INVITATION TO BID

KENAI PENINSULA BOROUGH
Purchasing & Contracting

ITB24-015 Homer Middle School Kitchen

Release Date:	August 10, 2023
Pre-Bid Conference:	August 17, 2023 at 2:00 PM Homer Middle School 500 Sterling Hwy Homer, Alaska 99603
Bid Due Date:	August 31, 2023, no later than 2:00 PM Purchasing and Contracting Office 47140 E Poppy Lane Soldotna, Alaska 99669

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INVITATION TO BID

ITB24-015 Homer Middle School Kitchen

The Kenai Peninsula Borough hereby invites qualified contractors to provide all labor and materials to construct a professional kitchen at Homer Middle School per contract documents.

A pre-bid conference will be held on August 17, 2023 at 2:00 PM at Homer Middle School, 500 Sterling Hwy, Homer, AK 99603. Attendance at the pre-bid is not mandatory but is strongly recommended.

This contract is subject to the provision of State of Alaska, Title 36, Minimum Wage Rates. The subsequent contract will require certificates of insurance and may require performance and payment bonds.

Bid documents may be obtained beginning August 10, 2023 online at http://www.kpb.us/purchasing/opportunities. Hard copies can be picked up at the Purchasing and Contracting Department, 47140 E. Poppy Lane, Soldotna, Alaska, 907-714-2260.

One (1) complete set of the bid package may be submitted electronically through BidExpress.com or in hard copy to the Kenai Peninsula Borough, Purchasing and Contracting Department at 47140 E Poppy Lane, Soldotna, Alaska 99669. If submitting a hard copy bid, these forms must be enclosed in a sealed envelope with the bidder's name on the outside and clearly marked:

BID: ITB24-015 Homer Middle School Kitchen
DUE DATE: August 31, 2023, no later than 2:00 PM

Kenai Peninsula Borough

Publish: Peninsula Clarion, August 9, 2023
Anchorage Daily News, August 10, 2023

INSTRUCTIONS TO BIDDER

1. GENERAL:

These instructions specify the form and procedures for the submission of a complete and acceptable bid. (See Bid Form/Schedule.)

In an effort to make the solicitation process more efficient and cost effective for both vendors and the agency, the Kenai Peninsula Borough has adopted an electronic bidding process for Invitations to Bid and Requests for Proposal. Electronic bids/proposals may be submitted at the BidExpress.com website as the primary method of bid/proposal submission. For a limited time, paper bids/proposals will continue to be accepted, but it is strongly recommended vendors become familiar with the electronic process as soon as possible to prepare for future plans to only accept electronic bids/proposals.

2. EVIDENCE OF QUALIFICATIONS:

Upon request of the Owner, a Bidder whose Bid is under consideration for the award of the Agreement shall submit promptly to the Owner satisfactory evidence of the Bidder's financial resources, their experience, their performance in completing other projects of a similar nature, and the organization and equipment they have available for the performance of the Agreement.

3. BIDDER QUALIFICATIONS:

Before the Bid is considered for award, the Purchasing and Contracting Director reserves the right to determine whether or not a Bidder is responsible and to require the Bidder to complete a Bidder Qualification Form and/or a current financial statement prepared by a Certified Public Accountant. The Purchasing and Contracting Director shall determine whether a Bidder is responsible on the basis of the following criteria:

- The skill and experience demonstrated by the Bidder in performing Agreements of a similar nature.
- The Bidder's record for honesty and integrity.
- The Bidder's capacity to perform in terms of facilities, personnel, and financing.
- The Bidder's past performance under Borough Agreements. If the Bidder has failed in any material way to perform its obligations under any Agreement with the Borough, the Bidder may be determined as a non-responsible Bidder.
- A Bidder's representations concerning their qualifications will be construed as a covenant under the Agreement. Should it appear that the Bidder has made a material misrepresentation, the Borough shall have the right to terminate the Agreement for the Contractor's breach, and the Borough may then pursue such remedies as provided in the Contract Documents or as provided by state statute, borough code, or as appropriate.

Any determination that a Bidder is non-responsible will be made by the Purchasing and Contracting Director. Such determination will be made in writing to the Bidder setting forth the reasons for such determination. The Borough reserves the right to waive specific qualification requirements if in the best interest of the Borough.

4. CONDITIONS AFFECTING THE WORK:

The Bidder shall examine carefully the site of the proposed work and the Bidding Documents before submitting a Bid. The submission of a Bid shall be an admission that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements and accuracy of the Bidding Documents.

The Borough assumes no responsibility for any understanding or representations concerning conditions made by any of its officers, agents, or employees prior to the execution of this Agreement, unless such understanding or representations are expressly stated in the Bidding Documents or Addenda.

The Bidder shall include in their Bid sufficient sums to cover all items required by the Agreement and the conditions of the site(s), and shall rely entirely upon their own examination in making their Bid. The submission of a Bid shall be taken as prima facie evidence of compliance with this paragraph.

If material required for bidding purposes by these documents is absent, the bidder is required to notify the Purchasing and Contracting Director by facsimile (907) 714-2373, by e-mail to purchasing@kpb.us or by submitting the information/question through the online questions and answers process at BidExpress.com.

5. SECURITY TO BE FURNISHED BY BIDDER

If the bid exceeds $100,000 the following apply: Certified check, bank cashier's check, or bid bond, made payable to the Kenai Peninsula Borough amount equal to five (5%) percent of the total bid, shall accompany each bid as evidence of good faith, a guarantee that if awarded the contract, the Bidder will execute the contract and give bond as required. All Bidder's checks or bid bonds will be retained until the successful bidder has entered into a satisfactory contract and furnished bonds, as required. Bidders who are bidding online may utilize the electronic bid bond option through the BidExpress.com. The successful Bidder shall furnish the Owner a Performance and Payment bond in the full amount of the Agreement and shall maintain the Bond in force during the continuance of the Agreement. The bonds must be furnished prior to the Owner's execution of the contract. The Bond shall be for the faithful performance of the Agreement in all respects including, but not limited to, payments for all materials and labor. All alterations, extensions of time, additional work, and other changes authorized by the Agreement Documents may be made without securing the consent of the Surety or Sureties. Power-of-Attorney for the person signing the Bond for the Surety must be submitted with the Bond. These bonds, in whatever amount required by the specific contract, shall be administered and deemed governed by the provisions of Alaska Statutes Title 36, Chapter 25, and shall comply with all requirements for payment and submission of claims as provided by that chapter.

6. LICENSING

Section 43.70.020 of the Alaska State Statutes requires that all businesses wishing to engage in business in Alaska obtain a license. All bidders are required to furnish, on the Bid Form, a current, valid Alaska Business License Number and, if applicable, a current, valid Contractor's License Number, Specialty Contractor License Number, etc. Failure to submit all required information on the Bid Form may result in rejection of the Contractor's bid.

7. TAX COMPLIANCE CERTIFICATE

Kenai Peninsula Borough Code requires that businesses or individuals contracting to do business with the Kenai Peninsula Borough be in compliance with Borough tax provisions. No contract will be awarded to any individual or business who is found to be in violation of the Borough Code of Ordinances in the several areas of taxation. The *Tax Compliance Certificate* must be signed by the bidder and submitted with the bid. (Note: Tax Compliance Certificates are not required to be approved by the Boroughs Finance Department prior to submitting a bid.)

8. LOCAL PREFERENCE

A 5 percent local preference policy has been established and may be applied to all purchases under $50,000. A local business is defined as: any business or company having a physical presence in the Borough, registered in the Borough to collect sales tax, and locally provides the products and services sought.

9. INTERPRETATION OR CORRECTIONS OF BID DOCUMENTS

Bidders shall notify the Purchasing and Contracting Director promptly of any error, omission, or inconsistency that may be discovered during examination of the Bid Documents and the proposed work site. Requests from Bidders for interpretation or clarification of the Bid Documents shall be made in writing to the Purchasing and Contracting Director and shall arrive no later than 5:00 PM on August 22, 2023. Questions may be submitted through the online questions and answers section of this bid on BidExpress.com, faxed to (907) 714-2373 or emailed to purchasing@kpb.us. The subject line of the email should read, **"Questions: ITB24-015 Homer Middle School Kitchen."**

Oral questions may be presented at a pre-bid conference if one is provided for in the Bid Documents. Interpretations, corrections, material substitution requests or changes, if any, to the Bid Documents shall be made by Addendum. Bidders shall not rely upon interpretations, corrections, and changes made in any other manner, including orally, at the pre-bid conference. Interpretations, corrections, and changes shall not be binding unless included in an Addendum. All Addenda issued during the time of bidding shall become part of the Agreement Documents. Questions or requests for clarifications shall be directed to the Borough's Purchasing and Contracting Director. Questions or requests for clarification directed to any other member of the Borough staff may be grounds for rejection of the bid as being irregular. Only written interpretations or corrections by addendum shall be binding, and no other forms of interpretation or correction will be binding on the Borough.

It is the Bidder's sole responsibility to ascertain that they have received all Addenda issued by the Purchasing and Contracting Office. Addenda will be issued electronically and/or by facsimile. All Addenda must be acknowledged in the space provided on the Bid Form. If no Addendum has been issued, leave blank or write or type "N/A" on the Bid Form in the space provided.

10. PREPARATION AND SUBMISSION OF BIDS

- Bids must be received by no later than the time and at the place stated in the Invitation to Bid (Kenai Peninsula Borough Purchasing & Contracting Department, 47140 E Poppy Lane, Soldotna, Alaska 99669).

- Paper bids must be submitted on the bid form furnished. Paper bids must be completed in ink or by typewriter, and must be manually signed by an authorized person. If erasures or other changes appear on the forms, the person signing the bid must initial each erasure or change in ink.

- Bids shall specify a unit or lump sum price, typed or written in ink in figures, for each bid item called for. In case of error in the extension of prices, the unit price will govern. Bids may be rejected if they show any omissions, alteration of the forms, additions not called for, conditional or alternate bids not called for, qualified bids, or irregularities of any kind.

- It is expressly agreed that the quantities shown in the Bid Schedule, whether for a "Unit Price Bid" or in connection with a "Lump Sum Bid" given under the heading "Bid Schedule"' are approximate only for use as a basis for comparison of Bids and are not to be taken to be either representations or warranties. The Owner does not expressly, nor by implication, agree that the actual amount of work will correspond therewith.

- The Bid Schedule invites bids on definite plans and specifications. Only the amounts and information asked for on the Bid Schedule will be considered as the bid. Each bidder shall bid upon the work exactly as specified and as requested on the Bid Schedule, and bidders shall bid upon all alternates as indicated. When bidding on an alternate for which there is no charge, Bidder Shall Write the words "no charge" in the space provided.

- Electronic bids may be submitted by following the submission process through BidExpress.com. All bidders planning to submit bids electronically must first register on BidExpress.com and create an Info Tech Digital ID, which is used to digitally sign bids.

- If submitting a paper bid, one (1) complete set of the bid package (which shall include the Bid Form, Tax Compliance Certificate, and bid schedule, if applicable) shall be completely sealed in an envelope clearly marked with the Bidder's company name and the following:

  Bid for: ITB24-015 Homer Middle School Kitchen
  Due Date: August 31, 2023, no later than 2:00 p.m.

- Bids received without all the required documents may be considered non-responsive. Bids received after the closing time will be considered non-responsive and will not be read.

- No responsibility shall be attached to the owner for the premature opening of, or the failure to open a bid not properly addressed and identified.

- Please note that overnight delivery from the lower 48 states is generally not available. Prospective bidders should anticipate a minimum of two (2) to three (3) days' delivery time for express, priority or expedited delivery services.

11. MODIFICATION OF BIDS

Bid modifications will be accepted by the Borough, and binding upon the Bidder, where the modification:

- Is received by the Owner at the place designated for submission of bids prior to the deadline.

- Is sealed in an envelope clearly stating "Bid Modification," the name of the project, and the Bidder's company name.

- Is signed by the same individual who signed the original bid.

Should there be more than one bid modification from a Bidder, the last modification received prior to the deadline shall be opened and applied to the bid. All earlier modifications shall be returned to the Bidder unopened.

Modifications to electronically submitted bids may be made any time prior to the bid deadline using BidExpress.com.

Any modification which fails to meet any requirement of this section shall be rejected, and the bid shall be considered as if no modification had been attempted.

12. WITHDRAWAL OF BID

At any time prior to scheduled closing time for receipt of bids, any bidder may withdraw their bid, either personally or by written request.

After the scheduled closing time for receipt of bids, no bidder will be permitted to withdraw their bid unless Notice of Award is delayed for a period exceeding forty-five (45) days.

A bid may not be withdrawn after opening without the written consent of the Borough.

13. ACCEPTANCE – REJECTION OF BIDS

The Borough reserves the right to reject any or all bids, to waive minor irregularities in any bids or in the bidding procedure, and to accept any bid presented which meets or exceeds said specifications and which is deemed to be in the best interest of the Borough. However, the requirements for timeliness and manual signatures shall not be waived. The Borough is not obligated to accept the lowest bid and is not responsible for bid preparation costs.

If any bidder has interest in more than one bid, all bids in which such bidder has interest shall be rejected.

14. EXECUTION OF CONTRACTS

The successful bidder shall be required to execute a contract for the work within ten (10) days after receiving the contract documents from Owner; if Contractor does not return executed copies within this time, then, at the option of Owner, the bid may be rejected.

15. AWARD OF CONTRACT

It is the intent of the Borough to award the bid to the lowest, qualified, responsive and responsible bidder. Unless otherwise stated in the Bid Documents, the Agreement, if awarded, shall be awarded to the responsible Bidder who submits the lowest responsive bid. When Bid Documents contain a base bid and alternates, only the total of the base bid and the alternates to be awarded shall be used to determine the low bidder.

When the Bid Documents contain additive or deductive alternates, the apparent low Bidder will be determined by the lowest base bid plus additive, or less deductive alternates. Owner is not required to award any alternate and may choose all, none, or some of the alternates as it deems in its best interest. If the order of bidders would not be affected, Owner has the right to select any alternate or combination of alternates. If the order of bidders would be affected, award will be based on the base bid plus the additive, or less the deductive alternates, in the order provided on the bid schedule, until the award can be made within the available funds. Award will be subject to the availability of funds, which is determined solely by Owner.

The amount of the Agreement shall be the total sum of the amounts computed from the estimated quantities and unit prices and/or the lump sum awarded by the Purchasing and Contracting Director and specified in the Agreement.

On all Bids, Notice of Award or rejection will be given within forty-five (45) days of Bid opening. The notice will be in writing and signed by the Purchasing and Contracting Director. A Notice of Intent to Award, and no other act of the Borough or its representatives, constitutes an acceptance of a Bid. The acceptance of a Bid shall bind the successful Bidder to execute the Agreement.

16. TIMELINE

Advertise for Bids..... August 9 & 10, 2023
Pre-Bid Meeting at Homer Middle School at 2:00 p.m..... August 17, 2023
Final Questions Due, by close of business..... August 22, 2023
Bids Due at KPB Purchasing and Contracting Office, 47140 E Poppy Lane,
Soldotna, Alaska 99669, no later than 2:00 PM..... August 31, 2023
Substantial Completion..... 225 days from Notice to Proceed

17. CONFLICTS OF INTERESTS

No member of the governing body of the Kenai Peninsula Borough or other officer, employee or agent of the Borough who exercises any functions or responsibilities in connection with the carrying out of the project shall have any personal interests, direct or indirect, in any ensuing contract as a result of this Invitation to Bid, **without first disclosing his/her potential conflict, by submitting a letter to the Borough Clerk's Office establishing their "intent to do business with the Borough" (KPB 2.58.050)**. The contractor for itself and its principal employees, officers, agents, directors or shareholders covenants that neither the contractor nor any of the listed classes of individuals has nor shall acquire any interest, direct or indirect, in the project, direct or indirect, to which the contract pertains which would conflict in any manner or degree with the performance of its work hereunder. The selected bidder further covenants that in its performance of the contract no person having such interest shall be employed, **without first disclosing his/her potential conflict.**

18. APPEAL PROCESS

A bidder adversely affected by the provisions of Chapter 5.28 of the KPB Code, or regulations promulgated thereunder, or by any acts of the Borough in connection with the award of this contract may file a bid protest personally received at the office of the Borough Purchasing and Contracting Director within three (3) business days after the notice of intent to award is provided. This appeal must comply with the requirements of KPB 5.28.320 of the Borough code and may be hand delivered, delivered by mail, or by facsimile at (907) 714-2373. A fee of $300 shall be paid to the Borough and must be received by the deadline for filing the written appeal. This fee shall be refundable if the appellant prevails in the appeal to the mayor or assembly.

BID FORM
ITB24-015 Homer Middle School Kitchen
Page 1 of 2

BIDDER ACKNOWLEDGEMENT

1. To accept the provisions of the Instructions to Bidders.
2. To furnish all labor and materials and to accomplish the works and/or services in accordance with the Bid Documents.
3. The undersigned declares, under penalty of perjury under the laws of the United States, that neither he/she nor the firm, association or corporation of which he/she is a member, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

By signing below, the Bidder is hereby certifying to the following:

ADDENDA ACKNOWLEDGEMENT

In submitting this bid, I certify that I have examined the Bid and Specification documents, have received Addenda Nos. ☐ ☐ ☐ ☐ ☐, and have included their provisions in my bid.

SIGNATURE REQUIREMENT

Firm Name _____

Address _____

City _____ State _____ Zip _____

Representative _____ Title _____

Email Address _____

Telephone _____ Fax _____

The undersigned has read the foregoing and hereby agrees to the conditions stated therein by affixing his/her signature below:

_____

Signature of Authorized Company Representative **Date**

Bidder Checklist:
Bid Form: ___
Bid Schedule (if applicable) ___
Tax Compliance Form ___
Bid Bond (if applicable) ___

Enter Licensing Information:
Alaska Business License # _____
Contractor License (if applicable) # _____
Specialty Contractor License # (if applicable) _____

BID FORM
ITB24-015 Homer Middle School Kitchen

BID SHEET

BASE BID (materials and labor as required to complete the project): $_____

Tax Compliance Certification
Kenai Peninsula Borough
Finance Department

144 N. Binkley Street
Soldotna, Alaska 99669-7599
www.kpb.us

Phone: (907) 714-2197
or: (907) 714-2175
Fax: (907) 714-2376

For Official Use Only

1.) Fill in all information requested. 2.) Sign and date. 3.) Submit with solicitation, or other.

Reason for Certificate: ☐ Solicitation ☐ Other:		For Department:	
		Dept. Contact:	
Business Name:			
Business Type:	☐ Individual ☐ Corporation ☐ Partnership ☐ Other:		
Owner Name(s):			
Business Mailing Address:			
Business Telephone:		Business Fax:	
Email:			

As a business or individual, have you ever conducted business or owned real or personal property within the Kenai Peninsula Borough? (If yes, please supply the following account numbers and sign below. If no, please sign below.)
☐ Yes ☐ No Kenai Peninsula Borough Code of Ordinances, Chapter 5.28.140, requires that businesses/individuals contracting to do business with the Kenai Peninsula Borough be in compliance with Borough tax provisions. No contract will be awarded to any individual or business who is found to be in violation of the Borough Code of Ordinances in the several areas of taxation.

REAL/PERSONAL/BUSINESS PROPERTY ACCOUNTS

ACCT. NO.	ACCT. NAME

TAX ACCOUNTS/STATUS (TO BE COMPLETED BY KPB)

YEAR LAST PAID	BALANCE DUE

KPB Finance Department (signature required)

Date ☐ **In Compliance** ☐ **Not in Compliance**

SALES TAX ACCOUNTS

ACCT. NO.	ACCT. NAME

TAX ACCOUNTS/STATUS (TO BE COMPLETED BY KPB)

FILED THRU	M/F's	BALANCE DUE

KPB Sales Tax Division (signature required)

Date ☐ **In Compliance** ☐ **Not in Compliance**

CERTIFICATION: I, _____ (Name of Applicant) the _____ (Title), hereby certify that, to the best of my knowledge, the above information is correct as of _____ (Date).

Signature of Applicant (Required)

IF ANY BUSINESS IS CONDUCTED OR IS AWARDED A BID WITHIN THE KENAI PENINSULA BOROUGH YOU MUST BE REGISTERED TO COLLECT SALES TAX. THE SALES TAX DEPARTMENT CAN BE REACHED AT (907) 714-2175.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, _____ _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto _____, as the OWNER in the penal sum of _____ for the payment of which, well and truly made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this _____ day of _____, 20___. The Principal has submitted to _____ _____ a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing for the _____.

NOW, THEREFORE,

(a) If said BID shall be rejected or
(b) If said BID shall be accepted and the principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID), and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agree that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____ (L.S.)
Principal

_____
Surety

By: _____

IMPORTANT- - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

PART II
CONTRACT DOCUMENTS

Sample Contract
Lien Release
Performance Bond
Payment Bond

KENAI PENINSULA BOROUGH
AGREEMENT BETWEEN OWNER AND CONTRACTOR

MADE AS OF THE _____ DAY OF _____ 20___.

BETWEEN the OWNER: KENAI PENINSULA BOROUGH
144 North Binkley Street
Soldotna, Alaska 99669

AND the CONTRACTOR:

FOR the PROJECT: ITB24-015 Homer Middle School Kitchen

The Owner and Contractor agree as set forth below.

ARTICLE 1
THE WORK

The Contractor shall perform all the work required by the Contract Documents enumerated below, which are specifically incorporated into this Agreement by reference and which, along with this Agreement, form the "Contract Documents":

A. Invitation to Bid (Attachment "A").

B. The Contractor's executed bid, dated _____ (Attachment "B").

C. The General Conditions (GC) for Project (Attachment "C").

D. Addendum No. ____ (Attachment "D").

E. Specifications (Attachment "E").

F. Drawings (Attachment "F").

G. Any and all later modifications, change orders and written interpretations of the Contract Documents issued by the Owner and agreed to by Contractor. (Attachment "G").

Any other attachments to this agreement do not form a part of the agreement but are for reference or proof of compliance with the requirements of the agreement.

ARTICLE 2
TIME OF COMMENCEMENT AND COMPLETION

Work shall commence upon receipt of the Notice to Proceed. All work must be substantially completed within Two Hundred (200) days after the date of the Notice to Proceed ("Contract Time"). All time requirements set forth in the Contract Documents are of the essence, and liquidated damages will be charged against the Contractor as provided in Article 10, below.

ARTICLE 3
CONTRACT SUM

The Owner shall pay the Contractor as provided in this contract the total sum price of $_____ for the successful completion of the specified work.

The Contractor warrants that the Contract Sum is reasonable compensation for the work and the above provided time of completion of the work is adequate for the performance of the work as represented by the Contract Documents, bidding documents, and the General Conditions (including but not limited to weather, site, soil) known or reasonably anticipated for the site.

ARTICLE 4
PROGRESS PAYMENT

Based upon applications for payment submitted by the Contractor, the Owner shall provide for Progress Payments to the Contractor on a monthly schedule. Upon proper application submitted no later than ten (10) days prior to the next scheduled Contractor payday, the Contractor shall be paid for the value of the work performed and materials stored at the site during the period preceding payment. Each application for progress payment shall be on an approved Application for Payment form and shall contain a completed Schedule of Values. All sums properly due shall be paid within thirty (30) days of receipt of application. Prior to final payment, the Contractor shall submit the written consent of surety to such payment and shall submit notarized waivers of lien from all materialmen and subcontractors.

ARTICLE 5
FINAL PAYMENT

The Owner shall make final payment within thirty (30) days after issuance of a Certificate of Final Completion of the work subject to provisions of the General Conditions. The Certificate of Final Completion acknowledges that all work required by the Contract Documents has been completed in accordance with the requirements of the contract. The Contractor shall request the final inspection at least five (5) days in advance of the anticipated date of inspection. If all work has not been satisfactorily completed, the Contractor shall be liable for all costs incurred by the Owner in making such inspection.

ARTICLE 6
NOTICES

All legal notices relating to this contract, including changes of address, shall be mailed to the Owner and the Contractor at the following addresses:

OWNER	CONTRACTOR
Kenai Peninsula Borough [*Insert department director]* *[Insert address]* Soldotna, Alaska 99669	

ARTICLE 7
INDEMNIFICATION

No provision in the Contract Documents lessens, alters, or makes inapplicable the requirement for indemnification stated in GC 4.13. In the event of conflict between GC 4.13 and any other contract provision(s), the requirements set out in GC 4.13 control.

ARTICLE 8
JURISDICTION: CHOICE OF LAW

This contract shall be governed by the laws of the State of Alaska, and any lawsuit brought thereon shall be filed in the Third Judicial District at Kenai, Alaska.

ARTICLE 9
ATTACHMENTS

In the event there is any difference between an attachment to the original of this agreement on file with the Kenai Peninsula Borough Clerk and any attachment to a copy of the agreement, the attachments to the original filed with the Borough Clerk shall control.

ARTICLE 10
LIQUIDATED DAMAGES

Owner and Contractor recognize that time is of the essence in performance of this contract and the Owner will suffer financial loss if the work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with the Contract Documents. The parties also recognize the delays, expense and difficulties involved in proving the actual loss suffered by Owner if the work is not substantially complete on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but

not as a penalty or as a limitation of remedies in the event of default) Contractor shall pay Owner Three Hundred Dollars ($300.00) for each calendar day that expires after the contract time required for substantial completion to the actual date of Substantial Completion determined as set out in the Contract Documents. The Owner and Contractor agree that this amount is a reasonable forecast of just compensation for the harm that is caused by the delay. The per diem amount above may be construed as the actual amount of damages for delay sustained by the Owner, and may be retained by the Owner and deducted from payments to the Contractor.

ARTICLE 11
NO THIRD-PARTY BENEFICIARY

This agreement is intended solely for the benefit of each party hereto. Nothing contained herein shall be construed or deemed to confer any benefit or right upon any third party.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed in their respective names or by their duly authorized representatives as of the date and year above written.

KENAI PENINSULA BOROUGH

_____

Peter A., Micciche, Borough Mayor

CONTRACTOR

_____

Name and Title of Office
(printed or typed)

_____

Company Name
(printed or typed)

_____

Signature

Date: _____

_____

Name and Title of Second Officer (printed or typed)[1]

_____

Signature

Date: _____

[1] 1st signing Corp. Officer should be Pres or VP; 2nd Officer should be signed by Secretary or Treasurer

ATTEST:

Michele Turner, Borough Clerk

(Borough Seal)

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

Todd Sherwood, Deputy Borough Attorney

ACKNOWLEDGMENTS

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me this ____ day of _____ 20___, by _____, Mayor of the Kenai Peninsula Borough, an Alaska municipal corporation, for and on behalf of the corporation.

Notary Public for State of Alaska
My Commission Expires: _____

(Notary Seal)

CORPORATION

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me this ____ day of _____ 20___, by (name) _____, the (title of officer) _____ _____ of (name of corporation) _____, an Alaska Corporation, for and on behalf of the corporation.

Notary Public for State of Alaska

My Commission Expires: _____

(Notary Seal)

SECOND CORPORATE OFFICER

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me this ____ day of _____ 20___, by (name) _____, the (title of officer) _____ of (name of corporation) _____, an Alaska Corporation, for and on behalf of the corporation.

_____
Notary Public for State of Alaska
My Commission Expires: _____

(Notary Seal)

LIMITED LIABILITY COMPANY

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me this ____ day of _____ 20___, by (name) _____, the (member/manager) _____ of (name of LLC) _____, an Alaska Limited Liability Company, for and on behalf of the LLC.

_____
Notary Public for State of Alaska
My Commission Expires: _____

(Notary Seal)

PARTNERSHIP

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me this ____ day of _____ 20___, by (name of partner or agent) _____, partner (or agent) of (name of partnership) _____ for and on behalf of the partnership.

_____
Notary Public for State of Alaska
My Commission Expires: _____

(Notary Seal)

SOLE OWNERSHIP

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me this ____ day of _____ 20___, by (name) _____, dba _____ _____.

_____
Notary Public for State of Alaska
My Commission Expires: _____

(Notary Seal)

CONTRACTOR'S RELEASE AND AFFIDAVIT OF PAYMENTS OF DEBTS AND CLAIMS ("Release")

PROJECT NUMBER & NAME: _____

CONTRACTOR/SUBCONTRACTOR: _____

The undersigned, being first duly sworn, deposes and says:

1. That pursuant to this contract for project _____ between the undersigned and the Kenai Peninsula Borough dated _____ the undersigned hereby certifies that, except as listed below, he has paid in full or has otherwise satisfied all obligations for materials and equipment furnished for all work, labor, and services performed and for all known indebtedness and claims for which the Contractor or the Kenai Peninsula Borough is or may become liable in connection with performance under this contract. The Contractor warrants that he has made diligent search and inquiry to determine the existence of any such claim, debt, or liability and that all such obligations, whether liquidated, unliquidated, or disputed, have been satisfied.

2. The Contractor further certifies he did not extend any loan, gratuity, or gift of money of any form whatsoever to any employee or agent of the Borough, that he did not rent or purchase any equipment or materials from any employee of the Borough, nor to the best of his knowledge, from any agent of any employee of the Borough, and that he has not made any promise to an employee or agent of the Borough to do or undertake any such action after completion of the subject contract.

3. Pursuant to the above-described contract and in consideration of the final payment in the amount of $_____, the undersigned Contractor hereby releases and discharges the Kenai Peninsula Borough, its officers, agents and employees of and from any and all further claim, debt, charge, demand, liability, or other obligation whatsoever under or arising from said contract, whether known or unknown and whether or not ascertainable at the time of the execution of this instrument.

4. The Contractor shall indemnify, defend, save and hold the Borough, its elected and appointed officers, agents and employees, harmless from any and all claims, demands, suits, or liability of any nature, kind or character including costs, expenses, and attorneys fees resulting from Contractor or Contractor's officers, agents, employees, partners, attorneys, suppliers, and subcontractors' performance or failure to perform this Agreement in any way whatsoever. This defense and indemnification responsibility includes claims alleging acts or omissions by the Borough or its agents which are said to have contributed to the losses, failure, violations, or damage. However, Contractor shall not be responsible for any damages or claim arising from the sole negligence or willful misconduct of the Borough, its agents, or employees. Contractor and subcontractors shall also not be required to defend or indemnify the Borough for damage or loss that has been found to be attributed to an independent contractor directly responsible to the Borough under separate written contract.

If any portion of this Release is voided by law or court of competent jurisdiction, the remainder of this Release shall remain in full force and effect.

IN WITNESS WHEREOF, this Release has been executed this _____ of 20_____.

_____

Name and Title of Office (printed or typed)

_____

Company Name (printed or typed)

_____

Contractor's Signature

STATE OF ALASKA)
) ss
THIRD JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 20__, before the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared _____, who, having produced satisfactory evidence of identification, and having acknowledged the voluntary and authorized execution of the foregoing instrument for the purposes therein mentioned, executed the above and foregoing instrument.

_____

Notary Public for Alaska
My Commission Expires: _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

_____
(Name of Contractor)

_____
(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, Limited Liability Company or Individual)

_____
(Name of Surety)

_____
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

_____
(Name of Owner)

_____
(Address of Owner)

hereinafter called Owner, in the penal sum of _____ Dollars, ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20___, a copy of which is hereto attached and made a part hereof for the construction of:

_____

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any ways affects its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, who claims may be unsatisfied.

_____
(Principal) (SEAL)

_____
(Principal Secretary)

ATTEST:

BY_____

_____ _____
(Witness as to Principal) (Address)

_____
(Address)

_____
(Date)

_____
(Surety) (SEAL)

ATTEST: BY_____
(Attorney-in-Fact)

_____ _____
(Witness as to Surety) (Address)

_____
(Address)

_____
(Date)

NOTE: If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

_____
(Name of Contractor)

_____
(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, Limited Liability Company or Individual)

_____
(Name of Surety)

_____
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto_____

_____
(Name of Owner)

_____
(Address of Owner)

hereinafter called Owner, in the penal sum of _____Dollars, ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20___, a copy of which is hereto attached and made a part hereof for the construction of:

_____

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of said work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or other-wise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any ways affects its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, who claims may be unsatisfied.

_____
(Principal) (SEAL)

_____
(Principal Secretary)

ATTEST:

BY_____

_____ _____
(Witness as to Principal) (Address)

_____
(Address)

_____
(Date)

_____
(Surety) (SEAL)

ATTEST: BY_____
(Attorney-in-Fact)

_____ _____
(Witness as to Surety) (Address)

_____
(Address)

_____
(Date)

NOTE: If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

PART III
CONTRACT CONDITIONS

General Conditions

GENERAL CONDITIONS OF THE CONTRACT
BETWEEN OWNER AND CONTRACTOR

ARTICLE 1 DEFINITIONS AND CONTRACT DOCUMENTS

1.1 Definitions

A. The terms "Architect" or "Engineer" (hereinafter used interchangeably) shall mean the person or entity contracted by the Kenai Peninsula Borough to provide design services for the project. Architect or Engineer also includes employees of the Architect or Engineer. Architect shall provide professional services during construction as described herein below or as authorized by Owner.

B. The term "contract" or the "Contract" means the entire integrated master agreement between the Contractor and the Owner.

C. The term "Contractor" means the person or entity identified in the Agreement which has contracted with Owner to perform the work of the contract. This definition includes a responsible officer of Contractor's organization or its authorized representative who shall be made known to Owner.

D. The term "Contract Documents" consist of documents designated as Contract Documents and enumerated in the Agreement between Owner and Contractor.

E. The term "Contract Sum" means the total sum contract prices as stated in Article 3 of the Agreement between Owner and Contractor.

F. The term "Contract Time" means the date the Contractor agrees the work will be substantially completed by as stated in Article 2 of the Agreement between Owner and Contractor.

G. The terms "Final Completion" means the finalization of the construction phase formalized when the Project Representative prepares and recommends that Owner issue a Certificate of Final Completion and Final Payment to Contractor.

H. The term "Project" refers to the overall construction, of which the work required by the contract may be the whole or may be a part.

I. The term "Project Representative" shall mean a person or entity employed by or under contract to Owner to be Owner's on-site designated representative. The term Project Representative shall include the Project Representative's employees.

J. The term "Substantial Completion" means the state of construction at which the work is sufficiently complete and in accordance with the Contract Documents, so that Owner could occupy and utilize the work or a specific portion of it, for its intended use.

K. The term "Warranty Period" refers to the one-year warranty period following the Substantial Completion.

L. The term "Work" includes all procurement, labor, materials, products, equipment, erection, installation, and alterations necessary to complete the construction envisioned by this contract.

1.2 The Contract Documents consist of documents designated as Contract Documents and enumerated in the Agreement between Owner and Contractor. The Contract Documents enumerated in the Agreement between Owner and Contractor form the final and completely integrated contract between the parties and supersede any prior statements, negotiations, agreements, documents or representations, written or oral. What is required by any one-contract document is deemed to be required by all documents.

1.3 The Contract Documents do not include Invitation to Bid, Instructions to Bidder, sample forms, portions of Addenda relating to any of these, or any other documents unless specifically enumerated in Agreement between Owner and Contractor.

1.4 Unless specifically provided otherwise in the Contract Documents the parties to this agreement intend that Contractor will obtain all permits, inspections, tests, bonds, and insurance required by state or federal law, rule, regulation or order, or local ordinance or rule or regulation or the Contract Documents, whichever requirement is greater, and provide all labor, equipment, transportation, water, heat, utilities, tools, scaffolding, materials, supplies, facilities, and services necessary for performance of the contract and that the cost of these requirements be included within the contract price. The parties further intend that the cost of all overhead, supervision, and other incidental expenses required or occasioned by the contract is included in the contract price. The parties also intend that minor items required to produce complete functional system(s) and sub-system(s) are deemed to be required by the Contract Documents at the contract price whether or not specifically expressed. The requirements stated in this provision apply whether or not the execution or completion of the work is temporary or permanent and whether or not it is incorporated or to be incorporated in the work or final product.

1.5 The requirements of the Contract Documents and the duties and rights of each party may be amended subsequent to execution of this contract only by:

A. A written amendment to the contract signed by both parties; or,

B. A change order issued pursuant to ARTICLE 9.1

1.6 The contract between Owner and Contractor shall be executed and returned by Contractor within the time required in the instructions to bidders. A written Notice to Proceed with the work will be issued to Contractor within five (5) days after Owner has executed the contract, except as provided in ARTICLE 4.1.3.

1.7 Should any provision or requirement of one portion of the Contract Documents conflict with any other portion of the Contract Documents, unless otherwise provided herein, the conflict will be resolved by reference to the Contract Documents in the following order of priority:

A. Valid change orders control over previous change orders, the agreement, addenda, supplementary conditions, general conditions, specifications, and drawings;

B. The agreement shall control over addenda, supplementary conditions, general conditions, specifications, and drawings;

C. Addenda pertaining to general conditions control over supplementary conditions and general conditions. Addenda pertaining to specifications and drawings control over specifications and drawings;

D. Supplementary conditions control over general conditions, specifications, and drawings;

[1] Unless otherwise stated, all references to an ARTICLE refer to the articles of these general conditions.

E. General conditions control over specifications and drawings;

F. Specifications control over drawings.

1.8 In case of difference between small and large-scale drawings, the large-scale drawings shall govern. Schedules on any contract drawing shall take precedence over conflicting information on that or any other contract drawing. On any of the drawings where a portion of the work is detailed or drawn out and the remainder is shown in outline, the parts detailed or drawn out shall apply also to all other like portions of the work.

1.8 In the event Contractor believes a discrepancy exists in the Contract Documents, Contractor shall submit the issue to the Project Representative together with Contractor's proposed course of action for performance of the work. Project Representative shall respond within seven (7) working days or advise Contractor that a response cannot be given within that time. If response will take more than seven (7) working days, Project Representative shall take steps to provide a response within a reasonable time. Any action taken by Contractor prior to or without Owner's response shall be at Contractor's own risk and expense.

1.10 Words and abbreviations which are not defined in the Contract Documents, but which have well known technical or trade meanings, shall be construed in accordance with the common meaning established by sound architectural or engineering practice in the State of Alaska.

1.11 Drawings, Specifications, other documents prepared for this project, and copies of them that are furnished by Owner and/or Architect or Consultant for this project, whether or not the documents or project are completed, shall be the property of Owner. All rights of use are reserved to Owner for this project and any subsequent project in which Owner participates in construction. Owner specifically relieves Architect or Consultant of any responsibility or liability pertaining to any subsequent use of the documents, in whole or in part, where those documents bear the stamp of a subsequent Architect or Consultant and are used for a subsequent project.

1.12 Up to fifteen (15) sets of full-size contract drawings and project manuals will be furnished the Contractor without charge. Additional sets will be furnished on request at the cost of reproduction, plus postage and handling if necessary. Contractor shall check all documents furnished immediately upon receipt and shall promptly notify Owner of any discrepancies.

1.13 The Contract Documents shall not be construed in any way as limiting Contractor's responsibility to perform the work completely, nor shall any prior customs or trade practices be held to constitute a waiver of the requirements of the Contract Documents or any portion of them.

1.14 The individual(s) executing the contract represent that they have the legal authority to execute the contract as or on behalf of Contractor in accordance with the bid instructions and the Contract Documents.

1.15 Execution of the contract by Contractor is a representation that Contractor has visited the site, become familiar with the local conditions under which the work is to be performed, has correlated personal observations with the requirements of the Contract Documents and enters this contract with knowledge of those conditions.

ARTICLE 2 ADMINISTRATION OF THE CONTRACT

2.1 Project Representative will provide administration of this contract and all communication made to Owner, Architect or Engineer by Contractor shall be made through Project Representative.

2.2 Project Representative will be Owner's primary representative during construction until final payment has been made and the project has been closed out. Owner's instructions to Contractor shall be made through Project Representative, who shall have authority to act on behalf of Owner to the extent set forth in this contract.

2.3 Project Representative shall not have the authority to require additional work, changes in the work, modifications or waivers of the rights, work or duties required by the Contract Documents or the right to bind Owner to any change in specifications or drawings without the written consent of Owner except as provided herein.

2.4 Project Representative may have authority to negotiate minor deviations in the requirements of the Contract Documents by Field Order. Field Orders are to be incorporated into a subsequent Change Order.

2.5 Project Representative will render interpretations of the Contract Documents necessary for the proper execution or progress of the project. All interpretations and decisions of Project Representative shall be consistent with the intent of the Contract Documents and shall be in writing.

2.6 Matters relating to design will be referred to the design Architect whose decisions will be consistent with the intent of the Contract Documents and will be final.

2.7 Project Representative, Architect, and authorized representatives of Owner shall have access to the project site and to the work at all times and shall be afforded every reasonable facility for ascertaining whether or not the work is in accordance with the requirements and intent of the Contract Documents.

2.8 All claims, disputes and other matters in question between Contractor and Owner relating to the execution or progress of the work shall be resolved pursuant to ARTICLE 12.

2.9 Project Representative shall have the authority: 1) to reject work which does not conform to the Contract Documents; 2) to require additional inspections or testing of any work during, prior to, or after fabrication, installation, or completion; 3) to specify both remedial work necessary to correct defective work and the time within which such work must be performed.

2.10 On the basis of on-site observations and inspections Project Representative will keep Owner informed of the progress of the work, and will endeavor to guard Owner against defects and deficiencies in the work. If Project Representative determines that any construction method, sequence, material, technique, safety precaution, act or omission of Contractor, Contractor's subcontractors, suppliers, or any of their agents, is detrimental to the progress, quality or safety of the work or to Owner's interest, then Project Representative shall inform Owner promptly, and Owner may, among other things, stop the work and order remedial measures. This provision shall not eliminate or reduce the responsibilities or requirements placed upon contractor and/or subcontractors by the Contract Documents and shall not place any liability upon the Owner for action or omission in regard to this provision.

2.11 In accordance with the requirements of ARTICLE 8.5, Project Representative will determine amounts owing to Contractor and will recommend that Owner issue payment in the amount determined due.

2.12 Project Representative, with the concurrence of Owner, will determine the dates of Substantial Completion and Final Completion. The Architect will receive and forward to Owner for Owner's review, written warranties and related documents required by the contract and assembled by Contractor.

2.13 Project Representative's duties, responsibilities, and limitations of authority will not be modified without written consent of Owner and Project Representative.

ARTICLE 3 OWNER GENERAL RIGHTS AND DUTIES

3.1 At Owner's option, Owner may undertake any or all tasks of Project Representative described in ARTICLE 2.

3.2 Owner's directions to Contractor will be made in writing either directly or through Project Representative in accordance with ARTICLE 2. No verbal representation shall be binding upon any party unless confirmed in writing.

3.3 Owner shall have the right to perform work related to the project under separate contract(s) in accordance with the provisions of ARTICLE 6.

3.4 Owner shall have the right to issue change orders from time to time which may alter the scope of work required by the Contract Documents. All change orders will be subject to provisions of ARTICLE 9.

3.5 Owner will have the authority to reject work which does not conform to the requirements of the Contract Documents and to require such remedial work at no charge or expense to Owner as is necessary to correct the defective work. Where defective work is being performed by Contractor and Contractor fails to correct the defective work within a reasonable period of time as set out in ARTICLE 10, or repeatedly fails to carry out the work in accordance with the Contract Documents, Owner shall have the authority to order an immediate halt to all defective work. Any losses suffered by Contractor as a result of the halt shall be borne by Contractor without recourse to Owner. Issuance of a stop-work order shall not be construed as constituting a breach of the agreement nor authorize Contractor to refuse to perform other portions of the work which Owner has not halted.

3.6 Owner shall have the right to terminate the contract or suspend performance of the contract as set out in these general conditions or other Contract Documents.

3.7 Owner shall promptly pay Contractor all sums properly due as provided by ARTICLE 8. If Owner fails to issue payment for a period of forty-five (45) days after the certificate of payment has been approved by Project Representative, without a written statement indicating why payment is being withheld, then Contractor may terminate the contract upon seven (7) days written notice to Owner and may recover from Owner payment for all work executed and for any proven losses sustained upon any materials, equipment and tools, including a reasonable profit and overhead.

3.8 Owner and Contractor warrant that neither party will maintain an action against the other for punitive or exemplary damages.

ARTICLE 4 CONTRACTOR'S GENERAL RIGHTS AND DUTIES

4.1 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

4.1.1 Contractor represents by execution of the Agreement that Contractor has carefully examined the Contract Documents and the site upon which the work is to be performed and has developed familiarity with the nature, extent, site access, and risks involved in the work and with all local conditions and applicable statutes, ordinances and regulations that may affect the performance of the work. Contractor assumes full responsibility for having correlated Contractor's study of the Contract Documents and observation of the site. Contractor represents that Contractor has studied all available surveys and investigation reports of subsoil and latent physical conditions of the site and has made such additional surveys and investigations

as Contractor deemed necessary for the performance of the work at the contract price, within the time specified and in accordance with the requirements of the Contract Documents.

4.1.2 Contractor warrants that the Contract Sum is reasonable compensation for the Work and the time for completion of the Work, as set out in the Contract Documents, is adequate for the performance of the Work as represented by the contract, bidding documents, and the general conditions known or reasonable anticipated for the site.

4.1.3 Contractor shall not begin work until given a Notice to Proceed, which will be issued as promptly as possible after the Agreement has been executed by all parties. If Owner is required to delay issuance of a Notice to Proceed for more than five (5) working days because of fault of Contractor or other reasons which Owner deems sufficient, then Contractor shall be notified in writing of the delay and when issuance of the Notice to Proceed is anticipated.

4.1.4 Before commencing any part of the work, and prior to undertaking each subsequent phase of the work, Contractor shall carefully study the plans and specifications and check and verify all previous work and pertinent dimensions, figures and amounts shown in them and shall make all applicable field measurements. Contractor shall at once report in writing to Owner any apparent conflict, ambiguity, discrepancy, error or other omissions which Contractor may discover. Contractor shall be liable to Owner for failure to notify Owner of any conflict, ambiguity, discrepancy, error or other omissions which Contractor discovered, but failed to report to Owner and shall be responsible for providing a remedy.

4.1.5 Contractor shall lay out the work from established base lines and benchmarks indicated on the drawings and shall be responsible for all measurements in connection therewith. Contractor will be held responsible for the execution of the work to such lines and grades. It shall be the responsibility of Contractor to maintain, preserve, or replace all stakes and other marks.

4.1.6 Drawings showing location of equipment, piping, etc., are diagrammatic and job conditions will not always permit installation in the location shown. If a situation occurs which may require relocation of an item or system which substantially differs from the location called for in the Contract Documents, it shall be brought to Owner's attention immediately and the relocation determined with the concurrence of Architect or Engineer. If Contractor relocates such items without approval, Contractor will be responsible for any cost or expense for removal or further relocation necessitated by installation without approval.

4.2 SUBMITTALS

4.2.1 Within 20 days after the effective date of the notice to proceed and prior to commencement of work, Contractor shall submit to Owner the construction progress schedule and schedule of values required in Articles 4.2.2, 4.2.3 and 4.2.4. The schedule of values and progress schedule must be acceptable to owner and provide reasonable divisions of contract work with corresponding payment. No payment will be made under this contract prior to completion of this requirement.

4.2.2 In accordance with the Division 1 requirements governing submittals as provided in the contract specifications, Contractor shall prepare and submit to Owner a detailed progress schedule for the work which reveals and identifies the critical path of progress, which is consistent with the work and time required by the contract, and which shall provide for the most expeditious and practicable execution of the work. Float time between work items is part of the project and not property of the Contractor. Float time is defined as the amount of time that spans from completion of one previously scheduled activity and extends to the point at which the next scheduled activity is set to begin.

4.2.3 Contractor shall also provide Owner with a proposed schedule of values upon submittal of a detailed progress schedule for the work. The schedule of values shall be allocated to various portions of the work and be prepared in such a form and supported by such data to substantiate its accuracy as reasonably required by Owner. Each item of work shall include all applicable profit and overhead. This schedule of values, unless objected to by owner shall be the basis for progress payments made to Contractor and shall include a specific lump sum amount for "Final Payment." This line item shall be in conformance with guidelines specified in ARTICLE 8. Contractor, at the request of Owner, shall amend the progress schedule and the schedule of values as the work progresses.

4.2.4 The schedule of values must show a complete breakdown of all phases of the work required by the Contract Documents. Payment will be in accordance with Article 8. Pay requests, schedules of value and progress schedules must correspond.

4.2.5 Contractor shall submit for Architect's and Owner's approval all product data required by the Contract Documents in conformance with the dates specified in the detailed progress schedule. Such data include illustrations, standards, schedules, performance charts, instructions, brochures, diagrams, or other information necessary to assist Architect in determining whether a proposed product meets the intent of the Contract Documents.

4.2.6 Contractor shall also submit physical samples of materials, equipment or workmanship where required by the Contract Documents. After approval by Owner and Architect, the sample shall be established as the minimum standard of work, material, equipment or other quality which will be acceptable for work of which the sample is representative.

4.2.7 Submittal of shop drawings by Contractor constitutes a representation by Contractor that the submittal and work, or products required or to be used in accordance with that submittal, will meet or exceed the criteria and conditions of the Contract Documents and that performance of the work identified in those submittals will meet the progress schedule.

4.2.8 Before initiating any work for which shop drawings are required, Contractor shall obtain Architect’s approval of the shop drawings, which include drawings, diagrams, schedules and other data specially prepared by Contractor, a subcontractor, a manufacturer, a supplier or distributor to illustrate in detail that portion of the work. Contractor shall review, approve, and submit all shop drawings, whether prepared by himself/herself or subcontractor or supplier. It shall be the duty of Contractor to provide a whole or complete system and to coordinate all work depicted by a particular shop drawing with the work required by other shop drawings for that portion of the work or for related or adjacent work.

4.2.9 Unless otherwise instructed, Contractor shall provide all submittals and correspondence to the Project Representative. At the direction of the Project Representative, Architect will review Contractor's submittals only for conformance with the design concept of the work and the information given in the Contract Documents. Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Architect will return reviewed submittals to Contractor with written comments and forward one set to Project Representative with reasonable promptness so as to cause no delay. A minimum of five (5) sets of submittals shall be required.

4.2.10 Should Architect reject any proposed shop drawings, product data or sample, Contractor shall resubmit revised drawings, samples or product data and draw Architect's attention to any deviation or revisions other than those requested by Architect.

4.2.11 All of Contractor's submittals shall be made in conformance with the dates specified in the detailed progress schedule with reasonable promptness and in such sequence as to cause no delay in the work of Owner or any separate contractor.

4.3 SAFETY AND CONTROL OF SITE

4.3.1 Contractor is deemed to be in physical control of the work site. Contractor shall confine Contractor's operations at the site to those areas described in the Contract Documents or permitted by applicable statutes, ordinances or permits.

4.3.2 Contractor shall not unreasonably encumber the site with materials, equipment or ancillary construction. Contractor shall be responsible for eliminating or minimizing to the extent reasonably possible, public hazards and inconveniences which might result from this work.

4.3.3 Contractor shall at all times keep the premises free from accumulation of excess snow, waste materials or rubbish and shall keep adjacent public road clear of mud and dust caused by Contractor's activities. At the completion of the work, Contractor shall remove all waste materials and rubbish from the project as well as Contractor's tools, equipment and surplus materials. The removal and disposal of waste materials, rubbish, or other material, shall be accomplished in accordance with all local, state and federal requirements.

4.3.4 Contractor shall be responsible for initiating, maintaining and supervising all necessary safety precautions in connection with this work and shall be responsible for ascertaining and adhering to all applicable federal, state, and local standards, laws, ordinances, regulations, requirements and any lawful order of any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.

4.3.5 Contractor's duty to maintain a safe and secure project site shall include all precautions necessary to assure the safety and protection against injury and damage, of all employees engaged in the work and any other person who may be affected by the work including Owner's agents and employees; Contractor's agents and employees; and members of the general public. Contractor shall assure the safety and protection of all work, materials and equipment which may be upon the site; utilities and other property of Owner including portions of structures and utilities not designated for removal or relocation, trees, shrubs, lawns, walks, pavements and roadways. Contractor duties include but are not limited to protection of project site from vandalism. Such precautions shall further include but not be limited to protection from dangers from hazardous materials.

4.3.6 Contractor shall take all necessary measures to prevent members of the general public from entering upon the site without the permission of Owner or Contractor.

4.3.7 Contractor shall comply with all OSHA requirements, give all safety notices, erect and maintain all reasonable safeguard notices and barriers, including danger signs and fences which may be required to protect the site and limit access to it.

4.3.8 In the event of an emergency, the Contractor will take all means necessary to minimize all damage to or exposure from effects of a catastrophic event. In such case, the Contractor may consult with Owner or seek Owner's assistance. The responsibility for protection of the site, work, and all material remains with the Contractor.

4.3.9 Contractor shall designate a person in Contractor's employ at the site to be primarily responsible for the prevention of accidents, identification of all applicable safety standards, statutes and regulations, including but not limited to those addressing hazardous material and full compliance therewith. This person shall be Contractor's Superintendent unless otherwise designated by Contractor in writing to Owner.

4.3.10 Should Project Representative or other representative of Owner ascertain that a safety danger exists, Project Representative or Owner may order an immediate cessation of all dangerous activity and a correction of any safety hazard. Written notice of the order to stop work or to correct the safety hazard shall be made to Contractor as soon as practicable. Contractor shall have no recourse against Owner for any alleged losses or delays arising from this section unless the order to stop work or correct safety deficiency is wholly without basis.

4.3.11 Should Contractor elect to utilize explosives or other hazardous materials or equipment, or should Contractor be required to do so for the execution of the work, Contractor shall first give jurisdictional authorities and Owner notice of the intention to utilize hazardous materials, explosives or equipment at a particular time and date. Contractor shall use the utmost care in utilizing such materials and shall use only properly qualified and licensed personnel.

4.3.12 Contractor shall correct any damage to the property of Owner or other parties which arises out of the activities or omissions of Contractor, Contractor's agents, subcontractors, employees, personnel or suppliers. Contractor shall commence remedial activities within seven (7) days from the date of the damage. If Contractor fails to do so, Owner or the affected party may utilize his own forces to correct or replace the damaged property and Contractor shall promptly reimburse Owner or the affected party for all losses and costs thereupon. In the event Contractor fails to reimburse Owner as set forth herein, Owner may set off the amount due Owner from any amount due Contractor.

4.4 SUPERVISION AND QUALITY OF THE WORK

4.4.1 Contractor shall supervise and direct the work using the best skill and attention. Contractor is responsible for, and agrees to comply with all applicable local, state and federal ordinances, laws, regulations and statutes. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and for the schedule and coordination of all portions of the work to be performed under the contract. Contractor shall also be required to coordinate the work with that of any other contractor working on the project so as to minimize delay, inconvenience, and expense to both. Where identified in writing by Owner at any time, Contractor shall be required to coordinate the work with any partial use of the site that Owner deems necessary.

4.4.2 All materials and equipment shall be applied, installed, connected, erected, used, cleaned, prepared or conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processor except as otherwise provided in the plans and specifications.

4.4.3 Contractor shall keep on the job site at all times during work progress, a competent resident superintendent capable of reading and thoroughly understanding the plans and specifications. The superintendent will be Contractor's representative at the site and all communications given to the superintendent shall be as binding as if given to Contractor directly. In the event Contractor decides to replace the superintendent, Contractor shall submit to Owner a written notice including the proposed new superintendent's qualifications. The superintendent shall not be replaced without this written notice and a statement of non-objection by the Owner.

4.4.4 Contractor shall provide sufficient, competent, and suitable qualified personnel to survey and lay out the work and to perform all construction required by the Contract Documents. Contractor is responsible for maintaining good discipline and order at the job site at all times and shall not employ any unfit person or anyone not skilled in the task assigned to that person.

4.4.5 Contractor shall be fully responsible to Owner for the acts and omissions of Contractor's employees and agents, Contractor's subcontractors and their employees and agents, and any other persons performing any of the work for the benefit of Contractor.

4.4.6 Contractor shall not permit the possession or use of alcohol or controlled substances on the site, and shall remove from the site any person who possesses, uses, or is under the influence of alcohol or controlled substances. Contractor shall not permit the smoking of tobacco, marijuana or e-cigarettes in any enclosed space. Contractor shall require all Contractor's agents, subcontractors, employees or suppliers who perform work on site to sign a statement that they have been informed and will abide by the above policy. A copy of all such statements shall be kept at the job site throughout the duration of Contractor's work.

4.4.7 Contractor warrants to Owner that all work will be free from faults and defects and meeting or exceeding the requirements of the Contract Documents and all local, state, and federal legal requirements. All work not so conforming to these standards will be considered defective and Owner may require its correction.

4.5 DIVISION OF THE WORK

4.5.1 The division of the work into various specialties and divisions in the contract specifications and drawings shall not bind Contractor in apportioning the work among various subcontractors, specialty contractors or workers, and Contractor's own employees.

4.6 TITLE 36 AND OTHER STATUTORY REQUIREMENTS

4.6.1 Contractor shall give and post all notices and comply with all federal, state, and local laws, ordinances, regulations, requirements and any lawful order of any public authority bearing on the performance of the work, and shall notify Owner in writing if the drawings and specifications or the Contract Documents are at variance therewith. If Contractor knows or should know that Contractor is performing work contrary to such legal requirements without giving written notice to Owner in time for Owner to give a stop work order, the Contractor shall bear all costs to remedy that work and to bring it into conformance with the applicable requirements. In the event Contractor fails to reimburse Owner as set forth herein, Owner may set off the amount due Owner from any amount due Contractor. This requirement does not lessen or alter the requirement for indemnification stated in ARTICLE 4.13.

4.6.2 Contractor and subcontractors shall strictly comply with all requirements of Title 8, Chapter 30 of the Alaska Administrative Code and Title 36 of the Alaska Statutes as applicable to this contract.

4.6.3 Contractor or subcontractors of the contractor shall pay all employees unconditionally as required by AS 36.05.040 and any other applicable laws or regulations. Wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the Contractor or subcontractors and laborers, mechanics, or field surveyors. The wages are determined for the region in which the work is done and the rates are issued by the Alaska State Department of Labor (see attached Title 36 wage schedule). The scale of wages to be paid shall be posted by Contractor in a prominent and easily accessible place at the site of the work. If it is found that a laborer, mechanic or field surveyor employed by the Contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by this contract, Owner may, on written notice to Contractor hold Contractor in immediate default and terminate Contractor's right to proceed with the work or that part of the work for which there is a failure to pay the required wages, and Owner may prosecute the remaining work to completion by contract or otherwise, holding Contractor and Contractor's sureties liable for any costs in excess of the contract price. In the event Owner permits Contractor to pursue further work under the contract, Owner shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the Contractor or subcontractors the difference between the rates of wages required by the contract to

be paid laborers, mechanics, or field surveyors on the work and the rates of wages in fact received by laborers, mechanics, or field surveyors.

4.6.4 A copy of certified payrolls shall be provided to the Project Representative with each Progress Payment Request.

4.7 PROJECT RECORDS

4.7.1 Contractor shall maintain at the project site copies of plans and technical specifications, approved shop drawings and manufacturers' information sheets, and other contractor documents which are necessary for the expeditious and correct execution of the work.

4.7.2 Contractor shall maintain at the project site a complete daily job report showing job conditions, work activities started, in progress, interrupted and completed; work force, including identification and number of Contractor's employees and subcontractors by craft; receipt and disposition of materials and equipment; tests performed, visiting personnel and any accidents on a particular day. Owner shall have access to the daily report at all times. A copy of each daily report shall be provided to Project Representative at the end of each week.

4.7.3 Contractor shall keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the job site in good order and annotated to show all changes made during the construction process. These shall be available to Owner during construction and turned over to Owner prior to completion of the work.

4.8 ALLOWANCES

4.8.1 Contractor shall include in the contract sum all allowances stated in the specifications or plans, and all items covered by these allowances shall be supplied in such amounts, or by such a person, as Owner may direct. The allowance shall include the cost to Contractor, less applicable trade discounts, of materials and equipment required by the allowance; delivery at the site, applicable taxes; Contractor's cost for unloading and handling on the site, for labor, installation, overhead, profit and other expenses incurred by Contractor. Whenever the cost of the allowed item exceeds or is less than the allowance, the contract sum shall be adjusted equitably by change order.

4.9 NONDISCRIMINATION

4.9.1 Contractor must comply with all federal and state laws, rules, regulations and orders, and all local ordinances, regulations and rules concerning wages, taxes, social security, workers' compensation, nondiscrimination, licenses, registration requirements, and similar provisions governing employment of individuals.

4.9.2 Contractor will not discriminate against any employee or applicant for employment or refuse employment to a person, or bar a person from employment, or discriminate against a person in compensation or in a term, condition, or privilege of employment because of the person's race, religion, color, or national origin, or because of the person's age, physical or mental disability, sex, marital status, changes in marital status, pregnancy, or parenthood when the reasonable demands of the position do not require distinction on the basis of age, physical or mental disability, sex, marital status, changes in marital status, pregnancy, parenthood, or political affiliation. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Contractor further agrees to insert this provision in all subcontracts hereunder and to require the subcontractors to insert this provision in their subcontracts.

Notwithstanding the prohibition against employment discrimination on the basis of marital status or parenthood stated above, an employer may, without violating this provision, provide greater health and retirement benefits to employees who have a spouse or dependent children than are provided to other employees.

4.9.3 Contractor shall state, in all solicitations or advertisements for employees to work on contract jobs, that all qualified applicants will receive consideration for employment in accordance with the above referenced nondiscrimination clause.

4.9.4 Contractor shall comply with the reporting requirements which the State of Alaska may establish by regulation.

4.9.5 Contractor shall include the provisions of these paragraphs in this section in every subcontract or purchase order under this contract so as to be binding upon every such subcontractor or vendor of Contractor under this contract.

4.10 TAXES

4.10.1 Contractor shall pay all sales, consumer, use and other taxes for the work or portions thereof provided by Contractor which are legally enacted at the time bids are received, whether or not yet effective.

4.10.2 Contractor shall comply with Owner's requirements for payment of taxes. This contract is specifically subject to the provisions of Section 5.28.140 of the Kenai Peninsula Borough Code of Ordinances, as it now stands or as it may be amended, including but not limited to termination of the contract for non-compliance. If the violation arises from failure to file or remit sales taxes, no payment will be made to Contractor until all filings have been made and all amounts due are paid.

4.11 PERMITS, FEES, AND NOTICES

4.11.1 Unless otherwise provided in the Contract Documents, Owner shall secure and pay for the building permit. Contractor shall secure and pay for all other legally required permits and government fees, licenses and inspections necessary for the proper execution and completion of the work. These are customarily secured after execution of the contract. These costs are part of the contract price. This provision does not lessen the requirements set out in ARTICLE 1.4.

4.12 ROYALTIES AND PATENTS

4.12.1 Contractor shall pay for all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent rights and shall save Owner harmless from loss on account thereof.

4.13 INDEMNIFICATION

4.13.1 The Contractor shall indemnify, hold harmless, and defend the borough at its own expense from and against any and all claims, losses, damages or expenses, including reasonable attorney's fees, of, or liability for, any wrongful or negligent acts, errors, or omissions of the Contractor, its officers, agents or employees, or any subcontractor under this contract. The Contractor shall not be required to defend or indemnify the borough for any claims of, or liability for, any wrongful or negligent act, error, or omission solely due to the independent negligence of the borough. If there is a claim of, or liability for, the joint negligence of the Contractor and the independent negligence of the borough, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. Apportionment shall be determined upon

final determination of percentage of fault. If any such determination is by settlement, the percentage of fault attributed to each party for purposes of this indemnification provision shall only be binding upon the parties included in the settlement agreement. "Contractor" and "borough" as used in this article include the employees, agents, officers, directors, and other contractors who are directly responsible, respectively, to each. The term "independent negligence of the borough" is negligence other than in the borough's selection, administration, monitoring, or controlling of the Contractor and in approving or accepting the Contractor's work.

ARTICLE 5 SUBCONTRACTORS AND SUPPLIERS

5.1 DEFINITIONS AND RESPONSIBILITIES

5.1.1 A subcontractor is a person or entity having a direct contractual relationship with Contractor, or with one of Contractor's subcontractors, to perform any of the work at the site. A supplier is any manufacturer or person or firm providing materials, equipment or assemblies to Contractor or to one of the subcontractors for inclusion in this project.

5.1.2 All contracts between Contractor, subcontractors and suppliers (whether or not in privity with Contractor) shall be in accordance with the terms of this contract and shall incorporate the General Conditions of this contract. Contractor shall include in such contracts, and require its inclusion in any subcontracts, a provision holding any subcontractor or supplier (whether or not in privity with Contractor) directly accountable to Owner for work which fails to meet the requirements of the Contract Documents, or which prevents Contractor or any subcontractor from performing work. This direct accountability to the Owner shall be in addition to Contractor's liability for any such failure.

5.1.3 The provisions in this ARTICLE shall not be construed as creating a right of recourse, or any direct contractual relationship, between Owner or Owner's agents and any subcontractor, supplier, or manufacturer (whether or not in privity with Contractor).

5.1.4 Contractor shall make all necessary copies of these Contract Documents available to Owner and to each subcontractor and shall require each subcontractor to make copies of these Contract Documents available to each of Contractor's subcontractors, if any.

5.1.5 Contractor shall be fully responsible for enforcing discipline among subcontractors, their employees and their subcontractors, and for insuring that each subcontractor performs the work in accordance with the Contract Documents and all safety regulations.

5.1.6 Contractor shall have the discretion to require subcontractor(s) to provide payment or performance bonds for work of the subcontractor(s).

5.2 AWARDS TO SUBCONTRACTORS AND SUPPLIERS

5.2.1 At Owner's request Contractor shall submit to Owner a list of all principal subcontractors and material suppliers and shall not contract with any proposed person or organization to whom Owner voices a reasonable objection. This provision applies to substitution of subcontractors or suppliers subsequent to Owner's initial objection to a proposed person or entity. Such list shall be submitted in accordance with Division 1 requirements as provided in the contract specifications.

5.2.2 Rejection of a proposed subcontractor or material supplier shall not entitle Contractor to any increase in the contract sum or time.

5.2.3 At Owner's request Contractor shall submit to Owner a copy of any subcontract and any purchase orders for materials and equipment prior to purchase of such items.

5.3 CONTRACTOR PAYMENTS TO SUBCONTRACTORS AND SUPPLIERS

5.3.1 Recognizing the importance of maintaining the integrity of a public contract, Contractor warrants that Contractor will pay all subcontractors and material suppliers at least monthly upon approval of the subcontractors' and materials suppliers' billing, for all apparently acceptable work performed on the site during the preceding month and for all apparently acceptable material incorporated into the project or delivered and properly stored at the site during any month for which Contractor has received payment from Owner.

5.3.2 In furtherance of Contractor's warranty under this ARTICLE and ARTICLE 8, Owner, may require Contractor to declare Contractor's status of accounts with any or all the subcontractors and suppliers. A proof of payment to subcontractors and suppliers shall be made in a form acceptable to Owner. If Contractor breaches this warranty and fails to pay each subcontractor and materials supplier within 45 days after a monthly billing has been presented, then Owner reserves the right to withhold sufficient sums from Progress Payments due to Contractor and to issue payment to the subcontractors or material suppliers directly. This ARTICLE shall not be construed as creating a right in the subcontractors or material suppliers to have direct recourse against Owner for payment. Contractor expressly agrees that Owner will not be liable for any exercise of Owner's discretionary right under this section, and Contractor agrees to release and indemnify Owner for any claims arising therefrom, either by Contractor directly or by any subcontractor or material supplier. Likewise, this ARTICLE shall not be construed as creating a right in Contractor's surety or any other subrogated party to have direct recourse against Owner for failure to withhold sums pursuant to this section.

ARTICLE 6 SEPARATE CONTRACTS

6.1 Owner has the right to award separate contracts for work on the project that is not included in this contract.

6.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate contract.

6.3 Contractor shall afford other contractors and Owner's own forces reasonable opportunity for the introduction and storage of materials and equipment and for the execution of their work and shall properly connect and coordinate Contractor's work with theirs as required by the Contract Documents.

6.4 Any costs caused by defective or ill-timed work under separate contracts shall be borne by the party responsible thereof and shall be paid promptly.

6.5 If Contractor alleges that delay or additional costs were caused by the letting of separate contracts or by work performed by Owner's own forces, then Contractor may request an equitable adjustment by change order as provided below.

6.6 If any part of Contractor's work depends upon work performed by Owner or any separate contractor, prior to proceeding with the work, Contractor is required to report to Owner any apparent discrepancies, defects or delays in the other work which impede proper execution of the work required by this contract. If Contractor fails to report such unsuitable work by another contractor to Owner, then Contractor shall be deemed to have accepted the unsuitable work and any liability for all deficiencies, damages and costs which arise as a result of the defective work or of Contractor's use or covering of the unsuitable work.

6.7 Should Contractor or any subcontractor delay or cause damage to the work or property of any other contractor or person, Contractor shall repair the damage or settle the claim and shall further, to the extent allowed by law, indemnify, defend, and hold Owner harmless from any and all claims, costs, expenses, injury, damages, or loss of any kind, including attorneys' fees, court costs, or arbitration costs, which arise out of such delay or damage.

6.8 Should a dispute arise between Contractor and separate contractors as to the responsibility for completing, finishing or cleaning up particular work or a portion of the work, Owner may complete, finish or clean up the disputed portion and apportion the cost among Contractors responsible as Owner shall determine to be equitable.

ARTICLE 7 BONDS AND INSURANCE

7.1 PERFORMANCE AND PAYMENT BONDS

7.1.1 For contracts with a contract sum of one hundred thousand dollars ($100,000) or greater, or as otherwise specified in the request for bid, Contractor shall provide as part of the basic contract sum, a performance bond and a payment bond, each in the amount of 100% of the contract amount, prior to Owner's execution of the contract. Contractor shall have no recourse of any kind against Owner, if Owner declines to award a contract due to Contractor's failure to provide the required bonds. These bonds, in whatever amount required by the specific contract, shall be administered and deemed governed by the provisions of Alaska Statutes Title 36, Chapter 25 and shall comply with all requirements for payment and submission of claims as provided by that chapter.

7.1.2 All bonds shall name Owner as the beneficial party and shall protect Owner for a period of at least one year subsequent to the date of final payment upon this contract. All bonds shall be executed upon a form acceptable to Owner and by a surety company licensed to do business within the State of Alaska and acceptable to Owner. The form of the bond shall provide that Owner shall have at least thirty (30) days prior notice of any lapse in bond coverage. The bond payment shall be applicable to all subcontractors or material suppliers (whether or not in privity with Contractor) who might attempt to assert a claim against Owner.

7.1.3 Owner may inform the surety as to the general progress and status of the work. A copy of all communications with the surety company shall be provided promptly to Contractor upon request.

7.1.4 In the event Contractor refuses, or is unable to make payments to laborers, subcontractors or material suppliers, or to complete the work, or to correct defective work, within the times provided by this contract, Owner may elect to call upon Contractor's surety to rectify Contractor's default. Contractor shall first be given seven (7) calendar days written notice (effective when mailed) of Owner's intentions to call upon the surety company and Owner shall specify to Contractor the basis for the proposed course of action. If Contractor fails to correct the default within the time provided, Owner shall promptly call upon the surety.

7.1.5 Prior to final payment, Contractor shall provide written consent of each affected surety releasing Owner from any further claims arising from payment to Contractor and obligating the surety company to rectify any default, nonpayment, defective work, error, omission or deficiency of Contractor.

7.1.6 Contractor and Owner expressly agree that Owner shall be entitled to retain from payments to Contractor amounts in excess of normal retainage if these additional amounts may be necessary to indemnify Contractor's surety for any payment or corrective work which the surety might be required to undertake. This additional retainage will be made only upon written directive by Contractor's surety specifying the

reason for retaining extra amounts, the amounts to be retained and agreement of the surety to reimburse Owner for any interest which may be due Contractor under the provisions of the Alaska Statutes.

7.2 CONTRACTOR'S INSURANCE

7.2.1 The services to be rendered under this contract are those of an independent Contractor.

7.2.2 Contractor and all subcontractors, if any, shall be responsible for the purchase and maintenance of all insurance required by law and at a minimum purchase the insurance coverage as specified in ARTICLE 7.2.5 and 7.2.6 below, and any other insurance coverage as may be specified in ARTICLE 7.2.11 SUPPLEMENTARY GENERAL CONDITIONS OF INSURANCE, if attached and forming a part of this contract.

7.2.3 This insurance coverage required by ARTICLE 7.2.5 and 7.2.6, and ARTICLE 7.2.11 if attached, shall be in acceptable form, and for the amounts specified by the Kenai Peninsula Borough and School District, or as required by law, whichever is greater.

7.2.4 The insurance policies shall remain in force for the life of the contract and shall be a part of the contract price.

7.2.5 Commercial general liability with minimum coverage of $1,000,000 and automobile liability insurance with minimum coverage of $1,000,000 combined single limit bodily injury and property damage per occurrence. This insurance shall be primary and exclusive of any other insurance carried by the Kenai Peninsula Borough and School District. The commercial general liability insurance shall be without limitation on the time within which the resulting loss, damage, or injury is actually sustained.

7.2.6 Per Alaska State Statutes, Worker's Compensation and Employers Liability Insurance shall be provided for all employees who are performing work under this contract.

7.2.7 Certificate(s) of Insurance shall be provided by Contractor and all subcontractors, or their Insurance Companies and/or their Agents, naming the Kenai Peninsula Borough and School District or other appropriate Borough entity as an additional insured for the work specified in this contract. The certificates of insurance must reference the specific contract by name and project number. Certificates of Insurance, acceptable in form and content, will be delivered to Owner at the address designated for legal service in the agreement, at or prior to presentation of the contract for execution by owner.

7.2.8 There shall be no cancellation or material change of the insurance coverage, or intent not to renew the insurance coverages as specified in this contract, without thirty (30) days prior written notice to the Kenai Peninsula Borough. Notice of cancellation, material change in coverage, or intent not to renew will be delivered to the address designated for legal notice in the agreement.

7.2.9 Upon renewal or change in policies during the contract, Certificates of Insurance shall be delivered to the address designated for legal notice in the agreement.

7.2.10 Owner shall have the option to purchase and maintain such insurance as will protect Owner against property losses or liability claims, which may arise from operations under the contract. Insurance providing coverage against fire and extended coverage perils, may, at Owner option, provide coverage to the full insurable value of the project and insure the interests of Contractor and all subcontractors as their interests may appear. Any recovery for loss insured pursuant to this General Condition is to be adjusted to Owner and made payable to Owner as trustee for the insured, as their interests may appear. This section does not modify the contractor or subcontractors' responsibility to provide insurance as required in ARTICLE 7.

7.2.11 Additional insurance requirements may be added in supplementals as Supplementary General Conditions of Insurance.

ARTICLE 8 MEASUREMENT, PAYMENT AND COMPLETION

8.1 SCOPE OF PAYMENT

8.1.1 Unless altered by change order, Contractor shall be paid only that sum set forth in the agreement between Owner and Contractor as Contractor's compensation for performance of all work required by the Contract Documents.

8.2 LUMP SUM PAY ITEMS

8.2.1 Each bid item is characterized as either a lump sum item or a unit price item in the bid documents. Where the item is bid at a lump sum price, no additional compensation shall be paid to Contractor for additional work required because Contractor failed to include items or quantities in Contractor's estimate or a subcontractor's estimate, or failed to utilize proper construction means, methods, procedures or sequence or by virtue of any decision of Contractor.

8.2.2 Contractor is required to provide and pay for all requirements necessary for the proper execution and completion of the contract unless specifically excluded by the Contract Documents. The costs are part of the contract price. The requirements include but are not limited to the requirements stated in ARTICLE 1.4.

8.2.3 All materials and equipment incorporated in the work shall be new except as otherwise provided in the Contract Documents. All materials and equipment shall meet or exceed the requirements of the plans and specifications and Contractor shall furnish, if requested, satisfactory evidence as to the source, kind and quality of any materials and equipment.

8.3 UNIT COST ITEMS

8.3.1 Quantities appearing in the bid schedule are approximate and are prepared for comparison of bids. Payment to Contractor will be for actual quantities of work performed and materials furnished in accordance with the Contract Documents. Scheduled quantities of work and materials may be increased, decreased or eliminated as provided herein.

8.4 APPLICATION FOR PAYMENT

8.4.1 Applications for payment shall be based on Contractor's submitted schedule of values, as approved by Owner per Section 4.2. Schedule of values shall be prepared in such form and supported by such data as may be required by Owner to substantiate its accuracy prior to Contractor's first application for payment.

8.4.2 The schedule of values shall include quantities of work, unit prices and other items comprising the contract price. It shall subdivide the work into each component part in sufficient detail to serve as the basis for progress payments during construction.

8.4.3 With each subsequent application for progress payment, Contractor shall provide a schedule of values to Owner showing all work which has been performed to date together with the value thereof, and the percentage of work completed.

8.5 PROGRESS PAYMENTS

8.5.1 Progress Payments shall be made monthly, based upon the amount of apparently acceptable work performed at the site and apparently acceptable materials purchased for the project and properly stored at the site during the previous month. Disbursement of progress payments will not effect a transfer of the risk of loss from the Contractor to the Owner for invoiced equipment or material. The risk of loss of the work and all material and equipment not yet incorporated in the work is the liability of the Contractor until substantial or final completion, whichever is earlier.

8.5.2 The value of work performed and materials stored shall be set forth in Contractor's revised schedule of values. If requested by Owner, Contractor shall promptly provide Owner any additional information necessary to ascertain the value of the work performed or the cost of materials stored at the site during the previous month. Each updated Schedule of Values shall be in the form of a notarized affidavit. Proof of certified payroll shall be provided per ARTICLE 4.

8.5.3 By application for payment, Contractor warrants and guarantees to Owner that title to all work, materials, and equipment for which payment is requested will pass to Owner either by incorporation in the construction and after substantial completion or upon receipt of payment, whichever occurs later, that such title will be clear of all liens, claims, security interests, and other encumbrances, except for liens to be released later prior to final payment and specifically identified on the application for payment, and that all such work, materials, and equipment are of acceptable quality.

8.5.4 Each application for payment shall be made no more frequently than once per month unless directed otherwise for work performed during the preceding month. Progress Payment requests shall be submitted to Project Representative for analysis and recommendation to Owner.

8.5.5 Project Representative will review Contractor's application for payment within seven (7) working days after receipt and if Project Representative ascertains that the amounts set forth therein are properly due and owing to Contractor, then Project Representative shall issue a Certificate of Payment to Owner. If Project Representative determines that only a portion of the sum requested is then properly due and owing to Contractor, then Project Representative may issue a Certificate of Payment in a lesser amount or may reject the application altogether. Project Representative will notify in writing both Contractor and Owner of the reasons for reduction or rejection of any application for Progress Payment.

8.5.6 Project Representative's issuance of a Certificate of Payment constitutes a representation that the work has progressed to the point indicated and that to the best of Project Representative's professional knowledge and information, Contractor is entitled to payment in the amounts certified.

8.6 RETAINAGE

8.6.1 After receipt from Project Representative of the Certificate for Payment, Owner shall make payment to Contractor within thirty (30) days. Owner shall have the option to retain up to 10% of the full amount of the Certificate for Payment plus lump sum amounts for material and equipment not properly stored, or subject to damage prior to use. Amounts retained by Owner may be held by Owner until project completion. If the project involves grant money or the borough has entered into a written contract with the state to provide state funds, payment will be made in accordance with AS 36.90.200-270.

8.6.2 Owner may withhold additional sums of money from progress payments in an amount sufficient to safeguard and protect Owner against any apparently meritorious claims against Contractor by any party other than Owner, and for any work which Owner ascertains to be defective or not meeting the requirements of the Contract Documents.

8.7 CONDITIONS OF PAYMENT

8.7.1 Project Representative may refuse to approve all or any part of any request for progress payment if, in Project Representative's opinion, it would be incorrect to make the representation to Owner set out in ARTICLE 8. Project Representative may also refuse to approve all or any part of any request for progress payment, if subsequently discovered evidence or the results of subsequent inspections or tests nullify any payment previously approved.

8.7.2 Owner may withhold payment to the extent necessary to protect Owner from loss resulting from:

A. Defective or damaged work;

B. Claims or liens which have been filed or may be reasonably expected;

C. Contract price reduction by modifications or change orders;

D. Owner cost to correct or complete defective work;

E. Unsatisfactory prosecution of the work by Contractor, including but not limited to failure to furnish adequate submittals or to clean up the work or site;

E. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum;

F. Failure of Contractor to make payment properly due to subcontractors, employees, suppliers or utilities;

G. Reasonable evidence to believe the work cannot be completed within the Contract Time.

I. Damage to Owner's property not replaced or repaired in timely manner.

When the grounds for withholding payment are removed, payment shall be made for amounts withheld.

8.7.3 Neither the issuance of a Certificate of Payment, nor the making of any progress payment, nor the partial or entire use of the project by Owner shall constitute an acceptance of any work not in accordance with the Contract Documents nor shall it constitute a waiver of any right accruing to Owner or of any duty of Contractor.

8.8 SUBSTANTIAL COMPLETION

8.8.1 When Contractor considers the work substantially complete Contractor shall notify Project Representative in writing and request a Substantial Completion inspection. The notice shall include a comprehensive list of items to be completed, reasons they are not completed and a date of anticipated completion. The notice shall also include copies of all code compliance inspections, the Certificate of Occupancy, if applicable, and any other documents required by the contract.

8.8.2 Project Representative shall schedule the Substantial Completion inspection and notify Contractor. The inspection will be performed by Project Representative, Architect, Design Engineers, and Owner personnel in the presence of Contractor. Should this inspection find the work not substantially complete, Owner may

terminate the inspection and promptly notify Contractor in writing of the conditions for reinspection. Any deficiencies identified by this inspection will be listed and promptly furnished to Contractor for remedial action.

8.8.3 If Contractor has requested that Project Representative and Owner make an inspection to ascertain Substantial Completion, and if the work is not then substantially complete, Contractor shall be liable for all costs Owner, Architect, and Project Representative have incurred in making the inspection.

8.8.4 If it is determined on the basis of inspection that the work is substantially complete, Project Representative will issue a Certificate of Substantial Completion. Included in the certificate shall be a list of items which must be completed or corrected before final payment and the time within which such items shall be complete and corrected. Failure to include an item on this list does not alter the responsibility of Contractor to complete all work in accordance with contract requirements.

8.8.5 Certificate of Substantial Completion shall state the date of Substantial Completion and the respective responsibilities of Owner and Contractor for the maintenance, insurance and security of the work. Certificate of Substantial Completion shall specifically authorize Owner to take possession of the premises and utilize them for their intended purpose. Owner's beneficial occupancy of the premises shall make reasonable allowance for the performance of the work which Contractor must complete prior to final completion.

