

A SKATING FACILITY IN THE
MT. SCOTT COMMUNITY CENTER BLDG.
for

Bureau of Parks
and Public Recreation
CITY OF PORTLAND, OREGON

PROPERTY OF
ARCHITECTURAL PLANNING
CITY OF PORTLAND

REQUISITIONS

A SKATING FACILITY IN THE
MT. SCOTT COMMUNITY CENTER BLDG.

For the City of Portland

August 11, 1960

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Prepared by Architectural Planning Division
Royal E. Smith, A.S.A., Supervising Architect
Project No. 40,37

PROPERTY OF
ARCHITECTURAL PLANNING DIV.
CITY OF PORTLAND

SPECIFICATIONS

A SKATING FACILITY IN THE
MT. SCOTT COMMUNITY CENTER BLDG.

For the City of Portland

August 11, 1969

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Prepared by Architectural Planning Division
Loyal C. Lang, A.I.A., Supervising Architect
Project No. 68.37

SPECIFICATIONS A SKATING FACILITY IN THE MT. SCOTT COMMUNITY CENTER BLDG.

For the City of Portland

August 11, 1968

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GENERAL CONDITIONS

ARTICLE 1. CONTRACT DOCUMENTS

The contract includes the Agreement and its General Conditions, its Supplementary General Conditions, the Drawings, and the Specifications. Three or more copies of each, as required, shall be signed by both parties, and one signed copy of each retained by each party.

The intent of these documents is to include all labor, materials, appliances and services of every kind necessary for the proper execution of the work, and the terms and conditions of payment therefor.

The documents are to be considered as one, and whatever is called for by any one of the documents shall be as binding as if called for by all.

ARTICLE 2. SAMPLES

The Contractor shall furnish for approval all samples as directed. The work shall be in accordance with approved samples.

ARTICLE 3. MATERIALS, APPLIANCES, EMPLOYEES

Except as otherwise noted, the Contractor shall provide and pay for all materials, labor, tools, water, power and other items necessary to complete the work.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality.

All workmen and subcontractors shall be skilled in their trades.

ARTICLE 4. ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the City harmless from loss on account thereof. The City is the City of Portland, a municipal corporation of the State of Oregon, acting by and through its Council and its duly authorized representatives.

ARTICLE 5. SURVEYS, PERMITS, AND REGULATIONS

The City (as defined in Article 4 above) shall furnish all surveys unless otherwise specified. Permits and licenses necessary for the prosecution of the work shall be secured and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the City, unless otherwise specified. The Contractor shall comply with all laws and regulations bearing on the conduct of the work and shall notify the City if the drawings and specifications are at variance therewith.

ARTICLE 6. PROTECTION OF WORK, PROPERTY, AND PERSONS

The Contractor shall adequately protect the work, adjacent property and the public and shall be responsible for any damage or injury due to his act or neglect.

ARTICLE 7. ACCESS TO WORK

The Contractor shall permit and facilitate observation of the work by the City and its agents and public authorities at all times.

ARTICLE 8. CHANGES IN THE WORK

The City may order changes in the work, the Contract Sum and/or Contract Time being adjusted accordingly. All such orders and adjustments shall be in writing. Claims by the Contractor for extra cost must be made in writing before executing the work involved.

ARTICLE 9. CORRECTION OF WORK

The Contractor shall re-execute any work that fails to conform to the requirements of the contract and that appears during the progress of the work, and shall remedy any defects due to faulty materials or workmanship which appear within a period of one (1) year from the date of completion and acceptance of the work under the contract. The provisions of this article apply to work done by subcontractors as well as to work done by direct employees of the Contractor.

ARTICLE 10. CITY'S RIGHT TO TERMINATE CONTRACT

Should the Contractor neglect to prosecute the work properly, or fail to perform any provision of the contract, the City, after seven days' written notice to the Contractor, and its surety, if any, may without prejudice to any other remedy he may have, make good the deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor, or at its option may terminate the contract and take possession of all materials, tools, and appliances and finish the work by such means as the City sees fit, and if the unpaid balance of the contract price exceeds the expense of finishing the work, such excess shall be paid to the Contractor, but if such expense exceeds such unpaid balance, the Contractor shall pay the difference to the City.

ARTICLE 11. CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

Should the work be stopped by any public authority for a period of thirty days or more, through no fault of the Contractor, or should the work be stopped through act or neglect of the City for a period of seven (7) days, or should the City fail to pay the Contractor any payment within seven (7) days after it is due, then the Contractor upon seven additional days' written notice to the City, may stop work or terminate the contract and recover from the City payment for all work executed.

ARTICLE 12. PAYMENTS

Payments shall be made as provided in the Agreement. The making and acceptance of the final payment shall constitute a waiver of all claims by the City, other than those arising from unsettled claims or from faulty work appearing thereafter, as provided for in Article 9, and of all claims by the Contractor except any previously made and still unsettled. Payments otherwise due may be withheld on account of defective work not remedied, claims filed, damage by the Contractor to others not adjusted, or failure to make payments properly to subcontractors or for material or labor.

ARTICLE 13. CONTRACTOR'S INSURANCE

a) The Contractor shall maintain such public liability and property damage insurance as will protect the Contractor and the City from any and all claims for damage or personal injury, including death, which may arise from operations under the Agreement or in connection therewith, including all operations of subcontractors. Unless otherwise required by the Supplementary General Conditions, such insurance shall provide coverage for not less than \$100,000 for personal injury to each person, \$300,000 for each accident and \$50,000 for general property damage. Such insurance shall be without prejudice to coverage otherwise existing, and shall name as additional insureds the City of Portland and all other governmental bodies with jurisdiction in the area involved under the Contract Documents, their officers, agents, and employees, and shall further provide that the policy shall not terminate or be cancelled prior to the completion of the Agreement without first giving ten (10) days' notice in writing to the Auditor of the City of Portland.

Notwithstanding the naming of additional insureds, the said policy shall protect each insured in the same manner as though a separate policy had been issued to each; but nothing herein shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable if only one person or interest had been named as insured.

Such insurance shall be subject to the approval of the City Attorney on behalf of the City as to the adequacy of protection.

b) The Contractor shall be held responsible for all damage to the work under construction, whether from fire, water, high winds or other cause, during construction and until final completion and acceptance, even though partial payments or progress payments have been made under the Agreement. The Contractor shall, at his sole expense, obtain property insurance against the perils of fire, extended coverage, vandalism and malicious mischief, in form, amount, coverage and with a company satisfactory to the City. Such insurance shall include all items of labor and materials connected with the work, whether in or adjacent to the structure or work insured, materials in place, or to be used as a part of the permanent construction, including surplus materials and miscellaneous materials and supplies incident to the work, in an amount equal to one hundred percent (100%) of the insurable value thereof. The loss, if any, shall be made adjustable with and payable to the City as trustee for whom it may concern. Any payments made under any such policy shall inure to the benefit of the City to the extent of any loss suffered by the City, and to the Contractor as to any remaining balance, for the replacement of the loss suffered. The policy of insurance shall provide that it shall not terminate or be cancelled prior to the completion of the Agreement without first giving ten (10) days' written notice to the Auditor of the City of Portland.

c) The Contractor and all his Subcontractors engaged on the work shall provide Workmen's Compensation coverage for all persons employed on the work to be done under the Agreement. The Contractor and all his Subcontractors shall be required to assure that his subject workmen will receive the compensation for compensable injuries provided in ORS 656.001 to 656.794 either by:

- (1) contributing to the Industrial Accident Fund as a contributing employer; or
- (2) qualifying as a direct responsibility employer under ORS 656.405 and 656.409.

In the event that the Contractor or any of his Subcontractors shall elect to fulfill this responsibility by qualifying as a direct responsibility employer under ORS 656.405 and 656.409, satisfactory proof of such fact shall be required. In the event that the certification as a direct responsibility employer is withdrawn, as provided in ORS 656.417, the Contractor or any Subcontractor shall thereafter, on the effective date of the withdrawal of certification, become a contributing employer.

ARTICLE 14. CONTRACTOR'S PERFORMANCE BOND

At the time of execution of the Agreement, the successful bidder must furnish a performance bond or bonds approved by the Mayor of the City of Portland and the City Attorney in an amount equal to the amount of the contract based upon the estimate of quantities or lump sum as set forth in the Proposal, conditioned upon a compliance with and fulfillment of all the terms and provisions of the contract, plans and specifications, including maintenance, repair and replacement, and all applicable laws, and the prompt payment, as due, to all persons supplying labor and/or material for the prosecution of the work provided for in the Agreement.

ARTICLE 15. SATISFACTION OF CLAIMS

The retained percentage of payments due under the Agreement, or, if none is provided for, the final payment shall not become due until the Contractor shall have first executed a receipt for all amounts paid or payable by the City under the Agreement and a release and waiver of all claims against the City growing out of and/or connected with the Agreement, in form approved by the City Attorney, and shall have furnished satisfactory evidence that all amounts due for labor, materials and other obligations under the Agreement have been paid by Contractor and that all actions for injuries or damage arising out of operations under the Contract Documents have been fully and finally settled or are fully covered by insurance protecting the City, its officers, agents and employees as well as Contractor.

ARTICLE 16. SEPARATE CONTRACTS

The City has the right to let other contracts in connection with the work, and the Contractor shall properly cooperate with any such contractors.

ARTICLE 17. LABOR AND SUPPLIERS

a) All statutory, charter and ordinance provisions that are applicable to public contracts in the City of Portland and the State of Oregon shall be followed.

b) Contractor shall make payment promptly, as due, to all persons supplying to him labor or material for the prosecution of the work. Contractor shall pay all contributions or amounts due from him to the State Industrial Accident Fund and shall pay to said Fund all amounts due from any subcontractor and remaining unpaid, incurred in the performance of the work. Contractor shall not permit any lien or claim to be filed or prosecuted against the City on account of any labor or material furnished. Contractor shall pay to the State Tax Commission all sums withheld from employees pursuant to Oregon Revised Statutes Chapters 315 or 316.

c) If the Contractor shall fail, neglect or refuse to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with the project as such claim shall become due, the City may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due the Contractor by reason of the contract. Payment by City of such a claim shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claims.

d) Contractor shall comply with all of the provisions of the laws of the State of Oregon, ordinances of the City of Portland, and governmental regulations relating to the employment of labor. Contractor agrees that no person shall be required or permitted to labor more than eight (8) hours in any one day, or forty (40) hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, in which event, the person or persons so employed for excessive hours shall receive at least time and one-half for overtime in excess of eight (8) hours a day, and for work performed on Saturday and on legal holidays. This provision does not apply to the employment by any Contractor of foremen, watchmen, and timekeepers paid on monthly rates, and this provision shall not apply to labor performed in the manufacture or fabrication of any material ordered by the Contractor or manufactured or fabricated in any plant or place other than the place where the main contract is to be performed.

e) Contractor shall promptly, as due, make payment to any person, copartner-ship, association or corporation, furnishing medical, surgical and hospital care, or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums which Contractor agrees to pay for such services and all moneys and sums which Contractor: (1) may or shall have deducted from the wages of his employees for such services pursuant to the terms of Oregon Revised Statutes Chapter 655, and any contract entered into pursuant thereto, or, (2) collected or deducted from the wages of his employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

f) The minimum wage to be paid to any employee of a contractor or subcontractor engaged in the performance of the public work required in the contract, other than an employee paid on a monthly or per diem basis and specifically exempted by Statute, shall be the prevailing rate of wages paid for the same class of work in the trade or industry in the Portland, Oregon area as required by ORS 279.350.

g) Once before the first payment and each time the prevailing wage rate changes, and once before final payment is made of any sum under the Contract Documents for the work, the Contractor or his surety and every subcontractor or his surety performing work on the project covered by the payment, shall first file with the Auditor of the City of Portland a statement in writing under oath, in form prescribed by the State Labor Commissioner, certifying the hourly rate of wage paid each classification of workmen not exempt by statute, employed by Contractor upon such work, and further certifying that no workman employed by Contractor upon such work has been paid less than the minimum prevailing rate of wage.

ARTICLE 18. CITY'S REPRESENTATIVE

The Architect or other appropriate official shall be designated by the City as its representative during the construction period. He has authority to stop

the work if necessary to insure its proper execution. He shall certify to the City when payments under the contract are due and the amounts to be paid.

