

L. 6.55

2077

67/14  
c



UCD

WAR DEPARTMENT  
U. S. ENGINEER OFFICE  
ALBUQUERQUE DISTRICT  
ALBUQUERQUE, NEW MEXICO

SPECIFICATIONS  
FOR  
CONSTRUCTION  
OF  
ELECTRICAL DISTRIBUTION SYSTEM  
  
GRANADA RELOCATION  
CENTER  
COLORADO

June 29, 1942



Negotiated Contract

WAR DEPARTMENT  
U. S. ENGINEER OFFICE  
ALBUQUERQUE DISTRICT  
ALBUQUERQUE, NEW MEXICO

June 30, 1942

NOTICE TO BIDDERS - ADDENDUM NO. 1

1. The specifications for construction of Electrical Distribution System, Granada Relocation Center, Colorado, dated June 29, 1942, are hereby modified as follows:

SPECIFICATIONS

Page I-3, Paragraph 1-04. - Item No. 28, delete "Quantity 11" and substitute "Quantity 5". Item No. 31, delete "Quantity 18" and substitute "Quantity 15". Following Item No. 39, add the following: "Item No. 40, Transformers 10 Kv-a, 440 volt secondary, Unit, Each; Quantity, 6, Item No. 41, Transformers 37½ Kv-a, 440 volt secondary, Unit, Each, Quantity, 3".

Page III-5, Paragraph 3-19. - Change paragraph title to read: "PUMP CONTROL CIRCUITS".

STANDARD GOVERNMENT FORM OF BID

Page III. - Item No. 28, delete the "Quantity 11 and substitute "5". Item No. 31, delete the "Quantity 18" and substitute the "Quantity 15". Following Item No. 39, add the following to the Schedule of Bid Items: "Item No. 40, Quantity 6, Unit, Each, 10 Kv-a Transformers, 440 volt secondary; Item No. 41, Quantity 3, Unit, Each, 37½ Kv-A Transformers, 440 volt secondary".

2. The foregoing changes and modifications should be incorporated in the specifications for construction of Electrical Distribution System, Granada Relocation Center, Colorado, and copies of this addendum must be attached to and be made a part of the bidding papers.

L. Rosenberg,  
Lt. Col., Corps of Engineers,  
District Engineer.



WAR DEPARTMENT  
U. S. ENGINEER OFFICE  
ALBUQUERQUE DISTRICT  
ALBUQUERQUE, NEW MEXICO

July 2, 1942.

NOTICE TO BIDDERS - ADDENDUM NO. 2

1. The specifications for construction of the Electrical Distribution System, Granada Relocation Center, Colorado, dated June 29, 1942, are hereby modified as follows:

SPECIFICATIONS

Page I-3, Paragraph 1-04. - Delete Items Nos. 26 to 31, inclusive, and 33 to 41, inclusive, and substitute the following therefor:

<u>"Item No.</u>	<u>Designation</u>	<u>Unit</u>	<u>Quantity</u>
26	Installing transformers, 1½ Kv-a	Each	2
27	Installing transformers, 3 Kv-a	Each	6
28	Installing transformers, 10 Kv-a	Each	11
29	Installing transformers, 15 Kv-a	Each	7
30	Installing transformers, 25 Kv-a	Each	4
31	Installing transformers, 37½ Kv-a	Each	18
33	Installing Copperclad Conductor (No. 2 Copper Wire Equivalent).	Lin.Ft.	18,515
34	Installing Copperclad Conductor (No. 4 Copper Wire Equivalent)	Lin.Ft.	9,000
35	Installing Copperclad Conductor (No. 8 Copper Wire Equivalent)	Lin.Ft.	16,765
36	Installing Copperclad Conductor (No. 8 Copper Wire Equivalent)	Lin.Ft.	111,445"

Page I-4, Paragraph 1-08. - Delete the word "none" and substitute the following: "The Government will furnish f.o.b. siding at Granada all transformers and all copperclad steel conductors required. The unit prices for installing the above items shall include the cost of transporting the equipment from the siding and storing at the site. The contractor shall be liable for any demurrage charges."



Page III-5, Paragraph 3-16. - Line 3, delete "6,000" and substitute "9,000". Line 4, delete No. "1105474" and substitute No. "1105475".

Page IV-1, Paragraph 4-02. - Delete the entire paragraph and substitute the following: "Payment for installing distribution transformers furnished by the Government will be made at the contract unit prices each for 'Installing Transformers', of the various sizes, complete."

Page IV-2, Paragraph 4-13. - Delete the entire paragraph and substitute the following: "Payment for installing conductors furnished by the Government will be made at the contract price per lineal foot for 'Installing Copperclad Conductor' of various sizes, complete, including necessary tie wires."

STANDARD GOVERNMENT FORM OF BID

Page III. - IN THE SCHEDULE OF BID ITEMS MAKE THE SAME CHANGES THAT WERE MADE IN PARAGRAPH 1-04 OF THE SPECIFICATIONS.

Following the list of bid items, delete the words: "(Items Nos. 1 to 39 incl.)"

2. The foregoing changes and modifications must be incorporated in the specifications for the construction of the Electrical Distribution System, Granada Relocation Center, Colorado. All other provisions of the specifications, as modified by Addendum No. 1, remain unchanged. Copies of this addendum must be attached to and made a part of the bidding papers.

L. Rosenberg,  
Lt. Col., Corps of Engineers,  
District Engineer.



## I N F O R M A T I O N

The information contained in these Drawings and Specifications is not to be publicized in any way. It must be clearly explained to all persons to whom this information is made available that it is to be held in strict confidence, and not, under any circumstances, to be transmitted to others for publication or release to the press, periodicals or other agencies of public contact having either general or limited distribution. Any person failing to observe these restrictions may be prosecuted under the provisions of the Espionage Act, Title 50, U.S.C., Sections 31 and 32.



I M P O R T A N T   N O T I C E

The attention of all bidders is invited to the fact that all capital equipment is subject to allocation by the War Production Board. It is expected that each bidder will own, or will have arranged to rent or otherwise acquire, and have available the plant and construction equipment necessary to construct the work herein specified. Delays in procurement of plant and equipment necessary for completion of the work under this contract will not constitute justification for any extension of time to the contract period as herein specified.



No. \_\_\_\_\_ Bidder \_\_\_\_\_

(Do not write above this line)

STANDARD GOVERNMENT FORM OF INVITATION FOR BIDS

(Construction Contract)

WAR DEPARTMENT  
U.S. ENGINEER OFFICE  
ALBUQUERQUE DISTRICT  
ALBUQUERQUE, NEW MEXICO

June 29, 1942.

A contract will be negotiated, subject to the conditions contained herein, for furnishing all plant, labor and materials and performing all work in accordance with the attached specifications for the construction of Electrical Distribution System, Granada Relocation Center, Colorado.

I. SPECIFICATIONS AND PLANS. - The work shall be performed in strict accordance with the specifications, bidding schedule and plans, all of which are made a part hereof, and designated as follows:

Specifications for Construction of Electrical Distribution System, Granada Relocation Center, Colorado.

The drawings which will become a part of the proposed contract are designated in paragraph 1-03 of the specifications.

II. INVESTIGATION OF CONDITIONS. - It is expected that bidders will visit the site and acquaint themselves with all available information, including local conditions and the availability of labor; and to make their own estimates of the facilities required and difficulties attending the execution of the work. Failure to acquaint himself with all available information concerning these conditions will not relieve the successful bidder of assuming all responsibility for estimating the difficulties and costs of successfully performing the complete work as required. Prospective bidders should contact the Area Engineer at Lamar, Colorado, who will make the necessary arrangements for the inspection of the site.

III. COMMENCEMENT AND COMPLETION. - The work to be done shall be commenced within one day after the date of receipt of notice of award and shall be completed in accordance with provisions of paragraph 1-05 of the specifications



#### IV. MISCELLANEOUS PROVISIONS. -

(a) Labor and Wage Conditions to be maintained under the proposed contract or any subcontract thereunder, for work executed at the site of the project, shall be as stated in paragraphs 1-06, 1-10 and GC-5 of the specifications and Articles 11, 17 and 19 of the contract. The United States Employment Services, with offices in Lamar, Colorado, has facilities for the referral of local labor. The use of this service is optional with the contractor, but the contractor shall use such labor as may be available from the relief rolls which he finds satisfactory. This labor is to be paid the established prevailing rate referred to in paragraph 1-10 of the specifications.

(b) Minimum Wage Rates. - Pursuant to the provisions of Article 17 of the contract, the minimum wage rates to be paid labor under this contract will be determined by the Department of Labor.

(c) Hours of Work and Overtime Pay. - Provisions regarding hours of work and overtime pay will be made a part of the contract. (See paragraph GC-32 of the specifications.)

(d) Reports. - In order to assist the Department of Labor in obtaining employment statistics and to assist the Government in obtaining cost data, bidders, unless otherwise indicated in their bids will be considered as having voluntarily consented, without cost to the Government to the inclusion of paragraphs GC-5 and GC-41 of the specifications as a part of the contract.

(e) Liquidated Damages. for delay will not be prescribed.

(f) Patents. - Articles on patents will be made a part of the contract. (See paragraph GC-7 of the specifications.)

(g) Partial Payments will be made. (See paragraph GC-36 of the specifications and Article 16 of the contract.)

(h) Claims, Protests and Appeals. - Decisions on claims, protests and appeals will be made by the Secretary of War, Washington, D. C. (See paragraph GC-39 of the specifications and Articles 9 and 15 of the contract.)

(i) Federal, State and Local Taxes. - Provisions for adjustment of contract price by means of change in Federal, state and local taxes will be made a part of the contract. (See paragraph GC-42 of the specifications.)

(j) Accident Prevention, Liability and Safety Requirements. - The attention of bidders is directed to the requirements of paragraph GC-16 of the specifications regarding accident prevention, liability and safety requirements.



(k) Labor Discrimination. - Provision on discrimination against workers because of race, creed, color or national origin will be made a part of the contract.

(l) Assignment of Claims. - Articles on assignment of claims will be made a part of the contract. (See paragraph GC-35 of the specifications.)

(m) Priorities. - The attention of bidders is directed to paragraph 1-07 and GC-29 of the specifications which provides for the establishment of a priority rating for the contract.

(n) Liability Resulting from Enemy Operations. - A provision to relieve the contractor from liability for damage due to enemy operations will be made a part of the contract.

(o) Termination for the Convenience of the Government. - A provisions for "Termination for Convenience of the Government" will be made a part of the contract.

(p) Discounts. - No offers of discount for prompt payment or cash discounts will be tendered to or considered by the Government.

#### V. PREPARATION OF BID. -

(a) Form. - Bids must be submitted on the Standard Government Form of Bid to be eligible for consideration in awarding the contract.

(b) Bidding Schedule. - The bid form has an entry for each item on which estimates will be given or payments made. The quantities of each item of the bid, as finally ascertained at the close of the contract, in the units given and unit prices of the several items stated by the bidder in the accepted bid, will determine the total payments to accrue under the contract. No other allowance of any kind will be made unless specifically provided for in the specifications or the contract or by adjustments under Article 3 of the contract. The unit price bid for each item must allow for all collateral or indirect cost connected therewith.

(c) Bid Bond. - A bid bond is not required.

#### VI. DATA TO BE FURNISHED WITH BIDS. -

(a) General. - All bids submitted must be accompanied by a statement establishing that the bidder maintains a permanent place of business and has a suitable financial status to meet obligations incident to the work. (See paragraph 3 of the bidding schedule.) In addition, each bidder shall submit with his bid the statement of equipment which he proposes to employ on this work, including its location, ownership and how it is proposed to be obtained if not already owned or controlled by the bidder. These data are considered essential in enabling the contracting officer to determine whether the bidder is responsible and experience in similar types of construction and whether the bid is based on a careful study of construction methods applicable to the work and full realization of the various factors which may affect the progress of the work.