8.8.6 If Contractor fails to complete or correct work required by the Certificate of Substantial Completion within the time allowed, then the Certificate of Substantial Completion shall be voided and the Contract Time expended by Contractor shall be counted, and the acceptability of the work shall be inspected as if a Certificate of Substantial Completion had not been issued.

8.8.7 Upon Substantial Completion of the work and upon application by Contractor and certification by Project Representative, Owner shall make payment, reflecting adjustment in retainage, if any, for such work as provided in the Contract Documents.

8.9 FINAL COMPLETION AND WARRANTY PERIOD

8.9.1 Final Completion shall be represented by a lump sum dollar amount identified on the schedule of values. Final Payment represents a sum of money to perform all tasks necessary from Substantial Completion to Final Completion, including completion of final punch list, completion of as-built data, turnover of all warranty information, notarized acknowledgments of payments, and relinquishment of claims against Owner.

8.9.2 When Contractor considers the work ready for Final Completion, Contractor shall forward to Project Representative an application for final payment including (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work have been paid or otherwise satisfied, (2) consent of surety, if any, to payment, (3) irrevocable, notarized proof of payment and relinquishment of claim against Owner, issued by every subcontractor (whether or not in privity with Contractor), material supplier and other party who might assert a claim against Owner, and (4) all other documentation required by the Contract Documents. Project Representative and Owner shall promptly inspect the work to see that it is fully performed and complete, that all portions of the work are acceptable and that the contract is fully performed aside from completion of the Warranty Period. After Project Representative has made a determination that these requirements have been met, Project Representative shall prepare and recommend that Owner issue a Certificate of Final Completion and Final Payment.

8.9.3 Project Representative's approval of Final Payment constitutes an additional representation by Project Representative to Owner that to the best of Project Representative's knowledge and information, all

conditions which Contractor must fulfill prior to being entitled to Final Payment have in fact been fulfilled in accordance with the Contract Documents.

8.9.4 If any party refuses to relinquish its claim, or if Owner considers that any item or portion of the work: (1) is of doubtful acceptability under the Contract Documents; or (2) may diminish the value of the work; or (3) may prove to be ultimately unreliable; or (4) may prove to be less functional than required by the intent of the contract, then Owner, in lieu of refusing Final Payment to Contractor, may allow Contractor to furnish a bond in a form and in an amount satisfactory to indemnify Owner against losses occasioned thereby. If any additional costs to settle the claim or to correct work of doubtful quality accrue to Owner in excess of the indemnity available to Owner, Contractor shall refund to Owner all differences and costs which Owner might be compelled to pay, including all litigation costs and reasonable attorney fees.

8.9.5 Acceptance of final payment by Contractor constitutes an explicit waiver of all claims which Contractor might assert against Owner except those previously made in writing and identified by Contractor as unsettled at the time of the Application for Final Payment.

8.9.6 Final Payment to Contractor shall constitute a waiver of all claims which Owner might assert except those arising from: (1) unsettled claims; (2) faulty or defective work (3) failure of the work to comply with the requirements of the Contract Documents; (4) warranties required by this contract or that by their terms do not expire upon completion of the contract.

8.9.7 If, after Substantial Completion, Warranty Completion is delayed through no fault of Contractor, or by the issuance of change orders affecting Final Completion, Owner may, upon recommendation of the Project Representative, extend the Contract Time by a reasonable period and accept certified applications for further Progress Payments.

8.9.8 The contract sum identified on the schedule of values as "Final" shall be based on the contract award in an amount as follows:

CONTRACT AWARD			FINAL AMOUNT
$45,000 -	$100,000		9.00% of Contract Amount
$100,000	-	$249,999	5.00% of Contract Amount
$250,000	-	$499,999	3.00% of Contract Amount
$500,000	-	$1,999,999	2.00% of Contract Amount
$2,000,000	-	$4,999,999	1.50% of Contract Amount
$5,000,000	-	$9,999,999	1.25% of Contract Amount
$10,000,000	-	$19,999,999	1.00% of Contract Amount
$20,000,000	-	up	0.75% of Contract Amount

8.9.9 Upon completion of all requirements identified in ARTICLE 8 as "Final" the funds representing Final Payment shall be released to Contractor along with the Certificate of Final Completion. Upon issuance of Certificate of Final Completion all contract sums shall be accounted for to Contractor and shall be paid to Contractor. However, any and all applicable bonds shall not be released until after the Warranty Period.

8.10 TIME AND LIQUIDATED DAMAGES

8.10.1 The time permitted for construction of the work will run from issuance of Notice to Proceed through the dates for Substantial Completion as specified in Agreement between Owner and Contractor, unless a specific completion date is specified.

8.10.2 The term "day" as used in this contract shall mean "calendar day" unless specifically stated otherwise.

8.10.3 All warranty periods and obligations accruing to Contractor through completion of the work shall be considered to begin on the date of Substantial Completion, unless otherwise agreed to separately in writing by Owner and Contractor.

8.10.4 Contractor shall begin the work as soon as possible after the date identified in Notice to Proceed and shall prosecute the work expeditiously and with adequate labor and materials.

8.10.5 Liquidated damages will, if agreed to by the parties and set out in the Agreement, be applied in the amount set out in the Agreement.

8.10.6 Claims for extension of time will be considered only if they affect "critical path" items specifically identified in the detailed progress schedule or in any applicable approved changes to the Contract. Claims for extension of the Contract Time must be made in writing to Owner, as provided in ARTICLE 9, not more than twenty (20) days after the reason for requested extension appears.

ARTICLE 9 CHANGES IN THE WORK, CONTRACT PRICE, AND TIME

9.1 CHANGE ORDERS

9.1.1 Without invalidating this contract, Owner may, at any time, order additions, deletions, or revisions in the work. All such changes must be authorized by written change order. Upon receipt of a change order, Contractor shall proceed with the work in accordance with applicable requirements of the Contract Documents. If any change order entails an increase or decrease in the contract price or an extension or curtailment of the Contract Time, adjustment will be made as provided herein.

9.1.2 Extra work will be paid for either at a fixed price specified in the change order (using unit prices or a lump sum amount) or on a time and materials basis.

9.1.3 Project Representative may authorize minor changes, alterations or deviations in the work in accordance with ARTICLE 2. These changes shall be authorized by written Field Order to be included in a subsequent Change Order.

9.1.4 Any additional work performed by Contractor without a fully executed Field Order or properly executed change order will not entitle Contractor to an increase in the contract amount or to an extension of the Contract Time, except in the case of emergency threatening life, safety or property.

9.2 ISSUANCE OF CHANGE ORDER

9.2.1 The contract sum constitutes the total compensation to Contractor for the work required by this contract. The contract price may be changed only by a properly executed change order. Any request for increase in the contract price shall be based upon written notice delivered to Project Representative within ten (10) days after the reason for the proposed increase appears. Change order proposals must be accompanied by all pertinent data and documentation, including a detailed estimate showing costs, quantities, unit prices and markups for overhead and profit.

9.2.2 Project Representative shall analyze Contractor's change order proposal and shall make a recommendation to Owner within a reasonable period of time. If Owner accepts the proposal, Project Representative shall prepare the change order for execution by Contractor and Owner.

9.2.3 The value of any work added or deleted by change order shall be determined by one of the following methods:

A. Application of unit prices set forth in the bid: unit prices shall include all direct and indirect costs of the work, including labor, equipment (whether owned or rented), materials, home office expense, all overhead and profit. For unit price change orders involving credits to Owner, unit prices applied shall be 90% of the bid unit price.

B. Application of mutually accepted unit prices for work not covered by bid unit prices: unit prices shall include all direct and indirect costs of the work, including labor, equipment (whether owned or rented), materials, home office expense, all overhead and profit.

C. Mutual acceptance of a lump sum: Contractor's lump sum proposal must include an itemized breakdown of all costs of Contractor, subcontractors and suppliers. Breakdowns shall show quantities and prices of labor, materials, equipment and other direct costs. To direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.

D. At Owner's option, Contractor may be directed to proceed with additional work on a "time and materials" basis which may also stipulate a maximum "not to exceed" amount. Contractor will be required to maintain and submit detailed records showing all quantities and prices of labor, materials, equipment and other direct costs. To direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.

9.2.4 When both additions and credits for related work or substitutions are involved in any one change, the allowance for overhead and profit shall be based on the net change. All related items within a proposal shall be considered as a single item for purposes of computing overhead and profit.

9.2.5 When Contractor is directed to proceed on a time and materials basis, costs of the work shall be submitted daily for approval by Project Representative and may only include:

A. Actual payroll costs for employees, as substantiated by time cards, in the direct employ of Contractor for the times actually utilized in prosecution of the additional work, including allowance for benefits which Contractor customarily provides its employees;

B. The actual substantiated cost to Contractor for all material and equipment incorporated into the work, including transportation and storage expenses;

C. The actual substantiated amounts of payments by Contractor to subcontractors for work performed by the subcontractors;

D. Any costs of special consultants to the extent authorized by Owner;

E. Substantiated equipment rental costs at reasonable market rates;

F. Additional supervision and travel costs reasonably related to the work performed;

G. Increased bond premiums;

H. Additional license fees, permits, or applicable taxes;

I. Minor incidental expenses such as telegrams and long distance telephone charges.

To these direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.

9.2.6 Unless specifically agreed to by Owner in writing, the cost of additional work shall not include any portion of Contractor's general overhead, nor any sum attributable to Contractor's prosecution and supervision of the principal work at the site, nor any overtime expense, unless specifically agreed to by Owner in writing. Contractor shall not be compensated for any casualty or other losses or expenses attributable to negligence of Contractor or any person in its employ or any subcontractor or supplier.

9.2.7 Payment to Contractor shall be made only for the actual quantities of work performed and accepted or materials furnished, in conformance with the contract or applicable change order. When the accepted quantities of work or materials vary from the quantities stated in the bid schedule, Contractor shall accept as payment in full, payment at the original contract unit prices for the quantities of work and materials furnished, completed and accepted; except as provided in the Contract Documents.

9.3 UNIT PRICES

9.3.1 When unit prices are used, and where the final quantity of a major contract item varies more than 25% above or below the bid quantity, either party to the contract may request an equitable adjustment in the contract unit price of that item. A major contract item is an item equal to 10% or more of the total contract.

9.3.2 When the final quantity of work is less than 75% of the bid quantity, the equitable adjustment shall be made for those units of work done and accepted, except that the total payment for the item shall not exceed 75% of the total amount bid for the item.

9.3.3 To determine unit prices for authorized changes or additions in the work that alter the quantity of work under a lump sum pay item, adjustment to the pay item will be determined by multiplying the added or deleted quantity by the quotient of the contract lump sum price and the estimated quantity shown on the original plans. Payment will be made under a new contract item established for that purpose. Adjustments will be made as a change order to the contract.

9.3.4 No allowance shall be made for any increased expenses, loss of expected reimbursement or loss of anticipated profits suffered or claimed, either directly from such alterations in quantities or indirectly from unbalanced allocations among the contract items by Contractor, or any other causes.

9.4 ALLOWABLE OVERHEAD AND PROFIT

9.4.1 When the value of change order work is determined by the lump sum method or by the time and materials method, the following definitions and percentages shall apply.

9.4.2 Direct costs are defined as the net cost to Contractor to accomplish a given change. Costs of bonds and insurance associated with the change shall be applied after addition of indirect costs.

9.4.3 Indirect costs are defined as general operational charges relating to the accomplishment of a given change, including but not limited to small tools, incidental job burdens and general office expense.

9.4.4 Overhead and Profit: Allowances for all indirect costs shall be identified as combined overhead and profit and shall not exceed the percentages in the following schedule:

A. Additive work:
   (1) Prime Contractor:

(i) 15% of the direct costs of own work in excess of $1,000.00; 20% when the total value of own work is equal to or less than $1,000.00.
(ii) 8% of the direct costs of work performed by subcontractors not including subcontractor's overhead and profit.
(iii) 8% of the direct costs of equipment.

(2) Subcontractors: percentages represented in subsections (a) and (b) are a maximum percentage allowed regardless of the tier or number of subcontractor(s) performing the work:
(i) 15% total of the work performed by subcontractors in excess of $1,000.00; 20% total of the work performed by subcontractor equal to or less than $1,000.00.
(ii) 8% of the direct costs of equipment.

(3) In no case shall overhead and profit exceed 23% of the direct costs of work or 16% of the direct costs of equipment when the cost of the work exceeds $1,000.00. In no case shall overhead and profit exceed 28% of the direct costs of work or 16% of the direct costs of equipment when the cost of the work is equal to or less than $1,000.00.

B. Deductive work:
(1) Prime Contractor: 4% of the direct cost of deleted own work.

9.5 CONCEALED CONDITIONS

9.5.1 This ARTICLE applies only when concealed conditions substantially at variance with the conditions set forth in the Contract Documents are encountered and these conditions were not foreseeable by Contractor or reasonably inferable from information provided by Architect or Owner in the bidding documents.

9.5.2 If it is determined the Contractor could not predict the concealed conditions as set forth under ARTICLE 9.5.1, Owner may issue a change order for the performance of additional work required with an equitable adjustment in the contract sum. Contractor shall not begin work upon any concealed condition until Owner has approved a written change order

ARTICLE 10 TESTING AND CORRECTION OF WORK

10.1 TESTS AND INSPECTIONS

10.1.1 Contractor shall be responsible for securing permits and approvals as set forth under ARTICLE 4.11 from entities having jurisdiction over the work. Owner may provide any special testing or inspections required by the Contract Documents. Contractor shall not cover work that requires testing, inspection or approval until such testing, inspection, or approval has been completed.

10.1.2 Contractor shall give Owner timely notice of readiness of the work for all inspections, tests or approvals. Minimum time required for giving notice of readiness will be agreed upon by Owner and Contractor prior to work commencing.

10.1.3 Neither observation by Owner nor inspections, tests, or approvals by Owner or Owner's testing agency shall relieve Contractor from Contractor's obligation to perform the work in accordance with the Contract Documents.

10.2 UNCOVERING OF WORK

10.2.1 If any work is covered or buried contrary to contract requirements or Owner's written request, such work shall be uncovered at Owner's request for inspections, tests or approvals. Uncovering and recovering shall

be at Contractor's expense, unless Contractor has given notice of intent to cover the work and Owner has not acted with reasonable promptness to provide any necessary tests, inspections or approvals.

10.2.2 If any work has been covered which Owner has not specifically requested to observe prior to covering, or if Owner considers it necessary or advisable that covered work be inspected or tested by others, then Contractor shall, at Owner's request, uncover, expose or otherwise make available for observation, inspection, or testing, that portion of the work as Owner may require. Contractor shall furnish all necessary labor, materials and equipment. If such work is found to be defective, Contractor shall bear all expenses, including compensation for any additional professional services and testing. If, however, the uncovered work is found not to be defective, Contractor shall be allowed an equitable adjustment in the contract price or the Contract Time. Only Contractor's direct costs attributable to the uncovering of work and its recovering shall be allowed.

10.3 DEFECTIVE WORK

10.3.1 All work not meeting the requirements of the Contract Documents shall be considered defective.

10.3.2 Contractor shall promptly correct or replace any defective work. Any and all costs associated with correction or replacement shall be borne by Contractor. Contractor shall also bear the expense of making good all work of others destroyed or damaged or required to be redone because of the correction or replacement of defective work.

10.3.3 If, after seven (7) days written notice to Contractor, Contractor fails to correct deficiencies or to provide Owner with an approved schedule for correcting defective work, Owner may, without prejudice to any other remedy it may have, correct deficiencies and deduct the cost thereof from the payment then or thereafter due Contractor. No extensions of time shall be allowed for correction of work that is defective.

ARTICLE 11 WARRANTIES

11.1 Contractor unconditionally warrants for a period of one year from issuance of the Certificate of Substantial Completion the usability and quality of all work, labor and materials incorporated into the project, unless otherwise provided in the Contract Documents. After the approval of Final Payment and prior to the expiration of one year after the date of Final Completion, any work found to be defective shall be remedied promptly by Contractor within fourteen (14) days of written notice without cost to Owner and in accordance with Owner's written instructions. Contractor shall either correct such defective work, or, if it has been rejected by Owner, remove it from the site and replace it with acceptable work. If Contractor does not promptly comply with the terms of Owner's instructions, Owner may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be deducted from Warranty Period Payment or paid by Contractor to Owner, unless the surety elects to remedy deficiency.

11.2 In addition to other warranties set forth in this contract and in accordance with requirements stated in the Contract Documents, Contractor shall obtain and transmit to Architect all warranties on material and equipment incorporated into the work and either provided by the supplier or otherwise required by the Contract Documents. Transmittal of warranties to Owner shall be a prerequisite of the Certificate of Final Completion.

11.3 All material and equipment installed by Contractor shall have a manufacturer's warranty for a period of one year, except as otherwise provided by the Contract Documents. The period of warranty shall begin on the date of Substantial Completion unless otherwise noted on the Certificate of Substantial Completion. This

article does not limit any manufacturer's warranty which extends for a period of time longer than that specified as minimum in the Contract Documents.

11.4 If a warranty period in excess of one year on a particular item or part of the work is required by the Contract Documents, the longer warranty period shall govern warranty obligations of Contractor.

11.5 Owner may accept defective work or materials found during the warranty period instead of requiring correction or removal and replacement. If acceptance occurs prior to approval of final payment, a change order shall be issued to reduce the contract price. If acceptance occurs after approval of final payment, an appropriate amount shall be paid by Contractor to Owner.

11.6 The provisions of this ARTICLE shall not be construed as limiting the right of Owner to make a claim against Contractor for work not constructed in accordance with the Contract Documents. Where a defect attributable to Contractor's or subcontractor's materials or workmanship appears after expiration of the one-year warranty period, Owner shall notify Contractor of the appearance of damages due to defective work or materials and shall offer Contractor the right to replace or repair all defective work and other work using Contractor's forces. If Contractor fails to correct the work and any consequentially damaged work within a reasonable time, or if Contractor refuses to correct the work, Owner may correct the work utilizing Owner's own forces. Contractor shall pay Owner all costs attributable to correction of the defective work and any consequential damages occasioned by the defective work.

11.7 Should Owner and Contractor agree to delay completion of any items, the one-year warranty period for those items shall commence upon written acceptance of each item by Owner.

ARTICLE 12 CLAIMS AND LITIGATION

12.1 This contract shall be governed by the laws of the State of Alaska, and any lawsuit brought thereon shall be filed in the Third Judicial District at Kenai, Alaska.

12.2 No controversy or claim arising out of this contract shall be subject to binding arbitration unless both Owner and Contractor agree in writing to submit the question to arbitration at the time when the controversy arises.

12.3 All claims, disputes and other matters in question between Contractor and Owner relating to the execution or progress of the work shall be referred initially to Project Representative, who shall render a recommendation in writing to Owner within a reasonable time.

12.4 During pendency of any claim arising out of this contract, Contractor shall carry on the work and maintain the Progress Schedule approved by Owner unless otherwise agreed by Contractor and Owner in writing. Should Contractor cease work, Contractor shall be in breach of this contract and Owner shall have the right to terminate the contract and to prosecute the work to completion with Owner's own forces or with a replacement Contractor. Contractor shall be responsible for any increase in costs to Owner above the contract price.

12.5 Contractor may make claims for additional costs only if the additional cost involved has occurred because of:

A. A change order issued by Owner, where the additional sum due Contractor set forth in the change order is in dispute.
B. An order by Owner to stop the work where Contractor was not at fault.
C. Concealed conditions as set out in ARTICLE 9.

D. Failure of payment by Owner pursuant to ARTICLE 3.

E. Additional costs or delays caused by separate contractors' or Owner's forces in accordance with ARTICLE 6.

12.6 Contractor shall not make a claim for additional costs where the basis of the claim lies in an oversight or mistake made by Contractor during the bidding process or by reason of negligent acts or omissions of Contractor or any mistake in judgment or improper selection of construction means, methods, sequences and materials during the course of construction.

12.7 If Contractor is entitled to make claim for an increase in the contract sum, Contractor shall deliver to Owner written notice of Contractor's intention to assert each claim within twenty (20) days after occurrence of each event giving rise to the claim. Contractor must give this notice of claim and specify the full extent and nature of the claim(s) to Owner before proceeding to execute the work upon which a claim might be asserted. No claim for additional costs or compensation shall be valid unless the prior twenty (20) day notice has been given. Adherence to this provision shall be strict. Any adjustment in the contract sum resulting from settlement of claims shall be authorized by change order.

ARTICLE 13 TERMINATION OF THE CONTRACT OR SUSPENSION OF THE WORK

13.1 TERMINATION BY OWNER

13.1.1 Termination for Default

A. Owner may terminate, without prejudice to any right or remedy of the Owner, the Work, or any part of it, for cause upon the occurrence of any one or more of the following events:

(1) Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Substantial Completion of the Work within the Contract Time;

(2) Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Final Completion of the Work in a timely manner;

(3) Owner shall have the right to terminate the contract if Contractor should file for bankruptcy, reorganization, otherwise be declared insolvent, or if Contractor makes a general assignment for the benefit of creditors. Exercise of these rights, where required by law, is contingent upon relief from the automatic stay provisions of the United States Bankruptcy Court or through other appropriate court order;

(4) Contractor fails in a material way to prepare, replace or correct Work not in conformance with the Contract Documents;

(5) Contractor repeatedly fails to supply skilled workers or property materials or equipment;

(6) Contractor repeatedly fails to make prompt payment to its employees or Subcontractors;

(7) Contractor materially disregards or fails to comply with laws, ordinances, rules, regulations, permits, easements or orders of any public authority having jurisdiction;

(8) Contractor fails to comply with safety requirements in the Contract Documents;

(9) Contractor fails to adhere in all respects to the provisions of Title 8, Chapter 30, of the Alaska Administrative Code and Title 36 of the Alaska Statutes as applicable to this contract and all

other pertinent statutes, ordinances or regulations or orders of any local, state, or federal authority concerning payment;

(10) Contractor, if after seven (7) days written notice, without prejudice to any other remedy of Owner, fails to correct to Owner's satisfaction deficiencies in the Work that does not conform to the Contract Documents;

(11) Contractor is otherwise in material breach of any provision of the Contract Documents.

B. If the Owner reasonably believes that one of the aforementioned events has occurred, the Owner will provide the Contractor with written notice of its intent to terminate the Contractor for default, specifying within such notice the grounds for such termination. The Owner, at its option, shall require the Contractor to either promptly correct the deficiencies noted in the Owner's intent to terminate or provide the Owner with a corrective action plan as to how such deficiencies will be remedied or cured in a timely fashion. Notwithstanding, if after receipt of the proposed, the Owner has a reasonable basis for concluding that the Contractor has (a) failed or is unwilling to repair, replace, or correct the deficiencies, or (b) failed or is unwilling to provide a reasonable and satisfactory corrective action plan, the Owner shall thereafter have the right to immediately terminate the Contract for default.

C. Upon termination, the Owner may at its option:

(1) Take possession of the site and possession of or use all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor; and/or,

(2) Finish the Work by whatever other reasonable method it deems expedient; or,

(3) Call upon the surety to perform its obligations under the performance and payment bonds, if applicable. If applicable, the performance bond surety shall commence performance within fourteen (14) days of the termination or default. If the surety does not arrange for or commence performance by that date, Owner shall have the option to complete or arrange for performance and the surety shall not be relieved of any responsibility for payment of costs of performance.

D. The Contractor and its sureties shall be liable for all damages and costs including but not limited to:

(1) Compensation for architect and engineering services and expenses made necessary thereby;

(2) Any other costs or damages incurred by the Owner in completing and/or correcting the Work; and

(3) Any other special, incidental or consequential damages incurred by the Owner which results or arises from the breach or termination for default.

E. In the event of termination for default the Owner shall pay the Contractor for Work successfully completed and accepted by the Owner prior to the date of termination. The Owner shall not be responsible for any Contractor costs, expenses, or damages including any consequential, special or incidental damages or lost profits associated with the Agreement and/or Contract Documents. In no event shall the Owner reimburse the Contractor for any costs directly or indirectly related to the cause of this termination for default. Owner shall have the right of set-off, from any payment due Contractor, for all expenses, costs, and damages including but not limited to all professional and legal expenses and attorneys' fees and costs or other additional expenditures necessary to complete

the projects that are occasioned by the termination. In the event such amounts exceed the amount of payment withheld, Contractor shall be liable to Owner for such amounts. No payment shall be made to Contractor prior to determination that a balance is due Contractor after the amount of set-off is determined.

F. If, after termination for default, it is determined that the Contractor was not in default, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Owner.

G. The rights and remedies of the Owner in this provision are in addition to any other rights and remedies provided by law or the Contract Documents.

13.1.2 Termination for Convenience

A. Upon written Notice the Owner may terminate the Work, or any part of it, without prejudice to any right or remedy of the Owner, for the convenience of the Owner if termination is deemed to be in the best interest of the Owner.

B. If the Owner terminates the Work or any portion of thereof for convenience, the Contractor will be directed to make all necessary preparations for closing out the project and for safeguarding Owner's materials and the work already completed. Contractor will be paid for all conforming work done to date and for all materials delivered to the site and already paid for by Contractor, together with all reasonable costs directly attributed to termination, including fixed overhead. Contractor shall be responsible for minimizing the extent of such expenses and shall **not** be paid for expenses which could have been reasonably avoided. On the date that notice of termination or suspension for convenience is issued, Contractor shall immediately take all actions necessary to stop orders of material, rental of equipment or premises, employment of persons on the project, and shipment of materials not yet delivered to the site. The notice of termination or suspension for convenience shall specify a date by which all steps necessary for termination shall be completed and by which Contractor shall have removed any unused material and all Contractor's equipment and forces. Contractor shall leave the premises in a clean and safe condition on or prior to the date specified in the notice. Owner shall certify that all termination procedures have been completed and that the premises have been turned over to the possession of Owner. Within fifteen (15) days after that certification by Owner, Contractor shall render to Owner a bill for all expenses incurred in termination and for all work done subsequent to the last progress payment. Owner shall pay Contractor all sums properly due, together with any retainage not necessary to cover apparently nonconforming work or other changes, within fifteen (15) working days after the bill has been received by Owner, provided that Owner has received releases for all liens.

C. The Contractor shall not be entitled to any other costs or damages, whatsoever. The total sum payable upon termination shall not exceed the Contract Price reduced by prior payments.

13.1.3 Where an emergency situation creating a danger to person or property arises, Owner may, at its option, terminate the contract and take possession of the site and any of Contractor's equipment and material necessary to complete an emergency response or hire a separate contractor to complete the emergency response. Contractor shall be paid the contract rate for the material used and shall be paid for the use of Contractor's equipment at the price shown in the Contract Documents or at the rate for such equipment listed in RENTAL RATE BLUE BOOK FOR CONSTRUCTION EQUIPMENT, published by Machinery Information Division of K-III Directory Corporation, 1735 Technology Drive, Suite 410, San Jose, California 95110. If the rate for such equipment is not so listed, reliable sources will be used to determine a reasonable rate.

13.1.4 Should Owner elect to terminate Contractor's services prior to Final Completion of the work, such termination shall not affect any rights Owner might assert against Contractor at time of termination or thereafter. Any retention or payment of monies by Owner to Contractor shall not release Contractor from that liability.

13.2 SUSPENSION OF THE WORK

13.2.1 Owner may, at any time and for any reason, suspend the work or any portion of it for a period not to exceed ninety (90) days, by written notice delivered to Contractor thirty (30) days prior to the date fixed for suspension. The notice of suspension shall fix the date on which the work is to be resumed and Contractor shall resume the work on the date so fixed. Equitable adjustment in the contract price, the Contract Time, or both shall be made for cost or delay directly attributable to suspension of the work.

13.3 TERMINATION BY CONTRACTOR

13.3.1 If through no act or fault of Contractor, Owner orders a suspension of work for a period of more than ninety (90) days, Contractor may, upon thirty (30) days written notice to Owner, terminate this contract and recover from Owner payment for work accepted to date plus purported overhead and profit in the manner provided in ARTICLE 9.4. Contractor shall also have the right to terminate this contract if Owner fails within forty-five (45) days to pay amounts properly due Contractor for satisfactorily accomplished work, so certified by Project Representative, as due and payable. The provisions of this section do not include amounts ordinarily retained from Contractor's Application for Payment or amounts retained because of unsatisfactory, defective, or incomplete work, or for any other reason provided in the Contract Documents.

ARTICLE 14 MISCELLANEOUS PROVISIONS

14.1 Whenever any provision of the Contract Documents requires written notice, such notice shall be deemed to have been given and binding when given by certified mail to the respective party at the address provided in the Legal Notice provision of the agreement section of the Contract Documents.

14.2 Neither party may assign this contract without the written consent of the other party. Contractor may not delegate duties under this contract other than as provided in the Contract Documents without the prior written consent of Owner.

14.3 In the event a provision of the Contract Documents is found to be unenforceable or void for any reason, it shall be considered as severed from the Contract Documents, and the remaining portions of the Contract Documents shall stand as if that provision had never been included in the Contract Documents. In the event the unenforceable or void provision is legally essential to the continuing existence of the contract, the parties shall attempt to substitute a reasonable replacement provision.

14.4 **No general condition stated in these provisions or other provision in the Contract Documents lessens, alters, or makes inapplicable the requirement for indemnification stated in ARTICLE 4.13. In the event of conflict between any contract provisions, the requirements set out in ARTICLE 4.13 control.**

ARTICLE 15 BULLYING, HARASSMENT AND SEXUAL HARASSMENT PROVISION

15.1. The Borough is committed to a work environment in which all individuals are treated with respect, civility and dignity. Each individual has the right to work in a professional atmosphere that prohibits discriminatory practices, including harassment, unlawful discrimination and retaliation. Therefore,

the Borough expects that all interactions between the Contractor and Borough employees will be business-like and free of such practices. The Contractor shall not harass, unlawfully discriminate, or engage in retaliatory behavior that is in any way related to the Contract.

15.2. In accordance with Federal civil rights law, laws of the State of Alaska, and local laws and policies, the Contractor is prohibited from discriminating actions or comments – however they occur - based on race, color, national origin, religion, sex, disability, age, marital status, family/parental status, other non-merit-based factors, or any other characteristic protected by law.

15.3. Bullying and Harassment – including sexual harassment - by the Contractor is strictly prohibited. Under this policy, harassment includes verbal, written or physical conduct that denigrates or shows hostility, aggression, or aversion toward an individual. This may or may not be because of the individual's, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, disability, marital status, citizenship, genetic information, or any other characteristic protected by law, and that Harassment: a) has the purpose or effect of creating an intimidating, hostile or offensive work environment, b) has the purpose or effect of unreasonably interfering with an individual's work performance, or c) otherwise adversely affects an individual's employment opportunities.

15.3.1. Harassing conduct includes, but is not limited to, epithets, slurs, or negative stereotyping or gestures; threatening, intimidating or hostile acts; denigrating jokes; and written or graphic material that denigrates or shows hostility or aversion toward an individual or group, and hazing, gestures, comments, threats or actions toward an individual which cause or threaten to cause bodily harm, reasonable fear for personal safety or personal degradation. This includes written or graphic material that is placed on walls or elsewhere that might be seen by a Borough employee or sent by e-mail, phone messages, text messages, social networking sites or other means.

15.3.2. For purposes of this policy, the term "bullying" is defined as an offensive, intimidating, malicious or insulting behavior or act that undermines, humiliates, denigrates or injures (whether physically or emotionally) the recipient(s) and that has the effect of substantially interfering with a person's work performance or creates an intimidating, hostile or offensive work environment. Bullying can undermine the legitimate interests of the Borough, and the Contractor engaging in these behaviors will be held accountable. Bullying includes behavior that demeans, diminishes, defames or belittles a person, which may be accomplished by way of gossip, rumors, lies, derogatory comments, and antisocial or aggressive behavior. Bullying may also include behavior that humiliates, intimidates, or interferes with work, such as sabotage, pranks or other similar activities. Bullying can be committed through a singular act, an omission to act, or a pattern of unwelcome behaviors that occur over a period. Bullying may be engaged in through gestures or written, verbal, graphic or physical act (including electronically transmitted acts -i.e., the internet, telephone, cell phone or text). This Contract amendment is not meant to provide an exhaustive description of everything that "bullying" may encompass. Demonstration of appropriate behavior, treating others with civility and respect, and refusing to tolerate harassment or bullying is expected of the Contractor and the Contractor's employees. Notwithstanding the foregoing, bullying and harassing behavior does not include the professional expression of a difference of opinion or offering constructive questions, feedback, guidance, or advice about work-related behavior.

15.3.3. Sexual harassment by the Contractor in relations with the Borough is a form of discrimination and barred under this Amendment. For the purposes of this Amendment, "sexual harassment" is defined as unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature when, such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

15.3.4. Sexual harassment may include a range of subtle and not-so-subtle behaviors and may involve individuals of the same or different gender. Depending on the circumstances, these behaviors may include unwanted sexual advances or requests for sexual favors; sexual jokes and innuendo; verbal abuse of a sexual nature; commentary about an individual's body, sexual prowess or sexual deficiencies; leering, whistling or touching; insulting or obscene comments or gestures; display in the workplace of sexually suggestive objects or pictures; and other physical, verbal or visual conduct of a sexual nature.

15.4. Should the Borough have a reasonable basis for believing that the Contractor has violated any provisions of this Amendment, the Borough Purchasing Officer will conduct an investigation. If the Borough Purchasing Officer is a primary witness, regarding the incident being investigated, or is otherwise unavailable to conduct the investigation, then the Borough Attorney will appoint another director to investigate. As part of the Borough investigation, the Contractor will have an opportunity to respond. Such an investigation does not necessarily entitle the Contractor to copies of statements or other documents relating to the individual(s) who provided information regarding the alleged behavior at issue. Upon conclusion of the investigation, the Borough Purchasing Officer will determine whether, and to what extent, the alleged behavior violated this Contract Amendment. The Borough will determine a course of action up to and including the following:

15.4.1. For a Level I offense:

15.4.1.1. First offense: Level 1. The contractor's representative and any employees involved in the violation must attend a work place harassment-training course. The length and specificity, of the course will be at the direction of the Borough, but will not exceed 8 hours per incident. (The course may be required of one or more employees). If the course offers an exam, the contractor and each employee must provide a passing exam at the end of the course. The contractor will be responsible for all costs associated with the training.

15.4.1.2. Second offense: Contract Termination.

15.4.2. For a Level II offense:

15.4.2.1. Immediate contract termination.

15.4.3. For purposes of this amendment, a Level I offense is considered a written, verbal, or oral communication or act that denigrates, threatens, intimidates, humiliates or otherwise insults a Borough employee.

15.4.4. For purposes of this amendment a Level II offense is a written, verbal, or oral communication or act to which one or more of the following apply: (i) the communication is sexually suggestive or otherwise constitutes sexual harassment under this policy; (ii) the

communication threatens physical harm on the recipient or exhibits reckless indifference for the health, safety, and welfare of a Borough employee; or (iii) the communication or act is the basis for criminal or tortious civil action against the Contractor.

END GENERAL CONDITIONS

PART IV
TITLE 36 WAGE SCHEDULE

Retrieve current schedule from:
www.labor.state.ak.us/lss/pamp600.htm

DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
ONLINE FILING:

NOTICE OF WORK
https://certpay.dol.alaska.gov/portal.aspx

NOTICE OF COMPLETION OF PUBLIC WORKS
https://certpay.dol.alaska.gov/portal.aspx

PART V
SPECIFICATIONS

SECTION 01-00-00

TABLE OF CONTENTS – TECHNICAL SPECIFICATIONS

END OF TABLE OF CONTENTS

SECTION 01-01-00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Work required under this contract is described in the subsequent sections and is more particularly delineated in the Drawings, and includes the providing of all labor, equipment, tools, and materials required for the HOMER MIDDLE SCHOOL KITCHEN INSTALLATION as described in this and subsequent sections and in other Contract Documents.

2. The Contract Documents do not purport to describe in detail, absolute and complete construction information. In some instances, drawings will be diagrammatic and not necessarily to exact scale or portray exact conditions at any particular location or situation.

3. It shall be the responsibility of the Contractor to determine conditions and requirements at each particular situation and provide all items necessary for the completion of the Work, according to the parameters established by the Contract Documents.

B. Language:

The language employed in these specifications is addressed directly to the Contractor. Imperative or indicative language is generally employed throughout and requirements so expressed are the mandatory responsibility of the Contractor even though the work specified actually may be accomplished by specialty subcontractors hired, retained, or otherwise engaged by the Contractor. References to third parties in this regard shall not be interpreted in any way as to relieve the Contractor of any of his responsibilities under the Contract.

1.2 QUALITY ASSURANCE

A. Qualifications of workers:

For all the operations under this Contract:

1. Employ a thoroughly qualified and experienced superintendent who shall be completely familiar with the requirements of the Contract Documents, who shall direct all work, and who shall be present at the job site at all reasonable times while work is in progress.

2. Employ only qualified journeymen mechanics, tradesmen, or installers who are thoroughly skilled and experienced in their respective trades or specialties.

3. Apprentices and helpers, when employed, shall be under the supervision of qualified journeymen mechanics or tradesmen at all times.

1.3 CONTRACTOR'S DUTIES

A. Except as otherwise specifically required, provide and pay for labor, materials, tools, machinery, equipment, and all transportation.

B. Comply with codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities which bear on performance of the work.

C. In the event of any observed variation between the Contract Documents and legal requirements, or any discrepancy or ambiguity in or among any of the requirements of the Contract Documents or any referenced standards, promptly notify the Owner's Representative in writing in which eventuality, appropriate changes and modifications to the Contract Documents will be initiated by the Owner and furnished to the Contractor. Contractor shall assume responsibility for work performed without proper notice to Owner, when such work was known by Contractor to be contrary to such requirements. Do not proceed in questioned areas until resolution or clarification has been obtained.

1.4 PREMISES

A. Contractor's Access:

For The Owner will make available at the indicated locations, interior and exterior space, as reasonable, for the storage and staging of the Contractor's materials and equipment, subject to the following controls.

1. Use of such areas shall be covered by the insurance required by the General Conditions (Provisions).

2. Storage shall be maintained in a neat and orderly condition at all times conforming to all fire and safety regulations.

3. Fire lanes and required exit pathways shall be kept free and unobstructed at all times.

4. Do not unreasonably encumber site with materials and equipment.

5. Do not impose loads which might impair the structural integrity of any work already in place.

6. Use of interior space shall be coordinated with and subject to the requirements of the Owner.

7. Upon completion of the contract, restore all areas to original conditions which prevailed prior to onset of the work, or as otherwise provided in the Contract Documents.

B. Environmental Requirements:

1. Restrict all operations to the areas assigned for storage, staging, and other necessary operations, and do not permit the disturbance of any areas not assigned for approved operations shown as limits of construction under this Contract.

2. The areas indicated on the drawings where existing natural vegetation remains is to be protected by the Contractor. The Contractor shall cordon-off these areas. They are not to be used by the Contractor for storage of materials, access of any other purpose. Damage to the natural ground cover in these areas will be restored to the satisfaction of the Architect.

3. Employ all means necessary to avoid the accumulation of debris and construction residue, avoiding the spread of dust and noxious odors.

PART 2- PRODUCTS

2.1 STORAGE AND PROTECTION

A. Do not deliver any of the materials or equipment for this Contract to the job site until adequate facilities are available for their proper storage and protection. Comply with the detailed requirements in subsequent sections for the storage and protection of the particular products of those sections.

B. Take all measures necessary to protect the installed work and materials of all trades at all times before, during, and after installation.

2.2 MATERIALS AND EQUIPMENT

A. Design:

For Design is based upon the method system, or product described, and the Drawings, reflect the desired location and configuration. In some instances, the recommended installation details of the named manufacturer, comparable methods systems or products of alternate manufacturers will be considered (unless otherwise noted as "No Substitution") upon submittal per sheet specifications.

B. Materials:

For Design All materials proposed for incorporation into this project shall be new and as specified or as shown in the Drawings, or if not specifically called out, shall be of first quality of their respective kinds, as selected by the Contractor, subject to the approval of the Owner's Representative.

C. Minimum Quality:

For in every instance the quality level shown or specified is intended as the minimum acceptable for the work to be performed or provided.

D. Conflicting or Overlapping Requirements:

In the event of conflict in or among any of the requirements of this specification or any referenced standards, or where two or more referenced standards or sets of referenced standards, or where two or more referenced standards or sets of most stringent requirement shall prevail and shall be so enforced, unless specific language in the text (not in the referenced standards) clearly indicates that the less stringent requirement is intended to prevail.

E. Submittals:

Make all submittals of materials and equipment proposed for incorporation into the Work in accordance with the sheet specifications and the specific requirements of other individual sections of these specifications.

PART 3- EXECUTION

3.1 JOB CONDITIONS

A. Inspection:

Do not commence any phase of the Work until all previous Work has been examined and it has been determined that subsequent operations may be executed in a timely and orderly manner and in complete accordance with the original design, the approved submittals, and all applicable codes and regulations.

B. Discrepancies:

In the event of discrepancy, ambiguity, conflict, interference, or any other unanticipated condition or situation which might impede timely execution of the Work, immediately notify the Owner's Representative and do not proceed in questioned areas until resolution or clarification has been obtained.

C. Repairs and Replacements:

In the event of damage to any part of any installed material, equipment, assembly, system, make all repairs or replacements necessary to restore the original undamaged condition. Do not allow damaged material to be incorporated into the Work. Repairs and replacements shall be subject to the approval of the Owner's Representative and shall be accomplished at no additional expense to the Owner.

3.2 INSTALLATION

Install all work in complete accordance with the original design, the approved submittals, and all applicable codes and regulations. Perform all work under the direction of qualified supervisors, foremen, or leadmen, and do not permit any phase of the work to be

commenced by subcontractors or subcontractors without qualified supervisors present to direct their operations.

3.3 GUARANTEES AND WARRANTIES

In addition to the requirements given in the General Provisions, the Contractor shall extend to the Owner such other bond, warranty, or manufacturer's guarantee offered by any vendor, manufacturer, or other supplier on any material, goods, equipment, or workmanship included in the Work.

END OF SECTION 01-01-00

SECTION 01-06-00
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 BUILDING CODES

A. Construction which is not governed by a local building code or the Contract Documents will be governed by the more stringent provisions of the latest published Statute adopted edition, of the following applicable codes:

1. 2021 International Building Code, 2021 International Mechanical Code, 2021 International Fire Code, 2021 International Energy Conservation Code, 2021 International Fuel Gas Code, 2018 Uniform Plumbing Code, 2020 National Electrical Code.

2. Accessibility Guidelines for Buildings and Facilities, NFPA 13, 70, 72, 101, 110, 415 and 780, and Chapters 6 & 7 Americans with Disabilities Act (ADA

1.2 APPLICABLE STANDARDS

A. Where indicated, comply with requirements and recommendations of referenced standards and other publications, except to extent more detailed or more stringent provisions are required by applicable codes and governing regulations.
B. Where two or more standards or recommendations of trade associations apply to same quality control requirement for work, comply with most stringent. Refer uncertain instances to Owner's Representative.

1.3 FEES AND PERMITS

A. Comply with requirements of Contract General Conditions and Supplementary Conditions.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-06-00

SECTION 01-09-00
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality assurance.

B. Schedule of references.

1.2 RELATED SECTIONS

A. General Conditions.

1.3 QUALITY ASSURANCE

A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of the Bid date, except when a specific date is specified.

C. Obtain copies of standards when required by Contract Documents.

D. Maintain copy at jobsite during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Owner's Representative before proceeding.

F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.4 SCHEDULE OF REFERENCES

AA	Aluminum Association 818 Connecticut Avenue, NW Washington, DC 20006
AABC	Associated Air Balance Council 1000 Vermont Avenue, NW Washington, DC 20005
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, NW Washington, DC 20001

ACI	American Concrete Institute Box 19150 Redford Station Detroit, MI 48219
ADC	Air Diffusion Council 230 North Michigan Avenue Chicago, IL 60601
AGC	Associated General Contractors of America 1957 E Street, N.W. Washington, DC 20006
AI	Asphalt Institute Asphalt Institute Building College Park, MD 20740
AIA	American Institute of Architects 1735 New York Avenue, N.W. Washington, DC 20006
AISC	American Institute of Steel Construction 400 North Michigan Avenue Eighth Floor Chicago, IL 60611
AISI	American Iron and Steel Institute 1101 17 Street, N.W Washington, DC 20036
AITC	American Institute of Timber Construction 333 W. Hampden Avenue Englewood, CO 80110
AMCO	Air Movement and Control Association 30 West University Drive Arlington Heights, IL 60004
ANSI	American National Standards Institute 11 W. 42st New York, NY 10036
APA	American Plywood Association Box 11700 Tacoma, WA 98411
ARI	Air-Conditioning and Refrigeration Institute 1501 Wilson Boulevard Arlington, VA 22209

ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
AWI	Architectural Woodwork Institute 2310 South Walter Reed Drive Arlington, VA 22206
AWPA	American Wood-Preservers' Association 7735 Old Georgetown Road Bethesda, MD 20014
AWS	American Welding Society 550 LeJune Road, NW Miami, FL 33135
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60195
DHI	Door and Hardware Institute 7711 Old Springhouse Road McLean, VA 22102
FGMA	Flat Glass Marketing Association 3310 Harrison White Lakes Professional Building Topeka, KS 66611
FM	Factory Mutual System 1151 Boston-Providence Turnpike PO Box 688 Norwood, MA 02062

FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section Washington Navy Yard, Bldg. 197 Washington, DC 20407
GA	Gypsum Association 810 First St. N.E. Suite 510 Washington D.C. 20002
ICC	International Code Conference 5360 S. Workman Mill Road Whittier, CA 90601
IEEE	Institute of Electrical and Electronics Engineers 345 East 47th Street New York, NY 10017
IMIAC	International Masonry Industry All-Weather Council International Masonry Institute 815 15th Street, NW Washington, DC 20005
MIL	Military Specification - Navel Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
NAAMM	National Association of Architectural Metal Manufacturers 221 North LaSalle Street Chicago, IL 60601
NCMA	National Concrete Masonry Association 2302 Horse Pen Road Herndon, VA 22071
NEBB	National Environmental Balancing Bureau 8224 Old Courthouse Road Vienna, VA 22180
NEMA	National Electrical Manufacturers' Association 2101 L Street, NW Washington, DC 20037
NFPA	National Fire Protection Association 1 Battery March Park Quincy, MA 02269

NFPA	National Fire Protection Association 1250 Connecticut Ave, N.W. #200 Washington, DC 20036
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077
PS	Product Standard US Department of Commerce Washington, DC 20203
SDI	Steel Deck Institute PO Box 9506 Canton, OH 44711
SDI	Steel Door Institute 14600 Detroit Avenue Cleveland, OH 44107
SIGMA	Sealed Insulating Glass Manufacturers Association 111 East Wacker Driver Chicago, IL 60601
SMACNA	Sheet Metal and Air Conditioning Contractors' National Assoc. 8224 Old Court House Road Vienna, VA 22180
SSPC	Steel Structures Painting Council 4400 Fifth Avenue Pittsburgh, PA 15213
TCA	Tile Council of America, Inc. Box 326 Princeton, NJ 08540
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062
WCLB	West Coast Lumber Inspection Bureau 6980 SW Varns Road Box 23145 Portland, OR 97223

WWPA Western Wood Products Association
1500 Yeon Building
Portland, OR 97204

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-09-00

SECTION 01-20-00
PROJECT MEETINGS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Owner's Representative shall conduct Preconstruction Conference. Contractor is to assure orderly review during progress of work and to assure systematic discussion of problems and will conduct all project meetings throughout the construction period. These will include:

1. Weekly progress review meetings which will include Owner's Representative, and Superintendent, and any necessary Subcontractors.

2. First of Month meetings which will include Project Engineer, responsible sub-consultants for respective agenda items, Superintendent, and Owner's Representative. At this meeting the request for payment shall be submitted for approval. Also, at this meeting the Contractor shall show current as-built drawings for approval prior to the pay period payment.

3. Contractor shall be responsible for conducting the close out review meeting.

B. Owner's Representative, Project Engineer and consultants, project inspectors, and testing personnel will attend meetings as needed. Contractor shall be responsible for scheduling meetings and taking of the meeting minutes.

C. Related Sections:

1. Section 01-31-10 Scheduling

2. Section 01-34-00 Shop Drawings, Product Data, and Samples

3. Section 01-70-00 Contract Close-out Procedures

4. Individual Specification Sections

D. Contractor's discussions with subcontractors and materials suppliers are Contractor's responsibility and normally are not part of project meetings content.

1.2 QUALITY ASSURANCE

A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit Contractor to solutions agreed upon in project meetings.

1.3 SUBMITTALS

A. Agenda Items: To the maximum extent practicable, advise Owner's Representative at least 48 hours in advance of project meetings regarding items to be on agenda.

B. Contractor shall compile minutes of each project meeting, furnishing copies to Owner's Representative and Project Engineer within seven days of each meeting.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 MEETING SCHEDULE

A. Except as noted below for Preconstruction meeting, project meetings will be held weekly.

B. Coordinate as necessary to establish mutually acceptable schedule for meetings.

3.2 MEETING LOCATION

A. Contractor shall work with the Owner's Representative to establish meeting locations.

3.3 PRECONSTRUCTION MEETING

A. Preconstruction Meeting will be scheduled and be held within 15 working days after Owner's Representative has issued the Notice to Proceed.

1. In addition to Contractor, representatives of sitework, mechanical, electrical and other major subcontractors shall attend.

2. Contractor shall notify other interested parties and request their attendance.

3. Preconstruction meeting will be held in the Owner's Representative's choice of location.

B. Minimum agenda: Data shall be distributed and discussed on at least the following items:

1. Organizational arrangement of Contractor's forces and personnel, those of subcontractors, materials suppliers, Project Engineer and consultants

2. Channels and procedures for communication.

3. Construction Schedule, including sequence of critical work. Review materials that might require long lead times, etc.

4. Contract Documents, including distribution of required copies of original documents and revisions.

5. Processing of shop drawings and other data submitted to Owner's Representative for review.

6. Processing of Bulletins, field decisions, and change orders.

7. Rules and regulations governing performance of Work.

8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

9. Processing of payment requests.

10. Preliminary discussions of future close-out procedures.

3.4 PROJECT MEETINGS

A. Attendance:

1. As much as possible, assign the same person or persons to represent the Contractor at project meetings throughout progress of Work.

2. Subcontractor, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.

B. Minimum Agenda:

1. Review minutes of previous meetings.

2. Review of Work progress.

3. Field observation, problems and decisions.

4. Identification of problems which impede planned progress.

5. Review of submittals schedule and status of submittals.

6. Review of off-site fabrication and delivery schedules.

7. Maintenance of progress schedule.

8. Corrective measures to regain projected schedules.

9. Planned progress during succeeding work period.

10. Coordination of projected progress.

11. Maintenance of quality and work standards.

12. Effect of proposed changes on progress schedule and coordination.

13. Other business relating to Work.

3.5 CONTRACTOR'S MEETINGS

A. Conduct meetings with his own forces, subcontractors and suppliers as is required in individual specifications sections.

B. Notify Owner's Representative in writing of any impending meetings for which the Owner's Representative's input is needed.

C. Provide written notice a minimum of two weeks prior to meeting date and include meeting topic, agenda, location, time and list of expected attendees.

D. Take meeting minutes and provide copies to Owner's Representative within 3 calendar days after meeting.

3.6 CLOSE-OUT MEETING

A. Review Section 01-70-00 regarding Contract Close-out Procedures. Approximately two weeks prior to Substantial Completion, weekly Project Meetings will include discussion of close-out activities.

B. Contractor is responsible to invite subcontractors as necessary to review related close-out work.

END OF SECTION 01-20-00

SECTION 01-25-00
DEFINITIONS AND EXPLANATIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Explanation:

This section of the General Requirements defines certain terms used in the specifications and explains the language, format, and certain conventions used in the Project Manual and associated Contract Documents

B. Related Documents:

Other contract documents directly related to and in some way modified or governed by the General Requirements Division include, but are not necessarily limited to, the following:

1. General Requirements – Division 01
2. Supplementary Conditions
3. Technical Specifications Sections

C. Limitations of Scope:

The definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the Work to the extent such definitions or explanations are not stated more explicitly in other parts of the Contract Documents.

1.2 DEFINITIONS

A. Where indicated, comply with requirements and recommendations of referenced standards and other publications, except to extent more detailed or more stringent provisions are required by applicable codes and governing regulations

B. Where two or more standards or recommendations of trade associations apply to same quality control requirement for work, comply with most stringent. Refer uncertain instances to Owner's Representative.

1.3 FEES AND PERMITS

A. Comply with requirements of Contract General Conditions and Supplementary Conditions.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-25-00

SECTION 01-31-00
SCHEDULING

PART 1 - GENERAL

1.1 DESCRIPTION

A. To assure adequate planning and execution of the Work so that the Work is completed prior to the completion date stipulated in the Contract, and to assist the Owner's Representative in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare a project schedule using the Critical Path Method.

B. Requirements for progress schedule: General Requirements – Division 01.

C. Construction period: Form of Agreement.

D. Definitions:

1. "Day", as used throughout the Contract unless otherwise stated, means "calendar day".

1.2 SECTION INCLUDES

A. References.

B. Quality Assurance.

C. Format.

D. Schedules.

E. RFI’s.

F. Review and evaluation.

G. Updating Schedules.

H. Distribution.

1.3 RELATED SECTIONS

A. General Conditions.

B. Supplementary Conditions.

C. Application for Payment Procedures – refer to contract requirements.

D. Section 01-20-00 Project Meetings.

E. Section 01-34-00 Shop Drawings, Project Data, and Samples.

F. Section 01-37-00 Schedule of Values

1.4 REFERENCES

A. "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry", The Associated General Contractors of America (AGCA), Washington, D.C., current edition.

B. "CPM in Construction Management - Project Management with CPM", James O'Brien, McGraw- Hill Book Company, New York, NY current edition.

1.5 QUALITY ASSURANCE

A. A statement of CPM capability shall be submitted in writing prior to the award of the contract and will verify that either the contractor's organization has "in-house capability" qualified to use the Microsoft Project (or equivalent) or that the contractor employs a consultant (firm) which is so qualified.

1.6 FORMAT

A. Listing: Reading from left to right, in ascending order for each activity. Identify each activity with the applicable Specification section number.

B. Diagram Sheet Size: Adequate for clear reading.

C. Scale and Spacing: To allow for notations and revisions.

1.7 SCHEDULES

A. Prepare the Critical Path Schedule, under concepts and methods outlined in the references list in Article 1.4 above. Show information in such detail that duration times of activities will range normally from one to 15 calendar days.

B. Illustrate complete sequence of construction by activity, identifying work of separate areas. Provide dates for submittals, including those for Owner furnished items, and return of submittals; dates for procurement and delivery of products; and dates for installation of provision for testing. Provide legend for symbols and abbreviations used.

C. Critical Path Schedule Requirements as follows:

1. Actual start date.

2. Actual finish date.

3. Latest start date.

4. Latest finish date.

5. Total and free float.

6. Monetary value of activity, keyed to Schedule of Values.

7. Percentage of activity completed.

8. Responsibility.

D. Analysis Program Microsoft Project (or equivalent): Capable of compiling monetary value of completed and partially completed activities, of accepting revised completion dates, and re-computation of all dates and float.

E. Coordinate contents with Schedule of Values in Section 01-37-00.

1.8 RFI's

A. Definition:

1. Request for information (RFI) from Owner's Representative and/or Project Engineer.

B. General: Request for Information Procedure:

1. Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI to the Owner's Representative.

2. Owner's Representative will return without response those RFI's submitted by other entities controlled by Contractor.

3. Owner's Representative will determine necessity of request and forward to the Project Engineer, if required.

4. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's Work or Work of subcontractors.

C. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.

2. Project number.

3. Date.

4. Name of Contractor.

5. Name of Project Engineer.

6. RFI number, numbered sequentially.

7. Subject.

8. Specification Section number and title and related paragraphs, as appropriate.

9. Drawing number and detail references, as appropriate.

10. Field dimensions and conditions, as appropriate.

11. Contractor's suggested resolution.

12. Contractor's signature.

13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

D. RFI Forms: Use standard form supplied by Contractor.

1. Attachments shall be electronic files in PDF format.

E. Project Engineer's Action: Project Engineer will review RFI, determine action required, and respond. Allow 5 business days for Project Engineer's response for each RFI. RFI's received by Project Engineer after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor generated RFI's will be returned without action/ignored:

    a. Requests for approval of submittals.

    b. Requests for approval of substitutions.

    c. Requests for approval of Contractor's means and methods.

    d. Requests for coordination information already indicated in the Contract Documents.

    e. Requests for adjustments in the Contract Time or the Contract Sum.

    f. Requests for interpretation of Project Engineer's actions on submittals.

    g. Incomplete, or inaccurately prepared RFIs.

2. Project Engineer's action may include a request for additional information, in which case Project Engineer's time for response will date from time of receipt by Project Engineer of additional information.

3. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Owner's Representative in writing within 20 days of each event giving rise to the claim.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFI's organized by number. Submit log at each construction meeting. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Project Engineer.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

G. On receipt of Owner's Representative action, update the RFI log and immediately distribute the response to affected parties. Review response and notify Owner's Representative within 2 days if Contractor disagrees with response.

1.9 REVIEW AND EVALUATION

A. Participate in joint review and evaluation of schedule with Owner's Representative at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 10 days.

1.10 UPDATING SCHEDULES

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update diagrams to graphically depict current status of Work.

C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

D. Indicate changes required to maintain Date of Substantial Completion.

E. Submit sorts required to support recommended changes.

F. Provide narrative report to define problem area, anticipated delays, and impact on

Schedule. Report corrective action taken, or proposed, and its effect.

1.11 DISTRIBUTION

A. Following joint review, distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Project Engineer, and Owner's Representative.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown on Schedules.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-31-00

SECTION 01-34-00
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Procedures for submittals.

B. Related Work Described Elsewhere:

1. General Requirements: Division 01
2. Scheduling: Section 01-31-10
3. Quality Control: Section 01-40-00
4. Product Options and Substitutions: Section 01-63-00
5. Record Documents: Section 01-72-00
6. Operation and Maintenance Data: Section 01-73-00

1.2 SHOP DRAWINGS

A. Present in a clear and thorough manner. Title each drawing with Project name and number; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.

B. Identify field dimensions; show relation to adjacent or critical features or Work or products.

C. Sheet Size:

1. Minimum: 8 1/2 x 11 in.
2. Maximum: 24 x 36 in.
3. In between: Modules of approximately 8 1/2 x 11 in.

D. Scale and measurements: Make shop drawing accurately to a scale large enough to show pertinent parts of item and method of connection to Work.

E. Shop drawings include fabrication, erection and setting drawings, schedule drawings, manufacturer's scale drawings, wiring and control diagrams, cuts or entire catalogs, pamphlets, descriptive literature, performance and test data.

F. Check drawings and schedules, coordinate them with Work of trades involved before submission and indicate their approval.

G. Identify details by reference to sheet and detail, schedule or room numbers shown on Drawings.

1.3 PRODUCT DATA

A. Submit product data when required by individual Specification Section.

B. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.

C. Modify manufacturers' standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

1.4 SAMPLES

A. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

2. Identification: Permanently attach label on unexposed side of Samples that includes the following:

   a. Project name and submittal number.

   b. Generic description of Sample.

   c. Product name and name of manufacturer.

   d. Sample source.

   e. Number and title of applicable Specification Section.

3. Specification paragraph number and generic name of each item. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.

4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.

5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.

6. Disposition: Maintain sets of approved Samples at Project site, available for quality

control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

7. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

a. Number of Samples: Submit Two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Project Engineer will return one submittal with options selected.

8. Samples for Verification: Submit full-size units or Samples of size indicated, prepare from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit two full set(s) of Samples. Project Engineer will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
   1). Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
   2). If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

1.5 MANUFACTURER'S INSTRUCTIONS

A. Manufacturer's instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing.

1.6 CERTIFICATES OF COMPLIANCE

A. Execute certificates of compliance for specified materials in three copies. Sign certificates by an authorized official of manufacturing company, and list name and address of Contractor, Project name and location, and quantity and date of shipment. List name and address of testing laboratory and date of tests on copies of lab test reports submitted with certificates.

1.7 CONTRACTOR REVIEW

A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirement of Contract Documents.

B. Coordinate submittals with requirements of Work and of Contract Documents.

C. Apply Contractor's review stamp, signed or initialed certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents, for each sheet of shop drawings, manufacturer's installation instructions and product data, and label each sample to certify compliance with requirements of Contract Documents. Notify in writing at time of submittal, of any deviations from requirements of Contract Documents, with brief explanation describing deviation.

D. Do not fabricate products or begin Work which requires submittals until return of submittal with acceptance.

E. It is the Contractor's responsibility to coordinate and verify field conditions, with approved shop drawings, prior to construction, in areas requiring shop drawings.

1.8 SUBMITTAL REQUIREMENTS

A. Submittal Schedule: Within thirty days from receipt of Notice to Proceed, submit two copies of schedule of submittals requiring review to Owner's Representative.

1. Submittal of preliminary schedule shall occur prior to review and payment of any pay requests.

2. Participate in review of preliminary and complete schedule jointly with Owner's Representative.

3. Submit updated schedules with each Application for Payment.

B. Transmit submittals in accordance with approved progress schedule and in such sequence to avoid delay in the Work or work of other contracts.

1. Transmit far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.

2. For shop drawing submittal, schedule shall provide for maximum of 10 shop drawings per calendar week to be submitted for review for each of the mechanical, electrical, structural and engineering disciplines.

C. Delivery of Submittals:

1. Email: Prepare submittals as PDF package, and transmit to Owner’s Representative. Include PDF transmittal form. Include information in subject line as requested by Project Engineer.

a. Project Engineer, through the Owner, will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.

2. Paper/Samples: Prepare submittals in paper form, and deliver to Project Engineer.

D. Transmit submittals in groups containing all information required for complete review

1. Partial or incomplete submittals will be rejected.

E. Provide 8 x 4 in. blank space on each submittal for Contractor's and Owner's stamp.

F. Coordinate submittals into logical grouping to facilitate interrelation of the several items:

1. Finishes which involve selection of colors, textures, or patterns
2. Associated items which require correlation for efficient function or for installation.

G. PDF files of shop drawings are acceptable.

H. Submit number of copies of product data and manufacturer's instructions Contractor requires, plus four copies which will be retained by Owner's Representative (two copies) and his consultants (two copies).

I. Submit number of samples specified in individual Specifications Sections.

J. Submit under accepted form of transmittal letter. Identify Project by title and number. Identify Work and product by Specifications section and Article number.

K. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Project Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 5 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Project Engineer will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 5 business days for review of each resubmittal.

4. Sequential Review: Where sequential review of submittals by Project Engineer's consultants, Owner’s Representative, or other parties is indicated, allow 5 days for initial review of each submittal.

5. Bidder Design Review: Bidder Design submittals shall be reviewed and forwarded to the AHJ for review within the indicated time frame. AHJ review, and subsequent resubmissions required are not included in the indicated time frame and the

contractor should allow ample time for reviews / re-submissions.

6. Incomplete submittal packages, submittals that are not provided as specified, may require longer review times.

L. Maintain submittal log showing status of submittals, make available for Owner's Representative's review upon request.

1.9 RESUBMITTALS

A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

1.10 DISTRIBUTION

A. Duplicate and distribute reproductions of shop drawings, copies of product data, and samples, which bear stamp of approval, to job site file, Record Documents file, Owner's Representative (2 copies), subcontractors, suppliers, and other entities requiring information.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION (NOT USED)

END OF SECTION 01-34-00

SECTION 01-37-00
SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Breakdown of Contract Sum showing values allocated to each of various parts of Work, as specified here and in other provisions of the Contract Documents.

2. Schedule of values shall be compatible with "continuation sheet" accompanying applications for payment.

B. Related Work Described Elsewhere:

1. General Requirements – Division 01

2. Supplementary Conditions.

1.2 QUALITY ASSURANCE

A. Use required means to assure arithmetical accuracy of sums described.

B. When required by Owner's Representative, provide copies of subcontractors or other acceptable data substantiating sums described.

1.3 SUBMITTALS

A. Comply with requirements of Contract General Conditions and Supplementary Submit to Owner's Representative a Schedule of Values for Contractor's Work and subcontracted work in each applicable Section of Specifications, Division 2 through 33 inclusive, within ten days after Notice to Proceed.

B. Upon Owner's Representative's request, support values with data substantiating correctness.

C. Schedule of Values, unless objected to by Owner's Representative, shall be used only as basis for Contractor's Applications for Payment.

D. Meet with Owner's Representative and determine additional information, if any, required to be submitted.

E. Secure the Owner’s Representative's approval of the schedule of values prior to submitting first application for payment.

1.4 FORM AND CONTENT OF SCHEDULE OF VALUES

A. Type schedule on 8 1/2 x 11 in. white paper, Contractor's standard forms and automated printout will be considered for acceptance by Owner's Representative upon Contractor's request. Include emailing to Owner's Representative and Project Engineer file saved to MS Excel format. Identify schedule with:

1. Project title and location.

2. Name and Address of Contractor.

3. Date of Submission

B. List installed value of component parts of Work in sufficient detail to serve as basis for computing values for progress payments during construction.

C. Follow Table of Contents as format for listing component item:

1. Identify each line item with number and title of respective Section of Specifications.

D. Under each major item list sub-values of major products or operations.

1. Each line item shall include directly proportional amount of Contractor's overhead and profit.

2. For items on which progress payments will be requested for stored materials, breakdown values into:

a. Cost of materials, delivered and unloaded, with taxes paid.

b. Total installed value.

E. Sum of values listed in schedule shall equal total Contract Sum.

1.5 SUB-SCHEDULE OF UNIT MATERIAL VALUES

A. Submit sub-schedule of unit costs and quantities for products on which progress payments will be requested for stored products.

B. Form of submittal shall parallel Schedule of Values, with each item identified same as line item in Schedule of Values.

C. Unit quantity for bulk materials shall include allowance for normal waste.

D. Break unit values for material down into:

1. Cost of material, delivered and unloaded at Site, with taxes paid.

2. Installation costs, including Contractor's overhead and profit.

E. Installed unit value multiplied by quantity listed shall equal cost of item in Schedule of Values.

F. Materials incorrectly stored at the jobsite are subject to damage and may not be included in progress payments as determined by the Owner's Representative.

G. The contract sum identified on the Schedule of Values as “Final” shall be based on the contract award and in an amount as found in the general conditions.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-37-00

SECTION 01-40-00
QUALITY CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

A. All material and workmanship shall be subject to inspection, examination, and test by the Owner's Representative at any and all times during manufacture and/or construction, and at any and all places where such manufacture and/or construction are carried on. The Owner's Representative shall have the right to reject defective material and workmanship or require its correction. Rejected workmanship shall be satisfactorily corrected and rejected material shall be satisfactorily replaced with proper material without charge therefor, and the Contractor shall promptly segregate and remove rejected material from the premises. If the Contractor fails to proceed at once with replacement of rejected material and/or correction of defective workmanship, the Owner's Representative may, by contract or otherwise, replace such material and/or correct such workmanship and charge the cost thereof to the Contractor, or may terminate the right of the Contractor to proceed as provided in the General Requirements.

B. The Contractor shall call for, coordinate and support inspections and tests required by the Contract Documents. The Owner shall pay all costs for special inspections and tests, required by the Contract Documents with the Contractor paying for coordination of said tests. The presence of, or absence from, the Contract work site of any Owner's Representative shall not relieve the Contractor of his responsibilities for providing of inspection or testing requirements of the Contract.

C. Should it be considered necessary or advisable by the Owner's Representative, at any time before final acceptance of the entire work, to make an examination of work already completed by removing or tearing out, the Contractor shall promptly on request furnish all necessary facilities, labor, and materials. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his Subcontractors, the Contractor shall defray all the expenses of such examinations and of satisfactory reconstruction. However, if such work is found to meet the requirements of the Contract, the actual direct cost of labor and material necessarily involved in the examination and replacement plus ten percent (10%) shall be allowed the Contractor and, in addition, if completion of the work has been delayed thereby, Contractor shall be granted a suitable extension of time based on the additional work involved.

D. Inspection of material and finished articles at the place of production, manufacture, or shipment shall be final except as regards latent defects, departures from specific requirements of the Contract, damage or loss in transit, and fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials and workmanship for final acceptance as a whole or in part shall be made at the site. Nothing contained in this paragraph shall in any way restrict the Contracting Agency's rights under any warranty or guarantee.

E. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, cleaned, and conditioned as per manufacturer's printed directions, unless specified to the contrary. The Contractor shall provide at least one set of all manufacturer’s installation directions, on the jobsite at all times for inspection information.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-40-00

SECTION 01-56-90
CONSTRUCTION CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Cleaning and disposal of waste materials, debris, and rubbish during construction.

B. Related Work Described Elsewhere:

1. General Requirements: Division 01
2. Final Cleaning: Section 01-71-00
3. Individual Specification Sections: Specific cleaning for Product or Work.

PART 2- PRODUCTS

2.1 EQUIPMENT

A. Provide covered containers for deposit of waste materials, debris, and rubbish.

PART 3- EXECUTION

3.1 CLEANING

A. Maintain areas under Contractor's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Remove scrap materials, rubbish and trash daily from in and about building. Do not permit scrap materials, rubbish and trash to be scattered on adjacent areas.

B. Maintain the public road and access to the site in a clean condition. Remove the mud, dirt, rocks, etc. from the tires of vehicles before they exit the Site.

C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to closing the space.

D. Periodically clean interior areas to provide suitable conditions for work.

E. Broom clean interior areas prior to start of surface finishing and continue cleaning on an as- needed basis.

F. Control cleaning operations so that dust and other particles will not adhere to wet or newly- coated surfaces.

3.2 DISPOSAL

A. Remove waste material, debris, and rubbish from site periodically and dispose of off-site.

END OF SECTION 01-56-90

SECTION 01-60-00
MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Products

B. Related Work Described Elsewhere:

1. Instructions to Bidders:
2. General Requirements: Division 01
3. Quality Control: Section 01-40-00

1.2 PRODUCTS

A. Products: Means new materials, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.

B. Provide interchangeable components of the same manufacture, for similar components.

C. No product or material shall be used as a building material in this project which contains any asbestos.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-60-00

SECTION 01-61-00
TRANSPORTATION AND HANDLING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Protection of products scheduled for use in Work.

B. Related Work Described Elsewhere:

1. General Requirements: Division 01.

2. Additional procedures as specified in other sections of these Specifications.

1.2 QUALITY ASSURANCE

A. Include procedures required to assure full protection of work and materials.

1.3 MANUFACTURERS' RECOMMENDATIONS

A. Except as otherwise approved by the Owner's Representative, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.4 PACKAGING, TRANSPORTATION

A. Require supplier to package products in boxes or crates for protection during shipment, handling, and storage. Protect sensitive products against exposure to elements and moisture, including ocean barging.

B. Protect sensitive equipment and finishes against impact, abrasion, and other damage. Temperature sensitive products, such as paint, shall be protected from freezing during shipment.

C. Arrange deliveries of products in accordance with construction progress schedules. Allow time for inspection prior to installation.

D. Coordinate deliveries to avoid conflict with work; conditions at site; limitations on storage space; availability of personnel and handling equipment; and Owner's use of premises.

E. Deliver products to job site in their manufacturer's original container, with labels intact and legible.

1. Maintain packaged materials with seals unbroken and labels intact until time of use.

2. Promptly remove damaged material and unsuitable items from job site, and promptly replace with material meeting specified requirements, at no additional cost

to Owner.

F. Owner's Representative may reject as non-complying such material and products that do not bear identification satisfactory to the Owner's Representative as to manufacturer, grade, quality, and other pertinent information.

G. Clearly mark partial deliveries of component parts of equipment. Identify equipment and contents to permit easy accumulation of parts and facilitate assembly.

H. Immediately on delivery inspect shipment to ensure:

1. Product complies with requirement of Contract Documents and reviewed submittals.

2. Quantities are correct.

3. Accessories and installation are correct.

4. Containers and packages are intact and labels are legible.

5. Products are protected and undamaged.

1.5 PRODUCTS

A. Provide equipment and personnel to handle products, including those provided by Owner, by methods to prevent soiling and damage.

B. Provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.

C. Handle product by methods to avoid bending or overstressing. Lift large and heavy components only at designed lift points.

1.6 PROTECTION

A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.

B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.

C. Maintain finished surfaces clean, unmarred and suitably protected until accepted by Owner's Representative.

1.7 REPAIRS AND REPLACEMENTS

A. In event of damage, promptly make replacement and repairs to the approval of and at no additional cost to Owner.

B. Additional time required to secure replacements and to make repairs will not be considered by Owner’s Representative to justify an extension in Contract Time.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-61-00

SECTION 01-62-00
STORAGE AND PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Storage and protection of products scheduled for use in Work.

1.2 QUALITY ASSURANCE

A. Include within Contractor's quality assurance program such procedures as are required to assure full protection of Work and materials.

1.3 MANUFACTURERS' RECOMMENDATIONS

A. Except as otherwise approved by the Owner's Representative, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.4 STORAGE - GENERAL

A. Store products, immediately on delivery, in accordance with manufacturer's instruction, with seals and labels intact. Protect until installed.

B. Arrange storage in manner to provide access for maintenance of stored items and for inspection.

1.5 ENCLOSED STORAGE

A. Store products, subject to damage by elements, in substantial, weather-tight enclosures.

B. Maintain temperature and humidity within ranges stated in manufacturer's instruction and/or individual technical specifications section.

C. Provide humidity control and ventilation for sensitive products as required by manufacturer's instructions and as necessary to protect product.

D. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

1.6 EXTERIOR STORAGE

A. Provide substantial platforms, blocking, or skids to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.

B. For products subject to discoloration or deterioration from exposure to elements, cover with impervious sheet material. Provide ventilation to avoid condensation.

C. Store loose granular materials in clean solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.

D. Provide surface drainage to prevent erosion and ponding of water.

E. Prevent mixing of refuse, chemically injurious materials, and liquids.

1.7 MAINTENANCE OF STORAGE

A. Periodically inspect stored products on a schedule basis.

B. Verify storage facilities comply with manufacturer's product storage requirements.

C. Verify manufacturer required environmental conditions are maintained continually.

1.8 MAINTENANCE OF EQUIPMENT STORAGE

A. For mechanical and electrical equipment in long-term storage, provide manufacturer's service instructions to accompany each item, with notice of enclosed instructions shown on exterior of package.

B. Service equipment on regularly scheduled basis, maintaining log of services; submit as record document.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-62-00

SECTION 01-63-00
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Contractor's options in selection of products.
2. Products list.
3. Requests for Substitution Form.

B. Related Work Described Elsewhere:

1. Instructions to Bidders
2. Substitution Request Form
3. General Requirements: Division 01
4. Summary of Work: Section 01-01-00
5. Reference Standards: Section 01-09-00
6. Shop Drawings, Product Data, and Samples: Section 01-34-00
7. Record Documents: Section 01-72-00
8. Operation and Maintenance Data: Section 01-73-00

1.2 OPTIONS

A. Products Specified by Reference Standard or by Description Only: Any product meeting those standards.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution a minimum of 10 days prior to Bid for any manufacturer not specifically named. Following Proposal opening, only products of named manufacturers meeting specifications or approved substitutions shall be allowed.

C. Products Specified by Naming Only One or More Manufacturers with "No Substitution" statement: Products of named manufacturer’s meeting specifications; no substitution allowed.

1.3 PRODUCTS LIST

A. Within 15 days after date of Notice to Proceed, transmit three copies of list of major products which are proposed for installation, including name of manufacturer.

B. Tabulate products by Specifications Section number, title and Article number.

C. For Products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

D. Owner's Representative will reply in writing within 10 days stating whether there is reasonable objection to listed items. Failure to object to listed items shall not constitute waiver of requirements of Contract Documents.

1.4 LIMITATIONS ON SUBSTITUTIONS

A. Instructions to Bidder govern terms for submitting request for substitutions under requirements specified in this Section.

B. Requests for substitutions after Contract Award may be considered only in proven cases of product unavailability through no fault of Contractor.

C. Substitutions will not be considered when acceptance will require substantial revision of Bidding or Contract Documents.

D. Do not order or install substitute products without written acceptance.

E. Two requests for substitution for each product will be considered. When substitution is not accepted, provide specified product.

F. Owner's Representative and Project Engineer will determine acceptability of substitutions.

1.5 REQUESTS FOR SUBSTITUTIONS

A. Submit substitution requests using a Substitution Request Form. Substitution requests will not be reviewed without an accompanying fully executed Substitution Request Form.

B. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.

C. Submit samples, shop drawings from prior jobs, product date, manufacturer's installation instructions, and certified test results attesting to proposed product equivalence.

D. Identify product by Specification Section and Article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.

E. Attach product data as specified in Section 01-34-00.

F. List similar project using product, dates of installation, and names with numbers of Owner's Representative and Project Engineer.

G. Give itemized quality and performance comparison between proposed substitution with specified product, listing variations, and reference to Specification Section and Article numbers. Base comparison on tests and criteria specified, and with specified manufacturer's performance criteria when tests and criteria are not otherwise specified.

H. List availability of maintenance services and replacement materials.

I. State effect of substitution on construction schedule, and changes required in other Work or Products.

J. Forms that are incomplete or incorrectly filled out will be rejected.

1.6 BIDDER REPRESENTATION

A. Request for substitution constitutes representation that Bidder:

1. Has investigated proposed product and has determined that it meets or exceed the quality level of specified product.

2. Will provide same warranty for substitution as for specified product.

3. Will coordinate installation and make changes to other Work which may be required for work to be complete with no additional costs to Owner.

4. Waives claims for additional costs or time extension which may subsequently become apparent.

5. Will reimburse Owner for review or redesign service associated with re-approval by authorities.

1.7 SUBMITTAL PROCEDURES

A. Submit five copies of the Request for Substitution Form with attachments. Limit each request to one proposed substitution.

B. Owner's Representative and Project Engineer will review Contractor's request for substitutions with reasonable promptness.

C. During bidding period, Owner will record acceptable substitutions in Addenda.

D. For accepted products, submit shop drawings, product data, and samples under provisions of Section 01-34-00.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-63-00

SUBSTITUTION REQUEST FORM

TO: KENAI PENINSULA BOROUGH
ATTN: PURCHASING ANDCONTRACTING DEPT.
47140 EAST POPPY LANE
SOLDOTNA, AK 99669
(907) 714-2260 FAX (907) 714-2373

PROJECT: REDOUBT ELEMENTARY SCHOOL INTENSIVE NEEDS ADA RESTROOM

SPECIFIED ITEM:

Section	Paragraph	Description
_____	_____	_____

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION:_____

Attached data includes product description, specifications, drawings, photographs, performance and test date adequate for evaluation of the request; applicable portions of the data area clearly identified.

Attached data also includes description of changes to Contract Documents which proposed substitution will require for its proper installation.

The undersigned states that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings.
2. The undersigned will pay for changes to the building design, including engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.

Submitted by:

Signature_____

Firm_____

Address_____

_____

Date:_____

Telephone:_____

For use by Design Consultant:

☐ Accepted ☐ Accepted as noted

☐ Not Accepted

By:_____

Date:_____

Remarks:_____

SECTION 01-67-00
SYSTEM DEMONSTRATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Procedures for demonstration of equipment operation and instruction of Owner's personnel.

2. Contractor shall be responsible for instruction and training of operating personnel in operation and maintenance of mechanical, electrical, and other systems in building.

B. Related Work Described Elsewhere:

1. Summary of Work: Section 01-01-00

2. Operation and Maintenance Data: Section 01-73-00.

3. Divisions 10, 21, 22, 23, 26, 27 and 28 where applicable.

4. Other Individual Sections: Specific requirements for demonstrating systems and equipment.

1.2 QUALITY ASSURANCE

A. When specified in individual sections, require manufacturer to provide authorized representative to demonstrate operation of equipment and systems, instruct Owner’s personnel, and provide written report stating demonstrations and instructions have been completed.

B. Owner's Representative will provide list of Owner’s personnel to receive instructions and will coordinate their attendance at agreed upon times.

1.3 SUBMITTALS

A. Submit preliminary schedule for Owner's Representative's approval, listing times and dates for demonstration of each item of equipment and each system three weeks prior to proposed dates.

B. Contractor shall submit his training materials and agenda to the Owner's Representative at least 15 days prior to start of formal maintenance training classes. Mutually agreeable dates for receiving training shall be arranged with Owner's Representative. Building system shall be complete when training is given.

C. Submit reports within one week after completion of demonstrations, that demonstrations

and instructions have been satisfactorily completed. Give time and date of each demonstration, hours devoted to demonstration, and list of persons present.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify equipment has been inspected and put into operation in accordance with applicable specification Section; testing, adjusting, and balancing has been performed in accordance with applicable specification Section, and equipment and systems are fully operational.

B. Have copies of completed operation and maintenance manuals at hand for use in demonstrations and instructions.

3.2 TYPE OF TRAINING

A. Instruction shall be on the job.

B. Services of competent contractors or manufacturer engineers and qualified maintenance personnel shall be provided to adequately train designated Owner's personnel in operation and maintenance of all mechanical and electrical systems.

C. Operating and maintenance manuals prepared by Contractor, manufacturers literature of actual equipment installed and copies of approved posted operating instructions shall be used as a basis for training.

3.3 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of equipment and systems to Owner's personnel two weeks prior to date of final inspection. For equipment requiring seasonal operation, perform instructions for operation and maintenance.

B. Use operation and maintenance manuals as basis of instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled times, at equipment location.

D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instructions.

3.4 TIME ALLOCATED FOR INSTRUCTIONS

A. Training period: Training shall occur within one week after substantial completion. Not less than 2 hours for each category of major equipment and system except as specifically listed below:

1. HVAC System: Including air handlers, duct work, dampers and related equipment with respective operating controls: 2 hours.

2. Overall Control System: Coordinate respective HVAC and other system controls, show how controls function together and provide integrated overall system control: 2 hours.

3. Electrical System: All building services, lighting, communications, public address system, access control, energy management systems, and all other electrical systems: 2 hours.

4. Piping and Plumbing Systems: Storm and sanitary drainage systems, and hot and cold water supply systems: 2 hours.

5. Fire protection equipment, intercom system, and other equipment not specifically stated above: 2 hours.

B. Proof of training must be certified in writing by Owner's personnel.

END OF SECTION 01-67-00

SECTION 01-70-00
CONTRACT CLOSE-OUT PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Administrative provisions for Substantial Completion and Final Acceptance.