ARTICLE 19. CLEANING UP

The Contractor shall keep the premises free from accumulation of waste material and rubbish and at the completion of the work he shall remove from the premises all rubbish, implements and surplus materials and leave the building broom-clean.

INSTRUCTION TO BIDDERS

PROPOSAL

Proposals and bid bond, certified check or cashier's check shall be enclosed in a sealed envelope and addressed as required in the Notice to Contractors and filed as required therein. The Plans and Specifications must be returned with the proposal.

All proposals must be clearly and distinctly typed or written with ink or indelible pencil without any erasures or changes, and any erasure or change may invalidate the proposal.

All proposals must be on the form furnished by the City. Any statement accompanying and tending to qualify a bid may cause rejection of such bid, unless such statement is required in a proposal embracing alternative bids.

WITHDRAWAL OF PROPOSAL

A proposal may be withdrawn on written or telegraphic request of the bidder received prior to the scheduled closing time for filing bids. Negligence on the part of the bidder in preparing his proposal confers no right to withdraw his proposal after the scheduled closing time for filing bids.

LATE PROPOSALS

Proposals received after the scheduled closing time for filing bids, as set forth in the Notice to Contractors, will be returned to the bidder unopened, unless such closing time is extended by the City or unless, if such bid was sent through the mail, a legible postmark cancellation shows the time of mailing to be such that normal mail delivery time would have provided delivery to the City prior to the scheduled closing time for filing bonds, and such proposal is received before the award has been made.

ALTERATION OF DOCUMENTS

Except as may be provided otherwise herein, proposals which are incomplete, or fail to cover all items of the Plans or Specifications may be rejected.

MODIFICATION OF PROPOSAL

Change in a proposal already delivered will be permitted only if a request for the privilege of making such modification is made in writing signed by the bidder and the specific modification itself is stated and received prior to the scheduled closing time for filing bids. However, a modification which is received from an otherwise successful bidder and which makes the terms of the bid more favorable or advantageous to the City will be considered at any time it is received and may thereafter be accepted. To be effective every modification must be made in writing over the signature of the bidder.

BID GUARANTY

Each proposal must be accompanied by a corporate surety bond, certified check or cashier's check payable to the City Treasurer for an amount not less than ten percent (10%) of the total amount of the bond. If a bid bond is submitted in lieu of a certified check, such bid bond shall be on the form provided with these specifications.

Such check or bid bond shall be forfeited to the City as liquidated damage in case the bidder fails or refuses to enter into a contract and furnish a satisfactory bond within ten (10) calendar days after tender of form of contract by the City.

Whenever the City receives a signed approved contract together with the required evidence of insurance and performance bond, or rejects all bids, the bid guaranties then being held by the City will be returned. In any case, no more than thirty days after award of the contract, the bid guaranties of all except the successful bidder and the next best bidder will be returned.

If the successful bidder fails, neglects or refuses to enter into a contract, the City may award the contract to the next best bidder.

ADDENDA TO PLANS OR SPECIFICATIONS

Requests for additional information or for interpretation of the contract documents shall be delivered to the Architect, in writing, at least six (6) days before the date set for opening of bids. If, in the opinion of the Architect, additional information or interpretation is needed by the bidders, an addendum will be issued to all planholders. The provisions of any written addenda issued by the Architect at least forty-eight (48) hours before the time set for the opening of bids shall be binding upon the bidders and failure of a bidder to obtain such addenda shall not excuse him from complying therewith, if he is awarded the contract.

BASIS OF AWARD

The award will be made by the City Council to the responsible bidder submitting the most advantageous bid to the City. In determining such bidder, the City will take into account, among other factors, the prices bid and the experience and ability of the Bidder to perform the work.

Any determination of the responsible bidder submitting the most advantageous bid and award are subject to review and determination by the City Attorney as to legal sufficiency of any bid submitted.

The City reserves the right to reject any or all bids, or waive irregularities not affecting substantial rights.

OREGON PRODUCTS

Contractor must use Oregon produced or manufactured materials with respect to common materials such as cement, sand, crushed rock, gravel, plaster, etc. in all cases where bid prices of such materials are no greater than those of similar materials produced or manufactured outside the State, in accordance with O.R.S. 279.038.

When a project involves the use of non-metallic mineral construction material or materials except cement, sand, gravel, crushed rock and plaster, and if said materials are or can be produced in Oregon, the bidder shall submit alternate bids covering use of such Oregon materials and use of materials from outside the State, if bidder proposes to use such materials from outside the State, in accordance with O.R.S. 279.040.

PREQUALIFICATION OF BIDDERS

Attention of bidders is called to the requirements of Oregon Revised Statutes, Chapter 279, relating to prequalification of bidders on public contracts, and to Article 4 of the Public Works Code (Ordinance No. 76971) of the City of Portland relating to forms, statements and other prequalification matters. Bidders are warned to file any prequalification statements required at least ten (10) days prior to the scheduled closing time for filing bids. In the event a prequalification statement has been filed with the City within the current calendar year and a bidder has been accepted as a qualified bidder upon City projects, a review of the previous statement may be made to determine whether a prospective bidder is qualified to bid upon the work under consideration and additional statements may be required. The City reserves the right to reject the proposal of any bidder who has not been prequalified for the class of work involved in the project.

"OR APPROVED EQUAL" CLAUSE

In order to establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified on the plans or herein, either by description of process or by designating a manufacturer by name and referring to his brand or product designation or by specifying a kind of material. It is not the intent of these specifications to exclude other processes, equipment or materials of equal value, utility or merit.

Whenever a process is designated or a manufacturer's name, brand or item designation is given or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

If the bidder proposes to furnish an item process or material which he claims to be of equal value, utility or merit to the brand or manufacturer named, product or material designated, or process involved in the specifications, he shall, at least 6 days prior to the date set for opening of proposals, submit to the Architect a written statement describing or naming the item, material or process which he claims to be of equal value, utility or merit, together with samples, supporting data (including pertinent physical, mechanical, electrical, and chemical details), specifications, results of prior tests if available, a statement itemizing and explaining the differences between the item, material, or process he proposes and the specifically named or described item, material or process called for by the specifications, and other details sufficient to permit the Architect to evaluate the same. The Architect may require demonstration, additional tests, and additional data, either before or after bid opening, all to be supplied at the expense of the claimant. If the Architect determines that the proposed item, material or process is of equal value, utility or merit to the City compared to that specified, a proposal including the substitute item, material or process shall be deemed responsive, and not otherwise, to the specifications in that respect. Failure to submit such statement and data prior to bid opening shall be deemed a waiver of any objection on such ground and failure to supply additional material required after such submission shall be deemed an admission for the purposes of the bid that the item, material or process proposed shall not be approved as equal to that specified. The decision of the Architect on the proposed substitute shall be final and binding upon the bidder.

GENERAL REQUIREMENTS

DIVISION # 1

General Scope

(101)

The contractor, in his bid, shall include all plant, labor, materials, equipment and tools and perform all operations required for the construction and completion of all elements of this project, indicated in the contract documents, to the point where each element is finished, complies with all applicable codes, and is capable of functioning in accord with its reasonably inferable purpose unless specific individual exceptions to this requirement are listed.

Time for Completion

(102)

The Contractor shall submit with his bid for the work a statement indicating the number of calendar days he will require for completion of the work, from and including the date on which an agreement has been signed by authorized representatives of both the contractor and the City has been transmitted by the City to the contractor.

Liquidated Damages

(103)

Time shall be considered the essence of the contract. If the contractor fails to complete the project within the time specified in his proposal of any extension thereof by the City Council, the actual damage to the City for the delay will be substantial but will be difficult or impractical to determine and therefore, in lieu thereof the contractor shall be charged and will pay to the City as fixed, agreed and liquidated damages for each and every calendar day of delay, the sum of \$25.00. Upon written application by the contractor to the Architect, extensions of time for completion will be allowed by the City Council only if the contractor establishes beyond a reasonable doubt that he has been subjected to unforeseen and unavoidable delay through no fault of his own.

Payments

(104)

Upon apparent completion of the entire project, written application by the contractor to the architect, and acceptance of the project by the City Council, ninety percent of the contract amount will be paid by the City to the contractor. Thirty-five days thereafter the remainder of the contract amount will be paid, provided that the contract including administrative requirements, is then fully performed by the contractor.

Changes

(105)

Changes in the work, which in the aggregate involve no more than five percent (5%) of the contract amount, may be authorized by the Commissioner of Public Affairs without further Council action.

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Changes in the work, which in the aggregate involve no more than five percent (5%) of the contract amount, may be authorized by the Commissioner of Public Affairs without further Council action.

Laying out Work

(106)

The Contractor shall, immediately upon entering the project site for the purpose of beginning work, locate all general reference points and take such action as is necessary to prevent their destruction; lay out his own work and be responsible for all lines, elevations and measurements of the building, and any other miscellaneous work to be executed under the contract. He must exercise proper precaution to verify figures shown on the drawings before laying out work, and will be held responsible for any error resulting from his failure to exercise such precaution.

Anti-Discrimination Statute

(107)

Attention of the contractors located in Oregon and of any contractor performing work in Oregon is called to the provisions of Oregon Revised Statutes Chapter 659 prohibiting discrimination in employment.

Workmanship

(108)

All work shall be done or supervised by skilled mechanics, fully experienced and qualified as journeymen in the work which they perform. All work shall be done according to the best current practices. Any work not acceptable to the supervising architect shall be removed and re-done. All manufactured items shall be installed according to manufacturers instructions for installation.

Insurance

(109)

The first sentence of Paragraph "b", Article 13 of the General Conditions shall apply to work under this contract. All of the remainder of Paragraph "b", Article 13 is hereby nullified.

Precedence

(110)

Should there appear any discrepancy between the drawings and the specifications, variations between dimensions and scale of the drawings, doubt as to kind, quality, or detail of any materials, or any other matter, it shall be referred to the Architect immediately for his interpretation or correction. If such action is not taken by the Contractor and an error appears or a question arises at a later date, the Contractor, sub-contractor and material men shall be held to the Architect's interpretation of the drawings and specifications.

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Site Conditions

(111)

- A. Public Protection: During certain day time hours each day, the public will have access to other parts of the building. The Contractor shall take all necessary precautions to safeguard the public on account of his operations and shall protect himself from the public by such barricades and other facilities as he deems necessary.
- B. Work Area Access: The Contractor shall confine his operations to the basement level of the building and such exterior area immediately adjacent to the building as designated by the Park Bureau. Access shall be as designated by the Park Bureau.
- C. Employees Cars: Parking available in public streets only.

DIVISION # 2

SITE WORK

Scope

(201)

This division includes removal of all existing work necessary to complete the work of the project.

Demolition:

(202)

Remove existing work as required to complete the work. Concrete slabs to be removed shall be sawn along the line of removal to a depth as required for a clean break.

Demolition work shall be done carefully to avoid damage to other work.

Excavation:

(203)

Excavation for Mechanical and Electrical work shall be done under those divisions. All other excavation work shall be done under this division.

Excavation work shall be done carefully to avoid damage to existing underground work.

All excavation performed as required, regardless of type of materials encountered.

Backfill:

(204)

After work has been installed and inspected, backfill with excavated soil or pea gravel. Comply to 95% maximum density as approved by inspector. Bring to grades shown.

Drainage Fill:

(205)

Install drainage fill of pea gravel under slabs and around footings to depth shown. Screed off to levels shown.

Excess Material:

(206)

Remove from the site, all excess materials from demolition and/or excavation.

4. Tests:

Ready-Mix Supplier shall mail delivery tickets to architect as certification of mix delivered.

DIVISION # 3

CONCRETE

Scope:

(301)

Work under this division includes the furnishing of all materials, tools, equipment and labor for complete installation of all concrete work.

Reinforcing Steel:

(302)

1. Deformed Hi-bond bars manufactured from new billet steel or intermediate grade steel complying with ASTM A-615, grade 4D
2. Tie all steel securely in place
3. Lap all steel 20 diameters at splices and corners. Minimum lap 12 inches.

