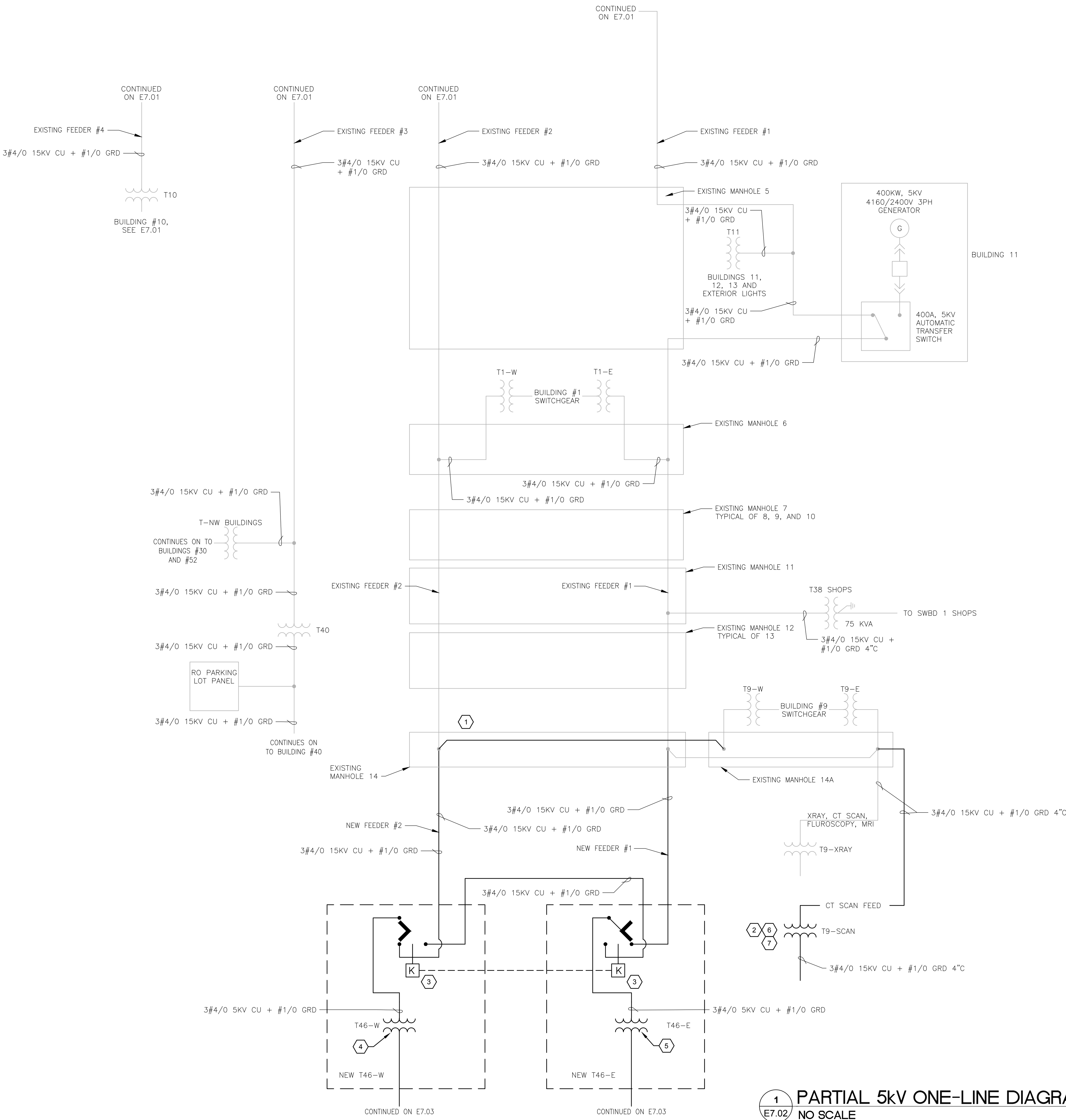
KEY NOTES (THIS SHEET)

