Town of Dedham

Rana Mana-Doerfer Director of Procurement



Town of Dedham

Department of Facilities & Maintenance Web site: www.dedham-ma.gov

Dedham High School Walk-in Units demolition and installation Invitation for Bid 20230019

Release Date	Wednesday July 5 th , 2023		
Pre-Bid Conference	Tuesday July 11 th , 2023 @ 12:00 PM (140		
	Whiting Ave)		
Deadline for Questions	Friday July 14 th , 2023 @ 12:00 PM		
Bids Due	Thursday July 20 th , 2023 @ 10:00 AM		

Procurement Overview

Primary Contact (bid questions)	Rana Mana-Doerfer, Director of Procurement
Contract Manager	Matthew Wells, Assistant Superintendent for Business
	and Finance
Bid Package Available	Wednesday July 5th, 2023 -Information and details of
	bidding requirements may be obtained at the Town
	Manager's Office, 450 Washington St, Dedham, MA
	02026, 3 rd floor for a \$50 non-refundable fee, or online at
	the Town's <u>Website</u> for FREE
Pre-Bid Meeting	Tuesday July 11th, 2023 @ 12:00 PM (140 Whiting Ave,
	Dedham, MA 02026)
Bid Deposit	5% bid deposit is required as part of bid
Deadline for Written Questions	Friday July 14th, 2023 @ 12:00 PM. Questions can be
	submitted via mail, or email using the information
	below.
	By mail: Attn: Procurement Office, 450 Washington
	Street, Dedham, MA 02026
	By Email: <u>procurement@dedham-ma.gov</u>
	All Question Will be Answered in a formal addendum
Addenda	If any changes are made to this bid, an addendum will
	be issued. Addenda will be posted on the Town's
	Webpage and emailed to all bidders on our recorded
	bidders list.
When and Where Bids are Due	Thursday July 20th, 2023 @ 10:00 AM. Attn: Director
	of Procurement, Town Hall, 450 Washington St,
P.10	Dedham, MA 02026.
Bid Opening	Thursday July 20th, 2023 @ 10:00 AM
N	Dedham Town Hall, Room 305, 3rd Floor
Number of Required Copies	ONE (1) Original, 3 Copies, AND 1 Digital USB Copy. 5 total.
Contract Award	Award will be made within 90 business days upon Town
Contract Award	Manager and Town Counsel Approval and Signature
Hand	11 9
Upon Award of Contract	
Payment Bond	100% of the bid value
Performance Bond	100% of the bid value
Insurance Refer to Contract Terms	Insurance Refer to Contract Terms (See page 00800-
	2)
	′

(Advertised in the Dedham Times issue of Friday June 30th, 2023) (Published in Central Register issue of Wednesday July 5th, 2023) (Advertised in CommBuys on Wednesday July 5th, 2023)

LEGAL NOTICE

Town of Dedham Invitation for Bid (IFB) Bid #20230019

Dedham High School Walk-in Units demolition and installation

The Town of Dedham is accepting sealed bids for the Dedham High School Walk-in Units demolition and installation.

Copies of the Invitation for Bid (IFB) package will be available beginning Wednesday July 5th, 2023 at the Town Manager's Office, 450 Washington St, Dedham, MA 02026, 3rd floor for a \$50 non-refundable fee, or online at the Town's Website for FREE.

<u>Sealed bids must be submitted no later than Thursday July 20th, 2023 @ 10:00 AM to Procurement Office, Third Floor, Dedham Town Hall, 450 Washington Street, Dedham, MA, 02026</u>

LATE BIDS WILL NOT BE CONSIDERED.

Bids will be publicly opened after the submission deadline. The Town reserves the right to reject any and all bids as determined to be in the best interests of the Town and to waive minor informalities.

Leon I. Goodwin Town Manager July 4th, 2023

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Attachment A – Wage Rates

SECTION 00020

INVITATION FOR BIDS

Sealed bids for furnishing the following item will be received at the Office of the Town Manager, Third Floor, Suite 322, Dedham Town Hall, Dedham, MA until the time specified below at which time the bids will be publicly opened and read.

Specifications and bid forms may be obtained at the Office of the Town Manager's Office, 450 Washington St, Dedham, MA 02026, 3rd floor for a \$50 non-refundable fee, or online at the Town's Website for **FREE**

Bids will be opened in the Office of the Town Manager on Wednesday May 17th, 2023, at 10:00 a.m. Each Bid must be accompanied by a bid security consisting of a <u>BID BOND, CASH</u>, or, <u>CERTIFIED CHECK</u> issued by a responsible bank or trust company in the amount of 5% of the bid price.

Pre-Bid Conference and Site Visit will be held at the Dedham High School located at 140 Whiting Ave, Dedham, MA 02026_, on Tuesday May 2nd, 2023 at 10:00 a.m. It is imperative that all prospective bidders have a representative in attendance.

A performance bond in an amount equal to 100 percent of the total amount of the contract price with a surety company qualified to do business in the Commonwealth of Massachusetts will be required for the faithful performance of the contract, as well as a labor and materials bond in an amount equal to 100 percent of the total contract price.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including, but not limited to G.L. c.30, §39M.

Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Workforce Development and the weekly payroll record submittal requirements under the provisions of Massachusetts General Laws, Chapter 149, Section 26 through 27D inclusive.

Selection of the contractor will be based upon bidder qualifications, including evidence of past performance in similar projects, and bid price. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder.

The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

The Town reserves the right to waive any informalities, to accept or reject, in whole or in part any or all bids, or take whatever other action may be deemed to be in the best interest of the Town.

The Town of Dedham

By: Leon I. Goodwin, III, Town Manager

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The Town of _Dedham_, Massachusetts, herein called the Owner, acting by and through its Town Manager, will receive sealed Bids for the project known as the Dedham High School Walk-in Units demolition and installation Project.

General bids shall be addressed to the Office of the Town Manager, Dedham Town Hall, Third Floor, Suite 322, Dedham, MA 02026 and endorsed "Bid for 20230019 Dedham High School Walk-In Units Demolition and Installation Project" (Project) will be received at the Office of the Town Manager until 10:00 a.m. prevailing time, on Thursday July 20th, 2023 at which time and place said bids will be publicly opened and read aloud.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

The Work consists of demolition and disposal of existing walk-in boxes, demolition, and disposal of concrete floors, electrical work to disconnect existing equipment, rewiring of new equipment. Additionally, the GC shall install owner provided walk-in units, install mechanicals, piping, connections and startup of all new equipment, as well as the installation of wire storage cage units_ and all work incidental thereto, in accordance with the Specifications and conceptual plans attached hereto.

Please see section 00900 Specifications for more details.

All work is to take place at the Dedham High School Kitchen, located at 140 Whiting Avenue, Dedham MA 02026

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the Owner or its Architect/Engineer, and shall then become a part of the Contract Documents.

The Contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other things necessary to do all work required for the completion of each item of the Work and as herein specified.

The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described but shall include all incidental work necessary or customarily done for the completion of that item.

3. <u>Preparation of Bid</u>

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must filled in, in ink or typewritten, in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and endorsed with the name of the project as specified in <u>Receipt and Opening of Bids</u>, above. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in <u>Receipt and Opening of Bids</u>, above.

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

Bids shall be filed at the place and before the time specified in <u>Receipt and Opening of Bids</u>, above.

Properly executed bid security shall be placed in a sealed envelope and <u>shall</u> <u>be attached</u> <u>to</u> the outside of the envelope containing the bid.

Bid signatures will be checked.

All addenda will be sent via email, to all prospective bidders. All bidders shall include with their bids the written acknowledgment form provided in Section 00300, FORM OF GENERAL BID.

The total dollar amount of each bid will be read, and the three apparent lowest bids will be selected for further consideration. These three apparent low bids will be read aloud for the benefit of the other bidders and the bid opening procedure will be closed. All those present at the bid opening may examine all bids after the bid opening and after the reading of the three apparent low bids.

5. Modification

Any bidder may modify his bid by written communication at any time prior to the scheduled closing time for receipt of bids. Any telegraphic communication must be received by the Owner prior to the closing time, and, provided further, the Owner must be satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. If written confirmation is not received within two days from the closing time, no consideration will be given to a telegraphic communication.

The communication shall not reveal the bid price but shall provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

6. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named. The Owner's decision or judgment on these matters will be final, conclusive, and binding.

The Owner may make such investigations as it deems necessary, and the bidder shall furnish to the Owner, under oath if so required, all such information and data for this purpose as the Owner may request.

7. Conditions of Work

Each bidder must familiarize himself fully with the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

8. Addenda and Interpretations

No interpretation of the meaning of the plans, specifications or other prebid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the Owner.

Questions concerning this IFB must ONLY be submitted in writing to the Procurement Office before **12:00 PM on Friday July 14th, 2023** Questions may be emailed to <u>procurement@dedham-ma.gov</u>
Or mailed to 450 Washington St, Dedham, MA, 02026. Attn: Rana Mana-Doerfer Written responses will be emailed to all bidders on record as having received the IFB package.

The Town of Dedham has identified a sole point of contact with bidders for the purpose of this IFB. Any attempt to contact any other Town of Dedham employee or to circumvent these procedures in any manner may be grounds for disqualification of the bidder from the procurement process.

Bidders shall promptly raise the issue of any ambiguity, inconsistency, or error, which they may discover upon examination of the bid documents, the work site or any other conditions which apply to the work. Inquiries concerning any part of this Bid shall be directed to the individual(s) listed under the Procurement Overview. Bidders should note that oral communications are not binding on the Town and only written responses by the Town will be considered. requests/questions must be submitted in writing. Questions may be delivered by hand, or email as referenced under the Procurement Overview by the deadline. Questions that may be asked during any prebid conference should also be sent in writing in order to receive an official response. Requests properly presented that in the opinion of the Town require interpretation, correction, or change in the Bid Documents will result in an issuance of an Addendum to the Bid Documents. Such Addendum shall subsequently become part of the contract. The Town will forward responses to all persons who are on record as receiving the bid package. Questions received after the due date will not be responded to unless the Town determines it is necessary. Bidders, please allow enough time for hand delivery or facsimile transmissions.

All addenda so issued shall become part of the Contract Documents

9. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor and materials under this contract. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bonds shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

10. Power of Attorney

Attorneys-in-fact who sign Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

11. <u>Laws and Regulations</u>

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances or bylaws, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the Contract the same as though written out in full.

12. Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 10 days after presentation thereof by the Owner, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid, but the amount forfeited shall not exceed the difference between his/her bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, his/her bid deposit will be returned.

13. <u>Obligation of Bidder</u>

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

14. Information Not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents. It is further agreed and understood that no bidder or Contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner or the Architect/Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

15. Bid Security

Each bid and sub-bid must be accompanied by bid security in the form of a certified check, a bid bond, cash, or a treasurer's or cashier's check, payable to the Owner, in the amount of five (5) percent of the value of the bid. Such security of general bidders will

be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining securities will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

16. Right to Reject Bid

The Owner reserves the right to waive any informalities in bids and to reject any and all bids, should the Owner deem it to be in the public interest to do so.

The Owner may also reject bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities.

17. <u>Time for Completion</u>

The successful general bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in Section 00300, FORM OF GENERAL BID.

18. <u>Comparison of Bids</u>

Bids will be compared on the basis of prices set forth in the bid forms. In the event that there is a discrepancy between the lump sum or unit prices written in words and figures, the prices written in words will govern.

19. Award of Contract

The Contract will be awarded to "the lowest responsible and eligible bidder" pursuant to General Laws Chapter 149, Section 44A (2), as amended. Such a bidder shall possess the skill, ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Contract award shall be subject to availability of an appropriation for funding.

20. <u>Statutes Regulating Competitive Bidding</u>

Any bid which does not comply with the provisions of Massachusetts General Laws Chapter 149, Sections 44A through 44H, as amended, need not be accepted and the Owner may reject every such bid.

21. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of Department of Labor and Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility

of the bidder, before bid opening, to request any additional information on Prevailing Wage Rates for those tradespeople who may be employed for the proposed work under this contract.

22. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R concerning Contractor records.

23. INSURANCE

The Contractor shall carry and continuously maintain until completion of the Contract, insurance as specified in Agreement and in such form as shall protect him performing work covered by this Contract, and the Town of Dedham and its employees, agents and officials, from all claims an liability for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract. The Town shall be named as an additional insured. The Contractor covenants and agrees to hold the Town and its employees, agents and officials harmless from loss or damage due to claims for bodily injury or death and/or property damage arising from, or in connection with, operations under this Contract.

25. PROJECT MANAGER

The Owner may utilize the services of a project manager, whose duties shall be as set forth in an Agreement for Project Manager Services.

26. CORI/SORI Requirements

In accordance with G.L. c. 71, § 38R, the Town may request and obtain all available criminal offender record information (CORI) from the Criminal History Systems Board of any employee of the Contractor "who may have direct and unmonitored contact with children" during the performance of their work on school property.

As a condition of the award of any contract pursuant to this IFB, and prior to commencement of any work, the successful Contractor shall complete and sign a CORI Request Form to obtain CORI if, in the determination of the Town, some or all of the employees or contractors of the Consultant "may have direct and unmonitored contact with children" during the performance of their work on school property.

Pursuant to G.L. c. 6, §§ 178C-178P, the Contractor authorizes the Town to use local and national sexual offender registry information (SORI) to determine if any of Contractor's employees pose an unreasonable risk to children within the Dedham Public Schools. The Town shall provide the CORI Request Forms as needed.

Further the Contractor's employees will be subject to a fingerprint-supported national criminal history background checks. The Contractor will ensure any required fee is paid, and that the Town will not be charged for the cost of this requirement.

SECTION 00300

FORM OF GENERAL BID

Bid of _____ (hereinafter called "Bidder")*

()	a corporation, organized and existing under the laws of the state of
()	a partnership
()	a joint venture
()	an individual doing business as
To the Town of	of Dedham, Massachusetts (hereinafter called "Owner").
Gentlemen:	
known as Ded examined the p and being fam including the a	dersigned Bidder, in compliance with your invitation for bids for the project ham High School Walk-in Units demolition and installation Project, having plans and specifications and related documents and the site of the proposed work, iliar with all of the conditions surrounding the construction of the proposed project availability of materials and labor, hereby proposes to furnish all labor, materials, and to construct the project in accordance with the contract documents and the

The Bidder hereby agrees to commence work on or before the date to be specified in written "Notice to Proceed" of the Owner, and to fully complete the project within 120 consecutive calendar days thereafter. The Bidder further agrees to pay as liquidated damages the sum of Five Hundred (\$500.00) Dollars for each consecutive calendar day thereafter that the work is not complete as provided in the contract.

plans and specifications within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract

documents, of which this bid is a part.

^{*}Specify corporation, partnership or individual as applicable.

B)	Bidder acknowledges receipt of and this bid includes the following addenda:
No.	Dated:
C) the pla	The Bidder agrees to perform the bid work described in the specifications and shown or ans for the following contract price: \$

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

The Bidder understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts, including General Laws Chapter 149 and Chapter 30, Section 39M, as amended.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids.

Within 10 days of receipt of the written notice of acceptance of this bid, the Bidder will execute the formal Agreement set forth in Section 00500 CONTRACT.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00100 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bond are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract price in accordance with Section 00610 PERFORMANCE BOND, Section 00620 PAYMENT BOND, and as stipulated in the contract.

The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications.

vears

a

Have been in business under present name for

Jourse Jourse
The names and addresses of all persons interested in the bid (if made by partnership or corporation) as principals, are as follows:
(attach supplementary list if necessary)

3. The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done, and give references that will enable the Owner to judge his experience, skill and business standing (add supplementary page if necessary).

Completion	Project	Contract	Design	Reference	Telephone
<u>Date</u>	<u>Name</u>	<u>Amount</u>	<u>Engineer</u>	<u>Name</u>	<u>No.</u>
a					
b					
c.					
d.					
e					
c					
f					
1					

Bank refe	erence
	(Name)
-	(Bank)
-	(Address)
-	(Telephone No.)

Pursuant to M.G.L. CH. 62C, Sec. 49A, I certify hereby in writing, under penalties of perjury, that the within named Bidder/Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support.

The undersigned Bidder hereby certifies under penalties of perjury, as follows: (1) that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less that the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the awarding authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

	Respectfully submitted:
Date:	Ву:
	(Signature)
	(Type Name of Bidder)
	, J1
	(Title)
	(Business Address)
	(Dusiness Address)
	(City and State)
	(Telephone Number

SECTION 00500

AGREEMENT

THIS	S AGREEMENT made this day of	
in the	e year Two Thousand and, between	, with a
usual	l place of business at	_, hereinafter
calle	ed the CONTRACTOR, and the Town of, acting by its	, with a
usual	l place of business at, MA, hereinafter	called the
OWN	NER.	
follo	The CONTRACTOR and the OWNER, for the consideration hereinafteness:	er named, agree as
1.	Scope of Work	
requi Proje Spec	Contractor shall furnish all labor, materials, equipment and insurance to poired for the project known as theect, in strict accordance with the Contract Documents and all related Draw effications. The said Documents, Specifications, Drawings and any supple litions are incorporated herein by reference and are made a part of this AgraContract Price	ings and mental general
The (Owner shall pay the Contractor for the performance of this Agreement, su deductions provided herein, in current funds, the sum of	bject to additions
3.	Commencement and Completion of Work and Liquidated Damages	
prose	agreed that time is of the essence of this Agreement. The Contractor shall ecute the work under this Agreement upon execution hereof and shall comefore	
A.	Definition of Term: The Term "Substantial completion" shall mean the the Owner when construction is sufficiently complete, in accordance w Documents, so the Owner may occupy the project, or designated portio the use for which it is intended.	ith the Contract
B.	Time as Essential Condition: It is understood and agreed that the communication substantial completion of the work are essential conditions of this Agree	

further agreed that time is of the essence for each and every portion of the Contract Documents wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract Documents any additional time is allowed for the completion of any work, the new time fixed by such extension shall be of the essence of this Agreement. It is understood and agreed that the times for the completion of the work are reasonable, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

- C. Progress and Completion: Contractor shall commence work promptly upon execution of this Agreement and shall prosecute and complete the work regularly, diligently and uninterruptedly at such a rate of progress as will insure Substantial Completion within the stipulated number of calendar days.
- D. Liquidated Damages: It is expressly agreed between the Contractor and the Owner that the Contractor will be responsible for all damages which may arise due to the Contractor's failure to substantially complete the work within the above specified time. If the Contractor shall neglect, fail or refuse to complete the work within the specified number of days, or any extension thereof authorized by the Owner, Contractor agrees, as a part of the consideration for the execution of this Contract by the Owner, to pay the Owner the amount specified herein, not as a penalty, but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day, excluding Saturdays, Sundays and legal Holidays, that the Contractor shall be in default of Substantial completion after the date specified in the Agreement. Due to the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, said amount is agreed to be the amount of damages which the Owner would sustain, and said amount shall be retained from time to time by the Owner from current periodic estimates. The amount of liquidated damages shall be \$500.00 per day.

4. Performance of the Work

- A. Direction of the Work: The Contractor shall supervise and direct the Work, using his best skills and attention which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall maintain adequate supervisory personnel at the project site during the performance of the Work. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Agreement.
- B. Responsibility for the Work: (1) The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the work.
 - (2) The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in its administration of the Agreement, or by inspections, tests or approvals required or performed by persons other than the Contractor.

- C. Permits and Fees: Unless otherwise expressly provided, the Contractor shall secure and pay for all permits and fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Agreement and which are legally required at the time the bids are received, and the same shall at all times be the property of the Owner and shall be delivered to the Owner upon completion of the Project.
- D. Notices, Compliance With Laws: (1) The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The Contractor shall provide the Owner with reproductions of all permits, licenses and receipts for any fees paid. The Owner represents that it has disclosed to the Contractor all orders and requirements known to the Owner of any public authority particular to this Agreement.
 - (2) If the Contractor observes that any of the Contract Documents are at variance with applicable laws, statutes, codes and regulations in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be accomplished by appropriate modification.
 - (3) If the Contractor performs any Work which he knows or should know is contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility therefor and shall bear all costs attributable thereto.
 - (4) In the performance of the Work, the Contractor shall comply with all applicable federal, state and local laws and regulations including those relating to workplace and employee safety. The Contractor shall notify the Owner immediately of any conditions at the place of the work which violate said laws and regulations and shall take prompt action to correct and eliminate any such violations.
- E. Project Superintendent: The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site at all times during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.
- F. Progress Schedule: The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's information an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.
- G. Drawings, Specifications and Submittals:
 - (1) The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, and "As-Built" Drawings and Specifications in good order and marked currently to record all changes made during construction, and approved Shop Drawings,

Product Data and Samples. These shall be delivered to the Owner upon completion of the Work.

- (2) By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- (3) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Owner's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Owner in writing of such deviation at the time of submission and the Owner has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Owner's approval thereof.
- (4) The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Owner on previous submittals.
- (5) No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Owner. All such portions of the Work shall be in accordance with approved submittals.
- H. Protection of the Work and Owner's Property: The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Agreement. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury. The Contractor shall clean the work area and restore it to its original condition upon completion of the work.
- I. Quality of the Work: The Contractor shall perform the work in a good, workmanlike manner. The Contractor hereby guarantees that the entire work constructed by him under the Agreement will meet fully all requirements thereof as to quality of workmanship and materials. The Contractor hereby agrees to make at his own expense any repairs or replacements made necessary by defects in materials or workmanship supplied to him that become evident within one (1) year after the date of the final payment, and to restore to full compliance with the requirements set forth herein any part of the work constructed hereunder, which during said one (1) year period is found to be deficient with respect to any provisions of the Contract Documents. The Contractor also agrees to hold the Owner harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor shall be liable to the Owner for the cost thereof.

J. Warranty: The Contractor guarantees to Owner that all materials incorporated into the work will be new unless otherwise specified or agreed. Prior to final payment, the Contractor shall deliver to the Owner all manufacturers' warranties, together with such endorsements or assignments as are necessary to ensure to the Owner the full rights and benefits of such warranties.

5. <u>Affirmative Action/Equal Employment Opportunity</u>

The Contractor is directed to comply with all applicable State Laws, Ordinances, Bylaws, and rules and regulations regarding affirmative action/equal employment opportunity requirements. Failure of the Contractor to comply with any such law, rule or regulation shall constitute grounds for the Owner to terminate the Agreement.

6. Site Information Not Guaranteed; Contractor's Investigation

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of the Contractor and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

Contractor has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state, and local laws, rules, ordinances, and regulations that in any manner may affect costs, progress, or performance of the work. Contractor has made, or has caused to be made, examinations, investigations, and tests and studies of such reports and related data in addition to those referred to in the paragraph above as he deems necessary for the performance of the work at the Contract Price, within the Contract Time, and in accordance with the other Terms and Conditions of the Contract Documents; and no additional examinations, tests, investigations, reports, and similar data are or will be required by the Contractor for such purposes.

Contractor has correlated the results of all such observations, examinations, investigations, tests, reports, and data with the Contract Documents. Contractor has given the Owner written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Documents, and the resolution thereof by the Owner is acceptable to the Contractor.

It is further agreed and understood that the Contractor shall not use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner, arising from or by reason of any variance which may exist between the information made available and the actual subsurface conditions or other conditions or structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

7. <u>Project Architect or Engineer</u>

There ___ is ___ is not a project architect-engineer for this project who is ______. Except as otherwise indicated in the Contract Documents, the Architect/Engineer shall be a representative of the Owner and the Contractor shall direct all communications, questions and comments on the work and the performance thereof to the Architect/Engineer. Except as otherwise provided, the Architect/Engineer shall have all the authority of the Owner set forth in the Contract Documents. In general, the Architect/Engineer shall have the authority to review the performance of the work, reject work which is defective or otherwise does not comply with the Contract Documents and to order the Contractor to remedy defective work and take such actions which are necessary to make the work conform to the Contract Documents.

8. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of the Department of Labor and Workforce Development under the provisions of Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility of the Contractor to provide the Town with certified payrolls and to comply with all requirements of the above-cited statutes.

The schedules of prevailing wage rates are included in the Contract Documents.

9. Payments to the Contractor

Within fifteen (15) days after receipt from the Contractor of a proper and satisfactory periodic estimate requesting payment of the amount due for the preceding month, the Owner shall have fifteen (15) days to make payment for:

- A. The work performed during the preceding month.
- B. The materials not incorporated in the Work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the Contractor has title, or to which a Subcontractor has title and has authorized the Contractor to transfer title to the Owner.
- C. Less the following retention items:
 - 1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor.
 - 2. A retention for direct payments to Subcontractors, if any, based on demands for same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws.
 - 3. A retention not exceeding five percent (5%) of the approved amount of the periodic payment.

- D. After the receipt of a periodic estimate requesting final payment and within sixty-five (65) days after the Contractor fully completes the Work, or substantially completes the Work so that the value of the Work remaining to be done is, on the estimate of the Owner, less than 1% of the original Contract Price, or substantially completes the Work and the Owner takes possession or occupancy, whichever occurs first, the Owner shall pay the Contractor the entire balance due on the Contract less:
 - 1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of work.
 - 2. A retention for direct payments to Subcontractors, if any, based on demands of same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws, or based on the record of payments by the Contractor to the Subcontractors under this Contract if such record of payment indicates that the Contractor has not paid Subcontractors as provided in Section 39F of Chapter 30 of the General Laws.

If the Owner fails to make payment as herein provided, there shall be added to each such payment, daily interest at the rate of 3 percentage points above the rediscount rate than charged by the Federal Reserve Bank of Boston, commencing on the first day after said payment is due, and continuing until the payment is delivered or mailed to the Contractor; provided that no interest shall be due, in any event, on the amount of a periodic estimate for final payment until fifteen (15) days after receipt of such a periodic estimate by the Owner as provided in the first paragraph of this Article. The Contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

The Owner may make changes in any periodic estimate submitted by the Contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, and such changes and any requirements for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided further, that the Owner may, within seven (7) days after receipt, return to the Contractor for correction, any periodic estimate which is not in acceptable form or which contains computations not arithmetically correct, and in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter.

- E. Changes in the Work: No changes in the work covered by the approved Contract Documents shall be made without prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:
 - (a) Unit bid prices previously approved.
 - (b) An agreed lump sum.

- (c) The actual cost of:
- (1) Labor.
- (2) Materials entering permanently into the work.
- (3) The ownership or rental cost of construction equipment during the time of use on the extra work.
- (4) Power and consumable supplies for the operation of power equipment.
- (5) Wages to be paid.

To the cost under (c) there shall be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

F. Claims for Additional Costs: If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Owner written notice thereof within twenty days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property. No such claim shall be valid unless so made. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Town on account of any delay in the commencement or performance of the work and/or any hindrance, delay or suspension of any portion of the work including, but not limited to, any claims or damages on account of having to perform out of sequence work, claims for damages on account of loss of production or other interference with the work whether such delay is caused by the Town or otherwise, except as and to the extent expressly provided under G.L. c.30, §390 in the case of written orders by the Town. The Contractor acknowledges that the Contractor's sole remedy for any such claim will be an extension of time as provided herein.

10. Final Payment, Effect

The acceptance of final payment by the Contractor shall constitute a waiver of all claims by the Contractor arising under the Agreement.

11. <u>Contract Documents</u>

The Contract Documents consist of the following, together with this Agreement:

Invitation to Bid Instructions to Bidders This Contract Form Bid Form Performance Bond
Labor & Materials Payment Bond
Non-Collusion Certificate
Tax Compliance Certificate
Clerk's Certificate of Corporate Vote
Certificate of Insurance
General Conditions
Supplementary General Conditions
General Requirements
Specifications and Addenda
Contract Drawings
Schedule of Prevailing Wages
(Strike out any inapplicable item)

12. Terms Required By Law

This Agreement shall be considered to include all terms required to be included in it by the Massachusetts General Laws, and all other laws, as though such terms were set forth in full herein.

13. <u>Indemnification</u>

The Contractor shall indemnify and hold harmless the Owner from and against any and all claims, damages, losses, and expenses, including attorney's fees, arising out of the performance of this Agreement when such claims, damages, losses, and expenses are caused, in whole or in part, by the acts, errors, or omissions of the Contractor or his employees, agents, subcontractors or representatives.

14. <u>Insurance</u>

The Contractor shall purchase and maintain such insurance as will protect both the Owner and the Contractor from claims which may arise under the Agreement, including operations performed for the named insured by independent contractors and general inspection thereof by the named insured. In addition, the Contractor shall require its subcontractors to maintain such insurance. Coverage shall be provided for:

- .1 claims under workers' or workmen's compensation, disability benefit and other applicable employee benefit acts;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;

- .5 claims for damages, including damages to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
- .6 claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- .7 claims involving contractual liability applicable to the Contractor's obligations under Article 13.

The limits of liability for coverage required under the preceding paragraph shall be as Specified in the Supplemental Conditions.

Except for Workmen's Compensation, all liability coverage shall name the Town as an additional insured and shall provide for 30 days prior written notice to the Town of any modification or termination of coverage provided thereby. The Contractor shall provide the Owner with appropriate certificate(s) of insurance evidencing compliance with this provision prior to the commencement of any work under this Agreement.

15. Notice

All notices required to be given hereunder shall be in writing and delivered to, or mailed first class to, the parties' respective addresses stated above. In the event that immediate notice is required, it may be given by telephone or facsimile, but shall, to the extent possible, be followed by notice in writing in the manner set forth above.

16. Termination

- A. Each party shall have the right to terminate this Agreement in the event of a failure of the other party to comply with the terms of the Agreement. Such termination shall be effective upon seven days' notice to the party in default and the failure within that time of said party to cure its default.
- B. The Owner shall have the right to terminate the Agreement without cause, upon ten (10) days' written notice to the Contractor. In the event that the Agreement is terminated pursuant to this subparagraph, the Contractor shall be reimbursed in accordance with the Contract Documents for all Work performed up to the termination date, and for all materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. Payment for material or equipment stored at the site shall be conditioned upon submission by the Contractor of bills of sale or such other evidence as is satisfactory to Owner to establish the Owner's title to such material or equipment or otherwise protect the Owner's interests.

17. Miscellaneous

A. Royalties and Patents: The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner

harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified; but if the Contractor believes or has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner, and thereafter the Owner insists on the use of the design, process or products specified.

- B. Assignment: The Contractor shall not assign or transfer any of its rights, duties or obligations under this Agreement without the written approval of the Owner.
- C. Governing Law: This Agreement shall be governed by and construed in accordance with the law of the Commonwealth of Massachusetts.
- D. By its signature hereon, the Contractor certifies, under the pains and penalties of perjury, that it has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

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TOWN OF DEDHAM, MASSACHUSETTS (Owner)

	By its Town Mana	ager	
			_
	CONTRACTOR	:	
	Ву		_
		(Name)	_
		(Title)	_
		(Address)	_
		(City and State)	_
Approved as	to Form:		
By(Own	er's Counsel)		
of this contra	ct is available theref		t an appropriation in the amount has been authorized to execute
By	er's Accountant)	<u> </u>	
(Own	ei s Accountant)		
	(Name)		

CERTIFICATE OF VOTE (to be filed if Contractor is a Corporation)

I,	, he	reby certify that I am the duly qualified
(Secretary o	of the Corporation)	reby certify that I am the duly qualified
and acting Secretary of	of	and I further certify that a meeting of the
Directors of said Con	(Name of Corporation) npany, duly called and held on	(Date of Meeting)
all Directors were pres	sent and voting, the following	vote was unanimously passed:
VOTED:	To authorize and empower	
Anyone acting the Corporation.	singly, to execute Forms of G	Seneral Bid, Contracts or Bonds on behalf of
I further certify in any respect.	y that the above vote is still in	effect and has not been changed or modified
	By:	
A True Copy:		(Secretary of Corporation)
Attest:	(Natara Dalifa)	
	(Notary Public)	
My Commission Expi		
	(Date)	

CERTIFICATIONS REQUIRED BY LAW FOR PUBLIC CONSTRUCTION CONTRACTS

You must COMPLETE and SIGN the following certifications. You must also print, at the bottom of this page, the name of the contractor for whom these certifications are submitted.

TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A(b), I, the undersigned, authorized signatory for the below named contractor, do hereby certify under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

NON-COLLUSION

The undersigned certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

PUBLIC CONTRACTOR DEBARMENT

The undersigned certifies under penalty of perjury that the below named contractor is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

OSHA TRAINING

Pursuant to G.L. c. 30, §39S, the Contractor hereby certifies under penalties of perjury as follows:

- (1) Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work;
- (2) All employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and they shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and
- (3) All employees to be employed in the work subject to this contract have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

COMPLETE AND SIGN BELOW:

Authorized Person's Signature	Date	
Print Name & Title of Signatory		
Name of Contractor		

SECTION 00610

PERFORMANCE BOND

KNOW ALL MEN BY	THESE PRESENTS	5: That we	
		(Na	ame of Contractor)
a			led "Principal" and
(Corporation, Partnership, Jo	int Venture or Indivi	dual)	
	of	, State of	(City & State)
(Surety)			(City & State)
Division of Insurance to do bus	_ hereinafter called the		•
held and firmly bound to the To			
the penal sum of			
(\$)	in lawful money of t	he United States, fo	or the payment of which
sum well and truly to be made,	we bind ourselves, o	our heirs, executors	, administrators and
successors, jointly and severall	y, firmly by these pro	esents.	
THE CONDITION OF	THIS OBLIGATION	N is such that When	reas, the Principal entered
into a certain contract with the	Owner, dated the	day of _	
20 (the "Construction Cont			
			•

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of the Construction 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 the Construction 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 Surety's obligation under this Bond shall arise after (1) the Owner has declared the Principal in default of the Construction Contract or any provision thereof or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to execute the work consistent with, and in conformance to, the Construction Contract (collectively referred to as a "Contractor Default"). The determination of a Contractor Default shall be made solely by the Owner. The Owner need not terminate the Construction Contract to declare a Contractor Default or to invoke its rights under this Bond.

When the Surety's obligation under this Bond arises, the Surety, at its sole expense and at the consent and election of the Owner, shall promptly take one of the following steps: (1) arrange for the Principal to perform and complete the work of the Construction Contract: (2) arrange for a contractor other than the Principal to perform and complete the work of the Construction Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Construction Contract. Surety will keep Owner reasonably informed of the progress, status and results of any investigation of any claim of the Owner.

If the Surety does not proceed as provided in this Bond with due diligence and all deliberate speed, the Surety shall be deemed to be in default of this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

After the Surety's obligation under this Bond arises, the Surety is obligated, to the limit of the amounts of this Bond, for (1) the correction of defective work and completion of the Construction Contract; (2) additional design, professional services, and legal costs, including attorneys' fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Construction Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligation of the Principal, if any, as provided in the Construction Contract; and (5) liquidated damages as provided in the Construction Contract, or if none are so specified, actual and foreseeable consequential damages resulting from the Contractor Default or default of the Surety under this Bond.

Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction in the Commonwealth of Massachusetts.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect 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 Construction Contract or to the work or to the specifications.

		executed in () counterparts, each day of
ATTEST:		
	-	Principal
	By _	
(Principal Secretary)	-	
	_	
	-	(Address-Zip Code)
	(SEAL)	
Witness as to Principal		
(Address-Zip Code)		
ATTEST:		
	-	Surety
	By	(Attorney-in-Fact)
	-	
	_	(Address-Zip Code)
Witness as to Surety	(SEAL)	
(Address-Zip Code)		
	ust not be prior to date partners should execut	

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THE	SE PRESENTS: That we				
a					
(Name of Contractor) Individual)	(Corporation, Partnership, Joint Venture or				
hereinafter called "Principal" and	of,				
	(Surety)				
State of(City and State)	hereinafter called the "Surety" and licensed by the State				
	under the laws of the Commonwealth of Massachusetts, are of Dedham_, Massachusetts, hereinafter called "Owner", in Dollars				
(\$) in lawful	money of the United States, for the payment of which sum				
well and truly to be made, we bind or jointly and severally, firmly by these	urselves, our heirs, executors, administrators and successors, presents.				
	OBLIGATION is such that Whereas, the Principal entered er, dated the day of,				
20 for the construction described	l as follows:				

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 such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, 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 way affect 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 this 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, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ () counterparts, each one of which shall be deemed an original, this the ______ day of ______, 20___.

ATTEST:

By

(Attorney-in-Fact)

(Address-Zip Code)

Witness as to Surety

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

(Address-Zip Code)

SECTION 00800

SUPPLEMENTAL CONDITIONS

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3.	Insurance Requirements	2
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A tı	tachment A - Wage Rates and Certificate of Compliance	

§ SC 1.1 INTRODUCTION

The following provisions modify, change, delete from or add to Section 00500 Agreement. Where any Subsection of the Agreement is modified or any Article Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplemental Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

§ SC 2.1 PREVAILING WAGE

In accordance with General Laws Chapter 149, Section 26 through 27D, the Contractor is obligated to comply with the prevailing wage rates established by the Commissioner of the Department of Labor and Workforce Development for mechanics, apprentices, chauffeurs, teamsters and laborers employed on the Project. The schedule of applicable prevailing wage rates for the Project, together with a Certificate of Compliance therewith, are set forth in Attachment A herein.

§ SC 3.1 CONTRACTOR'S LIABILITY INSURANCE

In no case shall the limits of liability be less than the following:

1.	Contrac	tor's Liability Insurance
a.	Worker	s' Compensation:
	1.	State: Statutory
	2.	Employer Liability:
	3.	\$Bodily Injury by Accident \$Bodily Injury by Disease - policy limit \$Bodily Injury by Disease - each \$Umbrella Liability - all limits
b.		hensive General Liability (including Premises-Operations; Independent tor's Protective; Products and Completed Operations; Broad Form Property e):
	1.	Bodily Injury: \$ Each Occurrence \$ Aggregate
	2.	Products and Completed Operations \$ Each Occurrence (bodily injury and property damage) \$ Aggregate
		Products and Completed \$Operations
	3.	Property Damage Liability (including coverage for XCU hazards). \$ Each Occurrence \$ Aggregate
	4.	Products and Completed Operations insurance shall be maintained for a minimum period of 2 years after final payment and Contractor shall continue to provide evidence of such coverage to Owner on an annual basis during the aforementioned.

	5.	Contractual Liability (Hold Harmless Coverage):
		\$ Bodily Injury Each Occurrence
		\$ Property Damage Each Occurrence
		\$ Property Damage Aggregate
	6.	Personal Injury, with Employment Exclusion deleted:
		\$ All Limits
_	C	hansing Automobile Liebilies (around man around bind).
c.	Compre	hensive Automobile Liability (owned, non-owned, hired):
	1.	Bodily Injury
		\$ Each Person
		\$ Each Accident
	2.	Property Damage
		\$ Each Accident
d.	Property	y Insurance / Builders Risk: the full Contact sum
e.	Umbrel	la Liability Coverage
	\$	All Limits

SECTION 00850

<u>Incorporation of Applicable Provisions of the</u> Massachusetts General Laws

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts including, but not limited to, those contained in Chapter 30 and Chapter 149. All applicable provisions of the Massachusetts General Laws are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental General Conditions.

SECTION 00900

SPECIFICATIONS

Kitchen Walk-in Refrigeration Replacement/Renovation Scope of Work

Scope:

GC shall obtain all necessary permits required by the MA state law and any regulations specific to Town of Dedham.

Remove and replace five walk-in boxes which include three freezers, one refrigerator, and one box that is currently used for dry storage. The unit used for dry storage will be removed and replaced with fencing for dry storage. All the other units will be replaced with new walk-ins. The new walk-ins, panels and refrigeration systems have been ordered with an estimated delivery timeline around July 24, 2023.

The Project Timeline: It is critical that this project is completed prior to school opening for the 2023/2024 school year as this school services three additional schools.

Start, June 21st

Complete, August 20th or an agreed upon end date

The Dedham Public Schools Department of Food & Nutrition Services is interested in securing a quote on the purchase of the following items. Furnish deliver uncrate and set in place freight prepaid and legally dispose of existing equipment in accordance with Mass state contract GRO35 the following items at various Dedham Public Schools.

All quotes, rebates and discounts must be included in final price.

All finishes are to be approved by Food service Director prior to ordering materials. Including but not limited to: epoxy finished floor, fencing, louvers above Upstairs box.

GC shall provide weekly progress reports with 2 week look ahead.

The scope of work includes the following:

Demolition and Disposal of Walk-In Boxes

- To include demo, removal and disposal of existing walk-ins and all related equipment
 - o Including the one compressor that is on the exterior roof and three internal.
 - o Including, removal and disposal of temperature sensors mounted to exterior of walk-in on both levels.
 - o Including, removal of all related electrical devices/plumbing piping and refrigeration lines
- Seal the roof penetrations of the existing exterior condenser after removal of units.
- During demolition all sensors/detectors and open HVAC ducts are to be covered/sealed.
- During demolition, plastic sheeting shall be installed from floor to ceiling around the workspace to "close off" the remainder of the kitchen space.
- Removal and safe storage of clean dish table.
- Removal and safe storage of two metal chases (white metal and diamond tread) at corner of upstairs walk-in at dishwashing area. Along with paper towel dispenser.
- Removal and make safe, downstairs walk-in, clothes washer and dryer plumbing and electric. And electrical box and conduit on loading dock side.
- Care is to be taken when removing the upstairs walk-in with duct work above. All duct work shall be made secure prior to removal of walk-in. Any damage to existing duct work shall be the responsibility of the GC. Any damage and cost of repairs to the existing duct work shall not be incurred by the school or Town of Dedham.

• Area to be left clean and organized so that the next phase of the project can begin seamlessly.

Demolition and Disposal of Concrete Floors

- Three walk-in boxes upstairs
- Two walk-in boxes downstairs
- Concrete floor removal and disposal
- All floors removed and to the depth necessary for removal of existing walk-in box panels and installation of new walk-in box panels. Per existing drawings, the depression is 6", 3" of concrete and 3" insulated panels.
- Area to be left clean and organized so that the next phase of the project can begin seamlessly

Equipment

- Three walk-in freezer units, as specified, with all related equipment.
- One walk-in refrigerator unit, as specified, with all related equipment.
- Alarm system hardware have been ordered.
- Delivery-Receiving and Staging Plan required. Panels and evaporators may be stored inside school where space is available, rooftop condensers can be stored in maintenance department garage.
- Equipment will need to be staged on the proper floor of the building. Upstairs/Downstairs
- Protect existing floors when equipment is brought in and staged.
- Equipment inspected when received/staged for damage.

Electrical

- Disconnect all existing equipment- remove old wires and make safe.
- Run all new wiring to new equipment.
- Include what is necessary for wiring of lights and alarm system.
- Connect all new equipment and reconnect all existing equipment that was disconnected for this project.
- Install and interwire all internal lighting with door light.
- Door heaters for freezer need their own dedicated circuit.
- Drain line heaters need their own dedicated circuit (hard wired) in weatherproof box not a plug into wall heater.
- Utilize existing breakers as marked in panels and on walk-in boxes.
- Validate alarm system does what the school requires with notifications etc. Validate Wi-Fi if chosen. Verify installation requirements with Foodservice Director.

Installation on Walk-In Boxes and related Equipment

- Installation of walk-in boxes and all related equipment. Wainscotting shall be installed with bottom of panels set at 6" AFF. Seal any and all penetrations made for trades work
- Provide necessary openings in walk-in ceiling and building roof for all refrigeration piping and electrical wiring to/from boxes to condensers on roof. Provide temporary protection for all openings. Seal openings after refrigeration lines have been installed and equipment start up.
- Provide and install necessary sleepers/blocking to support condensers on roof.

Installation of all mechanicals, piping, connections and start-up of all new equipment.

- Install all the required mechanicals.
- Install all drain piping from evaporator coil to existing floor drains and heat tape.
- Final connections for all walk-ins
- Start up, including necessary adjustments for all new walk-ins.

Existing Equipment

- Upon completion of walk-in installation. Re-install clean dishtable to original condition.
- Re-install two (2) metal chases and paper towel dispenser
- Re-install all shelving in walk-ins and dry storage.
- Re-install all existing utilities/devices that were attached to exiting boxes.

Fencing

• Provide and install a chain link fence with one door with integral lock around the new dry storage area. Provide fencing that matches the existing fencing in the same kitchen space and has smaller openings within links.

WIFI

- The alarm system works off WIFI.
- Verify that WIFI is available in both the downstairs area and upstairs area.
- Make recommendations to strengthen WIFI or hard wire if it is not available.

Closure panels

- Provide and install all necessary closure panels. Finish and material shall be the same as the exterior of the walk-in boxes.
- Upstairs box, across the front, provide and install louvers for supply duct and for overall air flow to space above the walk-in box, like what is existing now.

ACT Panels & Grid

• Provide and install new grid around the perimeter of the boxes and grid and "lay-in" ACT panels in Dry Storage area upstairs only. There is no ACT work outside the work area other than removal and reinstallation of existing ceiling tiles and grid along perimeter of boxes. Any other part of the existing grid or panels not mentioned above, that are damaged during demo are to be replaced with new at no cost to the town/school. New ACT panels must be non-porous, cleanable/washable.

Flooring:

• Install new floor inside boxes utilizing high strength concrete material suitable for cooler/freezer application. The thickness of concrete will be approximately 2" inside compartments and 6" inside dry storage area, provide transition strip at dry storage. Install new epoxy floor covering (minimum 1/8" thick)over concrete with code compliant integral cove base. A new concrete/epoxy floor is to be installed so that there is a seamless transition from existing kitchen floor to new walk-in floor. Make/model and color of epoxy flooring material shall be approved by Foodservice director.

Walls:

• Upon removal of the upstairs box, in the area to be Dry Storage, verification of material covering building walls and assessment of walls must take place and the school/town is to be advised of condition. If GWB is present, fill all holes/seams and provide a painted finish with cleanable/washable paint. If GWB is not present, provide and install GWB, fill holes/seams and paint. Make/model and color of paint shall be approved by Foodservice Director.

Close out/Cleaning

• When project is completed, provide a clean and washed site.

Dumpster/Trash

• GC is responsible for disposal of all construction materials from demolition to final installation/site cleaning. No refuse containers of the school are to be used.

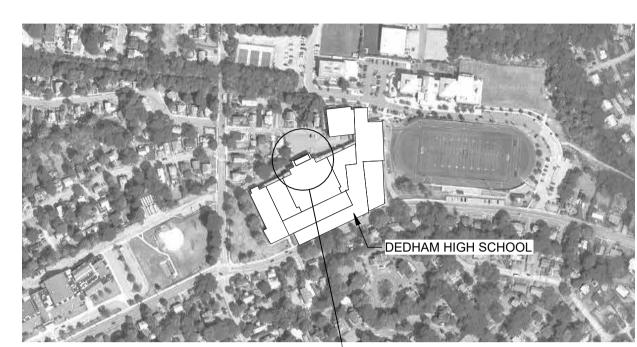
Crane

• It is at the discretion of the GC to use a crane or manual labor to transport condensers to the roof. There is an elevator that goes to the roof level. On this level there is man door with access to the roof.

