



E

SHEET NO.

TEC PROJECT: 23365



PA	RT 1 GENERAL	PA	RT 2 PRODUCT
1.1	PROVIDE ALL LABOR AND MATERIAL FOR ALL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN, OR REASONABLY IMPLIED, TESTED AND READY FOR USE BY THE OWNER.	2.1	ALL MATERIA THE LATEST A AS INTERPRE
1.2	REFER TO THE CIVIL AND OTHER CONTRACT DOCUMENTS FOR THE PROJECT. ELECTRICAL WORK AND/OR COORDINATION ITEMS INDICATED ON THESE DOCUMENTS ARE A PART OF THE ELECTRICAL SCOPE OF WORK.		ADHERE TO F STANDARDS / SITE-SPECIFIC SITE. NEW EC
1.3	DISCREPANCIES BETWEEN EACH DIVISION'S DOCUMENTS OR BETWEEN THE DOCUMENTS AND THE EXISTING BUILDING OR SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE SUBMITTING A BID.	2.2	ALL WIRING S 600-VOLT INS WIRE SIZE IS
1.4	THE ELECTRICAL SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING EQUIPMENT OR SYSTEMS: A. SERVICE UPGRADE		CIRCUIT LENC A. COLOI 1.
	A. SERVICE UPGRADEB. UNDERGROUND FEEDER AND WIRING RECONNECTIONS		
	C. DUCT BANK EXCAVATION AND RESTORATION		2.
	 D. TRANSFORMERS AND DISCONNECTS E. PROJECT START UP, SERVICE CHARGES, AND COORDINATION WITH UTILTIY COMPANY 		۷.
	F. GROUNDING AND GROUNDING SYSTEMS		3.
1.5	G. DEMOLITION OF EXISTING EQUIPMENT, DEVICES AND WIRING. SUBMITTALS, OR SHOP DRAWINGS ARE REQUIRED FOR THE FOLLOWING EQUIPMENT OR	2.3	ALL INTERIOF
1.0	SYSTEMS:	2.3	DAMAGE AND CONDUIT SHA
	A. UTILITY DRAWINGSB. TRANSORMERS AND DISCONNECTS		GRADE. PVC EXTERIORS.
	C. PROVIDE SUBMITTALS ONLY FOR EQUIPMENT LISTED ABOVE. ALL SUBMITTALS MUST BE REVIEWED FOR PROPER CONTENT AND ACCURACY BY THE CONTRACTOR BEFORE SUBMISSION TO THE ENGINEER.		SHALL BE US WHERE VIBRA AREAS OR AF
	D. SUBMITTALS SHALL BE REVIEWED ONLY FOR GENERAL COMPLIANCE AND NOT FOR	2.4	RMC OR IMC, TRANSFORM
	DIMENSIONS, QUANTITIES, ETC. THE SUBMITTALS THAT ARE RETURNED SHALL BE USED FOR PROCUREMENT. THE RESPONSIBILITY OF CORRECT PROCUREMENT REMAINS SOLELY WITH THE CONTRACTOR. THE SUBMITTAL REVIEW SHALL NOT		PROVIDED FF
	RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR OMISSIONS AND DEVIATIONS FROM THE CONTRACT REQUIREMENTS. ELECTRONIC COPIES ARE REQUIRED. REFER TO DIVISION 1 FOR EXACT QUANTITIES AND OTHER SUBMITTAL	2.5	FUSIBLE AND MAKE/ QUICK