B. Related Work Described Elsewhere:

1. General Requirements: Division 01
2. Summary of Work: Section 01-01-00
3. Final Cleaning: Section: 01-71-00
4. Project Record Documents: Section 01-72-00
5. Operations and Maintenance Data: Section 01-73-00
6. Warranties and Bonds: Section 01-74-00
7. Spare Parts and Maintenance Materials: Section 01-75-00
8. Door Hardware: Refer to Sheet Spec’s.
9. Mechanical Sections
10. Electrical Sections

1.2 SUBSTANTIAL COMPLETION

A. Advise Owner's Representative of pending insurance change-over requirements.

B. When Contractor considers Work or designated portion of Work is substantially complete, submit written notice with list of items to be completed or corrected.

1. Submit formal written request for Substantial Completion Inspection.
2. Contractor shall submit Certificate of Occupancy issued by local Building Official with the request for Substantial Completion Inspection.

C. Should Owner Representative's inspection find Work is not substantially complete, inspector will promptly terminate the inspection, and notify Contractor in writing, listing

observed deficiencies.

D. Contractor shall remedy deficiencies and send a second written notice of substantial completion.

E. When Owner's Representative finds Work is substantially complete, he will prepare a Certificate of Substantial completion in accordance with provisions of General Requirements.

1.3 FINAL COMPLETION

A. When Contractor considers Work is complete, submit written certification:

1. Contract Documents have been reviewed.

2. Work has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract Documents, and deficiencies listed with Certificate of Substantial Completion have been corrected.

4. Equipment and systems have been tested, adjusted, and balanced, and are fully operational.

5. Operation of systems has been demonstrated to Owner's Personnel.

6. Work is complete and ready for final inspection.

B. Should Owner's Representative inspection find Work incomplete, Owner's Representative will promptly notify Contractor in writing listing observed deficiencies.

C. Contractor shall remedy deficiencies and send a second certification of final completion.

D. When Owner's Representative finds work is complete, Owner's Representative will consider close-out submittals.

1.4 REINSPECTION FEES

A. Should status of completion of Work require re-inspection by Owner's Representative due to failure of Work to comply with Contractor's claims on initial inspection, Owner’s Representative will deduct the amount of his expense, including but not necessarily limited to Owner's Representative compensation for re-inspection services from final payment to Contractor.

1.5 CLOSE-OUT SUBMITTALS

A. Evidence of Compliance with Requirements of Governing Authorities:

1. Certificate of Occupancy

2. Certificates of Inspection required for mechanical and electrical systems.

B. Project Record Documents: Under provision of Section 01-72-00.

C. Operation and Maintenance Data: Under provisions of Section 01-73-00.

D. Warranties and Bonds: Under provisions of Section 01-74-00.

E. Spare Parts and Maintenance Materials: Under provisions of Section 01-75-00.

F. Keys and Keying Schedule: Refer to Sheet Specifications.

G. Evidence of Payment and Release of Liens: In accordance with Conditions of the Contract.

H. Consent of Surety to Final Payment.

I. Certificates of Insurance for Products and Completed Operations: In accordance with Supplementary Conditions.

J. Department of Labor, NOC approved.

K. Record information shall be produced and submitted utilizing current version of AutoCAD. All record information shall be provided in PDF digital format on a USB thumb drive.

1.6 STATEMENT OF ADJUSTMENT OF ACCOUNTS

A. Submit final statement reflecting adjustments to Contract Sum indicating:

1. Original Contract Sum.
2. Previous Change Orders.
3. Changes Under Allowances.
4. Changes Under Unit Prices.
5. Deductions for Uncorrected Work.
6. Deductions for Liquidated Damages.
7. Deductions for Re-inspection Fees.
8. Other Adjustments to Contract Sum.
9. Total Contract Sum as adjusted.
10. Previous Payments.
11. Sum Remaining Due.

B. Owner's Representative will issue a final Change Order reflecting approved adjustments

to Contract Sum not previously made by change orders.

1.7 APPLICATION FOR FINAL PAYMENT

A. Submit application for final payment in accordance with provisions of Conditions of the Contract.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-70-00

SECTION 01-71-00
FINAL CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Final Cleaning of Project.

B. Related Work Described Elsewhere:

1. General Requirements: Division 01
2. Construction Cleaning: Section 01-56-90
3. Contract Close-out Procedures: Section 01-70-00
4. Individual Specifications Section: Specific cleaning of Product or Work.

1.2 CLEANING

A. Execute cleaning prior to inspection for Substantial Completion of the Work.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS

A. Use materials which will not create hazards to health or property, and which will not damage surfaces.

B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3- EXECUTION

3.1 CLEANING

A. In addition to removal of debris and cleaning specified in other section, clean interior and exterior exposed-to-view surfaces.

B. Remove temporary protection and labels not required to remain.

C. Clean finishes free of dust, stains, films, and other foreign substances.

D. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

E. Vacuum clean carpeted and similar soft surfaces.

F. Clean, damp mop, wax, and polish resilient and hard-surface floors as specified.

G. Clean surfaces of equipment and remove excess lubrication.

H. Clean plumbing fixtures, food service equipment, and toilet accessories to a sanitary condition.

I. Clean permanent filters of ventilation equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers and coils when units have been operated without filters during construction.

J. Clean light fixtures and lamps.

K. Maintain cleaning until Substantial Completion.

L. Remove waste, foreign matter, and debris from roofs, gutters, area ways, and drainage systems.

M. Remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

N. Owner will provide final cleaning of interiors after Substantial Completion, except those items not adequately cleaned prior to Substantial Completion shall be recleaned prior to final inspection. Provide access and coordinate with Owner's personnel at a time agreeable to both parties.

O. Prior to Substantial Completion, clean all parking lots, aprons, sidewalks and driveways used on site.

END OF SECTION 01-71-00

SECTION 01-72-00
RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Maintenance of Record Document and samples.

2. Submittal of Record Documents and samples.

B. Related Work Descried Elsewhere:

1. Shop Drawings, Product Data and Samples: Section 01-34-00.

2. Contract Close-out Procedures: Section 01-70-00.

3. Operation and Maintenance Data: Section 01-73-00.

4. Individual Specifications Sections.

5. Manufacturer's certificates and certificates of inspection.

C. The Contractor shall maintain on the jobsite one complete set of drawings and specifications on which all items located at jobsite and all changes of material, equipment, or dimensions shall be recorded and kept current on a daily basis and shall be made available to the Owner's Representative at all times. This shall include all work of the Contractor and Subcontractors. Each progress pay request will not be processed until Owner's Representative determines that the Contractor has kept the "As-Built" drawings and specifications as specified.

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. In addition to requirements in General Requirements, maintain at the site for Owner's Representative one record copy of:

1. Contract Drawings.

2. Specifications.

3. Addenda.

4. Change Orders and other modifications to the Contract.

5. Reviewed shop drawings, product data, and samples.

6. Field test records.

7. Inspection certificates.

8. Manufacturer's certificates.

B. Store Record Documents and samples in Field Office apart from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.

1. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff.

C. Label and file Record Documents and samples in accordance with Section number listing in Table of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, printed letters.

D. Maintain Record Document in a clean, dry and legible condition. Do not use Record Documents for construction purposes.

E. In the event of loss of recorded data, use means necessary to again secure the data to the Owner's Representative approval.

F. Keep Record Documents and samples available for inspection by Owner's Representative.

1.3 RECORDING

A. Record information on a set of drawings, and in a copy of a Project Manual.

B. Provide felt tip marking pens, maintaining separate colors for each major system, for recording information.

C. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

1. Make entries within 24 hours after receipt of information that the change has occurred.

D. Contract Drawings and Shop Drawing: Legibly mark each item to record actual construction, including:

1. Measured depths of elements of foundation in relation to finish first floor datum.

2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surfaces improvements.

a. Locate with actual dimensions to building walls and corners, buried and concealed wiring and piping.

b. Show end of run, changes in direction, valves and splice boxes.

c. Record average depth relating to building datum.

3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction. Show on Record Drawings, the centerline of each run.

a. Clearly identify the item by accurate note such as "cast iron drain" "galv. water," etc.

b. Show, by symbol or note, the vertical location of the item ("under slab," "in ceiling plenum," "exposed," etc.).

c. Make all identification sufficiently descriptive that it may be related reliably to the Specifications.

4. Field changes of dimension and detail.

5. Changes made by Modifications.

6. Details not on original Contract Drawings.

7. References to related shop drawings and Modifications.

E. Specifications: Legibly mark each item to record actual construction, including:

1. Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.

2. Changes made by Addenda and Modifications.

F. Other Documents: Maintain manufacturer's certifications and inspection certifications required by individual Specifications sections.

1.4 DIGITAL PROJECT MANAGEMENT PROCEDURES

A. Use of Project Engineer's Digital Data Files: Limited Digital data files of Project Engineer's AutoCAD drawings will be provided by Project Engineer for Contractor's use during construction.

1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.

2. Project Engineer makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.

3. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner's Representative and Project Engineer.

a. Subcontractors, and other parties granted access by Contractor to Project Engineer's digital data files shall execute a data licensing agreement in the form of Agreement acceptable to Owner's Representative and Project Engineer.

4. The following digital data files may be furnished for each appropriate discipline:

a. Floor plans.

b. Reflected ceiling plans.

B. Web-Based Project Software: Use Owner's Representative's email for purposes of transmitting submittals only.

C. PDF Document Preparation: Where PDFs are required to be submitted to Project Engineer, prepare as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.

3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.5 SUBMITTALS

A. At Contract close-out, deliver Record Documents and samples under provisions of Section 01-70-00.

B. Transmit with cover letter in duplicate, listing:

1. Date.

2. Project Title and Number.

3. Contractor's name, address and telephone number.

4. Number and title of each Record Document.

5. Signature of Contractor or authorized representative.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-72-00

SECTION 01-73-00
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Format and content of manuals.
2. Instruction of Owner's personnel.
3. Schedule of submittals.

B. Related Work Described Elsewhere:

1. Shop Drawings, Product Data, and Samples: Section 01-34-00
2. Quality Control: Section: 01-40-00
3. Systems Demonstration: Section 01-67-00
4. Project Record Documents: Section 01-72-00
5. Warranties and Bonds: Section 01-74-00
6. Individual Specifications Section: Specific requirements for operation and maintenance data.

1.2 QUALITY ASSURANCE

A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.3 FORMAT

A. Prepare data in the form of an instructional manual.

B. Binders: Commercial quality, 8 1/2 x 11 in. three-ring binders with hardback, cleanable, plastic covers; two in. maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list title of Project, identify subject matter of contents.

D. Arrange content under direction of Owner's Maintenance Department. Coordinate with Owner's personnel one week prior to assembly of manuals.

E. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

F. Text: manufacturer's printed data, or typewritten data on 24-pound paper.

G. Drawings: Provide with reinforced punched binders tab. Bind in with text; fold larger drawings to size of text pages.

1.4 CONTENTS, EACH VOLUME

A. Table of Contents: Provide title of Project, names, addresses, and telephone number of Owner's Representative, subconsultants, and Contractor with name of responsible parties, schedule of products and systems, indexed to content of the volume.

B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

C. Product Data: Mark (by highlighting, etc. each sheet to clearly identify specific products and component model numbers of equipment and materials used, and data applicable to installation. Delete inapplicable information.

1. Furnish a separate complete set of approved product data, in file folders for each Section, with specification item number recorded on folder. Assemble in cardboard "bankers box", in section number sequence. Turn over to the Owner’s Representative.

D. Drawings: Supplement product date to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

1. Furnish a complete set of shop drawings, as installed, and turn over to the Owner’s Representative. Fold and place in folders as above for product data, with Drawing and Specification item number recorded on folder. Assemble in same cardboard "banker's box" as above, in Section number sequence.

E. Type Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01-40-00.

F. Warranties and Bonds: As specified in Section 01-74-00.

1.5 MANUAL FOR MATERIALS AND FINISHES

A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for reordering custom manufactured products.

1. Furnish a complete list (room by room) of all paint used. List is to include: paint Manufacturer, Manufacturer's color codes used (by area), and the name, address and phone number of supplier.

2. Furnish a complete list (room by room) of all floorcovering products used. List is to include: type of floorcovering, manufacturer, manufacturer's color codes used (by area), and the name, address and phone number of Installer.

3. Furnish a complete list of all roofing materials used.

B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional Requirements: As specified in individual product specification Section.

E. Provide a listing in Index for design data, with tabbed fly sheet and space for insertion of data.

1.6 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

B. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications.

C. Include color coded wiring diagrams as installed.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

E. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Provide servicing and lubrication schedule, and list of lubricants required.

G. Include manufacturer's printed operation and maintenance instructions.

H. Include sequence of operation by controls manufacturer.

I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

J. Provide control diagrams by controls manufacturer as installed.

K. Provide contractor's coordination drawings, with color coded piping diagrams as installed.

L. Provide contractor's coordination drawings, with color coded piping diagrams as installed.

M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

N. Include test and balancing reports.

O. Additional Requirements: As specified in individual product specification Sections.

P. Provide a listing in Index for design data, with tabbed fly sheet and space for insertion of data.

1.7 INSTRUCTION OF OWNER'S PERSONNEL

A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.

B. For equipment requiring seasonal operation, perform instructions for other seasons within six months.

C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.8 SUBMITTALS

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Owner's Representative will review draft and return one copy with comments.

B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

C. Submit one copy of completed volumes in final form 15 days prior to final inspection. Copy will be returned after final inspection, and after review by Owner's Maintenance Department and with Owner's Representative comments. Revise content of documents as required prior to final submittal.

D. Submit two copies of revised volumes of data in final form within ten days after final inspection.

E. A separate chapter will be prepared and submitted for each of the following types of equipment or systems included in the project where applicable:

1. Heating, ventilating, and air conditioning system.

2. Control Systems.

3. Plumbing.
4. Electrical Systems.
5. Emergency Systems.
6. Communication Systems.
7. Energy Management Systems.
8. Miscellaneous Building Equipment.
9. Access Control Systems.
10. Other equipment or systems as specified in individual specifications Section.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION (NOT USED)

END OF SECTION 01-73-00

SECTION 01-74-00
WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Products
2. Preparation and submittal
3. Time and schedules of submittals

B. Related Work Described Elsewhere:

1. Instructions to Bidders:
2. General Requirements: Division 01
3. Contract Close-out Procedures: Section 01-70-00
4. Operation and Maintenance Data: Section 01-73-00
5. Individual Specification Sections: Warranties required for specific products or Work.

1.2 FORM OF SUBMITTALS

A. Bind in commercial quality, 8-1/2 x 11 in. three ring side binders with hardback, cleanable, plastic covers.

B. Label cover of each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible principal.

C. Table of Contents: Neatly typed, in the sequence of index to Project Manual, with each item identified with its Section, and name of product or work item. Provide complete information for each of:

1. Product or work item.
2. Supplier with name of principal, address and telephone number.
3. Date of beginning of warranty or bond.
4. Duration of warranty or bond.

5. Provide information for Owner's personnel:

   a. Proper procedure in case of failure.

   b. Instances which might affect validity of warranty or bond.

6. Contractor, name of responsible principal, address and telephone number.

D. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address and telephone number of responsible principal.

1.3 PREPARATION OF SUBMITTALS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item or work. Except for items put into use with Owner's Representative's permission, leave date of beginning of time of warranty until the Date of Substantial Completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

1.4 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into service during construction with Owner's Representative's permission, submit documents within ten days after acceptance.

B. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.

C. For items of Work when acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-74-00

SECTION 01-75-00

SPARE PARTS AND MAINTENANCE MATERIALS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Products required.

2. Storage and delivery of products.

B. Related Work Described Elsewhere:

1. Storage and Protection: Section 01-62-00.

2. Contract Close-out Procedures: Section 01-70-00.

3. Operation and Maintenance Data: Section 01-73-00.

4. Individual Specification Sections: Specific requirements for operation and maintenance data.

1.2 PRODUCTS REQUIRED

A. Provide quantities of products, spare parts, maintenance tools, and maintenance materials specified in individual sections to be provided to Owner’s Representatve, in addition to that required for completion of Work.

B. Products: Identical to those installed in the work. Include quantities in original purchase from supplier or manufacturer to avoid variations in manufacture.

1.3 STORAGE, MAINTENANCE

A. Store products with products to be installed in the Work, under provisions of Section 01-62-00.

B. After delivery of products to site, maintain spare products in same space and condition as products to be installed in the Work.

C. Maintain spare products in original containers with labels intact and legible, until delivery to Owner’s Representative.

1.4 DELIVERY

A. Coordinate with Owner's Representative: Deliver and unload spare products to Owner’s Representative at Project site and obtain receipt prior to final payment. After delivery, Owner’s Representative will handle and store products.

B. For portions of Project accepted and occupied by Owner's Representative prior to Substantial Completion, deliver a proportional part of spare products to Owner's Representative and obtain receipt.

C. Provide spare parts information for each different item of equipment furnished including:

1. A complete list of parts and supplies and the name and address of a supplier.

2. A list of parts and supplies that are either normally furnished at no extra cost with the purchase of the equipment or specified to be furnished as part of the contract.

3. A list of additional items recommended by the manufacturer to ensure efficient operation for 180 days.

PART 2- PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01-75-00

SECTION 07-90-00
JOINT SEALANTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Clean and prepare sealant substrate surfaces.
2. Sealant and backing.

B. Related Work Described Elsewhere:

1. Metal Doors and Frames	REFER TO SHEET SPECIFICATIONS
2. Countertops and SS works	REFER TO PROJECT DRAWINGS
3. Gypsum Wallboard	Section 092500

C. References:

1. American Society for Testing and Manufacturing (ASTM):

a. C790-84 Recommended Practices for Use of Latex Sealing Compounds.
b. C804-83 Recommended Practices for Use of Solvent Release Type Sealants.
c. D1056-85 Flexible Cellular Materials - Sponge or Expanded Rubber.
d. D1565-81 (1986) Flexible Cellular Materials - Vinyl Chloride polymers and Copolymers (Open Cell Foam).
e. E119-83 Fire Tests of Building Construction Materials.

2. Federal Specifications (FS):

a. TT-S-001543 Sealing Compound, Silicone Rubber Base.
b. TT-S-001657 Sealing Compound, Single Component, Butyl Rubber Based, Solvent Release Type.
c. TT-S-00227 Sealing Compound: Elastomeric Type, Multi- Component.
d. TT-S-00230 Sealing Compound: Elastomeric Type, Single- Component.

1.2 SUBMITTALS

A. Submit product data and samples under provision of Section 013400.

B. Submit product data and samples of each sealant type and sealant colors.

C. Submit manufacturer's surface preparation and installation instructions under provisions of Section 013400.

1.3 EXTRA STOCK

A. Furnish tube or equivalent of each type of sealant used on this project under provisions

of Section 017500.

B. Turn over to Owner's Representative at Substantial Completion and receive a receipt therefore.

PART 2 - PRODUCTS

2.1 SEALANT MATERIALS

A. Silicone Sealant: Silicone base, single component, moisture curing, non-sagging, non-staining, non-bleeding; color as selected; conforming to the requirements of FS TT-S-001543A, Class A. Dow Corning 795 Sealant, GE Gesil N 2600, or Tremco Spectrum 2.

1. Dynamic Movement Capability + 50 percent.
2. Service Temperature Range -35 to +140 degrees F.
3. Shore A Hardness Range 15 to 35.

B. Polyurethane Sealant: Moisture curing, non-staining, non-bleeding, capable of continuous water immersion, non-sagging type; conforming to the requirements of FS TT-S-00230C, Type 11, Class A. Sonneborn Sonolastic NP II, Tremco Dymeric. Color as selected.

1. Dynamic Movement Capability + 25 percent.
2. Service Temperature Range -60 to +180 degrees F.
3. Shore A Hardness 20 to 35.

C. Butyl Sealant: Butyl rubber base, single component, conforming to requirements of FS TT-S- 001657, Type 1; Shore A hardness of maximum 30; non-staining; non-bleeding; non-sagging; color as selected. Tremco Butyl Sealant, Pecora BC-158, or Sonneboren Butakauk.

D. Acrylic Sealant: Acrylic base, single component, solvent curing, capable of being continuously immersed in water, withstand movement of up to 7.5 percent of joint width and paintable. Tremco Acrylic Latex Caulk or Sonneborn Sonolac.

E. Acoustical Sealant: Conforming to ASTM C-919, Smoke & Sound Sealant. Tremco – Tremflex 834.

F. Sealant Tape: AAMA 804.1, Butyl-polyisobutylene preformed sealant, service temperature range -40 to 200 degrees F; color as selected; Tremco 440 tape, PTI 606, or acceptable substitute. Provide pre-shimmed where required.

G. Penetration Sealant: Conform to requirements of ASTM E119 or ASTM E 814; provide materials UL Listed with assembly and for equal rating. Seal walls and floors at pipe, conduit and cable penetrations. Where required for rating, provide with mineral wool of ceramic fiber forming material listed. Dow Corning 2000 Fire Stop Sealant, GS Pensil 851, or equal.

H. Sanitary Sealant: Dow Corning 786 mildew resistant silicone sealant of GE SCS 1702

Sanitary Sealant. Seal joints around plumbing fixtures.

I. Rated Joint Sealant: Conform to requirements of ASTM E119 or UL 263; provide material UL listed with assembly and for equal rating. Seal walls at control joints in 2 hour CMU or concrete walls. Where required for rating, provide with mineral wool or ceramic fiber forming material listed. Dow Corning 795, Tremco Dymeric, or equal.

J. Traffic Sealant: Two component, self-leveling type; conforming to the requirements of FS TT-S- 00227E, Type I, Class A and ASTM C920 Type S, Grade P, Class 25, Use T; Sonneborn Sonolastic Paving Joint Sealant, Tremco THC-900, "Chem-Calk 550" by Bostik, or equal. Color as selected.

K. Substitutions: Refer to Section 016300 for substitution procedures.

2.2 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Filler (Backer Rod): Round, open cell polyurethane foam rod; oversized 30 to 50 percent larger than joint width; compatible with joint sealer.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3- EXECUTION

3.1 JOB CONDITIONS

A. Verify joint openings are ready to receive work and field measurements are as shown on Drawings and recommended by manufacturer.

B. Beginning of installation means installer accepts existing substrate.

3.2 PREPARATION

A. Clean, prepare, and size joints in accordance with manufacturer's instructions. Remove loose materials and foreign matter which might impair adhesion of sealant.

B. Verify that joint shaping materials and release tapes are compatible with sealant.

C. Examine joint dimensions and size materials to achieve required width/depth rations.

D. Use joint filler to achieve required joint width/depth rations. Provide neck dimension no greater than 1/3 joint width. Verify that joint backing and release tapes are compatible with sealant. Do not puncture backer rod.

E. Use bone breaker where joint backing is not used.

F. Perform preparation in accordance with ASTM C804 for solvent release and C790 for latex base sealants as applicable.

G. Protect elements surrounding the work of this Section from damage or disfiguration.

3.3 INSTALLATION

A. Perform work in accordance with ASTM C804 for solvent release and C790 for latex base sealants as applicable.

B. Install sealant per manufacturer's instructions.

C. Apply sealant within recommended temperature ranges. Consult manufacturer when sealant cannot be applied within recommended temperature ranges.

D. Tool joints concave.

E. Joint: Free of air pockets, foreign embedded matter, ridges, and sags.

3.4 CLEANING AND REPAIRING

A. Clean work under provisions of Section 017100.

B. Clean adjacent soiled surfaces.

C. Repair or replace defaced or disfigured finishes caused by work of this Section.

3.5 PROTECTION OF FINISHED WORK

A. Protect finished installation under provisions of Section 014000.

B. Protect sealants until cured.

3.6 SCHEDULE

Location:	Type:
A. Concrete Masonry	
Exterior Control Joints	Polyurethane
Exterior Penetrations	Polyurethane
Interior Control Joints	Rated Joint Sealant
B. Vapor Retarder	
Floor/Walls/Roof	Acrylic
Penetrations	Acrylic
C. Flashing and Metal Trim	
Metal/Metal (concealed)	Sealant Tape
Metal/Metal (exposed)	Silicone
Metal/CMU	Polyurethane

D. Windows

Cap Glazing Bead	Silicone Weather Seal
Heel Glazing Bead	Silicone Structural Sealant
Metal/Metal Flashing lap Joints (concealed)	Tape Sealant
Exterior Perimeter/Metal (exposed)	Polyurethane
Exterior Perimeter/CUM (exposed)	Polyurethane
Sill/Flashing (concealed)	Butyl
Wood/Wood (exposed)	Polyurethane
Structural Glazing	Silicone
Interior Perimeter/Metal (exposed)	Acrylic

E. Door and Relite Frames

Interior Door and Relite Frames/Walls	Acrylic
Exterior Door and Relite Frames/CMU	Polyurethane
Interior Door and Relite Glazing	Tape Sealant (pre-shimmed)
Exterior Door and Relite Glazing	Tape Sealant (pre-shimmed)
Threshold	Butyl

F. Tile

Fixtures, Fittings and Equipment/Substrate	Sanitary Sealant
Accessories and Partitions/Substrate	Sanitary Sealant
Control/Expansion Joints	Polyurethane
Top of Base	Sanitary Sealant

G. Penetrations

Cable, Pipe, & Utility/Rated Floor/Wall	Penetration Sealant
Voids Between Rated Wall/Roof Sheathing	Penetration Sealant
In Acoustical Walls and Ceilings	Acrylic
P. Lam/Gypsum Board	Acrylic
Horizontal Interior Traffic Joints	Traffic Sealant

H. Provide sealants for other joints between material, assemblies, and components not scheduled above as specified in individual Sections. Where not indicated above or called out in individual Sections, provide acceptable sealant best suited to application.

END OF SECTION 07-90-00

SECTION 09-25-00
GYPSUM WALLBOARD

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Gypsum Board.
2. Furring and miscellaneous light gage metal shapes.
3. Taped and sanded joint treatment.
4. Draftstops, where shown.
5. Acoustical accessories.
6. Metal Framing.

B. Related Work Described Elsewhere:

1. Joint Sealants Section 079000

C. References:

1. American Society for Testing and Materials (ASTM):

a. C36-84a Gypsum Wallboard.
b. C442-84a Gypsum Backing Board
c. C475-81 Joint Treatment Materials for Gypsum Wallboard Construction.
d. C665-84 Mineral Fiber Blanket Thermal Insulation for Light Frame Construction
e. C754-82 Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wallboard, Backing Board, or Water-Resistant Backing Board.
f. E84-84 Surface Burning Characteristics of Building Materials.
g. ANSI/ASTM C645 Non-Load Bearing Steel Studs, Runners, and Rigid Furring Channels for Screw Application of Gypsum Board.

2. Gypsum Association (GA):

a. GA 203 Installation of Screw-Type Steel Framing Members to Receive Gypsum Board.
b. GA 216 Recommended Specifications for Application and Finishing of Gypsum Board.
c. GA 219 Recommendations for Installation of Steel Door Frames in Steel Stud Gypsum Board Fire-Rated Partitions.

1.2 QUALITY ASSURANCE

A. Perform gypsum board systems work in accordance with recommendations of GA 216 unless otherwise specified in this Section.

B. Keep copy of GA 216 on site for duration of Project.

1.3 REGULATORY REQUIREMENTS

A. Fire-Rated Partitions: Listed by UL.

B. Fire-Rated Ceilings: Listed by UL.

1.4 SUBMITTALS

A. Submit manufacturer's product data and installation.

PART 2– PRODUCTS

2.1 FURRING ACCESSORIES

A. Provide materials in accordance with GA 216.

B. Furring Channels: Minimum 25 ga. roll-formed galvanized steel hat shaped channels, 7/8 in. deep.

C. Resilient Channels: Formed-steel; minimum 25 ga.; size and length required, flattened "Z" profile. Manufactured by US Gypsum.

D. Furring, Fasteners and Anchorage: ASTM C754.

1. To masonry and concrete: Hammer-set or power-driven.
2. To wood framing: Type W Bugle Screws, 1-1/4 in. long.
3. To sheet metal studs: Type S Bugle Screws, 1-1/4 in. long.
4. To steel shapes: Self-drilling fasteners similar and equal to Buildex "Tek" screws; size and type suitable for condition of use.

2.2 GYPSUM BOARD

A. Provide gypsum board materials in accordance with recommendations of GA 216. All materials fire resistant.

B. Fire Rated Gypsum Board: ASTM C-365 Type "X"; maximum permissible length.

1. Thickness: 5/8 in. thick, except 1/2 in. thick where shown
2. Width: 4’
3. Length: 8’
4. Weight: 2500 lbs
5. Edges: Tapered
6. Surfacing: Coated fiberglass mat on face, back
7. Flexural strength, parallel, lbf: 100
8. Flexural strength, perpendicular: 140
9. R Value: 0.67
10. Combustibility: Non-combustible
11. Nail pull resistance, minimum, lbf: 90

12. Hardness core, edges, and ends, lbf: >15
13. Water absorption (% of weight): <5%
14. Surface water absorption: <1.6 grams
15. Surface burning characteristics (per ASTM E 84) flame spread/smoke developed: 0/0
16. Bending Radius: 8’

C. Gypsum Backing Board: ASTM C442, Type "X"; 5/8 in. thick, except 1/2 in. thick where shown; maximum permissible length; ends square cut.

D. High Density Gypsum Board: Georgia Pacific Dens Armor Plus Fireguard or Equal.

E. Exterior Gypsum Wall Sheathing: Georgia Pacific DensGlass or Equal.

2.3 GYPSUM BOARD ACCESSORIES

A. Provide gypsum board accessories in accordance with GA 201 and GA 216.

B. Corner Beads: Metal. GA 201; ANSI-CB-114 x 114.

C. Edge Trim: GA 201 and GA 216; "L" Bead; ANSI-LS-58.

D. Reinforcing Tape, Joint Compound, Adhesive, Water, Fasteners: GA 216.

E. Fasteners: GA 216:

1. To metal furring: Type S, self-drilling, self tapping, 1-1/4 in. long at single layer; 1-5/8 in. long at double layer construction.
2. To wood framing: Type W, 1-1/4 in. long.
3. To joists at one-hour rated roof-ceiling construction: First Layer - Type S Bugle screws, 1- 5/8 in. long at 12 in. o.c. Second Layer - Type S Bugle screws, 2 in. long at 12 in. o.c. in field and 8 in. o.c. at butt edges, unless otherwise required to achieve assembly rating.
4. To concrete or block walls: OSI Pro-Series Formula #38, per manufactures specifications.

2.4 ACOUSTICAL ACCESSORIES

A. Acoustical Blankets:

1. Meet or exceed requirements of ASTM C665 and ASTM E84, having flame spread of 10, and smoke development of 10.
2. Provide acoustical wall treatment similar and equal to "Noise Barrier Batt Insulation" as manufactured by Owens Corning Fiberglass Corporation.
3. Size blankets in accordance with application, full thickness of studs.

B. Acoustical Sealant: Specified under Section 079000.

2.5 STUDS AND TRACKS

A. Sheet steel channel or "C" shaped at least 1-1/4 inch knurled return flange suitable for

nested or interlocked palled splicing and screw attachment of gypsum wallboard per ASTM C645.

B. 3-5/8 inches through the wall thickness 14 feet maximum length typical unless noted otherwise in the Drawings.

C. Provide punched openings at 1-1/2 inches diameter, not more than twenty-four inches on center. Studs full, single piece for height required.

D. Finish: Light commercial galvanized per ASTM A525.

E. Shaft Wall Studs and Tracks per stud manufacturer's instructions: Special shapes per Performance Requirements.

2.6 FASTENERS

A. Self-drilling, self-tapping drywall and metal screws in accordance with ASTM C1002 and GA 216. Only GWB screws allowed in GWB, no nails.

1. Length to penetrate GWB and Backing.

B. Metal Studs to Runners, Furring Channels, and Other Metal Accessories: Self-drilling, self-tapping pan head type "S" screws, size per metal stud manufacturer's written recommendations for specified fire resistance but not less than 3/8 inch long.

PART 3– EXECUTION

3.1 INSPECTION

A. Review and coordinate sequencing of work to ensure that everything to be concealed by gypsum board has been accomplished, and that chases, access panels, openings, supplementary framing and blocking, vapor retarders and similar provisions have been completed.

B. Beginning of installation means installer accepts condition of substrates.

3.2 WALL FURRING INSTALLATION

A. Erect wall furring vertically, directly attached to concrete block walls at 24 in. o.c. space fasteners not more than 24 in. o.c. staggered each flange.

B. Erect resilient channels horizontally at 24 in. o.c. fasten directly to metal framing, not more than 4 in. from abutting walls.

3.3 GYPSUM BOARD INSTALLATION

A. Heat space to receive gypsum board as required to maintain a constant and uniform 55 degrees F. minimum for one week prior to start of installation. Maintain temperature until permanent heating system is in operations.

B. Verify that partitions requiring thermal or sound installation are properly insulated prior to placing gypsum board.

C. Install gypsum board per GA 216.

D. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.

E. For double layer applications, use gypsum backing board for first layer, placed perpendicular to framing or furring members. Place second layer perpendicular to first layer. Ensure joints of second layer do not occur over joints of first layer.

F. Apply all gypsum board at masonry in vertical panel direction and secure in place until all has cured per manufacture recommendation.

G. For double layer applications, use second layer through first into framing with screws fasteners specified. Spacing of fasteners in accordance with GA 201, except space fasteners in accordance with UBC at fire rated assemblies.

H. Place corner beads at external corners. Use longest practicable lengths. Place edge trim where gypsum board abuts dissimilar materials and at reveals.

I. Wrap gypsum board behind recessed items in rated gypsum board partitions.

3.4 JOINT TREATMENT

A. Maintain temperature at minimum 55 °F.

B. Provide adequate and continuous ventilation to ensure proper drying, setting and curing of joint treatment compounds.

C. Mix joint treatment compounds in accordance with manufacturer's instructions.

D. Apply joint treatment materials in accordance with GA 201, GA 216, and manufacturer's instructions.

E. Tape, fill and sand exposed joints, edges, and corners to produce surface ready to receive surface finishes. Feather embedding and minimum two topping coats onto adjoining surfaces so that camber is maximum 1/32 in. Finishing of taping is not required in concealed spaces and above finished ceilings. Taping is not required above acoustical tile finished on ceiling in classrooms.

F. Remove and correct defective Work.

G. All gypsum wall board shall be fire-taped.

3.5 ACOUSTICAL BLANKET INSTALLATION

A. Comply with manufacturer's instructions for particular conditions of installation in each case. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work.

B. Extend acoustical blankets in full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with acoustical materials. Remove projections which interfere with placement.

C. Apply single or double layer of acoustical blankets of required thickness, as shown or required to make up total thickness.

D. Install acoustical materials in stud cavities of sound rated partitions, friction fit, except attach at top of partitions. Attachment may be accomplished with staples or tape as recommended by acoustical materials manufacturer.

E. Closely butt blankets to form uninterrupted sound barrier.

3.6 ACOUSTICAL SEALANT INSTALLATION

A. Place acoustical sealant within partitions in accordance with manufacturer's instructions. All walls with acoustical blanket insulation shall receive sealant at bottom plate.

B. Apply acoustical sealant in 3/8 in. diameter continuous beads to both sides of runners, plates and end studs to seal intersection with adjoining structure.

C. Seal perimeter of gypsum board in noted sound wall to abutting substrate. Seal penetrations of partitions and ceilings.

3.7 METAL STUD INSTALLATION

A. Install studding in accordance with ANSI/ASTM C754, GA 201 and GA216, manufacturer's instructions and the Drawings. Set floor tracks in sill sealer insulation.

B. Metal Stud Spacing: Sixteen inches on center. Anchor tracks top and bottom at twenty-four inches maximum and six inches from each track end.

C. Partition Heights: Full height to floor or roof structure above.

D. Door Opening Framing: Install double full height 20 gage studs at door frame jambs. In accordance with GA219 install stud tracks at frame head height, and between adjacent studs. Screw double studs together - with additional flat plate as necessary.

E. Backing and Blocking: Screw to two studs minimum. Install backing for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories, hardware handrails, owner supplied and contractor installed FF&E equipment, and other GWB mounted fixtures as indicated.

F. Bridging: Install bridging at midpoints of studs or 6 feet maximum for studs over 12 feet high. Use stud track screw attached to each stud.

G. Coordinate installation of backing, anchors, blocking, electrical and mechanical work placed in or behind partition framing.

3.8 CLEANING

A. Provide cleaning under provisions of Section 015690 and 017100.

B. Remove all rubbish, excess materials, and equipment from building and site, clean surrounding surfaces and leave floors clean.

END OF SECTION 09-25-00

SECTION 09-65-00
RESILIENT FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Provide resilient flooring and floor preparation.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.

B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include a range of samples if variation of finish is anticipated.

C. Extra Stock: Submit extra stock equal to 2 percent of total used per Section 01-75-00.

1.3 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Performance: Fire performance meeting requirements of building code and local authorities.

1.4 WARRANTIY

A. Refer to Section 01-74-00

PART 2 - PRODUCTS

2.1 MATERIALS

A. Vinyl Composition Tile Flooring:

1. Manufacturers: Armstrong World Industries; Azrock Industries; Roppe Corp.; VPI Floor Products Div, or approved equal.
2. Type: Vinyl Composition Tile: ASTM F 1066, Class 2 through-pattern.
3. Size: 12 inches by 12 inches.
4. Thickness: 1/8 inch.
5. Auxiliary Materials:
    a. Edge strips and terminations.
    b. Leveling compound.

c. Low VOC adhesives (less than 60 g/L).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer's instructions and recommendations. Install in proper relation to adjacent work.

B. Prepare surfaces by cleaning, leveling and priming as required. Test adhesive for bond before general installation. Level to 1/8 inch in 10 foot tolerance.

C. Tile Flooring: Install tile with tight joints and with one-way pattern. Layout to prevent less than 1/2 tile units.

D. Sheet Flooring: Install sheets with tight joints and pattern in adjoining areas running in the same direction. Layout to minimize seams as approved.

E. Clean, polish, and protect.

END OF SECTION 09-65-00

SECTION 09-65-13

RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Section 09-65-00 Resilient Flooring
B. Section 09-68-13 Tile Carpeting

1.2 SUMMARY

A. Provide resilient wall base and accessories as required for project completion.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range of samples if variation of finish is anticipated.
C. Submit extra stock equal to 1 box of 48” base or 12 ft roll of approved resilient base per Section 01-75-00.

1.4 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
B. Performance: Fire performance meeting requirements of building code and local authorities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Resilient Wall Base:

1. Manufacturers: AFCO Rubber Corp.; Johnsonite; Roppe; VPI Floor Products; Flexco; Burke, or approved equal.
2. Standard: ASTM F 1861.
3. Type: TS (rubber, vulcanized thermoset).
4. Group: I (solid, homogeneous)
5. Style: Cove.
6. Thickness: 0.080 inch

7. Height: 6 inches.
8. Auxiliary Materials:
   a. Low VOC adhesives (less than 50 g/L).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer's instructions and recommendations. Install in proper relation to adjacent work.
B. Install base and accessories to minimize joints. Install base with joints as far from corners as practical.
C. Clean, polish, and protect.

END OF SECTION 09-65-13

SECTION 09-90-00
PAINTING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Prepare surfaces to receive finish.
2. Finish surfaces as indicated in schedule at end of this Section.

B. Related Work in Other Sections:

1. Section 07-90-00	Joint Sealants
2. Project Drawings	Refer to M0.2 for sheet specifications

1.2 QUALITY ASSURANCE

A. Container labels shall include manufacturer's name, type of paint, stock number, color, label analysis, and where applicable instructions for reducing.

1.3 MOCKUP

A. Before proceeding with paint application, finish one complete surface of each color scheme required, clearly indicating selected colors, finish texture, materials, and workmanship. For spray application, paint surface not smaller than 100 sq.ft. as Project standard.

B. If accepted, sample area will serve as a minimum standard for work throughout Work.

1.4 SUBMITTALS

A. Submit materials list, product data, samples and manufacturer's instructions under provisions of the Section 01-34-00.

B. Submit manufacturer's product data on each paint material used on project.

C. Prepare 12 in. x 12 in. samples of finishes when requested by Owner. Transparent finishes on solid lumber may be 4 in. x 8 in. When possible, apply finishes on identical type materials to which they will be applied on job.

D. Identify each sample as to finish, formula, color name and number, sheen name, and gloss units.

E. Colors selected by Owner prior to commencement of work.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver paint materials under in sealed original labeled container.

B. Provide adequate storage facilities. Store paint materials at minimum ambient temperatures of 45 °F in well ventilated area.

C. Take precautionary measure to prevent fire hazards and spontaneous combustion.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture contents of surfaces are below following maximums:

1. Plaster and gypsum wallboard: 12 percent.
2. Concrete and Concrete Masonry Units: 12 percent.
3. Interior Located Wood : 12 percent
4. Exterior Located Wood: 19 percent

B. Ensure surface temperatures or the surrounding air temperature is above 45°F before applying finishes. Minimum application temperatures for latex paints for interior work are 60°F and 50°F for exterior work. Minimum application temperature for varnish finishes is 75°F.

1. Do not paint exterior surfaces after September 30th unless surrounding are temperature is above 45°F.

C. Provide adequate continuous ventilation and sufficient heating facilities to maintain temperatures above 45°F, and 75°F, as applicable, for 24 hours before, during and 48 hours after applications of finishes.

D. Provide minimum 25 foot candles illumination on surfaces to be finished.

1.7 MAINTAENANCE DATA

A. Submit maintenance data under provisions of Section 01-73-00.

B. Indicate cleaning methods, cleaning solutions recommended, and stain removal methods recommended.

1.8 EXTRA STOCK

A. Furnish extra stock under provisions of Section 01-75-00. Leave on premises, where directed by Owner, not less than one gallon each type and color used.

B. Tightly seal and clearly label containers for identifications.

PART 2– PRODUCTS

2.1 MANUFACTURERS

A. Columbia Paints

B. Sherman Williams

C. ICI Paints

D. Glidden Coatings and Resins

E. Parker Paints

F. Substitutions: Under provisions of Section 016300.

2.2 PAINT AND ENAMEL MATERIALS

A. Paint and Enamel: Type and brand listed as manufactured by ICI Paints, unless otherwise noted.

1. Owner's review of other acceptable manufacturer's products may include reference to "Architectural Specification Manual" published by Specifications Services and the Washington State Council Painting and Decorating Contractors of America. Provide first line materials.

B. Paint Accessory Materials: Linseed oil, shellac, turpentine and other materials not specifically indicated herein but required to achieve the finishes specified shall be of high quality and acceptable manufacturer.

C. Paint: Ready-mixed except field catalyzed coatings. Pigments fully ground maintaining a soft paste consistency, readily and uniformly dispersed to complete homogeneous mixture.

D. Paint shall have good flowing and brushing properties and dry or cure free of streaks and sags.

2.3 FINISHES

A. Refer to surface finish schedule at end of this Section.

B. Provide finish for all exposed materials factory primed or unfinished, unless specifically stated as not requiring finish.

2.4 PAINT SYSTEMS

A. INTERIOR PAINT SYSTEMS: COLUMBIA PAINT AND COATINGS

1. ON DRYWALL (IPS 10)
    a. FIRST COAT: 02-735 PREMIUM PRO INTERIOR LATEX ENAMEL UNDERCOATER

b. FINISH COAT: 02-255 PREMIUM PRO ACRY-PLUS INTERIOR LATEX EGGSHELL

2. ON CONCRETE BLOCK (IPS 20)

COLOR: COLUMBIA- TO BE DETERMINED BY ARCHITECT

a. FIRST COAT: 01-0443 PROFESSIONAL HIGH BUILD INT/EXT LATEX BLOCK FILLER

b. FINISH COAT: 02-250 PREMIUM PRO ACRY-PLUS INTERIOR LATEX SATEN

3. ON STEEL (IPS 30)

COLOR: COLUMBIA- TO BE DETERMINED BY ARCHITECT

c. FIRST COAT: 05-2554 PROFESSIONAL METAL PRIMER

d. FINISH COAT: 01-235 PREMIUM PRO EXTERIOR 100% ACRYLIC LATEX FLAT

PART 3 – EXECUTION

3.1 INSPECTION

A. Thoroughly examine surfaces scheduled to be painted prior to commencement of work. Report in writing to Owner, conditions that may potentially affect proper application. Do not commence until such defects have been properly corrected.

B. Properly correct defects and deficiencies in surfaces which may adversely affect work of this Section.

C. Beginning of installation means installer accepts condition of existing substrates.

3.2 PROTECTION

A. Adequately protect other surfaces from paint and damage. Repair damage resulting from inadequate, and unsuitable protection.

B. Use sufficient drop cloths, shields, and protective equipment to prevent spray and droppings from fouling surfaces not being painted, surfaces within storage and preparation area.

C. Place cotton waste, cloths, and material which may constitute fire hazards, in closed metal containers and remove daily from site.

D. Prior to painting operations, remove electrical plates, surface hardware, fittings and fastenings. Carefully store, clean, and replace on completion of work in each area. Do not use solvent to clean hardware with permanent lacquer finish.

3.3 PREPARATION

A. Remove mildew, by scrubbing with solutions of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry completely.

B. Remove contamination from gypsum board surfaces and prime to show defects, if any. Paint after defects have been remedied.

C. Remove surfaces contamination and oils from zinc coated surface and prepare for priming in accordance with metal manufacturer's recommendations.

D. Remove dirt, loose mortar, scale, powder and other foreign matter from concrete and unit masonry surfaces to be painted. Remove oil and grease with solutions of tri-sodium phosphate; rinse well and allow to thoroughly dry.

E. Remove grease, rust, scale, dirt, and dust from steel and iron surfaces. Where heavy coatings of scale are evident, remove by wire brushing, sandblasting, or other necessary method. Ensure steel surfaces are satisfactory before painting.

F. Clean unprimed steel surfaces by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned. Prime surfaces to indicate defects. Paint after defects have been remedied.

G. Sand and scrape shop primed steel surfaces to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

H. Galvanized Metals:

1. Solvent clean with toluol, xylol, or lacquer thinner to remove oils, grease and other contaminants. Do not use paint thinner or turpentine.

2. Use phosphoric acid based, etching type, surface treatment compatible with painting system materials. Follow surface treatment manufacturer's instructions.

3. Where conditions require, use strong acid treatment or sand blasting to prepare galvanized surfaces scheduled to receive paint finish.

I. Wipe off dust and grit from miscellaneous wood items and millwork prior to priming. Sand wood, scheduled to receive transparent finish, to unblemished condition. Visible sanding scratches are unacceptable. Spot-coat knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried, and sand between coats. Remove factory applied sealers containing wax from glue laminated members finished under this Section by solvent wiping and sanding before coating. Back prime interior and exterior woodwork.

3.4 APPLICATIONS

A. Apply products in accordance with manufacturer's instructions.

B. Apply each coat to uniform finish, at proper consistency.

C. Tint each coat of paint slightly darker than preceding coat unless otherwise accepted by Owner's Representative.

D. Sand lightly between coats to achieve required finish.

E. Do not apply finishes on surfaces not sufficiently dry.

F. Allow each coat of finish to dry before applying following coat, unless directed otherwise by manufacturer.

G. Where clear finishes are required, tint fillers to match wood. Work fillers well into grain before set. Wipe excess from surfaces.

H. Prime top and bottom edges of hollow metal doors with enamel undercoat.

I. Prime back surfaces of interior and exterior woodwork with primer paint.

J. Prime back surfaces of interior wood work scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.

K. Colors:

1. Anticipate maximum 3 field colors and 4 accent colors for paint and enamel systems. Refer to Sheet Specifications for color requirements.

2. Anticipate maximum 3 field colors and no accent colors for epoxy paint systems. Refer to Section 09-65-00 for gym floor striping.

3. Anticipate maximum 1 field color and no accent colors for each of the other paint and stain systems. Refer to Sheet Specifications for color requirements.

3.5 FINISHING MECHANCAL AND ELECTRICAL EQUIPMENT

A. Remove grilles, covers, and access panels for mechanical and electrical systems for locations and paint separately.

B. Finish paint primed equipment to color selected.

C. Paint interior surfaces of air ducts, convector and baseboard heating cabinets visible through grilles and louvers with one coat flat black paint, to limit of sight line.

1. Paint dampers exposed immediately behind louvers, grilles, convector and baseboard cabinets to match face panels.

D. Paint both sides and edges of plywood backboards for electrical equipment before installing backboards and mounting equipment.

E. Paint electrical panel boards and frames. In locations other than electrical/mechanical rooms, paint color to match adjacent wall surfaces.

3.6 CLEANING

A. As work proceeds and upon completion, promptly remove paint spills, splashes, and spatters.

B. During progress of work keep premises free from unnecessary accumulation of tools, equipment, surplus materials, and debris.

C. Upon completion of work leave premises neat and clean.

END OF SECTION 09-90-00

SECTION 22 00 00
GENERAL PLUMBING WORK

PART 1 GENERAL

1.1 SUMMARY

A. Section specifies general provisions covering Work described in other Division 22 Sections.

B. For purpose of clarity, Drawings are essentially diagrammatic. Sizes and locations of equipment are depicted to scale wherever possible. Use data in Contract Documents to verify exact locations of equipment.

C. Drawings indicate required size and points of termination of pipes and conduits to suggest proper routes to conform to structure, avoid obstructions, and preserve clearances. However, Drawings do not indicate necessary offsets. Provide installation to conform to structure, avoid obstructions, preserve headroom, maintain adequate clearance, and clear passageways.

D. Provide the entire plumbing work as shown and specified, including the following:
   1. Connect new work so as to provide a complete and operating system. All work shall include complete installation of the piping, fittings, valves, specialties, and accessories to include the following:
      a. Domestic cold and hot water distribution system
      b. Sanitary Drain, Waste, and Vent system

E. Intent:
   1. The Intent of the Contract is to include all labor and materials, tools, hoisting, scaffolding, supervision, equipment, and transportation necessary or reasonably inferable as being necessary for the execution of the work.
   2. The Contract Documents endeavor to communicate intended completed work. Interim stages, methods, and means may not be specifically indicated where such is reasonably inferable.
   3. The Contractor is responsible for providing the finished plumbing work, tested and ready for operation.

1.2 SAFETY AND PROTECTION

A. Safety Measures to be taken: Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.
   1. The Engineer has not been retained or compensated to provide design and construction review services relating to the Contractor’s safety precaution or to

means, methods, techniques, sequences, or procedures required for the Contractor to perform the work. The Engineer's observations of the Contractor's performance are not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

B. All equipment and installation shall be in compliance with OSHA regulations.

1.3 CODES, PERMITS, AND INSPECTIONS

A. All work shall be installed in conformity with applicable local ordinances and state statues. Standards and sizes which meet or exceed preceding requirements shall be installed as indicated.

B. Give necessary notices, obtain permits, and pay taxes, fees and other costs, including utility connections or extensions for the work. File necessary plans, prepare documents and obtain necessary approvals of governmental departments having jurisdiction. Apply for and pay for all utility meters and gauges required. Obtain required certificates of inspection for work.

C. Comply with laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.

D. Material and equipment within the scope of the UL Testing Laboratory shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark.

E. Contractor shall call for all inspections by the authority having jurisdiction when they become due and shall not cover any work until approved by the governing authorities.

1.4 QUALITY ASSURANCE

A. Provide qualified personnel to perform the work. Conform to industry accepted standard practices.

B. Unless otherwise indicated or specified, all replacement materials shall be new. Contractor shall properly store all materials and equipment for protection from physical damage or damage due to corrosion.

C. Provide all rigging, scaffolding, staging, and ladders required for complete installation of all equipment.

D. Each material for which the manufacturer issues written directions shall be used according to its manufacturer's directions, as approved and if not a variance with these specifications.
   1. If manufacturer's directions are at variance to the Contract Documents, install to the more stringent requirement within the terms of the manufacturer's warranty.

E. Install all equipment to be easily accessible for operation, maintenance, or repair. Equipment deemed inaccessible shall be relocated as needed.

F. Drawings and specifications shall be taken together. Provide work specified and not drawn or work drawn and not specified as though mentioned in both.

1.5 PROJECT/SITE CONDITIONS

A. Carefully examine existing conditions, including related work and compare to the Contract Documents.

B. Prior to commencement of the work, review peculiarities and limitations of work space available for installation of materials and equipment furnished and installed. Install materials and equipment to provide easy access for operation and maintenance.

C. Where installation of approved equipment requires arrangement or connection different than indicated on Drawings, install such equipment to operate properly with connected or adjacent systems.

1.6 GENERAL LOCATIONS AND ARRANGEMENTS

A. Drawings (plans, schematics, and diagrams) indicate general location and arrangement of Plumbing systems and do not attempt to show exact details or all offsets in piping. Do not scale drawings to obtain final cut lengths, quantities, or the like. Examine the architectural drawings for exact location of fixtures and equipment.

B. Indicated locations and arrangements were used to size ducts and pipe, and to calculate friction loss, expansion, and other design considerations. Install systems as indicated, unless deviations to the layout are approved in advance.

C. Follow drawings in laying out work and check drawings of other trades to verify spaces in which work will be installed. Install piping and ducts in such a manner as to conform to structure, avoid obstructions, and keep openings and passageways clear. Lines that must pitch, or that must have a constant elevation, shall have the right-of-way over lines not so restricted. Maintain maximum headroom.

1.7 SUBSTITUTIONS

A. The use of brand names is for the purpose of description and establishing quality and does not eliminate the requirements of meeting specifications.

B. Approval of alternative and/or substitute products will be considered per sheet specifications.

C. Design is based on equipment as listed in the equipment schedules and/or specified elsewhere in Division 22. Where implementation of an approved substitution requires redesign to any part of the work, Contractor shall provide for such redesign and shall be at the Contractor's expense.

1.8 SUBMITTALS, APPROVALS, AND REVIEWS

A. Provide Submittals as required by the Contract Documents.

B. Provide Operation and Maintenance (O&M) manual as required by the Contract Documents.

1.9 RECORD DRAWINGS ("AS-BUILTS")

A. Provide Record Drawings as required by the Contract Documents.

1.10 CONTINUITY OF SERVICE FOR EXISTING SERVICES

A. The Contractor shall provide those temporary services to existing services as required to maintain them in continuous operation without reducing efficiency. The extent of temporary services shall be carefully coordinated.

B. Do all new work so that there is no shutdown of more than one-day duration of any existing system.
   1. Interruptions of any existing service or system shall be fully coordinated with building manager and occupants. Contractor shall provide advance notice before performing the work which would cause or require the shutdown.

C. Do not use plumbing systems during construction. Cover fixture openings with taped-on plastic sheet or equivalent to keep all construction dust possible out of the fixture.

D. Promptly remove all waste material and rubbish. At completion of the work, clean all dirt and construction debris such as paint, plaster, glue, cement, plastic, tar, paper, tape and dirt from the plumbing installation including equipment, piping, plumbing fixtures. In finished areas to be occupied, keep equipment covered during course of construction. Where this is not practical, clean and/or refinish item to new condition.

PART 2 – PRODUCTS

Not Applicable.

PART 3 – EXECUTION

Not Applicable.

END OF SECTION 22-00-00

SECTION 22 05 00
BASIC PLUMBING MATERIALS AND METHODS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Section, apply to this Section.

B. Follow all provisions of Section 22 00 00, General Plumbing Work.

1.2 WORK INCLUDED

A. This Section includes the following basic mechanical materials and methods to compliment other Division 22 Sections. In addition to the requirements in section 23 00 00, “General Mechanical Work”, the following additional work is stated herein.
   1. Testing of plumbing systems.

1.3 DEFINITIONS

A. Pipe, pipe fittings, and piping include tube, tube fittings, and tubing.

B. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, spaces above ceilings, crawl spaces, and tunnels.

C. Exposed Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

D. Exposed Exterior Installations: Exposed to view outdoors, or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

E. Concealed Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.

F. Concealed Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants, but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

G. Service Areas: Mechanical rooms such as boiler room, fire pump room, air handler room and other machine rooms; and unfinished attic spaces provided with access to equipment. These areas are provided only for access to equipment and mechanical systems.

1.4 QUALITY ASSURANCE

A. Fixtures, trim, and methods of piping and installation per Uniform Plumbing Code. Fixtures in given line to be product of same manufacturer.

B. Pipe, valves, fittings, and specialty items, shall be new, full weight, full length, scale-free, and best quality of their respective kinds. In addition to tests required for specific materials and systems, test or guarantee materials to be as specified prior to delivery.

1.5 PRODUCT HANDLING, DELIVERY AND STORAGE

A. Receive and handle materials with care so as not to cause damage. Use padded or strap slings, etc., as appropriate for materials being handled. Lift equipment by lift points provided or recommended by manufacturer.

B. Use proper tools, equipment, and procedures to handle and lay pipe. Do not damage pipe coating, wrapping, or linings. Repair or replace damaged pipe coatings, wrappings, or linings per with manufacturer's instructions or as required to restore original protection.

C. Inspect materials, upon receipt, for defects and for compliance with Specifications.

D. Properly store pipe and piping materials so as to prevent deterioration while in storage. Store all materials off ground or off floor. Store inside or cover materials subject to deterioration from weather.

E. Store loose materials such as fittings, gaskets, bolts, nuts, small valves, traps, and specialties in adequate number of bins to properly separate. Protect ends of large fittings, valves, and pipe from weather and abuse. Properly grease machined surfaces.

1.6 SEQUENCING AND SCHEDULING

A. See Section 22 00 00, General Plumbing Work.

PART 2 PRODUCTS

2.1 MATERIALS

A. Pipe and Tube:
   1. For pipe and tube, comply with material and dimensions as specified in Section 22 11 16.
   2. For pipe threads, comply with ANSI B1.20.1.

B. Fittings:
   1. For fitting dimensions and materials, comply with Section 22-05-00.

2. Purchase fittings from same manufacturer as much as possible.

C. Branch Connections: Use branch connection charts found in the UPC.

D. Flanges and Gaskets:
   1. Comply with ANSI standards for flange dimensions for various pressure classes.
   2. For flanges, use materials as specified in the UPC.

E. Valves:
   1. Comply with ANSI B16.10, for face-to-face dimensions of flanged valves, unless otherwise noted.
   2. Provide valve end connections as full line size.
   3. Construction of Valves: Rating shall be not less than 105-psi wsp. Valves larger than 2" shall be flanged pattern.
   4. Ball Valves 2" and smaller: 2-piece body style, full port, chromium plated solid brass ball, RFTFE seats, adjusted hex gland follower, bronze body, level handle, blowout proof stem, 150 wsp, 600 wog.
   5. Check Valves in Copper Tubing: Bronze body and disc, soldered joint end connections, horizontal swing check, screwed cap, 125 wsp, 200 wog.
   6. Gate Valves in Copper Tubing: Bronze body, soldered joint end connections, screwed bonnet, rising stem, solid wedge disc, 125 wsp, 200 wog.

F. Joints Between Dissimilar Metals for Water Service:
   1. Make joints between ferrous and non-ferrous screwed piping and equipment with insulating unions manufactured by Capital Manufacturing Company, Central Plastics Company, EPCO Sales, Inc., or equivalent.
   2. Make joints between ferrous and non-ferrous flanged piping and equipment with EPCO dielectric flange unions, EPCO, Duriron insulating gaskets, sleeves, and washers, or equivalent.
   3. Victaulic, Style 47, Dielectric Waterway, may be used for pipe sizes 4 inches and smaller.
   4. Provide entire insulating joint, including dielectric material, to withstand temperature, pressure, and other operating characteristics of service for which it is used.

G. Pipe Supports, Guides, and Anchors: Furnish in accordance with Drawings, Specifications, and applicable codes and standards necessary to support pipes from buildings, pipe bridges, stanchions, structures, and grade.

H. Thread Compound:
   1. TFE tape, 1/2 inch by 3 mil thickness, "Scotch Brand" by 3M; JC-30 Thread Sealant with Teflon by Federal Process Co.; Locktite Pipe Sealant with Teflon.
   2. Leave 1-1/2 threads at end of joint clear of tape.

I. Pipe Sleeves:
   1. Interior Partitions: 22 gauge galvanized sheet steel.
   2. Interior Masonry Walls and Floors: Standard weight galvanized steel pipe.
   3. Exterior Walls: Extra strong galvanized steel pipe.

4. Concrete Walls: Standard cast iron wall sleeves manufactured with water stop integrally cast and of necessary length to properly fit wall.
5. Underground Beneath Footings and Foundations: Standard weight corrugated steel, bituminous coated inside and outside, and with close fitting bituminous coated plate at each end.

J. Sleeve Packing:
1. Waterproof Wall Below Grade: Oakum and waterproof sealer.
2. Exterior Walls and Slab on Grade: Oakum and waterproof sealer.
3. Interior Walls and Elevated Floor Slabs: Fire-Stop “ElastaSeal”**,** Silicone RTV seal by General Electric, Dow, or 3M to accommodate and maintain fire rating of penetrated surface.

K. Modular Wall and Casing Seals:
1. Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between piping and wall opening.
2. Links loosely assembled with bolts to form continuous rubber belt around pipe with pressure plate under each bolt head and nut.
3. Links designed such that tightening of bolts causes rubber sealing elements to expand and provide water-tight seal between pipe and wall opening.
4. Links constructed to provide non-conductive insulation between outer surface of pipe and wall.
5. Provide "LinkSeal" by Thunderline.

L. Jumpers:
1. Furnish braided copper jumpers around connections between metallic pipe and non-conductive connections to provide continuous electrical grounding.
2. Attach jumpers to piping to eliminate binding flexible connections.

M. Drip Shields: Where piping carrying liquids crosses over electrical equipment, provide and install sheet metal drip pan under piping.

N. Escutcheon Plates: Provide chrome plated, split type in finished spaces and nickel plated steel in unfinished spaces.

O. Grout: Use pre-mixed non-metallic, non-shrink, non-corrosive grout providing minimum compressive strength of 8,000 psi at 28 days.

PART 3 EXECUTION

3.1 GENERAL

A. Installation:
1. Piping Drawings are generally to scale. Use calculated dimensions or drawing dimensions rather than lengths scaled from Drawings. Do not scale drawings.

2. Route piping by shortest run consistent with good installation practice, clearance requirements, and expansion and flexibility provisions.
3. Arrange piping to facilitate support of piping and ease of removal for inspection or servicing.
4. Ensure maintenance areas are clear of piping.
5. Cut and hang pipe to align freely with flanges and fittings.
6. Install pipe so that alignment and gradient is straight or follows true curves as near as it is practicable.
7. Install pipe lines with curvature, where required, within allowable radii for pipes, horizontal and vertical.
8. Space pipe supports and arrange reducers to allow system to be drained at low points and vented at high points.
9. Avoid installing pockets in pipe lines.
10. Do not change piping installation as indicated on Drawings without prior approval.
11. Install guides, anchors, braces, and couplings to limit movement of piping resulting from induce hydraulic stresses, thermal stresses, seismic disturbance, and to reduce transmission of such stresses and resulting forces. Utilize minimum number necessary.
12. Place, set, and install sleeves and inserts required to route and install piping services under this Division.
13. Install offsets as required in vent piping only in vertical to clear obstructions.
14. Where lines of lower pressure rating connect to services or equipment of higher pressure rating and valve is indicated at connection point, install valve conforming to higher pressure rating.
15. Use cold springing only where indicated on Drawings.

B. Fabrication:
   1. If discrepancies between Schematic and Piping Drawings are discovered, Schematics are the governing documents.
   2. Use proper tools, equipment, and procedures to lay pipe.
   3. Fabricate and install in accordance with Drawings and Specifications using only qualified mechanics.
   4. Comply with applicable codes for welding.
   5. Plug openings when work is not being performed on pipe, including at end of work day.
   6. Arrange piping systems so that loads and moments applied at flanges of mechanical equipment, such as pumps and compressors, do not exceed permissible reactions for this equipment as specified by manufacturers of equipment.
   7. Provide for expansion, with pipe loops, where possible.
   8. Make changes in size and direction of piping with fittings. Do not use miter fittings, face, or flush bushings, close nipples or street elbows, except as shown on Drawings.
   9. Use eccentric reducing fittings or eccentric reducing couplings where indicated on Drawings, where required to prevent pocketing of liquid or non-condensable or to maintain a level bottom of piping elevation when using pipe support bridges which are located at same elevation.

10. Use long radius welding elbows for field fabricated piping over 2-inch size, except where otherwise specified on Drawings or Division 22 Specifications.
11. Bends may be used in shop fabricated piping in place of welding elbows provided such bends comply with ANSI B31.1 or B31.3 as applicable by service specification.
12. When bends are substituted for elbows, maintain uniform center line radius.
13. Buckles and blisters are not acceptable (bends designed as creased or corrugated bends are acceptable).

C. Fittings:
1. Do not bend, spring, or deform piping to prepare joints for fitting connections.
2. Do not use bushings except where specifically approved.

D. Flanged Connections:
1. Align flange faces with holes straddling vertical centerline of piping.
2. Where steel flanges are bolted to flat face cast-iron flanges, machine off raised face.
3. Prior to tightening bolts, lubricate bolt threads with heavy graphite and oil mixture.
4. Tighten bolts to produce uniform pressure on bolts to avoid overstressing of bolts, dishing of flanges, and compressing gasket beyond working limits.
5. Tighten commercial grade bolts to approximately 15,000 psi stress, based on root area of thread.
6. Tighten alloy steel bolts to a stress of 45,000 psi, based on root area of thread.

E. Screwed Connections:
1. Use clean cut screwed threads with no stripping, or burrs from cutting or threading, in accordance with ANSI B1.20.1.
2. Use only dies that are new, sharp, and properly designed for piping material.
3. Clean threads on pipe and fittings thoroughly of cuttings, dirt, oil, or other foreign matter, immediately before installation.
4. Liberally coat male threads with thread lubricant or TFE thread tape and make up piping sufficiently for threads to seize.
5. Use TFE tape on stainless steel threaded joints.
6. Do not mar or damage pipe and fitting surfaces.
7. Do not use Permatex, lampwick, cord, wool, or any other similar material for thread sealant.
8. Use reducing fittings for reducing in line size.
9. Do not use bushings or close nipples.
10. Use square head steel plugs.

F. PEX Pipe: Install PEX pipe in accordance with manufacturer's recommendations.

G. Tie-ins/Tie Points:
1. Verify tie-in/tie point locations and elevations for connections to existing piping and equipment prior to fabrication of piping.
2. Adjust shop fabricated and field routed piping to accommodate differences between Drawings and field verified locations.

3.2 CLEANING AND INSPECTION

A. Thoroughly clean pipe and fittings before installation and keep clean until accepted in completed Work.

B. Test pipe coating with suitable electronic “Holiday” Tester during installation. Repair deficiencies.

C. Clean each joint of pipe before it is made up.

D. Keep exposed ends of pipe properly plugged during installation to prevent dirt and other materials entering line.

E. Carefully examine pipe for cracks and other defects and do not install pipe or casting which is defective.

F. Remove and replace cracked, broken, or defective pipe.

G. Examine surfaces of pipe, piping specialties, valves, and accessories to be joined and remove metal obtrusions, discontinuities, and debris.

H. If any portion of Work is performed in or adjacent to existing building, structure, or service area, inspect conditions for renovations or repairs required to existing items. Provide labor and materials necessary to alter, renovate, or repair existing items to facilitate incorporation of this portion of Work as specified and as indicated on Drawings.

I. Clean and flush each piping system in accordance with Division 22 requirements.

J. Test each piping system in accordance with Division 22 requirements.

3.3 LOCATION CRITERIA AND CLEARANCES

A. Provide minimum overhead clearances, unless otherwise specified, to underside of flanges, insulation, or bottom of structural supports required over roads, platforms, and other items as applicable:
   1. Above Floors Within Building: 7'-0"
   2. Above Elevated Walks and Platforms: 7'-0"
   3. Above Plant Roads and Trucking Areas: 16'-0"
   4. Above Outside Areas on Sleepers: 1’-6”
   5. Above Other Outside Areas at Grade: 7'-0"
   6. Above Railroad Tracks and Public Main Road: 22'-0"
   7. Above Fork Lift Accessways: 12’-0”

B. Provide minimum side clearance of 2 inches (unless shown otherwise on Drawings) between parallel lines, outside of insulation or between flange and pipe (insulation), to permit ready access for removal or maintenance of pipeline. Consider thermal movements in maintaining side clearances.

C. Provide minimum unobstructed walkway clearance of 3'-0" unless otherwise specified.

D. Provide minimum unobstructed road width of 20’-0” unless otherwise specified.

E. Provide minimum unobstructed access way width of 12’-0” unless otherwise specified.

3.4 VALVES

A. Locate frequently used operating valves, control valve assemblies, instrument control cases, liquid level controls, gauge glasses, orifices, relief valves, and other equipment which must be observed, adjusted, or serviced during operation, so that they are conveniently accessible from operating platform or grade.

B. Provide frequently operated valves, on which centerline of stem is more than 7'-0" above pavement or platform levels, with remote operating devices such as chain wheels or extension stems to permit ease of operation.

C. Do not use chain wheels on screwed end valves.

D. Provide chains to within 3'-0" of operating level and attach to columns or walls so as not to obstruct passageways.

E. Provide extension stems on frequently operated valves located in trenches if handwheels are more than 2’-6” below cover plate. Extend stems to cover plate.

F. Locate valves at towers directly against or close to tower nozzles unless physical interferences would prevent proper operation of valves.

G. Except for drain valves, do not locate valves inside vessel skirts.

H. Provide valve outlets in process and steam services, which do not connect to a piping system, with appropriate end closure such as bull plug, nipple and screwed cap assembly or blind flange.

I. Place manually operated valves, which are used in conjunction with locally mounted flow indicators, at same operating level and locate where instrument can be readily observed.

3.5 RELIEF VALVES

A. Connect relief valves within processing unit limits as follows:
   1. Direct discharge of relief valves in non-hazardous service, such as water, directly to collector drains.
   2. Provide low point of outlet piping with 1/2 inch minimum drain pipe to drainage system where required.
   3. Do not install piping between vessel or line and relief valve inlet, unless shown otherwise on Drawings.

4. Install relief valves in vertical position.

3.6 VENT AND RELIEF VALVE DISCHARGE PIPING

A. Brace and support vent piping in manner that will not produce excessive stresses in relief valve and will permit removal of relief valve without necessary temporary supports for vent lines.

B. Arrange discharge piping for relief valves to avoid pockets, with weep holes where required.

3.7 LUBRICATED VALVES

A. Lubricate valves requiring lubrication, after installation, using lubricants specified by valve manufacturer.

B. Install lube fittings where required and leave in place.

3.8 CONNECTIONS TO EQUIPMENT AND CONTROL VALVES

A. Provide flanges or unions at final connections to equipment and control valves to facilitate dismantling.

B. Arrange connections so that equipment served may be removed without disturbing piping.

C. Adhere to Division 22 for piping connections at equipment with following exceptions:
   1. Match mating piping flange pressure rating with equipment flange pressure rating.
   2. For first valve, including spool pieces if any, and associated connecting equipment (vessel, tanks, heat exchangers, towers), use materials of construction that are compatible with associated equipment.

D. Install piping to coils, pumps, and other equipment at full size as indicated on Drawings with reducers installed at equipment.

E. Provide unions or flanges as follows:
   1. At screwed control valves, specialties, equipment connections, and at intervals in screwed lines to provide means to correct leakages or for dismantling piping.
   2. Where frequent dismantling of piping is required.
   3. Where plastic or non-metallic piping systems cannot be welded or otherwise joined except by flanges.
   4. To provide clearance for dismantling of equipment, such as compressors and reactor heads.

F. Erect and support piping in manner that will not exert strain, beyond manufacturer’s allowables, on pumps, tanks, or equipment.

G. Use following procedures for connecting piping to equipment:

1. Route pipe to equipment, without making tight connections, after equipment has been set and grouted.
2. Check connections to ensure that no strain is placed on equipment.
3. Remove piping and correct if pipe is not in correct alignment.
4. Do not make correction of alignment while pipe is connected to equipment.

H. Make up piping connections, after alignment is correct.

I. Place temporary screens at connections to equipment and at automatic control valves where permanent strainers are not provided, after installation is complete. Provide temporary screens with tabs for identification.

J. Loosen connections to pumps, tanks, and equipment and check for alignment, after equipment has been in service and tested at operating temperatures, and with lines and equipment still hot. Make necessary adjustments.

3.9 BLINDS

A. Install blinds on process lines at battery limits and where required to facilitate testing, inspection, or maintenance of equipment.

B. Use circular blinds with 3-inch tell-tale tabs when required.

C. Provide line blinds and spacers with jack screws and install with jack screw holes located so that adjacent piping or equipment will not interfere with reversing blinds.

D. Design piping connections to tanks, towers, heat exchangers and similar equipment, which may be entered, so that physical disconnect may be made at or near equipment by removal of valves, spool pieces, or expansion joints and so that blind flange may be placed in lines.

E. Number blanks, used to protect control valves, pumps, heat exchangers, and other equipment during water flushing and pressure testing, and account for upon completion of these operations.

3.10 DRAINS, VENTS, DIRT TRAPS, AND DRIP LEGS

A. Provide drain and vent connections and suitable valves for equipment and piping (pumps, tanks) and for piping systems at high and low points in system.

B. Provide drains at base of risers.

C. Accomplish venting and draining through vessels and/or equipment connections.

D. Locate vessel vents and drains in overhead or bottom piping, provided there are no valves or blinds located between vent or drain connections and vessels.

E. Plug vent and drains which are not valved.

F. Provide line size drip legs and dirt traps in gas, steam, and compressed air lines as shown on Drawings.

3.11 SLEEVES, PLATES, AND ESCUTCHEONS

A. Provide pipe penetrations through walls, partitions, beams, roofs, and slabs with sleeves of sufficient size to adequately accommodate pipe, including insulation and thermal movement as applicable.

B. Size sleeves to be 2 inches larger than outside diameter of bare pipe, or 2 inches larger than outside diameter of pipe insulation, unless otherwise indicated on Drawings.

C. Install wall sleeves flush on both sides of wall, and floor sleeves flush on ceiling side and extend 1 inch above floor, except where otherwise indicated on Drawings or as necessary to suit location and piping function.

D. Set sleeves in place before pouring concrete or securely fasten and grout sleeves with cement.

E. Set wall sleeves as wall is constructed.

F. Core drill sleeve holes through concrete floors or masonry walls where sleeves are inadvertently omitted.

G. Do not use jackhammer or pavement breaker unless approved.

H. Fill annular space between pipe and sleeve through interior walls and elevated floor slabs with sleeve packing.

I. Pack annular space between pipe and sleeves through exterior walls and ground floor slabs with oakum, seal with waterproof sealer and watertight mastic or asphalt or seal with link-seal units.

J. Pack annular space between pipe and sleeve through fire walls with fire resistant sleeve packing and close off ends with metal cap or plate.

K. Where sleeves are located under foundations, place a steel plate cut to closely fit pipe, at each end of sleeve before back-filling.

L. Install chrome-plated escutcheons where pipes pass through walls or floors in finished areas.

M. Install nickel plated steel plate where pipes pass through walls or floors in unfinished areas.

N. Cover lines above 170°F passing through walls, partitions, and floors which are constructed of combustible material with at least 1-1/2 inches of insulation.

O. Provide protective metal sleeve or thimble where hot lines pass through walls, partitions, and floors.

END OF SECTION 22-05-00

SECTION 22 05 29
HANGERS AND SUPPORT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Section, apply to this Section.

B. Follow all provisions of Section 22-00-00, General Plumbing Work.

1.1 WORK INCLUDED

A. Description: Work under this section shall include furnishing all labor, material, tools and equipment necessary for the complete installation of all supports.

1.2 TERMINOLOGY

A. For the purposes of this Section, the term "Pipe Supports" or "Supports" may be used to describe such items as hangers, supports, guides, anchors, restraints, stops, struts, braces, variable spring supports, constant spring supports, or other devices.

1.3 PIPING DRAWINGS

A. Piping Drawings indicate support requirements. The designations indicate the support requirements by one or all of the following methods:
   1. Where no supports are indicated on the Piping Drawings, provide supports designed and spaced in compliance with the requirements of this Section.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Furnish hangers and supports from ITT Grinnell, or approved equal. Similar support items shall be from the same manufacturer.

2.2 MATERIALS

A. Pipe hanger and support material such as pipe, structural and rod attachments, pipe rolls, and spring hangers shall be compatible with the materials of the respective piping systems installed.

B. Design Drawings will reflect the type and/or location of special or critical support requirements. Special supports, when required, will be as detailed on the Design

Drawings. All other supports shall be selected by the Contractor. Furnish and locate all pipe supports in accordance with the industry standards above.

PART 3 EXECUTION

3.1 GENERAL

A. Contractor shall detail, furnish, and install all hangers, supports, anchors, and guides required to properly support the various piping systems. Provide piping supports and hangers with a means of adjustment for leveling, grading of piping and cold spring movements.

B. Contractor shall detail, furnish, and install any miscellaneous structural members required to facilitate installation of hangers and supports.

3.2 SUPPORT REQUIREMENTS

A. Support piping at valves and mechanical equipment such as pumps so that valves and equipment can be removed for servicing with a minimum necessity for installing temporary pipe supports. Wherever imposed loadings, such as valves, fittings, instrumentation, special piping equipment, or non-rigid connections occur between supports, provide supports on each side of imposed loading or connector.

B. Do not locate malleable iron pipe hangers closer than 6 inches from equipment on pipe lines operating at temperatures greater than 450°F.

C. Hang pipe, ducts, and equipment only from structure. Do not hang from other pipe, ducts, or equipment. Unless shown on Drawings or specifically approved, no drilling, welding or cutting of building columns or beams is permissible.

D. Provide additional hangers and/or sway braces as required to prevent excessive vibration.

E. Pipe lines shall be provided with complete hanger assemblies and shall include the pipe hanger washers, nuts, turn-buckles, rods, straps, clip angles, beam clamps and through bolts. Any adjustable item shall have a locking device to hold it together during shock.

F. Stainless steel and copper lines shall be supported by clevis or clamp type hangers. Hangers shall not crush or indent the pipe. Bearing plates shall be used where indenting may occur. Stainless steel pipe shall not come in contact with black iron hangers or carbon steel bridge bents. Use suitable rubber pads or use insulating tape to cover the pipe. Pads shall be 1/2 inch wider than hanger to cover bottom half of pipe. Tape shall be wrapped around pipe and extend at least 1/2 inch each side of hanger.

G. Do not provide rigid anchor points other than those indicated on Drawings.

H. Unless otherwise noted on the Drawings, the maximum spacing between pipe supports for straight runs of pipe shall be in accordance with MSS SP-69. This spacing does not apply where there are concentrated loads between supports, such as valves or specialty equipment. Provide support in these instances in accordance with above Paragraph 3.2A.

I. Support PVC, CPVC, FRP, or other plastic pipe in accordance with manufacturer's recommendations.

J. Support copper water tube at 6'-0" intervals for piping 1-1/2 inches and smaller and at 10'-0" intervals for 2-inch size.

3.3 INSTALLATION OF HANGERS, ANCHORS, SUPPORTS

A. General: Provide hangers and supports for steel and copper piping in accordance with requirements and recommendations of MSS SP-69 but comply with the spacing requirements listed below.

B. Support Placement: Place supports as near as possible to concentrated loads and within 2 feet of change of direction. Support horizontal piping so as to maintain alignment, prevent grade reversals and prevent sagging in excess of 0.1 inch.

C. Maximum Hanger Spacing:

Pipe Size	Schedule 40 Steel	Copper Tubing	Hanger Rod Size
1” and smaller	6’-0”	4’-6”	3/8”
1-1/2”	8’-0”	5’-9”	3/8”
2”	9’-0”	6’-6”	3/8”
2-1/2”	10’-0”	7’-3”	1/2”
3”	11’-0”	9’-0”	1/2”

D. Non-Metallic Pipe Support: ABS, PVC pipe and other non-metallic piping shall be supported at 4’-0” centers maximum.

E. Support of Concentrated Loads: Provide additional hangers or supports at concentrated loads such as valves, to maintain alignment and prevent sagging.

F. Minimum Hangers for All Piping: Provide a minimum of 2 hangers per pipe section.

G. Trapeze-Type Hangers: Permitted only where multiple pies run at the same elevation and grade, with same expansion characteristics.

END OF SECTION 22-05-29

SECTION 22 07 00
PLUMBING INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Section, apply to this Section.

B. Follow all provisions of Section 22 00 00, General Plumbing Work.

1.2 WORK INCLUDED

A. Description: Work under this section shall include furnishing all labor, material, tools and equipment necessary for the complete installation of all mechanical insulation including:
   1. Pipe Insulation.
   2. Equipment Insulation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufactures: Subject to compliance with requirements. Manufacturers offering products that may be incorporated in the work include, but are not limited to the following:
   1. Fiberglass Manufacturers:
      a. Johns Manville.
      b. Owens/Corning Corporation.
      c. CertainTeed Corporation.
      d. Knauf.
   2. Flexible Elastormeric Closed-Cell Insulation:
      a. Sheet Insulation:
         1) Armstrong II with Armstrong No. 520 joint sealant.
         2) Rubatex
   3. Adhesives, Cements and Coatings:
      a. Foster.
      b. MEI.
      c. CMC.
   4. Banding and Clips:
      a. AGM.
      b. Miracle Surface Anchors.

2.2 INSULATION MATERIALS

A. Glass Fiber Pipe Insulation: Maximum service temperature of 850 F.

B. Board Insulation:
   1. Rigid glass fiber board, facing shall be aluminum foil reinforced with fiberglass yarn mesh, and laminated to chemically treated, firepresistant Kraft.
   2. Insulation thickness shall be 1.5-inch, 3.0 lb./du. F. density; a minimum installed thermal resistance shall be R=5.0.

C. Glass Fiber Blanket Insulation:
   1. Blanket shall be factory-laminated to a reinforced foil/kraft vapor barrier retarder facing.
   2. Thermal conductivity shall not exceed 0.28 Btu-in. per sq. ft. per °F. per hour. Insulation thickness shall be 2.0-inch, 0.75 lb./cu. Ft. density; minimum installed thermal resistance shall be R=5.0.

D. Flexible Elastomeric Closed-Cell Insulation:
   1. Sheet: Thermal conductivity shall not exceed 0.27Btu-in. per hour per sq. ft. per °F, at a mean temperature of 75 °F. Insulation thickness shall be 2.0-inch, R=8.0.

E. Lagging adhesives for cementing outer cover to insulation and for lap joints and finish shall be nonflammable.

F. Insulating Cement: Asbestos-free cement, MEI High Temperature Sealer.

G. Vapor Barrier Coating: For indoor use, UL listed, fire resistive, USDA compliant, MEI “Eco-Vapor Cote” Coating No. 55-10.