DEDHAM HS COOLER REPLACEMENT

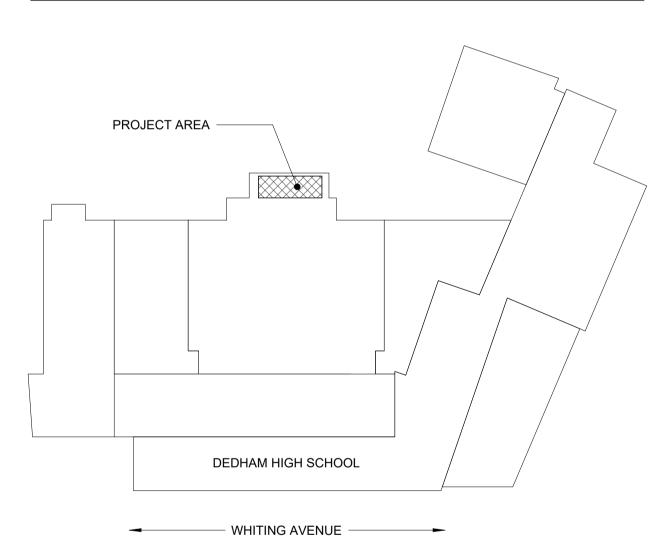
140 WHITING AVE, DEDHAM, MA 02026

LOCUS PLAN



PROJECT LOCATION

KEYPLAN



GENERAL NOTES

GENERAL CONTRACTOR: ALL REFERENCES TO "CONTRACTOR" MADE IN THE CONSTRUCTION DOCUMENTS SHALL MEAN THE GENERAL CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL SUBCONTRACTORS AND TRADES, UNLESS NOTED OTHERWISE. COORDINATE AND COOPERATE WITH THE OWNER'S INDEPENDENT CONTRACTORS AND PERSONNEL CONCURRENTLY PERFORMING WORK WITHIN OR INTERFACING THE CONTRACT LIMITS.

ARCHITECT: ALL REFERENCES TO "ARCHITECT" MADE IN THE CONSTRUCTION DOCUMENTS ALL REFER TO ANALOGUE STUDIO.

CONTRACT LIMITS: ALL REFERENCES TO "CONTRACT LIMITS" MADE IN THE CONSTRUCTION DOCUMENTS SHALL MEAN ALL PRIMARY AREAS THAT CONTAIN CONSTRUCTION SCOPE OF WORK. LAY-DOWN AND DELIVERY AREAS, SCAFFOLDING AND EXCAVATION AREAS, DUMPSTER AREAS, AND CONTRACTOR TRAVEL PATHS TO THESE AREAS ARE CONSIDERED PART OF THE INCIDENTAL CONTRACT AREA SUBJECT TO GENERAL REQUIREMENTS TYPICAL OF THE PRIMARY WORK AREAS.

ETR: ALL REFERENCES TO THE ABBREVIATION "ETR" MADE IN THE CONSTRUCTION DOCUMENTS SHALL MEAN "EXISTING-TO-REMAIN". THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL NOTED ETR FINISHES AND COMPONENTS FROM DEMOLITION OR DAMAGE.

PERMITS: THE CONTRACTOR SHALL OBTAIN ALL REQUIRED DISPOSAL, CONSTRUCTION AND OCCUPANCY PERMITS AND APPROVALS.

WORKMANSHIP: ALL WORK SHALL BE DONE BY TRADES PEOPLE EXPERIENCED IN EACH SPECIFIC TRADE, AND TO THE HIGHEST STANDARDS OF PRACTICE AND WORKMANSHIP FOR EACH TRADE.

FIELD VERIFICATION: PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND DIMENSIONS AND IMMEDIATELY NOTIFY THE ARCHITECT OF ANY CONTRADICTIONS, ERRORS OR OMISSIONS CONTAINED IN THE CONTRACT

SITE SAFETY: THE CONTRACTOR SHALL BE RESPONSIBLE, FOR THE DURATION OF THE WORK, FOR THE PROTECTION OF ALL MATERIALS AND CONSTRUCTION (ETR AND NEW) FROM DAMAGE; THE SAFETY OF ALL WORKERS, EMPLOYEES AND OTHERS ON THE JOB SITE; AND SITE SECURITY. MAINTAIN EGRESS REQUIREMENTS AT ALL TIMES, FOR THE DURATION OF THE WORK.

FIRE SAFETY: STORE ALL CONSTRUCTION MATERIALS IN A SECURE AND LOCKED AREA CONTROLLED BY THE CONTRACTOR. AT NO TIME DURING THE WORK SHALL STORED MATERIALS OR TOOLS BLOCK OR IMPEDE A PATH OF EMERGENCY MEANS OF EGRESS. DO NOT ALTER OR NEGATE THE FIRE-RATING OF EXISTING CONSTRUCTION TO REMAIN. MAINTAIN FULL AND PROPER OPERATION OF THE BUILDING FIRE ALARM SYSTEM FOR THE DURATION OF THE WORK. PROVIDE FIRESAFING AT ALL PENETRATIONS MADE THROUGH NEW AND ETR FIRE-RATED CONSTRUCTION TO PROVIDE/MAINTAIN REQUIRED FIRE SEPARATION RATING.

LICENSES: PLUMBING, FIRE PROTECTION, ELECTRICAL AND TELEDATA WORK SHALL BE PERFORMED BY QUALIFIED, EXPERIENCED PERSONS CURRENTLY LICENSED IN THEIR RESPECTIVE TRADE.

DUST CONTROL: DEBRIS, DIRT AND DUST SHALL BE KEPT TO A MINIMUM, BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA, AND BE CLEANED UP AND CLEARED FROM THE JOB SITE ON A REGULAR SCHEDULE TO AVOID EXCESSIVE ACCUMULATION. PROVIDE DUST BARRIERS OR BLANKETS AS NECESSARY TO CONTAIN AIRBORNE DUST. PREVENT DUST AND DEBRIS FROM ENTERING PUBLIC SPACES, ELEVATORS, LOBBIES, AND AREAS OF OTHER TENANTS.

WORK HOURS: COORDINATE THE SCHEDULING OF ALL WORK WITH THE OWNER, OR BUILDING MANAGER TO MINIMIZE DISRUPTIONS TO THE BUILDING OPERATIONS, AND ITS OCCUPANTS. OBTAIN AND FOLLOW AVAILABLE RULES AND PROCEDURES FOR WORK PERFORMED WITHIN THE BUILDING. COORDINATE WORK PROCEDURES WITH THE REQUIREMENTS OF THE LOCAL AUTHORITIES (WHERE APPLICABLE).

PROTECTION OF FURNISHINGS: PROTECT ETR FURNITURE AND EQUIPMENT FROM DAMAGE AND DUST. COORDINATE TEMPORARY REMOVAL AND STORAGE OF FURNITURE AND EQUIPMENT WITH THE OWNER.

PROTECTION OF FINISHES: PROTECT AREAS NOT WITHIN THE SCOPE OF WORK (NOT SCHEDULED FOR DEMOLITION OR CONSTRUCTION WORK) FROM DIRT AND DAMAGE. CLEAN FINISHES AND REPAIR ANY DAMAGE CAUSED BY WORKERS, EQUIPMENT AND THE DELIVERY AND/OR DISPOSAL OF MATERIALS. PROVIDE SOLID, PLYWOOD-FACED TEMPORARY PARTITIONING BETWEEN WORK AREAS AND OCCUPIED AREAS. PAINT OCCUPIED SIDE OF PARTITIONS WHITE.

CONTROLS: TAKE ALL REASONABLE MEASURES TO LIMIT DEMOLITION AND CONSTRUCTION NOISE FROM DISRUPTING EXISTING BUILDING OCCUPANTS. MAINTAIN OR PROVIDE APPROPRIATE EXITS AND EXITWAYS THROUGHOUT CONSTRUCTION.

LOADING DOCK ACCESS: LOADING DOCK IS FIRST COME FIRST SERVED.
RETAIL DELIVERIES AND PICKUPS HAVE PRIORITY, COORDINATE ALL
PICKUPS DELIVERIES ACCORDINGLY

TEMPORARY DISCONNECTION OF UTILITIES: TEMPORARILY DISCONNECT ALL ETR UTILITIES REQUIRED TO PERFORM THE INDICATED WORK.
COORDINATE THIS WORK WITH THE OWNER PRIOR TO DISCONNECTING UTILITIES. SCHEDULE THE WORK AS NECESSARY TO MINIMIZE THE IMPACT TO OTHER OCCUPANTS. DO NOT DISCONNECT OR INTERRUPT SERVICES TO OTHER OCCUPANTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE MIT PROJECT MANAGER AND SHUTDOWN COORDINATOR. RECONNECT UTILITIES IMMEDIATELY AFTER COMPLETION OF THE WORK. RE-ROUTE UTILITIES / CONNECTIONS AS REQUIRED TO SERVICE NEW CONSTRUCTION.

DRAWING LIST

NEW OR REVISED ISSUE NON REVISED ISSUE X DRAWING DEFUNCT AT NOTED PHASE	FIRST ISSUE YYYY-MM-DD

01 ARCHITECTURE

HARCHITE	STORE			
A0.00	COVER SHEET	•		
AD1.01	DEMOLITION PLANS	٠		
AD2.01	DEMOLITION REFLECTED CEILING PLANS	•		
AD6.01	DEMOLITION DETAILS	•		
A1.01	CONSTRUCTION PLANS	•		
A2.01	REFLECTED CEILING PLANS	•		
A6.01	WALL SECTIONS & DETAILS	•		

02 ELECTRICAL

OZ ELLOTTIC	///L			
E0.01	LEGEND AND NOTES	•		
E0.02	SPECIFICATIONS	•		
E0.03	RISER DIAGRAM, SCHEDULES, AND DETAILS	•		
ED1.01	DEMOLITION FLOOR PLANS	٠		
E1.01	LIGHTING FLOOR PLANS	•		
E2.01	POWER FLOOR PLANS	٠		

03 FIRE ALARM

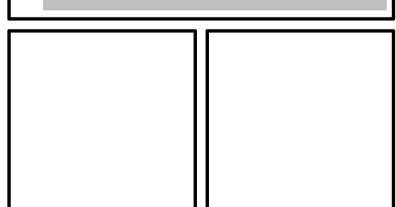
FA0.01	LEGEND, RISER DIAGRAM, AND DETAILS	•		
FAD1.01	DEMOLITION	•		
FA1.01	FLOOR PLANS	•		

04 SUPPLEMENTAL INFORMATION

B1.01	WALK-IN DRAWINGS & DETAILS - DEDHAM-UPSTAIRS	•		
B1.02	WALK-IN DRAWINGS & DETAILS - DEDHAM-BASEMENT	•		
B1.03	EQUIPMENT CUTSHEETS 1	•		
B1.04	EQUIPMENT CUTSHEETS 2	•		
B2 01	MEMORANDUM	•		

DRAFT

NOT FOR CONSTRUCTION



ANALOGUE STUDIO

DEDHAM HS COOLER REPLACEMENT

140 WHITING AVE, DEDHAM, MA 02026

DELTA	DESCRIPTION	DATE

COVER SHEET

SCALE: NTS
DATE: 2023-06-20
DRAWN BY: CL
CHECKED BY: BA

ARCHITECT

ANALOGUE STUDIO, LLC
140 RIVER STREET
CAMBRIDGE, MA 02139
PHONE: 617.440.7568 x3
CONTACT: BRIAN AMARAL
EMAIL: BRIAN@ANALOGUESTUDIO.COM

MECHANICAL ENGINEER

BLW ENGINEERS INC.
311 GREAT ROAD
LITTLETON, MA 01460
PHONE: 978-621-2142
CONTACT: DAKI KOUTOUVIDES

EMAIL: DKOUTOUVIDES@BLWENGINEERS.COM

FOOD SERVICES CONSULTANT CROMWELL CONSULTING, INC.

27 GLEN STREET, SUITE 5 STOUGHTON, MA. 02072 PHONE: 781-344-7691 CONTACT: MICHEAL BATTE

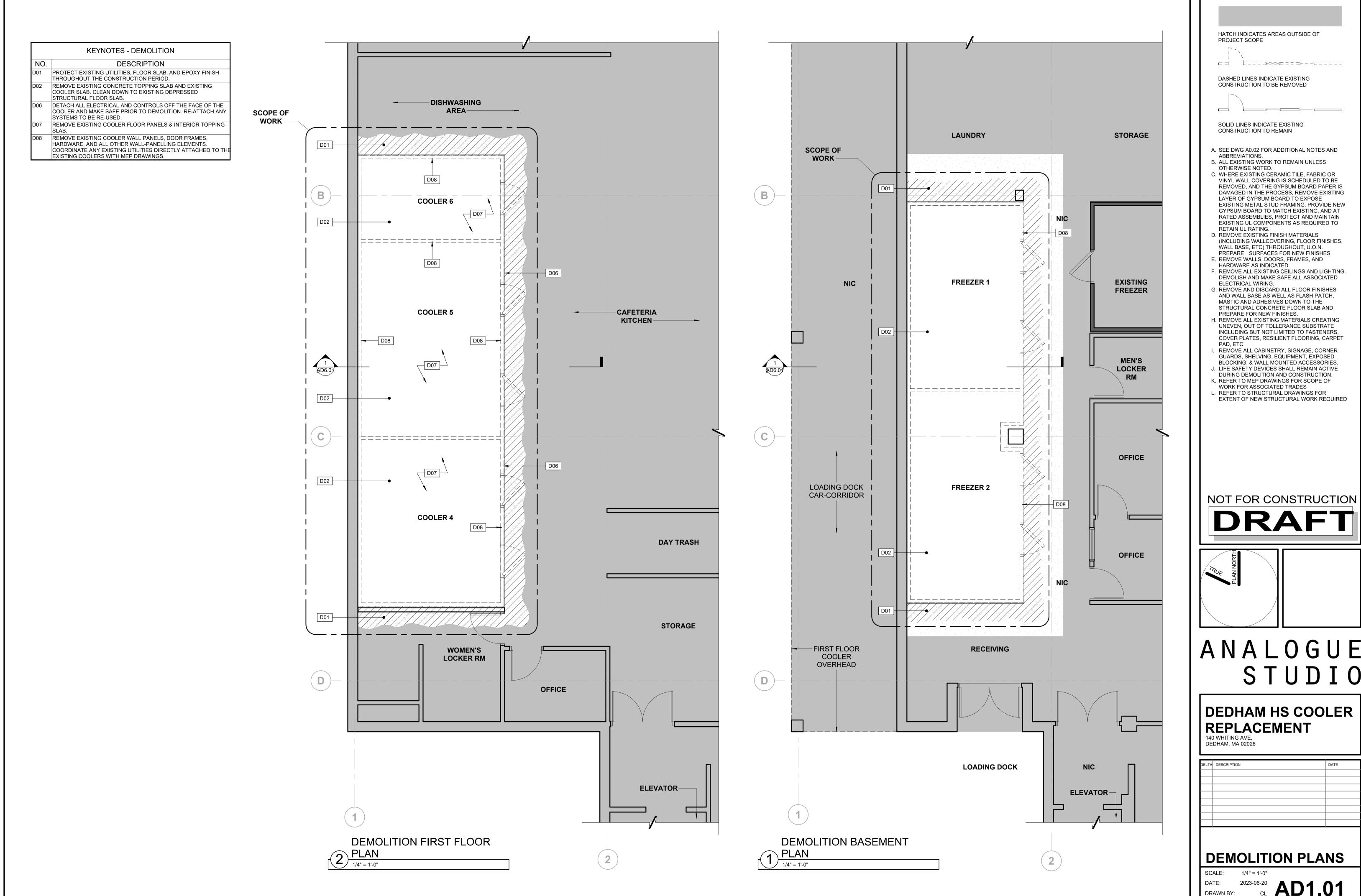
EMAIL: MBATTE@CROMWELLCONSULT.COM

CLIENT / CONTACT

140 WHITING AVE
DEDHAM, MA 02026
PHONE: 781.310.1901
CONTACT: JEANNE JOHNSON

DEDHAM HIGHSCHOOL - FOODSERVICE DIRECTOR

EMAIL: JJOHNSON@DEDHAM.K12.MA.US



DEMOLITION NOTES

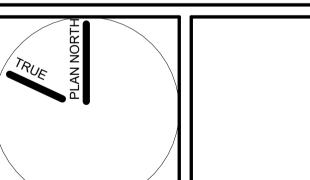
HATCH INDICATES AREAS OUTSIDE OF

DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED

SOLID LINES INDICATE EXISTING CONSTRUCTION TO REMAIN

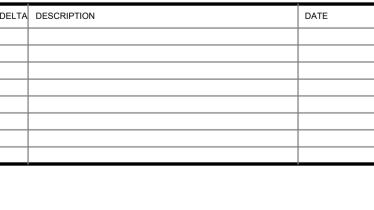
- A. SEE DWG A0.02 FOR ADDITIONAL NOTES AND
- ABBREVIATIONS.
- B. ALL EXISTING WORK TO REMAIN UNLESS OTHERWISE NOTED.
- C. WHERE EXISTING CERAMIC TILE, FABRIC OR VINYL WALL COVERING IS SCHEDULED TO BE REMOVED, AND THE GYPSUM BOARD PAPER IS DAMAGED IN THE PROCESS, REMOVE EXISTING LAYER OF GYPSUM BOARD TO EXPOSE EXISTING METAL STUD FRAMING. PROVIDE NEW GYPSUM BOARD TO MATCH EXISTING, AND AT RATED ASSEMBLIES, PROTECT AND MAINTAIN EXISTING UL COMPONENTS AS REQUIRED TO
- D. REMOVE EXISTING FINISH MATERIALS (INCLUDING WALLCOVERING, FLOOR FINISHES, WALL BASE, ETC) THROUGHOUT, U.O.N. PREPARE SURFACES FOR NEW FINISHES.
- E. REMOVE WALLS, DOORS, FRAMES, AND HARDWARE AS INDICATED. F. REMOVE ALL EXISTING CEILINGS AND LIGHTING.
- DEMOLISH AND MAKE SAFE ALL ASSOCIATED ELECTRICAL WIRING. G. REMOVE AND DISCARD ALL FLOOR FINISHES
- AND WALL BASE AS WELL AS FLASH PATCH, MASTIC AND ADHESIVES DOWN TO THE STRUCTURAL CONCRETE FLOOR SLAB AND PREPARE FOR NEW FINISHES.
- UNEVEN, OUT OF TOLLERANCE SUBSTRATE INCLUDING BUT NOT LIMITED TO FASTENERS, COVER PLATES, RESILIENT FLOORING, CARPET REMOVE ALL CABINETRY, SIGNAGE, CORNER
- GUARDS, SHELVING, EQUIPMENT, EXPOSED BLOCKING, & WALL MOUNTED ACCESSORIES.
- J. LIFE SAFETY DEVICES SHALL REMAIN ACTIVE DURING DEMOLITION AND CONSTRUCTION. K. REFER TO MEP DRAWINGS FOR SCOPE OF
- WORK FOR ASSOCIATED TRADES . REFER TO STRUCTURAL DRAWINGS FOR

DRAFT



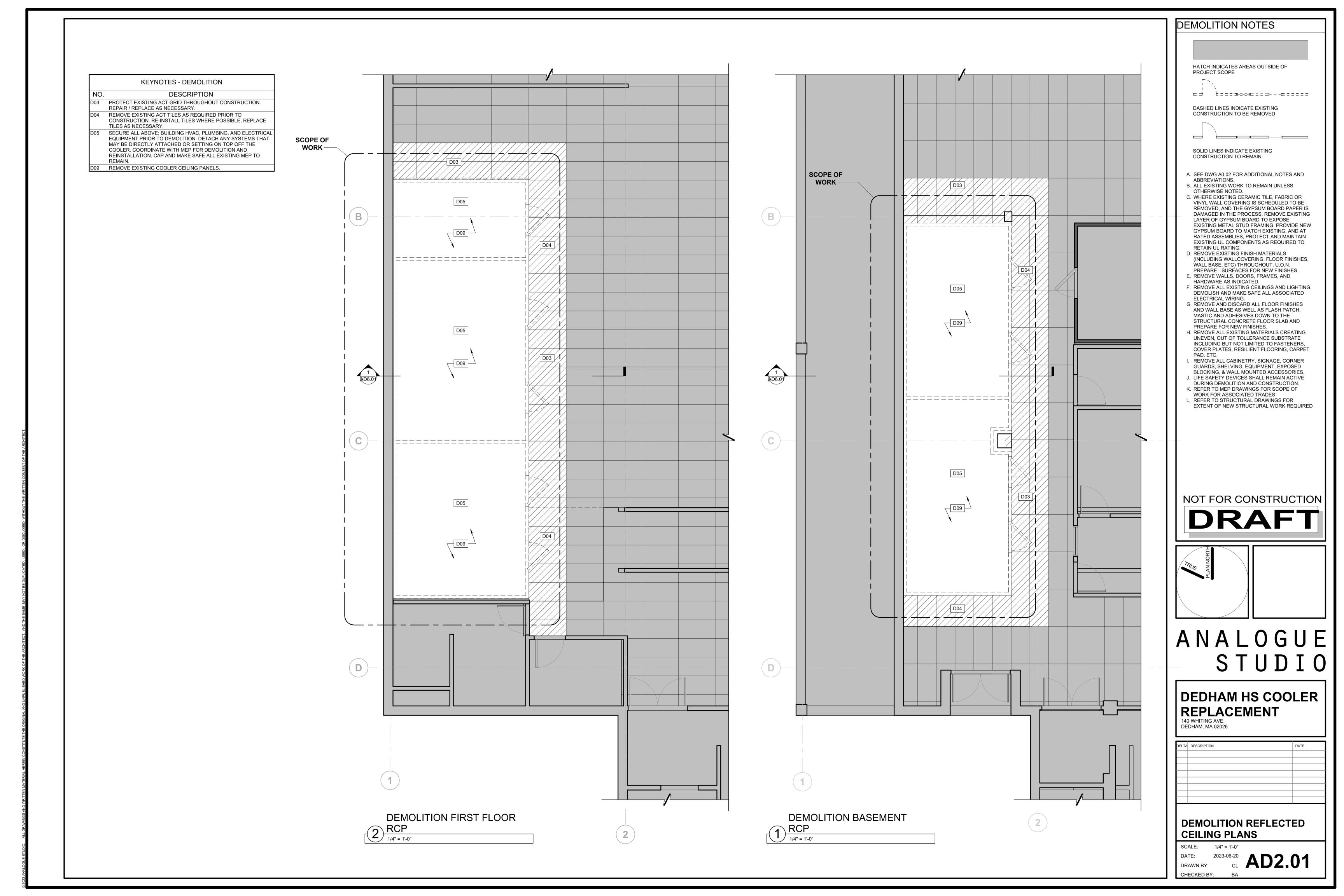
ANALOGUE STUDIO

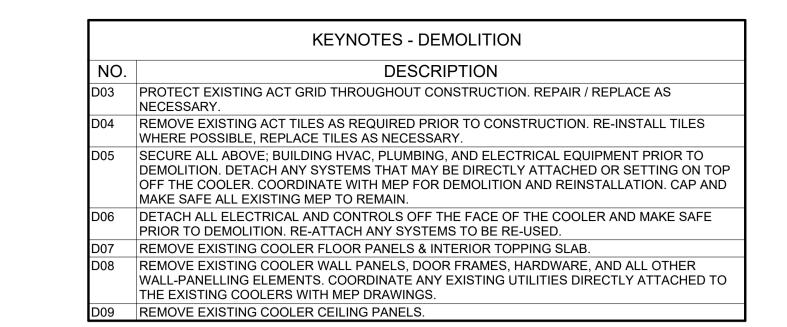
DEDHAM HS COOLER REPLACEMENT 140 WHITING AVE, DEDHAM, MA 02026

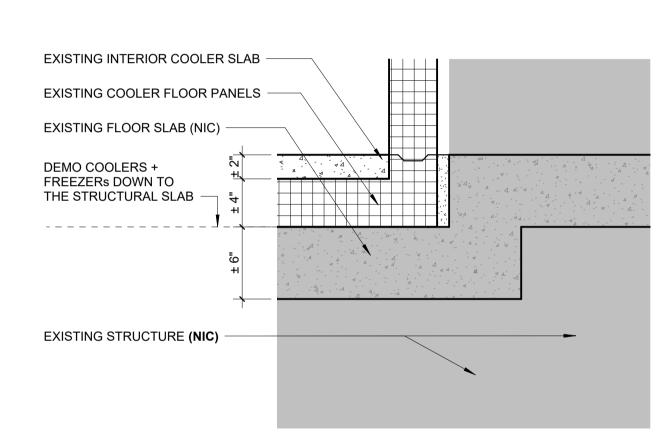


DEMOLITION PLANS

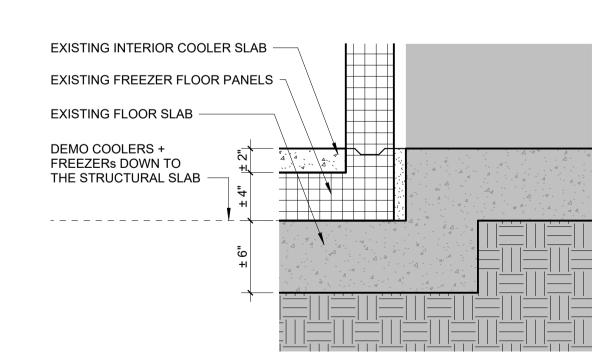
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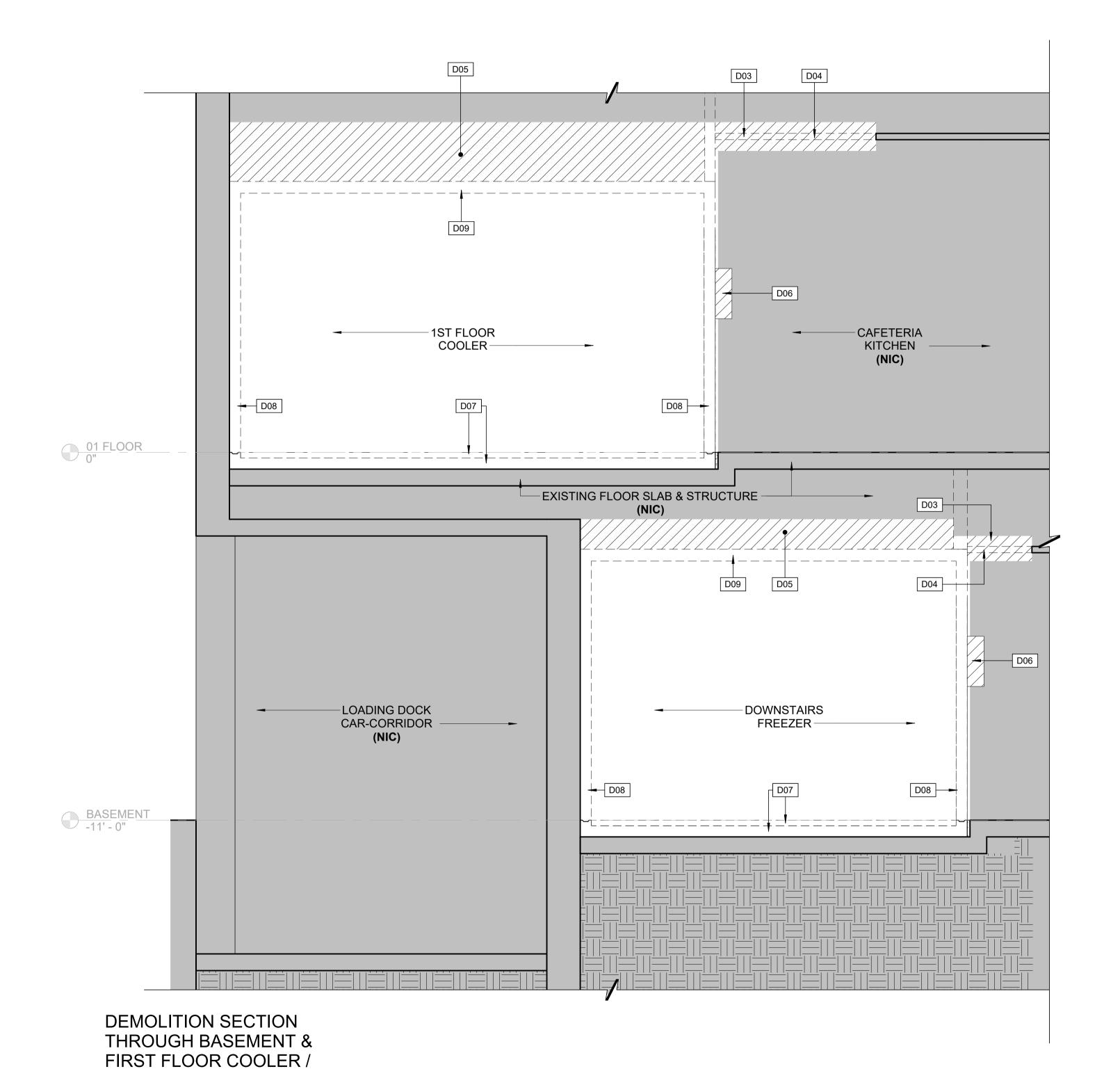






EXISTING BASEMENT
FREEZER FLOOR DETAIL
1 1/2" = 1'-0"

1) FREEZER



DEMOLITION NOTES

HATCH INDICATES AREAS OUTSIDE OF PROJECT SCOPE

DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED

CONSTRUCTION TO BE REMOVED

SOLID LINES INDICATE EXISTING CONSTRUCTION TO REMAIN

- A. SEE DWG A0.02 FOR ADDITIONAL NOTES AND
- ABBREVIATIONS.

 B. ALL EXISTING WORK TO REMAIN UNLE
- B. ALL EXISTING WORK TO REMAIN UNLESS OTHERWISE NOTED.
- C. WHERE EXISTING CERAMIC TILE, FABRIC OR VINYL WALL COVERING IS SCHEDULED TO BE REMOVED, AND THE GYPSUM BOARD PAPER IS DAMAGED IN THE PROCESS, REMOVE EXISTING LAYER OF GYPSUM BOARD TO EXPOSE EXISTING METAL STUD FRAMING. PROVIDE NEW GYPSUM BOARD TO MATCH EXISTING, AND AT RATED ASSEMBLIES, PROTECT AND MAINTAIN EXISTING UL COMPONENTS AS REQUIRED TO RETAIN UL RATING.
- D. REMOVE EXISTING FINISH MATERIALS
 (INCLUDING WALLCOVERING, FLOOR FINISHES,
 WALL BASE, ETC) THROUGHOUT, U.O.N.
 PREPARE SURFACES FOR NEW FINISHES.
- E. REMOVE WALLS, DOORS, FRAMES, AND HARDWARE AS INDICATED.F. REMOVE ALL EXISTING CEILINGS AND LIGHTING. DEMOLISH AND MAKE SAFE ALL ASSOCIATED
- ELECTRICAL WIRING.
 G. REMOVE AND DISCARD ALL FLOOR FINISHES AND WALL BASE AS WELL AS FLASH PATCH, MASTIC AND ADHESIVES DOWN TO THE STRUCTURAL CONCRETE FLOOR SLAB AND
- PREPARE FOR NEW FINISHES.

 H. REMOVE ALL EXISTING MATERIALS CREATING UNEVEN, OUT OF TOLLERANCE SUBSTRATE INCLUDING BUT NOT LIMITED TO FASTENERS, COVER PLATES, RESILIENT FLOORING, CARPET PAREFULL.
- I. REMOVE ALL CABINETRY, SIGNAGE, CORNER GUARDS, SHELVING, EQUIPMENT, EXPOSED BLOCKING, & WALL MOUNTED ACCESSORIES.
- J. LIFE SAFETY DEVICES SHALL REMAIN ACTIVE DURING DEMOLITION AND CONSTRUCTION.
 K. REFER TO MEP DRAWINGS FOR SCOPE OF
- WORK FOR ASSOCIATED TRADES
 L. REFER TO STRUCTURAL DRAWINGS FOR

EXTENT OF NEW STRUCTURAL WORK REQUIRED

NOT FOR CONSTRUCTION

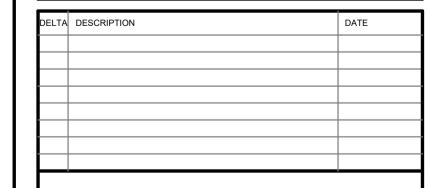




ANALOGUE

DEDHAM HS COOLER REPLACEMENT

140 WHITING AVE, DEDHAM, MA 02026



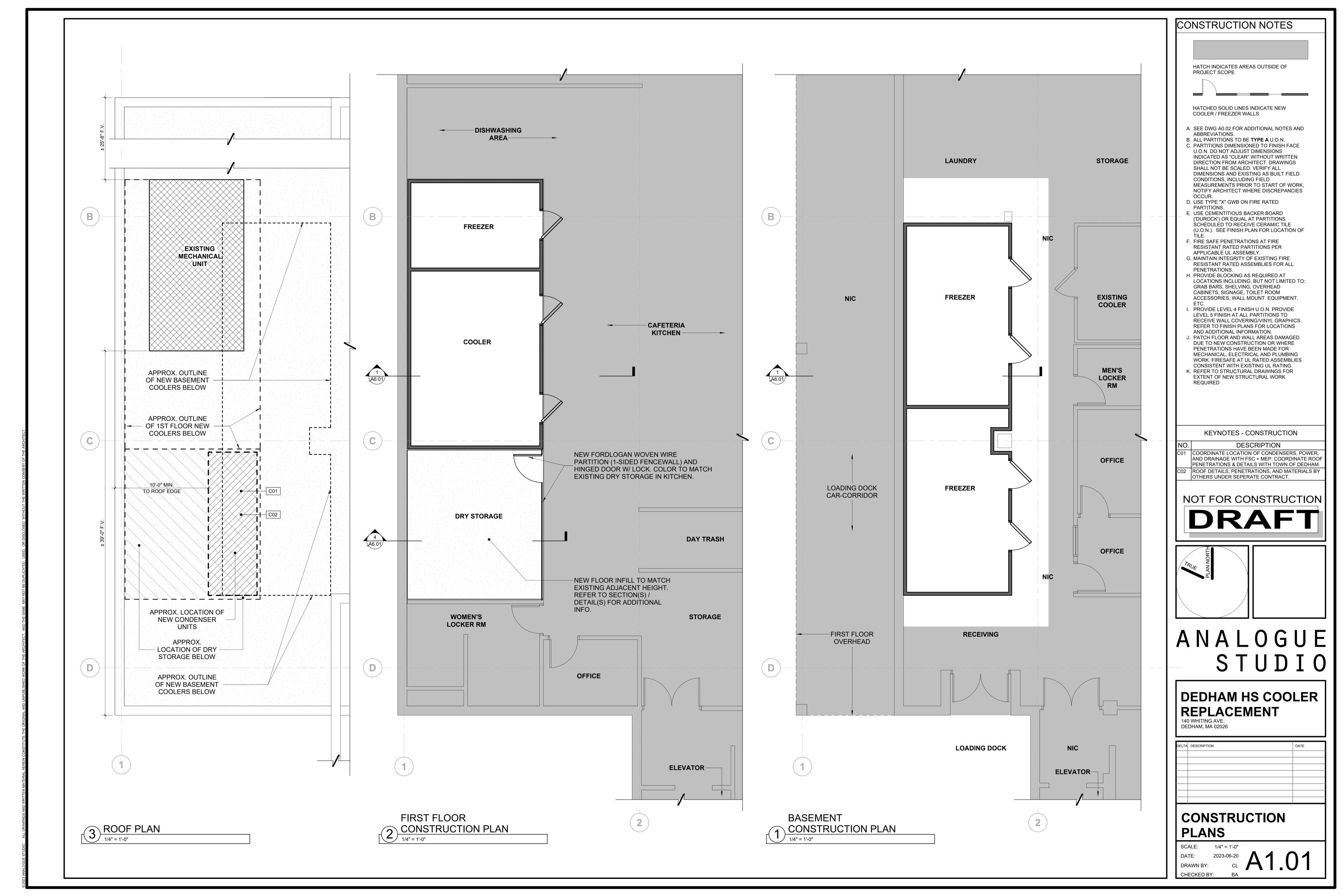
DEMOLITION DETAILS

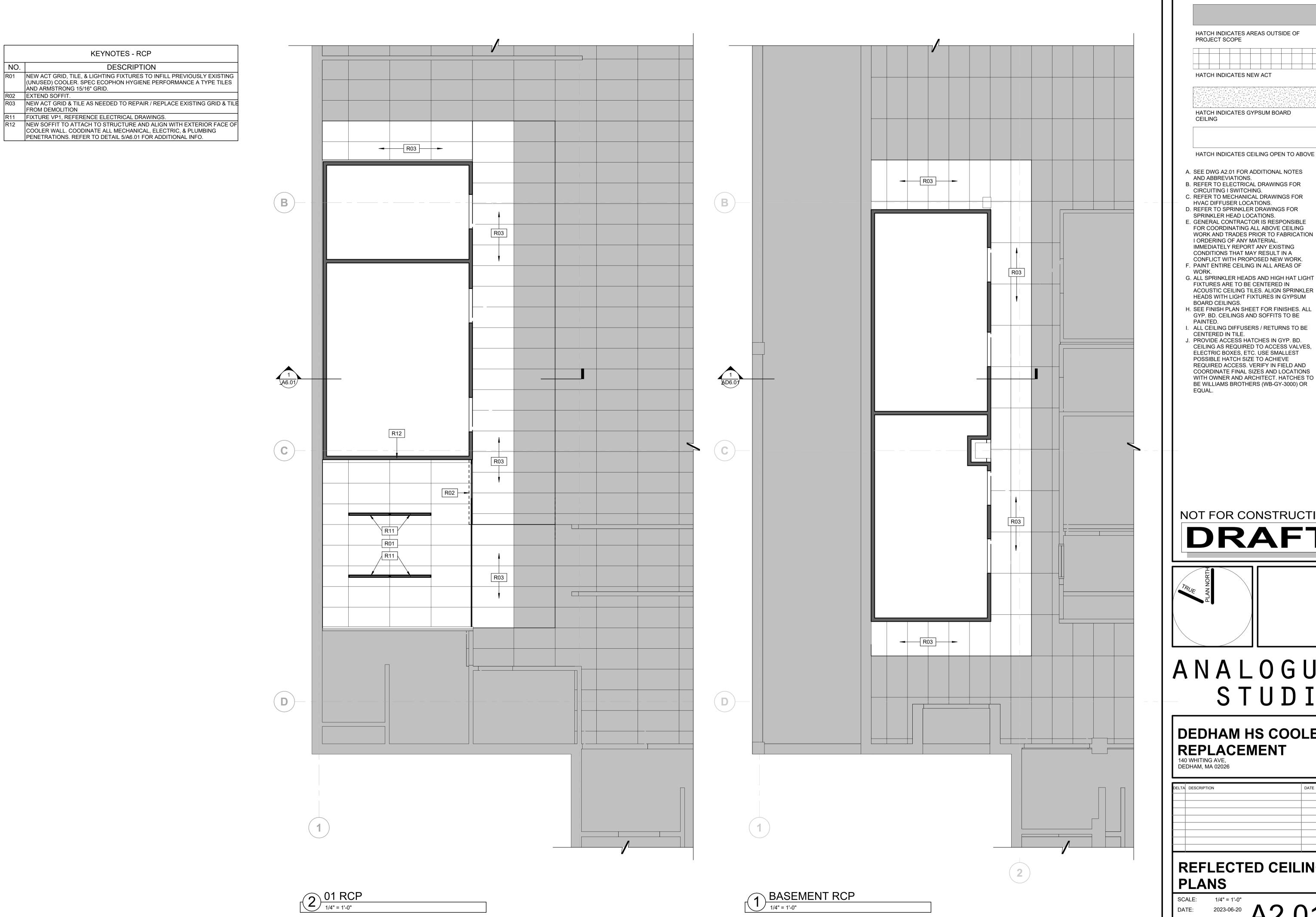
SCALE: AS NOTED
DATE: 2023-06-2

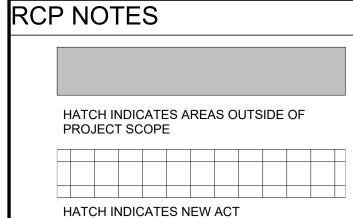
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CHECKED BY: BA





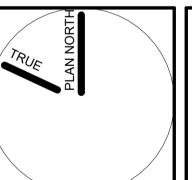


HATCH INDICATES GYPSUM BOARD CEILING

HATCH INDICATES CEILING OPEN TO ABOVE

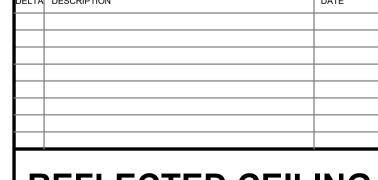
- A. SEE DWG A2.01 FOR ADDITIONAL NOTES
- AND ABBREVIATIONS. B. REFER TO ELECTRICAL DRAWINGS FOR
- CIRCUITING I SWITCHING. C. REFER TO MECHANICAL DRAWINGS FOR
- HVAC DIFFUSER LOCATIONS.
- D. REFER TO SPRINKLER DRAWINGS FOR SPRINKLER HEAD LOCATIONS.
- E. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL ABOVE CEILING WORK AND TRADES PRIOR TO FABRICATION I ORDERING OF ANY MATERIAL. IMMEDIATELY REPORT ANY EXISTING
- CONDITIONS THAT MAY RESULT IN A CONFLICT WITH PROPOSED NEW WORK. F. PAINT ENTIRE CEILING IN ALL AREAS OF
- FIXTURES ARE TO BE CENTERED IN ACOUSTIC CEILING TILES. ALIGN SPRINKLER HEADS WITH LIGHT FIXTURES IN GYPSUM BOARD CEILINGS.
- H. SEE FINISH PLAN SHEET FOR FINISHES. ALL GYP. BD. CEILINGS AND SOFFITS TO BE PAINTED.
- I. ALL CEILING DIFFUSERS / RETURNS TO BE CENTERED IN TILE.
- J. PROVIDE ACCESS HATCHES IN GYP. BD. CEILING AS REQUIRED TO ACCESS VALVES, ELECTRIC BOXES, ETC. USE SMALLEST POSSIBLE HATCH SIZE TO ACHIEVE REQUIRED ACCESS. VERIFY IN FIELD AND COORDINATE FINAL SIZES AND LOCATIONS WITH OWNER AND ARCHITECT. HATCHES TO BE WILLIAMS BROTHERS (WB-GY-3000) OR EQUAL.