(b) Experience. - Each bidder shall state in the space provided in the bidding schedule, a brief description of the character of the work previously executed by him and the locations of the major projects. After the bids are open, any bidder may be required by the contracting officer to state whether he is now or ever has been engaged in any construction work similar to that proposed, the year in which it was done, and the manner of its execution, and to give such other information as will tend to show his ability to prosecute vigorously the work required by these specifications. (See Paragraph 2 of the Bidding Schedule.

VII. AWARD OF CONTRACT. - Award of contract will be made as a whole to one bidder, subject to the right reserved, as the interest of the Government may require, to reject any and all bids and to waive any informality in bids received. A bid may be rejected if the bidder fails to submit the data required with his bid or cannot show, to the satisfaction of the contracting officer, that he has the necessary capital and experience and owns or controls by firm option or can procure the necessary plant, as listed in the bidding schedule submitted, to commence work at the time prescribed in the specifications and thereafter to prosecute and complete the work at the rate of time specified; and that he is not already obligated for the performance of other work which would delay the commencement. The United States specifically reserves the right to reject any qualified bids and will normally reject those which make it impossible to determine the true amount of the bid.

VIII. CONTRACT. - Contract will be required to be executed by the successful bidder on the accompanying standard form No. 23, in accordance with the accompanying Government Instructions to Bidders (Standard Form No. 22).

IX. PERFORMANCE AND PAYMENT BONDS. - Performance and payment bonds will be required as follows:

(a) A performance bond with good and sufficient surety or sureties, for the protection of the United States, Standard Form No. 25 will be executed in a penal sum of approximately equal to and not less than ten per cent (10%) of the full amount of the consideration of the contract. (See Standard Government Form of Bid, paragraph 6, for time limit of submitting payment bonds.)

(b) If the consideration of the contract will exceed two thousand dollars (\$2,000.00) in amount, payment bond with good and sufficient surety or sureties, for the protection of persons furnishing material and labor for the work, Standard Form 25-A will be executed in a penal sum approximately equal to and not less than fifty per cent (50%) of the full amount of the consideration of the contract when the latter is not more than one million (\$1,000,000.00), forty per cent (40%) where the contract exceeds one million dollars (\$1,000,000.00), but is not more than five millions dollars (\$5,000,000.00) and two millions five hundred thousand dollars (\$2,500,000.00) for all contracts about five million dollars (\$5,000,000.00)



II. X. ESTIMATES OF COST. - Bidders are advised that the Government will prepare estimates of the cost of construction of the work required under the specifications.

XI. RELEASE OF CLAIMS - ADDITIONAL FEE. - If prospective contractor now has a contract on cost-plus-a-fixed-fee basis, it will be necessary that there be furnished in quadruplicate, to the District Engineer, U. S. Engineer Office, Albuquerque, New Mexico, an unconditional release, releasing the United States, its officers and agents, from any and all claims or demands for additional fee by virtue of work or services prior to date of negotiation and the execution of the release in connection with the cost-plus-a-fixed-fee contract.

Note: U. S. Standard Form No. 23, Construction Contract,  
U. S. Standard Form No. 22, Instructions to Bidders, and  
U. S. Standard Form Release of Claims, are attached.

U. S. Standard Forms Nos. 25 and 25A, Performance and  
Payment Bonds, may be obtained on application to the  
U. S. Engineer Office, Albuquerque, New Mexico.



# INDEX TO SPECIFICATIONS

<u>Par. No.</u>	<u>Paragraph Title</u>	<u>Page No.</u>
GENERAL CONDITIONS		
GC-1	General	1
GC-2	Visiting Site	1
GC-3	Site of Work	1
GC-4	Contract Requirements	1
GC-5	Contractor's Reports	1
GC-6	Liability for Damages	1
GC-7	Patents	2
GC-8	Standard Stock Products	2
GC-9	Control and Access to Work	2
GC-10	Character of Work and Mechanics	2
GC-11	Subcontractors	2
GC-12	Interpretation of Contract	2
GC-13	Lines, Grades and Stakes	3
GC-14	Roads and Grounds	3
GC-15	Utilities	3
GC-16	Accident Prevention, Liability and Safety Requirements	4
GC-17	Substitutes for Critical Materials	6
GC-18	Protection of Stored Material	6
GC-19	Misplaced Material	6
GC-20	Standard Tests, Quality and Guarantees	6
GC-21	Federal Specifications	7
GC-22	Material, Equipment and Samples to be Submitted	7
GC-23	Drawings and Specifications, Cooperative	8
GC-24	Discrepancies	8
GC-25	Drawings	8
GC-26	Complete Work Required	9
GC-27	Minor Modifications	10
GC-28	Interference with Other Contractors	10
GC-29	Priorities	10
GC-30	Order of Work	10
GC-31	Work Covered by Contract Price	10
GC-32	Hours of Work and Overtime Pay	10
GC-33	Workmen's Compensation Laws	11
GC-34	Insurance	11
GC-35	Assignment of Claims	11
GC-36	Payments	12
GC-37	Organization, Plant and Progress	12
GC-38	Inspection	13
GC-39	Claims, Protests and Appeals	14
GC-40	Purchase Orders	14
GC-41	Cost Data	14
GC-42	Adjustment of Contract Price by Reason of Change in Federal, State or Local Taxes	15
GC-43	Restoration of Site	15
GC-44	Final Examination and Acceptance	16



Par. No.Paragraph TitlePage No.

## SECTION I - SPECIAL PROVISIONS

1-01	Location	I-1
1-02	Work to be Done	I-1
1-03	Drawings	I-1
1-04	Quantity of Work	I-1
1-05	Commencement, Prosecution and Completion	I-3
1-06	Sundays, Holidays and Nights	I-3
1-07	Priorities	I-3
1-08	Equipment Furnished by the Government	I-4
1-09	Material, Procurement of Which Is Arranged by the Government	I-4
1-10	Minimum Wage Rates	I-4

## SECTION II - POLES AND POLE ASSEMBLY

2-01	Poles	II-1
2-02	Storage and Handling	II-1
2-03	Inspection	II-1
2-04	Pole Setting	II-1
2-05	Locating	II-2
2-06	Crossarms, Fittings and Racks	II-2
2-07	Hardware	II-2
2-08	Pins	II-3
2-09	Double Arms	II-3
2-10	Dead Ends	II-3
2-11	Buck Arms	II-3
2-12	Angles	II-3
2-13	Guying	II-3
2-14	Line Terminals	II-4
2-15	Crossarm Guys	II-4
2-16	Fastening Guys to Poles	II-4
2-17	Guy Anchors	II-4
2-18	Guy Insulation	II-4
2-19	Guy Anchor Locations	II-4
2-20	Guy Protection	II-4
2-21	Pulling Up Guys	II-4
2-22	Multiple Guying	II-5
2-23	Clearance	II-5

## SECTION III - ELECTRICAL DISTRIBUTION SYSTEM

3-01	Standard Rules and Regulations	III-1
3-02	Materials and Equipment	III-1
3-03	Guaranty and Test	III-1
3-04	Federal and Standard Specifications	III-1
3-05	Clearances	III-2



<u>Par. No.</u>	<u>Paragraph Title</u>	<u>Page No.</u>
3-06	Sag	III-2
3-07	Joint Use	III-3
3-08	Grounding	III-3
3-09	Primary Conductors	III-3
3-10	Transformers	III-4
3-11	Secondary Conductors	III-4
3-12	Service Drops	III-4
3-13	Insulators	III-4
3-14	Reclosing Fuel Switch	III-5
3-15	Cutouts	III-5
3-16	Lightning Arresters	III-5
3-17	Fire Reporting Station Lights	III-5
3-18	Street Lights	III-5
3-19	Pump Control Circuit	III-5

#### SECTION IV - MEASUREMENT AND PAYMENT

4-01	General	IV-1
4-02	Distribution Transformers	IV-1
4-03	Fused Cutouts	IV-1
4-04	Lightning Arresters	IV-1
4-05	Poles	IV-1
4-06	Guys	IV-1
4-07	Crossarms	IV-1
4-08	Secondary Clevis	IV-1
4-09	Crossarm Pins with Insulators	IV-1
4-10	Transformer Pins with Insulators	IV-2
4-11	Dead End Assemblies	IV-2
4-12	Grounding Assemblies	IV-2
4-13	Conductors	IV-2
4-14	Reclosing Fused Cutout	IV-2
4-15	Pole Top Pins	IV-2
4-16	Wireholders	IV-2
4-17	Porcelain Strain Insulators	IV-2
4-18	Fire Reporting Station Lights	IV-2
4-19	Street Lights	IV-2
4-20	Pump Control Circuits	IV-3
4-21	Transformer Platforms	IV-3
4-22	Combination Street Lights and Fire Reporting Station Lights	IV-3



WAR DEPARTMENT  
U. S. ENGINEERING OFFICE  
ALBUQUERQUE DISTRICT  
ALBUQUERQUE, NEW MEXICO

GENERAL CONDITIONS

GC-1. GENERAL. - These conditions are a part of the Specifications and shall govern wherever applicable. (See "Special Conditions").

GC-2. VISITING SITE. - The Bidder should visit the site and acquaint himself as to local conditions, availability of labor, water, electric power, roads, soil conditions, the relation of finished grade of the building to existing grades and difficulties which may attend execution of the work. The submission of a proposal will be construed as evidence that such a visit and investigation has been made and later claims for labor, equipment, or materials required, or difficulties encountered will not be considered.

GC-3. SITE OF WORK. - The term "Site of Work", as used in these specifications and in Articles 17 and 19 of the contract, will embrace all areas wherein field operations are conducted by the contractor in connection with this contract, including work areas, shops, camps, yards, etc., irrespective of whether such operating areas lie within the limits of right-of-way shown on the drawings.

GC-4. CONTRACT REQUIREMENTS. - The contractor shall acquaint himself and require subcontractors to be thoroughly acquainted with all the provisions and requirements of the basic contract and exact strict compliance with all terms thereof affecting such subcontractors, particularly as to wages, reports and affidavits.

GC-5. CONTRACTOR'S REPORTS. - The contractor will report monthly, and will cause all subcontractors to report in like manner, within five days after the close of each calendar month, on forms to be furnished by the Department of Labor, the number of persons on their respective pay rolls, the aggregate amount of such pay rolls, the man hours worked, and the total expenditures for materials. He shall furnish the Department of Labor the names and addresses of all subcontractors on the work at the earliest date practicable provided that the foregoing shall be applicable only to work at the site of the construction project.

GC-6. LIABILITY FOR DAMAGES. - The contractor will be held responsible for all damage to the work under construction, whether from fire, water, high wind, or other causes, during performance and until final completion and acceptance, even though partial payments may have been made under the contract. He will be held answerable for all damages that may occur to persons, property, animals, or vehicles from want of proper shoring, bracing, lighting, watching, boarding or enclosing, and for any accident arising from defective



## GENERAL CONDITIONS

scaffolding or apparatus, or any negligence on the part of himself or his employees.

GC-7. PATENTS. - The contractor shall hold and save the Government, its officers, agents, servants and employees, harmless from liability of any nature or kind including costs and expenses for or on account of any patented or unpatented invention, article or appliance manufactured or used in the performance of this contract, including its use by the Government. These specifications are furnished with the explicit understanding that when drawings, specifications and other data prepared by the War Department are furnished manufacturers and others for use in the manufacture or purchase of supplies, or for any other purpose, the Government assumes no responsibility nor obligation whatever, and the furnishing of said data by the War Department is not to be regarded by implication or otherwise as in any manner licensing the holder or conveying the rights or permission to manufacture, use, or sell any patented invention that may in any way be thereto related.