2.3 PIPE INSULATION JACKETS

A. PVC Plastic Pipe Jackets
   1. Product Description: ASTM D1784, One piece molded type fitting covers and sheet material, off-white color.

B. Connections: Pressure sensitive color matching vinyl tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify piping has been tested before applying insulation.

B. Verify surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

A. Piping exposed to view in finished spaces: Locate insulation and cover seams in least visible locations.

B. Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of one hour or less. Provide intumescent fire stopping when continuing insulation through assembly. Finish at supports, protrusions, and interruptions.

C. Piping system conveying fluids below ambient temperature:
   1. Insulate entire system including fittings, valves, unions, flanges and strainers.
   2. Finish with PVC insulation jacket where required for protection.

D. Hot piping systems:
   1. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe.
   2. Finish with PVC insulation jacket where required for protection.
   3. Do not insulate unions and flanges at equipment, but bevel and seal ends of insulation at such locations.
   4. Hangers and supports may be in direct contact with pipe unless specifically required to have insulated hangers. When hangers are in direct contact with pipe, hanger shall be insulated.

E. Thickness of pipe insulation for each application shall be in accordance with the following table.

System	Temp (°F)	Material	Length	< 1”	1-1/4”-2”	2-1/2”- 4”
CW	55 – 120	Fiberglass	All	1.0	1.0	1.0
Tempered	35 – 55	Fiberglass	All	1.0	1.5	1.5
DHW	35 – 55	Fiberglass	All	1.0	1.5	1.5

END OF SECTION 22-07-00

SECTION 22 10 00
PLUMBING PIPING AND FITTINGS

PART 1– GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Section, apply to this Section.

B. Follow all provisions of Section 22-00-00, General Plumbing Work.

1.2 WORK INCLUDED

A. Work under this section shall include furnishing and installing piping, fittings, and connections common to the various piping systems specified in Division 22.

B. Section Includes:

1. Domestic water piping within 5 feet of building.
2. Sanitary sewer piping within 5 feet of building.
3. Natural Gas Piping

1.3 QUALITY ASSURANCE

A. Qualify welding processes, procedures, and operator for piping according to ASME B31.9-2007, “Building Services Piping”.

B. Specification for Filler Metals for Brazing and Braze Welding, AWS A5.8

C. Flanges and fitting shall have the manufacturer’s trademark affixed in accordance with MSS SP-25 to permanently identify the manufacturer.

1.4 PRODUCT STORAGE AND PROTECTION

A. Cover stored piping and fittings, materials to protect from moisture and dirt. Elevate above grade as necessary to protect materials.
1. Store pipes and tubes with protective end caps to maintain pipe end condition and to prevent entry of foreign material.
2. Retain protective plugs and caps on other materials when provided by manufacturers.

B. Protect all pipe and fittings from paint or grease, except for specified final finishes.

1.5 DEFINITIONS

A. Pipe, pipe fittings, and piping include tube, tube fittings, and tubing.

1.6 SEQUENCING AND SCHEDULING

A. See Section 22 00 00, General Plumbing Work.

PART 2- PRODUCTS

2.1 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Copper Tubing: ASTM B88 Type K annealed.
   1. Fittings: ASME B16.18, cast copper, or ASME B16.22, wrought copper.
   2. Joints: Compression connection or Brazed, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1190 to 1480 °F.

D. High Pressure Polyethylene Tubing (HDPE): ASTM F1281 or ASTM F1282.
   1. Fittings and Joints: Brass compression type.

2.2 DOMESTIC WATER PIPING, ABOVE GRADE

A. Copper Tubing: ASTM B88 Type L drawn.
   1. Fittings: ASME B16.18, cast copper alloy, or ASME B16.22, wrought copper and bonze.
   2. Joints: ASTM B32, Alloy Grade Sb5 ti-antimony, or Alloy Grade Sn95 tin-silver solder.

B. Polyethylene Tubing (PE): ASTM F1281 or ASTM F1282
   1. Fittings and Joints: Brass compression type SANITARY SEWER, BURIED WITHIN 5 FEET OF BUILIDNG

A. Cast Iron Soil Pipe: ASTM A74, Service weight, bell and spigot ends.
   1. Fittings: Cast Iron, ASTM A74.
   2. Joints: Hub-and-Spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets or lead and oakum.

B. Cast Iron Pipe: CISPI 301, hub-less, service weight.
   1. Fittings: Cast Iron, CISPI 301.
   2. Joints: CISPI 310, neoprene gasket and stainless steel clamp and shield assemblies.

C. ABS Pipe, ASTM F628, Acrylonitrile-Butadiene-Styrene (ABS) Material.
   1. Fittings: ABS
   2. Joints: ASTM D2235, Solvent Weld.

2.3 SANITARY SEWER, BURIED WITHIN 5 FEET OF BUILIDNG

A. Cast Iron Soil Pipe: ASTM A74, Service weight, bell and spigot ends.
   1. Fittings: Cast Iron, ASTM A74.
   2. Joints: Hub-and-Spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets or lead and oakum.

B. Cast Iron Pipe: CISPI 301, hub-less, service weight.
   1. Fittings: Cast Iron, CISPI 301.
   2. Joints: CISPI 310, neoprene gasket and stainless steel clamp and shield assemblies.

C. ABS Pipe, ASTM F628, Acrylonitrile-Butadiene-Styrene (ABS) Material.
   1. Fittings: ABS
   2. Joints: ASTM D2235, Solvent Weld.

2.4 SANITARY SEWER, ABOVE GRADE

A. Cast Iron Pipe: ASTM A74, Service weight, bell and spigot ends.

   1. Fittings: Cast Iron, ASTM A74.
   2. Joints: Hub-and-Spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets or lead and oakum.

D. Cast Iron Pipe: CISPI 301, hub-less, service weight.
   1. Fittings: Cast Iron, CISPI 301.
   2. Joints: CISPI 310, neoprene gasket and stainless steel clamp and shield assemblies.

E. ABS Pipe: ASTM F628 or ASTM D2751, Schedule 40, Acrylonitrile-Butadiene-Styrene (ABS) Material.
   1. Fittings: ABS, ASTM D2751
   2. Joints: ASTM D2235, Solvent Weld.

2.5 NATURAL GAS PIPING

A. Pipe: 1/2 Inch Through 4 Inches: Schedule 40, black steel, ASTM A53, Grade A seamless, or electric resistance welded, threaded or butt weld end.

B. Fittings: 4 Inches and Smaller: 150 pounds, black malleable iron, ASTM A197, screwed, ANSI B16.3.

C. Joint Compound: TFE tape, 1/2 inch wide by 3 mil thick, John Crane; Loctite Pipe Sealant with Teflon or approved equal. Unions 2 Inches and Smaller: 150 pound, black malleable iron, ASTM A197, ground joint, brass to iron seat, threaded. Unions may not be concealed

2.6 UNDERGROUND PIPE MARKERS

A. Plastic Ribbon Tape: Bright colored, continuously printed, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.

PART 3- EXECUTION

3.1 EXAMINATION

A. Administrative Requirements: Verification of existing conditions before starting work.

B. Verify excavations are to the required grade, dry, and no over-excavated.

C. Verify trenches are ready to receive piping.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.3 INSTALLATION – AVOVE GROUND PIPING

A. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

B. Install piping to maintain headroom without interfering with use of space or taking more space than necessary.

C. Group piping whenever practical at common elevations.

D. Sleeve pipe passing through partitions, walls and floors. Refer to Section 22 05 29.

E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

F. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.

G. Provide access where valves and fittings are not accessible. Coordinate size and location of access doors with architectural plans.

H. Install non-conducting dielectric connections wherever jointing dissimilar metals.

I. Slope piping and arrange systems to drain at low points.

J. Protect piping systems from entry of foreign materials by temporary covers, completing sections of Work, and isolating parts of the completed system.

K. Install piping penetrating roofed areas to maintain integrity of roof assembly.

L. Insulate piping in accordance with Section 22 07 00

M. Install pipe and pump identification.

3.4 INSTALLATION – DOMESTIC WATER PIPING SYSTEMS

A. Install domestic water piping system in accordance with Uniform Plumbing Code and ASME B31.9 requirements.

3.5 INSTALLATION – SANITARY WASTE AND VENT PIPING SYSTEMS

A. Install sanitary waste and vent piping systems in accordance with Uniform Plumbing Code and ASME B31.9 requirements.

B. Grade all piping uniformly.

C. Support all piping to prevent wows and swales in the piping.

3.6 FIELD QUALITY CONTROL

A. Test domestic water piping system in accordance with Uniform Plumbing Code.

B. Test sanitary waste and vent systems in accordance with Uniform Plumbing Code.

C. Test storm drainage piping system in accordance with Uniform Plumbing Code.

3.7 CLEANING

A. Clean and flush domestic water plumbing thoroughly.

B. Sterilize domestic water piping, tempered water piping, non-tempered water piping, and service water piping in accordance with Uniform Plumbing Code requirements.

C. Submit water samples as required for O&M to an independent testing lab for analysis.

END OF SECTION 22-10-00

SECTION 23-00-00
GENERAL MECHANICAL WORK

1.1 SUMMARY

A. Section specifies general provisions covering Work described in other Division 23 Sections.

B. For purpose of clarity, Drawings are essentially diagrammatic. Sizes and locations of equipment are depicted to scale wherever possible. Use data in Contract Documents to verify exact locations of equipment.

C. Drawings indicate required size and points of termination of pipes and conduits to suggest proper routes to conform to structure, avoid obstructions, and preserve clearances. However, Drawings do not indicate necessary offsets. Provide installation to conform to structure, avoid obstructions, preserve headroom, maintain adequate clearance, and clear passageways.

D. Provide the entire mechanical work as shown and specified, including the following:
   1. Connect new work so as to provide a complete and operating system. All work shall include complete installation of the mechanical equipment, piping, fittings, valves, specialties, and accessories to include the following where applicable:
      a. Natural gas fired boiler

E. Intent:
   1. The Intent of the Contract is to include all labor and materials, tools, hoisting, scaffolding, supervision, equipment, and transportation necessary or reasonably inferable as being necessary for the execution of the work.
   2. The Contract Documents endeavor to communicate intended completed work. Interim stages, methods, and means may not be specifically indicated where such is reasonably inferable by qualified Contractors and workers.
   3. The Contractor is responsible for providing the finished mechanical work, tested and ready for operation.

1.2 SAFETY AND PROTECTION

A. Safety Measures to be taken: Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.
   1. The Project Engineer has not been retained or compensated to provide design and construction review services relating to the Contractor’s safety precaution or to means, methods, techniques, sequences, or procedures required for the Contractor to perform the work. The Project Engineer’s observations of the

Contractor's performance are not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

B. All equipment and installation shall be in compliance with OSHA regulations.

1.3 CODES, PERMITS, AND INSPECTIONS

A. All work shall be installed in conformity with applicable local ordinances and state statues. Standards and sizes which meet or exceed preceding requirements shall be installed as indicated.

B. Give necessary notices, obtain permits, and pay taxes, fees and other costs, including utility connections or extensions for the work. File necessary plans, prepare documents and obtain necessary approvals of governmental departments having jurisdiction. Apply for and pay for all utility meters and gauges required. Obtain required certificates of inspection for work.

C. Comply with laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.

D. Material and equipment within the scope of the UL Testing Laboratory shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark.

E. Contractor shall call for all inspections by the authority having jurisdiction when they become due and shall not cover any work until approved by the governing authorities.

1.4 QUALITY ASSURANCE

A. Provide qualified personnel to perform the work. Conform to industry accepted standard practices.

B. Unless otherwise indicated or specified, all replacement materials shall be new. Contractor shall properly store all materials and equipment for protection from physical damage or damage due to corrosion.

C. Provide all rigging, scaffolding, staging, and ladders required for complete installation of all equipment.

D. Each material for which the manufacturer issues written directions shall be used according to its manufacturer's directions, as approved and if not a variance with these specifications.
   1. If manufacturer's directions are at variance to the Contract Documents, install to the more stringent requirement within the terms of the manufacturer's warranty.

E. Install all equipment to be easily accessible for operation, maintenance, or repair. Equipment deemed inaccessible shall be relocated as needed.

F. Drawings and specifications shall be taken together. Provide work specified and not drawn or work drawn and not specified as though mentioned in both.

1.5 PROJECT/SITE CONDITIONS

A. Carefully examine existing conditions, including related work and compare to the Contract Documents.

B. Prior to commencement of the work, review peculiarities and limitations of work space available for installation of materials and equipment furnished and installed. Install materials and equipment to provide easy access for operation and maintenance.

C. Where installation of approved equipment requires arrangement or connection different than indicated on Drawings, install such equipment to operate properly with connected or adjacent systems.

1.6 GENERAL LOCATIONS AND ARRANGEMENTS

A. Drawings (plans, schematics, and diagrams) indicate general location and arrangement of Mechanical systems and do not attempt to show exact details or all offsets. Do not scale drawings to obtain final cut lengths, quantities, or the like. Examine the drawings for exact location of equipment.

B. Indicated locations and arrangements were used to size ducts and pipe, and to calculate friction loss, expansion, and other design considerations. Install systems as indicated, unless deviations to the layout are approved in advance.

C. Follow drawings in laying out work and check drawings of other trades to verify spaces in which work will be installed. Install piping and ducts in such a manner as to conform to structure, avoid obstructions, and keep openings and passageways clear. Lines that must pitch, or that must have a constant elevation, shall have the right-of-way over lines not so restricted. Maintain maximum headroom.

1.7 SUBSTITUTIONS

A. The use of brand names is for the purpose of description and establishing quality and does not eliminate the requirements of meeting specifications.

B. Approval of alternative and/or substitute products will be considered only under terms and conditions specified in Section 01-63-00.

C. Design is based on equipment as listed in the equipment schedules and/or specified elsewhere in Division 23. Where implementation of an approved substitution requires redesign to any part of the work, Contractor shall provide for such redesign and shall be at the Contractor’s expense.

1.8 SUBMITTALS, APPROVALS, AND REVIEWS

A. Provide Submittals as required by the Section 01-34-00.

B. Provide Operation and Maintenance (O&M) manual as required by Section 01-73-00.

1.9 RECORD DRAWINGS ("AS-BUILTS")

A. Provide Record Drawings as required by Section 01-72-00.

1.10 CONTINUITY OF SERVICE FOR EXISTING SERVICES

A. The Contractor shall provide those temporary services to existing services as required to maintain them in continuous operation without reducing efficiency. The extent of temporary services shall be carefully coordinated.

B. Do all new work so that there is no shutdown of more than one-day duration of any existing system.
   1. Interruptions of any existing service or system shall be fully coordinated with building manager and occupants. Contractor shall provide advance notice before performing the work which would cause or require the shutdown.

C. Do not use mechanical systems during construction. Cover equipment with taped-on plastic sheet or equivalent to keep all construction dust possible out of the equipment.

D. Promptly remove all waste material and rubbish per Section 01-56-90. At completion of the work, clean all dirt and construction debris such as paint, plaster, glue, cement, plastic, tar, paper, tape and dirt from the mechanical installation including equipment, piping, plumbing fixtures per Section 01-71-00. In finished areas to be occupied, keep equipment covered during course of construction. Where this is not practical, clean and/or refinish item to new condition.

PART 2 – PRODUCTS

Not Applicable.

PART 3 – EXECUTION

Not Applicable.

END OF SECTION 23-00-00

PART VI
DRAWINGS

KENAI PENINSULA SCHOOL DISTRICT
HOMER MIDDLE SCHOOL COMMERCIAL KITCHEN
500 STERLING HIGHWAY, HOMER, AK 99603

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MECHANICAL — CENTRAL ALASKA ENGINEERING COMPANY
32215 LAKEFRONT DR., SOLDOTNA, AK 99669 (907) 260-5311 EMAIL: jherring@akengineer.com

STRUCTURAL — BISHOP ENGINEERING, LLC
P.O. BOX 2501, HOMER, ALASKA, 99603 EMAIL: jbishop-engineering.com

MULTI-PURPOSE ROOM EXTERIOR

HOMER MIDDLE SCHOOL

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. THE DRAWINGS ARE PARTLY DIAGRAMMATIC NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF BUILDING DETAILS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO COORDINATE THEIR WORK WITH OTHER TRADES AND FIELD CONDITIONS. ANY DEVIATIONS FROM THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE KPB PROJECT MANAGER.
2. REFER TO THE TECHNICAL SPECIFICATIONS FOR GENERAL REQUIREMENTS.
3. THE KPB SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS AND FEES.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), UNIFORM PLUMBING CODE (UPC), INTERNATIONAL FIRE CODE (IFC), INTERNATIONAL FUEL GAS CODE (IFGC), AND THE NATIONAL ELECTRIC CODE (NEC).
5. ALL EQUIPMENT LISTED IS REPRESENTATIVE OF THE STANDARD OF QUALITY AND PERFORMANCE REQUIRED. "OR EQUAL" SUBSTITUTIONS WILL BE CONSIDERED IF THE SUBSTITUTES ARE SHOWN TO BE EQUAL OR BETTER QUALITY, INCLUDING EFFICIENCY OF PERFORMANCE, SIZE AND WEIGHT.
6. ALL MATERIALS SHALL BE NEW AND UNUSED, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT. OBTAIN OWNER'S APPROVAL OF ALL PRODUCTS PRIOR TO ORDERING OR INSTALLING ANY PART OF ANY SYSTEM.
7. THE CONTRACTOR SHALL SUBMIT PRODUCT DATA COMPILED IN A BOUND NOTEBOOK FOR ALL SYSTEMS. ALL PRODUCT DATA SHALL BE SUBMITTED AT ONE TIME, PARTIAL SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. PRODUCT DATA SHALL BE APPROPRIATELY MARKED TO INDICATE PROPOSED PRODUCT.
8. PROVIDE THE OWNER WITH AN OPERATING AND MAINTENANCE MANUAL, TO INCLUDE MANUFACTURER'S SPECIFICATIONS, OPERATING AND MAINTENANCE INSTRUCTIONS, WARRANTY INFORMATION ON EACH PIECE OF EQUIPMENT, AND SCHEMATIC DIAGRAMS OF CONTROL SYSTEMS AS-BUILT, AS WELL AS A SOURCE OF SUPPLY FOR SPARE PARTS AND SERVICE.
9. PROVIDE WORKABLE ACCESS TO ALL SERVICEABLE AND/OR OPERABLE EQUIPMENT.
10. WHEN WORK NOT SPECIFICALLY CALLED OUT IS REQUIRED TO COMPLETE THE PROJECT, IT SHALL BE OF THE BEST MATERIAL AND WORKMANSHIP.
11. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION. CONTRACTOR ASSUMES ALL LIABILITY FOR DAMAGES INCURRED DURING CONSTRUCTION.
12. CONTRACTOR SHALL ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES.
13. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY BRACING, SHORING, GUYING, OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
14. ALL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURE'S PRINTED RECOMMENDATIONS.
15. PROVIDE A.W.W. FOR SILL PLATES AT ALL CONCRETE TO WOOD CONNECTIONS.
16. 5/8" TYPE 'X' GWB SHALL BE USED ON ALL WALL SURFACES UNLESS OTHERWISE SPECIFIED.
17. FIRE CONTROL EQUIPMENT FOR THE KITCHEN HOOD SHALL BE INSTALLED BY A QUALIFIED SPECIALIST.

SHEET INDEX

ISSUED FOR CONSTRUCTION

SCALE: AS SHOWN

AutoCAD FILE: kms kitchen arch ifc - rev 1.dwg

STATE OF ALASKA 49TH
JERRY P. HERRING
AELM-9287
MARCH 15, 2023
REGISTERED PROFESSIONAL ENGINEER

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HOMER MIDDLE SCHOOL KITCHEN INSTALLATION
500 STERLING HWY., HOMER, AK 99603
PROJECT

KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
47140 E POPPY LANE, SOLDOTNA, AK 99669 (907) 714-2260
CLIENT

DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
COVER SHEET

CATEGORY: SHEET:
A 0.1

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SCALE: AS SHOWN

AutoCAD FILE: hms kitchen arch llc - rev 1.dwg

FLOORING AND WALL COVERINGS

1. FLOOR COVERING SHALL BE OF RESILIENT FLOORING AND BASE. REFER TO TECHNICAL SPECIFICATIONS SECTION 09-65-00 AND 09-65-13.
2. WALL COVERING SHALL BE OF FLEXIBLE MATERIAL AT LEAST 20 MILS THICK OR 18-OUNCE WEIGHT, MADE OF RUBBERIZED NYLON, POLYPROPYLENE, POLYESTER-BASED VINYL, NYLON-BASED VINYL, SEALED AT WALL AND FLOOR JUNCTURES AND FREE OF BREAKS, OPEN SEAMS, AND CREVICES. REFER TO TECHNICAL SPECIFICATIONS SECTION 09-25-00.
3. CEILING COVERING SHALL BE OF FLEXIBLE MATERIAL AT LEAST 20 MILS THICK OR 18-ONCE WEIGHT, MADE OF RUBBERIZED NYLON, POLYPROPYLENE, POLYESTER-BASED VINYL, NYLON-BASED VINYL, SEALED AT WALL AND FLOOR JUNCTURES AND FREE OF BREAKS, OPEN SEAMS, AND CREVICES. REFER TO TECHNICAL SPECIFICATIONS SECTION 09-25-00.
4. WALL COVERING AROUND KITCHEN EXHAUST HOOD SHALL BE OF 20 GAUGE 304 SS ON WALL AND ROOF TO MAINTAIN 18" CLEARANCE FROM COMBUSTIBLES.

PAINT SPECIFICATIONS

1. Doors and trim- Sherwin Williams High Performance Water Based Alkyd Urethane, Gloss Finish-B53 Series.
2. Wet areas, kitchens - Sherwin Williams High Performance Water Based Epoxy, Gloss Finish-B73 Series.
3. Smooth wall finish preferred for clean-ability and ease of patching, Behr Ultra Satin Finish.
4. Kitchen exterior walls and higher use areas, Behr Dynasty Semi Gloss Finish.
5. Standard interior wall color is a Behr color, “Cotton Knit” PPU7-11, Satin Finish.
6. Standard interior door and trim color, Sherwin Williams color, “Intellectual Gray” SW 7045, Gloss Finish.
7. Exterior doors and metal trim, same as interior doors, various colors.
8. Exterior siding, Behr Ultra exterior satin finish, various colors.
9. Exterior non-metallic trim-Behr Ultra exterior satin finish.
10. REFER TO THE TECHNICAL SPECIFICATIONS FOR GENERAL REQUIREMENTS.

DOORS SPECIFICATIONS

1. 36"X84" 16ga. G90 galvanized hollow metal door with polyurethane core. Door should be prepped for Schlage ND50JD RHO 626 13-247 Deadlatch 1/2 Throw 2-3/4 bs 10-025. Door and frame need to be prepped with closer reinforcement for 4040XP EDA closers and prepped for 3ea. 4 1/2" X 4 1/2" standard weight hinges. Utilizing the Curriseal frame, frames shall be 14ga G90 galvanized, welded with MP anchors and kerf in weathering. Doors utilize HWG-1.
2. 48"X84" 16ga. G90 galvanized hollow metal door with polyurethane core. Door should be prepped for Schlage ND50JD RHO 626 13-247 Deadlatch 1/2 Throw 2-3/4 bs 10-025. Door and frame need to be prepped with closer reinforcement for 4040XP EDA closers and prepped for 3ea. 4 1/2" X 4 1/2" standard weight hinges. Utilizing the Curriseal frame, frames shall be 14ga G90 galvanized, welded with MP anchors and kerf in weathering. Doors utilize HWG-1.
3. HWG-1: Schlage ND50JD RHO 626 13-247 Deadlatch 1/2 Throw 2-3/4 BS 10-025 LCN 4040XP 689 finish- McKinney T4A3386 US32D 4 1/2" X 4 ½ hinges- Pemko 253X4AFG36" - Schlage 30-016-626 "1358" keyway Schlage 20-079-626.
4. Rolling Counter Shutter: Raynor DuraShutter Model CP, 3'x4' Stainless Steel Curtain 22 Ga, Flat Slat Profile, Armorbrite Color. Install with Eclipse Tube Motor, Curtain Hood, Brush Seals, SS Guides, Bottom Bar, Slip-In Style Frame and Cylinder Lock.
5. Sliding Laminated Fiberglass Door System: ASI Doors, Cleanseal Door System, Model 150 Power Operated, Length 12'-4", Height 8', 1-3/4" Fiberglass with high density EPS bonded core. Three-Sided Gasket and Bottom Sweep Gasket and Floor Hardware. INSTALL WITH CL400 MAGNETIC KEYED LOCK, RIGHT ANGLE DOOR STRIKE AND REINFORCED HARDWARE. Consult factory for special size order. Two doors with field center connection to make full size. Refer to A1/A3.0 for details.

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SHEET CONTENTS:
SPECIFICATIONS

CATEGORY: SHEET:
A 0.2

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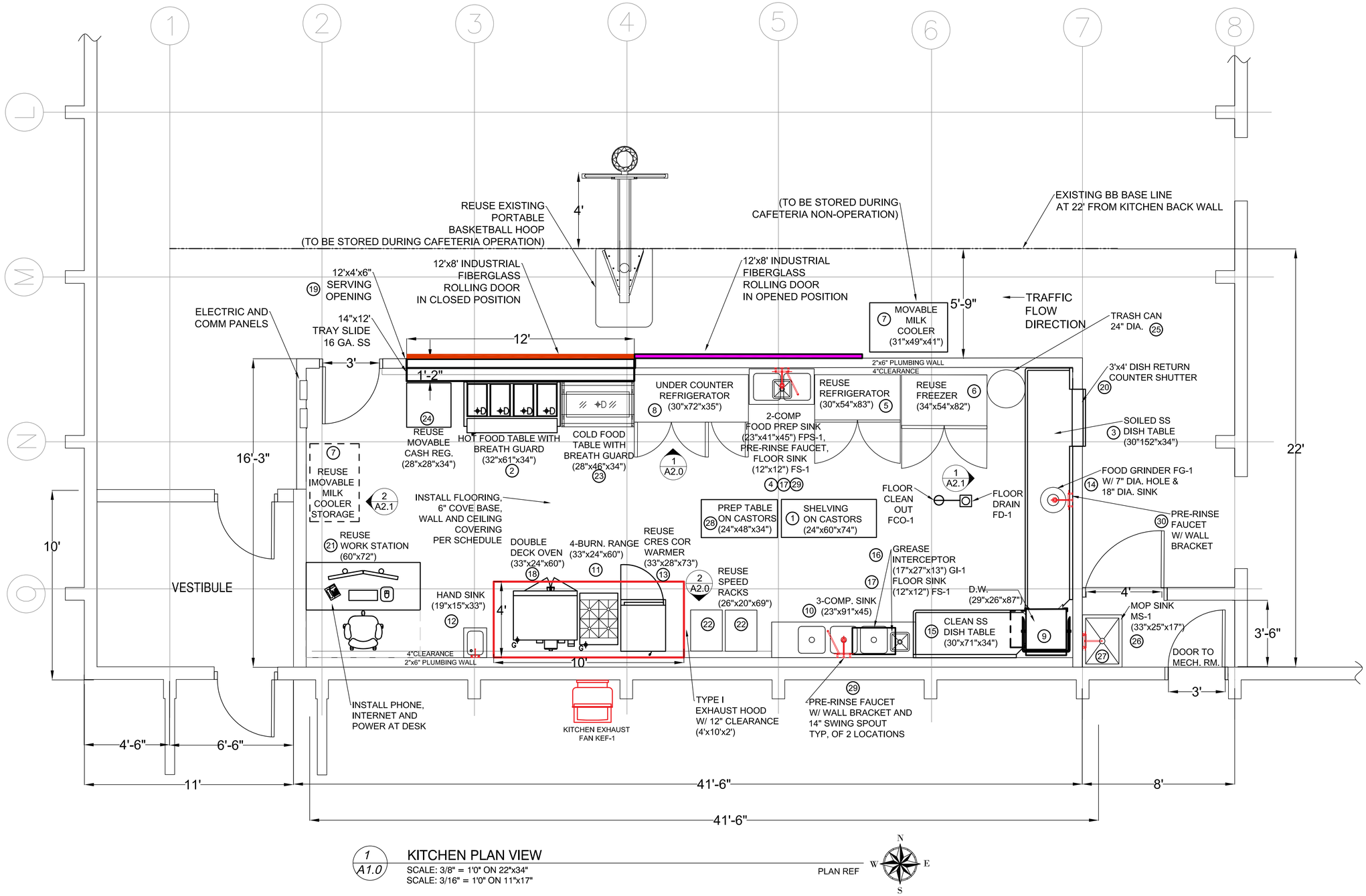

1 / A1.0 KITCHEN PLAN VIEW

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF

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SHEET CONTENTS:
FLOOR PLAN

CATEGORY: A
SHEET: 1.0

SCALE: AS SHOWN

AutoCAD FILE: bms kitchen arch f/c - rev 1.dwg

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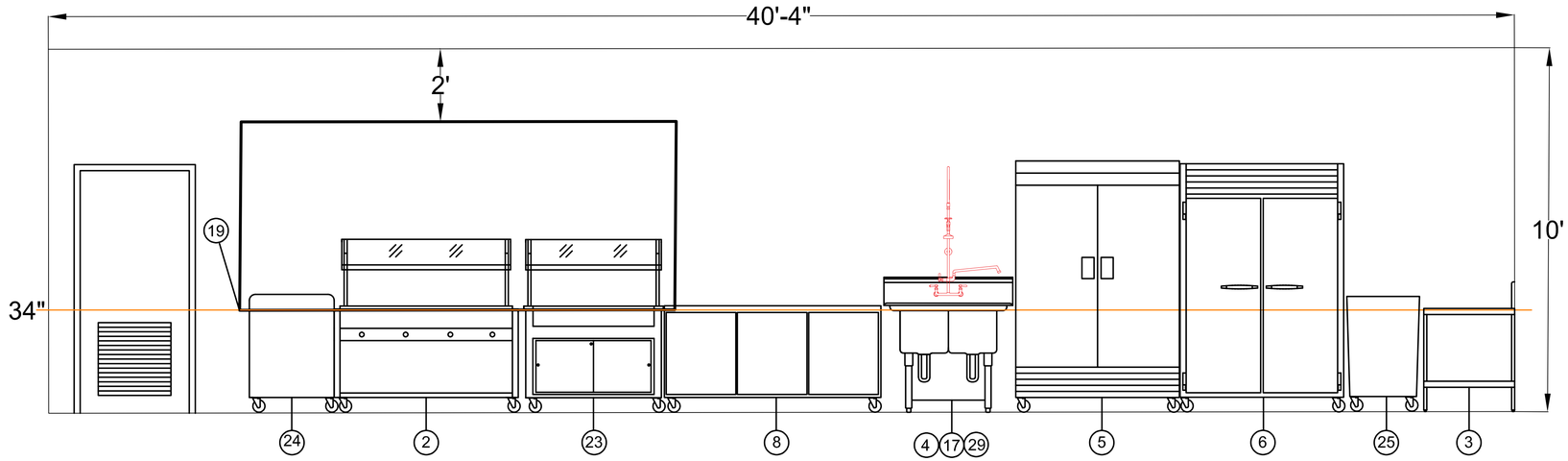
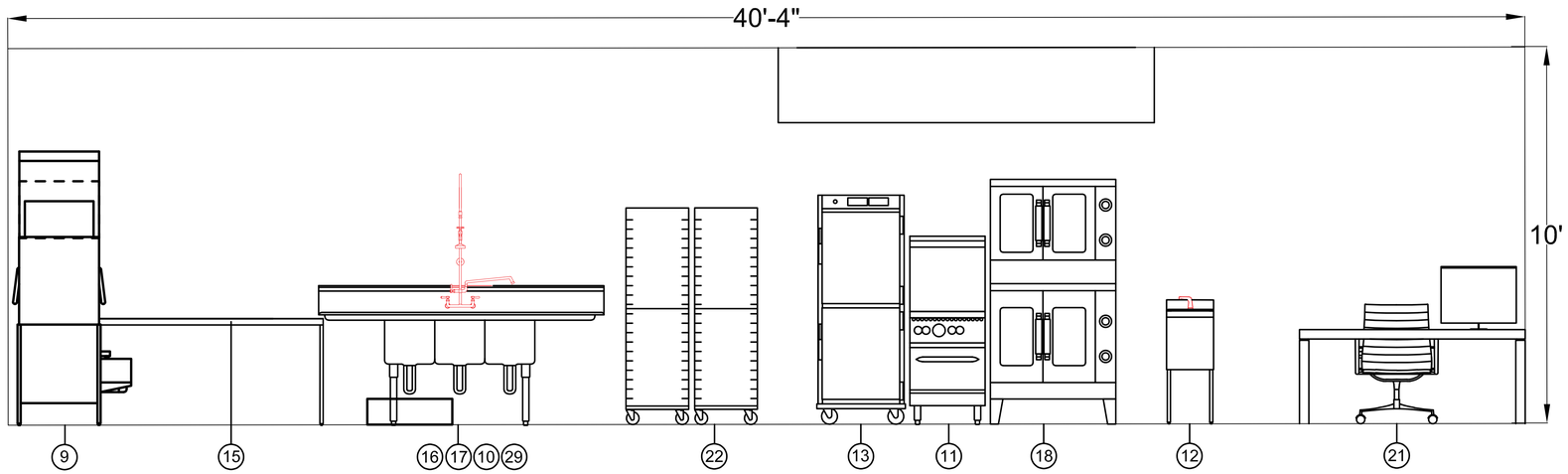


1 / A2.0 KITCHEN NORTH SECTIONAL VIEW

SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"



2 / A2.0 KITCHEN SOUTH SECTIONAL VIEW

SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"

EQUIPMENT LIST (ALSO SEE M0.2):

1. MOVABLE DRY STORAGE SHELVING
2. 4-WELL HOT FOOD TABLE WITH BREATH GUARD
3. SOILED STRAIGHT DISH TABLE
4. 2 COMPARTMENT FOOD PREP SINK
5. 2 DOOR REFRIGERATOR (OFCI)
6. 2 DOOR FREEZER (OFCI)
7. 12 CRATE MOVABLE MILK COOLER (OFCI)
8. UNDER COUNTER REFRIGERATOR
9. DISHWASHER (OFCI)
10. 3 COMPARTMENT SINK
11. 4 BURNER RANGE WITH OVEN (OFCI)
12. HAND WASH SINK WITH SWING FAUCET
13. MOVABLE CRES COR WARMER (OFCI)
14. FOOD WASTE GRINDER/DISPOSER (OFCI)
15. CLEAN STRAIGHT DISH TABLE
16. GREASE INTERCEPTOR
17. FLOOR SINK
18. DOUBLE DECK OVEN
19. 12' SERVING OPENING WITH 16 GA. SS 14" TRAY SLIDE
20. 3'x4' DISH RETURN COUNTER SHUTTER
21. COMPUTER WORK STATION (OFCI)
22. (2) SPEED RACKS (OFCI)
23. COLD FOOD TABLE WITH BREATH GUARD (OFCI)
24. MOVABLE CASH REGISTER (OFCI)
25. TRASH CAN (OFCI)
26. MOP SINK
27. MOP SINK FAUCET
28. MOVEABLE WORK TABLE ON CASTORS (OFCI)
29. 44" PRE-RINSE FAUCET W/ 14" SWING SPOUT
30. 44" PRE-RINSE FAUCET

NOTE: (OFCI) OWNER FURNISHED CONTRACTOR INSTALLED

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SHEET CONTENTS:
N&S SECTIONAL VIEWS

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A 2.0

SCALE: AS SHOWN

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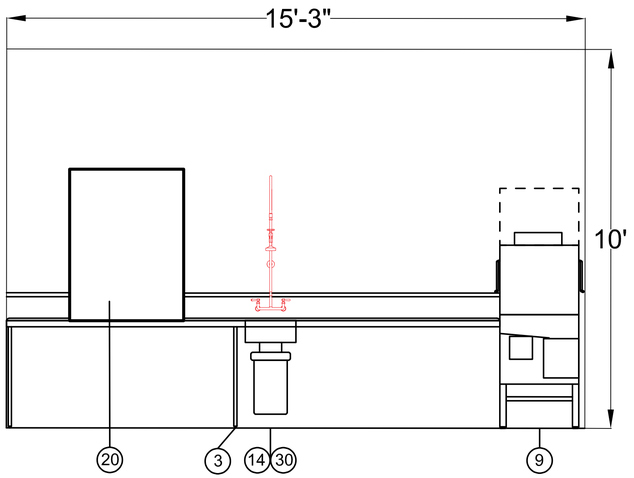

1 / A2.1 KITCHEN EAST SECTIONAL VIEW
SCALE: 1/2" = 1'0" ON 22"x34"
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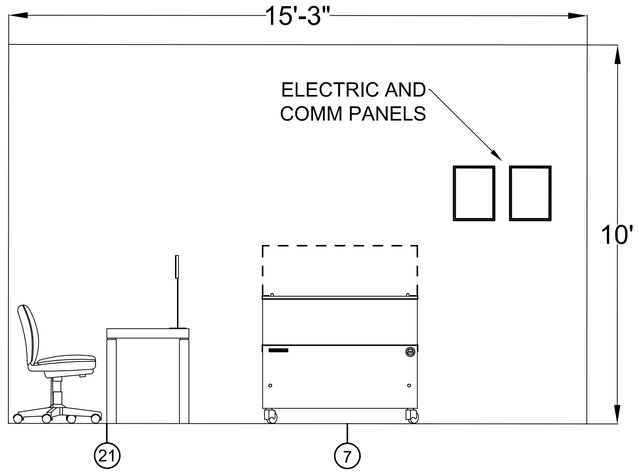

2 / A2.1 KITCHEN WEST SECTIONAL VIEW
SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"

EQUIPMENT LIST (ALSO SEE M0.2):

1. MOVABLE DRY STORAGE SHELVING
2. 4-WELL HOT FOOD TABLE WITH BREATH GUARD
3. SOILED STRAIGHT DISH TABLE
4. 2 COMPARTMENT FOOD PREP SINK
5. 2 DOOR REFRIGERATOR (OFCI)
6. 2 DOOR FREEZER (OFCI)
7. 12 CRATE MOVABLE MILK COOLER (OFCI)
8. UNDER COUNTER REFRIGERATOR
9. DISHWASHER (OFCI)
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25. TRASH CAN (OFCI)
26. MOP SINK
27. MOP SINK FAUCET
28. MOVEABLE WORK TABLE ON CASTORS (OFCI)
29. 44" PRE-RINSE FAUCET W/ 14" SWING SPOUT
30. 44" PRE-RINSE FAUCET

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E&W SECTIONAL VIEWS

CATEGORY: SHEET:
A 2.1

SCALE: AS SHOWN

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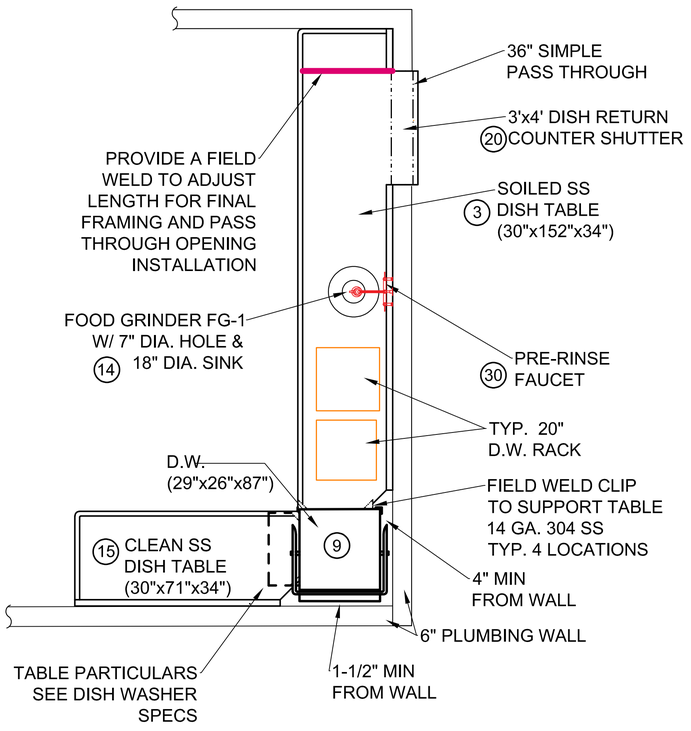
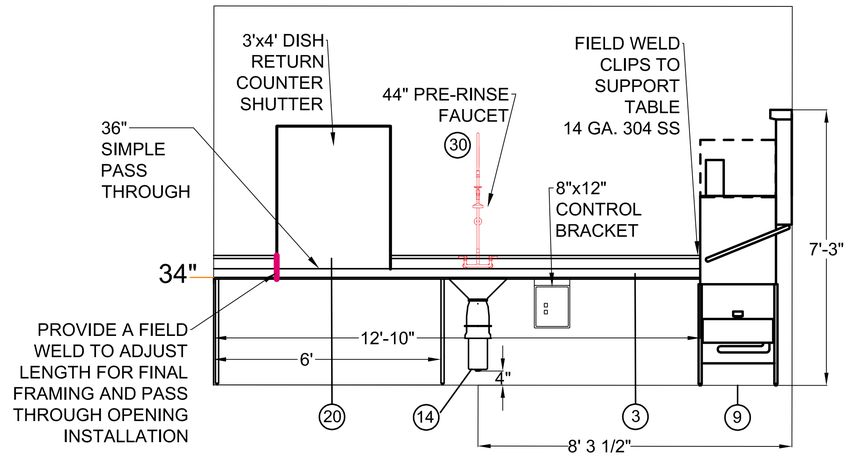


1 A2.2 DISH TABLE DETAILS PLAN VIEW
SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"



2 A2.2 SOILED DISH TABLE SECTIONAL VIEW
SCALE: 1/2" = 1'0" ON 22"x34"
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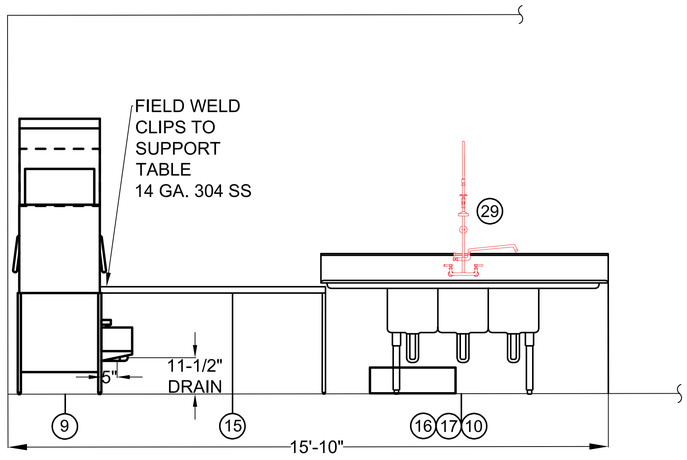

3 A2.2 CLEAN DISH TABLE SECTIONAL VIEW
SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"

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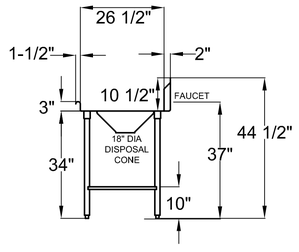

4 A2.2 SOILED DISH TABLE DETAILS
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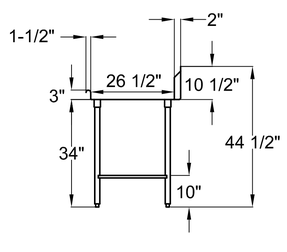
SCALE: 1/4" = 1'0" ON 11"x17"



5 A2.2 CLEAN DISH TABLE DETAILS
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SHEET CONTENTS:
DISH TABLE DETAILS

CATEGORY: A
SHEET: 2.2

SCALE: AS SHOWN

AutoCAD FILE: bms kitchen arch fic - rev 1.dwg

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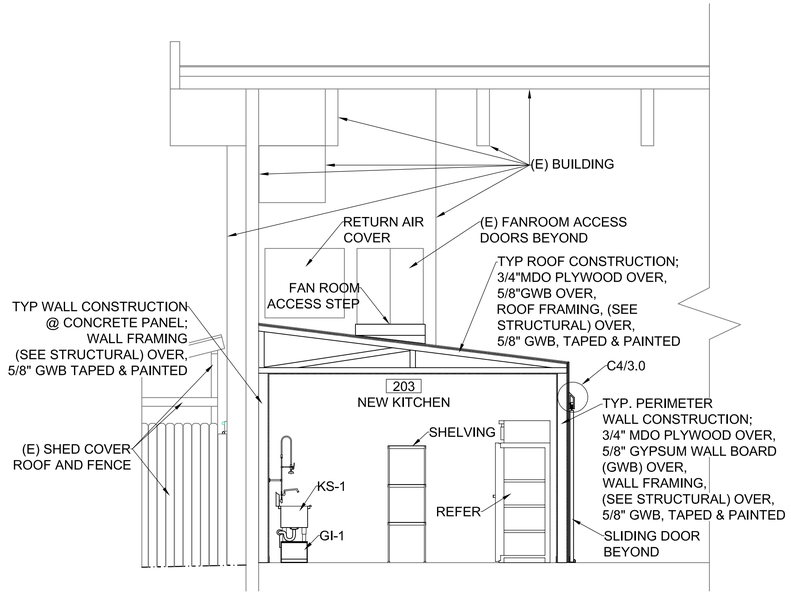

C1 / A3.0 NORTH/SOUTH NEW KITCHEN SECTION
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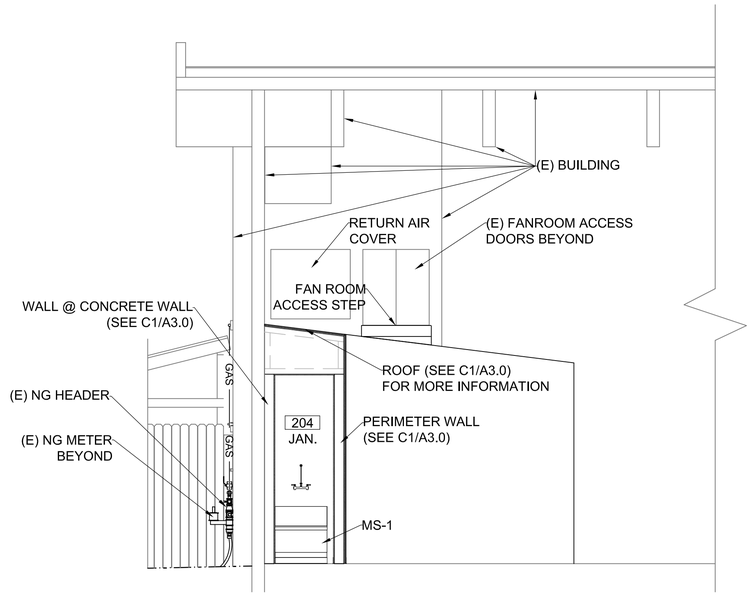
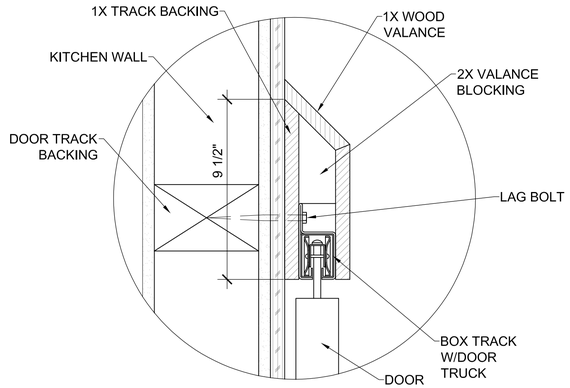
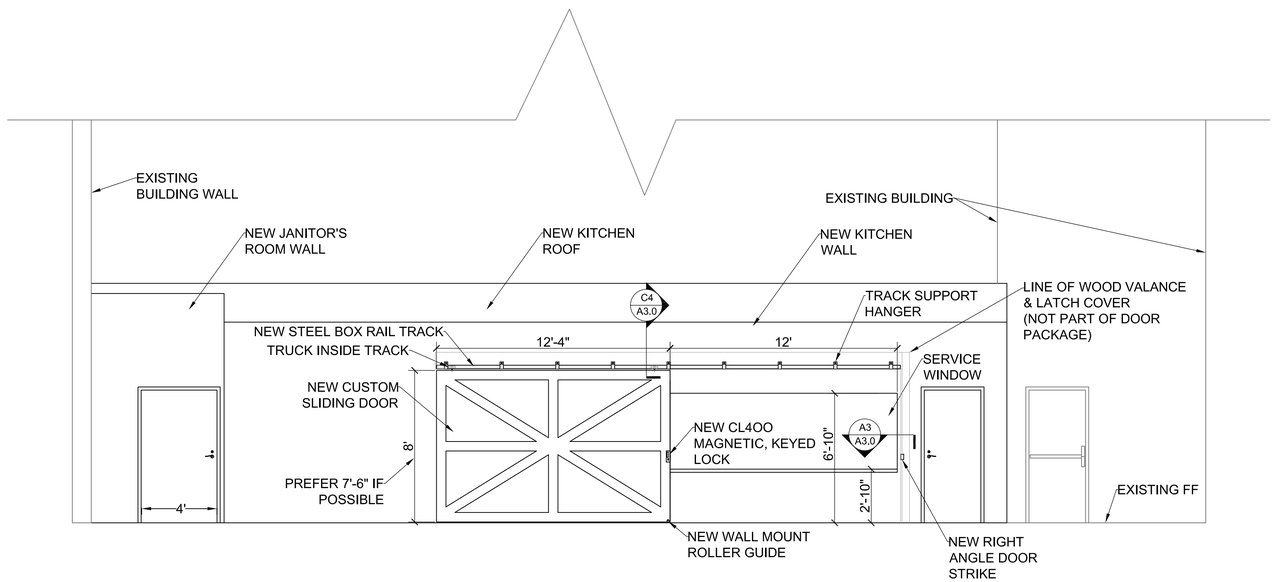


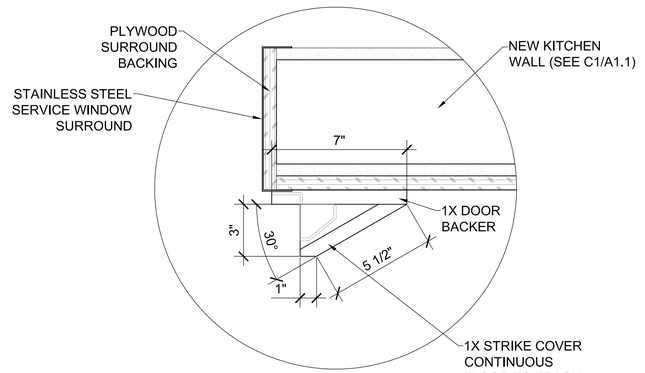
C2 / A3.0 NORTH/SOUTH NEW KITCHEN SECTION
SCALE: 1/4" = 1'0" ON 22"x34"
SCALE: 1/8" = 1'0" ON 11"x17"



C4 / A3.0 SLIDING DOOR TRACK VALANCE SECTION



A1 / A3.0 NORTH WALL ELEVATION OF NEW KITCHEN
SCALE: 1/4" = 1'0" ON 22"x34"
SCALE: 1/8" = 1'0" ON 11"x17"



A3 / A3.0 SLIDING DOOR STRIKE COVER SECTION
SCALE: 3" = 1'0" ON 22"x34"
SCALE: 1-1/2" = 1'0" ON 11"x17"

AutoCAD FILE: hms kitchen arch ifc - rev 1.dwg
SCALE: AS SHOWN

STATE OF ALASKA 49TH
JERRY P. HERRING
AELM-9287
MARCH 15, 2023
REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	DATE
1	UPDATED PER PLAN REVIEW	3/15/23

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PROJECT
HOMER MIDDLE SCHOOL KITCHEN INSTALLATION
500 STERLING HWY., HOMER, AK 99603

CLIENT
KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
47140 E POPPY LANE, SOLDOTNA, AK 99669 (907) 714-2260

DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
KITCHEN ELEVATIONS SECTIONS & DETAILS

CATEGORY: SHEET:
A 3.0

ISSUED FOR CONSTRUCTION

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. THE DRAWINGS ARE PARTLY DIAGRAMMATIC NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF BUILDING DETAILS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO COORDINATE THEIR WORK WITH OTHER TRADES AND FIELD CONDITIONS. ANY DEVIATIONS FROM THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE KPB PROJECT MANAGER.
2. REFER TO THE TECHNICAL SPECIFICATIONS FOR GENERAL REQUIREMENTS.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), UNIFORM PLUMBING CODE (UPC), INTERNATIONAL FIRE CODE (IFC), INTERNATIONAL FUEL GAS CODE (IFGC), AND THE NATIONAL ELECTRIC CODE (NEC).
4. ALL EQUIPMENT LISTED IS REPRESENTATIVE OF THE STANDARD OF QUALITY AND PERFORMANCE REQUIRED. "OR EQUAL" SUBSTITUTIONS WILL BE CONSIDERED IF THE SUBSTITUTES ARE SHOWN TO BE EQUAL OR BETTER QUALITY, INCLUDING EFFICIENCY OF PERFORMANCE, SIZE AND WEIGHT. ALL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURE'S PRINTED RECOMMENDATIONS.
5. ALL MATERIALS SHALL BE NEW AND UNUSED, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT. OBTAIN OWNER'S APPROVAL OF ALL PRODUCTS PRIOR TO ORDERING OR INSTALLING ANY PART OF ANY SYSTEM.
6. THE CONTRACTOR SHALL SUBMIT PRODUCT DATA COMPILED IN A BOUND NOTEBOOK FOR ALL SYSTEMS. ALL PRODUCT DATA SHALL BE SUBMITTED AT ONE TIME, PARTIAL SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. PRODUCT DATA SHALL BE APPROPRIATELY MARKED TO INDICATE PROPOSED PRODUCT.
7. PROVIDE THE OWNER WITH AN OPERATING AND MAINTENANCE MANUAL, TO INCLUDE MANUFACTURER'S SPECIFICATIONS, OPERATING AND MAINTENANCE INSTRUCTIONS, WARRANTY INFORMATION ON EACH PIECE OF EQUIPMENT, AND SCHEMATIC DIAGRAMS OF CONTROL SYSTEMS AS-BUILT, AS WELL AS A SOURCE OF SUPPLY FOR SPARE PARTS AND SERVICE.
8. PROVIDE WORKABLE ACCESS TO ALL SERVICEABLE AND/OR OPERABLE EQUIPMENT.
9. WHEN WORK NOT SPECIFICALLY CALLED OUT IS REQUIRED TO COMPLETE THE PROJECT, IT SHALL BE OF THE BEST MATERIAL AND WORKMANSHIP.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION. CONTRACTOR ASSUMES ALL LIABILITY FOR DAMAGES INCURRED DURING CONSTRUCTION.
11. CONTRACTOR SHALL ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES. VERIFY ALL ROUGH OPENING SIZES AND DETAILS FOR DOORS, EXHAUST FANS, AND VENTS PRIOR TO CONSTRUCTION. PROVIDE AN APPROVED FLASHING FOR EXTERIOR OPENINGS.
12. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY BRACING, SHORING, GUYING, OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
13. PROVIDE A.W.W. FOR SILL PLATES AND ALL CONCRETE TO WOOD CONNECTIONS.
14. 5/8" TYPE 'X' GWB SHALL BE USED ON ALL WALL SURFACES UNLESS OTHERWISE SPECIFIED.
15. PROVIDE GFCI CIRCUIT BREAKERS AND LIGHTING CONTROLS WHERE SHOWN ON THE ELECTRICAL DESIGN DOCUMENTS.
16. PIPING, DUCTWORK, AND EQUIPMENT SHALL BE ADEQUATELY SUPPORTED IN ACCORDANCE WITH CODE REQUIREMENTS AND GOOD PRACTICE. PIPING SUPPORTS SHALL BE CARBON STEEL, ADJUSTABLE SWIVEL HANGERS WITH THREADED ROD SUPPORT. INSULATED PIPING SHALL BE ROUTED THROUGH HANGERS AND PROVIDED WITH SHEETMETAL INSULATION PROTECTION SADDLES. ALL SUPPORTS SHALL BE SECURED TO BUILDING STRUCTURAL ELEMENTS. PIPE ANCHORS SHALL BE CONTRACTOR FABRICATED AND SECURED TO BUILDING STRUCTURE TO RESIST PIPING MOVEMENT.
17. PIPING SLEEVES THROUGH FIRE RATED ASSEMBLIES SHALL BE PREMANUFACTURED, UL LISTED ASSEMBLIES. PIPING SLEEVES THROUGH NON FIRE RATED ASSEMBLIES SHALL BE 18 GAUGE GALVANIZED STEEL.
18. PIPING AND DUCTWORK SYSTEMS SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH SMACNA GUIDELINES FOR SEISMIC RESTRAINT. EQUIPMENT SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.
19. PIPING SHALL BE PROVIDED WITH IDENTIFICATION. PIPING, CONCEALED OR EXPOSED, SHALL BE LABELED WITH PAINTED STENCIL, INDICATING SERVICE AND FLOW DIRECTION, AT NOT LESS THAN 20 FEET ON CENTER AND AT EACH SIDE OF WALL, FLOOR, AND CEILING PENETRATIONS.
20. SANITARY WASTE AND VENT PIPING SHALL BE SCHEDULE 40 DWV ABS TYPE MATERIAL. ABOVEGROUND DOMESTIC WATER PIPING SHALL BE TYPE L HARD DRAWN COPPER TUBING AND WROUGHT SOLDER TYPE FITTINGS. USE LEAD FREE SILVER BEARING SOLDER ONLY. PEX TUBING MAY BE USED WHERE APPROVED BY CODE. CONCEAL ALL PIPING IN FINISHED AREAS UNLESS AUTHORIZED BY OWNER.
21. TEST ALL PLUMBING AND PIPING SYSTEMS WITH 60 PSIG FOR ONE HOUR BEFORE FILLING AND IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE. FLUSH, DRAIN AND STERILIZE THE DOMESTIC WATER LINES IN ACCORDANCE WITH AWWA C601.
22. USE BALL VALVES UNLESS OTHERWISE SPECIFIED ON THE PLANS. GATE VALVES AND GLOBE VALVES ARE NOT ACCEPTABLE. BALANCE VALVES SHALL BE B&G CIRCUIT SETTER, NO SUBSTITUTIONS. PROVIDE ANGLE STOPS OR INTEGRAL STOPS AT EACH PLUMBING FIXTURE.
23. ABOVEGROUND COLD WATER AND HOT WATER PIPES SHALL BE INSULATED WITH ONE INCH PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER JACKET AND PREMANUFACTURED PLASTIC FITTING INSULATION. PLUMBING VTR'S SHALL BE INSULATED WITH ONE INCH PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER JACKET.
24. PLUMBING FIXTURES SHALL BE COMMERCIAL GRADE, MANUFACTURER AND MODEL AS INDICATED ON THE PLUMBING FIXTURE SCHEDULE, OR APPROVED EQUAL. PROVIDE SHOCK-TROL DEVICES OR AIR CHAMBERS AT ALL FIXTURES.
25. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL CONTROL SYSTEM AS REQUIRED TO PROVIDE EQUIPMENT CONTROL AND PROPER OPERATION.

PIPING SYMBOLS

- S=2% — PIPE SLOPE DIRECTION DOWN
- FLOW DIRECTION
- EXPANSION LOOP
- EXPANSION JOINT
- EXPANSION GUIDE
- ANCHOR
- FLEX COUPLING
- PUMP (ARROWHEAD INDICATES FLOW DIRECTION)
- WALL CLEANOUT
- FLOOR CLEAN OUT
- YARD CLEAN OUT
- FLOOR SINK
- FLOOR DRAIN
- ROOF OVERFLOW DRAIN
- ROOF DRAIN
- WATER HAMMER ARRESTOR (PLAN)
- WATER HAMMER ARRESTOR (ELEV.)
- GATE VALVE
- NEEDLE VALVE
- BALL VALVE
- GLOBE VALVE
- PLUG VALVE
- STOP COCK
- BUTTERFLY VALVE
- CHECK VALVE
- BACKFLOW PREVENTER
- BALANCE VALVE
- BALANCE VALVE (AUTOMATIC)
- PRESSURE REDUCING VALVE
- PRESSURE REGULATOR
- PRESSURE RELIEF VALVE
- STRAINER
- STRAINER WITH BLOW DOWN (1)
- HOSE BIBB
- HOSE THREAD DRAIN VALVE (1)
- HOSE THREAD DRAIN GATE VALVE (1)

(1) INDICATES TO PROVIDE W/ END CAP.

- HOSE QUICK DISCONNECT
- BLIND FLANGE
- FLANGES
- FIRE DEPT. CONNECTION
- UNION
- REDUCER, CONCENTRIC
- REDUCER, ECCENTRIC
- PT PLUG
- THERMOWELL
- THERMOMETER (LIQUID IN GLASS)
- DIAL THERMOMETER
- PRESSURE GAUGE W/ COCK
- PRESSURE GAUGE W/ COCK & SIPHON
- AIR VENT — C - COIN, M - MANUAL, A - AUTOMATIC, H - HIGH VOLUME

- COLD WATER, CW
- HOT WATER, HW
- SANITARY WASTE
- SANITARY VENT
- NATURAL GAS LINE

GENERAL

NOTES:

NOTE SPECIFIC TO LOCATION INDICATED.

(1) NOTE APPLIES TO ENTIRE SHEET.

XX-X UNDERLINED DESIGNATOR HAS SCHEDULED VALUES, SEE MECHANICAL SCHEDULES.

PIPE & DUCT SIZES:
INCH MARKS (") ARE NOT USED WHEN INDICATING PIPE AND DUCT SIZES ON PLANS, DETAILS, OR DIAGRAMS, EXCEPT FOR THE NUMERAL 1.

LINETYPES

- EXISTING (THIN)
- NEW (MEDIUM)
- EXISTING TO BE DEMOLISHED (HEAVY)
- EXISTING TO REMAIN

(E) EXISTING
(N) NEW
CONNECT TO EXISTING

HVAC SYMBOLS

- AIR FLOW OUT
- AIR FLOW IN
- VOLUME DAMPER
- S/A UP/DOWN, S/A DIFFUSER
- R/A UP/DOWN, R/A DIFFUSER
- E/A UP/DOWN, E/A GRILLE
- ROUND DUCT UP/DOWN
- (T) THERMOSTAT
- VOLUME DAMPER
- MOTORIZED CONTROL DAMPER
- SOUND LINED DUCTWORK
- 24X12 — DUCT SIZE
- INSULATED DUCTWORK
- TURNING VANES
- FLEXIBLE DUCT
- (1 / M1.0) — DETAIL NUMBER, SHEET NUMBER
- NOTE — SHEET NOTES
- (X) 8"Ø CFM — NECK SIZE, CFM, DIFFUSER OR GRILLE TYPE

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
AF	AIR FLOW SWITCH
AFF	ABOVE FINISH FLOOR
AG	ABOVE GROUND
AL	ACOUSTIC LINED
ARCH	ARCHITECT OR ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AWT	AVERAGE WATER TEMPERATURE
BA	BREATHING AIR
BTU	BRITISH THERMAL UNIT
BV	BALANCING VALVE
BGW	BELOW GRADE WASTE
BG	BELOW GROUND
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CU	COPPER
CW	COLD WATER
DB	DRY BULB
ø	DIAMETER OR PHASE
DEMO	DEMOLISH
DN	DOWN
DWG	DRAWING
(E)	EXISTING
EA, E/A	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EXH	EXHAUST
EXIST	EXISTING
F	FIRE PROTECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FF	FINISH FLOOR
FT	FLASH TANK OR FEET
GAL	GALLONS
GALV	GALVANIZED
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HC	HEATING COIL
HL	HIGH LIMIT
HP	HORSEPOWER
HR	HOUR
HTG	HEATING
HW	HOT WATER
LF	LINEAL FOOT
MAX	MAXIMUM
MBH	THOUSANDS BTU PER HOUR
MFR	MANUFACTURER
MIN	MINIMUM OR MINUTES
NC	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
NO	NORMALLY OPEN
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
PH	PHASE
PLCS	PLACES
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	PRESSURE/TEMPERATURE
REQD	REQUIRED
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTION PER MINUTE
SSTL	STAINLESS STEEL
SW	SOCKET WELDED
T, TEMP	TEMPERATURE
TAB	TEST, ADJUST & BALANCE
THD	THREADED
TP	TRAP PRIMER
TYP	TYPICAL
UF	UNDER FLOOR
UG	UNDERGROUND
UH	UNIT HEATER
US	UNDERSLAB
V	VENT OR VOLTS
VAC	VOLTAGE ALTERNATING CURRENT
VTR	VENT THRU ROOF
W	WASTE
WB	WET BULB
W/	WITH
WC	WATER CLOSET
W.C.	WATER COLUMN
WCO	WALL CLEANOUT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR

ALL SYMBOLS AND ABBREVIATIONS DO NOT NECESSARILY APPEAR ON DRAWINGS

STATE OF ALASKA 49TH — JERRY P. HERRING, AELM-8287, MARCH 15, 2023, REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	DATE
1	UPDATED PER PLAN REVIEW	3/15/23

CENTRAL ALASKA ENGINEERING COMPANY, LLC.
32215 LAKEFRONT DR., SOLDOTNA, AK 99669
PHONE (907) 260-5311 FAX (907) 260-5312
AECL 1481
E-MAIL: JHERRING@AKENGINEER.COM

PROJECT: HOMER MIDDLE SCHOOL KITCHEN INSTALLATION
500 STERLING HWY., HOMER, AK 99603

CLIENT: KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
47140 E POPPY LANE, SOLDOTNA, AK 99669 (907) 714-2260

DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
SPECIFICATIONS

CATEGORY: M SHEET: 0.1

SCALE: AS SHOWN

AutoCAD FILE: Mes kitchen mechanical 2x - rev 1.dwg

EQUIPMENT LIST

Item 1 — 1 each — REGENCY STAINLESS STEEL SHELF KIT
Regency 24” x 60” NDF Stainless Steel 4-Shelf Kit
74” NSF Stainless Steel Post with Castors
Model Number 460SW2460KIT

Item 2 — 1 each — VOLLRATH HOT FOOD TABLE
Vollrath Model 38104
4 Well with NSF2 Buffet Breath Guard
Stainless Steel
Electric Input 700W/120v/60/1, 23.3 amps
61”W x 32”D x 34”H

Item 3 — 1 each — ADVANCE TABCO SOILED STRAIGHT DISH TABLE
Advance Tabco Custom Soiled Straight Dish Table
30”W x 143”L x 34”H Soiled Left
14 Gauge 34 Stainless Steel
Model Number DTS-S30-144 L

Item 4 — 1 each — REGENCY TWO COMPARTMENT SINK
Regency 2-Compartment Sink
18 Gauge 304 Stainless Steel
Model 600S21717X
41”W x 23”D x 45”H

Item 5 — 1 each — BEVERAGE-AIR REACH IN REFRIGERATOR (OFCI)
Beverage-Air Model #PR12HC-1AS
Stainless Steel
71 CF Capacity
Electric Input 3/4 HP, 115v/60/1, 9 amps
68”W x 36”D x 84”H

Item 6 — 1 each — BEVERAGE-AIR REACH IN FREEZER (OFCI)
Beverage-Air Model #HBF44HC-1
Stainless Steel
44 CF Capacity
Electric Input 3/4 HP, 115v/60/1, 11 amps
47”W x 34”D x 84”H

Item 7 — 1 each — BEVERAGE-AIR SCHOOL MILK COLD WALL COOLER (OFCI)
Beverage-Air Model #SM49HC-S
Stainless Steel
13” x 13” x 11” Case Capacity
Electric Input 1/3HP, 115v/60/1, 2.2 amps
49”W x 31”D x 41”H

Item 8 — 1 each — AVANTCO UNDERCOUNTER REFRIGERATOR
Avantco Model #178SSUC72RHC
SSUC Series Undercounter Refrigerator
Stainless Steel
Electric Input 115v/60/1, 3.2 amps
72”W x 30”D x 36”H

Item 9 — 1 each — DISHWASHER, DOOR TYPE, VENTLESS (OFCI)
CMA Dishmachines, Model 180-VL, 3 door, door type
Ventless Heat Recovery & Condensation Removal
25-1/2”W x 29”D x 86-5/16”H, 33-5/16” Table Height
208v/60/3 78 Amps
0.89 gallons of water per rack
40 racks per hour
Built-in 6.0 kW booster heater
1 hp stainless steel wash pump motor
Single point connections for all utilities
Durable stainless steel construction
Uses standard 20” x 20” racks
Install with local disconnect

EQUIPMENT LIST

Item 10 — 1 each — REGENCY THREE COMPARTMENT SINK
Regency 3-Compartment Sink
18 Gauge 304 Stainless Steel
Model 600S31718X
91”W x 23”D x 45”H

Item 11 — 1 each — RANGE / OVEN (OFCI)
Vulcan, Model VC44GC, Natural Gas
Total Input 100,000BTU / Hr.
1/2 H.P. Blower, 120v/60/1, 15.5 amps
33”W x 28”D x 73”H

Item 12 — 1 each — REGENCY SINGLE COMPARTMENT SINK
Regency 1-Compartment Hand Sink with Faucet
18 Gauge 304 Stainless Steel
Model 600B11014
15”W x 19”D x 33”H

Item 13 — 1 each — CRES COR HOT CABINET (OFCI)
Cres Cor Model H-138-WS-1834D
Total Input 2,000 Watts
Electric Input 120v/60/1, 20 amps
41”W x 41”D x 70”H
5.0” W.C. Pressure Regulator

Item 14 — 1 each — FOODWASTE DISPOSER (OFCI)
HOBART FD4/75+BUILDUP
Disposer, basic unit only
Standard warranty, 1 year parts and labor
Weight: 63 lbs total
3/4 HP motor, steel housings, adjustable flange
FD4/200 Electrical Controller:
Electrical Control Group 6
Specification: FD4/75 - D - 6 - (208v/60/1, 6.3 amp)
Install with local disconnect
Accessory Group D:
Vinyl Silver-Saver splash guard ring, vacuum breaker,
Fixed direction water inlet for sink
7” I.D. stainless steel weld-in adapter
Stainless Steel 18” Cone Cover Part # 204023

Item 15 — 1 each — ADVANCE TABCO SOILED STRAIGHT DISHTABLE
Advance Tabco Custom Clean Straight Dishtable
30”W x 71”L x 34”H Clean Right
14 Gauge 34 Stainless Steel
Model Number DTC-S30-72 R

Item 16 — 1 each — ZURN GREASE INTERCEPTOR
Zurn Grease Interceptor
304 Stainless Steel
Model Z1170 Size 300
10 GPM
Capacity 6 Gal Water and 20 LBS of Grease
12”W x 25”D x 14”H

Item 17 — 2 each — ZURN FLOOR SINK
Zurn Floor Sink
Cast Iron White
Model Z1900
12”W x 12”D x 6”H

Item 18 — 1 each — DOUBLE DECK GAS CONVECTION OVEN
Vulcan, Model SX24-4BN, Natural Gas
Total Input 143,000BTU / Hr.
Range Output 28,000 BTU/Hr. & Oven Output 30,000 BTU/Hr.
24”W x 33”D x 60”H
5.0” W.C. Pressure Regulator

EQUIPMENT LIST

Item 22 — 2 each — ADVANCE TABCO PAN RACKS (OFCI)
Advance Tabco Front Load Pan Racks with Castors
26”W x 20”D x 69”H
6063-T52 Extruded Aluminum Angles and Upright Tubing
Model Number PR15-4W

Item 23 — 1 each — NON-REFRIGERATED COLD FOOD STATION (OFCI)
Vollrath Model 38952
3 Pan (46”) with NSF2 Buffet Breath Guard
Walnut Woodgrain
Electric Input 1/5 H.P., 120v/60/1, 15 amps
46”W x 40”D x 59”H

Item 24 — 1 each — MOVEABLE CASE REGISTER (OFCI)
Requires Internet connection.

Item 25 — 1 each — MOVEABLE TRASH CAN (OFCI)
24" Diameter on castors.

Item 26 — 1 each — REGENCY SS ONE COMPARTMENT MOP SINK
Regency Stainless Steel one Compartment Mop Sink Model 600SM202812
33"x25"x 17" Overall
28"x20"x12" Bowl
Install with 304 SS Back and Side Splash 16 GA Model 600SPL2028LR
With 3-1/2” Mop Sink Drain Assembly Model 600MOPDRAIN

Item 27 — 1 each — REGENCY WALL MOUNTED MOP SINK FAUCET
Regency Wall Mounted Mop Sink Faucet
8” Centers with 1/2" NP Connections
6-1/2” Spout, 3/4” Garden Hose Thread
Model 600FMS86
With 3-1/2” Mop Sink Drain Assembly Model 600MOPDRAIN

Item 28 — 1 each — REGENCY STAINLESS STEEL WORKTABLE (OFCI)
Regency 24” x 72” x 34” With Bottom Shelf & Castors
304 Stainless Steel Work Surface
Model Number 600T2472G

Item 29 — 2 each — REGENCY WALL MOUNTED PRE-RINSE FAUCET
Regency Wall Mounted Pre-Rinse Faucet w/ 14" Swing Spout
8” Centers with 1/2" NP Connections
44” Hose Length
With 14” Add-On Spout
1.15 GPM
Model 600FPRW814LL

Item 30 — 1 each — REGENCY WALL MOUNTED PRE-RINSE FAUCET
Regency Wall Mounted Pre-Rinse Faucet
8” Centers with 1/2" NP Connections
44” Hose Length
No Add-On Spout
1.15 GPM
Model 600FPRW814LL

NOTE: (OFCI) OWNER FURNISHED, CONTRACTOR INSTALLED

ISSUED FOR CONSTRUCTION

SCALE: AS SHOWN

AutoCAD FILE: hms kitchen mechanical.dc - rev 1.dwg

STATE OF ALASKA 49TH
JERRY P. HERRING
AELM-9287
MARCH 15, 2023
REGISTERED PROFESSIONAL ENGINEER

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DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

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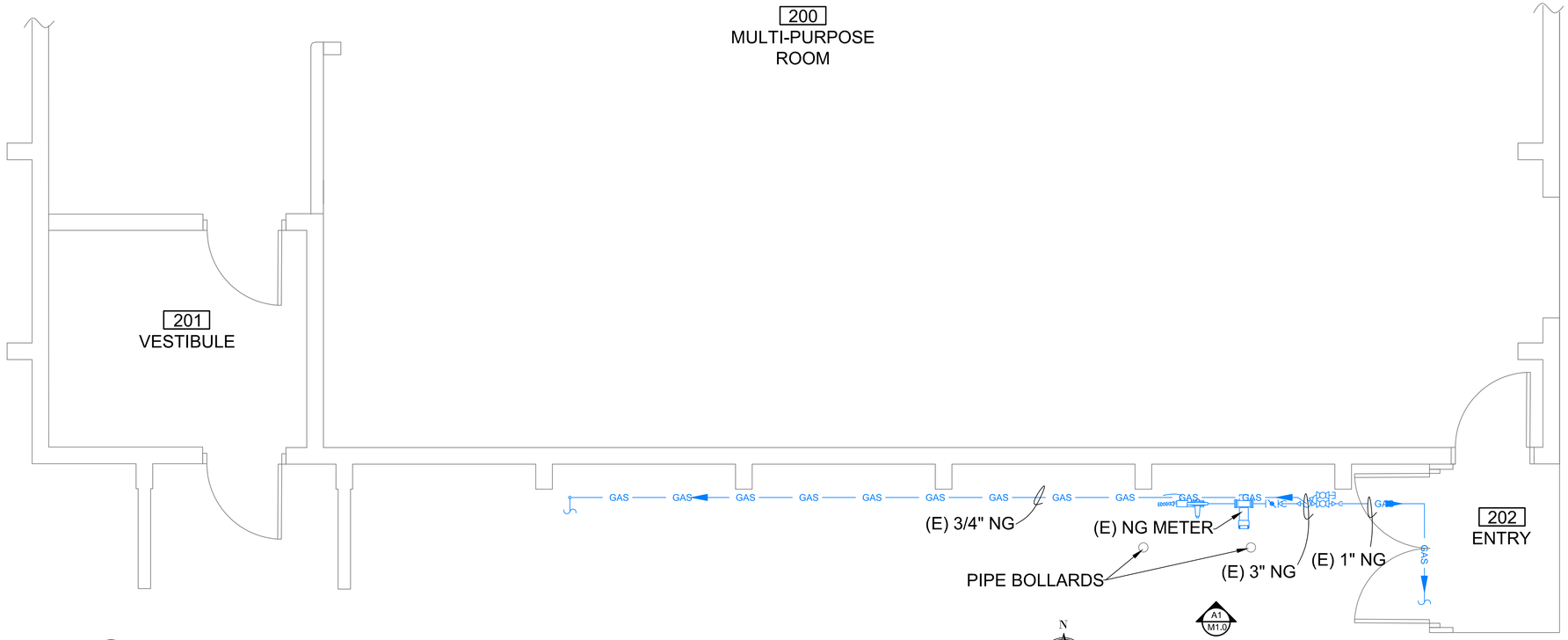
SHEET CONTENTS:
EQUIPMENT LIST

CATEGORY: SHEET:
M 0.2

ISSUED FOR CONSTRUCTION

SCALE: AS SHOWN

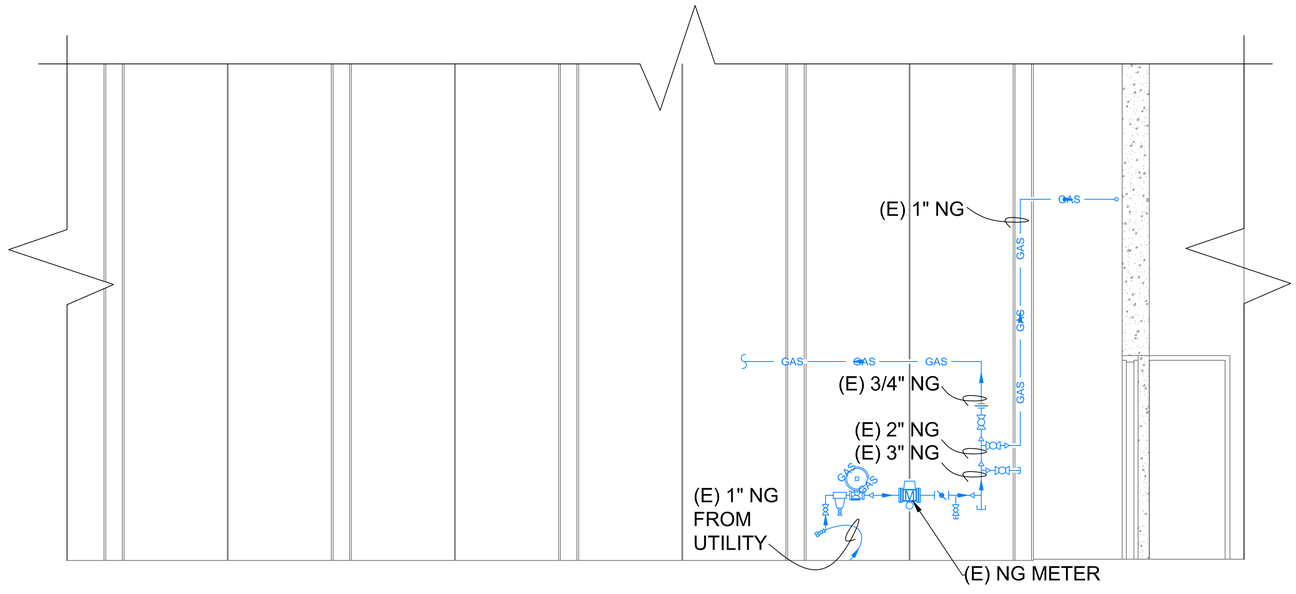
AutoCAD FILE: hms kitchen mechanical 3c - rev 1.dwg



C1 / M1.0 GROUND LEVEL FLOOR PLAN

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF



A1 / M1.0 SOUTH EXTERIOR ELEVATION

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

STATE OF ALASKA
49TH
JERRY P. HERRING
AELM-8287
MARCH 15, 2023
REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	DATE
1	UPDATED PER PLAN REVIEW	3/15/23

CENTRAL ALASKA ENGINEERING COMPANY, LLC.
32215 LAKEFRONT DR., SOLDOTNA, AK 99669
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AECL 1481
E-MAIL: JHERRING@AKENGINEER.COM

PROJECT
HOMER MIDDLE SCHOOL KITCHEN INSTALLATION
500 STERLING HWY., HOMER, AK 99603

CLIENT
KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
47140 E POPPY LANE, SOLDOTNA, AK 99669 (907) 714-2260

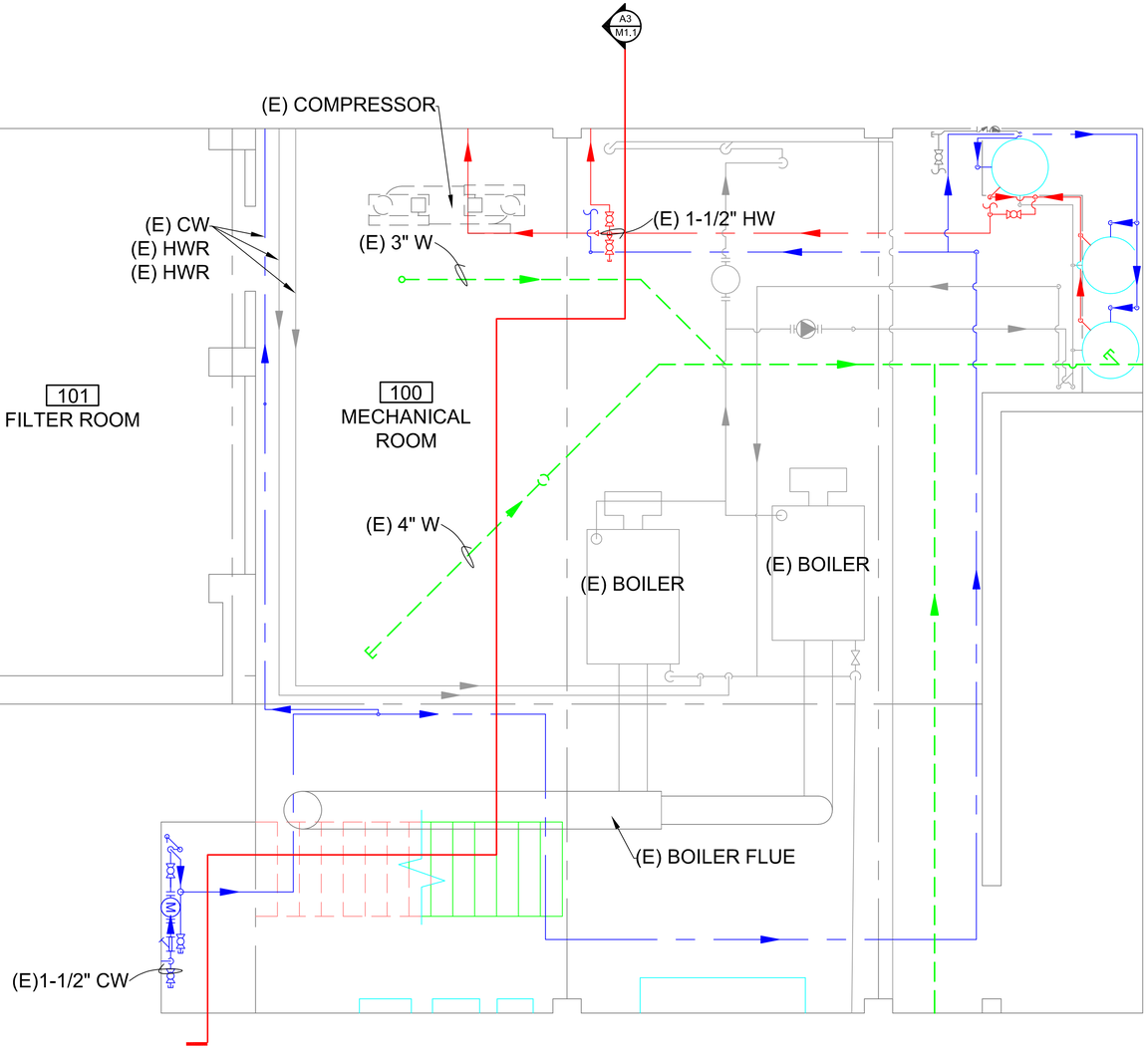
DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
AS-BUILT DETAILS

CATEGORY: SHEET:
M 1.0

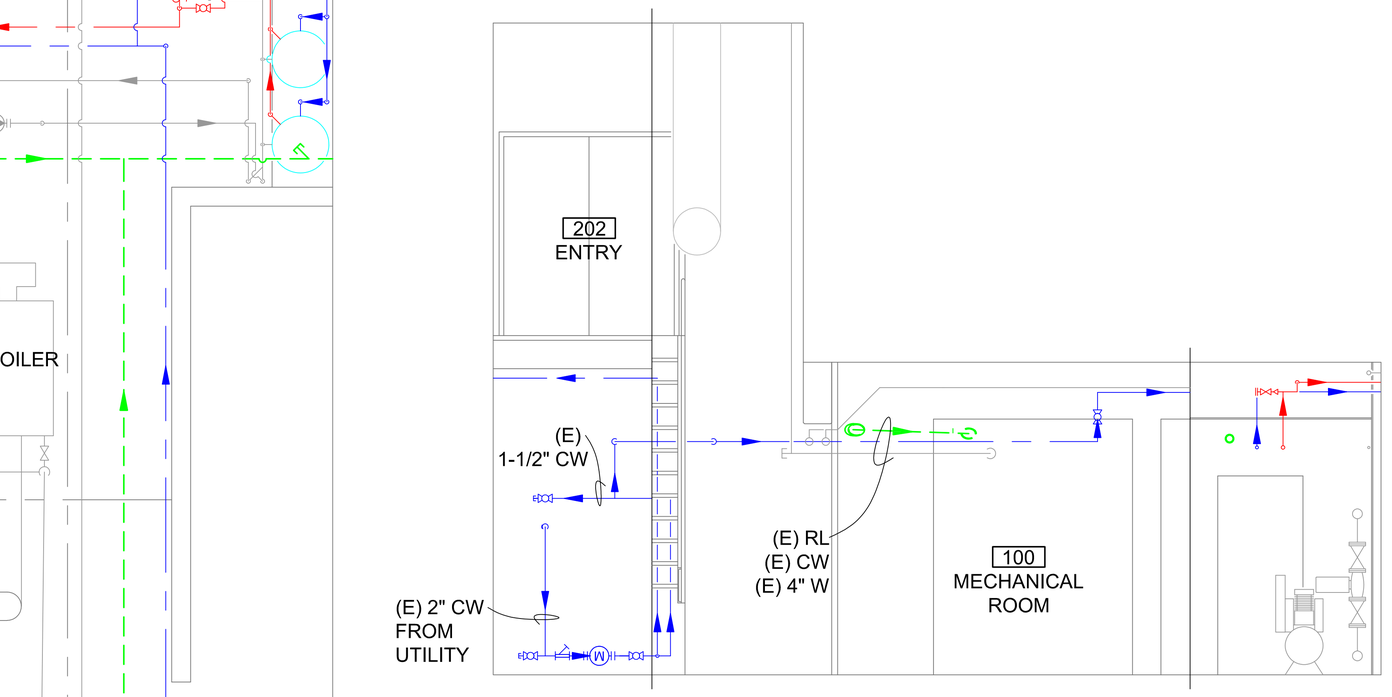
ISSUED FOR CONSTRUCTION



C3 / M1.1 BASEMENT LEVEL FLOOR PLAN

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF



A3 / M1.1 BASEMENT LEVEL INTERIOR ELEVATION/SECTION

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

SCALE: AS SHOWN

AutoCAD FILE: hms kitchen mechanical 3c - rev 1.dwg

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DRAWN:	CHECKED:
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SHEET CONTENTS:
AS-BUILT DETAILS 2

CATEGORY: SHEET:
M 1.1

ISSUED FOR CONSTRUCTION

SCALE: AS SHOWN

AutoCAD FILE: hms kitchen mechanical ix - rev 1.dwg

200
MULTI-PURPOSE
ROOM

203
NEW KITCHEN

201
VESTIBULE

204
JAN.

202
ENTRY

3'

(N) FS-1

1'

CONCRETE CUT LINE
TYP.

