

PLANS FOR

ELECTRIC LIGHTING OF
EDGEMOOR PARK NEW TENNIS COURTS

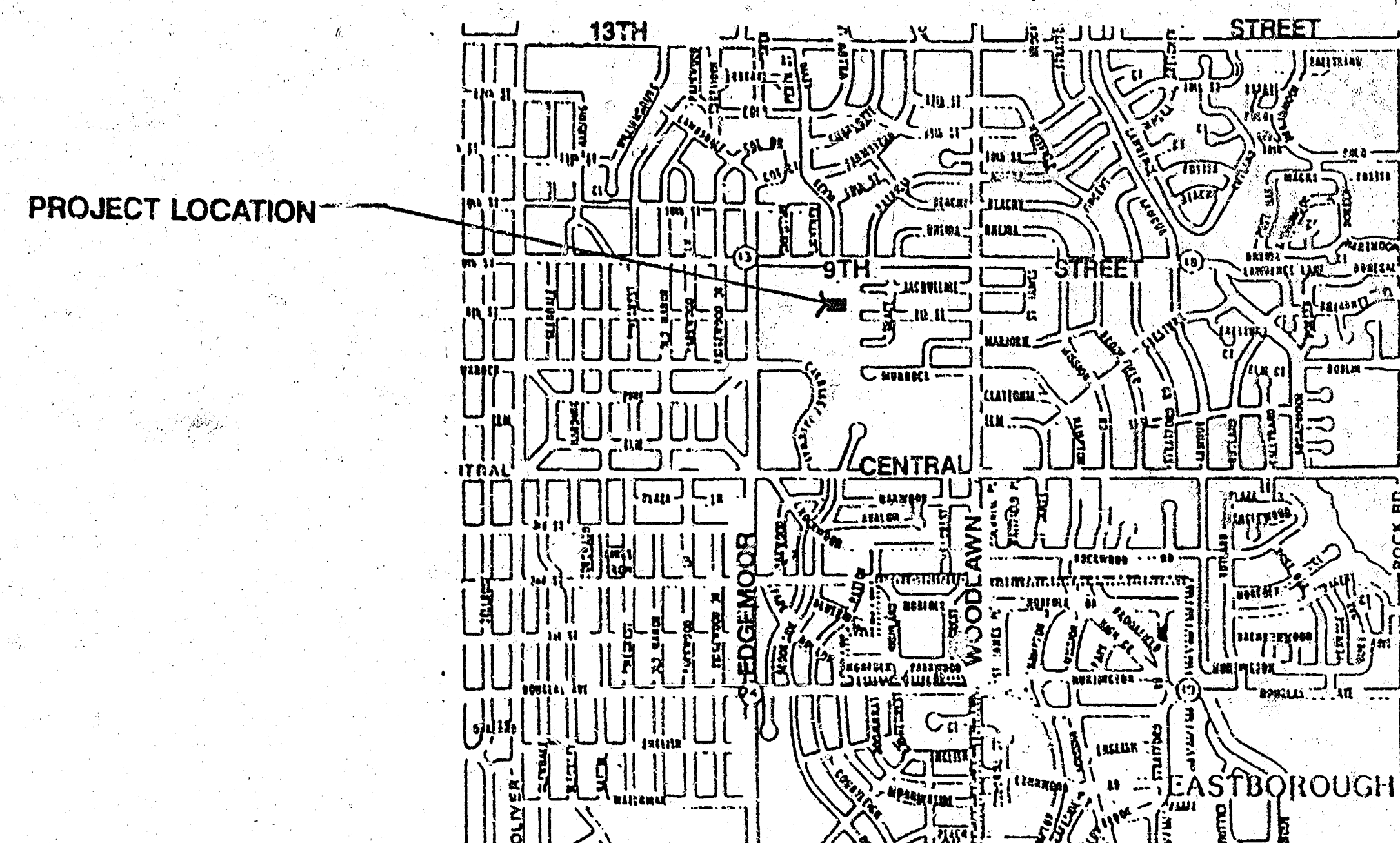
PHASE 3

PROJ. NO. 472-82199

INDEX NO. 785196

CITY OF WICHITA, KANSAS

M. E. LINDEBAK - CITY ENGINEER



INDEX OF SHEETS

SHEET 1 - TITLE SHEET
SHEET 2 - LIGHTING LAYOUT
SHEET 3 - LIGHTING DETAILS



DIVISION 16 ELECTRICAL

SECTION 16010 - GENERAL INSTRUCTIONS

1. SCOPE

Wiring shall be in accordance with latest edition of National Electrical Code (NEC) and/or applicable local, state and Utility Company rules, laws and ordinances.

Secure all permits and inspections required for the installation of the electrical work.

Furnish all labor, materials, tools, transportation, equipment, services and facilities required to furnish and install a complete and workable electrical system.

Plans for the project are intended to indicate the general scope of the electrical work. Details of installation covered by code and other minor items not shown shall be installed in conformance to applicable codes and acceptable industry standards.

Electrical work includes power distribution system, lighting, and special systems as indicated.

Verifications:

- (1) Verify mounting heights and locations of electrical equipment before installation or roughing-in. Verify sizing and loading of equipment to be installed.
- (2) Verify all equipment for compatibility with service.

Wiring Methods:

- (1) The Electrical Contractor shall cooperate with other Contractors, install equipment in proper sequence so as not to interfere with the progress of other Contractors, and give General Contractor all necessary information for making proper provisions for installation of his equipment.
- (2) All material shall be new, carry the Underwriter's label or be listed by that group, and be fully equal to makes specified.
- (3) Use only insulated conductors in conduit except where noted otherwise. Use flexible conduit for connections to motors and similar equipment.
- (4) All wiring shall be concealed where possible and all outlets mounted flush except as noted otherwise.