GC-8. STANDARD STOCK PRODUCTS. - All materials, supplies and articles furnished shall, wherever so specified, and otherwise wherever practicable, be the standard stock products of recognized reputable manufacturers. The standard stock products of manufacturers other than those specified will be accepted, if in the opinion of the contracting officer, they are equal in strength, durability, usefulness and convenience for the purpose intended. (See Article 7 of the contract). Any changes required in the details and dimensions shown on the drawings for the substitution of standard stock products, other than those provided for, shall be properly made as approved by the contracting officer, and at the expense of the contractor.

GC-9. CONTROL AND ACCESS TO WORK. - The work shall be entirely under the control of the contracting officer and he or his authorized representatives shall have access to same at all times. The contracting officer may require the contractor to dismiss such employees as he deems to be incompetent or careless.

GC-10. CHARACTER OF WORK AND MECHANICS. - The work shall be executed in the best and most workmanlike manner by qualified, careful and efficient mechanics, in strict accordance with the drawings and specifications.

GC-11. SUBCONTRACTORS. - Subcontractors and their employees shall be considered to be employees of the contractor as the term "employee" is used in these specifications.

GC-12. INTERPRETATION OF CONTRACT. - Unless otherwise specifically set forth, the contractor shall furnish all materials,



## GENERAL CONDITIONS

labor, etc., necessary to complete the work according to the true intent and meaning of the drawings and specifications of which intent and meaning the contracting officer shall be the interpreter. Except when otherwise indicated, no local terms or classifications will be considered in the interpretation of the contract or the specifications forming a part thereof.

### GC-13. LINES, GRADES, AND STAKES.

(a) The contractor shall, at his own expense, furnish all stakes, material for batter boards, templates, patterns, platforms, and special labor that may be required in setting and cutting or laying out any part of the work. After lines and grades for any part of the work have been given by the Government inspectors, the contractor will be required to check their accuracy and will be held responsible for the proper execution of the work to the correct lines and grades. All stakes or other marks given shall be preserved by him until authorized by the inspector to remove them. The contracting officer may require that work be suspended at any time when for any reason such marks cannot be properly followed.

(b) The contracting officer will furnish to the contractor all location and limit marks reasonably necessary for the primary layout of the work, including grades for utility systems, to five feet outside the building lines. After primary layout of each unit has been furnished, the contractor shall make all further layout necessary for the prosecution of the work including the setting of batter boards. He shall be responsible for the preservation of the primary layout and, in case any portion is destroyed, he shall replace it as directed by the contracting officer.

GC-14. ROADS AND GROUNDS. - All building operations, and the grounds used in connection therewith, shall be confined to the limits designated by the contracting officer. Only such established and temporary roadways as the contracting officer may authorize shall be used by the contractor. Damaged roadways shall be repaired as directed by the contracting officer, at no expense to the United States. The contractor shall keep the buildings and grounds in use by him at the site of the work in an orderly and sanitary condition.

GC-15. UTILITIES. - Where water and electrical current are available from existing systems belonging to the United States, the contractor on application to the contracting officer will be furnished same through metered connections as required for his work, provided, however, that in case of emergency and/or in the opinion of the contracting officer the water supply becomes only sufficient to meet military needs, the contractor shall furnish the water necessary for his use from other approved sources.



## GENERAL CONDITIONS

Connection to water mains or services shall be made by the contractor under the supervision of the contracting officer at the contractor's expense. The contractor shall provide all piping, corporation cocks, fittings, etc., required to make the connection and from it the contractor shall run such piping as he requires. Temporary piping shall be run underground in such locations as are approved by the contracting officer.

The contractor shall house connection to main or service in an accessible and approved manner and properly protect all piping against freezing. Connections, pipe, fixtures and fittings shall be maintained by the contractor. Failure to stop any leakage or other waste will be cause for use of the water to be discontinued. After temporary lines have served their purpose, the contractor shall remove all or part and restore the surface of the ground, as required by the contracting officer.

The closing of corporation cocks at mains shall be done by the contractor in a manner satisfactory to the contracting officer. where water and/or electrical current are not available from the United States, the contractor will make his own arrangements for securing the same.

The United States will not be liable for delays or for any damage or expenses occasioned by the contractor due to any water and/or power shortage.

### GC-16. ACCIDENT PREVENTION, LIABILITY AND SAFETY REQUIREMENTS.

(a) The contractor will not be allowed to block or obstruct any public highway without having secured prior permission from the contracting officer, and having provided safe, temporary detours. During the time the highways are so blocked, the contractor shall replace danger lights, barricades and warning signs in accordance with all local and State laws or as directed by the contracting officer.

(b) The contractor shall be responsible that his employees strictly observe the laws of the United States at the site under the contract.

(c) Accident Prevention. - In order to protect the life and health of employees in the performance of this contract, the contractor will comply with all pertinent provisions of the "Safety Requirements in Excavation - Building - Construction" approved by the Chief of Engineers, December 16, 1941, (a copy of which is on file in the office of the contracting officer) and as may be amended, and will take or cause to be taken such additional measures as the contracting officer may determine to be reasonably necessary for



## GENERAL CONDITIONS

this purpose. The contractor will maintain an accurate record of and will report to the contracting officer in the manner and on the forms prescribed by the contracting officer, all cases of death, occupational disease and traumatic injury arising out of or in the course of employment on work under this contract. The contracting officer will notify the contractor of any non-compliance with the foregoing provisions and the action to be taken. The contractor shall, after receipt of such notice, immediately correct the conditions to which attention has been directed. Such notice, when served on the contractor or his representative and at the site of the work, shall be deemed sufficient for the purpose aforesaid. If the contractor fails or refuses to comply promptly, the contracting officer may issue an order stopping all or any part of the work. When satisfactory corrective action is taken, a start order will be issued. No part of the time lost due to any such stop order shall be made the subject of claim for extension of time or for excess costs or damages by the contractor.

(d) Particular attention is invited to Section 8302.03 of the "Safety Requirements in Excavation - Building - Construction" referred to in paragraph (c) above providing for First Aid Stations, infirmaries, medical and First Aid personnel, and ambulance services.

(e) The Infirmary and all First Aid Stations shall remain open and be completely manned as directed by the contracting officer during all hours that work is being performed.

(f) On projects employing 500 or more persons, a competent Safety Engineer shall be provided by the contractor for full-time supervision of the contractor's Safety Program. This Safety Engineer shall be an employee of the contractor and not a representative of the contractor's insurance company. The Safety Engineer shall have full authority to plan and direct an efficient Safety Program for the contractor and to correct deficiencies found by him or reported to him by representatives of the contracting officer.

(g) It will be permissible for the contractor to make arrangements to combine his facilities with the facilities of other contractors prosecuting work at the site, who have established the facilities and services specified in subparagraph (c) and (f) above, so that the combined facilities and services meet the requirements of these specifications. Such arrangements shall be subject to the prior approval of the contracting officer.

(h) Nothing in this paragraph shall be construed as modifying the responsibility of the contractor as set forth in Article 10 of the contract.



## GENERAL CONDITIONS

GC-17. SUBSTITUTES FOR CRITICAL MATERIALS. - The plans and specifications for the various divisions of work have been prepared with a view toward reducing the use of critical materials to a minimum.

Where further changes in materials are deemed necessary in compliance with the lists of prohibited items as issued by the Army and Navy Munitions Board on priorities instructions, such changes will be ordered by the contracting officer. Any increase or decrease in cost occasioned by such changes to be adjusted according to Article 3 of the contract.

GC-18. PROTECTION OF STORED MATERIAL. - All materials, supplies, and articles delivered at the site, shall be adequately housed or otherwise protected against deterioration and damage to the satisfaction of the contracting officer. In case material or equipment furnished and stored by the contractor, on which payments have been made, becomes damaged or destroyed due to improper protection, the contractor shall replace such material at his own expense and to the satisfaction of the contracting officer.

GC-19. MISPLACED MATERIAL. - Any material that is deposited elsewhere than the place designated or approved by the contracting officer will not be paid for, the contractor may be required to remove such material and waste it or redeposit it as directed.

## GC-20. STANDARD TESTS, QUALITY AND GUARANTEES.

(a) All materials, supplies and parts and assemblies thereof entering into the work to be done under these specifications shall be tested as specified herein, or, if not specified, in conformity with Article 6 of the contract and according to the best modern approved method for the particular type and class of work.

(b) Unless otherwise authorized or directed, where standard published specifications of recognized authorities or organizations are specified, the latest revisions of such specifications current at the time the work is executed shall govern.

(c) Unless waived in writing by the contracting officer, all tests and trials shall be made in the presence of a duly authorized representative of the contracting officer. When the presence of the inspector is so waived, sworn statements, in triplicate, of the tests made and the results thereof shall be furnished the contracting officer by the contractor as soon as possible after the tests are made.

(d) All costs of all tests and trials, excepting the



## GENERAL CONDITIONS

expenses of the Government inspector and the testing of concrete aggregate and concrete cylinder tests shall be borne by the contractor and shall be included in the contract unit price for the items to which the inspections apply.

(e) In accordance with Article 7 of the contract, all materials, supplies and articles furnished and incorporated in the permanent structure shall be of the highest grade, free from defects and imperfections, of recent manufacture, and unused. Workmanship shall be of the highest grade and in accordance with the best modern standard practice.

(f) All articles, supplies, equipment parts and assemblies thereof, of standard manufacture, or for which detail designs or requirements are not prescribed in these specifications shall be guaranteed by the contractor against any failure in proper use or operation, caused by defective material, workmanship or design, for a period of one year from the date of final acceptance of the complete work under this contract. Failure in any part due to such causes within that time shall be promptly and satisfactorily remedied by the contractor without cost to the Government.

GC-21. FEDERAL SPECIFICATIONS. - All Federal Specifications hereinafter referred to shall include the latest revisions and amendments and may be seen in this office. Federal Specifications may be obtained from the Superintendent of Documents, Washington, D.C., or they may be seen at the U. S. Engineer Office, Albuquerque, New Mexico.

GC-22. MATERIAL, EQUIPMENT AND SAMPLES TO BE SUBMITTED. - As soon as practicable and within fifteen (15) days or any additional time as determined necessary by the contracting officer after the date of receipt of notice of award of the contract and before any materials, fixtures or equipment are purchased, the contractor shall submit for approval a complete list of all materials, fixtures and equipment which he intends to incorporate in the work in triplicate, together with the names and addresses of the manufacturers, servicing agencies and their catalog numbers and trade names. The contractor shall also furnish samples or detailed information in accordance with requirements specified in the detailed specifications. Approval of materials will be based on manufacturer's published ratings. The equipment of any manufacturer who does not have an established distributing warehouse or servicing shop, conducted under responsible management and having qualified and experienced mechanics available, within a reasonable distance from the airfield, will not be considered. Failure to furnish the names of servicing agencies, or any other data called for in these specifications, will be considered sufficient reason for rejection of the equipment. Such servicing facilities shall have been established prior to the submittal of



## GENERAL CONDITIONS

bids and not merely set up for the purpose of complying with this requirement of the specifications. In the event the contractor submits for approval materials, fixtures, and equipment that are not in conformity with the specifications, or not of the best quality and grade, the contracting officer reserves the right to reject such materials, fixtures, and equipment and to select a complete line; or the contractor shall submit for approval other equipment which is in conformity with the specifications. If the contractor fails to submit for approval within the specified time after the date of receipt of notice of award of the contract, the list of materials as above specified, then the contracting officer reserves the right to select a complete line of materials, fixtures and equipment. The selection made by the contracting officer shall be final and binding upon the contractor and shall be furnished and installed by the contractor without change in the contract price.