- PROVIDE NEW 5KV FEEDER FROM JUNCTION BARS IN MANHOLE TO EXISTING TRANSFORMER T9-W. TEST PER SPECIFICATIONS. CONNECT NEW FEEDER IN MANHOLE AND TERMINATE TO EXISTING TRANSFORMER. SEE SHEET E1.02 FOR MORE INFORMATION.
- ALTERNATE BID NO. 3: PROVIDE NEW PAD MOUNTED TRANSFORMER T9-SCAN. TERMINATE EXISTING CABLES ON NEW TRANSFORMER AND TEST PER SPECIFICATIONS. SEE SHEET E1.02 FOR MORE INFORMATION.
- ALTERNATE BID NO.4: PROVIDE 2 LOCK SINGLE KEY LOCK OUT FOR TRANSFORMER T46-E AND T46-W SECTIONALIZING SWITCHES TO PREVENT PARALLEL TRANSFORMER OPERATION AND BRIDGING OF FEEDER #1 AND FEEDER #2.
- ALTERNATE BID NO.4: PROVIDE NEW PAD MOUNTED TRANSFORMER T46-W. TERMINATE NEW CABLE ON NEW TRANSFORMER AND TEST PER SPECIFICATIONS. SEE SHEET E1.02 FOR MORE INFORMATION.
- ALTERNATE BID NO.4: PROVIDE NEW PAD MOUNTED TRANSFORMER T46-E. TERMINATE EXISTING CABLE ON NEW TRANSFORMER AND TEST PER SPECIFICATIONS. SEE SHEET E1.02 FOR MORE INFORMATION.
- ALTERNATE BID NO.3: PROVIDE SECONDARY OVERCURRENT PROTECTION FOR TRANSFORMER T9-SCAN SECONDARY AND SERVICE ENTRANCE CONDUCTORS. NEW BREAKER TO PROVIDE PROTECTION OF SERVICE ENTRANCE CONDUCTORS AND BRING INSTALLATION INTO COMPLIANCE WITH NEC. PROVIDE LSI BREAKER THAT COORDINATES WITH DOWNSTREAM DEVICES. SUBMIT COORDINATION TC CURVES TO ENGINEER OF RECORD DURING SHOP DRAWING REVIEW.
- ALTERNATE BID NO.3: WHEN WORKING ON THIS ELECTRICAL SYSTEMS ALL WORK SHALL BE PERFORMED WITH SYSTEMS DE-ENERGIZED. ALL SERVICE INTERRUPTION WORK SHALL BE SCHEDULED FOR APPROVAL BY THE VA PROJECT ENGINEER 21 DAYS IN ADVANCE. SEE SPECIFICATION SECTION 01 00 00, 1.5, K FOR FURTHER REQUIREMENTS.

BUILDING 46 SWITCHGEAR REPLACEMENT PROPOSED SEQUENCE OF WORK

ALTERNATE BID NO.4: THE FOLLOWING SEQUENCE OF WORK IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND IS INTENDED TO CONVEY TO THE CONTRACTOR A BASIS OF DESIGN FOR THE REPLACEMENT OF BUILDING 46 MTS, T46-E AND T46-W WITH NEW EQUIPMENT WHILE MAINTAINING MINIMAL DISRUPTION TO THE 24-7 OPERATION OF THIS FACILITY. CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED SCHEDULE WITH PROPOSED OUTAGE DURATIONS AT EQUIPMENT SHOP DRAWING REVIEW.