Tests:

- (1) This Contractor shall be responsible for performing all tests necessary to prevent concealment of defective or improper work.
- (2) Upon completion of work, test installation thoroughly and render it free from shorts, grounds, improper connections.

Guarantee:

This Contractor shall guarantee that all defective items of workmanship, materials, labor or mechanical operation developing within one (1) year from date of final acceptance of completed installation shall be replaced without additional charge to the complete satisfaction of the Owner.

Workmanship:

Electrical equipment shall be installed in a neat and workmanlike manner. Unsightly installations shall be removed or reworked at the discretion of the Architect without additional expense to the Owner.

Instructions:

Present the Owner with shop drawings of the systems installed and instruct him in their proper operation.

Shop Drawings:

Submit shop drawings on all equipment and materials to be provided as part of this project. The manufacturer of the controls shall submit complete wiring diagrams for this project and equipment cut sheets.

DIVISION 16 - ELECTRICAL

SECTION 16100 - BASIC MATERIALS AND METHODS

1. DISCONNECT SWITCHES

Furnish Square D, G.E., ITE, Cutler Hammer or Westinghouse disconnect switches of size and type indicated on drawings or required by code. Heavy duty switches shall be fusible, unless indicated otherwise. All exterior switches shall be raintight. Furnish disconnect switches with Type "R" fuse clips.

2. FUSES

Furnish and install, Buss dual element Class "R" rejection type fuses for each active fuseholder, sized as scheduled or required; equal fuses by Gold-Shawmut, Brush or Littelfuse may be used. Three spare fuses of each size and type shall be furnished in original packages to the Owner.

Provide Class RK-1 fuses for distribution feeders.

3. CONDUITS

All conduit in concrete, exposed to weather, and for feeders and service entrance shall be rigid steel conduit. Underground conduit may be PVC. Electrical metallic tubing for all dry interior branch circuit runs. Fittings shall be U.L. and National Electric Code approved type fittings. Identifier type fittings shall not be used. A ground wire sized per N.E.C. Art. 250-95 shall be pulled in each conduit containing phase conductor(s).

Conduit shall be installed and sized according to code requirements, and protected from damage during construction.

Conduit may be re-routed where such action does not adversely effect the intended design or circuiting.

4. WIRES AND WIRING

Conductors shall be copper, generally, with 600 volt rated insulation. Branch circuit wiring min. size #12 combination Type "THHN/THWN" or as required. Service entrance, feeder conductors combination Type THHN/THWN, THW or XHHW.

All conductors color coded per N.E.C. Article 310-12 with type and size marking. All connections to service equipment, feeder panels shall be made with solderless type. All splices, taps, connections shall be soldered or pressure type connectors which are permitted by code.

Insulate joints, splices with Scotch #33 plastic tape or plastic molded jackets.

5. LIGHTING CONTROL EQUIPMENT

Contacts And Relays:

Shall be as manufactured by Cutler-Hammer, Allen Bradley, G.E. or Square D. They shall be as sized on the drawings.

All contactors and relays shall be Tungsten rated.

Time Switches:

Time switches by Tork, Intermatic, and Paragon equal to those indicated below and approved by the Engineer will be acceptable.

Exterior lighting or interior time switches shall be Astronomical Series with carry-over.

All time switches shall be provided with manual bypass switches and spring wound carry over mechanisms.