NOT FOR CONSTRUCTION DRAFT



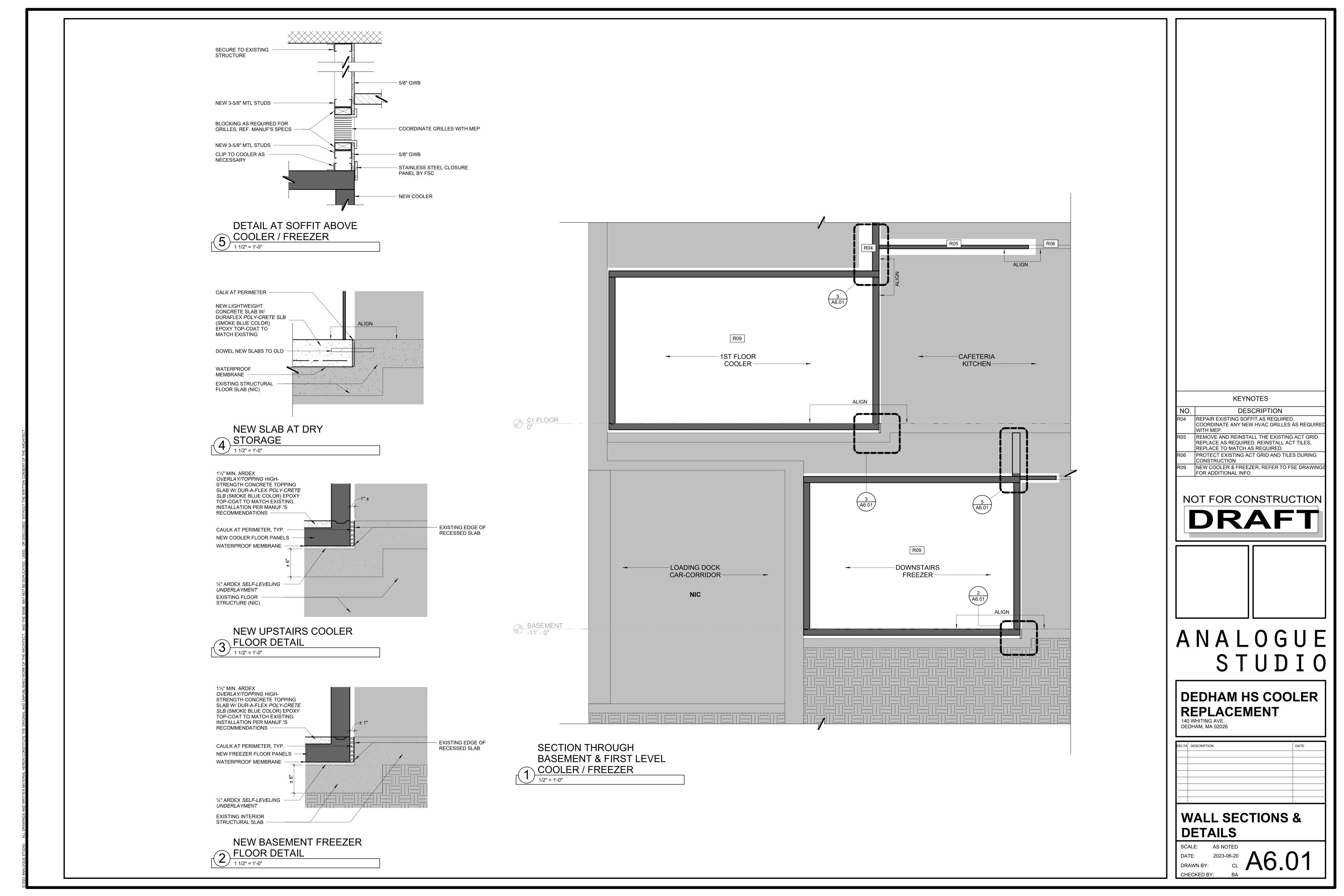
ANALOGUE STUDIO

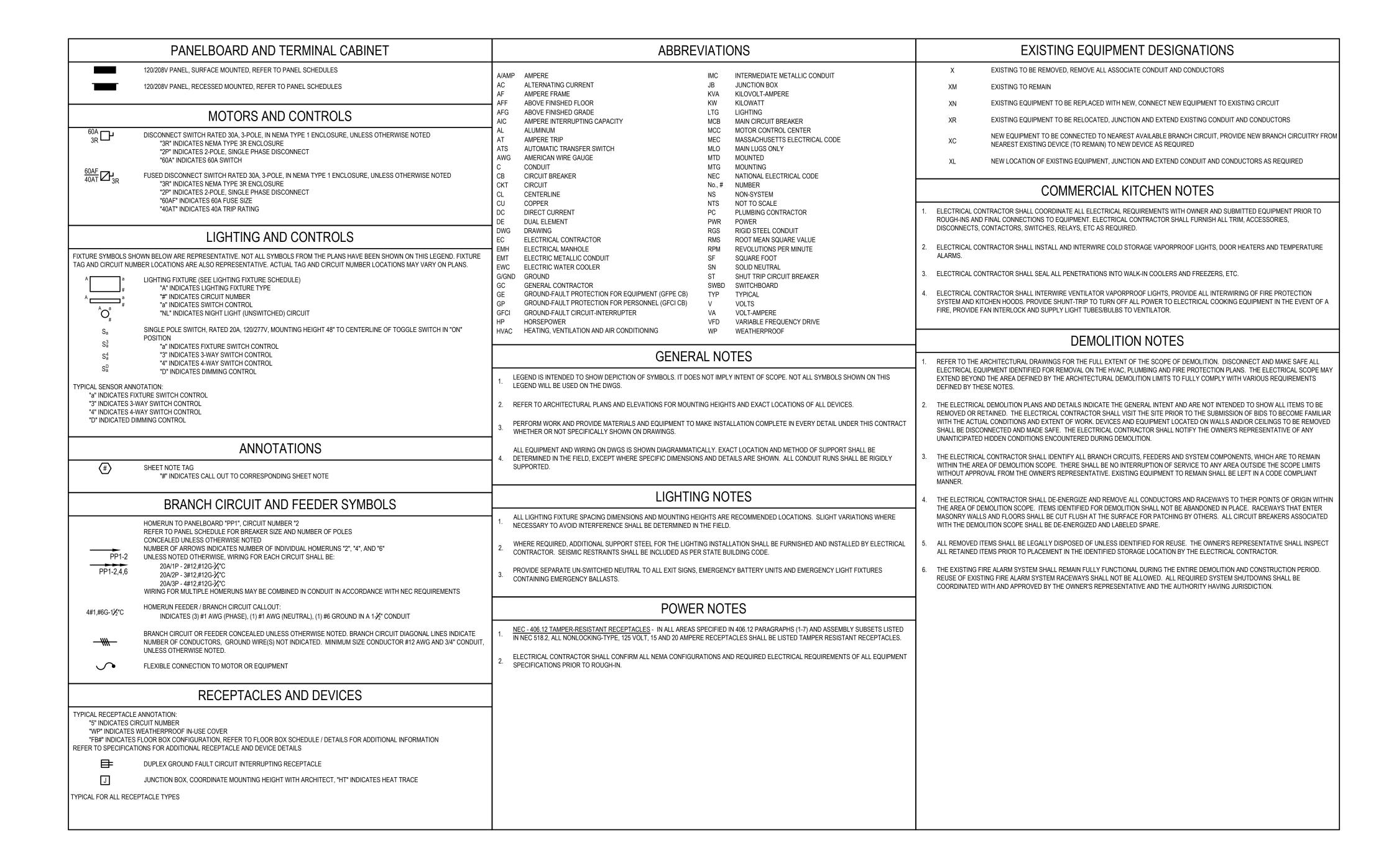
DEDHAM HS COOLER REPLACEMENT 140 WHITING AVE, DEDHAM, MA 02026



REFLECTED CEILING **PLANS**

CHECKED BY: BA

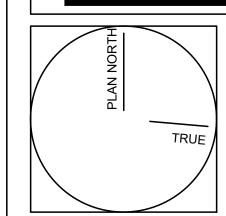




KEYNOTES - CONSTRUCTION

DESCRIPTION

DRAFT





ANALOGUE STUDIO

DEDHAM HS COOLER

140 Whiting Ave. Dedham, MA 02026

DELTA	DESCRIPTION	DATE

LEGEND AND NOTES

CALE: As Show

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ELECTRICAL SPECIFICATIONS

- 1. THE OWNERS GENERAL CONDITIONS, SPECIAL CONDITIONS AND SUPPLEMENTAL CONDITIONS OR REQUIREMENTS ARE PART OF THIS
- 2. EXAMINATION OF SITE AND CONTRACT DOCUMENT: BEFORE SUBMITTING HIS PROPOSAL, THIS CONTRACTOR SHALL VISIT THE PREMISE AND 7.1.1. FIRE RATED ASSEMBLIES INCLUDE EXTERIOR WALLS, FIRE RATED WALL, FLOOR/CEILING ASSEMBLIES AND ROOFING/CEILING REVIEW THE ENTIRE PROJECT. THE CONTRACTOR SHALL DETERMINE THE DIFFICULTIES. CONDITIONS, AND DISPOSAL REQUIREMENTS WHICH MAY BE ENCOUNTERED DURING THE WORK. ALL CHARGES RELATED TO MEETING THE INTENT OF THE DRAWINGS AND SPECIFICATIONS SHALL BE INCORPORATED INTO THE BID. IF DISCREPANCIES ARISE BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NO ADDITIONAL CHARGES WILL BE ALLOWED DUE TO EXISTING CONDITIONS.
- 3. THE INSTALLATION OF ALL ELECTRICAL SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE STATE BUILDING CODE, ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES.
- 4. ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL. SHALL BE PROVIDED IN QUANTITIES NECESSARY TO
- COMPLETE THE WORK AND SHALL BARE ALL APPLICABLE LABELS FOR INTENDED USE. 5. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES AND CERTIFICATES, INCLUDE ALL FEDERAL, STATE AND LOCAL TAXES
- 6. WORKMANSHIP: THE ENTIRE WORK PROVIDED IN THIS SPECIFICATION SHALL BE CONSTRUCTED AND FINISHED IN EVERY RESPECT IN A WORKMANLIKE AND SUBSTANTIAL MANNER. EQUIPMENT SHALL BE SECURELY INSTALLED PLUMB AND/OR LEVEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED BY WORK OF OTHER TRADES. OBTAIN DETAILED INFORMATION FROM THE MANUFACTURERS OF APPARATUS AS TO THE PROPER METHOD OF INSTALLING AND CONNECTING EQUIPMENT. OBTAIN ALL INFORMATION FROM THE GENERAL
- 7. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE DEVICES AND COMPONENTS SHOWN ON PLANS BUT NOT ON RISERS AND VICE VERSA AS IF EXPRESSLY SHOWN ON BOTH.

CONTRACTOR AND OTHER SUBCONTRACTORS, WHICH MAY BE NECESSARY TO FACILITATE WORK AND THE COMPLETION OF THE WHOLE

- 8. THE ELECTRICAL CONTRACTOR (EC) SHALL VERIFY THE LOCATIONS AND MOUNTING HEIGHTS OF ALL EQUIPMENT, LIGHT FIXTURES, PANELBOARDS, OUTLETS AND MECHANICAL EQUIPMENT WITH THE OWNER OR ARCHITECT PRIOR TO COMMENCING ANY WORK.
- 9. THE EC SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO THE STRUCTURAL MEMBER, WITHOUT PROPER WRITTEN APPROVAL OF THE
- 10. EXAMINE ALL DRAWINGS FOR REQUIREMENTS WHICH AFFECT THE WORK OF THIS SECTION. COORDINATE WORK WITH OTHER TRADES.
- 11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A COMPLETE TEMPORARY LIGHTING AND POWER SYSTEM FOR THE CONSTRUCTION OF THE PROJECT AND SHALL PAY FOR THE COST OF INSTALLATIONS. THE E.C. SHALL INCLUDE ALL CHARGES FROM THE UTILITY COMPANY TO CONNECT AND DISCONNECT THE TEMPORARY SERVICE. THE COST OF ELECTRICITY SHALL BE BY THE OWNER OR GENERAL CONTRACTOR.
- 12. RECORD DRAWINGS: IN ACCORDANCE WITH REQUIREMENTS, FURNISH AND KEEP IN THE JOB AT ALL TIMES, TWO (2) COMPLETE AND SEPARATE SETS OF BLACKLINE PRINTS OF THE ELECTRICAL WORK ON WHICH SHALL BE CLEARLY, NEATLY AND ACCURATELY NOTED, PROMPTLY AS THE WORK PROGRESSES. ALL ELECTRICAL CHANGES. REVISIONS AND ADDITIONS TO THE WORK. WHENEVER WORK IS INSTALLED OTHERWISE THAN AS SHOWN ON THE CONTRACT DRAWINGS, SUCH CHANGES SHALL BE NOTED.AT THE CONCLUSION OF WORK, PREPARE RECORD DRAWINGS IN ACCORDANCE WITH GENERAL CONDITIONS.
- 13. THE COMPLETED ELECTRICAL INSTALLATION SHALL BE GUARANTEED IN WRITING BY THE ELECTRICAL CONTRACTOR TO BE FREE FROM DEFECTS OF MANUFACTURE AND INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE OWNER. ANY FAULT DUE TO DEFECTIVE OR IMPROPER MATERIAL, EQUIPMENT WORKMANSHIP OR DESIGN WHICH MAY DEVELOP SHALL BE MADE GOOD FORTHWITH BY, AND AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR, INCLUDING ALL OTHER DAMAGES DONE TO AREAS, MATERIALS AND OTHER SYSTEMS RESULTING FROM THIS FAILURE.
- 14. THE EC SHALL NOTIFY THE OWNER/ENGINEER UPON: (1) COMPLETION OF ALL ROUGH WIRING BEFORE CLOSURE OF ALL WALLS AND (2) UPON "SUBSTANTIAL COMPLETION" OF ALL ELECTRICAL WORK. AFTER SUBSTANTIAL COMPLETION, THE OWNER'S REPRESENTATIVE SHALL PREPARE A PUNCH LIST OF ITEMS TO BE CORRECTED. THE EC SHALL CORRECT, AT NO ADDITIONAL COST, ANY DEFICIENCIES FOUND.

- 15.1. THERMOSTATS AND CONTROL WIRING SHALL BE SUPPLIED AND INSTALLED BY THE HVAC CONTRACTOR. 15.2. STARTERS FOR MECHANICAL EQUIPMENT SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR, INSTALLED AND WIRED BY THE
- ELECTRICAL CONTRACTOR. U.N.O. 15.3. CUTTING, PATCHING AND TRENCHING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
- 16. SUBMITTALS: EC SHALL PROVIDE ELECTRONIC PDF SUBMITTALS FOR ELECTRICAL EQUIPMENT TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SUBMITTALS SHALL INDICATE ALL MATERIALS, DIMENSIONS AND RATINGS. PROVIDE INFORMATION ON THE FOLLOWING ITEMS (ALLOW TEN DAYS FOR SUBMITTAL REVIEW):
- 16.1. SWITCHES AND RECEPTACLES 16.2. LIGHTING FIXTURES AND CONTROLS
- 16.3. ALL FIRE DETECTION SYSTEM COMPONENTS
- 16.4. CIRCUIT BREAKERS 16.5. FUSIBLE SWITCHES
- 16.6. WIRING DEVICES CONDUIT & WIRE
- 16.8. FIRE ALARM (EQUIPMENT CUTS, RISERS, WIRE SIZING, ETC) 16.9. TEST REPORTS
- 16.10. SUBSTITUTIONS SHOULD BE NOTED WHEN SUBMITTED WITH AN EXPLANATION FOR THE SUBSTITUTION.
- 16.11. ELEVATIONS OF ALL ELECTRIC ROOMS, WITH PROPOSED MANUFACTURER'S EQUIPMENT SHALL BE SUBMITTED TO SHOW COMPLIANCE WITH NEC CODE REQUIREMENTS. 16.12. THE ACCEPTANCE OF SYSTEMS, EQUIPMENT AND DATA SHEETS IS A GENERAL APPROVAL SUBJECT TO THE CONTRACT DRAWINGS,
- SPECIFICATIONS, AND VERIFICATION OF ALL MEASUREMENTS AT THE JOB. ACCEPTANCE DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY OF DATA SHEET ERRORS OR OMISSIONS. QUANTITY OF ITEMS INDICATED ON SUBMITTAL IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR

PART 2 - PRODUCTS

GENERAL

- 1.1. AS PART OF THIS CONTRACT, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT, DEVICES, MATERIALS AND EQUIPMENT NECESSARY TO MAKE THE INSTALLATION COMPLETE AND OPERATIONAL IN EVERY DETAIL, WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INCLUDE A MANUFACTURERS WARRANTY. IT IS THE INTENT OF THE SPECIFICATIONS THAT ONE MANUFACTURER BE SELECTED, NOT A COMBINATION, FOR ANY PARTICULAR CLASSIFICATION OF MATERIAL FOR EXAMPLE ALL WIRE OF ONE MANUFACTURER, ALL SWITCHES OF ONE MANUFACTURER, ETC. EXCEPT SPECIFIC MATERIAL CLASSIFICATIONS IN WHICH DELIVERY TIME BECOMES A PROBLEM. THE ENGINEER MAY GIVE SPECIFIC **EXEMPTION FROM THE REQUIREMENTS**
- 1.4. WHERE MATERIALS, EQUIPMENT, APPARATUS, OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OR CATALOG NUMBER, SUCH DESIGNATION IS TO ESTABLISH STANDARDS OF PERFORMANCE, QUALITY, TYPE, AND STYLE.
- 2. FEEDERS: ALL FEEDERS BETWEEN PANELBOARDS AND SWITCHBOARDS SHALL BE PROVIDED IN TYPE EMT OR GRS CONDUIT; TYPE MC CABLE IS NOT PERMITTED. UNLESS NOTED OTHERWISE.
- 3. CONCEALED BRANCH CIRCUITS: ALL BRANCH CIRCUIT WIRING SHALL BE CONCEALED WHENEVER POSSIBLE. WITHIN CONCEALED SPACES SUCH AS ABOVE HUNG CEILING AREAS AND WITHIN WALL PARTITIONS
- 3.1. BRANCH CIRCUIT WIRING SHALL BE TYPE MC CABLE, 12/2 OR 12/3 WITH FULL SIZE INSULATED GROUND WIRE. MC TYPE CABLE MAY BE UTILIZED FOR FOR POWER AND LIGHTING CIRCUITS.

CONDUIT:

- ALL CONDUIT SHALL BE RUN CONCEALED UNLESS NOTED OTHERWISE
- ALL EXPOSED, OR SURFACE MOUNTED BRANCH CIRCUIT RUNS ABOVE 8'-0" SHALL BE INSTALLED USING TYPE EMT CONDUIT. BELOW 8'-0" RIGID GALVANIZED STEEL CONDUIT SHALL BE INSTALLED.MINIMUM SIZE CONDUIT USED SHALL BE 3/4".
- PROVIDE FIRE RESISTANT RATING AROUND ALL CONDUITS PENETRATING THROUGH FIRE RATED WALLS OR FLOORS. RATING OF FIRE PROOFING SHALL MATCH RATING OF WALLS.
- ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE. ALL CONDUITS SHALL HAVE A PROPER SIZE GROUNDING CONDUCTOR.
- ALL CONNECTIONS TO MACHINERY AND EQUIPMENT SUBJECT TO VIBRATION SHALL BE MADE WITH FLEXIBLE LIQUIDTIGHT CONDUIT, NOT IN EXCESS OF 6'-0". PROVIDE SUFFICIENT SLACK TO PREVENT VIBRATION TRANSMISSION.
- PROVIDE EXPANSION FITTINGS ON ALL CONDUIT PASSING THROUGH BUILDING EXPANSION JOINTS. CONDUITS ARE SHOWN DIAGRAMMATICALLY EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED BY FIELD
- CONDITIONS. ALL CONDUITS SHALL BE RIGIDLY SUPPORTED.
- 5. WIRING: WIRING SHALL BE A MINIMUM OF #12 AWG SOLID. ALL WIRE AND CABLE SHALL BE COPPER; NO ALUMINUM IS PERMITTED, WITHOUT APPROVAL OF THE OWNER/ENGINEER ON A VALUE ENGINEERING BASIS. WIRE AND CABLE SHALL BE MANUFACTURED BY PHELPS DODGE
- COPPER PRODUCTS CORP., GENERAL CABLE CO., TRIANGLE CONDUIT AND CABLE CO., OR EQUAL. 5.1. NON-METALIC CONDUIT TYPE NMC/ROMEX SHALL ONLY BE ALLOWED WITH OWNER/ENGINEER APPROVAL & MUST BE ALLOWED BY CODE & BE INSTALLED IN ACCORDANCE WITH CODE REQUIREMENTS. AWG #8 & LARGER SHALL BE STRANDED, AWG #10 AND SMALLER SHALL BE SOLID.
- ALL WIRING (LOW VOLTAGE, TEL/DATA, FIRE ALARM, POWER BRANCH CIRCUIT) SHALL BE PLENUM RATED; NO EXCEPTIONS. NON-PLENUM RATED CABLES OF ANY KIND SHALL NOT BE PROVIDED.
- ALL NEW WIRING SHALL BE THHN/THWN RATED 75-90 DEGREES, 600V. WET-DRY LOCATIONS.
- BRANCH CIRCUITS LONGER THAN 150 FEET FOR 120V SHALL BE AT LEAST #10AWG FROM PANEL TO LAST OUTLET.
- CIRCUITING SHOWN ON THE DWGS IS DIAGRAMMTIC PROVIDE COMPLETE WIRING SYSTEM WHETHER OR NOT INDICATED
- 5.5. PROVIDE AT LEAST ONE HOT AND ONE NEUTRAL CONDUCTOR FOR ALL INDIVIDUAL BRANCH CIRCUIT WIRING.

- 6.1. ALL GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 250, AS AMENDED BY LOCAL
- PROVIDE A COMPLETE GROUNDING ELECTRODE SYSTEM AND EQUIPMENT GROUNDING SYSTEM.
- CONDUCTORS UTILIZED FOR GROUNDING AND BONDING SHALL HAVE TYPE "THHN" OR BETTER INSULATION.

FOR EACH FEEDER OR RUN OF LIGHTING AND APPLIANCE BRANCH CIRCUITRY, INCLUDE EQUIPMENT AND RACEWAY GROUNDING CONDUCTORS RUN WITHIN THE RACEWAYS. THE INDICATED QUANTITIES OF CONDUCTORS DO NOT INCLUDE THE GROUND WIRES.

7. OUTLET BOXES AND ACCESSORIES:

- STEEL OR FIRE RATED ELECTRICAL BOXES (SWITCHES, OUTLETS, JUNCTION BOXES, ETC) SHALL BE PROVIDED AND INSTALLED IN ALL FIRE RATED ASSEMBLIES AS IN ACCORDANCE WITH BUILDING & ELECTRICAL CODES. PROVIDE UL LISTED MOLDABLE PUTTY PADS TO SEAL ANNULAR SPACES/PENETRATIONS AROUND ALL JUNCTION BOXES.
- PROVIDE GALVANIZED SHEET STEEL OUTLET BOXES FOR ALL OUTLETS UNLESS OTHERWISE NOTED. ALL OUTLET BOXES FOR PENDANT-MOUNTED FIXTURES SHALL BE GALVANIZED, STAMPED STEEL FURNISHED WITH A FIXTURE STUD,
- SECURELY MOUNTED TO FRAMING ALL OUTLET BOXES FOR CONCEALED WORK SHALL BE GALVANIZED, STAMPED STEEL; THOSE FOR FIXTURES, FURNISHED WITH A
- FIXTURE STUD. OUTLET BOXES SHALL BE OF SIZE AND TYPE TO ACCOMMODATE (1) STRUCTURAL CONDITIONS, (2) SIZE AND NUMBER OF RACEWAYS, CONDUCTORS OR CABLES ENTERING, AND (3) DEVICES OR FIXTURES FOR WHICH THEY ARE REQUIRED.
- INSTALL BLANK PLATES ON ALL OUTLET BOXES, IN WHICH NO APPARATUS IS INSTALLED, WHICH DO NOT INTEGRALLY PROVIDE A COVER FOR THE BOX. SPECIAL CARE SHALL BE TAKEN TO SET ALL BOXES CORRECTLY SQUARE AND TRUE WITH THE BUILDING FINISH.
- FIXTURE OUTLET BOXES SHALL HAVE 3/8" SOLID MALE FIXTURE STUDS AND AUXILIARY FIXTURE STEMS SHALL BE SUPPORTED FROM
- 3/8" MALE FIXTURE STUDS. 7.9. OUTLET BOXES AND ACCESSORIES SHALL BE AS MANUFACTURED BY STEEL CITY, APPLETON, RACO, OR EQUAL.
- 8. WIRING DEVICES: ALL WIRING DEVICES SHALL BE OF A SINGLE MANUFACTURER, AS MANUFACTURED BY PASS AND SEYMOUR, GENERAL ELECTRIC, HUBBELL, BRYANT ELECTRIC COMPANY, LEVITON, OR EQUAL. MANUFACTURERS LISTED BELOW ESTABLISH MINIMUM REQUIREMENTS COORDINATE COLOR WITH ARCHITECT
- 8.1. ALL 20A COMMERCIAL GRADE RECEPTACLES SHALL BE GROUNDING TYPE, 125V. RECEPTACLES SHALL BE BACK AND SIDE WIRED WITH SCREW TYPE TERMINALS OR PRESSURE TYPE, SCREWLESS TERMINALS. PROVIDE TAMPER RESISTANT GRADE RECEPTACLES IN ALL LOCATIONS AS REQUIRED BY CODE; DWELLING UNIT, CHILD CARE,
- PRESCHOOLS, BUSINESS OFFICES, MEDICAL, DENTAL AND OUT PATIENT FACILITIES. SUBSETS OF ASSEMBLY GROUPS AND WIRING DEVICES WITHIN COMMERCIAL KITCHEN AND BAR AREAS SHALL BE PROVIDE WITH IN-USE, CLEAR WEATHER PROOF COVER. SPECIAL EQUIPMENT RECEPTACLES AS REQUIRED SHALL HAVE AN ADDITIONAL GROUNDING LEG AND SHALL BE OF CAPACITY AND
- CONFIGURATION FOR THE EQUIPMENT TO BE CONNECTED, CONTRACTOR SHALL CONFIRM CONFIGURATION PRIOR TO ROUGH IN. GFI RECEPTACLES SHALL EACH HAVE GFI TRIPPING (NO FEED THROUGH IS PERMITTED) . DAMP LOCATION WEATHERPROOF RECEPTACLES SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHEN THE RECEPTACLE IS 8.6.
- WET LOCATION WEATHERPROOF RECEPTACLES SHALL CONFORM TO NEC ARTICLE 406.8(B)(i) AND SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED. PROVIDE RECEPTACLE WITH COVER.
- LIGHT SWITCHES: ALL LOCAL WALL SWITCHES SHALL BE OF THE FLUSH QUIET DECORA OR TOGGLE TYPE (AS COORDINATED WITH ARCHITECT), SINGLE-POLE, DOUBLE-POLE, OR THREE-WAY AS REQUIRED. SENSORS: THE DESIRED SWITCH CONTROL IS SHOWN ON THE DWGS. THE CONTRACTOR SHALL PROVIDE THE SWITCHING AS
- REQUIRED. ALL NECESSARY APPURTENANCES SHALL BE PROVIDED FOR THE TYPE SWITCHING SELECTED BY THE CONTRACTOR. THE GENERAL INTENT OF THE SENSOR DESIGN IS FOR ALL WALL SWITCHES WORKING INDEPENDENTLY TO BE LINE VOLTAGE. CEILING SENSORS AND WALL SWITCHES WORKING IN CONJUNCTION WITH CEILING SENSORS SHALL BE LOW VOLTAGE. ALL LOW VOLTAGE SENSORS SHALL BE PROVIDED WITH ALL POWER PACKS AS REQUIRED. SENSORS SHALL BE MOUNTED IN LOCATIONS AS RECOMMENDED BY THE MANUFACTURER. NO ADDITIONAL COMPENSATION WILL BE RECEIVED IF CONTRACTOR HAS TO RELOCATE SENSORS. TIME DELAY SETTINGS SHALL BE SET TO NO LESS THAN 10 MINUTES. COVERAGE DIMENSIONS APPLY TO DEVICE BEING CENTERED. ACTUAL COVERAGE'S CAN VARY ON THE SHAPE AND USE OF APPLICABLE SPACE. COVERAGE MAY BE REDUCED IF DEVICE IS MOUNTED GREATER THAN 12 FEET HIGH.

CIRCUIT BREAKERS: 9.1. ALL GFI CIRCUIT BREAKERS

- PROVIDED FOR PERSONNEL PROTECTION SHALL BE 5-6mA IN ACCORDANCE WITH NEC REQUIREMENTS
- PROVIDED FOR EQUIPMENT PROTECTION SHALL BE 30mA IN ACCORDANCE WITH NEC REQUIREMENTS. 9.2. ALL MULTI-POLE CIRCUIT BREAKERS SHALL BE COMMON INTERNAL TRIP. HANDLE TIES SHALL NOT BE PERMITTED
- ALL CIRCUIT BREAKERS FEEDING 120V SINGLE PHASE LOADS WITHIN DWELLING UNITS SHALL BE ARC FAULT RATED AS REQUIRED BY
- MINIMUM SHORT CIRCUIT INTERRUPTING CAPACITY SHALL BE 10,000AIC AT 240V.

9.5. WHERE REQUIRED BY CODE, PROVIDE COMBINATION ARC-FAULT/GFCI BREAKERS.

- 10. EXISTING PANELBOARDS 10.1. THE EXISTING PANELBOARDS ARE SUITABLE FOR THEIR RATED VOLTAGE AS LABELED. ONLY NEW LOADS OF THE SAME VOLTAGE
- SHALL BE WIRED TO EXISTING PANELS. WHERE CONNECTIONS ARE MADE IN EXISTING PANELBOARDS, THE PANEL INDEX SHALL BE REVISED TO INDICATE THE NEW LOADS SERVED, ALL EXISTING PANEL BOARDS THAT DO NOT HAVE A CIRCUIT DIRECTORY CARD MOUNTED IN A FRAME WITH NONCOMBUSTIBLE PLASTIC COVER SHALL HAVE ONE INSTALLED ON THE INSIDE OF THE DOOR. ALL DIRECTORY CARDS SHALL BE
- PROPERLY FILLED IN, AND INDICATE AREAS AND DEVICES SERVED BY EACH UNIT. NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELBOARDS SHALL BE THE SAME FRAME SIZE AND INTERRUPTING CAPACITY AS EXISTING PANELBORDS AND CIRCUIT BREAKERS. CURRENT LIMITING CIRCUIT BREAKERS SHALL NOT BE USED

11. LIGHTING FIXTURES: 11.1. SUBSTITUTIONS FOR SCHEDULED LIGHTING EQUIPMENT WILL BE REJECTED UNLESS RECEIVED WITHIN TEN DAYS AFTER CONTRACT

- LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE, WITH LAMPS AND DRIVERS AS REQUIRED AND AS SHOWN ON THE FIXTURE SCHEDULE. FURNISH ALL FITTINGS AND OTHER MISCELLANEOUS MATERIALS FOR COMPLETE INSTALLATION OF FIXTURES.
- 11.3. SPARE: CONTRACTOR SHALL PROVIDE (3) ADDITIONAL EMERGENCY FIXTURES AND (2) ADDITIONAL EXIT SIGNS. EACH SHALL BE OF
- 12. DISCONNECT SWITCHES: ALL SAFETY SWITCHES SHALL BE NEMA GENERAL-DUTY TYPE HD AND UNDERWRITERS' LABORATORIES LISTED ALL SWITCHES SHALL HAVE SWITCHBLADES WHICH ARE FULLY VISIBLE IN THE OFF POSITION WITH THE DOOR OPEN. ALL CURRENT
- CARRYING PARTS SHALL BE PLATED THROUGH ELECTROLYTIC PROCESSES TO RESIST CORROSION AND PROMOTE COOL OPERATION. SWITCHES SHALL BE QUICK MAKE AND QUICK BREAK SUCH THAT DURING NORMAL OPERATION OF THE SWITCH. THE OPERATION OF THE CONTACTS SHALL BE NOT CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE CONTACTS HAS STARTED. THE HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER,
- WITH POSITIVE PADLOCKING PROVISIONS IN THE OFF POSITION. SWITCHES SHALL BE FURNISHED IN NEMA 1 GENERAL PURPOSE ENCLOSURES. ENCLOSURES SHALL BE OF CODE GAUGE (UL 98) SHEET STEEL (NEMA 1) OR CODE GAUGE PHOSPHATE TREATMENT AND GRAY BAKED ENAMEL FINISH.
- SWITCHES SHALL BE HORSEPOWER RATED FOR 600 VOLTS AC AND ALL SWITCHES SHALL BE FUSED TYPE WITH DUAL ELEMENT FUSES 13. FUSES: SHALL BE NON RENEWABLE TYPE, UL CLASS J UP TO 600 AMP, AND CLASS L OVER 600 AMP. FUSES SHALL BE CURRENT LIMITING
- TYPE WITH A MINIMUM INTERRUPTING RATING OF 200 000 RMP AMP. 13.1. FUSES FOR MOTOR FEEDERS OR MOTOR CIRCUITS SHALL BE CLASS K5 OF A VOLTAGE CLASSIFICATION RATED FOR THE MOTOR WITH A MINIMUM INTERRUPTING CAPACITY OF 100,000 RMS AMP AND WITH TIME DELAY OF A MINIMUM OF 10 SECONDS AT 500% OF MOTOR
- FURNISH AND INSTALL ALL FUSES AND ONE COMPLETE SET OF THREE SPARE FUSES FOR EACH SIZE USED. FUSES SHALL BE MANUFACTURED BY BUSSMAN, GOULD SHAWMUT, LITTLE OR APPROVED EQUAL.

EXTERIOR SWITCHES SHALL BE IN A NEMA 3R (RAINTIGHT) ENCLOSURE.

FULL LOAD AMPS.

SERVICE TO THE FACILITY: ELECTRICAL POWER OUTAGES MUST BE MINIMIZED AS NOT TO INTERFERE WITH THE BUILDING'S OPERATION THE TIME AND DURATION OF ANY POWER OUTAGE MUST BE APPROVED BY AND SCHEDULED WITH THE BUILDING OWNER/AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER/AUTHORITY AT LEAST TEN CALENDAR DAYS FROM THE DATE OF PROPOSED POWER OUTAGE IN THE FACILITY.

2. DEMOLITION, RELOCATION AND REMOVAL OF EXISTING WIRING

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DEMOLITION, RELOCATION OF CIRCUITS, AND REMOVAL OF EXISTING WIRING NECESSARY FOR THE ELECTRICAL WORK AS SHOWN ON THE DWGS. THE ELECTRICAL CONTRACTOR SHALL COMPLETELY REMOVE ALL ELECTRICAL SYSTEMS WITHIN THE BUILDING THAT ARE DESIGNATED
- OUTLETS THAT ARE EXISTING FOR USE AS LIGHTING OR RECEPTACLES MAY BE USED AS JUNCTION BOXES FOR THE RE-WIRING OF THE BUILDING IF NECESSARY AND PRACTICAL. THE CONTRACTOR SHALL MAINTAIN, EXTEND, AND CONNECT EXISTING BRANCH CIRCUITS WHICH PASS THROUGH THE CONSTRUCTION
- AREA, MAINTAINING POWER TO ALL EQUIPMENT AND LIGHTING OUTSIDE OF THE CONSTRUCTION AREA.
- 3. SPECIAL COORDINATION INSTRUCTIONS 3.1. COORDINATION WITH WORK OF OTHER TRADES IS REQUIRED. THE FOLLOWING SPECIAL INSTRUCTIONS SHALL ALSO BE CAREFULLY
- LOCATIONS AND MOUNTING HEIGHT OF ALL WALL OUTLETS AND LIGHTING FIXTURES SHALL BE VERIFIED WITH THE ARCHITECT/ENGINEER PRIOR TO ROUGHING IN CONDUIT. ALL FEEDER, BRANCH CIRCUIT OR AUXILIARY SYSTEM WIRING PASSING THROUGH PULL BOXES AND/OR BEING MADE UP IN PANELBOARDS SHALL BE PROPERLY GROUPED, BOUND, AND TIED TOGETHER IN A NEAT AND ORDERLY MANNER, IN KEEPING WITH THE HIGHEST STANDARDS OF THE TRADE, WITH PLASTIC CABLE TIES.
- ALL DUPLEX CONVENIENCE AND POWER RECEPTACLES SHALL BE MOUNTED VERTICALLY WITH THE GROUNDING POST TO THE BOTTOM AS THE OUTLET IS VIEWED FROM THE FRONT. ALL MISCELLANEOUS HARDWARE AND SUPPORT ACCESSORIES, INCLUDING SUPPORT RODS, NUTS, BOLTS, SCREWS, AND OTHER SUCH ITEMS. SHALL BE OF A GALVANIZED OR CADMIUM PLATED FINISH. OR OF OTHER APPROVED RUST INHIBITING COATINGS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP TO PROVIDE FOR ADEQUATE PROTECTION OF ALL ELECTRICAL EQUIPMENT DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL APPROVED INSULATION AT TERMINAL CONNECTION POINTS FOR

CARE SHOULD BE TAKEN THAT FIXTURES SHALL NOT BE INSTALLED ON BOTH SIDES OF EXISTING OR NEW BUILDING EXPANSION

- ALL ELECTRICAL CONDUCTING MATERIALS, SUCH AS TRANSFORMER TERMINALS, TERMINAL STUDS, AND AT ANY OTHER SPECIAL LOCATIONS AS DIRECTED BY THE ENGINEER. PRIOR TO INSTALLATION OF CONDUIT AND WIRE, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WIRING REQUIREMENTS
- WITH ACTUAL EQUIPMENT SUPPLIED. THE ELECTRICAL DRAWINGS INDICATE WIRE, CONDUIT, AND OVERCURRENT PROTECTIVE DEVICES TO BE INSTALLED FOR

CERTAIN HVAC UNITS. THESE SIZES ARE BASED ON CERTAIN MANUFACTURERS REQUIREMENTS. SHOULD THE GENERA CONTRACTOR ALLOW THE MECHANICAL CONTRACTOR TO SUBSTITUTE HVAC EQUIPMENT DIFFERENT THAN SPECIFIED, THEN THE GENERAL CONTRACTOR SHALL PROVIDE THE REQUIRED REVISED ELECTRICAL WIRING, CONDUIT, AND OVERCURRENT PROTECTIVE DEVICES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AT NO ADDITIONAL CHARGE TO THE

CUTTING, PATCHING, AND DRILLING: THE GENERAL CONTRACTOR SHALL PERFORM PLASTER CUTTING AND CHANNELING AND DRILLING THROUGH STRUCTURAL BEAMS NECESSARY FOR THE INSTALLATION OF ELECTRICAL WORK. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAINTING AND PATCHING WHICH SHALL MATCH EXISTING BASE MATERIALS IN LOOKS AND COLOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ROUTINE DRILLING THROUGH 2 X 4 AND/OR 2 X 6 WOOD FRAME WALLS AND 2 X 10 AND/OR 2 X 12 FLOOR JOISTS IN ORDER TO INSTALL WIRING.

COOPERATION AND WORK PROGRESS

- 5.1. THE ELECTRICAL WORK SHALL BE CARRIED ON UNDER THE USUAL CONSTRUCTION CONDITIONS, IN CONJUNCTION WITH ALL OTHER WORK AT THE SITE. THE ELECTRICAL CONTRACTOR SHALL COOPERATE WITH THE ENGINEER AND ALL CONTRACTORS AND EQUIPMENT SUPPLIERS WORKING ON THE SITE, COORDINATE THE WORK, AND PROCEED IN A MANNER SO AS NOT TO DELAY THE PROGRESS OF
- THE ELECTRICAL CONTRACTOR HAS A RESPONSIBILITY TO COORDINATE THE EXACT MOUNTING ARRANGEMENT AND LOCATION OF EQUIPMENT INDICATED ON THE DRAWINGS TO ALLOW FOR PROPER SPACE REQUIREMENTS FOR EQUIPMENT ACCESS, OPERATION,
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE THE DELIVERY OF ELECTRICAL EQUIPMENT TO THE PROJECT PRIOR TO THE TIME INSTALLATION OF EQUIPMENT WILL BE REQUIRED

6. INSTALLATION OF WIRING, CONDUIT AND BOXES:

- ALL CONDUIT AND WIRING SHALL BE INSTALLED CONCEALED. OUTLET BOXES SHALL BE MOUNTED FLUSH. CONDUIT SHALL BE RUN CONCEALED.
- WHERE WALLS ARE BLOCK, DEVICES AND WIRING SHALL BE SURFACE MOUNTED. PROVIDE WIRE MOLD OR EQUAL TO SURFACE MOUNTED RACEWAY WITH FINISHED BOXES.
- UNLESS OTHERWISE INDICATED, ALL WIRING SHALL BE (2)#12 AND (1)#12 GROUND, 3/4"C CONDUIT ENDS SHALL BE CUT SQUARE, THREADED, AND REAMED TO REMOVE BURRS AND SHARP EDGES. OFFSETS AND BENDS FOR CHANGES IN ELEVATION OF EXPOSED CONDUIT RUNS SHALL BE MADE AT WALLS OR BEAMS AND NOT IN OPEN SPACES BETWEEN WALLS OR BEAMS. CONDUITS SHALL BE ROUTED SO AS NOT TO INTERFERE WITH THE OPERATION OR MAINTENANCE OF ANY EQUIPMENT. STEEL SUPPORTS OR RACKS SHALL BE GALVANIZED STEEL CHANNEL AND FITTINGS.
- EXPOSED CONDUITS SHALL BE RUN PARALLEL TO, OR AT RIGHT ANGLES TO, THE WALLS OF THE BUILDING, AND ALL BENDS SHALL BE MADE WITH STANDARD CONDUIT ELLS OR CONDUITS BENT TO - NOT LESS THAN - THE SAME RADIUS. HORIZONTAL RUNS OF EXPOSED CONDUITS SHALL BE CLOSE TO CEILING BEAMS, PASSING OVER WATER OR OTHER PIPING WHERE POSSIBLE AND SHALL BE SUPPORTED BY PIPE STRAPS OR BY OTHER APPROVED MEANS. NOT MORE THAN 5' APART. INSTALLATION OF EXPOSED CONDUITS IN FINISHED AREAS OF THE BUILDING SHALL BE CHECKED WITH THE ENGINEERS FOR LAYOUT BEFORE INSTALLATION TO CONFORM TO THE PATTERN OF THE STRUCTURAL MEMBERS. AND WHEN COMPLETED. IS TO PRESENT THE MOST UNOBTRUSIVE APPEARANCE
- POSSIBLE. NO EXPOSED CONDUITS WILL BE PERMITTED ON WALLS OR PARTITIONS IN PUBLIC AREAS, UNLESS SPECIFICALLY NOTED CONDUITS SHALL NOT BE INSTALLED WITHIN 3" OF HOT WATER PIPES, OR APPLIANCES, EXCEPT WHERE CROSSING IS UNAVOIDABLE AND. IN THAT CASE, THE CONDUIT SHALL BE KEPT AT LEAST 1" FROM COVERING OR PIPE CROSSED
- DO NOT LAY CABLE OR RACEWAY ON, OR SUPPORT FROM SUSPENDED CEILING OR PIPING AND DUCTWORK CONDUITS SHALL BE SUPPORTED ON APPROVED TYPE GALVANIZED WALL BRACKETS, CEILING TRAPEZE, STRAP HANGERS, OR PIPE
- STRAPS, SECURED BY MEANS OF TOGGLE BOLTS ON HOLLOW MASONRY UNITS OR EXPANSION BOLTS IN CONCRETE OR BRICK. IN GENERAL, NO SPLICES OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE
- 6.10. ALL SPLICES IN WIRE #8 AWG AND SMALLER SHALL BE STANDARD PIGTAIL, MADE MECHANICALLY TIGHT AND INSULATED WITH PROPER THICKNESS OF INSULATING TAPE. 6.11. WIRE #6 AND LARGER SHALL BE CONNECTED TO PANELS AND APPARATUS BY MEANS OF APPROVED LUGS OR CONNECTORS.
- CONNECTORS SHALL BE SOLDERLESS TYPE, SUFFICIENTLY LARGE TO ENCLOSE ALL STRANDS OF THE CONDUCTOR AND SECURELY 6.12. PROVIDE ALL REQUIRED BRANCH CIRCUIT WIRING FOR ELECTRICAL DEVICES AND LIGHTING FIXTURES. DESIGNATIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC ONLY. CIRCUIT NUMBERS BESIDE RECEPTACLES AND LIGHTING FIXTURES CONVEY THAT A COMPLETE

BRANCH CIRCUIT IS REQUIRED BACK TO ELECTRICAL PANELBOARD. SWITCH CONTROL LETTERS ADJACENT TO LIGHTING FIXTURES

- 7.1. PROVIDE COLOR CODING FOR SECONDARY SERVICE, FEEDERS, AND BRANCH CIRCUITS AS FOLLOWS, IN ACCORDANCE WITH NEC
- RECOMMENDATIONS AND STANDARD PRACTICES. MAKE CONNECTIONS TO TERMINALS FROM LEFT TO RIGHT ARRANGED PHASE A, B, AND C.

INDICATE BRANCH WIRING REQUIRED FROM LIGHTING FIXTURE TO LIGHT SWITCH OR DIMMER.

SPECIFIED COLOR CODE IDENTIFICATION FOR LARGE SIZE CONDUCTORS AVAILABLE ONLY IN BLACK.

8.1 SPLICES AND TERMINATIONS:

MAKE SPLICES AND TERMINATIONS EQUIVALENT ELECTRICALLY AND MECHANICALLY TO CONDUCTOR INSULATION. MAKE SPLICES AT MOTOR JUNCTION BOXES WITH PRESSURE INDENT CONNECTORS OR SPLIT BOLT CONNECTORS AS SPECIFIED

PROVIDE STANDARD BOLT ON LUGS WITH ALLEN CAP SCREWS TO ATTACH COPPER WIRE AND CABLE TO DISCONNECT SWITCHES

PROVIDE SAME COLOR CODING FOR SWITCH LEGS AS CORRESPONDING PHASE CONDUCTOR. PROVIDE COLORED PLASTIC TAPE OF

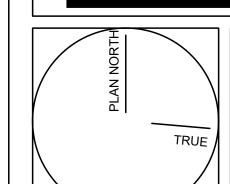
AND OTHER ELECTRICAL EQUIPMENT. 9. TEMPERATURE CONTROL WIRING: THE TEMPERATURE CONTROL SYSTEM SHALL BE AN ELECTRIC SYSTEM INSTALLED BY THE HEATING AND

EQUIPMENT REMOVED THAT IS NOT DESIRED BY THE OWNER SHALL BE DISPOSED OF AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

- AIR-CONDITIONING CONTRACTOR. 10. SALVAGE: THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT NOT TO BE USED. ALL ELECTRICAL EQUIPMENT REMOVED AND DEEMED SALVAGEABLE BY THE OWNER SHALL BE STORED IN AN AREA DESIGNATED BY THE OWNER.ANY ELECTRICAL
- 11. SUPPORTS AND ATTACHMENTS: BOXES AND PENDANTS FOR SURFACE-MOUNTED FIXTURES SHALL BE SUPPORTED IN AN APPROVED MANNER. BOXES AND SUPPORTS SHALL BE FASTENED WITH BOLTS AND EXPANSION SHIELDS ON CONCRETE OR BRICK, WITH TOGGLE BOLTS ON HOLLOW MASONRY UNITS, WITH MACHINE SCREWS ON STEEL WORK WITH LOCKNUTS. THREADED STUDS SHALL BE PROVIDED WITH LOCK WASHERS AND NUTS.
- QUIET OPERATION: ALL EQUIPMENT AND MATERIAL FURNISHED BY THE ELECTRICAL CONTRACTOR SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT OBJECTIONABLE NOISES OR VIBRATIONS, WHICH, IN THE OPINION OF THE ENGINEER, IS OBJECTIONABLE. WHERE SOUND OR VIBRATION CONDITIONS ARISE WHICH ARE CONSIDERED OBJECTIONABLE BY THE ENGINEER, THE ELECTRICAL CONTRACTOR SHALL ELIMINATE SAME IN A MANNER APPROVED BY THE ENGINEER
- 13. TESTS: FURNISH ALL LABOR, MATERIAL, INSTRUMENTS, SUPPLIES, AND SERVICES AND BEAR ALL COSTS FOR THE ACCOMPLISHMENT OF TESTS HEREIN SPECIFIED. CORRECT ALL DEFECTS APPEARING UNDER TEST. REPEAT THE TESTS UNTIL NO DEFECTS ARE DISCLOSED. LEAVE THE EQUIPMENT CLEAN AND READY FOR USE.
- 13.1. THE ELECTRICAL CONTRACTOR SHALL PERFORM ANY TEST OTHER THAN HEREIN SPECIFIED WHICH MAY BE SPECIFIED BY LEGAL AUTHORITIES OR BY AGENCIES TO WHOSE REQUIREMENTS THIS WORK IS TO CONFORM.
- 14. FINAL INSPECTION AND TEST: PRIOR TO TEST. FEEDERS AND BRANCHES SHALL BE CONTINUOUS FROM SERVICE CONTACT POINT TO EACH OUTLET: ALL PANELS, FEEDERS, AND DEVICES CONNECTED AND FUSES IN PLACE, TEST SYSTEM FREE FROM SHORT CIRCUITS AND GROUNDS WITH INSULATION RESISTANCES NOT LESS THAN OUTLINES IN THE NATIONAL ELECTRICAL CODE. PROVIDE TESTING EQUIPMENT NECESSARY AND CONDUCT TEST IN PRESENCE OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THE FINAL INSPECTION AND TEST SHALL
- INCLUDE THE FOLLOWING: 14.1. TESTING OF THE EMERGENCY LIGHTING SYSTEM.
- TESTING OF THE IMPEDANCE OF THE GROUNDING SYSTEM.
- TESTING OF EACH OUTLET TESTING OF THE FIRE ALARM SYSTEM
- TESTING OF BRANCH AND FEEDER CONDUCTORS FOR CONTINUITY. TESTING OF PANELBOARDS TO VERIFY PROPER CURRENT BALANCE AND VOLTAGE.
- TESTING OF MOTORS, VERIFYING PROPER CURRENT BAI ANCE AND VOI TAGE 14.8. TESTING, TARGETING, AND FOCUSING OF ALL ADJUSTABLE LIGHTING FIXTURES.
- TESTING OF ALL GROUND FAULT PROTECTIVE DEVICES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, SECTION 230-95

KEYNOTES - CONSTRUCTION DESCRIPTION

NOT FOR CONSTRUCTION

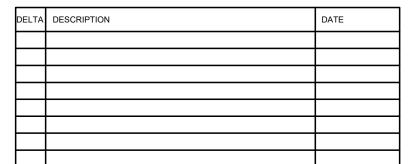




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SPECIFICATIONS

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CHECKED BY:

* ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CIRCUIT BREAKER AS INDICATED.

** ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKER WITHIN EXISTING PANELBOARD, NEW BREAKER SHALL BE COMPATIBLE WITH EXISTING PANEL

CB TYPE: G - INDICATES GFCI, I	INTERRUPTING CAPACITY: 22,000 AMPS TYPE: G - INDICATES GFCI, L - INDICATE				LOCK,	GE - IN	MAIN DICATE				S SH		OUNTING: SURFACE TRIP, A - INDICATES ARC FAULT
LOAD DESCRIPTION		TVDE	CIRC			kVA	kVA LOAD			CIRC	CB/TYPE		LOAD DESCRIPTION
LOAD DESCRIPTION	CB/TYPE		NO.	Α	В	С	Α	В	С	NO.	CBI	IIPE	LOAD DESCRIPTION
WALK IN FREEZER EVAPORATOR BASEMENT	15		49 51	1.07	1.07	1	1.07	1.07	1	50 52		15	WALK IN FREEZER EVAPORATOR 1ST FLOOF
SPACE AND HARDWARE			53		L	0.00			0.00	54			SPACE IN HARDWARE
EXISTING CIRCUIT BREAKER	20		55	0.00	1	L	0.00		L	56		20	EXISTING CIRCUIT BREAKER
EXISTING CIRCUIT BREAKER	20		57		0.00	1		0.00	1	58		20	EXISTING CIRCUIT BREAKER
EXISTING CIRCUIT BREAKER	20		59	1	L	0.00			0.00	60		20	EXISTING CIRCUIT BREAKER
WALK IN FREEZER EVAPORATOR BASEMENT	15		61	1.07	1	L	0.00		L	62		20	EXISTING CIRCUIT BREAKER
WALK IN FREEZER EVAPORATOR BASEMENT	15		63		1.07			0.00]	64		20	EXISTING CIRCUIT BREAKER
			65	1	<u> </u>	0.00	•		0.00	66		20	EXISTING ALARMS
EXISTING PANEL	30		67	0.00	1		0.00		h	68		20	EXISTING CIRCUIT BREAKER
			69		0.00			0.00]	70		30	EXISTING CIRCUIT BREAKER
			71		_	0.00			0.00	72		00	EXIOTING GIRCOTT BILLTINEIX
EXISTING PANEL	30		73	0.00		_	0.00		_	74			
			75		0.00			0.00		76		20	EXISTING CIRCUIT BREAKER
			77		,	0.00		i	0.00	78			
EXISTING PANEL	30		79	0.00		,	0.21		1	80		15	WALK IN COOLER EVAPORATOR 1ST FLOOR
			81		0.00			0.21		82			
EVICETIVE DANIE			83		1	0.00			0.18	84		ļ	RECEPTACLE - ROOFTOP
EXISTING PANEL	30		85	0.00		1	0.00		1	86			SPACE AND HARDWARE
			87		0.00	0.00		0.00	0.00	88			SPACE AND HARDWARE SPACE AND HARDWARE
EXISTING PANEL	30		89	0.00	1	0.00	0.00	1	0.00	90 92			SPACE AND HARDWARE
EXISTING PAINEL	30		91	0.00	0.00	1	0.00	0.00	1	92			SPACE AND HARDWARE
SPACE AND HARDWARE			95		0.00	0.00		0.00	0.00	94			SPACE AND HARDWARE
OI VOE VIAD I MINDIANINE			1 30	L		1 0.00	l		1 0.00	J-0		L	OLVIOTAND INJUDIANICE

* ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CIRCUIT BREAKER AS INDICATED.

** ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKER WITHIN EXISTING PANELBOARD, NEW BREAKER SHALL BE COMPATIBLE WITH EXISTING PANEL

FIXTURE TYPE	DESCRIPTION	MANUFACTURER AND	LIGHT SOURCE					VOLTAGE
		CATALOG NUMBER	LUMENS	TEMP	No.	WATTAGE	TYPE	
VP1	VAPOR TIGHT LED STRIP LIGHT	LITHONIA LIGHTING # CSVT-L48-3000LM-MVOLT-35K-80CRI	3000	3500	1	24	LED	120

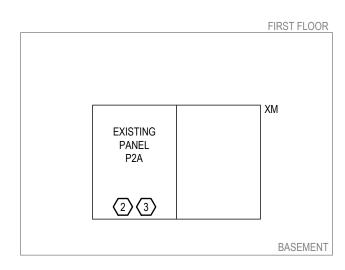
LIGHTING FIXTURE NOTES:

1. ALL RECESSED FIXTURE TRIMS TO BE PAINTED TO MATCH CEILING.

PROVIDE A COMPLETE AND OPERABLE SYSTEM INCLUDING ALL NECESSARY MOUNTING HARDWARE, POWER FEEDS, WIRING CONNECTIONS, DRIVERS, AND CONTROL INTERFACES.
 PAINT ALL FLANGES INSTALLED IN DRYWALL TO MATCH ADJACENT CEILING FINISH. FLANGES SHALL BE REMOVED FROM CEILING PRIOR TO PAINTING, OR RAZOR CUT AFTER PAINTING TO ALLOW FOR REMOVAL OF THE TRIM FROM THE CEILING.

* ELECTRICAL CONTRACTOR SHALL PROVIDE DIMMABLE LED REPLACEMENT LAMPS, LAMP COLOR TEMPERATURE 2700K, AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE.

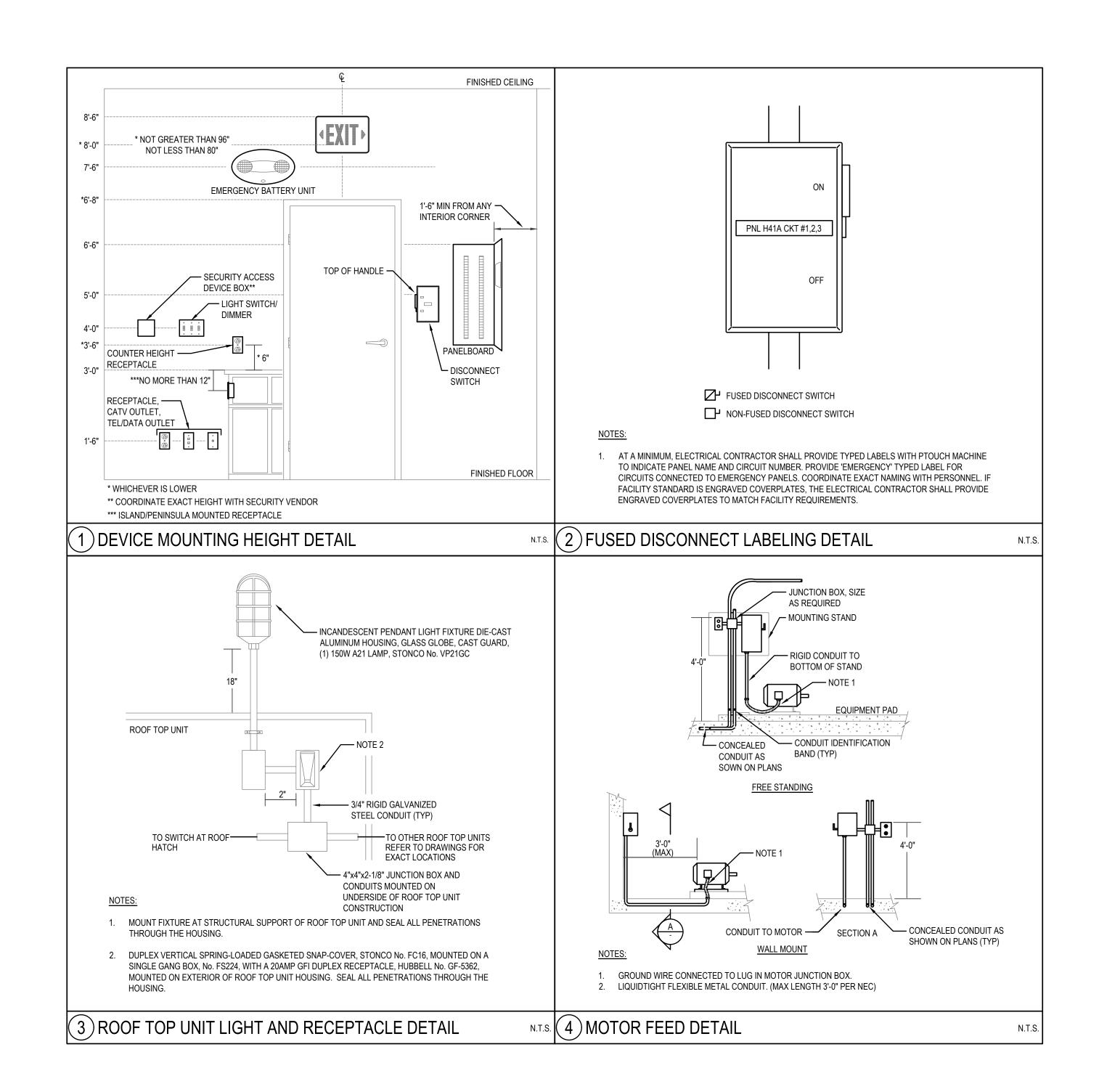
** ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.



POWER RISER DIAGRAM

NOTES:

- 1. RISER DIAGRAM IS FOR REFERENCE ONLY. ALL ITEMS SHOWN ARE EXISTING TO REMAIN.
- 2. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CIRCUIT BREAKERS MADE AVAILABLE VIA DEMOLITION AS REQUIRED. REFER TO PANELBOARD SCHEDULES FOR DETAILS.
- 3. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKERS WITHIN EXISTING PANELBOARD AS REQUIRED. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH EXISTING GENERAL ELECTRIC TYPE NAB2 PANELBOARD.
- 4. ELECTRICAL CONTRACTOR SHALL GROUND IN ACCORDANCE WITH NEC ARTICLE 250 AS AMENDED BY THE STATE ELECTRICAL CODE

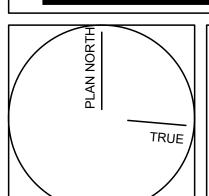


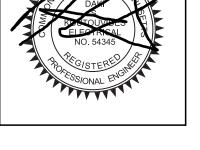
KEYNOTES - CONSTRUCTION

DESCRIPTION

NOT FOR CONSTRUCTION

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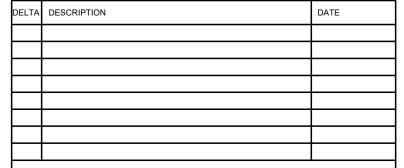


ANALOGUE STUDIO

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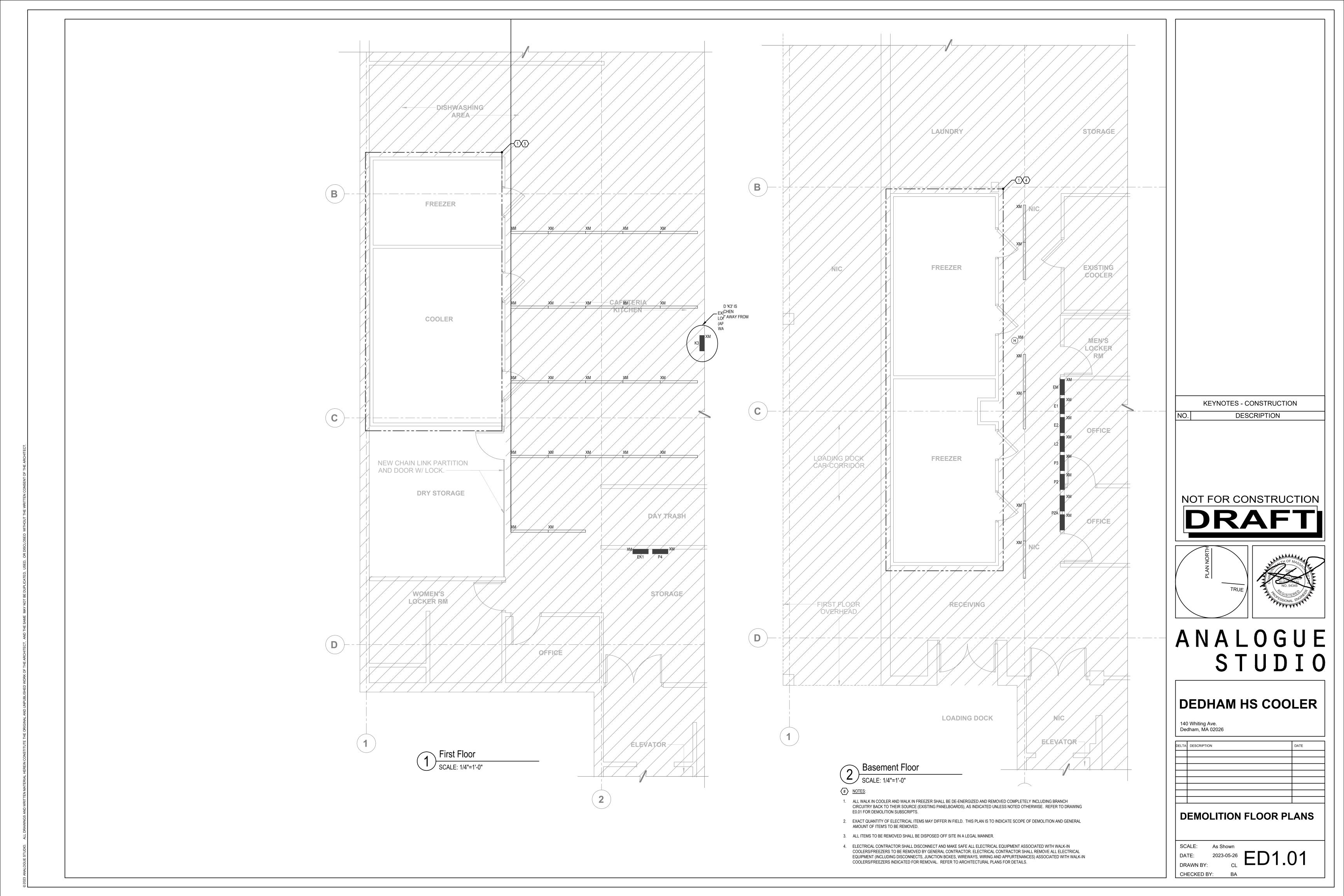


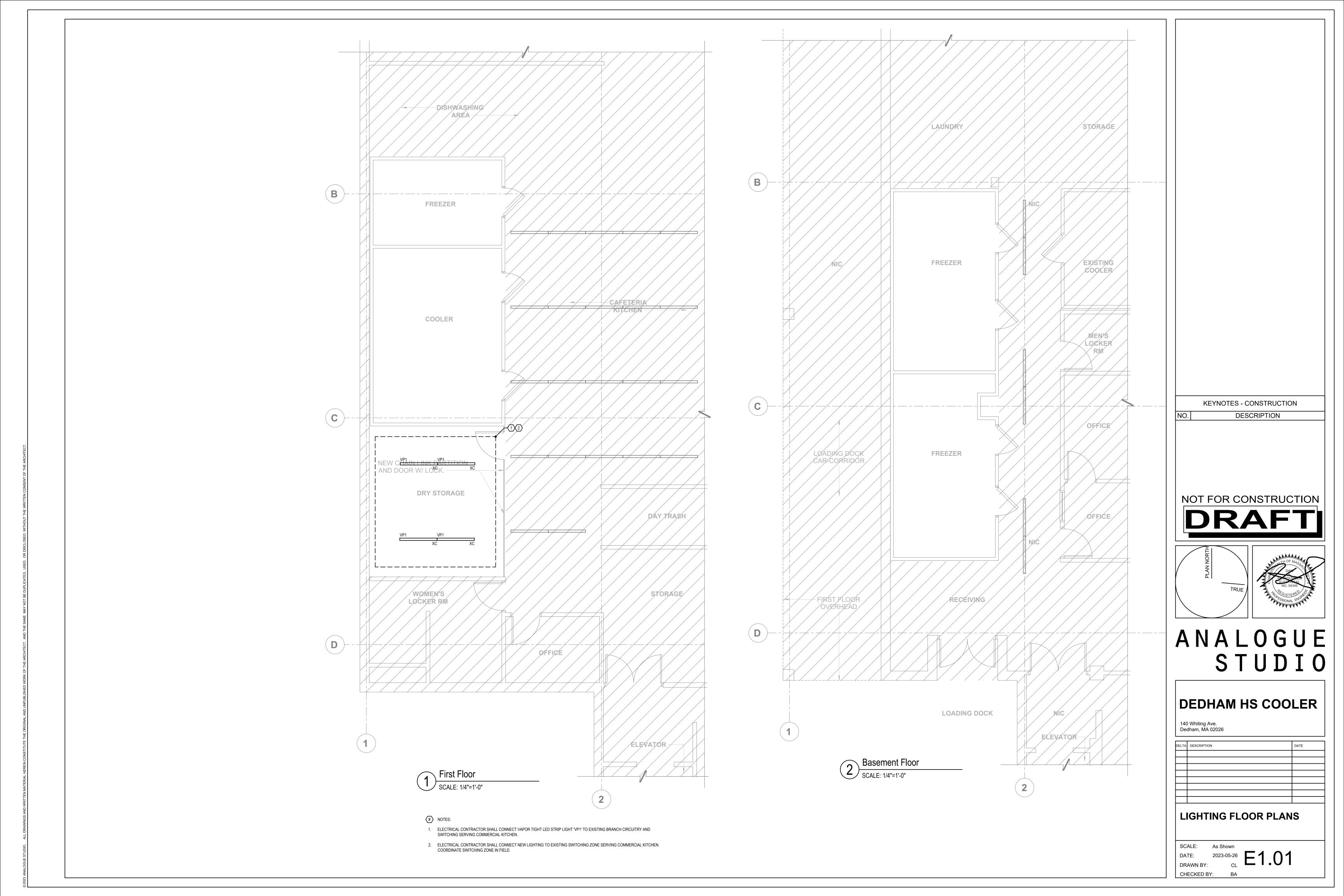
RISER DIAGRAM, SCHEDULES, AND DETAILS

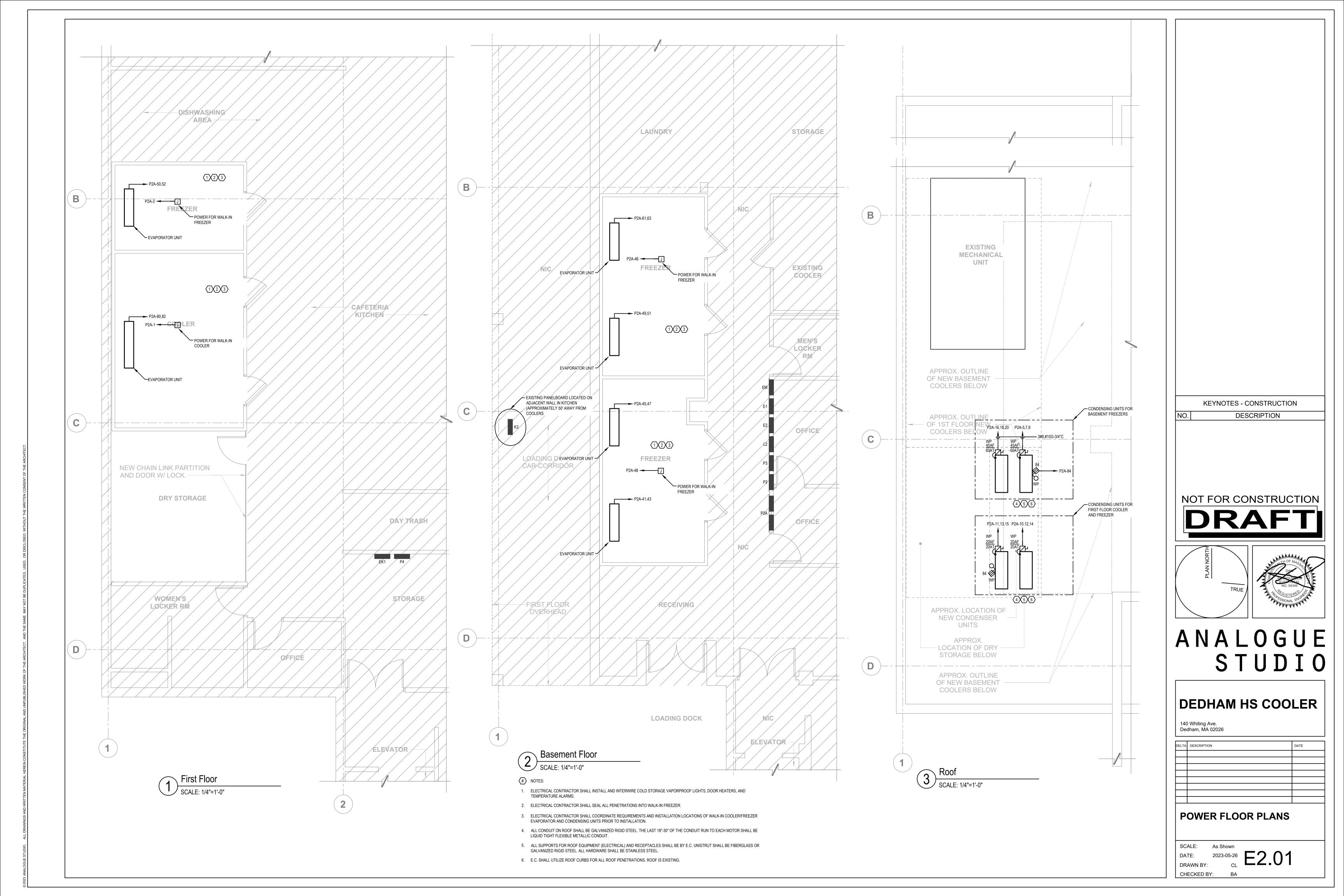
SCALE: As Shown

DATE: 2023-05-26

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FIRE ALARM SPECIFICATION

FIRE DETECTION AND ALARM SYSTEM 1.1. GENERAL

- 1.1.1. REFER TO FRONT END ELECTRICAL SPECIFICATIONS SHEETS FOR ALL PROJECT REQUIREMENTS.
- 1.1.2. AT NO TIME DURING CONSTRUCTION SHALL THE BUILDING BE WITHOUT FIRE ALARM PROTECTION.
- THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE FIRE DEPARTMENT PRIOR TO COMMENCEMENT OF EQUIPMENT INSTALLATION. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE LOCAL FIRE DEPARTMENT INSTALLATION REQUIREMENTS AND SYSTEM INSTALLATION GUIDELINES.
- 1.1.4. ALL FIRE ALARM DEVICES AND EQUIPMENT USED SHALL BE APPROVED FOR USE BY THE LOCAL FIRE DEPARTMENT.
- THE CONTRACTOR SHALL FURNISH, INSTALL AND PLACE IN OPERATION AN ADDRESSABLE, SUPERVISED, GENERAL EVACUATION FIRE ALARM SYSTEM FOR THE COMPLETE BUILDING, UNLESS NOTED OTHERWISE.
- MODIFICATIONS MADE TO THE BASE BUILDING FIRE ALARM SYSTEM SHALL BE MADE IN COMPLIANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS. ALL NEW COMPONENTS SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE AND COMPATIBLE FOR USE ON THE EXISTING SYSTEM.
- THE ADDITION OF NEW INITIATING DEVICES OR NOTIFICATION APPLIANCES TO THE EXISTING SLC AND NAC SHALL NOT ADVERSELY EFFECT SUPERVISION. THE WIRING CLASS AND STYLE FOR THE ADDITION OF DEVICES SHALL BE CONSISTENT WITH
- EXISTING BASE BUILDING DEVICES SHALL EITHER BE INCORPORATED INTO NEW FIRE ALARM DESIGN OR REMOVED. ALL PROGRAMMING ASSOCIATED WITH REMOVAL OF DEVICES SHALL BE PROVIDED BY THE CONTRACTOR.
- NEW DEVICES SHALL BE PROGRAMMED TO INITIATE ACTION IN ACCORDANCE WITH THE EXISTING SEQUENCE OF OPERATION AS APPROVED BY THE AHJ. SYSTEM SUBMITTAL SHALL INCLUDE AN INPUT/OUTPUT MATRIX CLEARLY DEFINING THE SEQUENCE FOR EACH ADDED DEVICE.
- 1.1.10. THE FIRE ALARM DESIGN IS BASED ON AN EXISTING ADDRESSABLE SYSTEM. E.C SHALL COORDINATE WITH OWNER AND DETERMINE THE REQUIREMENTS OF THE EXISTING SYSTEM. E.C. SHALL PROVIDE ALL COMPONENTS NEEDED TO PROVIDE AN OPERATIONAL FIRE ALARM SYSTEM THAT IS COMPATIBLE WITH THE EXISTING SYSTEMS REQUIREMENTS.
- EXISTING FACP MANUFACTURER/MODEL: GAMEWELL FCI BY HONEYWELL
- 1.1.11. THE COMPLETED FIRE ALARM SYSTEM SHALL MEET ALL LOCAL AND STATE CODES. EQUIPMENT AND COMPLETED INSTALLATION SHALL BE U.L. LISTED OR APPROVED AND SHALL MEET APPROVAL OF THE LOCAL FIRE DEPARTMENT, STATE FIRE MARSHALL, AUTHORITIES HAVING JURISDICTION AND SHALL BE IN ACCORDANCE WITH THE
- APPLICABLE SECTIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, ADA CODE, NFPA 70, 72 AND 72E. 1.1.13. THE COMPLETE SYSTEM SHALL CONTAIN AUDIO/VISUAL ALARMS AND OTHER DEVICES INCLUDING POWER SUPPLIES AS REQUIRED FOR A COMPLETE SYSTEM.
- 1.1.14. THE OWNER SHALL BE RESPONSIBLE FOR TELEPHONE CONNECTION COMPANY CHARGES AND/OR SECOND PARTY MONITORING
- 1.1.15. DEVICE ADDRESSES SHALL BE LEGIBLE WITHOUT REMOVAL OF THE DETECTOR. THE DETECTOR ADDRESS SHALL BE CONCEALED WHEN PLACED INTO THE BASE.
- 1.1.16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF DEDICATED TELEPHONE HOMERUN WIRING. 1.2. SEQUENCE OF OPERATIONS: REFER TO SEQUENCE OF OPERATIONS INPUT/OUTPUT MATRIX
- 1.3. REMOTE DEVICES
- HORN/STROBE DEVICES SHALL BE PROVIDED IN A COMMON ENCLOSURE. THE VISIBLE STROBE SHALL MEET ALL THE 1.3.1. REQUIREMENTS OF THE ADA.
- MONITOR MODULES SHALL BE PROVIDED TO MONITOR AND CONNECT CONVENTIONAL INITIATING DEVICES ONTO THE
- ADDRESSABLE LOOP. 1.3.3. REMOTE ALARM INDICATORS SHALL BE LED INDICATORS ON SINGLE PLASTIC PLATES.
- CONTROL & RELAY MODULES SHALL BE USED TO CONTROL CONVENTIONAL DEVICES (NOTIFICATION CIRCUITS, AHU'S, DOOR HOLDERS, ETC). OVER THE ADDRESSABLE LOOP. MODULES SHALL BE PROVIDE A SUPERVISED OUTPUT RATED FOR 2 AMP AT 24
- VOLTS DC AND 0.5 AMP AT 120 VOLT. 1.3.5. STROBE ONLY DEVICES SHALL BE PROVIDED AND SHALL MEET ALL REQUIREMENTS OF NFPA AND ADA CODES.
- 1.4. WIRING
- 1.4.1. ALL FIRE ALARM WIRE AND CABLE SHALL BE UL LISTED FOR FIRE ALARM USE.
- THE FIRE ALARM SYSTEM SHALL BE A COMPLETE AUTOMATIC AND MANUAL, CLOSED CIRCUIT, CLASS A, 4 WIRE, CONNECTED AND 1.4.2. LEFT IN FIRST-CLASS OPERATING CONDITION.
- FOR FIRE ALARM WIRING IN ENCLOSED SPACES, PROVIDE PLENUM RATED, TYPE FPLP, WITH RED OUTER JACKET. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 770 AND 725. CONDUCTORS SHALL BE SOLID COPPER #14 MINIMUM, WITH LOW SMOKE, LOW FLAME TYPE JACKET
- FOR FIRE ALARM WIRING IN EXPOSED AREAS, PROVIDE TYPE THHN INSULATION. WIRE SIZE SHALL BE #14 AWG MINIMUM. ALL SURFACE MOUNTED WIRING RELATED TO THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN TYPE EMT/RGS CONDUIT.
- ALL JOINTS AND CONNECTIONS SHALL BE IN JUNCTION BOXES. ALL CONNECTIONS NOT ON APPROVED TERMINAL STRIPS SHALL BE SOLDERED AND TAPED. ALL JUNCTION BOXES SHALL BE PAINTED RED.
- 1.5. MANUFACTURERS 1.5.1. DEVICES SHALL BE COMPATIBLE WITH EXISTING MANUFACTURER.
- 1.6. TESTING
- 1.6.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIRE ALARM TESTING AND CERTIFICATION CHARGES.
- CERTIFY THE INSTALLATION WITH ACCEPTANCE TESTING. THE ELECTRICAL CONTRACTOR SHALL CONDUCT THE ACCEPTANCE TEST WITH THE LOCAL FIRE DEPARTMENT IN ACCORDANCE WITH NEPA 72. TEST INCLUDE BUT MAY NOT BE LIMITED TO THE FOLLOWING: MEGGER (INSULATION) TESTING, LOOP CONTINUITY, GROUND, SHORT, OPEN CIRCUIT, A WRITTEN REPORT SHALL BE SUBMITTED DETAILING THE RESULTS OF THE PRELIMINARY TESTS SHALL ACCOMPANY THE REQUEST FOR FINAL ACCEPTANCE
- THE FIRM WHO HOLDS THE EXISTING SYSTEM MAINTENANCE CONTRACT SHALL PERFORM FINAL CONNECTIONS, PROGRAMMING, AND TESTING. THE CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH FINAL CONNECTIONS, PROGRAMMING AND TESTING AS WELL AS DISABLING CONNECTIONS TO THE MUNICIPAL LOOP DURING FINAL CONNECTIONS AND TESTING.

DEMOLITION NOTES

- REFER TO THE ARCHITECTURAL DRAWINGS FOR THE FULL EXTENT OF THE SCOPE OF DEMOLITION. DISCONNECT AND MAKE SAFE ALL ELECTRICAL EQUIPMENT IDENTIFIED FOR REMOVAL ON THE HVAC, PLUMBING AND FIRE PROTECTION PLANS. THE ELECTRICAL SCOPE MAY EXTEND BEYOND THE AREA DEFINED BY THE ARCHITECTURAL DEMOLITION LIMITS TO FULLY COMPLY WITH VARIOUS REQUIREMENTS DEFINED BY
- THE ELECTRICAL DEMOLITION PLANS AND DETAILS INDICATE THE GENERAL INTENT AND ARE NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE SUBMISSION OF BIDS TO BECOME FAMILIAR WITH THE ACTUAL CONDITIONS AND EXTENT OF WORK. DEVICES AND EQUIPMENT LOCATED ON WALLS AND/OR CEILINGS TO BE REMOVED SHALL BE DISCONNECTED AND MADE SAFE. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.
- THE ELECTRICAL CONTRACTOR SHALL IDENTIFY ALL BRANCH CIRCUITS. FEEDERS AND SYSTEM COMPONENTS. WHICH ARE TO REMAIN WITHIN THE AREA OF DEMOLITION SCOPE. THERE SHALL BE NO INTERRUPTION OF SERVICE TO ANY AREA OUTSIDE THE SCOPE LIMITS WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE. EXISTING EQUIPMENT TO REMAIN SHALL BE LEFT IN A CODE COMPLIANT MANNER.
- ALL ITEMS IDENTIFIED FOR DEMOLITION SHALL NOT BE ABANDONED IN PLACE.
- ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE. THE OWNER'S REPRESENTATIVE SHALL INSPECT ALL RETAINED ITEMS PRIOR TO PLACEMENT IN THE IDENTIFIED STORAGE LOCATION BY THE ELECTRICAL CONTRACTOR.
- THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN FULLY FUNCTIONAL DURING THE ENTIRE DEMOLITION AND CONSTRUCTION PERIOD. REUSE OF EXISTING FIRE ALARM SYSTEM RACEWAYS SHALL NOT BE ALLOWED. ALL REQUIRED SYSTEM SHUTDOWNS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER'S REPRESENTATIVE AND THE AUTHORITY HAVING JURISDICTION.

EXISTING EQUIPMENT DESIGNATIONS

- EXISTING TO BE REMOVED, REMOVE ALL ASSOCIATE CONDUIT AND CONDUCTORS
- EXISTING TO REMAIN
- EXISTING EQUIPMENT TO BE REPLACED WITH NEW, CONNECT NEW EQUIPMENT TO EXISTING CIRCUIT
- EXISTING EQUIPMENT TO BE RELOCATED, JUNCTION AND EXTEND EXISTING CONDUIT AND CONDUCTORS
- NEW EQUIPMENT TO BE CONNECTED TO NEAREST AVAILABLE BRANCH CIRCUIT, PROVIDE NEW BRANCH CIRCUITRY FROM NEAREST EXISTING DEVICE (TO REMAIN) TO NEW DEVICE AS REQUIRED
- NEW LOCATION OF EXISTING EQUIPMENT, JUNCTION AND EXTEND CONDUIT AND CONDUCTORS AS REQUIRED

FIRE ALARM

TYPICAL DEVICE ANNOTATION: "15" INDICATES CANDELA RATING

AUDIO / VISUAL DEVICE

"F" INDICATES HORN / VISUAL

VISUAL ONLY DEVICE "L" INDICATES WHITE LENS FOR FIRE

CEILING MOUNTED AUDIO / VISUAL DEVICE

"F" INDICATES HORN / VISUAL

MANUAL PULL STATION

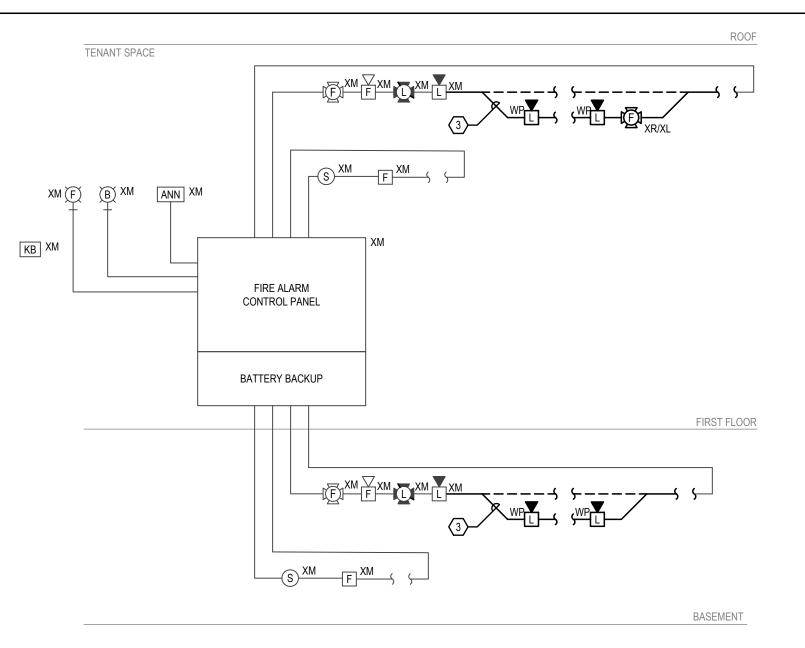
SMOKE DETECTOR "R" INDICATES ELEVATOR RECALL

FIRE ALARM DEVICE "FACP" INDICATES FIRE ALARM CONTROL PANEL

SEQUENCE OF OPERATIONS INPUT / OUTPUT MATRIX

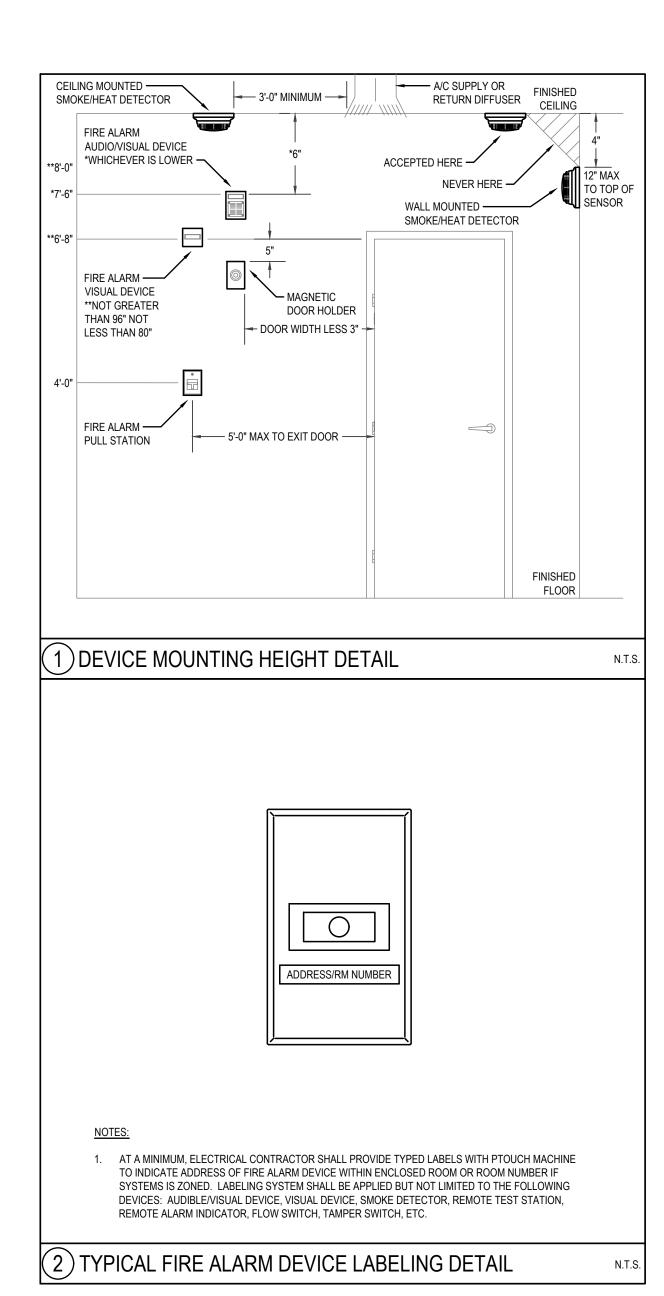
	SYSTEM OUTPUTS					OL U				NOTIFICATION REQUIRE LIFE SAFETY CO					CONT	ΓROL											
	FIRE ALARM SYSTEM OPERATION SCHEDULE	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE FIRE FLOOR ALARM INDICATOR	ACTUATE HOOD FIRE SUPPRESSION SYSTEM	ACTUATE EVACUATION SIGNALS ON ALL FLOORS	ACTUATE LOCAL AUDIBLE TEMP-3 PATTERN FIRE SIGNAL	ACTUATE LOCAL ADA VISUAL ALARM	ACTUATE ELEVATOR FIRE HAT	DISPLAY/PRINT CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISORY STATION	RELEASE MAGNETICALLY HELD SMOKE DOORS	RECALL PEDESTRIAN ELEV. TO PRIMARY RECALL FLOOR	RECALL PEDESTRIAN ELEV. TO ALTERNATE RECALL FLOOR	LOWER ELEVATOR CURTAIN ON CORRESPONDING FLOOR	OPEN SMOKE DAMPER AT TOP OF ELEVATOR SHAFT	CLOSE FIRE/SMOKE DAMPER ON ASSOCIATED FIRE FLOOR	SHUT DOWN ALL ASSOCIATED HVAC EQUIPMENT	OVERRIDE MUSIC SYSTEM (MUTE)	OVERRIDE TELEVISION SYSTEM (TURN OFF)	OVERRIDE DIMMING SYSTEM (LIGHTS TO FULL BRIGHT)
	SYSTEM INPUTS	А	В	С	D	Е	F	G	Н	ı	J	К	L	М	N	0	Р	Q	R	S	Т	U	V	W	X	Υ	Z
1	MANUAL FIRE ALARM BOXES	•	•					•		•	•	•		•	•			•							•	•	•
2	SMOKE DETECTORS	•	•					•		•	•	•		•	•			•					•		•	•	•
3	ELEVATOR LOBBY SMOKE DETECTORS	•	•							•	•	•	•	•	•			•	•		•				•	•	•
4	ELEVATOR LOBBY SMOKE ON PRIMARY RECALL FLOOR	•	•							•	•	•	•	•	•			•		•					•	•	•
5	ELEVATOR MACHINE SMOKE DETECTORS	•	•							•	•	•	•	•	•			•	•			•			•	•	•
6	HEAT DETECTORS	•	•					•		•	•	•		•	•			•							•	•	•
7	WATERFLOW	•	•					•		•	•	•		•	•			•							•	•	•
8	SPRINKLER CONTROL VALVE			•	•									•		•											
9	DUCT SMOKE DETECTORS			•	•									•		•								•			
10	KITCHEN EXHAUST HOOD	•	•					•	•	•				•		•		•						•			
11	KITCHEN EXHAUST HOOD CARBON MONOXIDE SYSTEM															•											
12	FIRE ALARM AC POWER FAILURE					•	•							•			•										
13	FIRE ALARM SYSTEM LOW BATTERY					•	•							•			•										
14	OPEN CIRCUIT					•	•							•			•										
15	GROUND FAULT					•	•							•			•										
16	NOTIFICATION APPLIANCE SHORT CIRCUIT					•	•							•			•										
17	SUPERVISORY			•	•									•		•											
18	TROUBLE					•	•							•			•										

- 1. ALL EVENTS SHALL BE RECORDED AT THE FIRE ALARM CONTROL PANEL AND SHALL INDICATE TIME AND DATE OF OCCURRENCE AND
- 2. TROUBLE AND SUPERVISORY SIGNALS SHALL BE MONITORED IN ACCORDANCE WITH 780CMR 903.4.1.



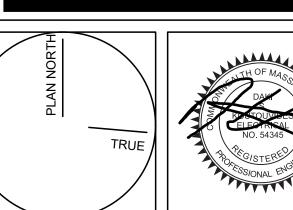
FIRE ALARM RISER DIAGRAM

- 1. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT BREAKER HANDLE-LOCK ON ALL 120 VOLT FIRE ALARM POWER CIRCUITS. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF"
- 2. RISER DIAGRAM DOES NOT SHOW ENTIRE SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL
- 3. TYPICAL RELOCATION OR ADDITION OF FIRE ALARM NOTIFICATION DEVICE. DISCONNECT AND REMOVE EXISTING NAC LOOP WIRING BACK TO EXISTING DEVICES TO REMAIN. PROVIDE NEW NACLOOP WIRING (TO MATCH EXISTING) TO ACCOMMODATE ADDITION OF OR RELOCATION OF DEVICES.
- 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL REQUIRED POWER SUPPLIES FOR A COMPLETE AND OPERABLE SYSTEM. POWER SUPPLY CALCULATIONS SHALL BE INCLUDED IN FIRE ALARM SHOP DRAWINGS.
- 5. ELECTRICAL CONTRACTOR SHALL CARRY ALL COSTS TO REPROGRAM EXISTING FIRE ALARM CONTROL PANEL.