	REQUIREMENTS.		(EXTERIOR) U
1.6	RECORD DRAWINGS AND OPERATION AND MAINTENANCE MANUALS ARE REQUIRED TO BE SUBMITTED TO THE OWNER'S REPRESENTATIVE AND APPROVED BEFORE A FINAL		SHALL BE DU. VOLT) FOR 60 EQUIVALENT
	CONTRACT PAY REQUEST. RECORD DRAWINGS INCLUDE A CLEAN SET OF CONTRACT DRAWINGS IDENTIFYING CHANGES OR DEVIATIONS MADE TO THE ORIGINAL DESIGN AND MUST INCLUDE FEEDER POLITINGS, TOPERATION AND MAINTENANCE MANULALS (2) SETS)	2.6	NAMEPLATES
	MUST INCLUDE FEEDER ROUTINGS. [OPERATION AND MAINTENANCE MANUALS (3 SETS) SHALL INCLUDE A COPY OF ALL APPROVED SUBMITTALS, EQUIPMENT MAINTENANCE INSTRUCTIONS, TEST REPORTS, INSPECTION REPORTS, EQUIPMENT WARRANTIES, AND		EQUIPMENT A BACKGROUNI PANELBOARE
	THE CONTRACTORS' ONE-YEAR GUARANTEE ON EQUIPMENT AND LABOR]. REFER TO DIVISION 1 FOR EXACT QUANTITIES AND OTHER SUBMITTAL REQUIREMENTS.		
1.7	DEMOLITION OF EXISTING ELECTRICAL EQUIPMENT IS REQUIRED, AS FOLLOWS:		RT 3 EXECUTIO
	A. DEMOLITION INDICATED ON THE CONTRACT DOCUMENTS IS SHOWN IN GENERAL TO INDICATE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A	3.1	COORDINATE WITH OWNER
	RECORD DRAWING OF EXISTING CONDITIONS. ACCORDINGLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE DEMOLITION OF THE ELECTRICAL WORK INDICATED INCLUDING ANY CONCEALED ITEMS OR ANY EXISTING ITEMS NOT	3.2	CUTTING AND SKILLED MEC
	SHOWN ON THE CONTRACT DOCUMENTS. BEFORE DEMOLITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPROPRIATE FIELD-TESTING TO DETERMINE THE		TRADES CON
	NATURE OF THE EXISTING ELECTRICAL WORK TO BE DEMOLISHED TO PROTECT EXISTING WORK REMAINING IN PLACE AND TO PROTECT THE PUBLIC.	3.3	SHUTDOWNS
	B. REPAIR AND RESTORE TO ORIGINAL SOUND CONDITION ALL ITEMS OR PORTIONS OF ELECTRICAL WORK, WHICH ARE NOT NOTED TO BE DEMOLISHED, BUT ARE	3.4	LESS OR PRO
	DAMAGED BY WORK UNDER THIS CONTRACT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND RETAIN POWER TO ALL EXISTING EQUIPMENT	0.1	LOCATIONS C
	THAT SHALL REMAIN. RECONNECT ANY EQUIPMENT BEING DISTURBED BY THIS RENOVATION, YET REQUIRED FOR CONTINUED SERVICE TO SAME OR NEAREST AVAILABLE PANEL.		CONFIRM THE REPRESENTA
	C. DO NOT PROCEED WITH DEMOLITION WITHOUT WRITTEN AUTHORITY. PROCEED	3.5	LOCATION OF