DIVISION 16 ELECTRICAL

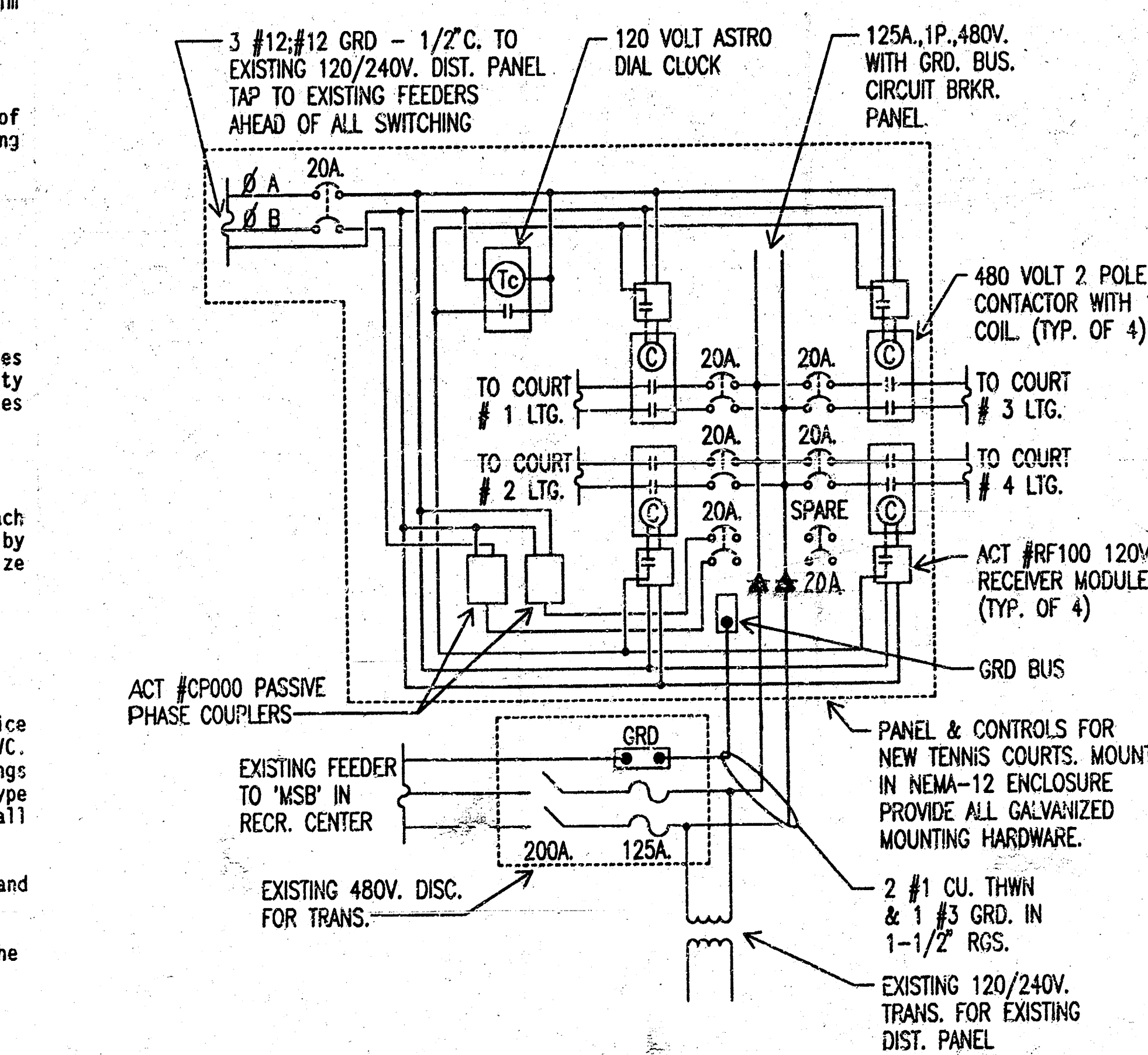
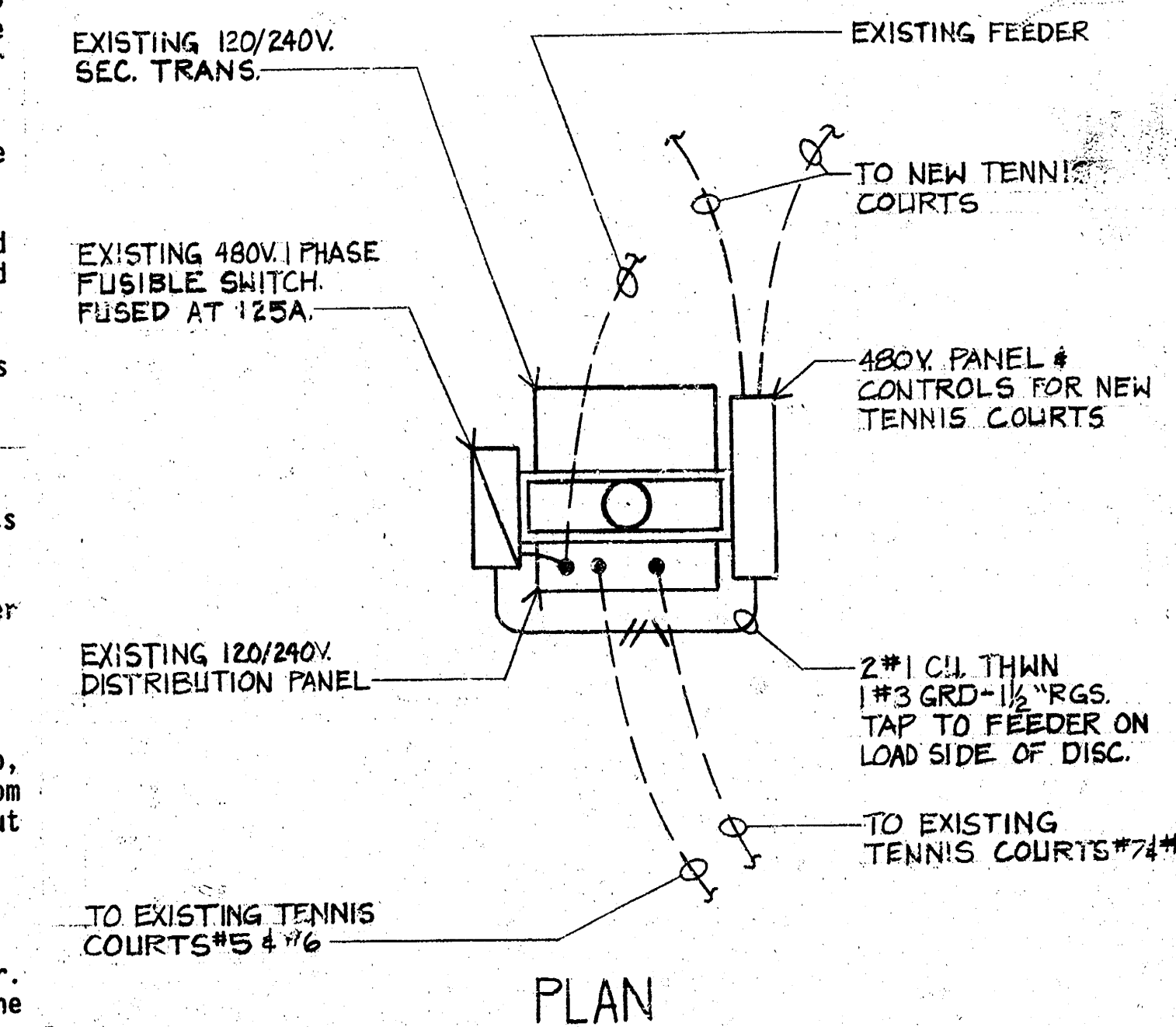
SECTION 16400 - SERVICE AND DISTRIBUTION