- OPEN BUILDING #46 EAST END MAIN FOR BUILDING #46 SWITCHBOARD
- CLOSE BUILDING #46 SWITCHBOARD TIE BREAKER
- VERIFY BUILDING #46 SWITCHBOARD VOLTAGE AND LOADS ARE NORMAL
- SHUTDOWN BOTH #1 AND #2 5KV FEEDERS
- PROVIDE TEMPORARY 5KV FEEDER IN RMC FROM EXISTING TRANSFORMER T46-W PRIMARY TO FEEDER #1 JUNCTION BARS IN MANHOLE #14 USING A COMPATIBLE BUSHING CONNECTION
- DISCONNECT AND REMOVE EXISTING BUILDING 46 MTS FEEDERS #1 AND #2 SEGMENTS FROM THE MTS BACK TO JUNCTION BAR TAPS IN MH 14 AND MTS LOAD CIRCUITS TO T46-E AND T46-W TRANSFORMERS
- INSTALL PROTECTION CAPS ON LOAD BREAK BUSHINGS IN MANHOLE 14 AND RE-ENERGIZE CIRCUITS #1 AND #2
- BUILDING 46 SHOULD NOW BE IN SERVICE TEMPORARILY FED FROM EXISTING TRANSFORMER T46-W CONNECTED TO 5KV FEEDER #1 AND THE SWITCHBOARD BUS-TIE CONNECTED IN BUILDING 46
- DEMO BUILDING 46 EXISTING T46-E TRANSFORMER, EXISTING MTS, AND BASE. PREPARE LOCATION FOR NEW TRANSFORMER BASE, OIL CONTAINMENT, AND REVISE EXISTING CONDUITS FOR NEW TRANSFORMER
- INSTALL NEW 5KV FEEDER #1 SEGMENT FROM NEW MANHOLE 14 JUNCTION BARS TO NEW TRANSFORMER T46-E
- INSTALL NEW SECONDARY CONDUCTORS FROM NEW TRANSFORMER T46-E TO EXISTING BUILDING 46 SWITCHGEAR
- TEST NEW TRANSFORMER T46-W PER SPECIFICATIONS AND MANUFACTURER'S REQUIREMENTS IN PREPARATION TO TAKE BUILDING 46 LOAD
- SHUT DOWN FEEDERS #1 AND #2
- REMOVE TEMPORARY 5KV FEEDER TO EXISTING TRANSFORMER 46 WEST. INSTALL LOAD BREAK PROTECTIVE CAPS WHERE NEEDED TO RE-ENERGIZE FEEDER #1 AND #2 WITH BUILDING 46 FED FROM NEW TRANSFORMER T46-E MTS CONNECTED TO FEEDER #1
- REMOVE EXISTING TRANSFORMER T46-E AND REMAINING BASE STRUCTURE
- INSTALL NEW TRANSFORMER T46-W, NEW SECONDARY FEEDERS FROM T46-W TO BUILDING 46 SWITCHBOARD AND NEW 5KV FEEDER FROM TRANSFORMER T46-WEST TO MANHOLE 14
- TEST NEW TRANSFORMER T46-EAST PER SPECIFICATIONS AND MANUFACTURER'S REQUIREMENTS IN PREPARATION TO TAKE BUILDING 46 LOAD
- SHUT DOWN FEEDERS #1 AND #2. RECONNECT TRANSFORMER T46-WEST TO FEEDER #1 AND TRANSFORMER T46-E TO FEEDER #2 AND COMPLETE TIE JUMPER FROM T46-E TO T46-W
- VERIFY PHASING AND ROTATION FOR NEW T46-E AND T46-W IN ALL POSITIONS
- CLOSE EAST SIDE MAIN FOR BUILDING 46
- OPEN TIE BREAKER ON BUILDING 46 MAIN SWITCHBOARD
- PLACE SYSTEM IN NORMAL OPERATION WITH T46-W ON FEEDER #1 AND T46-E ON FEEDER #2