GC-23. DRAWINGS AND SPECIFICATIONS, COOPERATIVE. - The drawings and specifications shall be considered as cooperative and work and material called for by one and not shown or mentioned in the other shall be done or furnished in as faithful and thorough a manner as though fully covered by both.

GC-24. DISCREPANCIES. - Where no figures or memoranda are given, the drawings shall be accurately followed according to scale. In any case of discrepancy in the figures on drawings, the matter shall be immediately submitted to the contracting officer without whose decision said discrepancy shall not be adjusted by the contractor, save only at his risk; and in the settlement of any complications arising from such adjustment the contractor shall bear all extra expense involved.

In case of differences between drawings and specifications, the specifications shall govern.

GC-25. DRAWINGS. - The work shall conform to drawings listed in "Special Provisions."

(a) The work shall also conform to such drawings in explanation of details or modifications as may be furnished by the contracting officer from time to time during construction, including such changes as the contracting officer may consider necessary on account of special conditions encountered during prosecution of the work. (See Articles 2 and 3 of the contract.)

(b) During the prosecution of the work the contractor shall check all drawings and shall immediately report all errors and omissions found therein to the contracting officer. Parts and details not fully shown on the drawings shall be detailed by the contractor in accordance with standard architectural and engineering



## GENERAL CONDITIONS

practice. The contractor shall submit three sets of prints of each of such detailed drawings and accompanying specifications to the contracting officer who will return one set with his approval or with notations of such changes as he deems necessary. Approval of drawings by the contracting officer shall not relieve the contractor of responsibility for the correct fitting together and exact position of all parts of the work and complete conformity with the specifications. After approval, the contractor shall furnish the contracting officer with five sets of prints of each approved drawing and accompanying specifications. Each print submitted for approval shall have a three-inch by four-inch white space in the lower right hand corner, just above the title, in which the contracting officer may indicate the action taken. All such approved drawings and specifications shall form a part of these specifications. Payment for the contractor's drawings, revisions thereof, and for copies furnished, shall be included in the contract prices of the various items of work.

(c) Shop and Erection Drawings. -- The contractor shall submit to the contracting officer for approval five copies of all shop drawings called for under the various sections. These drawings shall be complete, giving all the required information. If approved, each copy will be identified as having received such approval by being stamped or marked thus: "THIS SHOP DRAWING APPROVED IN ACCORDANCE WITH PROVISIONS OF SPECIFICATIONS," signed and dated. Four sets will be retained by the contracting officer and one returned to the contractor. If not approved, each copy will be so identified by being stamped or marked thus: "THIS SHOP DRAWING TO BE CORRECTED AS NOTED," and dated. After being stamped and marked for correction, with the necessary changes having been indicated thereon, one copy of each drawing will be returned to the contractor for the necessary corrections. After the corrections have been made and approved, the contractor shall submit five copies of the revised drawings to the contracting officer for approval and distribution as above provided. All approved shop drawings will form a part of the specifications. The approval shall not be construed as a complete check, but will only indicate that the general method of construction and detailing is satisfactory. Approval of the drawings will not relieve the contractor of the responsibility for any error which may exist, as the contractor shall be responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work.

GC-26. COMPLETE WORK REQUIRED. -- It is intended that the drawings and specifications include everything requisite and necessary to finish the entire work properly notwithstanding every item necessarily involved is not particularly mentioned. All work when finished shall be delivered in a complete and undamaged state and in proper working order.



## GENERAL CONDITIONS

GC-27. MINOR MODIFICATIONS. - The right is reserved to make such minor changes in the execution of the work to be done under these specifications as, in the judgment of the contracting officer, may be necessary or expedient to carry out the intent of the contract; provided that the unit cost to the contractor of doing the work shall not be increased thereby, and no increase in unit price over the contract rate will be paid to the contractor on account of such changes. (See Articles 3, 4 and 5 of the contract).

GC-28. INTERFERENCE WITH OTHER CONTRACTORS. - The contractor shall not interfere with materials, appliances, or workmen of the United States or any other contractor who may have work at this site. As far as practicable all contractors shall have equal rights in the use of all assigned roads and grounds. In case of disagreement regarding such use the decision of the contracting officer shall govern.

GC-29. PRIORITIES. - Attention of the contractor is called to the fact that a priority rating will be established for this contract. (See "Special Provisions"). In case the contractor is unable to obtain the required delivery on materials and/or equipment which are to become a permanent part of the construction, the contractor shall notify the contracting officer, submitting with his notification supporting data to his claim that the required delivery of such materials or equipment cannot be obtained.

If the completion of the undertaking to be performed under the terms of this contract be delayed by reason of delay in the delivery of materials or supplies essential to such performance because of national defense priorities and without the fault or negligence of the contractor, the time of performance will be extended for a period equal to such delay, as determined by the contracting officer, and subject to appeal, as provided in Article 9 of the contract.

GC-30. ORDER OF WORK. - Construction shall be carried on in such order and sequence as found necessary and approved by the contracting officer.

GC-31. WORK COVERED BY CONTRACT PRICE. - The contractor shall, under his contract prices, furnish and pay for all materials, labor and all permanent, temporary, preparatory and incidental work, furnish all accessories and do everything which may be necessary to carry out the contract in good faith, which contemplates the completion of everything in good working order, of good material, and with accurate workmanship, skillfully fitted and properly connected and put together.

GC-32. HOURS OF WORK AND OVERTIME PAY. - The contractor will prosecute the work in accordance with the following conditions and will include the same provisions in all subcontracts entered into by him.



## GENERAL CONDITIONS

(a) Overtime Rates. - Where a single shift is worked eight hours of continuous employment except for lunch periods shall constitute a day's work beginning on Monday and through Friday of each week. When work is required in excess of eight hours on any one day or during the interval from five p.m. Friday to seven a.m. Monday or on holidays such work shall be paid for at one and one-half times the basic rate of wages.

(b) Shifts. - Where two or more shifts are worked, five days of seven and one-half hour shifts from Sunday midnight to Friday midnight, shall constitute a regular weeks work. The pay for a full shift period shall be a sum equivalent to eight times the basic hourly rate and for a period less than the full shift shall be the corresponding proportional amount which the time worked bears to the time allocated to the full shift period. Any time worked from Friday midnight to Sunday midnight or in excess of regular shift hours shall be paid for at one and one-half times the basic rate of wages. Wherever found to be practicable shifts should be rotated.

GC-33. WORKMEN'S COMPENSATION LAWS. - The act approved June 25, 1936, (49 Stat. 1938, 1939) provides that the several states have authority to make their workmen's compensation laws applicable to contracts for the construction, alteration or repair of a public building, or public work of the United States, and the several states are vested with the power and authority to enforce such state laws on lands of the United States.

GC-34. INSURANCE. - No partial payment will be made until the contractor has submitted satisfactory proof that the property to be paid for is covered by a fire and comprehensive coverage insurance policy with extended coverage endorsement. Such insurance shall be in a sum at least equal to the amount of the payment to be made, plus any other partial payments previously made thereon. The contractor shall keep all such property fully insured, without cost to the Government, until final inspection and acceptance of all work under the contract. The insurance policy or policies shall be written by a company or companies satisfactory to the contracting officer, and shall provide that any loss be payable to the contractor and the Government as their respective interests may appear. All insurance policies shall be filed with the contracting officer and shall be subject to his approval.

GC-35. ASSIGNMENT OF CLAIMS.

(a) In accordance with the provisions of the Assignment of Claims Act (Public No. 811, 76th Congress, 3d Session) approved October 9, 1940, payments due under this contract may be assigned to a bank, trust company, or other financing institution, including



## GENERAL CONDITIONS

any Federal lending agency.

(b) Any assignment shall cover all amounts payable under this contract and not already paid and shall not be made to more than one party, except that any such assignment may be made to one party as agent or trustee for two or more parties participating in such financing.

(c) Any claim under this contract may be subject to further assignment to a bank, trust company, or other financing institution including any Federal lending agency, and to similar further assignment; provided that any such assignee shall file written notice of further assignment, together with a true copy of the instrument of further assignment with the contractor and also as provided in proviso 4 of Section 1 of the Assignment of Claims Act of 1940 (Public No. 811, 76th Congress) in respect to original assignment.

(d) No assignee shall divulge any information concerning the contract, or contained therein, except to those persons necessarily concerned with the transaction.

(e) Payments to an assignee of any claim arising under this contract shall not be subject to reduction or set-off for any indebtedness of the assignor to the United States arising independently of this contract.

(f) Further information concerning procedure for assignment may be obtained from the contracting officer.

GC-36. PAYMENTS. - Payments to the contractor will be made semi-monthly in accordance with Article 16 of the contract and in accordance with a well-balanced schedule to be prepared by the contractor and approved by the contracting officer apportioning the total amount of the contract among the main items that go to form the completed work. The total amount shown by said schedule shall equal the amount to be paid under the contract. Ten per cent (10%) of the amount of each estimate will be retained until the contract work is fifty per cent (50%) completed, after which the total amount retained will never be less than 5 per cent (5%) of the total contract amount until the full completion and acceptance of all work covered by the contract, when final payment will be made thereon, including the retained percentage.

### GC-37. ORGANIZATION, PLANT AND PROGRESS.

(a) The contractor shall within seven days after issuance of the notice of award, prepare and submit to the contracting officer, for approval a practicable and feasible schedule showing the order in which the contractor proposes to carry on the work,



## GENERAL CONDITIONS

the dates on which he will start the several salient features (including procurement of materials, plant and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale so as to indicate appropriately the percentage of work scheduled for completion at any time. The contractor shall enter the actual progress at the end of each week and shall immediately deliver to the contracting officer three blue print copies of the same.

(b) The contractor shall furnish sufficient forces, construction plant and equipment, and shall work such hours, including night shifts and Sunday and holiday work as may be necessary to insure the prosecution of the work in accordance with the approved progress schedule. If, in the opinion of the contracting officer, the contractor falls behind the progress schedule, the contractor shall take such steps as may be necessary to improve his progress and the contracting officer may require him to increase the number of shifts, days of work and/or the amount of construction plants, all without additional cost to the Government.

(c) Failure of the contractor to comply with the requirements by the contracting officer or his authorized representative under this provision shall be grounds for the determination by the contracting officer that the contractor is not prosecuting the work with such diligence as will insure completion within the time specified; and when such determination has been made, the contracting officer may provide the necessary additional personnel and/or plant at the contractor's expense to insure completion within the required time. If the work is not already being prosecuted on a multiple shift basis, the contracting officer may require work to be carried on during additional shifts at the contractor's expense.

### GC-38. INSPECTION.

(a) The work will be conducted under the general direction of the contracting officer and will be inspected in accordance with Article 6 of the contract by inspectors appointed by him. The inspectors will keep a record of the work done and see that the location and limit marks are kept in proper order, but the presence of the inspector shall not relieve the contractor or his responsible agent (See Article 8 of the contract) of the responsibility for the proper execution of the work.

(b) Except as specified in this paragraph, in Article 6 of the contract, or otherwise provided for in these specifications, all expenses of inspection will be borne by the Government.

(c) It is understood that any instructions or decisions given by a superior officer through the contracting officer are to



## GENERAL CONDITIONS

be considered instructions or decisions of the contracting officer in all cases where, under the terms of the contract, decisions rest with the contracting officer.