1. BRANCH CIRCUIT PANELS

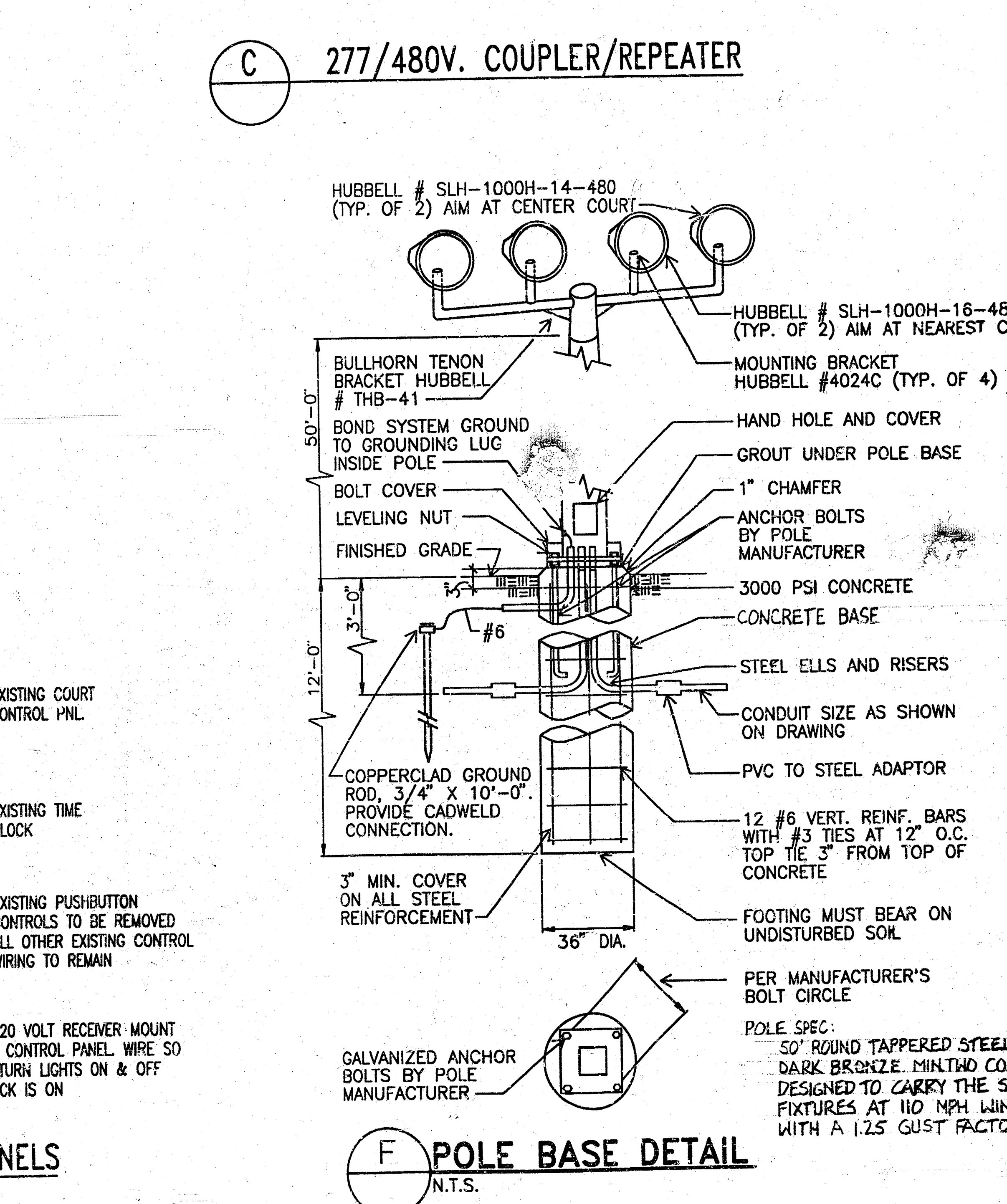
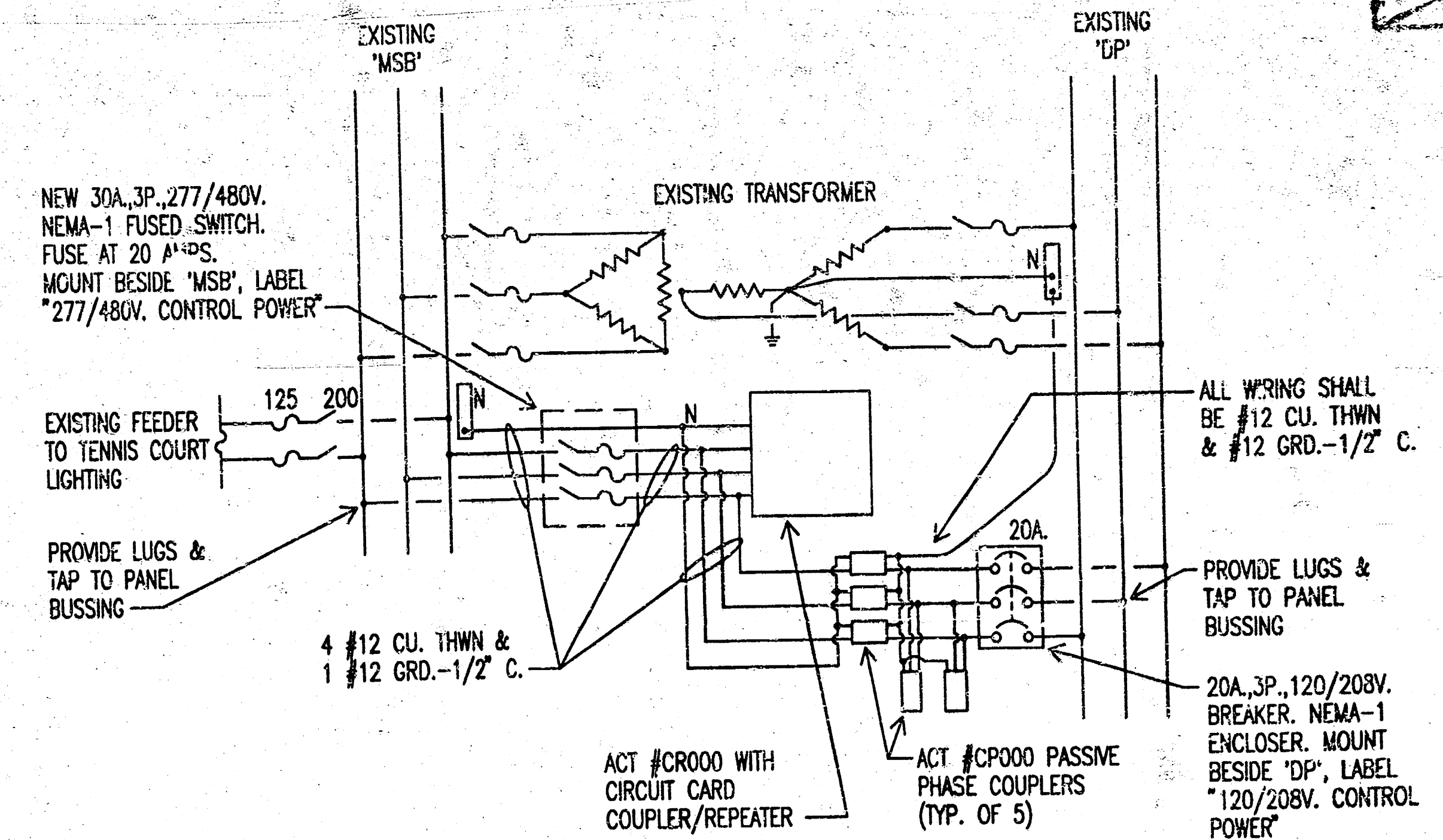