Forms:

(303)

Make form for footings to conform to shape, lines, and dimensions shown. Properly stake, tie, and brace all metal or wood forms to maintain position and shape. Make sufficiently tight to prevent leakage.

Concrete:

(304)

1. All concrete shall be mixed and placed in accordance with ACI Standard "Building Code Requirements for Reinforced Concrete."

2. Materials:

- a. Water - Clean and potable
- b. Cement - Portland Cement, Type 1, ASTM C-150
- c. Aggregate - Clean, sharp, well graded river sand and clean hard crushed rock, well graded from 1/4" to 1" conforming with ASTM C-33-57.

3. Mix:

Ready-Mix plant batch design to develop 2500 psi compressive strength in 28 days using 5 1/2 bags of cement /cu. yd. and not more than 7 1/2 gallons of water per bag of cement. Deduct surface water in aggregate from mixing water.

4. Tests:

Ready-Mix Supplier shall mail delivery tickets to architect as certification of mix delivered.

SECTION 3

CONCRETE

(301)

Scope:

Work under this division includes the furnishing of all materials, labor, tools, equipment and labor for complete installation of all concrete work.

(302)

Reinforcing Steel:

1. Deformed MI-bond bars manufactured from new billet steel or intermediate grade steel complying with ASTM A-615, grade 40.

2. The all steel securely in place.

3. Lap all steel 20 diameters at splices and corners. Minimum lap 12 inches.

(303)

Forms:

Make form for footings to conform to shape, lines, and dimensions shown. Properly stake, tie, and brace all metal or wood forms to maintain position and shape. Make sufficiently tight to prevent leakage.

(304)

Concrete:

1. All concrete shall be mixed and placed in accordance with ACI Standard "Building Code Requirements for Reinforced Concrete."

2. Materials:

- a. Water - Clean and potable
- b. Cement - Portland Cement, Type I, ASTM C-150
- c. Aggregate - Clean, sharp, well graded river sand and clean hard crushed rock, well graded from 1/4" to 1" conforming with ASTM C-39-57.

3. Mix:

Ready-Mix plant batch design to develop 2500 psi compressive strength in 28 days using 5 1/2 bags of cement per cu. yd. and not more than 7 1/2 gallons of water per bag of cement. Deduct surface water in aggregate from mixing water.

4. Tests:

Ready-Mix Supplier shall mail delivery tickets to architect as certification of mix delivered.

5. Placing:

- a. Clean forms of debris and loose dirt. Keep forms wet with water for 12 hours before placing concrete.
- b. Place so as to prevent separation of ingredients.
- c. Vibrate with mechanical vibrator.
- d. Place concrete as soon as possible after mixing.

6. Slabs:

- a. Install a 4 mil polyethylene sheet over compacted earth when ready to receive concrete.
- b. Edges of existing slab: After cleaning broken edges of existing slab coat these surfaces with "Boncrete" per manufacturers directions to assume satisfactory bond with new concrete.
- c. Placing: Place concrete mix uniformly over area. Compact and screed level. Hand or bull Float surface. Machine Float. Steel trowel surface to a smooth, dense, hard finish.

All floor slabs shall be level to within a tolerance of 1/8" in 8'-0". Cure slab by covering with polyethylene film or Kraft paper.

- d. Hardner: When curing process is approved by Architect, apply floor hardener to mfgs. instructions, 2 or 3 coats application. Use Sonneborn "Lapidolith" or approved equal.

Bed depth inches	Permissible variation in bed depth		Maximum difference in one unit in one lot
	+	-	
1-3/4"	1/32"	1/32"	1/16"
2-3/4"	3/32"	3/32"	5/32"
3-3/4"	3/32"	3/32"	3/16"

Distortion: Permissible distortion of units from a plane surface shall not exceed 1/16".

Units shall conform to a previously submitted sample, consisting of not less than five (5) stretcher units which shall fully represent the range of texture and shades.

Colors shall be selected by architect from the manufacturer's standard colors.

DIVISION # 4

MASONRY

Scope:

Includes furnishing all plant, labor and materials, detailed or specified, to complete the masonry portion of the work as required by the contract drawings and specifications.

Materials:

- a. Structural Glazed Tile: Structural Ceramic Glazed Facing Tile shall be 6T series (5 1/3" X 12" nominal face size) "Precision Quality." All units shall conform to the requirements of ASTM C-126 (latest revision), specifications for Grade S, Types I and II, and the Facing Tile Institute (latest revision) for imperviousness, resistance to crazing (autoclave) compression strength, opacity, etc., except that dimensional tolerances shall be improved to meet requirements of the tables below:

TABLE I
Permissible Tolerances in Dimension

Face Dimension	+	-	Maximum difference in units-one lot
3-3/4"	1/32"	1/32"	1/16"
5-1/16"	1/32"	1/32"	1/16"
11-3/4"	1/16"	1/16"	1/8"

TABLE II
Permissible Variation in Bed Depth

Bed depth dimension	+	-	Maximum difference in units-one lot
3-3/4"	1/32"	1/32"	1/16"
2-face			
5-3/4"	3/32"	3/32"	5/32"
7-3/4"	3/32"	3/32"	3/16"

TABLE III

Distortion: Permissible distortion of units from a plane surface will not exceed 1/16".

Units shall conform to a previously submitted sample, consisting of not less than five (5) stretcher units which shall fully represent the range of texture and shade.

Colors shall be as selected by the architect from the manufacturer's standard colors.

DIVISION 4

MASONRY

(401)

Includes furnishing all plant, labor and materials, detailed on specified, to complete the masonry portion of the work as required by the contract drawings and specifications.

(402)

Materials:

a. Structural Glazed Tile: Structural Glazed Ceramic Facing Tile shall be ET series (2 1/3" X 12" nominal face size) "Fire-Claslon Quality". All units shall conform to the requirements of ASTM C-126 (latest revision), specifications for Grade 2, Types I and II, and the Facing Tile Institute (latest revision) for impermeability, resistance to crazing (autoclave), compression strength, opacity, etc., except that dimensional tolerances shall be improved to meet requirements of the tables below:

TABLE I Permissible Tolerances in Dimension			
Face Dimension	+	-	Maximum difference in units-one lot
3-3/4"	1/32"	1/32"	1/16"
2-1/16"	1/32"	1/32"	1/16"
11-3/4"	1/16"	1/16"	1/8"

TABLE II Permissible Variation in Bed Depth			
Bed depth dimension	+	-	Maximum difference in units-one lot
3-3/4"	1/32"	1/32"	1/16"
2-1/16"	1/32"	1/32"	1/16"
11-3/4"	1/32"	1/32"	1/16"

TABLE III

Distortion: Permissible distortion of units from a plane surface will not exceed 1/16".

Units shall conform to a previously submitted sample, consisting of not less than five (5) stretched units which shall fully represent the range of texture and shade.

Colors shall be as selected by the architect from the manufacturer's standard colors.

b. Mortar: (Type S (A-2) setting mortar with white pointing mortar). Mortar ingredients shall conform to the following requirements.

- (1) Portland Cement -- ASTM C-150, Type I or II
- (2) Hydrated Lime -- ASTM C-207
- (3) Aggregates -- ASTM C-144. Aggregates for setting mortar shall pass a No. 16 sieve. Aggregates for pointing mortar shall pass a No. 80 sieve.

Setting Mortar: Setting mortar shall be mixed in accordance with ASTM C-270-57T specifications for Type S (A-2). Proportions: 1 part Portland cement, 1/2 part hydrated lime, Type S and 4 1/2 parts mason's sand.

Pointing Mortar: Pointing mortar shall be stain-resistant white pointing mortar, or shall be composed of 1 part white waterproof Portland cement, 3/16 part hydrated lime Type S and 2 parts white mason's sand.

c. Concrete Grout: Shall be 2500# as specified under Concrete Division 3 except aggregate shall be 3/8" minus.

d. Hollow Masonry Concrete Units: Shall be Grade P-1 ASTM C-90-66T expanded shale aggregate manufactured by Rotary Kiln Process only. Linear shrinkage not to exceed .035. Moisture content not to exceed 30% of total absorption. Mason Contractor shall be responsible for moisture of block after delivery to job site until laid in wall. If requested by Architect, manufacturer shall submit certified laboratory test report, verifying moisture content of units.

e. Reinforcing: Reinforcing bars shall be as specified for concrete work Division 3. Horizontal joint reinforcing shall be standard weight "dur-O-Wal", or approved, Galvanized Steel welded ladder type reinforcement w/ #9 side rods.

Anchor:

(403)

Material: Strap Tie - 1/4" X 1 1/4" X 16" long, turn ends up 2", galvanize after fabrication.

Rebar Tie - #4 Rebar dowel 12" long.

Installation: 2'0" o/c vertically at intersection of all masonry and/or masonry and concrete walls and partitions.

Masonry to Masonry: Strap tie to extend 8" into abutting wall and 4" into cross wall.

Masonry to Concrete: Rebar tie. Install by drilling undersized holes 4" deep into concrete and driving dowel full depth into drilled hole.

(404)

Workmanship:

- a. General: All units laid true to line; plumb, square and courses level. Exposed joints practically uniform in size. Primary Face of partitions shall be a true plane with irregularities of surface caused by variations of unit depth reserved for face with secondary exposure. Verify before commencing work.
- b. Bond: Units shall be laid in stack bond with both vertical and horizontal joints kept straight and true to a line.
- c. Preparation by others: All grounds, door bucks, plugs, radiator hangars, plumbing, and other fixtures and fittings shall be in place, and all pipe trenches, chases and other openings in floors and walls shall be properly closed by others before this contractor lays up the tile.
- d. Damaged Tile: The finished work shall be free from cracked, broken or damaged tile which would detract from the appearance of the wall when viewed from a distance of five feet at a right angle to the wall.
- e. Cleaning: Upon completion of his work, this contractor shall remove all surplus material and rubbish which have accumulated as a result of his work. After the pointing mortar has sufficiently set, all tile walls shall be thoroughly washed with warm, soapy water, using a soft fiber brush. The contractor shall be careful not to damage the joint during this operation. Acid shall not be used in cleaning glazed tile walls.
- f. Finally: All glazed tile shall be given a final cleaning to remove all foreign material from the surface of the tile.
- g. Structural Glazed Tile: Joints - (White, Pointed, 1/4" wiped) 1/4" bed joints shall be used. The setting mortar shall be spread over the full bed area. Furrowing of the bed joint will not be permitted. Before the setting mortar has attained its initial set, the bed and head joints shall be raked to a depth of 1/4" to 3/8" and all loose mortar brushed from the edges of the tile. After the setting mortar has attained its initial set, the joints shall then be wiped with a flat, cellulose sponge to attain a smooth flat joint. If pre-mixed pointing mortar is specified, follow the manufacturer's detailed instruction for installation.

Installation of Tile: Each tile shall be buttered with the setting mortar, shoved to bearing, and brought to a plumb and true surface, flush with the spot and other tile. Vertical units, joints and all bases shall be maintained

d. Mortar: (Type S (A-2) setting mortar with white pointing mortar). Mortar ingredients shall conform to the following requirements.

- (1) Portland Cement - ASTM C-150, Type I or II
- (2) Hydrated Lime - ASTM C-207
- (3) Aggregates - ASTM C-144. Aggregates for setting mortar shall pass a No. 16 sieve. Aggregates for pointing mortar shall pass a No. 80 sieve.

Setting Mortar: Setting mortar shall be mixed in accordance with ASTM C-270 specifications for Type S (A-2). Proportions: 1 part Portland cement, 1 1/2 part hydrated lime, Type S and 4 1/2 parts mason's sand.

Pointing Mortar: Pointing mortar shall be stain-resistant white pointing mortar, or shall be composed of 1 part white waterproof Portland cement, 3 1/2 part hydrated lime Type S and 2 parts white mason's sand.

c. Concrete Grout: Shall be 2500# as specified under Concrete Division 3 except aggregate shall be 3/8" minus.

d. Hollow Masonry Concrete Units: Shall be Grade F-1 ASTM C-90-68T expanded shale aggregate manufactured by Rotary Kiln Process only. Linear shrinkage not to exceed .03%. Moisture content not to exceed 30% of total absorption. Mason Contractor shall be responsible for moisture of block after delivery to job site until laid in wall. If requested by Architect, manufacturer shall submit certified laboratory test report, verifying moisture content of units.

e. Reinforcing: Reinforcing bars shall be as specified for concrete work Division 3. Horizontal joint reinforcing shall be standard weight "bar-O-wal", or approved, Galvalinized steel welded ladder type reinforcement w/ 1/2" side rods.