GC-39. CLAIMS, PROTEST AND APPEALS. - If the Contractor considers any work demanded of him to be outside the requirements of the contract, or if he considers any action or ruling of the contracting officer or of the inspectors to be unfair, the contractor shall, without undue delay, upon such demand, action or ruling, submit his protest thereto in writing to the contracting officer, stating clearly and in detail the basis of his objections. The contracting officer shall thereupon promptly investigate the complaint and furnish the contractor his decision, in writing, thereon. If the contractor is not satisfied with the decision of the contracting officer, he may, within thirty (30) days appeal in writing to the Secretary of War, whose decision, or that of his duly authorized representative, shall be final and binding upon the parties to the contract. Except for such protests or objections as are made of record in the manner herein specified and within the time limit stated, the records, rulings, instructions or decisions of the contracting officer shall be final and conclusive. All appeals from decisions of the contracting officer authorized under the contract shall be addressed to the Secretary of War, Washington, D. C. The appeal shall contain all the facts or circumstances upon which the contractor bases his claim for relief and should be presented to the contracting officer for transmittal within the time provided for in the contract.

GC-40. PURCHASE ORDERS. - Two copies of all purchase orders, showing firm names and addresses, shall be submitted to the contracting officer prior to the placement of orders for materials which are to be incorporated in the work. Two copies of shipping bills or invoices covering shipment of all materials received, whether they are to be incorporated in the permanent work or consumed in the course of construction, shall be furnished in each case within ten days after receipt of shipment. Such invoices or shipping bills shall clearly indicate, in the case of each shipment, the firm names and addresses, the car initials and numbers when shipped by railroad, and the weights or other units of measure. In the case of material which is to be incorporated in the permanent work, the invoices or shipping bills will be so worded or marked that each item, piece or member can be definitely identified on the drawings.

GC-41. COST DATA. - The Government will keep a record of the costs of the work performed under these specifications and the contractor shall permit the contracting officer to have access to his timekeeping, invoices and plant records for this purpose. The contractor shall also furnish the contracting officer with a statement of the initial cost and date of purchase of all plant used in connection with the work.



## GENERAL CONDITIONS

(See paragraph IV (d), Invitation for Bids.)

GC-42. ADJUSTMENT OF CONTRACT PRICE BY REASON OF CHANGE IN FEDERAL, STATE OR LOCAL TAXES. - Unless otherwise indicated, the prices herein include any Federal, state and local tax or charge heretofore imposed which is applicable to the supplies or work covered hereby. If after the date of award, the Federal Government or any state or local government shall impose, remove or change any duty, sales, use or excise tax or any other tax or charge directly applicable to the supplies or work covered hereby or the materials used in the manufacture thereof or directly upon the importation, production, processing, manufacture, construction or sale of such supplies, work, or materials, which tax or charge must be borne by the contractor because of a specific contractual obligation or by operation of law, or in case of a decrease or elimination of a tax, where the contractor is relieved to that extent, and if in case of an increase in an existing tax or the imposition of a new tax the contractor has paid such tax or charge to the Federal Government or a state or local government, or any person, then the prices named herein will be increased or decreased accordingly and any amount due to the contractor as a result of such change will be charged to the Government and entered on vouchers (or invoices) as a separate item; provided, however, that the Government reserves the right to issue to the contractor in lieu of such payment a tax exemption certificate or certificates acceptable to the Federal Government or state or local government, as the case may be, and the contractor agrees, in the case of any such state or local tax or charge, to take such steps as may be requested by the Government to cause such tax or charge to be paid under protest, to preserve and to cause to be assigned to the Government any and all rights to the refund of such tax or charge, and to furnish to the Government all reasonable assistance and cooperation requested by the Government in any litigation or proceeding for the recovery of such tax or charge; and Provided further, That nothing contained herein shall be construed as requiring the Government to reimburse the contractor for any Federal, state or local income taxes, income surtaxes or excess profits taxes.

GC-43. RESTORATION OF SITE. - Before final payment is made, the contractor shall remove from the site, without expense to the Government, all rubbish, unused materials provided by him, temporary buildings and other structures erected by him, shall fill all holes or cavities made for his convenience, except as otherwise provided, and shall leave the entire site in good order and condition, all as required by the contracting officer.



## GENERAL CONDITIONS

GC-44. FINAL EXAMINATION AND ACCEPTANCE. - When all work called for under this contract has been completed, the contracting officer will make a thorough examination of the same and, if it is found to fully comply with the requirements of the contract, it will be accepted and final payment will be made in accordance with the provisions of Article 16 (d) of the contract.



WAR DEPARTMENT  
U. S. ENGINEER OFFICE  
ALBUQUERQUE DISTRICT  
ALBUQUERQUE, NEW MEXICO

APPROPRIATION: 212/30905 ENGINEER SERVICE, ARMY 1942 and 1943  
(A0905-23)

SPECIFICATIONS: CONSTRUCTION OF ELECTRICAL DISTRIBUTION SYSTEM,  
GRANADA RELOCATION CENTER, COLORADO

SECTION I

SPECIAL PROVISIONS

1-01. LOCATION. - The site of the work is at the Granada Relocation Center, Colorado.

1-02. WORK TO BE DONE. - Work to be done under this contract is authorized under the Fifth Supplemental National Defense Appropriation Act, 1942, approved March 5, 1942 (Public Law 474, 77th Congress, Second Session) and consists of furnishing all plant, labor and materials in accordance with these specifications for the construction of an overhead Electrical Distribution System.

1-03. DRAWINGS.

(a) The work shall conform to the following drawings marked "Electrical Distribution System, Granada Relocation Center, Colorado," which form a part of these specifications and which are filed in the U. S. Engineer Office, Albuquerque, New Mexico. There are three sheets with file numbers as follows:

<u>Designation</u>	<u>File No.</u>
Layout Plan	GC-E-1/1
Details No. 1	GC-E-1/2
Details No. 2	GC-E-1/3

(b) Ten sets of prints of necessary contract drawings and ten sets of specifications will be furnished the contractor without charge. Additional sets may be secured upon request at cost of production.

(c) The work shall also conform to such modifications as may be furnished by the contracting officer, as stated under "General Conditions."

1-04. QUANTITY OF WORK. - The following quantities of work to be done under these specifications is given only to serve as a basis for canvassing bids and for determining the approximate amount of the consideration of the contract. The contractor will be required to perform under the following items all the work specified herein and/or shown on the drawings be it more or less than the quantities listed as follows:



Specifications: Electrical Distribution System, Granada Relocation  
Center, Colorado.

<u>Item No.</u>	<u>Designation</u>	<u>Unit</u>	<u>Quantity</u>
1	Poles, 30 foot, Class 5	Each	8
2	" 30 " " 6	"	31
3	" 35 " " 4	"	2
4	" 35 " " 5	"	13
5	" 40 " " 3	"	24
6	" 40 " " 4	"	29
7	" 40 " " 5	"	42
8	Single Crossarms	"	20
9	Double Crossarms	"	30
10	Secondary Clevis	"	4 23
11	Wireholders	"	555
12	Porcelain Strain Insulators	"	540
13	Down Guys	"	71
14	Overhead Guys	"	11
15	Grounding Assemblies	"	49
16	Crossarm Pins with Insulators	"	80
17	Transformer Pins with Pin Type Insulators	"	5
18	Pole Top Pins	"	45
19	Lightning Arresters	"	46
20	Fused Cutouts	"	48
21	Reclosing Fused Cutouts	"	3
22	Dead End Assemblies	"	62
23	Street Lights	"	6
24	Fire Reporting Station Lights	"	21
25	Combination Street Light and Fire Reporting Station Light	"	6



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

<u>Item No.</u>	<u>Designation</u>	<u>Unit</u>	<u>Quantity</u>
26	Transformers, 1 $\frac{1}{2}$ Kv-a	Each	2
27	" 3 Kv-a	"	6
28	" 10 Kv-a	"	11
29	" 15 Kv-a	"	7
30	" 25 Kv-a	"	4
31	" 37 $\frac{1}{2}$ Kv-a	"	18
32	Transformer Platforms	"	2
33	Copperclad Conductor (#2 B&S Gage Copper Wire Equivalent)	Lin.Ft.	18,515
34	" " (#4 B&S Gage Copper Wire Equivalent)	" "	9,000
35	" " (#6 B&S Gage Copper Wire Equivalent)	" "	16,765
36	" " (#8 B&S Gage Copper Wire Equivalent)	" "	60,575
37	" " (#9 B&S Gage Copper Wire Equivalent)	" "	9,605
38	" " (#10 B&S Gage Copper Wire Equivalent)	" "	5,170
39	" " (#12 B&S Gage Copper Wire Equivalent)	" "	35,435

1-05. COMMENCEMENT, PROSECUTION AND COMPLETION. -

(a) The contractor will be required to commence work to be done within one (1) calendar day after the date of receipt by him of notice of award, to prosecute the said work with faithfulness and energy, and to complete the entire work on or before August 31, 1942, plus any extension of time duly granted under the provisions of the contract and specifications. If any bid is accepted a letter contract will be issued within three days after opening of bids, pending execution of the formal contract on the prescribed form. Work shall be prosecuted vigorously during all seasons of the year.

(b) In case of failure on the part of the contractor to complete the work to be done within the time thus determined and agreed upon for its completion as set forth in subparagraph (a) above, the Government may, by written notice to the contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the Government may take over the work and prosecute the same to completion, by contract or otherwise, and the contractor shall be liable to the Government for any excess cost occasioned the Government thereby.

1-06. SUNDAYS, HOLIDAYS AND NIGHTS. - Work shall be prosecuted on Sundays and holidays on the same basis as on other week days. Work at night shall be at the option of the contractor subject to the requirements of paragraphs 1-05 and GC-37.

1-07. PRIORITIES. - A priority rating of A-1-e will be established for this contract. (See General Conditions).



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

1-08. EQUIPMENT FURNISHED BY THE GOVERNMENT. - None.

1-09. MATERIAL, PROCUREMENT OF WHICH IS ARRANGED BY THE GOVERNMENT. - None.

1-10. MINIMUM WAGE RATES.

(a) The minimum wages to be paid laborers and mechanics on this project, as determined by the Secretary of Labor to be prevailing for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the pertinent locality, are as follows:

---

Classification of Laborers and Mechanics: Minimum Rates of Wages per Hour.

---

Air Tool Op. / Jackhammermen, Vibrator	\$ .75
Asbestos Workers	1.40
Asbestos Workers Improvers, 1st Year	.85
"          "          "      2nd Year	.95
"          "          "      3rd Year	1.00
"          "          "      4th Year	1.05
Asphalt Rakers	.625
Asphalt Shovelers	.625
Blacksmiths	1.25
Blaster-Powdermen	1.25
Blasters Helper	.80
Boilermakers	1.50
Boilermakers helpers	1.375
Bricklayers	1.65
Bricklayers Apprentices	
1st 6 months 20 percent of journeymens rate	
2nd 6 months 20    "    "    "    "	
3rd 6 months 30    "    "    "    "	
4th 6 months 35    "    "    "    "	
5th 6 months 50    "    "    "    "	
6th 6 months 60    "    "    "    "	
7th 6 months 65    "    "    "    "	
8th 6 months 75    "    "    "    "	
Carpenters, Journeymen	1.25
Carpenters Apprentices, 1st 6 months	.50
2nd 6 months	.50
3rd 6 months	.65
4th 6 months	.65
5th 6 months	.80
6th 6 months	.80
7th 6 months	.95
Cement Finishers	1.25
Electricians	1.50
Electricians Apprentices, 1st year \$10.00 per week	
2nd year	.55



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

Electricians Apprentices, 3rd year	\$ .70
4th year	.80
Elevator Constructors	1.50
Elevator Constructors Helpers	1.05
Firemen and Oilers	1.00
Glaziers	1.30
Iron Workers, Structural	1.50
Iron Workers, Ornamental	1.50
Iron Workers, Reinforcing	1.50
Iron Workers Apprentices	
1st 6 months 50 percent of journeymens rate	
2nd 6 " 60 " " " "	
2nd year 66-2/3 " " " "	
Laborers, Unskilled	.625
Lathers, Metal	1.50
Lathers, Wood	1.25
Marble Setters	1.50
Marble Setters Helpers	1.00
Mason Tenders	.90
Mortar Mixers	.90
Millwrights	1.25
Painters, Brush	1.25
Painters, Spray	1.50
Painters, Structural Steel	1.50
Painters Apprentices	
1st year 25 percent of journeymens rate	
2nd " 33 " " " "	
3rd " 50 " " " "	
4th " 75 " " " "	
Painters, Sign	1.50
Piledrivermen	1.25
Pipe Layers /Concrete and Clay/	.75
Plasterers	1.50
Plasterers Tenders	.90
Plumbers	1.50
Plumbers Apprentices, 1st year \$13.71 per week	
2nd " \$16.00 " "	
3rd " \$20.57 " "	
4th " \$22.86 " "	
5th " \$28.57 " "	
Power Equipment Operators:	
Air Compressors, 750 cu. ft. or under	.80
Air Compressors, over 750 cu. ft.	1.25
Asphalt Plant	1.43
Backfiller	1.43
Bulldozers	1.43
Cranes, Derricks, Draglines	1.50
Finishing Mach. / Cem. Conc. Pave./	1.10
Hoists, 1 Drum	1.25
Hoists, 2 or more Drum	1.43



Specifications: Electrical Distribution System, Granada Relocation  
Center, Colorado.