	WITH DEMOLITION IN A SYSTEMATIC MANNER AND COORDINATE WITH ALL TRADES INVOLVED. COORDINATE AND SEQUENCE DEMOLITION SO AS NOT TO CAUSE A SHUTDOWN OF OPERATION OF SURROUNDING AREAS.	5.5	CONDUIT PEN
	D. DISCONNECT OR SHUT OFF SERVICE TO AREAS WHERE ELECTRICAL WORK IS TO BE REMOVED. REMOVE ALL ELECTRICAL LUMINARIES, EQUIPMENT, AND RELATED		OPEN SETTI
	SWITCHES, OUTLETS, CONDUIT, AND WIRING, WHICH ARE NOT A PART OF THE FINAL PROJECT IN ALL AREAS WHERE WORK OF THIS CONTRACT IS TO BE PERFORMED.		B. FINAL OWNE
	ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF BY THIS CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE. ABANDONED CONDUIT SHALL BE REMOVED, ALONG WITH WIRE NO LONGER IN USE FROM DEVICE OR		C. SEAL AREA
	EQUIPMENT LOCATION BACK TO PANEL.	3.6	NEW ELECTRI
	 E. SALVAGEABLE ITEMS AND DISPOSAL REQUIREMENTS ARE AS FOLLOWS: 1. ITEMS OF SALVAGEABLE VALUE TO THE OWNER SHALL BE REMOVED AND PROTECTED BY THE CONTRACTOR AND TURNED OVER TO THE OWNER AS DIRECTED. 		SPACE UNTIL
	 ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF BY THIS CONTRACTOR UNLESS DIRECTED TO DO OTHERWISE BY THE OWNER'S REPRESENTATIVE. DISPOSAL RESPONSIBILITIES INCLUDE: 		
	F. ARRANGE ITEMS OF SHUTDOWN PERIODS OF ALL IN-SERVICE PANELS WITH THE OWNER'S REPRESENTATIVE. DO NOT SHUTDOWN ANY SERVICE WITHOUT PRIOR WRITTEN APPROVAL.		
1.8	OBTAIN AND PAY FOR LOCAL PERMITS, LICENSES, AND INSPECTION FEES NECESSARY FOR		
	THE WORK. PERMANENT AND TEMPORARY UTILITY SERVICE INSTALLATION CHARGES ARE NOT INCLUDED IN THE BASE-BID WORK; SUCH CHARGES ARE TO BE INCLUDED BY THE BIDDING CONTRACTOR AS AN ALLOWANCE OF \$25,000 IN THE CONTRACT. THE UN-USED		
	PORTION OF THIS ALLOWANCE SHALL BE RETURNED TO THE OWNER AT THE COMPLETION OF THE PROJECT. THIS CONTRACTOR IS RESPONSIBLE FOR THE PRIMARY CONTACTS AND		
	SERVICE UPGRADE COORDINATION WITH UTILITY COMPANIES, AND FOR THE ARRANGEMENT OF WORK ORDERS.		
1.9	SUBMISSION OF A BID ASSUMES KNOWLEDGE OF ALL DOCUMENTS AVAILABLE RELATED TO THE WORK, AS WELL AS EXISTING CONDITIONS MADE AVAILABLE FOR REVIEW AND		
	INSPECTION DURING THE BIDDING PERIOD. THIS CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE OF ANY UNKNOWN AND/OR CONCEALED CONDITIONS		