(403)

Anchors:

Material: Strap Tie - 1/4" x 1 1/4" x 16" long, turn ends up 2"; galvanize after fabrication.
Rebar Tie - #4 Rebar dowel 12" long.

Installation: 2" o/c vertically at intersection of all masonry and/or masonry and concrete walls and partitions.
Masonry to Masonry: Strap tie to extend 8" into abutting wall and 4" into cross wall.

Masonry to Concrete: Rebar tie, install by drilling undersized holes 4" deep into concrete and driving dowel full depth into drilled hole.

plumb, level and even. Cutting shall be done with a motor-driven diamond or abrasive blade, designed for glazed, fired clay products. Install horizontal reinforcing in 2nd bed joint above floor and then each 3rd joint above. Tie at abutting walls as specified. Base course to be cove base units installed with top of cove foot flush with floor surface as detailed.

h. Hollow Masonry Concrete Units:

1. Joints: Natural mortar color 3/8" thick with full mortar coverage on vertical joints and horizontal face shells. Mortar joints shall be struck off flush and finished with a carpet float.
2. Installation: As specified above and similar to structural Glazed Tile.
3. Reinforcing: As for structural glazed tile.

i. Bond Beams: Shall be constructed of Concrete Masonry units manufactured specifically for that purpose, reinforcing steel as detailed and concrete grout as specified in Division 402-C.

Measurements shall be taken on site. Work shall be installed as follows:

Reinforcing: Set into 3" minimum diameter holes in masonry and grout to full depth. Use #4 bars at 16" on center. Set all work plumb, level and true.

a. General: All units laid true to line; plumb, square and level. Exposed joints practically uniform in size. Primary face of partitions shall be a true plane with irregularities of surface caused by variations of unit depth reserved for face with secondary exposure. Verify before commencing work.

b. Bond: Units shall be laid in stack bond with both vertical and horizontal joints kept straight and true to a line.

c. Preparation by others: All grounds, door bucks, plugs, radiators, hangars, plumbing, and other fixtures and fittings shall be in place, and all pipe trenches, chases and other openings in floors and walls shall be properly closed by others before this contractor lays up the tile.

d. Damaged Tiles: The finished work shall be free from cracked, broken or damaged tile which would detract from the appearance of the wall when viewed from a distance of five feet at a right angle to the wall.

e. Cleaning: Upon completion of his work, this contractor shall remove all surplus material and rubbish which have accumulated as a result of his work; after the pointing mortar has sufficiently set, all tile walls shall be thoroughly washed with warm, soapy water; using a soft fiber brush. The contractor shall be careful not to damage the joint during this operation. Acid shall not be used in cleaning glazed tile walls.

f. Finally: All glazed tile shall be given a final cleaning to remove all foreign material from the surface of the tile.

g. Structural Glazed Tile: Joints - (White, Pointed, 1/4" wide) 1/4" bed joints shall be used. The setting mortar shall be spread over the full bed area. Troweling of the bed joint will not be permitted. Before the setting mortar has attained its initial set, the bed and head joints shall be raked to a depth of 1/4" to 3/8" and all loose mortar brushed from the edges of the tile. After the setting mortar has attained its initial set, the joints shall then be wiped with a flat, cellulose sponge to attain a smooth flat joint. If pre-mixed pointing mortar is specified, follow the manufacturer's detailed instruction for installation.

Installation of Tiles: Each tile shall be buttered with the setting mortar, shoved to position, and brought to a plumb and true surface, flush with the spot and other tiles. Vertical joints and all bases shall be maintained

plumb, level and even. Cutting shall be done with a motor-driven diamond or abrasive blade, designed for glass, fired clay products. Install horizontal reinforcing in bed joint above floor and then each bed joint above. The at shutting walls as specified. Base course to be cove base units installed with top of cove foot flush with floor surface as detailed.

h. Hollow Masonry Concrete Units:
1. Joints: Natural mortar color 3/8" thick with full mortar coverage on vertical joints and horizontal face shells. Mortar joints shall be struck off flush and finished with a carpet float.
2. Installation: As specified above and similar to structural glazed tile.
3. Reinforcing: As for structural glazed tile.

i. Bond Beams: Shall be constructed of concrete masonry units manufactured specifically for that purpose, reinforcing steel as detailed and concrete grout as specified in Division 402-C.

DIVISION # 5

METAL

Scope:

Includes furnishing all plant, labor and materials, detailed or specified, to complete the metal portion of the work as required by the contract drawings and specifications as follows:

Miscellaneous Metal:

- Quality: Free of defects impairing durability or appearance; best commercial quality for purpose. All new materials: Domestic Mfg.
- Items: All the necessary steel and iron work shall be installed as shown on drawings or as herein specified and shall include pipe railings, bench supports.
- Construction: Shall be all welded construction with all welds neatly smoothed off. All welds "adequate to develop full strength of section welded". After fabrication all items to be thoroughly cleaned and all portions not to be embedded in concrete shall be given a coat of rust-inhibiting paint. Shop drawings for all work shall be prepared by fabricator and submitted in triplicate to architect for approval.

Measurements shall be taken on site. Work shall be installed as follows:

Railings: Set into 3" minimum diameter holes X 3 1/2" minimum deep into concrete floor slabs and grouted in place with "Embeco" metallic grout. Set all work plumb, level, and in straight lines.

Bracing: All bracing shall be installed in a plane before bracing is nailed. All necessary girts and nailing plates shall be placed for securing plumbing fixtures, light fixtures, hardware accessories, equipment, etc. Each stud shall be secured to plate at each end with two 16d head-nails or four 3d toe-nails. The doubled plates and doubled studs around openings shall be nailed together at least every three feet. Each piece of trussing or bracing shall have at least two nails in each end. Backing shall be spaced at least every 8 inches. Studding shall be doubled where necessary to cover large pipes, etc.

DIVISION # 6

CARPENTRY

Scope:

Includes all Carpenter Work and all miscellaneous work not specifically covered elsewhere in the specifications.

Rough Carpentry:

- a. Framing Lumber: Not otherwise designated shall be Douglas Fir "Construction Grade" conforming to, and grade marked in accordance with W.C.L.I.B. Rules No. 15, 3/15/56, revised 1965. All framing shall be S4's and FOHC. Joists shall be Kiln Dried to an average moisture content of 15%.
- b. Preservative: All sill or plates resting on concrete, or on paper on concrete, all nailing pieces embedded in concrete, and all other lumber in direct contact with masonry or concrete shall be Plant Pressure treated with Chemonite, Wolman Salts or Boliden Salt process. After milling; cut ends job treated with similar material within one-half hour after cutting.
- c. Walls and Partitions: Shall be framed of 2" X 4" studs, except as noted on drawings. No stud shall be spaced more than 16" on centers. Plates bearing on concrete shall be laid over a strip of 30 pound asphalt saturated felt and shall be bolted to concrete or anchored with Powder Driven Fasteners @ 4'-0" o/c maximum. All top plates shall be 2" material, doubled, with joints broken. Studs shall be doubled at the sides and heads of all openings. Openings of more than three feet span shall be trussed over by cutting in diagonals the same size as the studs. All partitions shall be constructed true, straight, plumb, and in a flat plane. If necessary to assure the wall or partition being a flat plane when finished, herringbone bridge at mid-height with material the same size as studs, and straighten wall by bringing studs into a plane before bridging is nailed. All necessary girts and nailing pieces shall be placed for securing plumbing fixtures, light fixtures, hardware accessories, equipment, etc. Each stud shall be secured to plate at each end with two 16d head-nails or four 3d toe-nails. The doubled plates and doubled studs around openings shall be nailed together at least every three feet. Each piece of trussing or bridging shall have at least two nails in each end. Backing shall be spiked at least every 8 inches. Studding shall be doubled where necessary to cover large pipes, etc.

DIVISION # 6

METAL

(501)

Includes furnishing all plant, labor and materials, detailed or specified, to complete the metal portion of the work as required by the contract drawings and specifications as follows:

(502)

Miscellaneous Metal:

- a. Quality: Free of defects impairing durability or appearance; best commercial quality for purpose. All new materials: Domestic Mfg.
 - b. Items: All the necessary steel and iron work shall be installed as shown on drawings or as herein specified and shall include pipe railings, bench supports.
 - c. Construction: Shall be all welded construction with all welds neatly smoothed off. All welds "adequate to develop full strength of section welded". After fabrication all items to be thoroughly cleaned and all portions not to be embedded in concrete shall be given a coat of rust-inhibiting paint. Shop drawings for all work shall be prepared by fabricator and submitted in triplicate to architect for approval.
- Measurements shall be taken on site. Work shall be installed as follows:
- Railings: Set into 3" minimum diameter holes X 3 1/2" minimum deep into concrete floor slabs and grouted in place with "Embeco" metallic grout. Set all work plumb, level, and in straight lines.

DIVISION # 6

CARPENTRY

1.000

(601)

Scope:

Includes all Carpenter work and all miscellaneous work not specifically covered elsewhere in the specifications.

(602)

Rough Carpentry:

a. Framing Lumber: Not otherwise designated shall be Douglas Fir "Construction Grade" conforming to, and grade marked in accordance with W.O.L.I.B. Rules No. 12, 3/15/56, revised 1965. All framing shall be 2" x 4" and 2" x 6" Joists shall be K.D. Dried to an average moisture content of 15%.

b. Preservative: All sill or plates resting on concrete or on paper on concrete, all nailing pieces embedded in concrete, and all other lumber in direct contact with masonry or concrete shall be treated with pressure treated wood preservative, Wolman-Salts or Boliten Salt process. After nailing, cut ends job treated with similar material within one-half hour after cutting.

c. Walls and Partitions: Shall be framed of 2" x 4" studs, except as noted on drawings. No stud shall be spaced more than 16" on centers. Plates bearing on concrete shall be laid over a strip of 30 pound asphalt saturated felt and shall be bolted to concrete or anchored with Powder Driven Fasteners @ 4'-0" o/c maximum. All top plates shall be 2" material, doubled, with joints broken. Studs shall be doubled at the sides and heads of all openings. Openings of more than three feet shall be braced over by cutting in diagonals the same size as the studs. All partitions shall be constructed true, straight, plumb, and in a flat plane. It is necessary to assure the wall or partition being a flat plane when finished, herringbone bridle at mid-height with material the same size as studs, and straighten wall by bracing studs into a plane before bracing is nailed. All necessary girts and nailing pieces shall be placed for securing plumbing fixtures, light fixtures, hardware, accessories, equipment, etc. Each stud shall be secured to plate at each end with two 16d head-nails or four 10d toe-nails. The doubled plates and doubled studs around openings shall be nailed together at least every three feet. Each piece of framing or bracing shall have at least two nails in each end. Backing shall be spiked at least every 8 inches. Studing shall be doubled where necessary to cover large pipes, etc.

d. Ceiling Framing shall be constructed of 2" lumber of size and spacing indicated on drawings. Install w/ crown up. Solid bridge at beams, bearing walls, and partitions with 2" material and cross bridged with 2" x 3" bridging in rows not over 8' apart in each span. Joists attached there to with appropriate "Simpson" strong-tie connectors, or approved. Openings doubled trimmers and headers.

e. Furring: Studs and joists shall be doubled or furred as necessary to cover structural members, piping, conduit, ducts, etc. in finished areas. Furring members shall be placed not more than 16' o/c and shall be secured, bridged, shimmed and straightened to match other framing.

f. Cutting: All special cutting of wood framing required in connection with the plumbing, heating, and electrical systems shall be done by the carpenters, as well as any and all headers, etc., required in this connection.

g. Firestops of 2" material X full width of space to be blocked shall be placed in continuous rows to limit the maximum dimension of any inaccessible space to eight feet.

h. Backing: Before wall and ceiling surface materials are placed, install backing blocks and edge blocking to suitably anchor all finish materials, hardware, fixtures, and accessories.