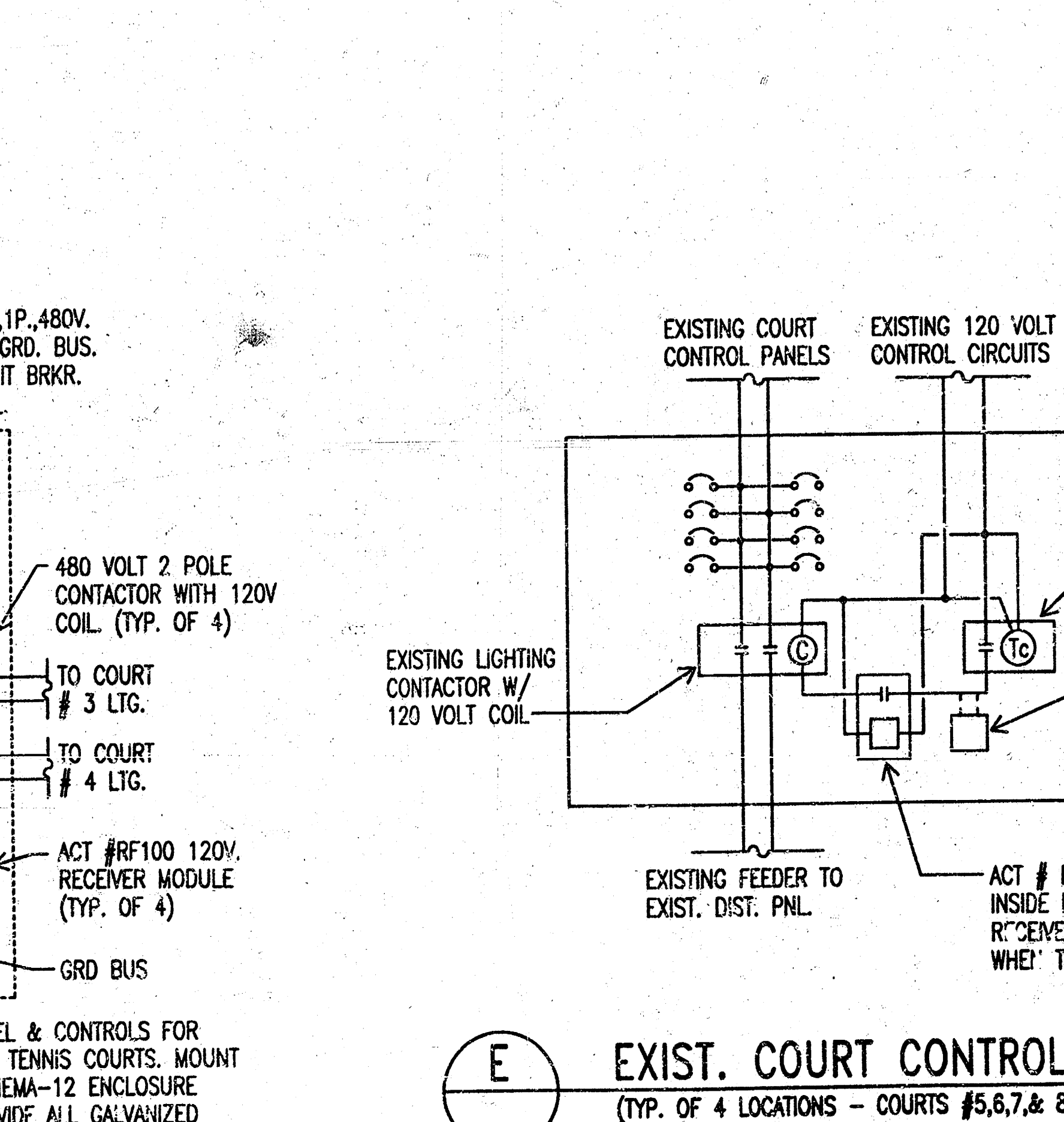
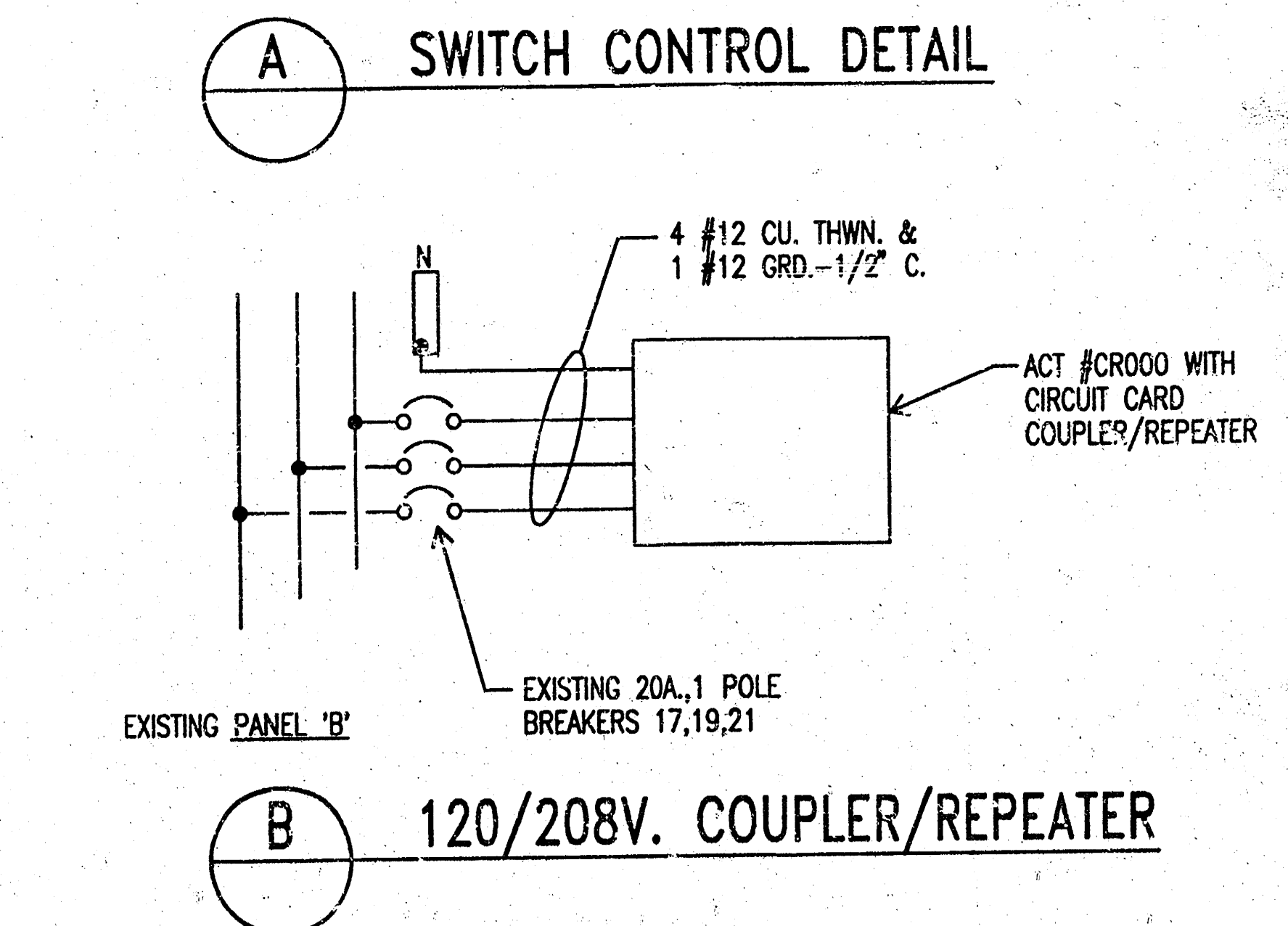
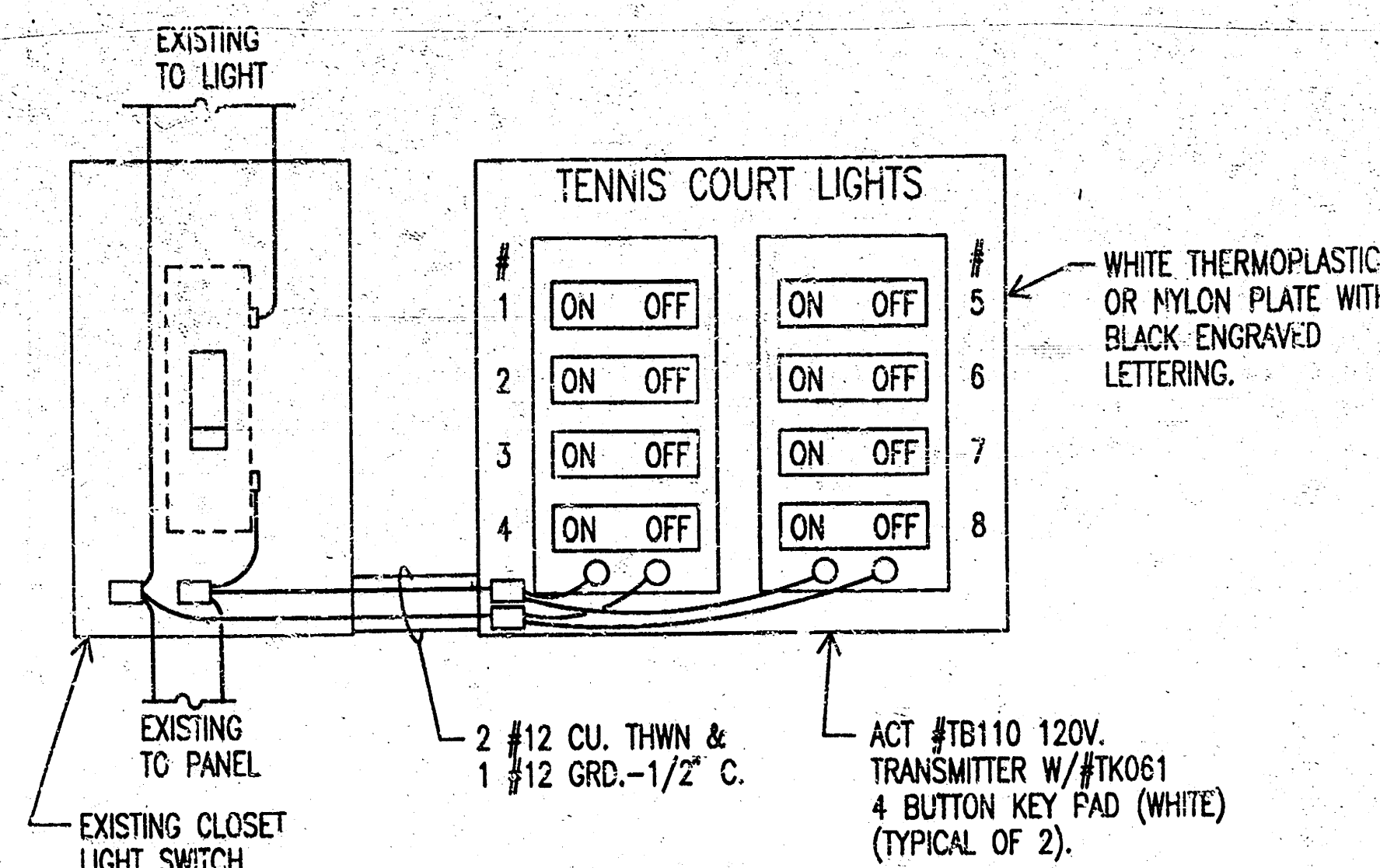
Branch circuit lighting panels equal to Square D, G.E., ITE, Cutler Hammer or Westinghouse, with thermal magnetic breakers and ground buses.