Loader or Conveyor	\$1.25
Mixers, 1 cu. yd. or less	1.25
Mixers, over 1 cu. yd.	1.43
Motor Graders	1.43
Piledrivers	1.50
Pumps, under 100 H.P.	.80
Pumps, 100 H.P. or over	1.10
Rollers	1.43
Scrapers	1.43
Scrapers / Le Tourneau /	1.43
Shovels	1.50
Tractors, over 35 H.P.	1.43
Tractors, 35 H.P. or under	1.00
Trenching Machines	1.43
Roofers, Composition	1.25
Roofers, Slate and Tile	1.25
Roofers, Helpers	.80
Sheet Metal Workers	1.25
Sheet Metal Workers Apprentices	
1st 6 months 35 percent of journeymens rates	
2nd 6 " 40 " " " "	
3rd 6 " 45 " " " "	
4th 6 " 50 " " " "	
5th 6 " 55 " " " "	
6th 6 " 60 " " " "	
7th 6 " 70 " " " "	
8th 6 " 80 " " " "	
Soft Floor Layers /Linoleum/	1.15
Steam Fitters	1.50
Steam Fitters Apprentices	
1st year \$3.43 per day	
2nd year \$4.00 per day	
3rd year \$4.57 per day	
4th year \$5.49 per day	
Stone Cutters or Masons	1.50
Tank Builders	1.60
Tank Builders Helpers	1.40
Terrazzo Workers Helpers	.90
Tile Setters	1.50
Tile Setters Helpers	.90
Truck Drivers, 1-1/2 tons or less	.75
Truck Drivers, over 1-1/2 tons	1.00
Welders - Receive rate prescribed for craft performing operation to which welding is incidental.	
Well Drillers	1.25
Well Drillers Helpers	.90
Wreckers	.625
Glaziers Apprentices	
1st year, 2nd 6 months	.46
2nd year, 1st 6 months	.49



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

Glaziers Apprentices

2nd year, 2nd 6 months	\$ .57
3rd year, 1st 6 months	.65
3rd year, 2nd 6 months	.72
4th year, 1st 6 months	.86
4th year, 2nd 6 months	.97
Terrazzo Workers	1.50

(b) Any class of laborers and mechanics not listed in the preceding paragraph, which will be employed on this contract, shall be classified or reclassified conformably to the foregoing schedule. In the event, the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question, accompanied by the recommendation of the contracting officer, shall be referred to the Secretary of Labor for final determination.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

SECTION II

POLES AND POLE ASSEMBLY

2-01. POLES. - The contractor shall furnish and install creosoted pine poles, class B butt treated western red cedar, or class B butt treated northern white cedar. Applicable standard specifications shall apply to poles furnished. Creosote treatment shall be 8 pound final retention in accordance with American Wood Preservers Associations Manual of Recommended practice in all cases.

2-02. STORAGE AND HANDLING.

(a) Storage. - When it is necessary for any reason to hold poles in storage, they shall be stacked on creosoted or non-decaying skids of such dimensions and so arranged as to support the poles without producing noticeable distortion of any of them. Poles shall be piled in such a manner as to permit free circulation of air and they shall be supported at all points at least one foot above the general ground level, or any vegetation growing thereon. No decayed or decaying wood shall be permitted to remain underneath stored poles.

(b) Handling. - Pole tongs, cant hooks, and other pointed tools capable of producing indentations of more than one inch in depth shall not be used on treated portion of poles furnished under this specification.

2-03. INSPECTION. - Inspection and acceptance will be made either at the point of manufacture or at destination at the option of the Government. The manufacturer shall give the contracting officer or his authorized representative such access to his works, or yards, during working hours, as is reasonable and necessary to determine the suitability of the material to be supplied, and their full compliance with this specification; and, shall furnish all necessary apparatus, labor, and other facilities for making any inspection so desired, without cost to the Government. Neither inspection, waiving of inspection nor acceptance, shall relieve the manufacturer from obligations to furnish poles in accordance with this specification.

2-04. POLE SETTING. -

(a) In normally firm ground, poles shall be set to a depth as specified in the following table:

<u>Length in ft.</u>	<u>Tangent</u>	<u>Curves, corners, &amp; points of extra strain.</u>
30	5.5 Ft.	6.0 Ft.
35	6.0 Ft.	6.0 Ft.
40	6.0 Ft.	6.5 Ft.
45	6.5 Ft.	7.0 Ft.
50	7.0 Ft.	7.0 Ft.
55	7.0 Ft.	7.5 Ft.



Specifications: Electrical Distribution System, Granada Relocation  
Center, Colorado.

(b) All holes shall be dug large enough to admit a tamping bar all around the pole, and shall not have a larger diameter at the top than at the bottom if the ground does not make this condition impossible.

(c) Poles shall be set to stand vertical when the line is completed so that no pole is more than two inches out of line with the others. Poles at line terminals, angles and other points of abnormal stress shall be given a slight rake against the direction of the stress. Poles with a bend shall be placed in the line so that the defect is least noticeable, which in general will be accomplished by turning the bend in the direction of the line.

(d) After the pole is in position, only one shovel shall be used in filling the hole, while the equivalent of two tampers shall continually tamp in the earth until the hole is completely filled. When available, small sized rock should be used in the filling, care being taken to fill all the voids with earth. After the hole is completely filled, earth shall be piled up and packed firmly around the pole newly set. Poles shall be inspected after they have been subjected to a heavy rain storm and any fillings that have sunk shall be refilled and tamped.

2-05. LOCATING. - Poles shall be set in locations in accordance with the drawings. Permission for deviating from the locations shown on the plans must have the approval of the contracting officer before change is made. The contractor shall be responsible for checking pole locations so as not to conflict with other utilities.

2-06. CROSSARMS, FITTINGS AND RACKS. - The contractor shall furnish and install all crossarms as shown on the plans. All crossarms shall be best grade of Douglas Fir, N.E.L.A. Standard for power distribution work and of lengths and sizes as shown in the drawings. Each crossarm shall be attached to the pole by means of a 5/8 inch electro-galvanized machine bolt driven from the back of the pole. A 2-1/4 inch by 2-1/4 inch by 3/16 inch electro-galvanized square washer shall be placed under the head and nut of each bolt. Through bolts of the proper length shall be used and the back of the pole shall never be cut to allow the use of a shorter bolt.

Secondary racks shall be of the individual one spool type and shall be similar and equal to Joslyn No. J-093, complete with insulators. Secondary racks shall be fastened to poles with 5/8 inch electro-galvanized machine bolts. A 2-1/4" x 2-1/4" x 3/16" electro-galvanized square washer shall be placed under the head of each bolt. Through bolts of the proper length shall be used and the back of the pole shall never be cut to allow the use of a shorter bolt.

2-07. HARDWARE. - All hardware shall be electro-galvanized. Two wood braces, Joslyn J5555 or equal, shall be attached to the back of each crossarm by means of 3/8" galvanized carriage bolts, which shall pass through the crossarm and then through the brace. Each pair of braces shall be attached to the pole by means of a 1/2 inch by 5 inch galvanized lag screw which shall be screwed (not driven) into the pole.



Specification: Electrical Distribution System, Granada Relocation Center, Colorado.

2-08. PINS. - Wood pins for use in all straight line construction shall be 1-1/2" x 9" Locust, or equal suitable for use with the insulators specified. Pole top pins for use on ridge pin construction shall be similar and equal to Joslyn No. J583. Steel pins for use on transformer bus framing shall be similar and equal to Joslyn No. J-025.

2-09. DOUBLE ARMS. - Double arms shall be used at line terminals, at angles or other points where there is an excessive strain, and at points where arms are used to support transformers. Double arm construction shall be assembled by means of 5/8-inch machine bolt driven through the crossarm on the back of the pole, through the pole and through the crossarm on the front of the pole with a 2-1/4 inch by 2-1/4 inch by 3/16-inch electro-galvanized square washer under the head and nut of the bolt. Two 5/8-inch double arm spacing bolts shall be used spaced at 6 inches from each end of the arm. Spacing bolt nuts shall be adjusted and drawn up after center through bolt nut is drawn up tight so that the two arms will be parallel. Both arms shall be braced with individual braces. Double buck arms shall be constructed in the same manner.

2-10. DEAD ENDS. - Conductors shall be "dead-ended" where necessary and as shown on the drawings.

2-11. BUCK ARMS. - Buck Arms shall be used at corners and at points where branch circuits are taken off at right angles to the main line. Buck arms shall be placed at right angles to and midway between the regular arms.

2-12. ANGLES. - Ordinary straight-line construction shall be used for light lines on angles up to 10 degrees, the pole being set so that the crossarm splits the angles. For angles between 10 and 30 degrees the poles shall be double armed and the double arms set to split the angle. For angles of 30 to 60 degrees use dead end construction on one pole as shown on the drawings. Corners may be turned on a single rack with conductors smaller than No. 1/0 extending not more than two spans away in either direction. For conductors larger than No. 1/0 or spans extending more than two spans away use two racks and dead end the conductors on each rack.

2-13. GUYING. - Guys shall, in general, be installed wherever the wires tend to pull a pole or crossarm out of place. Poles which carry not more than two No. 4 bare copper wires, or equivalent, need not be guyed at angles less than 5 degrees, provided they are given a rake of approximately 18 inches against the strain and are set in firm ground. For angles of 5 to 10 degrees, poles which carry not more than three No. 6 bare copper wires, or equivalent, may be raked and provided with crib braces in lieu of guys if the ground is firm. Poles carrying more than two No. 4 bare copper wires, or equivalent, shall be guyed at all angles of 2-1/2 degrees or more. In addition, guys shall be placed on poles which are so located as to be unduly exposed to heavy winds. All guys will be served and only one 3-bolt clamp will be installed in any one guy. This 3-bolt clamp will be located at the low point of the guy.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

2-14. LINE TERMINALS. - Line terminal poles shall be guyed against the strain of the dead-ended conductors and in exceptionally heavy loads the pole next to the terminal pole shall be head-guyed in the same direction.

2-15. CROSSARM GUYS. - Crossarms which have more wires dead-ended on one end than on the other shall be guyed from the end carrying the greater strain to the next adjacent pole by means of a guy cable of sufficient strength to withstand the unbalanced load.

2-16. FASTENING GUYS TO POLES. - Guys shall be attached to poles or arms by means of suitable 5/8" thimble-eye nuts or shoulder type thimble-eye bolts 5/8" in diameter, of proper length and offset for the particular location. Standard lift plates and washers properly secured shall be used.