SECTION 260000 - ELECTRICAL SPECIFICATIONS

1.10 WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN: FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

AFFECTING THE NEW WORK, AS THEY ARE DISCOVERED.

- 1.11 THE ELECTRIC SERVICE, THE EXTENSION OF THE EXISTING ELECTRICAL DISTRIBUTION SYSTEM AND ALL NON-CURRENT CARRYING METAL PARTS OF THE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, AND ALL OTHER APPLICABLE CODES AND STANDARDS. ALL BRANCH CIRCUITS AND FEEDERS SHALL BE GROUNDED BY MEANS OF AN INSULATED GROUNDING CONDUCTOR INSTALLED WITHIN EACH RACEWAY. THE ENTIRE GROUNDING SYSTEM SHALL BE TESTED FOR CONTINUITY AT THE COMPLETION OF THE WORK.
- 1.12 THE NEW MATERIAL AND LABOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE BY THE OWNERS' REPRESENTATIVE. NOTE THAT CERTAIN SPECIFIED ITEMS OF EQUIPMENT MAY CARRY A LONGER PERIOD OF WARRANTEE.

13	PROVIDE A PERMANENT NAMEPLATE OR PLAQUE TO IDENTIFY THE MAXIMUM FAULT CURRENT AMPERES AVAILABLE AT THE MAIN SERVICE DISCONNECTING MEANS, IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE ARTICLE 110.						
PAF	T 2 PRODUCTS						
1	ALL MATERIAL, EQUIPMENT INSTALLATION AND LABOR SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE NATIONAL, STATE AND LOCAL CODES AND NFPA PUBLICATIONS,						
	AS INTERPRETED BY THE AUTHORITY HAVING JURISDICTION. THIS CONTRACTOR MUST ADHERE TO PROPER INSTALLATION TECHNIQUES IN ACCORDANCE WITH INDUSTRY	B∕	TGP				
	STANDARDS AS DEFINED BY ANSI AND NECA. IN ADDITION, OSHA REQUIREMENTS AND ANY SITE-SPECIFIC SAFETY STANDARDS SHALL BE FOLLOWED FOR SAFETY OF PERSONNEL ON SITE. NEW EQUIPMENT SHALL BE UL AND/OR CSA LISTED.	щ	/24				
2	ALL WIRING SHALL BE COPPER, 90 DEGREE C. RATED, TYPE THHN, THWN OR XHHW, WITH 600-VOLT INSULATION UNLESS INDICATED OTHERWISE ON THE DRAWINGS. THE MINIMUM	DATE	08/27/24				
	WIRE SIZE IS #12 FOR 120- AND 277-VOLT BRANCH CIRCUITS; #10 SHALL BE USED FOR CIRCUIT LENGTHS GREATER THAN 150 FEET.		ŝT.				
	 A. COLOR CODE BRANCH CIRCUIT AND FEEDER CONDUCTORS AS FOLLOWS: 1. 120/240 VOLT, 1 PHASE, 3 WIRE SYSTEM 	DESCRIPTION	R CONST.				
	 A. PHASE A-BLACK B. PHASE B-RED C. NEUTRAL-WHITE 	DESCR	ED FOR				
	D. GROUND-GREEN 2. 480 VOLT, 3 PHASE, 3 WIRE SYSTEM A. PHASE A-BROWN		ISSUED				
	B. PHASE B-ORANGEC. PHASE C-YELLOW	REV. NO.					
	 D. GROUND-GREEN 3. IN ADDITION TO THESE REQUIREMENTS, ALSO PROVIDE COLOR CODING OF CONDUCTORS AT ALL JUNCTION OR PULLBOXES. 		<u>م</u>			ourgh	
3	ALL INTERIOR WIRING SHALL BE INSTALLED IN EMT WHERE NOT SUBJECT TO PHYSICAL		vd., 21		ng.com	I pitts	
	DAMAGE AND AS PERMITTED BY THE NATIONAL ELECTRICAL CODE. PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR UNDERGROUND CIRCUITS BURIED 24" OR MORE BELOW GRADE. PVC SCHEDULE 80 CONDUIT SHALL BE USED ABOVE GROUND ON BUILDING		33851 Curtis Blvd		1 440.733.1207 www.tecincer	columbus	
	EXTERIORS. PROVIDE SUITABLE EXPANSION FITTINGS. FLEXIBLE LIQUIDTITE CONDUIT SHALL BE USED FOR CONNECTIONS TO MOTORS, EQUIPMENT, AND TRANSFORMERS WHERE VIBRATION OR FLEXIBILITY IS REQUIRED. EXPOSED CONDUIT IN HIGH TRAFFIC		33851 (Eactlak	440.95	440.73 www.te	cleveland 1 c	