Finish Carpentry & Millwork

(603)

a. Finish Lumber:

1. Wood Frames, casing & trim: "B" & BTR. K.D. Douglas Fir or Hemlock.
2. Railing Horizontals: Construction Grade, K.D. hand selected for minimum tight knots and fine straight dense grain. Douglas Fir or Hemlock.
3. Bench Seats: "B" & BTR. K.D. fine, soft grain Douglas Fir or Hemlock, hand selected for appearance and free of pitch pockets.
4. Oak Edgings: Red or white oak, K.D., finish grade, best commercially available.
5. Work Bench Top: Construction grade as for railings above.
6. Peg Board: For bench tool rack 1/4" tempered perforated hardboard, 3/16' holes @ 1" o/c. Georgia Pacific or approved.

b. Plywood:

1. Wainscot: 3/8" A-D Int-DFPA, sanded D.F. Plywood
2. Cabinets: Exposed one face primarily 3/4" A-B Int-DFPA, sanded D.F. plywood. Exposed two-faces, 3/4" A-A Int-DFPA, sanded D.F. Plywood.
3. Counter Tops: 1" B-D Int-DFPA Sanded D.F. Plywood.

c. Workmanship: Take measurements at site for built-up work, verify all dimensions. Construct cabinets at mill. Face frames mortised and tenoned construction glued. External corners mitered, reinforced, glued, and faced as shown. Internal corners tongued and grooved. Shelf and body members and partitions dadoed together.

Counter tops are to be covered, shall be 1" plywood and shall be anchored to the bodies with screws and metal clips made for this purpose. Cabinets with adjustable shelves shall be provided with flush type metal standards K.V. 255 and supports K.V. 256. All stationary shelves shall be dadoed into the supports.

Plywood backs securely nailed at each bearing and to each stationary shelf and partition. Plywood doors and drawer fronts shall have inserts glued in to cover end grain where exposed to view. Drawers and trays shall have lock-joint or dove-tailed fronts, backs and bottoms tongued into sides and center guides well waxed. All drawers and trays shall be supported on open-framed carriages, stub-tenoned and glued together and securely anchored to the case bodies. Construct of grades and deliver work to building when needed, protect from damage and exposure to weather.

Hardware:

Furnish and install all rough hardware, nails, bolts, screws, hangers, anchors, etc. as required for work.

Install all finish hardware as furnished under Division 8. Use only skilled mechanics.

Plastic Surfacing:

Shall be Westinghouse Micarta High Pressure Plastic Laminate (Distributed by U.S. Plywood Corp.) Conforming to National Electrical Manufacturers Association (NEMA) Standard LD 1-1964, 1/16" General purpose grade .062" thick or equal to be approved by the architect. Finish, color, and pattern as selected by the architect.

Install per manufacturers instructions on counter with approved contact adhesive.

Hardwood edging as detailed.

d. Ceiling Graining shall be constructed of 2" lumber of size and spacing indicated on drawings. Install w crown up. Solid bridge at beams, bearing walls, and partitions with 2" material and cross bridged with 2" X 3" bridging in rows not over 8' apart in each span. Joints attached there to with appropriate "Simpson" strong-tie connectors, or approved. Openings doubled trimmers and headers.

e. Furring: Studs and joists shall be doubled or furred as necessary to cover structural members, piping, conduit, ducts, etc. in finished areas. Furring members shall be placed not more than 16' o/c and shall be secured, bridged, shimmed and straightened to match other framing.

f. Cutting: All special cutting of wood framing required in connection with the piping, heating, and electrical systems shall be done by the carpenters, as well as any and all headers, etc., required in this connection.

g. Firestops of 2" material X full width of space to be blocked shall be placed in continuous rows to limit the maximum dimension of any inaccessible space to eight feet.

h. Backing: Before wall and ceiling surface materials are placed, install backing blocks and edge blocking to suitably anchor all finish materials, hardware, fixtures, and accessories.

Finish Carpentry & Millwork

- a. Finish Lumber:
 1. Wood Frames, casing & trim: "B" & BTR. K.D. Douglas Fir or Hemlock.
 2. Railing Horizontal: Construction Grade, K.D. hand selected for minimum tight knots and fine straight dense grain. Douglas Fir or Hemlock.
 3. Bench Seats: "B" & BTR. K.D. fine, soft grain Douglas Fir or Hemlock; hand selected for appearance and free of pitch pockets.
 4. Oak Edging: Red or white oak, K.D., finish grade, best commercially available.
 5. Work Bench Top: Construction grade as for railings above.
 6. Peg Board: For bench tool rack 1/4" tempered perforated hardboard, 3/16" holes @ 1" o/c. Georgia Pacific or approved.

- b. Plywood:
 1. Wainscot: 3/8" - D Int-DPA, sanded D.F. Plywood.
 2. Cabinets: Exposed one face primarily 3/4" A-B Int-DPA; sanded D.F. Plywood. Exposed two-faces, 3/4" A-A Int-DPA, sanded D.F. Plywood.
 3. Counter Tops: 1" B-D Int-DPA Sanded D.F. Plywood.

Scope:

Includes all door, window and glass work and all miscellaneous work not specifically covered elsewhere in the specifications.

Shop Drawings:

Before fabrication submit 3 copies of shop drawings for Architects approval.

Metal Door Frames:

Shall be as manufactured by Reuter & Son on Grand Metal or approved, of configuration shown on drawings, 16 gauge cold rolled steel, bonezized and prime coated at factory with reinforced hardware cut-outs, suitable anchors (without visible fastening devices), rubbermutes, strike and hinge reinforcing dust covers.

Wood Doors:

Shall be Flush Weldwood Staved Lumber Cone Doors, as made and guaranteed by United States Plywood Corp. or approved equal.

Shall be 1 3/4" thick with paint grade birch hardwood veneer faces, and louver openings as shown.

Counter Door:

Shall be 1 1/2" thick, flush staved K.D. glued lumber stave core with 1/4" tempered hardboard each face with hardwood edges as detailed. Install w/ specified hardware.

Door Louvers:

Airolite Co. Bonderized Steel 20 gauge, 1 3/4" thick, Type 583-S, moulding "G" for 1 3/4" wood doors furnished with shop prime coat. Size as shown on drawings. Install with tamper-proof screws. Known supplier: W.H.Cross Co., Portland.

(807)

Finish Hardware:

Furnish and install all Finish Hardware items necessary to complete the work. Finish hardware shall include, but not be limited to, items listed below. Installation shall be by skilled mechanics. All hardware shall be shown to operate in presence of architect after installation. Tag all keys and deliver to architect. No keys shall be issued to unauthorized personnel and no keys shall be duplicated except upon written authorization.

Templates: Furnish metal door and door frame manufacturer templates of butts and locks necessary for his work.

Thresholds: Provide and install metal thresholds where shown on drawings.

Keying: All locks keyed alike in the building with "Best Universal" Locks mastered to Park Bureau Series. Contractor to furnish and install "Construction" cylinders to be exchanged by Park Bureau for Coded Cylinders. Tag keys and deliver to architect.

Adjusting: During a period of one year from date of completion of the work, the contractor shall, at his own expense, when so directed by the architect, have the doors, windows, hardware, etc. eased and adjusted to operate properly.

Finish Hardware List

Door "A"

- 1 1/2 pr. butts B.B. 180 CMC 4 1/2" X 4 1/2" N.R.P. U S 26 D
- 1 "Best" cylindrical lock 7K 6B 6A US 26D L.H. *
- 1 S.S. Kick plate 12" X 1" less than door width, 16 GA

Doors "B" and "D"

- 1 1/2 pr. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
- 1 Best Tubulor lock 4T6D9 US 26D 1 RH & 1 LH
- 1 S.S. Kick plate 12" X 1" less than door width, 16 GA
- 1 Yale or equal door closer No. 84 series, 1 LH & 1 RH, top jamb installation - US 26 D
- 1 door pull yale or equal No. DR 532 US 26D
- 1 door push plate, Yale or equal No. DR 1730 US 26D

Door "C"

- 1 1/2 pr. butts BB 180 CMC 4 1/2 X 4 1/2 N.R.P. US 26D
- 1 Best tubulor lock 4T 6D 17 US 26D RH
- 1 S.S. Kick plate 12" X 1" less than door width, 16 GA

DIVISION # 8
DOORS, WINDOWS, GLASS

Scope:

Includes all door, window and glass work and all miscellaneous work not specifically covered elsewhere in the specifications.

Shop Drawings:

Before fabrication submit 3 copies of shop drawings for Architect's approval.

Metal Door Frames:

Shall be as manufactured by Reuter & Son on Grand Metal or approved, of construction shown on drawings. If gauge cold rolled steel, hot-dipped and prime coated at factory with reinforced hardware cut-offs, suitable anchors (without visible fastening devices), rubber gaskets, strike and hinge reinforcing dust covers.

Wood Doors:

Shall be finish hardwood staved lumber core doors, as made and guaranteed by United States Plywood Corp. or approved equal. Shall be 1 3/4" thick with paint grade birch hardwood veneer faces, and lower openings as shown.

Counter Doors:

Shall be 1 1/2" thick, finish staved K.D. lined lumber stave core with 1/4" tempered hardboard each face with hardwood edges as detailed. Install w/ specified hardware.

Door Louvers:

Alcolite Co. Bonded Steel 20 gauge, 1 3/4" thick, Type 283-S, mounting "C" for 1 3/4" wood doors furnished with shop prime coat. Size as shown on drawings. Install with tamper-proof screws. Known supplier: W.H. Cross Co., Portland.

(807)

Finish Hardware:

Furnish and install all Finish Hardware items necessary to complete the work. Finish hardware shall include, but not be limited to, items listed below. Installation shall be by skilled mechanics. All hardware shall be shown to operate in presence of architect after installation. Tag all keys and deliver to architect. No keys shall be issued to unauthorized personnel and no keys shall be duplicated except upon written authorization.

Templates: Furnish metal door and door frame manufacturer templates of butts and locks necessary for his work.

Thresholds: Provide and install metal thresholds where shown on drawings.

Keying: All locks keyed alike in the building with "Best Universal" locks mastered to Park Bureau Series. Contractor to furnish and install "Construction" cylinders to be exchanged by Park Bureau for Code Cylinders. Tag keys and deliver to architect.

Adjusting: During a period of one year from date of completion of the work, the contractor shall, at his own expense, when so directed by the architect, have the doors, windows, hardware, etc. eased and adjusted to operate properly.

Finish Hardware List

Door "A"
1 1/2 pr. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
1 "Best" cylindrical lock 7K 6B 6A US 26D RH *
1 S.S. Kick plate 12" X 1" less than door width, 16 GA

Doors "B" and "D"
1 1/2 pr. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
1 Best Trimlock lock 4T6D US 26D 1 RH & 1 LH
1 S.S. Kick plate 12" X 1" less than door width, 16 GA
1 Yale or equal door closer No. 84 series, 1 LH & 1 RH
top jamb installation - US 26D
1 door pull Yale or equal No. DR 532 US 26D
1 door push plate, Yale or equal No. DR 1730 US 26D

Door "C"
1 1/2 pr. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
1 Best tubular lock AT 6D 17 US 26D RH
1 S.S. Kick plate 12" X 1" less than door width, 16 GA

FINISHES

Door "E"
1 1/2" pr. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
1 Best cylindrical lock 7K 6B 6A US 26D RH *
1 S.S. kick plate 12" X 1" less than door width, 16 GA

Door "F"
3 pr. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
1 Best cylindrical lock 7K 6B 6A US 26D RH *
2 Flush Bolts Yale or equal 69 RF US 26D
1 S.S. kick plate 12" X 1" less than door width 16GA

Door "G"
3 prs. butts BB 180 CMC 4 1/2" X 4 1/2" N.R.P. US 26D
1 Yale or equal Panic Exit Device #10A & 10R with Best Universal cylinder # 1E 912 US 26D
4 S.S. kick plates 12" X 1" less than door width 16 GA
2 Yale or equal door closer No. 84 series 1 LH & 1 RH (top jamb installation) US 26D

* Best cylindrical lock set shall have 2 3/4" backset

Each door to have door bumper No. 885 Yale or equal.