2'

(N) FCO-1

(N) FD-1

2'

1'

3" THROUGH
HOLE

1"

1"

1'

6"

2'

2" THROUGH HOLES

CONCRETE CUT LINE
TYP.

(N) FS-1

(N) GI-1

1'

1 1/2"

4'

A1
A4.0

CUT HOLE
AS REQUIRED
FOR GREASE
DUCT FIELD
LOCATE

GAS

(E) 3/4" NG

(E) NG METER

PIPE BOLLARDS

(E) 3" NG

(E) 1" NG

A1
M2.0

N
W E
S

PLAN REF

C1
M2.0

GROUND LEVEL FLOOR DEMO POINTS

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

CUT HOLE
AS REQUIRED
FOR GREASE DUCT
FIELD LOCATE
REFER TO S0.1 & S2.2

(E) 1" NG

GAS

(E) 3/4" NG

(E) 2" NG

(E) 3" NG

(E) 1" NG
FROM
UTILITY

(E) NG METER

A1
M2.0

SOUTH WALL EXTERIOR ELEVATION W/DEMO POINT

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

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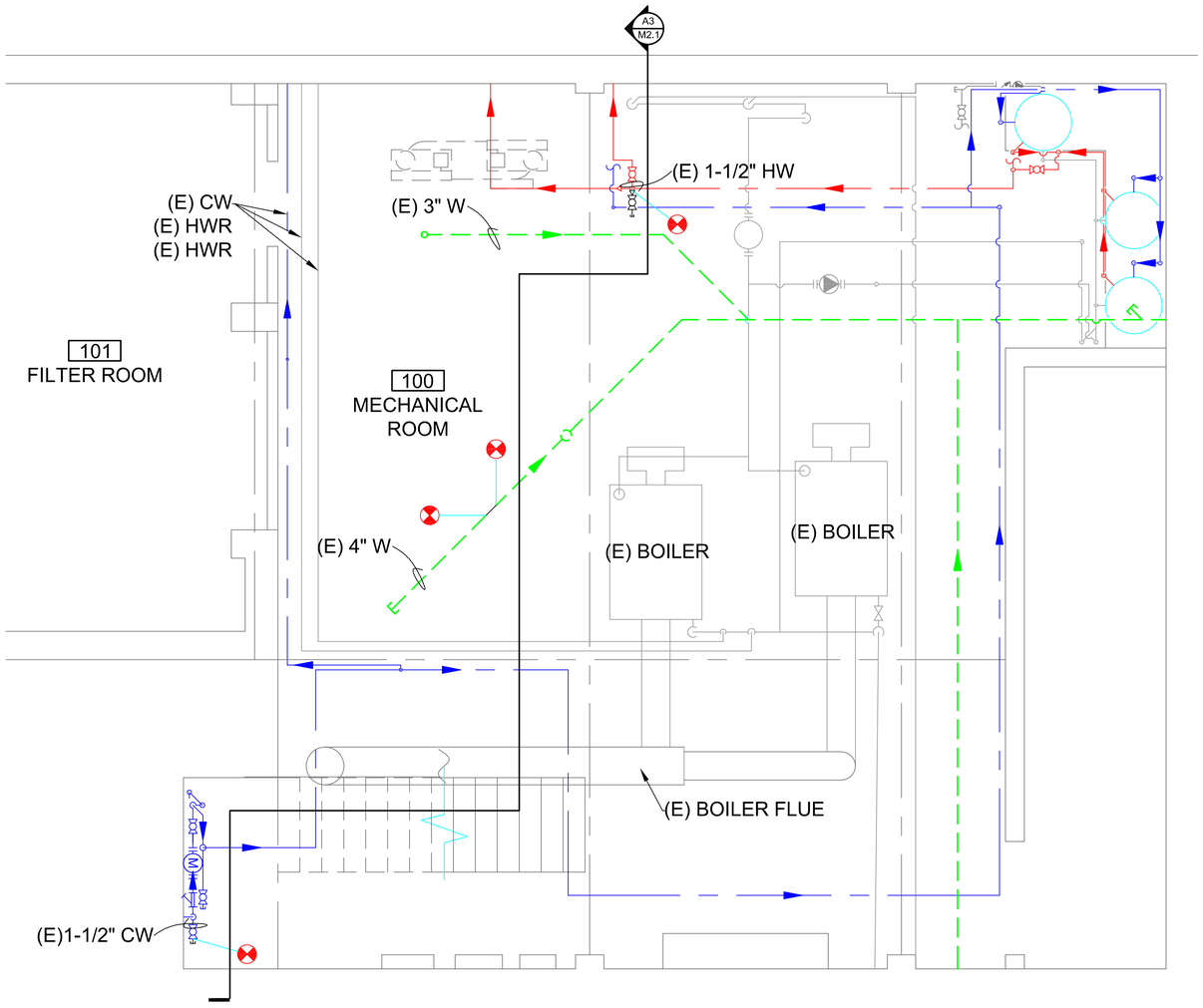
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
DEMO PLANS &
ELEVATIONS

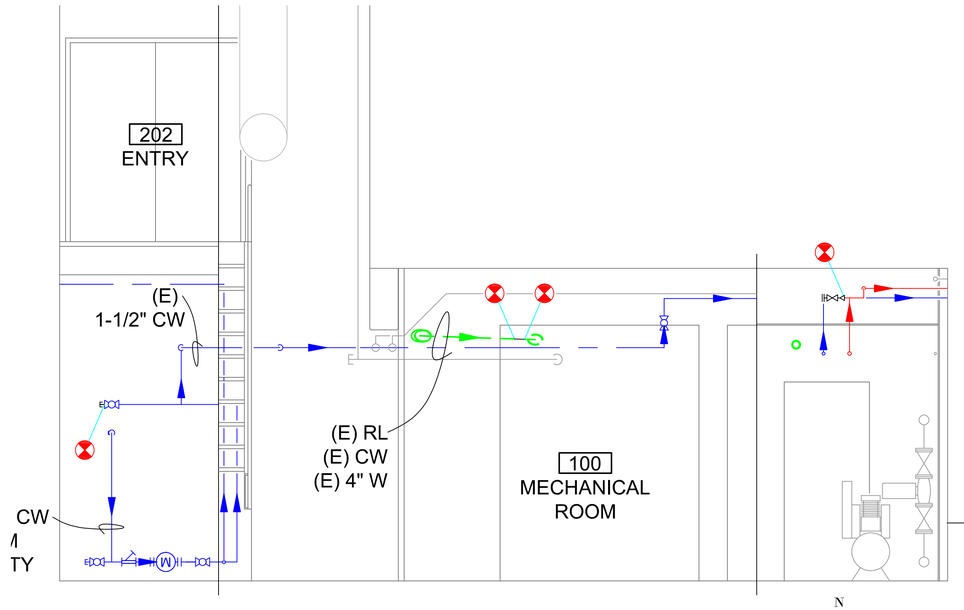
CATEGORY: SHEET:
M 2.0

ISSUED FOR CONSTRUCTION



A3 / M2.1 BASEMENT LEVEL INTERIOR ELEVATION/SECTION W/DEMO POINTS

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"



C3 / M2.1 BASEMENT LEVEL FLOOR DEMO POINTS

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF

NO.	REVISION	DATE
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DESIGN REVIEW DOCUMENTS
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DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
DEMO PLANS & ELEVATIONS 2

CATEGORY: M SHEET: 2.1

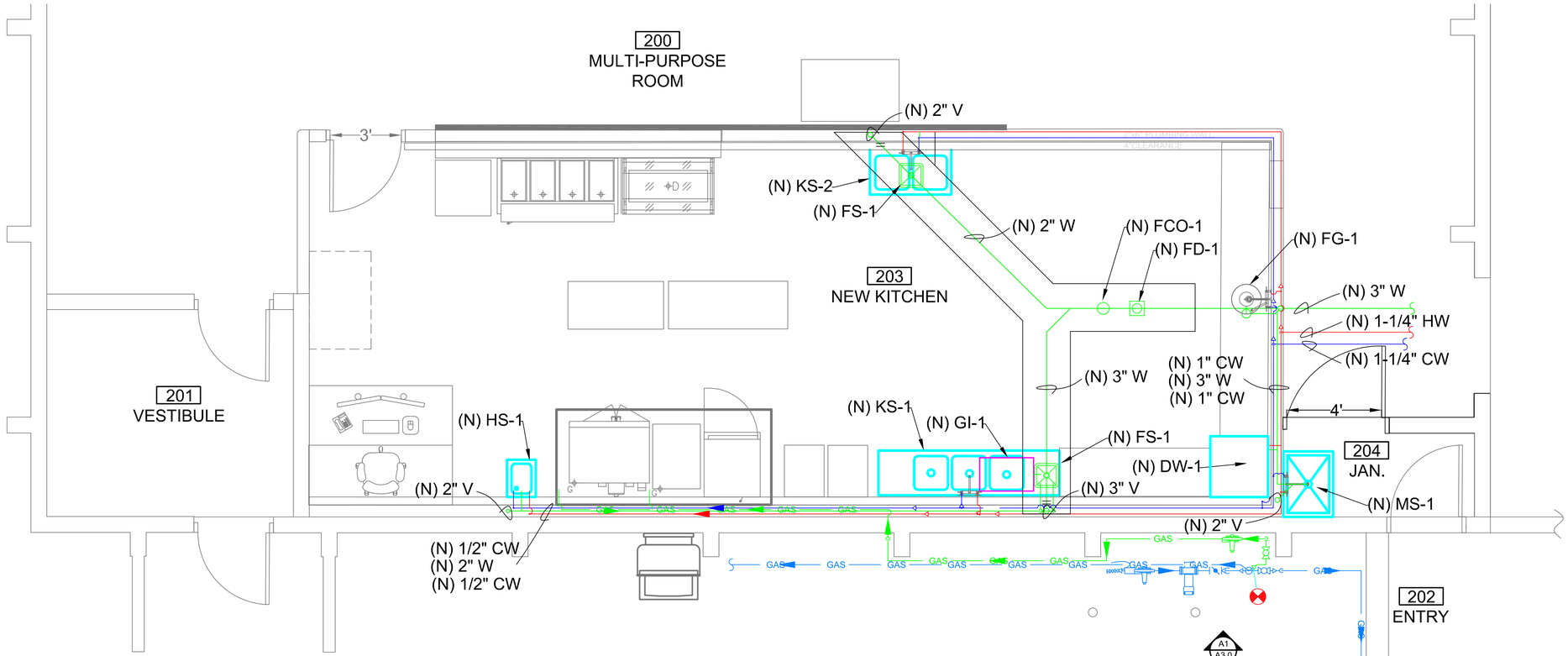
SCALE: AS SHOWN

AutoCAD FILE: [illegible]

ISSUED FOR CONSTRUCTION

SCALE: AS SHOWN

AutoCAD FILE: kmo kitchen mechanical.dwg - rev 1.dwg

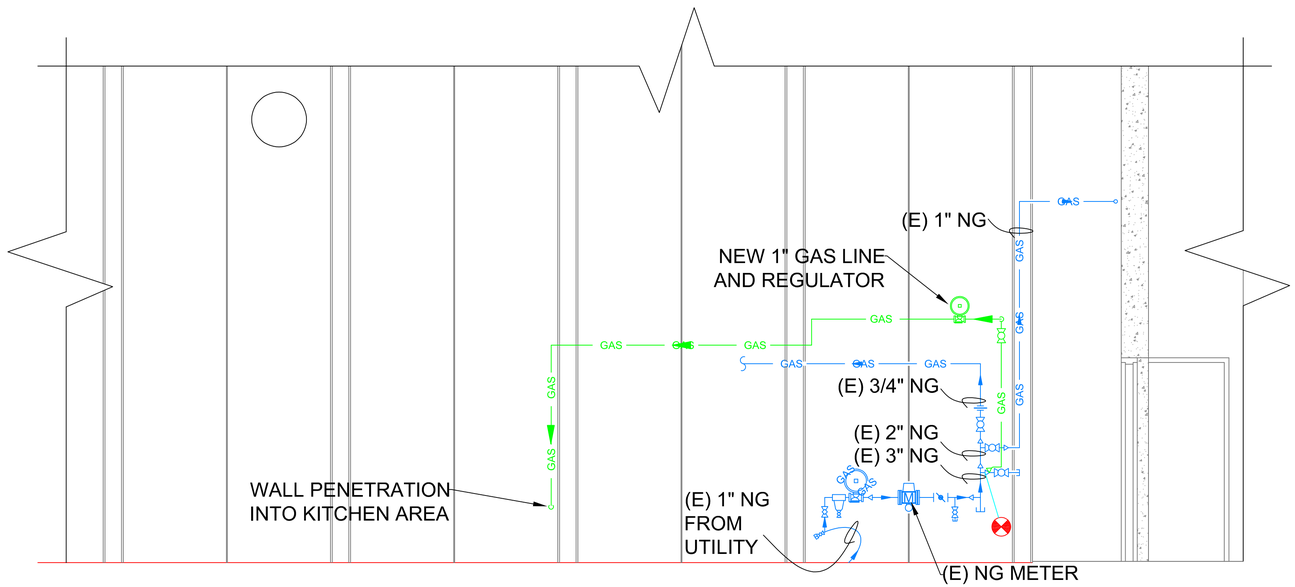


C1
M3.0

GROUND LEVEL FLOOR PLAN W/KITCHEN ADDITION

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF



A1
M3.0

SOUTH WALL ELEVATION W/KITCHEN ADDED (NOT COMPLETED)

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

STATE OF ALASKA
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DRAWN:	CHECKED:
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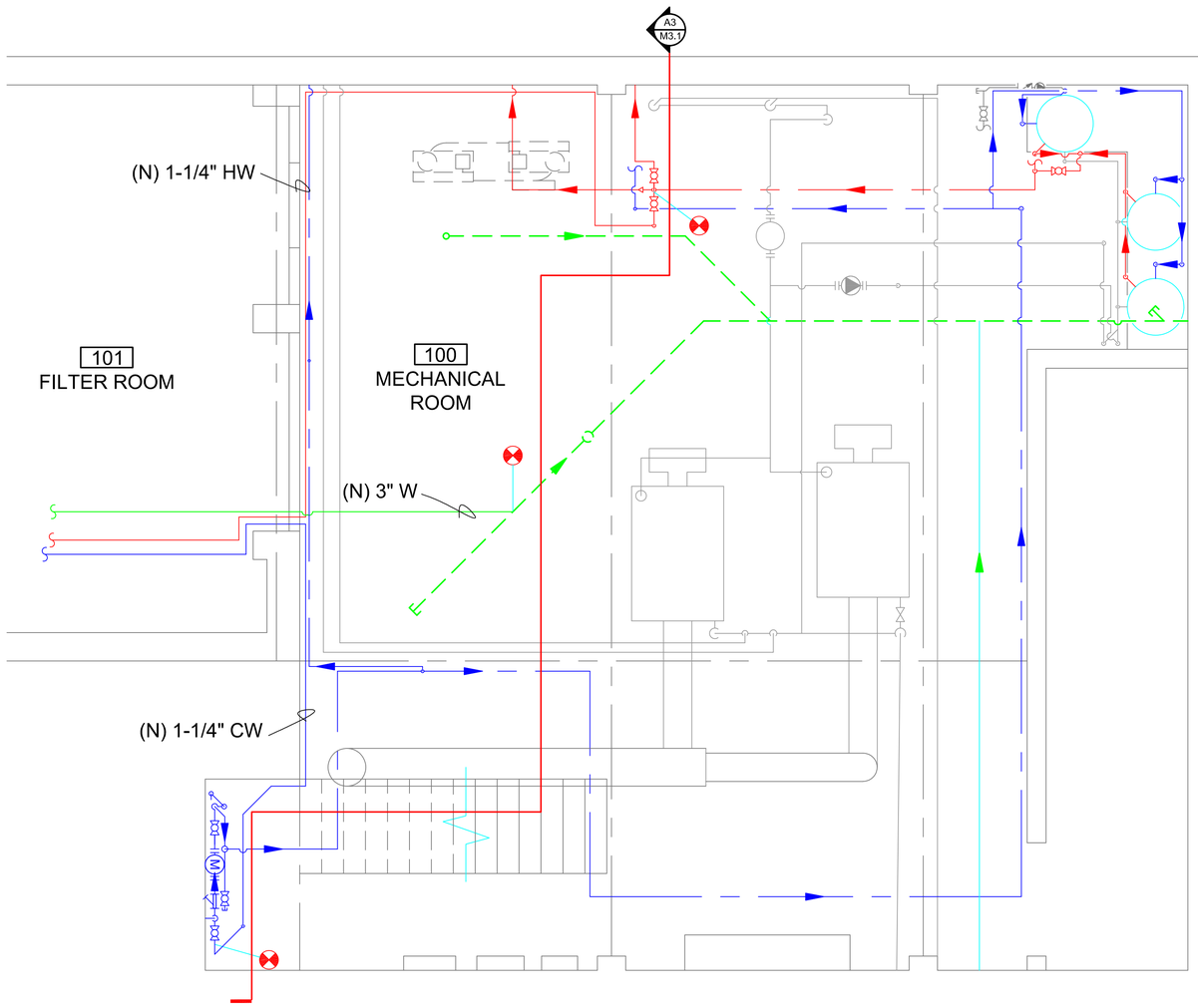
SHEET CONTENTS:
INSTALLATION PLANS
& ELEVATIONS

CATEGORY: SHEET:
M 3.0

ISSUED FOR CONSTRUCTION

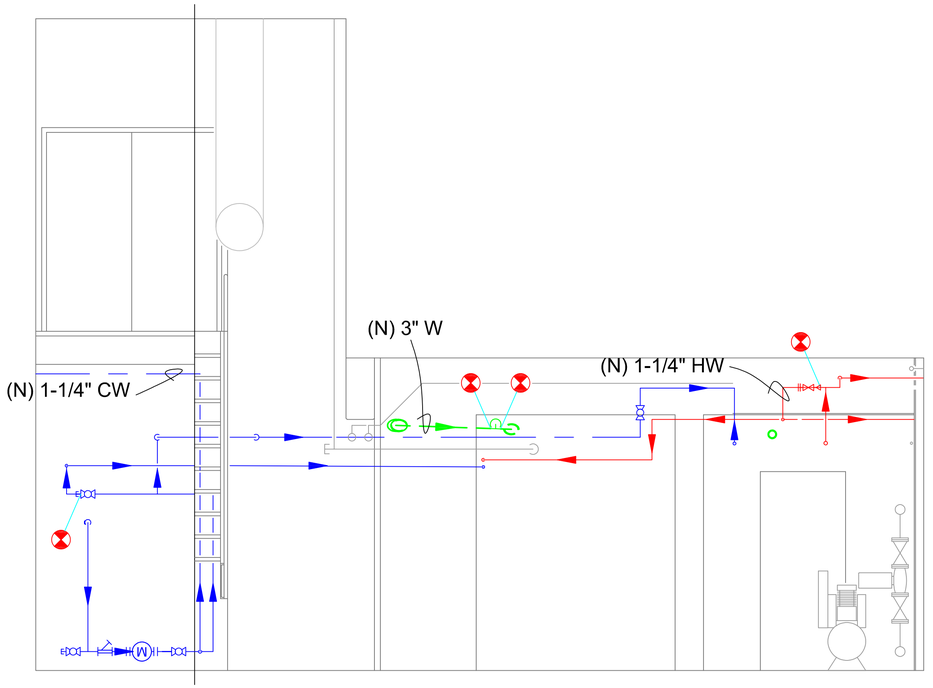
SCALE: AS SHOWN

AutoCAD FILE: hmss kitchen mechanical.tfc - rev 1.dwg

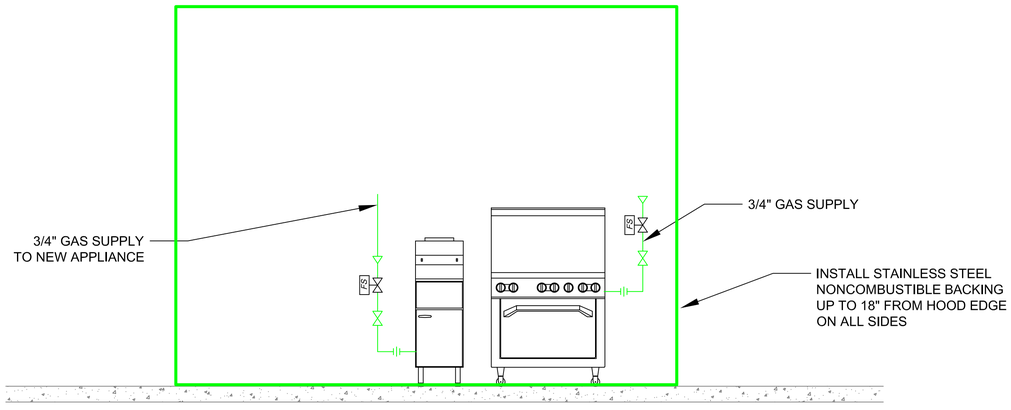


C3 / M3.1 — BASEMENT LEVEL FLOOR PLAN W/KITCHEN PIPING
SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF



A3 / M3.1 — BASEMENT LEVEL INTERIOR ELEVATION/SECTION W/KITCHEN PIPING
SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"



3 / M3.1 — GAS CONNECTIONS TO KITCHEN APPLIANCES
SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"

STATE OF ALASKA
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500 STERLING HWY., HOMER, AK 99603

CLIENT
KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
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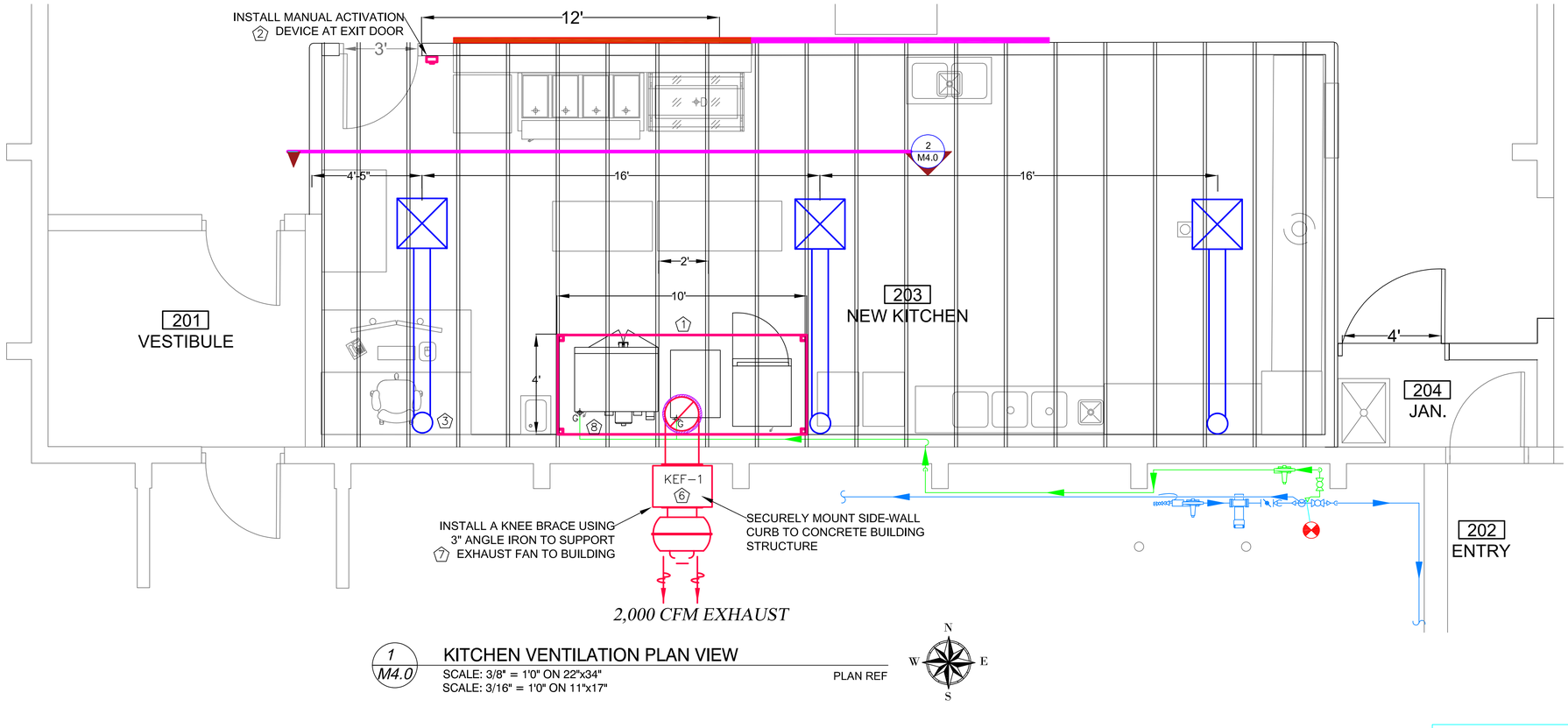
DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN: BD
CHECKED: JH

SHEET CONTENTS:
INSTALLATION PLANS & ELEVATIONS 2

CATEGORY: M
SHEET: 3.1

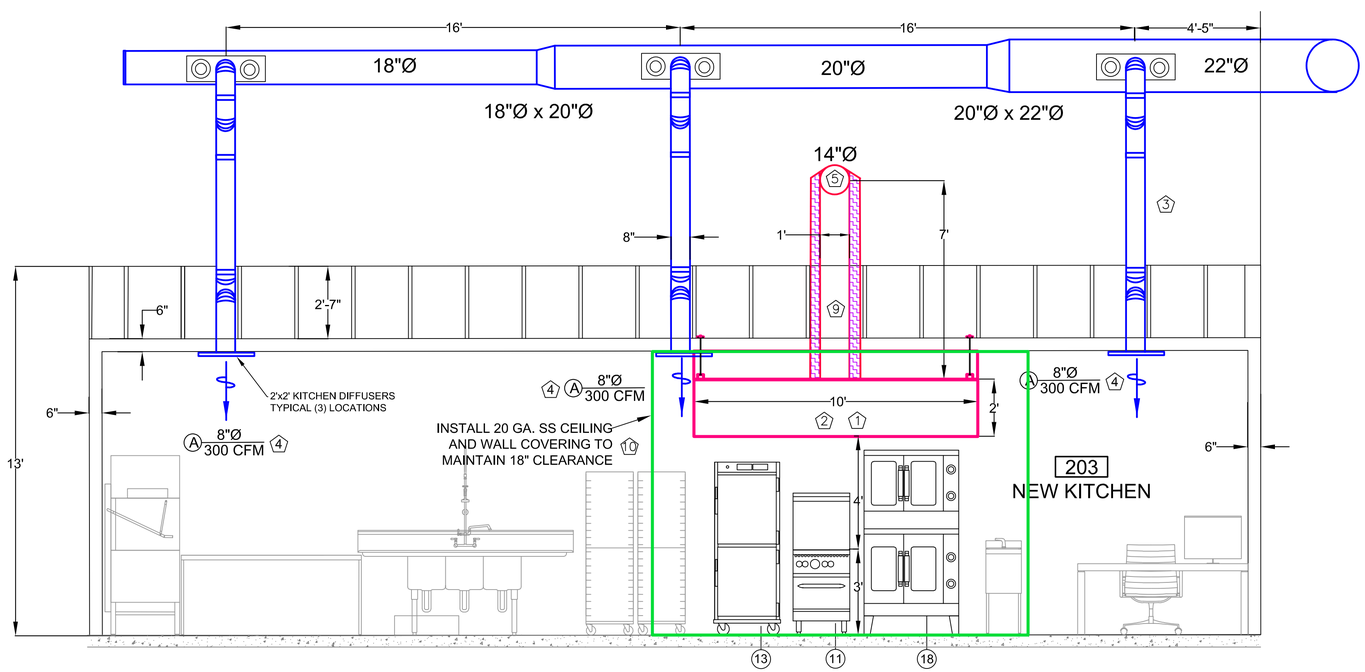
ISSUED FOR CONSTRUCTION



1 M4.0 **KITCHEN VENTILATION PLAN VIEW**

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

PLAN REF



2 M4.0 **VENTILATION PLANS ELEVATION VIEW**

SCALE: 3/8" = 1'0" ON 22"x34"
SCALE: 3/16" = 1'0" ON 11"x17"

KITCHEN VENTILATION SHEET NOTES:

1. REFER TO CAPTIVEAIRE DRAWINGS DATED 12/16/2022 FOR HOOD AND EXHAUST FAN DESIGN INFORMATION.
2. INSTALLATION OF ANSUL FIRE-CONTROL SYSTEM TO BE COMPLETED BY A QUALIFIED SPECIALIST. INSTALL MANUAL ACTIVATION DEVICE AT EXIT DOOR.
3. INSTALL 8" DIAMETER SPIRAL DUCT FOR MAKE-UP AIR TO THE KITCHEN. ROUTE FROM THE CONNECTION AT THE EXISTING SUPPLY AIR PLENUM AS SHOWN IN DRAWING M3.1. SUPPORT DUCT AS SHOWN IN DETAILS. TYPICAL 3 LOCATIONS.
4. INSTALL TITUS LOUVERED SUPPLY GRILLE, ALUMINUM, MODEL 300F, 8" DIAMETER DUCT CONNECTION. TYPICAL 3 LOCATIONS.
5. PROVIDE A 16" DIAMETER HOLE IN BUILDING CONCRETE WALL TO INSTALL 14" DIAMETER NON-INSULATED EXHAUST DUCT. INSULATE THE ANNULUS WITH ROCKWOOL NON-COMBUSTIBLE INSULATION TO SEAL OPENING GAP.
6. INSTALL SIDE-WALL CURB CONNECTED TO CONCRETE BUILDING WALL. ADEQUATELY ANCHOR CURB TO THE WALL. REFER TO STRUCTURAL FOR DETAILS.
7. INSTALL 3" ANGLE IRON KNEE BRACE TO SUPPORT THE CURB AND EXHAUST FAN. REFER TO STRUCTURAL FOR DETAILS.
8. INSTALL GAS ISOLATION VALVES CONNECTED TO THE ESD SYSTEM. VALVES ARE TO BE CONNECTED TO THE APPLIANCES TO OPEN WHEN TURNED ON.
9. INSTALL FACTORY BUILT ZERO CLEARANCE EXHAUST DUCTS THROUGH TRUSS PENETRATION. ANCHOR AND SUPPORT HOOD AND DUCT PER PLAN DETAILS.
10. INSTALL 20 GAUGE 304 SS SHEATHING ON WALL AND ROOF TO MAINTAIN 18" CLEARANCE FROM COMBUSTIBLES.

STATE OF ALASKA 49TH
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HOMER MIDDLE SCHOOL KITCHEN INSTALLATION
500 STERLING HWY., HOMER, AK 99603

CLIENT
KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
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DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
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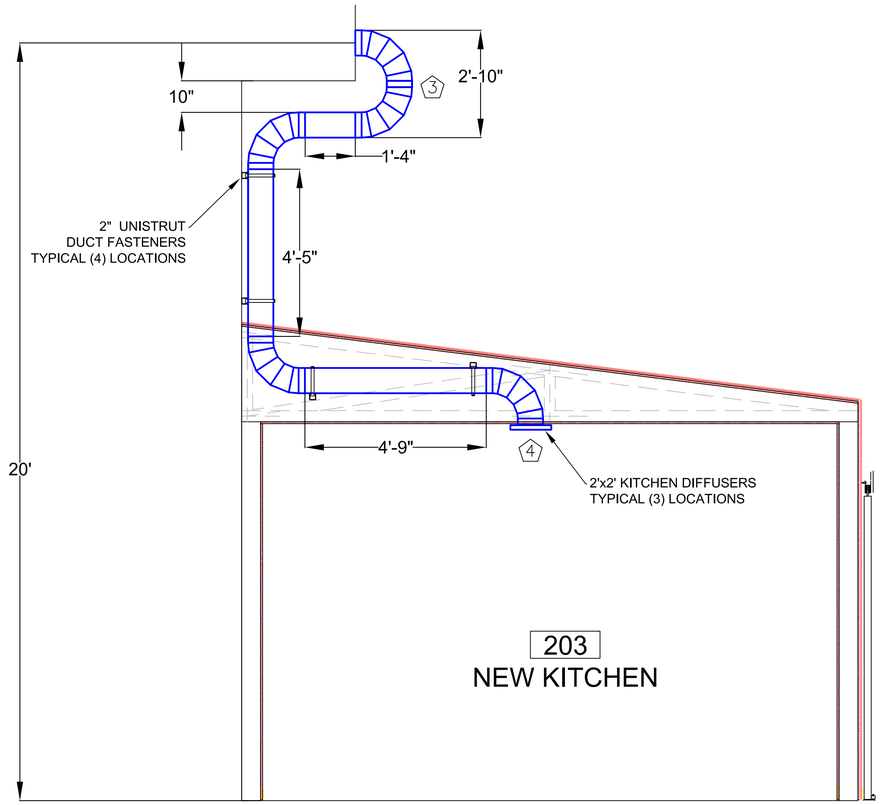
SHEET CONTENTS:
VENTILATION PLANS

CATEGORY: SHEET:
M 4.0

SCALE: AS SHOWN

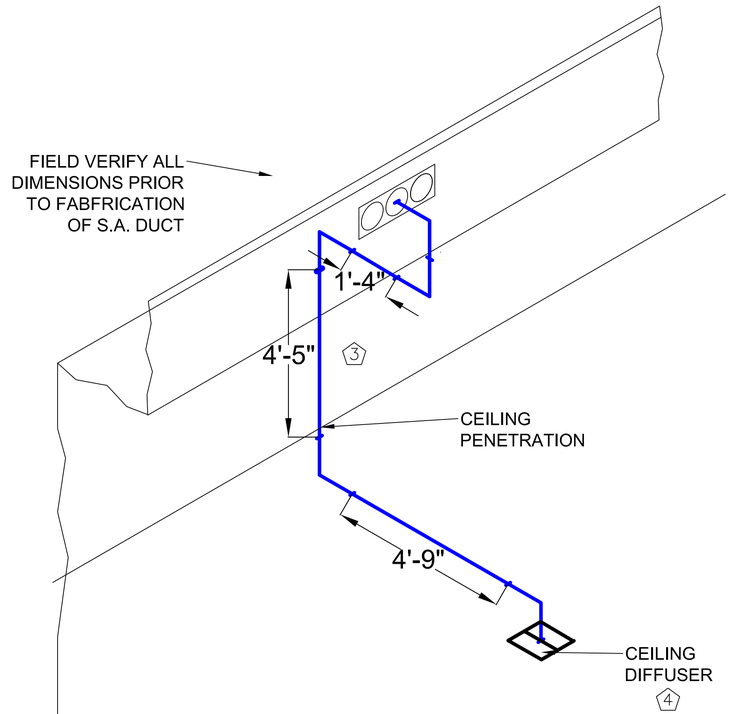
AutoCAD FILE: hms kitchen mechanical 2c - rev 1.dwg

ISSUED FOR CONSTRUCTION



1 M4.1 SUA DUCT ELEVATION VIEW

SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"



2 M4.1 SUA DUCT ISOMETRIC VIEW

SCALE: 1/2" = 1'0" ON 22"x34"
SCALE: 1/4" = 1'0" ON 11"x17"

KITCHEN VENTILATION SHEET NOTES:

3. INSTALL 8" DIAMETER SPIRAL DUCT FOR MAKE-UP AIR TO THE KITCHEN. ROUTE FROM THE CONNECTION AT THE EXISTING SUPPLY AIR PLENUM AS SHOWN IN DRAWING M3.1. SUPPORT DUCT AS SHOWN IN DETAILS. TYPICAL 3 LOCATIONS.

4. INSTALL TITUS LOUVERED SUPPLY GRILLE, ALUMINUM, MODEL 300F, 8" DIAMETER DUCT CONNECTION. TYPICAL 3 LOCATIONS.

SCALE: AS SHOWN

AutoCAD FILE: hmss kitchen mechanical.dwg - rev 1.dwg

STATE OF ALASKA 49TH
JERRY P. HERRING
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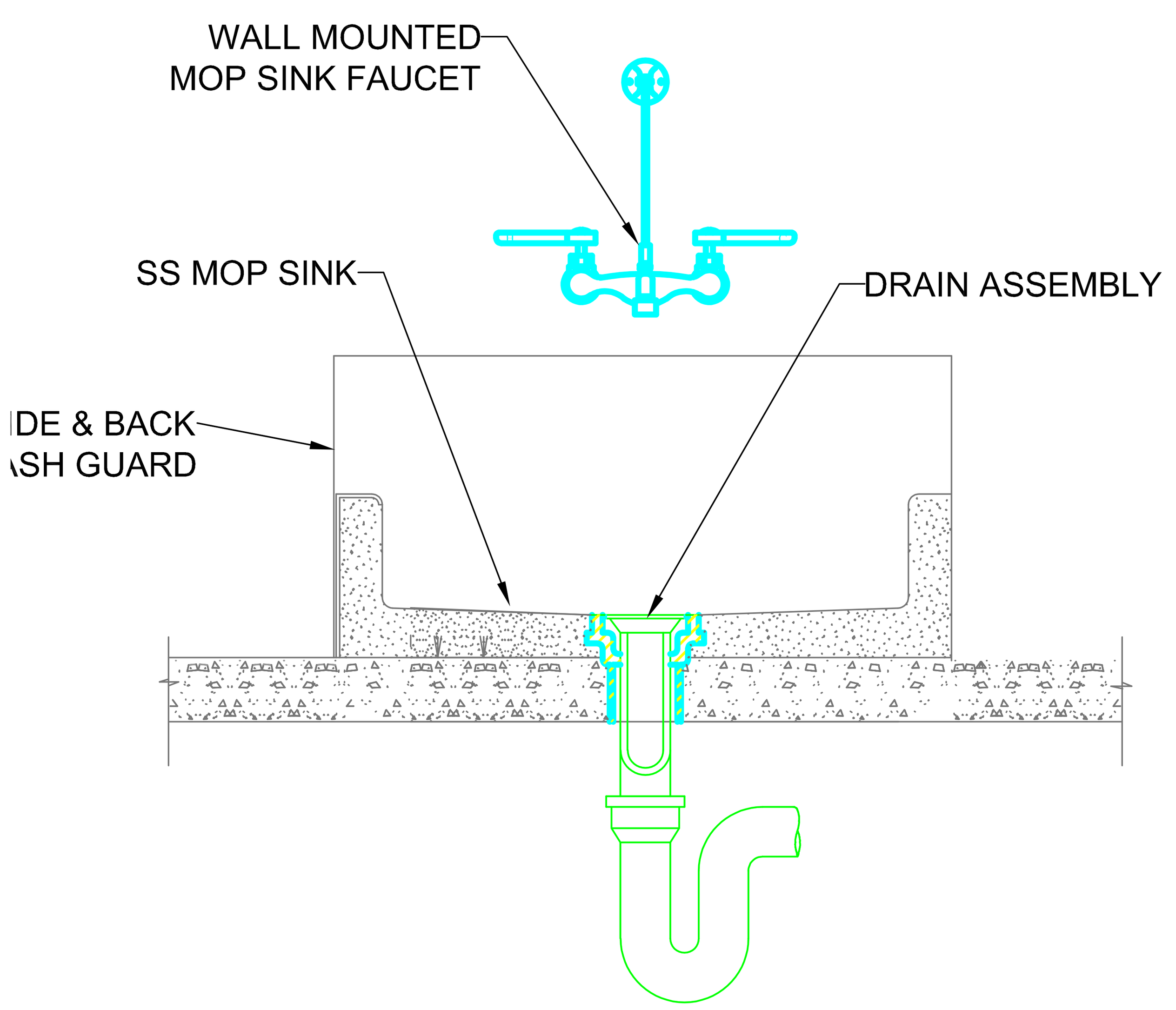
DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
SUPPLY AIR
DUCT DETAILS

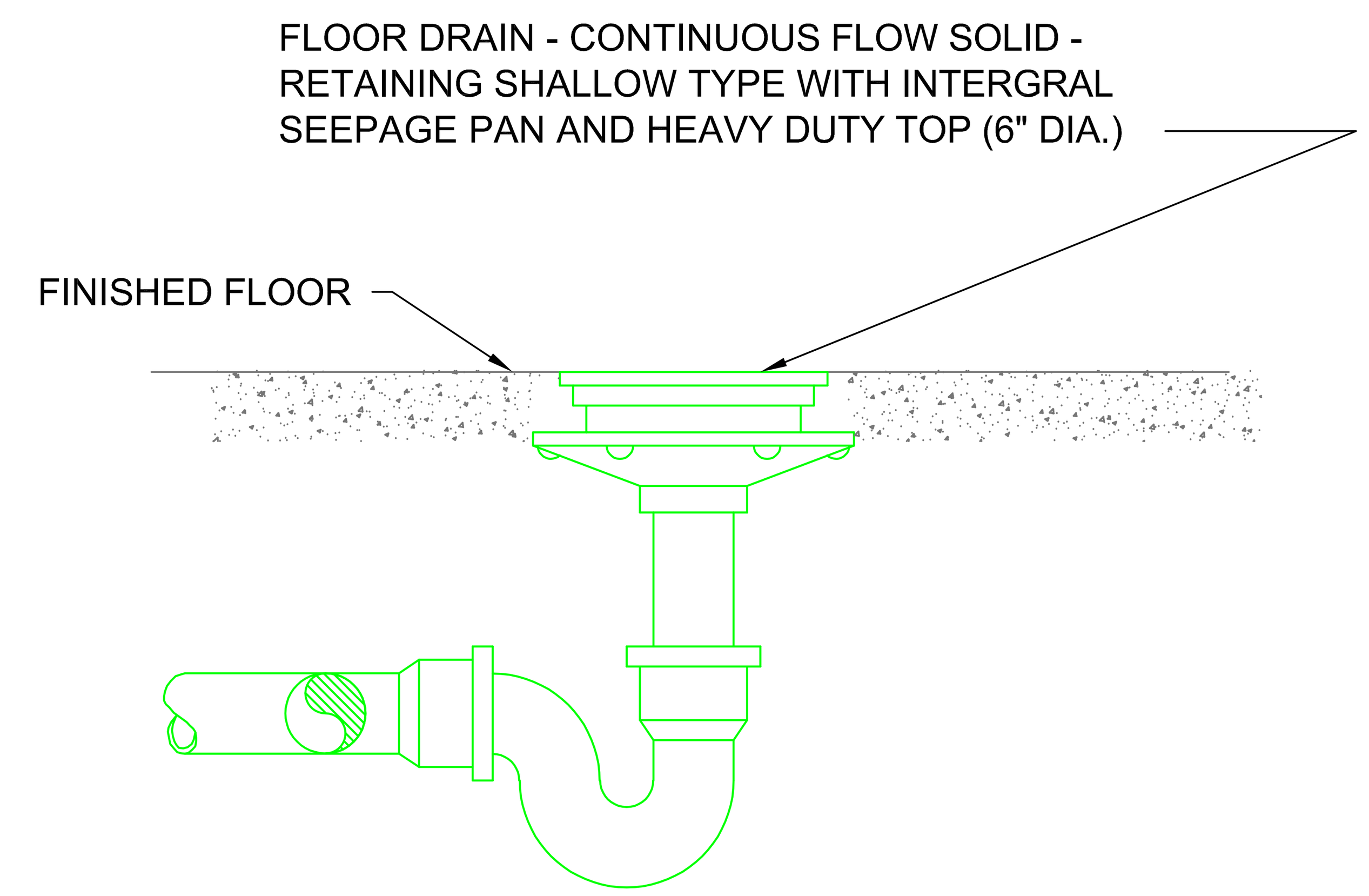
CATEGORY: SHEET:
M 4.1

ISSUED FOR CONSTRUCTION



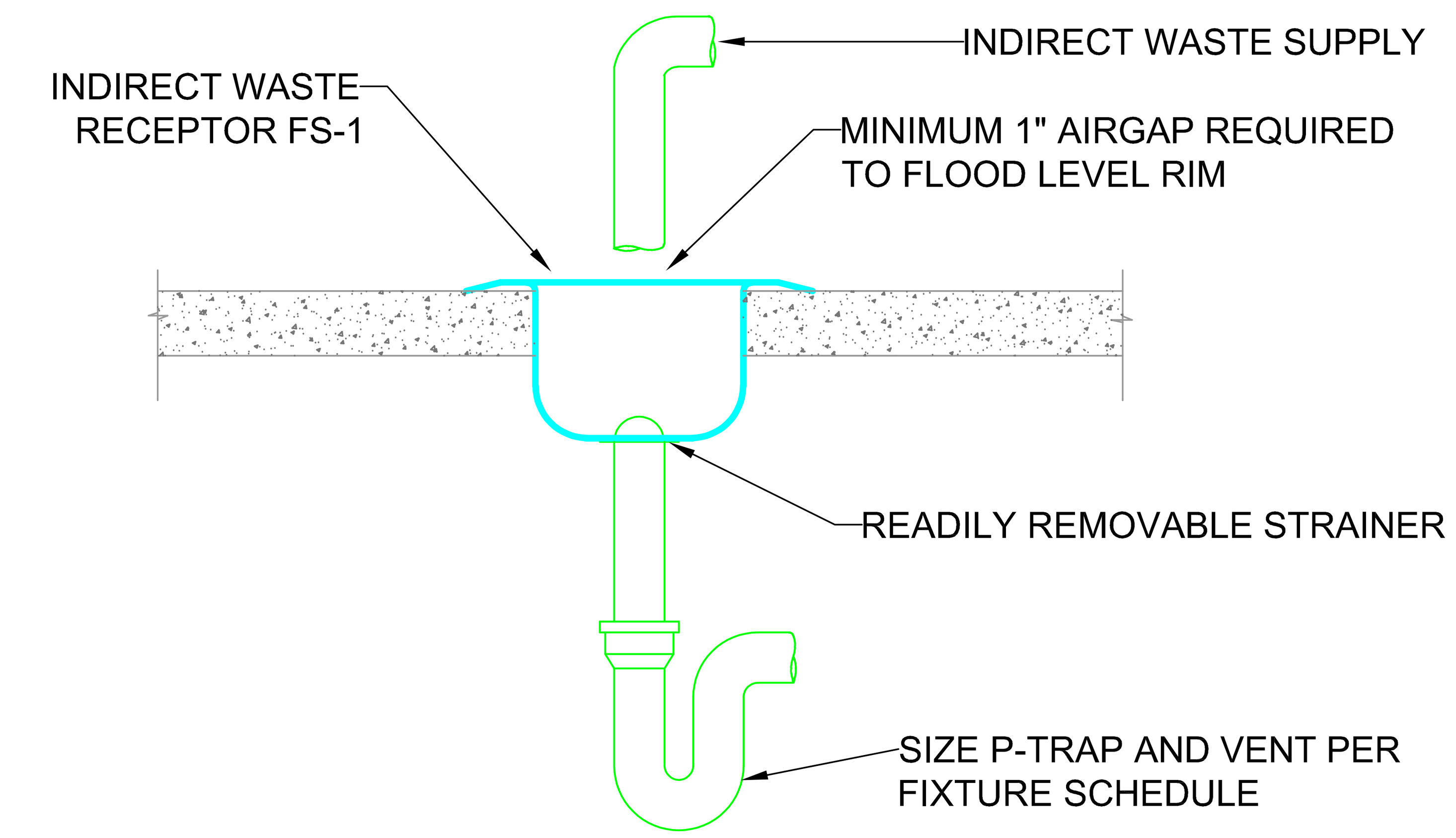
1 / M5.0 FLOOR MOUNTED MOP SINK

NOT TO SCALE



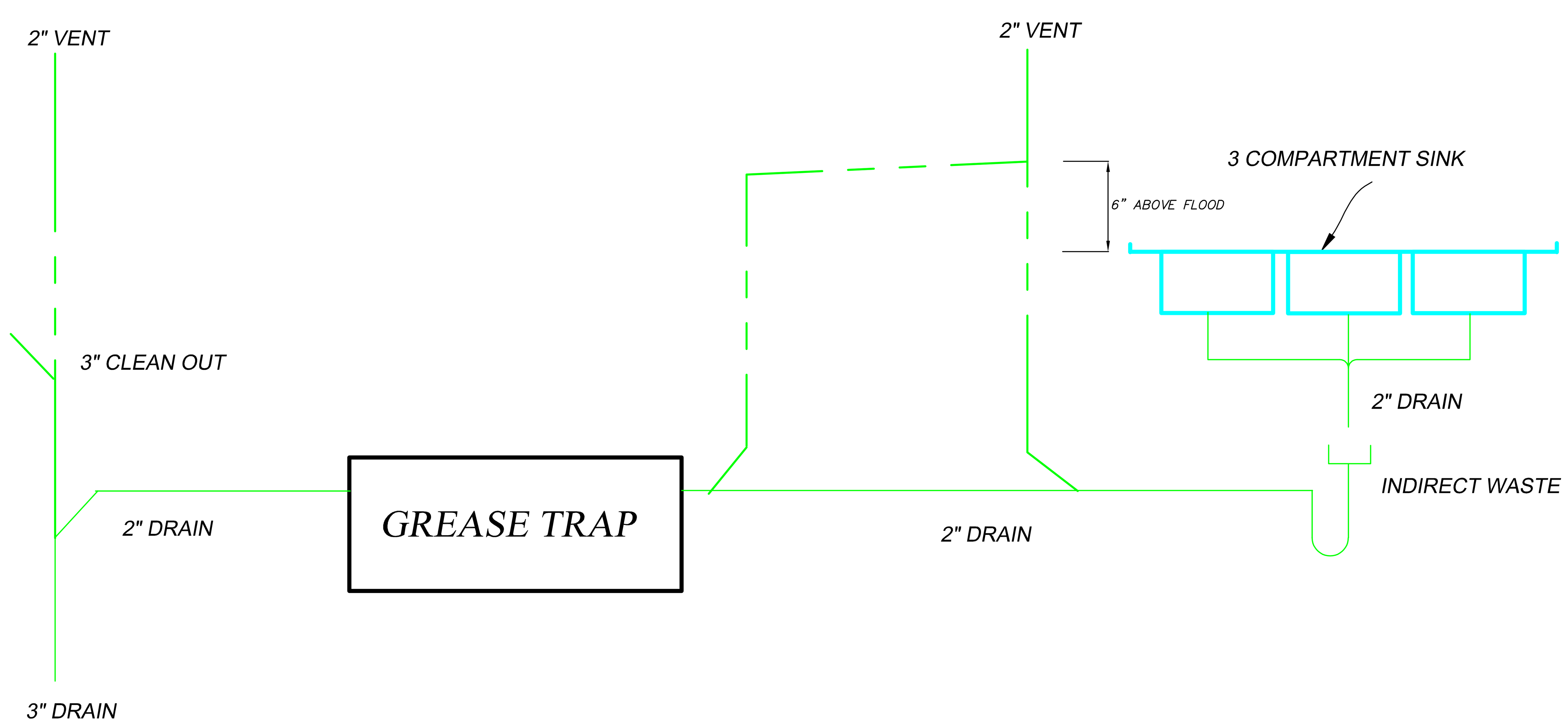
2 / M5.0 FLOOR DRAIN DETAILS

NOT TO SCALE



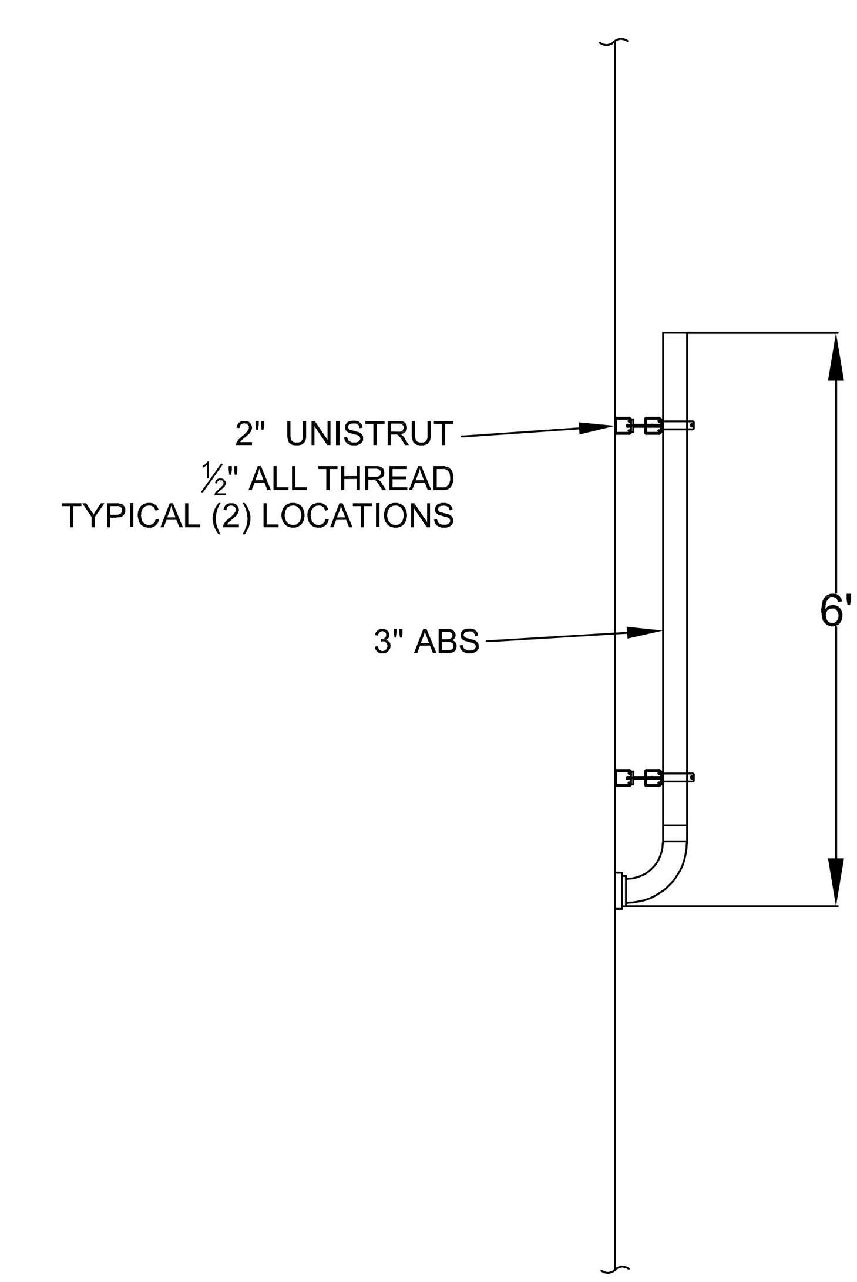
3 / M5.0 FLOOR SINK DETAILS

NOT TO SCALE



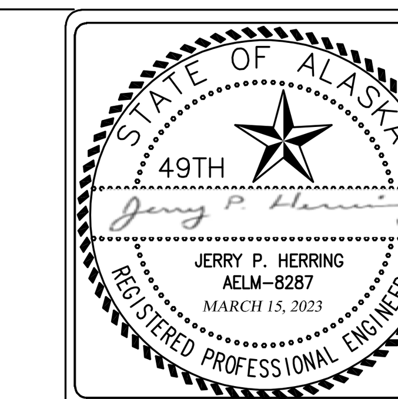
4 / M5.0 GREASE INTERCEPTOR

NOT TO SCALE



5 / M5.0 PLUMBING VENT DETAILS

NOT TO SCALE



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CLIENT: KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
47140 E POPPY LANE, SOLDOTNA, AK 99669 (907) 714-2260

DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

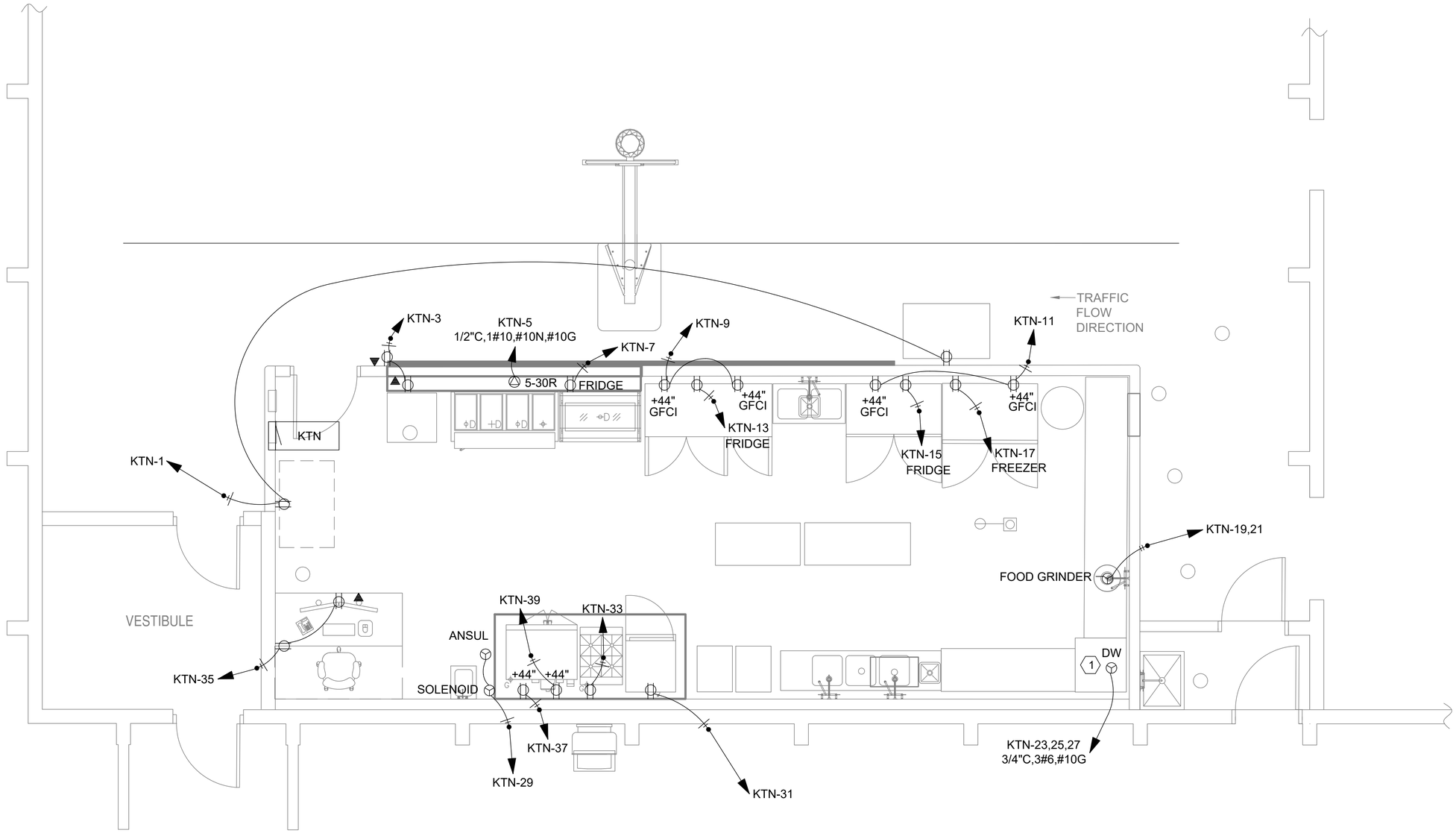
DRAWN: BD
CHECKED: JH

SHEET CONTENTS: PLUMBING DETAILS

CATEGORY: M
SHEET: 5.0

SCALE: AS SHOWN

AutoCAD FILE: hms kitchen mechanical ilc - rev 1.dwg



NOTES:
1. VERIFY LOCATION WITH EQUIPMENT.

1 POWER FLOOR PLAN

SCALE: 3/8"=1'-0" (PRINTED ON 22X34)

SCALE: 3/8" = 1' 0"

0 4 8

Northern Electrical Engineering Consulting, LLC
AECL 1267

8410 FOXLAIR CIRCLE
ANCHORAGE, AK 99507
PHONE (907) 562-1552
JAMESGWYNN@GCI.NET

STATE OF ALASKA
49TH
JAMES JS GWYNN
AELE 14379
2/13/2023
REGISTERED PROFESSIONAL ENGINEER

DESIGN:	JSG
DRAWN:	JSG
APPROVED:	JSG
DATE:	2/13/2023

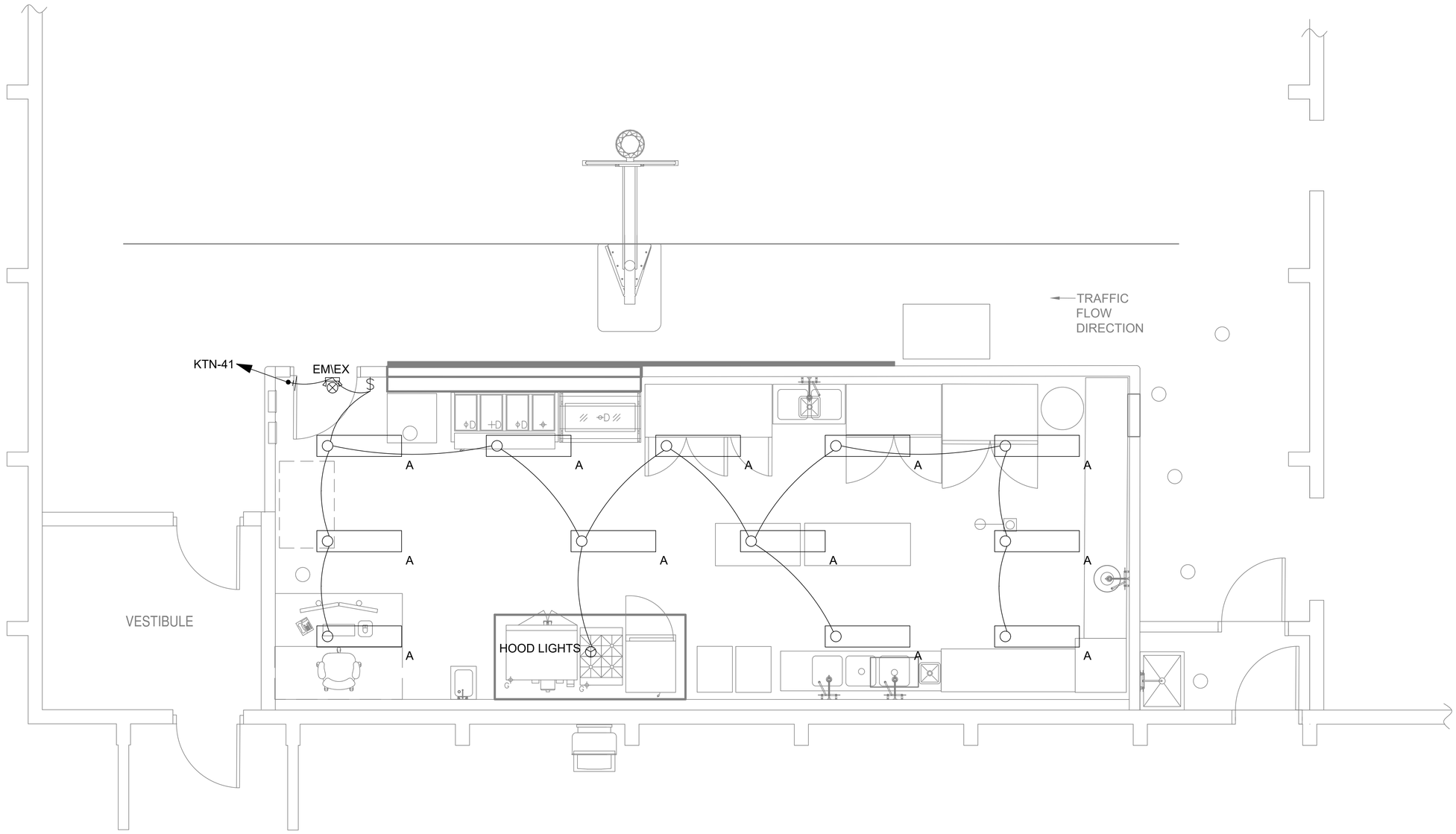
REVISIONS

NO.	DATE	BY

HOMER MIDDLE SCHOOL
KITCHEN INSTALLATION
HOMER, ALASKA

ELECTRICAL
POWER & COMM

E1.0



1 LIGHTING FLOOR PLAN

SCALE: 1"=4'-0" (PRINTED ON 22X34)

SCALE: 3/8" = 1' 0"

0 4 8

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STATE OF ALASKA
49TH
JAMES JS GWYNN
AELE 14379
2/13/2023
REGISTERED PROFESSIONAL ENGINEER

DESIGN:	JSG
DRAWN:	JSG
APPROVED:	JSG
DATE:	2/13/2023

REVISIONS

NO.	DATE	BY

HOMER MIDDLE SCHOOL
KITCHEN INSTALLATION
HOMER, ALASKA

ELECTRICAL
LIGHTING

E2.0

KTN

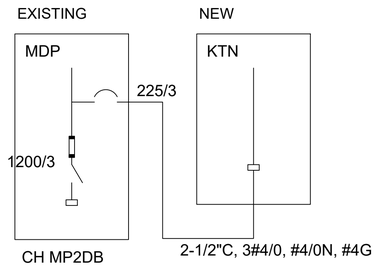
ROOM
MOUNTING FLUSH
FED FROM MDP
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 225
NEUTRAL 100%

AIC 10,000
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	GFCI MILK COOLER	0.528			2	-/1	SPACE	0		
3	20/1	GFCI RECEPTACLE		0.36		4	-/1	SPACE		0	
5	30/1	GFCI HOT FOOD TABLE			2.8	6	-/1	SPACE			0
7	20/1	GFCI REFRIGERATOR	0.75			8	-/1	SPACE	0		
9	20/1	KITCHEN		1.5		10	-/1	SPACE		0	
11	20/1	KITCHEN			1.5	12	-/1	SPACE			0
13	20/1	GFCI REFRIGERATOR	0.75			14	-/1	SPACE	0		
15	20/1	GFCI REFRIGERATOR		0.75		16	-/1	SPACE		0	
17	20/1	GFCI FREEZER			1	18	-/1	SPACE			0
19	20/2	GFCI FOOD GRINDER	0.828			20	-/1	SPACE	0		
21	|			0.828		22	-/1	SPACE		0	
23	60/3	DISH WASHER			4.58	24	-/1	SPACE			0
25	|		4.58			26	-/1	SPACE	0		
27	|			4.58		28	-/1	SPACE		0	
29	20/1	ANSUL, SOLENOID			0.2	30	-/1	SPACE			0
31	20/1	GFCI HOT CABINET	2.4			32	-/1	SPACE	0		
33	20/1	GFCI OVEN		1.86		34	-/1	SPACE		0	
35	20/1	GFCI RECEPTACLE			0.36	36	-/1	SPACE			0
37	20/1	GFCI OVEN	0.924			38	-/1	SPACE	0		
39	20/1	GFCI OVEN		0.924		40	-/1	SPACE		0	
41	20/1	HOOD LIGHTS, LIGHTING			0.59	42	-/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	10.8	10.8	11
								TOTAL CONNECTED AMPS BY PHASE	89.7	90.1	91.9

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.59	0.738	(125%)	RECEPTACLES	3.72	3.72	(50%>10)
LARGEST MOTOR	1.86	0.465	(25%)	KITCHEN EQUIPMENT	10.8	7.04	(65%)
MOTORS	5.26	5.26	(100%)	NONCONTINUOUS	0.2	0.2	(100%)
				HEATING	12	12	(100%)
				TOTAL LOAD		29.4	
				BALANCED 3-PHASE LOAD		81.7 A	



NOTES:
1. INSTALL NEW 225/3 BREAKER IN MDP.
2. FEED TO NEW PANEL KTN IS APPROXIMATELY 85 FEET. SURFACE MOUNT EMT IS ACCEPTABLE.

1 ONE LINE DIAGRAM

SCALE: NONE

NOTES:
1. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
2. THE DRAWINGS ARE PARTLY DIAGRAMMATIC, NOT NECESSARILY SHOWING EXACT LOCATIONS UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO AVOID CONFLICTS IN CONGESTED AREAS.
3. CONFORM TO ALL APPLICABLE CODES, INCLUDING NFPA 70, 2020 EDITION AND LOCAL AMENDMENTS.
4. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS AND FEES.
5. ALL WORK PERFORMED UNDER THIS CONTRACT IS TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE WARRANTY PERIOD.
6. ALL EQUIPMENT INSTALLED UNDER THIS PROJECT SHALL BE BRACED FOR A SEISMIC EVENT IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE SECTION 1613.
7. ALL MATERIALS SHALL BE NEW AND UNUSED, INSTALLED PER MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT.
8. USE RIGID STEEL CONDUIT WHERE UNDERGROUND OR SUBJECT TO DAMAGE. USE ELECTRICAL METALLIC TUBING OR AC/MC IN INTERIOR LOCATIONS.
9. PROVIDE TRENCH MARKING TAPE FOR ALL BURIED CONDUITS OR CABLES EXTENDING BEYOND BUILDING FOUNDATIONS.
10. FEEDERS AND BRANCH CIRCUITS: COPPER CONDUCTOR, 600 VOLT INSULATION, THHN/THWN FOR HEATED AREAS, XHHW FOR NONHEATED AREAS.
11. DO NOT INSTALL THERMOPLASTIC CONDUCTORS WHEN TEMPERATURE IN WORK AREA IS BELOW 20 DEGREES F.
12. PROVIDE A GROUND WIRE IN ALL CONDUITS CONTAINING LINE VOLTAGE.
13. WALL SWITCHES FOR LIGHTING CIRCUITS: NEMA WD; 1 AC GENERAL USE SNAP SWITCH WITH TOGGLE HANDLE, RATED 20 AMPERES AND 120/277 VOLTS AC. HANDLE: WHITE PLASTIC.
14. CONVENIENCE RECEPTACLE CONFIGURATION: NEMA WD 1; TYPE 5 20 R, WHITE PLASTIC FACE. GFCI RECEPTACLES: DUPLEX CONVENIENCE RECEPTACLE WITH INTEGRAL CLASS A GROUND FAULT CURRENT INTERRUPTER U.L. NO. 493 LISTED.
15. DECORATIVE COVER PLATE: STAINLESS STEEL.
16. ELECTRICAL BOX LOCATIONS SHOWN ON CONTRACT DRAWINGS ARE APPROXIMATE UNLESS DIMENSIONED. VERIFY LOCATION OF SWITCHES AND OUTLETS PRIOR TO ROUGH IN. UNLESS OTHERWISE NOTED, MOUNT OUTLETS AT THE FOLLOWING HEIGHTS FROM FINISHED FLOOR TO CENTER LINE OF OUTLET:
    WALL SWITCHES 3'8"
    CONVENIENCE OUTLETS NON ADA: 1'2" ADA: 1'6"
    WEATHERPROOF CONVENIENCE OUTLETS 2'6"
    TELEPHONE OUTLETS NON ADA: 1'2" ADA: 1'6"
    PUBLIC TELEPHONE OUTLET 3'8"
    SPECIAL EQUIPMENT: AS NOTED ON DRAWINGS.
17. ELECTRICAL PANEL LOCATIONS SHOWN ON CONTRACT DRAWINGS ARE APPROXIMATE UNLESS DIMENSIONED. UNLESS OTHERWISE NOTED, MOUNT PANEL SO THE CENTER OF THE HANDLE OF THE TOP BREAKER IS LESS THAN THE FOLLOWING HEIGHT FROM FINISHED FLOOR:
    NON ADA: 6'6" ADA: 4'0"
18. PROVIDE ELECTRICAL BOXES AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND CODE COMPLIANCE.
19. USE MULTIPLE GANG BOXES WHERE MORE THAN ONE DEVICE ARE MOUNTED TOGETHER; DO NOT USE SECTIONAL BOXES.
20. INSTALL PULLWIRE OR POLYETHYLENE PULLING STRING IN EACH EMPTY TELEPHONE CONDUIT CONTAINING A BEND OR OVER 10 FT IN LENGTH.
21. BRANCH CIRCUIT PANELBOARDS: NEMA PB1; BOLT ON CIRCUIT BREAKER TYPE.
22. LABELING: PROVIDE A TYPED CIRCUIT DIRECTORY FOR EACH BRANCH CIRCUIT PANELBOARD AND SWITCHBOARD. USE A PENCIL TO LABEL SPARE CIRCUIT BREAKERS. FOR PANELBOARDS, NUMBER CIRCUITS WITH ODD NUMBERS ON THE LEFT, EVEN NUMBERS ON THE RIGHT, ONE NUMBER FOR EVERY POLE. EVERY CIRCUIT SHALL HAVE A UNIQUE DESCRIPTION THAT CLEARLY IDENTIFIES THE LOAD SERVED. PROVIDE A NAME PLATE IDENTIFYING THE PANEL NAME. EVERY SWITCHBOARD AND PANEL SHALL HAVE A NAMEPLATE IDENTIFYING THE SOURCE OF POWER THAT SUPPLIES IT.
23. FUSIBLE SWITCH ASSEMBLIES AND NONFUSIBLE SWITCH ASSEMBLIES: NEMA KS 1; TYPE HD. HANDLE LOCKABLE IN OFF POSITION WITH INTERLOCK TO PREVENT OPENING IN ON POSITION.

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HOMER, ALASKA

ELECTRICAL
ONELINE AND SCHEDULES

E3.0

LEGEND NOT ALL SYMBOLS MAY BE USED

- (E), (D) — (E) EXISTING TO REMAIN, (D) DEMOLISH
- W.P. — AS SUBSCRIPT DENOTES "WEATHERPROOF"
- A — LIGHTING FIXTURE KEY-SEE SCHEDULE
- 1 — REFER TO NOTE INDICATED
- 1 — ELECTRICAL EQUIPMENT SCHEDULE
- 1 — REVISION SYMBOL
- SURFACE MTD. FIXTURE:CEILING, WALL
- WALL MTD. FLUORESCENT FIXTURE
- SURFACE/PENDANT MTD. FLUORESCENT FIXTURE
- RECESSED FLUORESCENT FIXTURE
- EMERGENCY LIGHT FIXTURE
- BATTERY POWERED EMERGENCY LIGHTING UNIT, WALL AND CEILING
- ARROWS INDICATE AIMING
- EXIT SIGN, W/ARROWS AS NOTED
- AREA LIGHT
- J — JUNCTION BOX
- 13 — DUPLEX OUTLET(W/CKT #, IF SHOWN. GFCI=GROUND FAULT CIRCUIT INTERUPT)
- DOUBLE DUPLEX OUTLET
- DUPLEX CONVENIENCE OUTLET, ONE SIDE SWITCHED
- SPECIAL PURPOSE OUTLET-NEMA CONFIGURATION NOTED
- EQUIPMENT CONNECTION
- 240 OR 208V OUTLET
- FLOOR OUTLET-POWER
- POWER POLE
- COMBO TELEPHONE/DATA OUTLET-WALL
- COMBO TELEPHONE/DATA OUTLET-FLOOR
- EXISTING TELEPHONE OUTLET
- EXISTING TELEPHONE OUTLET - FLOOR
- S — SINGLE POLE SWITCH
- S_2 — DOUBLE POLE SWITCH
- S_3 — THREE-WAY SWITCH
- S_4 — FOUR-WAY SWITCH
- S_D — DIMMER CONTROL
- S_K — KEY OPERATED SWITCH
- S_P — SWITCH W/PILOT LIGHT
- S_T — THERMAL OVERLOAD SWITCH, MANUAL STARTER
- S_a $_a$ — SWITCH SUBSCRIPT INDICATES SWITCHING
- BRANCH CIRCUIT PANEL "P"
- $_T$ — TERMINAL CABINET-SUBSCRIPT "T"=TELEPHONE, "S"=SIGNAL SYSTEM
- T — TRANSFORMER
- 1/4 — MOTOR CONNECTION W/H.P. INDICATED
- T — THERMOSTAT
- CIRCUIT BREAKER DISCONNECT
- MAGNETIC MOTOR STARTER
- DISCONNECT SWITCH-UNFUSED
- ~ — DISCONNECT SWITCH -FUSED
- COMBINATION MOTOR STARTER-DISCONNECT
- BRANCH CIRCUIT-IN WALL OR CEILING
- HOME RUN TO PANEL OR CABINET

NUMBER OF WIRES IF OTHER THAN TWO

- 3 HOT WIRES, 1 NEUTRAL WIRE, 1 GROUND WIRE
- #8 — WIRE SIZE IF OTHER THAN #10 OR #12

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	MODEL	DESCRIPTION	MOUNTING	INPUT WATTS	VOLTS	TOTAL LUMENS	QUANTITY
A		LITHONIA BLWP4 48L ADP MVOLT GZ1 LP840 N100	WRAP	CEILING	40	120	5205	12
EM\EX		DUAL LITE EVC U G W	LED EM/EX	WALL	10	120	0	1

CONTRACTOR TO VERIFY FIXTURE COUNT

RECEPTACLE SCHEDULE

CALLOUT	SYMBOL	VOLTS	FEATURES	QUANTITY
BLOWER		120V 1P 2W	GND	1
Freezer		120V 1P 2W	GND	1
HOT CABINET		120V 1P 2W	GND	1
HOT FOOD TABLE		120V 1P 2W	GND	1
Kitchen		120V 1P 2W	GFCI, GND	4
MILK COOLER		120V 1P 2W	GND	2
OVEN		120V 1P 2W	GND	2
Refrigerator		120V 1P 2W	GND	3
Standard		120V 1P 2W	GND	4

CONTRACTOR TO VERIFY RECEPTACLE COUNT

GENERAL SCHEDULE

CALLOUT	VOLTS	LOAD	WIRE CALLOUT	CALCULATED LOAD
ANSUL	120	NONCONTINUOUS: 0.1 KVA	1/2"C,1#12,#12N,#12G	0.1
DW	208	MOTOR: 1 HP HEATING: 12 KVA	3/4"C,3#6,#10G	14.18
FOOD GRINDER	208	MOTOR: 3/4 HP	1/2"C,2#12,#12G	2.07
HOOD LIGHTS	120	LIGHTING: 0.1 KVA	1/2"C,1#10,#10N,#10G	0.13
SOLENOID	120	NONCONTINUOUS: 0.1 KVA	1/2"C,1#12,#12N,#12G	0.1

CONTRACTOR TO VERIFY EQUIPMENT COUNT

SWITCH SCHEDULE

CALLOUT	SYMBOL	NOTE 1	QUANTITY
Single Pole	$		1

CONTRACTOR TO VERIFY SWITCH COUNT

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KITCHEN INSTALLATION
HOMER, ALASKA

ELECTRICAL
LEGEND AND SCHEDULES

E4.0

PROJECT DESIGN CRITERIA

DESIGN DATA

CODE: IBC 2012 AND ASCE 7-10

DEAD LOADS:

ROOF 10 PSF

LIVE LOADS:

ROOF 20 PSF

SEISMIC LOADS : SITE CLASS D, SEISMIC DESIGN CATEGORY D

Ss = 1.50g

S1 = 0.60g

Sms = 1.50g

Sm1 = 0.90g

Sds = 1.00g

Sd1 = 0.60g

T = 0.18 sec

R = 7.0

OCCUPANCY CATEGORY IV

CONCRETE

CEMENT SHALL BE TYPE II PER ASTM C150-96. READY MIXED PER ASTM C-94. MIN. 28 DAY COMPRESSIVE STRENGTH - 2500 PSI - MAX. SLUMP = 5". MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO, BY WEIGHT, NORMAL-WEIGHT AGGREGATE CONCRETE SHALL BE 0.45. AIR CONTENT SHALL BE 6%.