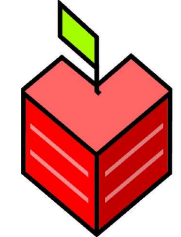


1 PARTIAL 5KV ONE-LINE DIAGRAM - NEW
E7.02 NO SCALE

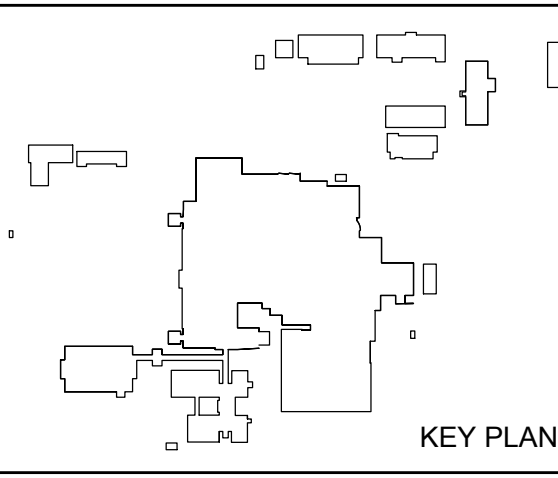
BID DOCUMENTS	04/10/20
Revisions	Date



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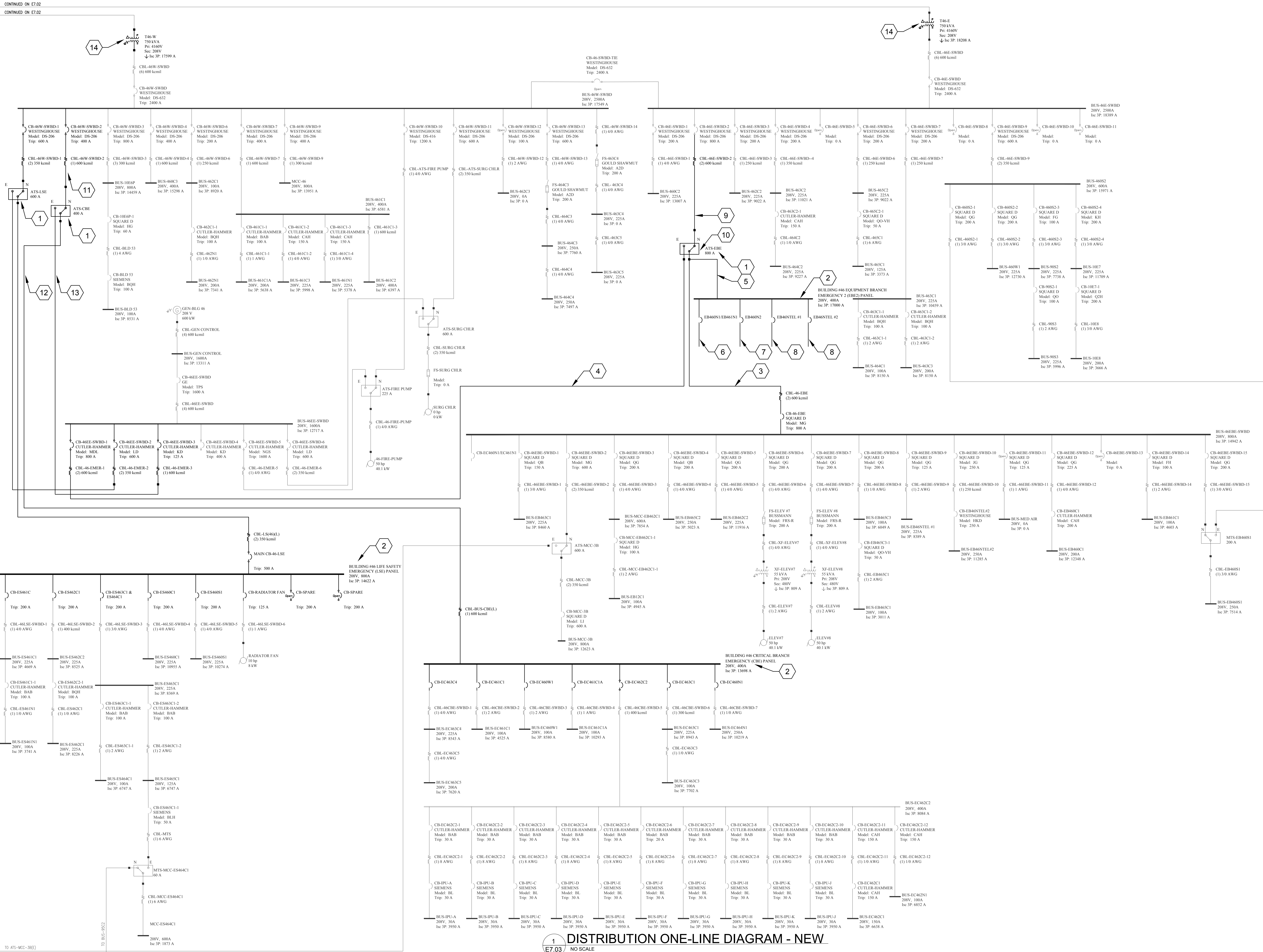


Drawing Title PARTIAL 5KV ONE-LINE DIAGRAM - NEW	
VA Project No. 437-17-103	Contract No. 36C26318C0103
Building No. 9	AutoCAD File Name 437-17-103-E7.02.dwg

Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES		
Designed By BDH	Checked By TAV	Drawn By AGJ
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date APRIL 10, 2020
Scale NTS
Drawing No. E7.02
Dwg. 34 of 35





GENERAL NOTES (THIS SHEET)

1. WHEN WORKING ON ELECTRICAL SYSTEMS ALL WORK REQUIRING SHUT DOWNS WILL NEED TO BE SCHEDULED. VERIFY ALL PHASING AND AVAILABLE SHUTDOWN HOURS WITH VA PROJECT ENGINEER. ALL SHUT DOWN WORK WILL BE REQUIRED TO BE EVENING AND NIGHT WORK AND SHALL BE COMPLETED AND OPERATIONAL BY MIDNIGHT.