KEYNOTES - CONSTRUCTION DESCRIPTION

NOT FOR CONSTRUCTION DRAFT



ANALOGUE STUDIO

DEDHAM HS COOLER

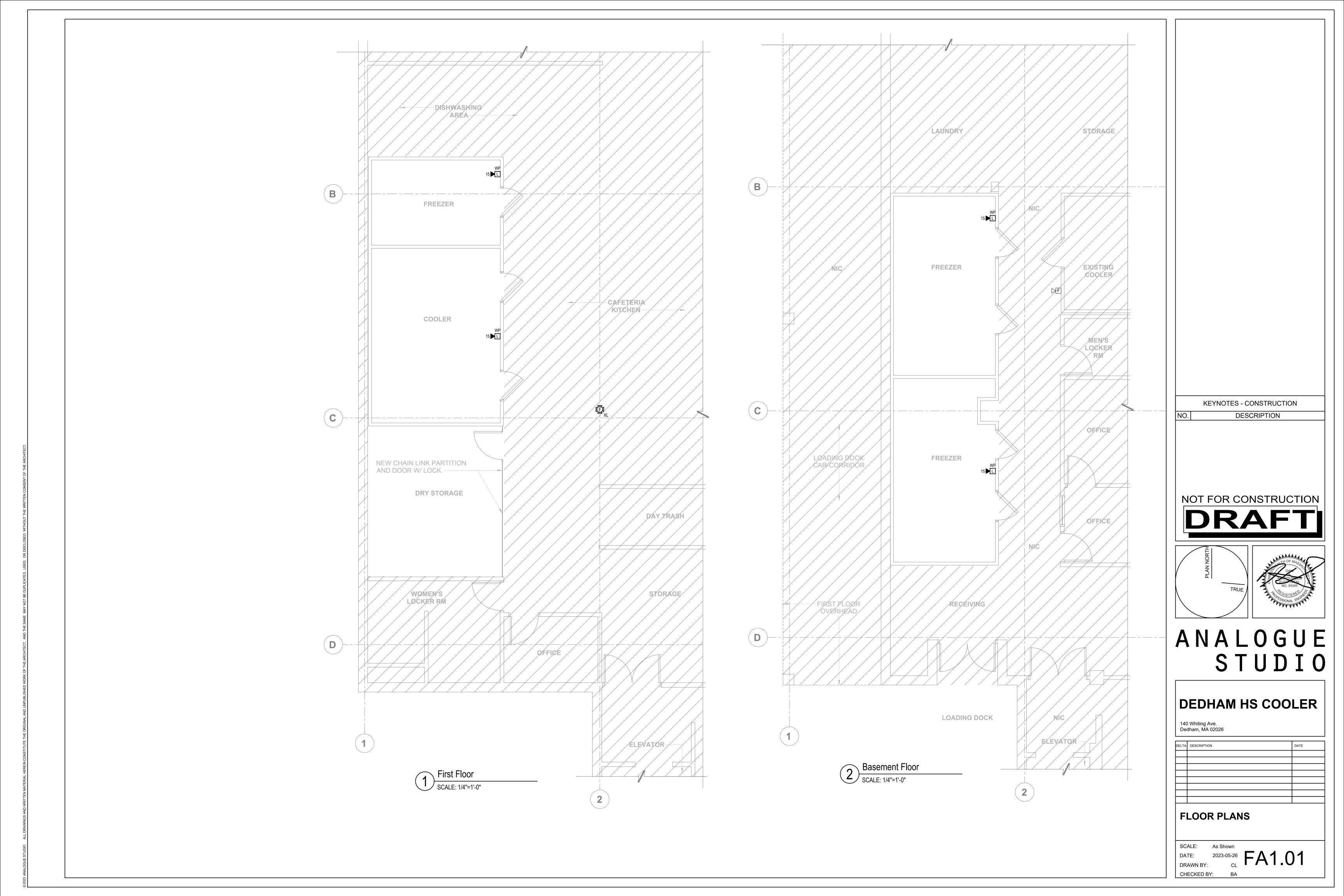
140 Whiting Ave. Dedham, MA 02026

LEGEND, RISER DIAGRAM, **AND DETAILS**

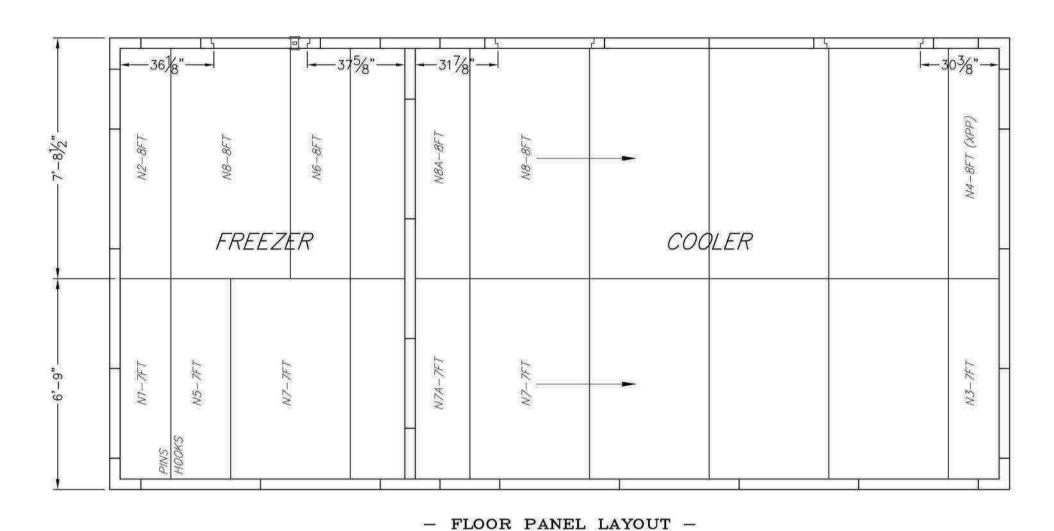
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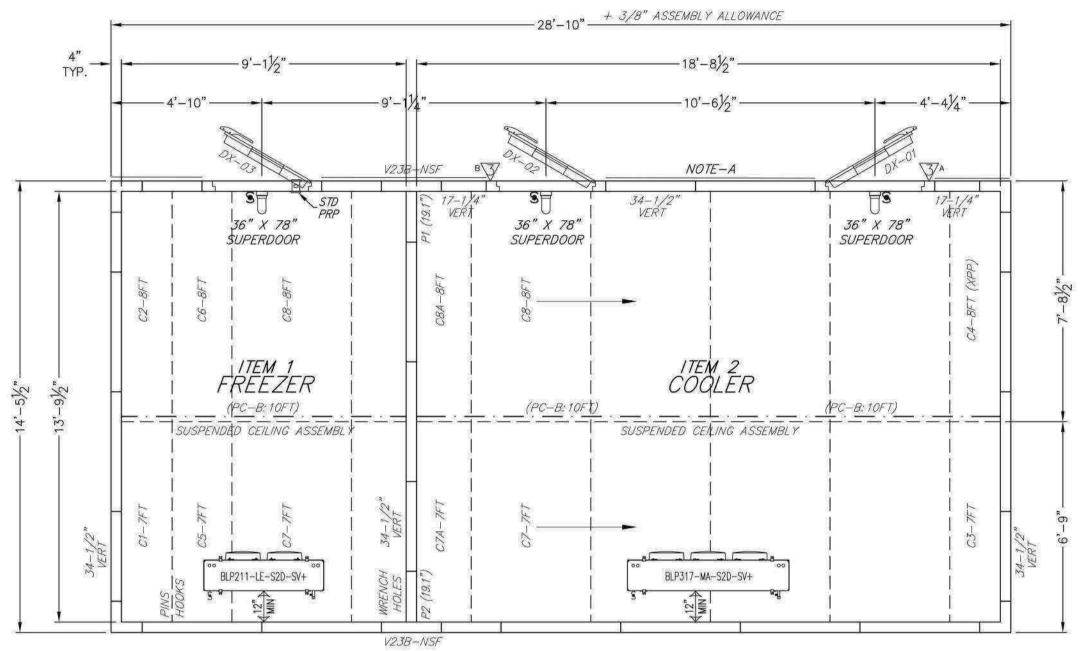
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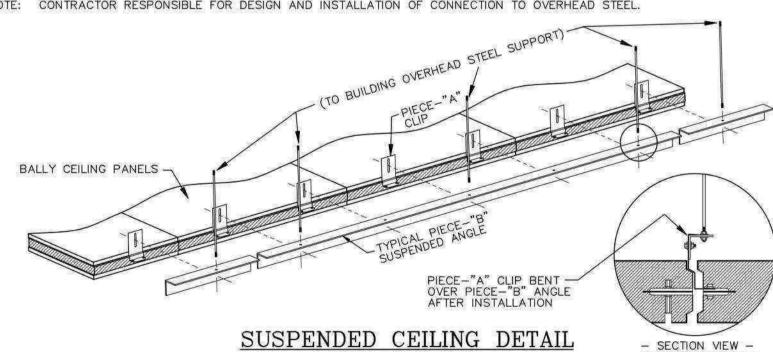


- PLAN VIEW A -

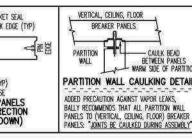
- VERTICAL & CEILING PANEL LAYOUT -

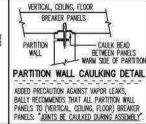
SCALE: 3/8" = 1' - 0"

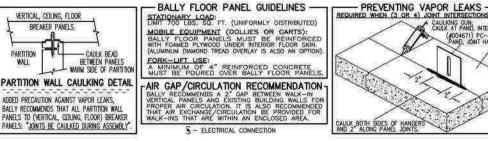
- NOTE: IN ORDER TO USE THE BALLY CEILING SUPPORT ASSEMBLY, THE EXISTING STRUCTURE MUST BE CAPABLE OF SUPPORTING THE DEAD LOAD OF THE BALLY CEILING PANELS AND HANGER ASSEMBLY (APPROX. 3.5 LBS PER SQ FT DEAD LOAD). HANGER RODS OR STRAPS MUST BE FURNISHED AND INSTALLED BY OTHERS. (APPROX. 10 LBS PER SQ FT LIVE LOAD).
- NOTE: THIS TYPE OF SUPPORTING SYSTEM IS DESIGNED TO SUPPORT CEILING PANELS ONLY WITH LIMITED INSTALLATION PERSONEL TRAFFIC. PERMANENT STORING OF COMPONENTS OR EQUIPMENT NOT PERMITTED. EQUIPMENT AND ACTIVE EQUIPMENT ACCESS ROUTE CAT—WALKS MUST BE SUSPENDED INDEPENDENT OF INSULATED PANELS.
- NOTE: SIZE OF ALL THREADED RODS (MINIMUM 3/8") TO BE DETERMINED BY JOBSITE CONDITIONS.
- NOTE: MINIMUM OF (2) RODS PER PIECE—"B" ANGLE UP TO 113" LONG. USE MORE RODS IF JOBSITE CONDITIONS WARRANT. MINIMUM OF (3) RODS PER PIECE—"B" ANGLE OVER 124-1/2" LONG. USE MORE RODS IF JOBSITE CONDITIONS WARRANT.
- NOTE: CONTRACTOR RESPONSIBLE FOR DESIGN AND INSTALLATION OF CONNECTION TO OVERHEAD STEEL.



HANGER ROD ASSEMBLY (SEE INSTRUCTION: IM-146-73)







EVERY SHIPPED ORDER WILL HAVE A FINALIZED "AS-BUILT" DRAWING.

-1" CLEARANCE ON ALL FOUR SIDES. FILL IN WITH GROUT AFTER ERECTING WALK-IN. - DUAL DUROMETER WIPER GASKET RADIUS DEPRESSIO TYPE STEPPLATE - 3/8" RADIUS HEATER CHANNEL - FLOOR PANEL (IF APPLICABLE) O.S.B. FOAMED AGAINST INTERIOR SKIN DIAMOND TREAD FLOOR OVERLAY NOTE: BEARING SURFACE UNDER FLOOR PANELS MUST BE LEVEL AND DRY. BOTTOM OF PANELS MUST HAVE AT LEAST 80% CONTACT WITH FLOORS. NOTE: IF MOISTURE IS PRESENT UNDER BUILDING FLOOR, A VAPOR BARRIER MUST BE APPLIED BETWEEN BUILDING FLOOR AND PREFAB PANELS. NOTE: BALLY TO FURNISH THE PREFAB SECTIONAL WALK-IN COOLER OR FREEZER ONLY (UNLESS OTHERWISE SPECIFIED). THIS INCLUDES WALLS AND CEILING PANELS. NOTE: THESE DRAWINGS ARE INTENDED TO SERVE AS GUIDE LINE DRAWINGS ONLY.
THEY ARE NOT INTENDED TO BE CONSTRUCTION DRAWINGS AS CONDITIONS MAY VARY WIDELY.
DIMENSIONAL AND MATERIAL DESIGN TO BE DETERMINED BY PROJECT CONSTRUCTION ENGINEER.

RESTRICTED, CONFIDENTIAL DOCUMENT THIS DRAWING AND ALL INFORMATION SHOWN HEREON ARE THE EXCLUSIVE PROPERTY OF BALLY REFRIGERATED BOXES INC., AND ARE SUBMITTED ONLY ON A CONFIDENTIAL BASIS. THE RECIPIENT AGREES NOT TO REPRODUCE THE DRAWING, TO RETURN IT UPON REQUEST, AND THAT NO DISCLOSURE OF THE DRAWING OR THE INFORMATION SHOWN HEREON WILL BE MADE TO A THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT FROM BALLY REFRIGERATED WRITTEN CONSENT FROM BALLY REFRIGERATED BOXES INC.

SIGNED APPROVAL SIGNED PLEASE READ NOTE - THIS ORDER WILL NOT BE SCHEDULED FOR PRODUCTION UNTIL RECEIPT OF APPROVED DRAWINGS BY BALLY.

IMPORTANT - PLEASE READ HESE DRAWINGS ARE NOT TO BE CONSIDERED AS APPROVED BY LOCAL OR STATE BUILDING AUTHORITIES. E DRAWINGS AND SPECIFICATIONS DESCRIBE A BUILDING ASSEMBLED FROM BALLY PANELS INSULATED WITH URETHANE DAMED—IN—PLACE", THE SIZE AND SHAPE IS THAT WHICH MOST CLEARLY MEETS DIMENSIONS SUBMITTED BY THE USER. ALLY REFRIGERATED BOXES INC., PROVIDES PANELS FREQUENTLY SPECIFIED BY OTHERS, AND IS NOT RESPONSIBLE FOR THE ELECTION OR RECOMMENDATION BY OTHERS OF THE PANEL FINISH FOR ANY BUILDING OR WALK-IN APPLICATION.

REVISED CEILING TO MULTI-SPAN

RCB 04/27/23 DRAWING 2301687AD (6112821AD) RCB 01/10/23 DRAWN BY RCB
BY DATE LBL'D DATE REVISED BOX SIZE, DOOR ACC., TRIM DESCRIPTION

SPECIFICATIONS

28'-10" X 14'-5 1/2" X 8'-6" INSTALLATION

LOADING HEIGHT - AT LEAST 18" OF OPEN SPACE MUST BE MAINTAINED BETWEEN TOP OF PRODUCT AND CEILING PANELS

INSULATION

- INDOOR

- POURED IN-PLACE POLYURETHANE FOAM

- BALLY PANELS AND DOORS ARE CERTIFIED COMPLIANT WITH CURRENT FEDERAL DOE REGULATIONS FOR WALK IN COOLERS & FREEZERS
- BALLY PANELS AND DOORS EXCEED MINIMUM R-VALUES* FOR COOLERS (MINIMUM R-25, EXCLUDING FLOORS), AND FREEZERS (MIN. R-32, EXCEPT FLOORS, WHICH ARE MIN. R-28)
 *WHEN TESTED PER ASTM C518 TO FEDERAL REG. 431.304

EXTERIOR FINISH

- EMBOSSED WHITE GALVANIZED

INTERIOR FINISH

- EMBOSSED WHITE GALVANIZED

FLOOR FINISH - (INTERIOR) SMOOTH ALUMINUM W/ 3/4" O.S.B. UNDERLAY

- (EXTERIOR) EMBOSSED WHITE GALVANIZED

- DOORS/ACCESSORIES - (1) 36" X 78" RIGHT SWING HINGED WALK-IN DOOR
- (2) 36" X 78" LEFT SWING HINGED WALK-IN DOOR
- SUPERDOOR: 3RD HINGE, DT INT & EXT 36"H
- MODULARM 75LC MULTI-MONITOR W/ MAGNETIC CONTACTS - 14" x 14" HEATED OBSERVATION WINDOW
- EXTERIOR CROSSOVER CORD

REFRIGERATION - BY BALLY (CONDENSING UNIT MOUNTED OUTDOORS)

9.7	4 7 7	-	
2.1	13.8	20	C
1.8	2.0	15	C
9.9	14.1	20	F
8.2	10.3	15	F
	9.9	9.9 14.1 8.2 10.3	9.9 14.1 20

- (2) WIND GUARDS FOR CONDENSING UNITS
- (2) BQ WALL MOUNT BRACKETS

SMARTVAP+ REFRIGERATION REQUIRES TWO SEPARATE POWER SOURCES; ONE TO THE CONDENSING UNIT AND ONE TO THE SMARTVAP+ EVAPORATOR.

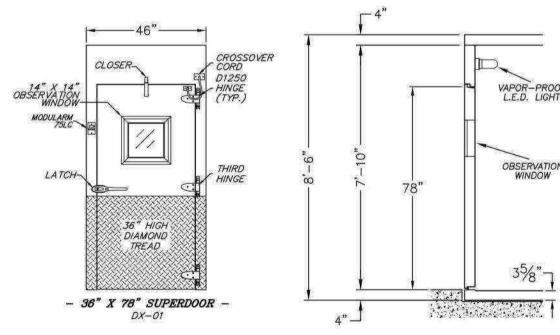
CEILING SUPPORT - BY BALLY

- SUSPENDED CEILING SUPPORT. SEE NOTIFICATION IM-146-73.

GENERAL NOTES

 NOTE: BALLY TO FURNISH 1/8" ALUMINUM DIAMOND TREAD TO COVER ENTIRE SURFACE OF INTERIOR FLOOR. ALLOW 1/2" GAP ALONG OUTSIDE WALLS. DIAMOND TREAD MUST BE SECURELY FASTENED AND SEALED TO FLOOR PANELS. (FASTENERS AND CAULK BY

- NOTE A: BALLY TO FURNISH 1/8" ALUMINUM DIAMOND TREAD 36"H WAINSCOT TO COVER EXPOSED EXTERIOR AS SHOWN.
- BALLY TO FURNISH CLOSURE EW TRIM. PLEASE ADVISE SIZE AND QUANTITY. ALL FASTENERS AND INSTALLATION BY OTHERS. - NOTE: ADDITIONAL LIGHTING AND STRIP CURTAINS PROVIDED BY OTHERS.



- SECTION VIEW -THRU ENTRANCE DOOR

SCALE: 3/8" = 1' - 0" SHEET 1 OF 2

DELTA DESCRIPTION DATE

NOT FOR CONSTRUCTION

DRAFT

ANALOGUE

DEDHAM HS COOLER

REPLACEMENT

140 WHITING AVE, DEDHAM, MA 02026

STUDIO

WALK-IN DRAWINGS & DETAILS -**DEDHAM-UPSTAIRS**

SCALE: AS NOTED DATE: 2023-06-20 Author **B1.01**

DRAWN BY: CHECKED BY: Checker

SECTION VIEW FINISHED ASSEMBLY

THIS DRAWING IS TO BE USED FOR "APPROVAL ONLY". -> DO NOT USE THIS DRAWING FOR INSTALLATION!

DEDHAM-UPSTAIRS

12/06/21 2301687

+ 1/2" ASSEMBLY ALLOWANCE -22'-21/4" -19'-2½' TYP. - 10'-11/4" -NOTE-A 40-1/4" VERT 28-3/4" 40-1/4" VERT 36" X 78" 36" X 78 SUPERDOOR SUPERDOOR IC-1ITEM 1 ITEM 2 FREEZER FREEZEI Ma - - 1 BLP209-LE-S2D-SV+ BLP209-LE-S2D-SV+ BLP209-LE-S2D-SV+ BLP209-LE-S2D-SV+ 40-1/4" VERT V46B-NSF - PLAN VIEW B -SCALE: 1/2" = 1' - 0"-1" CLEARANCE ON ALL FOUR SIDES. FILL IN WITH GROUT AFTER ERECTING WALK-IN. FLOOR DETAIL DUAL DUROMETER WIPER GASKET FLOOR - HEATER CHANNEL - FLOOR PANEL (IF APPLICABLE) O.S.B. FOAMED AGAINST INTERIOR SKIN DIAMOND TREAD FLOOR OVERLAY NOTE: BEARING SURFACE UNDER FLOOR PANELS MUST BE LEVEL AND DRY. BOTTOM OF PANELS MUST HAVE AT LEAST 80% CONTACT WITH FLOORS. NOTE: IF MOISTURE IS PRESENT UNDER BUILDING FLOOR, A VAPOR BARRIER MUST BE APPLIED

SPECIFICA TIONS

39'-10 1/4" X 11'-7" X 8'-6"

INSTALLATION INDOOR

LOADING HEIGHT - AT LEAST 18" OF OPEN SPACE MUST BE MAINTAINED BETWEEN TOP OF PRODUCT AND CEILING PANELS

INSULATION

- POURED IN-PLACE POLYURETHANE FOAM
- BALLY PANELS AND DOORS ARE CERTIFIED COMPLIANT WITH CURRENT FEDERAL DOE REGULATIONS FOR WALK IN COOLERS & FREEZERS
- BALLY PANELS AND DOORS EXCEED MINIMUM R-VALUES* FOR COOLERS (MINIMUM R-25, EXCLUDING FLOORS), AND FREEZERS (MIN. R-32, EXCEPT FLOORS, WHICH ARE MIN. R-28) *WHEN TESTED PER ASTM C518 TO FEDERAL REG. 431.304

EXTERIOR FINISH

- EMBOSSED WHITE GALVANIZED

INTERIOR FINISH

- EMBOSSED WHITE GALVANIZED

FLOOR FINISH

- (INTERIOR) SMOOTH ALUMINUM W/ 3/4" O.S.B. UNDERLAY - (EXTERIOR) EMBOSSED WHITE GALVANIZED

DOORS/ACCESSORIES

- (2) 36" X 78" LEFT SWING HINGED WALK-IN DOOR
- SUPERDOOR: 3RD HINGE, DT INT & EXT 36"H - HI-FLO PRP
- MODULARM 75LC MULTI-MONITOR W/ MAGNETIC CONTACTS - 14" x 14" HEATED OBSERVATION WINDOW
- EXTERIOR CROSSOVER CORD

REFRIGERATION - BY BALLY (CONDENSING UNIT MOUNTED OUTDOORS) POWER COMPRESSOR FAN MTRS TOTAL WATTS MAX

2 5.5 R448A BQZA055-L8-HT3DH 208-230/3/60 18.9 123 2 3.4 18.9 27 45 F 4 BLP209LE-S2D-SV+ 208-230/1/60 2 1/15 0.6 1890 8.2 10.3 15 F ■ ALL CONDENSATION DRAIN LINES MUST BE SLOPED AT LEAST 1:12. 1" 12" INSTALLATION ■ FREEZER CONDENSATION DRAIN LINES MUST BE HEATED, INSULATED AND TRAPPED INDIVIDUALLY. BY OTHERS	QTY	H/P	TYPE	MODEL	NUMBER	SUPPLY	RLA	LRA	OTY	HP	FLA	DEFROST	AMPS	MCA	FUSE	CMPT
ALL CONDENSATION DRAIN LINES MUST BE SLOPED AT LEAST 1:12. 1" 12" INSTALLATION	2	5.5	R448A	BQZA055-	L8-HT3DH	208-230/3/60	18.9	123	2		3.4		18.9	27	45	F
ALL CONDENSATION DRAIN LINES MUST BE SLOPED AT LEAST 1:12. 1" INSTALLATION	4			BLP209LE-	-52D-SV+	208-230/1/60			2	1/15	0.6	1890	8.2	10.3	15	F
		IVE DOME				41 MMT167M - LESSES SERVESSION							VIDUALL	0.000		0.115

- (2) HAIL GUARDS FOR CONDENSING UNITS - (2) 50' SMARTVAP+ CATS CABLES

FIELD NOTIFICATION OF SMARTVAP+ MULTI-COIL INSTALLATION — THIS FREEZER HAS MULTIPLE SMARTVAP+ CONTROLLED EVAPORATORS POWERED BY A SINGLE CONDENSING UNIT. THEY REQUIRE "BONDING", OR COMMUNICATION WITH EACH OTHER. BALLY SUPPLIES CATSE CABLE, ONE CABLE PER PAIR. THESE BONDED EVAPORATOR PAIRS NEED TO BE

MATCHED. THE MATCHED PAIRS MUST BE PLUMBED TOGETHER AND COMMUNICATING WITH EACH OTHER.LOOK FOR COLOR CODED INDICATORS (YELLOW AND PINK...). THE CABLE CONNECTION IS AT THE TOP OF THE SV+ ELECTRICAL BOARD.

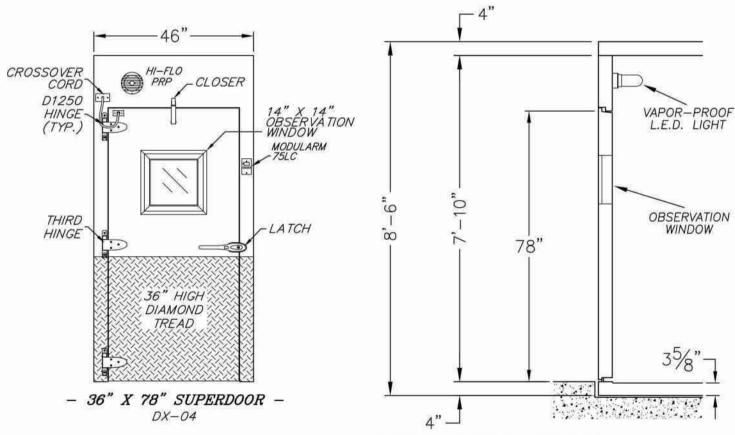
GENERAL NOTES

BALLY TO FURNISH 1/8" ALUMINUM DIAMOND TREAD TO COVER ENTIRE SURFACE OF INTERIOR FLOOR. ALLOW 1/2" GAP ALONG OUTSIDE WALLS. DIAMOND TREAD MUST BE SECURELY FASTENED AND SEALED TO FLOOR PANELS. (FASTENERS AND CAULK BY

NOTE A: BALLY TO FURNISH 1/8" ALUMINUM DIAMOND TREAD 36"H WAINSCOT TO COVER EXPOSED EXTERIOR AS SHOWN.

BALLY TO FURNISH CLOSURE EW TRIM. PLEASE ADVISE SIZE AND QUANTITY. ALL FASTENERS AND INSTALLATION BY OTHERS.

ADDITIONAL LIGHTING AND STRIP CURTAINS PROVIDED BY OTHERS. – NOTE:



- SECTION VIEW -THRU ENTRANCE DOOR

SCALE: 1/2" = 1' - 0" SHEET 2 OF 2

SPEED-LOC (TYP) TURN CLOCKWISE

- BALLY FLOOR PANEL GUIDELINES -STATIONARY LOAD: LIMIT 700 LBS. SQ. FT. (UNIFORMLY DISTRIBUTED) MOBILE EQUIPMENT (DOLLIES OR CARTS):
BALLY FLOOR PANELS MUST BE REINFORCE
WITH FOAMED PLYWOOD UNDER INTERIOR FLOOR SKIN.
(ALUMINUM DAMOND TREAD OVERAY IS ALSO AN OPTION AIR GAP/CIRCULATION RECOMMENDATION

THIS DRAWING IS TO BE USED FOR APPROVAL ONLY". > DO NOT USE THIS DRAWING FOR INSTALLATION! EVERY SHIPPED ORDER WILL HAVE A FINALIZED "AS—BUILT" DRAWING.

RESTRICTED, CONFIDENTIAL DOCUMENT THIS DRAWING AND ALL INFORMATION SHOWN HEREON ARE THE EXCLUSIVE PROPERTY OF BALLY REFRIGERATED BOXES INC., AND ARE SUBMITTED ONLY ON A CONFIDENTIAL BASIS. THE RECIPIENT AGREES NOT TO REPRODUCE THE DRAWING, TO RETURN IT UPON REQUEST, AND THAT NO DISCLOSURE OF THE DRAWING OR THE INFORMATION SHOWN HEREON WILL BE MADE TO A THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT FROM BALLY REFRIGERATED. WRITTEN CONSENT FROM BALLY REFRIGERATED BOXES INC.

SIGNED APPROVAL

PLEASE READ NOTE - THIS ORDER WILL NOT BE SCHEDULED FOR PRODUCTION UNTIL RECEIPT OF APPROVED DRAWINGS BY BALLY.

IMPORTANT - PLEASE READ ESE DRAWINGS ARE NOT TO BE CONSIDERED AS APPROVED BY LOCAL OR STATE BUILDING AUTHORITIES: SPECIFICATIONS DESCRIBE A BUILDING ASSEMBLED FROM BALLY PANELS INSULATED WITH URETHANE. THE SIZE AND SHAPE IS THAT WHICH MOST CLEARLY MEETS DIMENSIONS SUBMITTED BY THE USER.

REVISED SIZE & CONFIG.; ADDED OFFSET REVISED SIZE & CONFIG., REF., DOOR ACC, DX-04 SWING DESCRIPTION

DEDHAM-BASEMENT

12/06/21

WALK-IN DRAWINGS & **DETAILS** -**DEDHAM-BASEMENT**

NOT FOR CONSTRUCTION

DRAFT

ANALOGUE

DEDHAM HS COOLER

REPLACEMENT

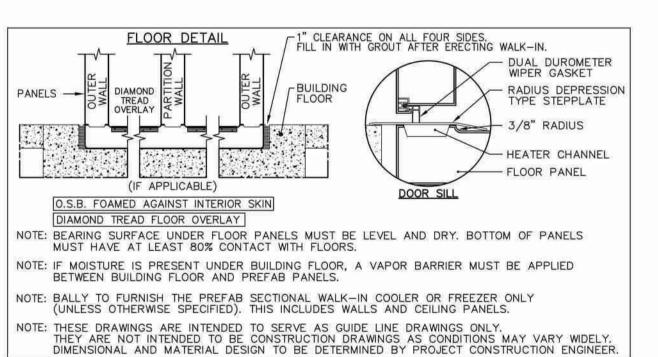
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DELTA DESCRIPTION

STUDIO

DATE

SCALE: AS NOTED DATE:



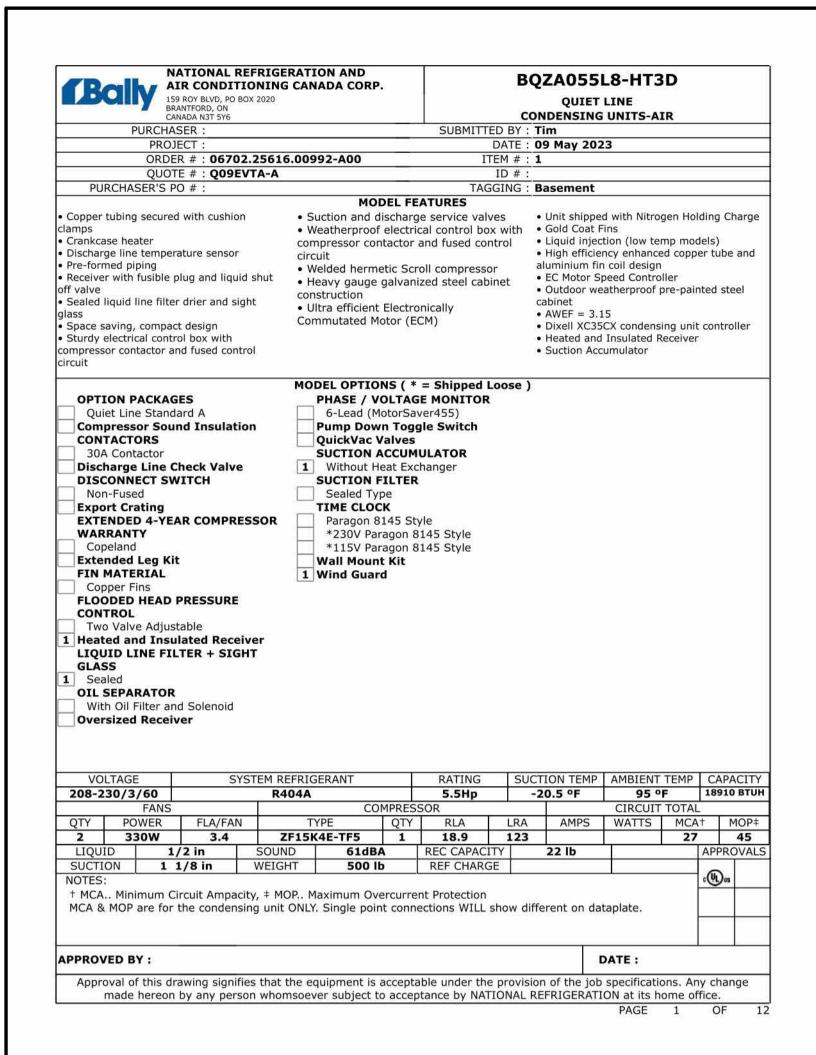
LLY REFRIGERATED BOXES INC., PROVIDES PANELS FREQUENTLY SPECIFIED BY OTHERS, AND IS NOT RESPONSIBLE FOR THE LECTION OF RECOMMENDATION BY OTHERS OF THE PANEL FINISH FOR ANY BUILDING OR WALK—IN APPLICATION.

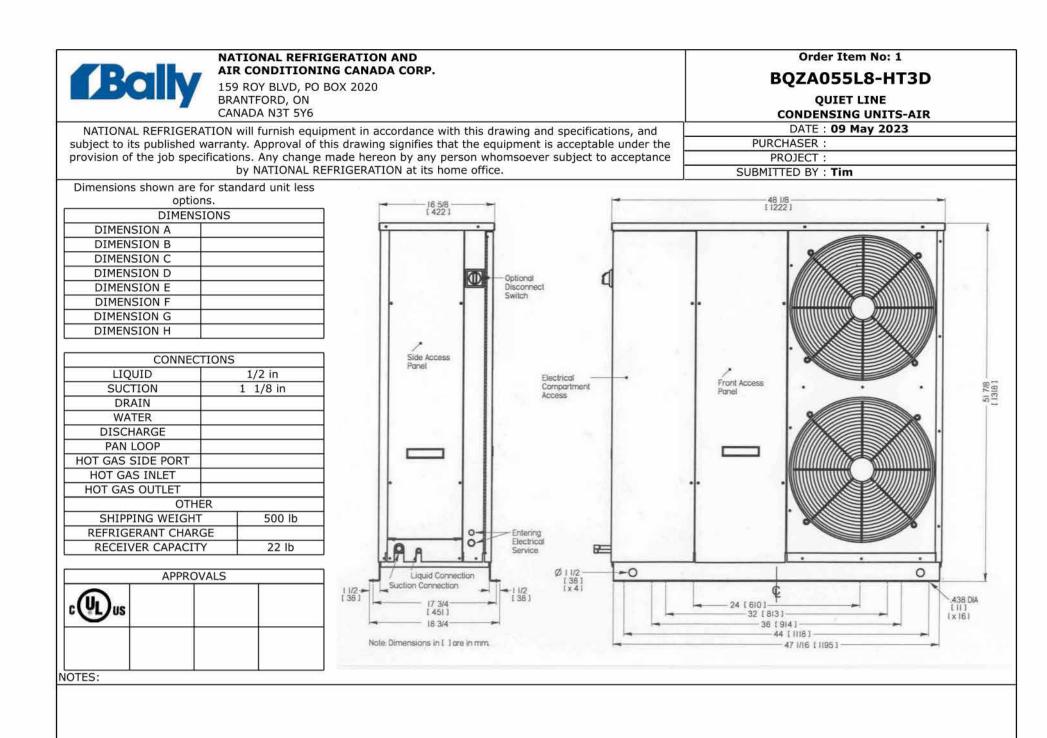
RCB 04/27/23 RCB 01/10/23 DRAWN BY

2301687BD (6112821BD) 2301687

2023-06-20 **B1.02** DRAWN BY:

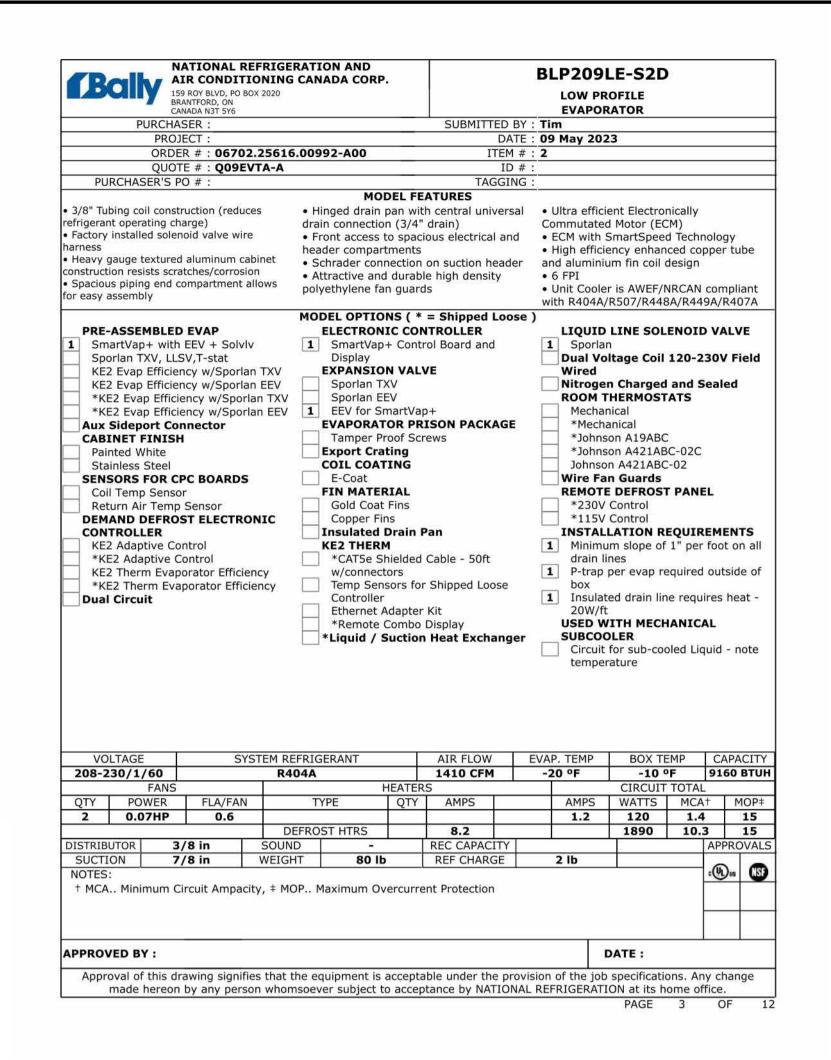
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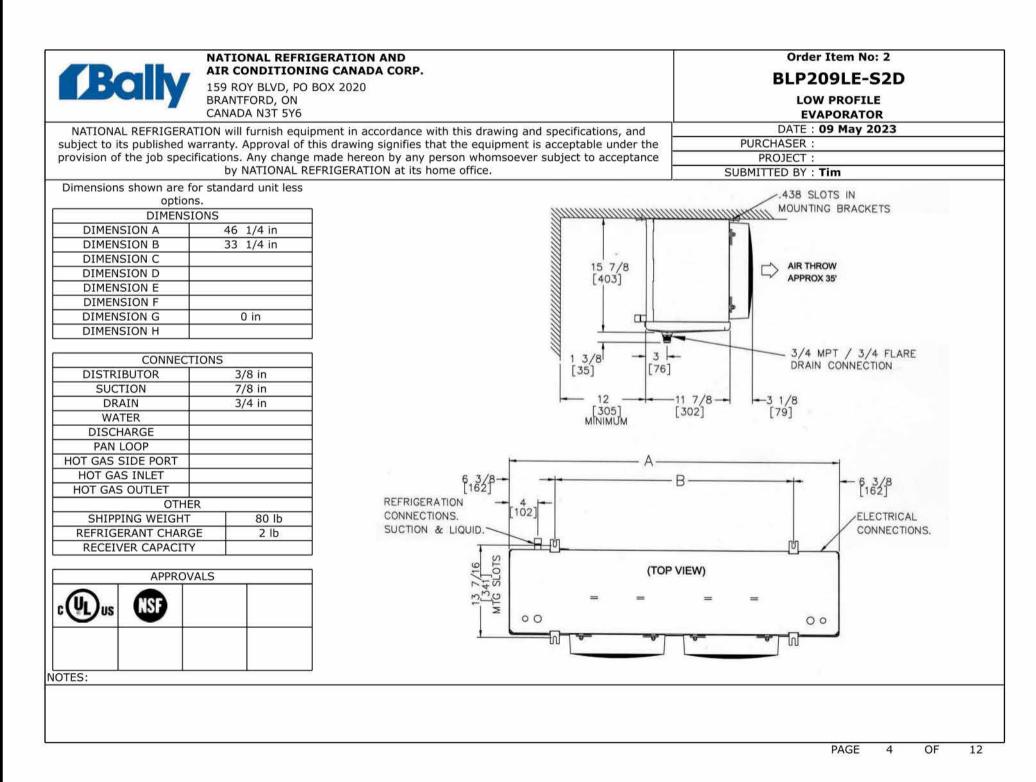


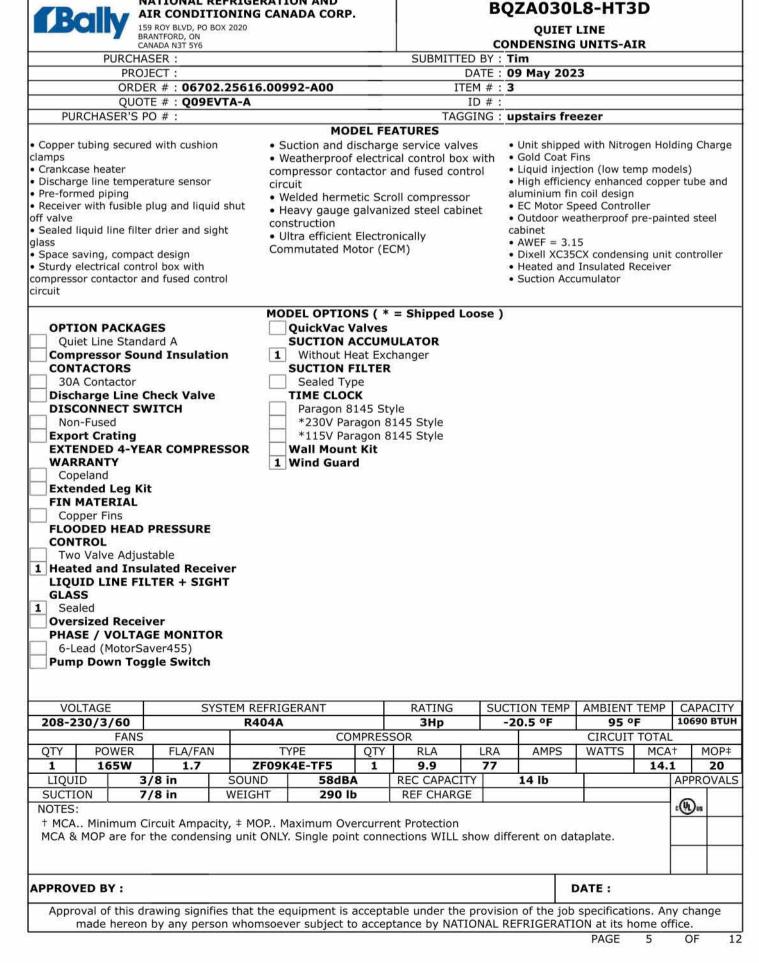


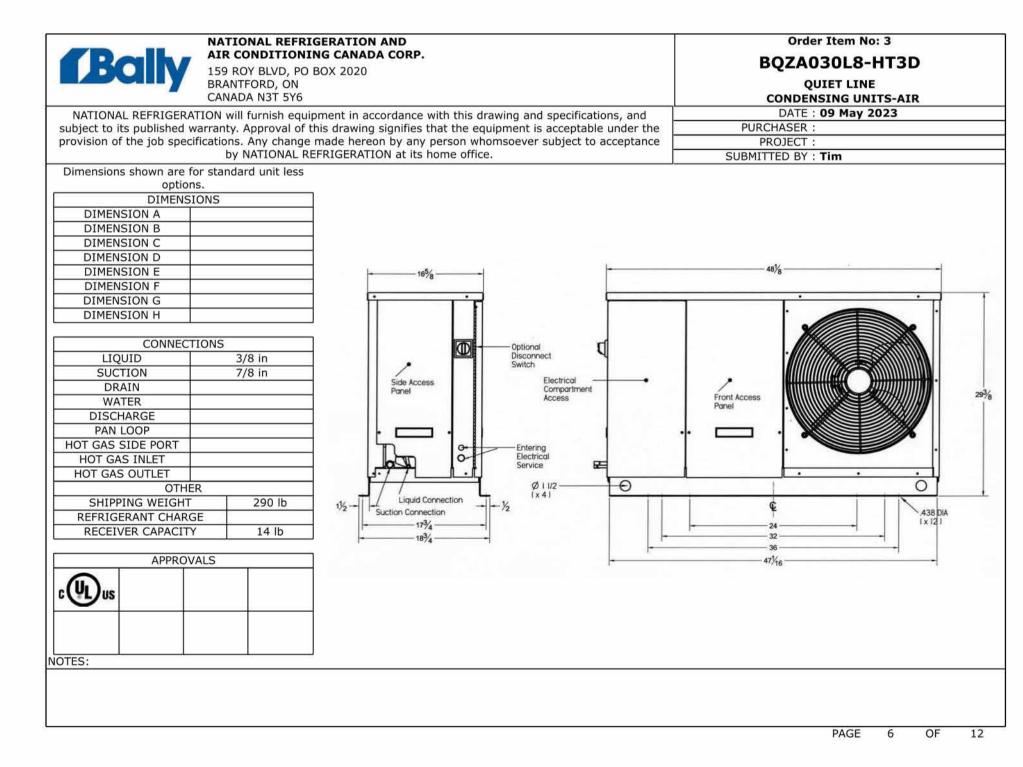
NATIONAL REFRIGERATION AND

PAGE 2 OF 12

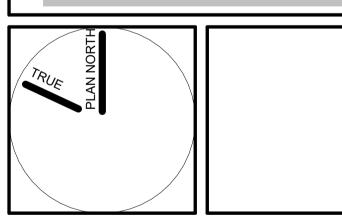












ANALOGUE

DEDHAM HS COOLER REPLACEMENT

DELTA	DESCRIPTION	DATE

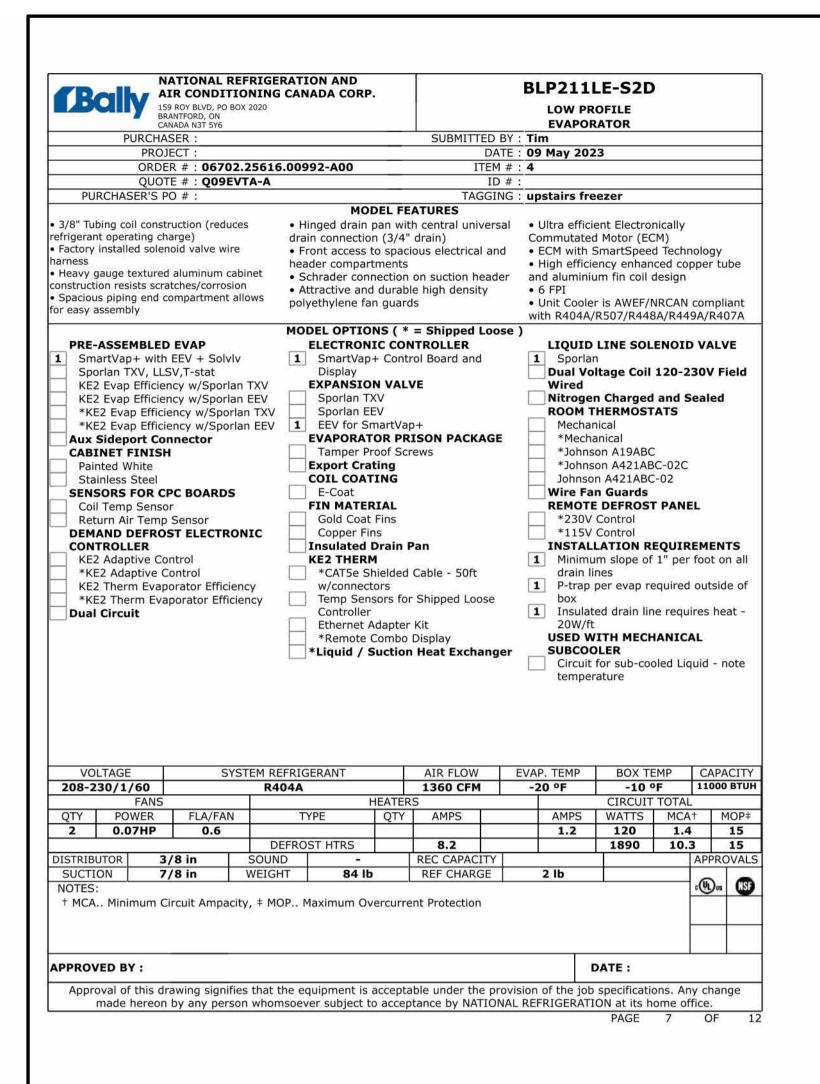
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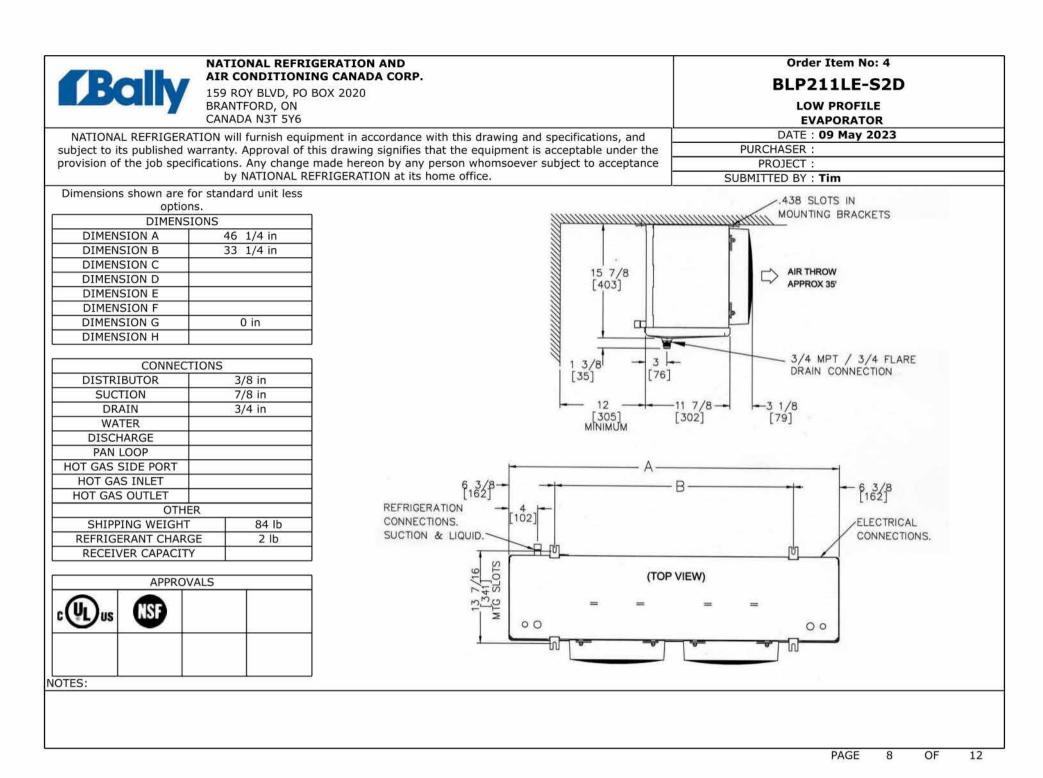
DEDHAM, MA 02026