Breakers shall be individual plastic cases sized as scheduled. Two pole breakers shall be common trip (single pole units with tie bars are not acceptable).

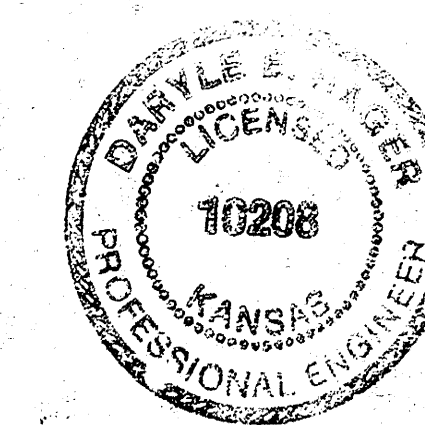
Panel shall be mounted as noted on the drawings, hinged door with neatly typed circuit directory card.



D TENNIS COURT PANEL & CONTROLS



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EDGEMOOR PARK TENNIS COURT			
EDGEMOOR PARK NEW COURT CONSTRUCTION Lighting Details			
PROFESSIONAL ENGINEERING CONSULTANTS Professional Association 303 South Teague / (316) 282-2691 Wichita, Kansas 67202			
Designed by D. HAGGE	Date 10-29-91	Drawn by T. RAEFFER	Sheet 2 of 3

THE CONTRACTOR IS SOLELY RESPONSIBLE TO NOTIFY AND TO MAKE ANY NECESSARY ARRANGEMENTS WITH UTILITY COMPANIES FOR ANY NEEDED ADJUSTMENTS OF UTILITY FACILITIES PRIOR TO START OF WORK.