CONCRETE ANCHORING

EXISTING CONCRETE F'_c = 2,500 PSI, CRACKED CONDITION ASSUMED

BONDING ADHESIVE - HILTI HVU2 RESIN

THREADED ROD ANCHORS - A307

WOOD

SILL PLATES - PT DF NO 2

STUDS, BLOCKING, TOP PLATES - DF NO 2

KING POSTS, HEADER STUDS, HEADERS - DF NO 1 OR BETTER

TRUSSES - PER MANUFACTURER

RAILING POSTS

POSTS - F1043 IC PIPE

ABBREVIATIONS

AAD	ADHESIVE ANCHORAGE DEVICE
AB	ANCHOR BOLT
AC	ASPHALT CONCRETE
Alt	ALTERNATE
APA	AMERICAN PLYWOOD ASSOCIATION
APC	ALTERNATIVE PIPE CULVERT
Bldg	BUILDING
Blkg	BLOCKING
BN	BOUNDARY NAILING
Btm	BOTTOM
CB	CARRIAGE BOLT
CIDH	CAST IN DRILLED HOLE
CJ	CONTROL JOINT
Clr	CLEAR
CMU	CONCRETE MASONRY UNIT
Conc	CONCRETE
Const	CONSTRUCTION
Cont	CONTINUOUS
CP	COMPLETE PENETRATION WELD
Dbl	DOUBLE
DF	DOUGLAS FIR
Dia	DIAMETER
DIP	DUCTILE IRON PIPE
DN	DIAMETER NOMINAL
do	DITTO
(E)	EXISTING
Ea	EACH
EL	ELEVATION
Elec	ELECTRICAL
Embed	EMBEDMENT
EN	EDGE NAIL
Eq	EQUAL
Exp	EXPANSION
FDGM	FREE DRAINING GRANULAR MATERIAL
FG	FINISH GRADE
FL	FLOW LINE
Flr	FLOOR
FN	FACE (FIELD) NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FS	FAR SIDE
Ftg	FOOTING
Ga	GAGE
Galv	GALVANIZED
GLM	GLUE LAMINATED MEMBER
Gyp Bd	GYPSUM BOARD
HD	HOLDOWN
Hex	HEXAGON
HORIZ	HORIZONTAL
HSB	HIGH STRENGTH BOLT
HSS	HOLLOW STRUCTURAL SECTION
Jt	JOINT
LOL	LAYOUT LINE
LVL	LAMINATED VENEER LUMBER
m	METER
Max	MAXIMUM
MEA	MECHANICAL EXPANSION ANCHOR
Mech	MECHANICAL
Mfr	MANUFACTURER
mm	MILLIMETER
Min	MINIMUM
MIW	MALLEABLE IRON WASHER
NS	NEAR SIDE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OG	ORIGINAL GRADE
OH	OPPOSITE HAND
Opt	OPTIONAL
P	PITCH
PDF	POWER DRIVEN FASTENER
Plwd	PLYWOOD
PL	PLATE
PT	PRESSURE TREATED
PWB	PREFABRICATED WOOD I BEAM
RCP	REINFORCED CONCRETE PIPE
Reinf	REINFORCED, REINFORCING
Req'd	REQUIRED
SDSTS	SELF DRILL, SELF TAP SCREW
Sim	SIMILAR
SPS	STRUCTURAL PLYWOOD SHEATHING
Sq	SQUARE
Stagg	STAGGERED
Std	STANDARD
SW	STUD WELD
Sym	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE-AND-GROOVE
TN	TOE NAIL
TR	THREADED ROD
TS	TUBE STEEL
Tot	Total
Typ	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL

CONSTRUCTION NOTES

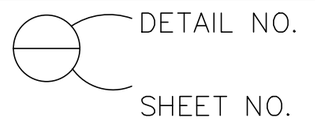
1. THE CONTRACTOR SHALL LOCATE EXISTING WALL PANEL REINFORCING BY NON-DESTRUCTIVE METHODS IN AN AREA 3 FEET IN WIDTH AND HEIGHT CENTERED ABOUT THE PROPOSED DUCT PENETRATION. THE ENGINEER SHALL BE ALLOWED TO INSPECT THE LOCATIONS OF THE EXISTING REINFORCING AND MARK THE CENTER OF THE FINAL DUCT PENETRATION LOCATION.

2. THE CONTRACTOR SHALL LOCATE EXISTING WALL PANEL REINFORCING BY NON-DESTRUCTIVE METHODS IN AN AREA 6 INCHES IN WIDTH AND HEIGHT CENTERED ABOUT THE PROPOSED PIPE PENETRATION. THE ENGINEER SHALL BE ALLOWED TO INSPECT THE LOCATIONS OF THE EXISTING REINFORCING AND MARK THE CENTER OF THE FINAL PIPE PENETRATION LOCATION.

3. THIS PROJECT REQUIRES SPECIAL INSPECTIONS TO BE PERFORMED BY THE ENGINEER PRIOR TO THE CONTRACTOR COMPLETING CONTRACTUAL ITEMS OF WORK. THE CONTRACTOR SHALL PROVIDE THE ENGINEER 3 DAYS NOTICE BEFORE THE FOLLOWING REQUIRED REVIEWS OR INSPECTIONS ARE TO OCCUR. THE ENGINEER SHALL BE ALLOWED UP TO 2 DAYS TO COMPLETE THE REVIEWS OR INSPECTIONS. THE REQUIRED SPECIAL INSPECTIONS ARE AS FOLLOWS:
   - 3.1. TRUSS SHOP DRAWING - ENGINEER TO REVIEW AND APPROVE.
   - 3.2. DRILLED HOLES IN CONCRETE FOR THREADED ANCHORS - INSPECT THE CLEAN DRILLED HOLES PRIOR TO ANCHOR INSTALLATION.
   - 3.3. DUCT AND PIPE PENETRATIONS AFTER EXISTING REINFORCING HAS BEEN LOCATED - INSPECT AND MARK FINAL LOCATION OF CENTER OF PENETRATION..

4. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS THAT MAY AFFECT THE MEANS AND METHODS UTILIZED TO COMPLETE THE WORK AND BEFORE ORDERING OR FABRICATING ANY MATERIALS USED IN THE WORK.
5. SUPPORTS FOR MECHANICAL ASSEMBLIES SHALL BE INSTALLED PER THE MECHANICAL PLANS OR AS REQUIRED BY THE MANUFACTURER'S RECOMMENDATIONS.

SYMBOLS



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HOMER MIDDLE SCHOOL
KITCHEN INSTALLATION
500 SOUTH STERLING HWY
HOMER, ALASKA
CONSTRUCTION DOCUMENTS

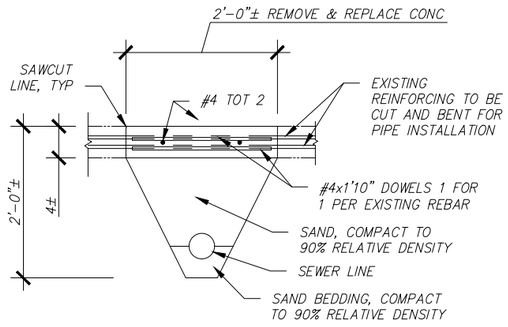
Revisions:

STATE OF ALASKA 49TH
John S. Bishop
SE 14298
2/10/2023
REGISTERED STRUCTURAL ENGINEER

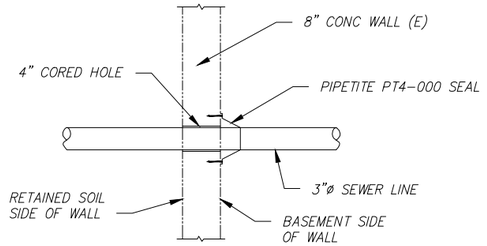
Date: 2/10/2023
Drawn: SNC
Checked: JSB
Project: 2022129
File Name: 2022129.DWG

Sheet Title:
DESIGN NOTES

Sheet:
S0.1

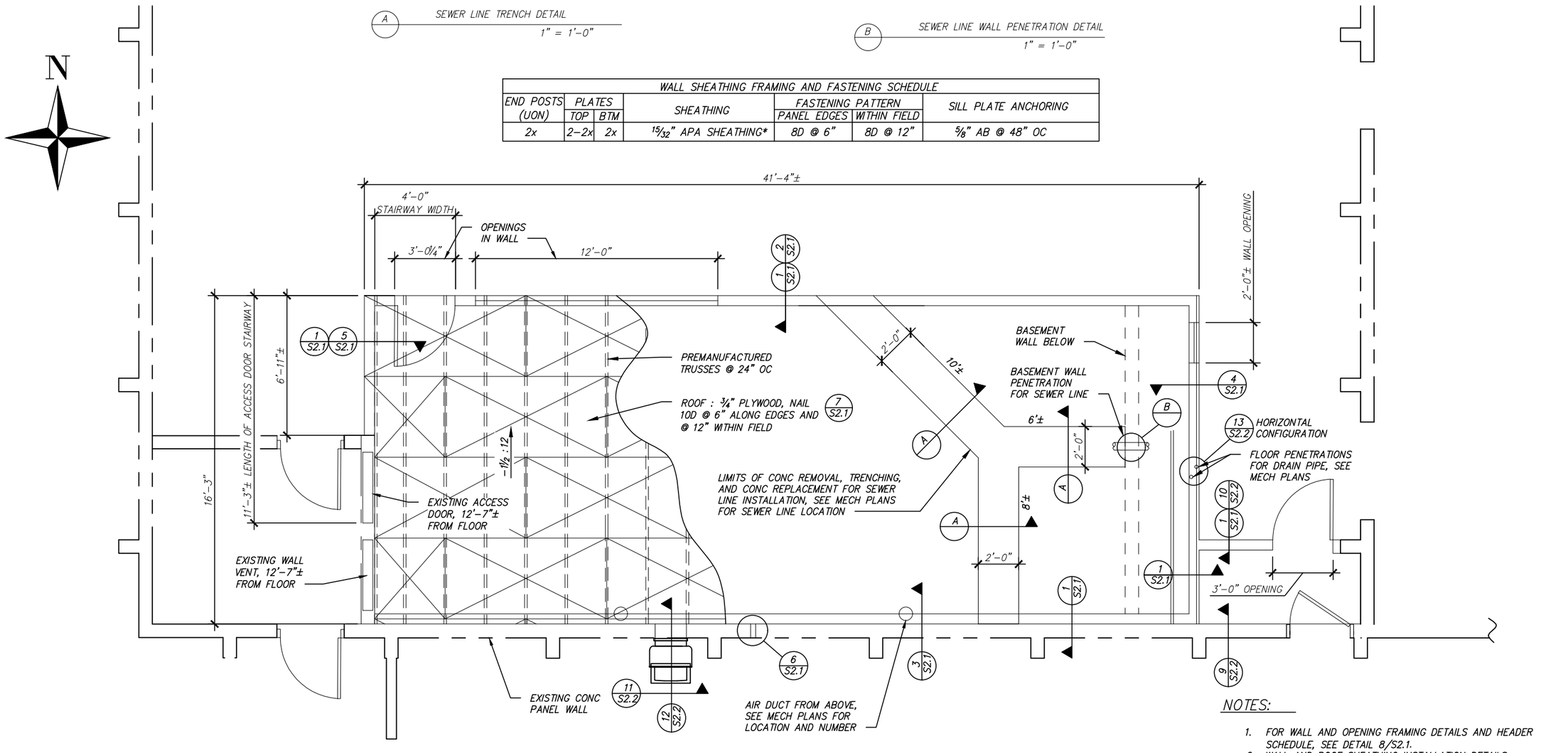


A SEWER LINE TRENCH DETAIL
1" = 1'-0"



B SEWER LINE WALL PENETRATION DETAIL
1" = 1'-0"

WALL SHEATHING FRAMING AND FASTENING SCHEDULE						
END POSTS (UON)	PLATES		SHEATHING	FASTENING PATTERN		SILL PLATE ANCHORING
	TOP	BTM		PANEL EDGES	WITHIN FIELD	
2x	2-2x	2x	15/32" APA SHEATHING*	8D @ 6"	8D @ 12"	5/8" AB @ 48" OC



WALL FRAMING AND ROOF PLAN
3/8" = 1'-0"

NOTES:

1. FOR WALL AND OPENING FRAMING DETAILS AND HEADER SCHEDULE, SEE DETAIL 8/S2.1.
2. WALL AND ROOF SHEATHING INSTALLATION DETAILS SHOWN IN DETAIL 7/S2.1.

0 1" 2"

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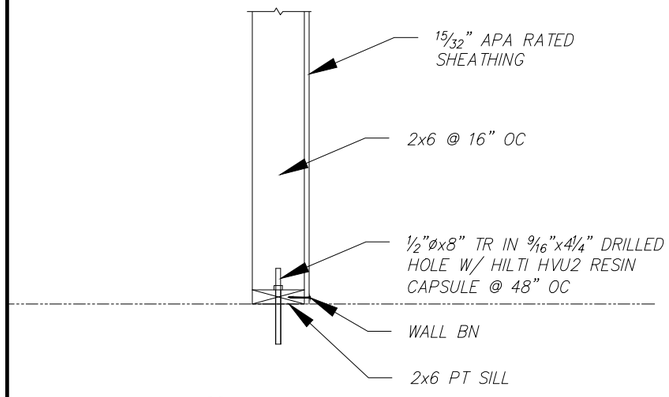
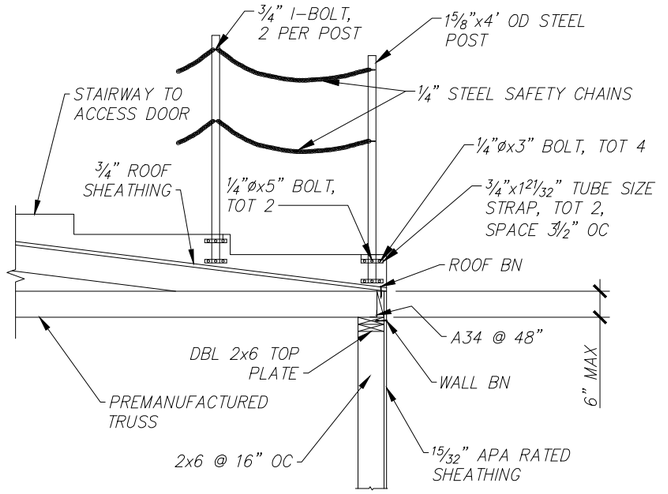
Sheet Title:
SLAB MODIFICATION & FRAMING PLAN

Sheet:
S1.1



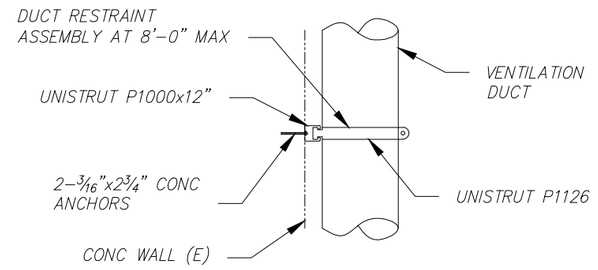
1 WALL SILL PLATE SECTION
1 1/2" = 1'-0"



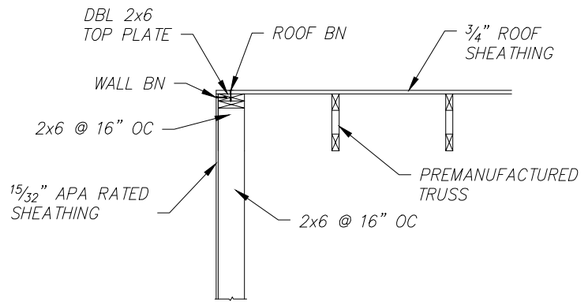
NOTES:

1. EYEBOLT SHALL HAVE HEX NUT, 2 WASHERS, AND LOCK WASHER.
2. QUICK LINKS MAY BE USED TO ATTACH SAFETY CHAINS TO EYEBOLTS.

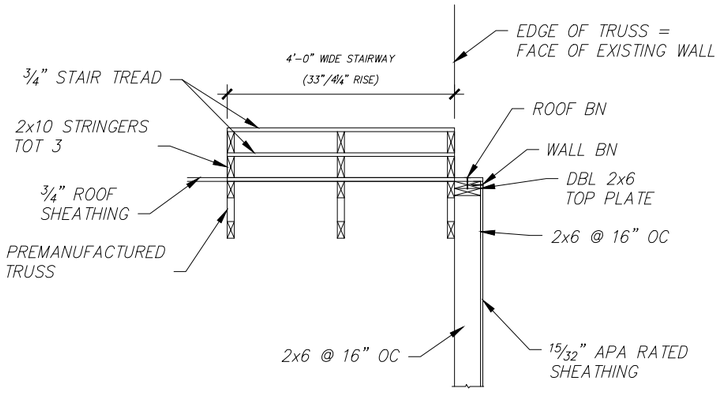
2 LOW EAVE SECTION
3/4"=1'-0"



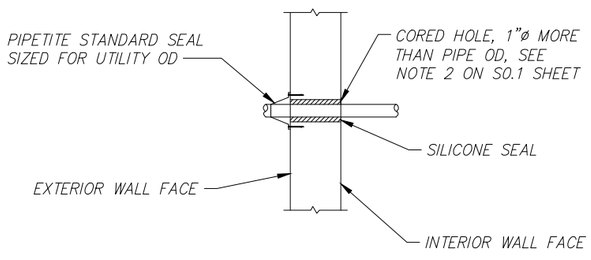
3 HVAC DUCT OF WALL ANCHOR
1-1/2"=1'-0"



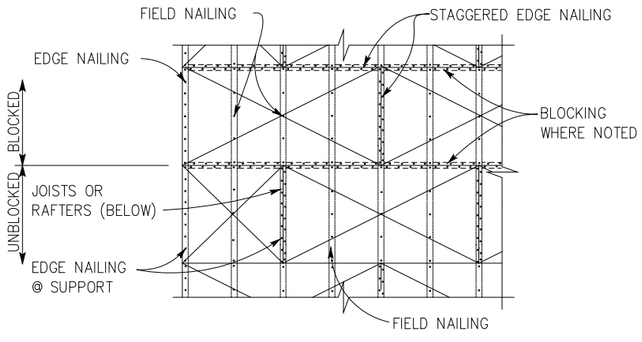
4 EAST GABLE WALL SECTION
3/4"=1'-0"



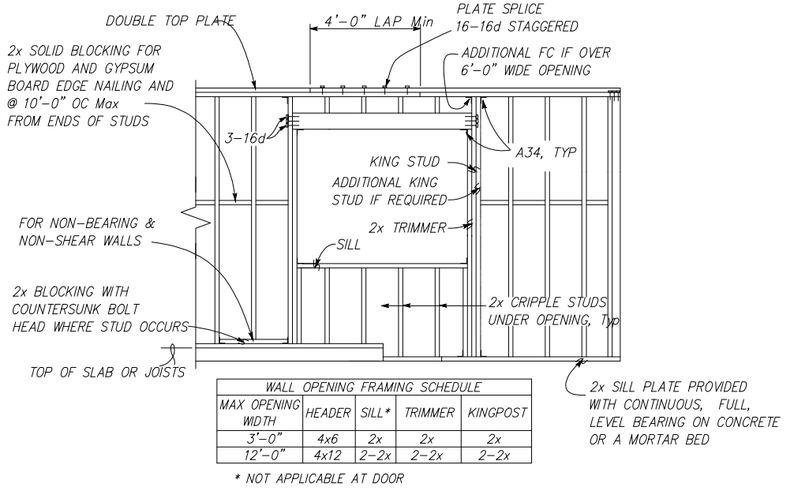
5 WEST GABLE WALL SECTION
3/4" = 1'-0"



6 SMALL UTILITY WALL PENETRATION DETAIL
1" = 1'-0"



7 WALL AND ROOF SHEATHING INSTALLATION DETAIL
1" = 1'-0"



WALL OPENING FRAMING SCHEDULE

MAX OPENING WIDTH	HEADER	SILL*	TRIMMER	KINGPOST
3'-0"	4x6	2x	2x	2x
12'-0"	4x12	2-2x	2-2x	2-2x

* NOT APPLICABLE AT DOOR

8 WALL AND OPENING FRAMING SCHEDULE
1" = 1'-0"

0 1" 2"

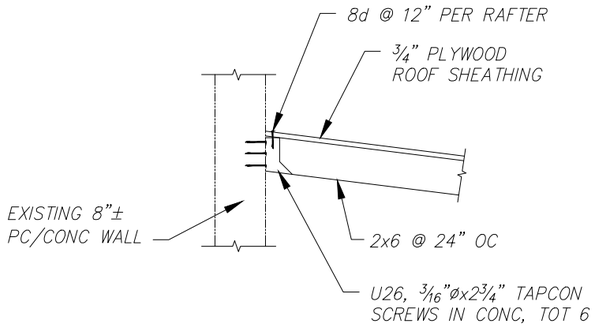
BISHOP ENGINEERING, LLC
PO BOX 2501 HOMER, ALASKA 99603-2501
(907) 299-7609
JBISHOP@BISHOP-ENGINEERING.COM

HOMER MIDDLE SCHOOL
KITCHEN INSTALLATION
500 STERLING HWY
HOMER, ALASKA
CONSTRUCTION DOCUMENTS

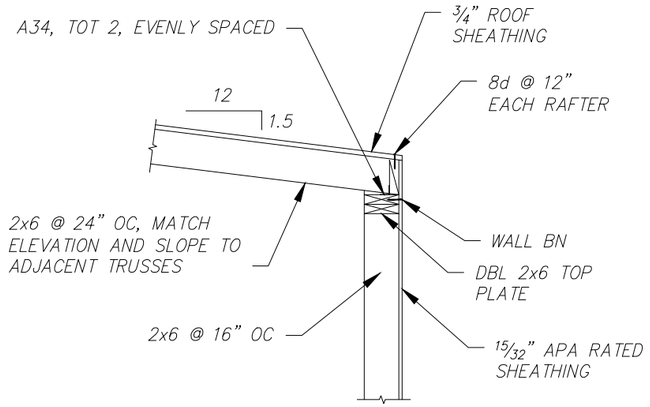
Revisions:

STATE OF ALASKA 49TH
John S. Bishop
SE 14298
2/10/2023
REGISTERED STRUCTURAL ENGINEER

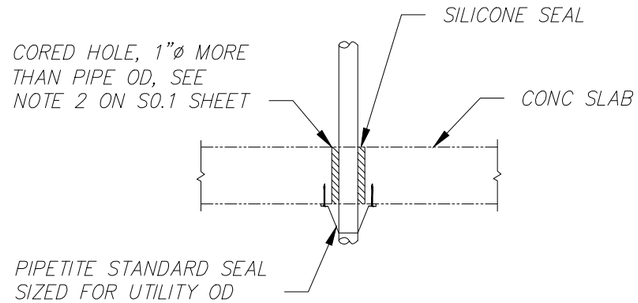
Date: 2/10/2023
Drawn: SNC
Checked: JSB
Project: 2022129
File Name: 2022129.DWG
Sheet Title: DETAILS NO. 1
Sheet: S2.1
3 of 4



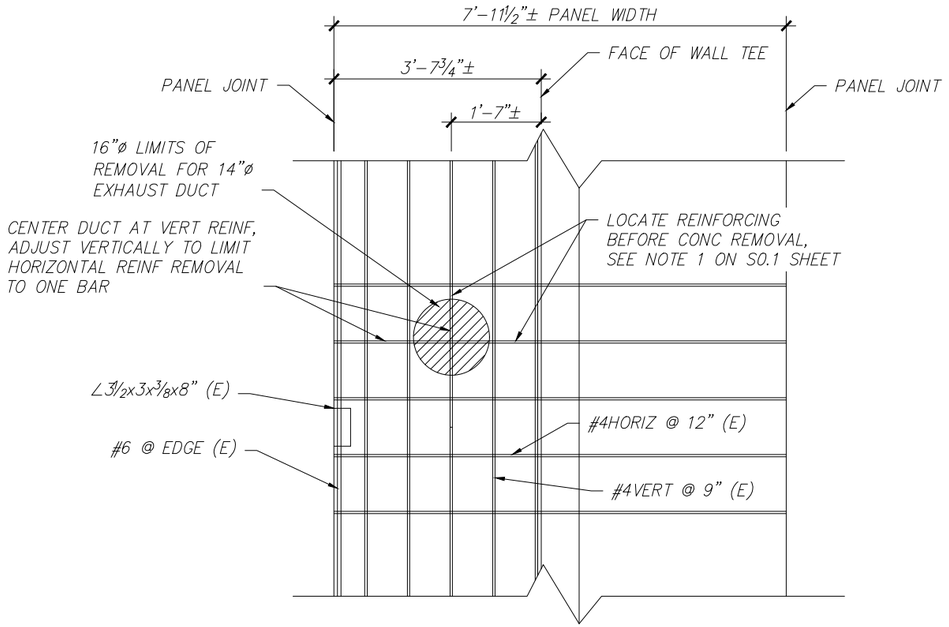
9 MOP ROOM HIGH EAVE DETAIL
1 ½" = 1'-0"



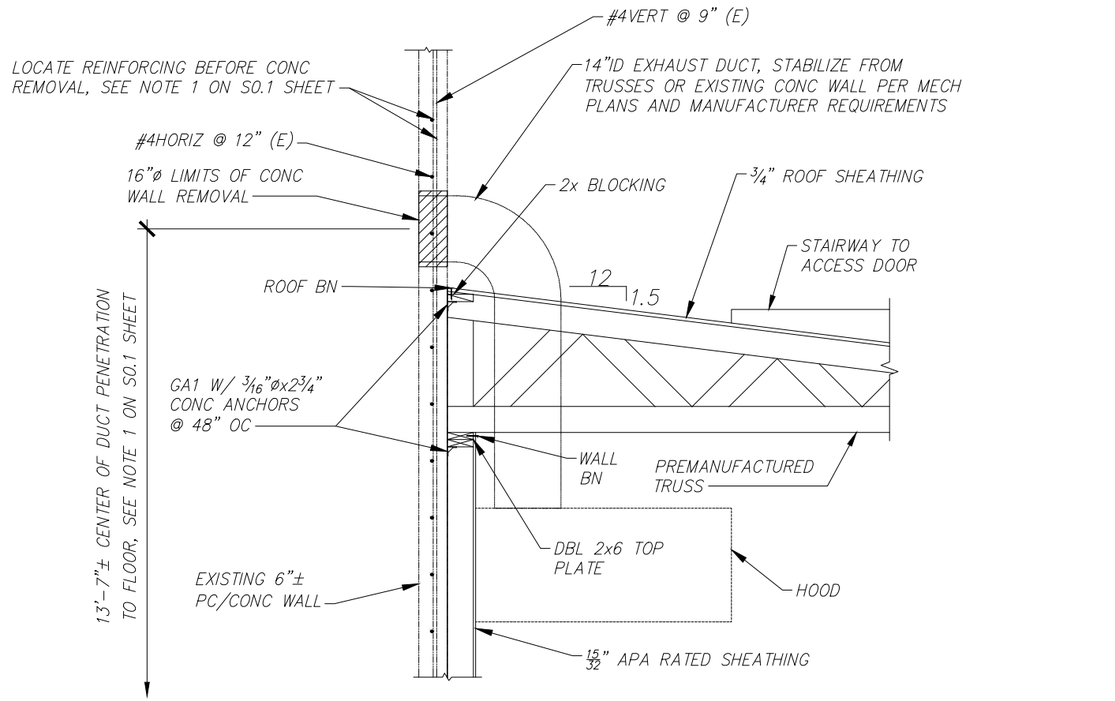
10 MOP ROOM LOW EAVE DETAIL
1 ½" = 1'-0"



11 PLUMBING PENETRATION THROUGH SLAB
1 ½" = 1'-0"



12 EXHAUST DUCT PENETRATION ELEVATION
1 ½" = 1'-0"



13 KITCHEN AREA HIGH EAVE SECTION
1 ½" = 1'-0"

0 1" 2"

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STATE OF ALASKA 49TH John S. Bishop SE 14298 2/10/2023 REGISTERED STRUCTURAL ENGINEER

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Sheet Title: DETAILS NO. 2

Sheet: S2.2

4 of 4

FOR QUESTIONS, CALL THE
Seattle Office
REGION 85
PHONE: (425) 212-5996
EMAIL: reg85@captiveaire.com

PATENT NUMBERS

EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION – JOB#5774984

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1		5424 ND-2	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	200	2000			4"	14"	2000	1871	-0.801"	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	RIGHT	12"x54"x24"			DCV-1011	1 LIGHT 1 FAN	NO	741 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		INSULATION FOR TOP OF HOOD.
		INSULATION FOR BACK OF HOOD.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		SENSOR-CV.

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

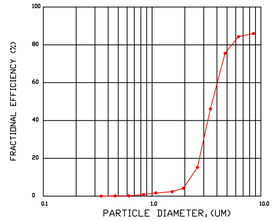
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

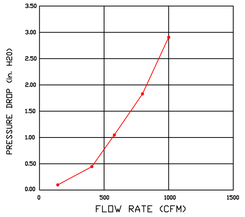
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

EFFICIENCY VS. PARTICLE DIAMETER



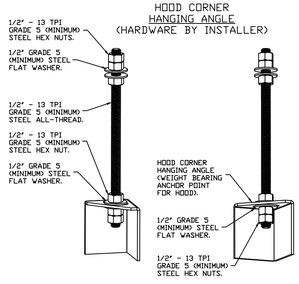
PRESSURE DROP VS. FLOW RATE



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

BUILT IN ACCORDANCE WITH NFPA No. 96

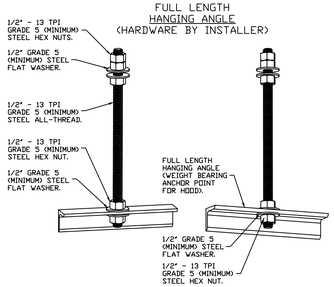
HOOD CORNER
HANGING ANGLE
(HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

FULL LENGTH
HANGING ANGLE
(HARDWARE BY INSTALLER)



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REVISIONS

	DESCRIPTION	DATE:
△		
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CAPTIVEAIRE

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1309 Pacific Ave. Everett, WA, 98201 PHONE: (425) 212-5996 FAX: (425) 212-5998 EMAIL: reg85@captiveaire.com

Homer MS - Homer AK R1
500 Sterling Highway,
Homer, AK, 99603

DATE: 12/16/2022

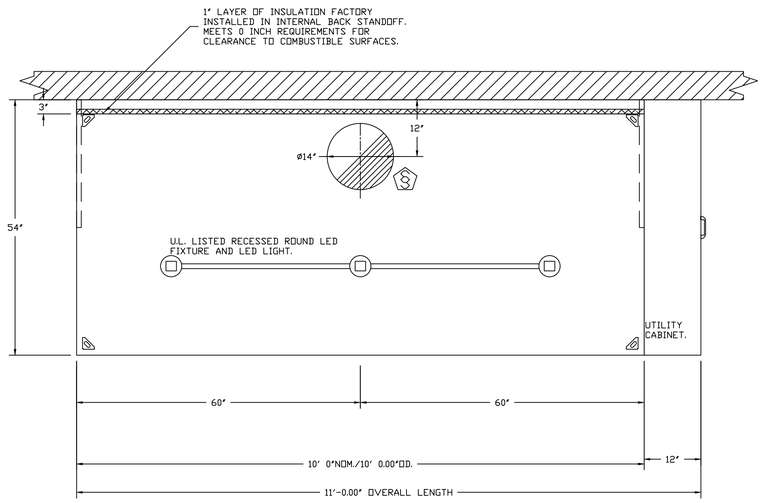
DWG.#: 5774984

DRAWN BY: RTB - 85

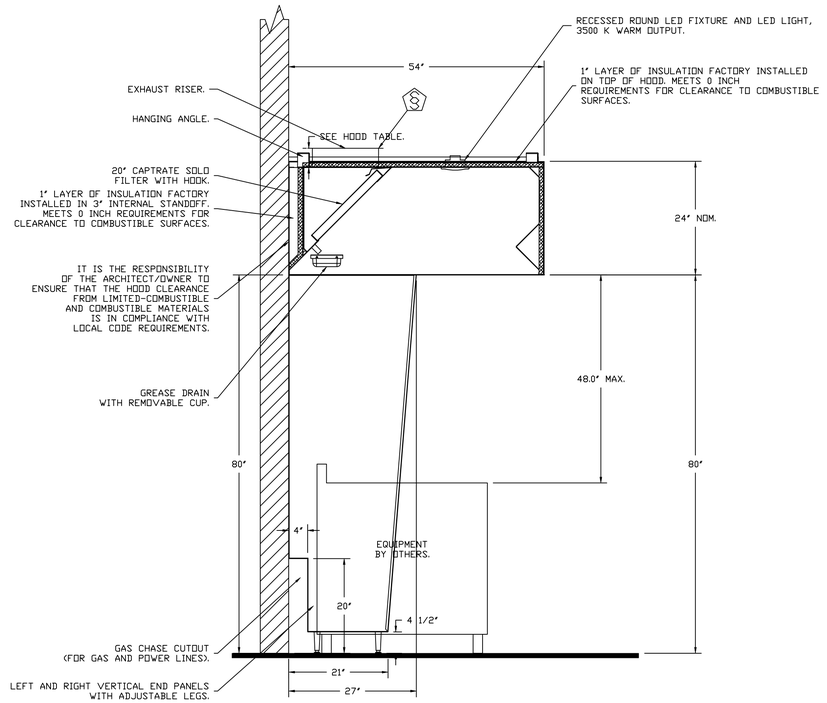
SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1



PLAN VIEW – HOOD #1
10' 0.00" LONG 5424ND-2



SECTION VIEW – MODEL 5424ND-2
HOOD – #1

REVISIONS

	DESCRIPTION	DATE:
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DRAWN BY: RTB - 85

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 2

EXHAUST FAN INFORMATION – JOB#5774984

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF	1	DU180HFA	CAPTIVEAIRE	2000	1.000	1009	ODP,PREMIUM	1.000	0.6910	3	208	3.8	462 FPM	205	10.1

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF	1	GREASE BOX
		1	FULL CRATING FOR EXHAUST FANS
		1	FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	THROUGH WALL CURB MOUNT INSTALLATION. CURB HEIGHT MUST BE MINIMUM 10" TALLER THAN WALL THICKNESS FOR USE WITH A HINGE KIT
		1	SHIP LOOSE DISCONNECT FOR REMOTE MOUNT
		1	HINGE KIT LOCKING (XHD)– SHIPS LOOSE FOR CURB SUPPLIED BY OTHERS
		1	WALL MOUNT CONSTRUCTION 18/20 (D60 ISOLATORS), 70LB MOTOR MAX FOR WALL MOUNTING
		1	2 YEAR PARTS WARRANTY

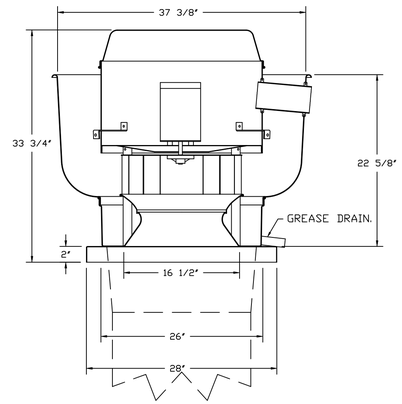
FAN ACCESSORIES

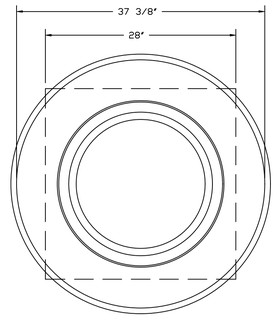
FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF	YES						

CURB ASSEMBLIES

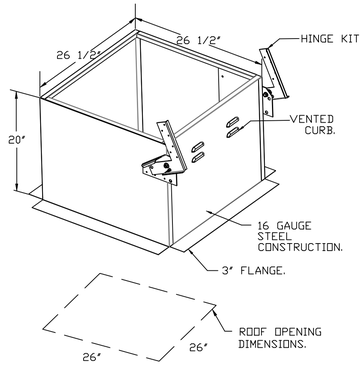
NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF	61 LBS	CURB	26.500"W X 26.500"L X 20.000"H ALONG LENGTH, RIGHT VENTED HINGED 16 GAUGE.

FAN #1 DU180HFA – EXHAUST FAN (KEF)





TOP VIEW



FEATURES:

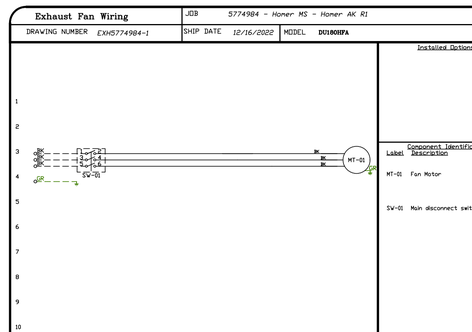
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX.
- FULL CRATING FOR EXHAUST FANS.
- FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS.
- THROUGH WALL CURB MOUNT INSTALLATION. CURB HEIGHT MUST BE MINIMUM 10" TALLER THAN WALL THICKNESS FOR USE WITH A HINGE KIT.
- SHIP LOOSE DISCONNECT FOR REMOTE MOUNT.
- HINGE KIT LOCKING (XHD)– SHIPS LOOSE FOR CURB SUPPLIED BY OTHERS.
- WALL MOUNT CONSTRUCTION 18/20 (D60 ISOLATORS), 70LB MOTOR MAX FOR WALL MOUNTING.
- 2 YEAR PARTS WARRANTY.



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DATE: 12/16/2022

DWG.#: 5774984

DRAWN BY: RTB – 85

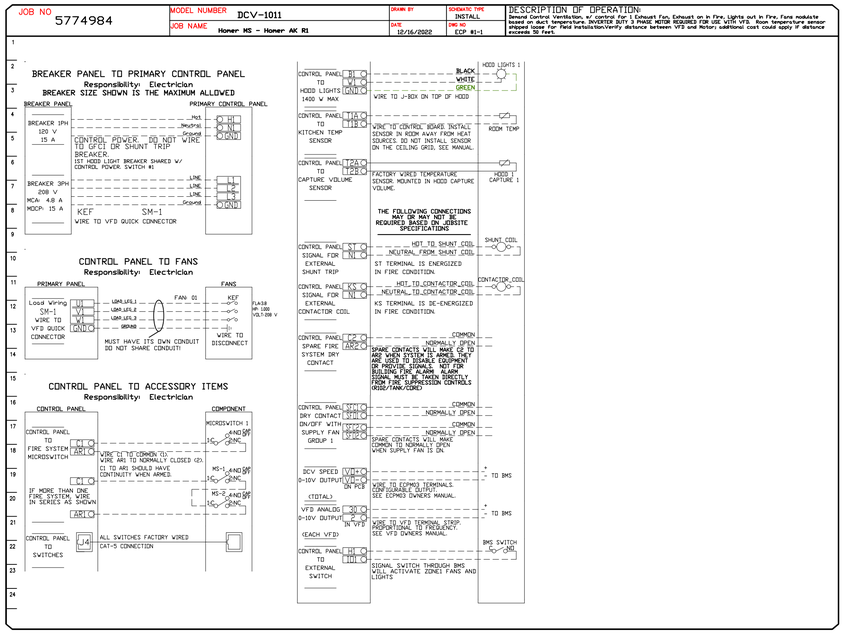
SCALE: 3/4" = 1'–0"

MASTER DRAWING

SHEET NO. 3

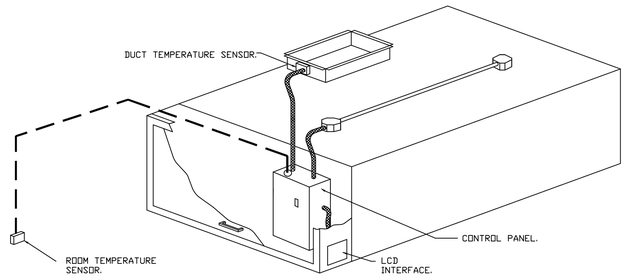
ELECTRICAL PACKAGE – JOB#5774984

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	ϕ	HP	VOLT	FLA
1		DCV-1011	UTILITY CABINET RIGHT	UTILITY CABINET RIGHT	1 LIGHT	SMART CONTROLS DCV	KEF	EXHAUST	3	1.000	208	3.8
				HOOD # 1	1 FAN							



DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.8 (2015).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  - A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  - B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  - C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  - G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

- AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS 'DYNAMIC', THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS 'STATIC', FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.2.8.
- MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

REVISIONS

	DESCRIPTION	DATE:
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CAPTIVEAIRE
www.captiveaire.com
Seattle Office
1309 Pacific Ave. Everett, WA. 98201 PHONE: (425) 212-5996 FAX: (425) 212-5998 EMAIL: rep85@captiveaire.com

Homer MS - Homer AK R1
500 Sterling Highway,
Homer, AK, 99603

DATE: 12/16/2022

DWG.#: 5774984

DRAWN BY: RTB - 85

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 4

DUCTWORK #1 PARTS – JOB#5774984 DOUBLE WALL

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1435DWLT-3Z-S	2000				-0.0182	56.96	1870.88	1	DOUBLE WALL DUCT - 14" INNER DUCT, 35" LONG - 3 LAYERS ZERO CLEARANCE - 20" STAINLESS STEEL OUTER SHELL.
P2	DW1447DWAJD-3Z-S	2000				-0.0188	109.38	1870.88	1	DOUBLE WALL ADJUSTABLE DUCT - 14" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 20" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 48.5" / ADJUSTMENT = 30.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P3	DW1490DWASY-3Z-S	2000				-0.1	40.20	1870.88	1	DOUBLE WALL DUCT - 14" INNER 90 DUCT - 3 LAYERS ZERO CLEARANCE - 20" STAINLESS STEEL OUTER SHELL.
P4	DW1435LT	2000				-0.0179	16.34	1870.88	1	SINGLE WALL DUCT 14" DIAMETER, 35" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P5 ASSEMBLED W/P7	DW1430AJDKIT	2000				-0.0071	17.56	1870.88	1	SINGLE WALL DUCT ADJUSTABLE, 14" DIAMETER, 29.5" LONG, FLANGE AT ONE END WITH A 14" ADJUSTABLE COLLAR - STAINLESS STEEL.
P6	DW14SUBRASY						2.96		1	DUCT SUPPORT BRACKET KIT, 14" DUCT, USED FOR HANGING DUCT. 12 GA STEEL, CLEAR ZINC COATING. - 2 RINGS, 4 BRACKETS, & HARDWARE BAG 2.
P7 ASSEMBLED W/P5	DW2614TP	2000					12.53	1870.88	1	DUCT TO CURB TRANSITION, 26-1/2" CURB TO 14" DUCT, 16 GA ALUMINIZED. USED ON BDU18.
SYSTEM AT P7						-0.963	0.00			
	3M-2000PLUS						0.80		2	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	DW14CLASY						1.06		2	DUCT "V" CLAMP WITH NEW DESIGN 14 GA BRACKETS, 14" DUCT, ASSEMBLY.
	DW14DWECASY-3						3.68		1	DOUBLE WALL DUCT END CAP ASSEMBLY - 14" DUCT 3 LAYERS 21" OD - INCLUDES DW20CLASY - USED TO SEAL DOUBLE WALL WHEN CONNECTING TO SINGLE WALL DUCT.
TOTAL WEIGHT							263.33			

SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5"	10'	10'	24'
6"	10'	10'	24'
7"	10'	10'	24'
8"	10'	10'	24'
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'
26"	10'	10'	24'
28"	10'	10'	24'
30"	10'	10'	24'
32"	10'	10'	24'
34"	10'	10'	24'
36"	10'	10'	24'

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5"	7'
6"	7'
7"	7'
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'
26"	5'
28"	5'
30"	5'
32"	5'
34"	5'
36"	5'

VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5"-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5"-24")	10'	24'	24'
3Z (26" -36")	10'	20'	20'

REVISIONS

	DESCRIPTION	DATE:
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CAPTIVEAIRE
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Seattle Office
1309 Pacific Ave. Everett, WA, 98201 PHONE: (425) 212-5996 FAX: (425) 212-5998 EMAIL: reg85@captiveaire.com

Homer MS - Homer AK R1
500 Sterling Highway,
Homer, AK, 99603

DATE: 12/16/2022

DWG.#: 5774984

DRAWN BY: RTB - 85

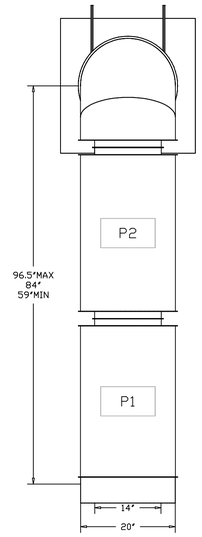
SCALE: 3/4" = 1'-0"

MASTER DRAWING

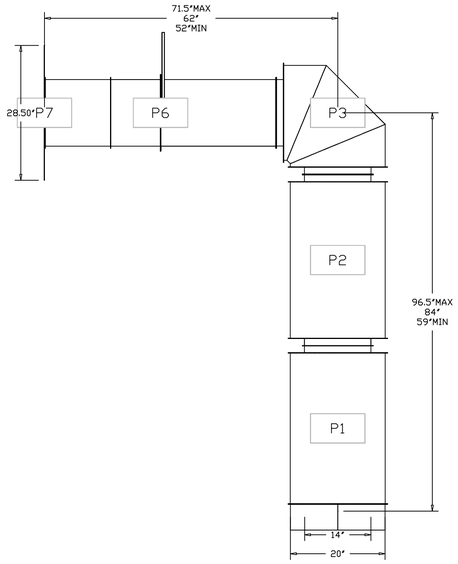
SHEET NO. 5

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

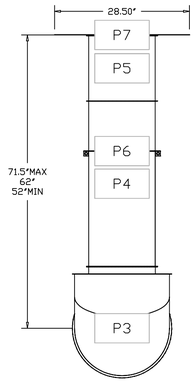
DUCTWORK #1 FRONT VIEW



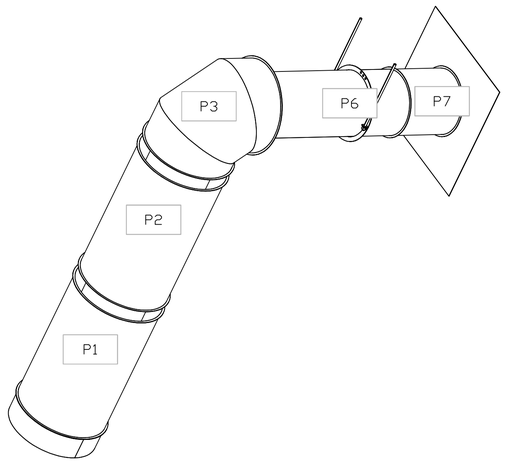
DUCTWORK #1 SIDE VIEW



DUCTWORK #1 TOP VIEW



DUCTWORK #1 SE VIEW



REVISIONS

	DESCRIPTION	DATE:
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CAPTIVEAIRE
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Homer MS - Homer AK R1
500 Sterling Highway,
Homer, AK, 99603

DATE: 12/16/2022

DWG.#: 5774984

DRAWN BY: RTB - 85

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 6

EQUIPMENT LIST

Item 1 — 1 each — REGENCY STAINLESS STEEL SHELF KIT
Regency 24” x 60” NDF Stainless Steel 4-Shelf Kit
74” NSF Stainless Steel Post with Castors
Model Number 460SW2460KIT

Item 2 — 1 each — VOLLRATH HOT FOOD TABLE
Vollrath Model 38104
4 Well with NSF2 Buffet Breath Guard
Stainless Steel
Electric Input 700W/120v/60/1, 23.3 amps
61”W x 32”D x 34”H

Item 3 — 1 each — ADVANCE TABCO SOILED STRAIGHT DISH TABLE
Advance Tabco Custom Soiled Straight Dish Table
30”W x 143”L x 34”H Soiled Left
14 Gauge 34 Stainless Steel
Model Number DTS-S30-144 L

Item 4 — 1 each — REGENCY TWO COMPARTMENT SINK
Regency 2-Compartment Sink
18 Gauge 304 Stainless Steel
Model 600S21717X
41”W x 23”D x 45”H

Item 5 — 1 each — BEVERAGE-AIR REACH IN REFRIGERATOR (OFCI)
Beverage-Air Model #PR12HC-1AS
Stainless Steel
71 CF Capacity
Electric Input 3/4 HP, 115v/60/1, 9 amps
68”W x 36”D x 84”H

Item 6 — 1 each — BEVERAGE-AIR REACH IN FREEZER (OFCI)
Beverage-Air Model #HBF44HC-1
Stainless Steel
44 CF Capacity
Electric Input 3/4 HP, 115v/60/1, 11 amps
47”W x 34”D x 84”H

Item 7 — 1 each — BEVERAGE-AIR SCHOOL MILK COLD WALL COOLER (OFCI)
Beverage-Air Model #SM49HC-S
Stainless Steel
13” x 13” x 11” Case Capacity
Electric Input 1/3HP, 115v/60/1, 2.2 amps
49”W x 31”D x 41”H

Item 8 — 1 each — AVANTCO UNDERCOUNTER REFRIGERATOR
Avantco Model #178SSUC72RHC
SSUC Series Undercounter Refrigerator
Stainless Steel
Electric Input 115v/60/1, 3.2 amps
72”W x 30”D x 36”H

Item 9 — 1 each — DISHWASHER, DOOR TYPE, VENTLESS (OFCI)
CMA Dishmachines, Model 180-VL, 3 door, door type
Ventless Heat Recovery & Condensation Removal
25-1/2”W x 29”D x 86-5/16”H, 33-5/16” Table Height
208v/60/3 78 Amps
0.89 gallons of water per rack
40 racks per hour
Built-in 6.0 kW booster heater
1 hp stainless steel wash pump motor
Single point connections for all utilities
Durable stainless steel construction
Uses standard 20” x 20” racks
Install with local disconnect

EQUIPMENT LIST

Item 10 — 1 each — REGENCY THREE COMPARTMENT SINK
Regency 3-Compartment Sink
18 Gauge 304 Stainless Steel
Model 600S31718X
91”W x 23”D x 45”H

Item 11 — 1 each — RANGE / OVEN (OFCI)
Vulcan, Model VC44GC, Natural Gas
Total Input 100,000BTU / Hr.
1/2 H.P. Blower, 120v/60/1, 15.5 amps
33”W x 28”D x 73”H

Item 12 — 1 each — REGENCY SINGLE COMPARTMENT SINK
Regency 1-Compartment Hand Sink with Faucet
18 Gauge 304 Stainless Steel
Model 600B11014
15”W x 19”D x 33”H

Item 13 — 1 each — CRES COR HOT CABINET (OFCI)
Cres Cor Model H-138-WS-1834D
Total Input 2,000 Watts
Electric Input 120v/60/1, 20 amps
41”W x 41”D x 70”H
5.0” W.C. Pressure Regulator

Item 14 — 1 each — FOODWASTE DISPOSER (OFCI)
HOBART FD4/75+BUILDUP
Disposer, basic unit only
Standard warranty, 1 year parts and labor
Weight: 63 lbs total
3/4 HP motor, steel housings, adjustable flange
FD4/200 Electrical Controller:
Electrical Control Group 6
Specification: FD4/75 - D - 6 - (208v/60/1, 6.3 amp)
Install with local disconnect
Accessory Group D:
Vinyl Silver-Saver splash guard ring, vacuum breaker,
Fixed direction water inlet for sink
7” I.D. stainless steel weld-in adapter
Stainless Steel 18” Cone Cover Part # 204023

Item 15 — 1 each — ADVANCE TABCO SOILED STRAIGHT DISHTABLE
Advance Tabco Custom Clean Straight Dishtable
30”W x 71”L x 34”H Clean Right
14 Gauge 34 Stainless Steel
Model Number DTC-S30-72 R

Item 16 — 1 each — ZURN GREASE INTERCEPTOR
Zurn Grease Interceptor
304 Stainless Steel
Model Z1170 Size 300
10 GPM
Capacity 6 Gal Water and 20 LBS of Grease
12”W x 25”D x 14”H

Item 17 — 2 each — ZURN FLOOR SINK
Zurn Floor Sink
Cast Iron White
Model Z1900
12”W x 12”D x 6”H

Item 18 — 1 each — DOUBLE DECK GAS CONVECTION OVEN
Vulcan, Model SX24-4BN, Natural Gas
Total Input 143,000BTU / Hr.
Range Output 28,000 BTU/Hr. & Oven Output 30,000 BTU/Hr.
24”W x 33”D x 60”H
5.0” W.C. Pressure Regulator

EQUIPMENT LIST

Item 22 — 2 each — ADVANCE TABCO PAN RACKS (OFCI)
Advance Tabco Front Load Pan Racks with Castors
26”W x 20”D x 69”H
6063-T52 Extruded Aluminum Angles and Upright Tubing
Model Number PR15-4W

Item 23 — 1 each — NON-REFRIGERATED COLD FOOD STATION (OFCI)
Vollrath Model 38952
3 Pan (46”) with NSF2 Buffet Breath Guard
Walnut Woodgrain
Electric Input 1/5 H.P., 120v/60/1, 15 amps
46”W x 40”D x 59”H

Item 24 — 1 each — MOVEABLE CASE REGISTER (OFCI)
Requires Internet connection.

Item 25 — 1 each — MOVEABLE TRASH CAN (OFCI)
24" Diameter on castors.

Item 26 — 1 each — REGENCY SS ONE COMPARTMENT MOP SINK
Regency Stainless Steel one Compartment Mop Sink Model 600SM202812
33"x25"x 17" Overall
28"x20"x12" Bowl
Install with 304 SS Back and Side Splash 16 GA Model 600SPL2028LR
With 3-1/2” Mop Sink Drain Assembly Model 600MOPDRAIN

Item 27 — 1 each — REGENCY WALL MOUNTED MOP SINK FAUCET
Regency Wall Mounted Mop Sink Faucet
8” Centers with 1/2" NP Connections
6-1/2” Spout, 3/4” Garden Hose Thread
Model 600FMS86
With 3-1/2” Mop Sink Drain Assembly Model 600MOPDRAIN

Item 28 — 1 each — REGENCY STAINLESS STEEL WORKTABLE (OFCI)
Regency 24” x 72” x 34” With Bottom Shelf & Castors
304 Stainless Steel Work Surface
Model Number 600T2472G

Item 29 — 2 each — REGENCY WALL MOUNTED PRE-RINSE FAUCET
Regency Wall Mounted Pre-Rinse Faucet w/ 14" Swing Spout
8” Centers with 1/2" NP Connections
44” Hose Length
With 14” Add-On Spout
1.15 GPM
Model 600FPRW814LL

Item 30 — 1 each — REGENCY WALL MOUNTED PRE-RINSE FAUCET
Regency Wall Mounted Pre-Rinse Faucet
8” Centers with 1/2" NP Connections
44” Hose Length
No Add-On Spout
1.15 GPM
Model 600FPRW814LL

NOTE: (OFCI) OWNER FURNISHED, CONTRACTOR INSTALLED

ISSUED FOR CONSTRUCTION

SCALE: AS SHOWN

AutoCAD FILE: hms kitchen mechanical.dc - rev 1.dwg

STATE OF ALASKA 49TH
JERRY P. HERRING
AELM-9287
MARCH 15, 2023
REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	DATE
1	UPDATED PER PLAN REVIEW	3/15/23

CENTRAL ALASKA ENGINEERING COMPANY, LLC.
32215 LAKEFRONT DR., SOLDOTNA, AK 99669
PHONE (907) 260-5311 FAX (907) 260-5312
AECL 1481
E-MAIL: JHERRING@AKENGINEER.COM

PROJECT: HOMER MIDDLE SCHOOL KITCHEN INSTALLATION
500 STERLING HWY., HOMER, AK 99603

CLIENT: KENAI PENINSULA BOROUGH SCHOOL DISTRICT
KPB PURCHASING & CONTRACTING DEPARTMENT
47140 E POPPY LANE, SOLDOTNA, AK 99669 (907) 714-2260

DESIGN REVIEW DOCUMENTS
MARCH 15, 2023

DRAWN:	CHECKED:
BD	JH

SHEET CONTENTS:
EQUIPMENT LIST

CATEGORY: SHEET:
M 0.2

Where to Buy

Regency 24" x 60" NSF Stainless Steel 4-Shelf Kit with 74" Posts

Item Number: #460SW2460KIT

SPACE SOLUTIONS (/ALL-CATEGORIES/SPACE-SOLUTIONS/)
STAINLESS STEEL SHELVING (/ALL-CATEGORIES/SPACE-SOLUTIONS/STAINLESS-STEEL-SHELVING/)



Parts and Accessories

0

Regency 74" NSF Stainless Steel Post

Regency Shelving Split Sleeves - 4/Pack

(/product/?id=8116)

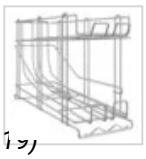
View Details (/product/?id=811

(/product/?id=9644)

View Details (/product/?id=9644)

Regency 24" x 60" NSF Stainless Steel Wire Shelf (/product/?id=8119)

View Details (/product/?id=811



Regency FIFO Wire Can Rack (/product/?id=10697)

View Details (/product/?id=10697)

Buy Now ()

Features

- *24" x 60" shelves accommodate up to 700 lb. of evenly distributed weight*
- *(4) 74" posts allow for shelves to be adjusted; foot included and required for use*
- *Includes 16 pairs of split sleeves*
- *Stainless steel finish is perfect for storage or office use*

Save space and organize your storage area with the Regency 24" x 60" NSF stainless steel shelf kit with 74" posts. You can optimize the space in your food storage area, janitorial closet, and more with (4) 24" x 60" shelves and (4) 74" posts. The type 304 stainless steel construction gives this shelving kit excellent durability in both wet and dry environments, as it is resistant to corrosion.

It is easy to keep clean and sanitary, as the open grid design allows for excellent air circulation. The space between the shelves is also adjustable, giving you the flexibility to store items of varying heights, such as ingredient bins, boxes, cleaning supplies, and anything else that you want to be able to see and grab quickly when you need it.

Each shelf can hold a maximum of 700 lb. of evenly distributed weight. Plus the unit's high-quality design is commercial grade and delivers the reliable performance every business expects and needs.

Overall Dimensions:
Length: 60"
Width: 24"
Height: 74"

Specifications	
Length	*60 Inches*
Width	*24 Inches*
Height	*74 Inches*
Assembled	*Assembly Required*
Capacity	*2800 lb.*

Specifications	
Casters	No
Color	Silver
Finish	Stainless Steel
Individual Shelf Capacity	700 lb.
Installation Type	Stationary
Material	Stainless Steel
NSF Listed	Yes
Number of Shelves	4 Shelves
Product Type	Shelf Kits
Shelving Style	Office Storage
Style	Adjustable
Style	Vented
Type	Office Shelving
Type	Shelving Kits
Usage	All Environments
Usage	Moist Environments
Usage	Retail
WebstaurantPlus	Eligible

Downloads

- Instructions (PDF) (https://www.webstaurantstore.com/documents/pdf/wire_shelving_assembly.pdf)
- Warranty (PDF) (https://www.webstaurantstore.com/documents/pdf/warranty/regency_spacesolutions_1yearwarranty.pdf)

Outperform every day.™

Project:

Item Number:

Quantity:

SERVEWELL® HOT FOOD TABLE

ServeWell® 3-Well Hot Food Table

DESCRIPTION

We build each ServeWell® unit with heavy-gauge stainless steel, and engineer the body, legs, and base for strength and durability. Features

- **Thermoset Fiber-Reinforced Resin Wells –** self-insulating and maximum energy efficiency. Will not rust or pit. Clean easily by wiping off water deposits from the non-metallic surface.
- **Thermostatic Heat Controls –** automatically adjust for water temperature and food volume changes to reduce food waste.
- **Capillary Tube Thermostats –** control supply power only when needed for maximum power efficiency.
- **Low-water indicator light –** eliminates guesswork.
- **Dome Heating Elements –** use up to 25% less energy and concentrate energy into the wells. Non-stick surface prevents scale build-up for easy cleaning and longer operating life. Cast-in elements for longer service life and greater energy transfer.
- **Wells –** Wide no-drip lips on wells keep top surface dry. Equipped with individual brass drain valves.
- 20 gauge stainless steel top and undershelf, 16 gauge legs.
- Operator side plate shelf and cutting board are standard on hot food table.
- Mechanical guards on all controls and power switch for safety and reliability.
- Accepts full-size or fractional pans up to 6" (15.2 cm) deep, and standard adapter plates and insets.
- Recommend using up to 4" (10.2 cm) deep food pans.
- Standard adjustable stationary legs or optional caster set.
- 10ft. (3 m) bottom-mounted power cord.
- Ships knocked down.

NOTE: ServeWell® Hot Food Table orders cannot be canceled or returned.

WARRANTY

All models shown come with Vollrath's standard warranty against defects in materials and workmanship. For full warranty details, please refer to www.Vollrath.com.

Agency Listings

c UL us LISTED NSF

Due to continued product improvement, please consult www.vollrath.com for current product specifications.

ITEMS

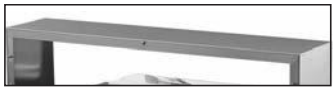
Item No.	Description	Item No.	Description
38102	700W/120V 2 Well	38004	480W/120V 4 Well
38103	700W/120V 3 Well	38005	480W/120V 5 Well
38104	700W/120V 4 Well	38116	600-800W/208-240V 2 Well
38105	700W/120V 5 Well	38117	600-800W/208-240V 3 Well
38002	480W/120V 2 Well	38118	600-800W/208-240V 4 Well
38003	480W/120V 3 Well	38119	600-800W/208-240V 5 Well

PERFORMANCE CRITERIA

ServeWell® Hot Food Table are designed to hold heated prepared foods at temperatures above the HACCP "danger zone" of 140° F (60° C). The performance standard is measured using the NSF mixture preheated to 165° F (73.9° C). The unit will hold the temperature of this product above 150° F (65.6° C). The temperature will be maintained best when the food product is held using pans with covers, the proper water level is maintained in the well, and the food product is stirred regularly.

OPTIONS AND ACCESSORIES Dimensions in inches (cm)

Work/Overshelf w/o Acrylic Panel

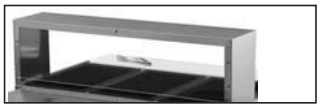


Item	Length x Width x Height
❑ 38042	32 x 10 x 13 (81.3 x 25.4 x 33)
❑ 38043	46 x 10 x 13 (116.8 x 25.4 x 33)
❑ 38044	60 11/16 x 10 x 13 (155.6 x 25.4 x 33)
❑ 38045	76 x 10 x 13 (193 x 25.4 x 33)

Double-Deck Overshelf w/o Acrylic Panel (Not pictured)

Item	Length x Width x Height
❑ 38032	32 x 10 x 26 (81.3 x 25.4 x 66)
❑ 38033	46 x 10 x 26 (116.8 x 25.4 x 66)
❑ 38034	60 11/16x 10 x 26 (155.6 x 25.4 x 66)
❑ 38035	76 x 10 x 26 (193 x 25.4 x 66)

Single Deck Cafeteria Guard



Item	Length x Width x Height
❑ 38052	32 x 10 x 13 (81.3 x 25.4 x 33)
❑ 38053	46 x 10 x 13 (116.8 x 25.4 x 33)
❑ 38054	60 11/16 x 10 x 13 (155.6 x 25.4 x 33)
❑ 38055	76 x 10 x 13 (193 x 25.4 x 33)

Buffet Breath Guards

4 holes per side for breath guard attachment.

Item	Length x Width x Height
❑ 38062	32 x 35⅜ x 23½ (81.2 x 89.8 x 59.7)
❑ 38063	46 x 35⅜ x 23½ (116.8 x 89.8 x 59.7)
❑ 38064	60 11/16x 35⅜ x 23½ (155.6 x 89.8 x 59.7)
❑ 38065	76 x 35⅜ x 23½ (193 x 89.8 x 59.7)

Operator Side Poly Cutting Board

Item	Length x Width x Height
❑ 38072	32 x 8 x 1 (81.3 x 20.3 x 2.5)
❑ 38073	46 x 8 x 1 (116.8 x 20.3 x 2.5)
❑ 38074	60 11/16 x 8 x 1 (155.6 x 20.3 x 2.5)
❑ 38075	76 x 8 x 1 (193 x 20.3 x 2.5)

Customer Side Plate Rest

Item	Length x Width x Height
❑ 38092	32 x 8 x 1 (81.3 x 20.3 x 2.5)
❑ 38093	46 x 8 x 1 (116.8 x 20.3 x 2.5)
❑ 38094	60 11/16 x 8 x 1 (155.6 x 20.3 x 2.5)
❑ 38095	76 x 8 x 1 (193 x 20.3 x 2.5)

Caster Set

Item	Description
❑ 38099	4" (10.2 cm) swivel wheels, two with brakes
❑ 3809934	4" (10.2 cm) swivel wheels, two with brakes, ADA height

ServeWell® Hot Food Table

The Vollrath Company, L.L.C.

Outperform every day.™

www.vollrath.com

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Main Fax: 800.752.5620 or 920.459.6573
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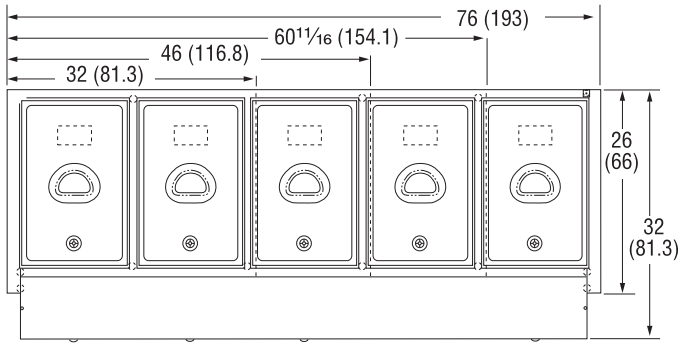
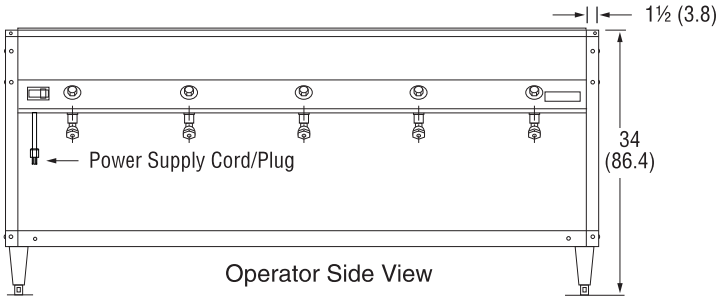
Countertop Warming Products: 800.354.1970
All Other Products: 800.628.0832

SERVEWELL® HOT FOOD TABLE

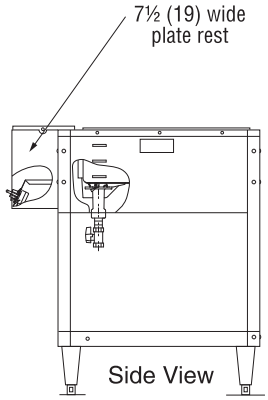
DIMENSIONS (Shown in inches (cm)).



Top View



Operator Side View

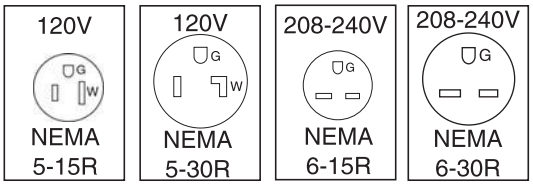


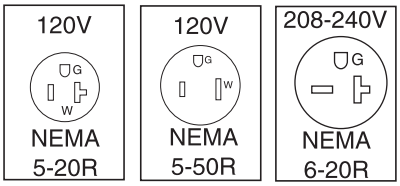
Side View

SPECIFICATIONS

Item No.	Description	Volts (Single Phase Only)	Watts Per Well	Watts Total	Electrical Service Amps	Amps	Plug
700W/120V							
38102	2-well	120	700	1400	15	11.7	NEMA 5-15P
38103	3-well			2100	30	17.5	NEMA 5-30P
38104	4-well			2800	30	23.3	NEMA 5-30P
38105	5-well			3500	50	29.2	NEMA 5-50P
480W/120V							
38002	2-well	120	480	960	15	8	NEMA 5-15P
38003	3-well			1440	15	12	NEMA 5-15P
38004	4-well			1920	20	16	NEMA 5-20P
38005	5-well			2400	30	20	NEMA 5-30P
600-800W/208-240V							
38116	2-well	208-240	600-800	1200-1600	15	6.7	NEMA 6-15P
38117	3-well			1800-2400	15	10	NEMA 6-15P
38118	4-well			2400-3200	20	13.3	NEMA 6-20P
38119	5-well			3000-4000	30	16.6	NEMA 6-30P

Receptacles





Notes: Dedicated circuit may be required for higher currents. ServeWell® Hot Food Table orders cannot be canceled or returned.

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Countertop Warming Products: 800.354.1970
All Other Products: 800.628.0832

Form Number L34586 2/27/17
Printed in USA

ADVANCE TABCO® SMART FABRICATION™

STAINLESS STEEL

DISHTABLES
SOIL STRAIGHT

NEW *Tile Edge Design* NSF

SPEC-LINE
DTS-S30-60L Shown

10-1/2" EXTRA LARGE Bold Looking Backsplash with 2" return and tile edge

Item #: _____ *Qty #:* _____

Model #: _____

Project #: _____

Spec-Line: 14 ga. 304 Series Stainless Steel Top. 16 ga. 304 Stainless Steel Legs Stainless Steel Legs with Welded Cross Bracing & Stainless Steel Bullet Feet.

UPGRADED! Standard: 16 ga. 304 Series Stainless Steel Top. 16 ga. 304 Stainless Steel Legs Stainless Steel Legs with Welded Cross Bracing & Stainless Steel Bullet Feet.

Super Saver: 16 ga. 304 Series Stainless Steel Top. Galvanized Legs with Plastic Bullet Feet.

FEATURES:

Tile edge for ease of installation.

STANDARD & SUPERSAVER SOIL section features 5" deep sink bowl.

SPEC-LINE SOIL section features 8" deep sink bowl.

Dishtable system consists of SOIL and CLEAN sections. Table is furnished with 10-1/2" splash with a 2" return.

CONSTRUCTION:

All TIG welded.

Welded areas blended to match adjacent surfaces and to a satin finish.

Stainless Steel Gussets welded to a stainless steel support channel.

MECHANICAL:

Faucet holes in SPLASH punched on 8" centers, faucet not included.

Waste drain is 1 1/2" IPS basket type and is included.

ACCESSORIES	Model #	Qty
Faucet		
Wall Shelf		
Undershelf		

Nominal sizing on all dishtables for ease of installation.

		14 Gauge 304 TOP 16 Ga. Stainless Steel Legs	16 Gauge 304 TOP Stainless Steel Legs	16 Gauge 304 TOP Galvanized Legs	
Nominal Size	"L"	SPEC-LINE	STANDARD	SUPER SAVER	Approx. Wt.
3 Ft.	35"	DTS-S30-36L or R	DTS-S70-36L or R	DTS-S60-36L or R	70 lbs.
4 Ft.	47"	DTS-S30-48L or R	DTS-S70-48L or R	DTS-S60-48L or R	85 lbs.
5 Ft.	59"	DTS-S30-60L or R	DTS-S70-60L or R	DTS-S60-60L or R	100 lbs.
6 Ft.	71"	DTS-S30-72L or R	DTS-S70-72L or R	DTS-S60-72L or R	115 lbs.
7 Ft.	83"	DTS-S30-84L or R	DTS-S70-84L or R	DTS-S60-84L or R	125 lbs.
8 Ft.	95"	DTS-S30-96L or R	DTS-S70-96L or R	DTS-S60-96L or R	135 lbs.
9 Ft.	107"	DTS-S30-108L or R	DTS-S70-108L or R	DTS-S60-108L or R	235 lbs.
10 Ft.	119"	DTS-S30-120L or R	DTS-S70-120L or R	DTS-S60-120L or R	290 lbs.
12 Ft.	143"	DTS-S30-144L or R	DTS-S70-144L or R	DTS-S60-144L or R	300 lbs.

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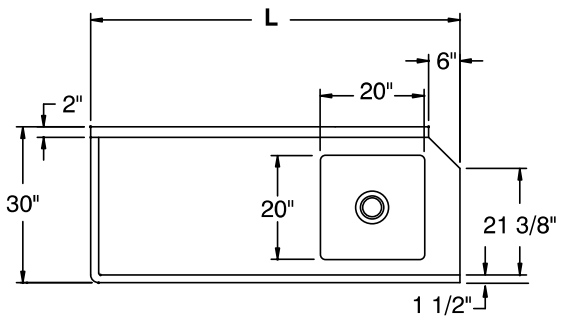
DIMENSIONS and SPECIFICATIONS

TOL ± .500" ALL DIMENSIONS ARE TYPICAL

SEE DISH MACHINE COMPATIBILITY CHART TO ENSURE PROPER FIT

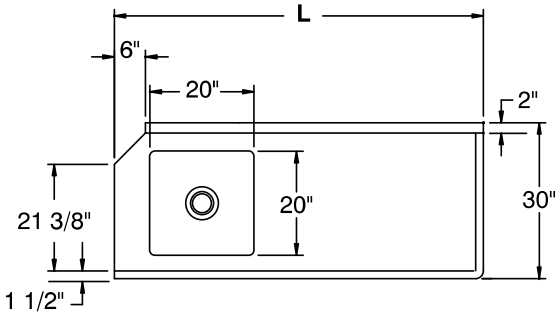
Dish Machine Compatibility Chart can be found on our website at www.advancetabco.com under "Product Support"



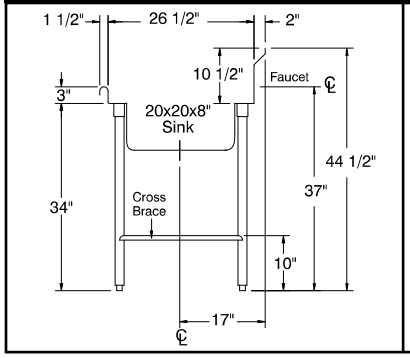
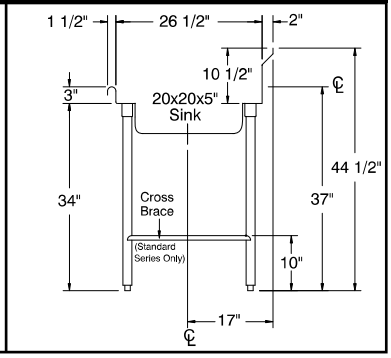
STRAIGHT SOIL LEFT

DISH MACHINE

OPERATOR

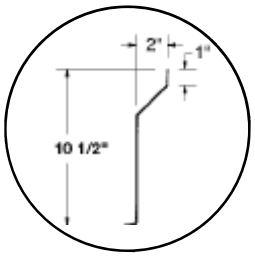


STRAIGHT SOIL RIGHT

SPEC-LINE	STANDARD & SUPER SAVER
	

CUSTOMIZE YOUR OWN SYSTEM
by Ordering Optional Accessories from our
PRODUCT & PRICE GUIDE

Splash Detail



Description	SPEC-LINE	STANDARD	SUPER SAVER
Material	**14 Ga. 304 Series**	**16 Ga. 304 Series**	**16 Ga. 304 Series**
1 5/8" Dia. Legs	Stainless Steel	Stainless Steel	Galvanized
Gussets	Stainless Steel	Stainless Steel	Stainless Steel
Bullet Feet (1" adj.)	Stainless Steel	Stainless Steel	Plastic
Cross Bracing	Welded	Welded	Optional
Prerinse Bowl Depth	8"	5"	5"
Prerinse Basket	Included	Optional	Optional

ADVANCE TABCO
SMART FABRICATION™

ADVANCE TABCO is constantly engaged in a program of improving our products. Therefore, we reserve the right to change specifications without prior notice.

200 Heartland Boulevard, Edgewood, NY 11717-8380

DTA-95

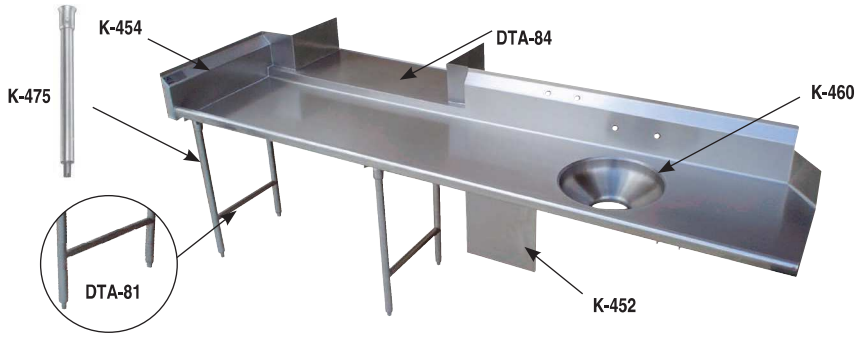
DTA-87

DTA-82

DTA-45

DISHTABLE MODS

Dishtable Modifications & Accessories



MODIFICATIONS

K-23	Welded Set-Up/Crated
K-24	Shell Crating
K-37	Anti-Siphon Vacuum Breaker Hole
K-57	Welded Field Joint (Welded In Field By Others)
K-76	Paint On Sound Deadening
K-77	Splash Cut-Out (Pipe Chase)
K-440	Waste Trough Installation Welded Into Table And Furnished With A 2" Deep Removable Basket
K-452	Control Bracket 8" x 12"
K-453	Control Bracket 14" x 16"
K-454	Side Splash
K-456	Scrap Block Installed (Includes Rubber Scrap Block)
K-460	Disposal Cone Welded Into Table And Furnished With 8" x 12" Control Bracket & Faucet Holes (Supplied By Others)
K-460A	Installation Of Disposal Cone With 14" x 16" Control Bracket, Faucet Holes (Cone Supplied By Others)
K-461	Disposal Collar Welded Into Sink Bowl And Furnished With 8" x 12" Control Bracket (Supplied By Others)
K-461A	Disposal Collar Welded Into Sink Bowl And Furnished With 14" x 16" Control Bracket (Supplied By Others)
K-472	Special Faucet Hole Location
K-495	Turn Down Backsplash (Incl. 2 Brackets. See K-397 For Addt'l Sets)
K-508A	Special Modification Charge
K-550	Stainless Steel Tubular Rack Storage
DTA-40	Drain Hole (For Sorting Table)
DTA-45	Scrap Trough Welded To Dump Sink - Min. Scrap Trough Length Is 3'. Max. Length Is 8'. For 20" x 20" x 8" Bowl Spec-Line Soil S30 Series Only. - Consult Factory For Trough Lengths Exceeding 8 Feet
DTA-46	Inside Mitered Corner
DTA-66	Provision For Dishlanding On Straight Soil Table (Min 4')
DTA-70	Install Booster Heater Brackets (Brackets By Others)
DTA-72	Provision For Side Loader
DTA-75	Provision For Limit Switch (Limit Switch By Others)
DTA-76	Move Prerinse Sink To Conform To Dishmachine Requirements. Please Specify Machine When Placing Order
DTA-78	Notch In Backsplash Return To Clear Handle Please Specify Machine When Placing Order
DTA-81	S/S Welded Leg Assembly with S/S Feet
DTA-82	15" x 20" x 8" Undercounter Dump Sink
DTA-84	Simple Pass-Thru (Specify Wall Thickness - Min. Length 36")
DTA-87	Pass-Thru Wall Frame (Specify Wall Thickness - Min. Length 36")
DTA-95	Install Scrapper Top
DTA-96	Install Trough Collector
DTA-99A	16" x 20" x 12" Sink Bowls
DTA-99B	20" x 20" x 12" Sink Bowls
DTA-99C	10" x 14" x 5" Dump Sink
DTA-99D	18" x 24" x 14" Sink
DTA-99E	24" x 24" x 14" Sink
DTA-106	Mirror Highlight To Dishtable Upgrade

ACCESSORIES

K-4	Lever Drain Bracket
K-5	Twist Handle Operated Drain
K-15	Twist Handle Operated Drain With Overflow
K-397	Wall Brackets (2 Each. Brackets Included With K-495)
K-455C	Stainless Steel Sink Cover 16" x 20"
K-455E	Stainless Steel Sink Cover 20" x 20"
K-457	Replacement Rubber Scrap Block (See K-456 For Install Cost)
K-475	Replacement S/S Leg With Stainless Steel Bullet Foot
K-478	Replacement Stainless Steel Bullet Foot
K-488	Flanged S/S Bullet Foot
K-550	Stainless Steel Tubular Rack Storage
K-610	Perforated Stainless Steel Sink Grid (Specify Bowl Size)
K-700D	12" High Removable Side Splash For Dishtables (Specify Model)
DTA-53	SPEC-LINE Heavy Duty Prerinse Faucet
DTA-51	Pre-Rinse Slide Bar for 18" x 24" Fab. Sink Bowls
DTA-52	Pre-Rinse Slide Bar for 24" x 24" Fab. Sink Bowls
DTA-55	Column Notch (Includes Splash)
DTA-56	Addt'l Length On 59" Side Of Corner Or Straight Tables
DTA-58	Pre-Rinse Basket w/ Slide Bar for 18" x 24" Fab. Sink Bowls
DTA-59	Pre-Rinse Basket w/ Slide Bar for 24" x 24" Fab. Sink Bowls
DTA-60	Prerinse Slide Bar for 20" x 20" Fab. Sink Bowls
DTA-62	Prerinse Basket For 20" x 20" Deep Drawn Bowls
DTA-63	Prerinse Slide Bar For 20" x 20" Deep Drawn Bowls
DTA-64	Prerinse Slide Bar For 16" x 20" Fab. Sink Bowls
DTA-65	Prerinse Slide Bar For 16" x 20" Deep Drawn Bowls
DTA-67	Stainless Steel Rear Cross-Bracing (Factory Installed Only)
DTA-69	Prerinse Basket For 16" x 20" Deep Drawn Bowls
DTA-100	Prerinse Basket with Slide Bar for 20" x 20" Fab. Sink Bowls
DTA-125	Prerinse Basket with Slide Bar for 16" x 20" Fab. Sink Bowls
DTA-125A	Perforated Basket for DTA-82 Dump Sink

ADVANCE TABCO
SMART FABRICATION™

ADDITIONAL DISHTABLE ACCESSORIES

For More Faucet Options & Faucet Specs,
See Faucet Specifications

⚠ WARNING:
Faucet(s) on this page may expose you to chemicals, including lead, that are known to the State of California to cause cancer or birth defects or other reproductive harm. For more Info.,visit www.p65warnings.ca.gov.