(901)

"Exterior" - 5 mils minimum thickness of metal shall be used for all exterior doors. Installation shall be in accordance with Division 3 "Construction" for exterior doors. Refer to Division 3 "Construction" for exterior doors. Refer to Division 3 "Construction" for exterior doors.

(904)

Construction - Refer to Division 3 "Construction" for exterior doors. Refer to Division 3 "Construction" for exterior doors.

(905)

Shop 1: Fabrication of metal doors and frames. Shop 2: Fabrication of metal doors and frames. Shop 3: Fabrication of metal doors and frames. Shop 4: Fabrication of metal doors and frames. Shop 5: Fabrication of metal doors and frames.

FINISHES

Scope:

(901)

Includes furnishing all plant, labor and materials, detailed or specified, to complete the finish portion of the work as required by the contract drawings and specifications as follows:

Gypsum Drywall:

(902)

1. Gypsum wallboard shall be 5/8" recessed edges as manufactured by U.S. Gypsum, Bestwall Gypsum or equal.
2. All workmanship shall be of the highest standards of the trade.
3. Nails for applying gypsum wallboard shall be 1-1/4" GWB-54. Space nails 6" o/c along edges and intermediate bearing.
4. Exterior corners shall be stripped with "Dur-A-Bead" No. 104, and edges of wallboard butting walls of different materials shall be edged with USG trim No. 401 as manufactured by U.S. Gypsum, or approved equal.
5. All joints shall be over framing or be thoroughly back-blocked.
6. Use U.S. Gypsum Co. "Perf-A-Tape" system and products or approved equal. The manufacturer's instructions shall be strictly adhered to. Tape and cement all joints. Cement over all nails. Thoroughly sand between coats and install a minimum of a "Three Coat Job". When finished the area shall present an even, blemish-free surface completely ready to receive paint.
7. This contractor shall be responsible for his own clean-up.

Plywood Wainscot:

(903)

Shall be of material specified under Division 6 - "Carpentry", to be full length sheets installed vertically with Weldwood Panel Adhesive, manufactured by U.S. Plywood Corp., per mfg. printed instruction, over Gypsum Board wall where shown on drawings complete with cap strip and base.

Special Coatings:

(904)

Cementitious Coating - Refer to Division 3 "Concrete" for specified treatment of new concrete floor slabs.

Painting:

(905)

Exceptions: This specification does not include: 1. Shop primers. 2. Factory-finished materials and equipment. 3. Work of other sections. 4. Tile-glass-porcelain and ceramic tile. 5. Acoustic and acoustic tile ceiling.

DIVISION # 9

FINISHES

(901)

Scope:

Includes furnishing all paint, labor and materials, detailed or specified, to complete the finish portion of the work as required by the contract drawings and specifications as follows:

(902)

Gypsum Drywall:

1. Gypsum wallboard shall be 5/8" recessed edges as manufactured by U.S. Gypsum, Bestwall Gypsum or equal.
2. All workmanship shall be of the highest standards of the trade.
3. Nails for applying gypsum wallboard shall be 1-1/4" GWB-54. Space nails 6" o/c along edges and intermediate bearing.
4. Exterior corners shall be striped with "DWP-A-Bead" No. 104, and edges of wallboard butt joint walls of different materials shall be edged with USG trim No. 401 as manufactured by U.S. Gypsum, or approved equal.
5. All joints shall be over framing or be thoroughly back-blocked.
6. Use U.S. Gypsum Co. "Perf-A-Tape" system and products or approved equal. The manufacturer's instructions shall be strictly adhered to. Tape and cement all joints. Cement over all nails. Thoroughly sand between coats and install a minimum of a "Three Coat Job". When finished the area shall present an even, fleck-free surface completely ready to receive paint.
7. This contractor shall be responsible for his own clean-up.

(903)

Plywood Wallboard:

Shall be of material specified under Division 6 - "Carpentry", to be full length sheets installed vertically with Weldwood Panel Adhesive, manufactured by U.S. Plywood Corp., per mfg. printed instruction, over Gypsum Board wall where shown on drawings complete with cap strip and base.

(904)

Special Coatings:

Cementitious Coating - Refer to Division 5 "Concrete" for specified treatment of new concrete floor slabs.

(905)

Painting:

Exceptions: This specification does not include: 1. Shop primers. 2. Factory-finished materials and equipment. 3. Work of other sections. 4. Tile-glass-porcelain and ceramic tile. 5. Acoustic and acoustic tile ceilings.

Materials:

- a. All paints, enamels, varnishes, etc., shall be of the brand and quality specified and shall be delivered at the site of work in clean, unopened original containers and stored where designated.
- b. Materials necessary to complete the painting and finishing schedule as herein specified and listed by material numbers and names, are standards for kind, quality and function, and are taken from the stock list of the Manufacturer.
- c. Miscellaneous basic painting materials such as raw and boiler linseed oils, shellac, white lead, putty, solvents, shall be pure and of the highest quality, and shall comply with the latest Federal Specifications, and/or A.S.T.M. Standards (Rev.)

Colors and Finishes:

- a. Secure color schedule from the Architect before undercoating. Samples of colors selected and finishes specified, shall be furnished to the manufacturer for color-matching. Approval of colors must be obtained from the Architect before proceeding with the work.
- b. Unless specified otherwise, all undercoats shall be tinted slightly to approximate the finish color.

Surface Preparation:

- a. All surfaces shall be prepared in a skillful manner to produce finish work of first-class appearance and durability.
- b. Repair all voids, nicks, cracks, dents, etc., with suitable patching material and finish flush to adjacent surface.
- c. All surfaces to receive paint finish shall be cleaned free of all dust, dirt, oil, grease and other foreign matter prior to the application of the prime coat.
- d. Shop coats, on metal, which are damaged, parts unpainted or otherwise unprotected after installation, shall be cleaned and said areas spot primed with Sinclair's #20 Red Lead Primer for ferrous metal, or Sinclair's #25 Zinc Dust Primer for galvanized metal or approved equal.
- e. Finish hardware shall have been fitted and contact plates removed, before painting.
- f. Plates for electric switches and plugs shall have been fitted and removed.

Workmanship:

- a. All work shall be executed by skilled craftsmen, experienced in their trade. All work shall be of the highest standards and methods.
- b. Paints shall be mixed and applied in strict accordance with the manufacturer's printed directions for his product.

- c. All materials shall be applied smoothly with proper film thickness, without runs, sags, skips or any other defects. Enamels and varnishes shall be lightly sanded between coats, dusted and wiped clean before recoating.
- d. All work shall be done under favorable weather conditions or conditions suitable for the production of first-class work.
- e. No exterior or interior painting shall be done until surfaces are thoroughly dry and cured.

Protection:

The painting contractor shall protect all surfaces and objects inside and outside of buildings, grounds, lawns, shrubbery and adjacent properties against damage. He shall also hold himself responsible for the orderly storage of materials, removal of all combustible rags, empty containers, etc., at the end of each day, taking every possible precaution to prevent fire.

Inspection:

All work shall be subject to approval by the Architect and any work not complying with these specifications shall be properly corrected.

Cleaning and Removal:

At works completion, the contractor shall remove from the premises all surplus materials and debris created by him; he shall remove all splatterings and leave his part of the work in a clean and finished condition.

Finish Schedule:

Surfaces shall be finished in accordance with the following procedure for the surface and finish desired thereon. Catalog names and numbers refer to acceptable products.

F-1. Metal

One coat of oil Base Rust Primer, Miller's No. 468 or equal shall be applied. After 24 hours minimum drying time there shall be applied two coats of Spar Enamel, Miller's No. 2500, allowing 8 hrs. between coats.

F-2. Wood

One coat of Primer Sealer, Miller's No. 1300 or equal shall be applied and allowed to dry for a min. time of 8 hrs. Then two coats of Miller's No. 47 Satin Varnish and allowing 8 hrs. between coats.

c. All materials shall be applied smoothly with proper film thickness, without runs, sags, skips or any other defects. Enamels and varnishes shall be lightly sanded between coats, dusted and wiped clean before recoating. d. All work shall be done under favorable weather conditions or conditions suitable for the production of first-class work.

e. No exterior or interior painting shall be done until surfaces are thoroughly dry and cured.

The painting contractor shall protect all surfaces and objects inside and outside of buildings, grounds, lawns, shrubbery and adjacent properties against damage. He shall also hold himself responsible for the orderly storage of materials, removal of all combustible rags, empty containers, etc., at the end of each day, taking every possible precaution to prevent fire.

All work shall be subject to approval by the Architect and any work not complying with these specifications shall be properly corrected.

At work completion, the contractor shall remove from the premises all surplus materials and debris created by him; he shall remove all splatters and leave his part of the work in a clean and finished condition.

Surfaces shall be finished in accordance with the following and products for the surface and finish desired thereon. Catalog names and numbers refer to acceptable products.

F-1. Metal
One coat of oil Base Rust Primer, Miller's No. 400 or equal shall be applied. After 24 hours minimum drying time there shall be applied two coats of Enamel, Miller's No. 2200, allowing 8 hrs. between coats.

F-2. Wood
One coat of Primer Sealer, Miller's No. 1300 or equal shall be applied and allowed to dry for a min. time of 8 hrs. Then two coats of Miller's No. 47 Satin Varnish and allowing 8 hrs. between coats.

F-3. Wallboard

The surface shall be sealed with or equal to Miller's Prime Sealer No. S-75. After 8 hrs. of drying time then two coats Low Gloss Enamel Miller's No. 6750 with 4 hrs. minimum between coats.

F-4. Wallboard

The dry wall shall be painted with two coats of Luster Latex, Miller's No. 6450 or equal.

F-5. Wood

One coat of Undercoat Miller's #S-81 or equal shall be applied and after a minimum time of 8 hrs. then there shall be applied a coat of mixed equal parts of undercoat and satin enamel, Miller's No. S-343. Allow minimum of 4 hrs. for drying. The final coat shall be applied of enamel, Miller's No. S-343.

F-6. Concrete-Masonry

The wall surface shall be painted with Plastalloy processed finish, as manufactured by Western States Lacquer Corp. All block shall be filled before finish is applied. The plastalloy work shall be done by a trained and authorized applicator. Surface preparation, materials and application shall be in strict accordance with manufacturer's recommended specifications for the particular surfaces and conditions involved. The applicator shall obtain approval of the manufacturer's representative before beginning the work.

DIVISION # 10

SPECIALTIES

(1001)

Scope:

Includes furnishing all plant, labor and materials, detailed or specified, to complete the Specialty portion of the work as required by the contract drawings and specifications as follows:

(1002)

Toilet Compartments:

Toilet Compartments and Urinal screens shall be Weisteel Hi-Style Flush Construction, baked enamel finish on galvanized bonderized steel as manufactured by Henry Weis Mfg. Co., Elkhart, Indiana (known supplier Cross Co.) or equal approved by architect.

Stock colors as selected by architect.

Urinal screen floor braced type US 53 024, Government Specifications 6-12-26A.

(1003)

Furnish 3 copies shop drawings for architect's approval.

(1003)

Mesh Partitions:

Shall be Artz Metal Partitions type SG-1000 constructed of 1 1/2" X 1 1/2" cold rolled steel "box-T" frame with No. 11 diamond shaped expanded metal filler panels welded to frame members, horizontal sliding gate with lock and "Best Universal" lock cylinder. Partition 7'-0" high. Fastened in place with suitable anchors. Furnish with standard finish of one coat of gray enamel. Furnish 3 copies shop drawings for architect's approval.

(1003)

Scope:

(1501)

The mechanical contractor shall furnish and install all materials and perform all labor necessary for the complete installation of plumbing, heating and ventilation indicated on the drawings and described herein. Any incidental work not shown or specified which can reasonably be inferred or taken as belonging to the work and necessary in good practice to provide the complete systems described or shown as intended, except such materials and labor specifically mentioned or shown to be furnished and installed by others. The governing body codes shall supersede all drawings and these specifications when conflicts occur. Drawings and specifications are minimum requirements for this installation. The work hereunder includes, in general, the following, in which no attempt is made to list individual items of equipment of work:

- Hot & Cold water systems
- All fixtures
- Sewer ejector system
- Heat units
- Exhaust fan system

Plans and Diagrams

(1502)

The plans shown are general requirements of the mechanical work. This contractor shall furnish a drawing as built showing location, size of all traps, valves, and all other important features. This plan is for use as a record and must be made accurately and at the contractors expense.