2-17. GUY ANCHORS. - Guy anchors shall consist of a sound Southern Yellow Pine, or equal, creosote treated log at least 8 inches in diameter and 5 feet long, buried five to eight feet in the ground, depending on the strain. A 5/8-inch, 3/4-inch or 1-inch guy rod, as required, with thimble eye shall be put through the center of the log and be fitted with a 1/4-inch by 4-inch by 4-inch electro-galvanized washer and two nuts. Where primaries and secondaries are guyed to same anchor leg, rods shall be twin-eye. Anchor holes shall be dug as neatly as possible so the anchor will butt against the undisturbed soil. The backfill shall be tamped, using one man shoveling with the equivalent of three men tamping. The guy shall then be fastened to the rod by running the cable through the eye and fastened as shown on the drawings. Backfill shall be well tamped.

2-18. GUY INSULATION. - Each guy cable attached to any structure carrying supply conductors, or where exposed to such conductors by other lines, shall be equipped with an insulator, Pinco No. L284 or equal, located not less than eight feet above the ground and at such a point that if the guy wire breaks at or below, the insulator cannot be reached from the ground. When the guy wire is carried above or under overhead supply wires, two or more insulators shall be used so that the exposed section of the guy wire shall be between two insulators. Neither insulator shall be within eight feet of the ground.

2-19. - GUY ANCHOR LOCATIONS. - Guy anchors shall be located so that the horizontal distance from the pole at the ground line to the guy anchor will be equal to at least 1/2 the height above ground that the guy is attached to the pole. Wherever possible, the distance from the pole to the anchor rod eye shall be equal to the height of the attachment on the pole. Anchors shall be located so as to clear the ordinary course of travel.

2-20. GUY PROTECTION. - All guys shall be protected, as shown on the drawings, with 4-1"x4" wood boards 7' long boxed around guy. Guy guard shall be painted as directed by contracting officer.

2-21. PULLING UP GUYS. - Guys shall be placed before the conductors are strung. They shall, in general, be pulled up from the ground by means



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

of block and tackle, or coffering hoist, and approved grips until the pole is pulled over slightly toward the guy. The three-bolt clamp shall then be firmly attached.

2-22. MULTIPLE GUYING. - When two or more guys run to the same pole or stud, the attachment of each shall be entirely separate from that of the other. When two guys are attached to the same anchor rod each shall be attached independently of the other using twin-eye rods.

2-23. CLEARANCE. - Guys shall be attached to poles in such a manner as to interfere as little as possible with linemen climbing or working thereon. Every guy which passes either over or under any electric wires other than those attached to the guyed pole shall be placed and maintained as to provide a clearance of at least two feet from such wires, where the voltage of the wires crossed does not exceed 750 volts and at least four feet where the voltage is from 750 to 7500 volts. Guy wires shall clear roadways by not less than 18 feet and sidewalks by not less than 12 feet.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

### SECTION III

#### ELECTRICAL DISTRIBUTION SYSTEM

3-01. STANDARD RULES AND REGULATIONS. - Unless otherwise specified, all electrical equipment, materials, details of installations and tests shall be in conformity with the current standard rules and regulations and specifications of the following authorities:

(a) National Board of Fire Underwriters; The National Electrical Code for Electric Wiring and Apparatus.

(b) National Electrical Manufacturers Association.

(c) American Institute of Electrical Engineers.

(d) Bureau of Standards (National Electrical Safety Code).

#### 3-02. MATERIALS AND EQUIPMENT. -

(a) All electrical material furnished shall be listed by the Underwriter's Laboratories, Incorporated. All electrical equipment shall have the name or trade-mark of the manufacturer and the rating marked where they may be observed readily after the device is installed.

(b) The electrical equipment to be furnished by the contractor under this contract may be subject to exceptionally severe moisture conditions and to a wide temperature range. All insulation shall be selected to withstand these conditions and all other parts of the equipment shall be designed so that they will not be injuriously affected by such exposure.

(c) Equipment for the same, similar or allied service shall be of the same manufacture and type and, when of the same rating, shall be interchangeable. All equipment shall be designed to require a minimum number of replacement parts.

3-03. GUARANTY AND TEST. - Contractor shall guarantee all materials and workmanship for a period of one year from the date of acceptance of the project by the Government from the contractor. Any defects due to faulty materials, method of installation or workmanship within that period shall be repaired or replaced by the contractor promptly upon notice by the Government and at the entire expense of the contractor. The entire installation shall be free from improper grounds and from short circuits. Tests shall be made in the presence of the contracting officer or his representative.

3-04. FEDERAL AND STANDARD SPECIFICATIONS. - Unless otherwise definitely specified to the contrary, the following numbered Federal and Standard Specifications shall be considered as incorporated into these specifications, and all materials covered by such classifications shall conform thereto:



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

(a) Federal Specifications. -

<u>Classification:</u>	<u>Specification No.</u>
(1) Wire, Steel, Copper covered	QQ-W-421
(2) Conduit & Fittings, Fibre Bituminized	W-C-581
(3) Conduit, Steel, Rigid Enameled or Sheradized	E-WW-C-581
(4) Outlet Body and Covers	WW-C-571
(5) Fittings, Cable & Conduit	E-W-O-806
	E-W-F-406 and Amend- ment dated June, 1941.
(6) Tape, Friction, Grade A or B	HH-T-101

(b) Navy Department Specifications. -

<u>Classification:</u>	<u>Specification No.</u>
(1) Cambric, Insulating, Varnished (Bias-cut)	17C8
(2) Varnish, Insulating, Electrical	42V132
(3) Tolvane (Teloul)	52T-7

3-05. CLEARANCES. - In general, clearances shall correspond in all respects to those required by the National Electric Code.

3-06. SAG. - Normal sag means the difference in elevation between the highest point of support of a span where the two supports are at the same level and the lowest point of the conductor at 60°F. with no wind. Sag shall be in accordance with the copperclad steel wire manufacturers recommendations for heavy loading area.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

3-07. JOINT USE. - In general the construction shall conform with the specifications contained in Edison Electrical Institute, Publication No. E-3, covering joint construction.

3-08. GROUNDING. -

(a) General. - Grounding connection shall be provided for equipment frames and housing, metal cabinets housing electrical equipment, and elsewhere as specified, or as directed by the contracting officer. All ground connections between ground cable and equipment shall be by means of approved solderless terminals, and shall be installed in an approved manner. All splices or taps in bare ground cables shall be by means of approved solderless connectors. Grounding shall be accomplished by the use of ground rods, as designated on the drawings.

(b) Ground Rods. - Ground rods shall be galvanized iron 3/4" by 8', similiar and equal to Joslyn No. J1178.

(c) Clamps. - Ground rod clamps shall be of galvanized iron, similiar and equal to Joslyn No. J8225.

(d) Grounding Conductor. - Grounding conductor for transformer and arrester grounds shall be No. 4A copperclad steel wire.

(e) Neutral Conductor. - The neutral wire of each four-wire three-phase or single phase circuit shall be grounded. Lightning arresters and transformer cases shall be grounded and tied to the neutral.

3-09. PRIMARY CONDUCTORS, -

(a) The primary system shall be 7200/12500 volt, 60 cycle, 3-phase, 4-wire grounded neutral. Conductors, when attached to cross arms, shall be spaced for 29" minimum separation, and uniformly arranged so that the order of phases is A-B-C from left to right facing north or east. The common neutral conductor shall be installed in the secondary neutral position and where a secondary neutral exists shall be common to both primary and secondary systems. Single phase primary circuits in general shall be vertically arranged on pole structures.

(b) All primary conductors shall be copperclad steel and shall meet the requirements of Federal Specification QQ-W-421. Wire sizes shown on the drawings indicate the size of medium hard drawn copper wire necessary to provide the desired conductivity. Copperclad steel of sufficient size to provide the equivalent cooper conductivity shall be used and shall be of Type II, 30% conductivity unless higher conductance is necessary.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

3-10. TRANSFORMERS. - Transformers shall be conventional type, oil cooled, single phase, 7200 volt primary to 120/240 volts 60 cycles as required. Transformers shall be provided with one high side bushing, cover insulated. They shall be provided with two four and one-half ( $4\frac{1}{2}\%$ ) percent full capacity taps below normal voltage. Cutouts and lightning arresters as specified shall be furnished and installed. Transformers shall be similar and equal to Westinghouse Type S, Class B2.

(a) Option. - At the contractor's option, completely self-protecting transformers of the specified ratings may be furnished in lieu of conventional type. If contractor elects to furnish option, transformers shall be similar and equal to Westinghouse CSP, Class B2.

3-11. SECONDARY CONDUCTORS. - In general, single phase and/or three phase secondary circuits shall be attached to the pole by means of one point secondary racks spaced 12 inches vertical distance between centers. The neutral conductor shall always be located in the top position. Where separate lighting and power secondary circuits are to be installed, the lighting circuits shall be installed above the power circuit. For straight line construction all conductors shall be tied to the spool insulators on the side away from the pole. On angle poles, conductors shall be tied so that the strain is directly on the spool and not the tie wire. Copperclad steel conductors shall be used on all secondary buses. Secondary neutral shall be tied in with Primary neutral.

3-12. SERVICE DROPS. - Overhead service drops from poles to buildings shall consist of copperclad steel wire with conductivity equal to sizes of copper wire shown on drawings. The contractor shall furnish and install wireholders similar and equal to Joslyn No. 1960 on the buildings as required. Wireholders shall be spaced 18" on the buildings.

Where secondary wires terminate on buildings they shall be deadended on porcelain insulators, approximately  $2-1/4$ " long and  $1-1/2$ " in diameter, similar and equal to Joslyn No. M500. Secondary wires along top of building shall be deadended on strain insulators. In no case will secondary runs on poles or buildings be deadended on wireholders. Secondary wires larger than No. 4 shall be deadended on secondary clevises as herein specified.

3-13. INSULATORS. - Pin type insulators for use on the primary system shall be of wet process brown glazed porcelain, similar and equal to Pinco No. L63. Primary conductors shall be deadended on suspension insulators by use of wire rope thimbles and connectors. Insulators shall be similar and equal to Pinco No. L1510, as shown on detail drawings.

Spool type insulators for use on the common neutral and secondary system shall be of wet process brown glazed porcelain. They shall be similar and equal to Joslyn No. J093. Insulators for use in guys, shall be of wet process brown glazed porcelain similar and equal to Pinco No. L284.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

3-14. RECLOSING FUSE SWITCH. - Reclosing fuse switches with 3 fuse tubes rated 7500/12500 Y volts suitable for cross-arm mounting, similar and/or equal to Kearny No. 6867 shall be furnished and installed as shown on the drawings.

3-15. CUTOUTS. Cutouts used to provide fuse protection to transformers shall be rated 7500/12500 volt, 50 ampere, similar and equal to Westinghouse Type EA No. 1196201.

3-16. LIGHTNING ARRESTERS. - Lightning arresters shall be used on the primary system at all conventional transformer installations and at other locations as specified. They shall be rated 6000 volt similar and equal to Westinghouse No. 1105474. There must be a low resistance ground (25 ohms or less) at each arrester installation. The arrester ground shall be inter-connected with the common neutral system.

3-17. FIRE REPORTING STATION LIGHTS. - Fire reporting station lights shall be installed in locations as shown on the drawings. The installation shall include, light, switch, switchbox, conduit and fittings, as shown on the drawings.

The poles shall have three bands painted around them as follows: a red band two feet wide with a six inch band above and below. The center of the red band shall be six feet above the grade line. Bands shall be painted using a titanium-zinc-lead base paint conforming to Federal Specification No. E-TT-P-101A, mixed as recommended by the manufacturer. All surfaces shall be dry and clean. No paint shall be applied when the temperature is below 40°F. All painting shall conform to the best practice of the trade.