Prerinse Baskets with Welded Slide Bar For Fabricated Bowls

Model #	Fits Bowls	Wt.	Cu.
DTA-125	16" x 20" x 4"	9 lbs.	1
DTA-100	20" x 20" x 4"	12 lbs.	1
	Large Size Baskets		
DTA-58	18" x 24" x 4"	11 lbs.	1
DTA-59	24" x 24" x 4"	20 lbs.	1


DTA-100 Shown

Prerinse Slide Bars For Fabricated Bowls

Model #	Fits Bowls	Wt.	Cu.
DTA-64	16" x 20"	7 lbs.	1
DTA-60	20" x 20"	9 lbs.	1
	Large Size Prerinse Slide Bars		
DTA-51	18" x 24"	8 lbs.	1
DTA-52	24" x 24"	10 lbs.	1

Prerinse Baskets with Welded Slide Bar For Deep Drawn Bowls

Model #	Fits Bowls	Wt.	Cu.
DTA-69	16" x 20" x 4"	9 lbs.	1
DTA-62	20" x 20" x 4"	12 lbs.	1


DTA-62 Shown

Prerinse Slide Bars for Deep Drawn Bowls

Model #	Fits Bowls	Wt.	Cu.
DTA-65	16" x 20"	7 lbs.	1
DTA-63	20" x 20"	9 lbs.	1

Splash Mounted Faucet EXTRA HEAVY DUTY

K-119
8" O.C.

16" Spout

Splash Mounted Faucet

K-101
8" O.C.

8" Spout

SPEC-LINE EXTRA HEAVY DUTY

Prerinse Faucet

DTA-53
8"O.C.

Wall Bracket Included

Splash Mounted

Interchangeable with T&S Brand Faucets
T&S Equivalent = B133-B

Prerinse Faucet

T&S

K-116
8"O.C.

Wall Bracket Included

Splash Mtd.

Add-A-Faucet for DTA-53 Prerinse Faucet K-117

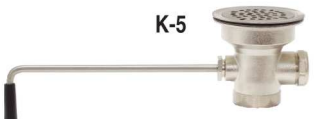
Add-A-Faucet for K-116 Prerinse Faucet K-117-TS

Stainless Steel Sink Compartment Covers

K-455
16" x 20" Cover
or
20" x 20"
Specify Size

Lever Operated Drain

K-5


Twist Handle 2" IPS

Lever Drain Support Bracket

K-4

INDIVIDUAL Stainless Steel Legs with Stainless Steel Adjustable Bullet Feet

K-475

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 REF-9

16 GAUGE STAINLESS STEEL
TWO COMPARTMENT SINKS

ITEM #: _____ QUANTITY: ____

PROJECT: _____

APPROVAL: _____

DATE: _____

REGENCY
Tables and Sinks

FEATURES

- Made of high-quality 16 gauge, type 304 stainless steel
- 1 5/8” stainless steel legs with sockets & crossbar
- Adjustable bullet feet for added stability
- Faucet holes pre-punched on 8” centers (faucet sold separately)
- 3 1/2” IPS drain connection
- Rolled edge contains splashes and overflow

SPECIFICATIONS

ITEM	LENGTH	DEPTH	HEIGHT (Total)	HEIGHT (Work)	BOWL DEPTH	BOWL L to R	BOWL F to B	NET WEIGHT
600S21717X	41”	22½”	44¾”	36½”	12”	17”	17”	59.6 LB.

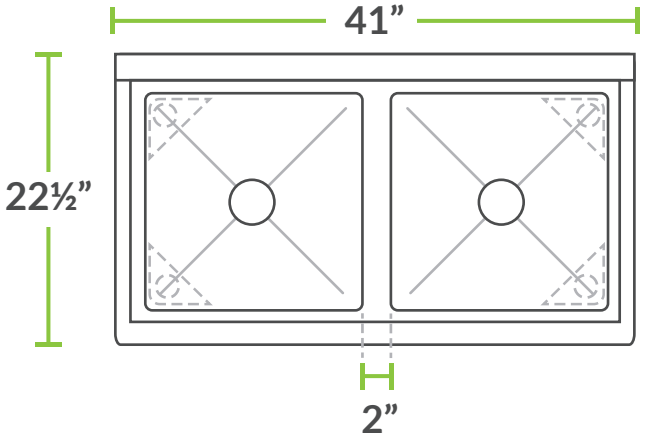
NSF

04/2019

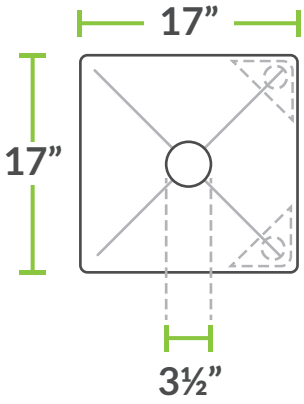
16 GAUGE STAINLESS STEEL
TWO COMPARTMENT SINKS

REGENCY
Tables and Sinks

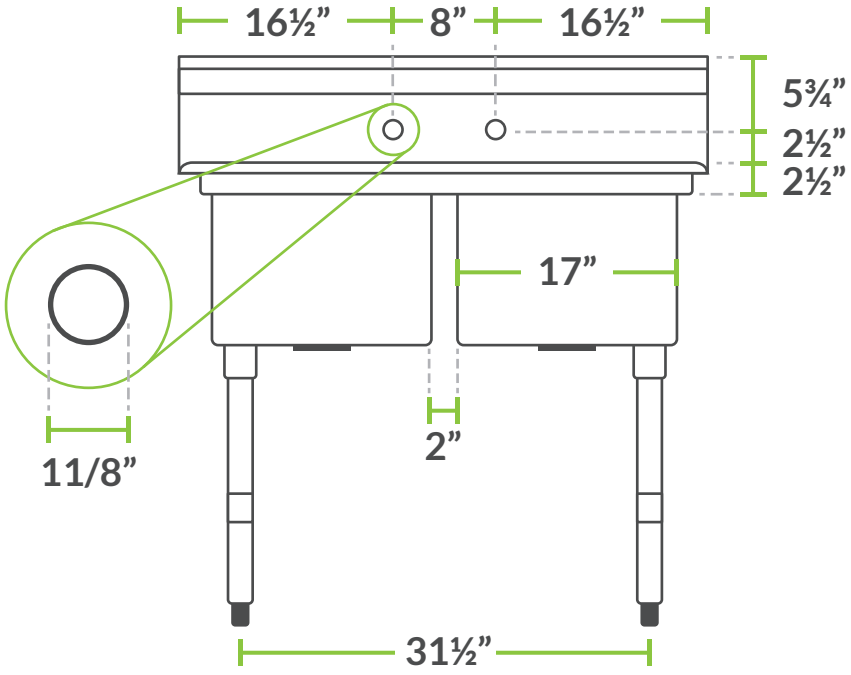
TOP



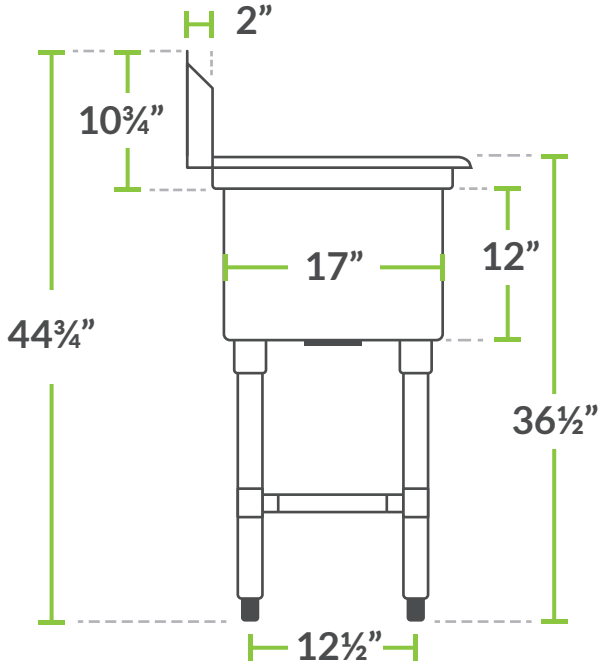
BOWL



FRONT



SIDE



BEVERAGE-AIR

Project: _____	AIA#
Item: _____	
Location: _____	SIS#
Approved: _____	

P-SERIES TOP MOUNT ROLL-IN REFRIGERATOR

PRI2XTHC Solid Door Extra Tall Refrigerator
Hydrocarbon Series

MODEL:
PRI2XTHC-1AS

PRI2XTHC TOP MOUNT ROLL-IN REFRIGERATOR

3 Year Parts/Labor Warranty
Additional 4 Year Compressor Warranty

CABINET CONSTRUCTION

- Stainless steel front and side exterior (galvanized rear, back & bottom)
- Interior is made of corrosion resistant aluminum
- Stainless steel door liner
- Full electronic control
- Expansion valve technology
- Variable speed compressor technology
- Self-closing doors with 120° stay-open feature
- 20 Gauge stainless steel doors
- LED interior light
- Heavy-duty cylinder locks
- Snap-in magnetic gaskets for positive door seals
- Hinged front shroud
- Reinforced stainless steel door ramps outside and cart guides inside
- Accepts cart up to 26 3/8” (W) x 26” (D) x 71 1/2” (H) (cart not included)
- Wiper gasket at bottom of door seals door to ramp
- Energy saving thermal breaker
- Stainless steel breaker caps
- 8’ Cord and plug (see electrical data for details)

OPTIONS & ACCESSORIES

- Stainless steel interior
- Stainless steel case back
- Door swing orientation (at time of order)

REFRIGERATION SYSTEM

- Uses environmentally friendly, energy efficient R290 refrigerant, and meets all regulatory requirements for CARB, SNAP, DOE & more
- Adaptive defrost
- Epoxy coated evaporator coil, located out of the food zone
- Refrigerator capable of maintaining product temperature 36ºF to 38ºF

Please verify qualifying units by visiting:
www.energystar.gov/cfs

3779 Champion Blvd., Winston-Salem, NC 27105
1-888-845-9800 Fax: 1-336-245-6453
Beverage-Air.com Sales@bevair.com

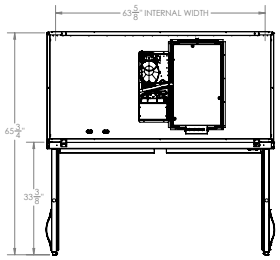
BEVERAGE-AIR

Top Mount Extra Tall Roll-In Refrigerator
Model: PRI2XTHC-1AS

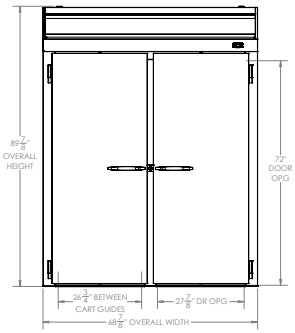
MODEL	PRI2XTHC-1AS
EXTERNAL DIMENSIONAL DATA	
Width Overall	68 ⅞”
Depth Overall with Handles	36 ⅛”
Height Overall	89 ⅞”
Between Cart Guides	26 ¾”
Number of Doors	2
Depth with Door Open 90°	65 ¾”
Door Openings (in)	27 ⅞” x 72”
INTERNAL DIMENSIONAL DATA	
NET Capacity (cubic ft.)	77.35
Internal Width Overall	63 ⅝”
Internal Depth Overall	26”
Internal Height Overall	72”
ELECTRICAL DATA	
Full Load Amperes 115/60/1*	8.5
REFRIGERATION DATA	
Horsepower	3/4
Capacity (BTU/Hr)	4950
Heat Rejection (BTU/Hr)	7425
Charge (lbs/grams)	0.2866/130
SHIPPING DATA	
Gross Weight - Crated	766 lbs
Height - Crated	96”
Width - Crated	78”
Depth - Crated	45”

Model Views

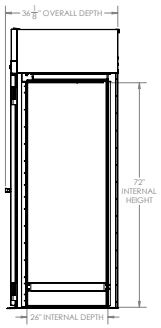
12” Top and 3” side and rear clearance is required



PLAN VIEW



ELEVATION VIEW



SIDE VIEW

ELECTRICAL CONNECTION

115/60/1*
NEMA 5-15P

Unit pre-wired at factory and include 8’ long cord and plug set.

* NOTE: This unit utilizes variable speed compressor technology. The compressor can experience nuisance tripping on Class A GFCI outlets which have a trip limit of 4 mA to 6 mA. To avoid this issue in a location that requires GFCI circuit protection, Beverage-Air recommends using a HUBBELL Model Number GFRST83W 20A Heavy Duty Hospital Grade Self-Test GFCI Receptacle.

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1-888-845-9800 Fax: 1-336-245-6453
Beverage-Air.com Sales@bevair.com

BEVERAGE-AIR

Project: _____	AIA#
Item: _____	
Location: _____	SIS#
Approved:	

HORIZON BOTTOM MOUNT REACH-IN

HBF44HC Solid Door Reach-In Freezer

Hydrocarbon Series

MODEL:
HBF44HC-1

3 Year Parts/Labor Warranty

Additional 4 Year Compressor Warranty

CABINET CONSTRUCTION

- Stainless steel front, side, and grille (galvanized back & bottom)
- Stainless steel interior
- Full electronic control with one-touch defrost
- One–piece grille allow easy removal/installation for preventative maintenance
- Expansion valve technology
- Self closing door with 120º stay open feature
- Door locks (solid doors only)
- LED lighting
- Spring-loaded style hinges
- Plug-in magnetic door gaskets
- Six (6) heavy duty epoxy coated wire shelves
- 6” Casters with two (2) brakes

OPTIONS & ACCESSORIES

- Stainless steel universal tray slide pair, 1 tray slide set for (1) 18” x 26” or (2) 14” x 18” pans (AC)
- 3” Casters or 6” legs
- Epoxy shelves
- Shelf clips
- Remote option* (see note on back page)

REFRIGERATION SYSTEM

- Uses environmentally friendly, energy efficient R290 refrigerant, and meets all regulatory requirements for CARB, SNAP, DOE & more
- Hot gas condensate evaporator
- Adaptive defrost
- Epoxy coated evaporator coil
- Freezer capable of maintaining product temperature down to -10ºF

HBF44HC BOTTOM MOUNT REACH-IN FREEZER

Please verify qualifying units by visiting:
www.energystar.gov/cfs

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Beverage-Air.com Sales@bevair.com

BEVERAGE-AIR

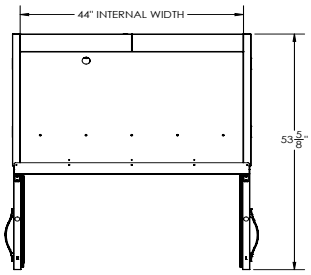
Bottom Mount Reach-In Freezer
Model: HBF44HC-1

MODEL	HBF44HC-1
EXTERNAL DIMENSIONAL DATA	
Width Overall	47”
Depth Overall with Handle	33 ¾”
Height Overall	84 ¼”
Number of Doors	2
Depth with Door Open 90°	53 ⅝”
Door Opening (in)	20 ⅛” X 52 ⅝”
INTERNAL DIMENSIONAL DATA	
NET Capacity (cubic ft.)	44
Internal Width Overall (in)	44”
Internal Depth Overall (in)	26”
Internal Height Overall (in)	61 ⅝”
Internal Height Useable (in)	53”
Number of Shelves	6
ELECTRICAL DATA	
Full Load Amperes 115/60/1	11.0
REFRIGERATION DATA	
Horsepower	3/4
Capacity (BTU/Hr)	2312
Heat Rejection (BTU/Hr)	3468
Charge (lbs/grams)	0.331/150
SHIPPING DATA	
Gross Weight - Crated	562 lbs
Height - Crated	86”
Width - Crated	49”
Depth - Crated	36”

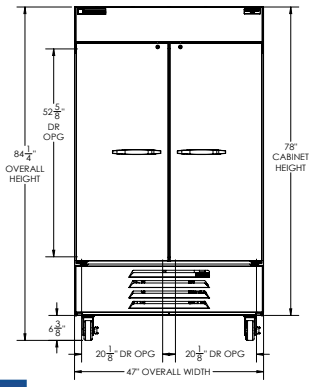
*NOTE: Remote units are field wired and come with 6” legs.
Refrigerant must be specified at time of order.

Model Views

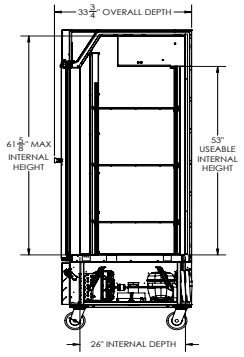
Required Clearance: Rear 3”



PLAN VIEW



ELEVATION VIEW



SIDE VIEW

ELECTRICAL CONNECTION

115/60/1
NEMA 5-15P

Unit pre-wired at factory and include 8’ long cord and plug set.

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an Ali Group Company

The Spirit of Excellence

BEVERAGE-AIR

Project: _____ Item: _____ Location: _____ Approved:	AIA# SIS#

SCHOOL MILK COLD WALL COOLER

SM49HC Single Access Cooler

Hydrocarbon Series

MODEL:
SM49HC-S

3 Year Parts/Labor Warranty

Additional 4 Year Compressor Warranty

CABINET CONSTRUCTION

- Stainless steel exterior and interior
- Stainless steel lids, hinged door and door latches
- Self-latching doors/lids with safety bumpers
- Full electronic control
- Heavy-duty epoxy coated steel wire floor racks standard
- Floor drain is centrally located for easy cleaning and connecting to drain hose with hose adapter
- Flexible compression door gaskets, ensures a tight seal
- Exterior thermometer
- Cylinder lock
- 4” Heavy-duty plate casters (2 with locks)
- Cold wall milk coolers are designed to hold product temperature during service. Product should be removed at the end of service and moved to long-term, refrigerated storage

OPTIONS & ACCESSORIES

- Corner bumpers
- Cafeteria tray slides
- Graphics

REFRIGERATION SYSTEM

- Uses environmentally friendly, energy efficient R290 refrigerant, and meets all regulatory requirements for CARB, SNAP, DOE & more
- Maintains product temperature between 36ºF to 40ºF

SM49HC SINGLE ACCESS, COLD WALL: SCHOOL MILK SERIES

Please verify qualifying units by visiting:
www.energystar.gov/cfs

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1-888-845-9800 Fax: 1-336-245-6453
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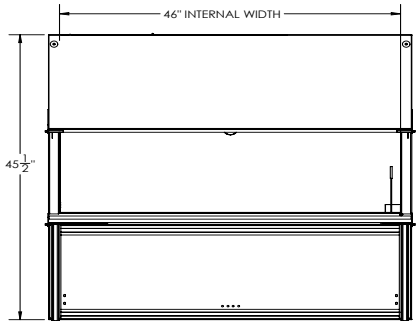
BEVERAGE-AIR

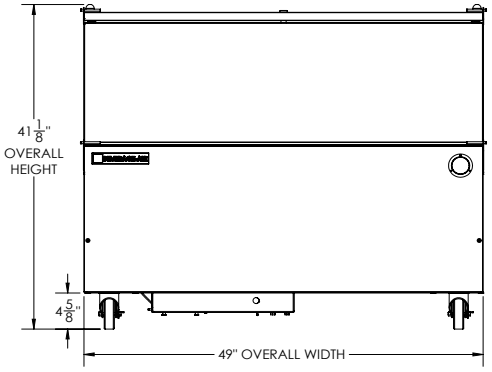
School Milk Cooler - Single Access
Model: SM49HC-S

MODEL	SM49HC-S
EXTERNAL DIMENSIONAL DATA	
Width Overall (in)	49”
Depth Overall (in)	30 ⅝”
Height Overall with Casters (in)	41 ⅛”
Number of Lids/Doors	Single Access
Depth with Door Open 90º (in)	45 ½”
INTERNAL DIMENSIONAL DATA	
NET Capacity (cubic ft.)	20.32
Internal Width Overall (in)	46”
Internal Depth Overall (in)	27”
Internal Height Overall (in)	25 ¾”
CASE CAPACITY	
13” X 13” X 11”	12
19” X 13” X 11”	8
ELECTRICAL DATA	
Full Load Amperes	2.2
REFRIGERATION DATA	
Horsepower	1/3
Capacity (BTU/Hr)	1367
Heat Rejection (BTU/Hr)	2050.5
Charge (lbs/grams)	0.1764/80
SHIPPING DATA	
Gross Weight - Crated	338 lbs
Height - Crated	48”
Width - Crated	52”
Depth - Crated	34”

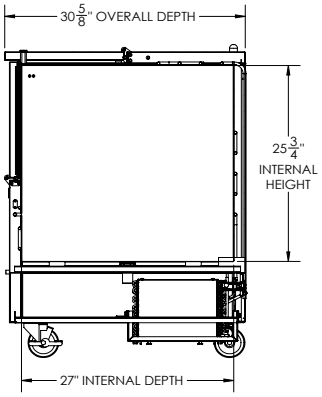
Model Views



PLAN VIEW



ELEVATION VIEW



SIDE VIEW

ELECTRICAL CONNECTION

115/60/1
NEMA 5-15P

Units pre-wired at factory and include 8’ long cord and plug set.

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REFRIGERATION AVANTCO

PROJECT: _____

MODEL: _____ SERIAL#: _____

ITEM #: _____ QUANTITY: _____

APPROVAL: _____ DATE: _____

SSUC Series

Undercounter Refrigerator

MODELS #178SSUC72RHC

CABINET CONSTRUCTION

Heavy duty construction includes a 304 type stainless steel interior and a 430 type stainless steel exterior, resulting in strength, durability, and an attractive, sleek appearance.

Foamed-in-place CFC- and HCFC-free polyurethane insulation enhances the structural strength of the cabinet and helps increase energy efficiency.

One-piece rear grill is easily removed for cleaning and servicing.

3 doors feature easy-to-use recessed handles for quick interior access. Doors stay open past 90˚ for easy loading, but will self-close under 90˚ to save energy.

REFRIGERATION SYSTEM

Environmentally safe R290 refrigerant. Rear-mounted condensing unit positioned for easy maintenance.

SHELVING

3 white epoxy-coated steel shelves included. Each accommodate up to 90 lb.

MODEL FEATURES

Copper evaporator coil eliminates the potential of corrosion.

Interior wall-mounted thermometer for easy temperature monitoring.

Preprogrammed digital controller features auto-defrost function.

SSUC SERIES - UNDERCOUNTER REFRIGERATOR

Increase cold food prep storage in your kitchen

SPECIAL FEATURES

- Eco-friendly R290 hydrocarbon refrigerant
- Strong and sleek 430 type stainless steel exterior
- 304 type stainless steel interior maintains temperatures from 33°F - 40°F
- Three epoxy-coated steel shelves accommodate up to 90 lb. each
- Foamed-in-place polyurethane insulation
- Easy-to-read digital temperature controller and auto-de-frost function
- 115V; 1/5 hp

WARRANTY

RESIDENTIAL: Avantco assumes no liability parts or labor coverage for component failu factory defect or any other damages for un installed in non-commercial foodservice or residential applications.

2 year WARRANTY Parts & Labor

5 year WARRANTY Compressor

★ Conforms to UL & NSF-7 Standards

SSUC Series
Undercounter Refrigerator

MODELS #178SSUC72RHC

TECHNICAL DATA

Dimensions

Exterior Dimensions	71½"W x 29½"D x 35¼"H
Interior Dimensions	66⅞"W x 22⅞"D x 23½"H
Working Height	35¼"
Net Volume	16.9 cu. ft.
Net Weight	298 lb.
Gross Weight	370 lb.
Packaging Dimensions	74¼"W x 32¼"D x 38½"H

Cooling

Temperature Range	33°F - 40°F
Refrigerant	R290
Max. Ambient Temperature	100°F
Defrosting	Automatic
Temperature Controller	Digital
Horsepower	1/5

Construction

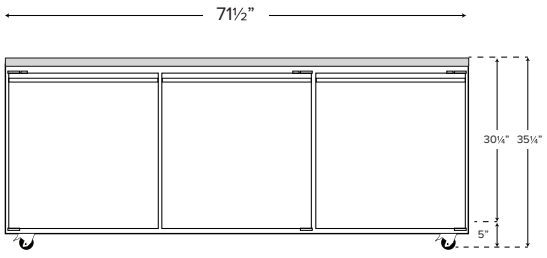
Exterior Material	Type 430 Stainless Steel
Interior Material	Type 304 Stainless Steel
Insulation Material	Foamed-in -place polyurethane
Shelf Size	(2) 20¹³⁄₁₆" x 17¹⁄₁₆" + (1) 17¹⁄₁₆" x 23½"
Shelf Material	Epoxy-coated steel
Shelf Load Capacity	90 lb.

Electrical

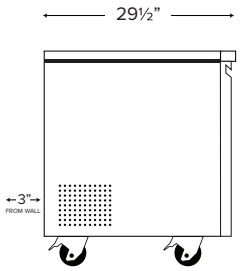
Voltage	115
Amps	3.2
Hz	60
Phase	1
Plug Type	NEMA 5-15P
Electrical Cord Length	84"

PLAN VIEW

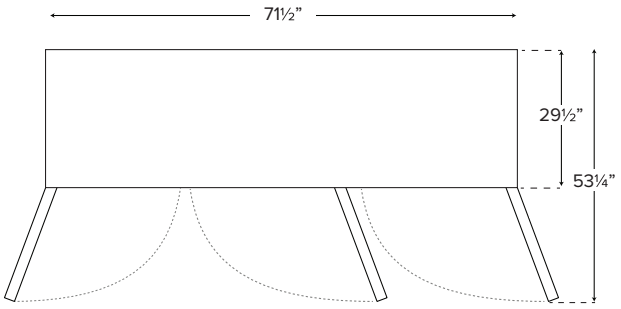
FRONT VIEW

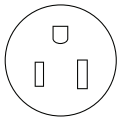


SIDE VIEW



TOP VIEW





NEMA 5-15P

HIGH TEMPERATURE 3-DOOR VENTLESS SINGLE RACK DISHWASHER

180-VL

High Temperature Ventless Dishwasher

CMA MODEL: 180-VL

The "Ventless" option is a Heat Recovery Condensation Removal System:

Captures and distributes normally exhausted heat from the wash/rinse tank, using this FREE energy to pre-heat cold water prior to feeding the booster heater. Water entering the booster heater has been pre-heated, reducing the energy cost to bring booster temperature to required 180 degrees, potentially saving THOUSANDS of $dollars$ in operating costs.

NO VENT HOOD REQUIRED: Saves THOUSANDS $ on installation.

FEATURES

- Replaces need for independent vent hood.
- Final Rinse Valve receives cold water (41-65°F) that is processed through a "Heat Recovery System" providing nearly cost-free heating capabilities for water supplied to the Booster Heater, which reduces the heat recovery time for the Booster Heater.
- Heat recovery system captures water vapor from the wash & rinse cycle, and condenses it to heat the incoming cold water & evacuate the steam from the wash chamber.
- Door-actuated start.
- Safe-T-Temp feature assures 180°F sanitizing rinse every cycle.
- 12kW electrical booster heater.
- Booster-safety thermostat.
- 6kW wash tank heater.
- Low max. 0.89 US gallons of water usage per rack.
- Minimum 90-second cycle. (60 second wash/rinse & 30 second steam evacuation)
- 40 racks per hour (based on 90-second cycle).
- Fully automatic cycle for easy operation.
- Water level safety control.
- Maximum clearance for dishes is 17-1/2".
- All Stainless Steel construction.
- Wash tank screens, which filter recirculating wash water, prevent soil from entering spray arms.
- 3-door feature for straight or corner applications.
- Automatic heat exchange condenser wash-down feature.
- Rinse PRV supplied (Pressure Regulating Valve).
- Field convertible from three phase to single phase.

AVAILABLE OPTIONS

- Alternative electrical available for export.
- Stainless steel dishtables
- Dual power supply connections

CMA Energy Mizer® Registered Trademark

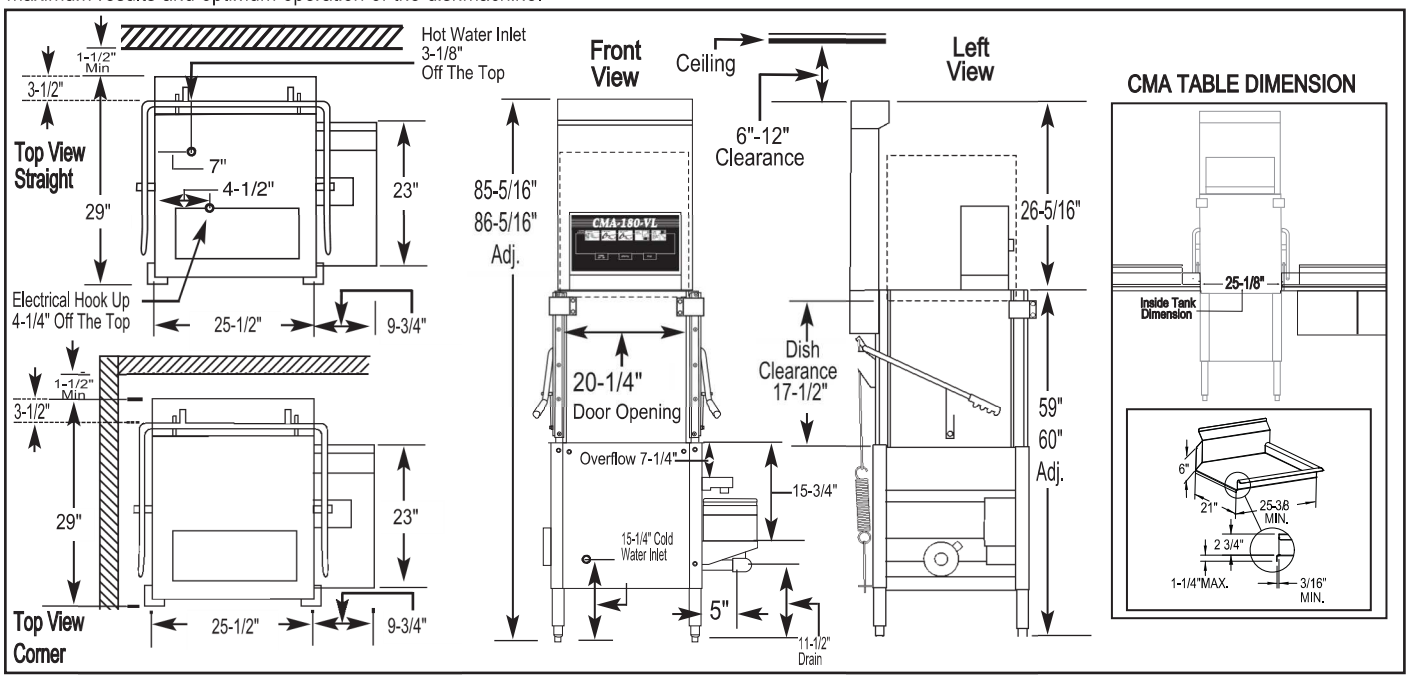
CMA Dishmachines 12700 Knott Street Garden Grove, CA 92841 • 800-854-6417 • 714-898-8781 • Fax: 714-895-2141 • www.cmadishmachines.com

CMA-180-VL

High Temperature
3- Door Ventless
Single Rack Dishwasher

WARNINGS:

- Plumbing connections must be made by a qualified service company who will comply with all available Federal, State, and Local Health, Plumbing and Safety codes.
- CMA recommends utilizing a water softening system to maintain water hardness measurements of 3.5 gpg (grains per gallon) or less. This will assure maximum results and optimum operation of the dishmachine.



Specifications:

MODEL CMA-180-VL	USA	METRIC
WATER CONSUMPTION		
PER RACK (MAX)	.89 GAL	(3.37 L)
PER HOUR	36 GPH	(136 L)
OPERATING CYCLE		
WASH TIME - SEC.	49	49
RINSE TIME - SEC.	12	12
STEAM EVACUATION	30	30
TOTAL CYCLE	90	90
OPERATING CAPACITY		
RACKS PER HOUR	40	40
WASH TANK CAPACITY	8 GAL.	(30.3 L)
PUMP CAPACITY	52 GPM	(197 LPM)
WATER REQUIREMENTS		
COLD WATER	41-65°F	(5°C-18°C)
HOT WATER	120°F -140°F	(49°C - 60°C
DRAIN CONNECTION	2"	(5.1cm)
RINSE PRESSURE SET	20 +5psi	(1.41 kg/cm²)
HOT WATER INLET	1/2"	(1.3cm)
COLD WATER INLET	1/2"	(1.3cm)
OPERATING TEMPERATURE		
WASH-°F (MIN)	155°F-160°F	(68°C-71°C)
RINSE-°F (MIN)	180°F-195°F	(82°C-90°C)
HEAT LOAD TO ROOM	LATENT 7,986 SENSIBLE 5,005	

	USA	METRIC
WASH PUMP MOTOR HP	1	1
DIMENSIONS		
DEPTH	29"	(76.7cm)
WIDTH (OUTSIDE DIMENSION)	25 -1/2"	(65cm)
TOTAL HEIGHT	85-5/16"-86-5/16"	(216-217cm)
STANDARD TABLE HEIGHT	34"	(86.3cm)
MINIMUM FAN CLEARANCE	6"	(15.2cm)
MAX CLEARANCE FOR DISHES	17-1/2"	(44cm)
DRAIN CONNECTION (OFF FLOOR)	11-1/2"-12-1/2"	(29-32cm)
STANDARD DISHRACK	1	1
DIMENSIONS	20" x 20"	(50.8 X 50.8cm)

ELECTRICAL RATING	**VOLTS**	**PHASE**	**AMPS**
INCLUDES REQUIRED 12kW BOOSTER	208	1	78
	240	1	88
	208	3	49
	240	3	55
	480	3	25

APPROXIMATE SHIPPING WEIGHT	528# (239kg)
SHIPPING DIMENSIONS	PALLET & WOODEN CRATE @ 41" X 41" X 86"

Summary Specifications: Model CMA-180-VL
The model CMA-180-VL single tank, high temperature dishwasher is designed for years of trouble free service, producing sparkling results while conserving energy, water and chemicals. This machine is supplied with a built-in 12 kW booster heater required for "Ventless" feature to function. The CMA-180-VL comes standard with the 3-door feature for straight or corner applications. Unique soil purging system filters wash water and plate debris into an external tray. The CMA-180-VL is NSF, UL, and CUL approved. Constructed entirely of stainless steel.

Advisory: CMA does NOT endorse "Tankless On-Demand" water heaters for use on CMA Dishmachine products. CMA DOES endorse, and highly recommends, the standard "tank" style water heaters, sized properly to handle each particular facility with their water heating requirements.

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16 GAUGE STAINLESS STEEL
THREE COMPARTMENT SINK
WITH TWO DRAINBOARDS

ITEM #: _____ QUANTITY: ____

PROJECT: _____

APPROVAL: _____

DATE: _____

REGENCY
Tables and Sinks

FEATURES

- Made of high-quality 16 gauge, type 304 stainless steel
- 1 5/8” stainless steel legs with sockets & crossbar
- Adjustable bullet feet for added stability
- Faucet holes pre-punched on 8” centers (faucet sold separately)
- 1 1/2” IPS drain connection
- Rolled front and side edges to contain splashes and overflows

SPECIFICATIONS

ITEM	LENGTH	DEPTH	HEIGHT (Total)	HEIGHT (Work)	BOWL DEPTH	BOWL L to R	BOWL F to B	NUMBER OF DRAINBOARDS	SIDE	NET WEIGHT
600S31718X	91"	22½"	44¾"	36½"	12"	17"	17"	2	Both	98.99 LB.

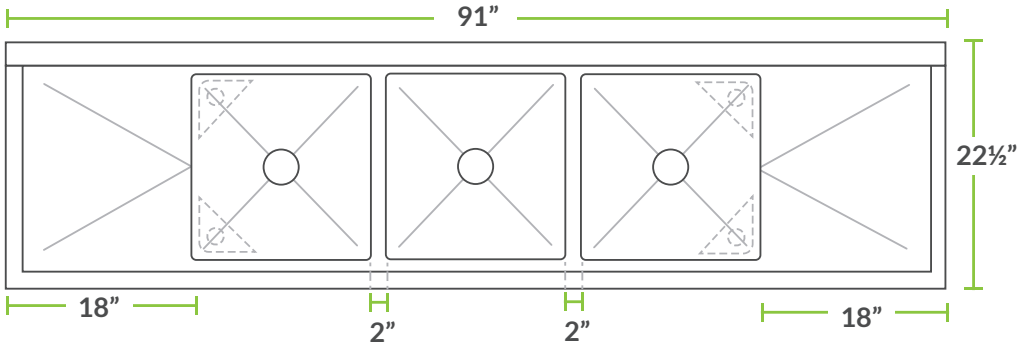
NSF®

2/2020

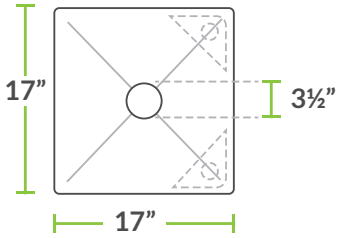
16 GAUGE STAINLESS STEEL
THREE COMPARTMENT SINK
WITH TWO DRAINBOARDS

REGENCY
Tables and Sinks

TOP



BOWL



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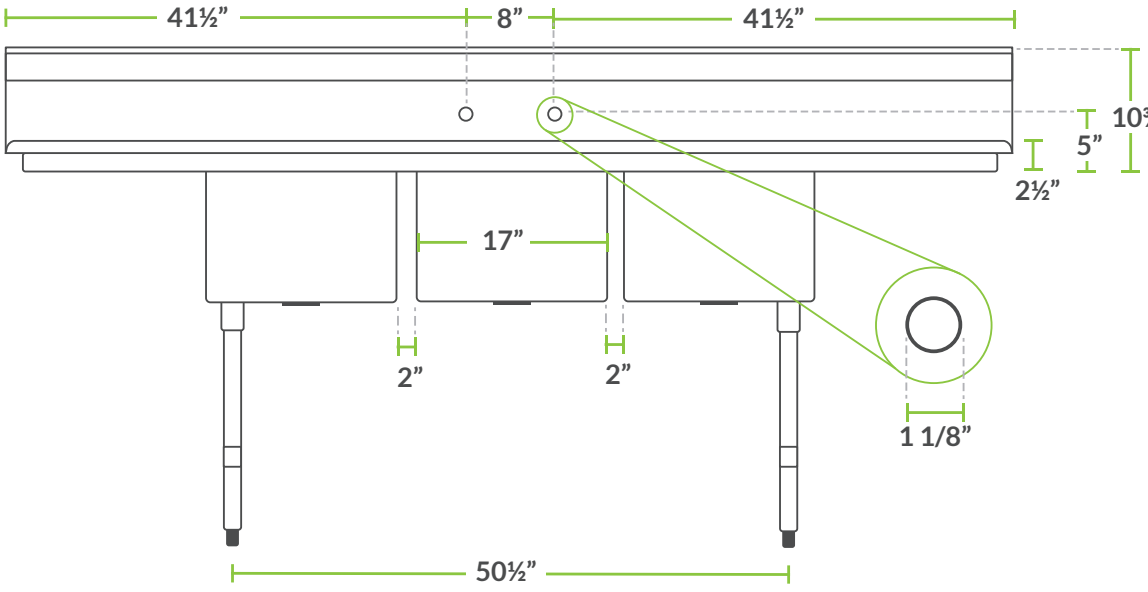
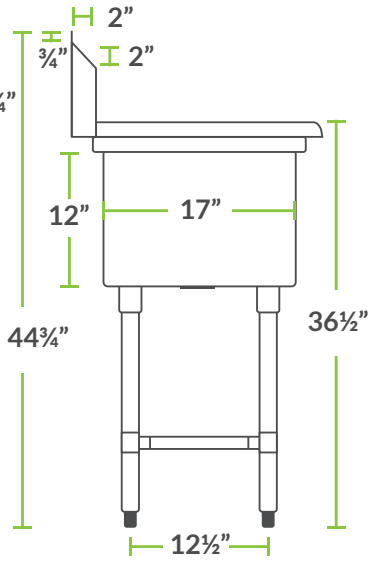


SIDE



Project _____

AIA # _____ SIS # _____

Item # _____ Quantity _____ C.S.I. Section 114000

24" SX SERIES VALUE RANGE

4 Open Burners

Model SX24

MODELS

- ❑ **SX24-4BN** 1 Space Saver Oven / Natural Gas
- ❑ **SX24-4BP** 1 Space Saver Oven / Propane

STANDARD FEATURES

- Stainless steel front, sides, backriser, lift-off high shelf
- 6" stainless steel adjustable legs
- 28,000 BTU/hr open top burners with lift-off heads
- Shrouded flash tube pilot system (one pilot per two burners)
- 12" x 12" cast top grates with aeration bowls
- 30,000 BTU/hr standard oven cavity measures 20.6"w x 25.5"d x 13.7"h
- Oven thermostat adjusts from 250° to 500°F
- One oven rack and four rack positions
- ¾" rear gas connection and gas pressure regulator
- One year limited parts and labor warranty

ACCESSORIES (PACKAGED AND SOLD SEPARATELY)

- ❑ Extra oven rack
- ❑ Set of four casters (two locking)

SPECIFIER STATEMENT

24" wide SX series light-duty range, Vulcan Model No. SX24-4B. Stainless steel front, sides, backriser, high shelf and bullnose. Porcelain door liner and oven bottom. Four 28,000 BTU/hr. cast top burners with lift-off burner heads. Shrouded flash tube pilot system (one pilot per two burners). 12" x 12" cast top grates with aeration bowls. Heavy duty top grates and burner heads. Compression spring door hinge system for durability. 30,000 BTU/hr. oven measures 20.6"w x 25.5"d x 13.7"h. Thermostat adjusts from 250° to 500°F. One oven rack with four rack positions. ¾" rear gas connection and gas pressure regulator. Total input: 132,000 BTH/hr.

Exterior Dimensions:
24"w x 32.5"d x 55"h on 6" adjustable legs

24" SX SERIES VALUE RANGE – 4 Open Burners

Approved by_____ Date_____ Approved by_____ Date_____

24" SX SERIES VALUE RANGE
4 Open Burners

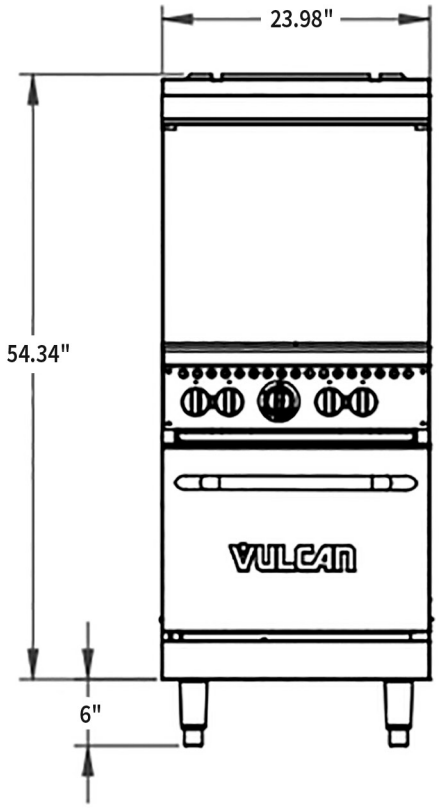
INSTALLATION INSTRUCTIONS

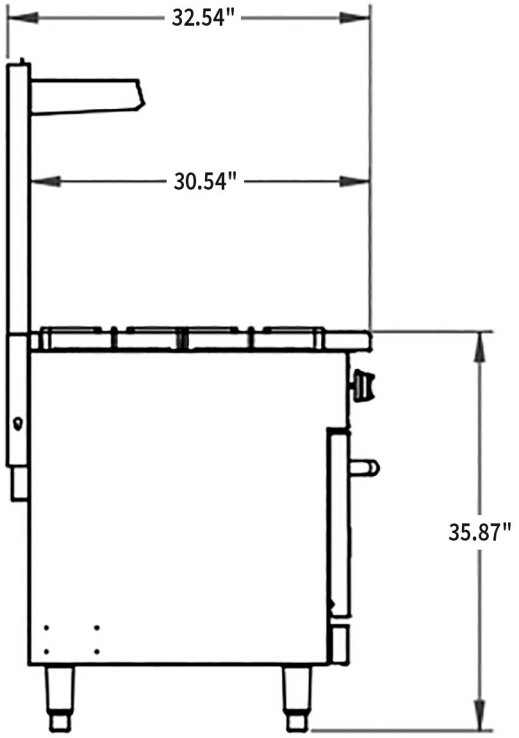
1. A pressure regulator sized for this unit is included. Natural gas 5.0" W.C., propane gas 10.0" W.C.
2. Gas line connecting to range must be ¾" or larger. If flexible connectors are used, the inside diameter must be ¾" or larger.
3. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by visiting the National Fire Protection Association website at https://www.nfpa.org/. Refer to NFPA No. 96.
4. These units are manufactured for installation in accordance with ANSZ223.1A (latest edition), National Fuel Gas Code. Information may be obtained from The American Gas Association website at https://www.aga.org/.
5. Clearances

	Rear	Sides
Combustible	6"	10"
Standard Oven Non-Combustible	0"	0"
Convection Oven Non-Combustible	Min. 4"	0"

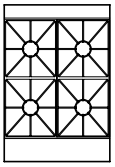
6. For proper combustion, install equipment on adjustable legs or casters provided with unit.
7. This appliance is manufactured for commercial installation only and is not intended for home use.

SPECIFY TYPE OF GAS WHEN ORDERING.
SPECIFY ALTITUDE WHEN ABOVE 2,000 FEET.





CAD and/or Revit Files Available

Top Configuration	Model	Description	Total Input BTU / Hr.	Shipping Weight Lbs. / KG
	**SX24-4BN**	1 Space Saver Oven / 4 Burners / Natural Gas	143,000	350 / 159
	SX24-4BP	1 Space Saver Oven / 4 Burners / Propane	143,000	350 / 159

As continued product improvement is a policy of Vulcan, specifications are subject to change without notice.

STAINLESS STEEL ONE BOWL UNDERBAR HAND SINK WITH SWING FAUCET

ITEM #: _____ QUANTITY: ____

PROJECT: _____

APPROVAL: _____

DATE: _____

REGENCY Tables and Sinks

FEATURES

- 18 gauge type 304 stainless steel top, bowl, and backsplash
- 20 gauge type 304 stainless steel apron
- Galvanized steel legs & sockets with plastic bullet feet
- Holes punched on 4” centers accommodate included 6” swing spout, wall mounted faucet (600FW46LL)
- 3” high backsplash helps protect walls and contain splashes

SPECIFICATIONS

ITEM	LENGTH	DEPTH	HEIGHT (Total)	HEIGHT (Work)	BOWL DEPTH	BOWL L to R	BOWL F to B	NUMBER OF DRAINBOARDS	SIDE	NET WEIGHT
600B11014	14½"	18¾"	33"	30"	5"	10"	14"	0	N/A	31.3 lb.

NSF

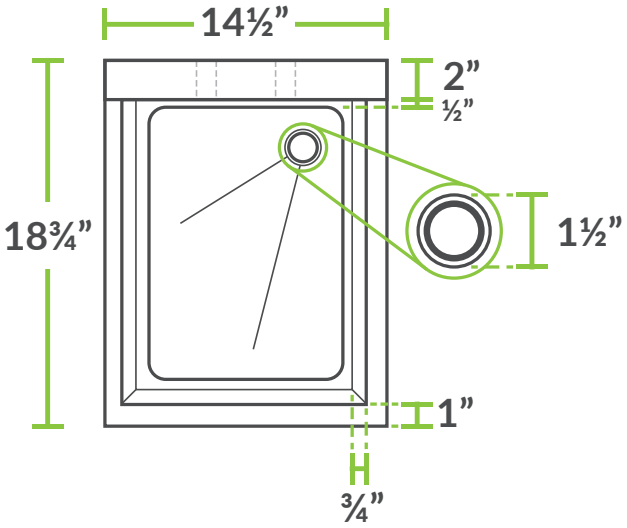
STAINLESS STEEL ONE BOWL

UNDERBAR HAND SINK

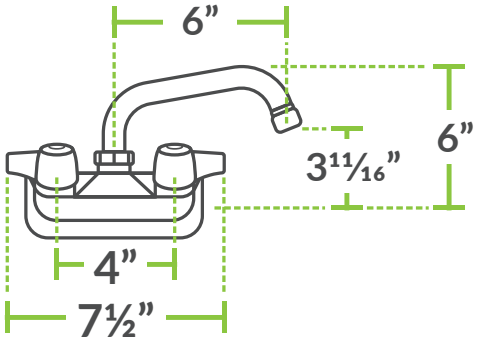
WITH SWING FAUCET

REGENCY
Tables and Sinks

TOP



FAUCET



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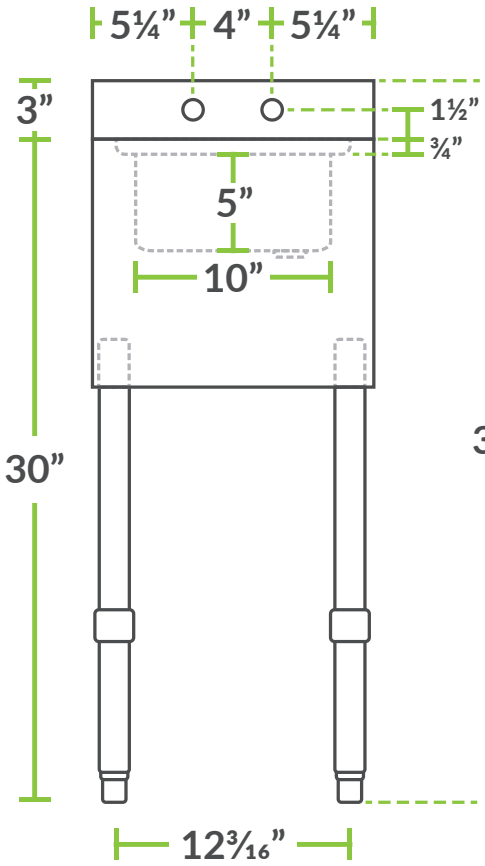

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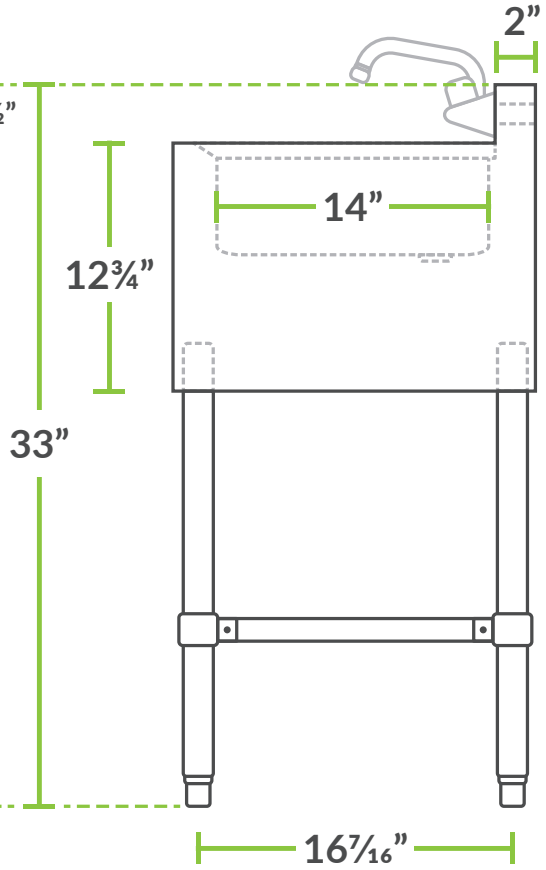


CRES COR®

JOB: _____

ITEM NO: _____

INSULATED STAINLESS STEEL AQUATEMP™ HOT CABINET MODEL H-138-WS-1834D

FEATURES AND BENEFITS:

- Fully insulated hot cabinet keeps prepared foods at serving temperatures.
- Powerful, yet efficient, heating system maintains the right combination of heat and humidity to properly hold products.
- 2000 Watts of heat holds food at up to 200˚F (93˚C).
- AquaTemp system allows you to hold with humidity by adjusting individual thermostats; regulate humidity levels by controlling air temperature to 180°F (82°C); lowering air temperature allows for humidity up to 95%.
- Internal frame in body and doors plus reinforced internal base maintains structural rigidity.
- Stainless steel construction throughout for ease of cleaning.
- Smooth interior coved corners prevent food particle/grease buildup.
- Safety-conscious anti-microbial latches protect against spreading germs.
- Field reversible insulated Dutch doors prevent temperature loss. Silicone door gaskets for proper seal.
- Standard with right hand hinging; left hand hinging available upon request.
- High temperature ceramic magnetic latches for "easy open"; twist-lock catch keeps door securely closed.
- Recessed push/pull handles on both sides prevent damage to walls; allows easy maneuvering.
- Channel pan slides securely hold 18" x 26" pans on 1-1/2" centers without tipping.
- Integral drip trough on front keeps traffic area dry, safer.
- Heavy duty 5" swivel casters, two with brakes. Provides mobility when fully loaded.

H-138-WS-1834D15A

New, easier to use, easy-to-read and operate LED digital display ensures holding at precise food temperatures and moisture content.

ACCESSORIES and OPTIONS (Available at extra cost):

- ❑ Automatic Water Fill System
- ❑ Bumper Kit (3 sided)
- ❑ Tempered Glass Door Windows
- ❑ Extra Universal Angles
- ❑ Key Lock Handle
- ❑ Lock Hasp
- ❑ Rear Push Handle
- ❑ Bail Handles
- ❑ 208 or 240 Volt Service
- ❑ 1500 Watt, 15 Amp Power Unit
- ❑ HACCP Documentation (Built-in USB port)

See page B-20 for accessory details

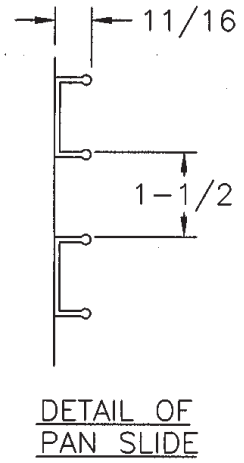
aquatemp

CRES COR®
5925 Heisley Road • Mentor, OH 44060-1833
Phone: 877/CRESCOR • Fax: 440/350-7267
www.crescor.com

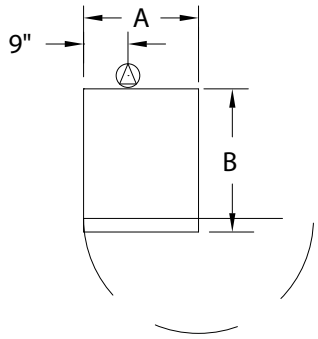
GOLD

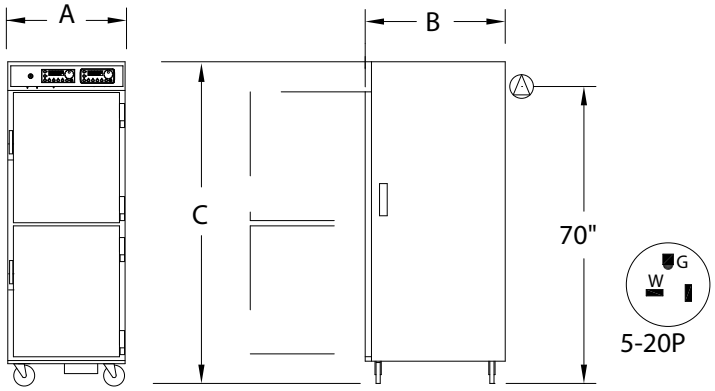
Gold indicates our Best Insulated Hot Cabinets with the best warranty in the industry.
3-Year Parts / 1-Year Labor.

H-138-WS-1834D



DETAIL OF PAN SLIDE





CRES COR MODEL NO.	PAN			DIM "A"	DIM "B"	DIM "C"	INSIDE DIMENSIONS				WEIGHT ACT.
	CAP	SIZE		WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT		
H-138-WS-1834D	32	18 X 26	IN	28-1/4	32-9/16	73	18-1/16	26-7/8	58	LBS	287
		460 X 660	MM	720	830	1855	460	700	1475	KG	130

NOTES: 1. Send sample pan or tray with order when using any that are not 18" x 26" pans with heavy beaded edges.
2. When ordering bumpers, add 2" to overall dimensions.

GOLD

Gold indicates our Best Insulated Hot Cabinets with the best warranty in the industry.
3-Year Parts / 1-Year Labor.

CABINET:
- Body: 22 ga. stainless steel.
- Reinforcement: Internal framework of 18 ga. stainless steel.
- Insulation: Fiberglass, thermal conductivity (K factor) is .23 at 75˚F. 1-1/2" in doors, top, base; 2" in sidewalls.
- Air tunnels: 22 ga. stainless steel; lift-out type, mounted on sides.
- Push/pull handles (2): 5” vertical; recessed.
- Interior coved corners.

BASE:
- One piece construction, .125 aluminum.
- Drip trough: Formed 18 ga. stainless steel mounted to front of cabinet; removable drip pan.
- Casters: 5" dia., swivel, modulus tires, 1-1/4 wide, load cap. 250 lbs. each, temp. range -45˚/+180˚F. Delrin bearings. Front casters equipped with brakes.

DUTCH DOORS:
- Field reversible.
- Formed 22 ga. stainless steel.
- Latches: Chrome plated zinc, high temperature ceramic magnetic type.
- Transport Latches.
- Hinges: Heavy duty chrome plated zinc.
- Gaskets: Perimeter type, silicone.
- Pan stops: Embossed.

PAN SLIDES:
- Channels: Extruded aluminum, 11/16 x 1-1/2 x .100, riveted on 1-1/2" centers.

HOT UNIT COMPONENTS:
- Thermostat (holding): Solid state digital display control, room ambient to 200˚F (93˚C).
- Thermostat (humidity): Solid state digital display control, room ambient to 95%.
- Switch: ON-OFF push button type.
- Power cord: Permanent, 10 ft., 12/3 ga.
- Heater: 2000 Watts for holding.
- Blower motor.
- Vent fan.
- Water pan: 4 gallons; 16 ga. stainless steel with 1850 Watt heater for humidity.
- Thermometer: Digital.

POWER REQUIREMENTS:
- 2000 Watts, 120 Volts, 60 Hz., single phase, 16 Amps., 20 Amp. service.

SHORT FORM SPECIFICATIONS

Cres Cor Insulated AquaTemp Hot Cabinet Model H-138-WS-1834D. Solid state electronic controlled time, temperature and moisture content. Cabinet 22 ga. stainless steel; stainless steel internal frame. No-tip .100 aluminum channel slides for (32) 18" x 26" pans on 1-1/2" centers. Field reversible Dutch doors, 22 ga. stainless steel. Fiberglass insulation in sides 2"; doors, top, base 1-1/2". Interior coved corners. 1500 Watt, 120 Volt power unit; adjustable heat and humidity. One piece insulated base, .125 aluminum. 5" swivel modulus casters, Delrin bearings. Load capacity 250 lbs. each. 3-Year Parts / 1-Year Labor warranty. Provide the following accessories: ____ ____ ____. NSF, CSA-US, CSA-C listed.

CRES COR®
5925 Heisley Road • Mentor, OH 44060-1833
Phone: 877/CRESCOR • Fax: 440/350-7267
www.crescor.com

In line with its policy to continually improve its products, CRES COR reserves the right to change materials and specifications without notice.

Litho in U.S.A.

HOBART

Project _____

AIA # _____ SIS # _____

Item # _____ Quantity _____ C.S.I. Section 114000

FOOD WASTE REDUCTION

FD4/50, FD4/75, FD4/125 FOODWASTE DISPOSERS

Short Housing Model

Long Housing Model

Complies with ASSE 1009

SPECIFIER STATEMENT

Hobart Disposers are well recognized for quality and capacity. They're designed with your needs in mind – built with a large capacity for food wastes.

The following pages illustrate the variations of controls and accessories available to make these food waste disposers the most versatile equipment for small to medium sized clean-up systems.

SPECIFICATIONS

Motors: Continuous duty rating, equipped with manual reset thermal overload inherent protector. Permanently lubricated ball bearings for upper and lower shelf support. Upper bearing is sealed on both sides.

Housings: Heavy aluminum grind and discharge housings. Four bolts fasten the motor unit to the grind chamber, permit easy removal.

Mounting: All Hobart disposers (except when using accessory group E), fasten to 7" I.D. (throat opening) cones. A vinyl isolating ring eliminates metal-to-metal contact at the cone mounting, reduces vibration and noise transmission.

Stationary Shredder Ring: 1¾" high, 4 machine ground primary action breaker bars, 42 secondary action grinding teeth.

Flywheel: Breaker blade, mounted at center, speeds grinding, prevents objects from "riding" at center. Two hardened stainless steel cutter blocks (fastened to flywheel with nylock screws) are replaceable, can be indexed for new cutting edges. Ni-Resist flywheel is 6$\frac{3}{16}$" diameter, slots undercut the shredder ring to assure that particles are cut to proper size before passing to the drain line.

Motor Shaft Seal: Seal is a high quality, cartridge style mechanical face seal. The rotating mating ring matches to a wear resistant seal surface.

Drain Connector: A chrome plated brass tailpiece is provided for connection to a 1½" standard drain trap.

Dual Directional Grinding: All disposers operate in either direction of flywheel rotation. Direction of rotation can be controlled by the operator (to increase life and efficiency of grinding elements — back flywheel free of a "jam") when installed with Control Groups 5 & 6.

Weight: Shipping – approximately 60 lbs. (does not include accessory group or controls).

FD4/50, FD4/75, FD4/125 FOODWASTE DISPOSERS

Approved by_____ Date_____ Approved by_____ Date_____

FD4/50, FD4/75, FD4/125 FOODWASTE DISPOSERS

ACCESSORY GROUPS

GROUP A (For use with long upper housing only.)

Vinyl Scrapping Ring

Stainless Steel Silver-Saver Sleeve with Side Feed Hole

Water Swirl

Vacuum Breaker

GROUP B (For use with long upper housing only.)

Vinyl Silver-Saver Splash Guard Ring

Water Swirl

Vacuum Breaker

GROUP C (For use with long upper housing only.)

Vinyl Silver-Saver Splash Guard Ring

Vacuum Breaker

Pre-Rinse Spray with Wall Bracket

GROUP D (For use with long upper housing only.)

Nitrile Rubber Silver-Saver Splash Guard Ring

7" I.D. Stainless Steel Weld-in Adapter for Sink

Fixed Direction Water Inlet for Sink

Vacuum Breaker

GROUP E (For use with short upper housing only.)

NOTE: For use with short Upper Housing Foodwaste Disposer only.

Cover Stopper and Sink Adapter Assembly for 3½" to 4" Sink Opening

Fixed Direction Water Inlet for Sink

Vacuum Breaker

ACCESSORY COMPONENTS

CONES-SINK – Stainless Steel

Part No.

Cone 15" I.D. w/hole for water swirl inlet..... 204007

Cone 18" I.D. w/hole for water swirl inlet..... 204004

Cone 15" I.D. w/out swirl hole..... 204006

Cone 18" I.D. w/out swirl hole..... 204003

Sink 16" x 20" x 7" (7" opening) w/hole for water inlet..... 204015-2

WATER INLETS

Cone Water Swirl Inlet
½" N.P.T. 204380

Fixed Direction Water Inlet (for sinks or troughs)
½" N.P.T. 204346

FLOW CONTROL

Part No.

5 Gallons per minute for Model FD4/50 through FD4/125 — ¾" N.P.T. 201721

CONE COVER – STAINLESS STEEL

15" Cone cover w/feed hole 204024

18" Cone Cover w/feed hole 204023

CONE FEEDING ACCESSORIES

Vinyl Scrapping Ring 202113

Stainless Steel Silver-Saver Sleeve with side feed hole 203870

SILVER-SAVER SPLASH GUARD RING

Vinyl Silver-Saver and Splash Guard Ring (for 7" opening cones, sinks and adapter) 202120

VACUUM BREAKERS — Chrome Plated

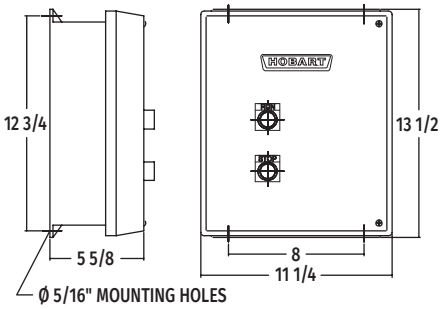
¾" 277112

Adapters are available to install Hobart Disposers on existing cones. See Form F7543.

FD4/50, FD4/75, FD4/125 FOODWASTE DISPOSERS

ELECTRICAL CONTROL GROUPS

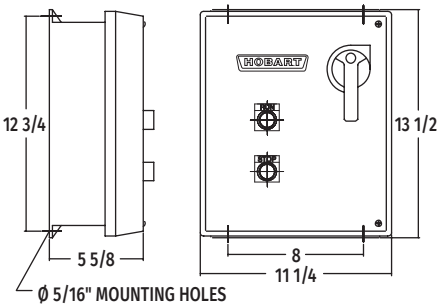
Listed by Underwriters Laboratories Inc., for use with FD4 Disposers (50 Hz. Electrical Specifications not submitted for UL Listing.)



Group 5 - For all Models

Includes:
Magnetic Contactors
Pushbutton Start and Stop
Automatic Reversing
Made from a NEMA 4 Enclosure
Solenoid Valve (24 V only)

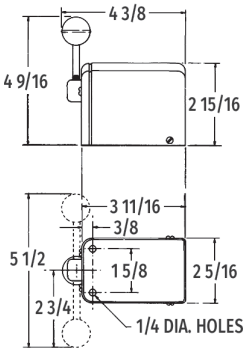
Approximate Shipping Wt. 19 lbs.



Group 6 - For all Models

Includes:
Magnetic Contactors
Pushbutton Start and Stop
Automatic Reversing
Time Delay for water after shut-off
Line Disconnect
Solenoid Valve (24 V only)
Made from a NEMA 4 Enclosure

Approximate Shipping Wt. 20 lbs.



Group 4 - For Models thru FD4/200

Includes:
Manual Reversing Switch
NEMA 1 Enclosure Standard
NEMA 4 Enclosure Optional
Not available above 250 volts
Optional Solenoid Valve

Approximate Shipping Wt. 11 lbs.

Model	H.P.	Ph.	Hz.	Volts	Rated Amps
FD4/50	½	1	60	120/208-240	4.6 / 2.3
		3	60	208-240/480	2.5-2.4 / 1.2
FD4/75	¾	1	60	120/208-240	6.3 / 3.15
		3	60	208-240/480	2.6-2.4 / 1.2
FD4/125	1¼	1	60	120/208-240	11.1 / 5.05
		3	60	208-240/480	4.0 / 2.0
FD4/50	½	1	50	110-120/220-240	6.8 / 3.4
		3	50	220-240/380-415	2.6 / 1.3
FD4/75	¾	1	50	110-120/220-240	8.2 / 4.1
		3	50	220-240/380-415	2.6 / 1.3
FD4/125	1¼	1	50	110-120/220-240	12.8 / 6.4
		3	50	220-240/380-415	4.6 / 2.3

The dash (-) between voltages represents the range (low-high) of voltage operation. The slant (/) line indicates the dual voltage operation accomplished by motor lead connection: follow connecting diagram on motor.

SAMPLE SPECIFICATION

FD4/75 — B — 4 (230/60/3)

- Electrical Specifications
- Electrical Control Group
- Accessory Group
- Model Number

Cut hole 19" for 18" cone. Hole to be 16" for 15" cone.

Solenoid must be installed in upright position.

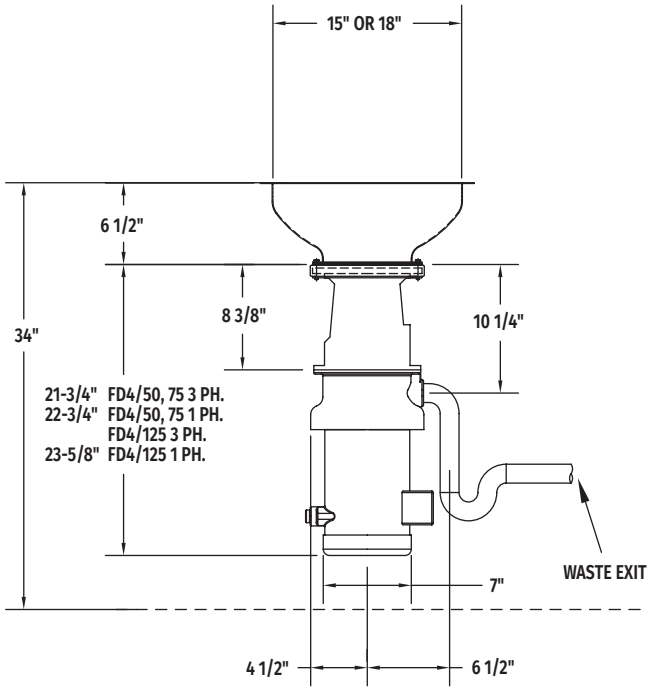
Disposer may be easily rotated for better drain line connection.

Center line at wall outlet of trap should not be higher than center line of disposer discharge opening.

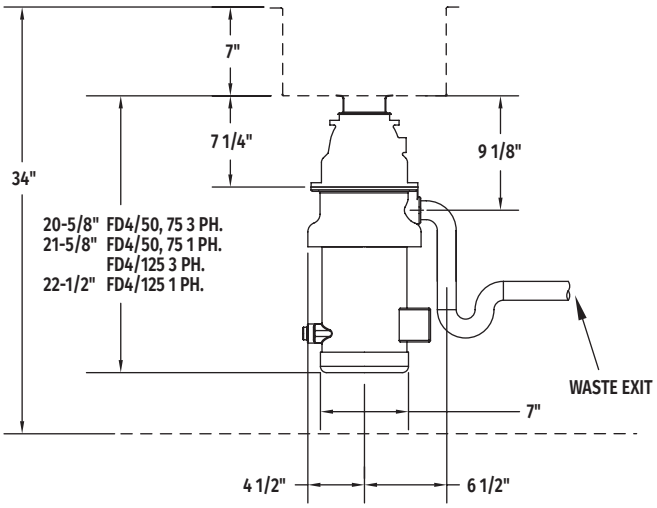
If water pressure is in excess of 60 P.S.I. install a pressure reducing valve.

FD4/50, FD4/75, FD4/125 FOODWASTE DISPOSERS

DETAILS AND DIMENSIONS

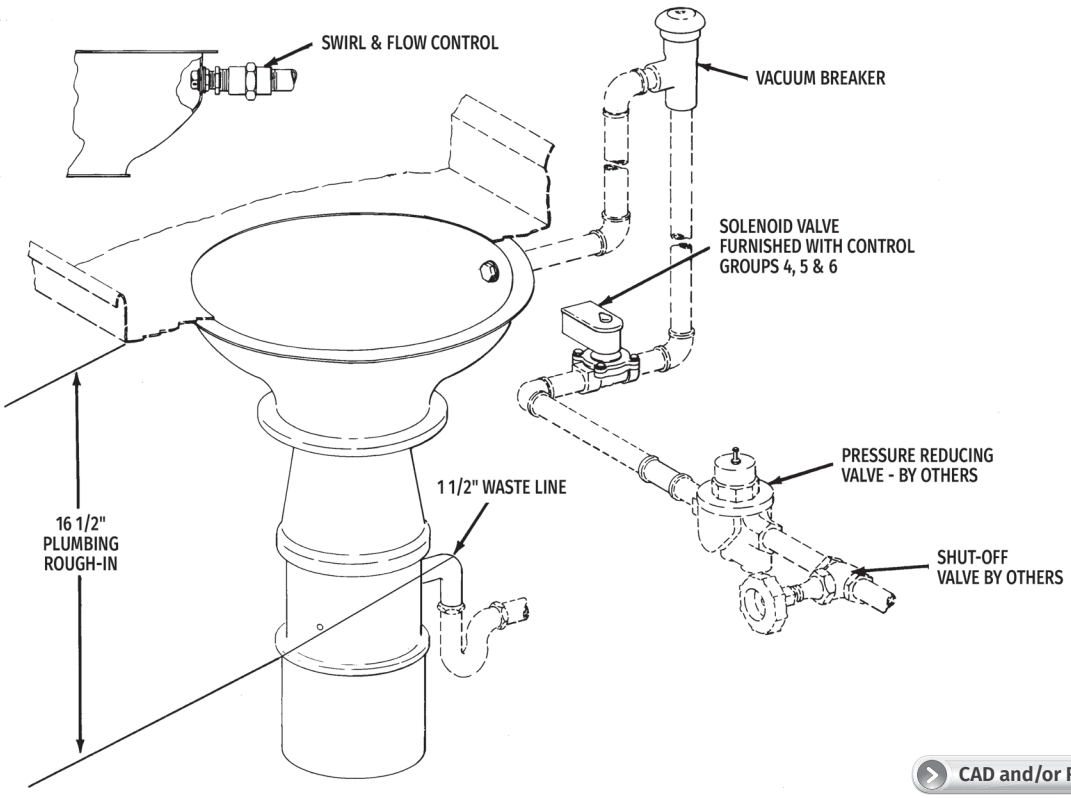


Long Upper Housing



Short Upper Housing

TYPICAL INSTALLATION – Unit with Long Upper Housing



CAD and/or Revit Files Available

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.

ADVANCE TABCO
SMART FABRICATION™

STAINLESS STEEL

DISHTABLES
CLEAN STRAIGHT

NEW *Tile Edge Design* NSF

DTC-S60-60R Shown
Optional Undershelf Shown

Item #: _____ *Qty #:* _____
Model #: _____
Project #: _____

Spec-Line: 14 ga. 304 Series Stainless Steel Top.
16 ga. 304 Stainless Steel Legs Stainless Steel Legs with Welded Cross Bracing & Stainless Steel Bullet Feet.

UPGRADED! Standard: 16 ga. 304 Series Stainless Steel Top.
16 ga. 304 Stainless Steel Legs Stainless Steel Legs with Welded Cross Bracing & Stainless Steel Bullet Feet.

Super Saver: 16 ga. 304 Series Stainless Steel Top.
Galvanized Legs with Plastic Bullet Feet.

Optional Stainless Steel UNDERSHELF Die Cast LEG CLAMP
secured to shelf eliminates unsightly nuts & bolts

10-1/2"" EXTRA LARGE Bold Looking Backsplash with 2" return and tile edge

FEATURES:
Tile edge for ease of installation.
Dishtable system consists of SOIL and CLEAN sections.
Table is furnished with 10-1/2" splash with a 2" return.

CONSTRUCTION:
All TIG welded.
Welded areas blended to match adjacent surfaces and to a satin finish.
Stainless Steel Gussets welded to a stainless steel support channel.

ACCESSORIES	Model #	Qty
Faucet		
Wall Shelf		
Undershelf		

Nominal sizing on all dishtables for ease of installation.

		14 Gauge 304 16 Ga. Stainless Steel Legs	16 Gauge 304 Stainless Steel Legs	16 Gauge 304 Galvanized Legs	
Nominal Size	"L"	SPEC-LINE	STANDARD	SUPER SAVER	Approx. Wt.
2 Ft.	23"	DTC-S30-24L or R	DTC-S70-24L or R	DTC-S60-24L or R	35 lbs.
3 Ft.	35"	DTC-S30-36L or R	DTC-S70-36L or R	DTC-S60-36L or R	45 lbs.
4 Ft.	47"	DTC-S30-48L or R	DTC-S70-48L or R	DTC-S60-48L or R	60 lbs.
5 Ft.	59"	DTC-S30-60L or R	DTC-S70-60L or R	DTC-S60-60L or R	70 lbs.
6 Ft.	71"	DTC-S30-72L or R	DTC-S70-72L or R	DTC-S60-72L or R	85 lbs.
7 Ft.	83"	DTC-S30-84L or R	DTC-S70-84L or R	DTC-S60-84L or R	100 lbs.
8 Ft.	95"	DTC-S30-96L or R	DTC-S70-96L or R	DTC-S60-96L or R	110 lbs.
9 FT.	107"	DTC-S30-108L or R	DTC-S70-108L or R	DTC-S60-108L or R	225 lbs.
10 Ft.	119"	DTC-S30-120L or R	DTC-S70-120L or R	DTC-S60-120L or R	250 lbs.
12 Ft.	143"	DTC-S30-144L or R	DTC-S70-144L or R	DTC-S60-144L or R	260 lbs.

ADVANCE TABCO SMART FABRICATION™ www.advancetabco.com

Customer Service Available To Assist You 1-800-645-3166 8:30 am - 8:00 pm E.S.T.
Email Orders To: customer@advancetabco.com. For Smart Fabrication™ Quotes, Email To: smartfab@advancetabco.com or Fax To: 631-586-2933

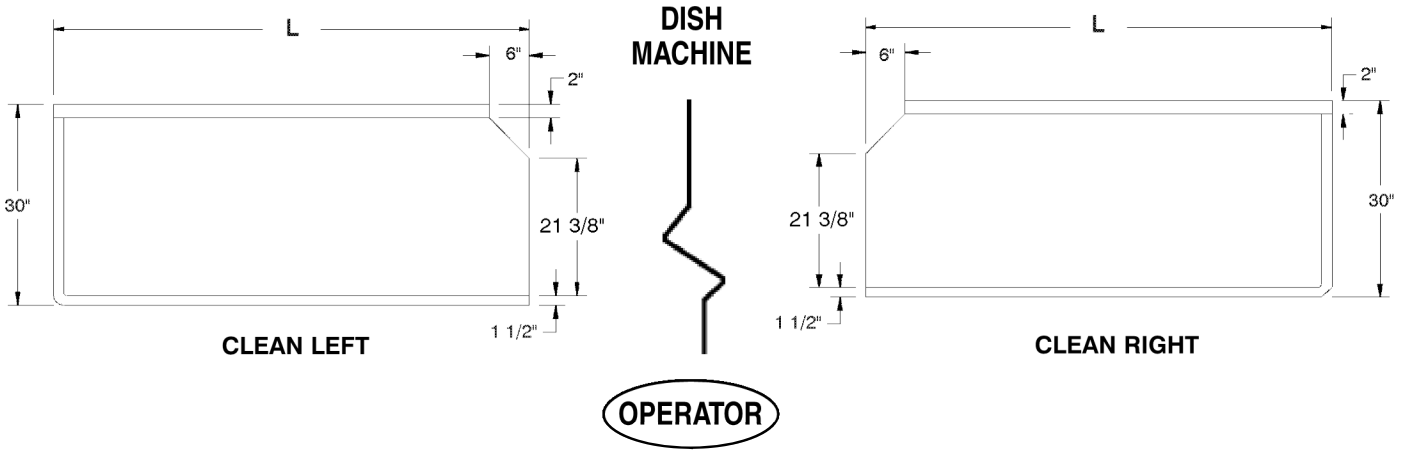
NEW YORK Fax: (631) 242-6900
GEORGIA Fax: (770) 775-5625
TEXAS Fax: (972) 932-4795
NEVADA Fax: (775) 972-1578

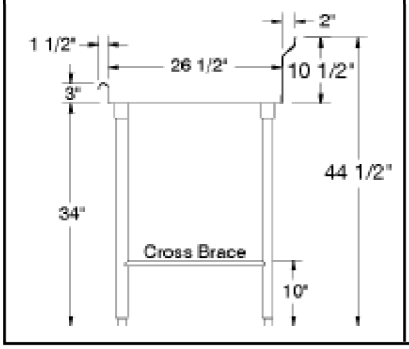
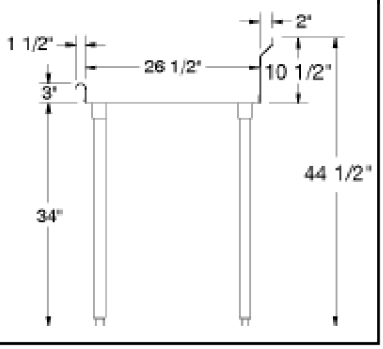
DIMENSIONS and SPECIFICATIONS

TOL ± .500" ALL DIMENSIONS ARE TYPICAL

SEE DISH MACHINE COMPATIBILITY CHART TO ENSURE PROPER FIT

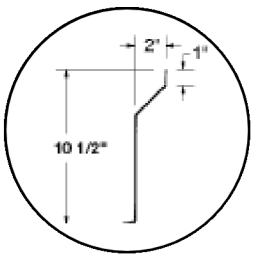
Dish Machine Compatibility Chart can be found on our website at www.advancetabco.com under "Product Support"



SPEC-LINE & STANDARD	SUPER SAVER
	

CUSTOMIZE YOUR OWN SYSTEM
by Ordering Optional Accessories from our
PRODUCT & PRICE GUIDE

Splash Detail



Description	SPEC-LINE	STANDARD	SUPER SAVER
Material	**14 Ga. 304 Series**	**16 Ga. 304 Series**	**16 Ga. 304 Series**
1 5/8" Dia. Legs	Stainless Steel	Stainless Steel	Galvanized
Gussets	Stainless Steel	Stainless Steel	Stainless Steel
Bullet Feet (1" adj.)	Stainless Steel	Stainless Steel	Plastic
Cross Bracing	Welded	Welded	Optional

ADVANCE TABCO
SMART FABRICATION™

ADVANCE TABCO is constantly engaged in a program of improving our products. Therefore, we reserve the right to change specifications without prior notice.