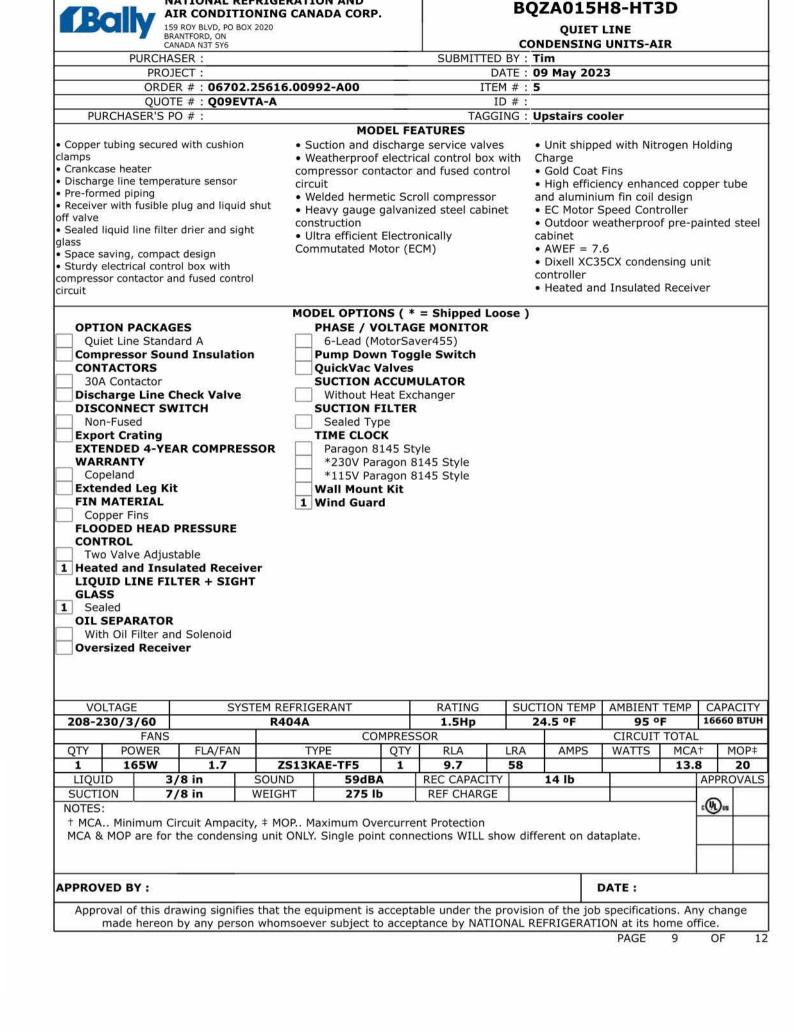
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DATE: 2023-06-20

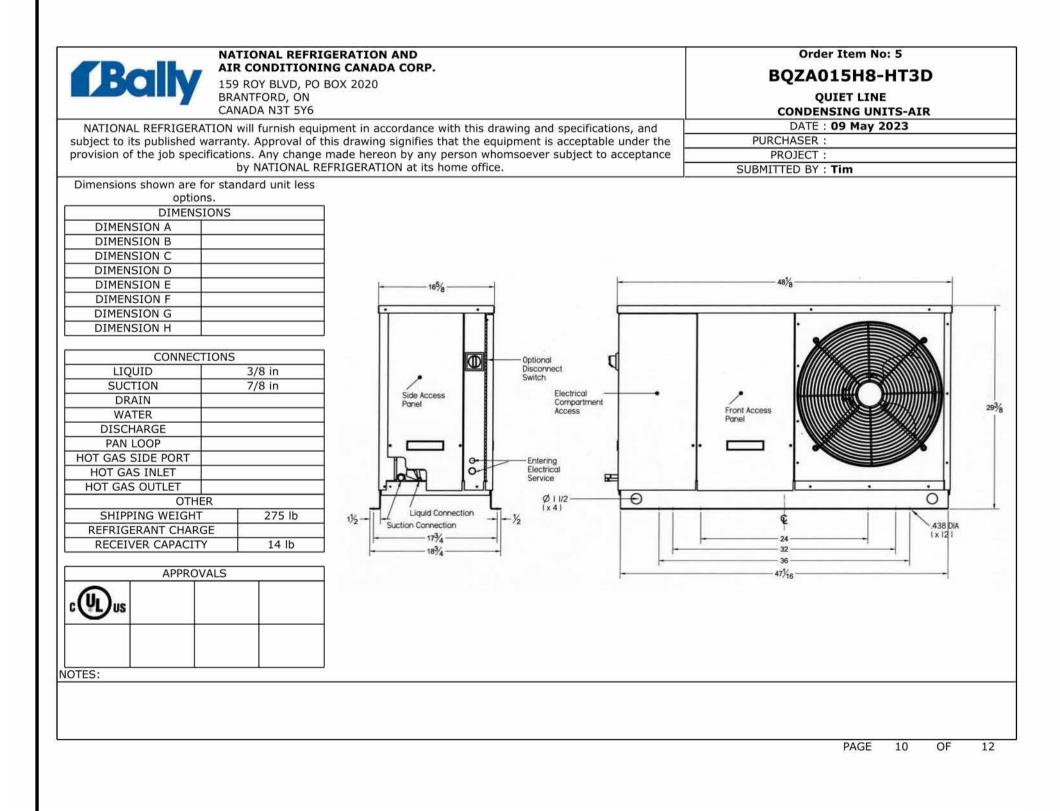
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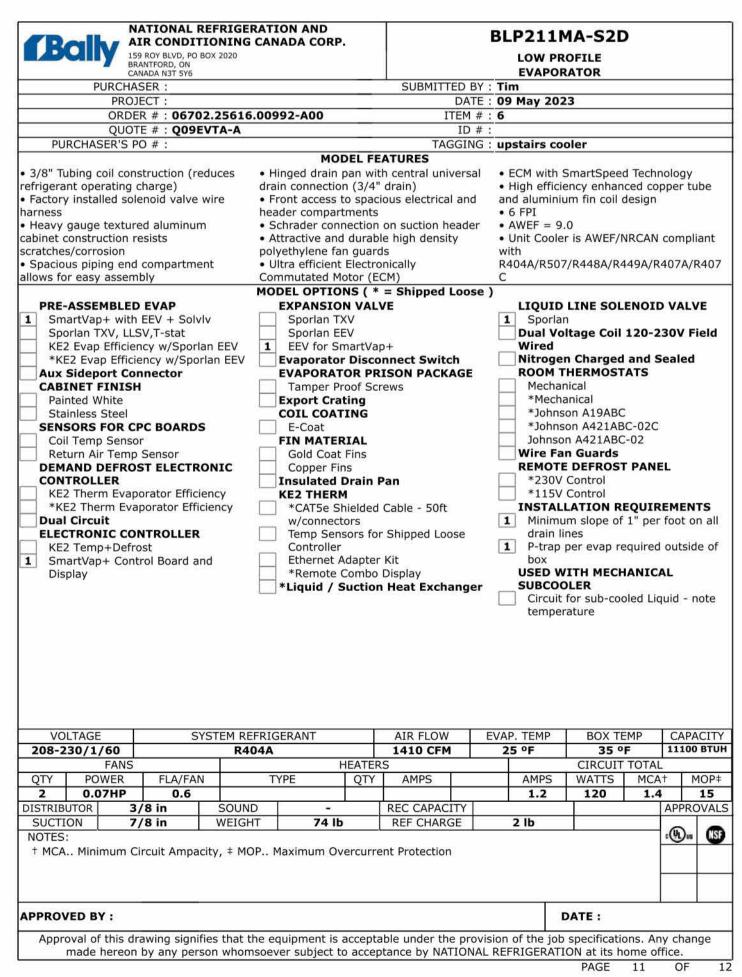


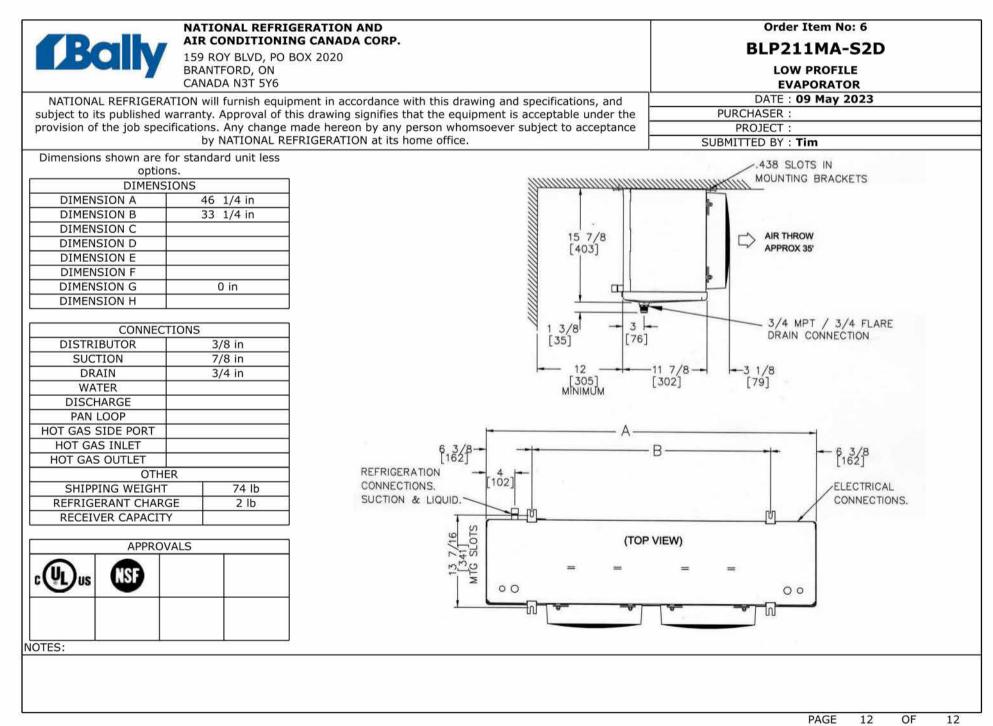




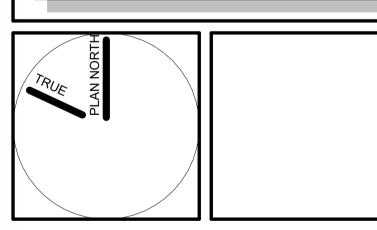
NATIONAL REFRIGERATION AND







DRAFT



ANALOGUE

DEDHAM HS COOLER
REPLACEMENT

DELTA	DESCRIPTION	DATE
DELTA	DESCRIPTION	DATE

EQUIPMENT CUTSHEETS 2

DEDHAM, MA 02026

SCALE: AS NOTED

DATE: 2023-06-20

DRAWN BY:
CHECKED BY: -

ANALOGUE STUDIO

Analogue Studio, LLC 129 South Street, 5th Floor Boston, MA 02111 617 440 7568 analoguestudio.com

Memorandum | Project Scope Notes

PROJECT NAME: Dedham High School Cooler Replacement

LOCATION: Dedham High School

AUTHOR: Brian Amaral DATE: 16 June 2023

SUBJECT: Project Notes and Exclusions

The following are supplemental notes to the to the Architectural, MEP, and Foodservice drawing scope, details and notes. All general, demolition, and construction notes on all design drawings are to be reviewed and followed.

- -The scope of these drawings is specific to the replacement of the identified coolers and freezers. All unforeseen conditions and associated work with building systems, other than noted in the drawings, are not in the design drawings and details. Any additional associated work is to be directed and coordinated with Dedham High School staff.
- -All protection of existing kitchen equipment and finishes, the protected area of construction, and GC terms and conditions are not the responsibility of the design team. Coordinated is to be between the GC and the Dedham High School staff.
- -All roof penetrations are not in the design team scope and are to be directed by the Dedham High School staff and coordinated with the GC.
- -No exterior work other than the Condensers are in the design team drawings and scope.
- -Wifi, A/V, Security and fire safety scope is excluded from the design team's scope of work. The GC is to coordinate existing systems with the Dedham High School staff.
- -The GC is responsible to coordinate all the design team's scope of work drawings and notes
- -General Contractor bidding instructions and general scope of work descriptions will be distributed by Dedham High School staff



Date: June 21, 2023

Project: Dedham High School in Dedham, MA

JSR#: 111432

CCs: Category Manager(s) (various departments); Technical Field Representative(s); ARDEX Manufacturer's Representative Barry Cullen (508-561-0837); Local ARDEX Sales Team U20

Deliver to: connor@analoguestudio.com

Total of 4 pages

REPORTED JOBSITE CONDITIONS

Substrate(s): Metal

Conditions:

- The installation area is a walk-in cooler.
- Self-leveling is needed at a thickness of 1/2" prior to the installation of a urethane-insulation filled steel casing, and at a thickness of 1 1/2" over the steel casing.

RECOMMENDATION

Technical Data Sheets and Updates

Product technical data sheets can be found at www.ardexamericas.com/products.

Prior to proceeding with the installation of any ARDEX product, please read the respective technical data sheets and any relevant technical updates found here. The information herein is intended to accompany, not stand separately from, published technical documentation for each recommended product.

Products

ARDEX EP 2000™ Substrate Preparation Epoxy Primer

ARDEX K 15® Premium Self-Leveling Underlayment

ARDEX E 25™ Resilient Emulsion

Consideration: Sanded Materials

When mixing sanded materials, ARDEX recommends using the ARDEX DUSTFREE™ or a standard "gutter hook" vacuum attachment in combination with a wet/dry (Shop-Vac® style) vacuum and HEPA dust extraction vacuum system. Additionally, each bag should be handled



with care and emptied slowly to avoid creating a plume of dust. Contact the ARDEX Technical Service Department for more details on ARDEX products and air quality management.

Considerations: Coolers

This will confirm that the temperature of the cooler space must be gradually lowered to the operating temperature over a period of 72 hours.

Other Considerations

- While ARDEX has no direct experience with the application of ARDEX K 15 mixed with ARDEX E 25 over urethane-insultation filled steel casing, we do have experience with the successful application of ARDEX K 15 and ARDEX E 25 over steel primed with a sandbroadcasted application of ARDEX EP 2000.
- 2. Prior to proceeding with the application at large, we recommend installing and evaluating an adequate number of properly located test areas to determine the suitability and aesthetic value of the products for their intended use. The decision to proceed will be at the contractor's discretion and will be based on the results of the test areas.
- 3. Finally, please note that ARDEX K 15 is a non-structural material. Non-structural materials are unable to restrain movement within a substrate. Cracks will telegraph in any area that exhibits movement, such as an active crack, an expansion or isolation joint, or an area where dissimilar substrates meet. We know of no method to prevent this telegraphing.

Application

Substrate Preparation (Proper Prep™)

- 1. The steel must be clean, rigid, well supported, properly anchored and free of undue flex and vibration prior to proceeding with this installation.
- 2. From the steel, remove all dirt, debris and any other contaminants that could act as a bond breaker.
 - a. Do not use chemicals, including acid etching, sweeping compounds, solvents, vinegar solutions or adhesive removers.
 - b. Please be advised that even the finest dust particles will act as bond breakers.
- 3. Using a hand or floor sander with an #80 or #100 grit sanding screen, mechanically profile the steel to ensure the removal of all contaminants and create a bonding surface.
- 4. Thoroughly deep vacuum the metal substrate to remove all loose material.
- 5. Wipe the steel using a clean, white cloth dampened with 91% isopropyl alcohol. Repeat this step using a new cloth on each pass until the degree of discoloration on the cloth remains consistent on subsequent passes (approximately 5 7 passes).



- 6. Wipe the steel using a clean, white, dry cloth, and verify that the cloth exhibits no discoloration. If there is discoloration, repeat the above step 5.
- 7. From this point forward, disposable shoe covers or "booties" should be worn by anyone traversing the surface of the prepared metal substrate.
- 8. Wait 15-20 minutes prior to proceeding to ensure that all residual alcohol has the opportunity to evaporate off the surface of the steel.

Installation

Priming: ARDEX EP 2000

- Apply a uniform coat of ARDEX EP 2000 to the steel at a spread rate of 150 200 sq. ft. per unit.
- 2. Immediately broadcast fine sand to refusal into the fresh ARDEX EP 2000. ARDEX recommends wearing an N-95 dust mask when broadcasting sand.
- 3. After a 16-hour cure, remove the excess sand as follows, ensuring that all loose sand has been removed:
 - a. Do not sweep. Using a rubber squeegee, consolidate excess sand into piles, and shovel the piles of sand into barrels designated for that use. The collected sand should be filtered through a screen to remove debris and allow the sand to be used on future projects.
 - b. Vacuum remaining sand using a heavy-duty, bucket-style (Shop-Vac®-style) vacuum and HEPA dust extraction vacuum system.

Self-Leveling: ARDEX K 15 / E 25

- Mix at a rate of two bags of ARDEX K 15 with 12 quarts of water and 1 gallon of ARDEX E 25. Mix with a 1/2" heavy duty drill and ARDEX T-1 paddle in accordance with the technical data sheet.
- 2. Install the ARDEX K 15 mixture in accordance with the technical data sheet. Please contact us for additional advisement if installation thicknesses will exceed 5/8".
- 3. Allow the ARDEX K 15 / E 25 to cure 16 hours (70°F) prior to installing finish flooring.

Test Areas

As always, please be advised that prior to installing any ARDEX product, we recommend installing an adequate number of properly located test areas, to include the selected floor finishes, to determine the suitability and aesthetic value of the products for their intended use.



REPORT PREPARED BY

ARDEX ENGINEERED CEMENTS

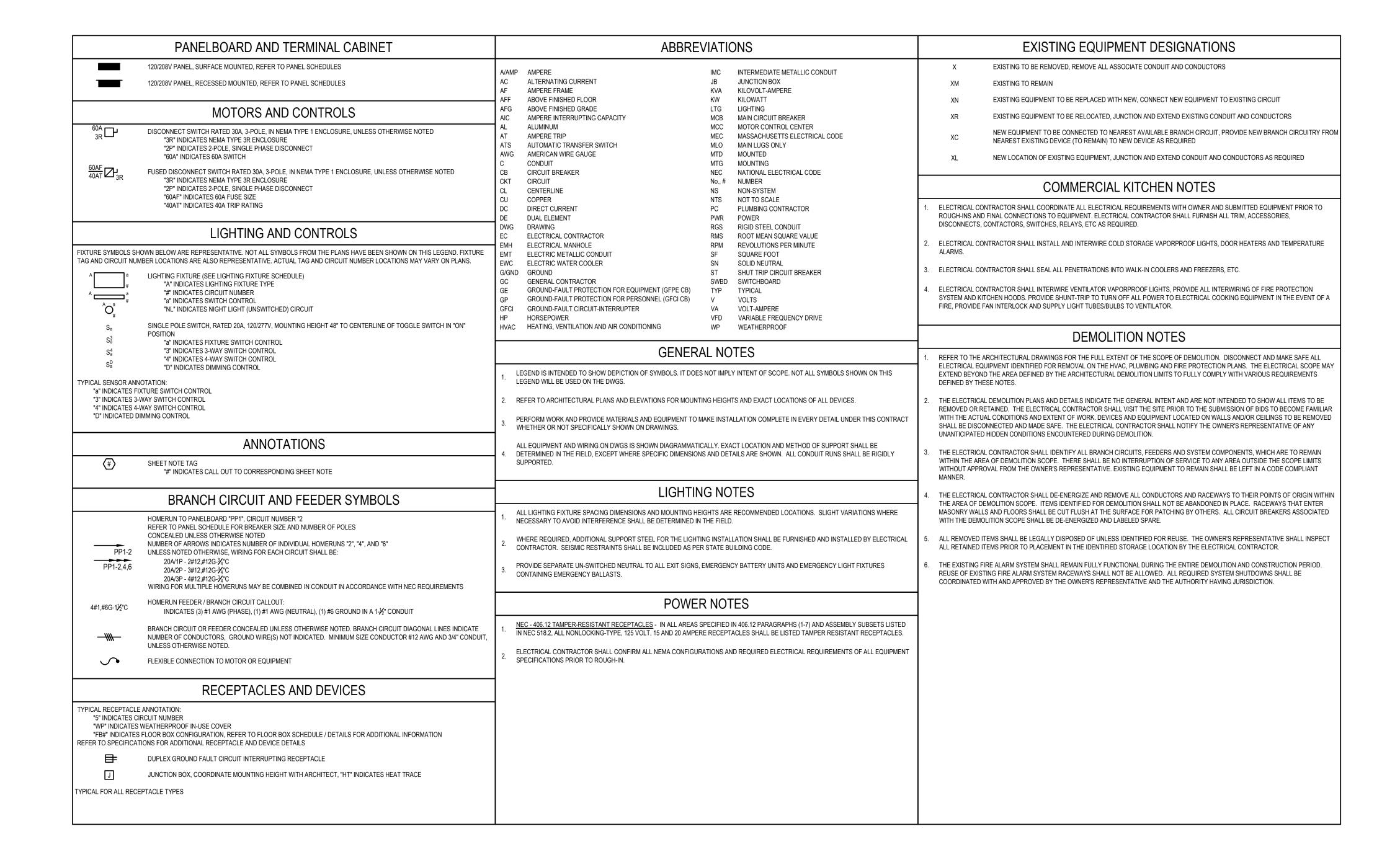
amanda Ciancarelli

Amanda Ciancarelli

Technical Communications Representative

JSR#: 111432

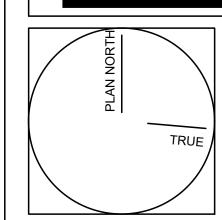
END OF REPORT



KEYNOTES - CONSTRUCTION

DESCRIPTION

DRAFT





ANALOGUE STUDIO

DEDHAM HS COOLER

140 Whiting Ave. Dedham, MA 02026

DELTA	DESCRIPTION	DATE

LEGEND AND NOTES

CALE: As Show

DRAWN BY:

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CHECKED BY: BA

ELECTRICAL SPECIFICATIONS

- 1. THE OWNERS GENERAL CONDITIONS, SPECIAL CONDITIONS AND SUPPLEMENTAL CONDITIONS OR REQUIREMENTS ARE PART OF THIS
- 2. EXAMINATION OF SITE AND CONTRACT DOCUMENT: BEFORE SUBMITTING HIS PROPOSAL, THIS CONTRACTOR SHALL VISIT THE PREMISE AND 7.1.1. FIRE RATED ASSEMBLIES INCLUDE EXTERIOR WALLS, FIRE RATED WALL, FLOOR/CEILING ASSEMBLIES AND ROOFING/CEILING REVIEW THE ENTIRE PROJECT. THE CONTRACTOR SHALL DETERMINE THE DIFFICULTIES. CONDITIONS, AND DISPOSAL REQUIREMENTS WHICH MAY BE ENCOUNTERED DURING THE WORK. ALL CHARGES RELATED TO MEETING THE INTENT OF THE DRAWINGS AND SPECIFICATIONS SHALL BE INCORPORATED INTO THE BID. IF DISCREPANCIES ARISE BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NO ADDITIONAL CHARGES WILL BE ALLOWED DUE TO EXISTING CONDITIONS.
- 3. THE INSTALLATION OF ALL ELECTRICAL SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE STATE BUILDING CODE, ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES.
- 4. ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL. SHALL BE PROVIDED IN QUANTITIES NECESSARY TO
- COMPLETE THE WORK AND SHALL BARE ALL APPLICABLE LABELS FOR INTENDED USE. 5. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES AND CERTIFICATES, INCLUDE ALL FEDERAL, STATE AND LOCAL TAXES
- 6. WORKMANSHIP: THE ENTIRE WORK PROVIDED IN THIS SPECIFICATION SHALL BE CONSTRUCTED AND FINISHED IN EVERY RESPECT IN A WORKMANLIKE AND SUBSTANTIAL MANNER. EQUIPMENT SHALL BE SECURELY INSTALLED PLUMB AND/OR LEVEL. NO ELECTRICAL EQUIPMENT SHALL BE SUPPORTED BY WORK OF OTHER TRADES. OBTAIN DETAILED INFORMATION FROM THE MANUFACTURERS OF APPARATUS AS TO THE PROPER METHOD OF INSTALLING AND CONNECTING EQUIPMENT. OBTAIN ALL INFORMATION FROM THE GENERAL
- 7. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE DEVICES AND COMPONENTS SHOWN ON PLANS BUT NOT ON RISERS AND VICE VERSA AS IF EXPRESSLY SHOWN ON BOTH.

CONTRACTOR AND OTHER SUBCONTRACTORS, WHICH MAY BE NECESSARY TO FACILITATE WORK AND THE COMPLETION OF THE WHOLE

- 8. THE ELECTRICAL CONTRACTOR (EC) SHALL VERIFY THE LOCATIONS AND MOUNTING HEIGHTS OF ALL EQUIPMENT, LIGHT FIXTURES, PANELBOARDS, OUTLETS AND MECHANICAL EQUIPMENT WITH THE OWNER OR ARCHITECT PRIOR TO COMMENCING ANY WORK.
- 9. THE EC SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO THE STRUCTURAL MEMBER, WITHOUT PROPER WRITTEN APPROVAL OF THE
- 10. EXAMINE ALL DRAWINGS FOR REQUIREMENTS WHICH AFFECT THE WORK OF THIS SECTION. COORDINATE WORK WITH OTHER TRADES.
- 11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A COMPLETE TEMPORARY LIGHTING AND POWER SYSTEM FOR THE CONSTRUCTION OF THE PROJECT AND SHALL PAY FOR THE COST OF INSTALLATIONS. THE E.C. SHALL INCLUDE ALL CHARGES FROM THE UTILITY COMPANY TO CONNECT AND DISCONNECT THE TEMPORARY SERVICE. THE COST OF ELECTRICITY SHALL BE BY THE OWNER OR GENERAL CONTRACTOR.
- 12. RECORD DRAWINGS: IN ACCORDANCE WITH REQUIREMENTS, FURNISH AND KEEP IN THE JOB AT ALL TIMES, TWO (2) COMPLETE AND SEPARATE SETS OF BLACKLINE PRINTS OF THE ELECTRICAL WORK ON WHICH SHALL BE CLEARLY, NEATLY AND ACCURATELY NOTED, PROMPTLY AS THE WORK PROGRESSES. ALL ELECTRICAL CHANGES. REVISIONS AND ADDITIONS TO THE WORK. WHENEVER WORK IS INSTALLED OTHERWISE THAN AS SHOWN ON THE CONTRACT DRAWINGS, SUCH CHANGES SHALL BE NOTED.AT THE CONCLUSION OF WORK, PREPARE RECORD DRAWINGS IN ACCORDANCE WITH GENERAL CONDITIONS.
- 13. THE COMPLETED ELECTRICAL INSTALLATION SHALL BE GUARANTEED IN WRITING BY THE ELECTRICAL CONTRACTOR TO BE FREE FROM DEFECTS OF MANUFACTURE AND INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE OWNER. ANY FAULT DUE TO DEFECTIVE OR IMPROPER MATERIAL, EQUIPMENT WORKMANSHIP OR DESIGN WHICH MAY DEVELOP SHALL BE MADE GOOD FORTHWITH BY, AND AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR, INCLUDING ALL OTHER DAMAGES DONE TO AREAS, MATERIALS AND OTHER SYSTEMS RESULTING FROM THIS FAILURE.
- 14. THE EC SHALL NOTIFY THE OWNER/ENGINEER UPON: (1) COMPLETION OF ALL ROUGH WIRING BEFORE CLOSURE OF ALL WALLS AND (2) UPON "SUBSTANTIAL COMPLETION" OF ALL ELECTRICAL WORK. AFTER SUBSTANTIAL COMPLETION, THE OWNER'S REPRESENTATIVE SHALL PREPARE A PUNCH LIST OF ITEMS TO BE CORRECTED. THE EC SHALL CORRECT, AT NO ADDITIONAL COST, ANY DEFICIENCIES FOUND.

- 15.1. THERMOSTATS AND CONTROL WIRING SHALL BE SUPPLIED AND INSTALLED BY THE HVAC CONTRACTOR. 15.2. STARTERS FOR MECHANICAL EQUIPMENT SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR, INSTALLED AND WIRED BY THE
- ELECTRICAL CONTRACTOR. U.N.O. 15.3. CUTTING, PATCHING AND TRENCHING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
- 16. SUBMITTALS: EC SHALL PROVIDE ELECTRONIC PDF SUBMITTALS FOR ELECTRICAL EQUIPMENT TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SUBMITTALS SHALL INDICATE ALL MATERIALS, DIMENSIONS AND RATINGS. PROVIDE INFORMATION ON THE FOLLOWING ITEMS (ALLOW TEN DAYS FOR SUBMITTAL REVIEW):
- 16.1. SWITCHES AND RECEPTACLES 16.2. LIGHTING FIXTURES AND CONTROLS
- 16.3. ALL FIRE DETECTION SYSTEM COMPONENTS
- 16.4. CIRCUIT BREAKERS 16.5. FUSIBLE SWITCHES
- 16.6. WIRING DEVICES CONDUIT & WIRE
- 16.8. FIRE ALARM (EQUIPMENT CUTS, RISERS, WIRE SIZING, ETC) 16.9. TEST REPORTS
- 16.10. SUBSTITUTIONS SHOULD BE NOTED WHEN SUBMITTED WITH AN EXPLANATION FOR THE SUBSTITUTION.
- 16.11. ELEVATIONS OF ALL ELECTRIC ROOMS, WITH PROPOSED MANUFACTURER'S EQUIPMENT SHALL BE SUBMITTED TO SHOW COMPLIANCE WITH NEC CODE REQUIREMENTS.
- 16.12. THE ACCEPTANCE OF SYSTEMS, EQUIPMENT AND DATA SHEETS IS A GENERAL APPROVAL SUBJECT TO THE CONTRACT DRAWINGS, SPECIFICATIONS, AND VERIFICATION OF ALL MEASUREMENTS AT THE JOB. ACCEPTANCE DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY OF DATA SHEET ERRORS OR OMISSIONS. QUANTITY OF ITEMS INDICATED ON SUBMITTAL IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR

PART 2 - PRODUCTS

GENERAL

- 1.1. AS PART OF THIS CONTRACT, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT, DEVICES, MATERIALS AND EQUIPMENT NECESSARY TO MAKE THE INSTALLATION COMPLETE AND OPERATIONAL IN EVERY DETAIL, WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INCLUDE A MANUFACTURERS WARRANTY. IT IS THE INTENT OF THE SPECIFICATIONS THAT ONE MANUFACTURER BE SELECTED, NOT A COMBINATION, FOR ANY PARTICULAR CLASSIFICATION OF MATERIAL FOR EXAMPLE ALL WIRE OF ONE MANUFACTURER, ALL SWITCHES OF ONE MANUFACTURER, ETC. EXCEPT SPECIFIC MATERIAL CLASSIFICATIONS IN WHICH DELIVERY TIME BECOMES A PROBLEM. THE ENGINEER MAY GIVE SPECIFIC **EXEMPTION FROM THE REQUIREMENTS**
- 1.4. WHERE MATERIALS, EQUIPMENT, APPARATUS, OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OR CATALOG NUMBER, SUCH DESIGNATION IS TO ESTABLISH STANDARDS OF PERFORMANCE, QUALITY, TYPE, AND STYLE.
- 2. FEEDERS: ALL FEEDERS BETWEEN PANELBOARDS AND SWITCHBOARDS SHALL BE PROVIDED IN TYPE EMT OR GRS CONDUIT; TYPE MC CABLE IS NOT PERMITTED. UNLESS NOTED OTHERWISE.
- 3. CONCEALED BRANCH CIRCUITS: ALL BRANCH CIRCUIT WIRING SHALL BE CONCEALED WHENEVER POSSIBLE. WITHIN CONCEALED SPACES SUCH AS ABOVE HUNG CEILING AREAS AND WITHIN WALL PARTITIONS
- 3.1. BRANCH CIRCUIT WIRING SHALL BE TYPE MC CABLE, 12/2 OR 12/3 WITH FULL SIZE INSULATED GROUND WIRE. MC TYPE CABLE MAY BE UTILIZED FOR FOR POWER AND LIGHTING CIRCUITS.

CONDUIT:

- ALL CONDUIT SHALL BE RUN CONCEALED UNLESS NOTED OTHERWISE
- ALL EXPOSED, OR SURFACE MOUNTED BRANCH CIRCUIT RUNS ABOVE 8'-0" SHALL BE INSTALLED USING TYPE EMT CONDUIT. BELOW
- 8'-0" RIGID GALVANIZED STEEL CONDUIT SHALL BE INSTALLED.MINIMUM SIZE CONDUIT USED SHALL BE 3/4". PROVIDE FIRE RESISTANT RATING AROUND ALL CONDUITS PENETRATING THROUGH FIRE RATED WALLS OR FLOORS. RATING OF FIRE PROOFING SHALL MATCH RATING OF WALLS.
- ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE. ALL CONDUITS SHALL HAVE A PROPER SIZE GROUNDING CONDUCTOR.
- ALL CONNECTIONS TO MACHINERY AND EQUIPMENT SUBJECT TO VIBRATION SHALL BE MADE WITH FLEXIBLE LIQUIDTIGHT CONDUIT, NOT IN EXCESS OF 6'-0". PROVIDE SUFFICIENT SLACK TO PREVENT VIBRATION TRANSMISSION.
- PROVIDE EXPANSION FITTINGS ON ALL CONDUIT PASSING THROUGH BUILDING EXPANSION JOINTS. CONDUITS ARE SHOWN DIAGRAMMATICALLY EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED BY FIELD CONDITIONS. ALL CONDUITS SHALL BE RIGIDLY SUPPORTED.
- 5. WIRING: WIRING SHALL BE A MINIMUM OF #12 AWG SOLID. ALL WIRE AND CABLE SHALL BE COPPER; NO ALUMINUM IS PERMITTED, WITHOUT APPROVAL OF THE OWNER/ENGINEER ON A VALUE ENGINEERING BASIS. WIRE AND CABLE SHALL BE MANUFACTURED BY PHELPS DODGE
- COPPER PRODUCTS CORP., GENERAL CABLE CO., TRIANGLE CONDUIT AND CABLE CO., OR EQUAL. 5.1. NON-METALIC CONDUIT TYPE NMC/ROMEX SHALL ONLY BE ALLOWED WITH OWNER/ENGINEER APPROVAL & MUST BE ALLOWED BY CODE & BE INSTALLED IN ACCORDANCE WITH CODE REQUIREMENTS.
- AWG #8 & LARGER SHALL BE STRANDED, AWG #10 AND SMALLER SHALL BE SOLID. ALL WIRING (LOW VOLTAGE, TEL/DATA, FIRE ALARM, POWER BRANCH CIRCUIT) SHALL BE PLENUM RATED; NO EXCEPTIONS.
- NON-PLENUM RATED CABLES OF ANY KIND SHALL NOT BE PROVIDED. ALL NEW WIRING SHALL BE THHN/THWN RATED 75-90 DEGREES, 600V. WET-DRY LOCATIONS.
- BRANCH CIRCUITS LONGER THAN 150 FEET FOR 120V SHALL BE AT LEAST #10AWG FROM PANEL TO LAST OUTLET.
- CIRCUITING SHOWN ON THE DWGS IS DIAGRAMMTIC PROVIDE COMPLETE WIRING SYSTEM WHETHER OR NOT INDICATED
- 5.5. PROVIDE AT LEAST ONE HOT AND ONE NEUTRAL CONDUCTOR FOR ALL INDIVIDUAL BRANCH CIRCUIT WIRING.

- 6.1. ALL GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 250, AS AMENDED BY LOCAL
- PROVIDE A COMPLETE GROUNDING ELECTRODE SYSTEM AND EQUIPMENT GROUNDING SYSTEM.
- CONDUCTORS UTILIZED FOR GROUNDING AND BONDING SHALL HAVE TYPE "THHN" OR BETTER INSULATION.

FOR EACH FEEDER OR RUN OF LIGHTING AND APPLIANCE BRANCH CIRCUITRY, INCLUDE EQUIPMENT AND RACEWAY GROUNDING CONDUCTORS RUN WITHIN THE RACEWAYS. THE INDICATED QUANTITIES OF CONDUCTORS DO NOT INCLUDE THE GROUND WIRES.

7. OUTLET BOXES AND ACCESSORIES:

FIXTURE STUD.

- STEEL OR FIRE RATED ELECTRICAL BOXES (SWITCHES, OUTLETS, JUNCTION BOXES, ETC) SHALL BE PROVIDED AND INSTALLED IN ALL FIRE RATED ASSEMBLIES AS IN ACCORDANCE WITH BUILDING & ELECTRICAL CODES. PROVIDE UL LISTED MOLDABLE PUTTY PADS TO SEAL ANNULAR SPACES/PENETRATIONS AROUND ALL JUNCTION BOXES.
- PROVIDE GALVANIZED SHEET STEEL OUTLET BOXES FOR ALL OUTLETS UNLESS OTHERWISE NOTED.
- ALL OUTLET BOXES FOR PENDANT-MOUNTED FIXTURES SHALL BE GALVANIZED, STAMPED STEEL FURNISHED WITH A FIXTURE STUD, SECURELY MOUNTED TO FRAMING ALL OUTLET BOXES FOR CONCEALED WORK SHALL BE GALVANIZED, STAMPED STEEL; THOSE FOR FIXTURES, FURNISHED WITH A
- OUTLET BOXES SHALL BE OF SIZE AND TYPE TO ACCOMMODATE (1) STRUCTURAL CONDITIONS, (2) SIZE AND NUMBER OF RACEWAYS, CONDUCTORS OR CABLES ENTERING, AND (3) DEVICES OR FIXTURES FOR WHICH THEY ARE REQUIRED. INSTALL BLANK PLATES ON ALL OUTLET BOXES, IN WHICH NO APPARATUS IS INSTALLED, WHICH DO NOT INTEGRALLY PROVIDE A
- COVER FOR THE BOX. SPECIAL CARE SHALL BE TAKEN TO SET ALL BOXES CORRECTLY SQUARE AND TRUE WITH THE BUILDING FINISH. FIXTURE OUTLET BOXES SHALL HAVE 3/8" SOLID MALE FIXTURE STUDS AND AUXILIARY FIXTURE STEMS SHALL BE SUPPORTED FROM
- 3/8" MALE FIXTURE STUDS. 7.9. OUTLET BOXES AND ACCESSORIES SHALL BE AS MANUFACTURED BY STEEL CITY, APPLETON, RACO, OR EQUAL.
- 8. WIRING DEVICES: ALL WIRING DEVICES SHALL BE OF A SINGLE MANUFACTURER, AS MANUFACTURED BY PASS AND SEYMOUR, GENERAL ELECTRIC, HUBBELL, BRYANT ELECTRIC COMPANY, LEVITON, OR EQUAL. MANUFACTURERS LISTED BELOW ESTABLISH MINIMUM REQUIREMENTS COORDINATE COLOR WITH ARCHITECT
- 8.1. ALL 20A COMMERCIAL GRADE RECEPTACLES SHALL BE GROUNDING TYPE, 125V. RECEPTACLES SHALL BE BACK AND SIDE WIRED WITH SCREW TYPE TERMINALS OR PRESSURE TYPE, SCREWLESS TERMINALS.
- PROVIDE TAMPER RESISTANT GRADE RECEPTACLES IN ALL LOCATIONS AS REQUIRED BY CODE; DWELLING UNIT, CHILD CARE, PRESCHOOLS, BUSINESS OFFICES, MEDICAL, DENTAL AND OUT PATIENT FACILITIES. SUBSETS OF ASSEMBLY GROUPS AND
- WIRING DEVICES WITHIN COMMERCIAL KITCHEN AND BAR AREAS SHALL BE PROVIDE WITH IN-USE, CLEAR WEATHER PROOF COVER. SPECIAL EQUIPMENT RECEPTACLES AS REQUIRED SHALL HAVE AN ADDITIONAL GROUNDING LEG AND SHALL BE OF CAPACITY AND CONFIGURATION FOR THE EQUIPMENT TO BE CONNECTED, CONTRACTOR SHALL CONFIRM CONFIGURATION PRIOR TO ROUGH IN. GFI RECEPTACLES SHALL EACH HAVE GFI TRIPPING (NO FEED THROUGH IS PERMITTED) .
- DAMP LOCATION WEATHERPROOF RECEPTACLES SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHEN THE RECEPTACLE IS 8.6. WET LOCATION WEATHERPROOF RECEPTACLES SHALL CONFORM TO NEC ARTICLE 406.8(B)(i) AND SHALL HAVE AN ENCLOSURE THAT
- IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED. PROVIDE RECEPTACLE WITH COVER. LIGHT SWITCHES: ALL LOCAL WALL SWITCHES SHALL BE OF THE FLUSH QUIET DECORA OR TOGGLE TYPE (AS COORDINATED WITH ARCHITECT), SINGLE-POLE, DOUBLE-POLE, OR THREE-WAY AS REQUIRED. SENSORS: THE DESIRED SWITCH CONTROL IS SHOWN ON THE DWGS. THE CONTRACTOR SHALL PROVIDE THE SWITCHING AS
- REQUIRED. ALL NECESSARY APPURTENANCES SHALL BE PROVIDED FOR THE TYPE SWITCHING SELECTED BY THE CONTRACTOR. THE GENERAL INTENT OF THE SENSOR DESIGN IS FOR ALL WALL SWITCHES WORKING INDEPENDENTLY TO BE LINE VOLTAGE. CEILING SENSORS AND WALL SWITCHES WORKING IN CONJUNCTION WITH CEILING SENSORS SHALL BE LOW VOLTAGE. ALL LOW VOLTAGE SENSORS SHALL BE PROVIDED WITH ALL POWER PACKS AS REQUIRED. SENSORS SHALL BE MOUNTED IN LOCATIONS AS RECOMMENDED BY THE MANUFACTURER. NO ADDITIONAL COMPENSATION WILL BE RECEIVED IF CONTRACTOR HAS TO RELOCATE SENSORS. TIME DELAY SETTINGS SHALL BE SET TO NO LESS THAN 10 MINUTES. COVERAGE DIMENSIONS APPLY TO DEVICE BEING CENTERED. ACTUAL COVERAGE'S CAN VARY ON THE SHAPE AND USE OF APPLICABLE SPACE. COVERAGE MAY BE REDUCED IF DEVICE IS MOUNTED GREATER THAN 12 FEET HIGH.

CIRCUIT BREAKERS:

- 9.1. ALL GFI CIRCUIT BREAKERS PROVIDED FOR PERSONNEL PROTECTION SHALL BE 5-6mA IN ACCORDANCE WITH NEC REQUIREMENTS
- PROVIDED FOR EQUIPMENT PROTECTION SHALL BE 30mA IN ACCORDANCE WITH NEC REQUIREMENTS. 9.2. ALL MULTI-POLE CIRCUIT BREAKERS SHALL BE COMMON INTERNAL TRIP. HANDLE TIES SHALL NOT BE PERMITTED
- ALL CIRCUIT BREAKERS FEEDING 120V SINGLE PHASE LOADS WITHIN DWELLING UNITS SHALL BE ARC FAULT RATED AS REQUIRED BY
- MINIMUM SHORT CIRCUIT INTERRUPTING CAPACITY SHALL BE 10,000AIC AT 240V.

9.5. WHERE REQUIRED BY CODE, PROVIDE COMBINATION ARC-FAULT/GFCI BREAKERS.

- 10. EXISTING PANELBOARDS
- 10.1. THE EXISTING PANELBOARDS ARE SUITABLE FOR THEIR RATED VOLTAGE AS LABELED. ONLY NEW LOADS OF THE SAME VOLTAGE SHALL BE WIRED TO EXISTING PANELS. WHERE CONNECTIONS ARE MADE IN EXISTING PANELBOARDS, THE PANEL INDEX SHALL BE REVISED TO INDICATE THE NEW LOADS SERVED, ALL EXISTING PANEL BOARDS THAT DO NOT HAVE A CIRCUIT DIRECTORY CARD MOUNTED IN A FRAME WITH
- NONCOMBUSTIBLE PLASTIC COVER SHALL HAVE ONE INSTALLED ON THE INSIDE OF THE DOOR. ALL DIRECTORY CARDS SHALL BE PROPERLY FILLED IN, AND INDICATE AREAS AND DEVICES SERVED BY EACH UNIT. NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELBOARDS SHALL BE THE SAME FRAME SIZE AND INTERRUPTING CAPACITY AS

EXISTING PANELBORDS AND CIRCUIT BREAKERS. CURRENT LIMITING CIRCUIT BREAKERS SHALL NOT BE USED

11. LIGHTING FIXTURES:

- 11.1. SUBSTITUTIONS FOR SCHEDULED LIGHTING EQUIPMENT WILL BE REJECTED UNLESS RECEIVED WITHIN TEN DAYS AFTER CONTRACT
- LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE, WITH LAMPS AND DRIVERS AS REQUIRED AND AS SHOWN ON THE FIXTURE SCHEDULE. FURNISH ALL FITTINGS AND OTHER MISCELLANEOUS MATERIALS FOR COMPLETE INSTALLATION OF FIXTURES.
- 11.3. SPARE: CONTRACTOR SHALL PROVIDE (3) ADDITIONAL EMERGENCY FIXTURES AND (2) ADDITIONAL EXIT SIGNS. EACH SHALL BE OF
- 12. DISCONNECT SWITCHES: ALL SAFETY SWITCHES SHALL BE NEMA GENERAL-DUTY TYPE HD AND UNDERWRITERS' LABORATORIES LISTED ALL SWITCHES SHALL HAVE SWITCHBLADES WHICH ARE FULLY VISIBLE IN THE OFF POSITION WITH THE DOOR OPEN. ALL CURRENT CARRYING PARTS SHALL BE PLATED THROUGH ELECTROLYTIC PROCESSES TO RESIST CORROSION AND PROMOTE COOL OPERATION.
- SWITCHES SHALL BE QUICK MAKE AND QUICK BREAK SUCH THAT DURING NORMAL OPERATION OF THE SWITCH. THE OPERATION OF THE CONTACTS SHALL BE NOT CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE CONTACTS HAS STARTED. THE HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER, WITH POSITIVE PADLOCKING PROVISIONS IN THE OFF POSITION.
- SWITCHES SHALL BE FURNISHED IN NEMA 1 GENERAL PURPOSE ENCLOSURES. ENCLOSURES SHALL BE OF CODE GAUGE (UL 98) SHEET STEEL (NEMA 1) OR CODE GAUGE PHOSPHATE TREATMENT AND GRAY BAKED ENAMEL FINISH. EXTERIOR SWITCHES SHALL BE IN A NEMA 3R (RAINTIGHT) ENCLOSURE.
- SWITCHES SHALL BE HORSEPOWER RATED FOR 600 VOLTS AC AND ALL SWITCHES SHALL BE FUSED TYPE WITH DUAL ELEMENT FUSES 13. FUSES: SHALL BE NON RENEWABLE TYPE, UL CLASS J UP TO 600 AMP, AND CLASS L OVER 600 AMP. FUSES SHALL BE CURRENT LIMITING
- TYPE WITH A MINIMUM INTERRUPTING RATING OF 200 000 RMP AMP. 13.1. FUSES FOR MOTOR FEEDERS OR MOTOR CIRCUITS SHALL BE CLASS K5 OF A VOLTAGE CLASSIFICATION RATED FOR THE MOTOR WITH A MINIMUM INTERRUPTING CAPACITY OF 100,000 RMS AMP AND WITH TIME DELAY OF A MINIMUM OF 10 SECONDS AT 500% OF MOTOR
- FURNISH AND INSTALL ALL FUSES AND ONE COMPLETE SET OF THREE SPARE FUSES FOR EACH SIZE USED. FUSES SHALL BE MANUFACTURED BY BUSSMAN, GOULD SHAWMUT, LITTLE OR APPROVED EQUAL.