Openings, Cutting & Sleeves

(1503)

- Before the floors are poured or partition work begun, the risers and such parts of branches that are to be enclosed under floors or in walls or partitions, or are to pass through floors, shall be placed in position; otherwise, suitable sleeves shall be placed by this contractor whenever necessary before the General Contractor shall proceed with the work, it being the intention to reduce all cutting to a minimum. Under no condition shall any beams, girders, footing or columns be cut, or any pipes in any way run through same, unless so shown on drawings or unless written approval is obtained from Architect.
- The cost of cutting of walls, floors, etc., or repairing of any work due to plumber's neglecting to direct the location of necessary openings and framing beforehand, shall be paid by the mechanical contractor.

- (1504)

Protection

- a. All work, fixtures and materials shall be protected against loss or damage.
- b. Work under way or completed shall be properly protected to prevent damage to it. All pipe openings shall be closed with caps or plugs during installation. All fixtures and equipment shall be tightly covered and protected against dirt, or damage caused by water, chemicals or mechanical accident. At final completion all work shall be thoroughly cleaned and delivered in unblemished condition.

Excavation and Backfill

- a. Mechanical contractor shall do all necessary trenching and excavating for the installation of all underground piping, including sanitary waste and water lines.
- b. Use all necessary precautions not to affect the bearing value of the soil under and near the footings.
- c. Excavate sanitary waste pipe trenches to exact depth with proper pitch so that piping will rest on undisturbed earth with recesses for bell ends.
- d. All trench backfill shall be clean sand. Tamp and puddle to thoroughly compact as required by material and location or as other wise directed by Architect.
- e. All excavated material in the interior of building shall be disposed of as directed.

Materials:

- a. Extra heavy cast iron hub and spigot soil pipe and fittings for all waste lines beneath the floor and to 6" above, and up to the existing pool deck line. No waste line under floor slabs shall be smaller than 2" in size. Standard weight C. I. for all interior waste and vent piping above the floor. All above floor waste lines 2" and longer shall be cast iron, except 3" waste line from sewer ejector as shown shall be standard weight galvanized steel piping. 1-1/2" waste piping and 2-1/2" and smaller vent piping above the floor may be standard weight galvanized steel pipe.

- b. Hot and cold water piping beneath the floor and up to the existing pool deck line shall be Type "K" copper tubing. All water piping more than 6" above floor slabs may be standard weight galvanized steel pipe.
- c. Fittings for hub and spigot cast iron pipe shall be 1/8", 1/16" bends and Y fittings whenever possible. All cast iron pipe and fittings shall be coated inside and out with asphalt.
- d. Galvanized malleable iron screw fittings for all galvanized hot and cold water piping. Flare copper adapters iron to copper tube. Silver or approved high temperature soldered fittings on copper joints underground. Durham recessed and beaded fittings for all waste using galvanized piping.
- e. Unions shall be malleable iron ground joint brass to iron seat for 2-1/2" and smaller.
- f. Interior cleanout plates shall be brass C.P. finish with flush frames, Josam Series, Y-80, Zurn, or equal, for floors Josam Y-110 shall be used for wall cleanout plates. Locate cleanouts in wall where possible.
- g. All piping is to be run in the most direct manner, parallel to the building lines, straight and graded as necessary, not exposed to view except where authorized. No tool marks are to show on exposed piping.

Installation

- a. All cast iron sanitary piping shall be run with a minimum grade of not less than 1/4" except as indicated. All joints in cast iron pipe shall be made with picked oakum gasket leaving 1/2" lead room which shall be run full at one pouring and caulked solid flush with hub. Rubber ring connection may be used outside of building, but must be City approved type.
- b. All screwed piping shall be reamed to full diameter and screw threads cut with sharp dies so as to make up with not more than three threads exposed, compound applied to male thread only. All piping shall be run parallel to walls and ceilings adequately supported with rod and ring hangers and installed with accessible unions or flange wherever necessary for removal or servicing of equipment. Location of lights, ducts and other piping shall be carefully checked before installation of piping. Valves shall be installed in each branch supply from the main serving more than one fixture and piping shall be graded to drain and drains provided so that it may be readily drained. Install piping with swing joints, spring pieces and or expansion loops as required to make adequate provisions for expansion and pipe movement.

c. Any cutting of existing concrete floor slabs for soil lines shall be first cut with mason saw to a straight line then broken out.

Protection

(1504)

- a. All work, fixtures and materials shall be protected against loss or damage.
- b. Work under way or completed shall be properly protected to prevent damage to it. All pipe openings shall be closed with caps or plugs during installation. All fixtures and equipment shall be tightly covered and protected against dirt, or damage caused by water, chemicals or mechanical accident. At final completion all work shall be thoroughly cleaned and delivered in unblemished condition.

(1505)

Excavation and Backfill

- a. Mechanical contractor shall do all necessary trenching and excavating for the installation of all underground piping, including sanitary waste and water lines.
- b. Use all necessary precautions not to affect the bearing value of the soil under and near the footings.
- c. Excavate sanitary waste pipe trenches to exact depth with proper pitch so that piping will rest on undisturbed earth with recesses for bell ends.
- d. All trench backfill shall be clean sand. Tamp and puddle to thoroughly compact as required by material and location or as other wise directed by architect.

- e. All excavated material in the interior of building shall be disposed of as directed.

(1506)

Materials

- a. Extra heavy cast iron hub and spigot soil pipe and fittings for all waste lines beneath the floor and to waste line under floor slabs shall be smaller than 2" in size. Standard weight C. I. for all interior waste and vent piping above the floor. All above floor waste lines 2" and larger shall be cast iron, except 3" waste line from sewer ejector as shown shall be standard weight galvanized steel piping. 1-1/2" waste piping and 2-1/2" and smaller vent piping above the floor may be standard weight galvanized steel pipe.

- c. All pipe sleeves shall be carefully located and firmly fastened to the forms before concrete is poured.
- d. Vent piping shall be connected to each fixture, revented to waste lines above highest fixture and extended to not less than 14" above roof. Vent piping shall be connected with sewer ejector. Extend through roof at a location directed by the Architect.
- e. Install all necessary fixtures, hangers and supports and direct carpenter in locating backing as required for Mechanical Work.

Painting

(1508)

- a. All galvanized piping running through or in concrete or in gravel under slabs, shall be given a coat of acid resisting paint, having a bitumastic base. All exposed threads on galvanized pipe shall be given one coat of same acid resisting paint.
- b. Pipe hangers, supports, uncovered piping and all other work in unexposed areas shall be thoroughly cleaned and painted one coat of black asphaltum varnish. All uninsulated galvanized pipe shall be painted two coats of lead and oil asphaltum varnish. All pipe insulation shall be painted two coats Armstrong Insul color.

Pipe Covering

(1509)

- a. Cover all hot water piping with Johns-Manville, or approved equal 3/4" thick sectional wool felt covering with canvas jacket. And on all cold water piping shall be installed Johns-Manville, or approved equal, 3/4" thick anti-sweat sectional wool felt covering with canvas jacket. No insulation is required on underground piping.
- b. The installation shall be made by skilled applicators after piping has been tested and approved. Fittings shall be built up to height of adjacent covering with asbestos or magnesia cement and finished with canvas. All canvas jackets shall be pasted neatly and lacquered brass or black metallic bands applied at not more than 18" centers after painting of piping insulation.

Access Covers

(1510)

All traps and valves not exposed shall be accessible by the use of such frames and covers as Greenberg Access Frame and cover #P 2360 equipped with tamperproof screws.

b. Hot and cold water piping beneath the floor and up to the existing cool deck line shall be Type "K" copper tubing. All water piping more than 6" above floor slabs may be standard weight galvanized steel pipe.

c. Fittings for hub and spigot cast iron pipe shall be 1/8" 1/16" bends and Y fittings whenever possible. All cast iron pipe and fittings shall be coated inside and out with asphalt.

d. Galvanized malleable iron screw fittings for all galvanized hot and cold water piping. Flare copper adapters from to copper tube. Silver or approved high temperature soldered fittings on copper joints underground. Durham recessed and headed fittings for all waste using galvanized piping.

e. Unions shall be malleable iron ground joint brass to iron cast for 2-1/2" and smaller.

f. Interior cleancut plates shall be brass C.P. finish with flash frames, Johns-Manville, Y-80, Y-80, Y-80, or equal, for floors. Y-110 shall be used for wall cleancut plates. Locate cleancuts in wall where possible.

g. All piping is to be run in the most direct manner, parallel to the building lines, straight and graded as necessary, not exposed to view except where authorized. No tool marks are to show on exposed piping.

Installation

(1507)

a. All cast iron sanitary piping shall be run with a minimum grade of not less than 1/4" except as indicated. All joints in cast iron pipe shall be made with packed oakum gasket leaving 1/2" lead room which shall be run full at one pouring and caulked solid flush with hub. Rubber ring connection may be used outside of building, but must be City approved type.

b. All screwed piping shall be reamed to full diameter and screw threads cut with sharp dies so as to make up with not more than three threads exposed, compound applied to male thread only. All piping shall be run parallel to walls and ceilings adequately supported with rod and ring hangers and installed with accessible unions or flange wherever necessary for removal or servicing of equipment. Location of lights, ducts and other piping shall be carefully checked before installation of piping. Valves shall be installed in each branch supply from the main serving more than one fixture and piping shall be graded to drain and drains provided so that it may be readily drained. Install piping with swing joints, spring pieces and or expansion loops as required to make adequate provisions for expansion and pipe movement.

Sewer ejector

(1511)

The mechanical contractor shall furnish and install a sewer ejector system unit, Hydr-O-Matic SP 50 AD-3-30, 208 V, 3 Phase or approved equal. The alternator control shall contain the alarm bell system. The mechanical contractor shall furnish all controls, equipment needed to complete the installation. The unit shall contain and include 2 pumps, 2 level controls, and 1 alternator. There shall be 2 discharge pipes 3" in size. The unit shall have a sealed cover.

Plumbing Fixtures and equipment

(1512)

Furnish and install the necessary plumbing fixtures in quantity as shown on the plans, and hereinafter specified, American Standard or approved equal. Before fixtures are ordered, the contractor shall submit a complete list of plumbing fixtures, giving the catalog number, make and cuts, for approval. Furnish the above list in quadruplicate, fixtures shall not be ordered until this list is approved. Furnish stop valves on all fixtures.

Fixtures

(1513)

Toilets - A-S "Neolo" F 2527 - 1-1/2" back spud, concealed flush valve with vacuum breaker. Sloan Royal 152-YV, 9500 white Mal-TeX seat.

Men's Urinal - Atlas sheet metal # 647 stainless steel urinal, with Sloan Royal valve # 195-11 concealed.

Lavatories - A-S Hexagon - P-3863-51, 20 X 18, cast iron, square bowl with B-2212 self closing faucet indexed Hot and Cold. Code 1-1/2" drainage P Trap behind wall with 1-1/4" C.P. tubing connection through wall to basin waste; C.P. 3/8" iron pipe size supply extending through wall with stops back of wall; all connections to be set high as possible under fixtures.

Drinking fountain - A-S "Tioga" # F 8333 vitreous china semi-recessed drink fountain. It shall be equipped with R-6011 anti-squirt bubbler with integral guard.

c. All pipe sleeves shall be carefully located and firmly fastened to the forms before concrete is poured.

d. Vent piping shall be connected to each fixture, vented to waste lines above highest fixture and extended to not less than 14" above roof. Vent piping shall be connected with sewer ejector. Extend through roof at a location directed by the Architect.

e. Install all necessary fixtures, hangers and supports and direct carpenter in locating backing as required for Mechanical work.

(1508)

Painting

f. All galvanized piping running through or in concrete or in gravel under slabs, shall be given a coat of acid resisting paint, having a plastic base. All exposed threads on galvanized pipe shall be given one coat of same acid resisting paint.

g. Pipe hangers, supports, uncovered piping and all other work in unexposed areas shall be thoroughly cleaned and painted one coat of black asphaltum varnish. All uninsulated galvanized pipe shall be painted two coats of lead and oil asphaltum varnish. All pipe insulation shall be painted two coats of Armstrong Insul color.