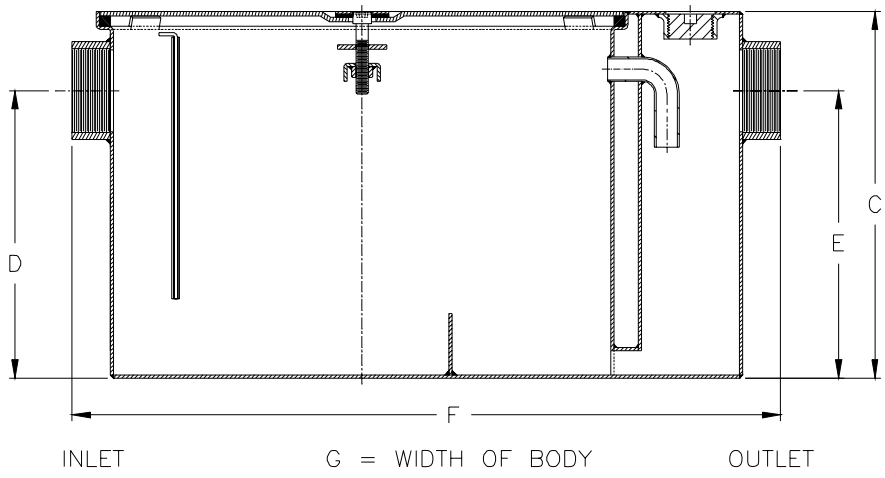
200 Heartland Boulevard, Edgewood, NY 11717-8380

Z1170
GREASE INTERCEPTOR

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Size	Inlet/ Outlet Size*	Flow Rate G.P.M. [L]	Capacity		Approx. Wt. Lbs. [kg]	Dimensions in Inches			
			Water Gal. [L]	Grease Lbs. [kg]		C	D/E	F	G
100	2 [51]	4 [15]	3 [11]	8 [4]	42 [19]	10 [254]	7 1/4 [184]	20 3/8 [518]	9 7/8 [251]
200		7 [26]	5 [19]	14 [6]	53 [24]	11 1/4 [286]	8 1/8 [206]	21 3/4 [552]	11 7/8 [302]
300		10 [38]	6 [23]	20 [9]	66 [30]	11 3/4 [298]	8 1/4 [210]	25 1/8 [638]	14 [356]
400	3 [76]	15 [57]	10 [38]	30 [14]	83 [38]	13 3/8 [340]	9 3/8 [238]	27 1/8 [689]	16 3/4 [425]
500		20 [76]	16 [60]	40 [18]	99 [45]	15 [381]	11 3/4 [298]	30 [762]	17 1/4 [438]
600		25 [94]	21 [79]	50 [23]	124 [56]	17 [432]	12 1/2 [318]	32 1/4 [819]	19 7/8 [505]
700		35 [132]	30 [113]	70 [32]	151 [68]	18 3/4 [476]	14 1/4 [362]	34 1/8 [867]	22 1/2 [572]
800		50 [189]	40 [151]	100 [45]	180 [82]	21 1/2 [546]	16 [406]	36 [914]	24 1/2 [622]

ENGINEERING SPECIFICATION: ZURN Z1170 Acid Resistant Coated interior and exterior fabricated steel grease interceptor, PDI, rated at ____ GPM and ____ Lbs. grease capacity, with internal air relief by-pass, bronze cleanout plug, removable pressure equalizing/flow diffusing inlet baffle, fixed bottom outlet baffle, and visible double wall trap seal. Gasketed non-skid secured cover complete with center tie down assembly, with Z1108 flow control fitting. Regularly furnished with a high inlet and outlet connection. Note: Location of outlet from bottom of interceptor cannot be changed.

PREFIXES

_____ Z Acid Resistant Coated Fabricated Steel*
_____ ZS All Type 304 Fabricated Stainless Steel

SUFFIXES

_____ -AL Aluminum Cover
_____ -DI Dual High/Low Inlet.
_____ -E Acid Resistant Coated Interior and exterior fabricated steel extension section. (Specify 'C' Dim. required) for recessed installation.
_____ -HD Heavy Duty Cover rated at 10,000 lbs. maximum safe live load. A 3 [76] minimum extension height is required when Heavy Duty Cover (-HD) option is specified.
_____ -K Anchor flange 1 3/4 [44] down from top and 2 [51] wide. A 3 [76] minimum extension height is required when anchor flange (-K)option is specified.
_____ -KC Anchor flange 1 3/4 [44] down from top and 2 [51] wide with clamp collar. A 3 [76] minimum extension height is required when anchor flange (-K) option is specified.
_____ -L Angle type (Z1108-L) flow control device with plunger.
_____ -R Acid resistant coated interior and exterior fabricated steel recessing receiver for recessed installation is equipped with adjustable support brackets and gasketed non-skid cover with covered recessed lift handle.
_____ -RE Acid resistant coated interior and exterior fabricated steel recessing receiver enclosed type for recessed installation. Furnished with adjustable support brackets and gasketed non-skid cover with covered recessed lift handle.
_____ -T Cover recessed for tile/terrazzo. A 3 [76] minimum extension height is required. (Specify recess depth - 1/8 [3], 3/4 [19], or 1 1/4 [32]).

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. L DATE: 1/9/08 C.N. NO. 97929

DWG. NO. 58905 PRODUCT NO. Z1170

ZURN INDUSTRIES, LLC ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514
Phone: 814\455-0921 ♦ Fax: 814\454-7929 ♦ World Wide Web: www.zurn.com
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905\405-8272 Fax: 905\405-1292

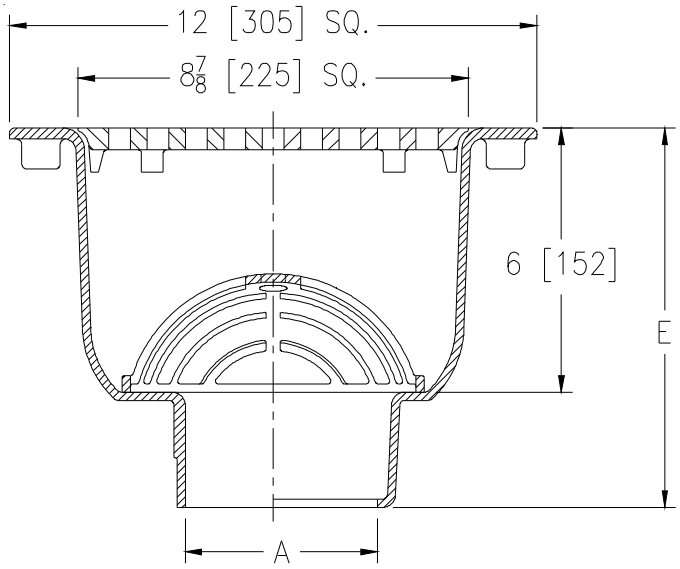
Z1900

12 x 12 [305 x 305] A.R.E. SANI-FLOR RECEPTOR
6 [152] SUMP DEPTH

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



A Pipe Size In. [mm]	Approx Wt. Lbs. [kg]	Grate Open Area in² [cm²]
2, 3, 4 [51, 76, 102]	32 [15]	31 [200]

ENGINEERING SPECIFICATION: ZURN Z1900
Sani-Flor Receptor 12" x 12" x 6" [305mm x 305mm x 152mm] deep cast iron body and square, light-duty grate with 1/2" [13mm] slotted openings, white acid resisting porcelain enamel interior and top, complete with white ABS anti-splash interior bottom dome strainer.

OPTIONS (Check/specify appropriate options)

PIPE SIZE	(Specify size/type) **OUTLET**		**'E' BODY HT. DIMENSION** Z	ZN / ZS
3, 4 [76, 102]	____ IC	Inside Caulk	8-5/8 [219]	9-1/8 [232]
2, 3, 4 [51, 76, 102]	____ NH	No-Hub	8-5/8 [219]	9-1/8 [232]
2, 3, 4 [51, 76, 102]	____ NL	Neo-Loc	8 [203]	8-1/2 [216]

PREFIXES

____ Z Cast Iron Body with White A.R.E. Interior*
____ ZN Cast Iron Body with White A.R.E. Interior, 12-1/2 [317] Square N.B. Frame and Full Grate with 1/2 [13] Openings (Add 1/2 [13] to 12 [305] Dim.)
____ ZS Cast Iron Body with White A.R.E. Interior, 12-1/2 [317] Square Stainless Steel Frame and Full Grate with 1/2 [13] Openings (Add 1/2 [13] to 12 [305] Dim.)

SUFFIXES

____ -DX Dex-O-Tex Flange (ZN Only)
____ -HD Stainless Steel Frame w/ X-Heavy Duty Stainless Steel Grate (ZS Only)
____ -HP Heel-Proof Grate (ZN Only)
____ -K Anchor Flange
____ -KC Anchor Flange with Seepage Holes and Clamp Collar
____ -LD (Less) Bottom Dome Strainer
____ -P 1/2 [13] Trap Primer Connection (See Z1023)
____ -SA Stabilizer Assembly (See Z1903)
____ -TC Neo-Loc Test Cap Gasket (2, 3, 4 [51, 76, 102] NL Bottom Outlet Only)
____ -VPS Vandal-Proof Strainer
____ -1 (Less) Grate
____ -2 1/2 Grate
____ -3 3/4 Grate
____ -4 Full Grate w/ Center Opening (2 [51] Dia. for Z) and (3-1/32 [77] Square for ZN & ZS)
____ -6 Grate w/ 6 [152] Dia. x 6 [152] High Funnel
____ -8 Grate w/ 8-7/8 x 3-5/8 x 3-3/4 [225 x 92 x 95] High Oval Funnel
____ -11 Vandal-Proof Secured Top (ZN & ZS Only)
____ -15 Solid Loose Set Cover (Z & ZN Only)
____ -19 Full Hinged Grate (ZN Only)
____ -23 Aluminum Bucket
____ -25 White A.R.C. Bucket
____ -31 Stainless Steel Mesh Liner for Bucket
____ -32 Aluminum Dome Strainer
____ -33 White A.R.C. Anti-Splash Bottom Dome Strainer

* Regularly furnished unless otherwise specified.

Zurn Industries, LLC | **Specification Drainage Operation**
1801 Pittsburgh Avenue, Erie, PA U.S.A. 16502 · Ph. 855-663-9876, Fax 814-454-7929
In Canada | **Zurn Industries Limited**
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 · Ph. 905-405-8272, Fax 905-405-1292
www.zurn.com

Rev. M
Date: 09/28/2017
C.N. No. 138074
Prod. | Dwg. No. Z1900

OVENS

VC44G SERIES
DOUBLE DECK GAS CONVECTION OVENS

Model VC44GD
shown with optional casters

- ☐ **VC44GD** Solid state temperature controls adjust from 150° to 500°F. 60 minute timer with audible alarm.
- ☐ **VC44GC** Computer controls with digital time and temperature readouts. 99-hour timer with audible alarm. Roast and Hold cycle. One hundred programmable menu selections. Shelf I.D. programming.

Double deck ovens are supplied as separate units with a stacking kit.

SPECIFICATIONS

Double section gas convection oven, Vulcan-Hart Model No. (VC44GD) (VC44GC). Stainless steel front, sides, top and legs. Independently operated stainless steel doors with double pane windows. Non-sag insulation applied to the top, rear, sides, bottom and doors. Porcelain enamel on steel oven interiors measures 29"w x 22⅛"d x 20"h. Two interior oven lights per section. Five nickel plated oven racks per section measure 28¼" x 20½". Eleven position nickel plated rack guides with positive rack stops. One 50,000 BTU/hr. burner per section. 100,000 total BTU/hr. Electronic spark igniters. Furnished with a two speed ½ H.P. oven blower-motor per section. Oven cool switch for rapid cool down. 120 volt, 60 Hz, 1 ph power supply required. 6' cord and plug. 7.7 amps total draw per section.

Exterior Dimensions:

40¼"w x 41⅛"d (includes motor & door handles) 37¾"d (includes motor only) x 70"h on 8" legs.

CSA design certified. NSF listed.

SPECIFY TYPE OF GAS WHEN ORDERING.
SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.

STANDARD FEATURES

- ■ Stainless steel front, sides, top and legs.
- ■ Independently operated stainless steel doors with double pane windows.
- ■ 50,000 BTU/hr. burner per section, 100,000 BTU/hr. total.
- ■ Electronic spark igniters.
- ■ ½ H.P. two speed oven blower-motor. 120/60/1 with 6' cord and plug. 7.7 amps per section. 15.4 amps total draw.
- ■ Oven cool switch for rapid cool down.
- ■ Porcelain enamel on steel oven interior.
- ■ Five nickel plated oven racks with eleven rack positions per section.
- ■ ¾" rear gas connection with combination gas pressure regulator and safety solenoid system.
- ■ One year limited parts and labor warranty.

OPTIONS

- ☐ Kosher friendly control package.
- ☐ Complete prison package.
  - ☐ Security screws only.
- ☐ 208V or 240V, 60 Hz, 1 ph, two speed, ½ H.P. blower motor. 208V, 4.2 amps; 240V, 3.6 amps.
- ☐ Casters.
- ☐ Simultaneous chain driven doors.
- ☐ Control panel mounted on left side of oven.
- ☐ Stainless steel rear enclosure.
- ☐ Second year extended limited parts and labor warranty.

ACCESSORIES

- ☐ Extra oven rack(s).
- ☐ Rack hanger(s).
- ☐ Stainless steel drip pan.
- ☐ Flexible gas hose with quick disconnect and restraining device. Consult price book for available sizes.
- ☐ Down draft flue diverter for direct vent connection.

a division of ITW Food Equipment Group LLC

P.O. Box 696 ■ Louisville, KY 40201 ■ Toll-free: 1-800-814-2028 ■ Local: 502-778-2791 ■ Quote & Order Fax: 1-800-444-0602

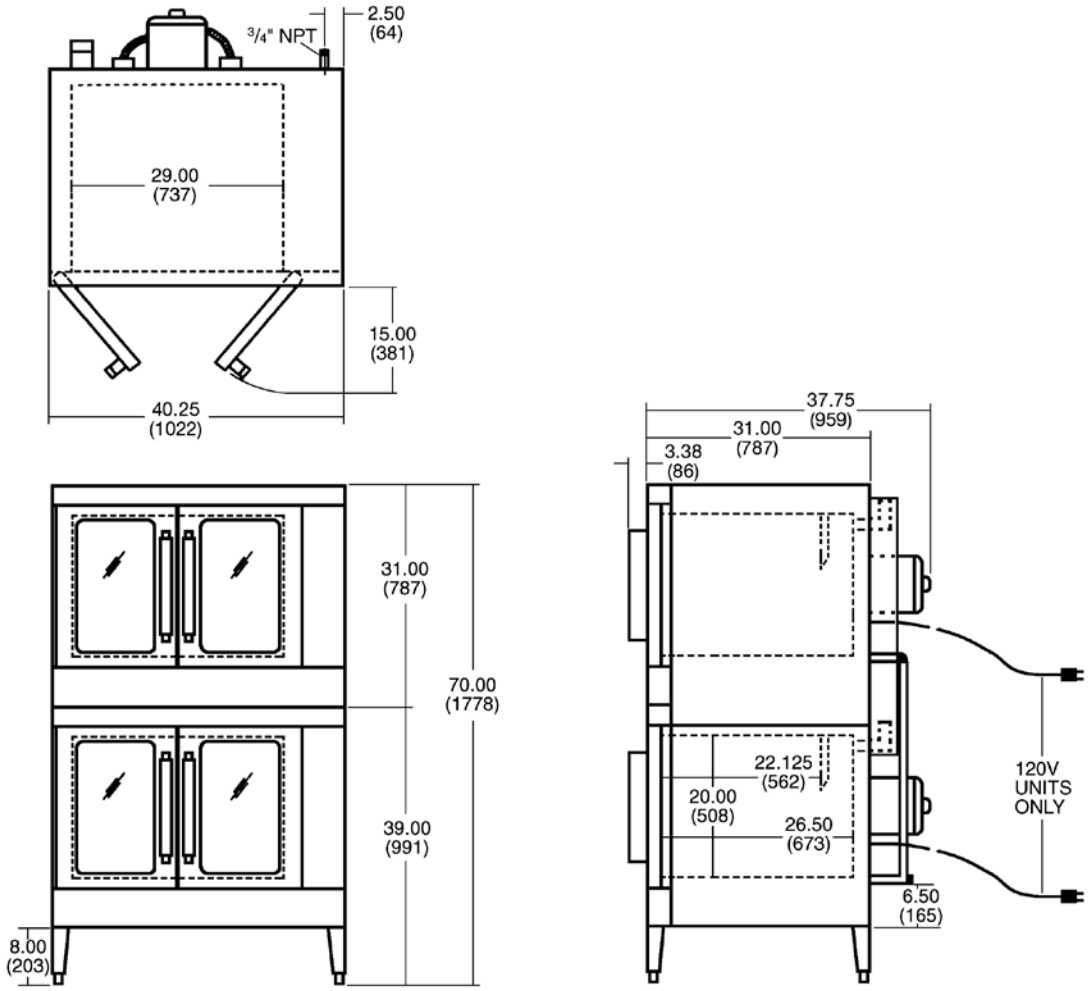
VC44G SERIES
DOUBLE DECK GAS CONVECTION OVENS

INSTALLATION INSTRUCTIONS

1. A combination gas pressure regulator and safety solenoid system is included in this unit. Natural gas is 5.0" W.C., Propane gas is 10.0" W.C.
2. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by writing to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02289. When writing, refer to NFPA No. 96.
3. These units are manufactured for installation in accordance with ANSZ223.1 (latest edition), National Fuel Gas Code. Copies may be obtained from American Gas Association Inc., Accredited Standards Committee Z223, 400 N. Capitol St. NW, Washington, DC 20001 or the Secretary Standards Council, NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471.
4. Clearances:

	Combustible	Non-combustible
Rear	0"	0"
Right Side	2"	0"
Left Side	1"	0"

5. This appliance is manufactured for commercial installation only and is not intended for home use.



MODEL NO.	WIDTH	DEPTH (INCLUDES HANDLES)	HEIGHT	BTU/HR. PER OVEN	TOTAL BTU/HR.	ELECTRICAL	WEIGHT			
							WITH SKIDS & PACKAGING		WITHOUT SKIDS & PACKAGING	
							LBS.	KG	LBS.	KG
VC44G	40¼"	41⅛"	70"	50,000	100,000	120/60/1	928	422	820	372

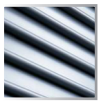
VULCAN
a division of ITW Food Equipment Group LLC
P.O. Box 696 ■ Louisville, KY 40201 ■ Toll-free: 1-800-814-2028 ■ Local: 502-778-2791 ■ Quote & Order Fax: 1-800-444-0602

RAYNOR GARAGE DOORS

DuraShutter™

Rolling Counter Shutters

With a proven track record for durability, DuraShutter counter shutters are ideal for retail and commercial facilities, where both appearance and dependability are important.



Rugged
Constructed from commercial quality materials, DuraShutter assures a long life cycle and require little to no maintenance, delivering the reliability and durability to meet or exceed the requirements of daily use.

Versatile
Designed for a variety of common applications, DuraShutter is available in steel, perforated steel, stainless steel and aluminum curtains, along with a wide variety of quality features and options such as 187 powder coat colors and integral frames.

Secure
DuraShutter secures openings above counters and similar finished openings with interlocking roll formed slats with endlocks riveted to ends of alternate slats. With the added protection of cylinder or thumb turn locks you can be certain your building will be safe and secure.

DuraShutter™

Application Guide

	DuraShutter
Cafeteria/Concessions	●
High Security	◒
Pharmacy	●
Shopping Mall/Retail	●
Healthcare Facilities	●
Educational Facilities	●
Stadiums	●
Service Window Openings	●

● Best ◒ Good

Color Options

DuraShutter

Gray | Stainless Steel | Aluminum | Oak AccuFinish®

DuraShutter

Features

Every DuraShutter counter shutter is built for superior performance and includes the features listed below. For additional options, please see the inside pages.

Curtain Hood

Curtain hoods are square and designed for maximum structural rigidity.

Curtain

All DuraShutter curtains are constructed with heavy-duty steel, stainless steel or aluminum flat slats.

Counterbalance System

A torsion-spring-operated system, enclosed in a structural steel barrel, effectively counterbalances the door for a minimum of 7,500 cycles.

Guides

Guides constructed of steel, stainless steel or aluminum, allow for face or jamb mounting. Wool pile strips inside the guides provide smooth, quiet operation.

Bottom Bar

Curtain bottoms are constructed of steel, aluminum or stainless steel with a foam edge to protect the sill.

Locks

Cylinder or thumb-turn locks help keep your building secure. Thumb-turn locks are standard on shutters with manual or crank operation.

Model Options and Upgrades

187 ArmorBrite™ Colors

Choose your color! Nearly every Raynor rolling door component (curtain slats, bottom bars, guides, hoods and head plates) can be powder coated in any of 187 colors for an attractive appearance and exceptional durability.

Brush Seals

A brush-type guide (shown) or header seal increases energy efficiency.

Integral Frame Options

Offered in built-in and slip-in styles, Raynor integral frame counter shutters provide maximum strength and security with metal frames, shutters and sills that are factory-assembled as a complete unit. Both options are available with manual, crank or motor operation. Each offers a clean appearance and unique advantages, depending on your application needs.

Slip-in Style Frames

For your existing walls, the slip-in style frames are a sleek and easy solution.

Shown: DuraShutter in stainless steel

Built-in Style Frames

For masonry walls not yet constructed, built-in style frames provide a clean, finished appearance.

Shown: DuraShutter with optional ArmorBrite Finish

Operation Methods

Eclipse™ Tube Motors

Ideal for easy and convenient operation, and concealed inside the barrel assembly, this quiet torque-rated motor runs smoothly at the touch of a button.

Crank Operation

Hand-crank operation is available on all DuraShutter counter shutters.

ControlHoist™ 2.0 Operations

For larger sized counter shutters, choose a reliable ½ hp ControlHoist™ 2.0 jackshaft operator.

MGJ Operator

½ hp, jackshaft operator, perfect for operating counter and smaller sized rolling and grille doors.

Model	Slat Material (Thickness)	Slat Profile	Guides	Maximum Sizes	Maximum Sizes (Integral Frame Option)	Color/Finishes
CP	Steel (22 gauge)	Flat	Steel	20′ Width 10′ Height′ (max. 120 sq. ft.)	11′6″ Width 5′6″ Height 4½″ - 12″ Wall Thickness	Gray or Armorbrite™
CPP		Perforated Flat				
CA	Aluminum (.05″)	Flat	Aluminum	20′ Width 10′ Height (max. 120 sq. ft.)	11′6″ Width 6′6″ Height 4½″ - 12″ Wall Thickness	Clear-Anodized
CSS	Stainless Steel (22 gauge)		Stainless Steel			Stainless Steel #4

NOTE: Contact factory for special sizes.
LIMITED WARRANTY: DuraShutter counter shutters carry a 1-year limited warranty. See your local Raynor Dealer for complete details.

Commercial Operators

Raynor ControlHoist™ 2.0 (with solid state logic board control) operator is available in a variety of motor, voltage, and phase combinations for any commercial or industrial application. Contact your local Raynor Authorized Dealer to select the operator and accessories that are suited for your door's size and usage.

ControlHoist 2.0

Raynor Door Options

Raynor also offers a full line of sectional, rolling, fire, high performance and traffic doors, as well as, security grilles. See your Raynor Dealer or visit www.raynor.com for more information.

FireCoil™

RapidCoil™, RC300

DuraCoil™

Professional Installation and Service

Depend on your Raynor Dealer

When you select Raynor, you're not just getting a superior garage door - you're also getting professional garage door installation and service expertise.

Every Raynor garage door is installed by a trained Raynor professional, and that means added benefits for you. First, you won't have to deal with it yourself. Second, because it's done right the first time, your door will deliver performance and reliability from the day it's installed. Your technician will check your door for everything from safety to performance and appearance. Trust your Raynor garage door to someone who knows it better than anyone else, your professional Raynor Dealer.

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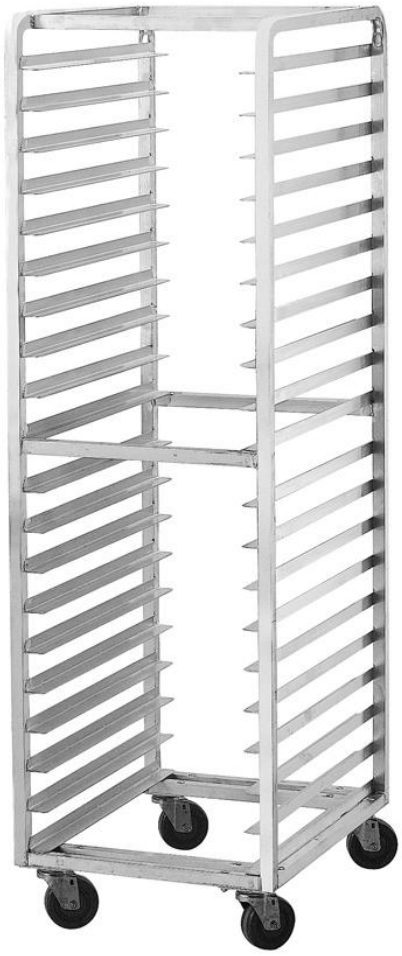
Search Results



List Price: $681
Model: PR15-4W
Length: 20.25"
Width: 26"
Height: 69.25"
Weight: 31 lbs.
Cubes: 21

Product Overview

Hand Sink, wall mounted, 14" wide x 10" front-to-back x 5" deep bowl, 20 gauge 304 stainless steel, with splash mounted gooseneck faucet, basket drain, wall bracket, NSF, cCSAus

Prices Effective Through August 31, 2022

Notes:


National Manufacturing
New York
Tennessee[2]
Texas[2]
Mississippi[2]
Georgia[2]
South Carolina

VOLLRATH®

Outperform every day.®

Project:

Item Number:

Quantity:

23

AFFORDABLE PORTABLE™ NON-REFRIGERATED COLD FOOD STATIONS

Affordable Portable™ Cold Food Station Shown with NSF2 Buffet Breath Guard

NSF

c UL us LISTED

Stations with electrical components are UL listed.

DESCRIPTION & FEATURES

- Constructed of vinyl-clad, 20-gauge carbon steel.
- Foamed-in-place polyurethane foam insulation.
- 1 (2.54 cm) drain makes clean-up easy.
- NSF2 buffet or NSF2 cafeteria style acrylic breath guard.
- Available in seven versatile colors.
- Seamless one-piece 20 gauge 300 series stainless steel work surface.
- Locking casters.
- **Affordable Portable™ orders cannot be canceled or returned.**

Lighting Option

- Factory-installed option
- Requires Buffet breath guard
- 120V
- Bulbs not included

WARRANTY

All models shown come with Vollrath's standard warranty against defects in materials and workmanship. For full warranty details, please refer to www.Vollrath.com.

ITEMS

Description	Black	Walnut Woodgrain	Cherry Woodgrain	Granite	White	American Natural	Brushed Aluminum
3 Pan (46") NSF2 Buffet Breath Guard Cold Food Station – 120V							
Solid Base	38713	38950	38773	38733	38733W	38733N	38733A
Solid Base w/ Lights	3871346	3895046	3877346	3873346	3873346W	3873346N	3873346A
Open Storage Base	38714	38951	38774	38734	38734W	38734N	38734A
Open Storage w/ Lights	3871446	3895146	3877446	3873446	3873446W	3873446N	3873446A
Storage Base w/ Door	38715	38952	38775	38735	38735W	38735N	38735A
Storage w/ Door, w/ Lights	3871546	3895246	3877546	3873546	3873546W	3873546N	3873546A
3 Pan (46") NSF2 Cafeteria Breath Guard Cold Food Station – 120V							
Solid Base	39713	39950	39773	39733	39733W	39733N	39733A
Open Storage Base	39714	39951	39774	39734	39734W	39734N	39734A
Storage Base w/ Door	39715	39952	39775	39735	39735W	39735N	39735A
4 Pan (60") NSF2 Buffet Breath Guard Cold Food Station – 120V							
Solid Base	38716	38960	38776	38736	38736W	38736N	38736A
Solid Base w /Lights	3871660	3896060	3877660	3873660	3873660W	3873660N	3873660A
Open Storage Base	38717	38961	38777	38737	38737W	38737N	38737A
Open Storage w/ Lights	3871760	3896160	3877760	3873760	3873760W	3873760N	3873760A
Storage Base w/ Door	38718	38962	38778	38738	38738W	38738N	38738A
Storage w/ Door, w/ Lights	3871860	3896260	3877860	3873860	3873860W	3873860N	3873860A
4 Pan (60") NSF2 Cafeteria Breath Guard Cold Food Station – 120V							
Solid Base	39716	39959	39776	39736	39736W	39736N	39736A
Open Storage Base	39717	39961	39777	39737	39737W	39737N	39737A
Storage Base w/ Door	39718	39962	39778	39738	39738W	39738N	39738A

Approvals	Date

Due to continued product improvement, please consult www.vollrath.com for current product specifications.

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1236 North 18th Street
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Canada Customer Service: 800.695.8560

Technical Services
techservicereps@vollrathco.com
Induction Products: 800.825.6036
Countertop Warming Products: 800.354.1970
All Other Products: 800.628.0832

AFFORDABLE PORTABLE™ NON-REFRIGERATED COLD FOOD STATIONS

ACCESSORIES AND ADD-ONS

Tray Slides

- ❑ 39924 Fits 24" (61 cm)
- ❑ 39946 Fits 46" (117 cm)
- ❑ 39960 Fits 60" (152 cm)

- 300 Series stainless steel
- Fold-down mounting brackets
- 11" (27.9) tray area
- 11½" (29.2) depth
- Adds 5½" (14 cm) to depth in folded position
- Add NF in front of the item number for non-folding mode

Cutting Boards

- ❑ 39824 Fits 24" (61 cm)
- ❑ 39846 Fits 46" (117 cm)
- ❑ 39860 Fits 60" (152 cm)

- Polyethylene
- Fold-down mounting brackets
- 7" (17.8 cm) depth
- Add 4" (10.2 cm) to depth in folded position

Infrared Lamp Bulbs

- ❑ 72242 White, 250W, 1 Dozen
- ❑ 72241 Red, 250W, 1 Dozen

Plate Rests

- ❑ 38992 Fits 24" (61 cm)
- ❑ 38993 Fits 46" (117 cm)
- ❑ 38994 Fits 60" (152 cm)

- Stainless steel
- Fold-down mounting brackets
- 7" (17.8 cm) depth
- Adds 4½" (11.4 cm) to depth in folded position
- Add NF in front of the item number for non-folding model

ELECTRICAL SPECIFICATIONS

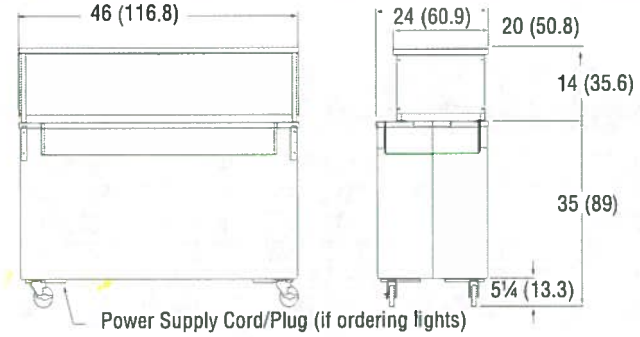
Description	With Incandescent Lamps (250W maximum per fixture) HP	Volts	Hz	Electrical Service Amps	Plug
3 Pan	1/5	120	60	15	NEMA 5-15P
4 Pan	1/4				
3 Pan with Lights	1/5				
4 Pan with Lights	1/4				

120V

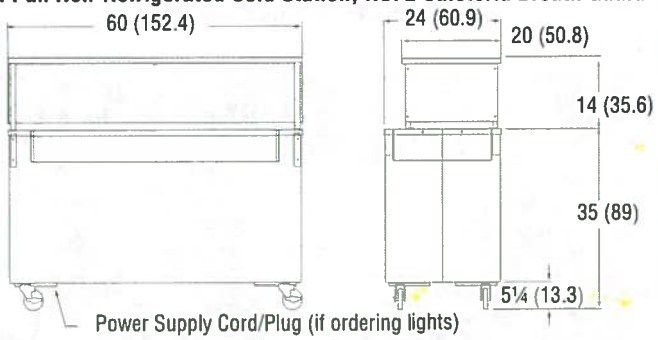
NEMA 5-15R

DIMENSIONS (Shown in inches (cm))

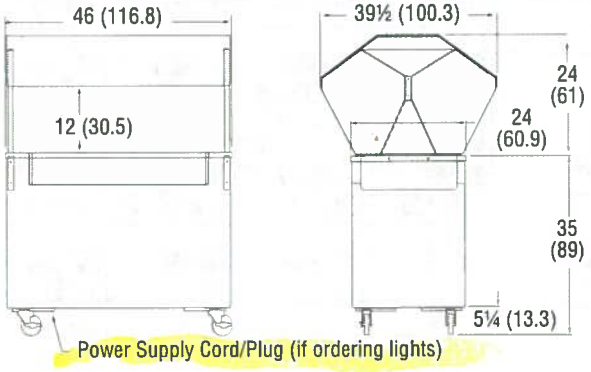
3 Pan Non-Refrigerated Cold Station, NSF2 Cafeteria Breath Guard



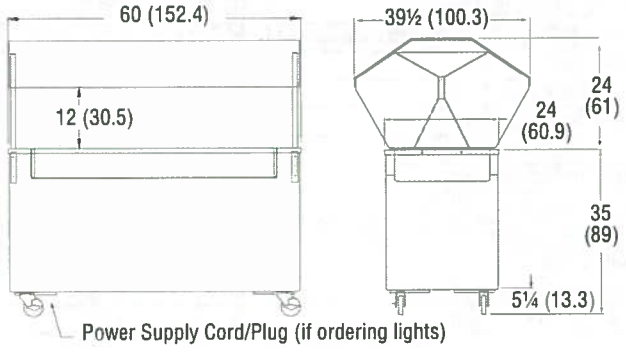
4 Pan Non-Refrigerated Cold Station, NSF2 Cafeteria Breath Guard



3 Pan Non-Refrigerated Cold Station, NSF2 Buffet Breath Guard



4 Pan Non-Refrigerated Cold Station, NSF2 Buffet Breath Guard



3 Well Storage Opening: 36 x 23 x 16½ (91.5 x 58 x 42)

4 Well Storage Opening: 50 x 23 x 16½ (127 x 58 x 42)

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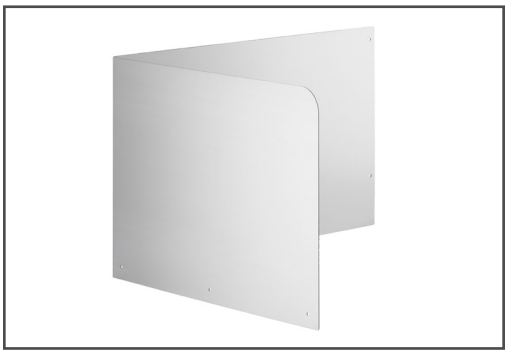
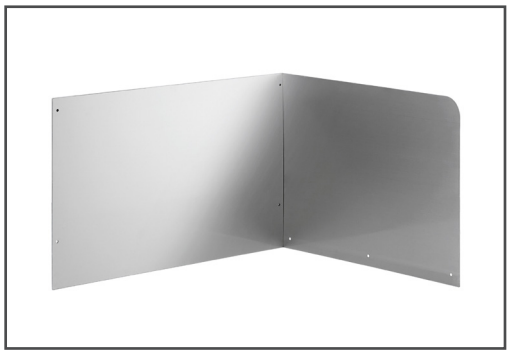
Form Number L35677 2/7/17
Printed in USA

STAINLESS STEEL MOP SINK

BACK AND SIDE SPLASHS

REGENCY Tables and Sinks





FEATURES

- 15" height
- Prevents spills
- Contains splashes and protects walls
- 16-gauge type 304-series stainless steel
- Provides mess-free disposal of water
- Includes mounting hardware for easy installation

SPECIFICATIONS

NSF

ITEM	OVERALL (LEFT TO RIGHT)	OVERALL (FRONT TO BACK)	OVERALL HEIGHT	TYPE
600SPL1620L	25"	21"	15"	Left Side Splash
600SPL1620R	25"	21"	15"	Right Side Splash
600SPL1620LR	25"	21"	15"	Left/Right Side Splash
600SPL2028L	33"	25"	15"	Left Side Splash
600SPL2028R	33"	25"	15"	Right Side Splash
600SPL2028LR	33"	25"	15"	Left/Right Side Splash
600SPL2424L	29"	29"	15"	Left Side Splash
600SPL2424R	29"	29"	15"	Right Side Splash
600SPL2424LR	29"	29"	15"	Left/Right Side Splash

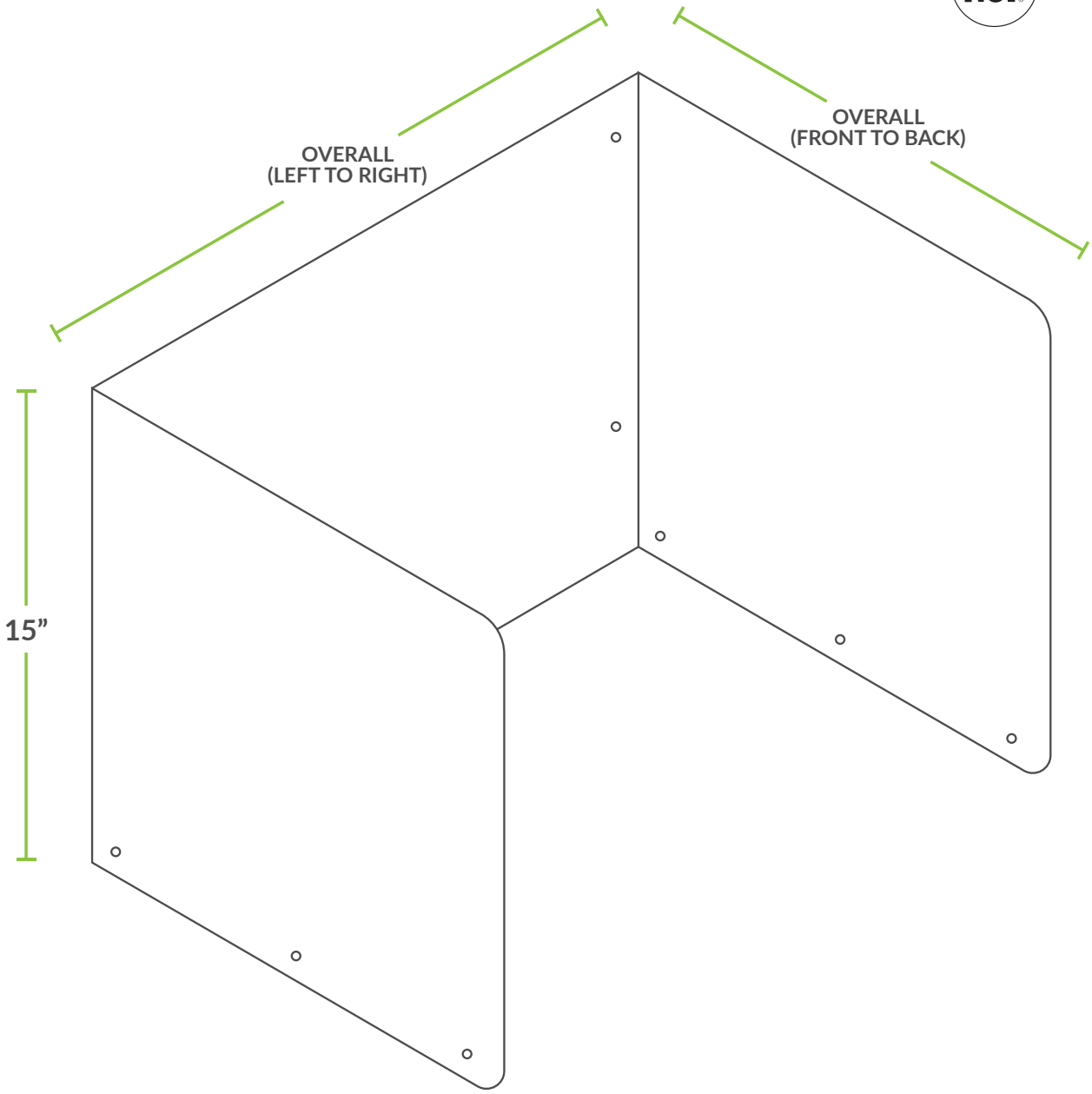
07/2021

STAINLESS STEEL MOP SINK

BACK AND SIDE SPLASHS

REGENCY
Tables and Sinks

NSF

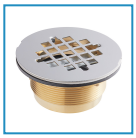


Where to Buy

Regency 3 1/2" Mop Sink Drain Assembly

Item Number: #600MOPDRAIN

SINKS (/ALL-CATEGORIES/SINKS/)
PARTS AND ACCESSORIES (/ALL-CATEGORIES/SINKS/PARTS-AND-ACCESSORIES/)
DRAIN PARTS ACCESSORIES (/ALL-CATEGORIES/SINKS/PARTS-AND-ACCESSORIES/DRAIN-PARTS-ACCESSORIES/)



Buy Now ()

Features

- *Fits Regency mop sinks with a 3 1/2" opening*
- *Prevents large debris from clogging plumbing*
- *Includes strainer plate, drain body, and all mounting hardware*
- *2" drain outlet*

If your Regency mop sink needs a new drain, choose this replacement drain assembly to fix the issue! It's designed to work on Regency mop sinks with a 3 1/2" drain opening and comes as a complete assembly so that you can start fresh with a new drain. The strainer plate prevents large debris from entering your drain and causing a clog, while a rubber washer, fiber washer, and locknut make it easy to secure it to the sink. It has a 2" drain outlet.

Overall Dimensions:
Top Diameter: 4 1/4"
Height: 2"

Specifications	
Type	*Drain Assemblies*
Quick Ship	*Quick Shipping*
WebstaurantPlus	*Eligible*

Our commitment is to quality products and prompt, reliable customer service. If you have questions about Regency products or can't find what you are looking for, we encourage you to contact our helpful customer service staff for assistance.

Where to Buy

Regency Wall Mounted Mop Sink Faucet with 6 1/2" Swing Spout, 8" Centers, and Vacuum Breaker

Item Number: #600FMS86

Parts and Accessories

()

Regency Elbow Installation Kit - 1/2" NPT Inlet (/product/?

View Details (/product/?id=31601)

Regency Faucet Repair Kit with Cold Handle and Cartridge for Deck Mount

View Details (/product/?id=2222)

Regency Faucet Repair Kit with Hot Handle and Cartridge for Deck Mount

View Details (/product/?id=2224)

Regency 4" Wrist Handle Kit for Regency Faucets (/product/?id=8293)

View Details (/product/?id=8293)

Regency Low Lead Faucet Repair Kit with Two Handles (/product/?

View Details (/product/?id=32269)

Regency Lead Free Faucet Repair Kit with Handles and Stems for

View Details (/product/?id=2223)

Regency Faucet Repair Kit with Two Handles (/product/?id=2221)

View Details (/product/?id=2221)

Regency 4" Wrist Handle Kit for Regency Faucets (/product/?id=8293)

View Details (/product/?id=8293)

Regency Faucet Repair Kit with Cold Handle and Cartridge for Deck Mount

View Details (/product/?id=2222)

Regency Faucet Repair Kit with Hot Handle and Cartridge for Deck Mount

View Details (/product/?id=2224)

Regency Lead Free Faucet Repair Kit with Handles and Stems for

View Details (/product/?id=2225)

Regency Low Lead Faucet Repair Kit with Two Handles (/product/?

View Details (/product/?id=32289)

Regency Faucet Repair Kit with Two Handles (/product/?id=2221)

View Details (/product/?id=2221)

Regency Elbow Installation Kit - 1/2" NPT Inlet (/product/?

View Details (/product/?id=31661)

Buy Now ()

Features

- 6 1/2" spout, 3/4" garden hose thread
- 8" centers, 1/2" NPT inlets
- Wall mounted base, attractive chrome-plated brass construction
- 140 degree maximum water temperature
- Lever handle design, includes vacuum breaker

This convenient wall-mounted mop sink faucet features a 6 1/2" long heavy cast spout and lever handles, ideal for filling mop buckets for all of your janitorial tasks. As an added convenience, this mop sink faucet comes standard with a 3/4" garden hose thread and pail hook so you can extend the reach of your water supply and reduce strain on employees when filling up heavy pails. Plus, with the faucet's built-in vacuum breaker, your water supply will not be contaminated accidentally when you're mixing up chemicals.

The hot and cold lever-style handles are both labeled and color coded for easy identification, and a support rod attaches from the faucet to the wall mount in order to create a reliable hold. This faucet is intended for janitorial and dishwashing use only, making it great for schools, restaurants, grocery stores, and more. It requires 8" adjustable centers for installation. Check valves on the underside of each handle/stem make it easy to shut off water on one side of the faucet without having to shut off the whole water line leading to the faucet. This allows for quick and easy handle/stem replacement to get you back in service, sooner!

Overall Dimensions:
Nozzle Length: 6 1/2"
Height: 13 3/4"

Specifications	
Height	14.5 Inches
Spout Length	6.5 Inches
Spout Height	14.5 Inches
Faucet Centers	8 Inches
Features	3/4" Garden Hose Thread
Features	Vacuum Breaker
Flow Rate	4 GPM
Handle Type	Lever
Material	Brass
Maximum Water Temperature	140 Degrees F
Mounting Style	Wall Mounted
Type	Faucets
Water Inlet Size	0.5 Inches
Quick Ship	Quick Shipping
WebstaurantPlus	Eligible

Downloads

Warranty (PDF)
(https://www.webstaurantstore.com/documents/pdf/warranty/regency_faucets_warranty.pdf)

Our commitment is to quality products and prompt, reliable customer service. If you have questions about Regency products or can't find what you are looking for, we encourage you to contact our helpful customer service staff for assistance.

REGENCY (/)

18 GAUGE STAINLESS STEEL WORK TABLES

REGENCY
Stainless Steel Commercial
Tables And Sinks

FEATURES

- Smooth type 304 stainless steel work surface makes cleaning a breeze
- Galvanized legs & undershelves provide unparalleled stability
- Adjustable bullet feet ensure leveling on uneven surfaces
- Combines unbeatable strength with long-lasting durability

SPECIFICATIONS

NSF

ITEM	LENGTH	WIDTH	WORK HEIGHT	UNDERSHELF DIMENSIONS	TOP SHELF CAPACITY	UNDERSHELF CAPACITY	WEIGHT
600T1824G	24”	18”	34”	18” x 12”	350 lb.	260 lb.	30 lb.
600T1830G	30”	18”	34”	24” x 12”	350 lb.	260 lb.	34 lb.
600T1836G	36”	18”	34”	30” x 12”	370 lb.	280 lb.	37 lb.
600T1848G	48”	18”	34”	42” x 12”	390 lb.	300 lb.	45 lb.
600T1860G	60”	18”	34”	54” x 12”	410 lb.	320 lb.	53 lb.
600T1872G	72”	18”	34”	66” x 12”	430 lb.	340 lb.	61 lb.
600T1896G	96”	18”	34”	90” x 12”	570 lb.	410 lb.	92 lb.
600T2424G	24”	24”	34”	18” x 18”	400 lb.	300 lb.	33 lb.
600T2430G	30”	24”	34”	24” x 18”	400 lb.	300 lb.	37 lb.
600T2436G	36”	24”	34”	30” x 18”	430 lb.	320 lb.	41 lb.
600T2448G	48”	24”	34”	42” x 18”	460 lb.	340 lb.	54 lb.
600T2460G	60”	24”	34”	54” x 18”	480 lb.	360 lb.	64 lb.
600T2472G	72”	24”	34”	66” x 18”	500 lb.	380 lb.	78 lb.
600T2484G	84”	24”	34”	78” x 18”	630 lb.	430 lb.	89 lb.
600T2496G	96”	24”	34”	90” x 18”	650 lb.	450 lb.	100 lb.
600T3030G	30”	30”	34”	24” x 24”	440 lb.	330 lb.	40 lb.
600T3036G	36”	30”	34”	30” x 24”	470 lb.	350 lb.	47 lb.
600T3048G	48”	30”	34”	42” x 24”	500 lb.	370 lb.	59 lb.
600T3060G	60”	30”	34”	54” x 24”	520 lb.	390 lb.	71 lb.
600T3072G	72”	30”	34”	66” x 24”	540 lb.	410 lb.	89 lb.
600T3084G	84”	30”	34”	78” x 24”	660 lb.	460 lb.	102 lb.
600T3096G	96”	30”	34”	90” x 24”	680 lb.	480 lb.	113 lb.

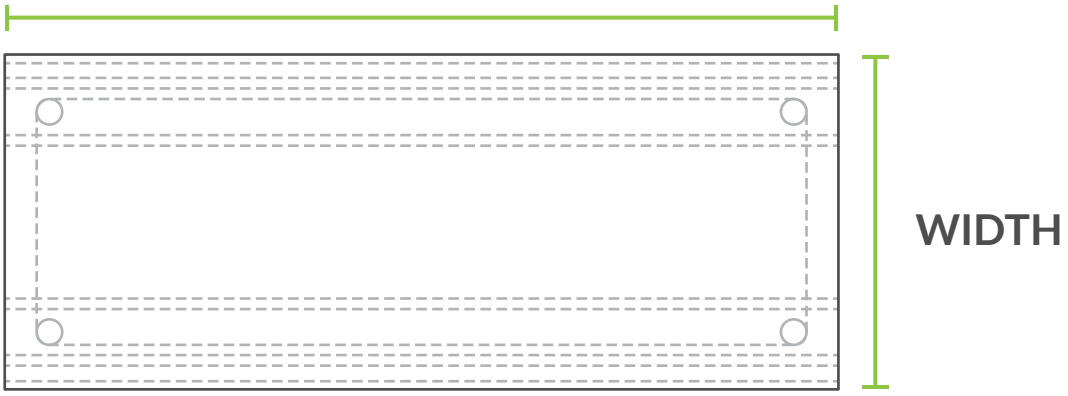
NOTE: 84” & 96” Work Tables Feature (6) Six Legs for Added Stability

18 GAUGE STAINLESS STEEL WORK TABLES

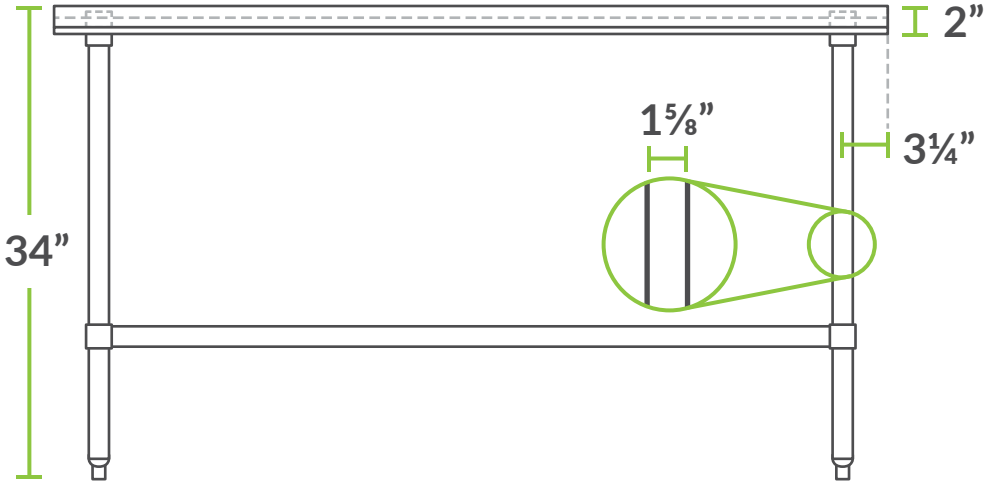
REGENCY
Stainless Steel Commercial
Tables And Sinks

NSF

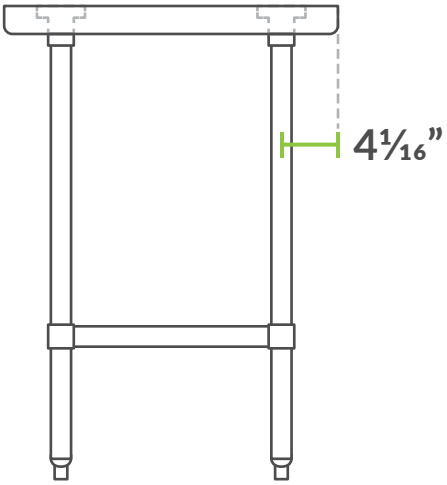
TOP



FRONT



SIDE



ACCESSORIES

CASTERS & FEET

ITEM	DESCRIPTION	#/PACK
600CASTER4	5" Swivel Stem Casters	4
600CASTER6	5" Swivel Stem Casters	6
600CASTERHD4	5" Heavy-Duty Swivel Stem Casters	4
600CASTERHD6	5" Heavy-Duty Swivel Stem Casters	6
600PABF	Adjustable Plastic Bullet Foot	1
600SPABF	Adjustable Stainless Steel Bullet Foot	1
600SSFF	3¼" Stainless Steel Flanged Foot	1

UNDERSHELVES

ITEM	DIMENSIONS	FITS
600UT1824S	18"L x 12"W	24"L x 18"W Work Tables
600UT1830S	24"L x 12"W	30"L x 18"W Work Tables
600UT1836S	30"L x 12"W	36"L x 18"W Work Tables
600UT1848S	42"L x 12"W	48"L x 18"W Work Tables
600UT1860S	54"L x 12"W	60"L x 18"W Work Tables
600UT1872S	66"L x 12"W	72"L x 18"W Work Tables
600UT2424S	18"L x 18"W	24"L x 24"W Work Tables
600UT2430S	24"L x 18"W	30"L x 24"W Work Tables
600UT2436S	30"L x 18"W	36"L x 24"W Work Tables
600UT2448S	42"L x 18"W	48"L x 24"W Work Tables
600UT2460S	54"L x 18"W	60"L x 24"W Work Tables
600UT2472S	66"L x 18"W	72"L x 24"W Work Tables
600UT2484S	78"L x 18"W	84"L x 24"W Work Tables
600UT2496S	90"L x 18"W	96"L x 24"W Work Tables
600UT3030S	24"L x 24"W	30"L x 30"W Work Tables
600UT3036S	30"L x 24"W	36"L x 30"W Work Tables
600UT3048S	42"L x 24"W	48"L x 30"W Work Tables
600UT3060S	54"L x 24"W	60"L x 30"W Work Tables
600UT3072S	66"L x 24"W	72"L x 30"W Work Tables
600UT3084S	78"L x 24"W	84"L x 30"W Work Tables
600UT3096S	90"L x 24"W	96"L x 30"W Work Tables
600UT3636S	30"L x 30"W	36"L x 36"W Work Tables
600UT3648S	42"L x 30"W	48"L x 36"W Work Tables
600UT3660S	54"L x 30"W	60"L x 36"W Work Tables
600UT3672S	66"L x 30"W	72"L x 36"W Work Tables
600UT3696S	90"L x 30"W	96"L x 36"W Work Tables

CASTERS

Each set of Regency casters lets you turn any work table or equipment stand with 4 or 6 standard legs into a mobile work station. With a total weight capacity of 1200 to 1600 lb., these wheels can stand the toughest of tests and are sure to meet your needs. Take your table or equipment on the go and then keep it secure with the flip of a lever, conveniently placed at foot level for easy locking and unlocking.

BULLET FEET

Make sure your table, compartment sink, or dishtable is level and stable by replacing a missing or broken bullet foot with these Regency Bullet Feet! They are designed to fit equipment with 1⅝" outer diameter legs and are adjustable so they can accommodate uneven floors.

FLANGED FEET

If you need to bolt your Regency equipment to the floor for added stability during use, this flanged 3¼" seismic foot is the perfect solution! It is designed to swap out easily for an existing foot on Regency products with legs that measure 1⅝" in outer diameter. Feet like these are typically used to comply with local codes, which require you to secure equipment to the floor, and in situations where keeping your equipment immobile could be useful, like on a food truck.

UNDERSHELVES

Add extra storage space and organization to your kitchen with a Regency adjustable stainless steel work table undershelf! Undershelves provide additional storage for frequently used items like prep tools, cutting boards, bar towels, oven mitts, pans, and trays. These undershelves are adjustable, so you can move them higher or lower to accommodate items of varying sizes. Made of 18 gauge, type 430 stainless steel, Regency undershelves ensure maximum durability and corrosion resistance, and are easy to clean and sanitize.

ACCESSORIES

OVERSHELVES

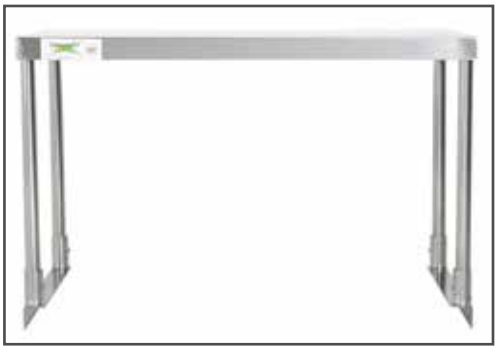
ITEM	TYPE	DIMENSIONS	FITS
600SOS1230	Single Deck	30”L x 12”W x 19¼”H	30”L Work Tables
600SOS1236	Single Deck	36”L x 12”W x 19¼”H	36”L Work Tables
600SOS1248	Single Deck	48”L x 12”W x 19¼”H	48”L Work Tables
600SOS1260	Single Deck	60”L x 12”W x 19¼”H	60”L Work Tables
600SOS1272	Single Deck	72”L x 12”W x 19¼”H	72”L Work Tables
600SOS1284	Single Deck	84”L x 12”W x 19¼”H	84”L Work Tables
600SOS1296	Single Deck	96”L x 12”W x 19¼”H	96”L Work Tables
600SOS1830	Single Deck	30”L x 18”W x 19¼”H	30”L Work Tables
600SOS1836	Single Deck	36”L x 18”W x 19¼”H	36”L Work Tables
600SOS1848	Single Deck	48”L x 18”W x 19¼”H	48”L Work Tables
600SOS1860	Single Deck	60”L x 18”W x 19¼”H	60”L Work Tables
600SOS1872	Single Deck	72”L x 18”W x 19¼”H	72”L Work Tables
600SOS1884	Single Deck	84”L x 18”W x 19¼”H	84”L Work Tables
600SOS1896	Single Deck	96”L x 18”W x 19¼”H	96”L Work Tables
600DOS1230	Double Deck	30”L x 12”W x 32”H	30”L Work Tables
600DOS1236	Double Deck	36”L x 12”W x 32”H	36”L Work Tables
600DOS1248	Double Deck	48”L x 12”W x 32”H	48”L Work Tables
600DOS1260	Double Deck	60”L x 12”W x 32”H	60”L Work Tables
600DOS1272	Double Deck	72”L x 12”W x 32”H	72”L Work Tables
600DOS1284	Double Deck	84”L x 12”W x 32”H	84”L Work Tables
600DOS1296	Double Deck	96”L x 12”W x 32”H	96”L Work Tables
600DOS1830	Double Deck	30”L x 18”W x 32”H	30”L Work Tables
600DOS1836	Double Deck	36”L x 18”W x 32”H	36”L Work Tables
600DOS1848	Double Deck	48”L x 18”W x 32”H	48”L Work Tables
600DOS1860	Double Deck	60”L x 18”W x 32”H	60”L Work Tables
600DOS1872	Double Deck	72”L x 18”W x 32”H	72”L Work Tables
600DOS1884	Double Deck	84”L x 18”W x 32”H	84”L Work Tables
600DOS1896	Double Deck	96”L x 18”W x 32”H	96”L Work Tables

DRAWERS

ITEM	EXTERIOR DIMENSIONS	INTERIOR DIMENSIONS
600DR2015	19½”L x 23¾”W x 5”H	15”L x 20”W x 5”H
600DR2020	25⅛”L x 23¾”W x 5”H	20”L x 20”W x 5”H

STAINLESS STEEL OVERSHELVES

Add extra storage space and organization to your kitchen with these Regency stainless steel overshelves! Available in single or double deck, their 18 gauge, type 430 stainless steel construction ensures long-lasting durability to stand up to repeated use. Installation is simple as the whole shelf easily mounts to the end of your table using the “L” brackets, set screws, and wrench provided.



DRAWERS

Keep your kitchen organized by mounting a Regency galvanized steel drawer to the under structure of your work table. Each drawer features an easy-to-clean stainless steel front and moves on ball-bearing sides.

WALL MOUNTED
PRE-RINSE FAUCET

ITEM #: _____ QUANTITY: ____

PROJECT: _____

APPROVAL: _____

DATE: _____

REGENCY
Plumbing and Hardware

FEATURES

- 8" centers with ½" NPT connections
- 44" long flexible gooseneck hose
- Finger hook and wall bracket included
- Attractive chrome-plated brass construction with low lead content

SPECIFICATIONS

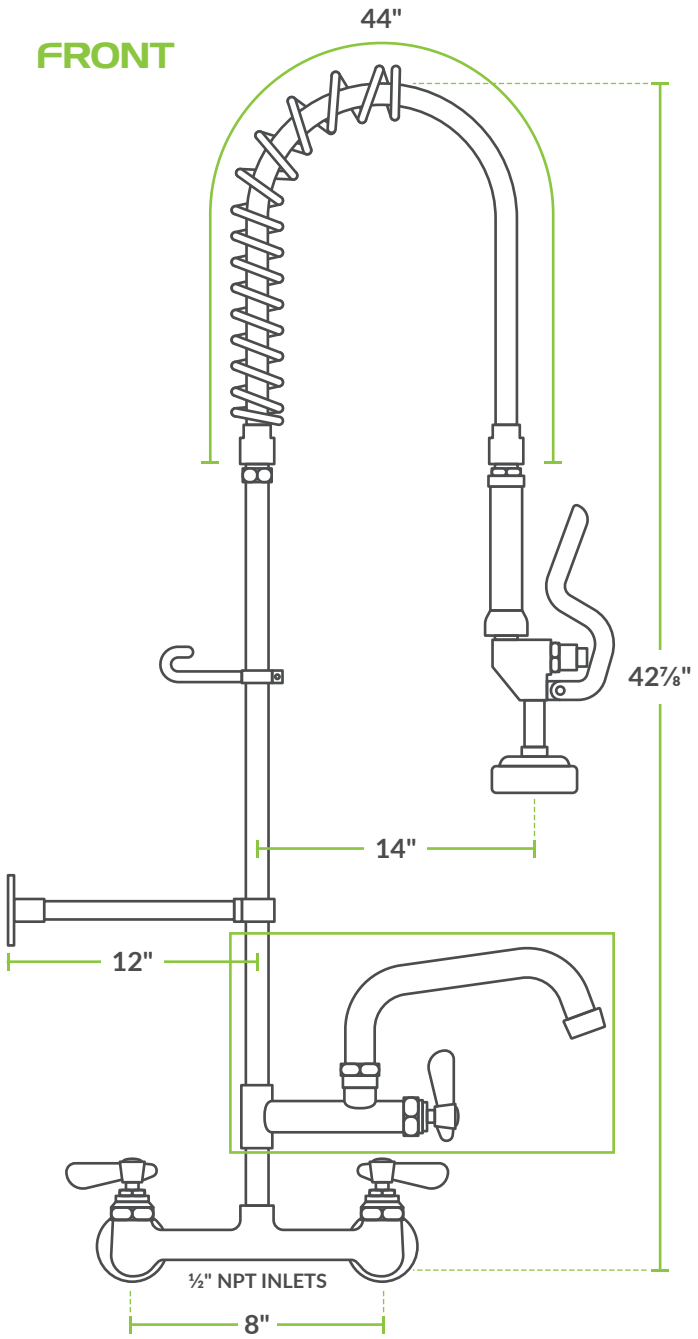
ITEM	HOSE LENGTH	ADD-ON FAUCET	FAUCET CENTERS	FLOW RATE	INLETS	MAX WATER TEMP	MOUNTING STYLE
600FPRW8LLLF	44"	N/A	8"	1.15 GPM	½" NPT	140°F	Wall Mount
600FPRW88LL	44"	8" Swing Spout	8"	1.15 GPM	½" NPT	140°F	Wall Mount
600FPRW812LL	44"	12" Swing Spout	8"	1.15 GPM	½" NPT	140°F	Wall Mount
600FPRW814LL	44"	14" Swing Spout	8"	1.15 GPM	½" NPT	140°F	Wall Mount
600FPRW816LL	44"	16" Swing Spout	8"	1.15 GPM	½" NPT	140°F	Wall Mount

09/2021

WALL MOUNTED
PRE-RINSE FAUCET

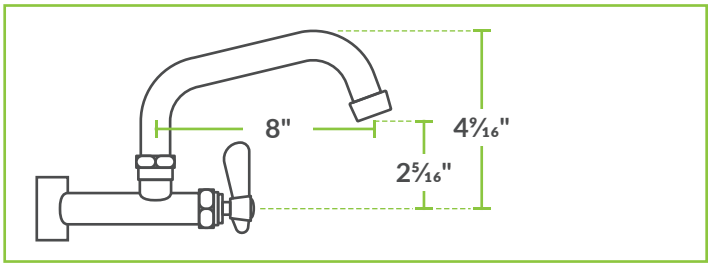
REGENCY
Plumbing and Hardware

FRONT

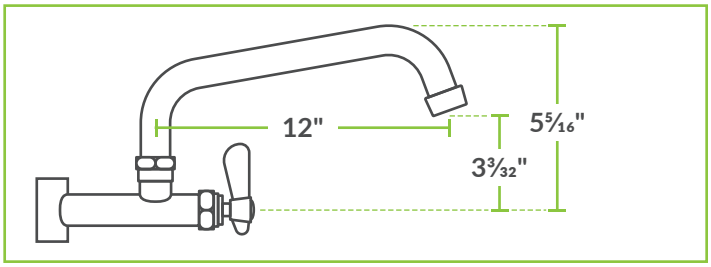


SIDE

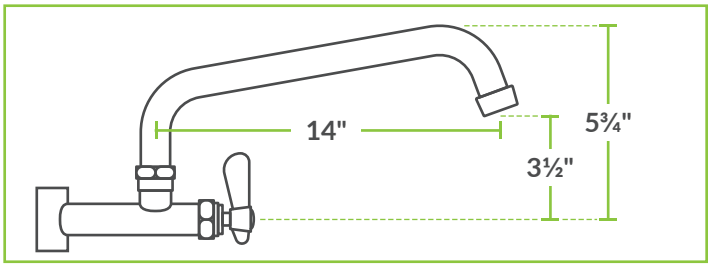
600FPRW88LL • 8" ADD-ON SPOUT



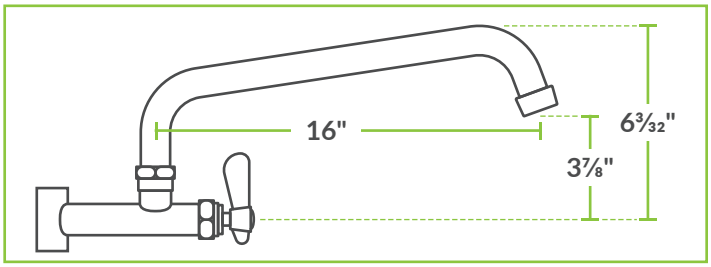
600FPRW812LL • 12" ADD-ON SPOUT



600FPRW814LL • 14" ADD-ON SPOUT



600FPRW816LL • 16" ADD-ON SPOUT



WALL MOUNTED
PRE-RINSE FAUCET

ITEM #: _____ QUANTITY: ____

PROJECT: _____

APPROVAL: _____

DATE: _____

REGENCY
Plumbing and Hardware

FEATURES

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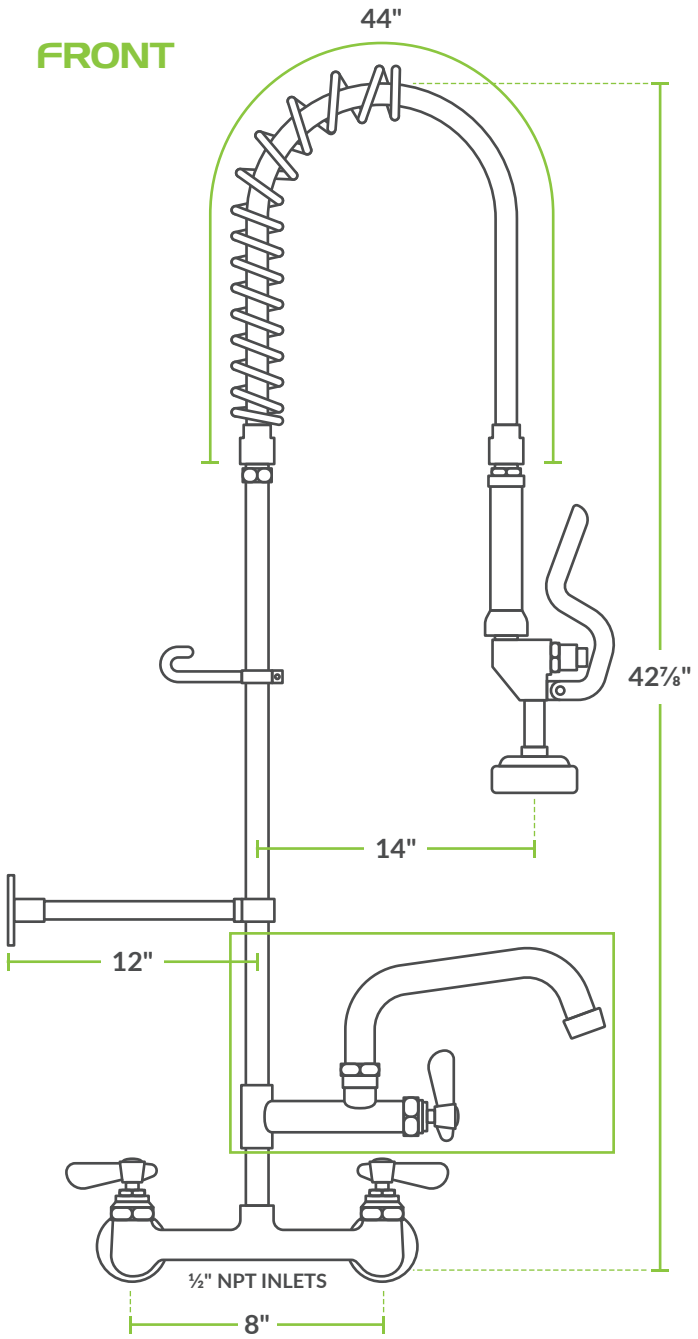
09/2021

WALL MOUNTED
PRE-RINSE FAUCET

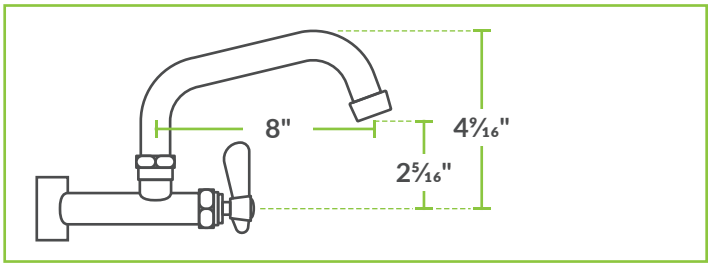
REGENCY
Plumbing and Hardware

FRONT

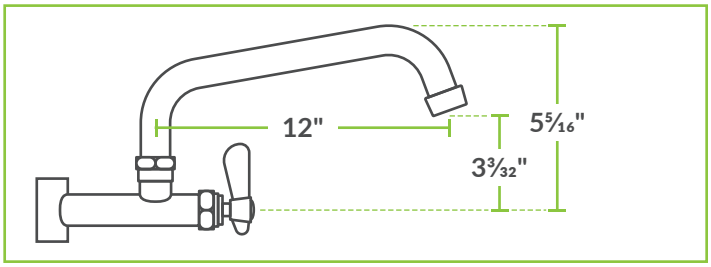


SIDE

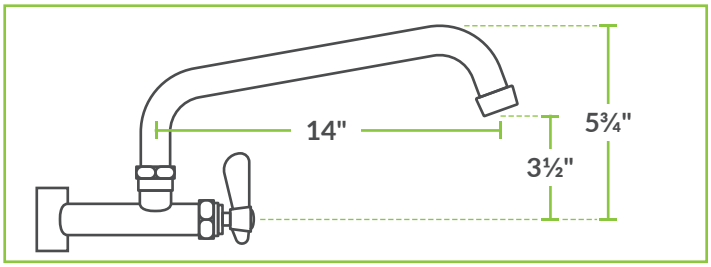
600FPRW88LL • 8" ADD-ON SPOUT



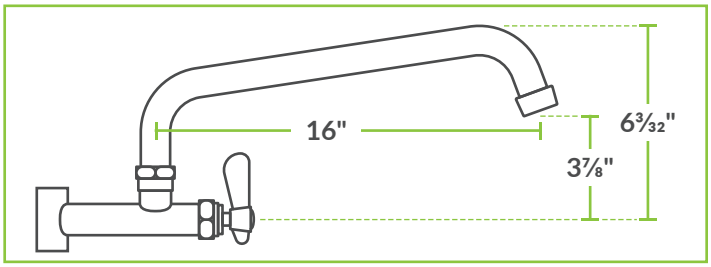
600FPRW812LL • 12" ADD-ON SPOUT



600FPRW814LL • 14" ADD-ON SPOUT



600FPRW816LL • 16" ADD-ON SPOUT



CLEANSEAL
DOOR SYSTEMS

MODEL 140/150

Single Sliding Laminated Fiberglass Door System

MODEL 140 MANUAL | MODEL 150 POWER

Shown with optional vision panel

Innovative Design. Superior Quality. Exceptional Value.

THE INDUSTRY'S TOP PERFORMING VALUE ENHANCED DOOR SYSTEM

The accelerated rate of change in clean manufacturing practices, coupled with increased regulation and competitive market forces, has put increasing pressure on facility budgets. Performance and value have become inseparable key words for manufacturers worldwide. Companies producing supplements, nutraceuticals, medical devices, over-the-counter formulations, and many others, face new challenges within their facilities as regulators expand their focus beyond traditional pharmaceutical and biotechnology manufacturing. The LXP series of doors provides the solution to these new challenges.

Superior aesthetics, uncompromising quality, exceptional reliability and unmatched value define the LXP doors. Designed from the ground up to far exceed the offerings of other door manufacturers, yet priced to meet demanding budget constraints, the LXP is truly the "no compromise" clean door solution.

PERFORMANCE WITH VALUE

High quality seamless (no center seams) fiberglass door panel. Clear anodized aluminum rail and heavy-duty trolley system, enclosed in a stainless steel sloped shroud. Built with superior quality and reliability,this door offers proven design, functionality and exceptional value.

INTELLIGENT DRIVE

State-of-the art direct drive technology. Self-adjusting microprocessor controls and on-board diagnostics. Maintains established operating parameters while consistently diagnosing potential problems. Fully programmable from floor level without removing shroud. Instantly reverses in both directions, while meeting egress entrapment, UL325 and ANSI A156.

INNOVATIVE CONSTRUCTION

Totally seamless (no center seams), high strength, fiberglass panel. Stainless steel edge cap and side frames add strength and protection making it ideal for personnel and product transfer. The consistency of performance in the LXP matches the high quality of our Excel door system. The gearless AC Asynchronous motor and on-board self-adjusting microprocessor control system is a perfect example of the quality built into the LXP.

COMPLETE SEAL

Utilizing a continuous three-sided non-marking vinyl gasket, coupled with a bottom sweep gasket. Unique floor hardware maintains the door panel's position under both positive and negative pressures without compromising the seal. And, setting your sealing requirements is simple with our totally adjustable floor and panel hardware design.

SECURE

A variety of locking options are offered in both electronic and mechanical designs to meet the strictest FDA/DEA requirements. Cleanseal will also design and supply a state-of-the-art interlocking system (from a basic two door interlock to an entire production floor) to meet your specific requirements.

QUALIFIED

With over 40 years of combined experience, our professional sales consulting team will ensure your mission-critical requirements, while maintaining our uncompromising dedication to quality and value added service.

Cleanseal | A Division of ASI Doors, Inc.
5848 North 95th Court | Milwaukee, WI 53225
PHONE: 414.464.6200 | FAX: 414.464.9863 | TOLL-FREE: 800.558.7068
www.cleansealdoors.com

CLEANSEAL DOOR SYSTEMS

ODEL 14 1

Single Slid g Laminated Fiberglass Door System

MODEL 140 ANUAL | MODEL 1 0 POWER (SHOWN)

DESIGN AND CONSTRUCTION

DOOR SIZES:

- To maintain the integrity of a seamless (no center seam) construction, the following restrictions apply:
- Up to 10'0" high if maximum width of opening is 7'7" or less.
- Up to 8'7" wide if maximum height of opening is 8'0" or less. (Other size available - consult factory.)

PANEL CONSTRUCTION:

- 1-3/4" thick seamless (no center seams) fiberglass with high density EPS bonded core.
- 20 ga. stainless steel edge cap for added protection and durability.
- Three-sided gray non-marking vinyl gasket, and bottom sweep gasket.
- White color standard.

HEADER/RAIL AND SIDE FRAME CONSTRUCTION:

- Clear anodized aluminum header and rail assembly, enclosed within a 16 ga. stainless steel sloped shroud.
- 16 ga. 304 #4 (316 stainless optional) stainless steel side frames with floor hardware attached (nothing mounted into the floor).

PERFORMANCE FEATURES:

- Manual Model: Push to open - push to close.
- Power Model: A gearless AC Asynchronous motor continuously maintains peak performance by utilizing an on-board, self-adjusting microprocessor control system. Complete system is programmable from floor level without removing the shrouds.
- Standard pushplate to open - time delay to close.
- Standard circuitry allows door to "reverse upon obstruction" by monitoring both directions of door travel.
- Standard dual side frame mounted reversing photoeyes.
- In case of power failure, power doors can be manually operated at any time.

OPTIONS:

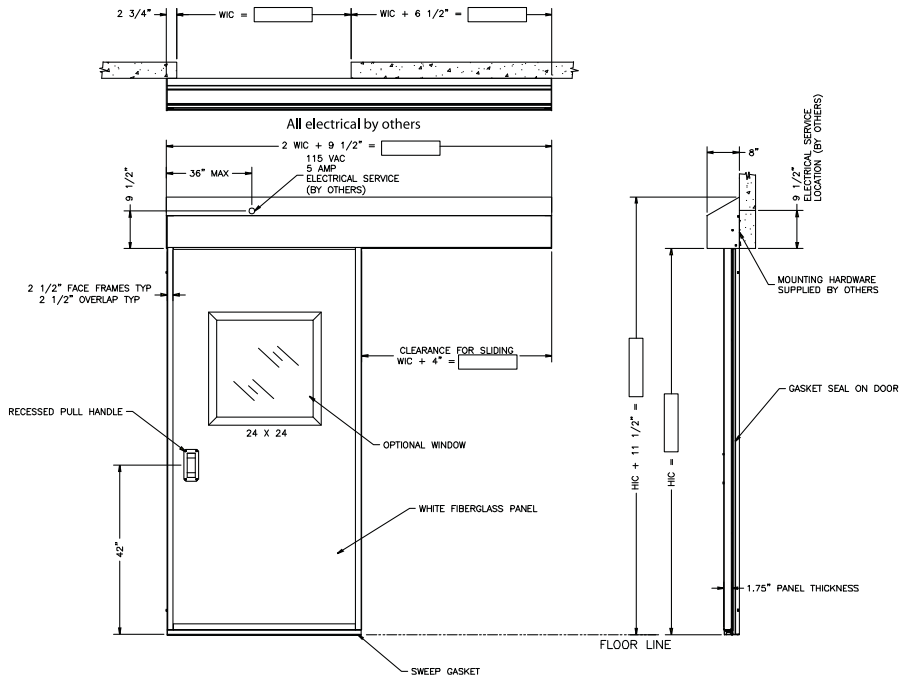
- Vision panel with standard sloped frame.
- 304 or 316 #4 stainless steel clad panel.
- Heavy-duty molded fiberglass panel.
- Custom color (consult factory).
- Canebolt lock in door panel.
- Auto close with hold open.

OPTIONS (POWER MODELS ONLY):

- Pushplates mounted in door panel (wireless).
- Electronic solenoid lock in header.
- Touchless activation switches.
- Custom designed interlocking systems.
- Actuators: Variety of activation devices available upon request.
- Pre-announce to close kit (light/alarm/or combo).

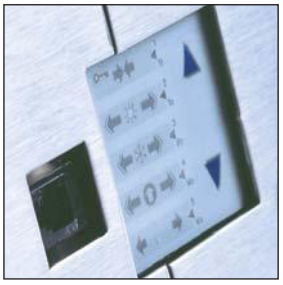
WARRANTY:

- One year limited warranty on all components.
- ASI reserves the right to modify specifications without notice.



OPTIONAL SWINGING EGRESS

When code dictates that egress is mandatory, the LXP can provide a swing out panel.



TOUCH PAD AND PLUG-IN DIAGNOSTICS

User-friendly interface for basic adjustments. Exclusive quick connect port allows technician to perform in-depth diagnostics or extended programming. No shroud to remove, no external controls.

SEAMLESS CONSTRUCTION

The LXP is offered in larger sizes while remaining seamless (no center seams) to maintain their aesthetic appeal.

THE PIONEER OF CLEAN ENVIRONMENT TECHNOLOGY

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