FULL LOAD AMPS.

SERVICE TO THE FACILITY: ELECTRICAL POWER OUTAGES MUST BE MINIMIZED AS NOT TO INTERFERE WITH THE BUILDING'S OPERATION THE TIME AND DURATION OF ANY POWER OUTAGE MUST BE APPROVED BY AND SCHEDULED WITH THE BUILDING OWNER/AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER/AUTHORITY AT LEAST TEN CALENDAR DAYS FROM THE DATE OF PROPOSED POWER OUTAGE IN THE FACILITY.

2. DEMOLITION, RELOCATION AND REMOVAL OF EXISTING WIRING

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DEMOLITION, RELOCATION OF CIRCUITS, AND REMOVAL OF EXISTING WIRING NECESSARY FOR THE ELECTRICAL WORK AS SHOWN ON THE DWGS. THE ELECTRICAL CONTRACTOR SHALL COMPLETELY REMOVE ALL ELECTRICAL SYSTEMS WITHIN THE BUILDING THAT ARE DESIGNATED
- OUTLETS THAT ARE EXISTING FOR USE AS LIGHTING OR RECEPTACLES MAY BE USED AS JUNCTION BOXES FOR THE RE-WIRING OF THE BUILDING IF NECESSARY AND PRACTICAL. THE CONTRACTOR SHALL MAINTAIN, EXTEND, AND CONNECT EXISTING BRANCH CIRCUITS WHICH PASS THROUGH THE CONSTRUCTION
- AREA, MAINTAINING POWER TO ALL EQUIPMENT AND LIGHTING OUTSIDE OF THE CONSTRUCTION AREA.
- 3. SPECIAL COORDINATION INSTRUCTIONS 3.1. COORDINATION WITH WORK OF OTHER TRADES IS REQUIRED. THE FOLLOWING SPECIAL INSTRUCTIONS SHALL ALSO BE CAREFULLY LOCATIONS AND MOUNTING HEIGHT OF ALL WALL OUTLETS AND LIGHTING FIXTURES SHALL BE VERIFIED WITH THE
- ARCHITECT/ENGINEER PRIOR TO ROUGHING IN CONDUIT. ALL FEEDER, BRANCH CIRCUIT OR AUXILIARY SYSTEM WIRING PASSING THROUGH PULL BOXES AND/OR BEING MADE UP IN PANELBOARDS SHALL BE PROPERLY GROUPED, BOUND, AND TIED TOGETHER IN A NEAT AND ORDERLY MANNER, IN KEEPING WITH THE HIGHEST STANDARDS OF THE TRADE, WITH PLASTIC CABLE TIES.
- ALL DUPLEX CONVENIENCE AND POWER RECEPTACLES SHALL BE MOUNTED VERTICALLY WITH THE GROUNDING POST TO THE BOTTOM AS THE OUTLET IS VIEWED FROM THE FRONT. ALL MISCELLANEOUS HARDWARE AND SUPPORT ACCESSORIES, INCLUDING SUPPORT RODS, NUTS, BOLTS, SCREWS, AND OTHER SUCH ITEMS. SHALL BE OF A GALVANIZED OR CADMIUM PLATED FINISH. OR OF OTHER APPROVED RUST INHIBITING COATINGS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP TO PROVIDE FOR ADEQUATE PROTECTION OF ALL ELECTRICAL EQUIPMENT DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL APPROVED INSULATION AT TERMINAL CONNECTION POINTS FOR

CARE SHOULD BE TAKEN THAT FIXTURES SHALL NOT BE INSTALLED ON BOTH SIDES OF EXISTING OR NEW BUILDING EXPANSION

- ALL ELECTRICAL CONDUCTING MATERIALS, SUCH AS TRANSFORMER TERMINALS, TERMINAL STUDS, AND AT ANY OTHER SPECIAL LOCATIONS AS DIRECTED BY THE ENGINEER. PRIOR TO INSTALLATION OF CONDUIT AND WIRE, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WIRING REQUIREMENTS
- WITH ACTUAL EQUIPMENT SUPPLIED. THE ELECTRICAL DRAWINGS INDICATE WIRE, CONDUIT, AND OVERCURRENT PROTECTIVE DEVICES TO BE INSTALLED FOR

- CERTAIN HVAC UNITS. THESE SIZES ARE BASED ON CERTAIN MANUFACTURERS REQUIREMENTS. SHOULD THE GENERA CONTRACTOR ALLOW THE MECHANICAL CONTRACTOR TO SUBSTITUTE HVAC EQUIPMENT DIFFERENT THAN SPECIFIED, THEN THE GENERAL CONTRACTOR SHALL PROVIDE THE REQUIRED REVISED ELECTRICAL WIRING, CONDUIT, AND OVERCURRENT PROTECTIVE DEVICES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AT NO ADDITIONAL CHARGE TO THE
- CUTTING, PATCHING, AND DRILLING: THE GENERAL CONTRACTOR SHALL PERFORM PLASTER CUTTING AND CHANNELING AND DRILLING THROUGH STRUCTURAL BEAMS NECESSARY FOR THE INSTALLATION OF ELECTRICAL WORK. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAINTING AND PATCHING WHICH SHALL MATCH EXISTING BASE MATERIALS IN LOOKS AND COLOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ROUTINE DRILLING THROUGH 2 X 4 AND/OR 2 X 6 WOOD FRAME WALLS AND 2 X 10 AND/OR 2 X 12 FLOOR JOISTS IN ORDER TO INSTALL WIRING.

COOPERATION AND WORK PROGRESS

- 5.1. THE ELECTRICAL WORK SHALL BE CARRIED ON UNDER THE USUAL CONSTRUCTION CONDITIONS, IN CONJUNCTION WITH ALL OTHER WORK AT THE SITE. THE ELECTRICAL CONTRACTOR SHALL COOPERATE WITH THE ENGINEER AND ALL CONTRACTORS AND EQUIPMENT SUPPLIERS WORKING ON THE SITE, COORDINATE THE WORK, AND PROCEED IN A MANNER SO AS NOT TO DELAY THE PROGRESS OF
- THE ELECTRICAL CONTRACTOR HAS A RESPONSIBILITY TO COORDINATE THE EXACT MOUNTING ARRANGEMENT AND LOCATION OF EQUIPMENT INDICATED ON THE DRAWINGS TO ALLOW FOR PROPER SPACE REQUIREMENTS FOR EQUIPMENT ACCESS, OPERATION,
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE THE DELIVERY OF ELECTRICAL EQUIPMENT TO THE PROJECT PRIOR TO THE TIME INSTALLATION OF EQUIPMENT WILL BE REQUIRED

6. INSTALLATION OF WIRING, CONDUIT AND BOXES:

- ALL CONDUIT AND WIRING SHALL BE INSTALLED CONCEALED. OUTLET BOXES SHALL BE MOUNTED FLUSH. CONDUIT SHALL BE RUN CONCEALED.
- WHERE WALLS ARE BLOCK, DEVICES AND WIRING SHALL BE SURFACE MOUNTED. PROVIDE WIRE MOLD OR EQUAL TO SURFACE MOUNTED RACEWAY WITH FINISHED BOXES.
- UNLESS OTHERWISE INDICATED, ALL WIRING SHALL BE (2)#12 AND (1)#12 GROUND, 3/4"C CONDUIT ENDS SHALL BE CUT SQUARE, THREADED, AND REAMED TO REMOVE BURRS AND SHARP EDGES. OFFSETS AND BENDS FOR CHANGES IN ELEVATION OF EXPOSED CONDUIT RUNS SHALL BE MADE AT WALLS OR BEAMS AND NOT IN OPEN SPACES BETWEEN WALLS OR BEAMS. CONDUITS SHALL BE ROUTED SO AS NOT TO INTERFERE WITH THE OPERATION OR MAINTENANCE OF ANY EQUIPMENT. STEEL SUPPORTS OR RACKS SHALL BE GALVANIZED STEEL CHANNEL AND FITTINGS.
- EXPOSED CONDUITS SHALL BE RUN PARALLEL TO, OR AT RIGHT ANGLES TO, THE WALLS OF THE BUILDING, AND ALL BENDS SHALL BE MADE WITH STANDARD CONDUIT ELLS OR CONDUITS BENT TO - NOT LESS THAN - THE SAME RADIUS. HORIZONTAL RUNS OF EXPOSED CONDUITS SHALL BE CLOSE TO CEILING BEAMS, PASSING OVER WATER OR OTHER PIPING WHERE POSSIBLE AND SHALL BE SUPPORTED BY PIPE STRAPS OR BY OTHER APPROVED MEANS. NOT MORE THAN 5' APART. INSTALLATION OF EXPOSED CONDUITS IN FINISHED AREAS OF THE BUILDING SHALL BE CHECKED WITH THE ENGINEERS FOR LAYOUT BEFORE INSTALLATION TO CONFORM TO THE PATTERN OF THE STRUCTURAL MEMBERS. AND WHEN COMPLETED. IS TO PRESENT THE MOST UNOBTRUSIVE APPEARANCE POSSIBLE. NO EXPOSED CONDUITS WILL BE PERMITTED ON WALLS OR PARTITIONS IN PUBLIC AREAS, UNLESS SPECIFICALLY NOTED
- CONDUITS SHALL NOT BE INSTALLED WITHIN 3" OF HOT WATER PIPES, OR APPLIANCES, EXCEPT WHERE CROSSING IS UNAVOIDABLE AND. IN THAT CASE, THE CONDUIT SHALL BE KEPT AT LEAST 1" FROM COVERING OR PIPE CROSSED
- DO NOT LAY CABLE OR RACEWAY ON, OR SUPPORT FROM SUSPENDED CEILING OR PIPING AND DUCTWORK CONDUITS SHALL BE SUPPORTED ON APPROVED TYPE GALVANIZED WALL BRACKETS, CEILING TRAPEZE, STRAP HANGERS, OR PIPE
- STRAPS, SECURED BY MEANS OF TOGGLE BOLTS ON HOLLOW MASONRY UNITS OR EXPANSION BOLTS IN CONCRETE OR BRICK. IN GENERAL, NO SPLICES OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE
- 6.10. ALL SPLICES IN WIRE #8 AWG AND SMALLER SHALL BE STANDARD PIGTAIL, MADE MECHANICALLY TIGHT AND INSULATED WITH PROPER THICKNESS OF INSULATING TAPE. 6.11. WIRE #6 AND LARGER SHALL BE CONNECTED TO PANELS AND APPARATUS BY MEANS OF APPROVED LUGS OR CONNECTORS.
- CONNECTORS SHALL BE SOLDERLESS TYPE, SUFFICIENTLY LARGE TO ENCLOSE ALL STRANDS OF THE CONDUCTOR AND SECURELY 6.12. PROVIDE ALL REQUIRED BRANCH CIRCUIT WIRING FOR ELECTRICAL DEVICES AND LIGHTING FIXTURES. DESIGNATIONS SHOWN ON DRAWINGS ARE DIAGRAMMATIC ONLY. CIRCUIT NUMBERS BESIDE RECEPTACLES AND LIGHTING FIXTURES CONVEY THAT A COMPLETE BRANCH CIRCUIT IS REQUIRED BACK TO ELECTRICAL PANELBOARD. SWITCH CONTROL LETTERS ADJACENT TO LIGHTING FIXTURES

- 7.1. PROVIDE COLOR CODING FOR SECONDARY SERVICE, FEEDERS, AND BRANCH CIRCUITS AS FOLLOWS, IN ACCORDANCE WITH NEC
- RECOMMENDATIONS AND STANDARD PRACTICES. MAKE CONNECTIONS TO TERMINALS FROM LEFT TO RIGHT ARRANGED PHASE A, B, AND C.
- PROVIDE SAME COLOR CODING FOR SWITCH LEGS AS CORRESPONDING PHASE CONDUCTOR. PROVIDE COLORED PLASTIC TAPE OF SPECIFIED COLOR CODE IDENTIFICATION FOR LARGE SIZE CONDUCTORS AVAILABLE ONLY IN BLACK.

INDICATE BRANCH WIRING REQUIRED FROM LIGHTING FIXTURE TO LIGHT SWITCH OR DIMMER.

8.1 SPLICES AND TERMINATIONS:

AIR-CONDITIONING CONTRACTOR.

MAKE SPLICES AND TERMINATIONS EQUIVALENT ELECTRICALLY AND MECHANICALLY TO CONDUCTOR INSULATION. MAKE SPLICES AT MOTOR JUNCTION BOXES WITH PRESSURE INDENT CONNECTORS OR SPLIT BOLT CONNECTORS AS SPECIFIED

PROVIDE STANDARD BOLT ON LUGS WITH ALLEN CAP SCREWS TO ATTACH COPPER WIRE AND CABLE TO DISCONNECT SWITCHES

AND OTHER ELECTRICAL EQUIPMENT. 9. TEMPERATURE CONTROL WIRING: THE TEMPERATURE CONTROL SYSTEM SHALL BE AN ELECTRIC SYSTEM INSTALLED BY THE HEATING AND

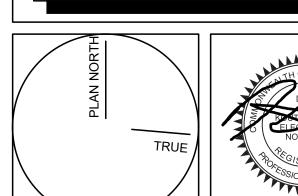
EQUIPMENT REMOVED THAT IS NOT DESIRED BY THE OWNER SHALL BE DISPOSED OF AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

- 10. SALVAGE: THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT NOT TO BE USED. ALL ELECTRICAL EQUIPMENT REMOVED AND DEEMED SALVAGEABLE BY THE OWNER SHALL BE STORED IN AN AREA DESIGNATED BY THE OWNER.ANY ELECTRICAL
- 11. SUPPORTS AND ATTACHMENTS: BOXES AND PENDANTS FOR SURFACE-MOUNTED FIXTURES SHALL BE SUPPORTED IN AN APPROVED MANNER. BOXES AND SUPPORTS SHALL BE FASTENED WITH BOLTS AND EXPANSION SHIELDS ON CONCRETE OR BRICK, WITH TOGGLE BOLTS ON HOLLOW MASONRY UNITS, WITH MACHINE SCREWS ON STEEL WORK WITH LOCKNUTS. THREADED STUDS SHALL BE PROVIDED WITH LOCK WASHERS AND NUTS.
- QUIET OPERATION: ALL EQUIPMENT AND MATERIAL FURNISHED BY THE ELECTRICAL CONTRACTOR SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT OBJECTIONABLE NOISES OR VIBRATIONS, WHICH, IN THE OPINION OF THE ENGINEER, IS OBJECTIONABLE. WHERE SOUND OR VIBRATION CONDITIONS ARISE WHICH ARE CONSIDERED OBJECTIONABLE BY THE ENGINEER, THE ELECTRICAL CONTRACTOR SHALL ELIMINATE SAME IN A MANNER APPROVED BY THE ENGINEER
- 13. TESTS: FURNISH ALL LABOR, MATERIAL, INSTRUMENTS, SUPPLIES, AND SERVICES AND BEAR ALL COSTS FOR THE ACCOMPLISHMENT OF TESTS HEREIN SPECIFIED. CORRECT ALL DEFECTS APPEARING UNDER TEST. REPEAT THE TESTS UNTIL NO DEFECTS ARE DISCLOSED. LEAVE THE EQUIPMENT CLEAN AND READY FOR USE.
- 13.1. THE ELECTRICAL CONTRACTOR SHALL PERFORM ANY TEST OTHER THAN HEREIN SPECIFIED WHICH MAY BE SPECIFIED BY LEGAL AUTHORITIES OR BY AGENCIES TO WHOSE REQUIREMENTS THIS WORK IS TO CONFORM.
- 14. FINAL INSPECTION AND TEST: PRIOR TO TEST, FEEDERS AND BRANCHES SHALL BE CONTINUOUS FROM SERVICE CONTACT POINT TO EACH OUTLET: ALL PANELS, FEEDERS, AND DEVICES CONNECTED AND FUSES IN PLACE, TEST SYSTEM FREE FROM SHORT CIRCUITS AND GROUNDS WITH INSULATION RESISTANCES NOT LESS THAN OUTLINES IN THE NATIONAL ELECTRICAL CODE. PROVIDE TESTING EQUIPMENT NECESSARY AND CONDUCT TEST IN PRESENCE OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THE FINAL INSPECTION AND TEST SHALL
- INCLUDE THE FOLLOWING: 14.1. TESTING OF THE EMERGENCY LIGHTING SYSTEM.
- TESTING OF THE IMPEDANCE OF THE GROUNDING SYSTEM.
- TESTING OF EACH OUTLET TESTING OF THE FIRE ALARM SYSTEM
- TESTING OF BRANCH AND FEEDER CONDUCTORS FOR CONTINUITY. TESTING OF PANELBOARDS TO VERIFY PROPER CURRENT BALANCE AND VOLTAGE.
- TESTING OF MOTORS, VERIFYING PROPER CURRENT BAI ANCE AND VOI TAGE
- 14.8. TESTING, TARGETING, AND FOCUSING OF ALL ADJUSTABLE LIGHTING FIXTURES. TESTING OF ALL GROUND FAULT PROTECTIVE DEVICES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, SECTION 230-95

DESCRIPTION

KEYNOTES - CONSTRUCTION

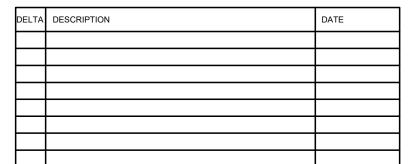
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SPECIFICATIONS

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* ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CIRCUIT BREAKER AS INDICATED.

** ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKER WITHIN EXISTING PANELBOARD, NEW BREAKER SHALL BE COMPATIBLE WITH EXISTING PANEL

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WALK IN FREEZER EVAPORATOR BASEMENT	15		49 51	1.07	1.07	1	1.07	1.07	1	50 52		15	WALK IN FREEZER EVAPORATOR 1ST FLOOI	
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EXISTING CIRCUIT BREAKER	20		55	0.00	1	L	0.00		L	56		20	EXISTING CIRCUIT BREAKER	
EXISTING CIRCUIT BREAKER	20		57		0.00			0.00]	58		20	EXISTING CIRCUIT BREAKER	
EXISTING CIRCUIT BREAKER	20		59		<u> </u>	0.00	1	L	0.00	60		20	EXISTING CIRCUIT BREAKER	
WALK IN FREEZER EVAPORATOR BASEMENT	15		61	1.07	1	L	0.00		L	62		20	EXISTING CIRCUIT BREAKER	
WALK IN FREEZER EVAFORATOR BASEWENT	13		63		1.07			0.00]	64		20	EXISTING CIRCUIT BREAKER	
			65		<u> </u>	0.00		1	0.00	66		20	EXISTING ALARMS	
EXISTING PANEL	30		67	0.00	1		0.00		h	68		20	EXISTING CIRCUIT BREAKER	
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EXISTING PANEL	30		73	0.00		_	0.00		_	74				
			75		0.00			0.00		76		20	EXISTING CIRCUIT BREAKER	
			77			0.00			0.00	78				
EXISTING PANEL	30		79	0.00		,	0.21		1	80		15	WALK IN COOLER EVAPORATOR 1ST FLOOR	
			81		0.00			0.21		82				
EVIOTING BANK			83		1	0.00		1	0.18	84			RECEPTACLE - ROOFTOP	
EXISTING PANEL	30		85	0.00	0.00	1	0.00	0.00	1	86			01710271112711121171112	
			87 89		0.00	0.00	1	0.00	0.00	88			SPACE AND HARDWARE SPACE AND HARDWARE	
EXISTING PANEL	30		91	0.00	1	0.00	0.00	1	0.00	90 92			SPACE AND HARDWARE	
EXISTING PAINEL	30		93	0.00	0.00	1	0.00	0.00	1	94			SPACE AND HARDWARE	
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* ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CIRCUIT BREAKER AS INDICATED.

** ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKER WITHIN EXISTING PANELBOARD, NEW BREAKER SHALL BE COMPATIBLE WITH EXISTING PANEL

LIGHTING FIXTURE SCHEDULE								
FIXTURE TYPE	DESCRIPTION	MANUFACTURER AND		VOLTAGE				
FIXTURE TIPE	DESCRIPTION	CATALOG NUMBER	LUMENS	TEMP	No.	WATTAGE	TYPE	VOLTAGE
VP1	VAPOR TIGHT LED STRIP LIGHT	LITHONIA LIGHTING # CSVT-L48-3000LM-MVOLT-35K-80CRI	3000	3500	1	24	LED	120

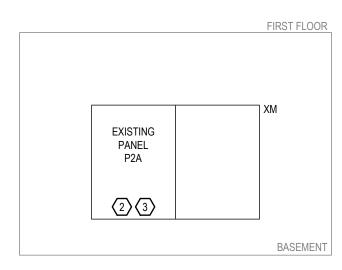
LIGHTING FIXTURE NOTES:

1. ALL RECESSED FIXTURE TRIMS TO BE PAINTED TO MATCH CEILING.

PROVIDE A COMPLETE AND OPERABLE SYSTEM INCLUDING ALL NECESSARY MOUNTING HARDWARE, POWER FEEDS, WIRING CONNECTIONS, DRIVERS, AND CONTROL INTERFACES.
 PAINT ALL FLANGES INSTALLED IN DRYWALL TO MATCH ADJACENT CEILING FINISH. FLANGES SHALL BE REMOVED FROM CEILING PRIOR TO PAINTING, OR RAZOR CUT AFTER PAINTING TO ALLOW FOR REMOVAL OF THE TRIM FROM THE CEILING.

* ELECTRICAL CONTRACTOR SHALL PROVIDE DIMMABLE LED REPLACEMENT LAMPS, LAMP COLOR TEMPERATURE 2700K, AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE.

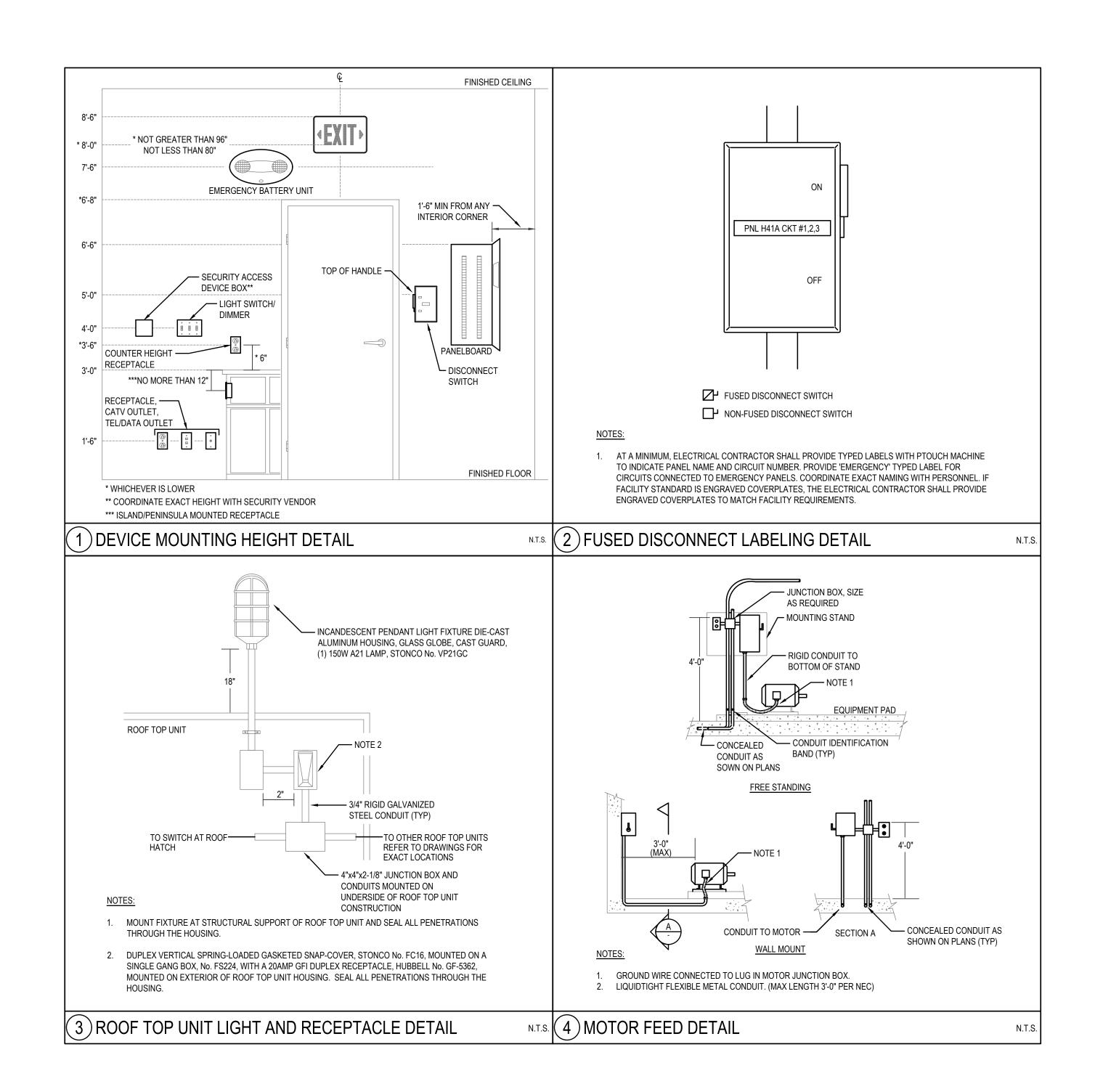
** ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.



POWER RISER DIAGRAM

NOTES:

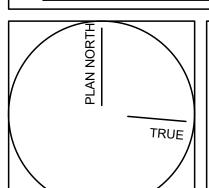
- RISER DIAGRAM IS FOR REFERENCE ONLY. ALL ITEMS SHOWN ARE EXISTING TO REMAIN.
- 2. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CIRCUIT BREAKERS MADE AVAILABLE VIA DEMOLITION AS REQUIRED. REFER TO PANELBOARD SCHEDULES FOR DETAILS.
- 3. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKERS WITHIN EXISTING PANELBOARD AS REQUIRED. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH EXISTING GENERAL ELECTRIC TYPE NAB2 PANELBOARD.
- 4. ELECTRICAL CONTRACTOR SHALL GROUND IN ACCORDANCE WITH NEC ARTICLE 250 AS AMENDED BY THE STATE ELECTRICAL CODE



KEYNOTES - CONSTRUCTION

DESCRIPTION

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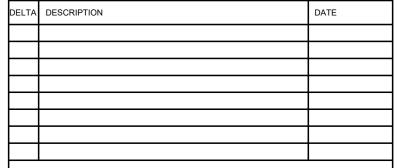


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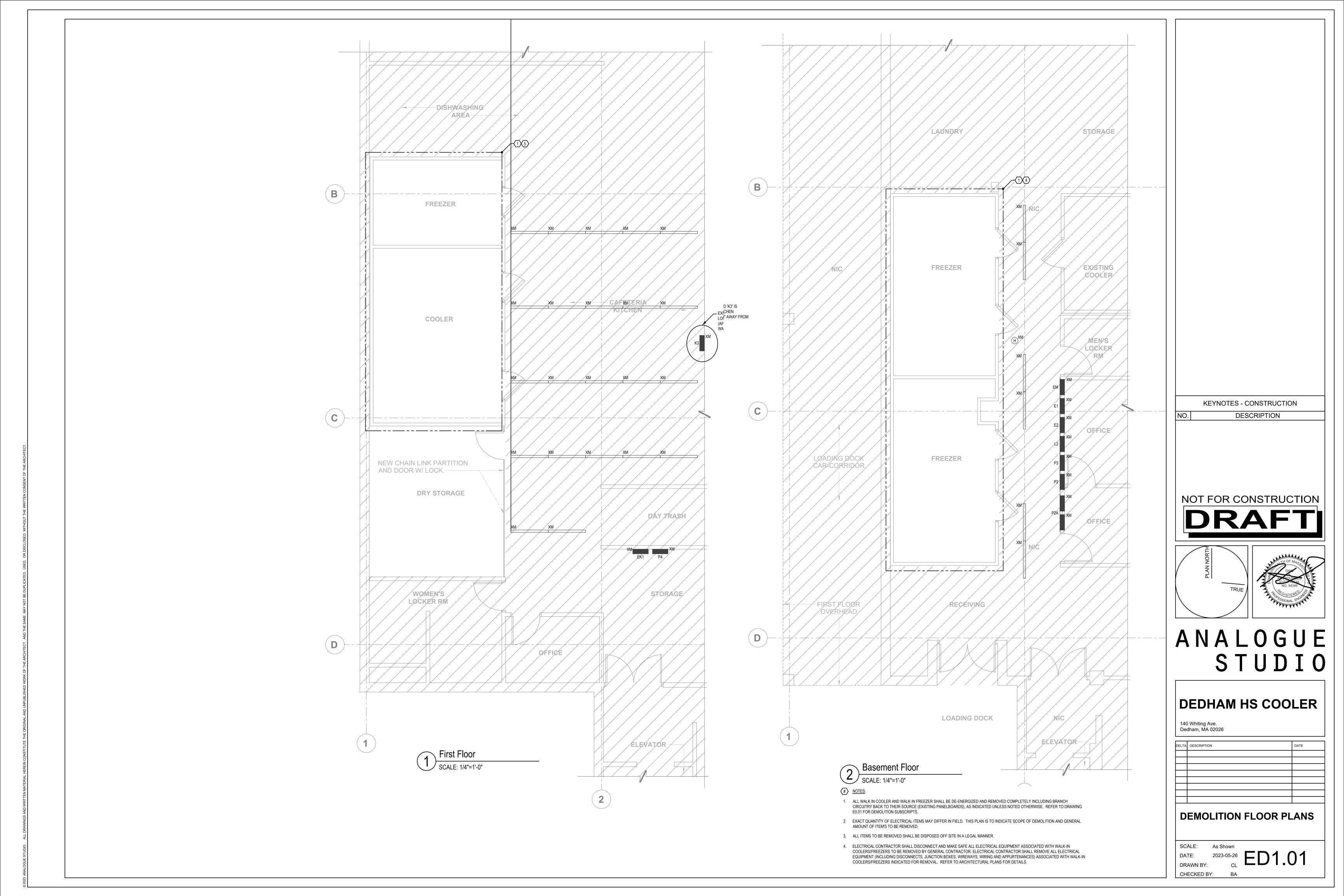


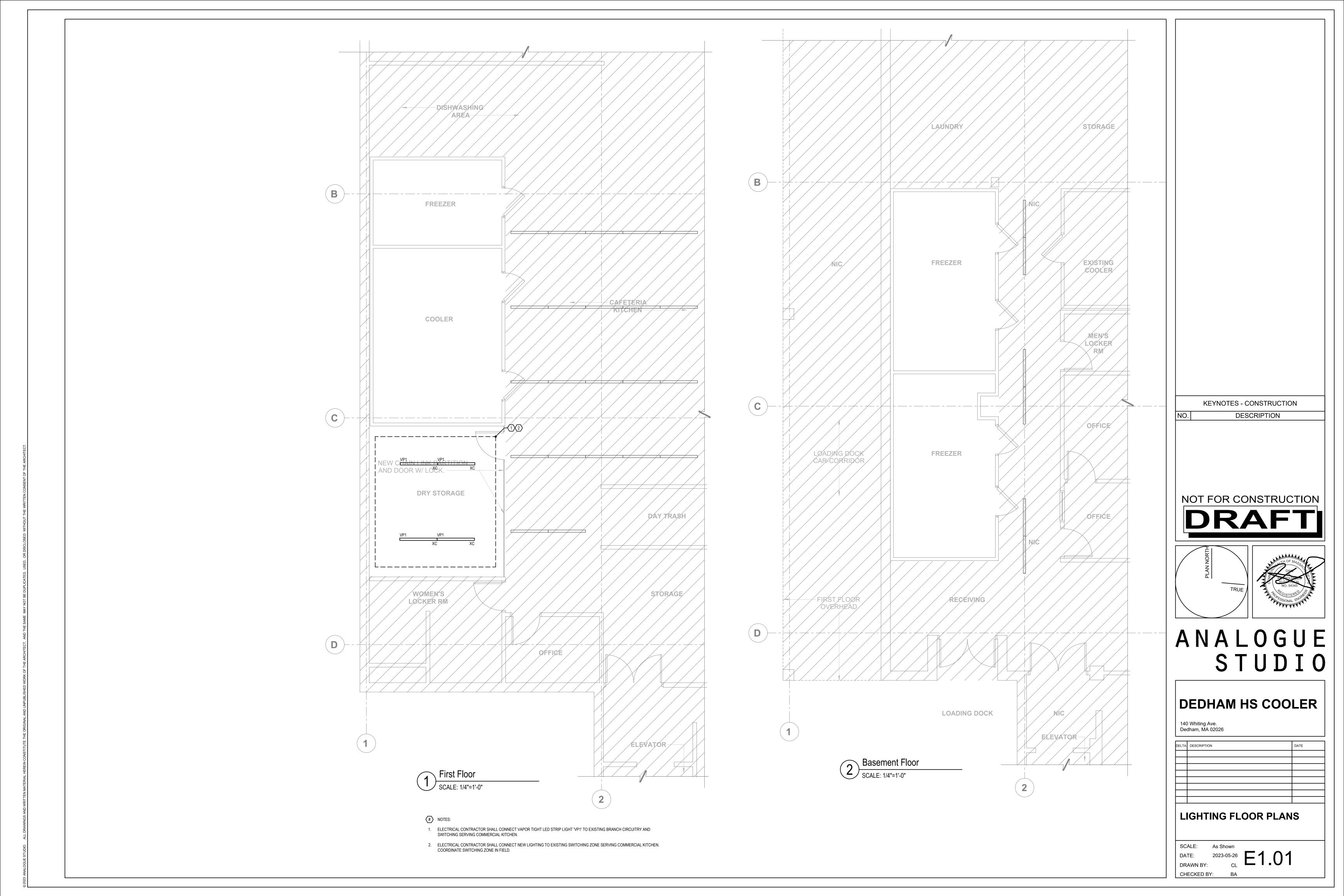
RISER DIAGRAM, SCHEDULES, AND DETAILS

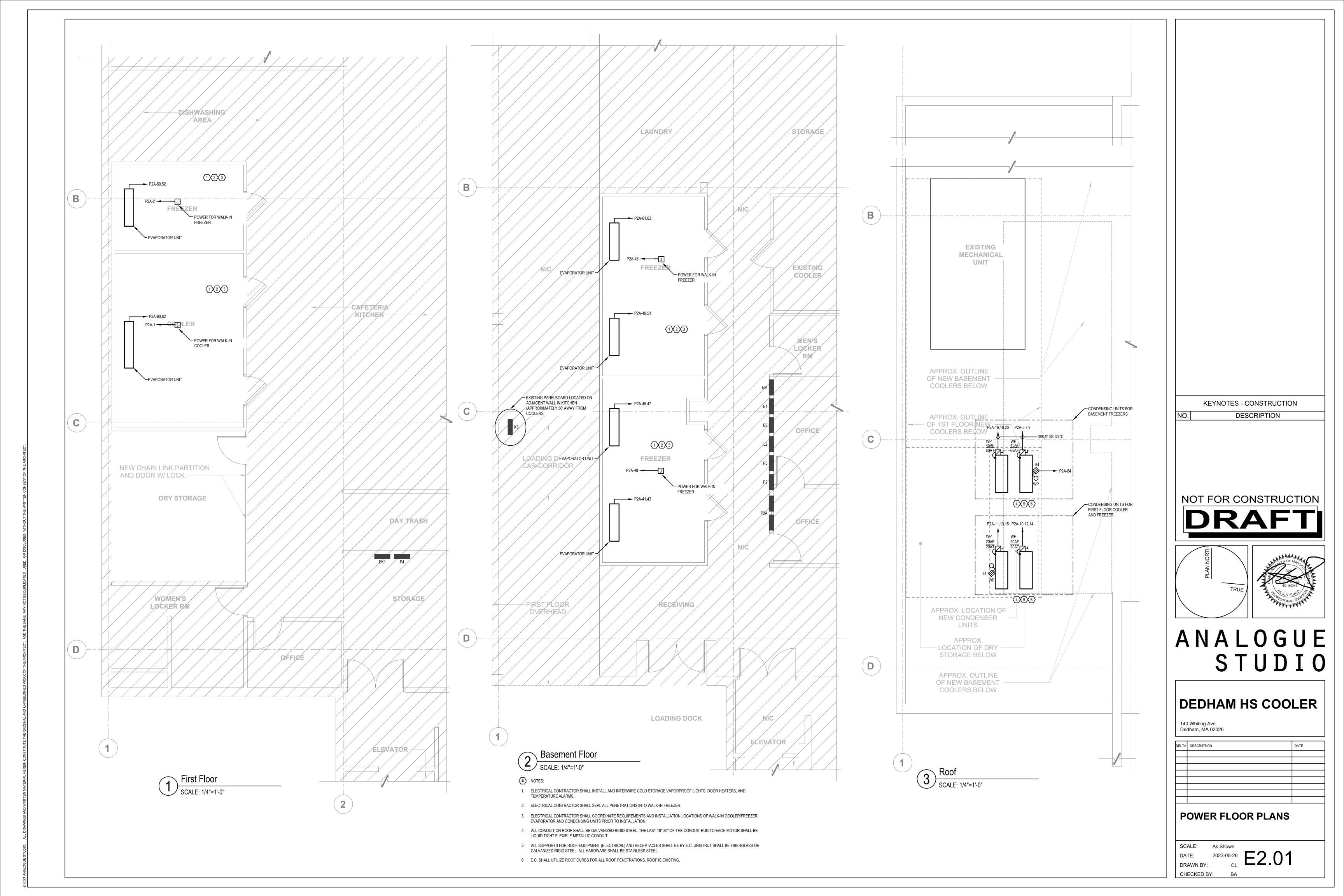
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DATE: 2023-05-26

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FIRE ALARM SPECIFICATION

FIRE DETECTION AND ALARM SYSTEM GENERAL

- 1.1.1. REFER TO FRONT END ELECTRICAL SPECIFICATIONS SHEETS FOR ALL PROJECT REQUIREMENTS.
- 1.1.2. AT NO TIME DURING CONSTRUCTION SHALL THE BUILDING BE WITHOUT FIRE ALARM PROTECTION.
- 1.1.3. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE FIRE DEPARTMENT PRIOR TO COMMENCEMENT OF EQUIPMENT INSTALLATION. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE LOCAL FIRE DEPARTMENT INSTALLATION REQUIREMENTS AND SYSTEM INSTALLATION GUIDELINES.
- 1.1.4. ALL FIRE ALARM DEVICES AND EQUIPMENT USED SHALL BE APPROVED FOR USE BY THE LOCAL FIRE DEPARTMENT.
- 1.1.5. THE CONTRACTOR SHALL FURNISH, INSTALL AND PLACE IN OPERATION AN ADDRESSABLE, SUPERVISED, GENERAL EVACUATION FIRE ALARM SYSTEM FOR THE COMPLETE BUILDING, UNLESS NOTED OTHERWISE.
- 1.1.6. MODIFICATIONS MADE TO THE BASE BUILDING FIRE ALARM SYSTEM SHALL BE MADE IN COMPLIANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS. ALL NEW COMPONENTS SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE AND COMPATIBLE FOR USE ON THE EXISTING SYSTEM.
- 1.1.7. THE ADDITION OF NEW INITIATING DEVICES OR NOTIFICATION APPLIANCES TO THE EXISTING SLC AND NAC SHALL NOT ADVERSELY EFFECT SUPERVISION. THE WIRING CLASS AND STYLE FOR THE ADDITION OF DEVICES SHALL BE CONSISTENT WITH
- 1.1.8. EXISTING BASE BUILDING DEVICES SHALL EITHER BE INCORPORATED INTO NEW FIRE ALARM DESIGN OR REMOVED. ALL PROGRAMMING ASSOCIATED WITH REMOVAL OF DEVICES SHALL BE PROVIDED BY THE CONTRACTOR.
- 1.1.9. NEW DEVICES SHALL BE PROGRAMMED TO INITIATE ACTION IN ACCORDANCE WITH THE EXISTING SEQUENCE OF OPERATION AS APPROVED BY THE AHJ. SYSTEM SUBMITTAL SHALL INCLUDE AN INPUT/OUTPUT MATRIX CLEARLY DEFINING THE SEQUENCE FOR EACH ADDED DEVICE.
- 1.1.10. THE FIRE ALARM DESIGN IS BASED ON AN EXISTING ADDRESSABLE SYSTEM. E.C. SHALL COORDINATE WITH OWNER AND DETERMINE THE REQUIREMENTS OF THE EXISTING SYSTEM. E.C. SHALL PROVIDE ALL COMPONENTS NEEDED TO PROVIDE AN
- OPERATIONAL FIRE ALARM SYSTEM THAT IS COMPATIBLE WITH THE EXISTING SYSTEMS REQUIREMENTS.
- 1.1.10.1. EXISTING FACP MANUFACTURER/MODEL: GAMEWELL FCI BY HONEYWELL1.1.11. THE COMPLETED FIRE ALARM SYSTEM SHALL MEET ALL LOCAL AND STATE CODES.
- EQUIPMENT AND COMPLETED INSTALLATION SHALL BE U.L. LISTED OR APPROVED AND SHALL MEET APPROVAL OF THE LOCAL FIRE DEPARTMENT, STATE FIRE MARSHALL, AUTHORITIES HAVING JURISDICTION AND SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, ADA CODE, NFPA 70, 72 AND 72E.
- 1.1.13. THE COMPLETE SYSTEM SHALL CONTAIN AUDIO/VISUAL ALARMS AND OTHER DEVICES INCLUDING POWER SUPPLIES AS REQUIRED FOR A COMPLETE SYSTEM.
- 1.1.14. THE OWNER SHALL BE RESPONSIBLE FOR TELEPHONE CONNECTION COMPANY CHARGES AND/OR SECOND PARTY MONITORING COMPANY FEES.
- 1.1.15. DEVICE ADDRESSES SHALL BE LEGIBLE WITHOUT REMOVAL OF THE DETECTOR. THE DETECTOR ADDRESS SHALL BE CONCEALED WHEN PLACED INTO THE BASE.
- 1.1.16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF DEDICATED TELEPHONE HOMERUN WIRING.
- 1.2. SEQUENCE OF OPERATIONS: REFER TO SEQUENCE OF OPERATIONS INPUT/OUTPUT MATRIX
- 1.3. REMOTE DEVICES1.3.1. HORN/STROBE DEVICES SHALL BE PROVIDED IN A COMMON ENCLOSURE. THE VISIBLE STROBE SHALL MEET ALL THE
- REQUIREMENTS OF THE ADA.

 1.3.2. MONITOR MODULES SHALL BE PROVIDED TO MONITOR AND CONNECT CONVENTIONAL INITIATING DEVICES ONTO THE
- ADDRESSABLE LOOP.

 1.3.3. REMOTE ALARM INDICATORS SHALL BE LED INDICATORS ON SINGLE PLASTIC PLATES.
- 1.3.4. CONTROL & RELAY MODULES SHALL BE USED TO CONTROL CONVENTIONAL DEVICES (NOTIFICATION CIRCUITS, AHU'S, DOOR HOLDERS, ETC). OVER THE ADDRESSABLE LOOP. MODULES SHALL BE PROVIDE A SUPERVISED OUTPUT RATED FOR 2 AMP AT 24 VOLTS DC AND 0.5 AMP AT 120 VOLT.
- 1.3.5. STROBE ONLY DEVICES SHALL BE PROVIDED AND SHALL MEET ALL REQUIREMENTS OF NFPA AND ADA CODES.
- 1.4. WIRING1.4.1. ALL FIRE ALARM WIRE AND CABLE SHALL BE UL LISTED FOR FIRE ALARM USE.
- 1.4.2. THE FIRE ALARM SYSTEM SHALL BE A COMPLETE AUTOMATIC AND MANUAL, CLOSED CIRCUIT, CLASS A, 4 WIRE, CONNECTED AND
- LEFT IN FIRST-CLASS OPERATING CONDITION.

 1.4.3. FOR FIRE ALARM WIRING IN ENCLOSED SPACES, PROVIDE PLENUM RATED, TYPE FPLP, WITH RED OUTER JACKET. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 770 AND 725. CONDUCTORS SHALL BE SOLID COPPER #14 MINIMUM, WITH LOW SMOKE, LOW FLAME TYPE JACKET.
- 1.4.4. FOR FIRE ALARM WIRING IN EXPOSED AREAS, PROVIDE TYPE THHN INSULATION. WIRE SIZE SHALL BE #14 AWG MINIMUM. ALL SURFACE MOUNTED WIRING RELATED TO THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN TYPE EMT/RGS CONDUIT.
- 1.4.5. ALL JOINTS AND CONNECTIONS SHALL BE IN JUNCTION BOXES. ALL CONNECTIONS NOT ON APPROVED TERMINAL STRIPS SHALL BE SOLDERED AND TAPED. ALL JUNCTION BOXES SHALL BE PAINTED RED.
- 1.5. MANUFACTURERS
 1.5.1. DEVICES SHALL BE COMPATIBLE WITH EXISTING MANUFACTURER.
- 1.5.1. DEVICES SHA 1.6. TESTING
- 1.6.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIRE ALARM TESTING AND CERTIFICATION CHARGES.
- 1.6.2. CERTIFY THE INSTALLATION WITH ACCEPTANCE TESTING. THE ELECTRICAL CONTRACTOR SHALL CONDUCT THE ACCEPTANCE TEST WITH THE LOCAL FIRE DEPARTMENT IN ACCORDANCE WITH NFPA 72. TEST INCLUDE BUT MAY NOT BE LIMITED TO THE FOLLOWING: MEGGER (INSULATION) TESTING, LOOP CONTINUITY, GROUND, SHORT, OPEN CIRCUIT, A WRITTEN REPORT SHALL BE SUBMITTED DETAILING THE RESULTS OF THE PRELIMINARY TESTS SHALL ACCOMPANY THE REQUEST FOR FINAL ACCEPTANCE
- 1.6.3. THE FIRM WHO HOLDS THE EXISTING SYSTEM MAINTENANCE CONTRACT SHALL PERFORM FINAL CONNECTIONS, PROGRAMMING, AND TESTING. THE CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH FINAL CONNECTIONS, PROGRAMMING AND TESTING AS WELL AS DISABLING CONNECTIONS TO THE MUNICIPAL LOOP DURING FINAL CONNECTIONS AND TESTING.