(1509)

Pipe Covering

h. Cover all hot water piping with Johns-Manville, or approved equal 3/4" thick sectional wool felt covering with canvas jacket. And on all cold water piping shall be installed Johns-Manville, or approved equal 3/4" thick anti-sweat sectional wool felt covering with canvas jacket. No insulation is required on underground piping.

i. The installation shall be made by skilled applicators after piping has been tested and approved. Fittings shall be built up to height of adjacent covering with asbestos or magnesia cement and finished with canvas. All canvas jackets shall be painted neatly and lacquered brass or black metallic bands applied at not more than 18" centers after painting of piping insulation.

(1510)

Access Covers

j. All traps and valves not exposed shall be accessible by the use of such frames and covers as Greenberg Access Frame and cover # 2360 equipped with tamperproof screws.

(1511)

Sewer ejector

The mechanical contractor shall furnish and install a sewer ejector system unit, Hydrex-O-Matic SP 50 AD-3-30, 208 V, 3 Phase or approved equal. The ejector control shall contain the alarm bell system. The mechanical contractor shall furnish all controls, equipment needed to complete the installation. The unit shall contain and include 2 pumps, 2 level controls, and 1 alternator. There shall be 2 discharge pipes 3" in size. The unit shall have a sealed cover.

(1512)

Plumbing fixtures and equipment

Furnish and install the necessary plumbing fixtures in quantity as shown on the plans, and hereinafter specified. American Standard or approved equal. Before fixtures are ordered, the contractor shall submit a complete list of plumbing fixtures, giving the catalog number, make and cuts, for approval. Furnish the above list in quadruplicate, fixtures shall not be ordered until this list is approved. Furnish stop valves on all fixtures.

(1513)

Fixtures

Toilets - A-2 "Wetflo" F 252V - 1-1/2" Back spud, concealed flush valve with vacuum breaker. Sloan Royal 152-VV, 9500 White Mel-Tex seat.
Men's Urinal - Atlas sheet metal # 647 stainless steel urinal, with Sloan Royal valve # 152-11 concealed.
Lavatories - A-2 Hexagon - P-3883-21, 20 X 18, cast iron, square bowl with B-2212 self closing faucet indexed Hot and Cold. Code I-1/2" drainage P trap behind wall with 1-1/4" C.P. tubing connection through wall to basin waste. C.P. 3/8" iron pipe size supply extending through wall with stops back of wall; all connections to be set high as possible under fixtures.
Drinking fountain - A-2 "Tidga" # F 8333 vitreous china semi-recessed drink fountain. It shall be equipped with R-6011 anti-splash bubbler with integral guard.

DIVISION # 16

ELECTRICAL

(1601)

Scope

The work is to include all material and labor for complete electrical system, all outlets, fixtures and devices indicated on the drawings, including but not limited to the following.

1. control switch & wiring, receptacles, finish plates, etc.
2. wiring of heaters (heaters by plumbers)
3. exhaust fan & wiring
4. light fixtures & wiring
5. Telephone conduit, boxes & covers only

(1602)

Codes

The latest rules of the City of Portland's and Oregon's State Electrical codes to be considered the minimum requirements for the work done. These codes shall supersede these specifications and drawings.

(1603)

Permits

This contractor shall comply with all electrical code requirements of the City of Portland. He shall obtain all permits, inspections, etc. required by the codes. All fees shall be included in the contract price. He shall furnish a certificate of approval from the inspection authority before the final payment is made. He shall conduct such tests as are necessary to demonstrate the continuity and proper operation of the system.

(1604)

Work Included

The existing system, conduits etc. shall be used and changed as per drawings. The circuits, except sewer ejector wiring, shall be connected to existing panel located in hall.

Contractor shall connect & furnish all fixtures. He shall install all fixtures and lamp bulbs in the contract. All existing fixtures shall be cleaned and relamped as needed.

The City of Portland reserves the right to make slight changes in locations prior to installation without added cost to the City of Portland.

(1605)

Cutting and Patching

The contractor shall consult the Architect or his representative before the cutting of supports through walls, floor, etc. is done.

Wiring Methods & Materials

(1606)

The wiring method shall be electrical metallic tubing as per code limitations. Conduit exposed to weather, embedded in masonry or concrete, or below grade shall be rigid galvanized. The minimum wire size shall be TW No. 12 copper and the minimum circuit wire shall be TW No. 10 copper.

Wiring splices shall be soldered or made with approved wire connectors and properly insulated. Splices shall be made in boxes only.

Provide boxes at all outlets. Special care shall be exercised in the setting of outlet boxes, panels, etc. to see that they are set plumb and flush with the finish surfaces.

All conduit runs to be concealed whenever possible.

Material

(1607)

All material delivered to the job shall be in original containers, except as otherwise authorized. All material shall be standard products of domestic manufacturers regularly engaged in the production of such equipment and of the manufacturer's latest standard design.

Approval

(1608)

Within twenty days after award of contract and before any material or equipment is purchased, a complete list of material, fixture and equipment to be incorporated in the work shall be submitted. Data shall list type, size, rating, style and catalog numbers and manufacturer's name.

Outlet & Boxes

(1609)

Mounting locations: In general, the mounting heights as listed herein or noted on the drawings. Architectural and mechanical drawings consulted to avoid conflicts with cabinets, counters, equipment, etc.

Toggle switch - 52" above floor

Plug receptacles - 18" above floor

Plug receptacles over work counters - 40" above floor

General Details: Outlet boxes adequately supported on metal bar hangers, structural building members, or substantial supports approved by the engineer.

1. Ceiling outlets: fixture outlets not less than 4" octagon of depth required to come flush with the finished surface.

DIVISION # 16

ELECTRICAL

(1601)

Scope

The work is to include all material and labor for complete electrical system, all outlets, fixtures and devices indicated on the drawings, including but not limited to the following:

1. Control switch & wiring, receptacles, finish plates, etc.
2. Wiring of heaters (heaters by plumbers)
3. Exhaust fan & wiring
4. Light fixtures & wiring
5. Telephone conduit, boxes & covers only

(1602)

Codes

The latest rules of the City of Portland's and Oregon's State Electrical codes to be considered the minimum requirements for the work done. These codes shall supersede these specifications and drawings.

(1603)

Permits

This contractor shall comply with all electrical code requirements of the City of Portland. He shall obtain all permits, inspections, etc. required by the codes. All fees shall be included in the contract price. He shall furnish a certificate of approval from the inspection authority before the final payment is made. He shall conduct such tests as are necessary to demonstrate the continuity and proper operation of the system.

(1604)

Work Included

The existing system, conduits etc. shall be used and changed as per drawings. The circuits, except sewer ejector wiring, shall be connected to existing panel located in hall.

Contractor shall connect & furnish all fixtures. He shall install all fixtures and lamp bulbs in the contract. All existing fixtures shall be cleaned and relamped as needed.

The City of Portland reserves the right to make slight changes in locations prior to installation without added cost to the City of Portland.

(1605)

Cutting and Patching

The contractor shall consult the architect or his representative before the cutting of supports through walls, floor, etc. is done.

2. Wall outlets: 4" square with proper device covers
3. Surface outlet boxes: steel boxes with proper device cover
4. Larger boxes: as required by code for number of wires.

Device plate: a device plate provided for each outlet to suit the device installed: stainless steel for flush outlets.

Switches: quiet type 20 ampere, 120-250 volt, equal to Hubbell No. 9815-I. Safety switches, normal duty with proper enclosures for the location.

Receptacles: equal to Hubbell No. S252, special outlets as indicated on the drawings.

Clock Outlet: equal to Hubbell No. 7707-SS

Equipment Connection

Mechanical equipment: connect power circuits complete to the sewer ejector system. This circuit shall be run from the boiler room as per plan, and shall be connected to existing 3 phase system in this area.

Heater wire shall be by this contractor.

Install new disconnect switch for ejector. As noted on drawings.

Fixtures

Fixture shall be or approved equal to those shown on electrical drawings.

Lamp shall be of wattage indicated installed in every fixture. Incandescent lamp, 120 volt, inside frosted type. Fluorescent type lamp, T-12, warm white, 40 watt 48" rapid start. Lamp excluded from year guarantee. Lamps to be equal to General Electric, Sylvania.

Final

The contractor shall keep tools and material in an orderly manner throughout the construction period, and upon completion of the work shall remove all supplies, materials, tools, etc. furnished by him. Dirt and debris caused by execution of his work shall be removed as directed by the Architect.

Electrical plans are diagrammatic indicating the approximate locations. Refer to mechanical, structural and architectural

(1610)

Unit Heater, furn duct heater, fan blowers & vent blowers shall be connected as per plan.

(1611)

(1612)

Wiring Methods & Materials

The wiring method shall be electrical metallic tubing as per code limitations. Conduit exposed to weather, embedded in masonry or concrete, or below grade shall be rigid galvanized. The minimum wire size shall be TW No. 12 copper and the minimum circuit wire shall be TW No. 10 copper.

Wiring splices shall be soldered or made with approved wire connectors and properly insulated. Splices shall be made in boxes only.

Provide boxes at all outlets. Special care shall be exercised in the setting of outlet boxes, panels, etc. to see that they are set plumb and flush with the finish surfaces.

All conduit runs to be concealed whenever possible.

Material

All material delivered to the job shall be in original containers, except as otherwise authorized. All material shall be standard products of domestic manufacturers regularly engaged in the production of such equipment and of the manufacturer's latest standard design.

Approval

Within twenty days after award of contract and before any material or equipment is purchased, a complete list of material, fixture and equipment to be incorporated in the work shall be submitted. Data shall list type, size, rating, style and catalog numbers and manufacturer's name.

Outlet & Boxes

Mounting locations: In general, the mounting heights as listed herein or noted on the drawings. Architectural and mechanical drawings consulted to avoid conflicts with cabinets, counters, equipment, etc.

Toggle switch - 52" above floor
Plug receptacles - 18" above floor
Plug receptacles over work counters - 40" above floor

General Details: Outlet boxes adequately supported on metal bar hangers, structural building members, or substantial supports approved by the engineer.

1. Ceiling outlets: fixture outlets not less than 4" octagon of depth required to come flush with the finished surface.

drawings. Architectural drawings govern all work.

The work of this contractor must conform to the building as to construction and to fit the work of the other trades or to conform to rules of the City and State.

All electrical work and equipment shall be guaranteed for a period of one year from the date of acceptance by the City of Portland.

Electrical plans are diagrammatic indicating the approximate locations. Refer to mechanical, structural and architectural

The contractor shall keep tools and material in an orderly manner throughout the construction period, and upon completion of the work shall remove all supplies, materials, tools, etc. furnished by him. Dirt and debris caused by execution of his work shall be removed as directed by the Architect.

Final

(1012)

Lamp shall be of wattage indicated installed in every fixture. Incandescent lamp, 120 volt, inside frosted type. Fluorescent type lamp, T-12, warm white, 40 watt 48" rapid start. Lamp excluded from year guarantee. Lamps to be equal to General Electric, Syracuse.

Fixtures

(1011)

Fixture shall be or approved equal to those shown on electrical drawings.

Install new disconnect switch for ejector. As noted on drawings. Heater wire shall be by this contractor.

3 phase system in this area.

Boiler room as per plan, and shall be connected to existing sewer ejector system. This circuit shall be run from the mechanical equipment; connect power circuits complete to the

Equipment Connection

(1010)

Block Outlet, equal to Hubbell No. 7707-S2

Receptacles: equal to Hubbell No. 2252, special outlets as indicated on the drawings.

proper enclosures for the location. Hubbell No. 9815-L, safety switches, normal duty with switches: quiet type 20 amperes, 120-250 volt, equal to

outlets. Device plate: stainless steel for flush suit the device installed: stainless steel for flush Device plate: a device plate provided for each outlet to

wires. 4. Larger boxes: as required by code for number of device cover

3. Surface outlet boxes: steel boxes with proper

2. Wall outlets: 4" square with proper device covers

drawings. Architectural drawings govern all work.
The work of this contractor must conform to the building
as to construction and to fit the work of the other trades
or to conform to rules of the City and State.
All electrical work and equipment shall be guaranteed for
a period of one year from the date of acceptance by the
City of Portland.