3-18. STREET LIGHTS. - Multiple type street lights controlled by a 30 amp. 2P S/N switch for each light shall be installed where and as shown on the drawings. Street light units shall be similar and or equal to Benjamin 5412 complete with gooseneck and pole plate. Unit shall be fastened to pole by one 1/2 inch lag screw. Naintight switch shall be provided with one 3 ampere fuse and shall be similar and/or equal to Square D. 97211R with 1/2 inch hub in top. Where both street lights and fire reporting station lights are on one pole, they shall be controlled with one switch.

3-19 PUMP CONTROL SWITCH. - The contractor shall furnish and install all materials to provide a separate two wire control circuit from Wells #1, #2 and #3 to the pumphouse. The control circuits to Wells #1 and #3 shall be of the relative conductivity of No. 6 copper wire. The control circuit for Well #2 shall be of the relative conductivity of No. 12 copper wire. Control circuits shall be run on secondary clevises installed on the job so as not to conflict with other circuits. The control circuits shall include the aerial services to the pump shelters and pumphouse.



Specifications: Electrical Distribution System, Granada Relocation  
Center, Colorado

SECTION IV

MEASUREMENT AND PAYMENT

4-01. GENERAL. - Payment for the equipment and material furnished and installed for constructing the Electrical Distribution System, complete and in proper operating order will be made at the contract unit price for the various items of equipment and material entering into the complete installation and work as listed in the following paragraphs:

Necessary tape, insulating varnish, clamps, bolts, tie wire and miscellaneous material required to complete the installations for the distribution system shall be furnished by the contractor and the cost thereof shall be included in the contract unit prices for the items of work in which the materials is used.

4-02. DISTRIBUTION TRANSFORMERS. - Payment for distribution transformers will be made at the contract unit prices each for transformers of the various sizes, furnished and installed complete including hot line clamps if CSP transformers are used.

4-03. FUSED CUTOUTS. - Payment for fused cutouts will be made at the contract unit price each for "Fused Cutouts" furnished and installed complete, including fuses.

4-04. LIGHTNING ARRESTERS. - Payment for lightning arresters will be made at the contract unit price each for "Lightning Arresters" furnished and installed complete.

4-05. POLES. - Payment for poles will be made at the contract unit prices for the various lengths and classes of poles furnished and installed.

4-06. GUYS. - Payment for down and overhead guys will be made at the contract unit price each for "Down Guys" or "Overhead Guys" furnished and installed complete, including cables, anchor logs, strain insulators, guards and necessary hardware.

4-07. CROSSARMS. - Payment for crossarms and fittings will be made at the contract unit price each for "Single Crossarms" and "Double Crossarms" and shall include braces, through bolts, brace bolts and washers, furnished and installed complete.

4-08. SECONDARY CLEVIS. - Payment for secondary clevises will be made at the contract unit price each for secondary clevis and shall include insulators and mounting hardware furnished and installed complete. Secondary clevis shall include neutral clevis.

4-09. CROSSARM PINS WITH INSULATORS. - Payment for crossarm pins and pin type insulators will be made at the contract unit price each for "Crossarm Pins with Insulators", furnished and installed complete.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

4-10. TRANSFORMER PINS WITH INSULATORS. - Payment for transformer pins with pin type insulators will be made at the contract unit price each for "Transformer Pins with Pin Type Insulators" furnished and installed complete.

4-11. DEAD END ASSEMBLY. - Payment for dead end assemblies will be made at the contract unit price each for "Dead End Assembly" which shall include necessary hardware and insulators furnished and installed complete for one primary dead end.

4-12. GROUNDING ASSEMBLIES. - Payment for transformer grounds, arrester grounds, or neutral grounds will be made at the contract unit price each for "Grounding Assemblies" and shall include ground wire, ground rod, ground rod clamp and ground wire molding furnished and installed complete.

4-13. CONDUCTORS. - Payment for conductors will be made at the contract price per lineal foot of the various sizes of wire furnished and installed complete, including necessary tie wire. Measurement of wire for payment will be made per lineal foot from attachment to attachment measured horizontally not including sag.

4-14. RECLOSING FUSED CUTOUT. - Payment for reclosing fused cutouts will be made at the contract unit price each for "Reclosing Fused Cutouts" furnished and installed complete.

4-15. POLE TOP PINS. - Payment for pole top pins will be made at the contract unit price for "Pole Top Pins" which shall be furnished with insulator and installed complete.

4-16. WIREHOLDERS. - Payment for wireholders will be made at the contract unit price each for "Wireholders" furnished and installed.

4-17. PORCELAIN STRAIN INSULATORS. - Payment for porcelain strain insulators will be made at the contract unit price each for "Porcelain Strain Insulators" and shall include the necessary hardware furnished and installed complete.

4-18. FIRE REPORTING STATION LIGHTS. - Payment for fire reporting station lights will be made at the contract unit price each for "Fire Reporting Station Lights" and shall include the light, switch, switch-box, conduit and fittings and all appurtenant equipment furnished and installed complete, and shall include painting the pole.

4-19. STREET LIGHTS. - Payment for street lights will be made at the contract unit price each for "Street Lights" furnished and installed complete, including switch and all appurtenant accessories. Payment for conductors will be made at the contract price per lineal foot of conductor of appropriate size.



Specifications: Electrical Distribution System, Granada Relocation Center, Colorado.

4-20. PUMP CONTROL CIRCUITS. - Payment for pump control circuit will be made at the contract unit prices for secondary "Clevises, Wireholders and Porcelain Strain Insulators", furnished and installed complete. Payment for conductor will be made at the contract price per lineal foot for conductor of appropriate size.

4-21. TRANSFORMER PLATFORMS. - Payment for transformer platforms will be made at the contract unit price each for "Transformer Platforms", and shall include all lumber, hardware and appurtenant material necessary to make complete installation.

4-22. COMBINATION STREET LIGHTS AND FIRE REPORTING STATION LIGHTS. - Payment for combination street lights and fire reporting station lights will be made at the contract unit price each for "Combination Fire Reporting Station and Street Lights", which shall consist of the multiple street lighting fixture, fire reporting station lighting fixture and one rain-tight switch with necessary conduits and fittings.



STANDARD GOVERNMENT FORM OF BID

(Construction Contract)

\_\_\_\_\_  
(Place) \_\_\_\_\_

(Date) \_\_\_\_\_

To: The District Engineer,  
U. S. Engineer Office,  
Albuquerque, New Mexico.

1. In compliance with your invitation for Bids, dated June 29,  
1942, and subject to all the conditions thereof, the undersigned

\_\_\_\_\_  
a corporation organized and existing under the laws of the State of

\_\_\_\_\_  
a partnership consisting of \_\_\_\_\_

\_\_\_\_\_  
or an individual trading as \_\_\_\_\_

\_\_\_\_\_  
of the city of \_\_\_\_\_

hereby proposes to furnish all plant, labor and materials, and to per-  
form all work required for the Construction of Electrical Distribution  
System, Granada Relocation Center, Colorado, at the locations shown  
and to the extent indicated; in strict accordance with the specifi-  
cations schedule and drawings, for the following consideration for the  
corresponding items of work:



# SCHEDULE OF BID ITEMS

Item No.	Quantity	Unit	Designation	Unit Price	Amount
1.	8	Each	Poles, 30 foot, Class 5	\$	\$
2.	31	Each	Poles, 30 foot, Class 6	\$	\$
3.	2	Each	Poles, 35 foot, Class 4	\$	\$
4.	13	Each	Poles, 35 foot, Class 5	\$	\$
5.	24	Each	Poles, 40 foot, Class 3	\$	\$
6.	29	Each	Poles, 40 foot, Class 4	\$	\$
7.	42	Each	Poles, 40 foot, Class 5	\$	\$
8.	20	Each	Single Crossarms	\$	\$
9.	30	Each	Double Crossarms	\$	\$
10.	423	Each	Secondary Clevis	\$	\$
11.	555	Each	Wireholders	\$	\$
12.	540	Each	Porcelain Strain Insulators	\$	\$
13.	71	Each	Down Guys	\$	\$
14.	11	Each	Overhead Guys	\$	\$
15.	49	Each	Grounding Assemblies	\$	\$
16.	80	Each	Crossarm Pins with Insulators	\$	\$
17.	5	Each	Transformer Pins with Pin Type Insulators	\$	\$
18.	45	Each	Pole Top Pins	\$	\$
19.	46	Each	Lightning Arresters	\$	\$
20.	48	Each	Fused Cutouts	\$	\$
21.	3	Each	Reclosing Fused Cutouts	\$	\$
22.	62	Each	Dead End Assemblies	\$	\$
23.	6	Each	Street Lights	\$	\$



Item No.	Quantity	Unit	Designation	Unit Price	Amount
24.	21	Each	Fire Reporting Station Lights	\$ _____	\$ _____
25.	6	Each	Combination Street Light and Fire Reporting Station Light	\$ _____	\$ _____
26.	2	Each	Transformers, 1½ Kv-a	\$ _____	\$ _____
27.	6	Each	Transformers, 3 Kv-a	\$ _____	\$ _____
28.	11	Each	Transformers, 10 Kv-a	\$ _____	\$ _____
29.	7	Each	Transformers, 15 Kv-a	\$ _____	\$ _____
30.	4	Each	Transformers, 25 Kv-a	\$ _____	\$ _____
31.	18	Each	Transformers, 37½ Kv-a	\$ _____	\$ _____
32.	2	Each	Transformer Platforms	\$ _____	\$ _____
33.	18,515	Lin.Ft.	Copperclad Steel Wire Equivalent to #2 Copper wire	\$ _____	\$ _____
34.	9,000	Lin.Ft.	Copperclad Steel Wire Equivalent to #4 Copper wire	\$ _____	\$ _____
35.	16,765	Lin.Ft.	Copperclad Steel Wire Equivalent to #6 Copper wire	\$ _____	\$ _____
36.	60,575	Lin.Ft.	Copperclad Steel Wire Equivalent to #8 Copper wire	\$ _____	\$ _____
37.	9,605	Lin.Ft.	Copperclad Steel Wire Equivalent to #9 Copper wire	\$ _____	\$ _____
38.	5,170	Lin.Ft.	Copperclad Steel Wire Equivalent to #10 Copper wire	\$ _____	\$ _____
39.	35,435	Lin.Ft.	Copperclad Steel Wire Equivalent to #12 Copper wire	\$ _____	\$ _____
TOTAL BID PRICE (Items Nos. 1 to 39 incl.)				\$ _____	

NOTE: (1) All amounts and total given above will be subject to verification by the United States. In case of variation between unit bid price and total shown by bidder the unit price will govern.

(2) Bids must be for the entire work and must have each plank space filled in to be acceptable.



Handwritten text at the top center: *Handwritten text*



## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.







5. The undersigned agrees, upon receipt of written notice of the acceptance of this bid for work, to execute the standard form of Government contract, in accordance with the bid as accepted, and to give performance and payment bonds, with good and sufficient surety or sureties, for the faithful performance of the contract, and for the protection of all persons furnishing material and labor in the prosecution of the work, within ten (10) days after the prescribed forms are presented for signature.

6. Performance will begin within one (1) calendar day after the date of receipt of notice of award, and all work included in this contract will be completed on or before August 31, 1942, in accordance with provisions of paragraph 1-05 of the specifications.

\_\_\_\_\_  
By \_\_\_\_\_

\_\_\_\_\_  
(Business Address)

Witness:  
  
\_\_\_\_\_

Note: Read Standard Government Instructions to Bidders before preparing this bid.