	AREAS OR AREAS WHERE SUBJECT TO PHYSICAL DAMAGE SHALL BE RIGID GALVANIZED RMC OR IMC, FROM THE FLOOR TO A LEVEL OF 8'-0" ABOVE THE FLOOR.			4	_ /	cleve	
4	TRANSFORMERS, DISCONNECTS, AND OTHER POWER DISTRIBUTION EQUIPMENT SHALL BE PROVIDED FROM ONE MANUFACTURER WHEREVER POSSIBLE. APPROVED MANUFACTURERS ARE SQUARE D, ABB, SIEMENS OR EATON.						
5	FUSIBLE AND NON-FUSED DISCONNECT SWITCHES SHALL BE HEAVY DUTY WITH QUICK MAKE/ QUICK BREAK OPERATION, WITH A NEMA 1 RATING (INTERIOR) OR NEMA 3R RATING					uť	
	(EXTERIOR) UNLESS OTHERWISE NOTED OR REQUIRED BY CODE. PROVIDE DIFFERENT ENCLOSURES IF NEEDED, BASED ON THE CONDITIONS AFFECTING THE EQUIPMENT. FUSES SHALL BE DUAL ELEMENT- TIME DELAY, BUSSMAN TYPE LPN-RK (250 VOLT) OR LPS-RK (600					& design	
	VOLT) FOR 600 AMPERES AND BELOW, AND BUSSMAN TYPE KRP-C ABOVE 600 AMPERES. EQUIVALENT FUSES BY FERRAZ-SHAWMUT OR LITTELFUSE ARE ACCEPTABLE.					JC. Igineering & (
6	NAMEPLATES SHALL BE PROVIDED FOR IDENTIFICATION OF ALL POWER DISTRIBUTION EQUIPMENT AND SHALL BE ENGRAVED PHENOLIC WITH WHITE LETTERING AND BLACK						
	BACKGROUND, UNLESS DIRECTED OTHERWISE BY THE OWNER'S REPRESENTATIVE. PANELBOARD BRANCH CIRCUITS SHALL BE IDENTIFIED WITH TYPEWRITTEN DIRECTORIES.					D	
PAF	T 3 EXECUTION						
1	COORDINATE THE ELECTRICAL WORK, EQUIPMENT LOCATIONS, AND DUCT BANK ROUTING WITH OWNERS' REPRESENTATIVE, INCLUDING CORE DRILL LOCATIONS.						
2	CUTTING AND PATCHING OF WALLS, FLOORS AND CEILINGS SHALL BE PROVIDED BY SKILLED MECHANICS IN THE TRADE. FINAL FINISHING AND PAINTING IS BY THE GENERAL TRADES CONTRACTOR.		KIEK	NAIN			
3	SHUTDOWNS SHALL BE SCHEDULED WITH THE OWNER'S REPRESENTATIVE AT LEAST ONE WEEK IN ADVANCE. COORDIANTE SERVICE OUTAGE TO LIMIT OUTAGE TO 4 HOURS OR LESS OR PROVIDE PORTABLE GENERATOR BACKUP.						
4	IT IS THE PURPOSE OF THE CONTRACT DOCUMENTS TO INDICATE THE APPROXIMATE LOCATIONS OF ALL EQUIPMENT, ETC. THE EXACT LOCATION OF EQUIPMENT MAY BE ADJUSTED FROM TIME TO TIME AS THE WORK PROGRESSES. THIS CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS AND ARRANGE THE WORK ACCORDINGLY. THE OWNER'S		GKEEI	TRANSMISSION	ANKLIN	FALLS OHIO,	
	REPRESENTATIVE RESERVES THE RIGHT TO EFFECT REASONABLE CHANGES IN THE LOCATION OF EQUIPMENT UP TO THE TIME OF ROUGH-IN WITHOUT ADDITIONAL COST.		י	N N N N	ပ		
5	LOCATE AND PROVIDE ALL OPENINGS IN FLOORS, CEILINGS, AND WALLS TO ALLOW FOR CONDUIT PENETRATIONS.				2317	AGRIN	
	A. SUBMIT TO THE OWNER'S REPRESENTATIVE ALL LOCATIONS AND SIZES OF OPENINGS WHICH MUST BE PROVIDED FOR THE WORK BEFORE DRILLING OR			WATER		CHA	
	SETTING ANY SLEEVES. B. FINAL LOCATIONS AND SIZES OF ALL OPENINGS SHALL BE SUBJECT TO THE		WELL	NA			
	 OWNER'S REPRESENTATIVE FINAL APPROVAL. C. SEAL EXTERNAL WALL PENETRATIONS WHERE CONDUIT PASSES FROM A COLDER AREA TO A WARMER AREA. 						
	NEW ELECTRICAL EQUIPMENT SHALL BE STORED IN A HEATED AND VENTILATED SPACE UNTIL READY FOR DELIVERY TO THE FINISHED EQUIPMENT SPACE ON THE SITE.						
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