KEY NOTES (THIS SHEET)

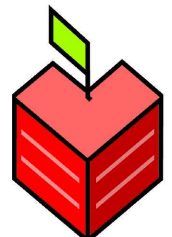
1. PROVIDE NEW ATS. SEE SHEET E3.01 FOR MORE INFORMATION.
2. PROVIDE NEW PANEL. SEE SHEET E3.01 FOR MORE INFORMATION.
3. PROVIDE NEW CONDUCTORS IN REVISED CONDUIT FROM NEW ATS-EBE TO EXISTING PANEL-EBE.
4. PROVIDE NEW CONDUCTORS IN REVISED CONDUIT FROM PANEL-46EE TO NEW ATS-EBE.
5. PROVIDE NEW CONDUIT AND CONDUCTORS FROM NEW ATS-EBE TO NEW PANEL-EBE2.
6. PROVIDE NEW J-BOX IN NORTH EAST CORNER OF ROOM BA-01A. EXTEND NEW CONDUIT AND CONDUCTORS FROM NEW PANEL EBE2. SPLICE CONDUCTORS IN J-BOX PER SPECIFICATIONS.
7. PROVIDE NEW CONDUIT FROM EMERGENCY POWER J-BOX ROOM BA-01A TO NEW PANEL-EBE2. PROVIDE NEW CONDUCTORS TO PANEL EBE2. SPLICE CONDUCTORS IN J-BOX PER SPECIFICATIONS.
8. PROVIDE NEW J-BOX IN NORTH WEST CORNER OF ROOM BA-01B. EXTEND NEW CONDUIT AND CONDUCTORS FROM NEW PANEL EBE2. SPLICE FEEDER IN J-BOX PER SPECIFICATIONS.
9. PROVIDE NEW CONDUCTORS IN REVISED CONDUIT FROM SWBD-46E TO NEW ATS-EBE.
10. PROVIDE PROVISIONS FOR (2) SETS OF 800 AMP FEEDERS AT LOAD TERMINALS.
11. PROVIDE NEW CONDUCTORS IN REVISED CONDUIT TO NEW ATS-CBE.
12. PROVIDE NEW CONDUIT AND CONDUCTORS FROM ATS-CBE TO RELOCATED PANEL-CBE.
13. PROVIDE NEW CONDUCTORS IN REVISED CONDUIT FROM PANEL-EE TO NEW ATS-CBE.
14. SEE SHEETS E1.02 AND E7.02 FOR ADDITIONAL INFORMATION ON NEW TRANSFORMER.

DISTRIBUTION ONE-LINE DIAGRAM - NEW

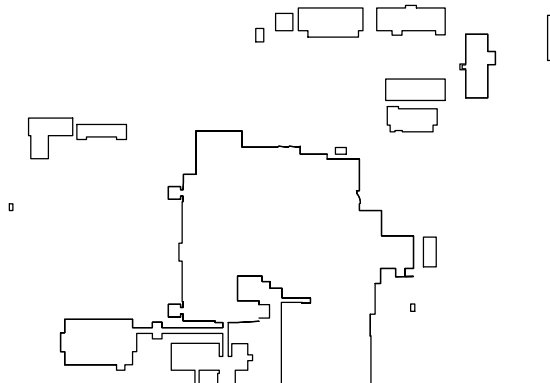
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Drawing Title DISTRIBUTION ONE-LINE DIAGRAM - NEW		Project Title CORRECT ELECTRICAL SYSTEM DEFICIENCIES			Date APRIL 10, 2020
					Scale NTS
VA Project No. 437-17-103	Contract No. 36C26318C0103	Designed By BDH	Checked By TAV	Drawn By AGJ	Drawing No. E7.03
Building No. 46	AutoCAD File Name 437-17-103-E7.03.dwg	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND.			Dwg. 35 of 36

Department of
Veterans Affairs