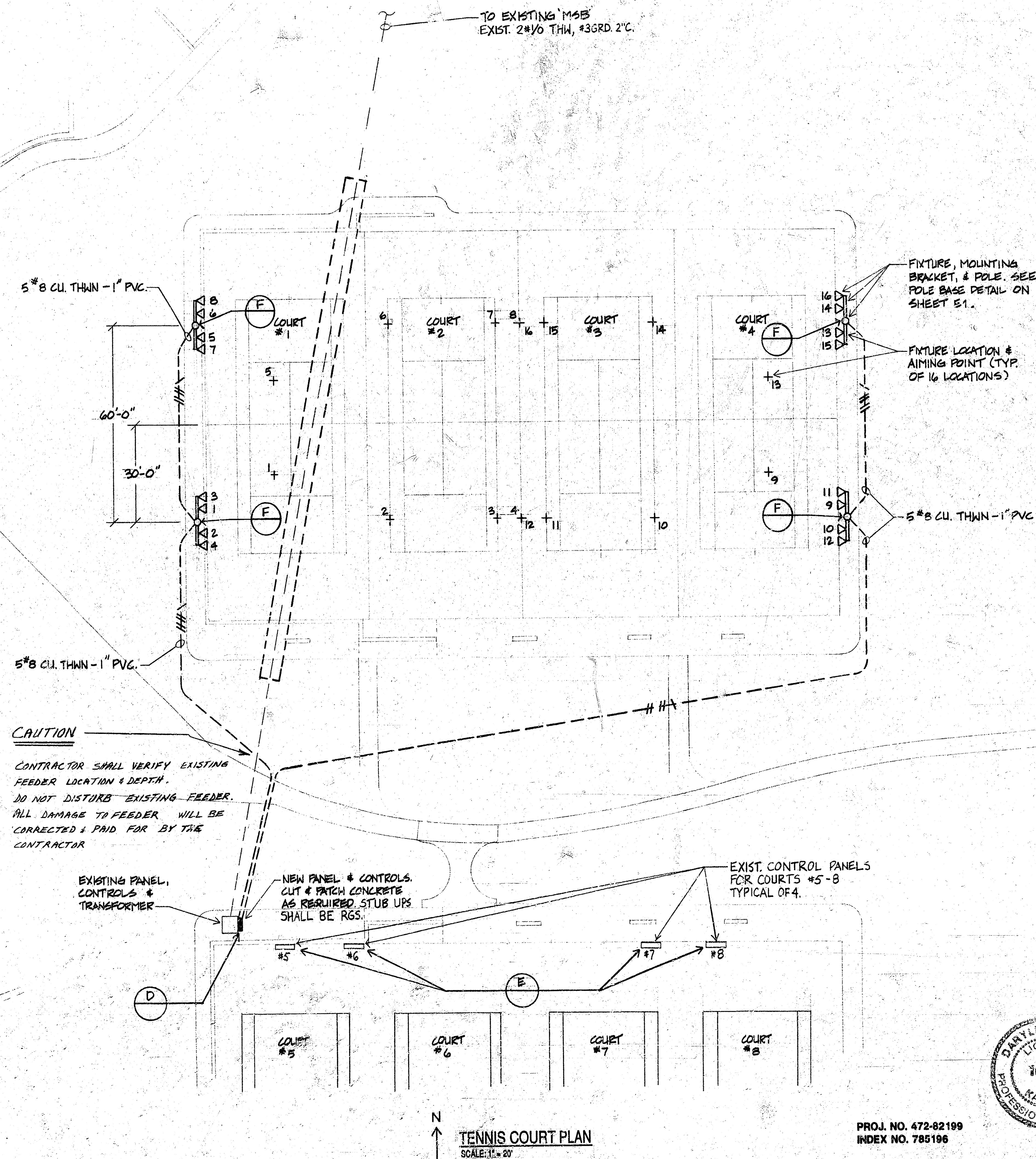
CONTRACTOR WILL BE REQUIRED TO PROVIDE AS MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE CALL 687-2470
SOUTHWESTERN BELL TELEPHONE COMPANY 1-316-571-2611
CABLEVISION 262-4270 OR 263-2061
KPL GAS SERVICE 263-7511
KANSAS GAS & ELECTRIC 264-1141
CITY OF WICHITA WATER DEPARTMENT 268-4908
CITY OF WICHITA SEWER DEPARTMENT 268-4071
ARKLA GAS COMPANY 942-8350 OR 263-8161
PARK MAINTENANCE 264-9546

2. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF BY THE CONTRACTOR.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS. OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

3. THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS WHICH CONFLICT WITH THE CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS. SHOULD THEY NOT BE REMOVED BY THEIR OWNERS AT THE TIME OF CONSTRUCTION OF THE PROJECT, THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO THE CONTRACT PAY ITEMS OF WORK.



SYMBOL LIST		
SYMBOL	DESCRIPTION	MOUNTING
H H	CONDUIT RUN 2 CIRCUITS & GND.	PAGE 10-28
()	DETAIL REFERENCE	
△ △ △	LIGHTING POLE & BRACKET	CONCRETE POLE
2 ▷	SPORTS LIGHTER & NO.	

MATERIAL QUANTITIES	
	<u>QUANTITIES</u>
50' with (4) 1000 W. HPS Fixtures per Pole	4
Concrete Pole Base	4
Ground Rod:	4
125 A., 1-Phase 480V. PNL with (8) 20A. 2P. Brks.	1
20 Amp 2-Pole 480V. Lighting Contactors	4
Astro Dial Time Clock - 120V.	1
20A., 2-Pole, 240V. Circuit Brkr.	4
NEMA 12 Control Enclosure	1
30A., 3-Pole, 480V. Fusible Switch	1
20A., 3-Pole, 208V., Circuit Brkr	1
2 Gang Switch Box	1
2 Gang Engraved Cover Plate	1
ADVANCED CONTROL TECHNOLOGIES ITEMS	
ACT #RF100 120V.	8
ACT #CP000 Couplers	7
ACT #CR000 with Circuit Cards (208V. & 480V.)	2
ACT #TB100 120V. with #TK061 Pad	2
CONDUCTORS	
#12 CU Thwn	360'
#8 CU Thwn	5,000'
#3 CU Thwn	10'
#1 CU Thwn	20'
#6 Bare Grd.	36'
CONDUIT	
1" PVC	680'
1" RGS 90° Elbows	3
1" RGS	36'
1-1/2" RGS	10'
1/2" EMT	10'

NOTE

REMOVE AND REPLACE ANY CONC. WORK AS NECESSARY
TO INSTALL ELEC. LIGHTING. THIS COST IS SUBSIDIARY
TO OTHER PAID BID ITEMS.

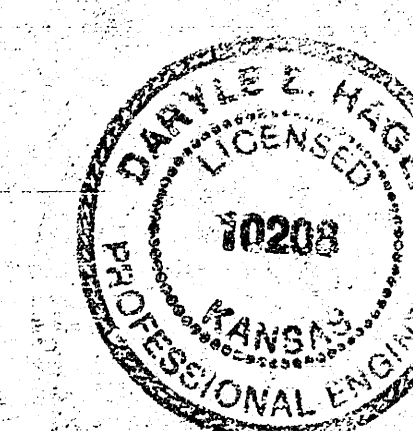
EDGEMOOR PARK

TENNIS COURT

Electric Lighting
EDGEMOOR PARK
NEW COURT CONSTRUCTION
& Existing Court Modifications

PROFESSIONAL ENGINEERING CONSULTANTS
professional association
303 South Tropic / (316) 262-2691
Hickory, Kansas 67102

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Design	D. HAGER	Date	10-29-91	Job No.
	Z. HAGER	Sheet	3	of 3

10-10-10