DEMOLITION NOTES

- 1. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE FULL EXTENT OF THE SCOPE OF DEMOLITION. DISCONNECT AND MAKE SAFE ALL ELECTRICAL EQUIPMENT IDENTIFIED FOR REMOVAL ON THE HVAC, PLUMBING AND FIRE PROTECTION PLANS. THE ELECTRICAL SCOPE MAY EXTEND BEYOND THE AREA DEFINED BY THE ARCHITECTURAL DEMOLITION LIMITS TO FULLY COMPLY WITH VARIOUS REQUIREMENTS DEFINED BY THESE NOTES.
- 2. THE ELECTRICAL DEMOLITION PLANS AND DETAILS INDICATE THE GENERAL INTENT AND ARE NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE SUBMISSION OF BIDS TO BECOME FAMILIAR WITH THE ACTUAL CONDITIONS AND EXTENT OF WORK. DEVICES AND EQUIPMENT LOCATED ON WALLS AND/OR CEILINGS TO BE REMOVED SHALL BE DISCONNECTED AND MADE SAFE. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.
- THE ELECTRICAL CONTRACTOR SHALL IDENTIFY ALL BRANCH CIRCUITS, FEEDERS AND SYSTEM COMPONENTS, WHICH ARE TO REMAIN WITHIN THE AREA OF DEMOLITION SCOPE. THERE SHALL BE NO INTERRUPTION OF SERVICE TO ANY AREA OUTSIDE THE SCOPE LIMITS WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE. EXISTING EQUIPMENT TO REMAIN SHALL BE LEFT IN A CODE COMPLIANT MANNER.
- 4. ALL ITEMS IDENTIFIED FOR DEMOLITION SHALL NOT BE ABANDONED IN PLACE.
- 5. ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE. THE OWNER'S REPRESENTATIVE SHALL INSPECT ALL RETAINED ITEMS PRIOR TO PLACEMENT IN THE IDENTIFIED STORAGE LOCATION BY THE ELECTRICAL CONTRACTOR.
- 6. THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN FULLY FUNCTIONAL DURING THE ENTIRE DEMOLITION AND CONSTRUCTION PERIOD. REUSE OF EXISTING FIRE ALARM SYSTEM RACEWAYS SHALL NOT BE ALLOWED. ALL REQUIRED SYSTEM SHUTDOWNS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER'S REPRESENTATIVE AND THE AUTHORITY HAVING JURISDICTION.

EXISTING EQUIPMENT DESIGNATIONS

- X EXISTING TO BE REMOVED, REMOVE ALL ASSOCIATE CONDUIT AND CONDUCTORS
- M EXISTING TO REMAIN
- XN EXISTING EQUIPMENT TO BE REPLACED WITH NEW, CONNECT NEW EQUIPMENT TO EXISTING CIRCUIT
- EXISTING EQUIPMENT TO BE RELOCATED, JUNCTION AND EXTEND EXISTING CONDUIT AND CONDUCTORS
- NEW EQUIPMENT TO BE CONNECTED TO NEAREST AVAILABLE BRANCH CIRCUIT, PROVIDE NEW BRANCH CIRCUITRY FROM NEAREST EXISTING DEVICE (TO REMAIN) TO NEW DEVICE AS REQUIRED
- XL NEW LOCATION OF EXISTING EQUIPMENT, JUNCTION AND EXTEND CONDUIT AND CONDUCTORS AS REQUIRED

FIRE ALARM

TYPICAL DEVICE ANNOTATION: "15" INDICATES CANDELA RATING

F 15 AUDIO / VISUAL DEVICE

"F" INDICATES HORN / VISUAL

15 VISUAL ONLY DEVICE

"L" INDICATES WHITE LENS FOR FIRE

CEILING MOUNTED AUDIO / VISUAL DEVICE
"F" INDICATES HORN / VISUAL

F MANUAL PULL STATION

SMOKE DETECTOR

R "R" INDICATES ELEVATOR RECALL

FACP FIRE ALARM DEVICE

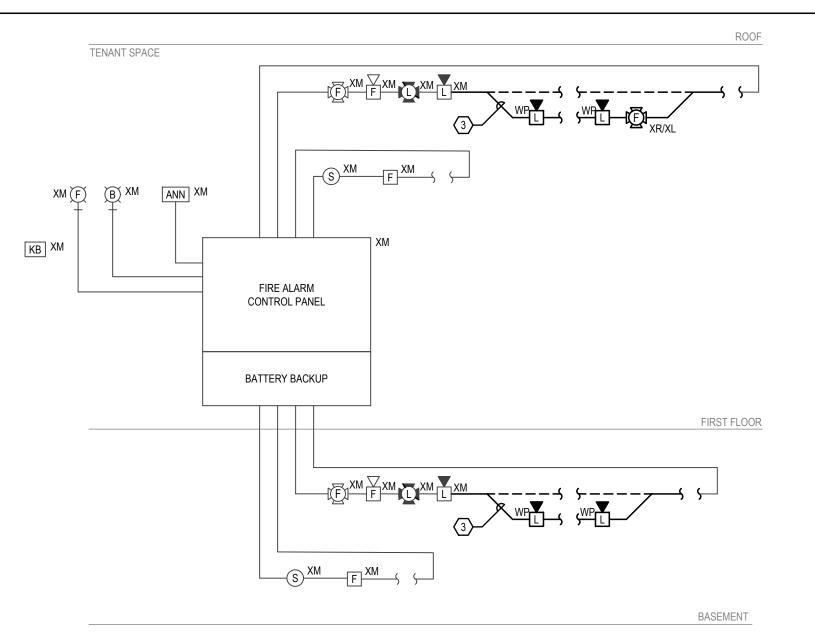
"FACP" INDICATES FIRE ALARM CONTROL PANEL

SEQUENCE OF OPERATIONS INPUT / OUTPUT MATRIX

	SYSTEM OUTPUTS				NTR		JNIT TION			NOTIFICATION						REQUIRE LIFE SAFETY CONTROL											
	FIRE ALARM SYSTEM OPERATION SCHEDULE	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE FIRE FLOOR ALARM INDICATOR	ACTUATE HOOD FIRE SUPPRESSION SYSTEM	ACTUATE EVACUATION SIGNALS ON ALL FLOORS	ACTUATE LOCAL AUDIBLE TEMP-3 PATTERN FIRE SIGNAL	ACTUATE LOCAL ADA VISUAL ALARM	ACTUATE ELEVATOR FIRE HAT	DISPLAY/PRINT CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISORY STATION	RELEASE MAGNETICALLY HELD SMOKE DOORS	RECALL PEDESTRIAN ELEV. TO PRIMARY RECALL FLOOR	RECALL PEDESTRIAN ELEV. TO ALTERNATE RECALL FLOOR	LOWER ELEVATOR CURTAIN ON CORRESPONDING FLOOR	OPEN SMOKE DAMPER AT TOP OF ELEVATOR SHAFT	CLOSE FIRE/SMOKE DAMPER ON ASSOCIATED FIRE FLOOR	SHUT DOWN ALL ASSOCIATED HVAC EQUIPMENT	OVERRIDE MUSIC SYSTEM (MUTE)	OVERRIDE TELEVISION SYSTEM (TURN OFF)	OVERRIDE DIMMING SYSTEM (LIGHTS TO FULL BRIGHT)
	SYSTEM INPUTS	А	В	С	D	Е	F	G	Н	-	J	К	L	М	N	0	Р	Q	R	s	Т	U	٧	W	Х	Υ	Z
1	MANUAL FIRE ALARM BOXES	•	•					•		•	•	•		•	•			•							•	•	•
2	SMOKE DETECTORS	•	•					•		•	•	•		•	•			•					•		•	•	•
3	ELEVATOR LOBBY SMOKE DETECTORS	•	•							•	•	•	•	•	•			•	•		•				•	•	•
4	ELEVATOR LOBBY SMOKE ON PRIMARY RECALL FLOOR	•	•							•	•	•	•	•	•			•		•					•	•	•
5	ELEVATOR MACHINE SMOKE DETECTORS	•	•							•	•	•	•	•	•			•	•			•			•	•	•
6	HEAT DETECTORS	•	•					•		•	•	•		•	•			•							•	•	•
7	WATERFLOW	•	•					•		•	•	•		•	•			•							•	•	
8	SPRINKLER CONTROL VALVE			•	•									•		•											
9	DUCT SMOKE DETECTORS			•	•									•		•								•			
10	KITCHEN EXHAUST HOOD	•	•					•	•	•				•		•		•						•			
11	KITCHEN EXHAUST HOOD CARBON MONOXIDE SYSTEM															•											
12	FIRE ALARM AC POWER FAILURE					•	•							•			•										
13	FIRE ALARM SYSTEM LOW BATTERY					•	•							•			•										
14	OPEN CIRCUIT					•	•							•			•										
15	GROUND FAULT					•	•							•			•										
16	NOTIFICATION APPLIANCE SHORT CIRCUIT					•	•							•			•										
17	SUPERVISORY			•	•									•		•											
18	TROUBLE					•	•							•			•										

NOTES:

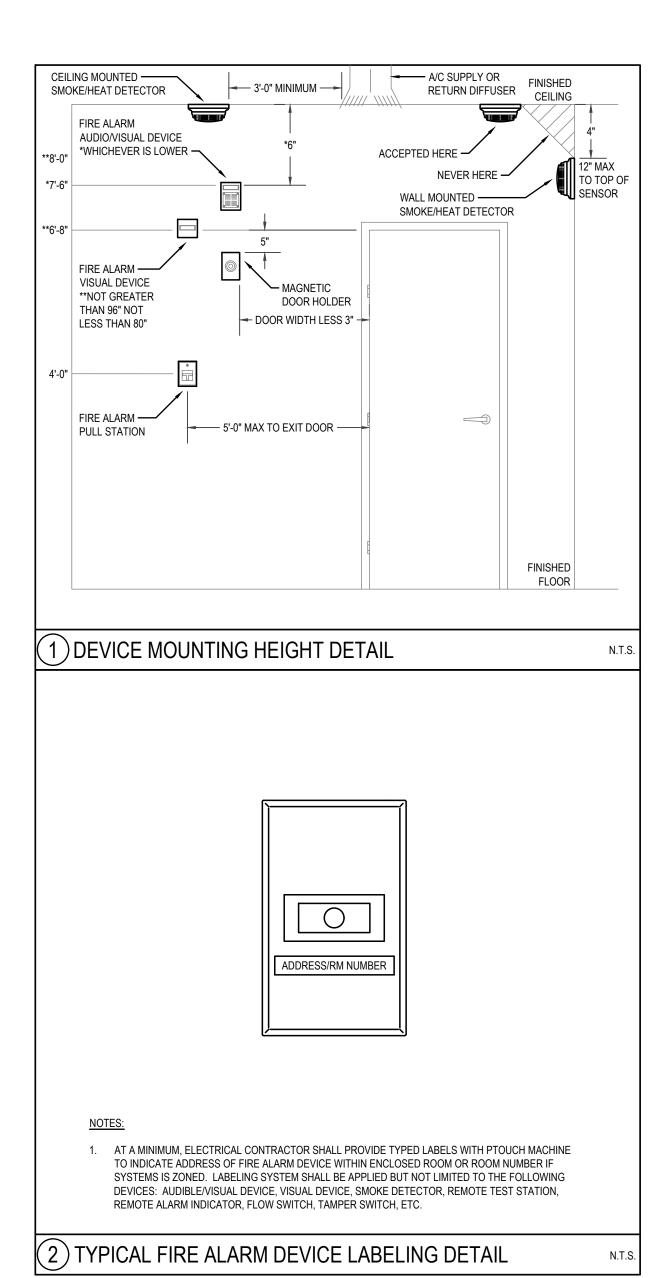
- 1. ALL EVENTS SHALL BE RECORDED AT THE FIRE ALARM CONTROL PANEL AND SHALL INDICATE TIME AND DATE OF OCCURRENCE AND LIST DEVICE INITIATED.
- 2. TROUBLE AND SUPERVISORY SIGNALS SHALL BE MONITORED IN ACCORDANCE WITH 780CMR 903.4.1.



FIRE ALARM RISER DIAGRAM

FIRE ALARM RISER DIAGRAM NOTES:

- 1. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT BREAKER HANDLE-LOCK ON ALL 120 VOLT FIRE ALARM POWER CIRCUITS. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
- 2. RISER DIAGRAM DOES NOT SHOW ENTIRE SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL
- 3. TYPICAL RELOCATION OR ADDITION OF FIRE ALARM NOTIFICATION DEVICE. DISCONNECT AND REMOVE EXISTING NAC LOOP WIRING BACK TO EXISTING DEVICES TO REMAIN. PROVIDE NEW NACLOOP WIRING (TO MATCH EXISTING) TO ACCOMMODATE ADDITION OF OR RELOCATION OF DEVICES.
- 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL REQUIRED POWER SUPPLIES FOR A COMPLETE AND OPERABLE SYSTEM. POWER SUPPLY CALCULATIONS SHALL BE INCLUDED IN FIRE ALARM SHOP DRAWINGS.
- 5. ELECTRICAL CONTRACTOR SHALL CARRY ALL COSTS TO REPROGRAM EXISTING FIRE ALARM CONTROL PANEL.



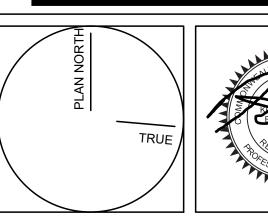
KEYNOTES - CONSTRUCTION

DESCRIPTION

NO. DESCRIPTION

NOT FOR CONSTRUCTION

DRAFT

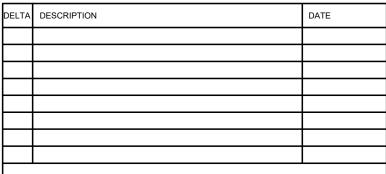


ANALOGUE STUDIO

DEDHAM HS COOLER

140 Whiting Ave. Dedham, MA 02026

CHECKED BY:



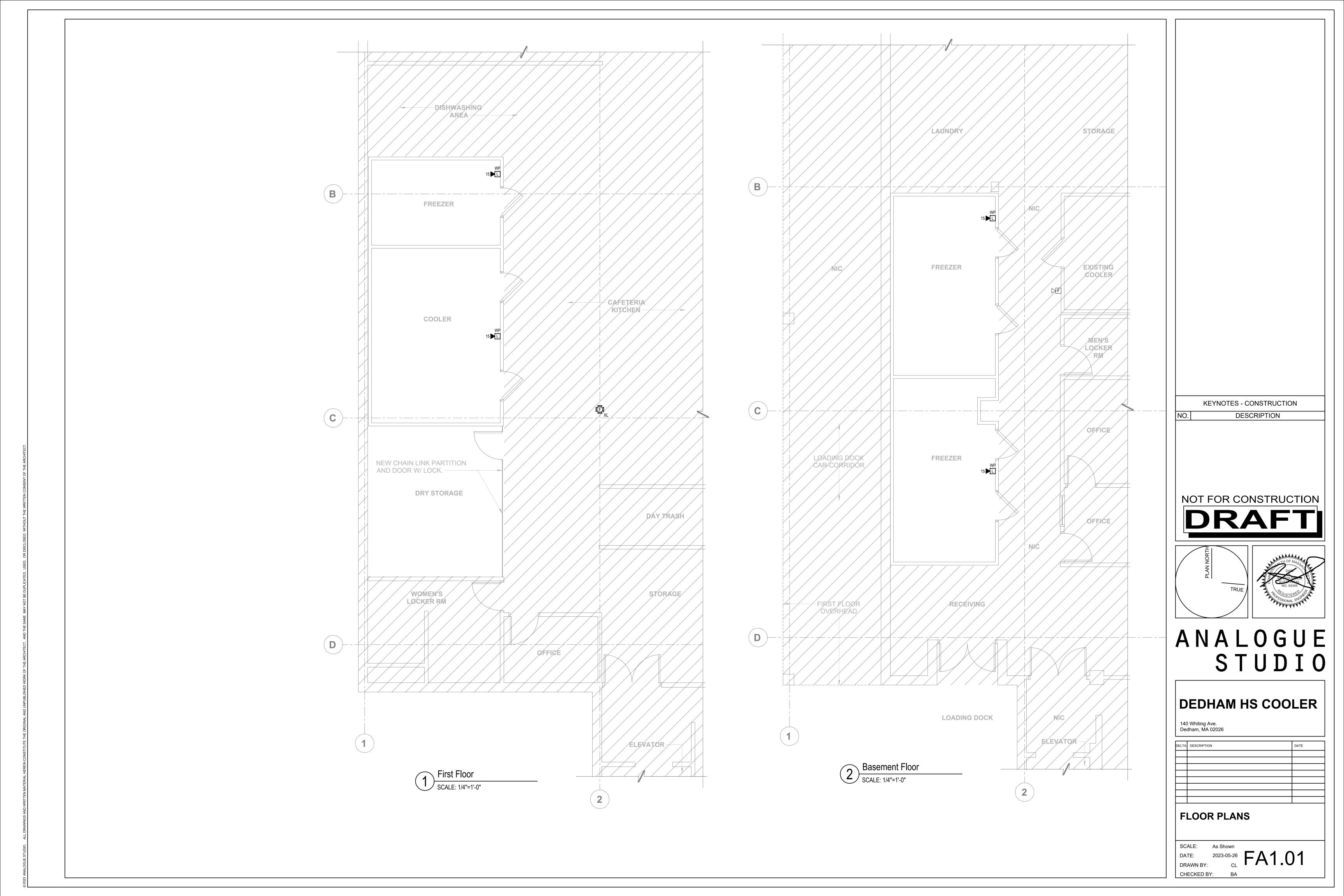
LEGEND, RISER DIAGRAM, AND DETAILS

SCALE: As Shown

DATE: 2023-05-26

DRAWN BY: CL







FIRE ALARM NARRATIVE

Dedham High School Cooler 140 Whiting Ave Dedham, MA 02026

DATE: June 16, 2023

TO: City of Dedham Inspectional Services

FROM: Brendan Ciarlone, Fire Alarm Systems

BLW Engineers, Inc.

SUBJECT: PROPOSED FIRE PROTECTION SYSTEMS

SUMMARY

In accordance with the Massachusetts State Building Code Chapter 9, 9th Edition, we respectfully submit for your review this narrative on the proposed modifications to the existing fire alarm systems for the new Walk-in Coolers at Dedham High School. The fire alarm work will be performed on the existing fire alarm systems for a portion of the first floor and basement only.

SECTION 1 - BUILDING DESCRIPTION

- 1. Building Use Group E Education
- 2. Approximate Total Square Footage of renovated area: 650 sf of first-floor and 450 sf of basement space.
- 3. Building Construction Type 2 non combustible
- 4. Site Access for Emergency Vehicles No Change, site access shall not be altered
- 5. High Piled Storage Not Applicable
- 6. Hazardous Materials Storage Not Applicable

SECTION 2 – APPLICABLE LAWS, REGULATIONS AND STANDARDS

- 1. 780 CMR THE MASSACHUSETTS STATE BUILDING CODE, 9th edition
- 780 CMR CHAPTER 9, "FIRE PROTECTION SYSTEMS"
- 527 CMR FIRE PREVENTION REGULATIONS
- 4. NFPA 70 NATIONAL ELECTRIC CODE
- NFPA 72 NATIONAL FIRE ALARM CODE.
- City of Dedham Fire Department Rules and Regulations for Fire Alarm and Sprinkler Systems.



- 7. All applicable regulations and criteria of the local fire department and the owner's insurance authority.
- 8. All applicable sections and regulations of OSHA and ADA.

SECTION 3 – FIRE ALARM SYSTEMS TO BE INSTALLED

MODIFICATIONS

- 1.The proposed tenant space is connected to the existing fire alarm system, the existing system is manufactured by Fire Control Instruments. The existing fire alarm control panel is an addressable system with general evacuation. There are existing addressable loops that run into the proposed space which shall be reused.
- 2. There are no changes to the existing sequence of operation or method of notification to the proper authorities as part of this renovation. The existing system is simply being expanded to accommodate the proposed renovations
- 3. Method of notification to the proper authorities will remain unchanged.
- 4. The devices shall be installed in accordance with the floor plan layouts.
- 5.FPLR cabling shall be provided where needed to connect the proposed devices to the existing loop. System shall be connected to meet UL, the requirements for NFPA and the AHJ Bylaws Audio/visual alarms shall be provided as needed and the coverage shall meet the requirements of NFPA and ADA. Visual alarms shall be utilized in small areas such as corridors where ample audio alarm is present.
- 6. The fire alarm system will be re-programmed, re-tested and re-certified after completion of the project.
- 7. Emergency lighting shall be provided throughout the space and consists of emergency battery units for egress lighting and LED exit signs. Lighting levels shall be provided to meet the Massachusetts State Building Code 780 CMR Articles 1023 and 1024.

SECTION 6 – FIRE ALARM SYSTEM SEQUENCE OF OPERATION

The existing system sequence of operations is not being modified as part of this project. The below is a description of the existing sequence as BLW knows it:

In the event of a fire, heat will be produced and will build at the ceiling. Heat and smoke will trigger the buildings smoke detectors which will activate the existing building fire alarm systems.

- 1. Activation of a manual pull station shall:
 - a. Sound alarm at pull station activated.
 - b. Identify the station activated and sound alarm at control panel and at remote annunciator.
 - c. Initiate horn/strobe devices.
 - d. Release door holders.
 - e. Initiate exterior beacon.
 - f. Notify local fire department.
- 2. Activation of smoke detectors shall:
 - a. Sound alarm at device activated.
 - b. Identify the device activated and sound alarm at control panel and at remote annunciator.
 - c. Initiate horn/strobe devices.
 - d. Release door holders.



- e. Smoke/fire dampers shall close.
- f. Initiate elevator recall. (Only designated smoke detectors Refer to Section 8 Notes 11 and 12 and Section 9 Item 11)
- g. Initiate exterior beacon.
- h. Notify local fire department.
- 3. Activation of heat detectors shall:
 - a. Identify the device activated and sound alarm at control panel and at remote annunciator.
 - b. Initiate horn/strobe devices.
 - c. Release door holders.
 - d. Smoke/fire dampers shall close.
 - e. Initiate exterior beacon.
 - f. Notify local fire department.
- 4. Activation of duct mounted smoke detector shall:
 - a. Shut down dedicated mechanical unit device is associated with.
 - b. Initiate remote indicator.
 - c. Identify the station activated and initiate a supervisory signal at control panel.
- 5. Activation of supervisory circuit shall:
 - a. Identify the location of supervisory condition at control panel and remote annunciator.
 - b. Initiate supervisory audible/visual signal at control panel and remote annunciator.
- 6. Activation of trouble circuit shall:
 - a. Identify the location of trouble condition at control panel and remote annunciator.
 - b. Initiate trouble audible/visual signal at control panel and remote annunciator.
- 7. The elevator recall function shall operate as follows:
 - a. Smoke detectors in elevator lobbies on all floors and in elevator machine room, shall recall elevators to designated primary recall level, or to alternate floor if any primary floor devices are activated.
 - b. Activation of a smoke detector in elevator machine room shall illuminate fire hat indicator in each
- 8. In the event of a low battery condition, open circuit in the system, a ground fault, or short circuit, or any other system trouble shall cause the following:
 - a. Display type of trouble received, location and description on the main FACP and remote annunciators LCD displays.
 - b. Sound the on board buzzer indicating a trouble condition on both the main FACP and remote annunciators LCD displays until acknowledged or event clears.
 - c. Flash the on board amber LED indicating a trouble condition on both the main FACP and remote annunciators LCD display until acknowledged or event clears. Upon acknowledgement the amber LED shall stay lit solid until event causing the trouble clears.
 - d. Send a trouble signal to central station via the system dialer.



- e. Record the event on the system log.
- 9. All events shall be recorded at the fire alarm control panel and shall indicate time and date of occurrence and list device initiated.

SECTION 7 – TESTING CRITERIA

- Manufacturer's Field Service: Provide services of a factory-authorized service representative to supervise
 the field assembly and connection of components and the pretesting, testing, and adjustment of the
 system.
- 2. Pretesting: After installation, align, adjust, and balance the system and perform complete pretesting. Determine, through pretesting, the conformance of the system to the requirements of the Drawings and Specifications. Correct deficiencies observed in pretesting. Replace malfunctioning or damaged items with new ones and retest until satisfactory performance and conditions are achieved. Prepare forms for systematic recording of acceptance test results.
- 3. Report of Pretesting: After pretesting is complete, provide a letter certifying the installation is complete and fully operable, including the names and titles of the witnesses to the preliminary tests.
- 4. Final Test Notice: Provide a 10-day minimum notice in writing when the system is ready for final acceptance testing.
- 5. Minimum System Tests: Test the system according to the procedures outlined in NFPA 72. Minimum required tests are as follows:
- 6. Verify the absence of unwanted voltages between circuit conductors and ground.
- 7. Test all conductors for short circuits using an insulation-testing device.
- 8. With each circuit pair, short circuit at the far end of the circuit and measure the circuit resistance with an ohmmeter. Record the circuit resistance of each circuit on the record drawings.
- 9. Verify that the control unit is in the normal condition as detailed in the manufacturer's operation and maintenance manual.
- 10. Test initiating and indicating circuits for proper signal transmission under open circuit conditions. One connection each should be opened at not less than 10 percent of the initiating and indicating devices. Observe proper signal transmission according to class of wiring used.
- 11. Test the system for all specified functions according to the approved operation and maintenance manual. Systematically initiate specified functional performance items at each station, including making all possible alarm and monitoring initiations. For each item, observe related performance at all devices required to be affected by the item under all system sequences. Observe indicating lights, displays, signal tones, and annunciator indications.
- 12. Test Both Primary and Secondary Power: Verify by test that the secondary power system is capable of operating the system for the period and in the manner specified.

13.

- 14. Retesting: Correct deficiencies indicated by tests and completely retest work affected by such deficiencies. Verify by the system test that the total system meets the Specifications and complies with applicable standards.
- 15. Report of Tests and Inspections: Provide a written record of inspections, tests, and detailed test results in the form of a test log. Submit log upon the satisfactory completion of tests.

SECTION 9 – APPROVAL REQUIREMENTS

1. Upon successful inspection and testing of all fire alarm systems, the fire alarm contractor shall obtain written approval of the completed fire alarm system from the fire department, owner's insurance authority, and all other code officials. Copies of all written approvals shall be turned over to the owner representative.



- 2. If a code official should find cause to reject any portion of the fire alarm system installation or testing, the fire alarm contractor shall be responsible for correcting the problem in a timely manner. Upon completion of all corrective measures undertaken by the fire alarm contractor, a new test and inspection shall be again coordinated by the fire alarm contractor, and witnessed by the fire department and all other authorities as previously stated.
- 3. The fire alarm contractor shall obtain all document of acceptance as required by the Massachusetts State Building Code, 9th edition, and shall submit all such documents as required, to the owner's representative and building code officials.

COMcheck Software Version 4.1.5.3

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC

Project Title: Dedham HS Walk-Ins

Project Type: Alteration Permit Date: 06/16/2023

Construction Site: 140 Whiting Ave Dedham, MA 02026 Owner/Agent:

Designer/Contractor: Brendan Ciarlone BLW Engineers Inc. 311 Great Rd. Littleton, MA 01460 978-486-4301

Allowed Interior Lighting Power

Α	В	С	D
Area Category	Floor Area	Allowed	Allowed Watts
	(ft2)	Watts / ft2	(B X C)

1-First Floor and Basement Walk-In Coolers (School/University)

Total Allowed Watts = N/A

Area Category Exemption Qualifications

Andhatta, Anna	# Fi	xtures	Total # Watts			
Activity Area	Pre-Alt.	Repl./Added	Pre-Alt.	Post-Alt.		
First Floor and Basement Walk-In Coolers (26	0	96.000	0.000		
School/University 1100 sq.ft.)						
Exemption: Less than 10% fixture replacement.						

Proposed Interior Lighting Power

В C D Ε Fixture ID: Description / Lamp / Wattage Per Lamp / Ballast Lamps/ # of **Fixture** (C X D) **Fixture Fixtures** Watt.

First Floor and Basement Walk-In Coolers (School/University 1100 sq.ft.): Exempt

Total Proposed Watts =

N/A

1 of

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Brendan Ciarlone	Brendan Ciarlone	06/16/2023
Name - Title	Signature	Date

Project Title: Dedham HS Walk-Ins Report date: 06/16/23

Data filename: N:\Jobs\2023 Projects\23189 Dedham HS Walk-Ins Dedham MA\Calculations\Electrical\23189

Lighting COMCheck.cck

COMcheck Software Version 4.1.5.3 Inspection Checklist Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.7 [EL27] ²	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C405.9 [EL29] ²	Total voltage drop across the combination of feeders and branch circuits <= 5%.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

	1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Project Title: Dedham HS Walk-Ins Report date: 06/16/23

Data filename: N:\Jobs\2023 Projects\23189 Dedham HS Walk-Ins Dedham MA\Calculations\Electrical\23189 Lighting COMCheck.cck

age 2 of 4

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.1.1 [FI57] ¹	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Dedham HS Walk-Ins Report date: 06/16/23 3 of 4

Data filename: N:\Jobs\2023 Projects\23189 Dedham HS Walk-Ins Dedham MA\Calculations\Electrical\23189 Lighting COMCheck.cck

Project Title: Dedham HS Walk-Ins Report date: 06/16/23

Data filename: N:\Jobs\2023 Projects\23189 Dedham HS Walk-Ins Dedham MA\Calculations\Electrical\23189 Lighting COMCheck.cck Page 4 of 4



Universal Environmental Consultants

EMSL Order: 132302549 Customer ID: UEC63

Customer PO: Project ID:

Phone: (617) 984-9772

Fax: (508) 628-5488

Received Date: 04/18/2023 2:20 PM

Analysis Date: 04/19/2023 **Collected Date:** 04/18/2023

Project: High School; Dedham, MA

12 Brewster Road

Framingham, MA 01702

Attention: Ammar Dieb

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			estos	Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
132302549-0001	Lower Walk-in Freezer - Cement Flooring	Red/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2 132302549-0002	Lower Walk-in Freezer - Cement Flooring	Red/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3 132302549-0003	Lower Walk-in Freezer - Fiberboard Wall	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
4 132302549-0004	Lower Walk-in Freezer - Fiberboard Wall	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
5 132302549-0005	Lower Walk-in Freezer - Foam Insulation	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6 132302549-0006	Lower Walk-in Freezer - Foam Insulation	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)	
(evin Pine (6)	

Steve Grise, Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-139, VT AL998919, ME LB-0039

CHAIN OF CUSTODY

Universal Environmental Consultants	
12 Brewster Road	
Framingham, MA 01702	
Tel: (508) 628-5486 - Fax: (508) 628-5488	
adieb@uec-env.com	_

PLM 24-hour TAT

Sample	Description of Material	Sample Location
1	cement flooring	Lower Walk-In Freezer
7	1	1
3	Fiberboard wall	Lower walk-In Freezer
4	l	1
5	Foom Insulation	Lower walk - In Freezen
6	1 1	l

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[Wage Rates]



THE COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES Secretary

MICHAEL FLANAGAN
Director

KIM DRISCOLL Lt. Governor

Awarding Authority:

Authority: Town of Dedham

Contract Number: 20230019 City/Town: DEDHAM

Description of Work: remove existing walk in units, and install owner provided walk-in units, erect storage cages for food, conduct some

MEP work and related construction.

Job Location: 140 Whiting Ave

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The annual update requirement is not applicable to 27F "rental of equipment" contracts. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS).
 Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to http://www.mass.gov/dols/pw.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Issue Date: 06/28/2023 **Wage Request Number:** 20230628-006

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction (2 AXLE) DRIVER - EQUIPMENT	12/01/2021	\$37.05	\$13.41	\$16.01	\$0.00	\$66.47
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A						
(3 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2021	\$37.12	\$13.41	\$16.01	\$0.00	\$66.54
(4 & 5 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2021	\$37.24	\$13.41	\$16.01	\$0.00	\$66.66
ADS/SUBMERSIBLE PILOT PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
LABORERS - ZONE 1	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
LABORERS - ZONE I (HEAVI & HIGHWAI)	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
	06/01/2024	\$47.06	\$9.40	\$17.82	\$0.00	\$74.28
	12/01/2024	\$48.53	\$9.40	\$17.82	\$0.00	\$75.75
	06/01/2025	\$50.03	\$9.40	\$17.82	\$0.00	\$77.25
	12/01/2025	\$51.53	\$9.40	\$17.82	\$0.00	\$78.75
	06/01/2026	\$53.08	\$9.40	\$17.82	\$0.00	\$80.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	12/01/2026	\$54.58	\$9.40	\$17.82	\$0.00	\$81.80
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/01/2020	#20.10	#12 00	¢0.45	ФО ОО	0.00.25
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	12/01/2020	\$38.10	\$12.80	\$9.45	\$0.00	\$60.35
ASPHALT RAKER	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
ASPHALT RAKER (HEAVY & HIGHWAY)	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE OPERATING ENGINEERS LOCAL 4	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
OI ENTITIVO ENORMEDIO DOCAL 4	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
	06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
	12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
	06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
	12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
	06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
	12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BACKHOE/FRONT-END LOADER	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
	06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
	12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
	06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
	12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
	06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68
BARCO-TYPE JUMPING TAMPER	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"		4.0.00	4,,,,,			4,-10
BLOCK PAVER, RAMMER / CURB SETTER	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY &	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
HIGHWAY)	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$71.33
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2024	\$43.36 \$47.06	\$9.40 \$9.40	\$17.82	\$0.00	\$72.80
	12/01/2024	\$48.53	\$9.40	\$17.82	\$0.00	\$7 4 .28 \$75.75
	06/01/2025	\$48.33 \$50.03	\$9.40 \$9.40	\$17.82	\$0.00	\$73.73 \$77.25
					*	
	12/01/2025	\$51.53	\$9.40	\$17.82	\$0.00	\$78.75
	06/01/2026	\$53.08	\$9.40	\$17.82	\$0.00	\$80.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	12/01/2026	\$54.58	\$9.40	\$17.82	\$0.00	\$81.80
BOILER MAKER		* • • • •	*=	#200	00.00	+-
BOILER MAKER BOILERMAKERS LOCAL 29	01/01/2023	\$47.37	\$7.07	\$20.31	\$0.00	\$74.75
	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

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Total Rate

Apprentice - BOILERMAKER - Local 29

Pension

Effecti	ve Date -	01/01/2023				Supplemental		
Step	percent		Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
1	65		\$30.79	\$7.07	\$13.22	\$0.00	\$51.08	
2	65		\$30.79	\$7.07	\$13.22	\$0.00	\$51.08	
3	70		\$33.16	\$7.07	\$14.23	\$0.00	\$54.46	
4	75		\$35.53	\$7.07	\$15.24	\$0.00	\$57.84	
5	80		\$37.90	\$7.07	\$16.25	\$0.00	\$61.22	
6	85		\$40.26	\$7.07	\$17.28	\$0.00	\$64.61	
7	90		\$42.63	\$7.07	\$18.28	\$0.00	\$67.98	
8	95		\$45.00	\$7.07	\$19.32	\$0.00	\$71.39	
Effort:	vo Doto	01/01/2024						
Step	percent	01/01/2024	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
1	65		\$31.28	\$7.07	\$13.22	\$0.00	\$51.57	
2	65		\$31.28	\$7.07	\$13.22	\$0.00	\$51.57	
3	70		\$33.68	\$7.07	\$14.23	\$0.00	\$54.98	
4	75		\$36.09	\$7.07	\$15.24	\$0.00	\$58.40	
5	80		\$38.50	\$7.07	\$16.25	\$0.00	\$61.82	
6	85		\$40.90	\$7.07	\$17.28	\$0.00	\$65.25	
7	90		\$43.31	\$7.07	\$18.28	\$0.00	\$68.66	
8	95		\$45.71	\$7.07	\$19.32	\$0.00	\$72.10	
Notes:	. — —							
Appre	ntice to Jo	urneyworker Ratio:1:4						
	ICIAL MA	SONRY (INCL. MASONRY	02/01/2023	\$58.21	\$11.49	\$21.65	\$0.00	\$91.35
_	(XBORO)		08/01/2023	\$60.26	\$11.49	\$21.65	\$0.00	\$93.40
			02/01/2024	\$61.51	\$11.49	\$21.65	\$0.00	\$94.65
			08/01/2024	\$63.61	\$11.49	\$21.65	\$0.00	\$96.75
			02/01/2025	\$64.91	\$11.49	\$21.65	\$0.00	\$98.05
			08/01/2025	\$67.06	\$11.49	\$21.65	\$0.00	\$100.20
			02/01/2026	\$68.41	\$11.49	\$21.65	\$0.00	\$101.55
			08/01/2026	\$70.61	\$11.49	\$21.65	\$0.00	\$103.75
			02/01/2027	\$72.01	\$11.49	\$21.65	\$0.00	\$105.15
	Step 1 2 3 4 5 6 7 8 Effecti Step 1 2 3 4 5 6 7 8 Notes:	1 65 2 65 3 70 4 75 5 80 6 85 7 90 8 95 Effective Date - Step percent 1 65 2 65 3 70 4 75 5 80 6 85 7 90 8 95 Notes:	Step percent 1 65 2 65 3 70 4 75 5 80 6 85 7 90 8 95 Effective Date - 01/01/2024 Step percent 1 65 2 65 3 70 4 75 5 80 6 85 7 90 8 95 Notes: Apprentice to Journeyworker Ratio:1:4 ARTIFICIAL MASONRY (INCL. MASONRY NG)	Step	Step percent	Name	Nempleyment	Step percent Apprentice Base Wage Health Pension Owenphopween Total Rate 1 65 \$30.79 \$7.07 \$13.22 \$0.00 \$51.08 2 65 \$30.79 \$7.07 \$14.23 \$0.00 \$51.08 3 70 \$33.16 \$7.07 \$14.23 \$0.00 \$54.46 4 75 \$35.53 \$7.07 \$15.24 \$0.00 \$57.84 5 80 \$37.90 \$16.25 \$0.00 \$61.22 6 85 \$40.26 \$7.07 \$16.25 \$0.00 \$67.98 8 95 \$42.63 \$7.07 \$18.28 \$0.00 \$67.98 8 95 \$45.00 \$7.07 \$19.32 \$0.00 \$71.39 Effective Date - 01/01/2024 Step Penter - 01/01/2024 \$0.00 \$57.07 \$19.32 \$0.00 \$51.57 3 70 \$31.28 \$7.07 \$13.22 \$0.00 \$51.57

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Foxboro

Pension

	Appre		CONTENT OF CONTENT	Misor Local 51 0xeon	O				
	Effecti Step	ive Date - percent	02/01/2023	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
	1	50		\$29.11	\$11.49	\$21.65	\$0.00	\$62.25	
	2	60		\$34.93	\$11.49	\$21.65	\$0.00	\$68.07	
	3	70		\$40.75	\$11.49	\$21.65	\$0.00	\$73.89	
	4	80		\$46.57	\$11.49	\$21.65	\$0.00	\$79.71	
	5	90		\$52.39	\$11.49	\$21.65	\$0.00	\$85.53	
	Effecti	ive Date -	08/01/2023				Cymulamantal		
	Step	percent		Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
	1	50		\$30.13	\$11.49	\$21.65	\$0.00	\$63.27	
	2	60		\$36.16	\$11.49	\$21.65	\$0.00	\$69.30	
	3	70		\$42.18	\$11.49	\$21.65	\$0.00	\$75.32	
	4	80		\$48.21	\$11.49	\$21.65	\$0.00	\$81.35	
	5	90		\$54.23	\$11.49	\$21.65	\$0.00	\$87.37	
	Notes:								
	Appre	ntice to Jo	urneyworker Ratio:1:5						
	BULLDOZER/GRADER/SCRAPER		06/01/2023	3 \$53.69	9 \$14.75	\$16.15	\$0.00	\$84.59	
OPERATING ENGI	NEEKS LO	OCAL 4		12/01/2023	3 \$54.93	3 \$14.75	\$16.15	\$0.00	\$85.83
				06/01/2024	4 \$56.2	1 \$14.75	\$16.15	\$0.00	\$87.11
				12/01/2024	4 \$57.6	5 \$14.75	\$16.15	\$0.00	\$88.55
				06/01/2025	5 \$58.93	3 \$14.75	\$16.15	\$0.00	\$89.83
				12/01/2025	5 \$60.3	7 \$14.75	\$16.15	\$0.00	\$91.27
				06/01/2020	6 \$61.6	5 \$14.75	\$16.15	\$0.00	\$92.55
				12/01/2020	6 \$63.09	9 \$14.75	\$16.15	\$0.00	\$93.99
CAISSON & U			OPERATING ENGINEERS"						
LABORERS - FOU				06/01/2023			\$17.97	\$0.00	\$72.10
				12/01/2023			\$17.97	\$0.00	\$73.35
				06/01/2024			\$17.97	\$0.00	\$74.83
				12/01/2024			\$17.97	\$0.00	\$76.30
				06/01/2025			\$17.97	\$0.00	\$77.80
				12/01/2025		3 \$9.40	\$17.97	\$0.00	\$79.30
				06/01/2020		8 \$9.40	\$17.97	\$0.00	\$80.85
For apprentice	rates see '	"Apprentice- I	LABORER"	12/01/2020	6 \$54.98	8 \$9.40	\$17.97	\$0.00	\$82.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING LABORER	06/01/2023	\$43.58	\$9.40	\$17.97	\$0.00	\$70.95
LABORERS - FOUNDATION AND MARINE	12/01/2023	\$44.83	\$9.40	\$17.97	\$0.00	\$72.20
	06/01/2024	\$46.31	\$9.40	\$17.97	\$0.00	\$73.68
	12/01/2024	\$47.78	\$9.40	\$17.97	\$0.00	\$75.15
	06/01/2025	\$49.28	\$9.40	\$17.97	\$0.00	\$76.65
	12/01/2025	\$50.78	\$9.40	\$17.97	\$0.00	\$78.15
	06/01/2026	\$52.33	\$9.40	\$17.97	\$0.00	\$79.70
	12/01/2026	\$53.83	\$9.40	\$17.97	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN	06/01/2023	\$43.58	\$9.40	\$17.97	\$0.00	\$70.95
LABORERS - FOUNDATION AND MARINE	12/01/2023	\$44.83	\$9.40	\$17.97	\$0.00	\$72.20
	06/01/2024	\$46.31	\$9.40	\$17.97	\$0.00	\$73.68
	12/01/2024	\$47.78	\$9.40	\$17.97	\$0.00	\$75.15
	06/01/2025	\$49.28	\$9.40	\$17.97	\$0.00	\$76.65
	12/01/2025	\$50.78	\$9.40	\$17.97	\$0.00	\$78.15
	06/01/2026	\$52.33	\$9.40	\$17.97	\$0.00	\$79.70
	12/01/2026	\$53.83	\$9.40	\$17.97	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
For apprentice rates see "Apprentice- LABORER"						
CARPENTER CARPENTERS - ZONE 1 (Metro Boston)	03/01/2023	\$54.96	\$9.33	\$19.97	\$0.00	\$84.26

Apprentice -	CARPENTER - Zone 1 Metro Boston
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Step perc 1 50 2 60 3 70	Cit.	Apprentice Base Wage \$27.48 \$32.98	\$9.33	Pension \$1.73	Unemployment \$0.00	Total Rate \$38.54
2 60		*			\$0.00	\$38.54
		\$32.98	¢0.22			
3 70			\$9.33	\$1.73	\$0.00	\$44.04
		\$38.47	\$9.33	\$14.78	\$0.00	\$62.58
4 75		\$41.22	\$9.33	\$14.78	\$0.00	\$65.33
5 80		\$43.97	\$9.33	\$16.51	\$0.00	\$69.81
6 80		\$43.97	\$9.33	\$16.51	\$0.00	\$69.81
7 90		\$49.46	\$9.33	\$18.24	\$0.00	\$77.03
8 90		\$49.46	\$9.33	\$18.24	\$0.00	\$77.03

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME

CARPENTERS - ZONE 2 (Wood Frame)

04/01/2023 \$28.84 \$6.69 \$6.47 \$0.00 \$42.00

All Aspects of New Wood Frame Work

 Issue Date:
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Apprentice -	CARPENTER	(Wood Frame,) - Zone 2
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Effect	ive Date - 04/01/2023						
Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
1	50	\$14.42	\$6.69	\$0.00	\$0.00	\$21.11	
2	50	\$14.42	\$6.69	\$0.00	\$0.00	\$21.11	
3	55	\$15.86	\$6.69	\$2.00	\$0.00	\$24.55	
4	55	\$15.86	\$6.69	\$2.00	\$0.00	\$24.55	
5	70	\$20.19	\$6.69	\$6.47	\$0.00	\$33.35	
6	70	\$20.19	\$6.69	\$6.47	\$0.00	\$33.35	
7	80	\$23.07	\$6.69	\$6.47	\$0.00	\$36.23	
8	80	\$23.07	\$6.69	\$6.47	\$0.00	\$36.23	
Notes	:						
		/1/17; 45/45/55/55/70/70/80/80 \$ \$24.95/ 5&6 \$33.04/ 7&8 \$35.91					
Appre	entice to Journeyworke	r Ratio:1:5					
EMENT MASONRY		01/01/2023	\$49.45	\$12.75	\$22.74	\$0.87	\$85.81
RICKLAYERS LOCAL 3 (FO	OXBORO)	07/01/2023	\$50.59	\$12.75	\$22.74	\$0.87	\$86.95
		01/01/2024	\$51.73	\$12.75	\$22.74	\$0.87	\$88.09

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Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Foxboro

	Effecti	ve Date -	01/01/2023				Supplemental		
	Step	percent		Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50		\$24.73	\$12.75	\$15.49	\$0.00	\$52.97	
	2	60		\$29.67	\$12.75	\$17.99	\$0.87	\$61.28	
	3	65		\$32.14	\$12.75	\$18.99	\$0.87	\$64.75	
	4	70		\$34.62	\$12.75	\$19.99	\$0.87	\$68.23	
	5	75		\$37.09	\$12.75	\$20.99	\$0.87	\$71.70	
	6	80		\$39.56	\$12.75	\$21.99	\$0.87	\$75.17	
	7	90		\$44.51	\$12.75	\$22.99	\$0.87	\$81.12	
	Effecti	ve Date -	07/01/2023				Supplemental		
	Step	percent		Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50		\$25.30	\$12.75	\$15.49	\$0.00	\$53.54	
	2	60		\$30.35	\$12.75	\$17.99	\$0.87	\$61.96	
	3	65		\$32.88	\$12.75	\$18.99	\$0.87	\$65.49	
	4	70		\$35.41	\$12.75	\$19.99	\$0.87	\$69.02	
	5	75		\$37.94	\$12.75	\$20.99	\$0.87	\$72.55	
	6	80		\$40.47	\$12.75	\$21.99	\$0.87	\$76.08	
	7	90		\$45.53	\$12.75	\$22.99	\$0.87	\$82.14	
	Notes:								
			are 500 hrs. All other steps a	re 1,000 hrs.					
	- –								
			urneyworker Ratio:1:3						
CHAIN SAW O		OR		06/01/2023			\$17.82	\$0.00	\$71.05
For apprentice r	rates see "	'Apprentice- I	ABORER"	12/01/2023	3 \$45.0	08 \$9.40	\$17.82	\$0.00	\$72.30
			ETS/HEADING MACHINE	S 06/01/2023	3 \$55.3	35 \$14.75	\$16.15	\$0.00	\$86.25
OPERATING ENGIN	VEERS LO	OCAL 4		12/01/2023			\$16.15	\$0.00	\$87.53
				06/01/2024			\$16.15	\$0.00	\$88.85
				12/01/2024			\$16.15	\$0.00	\$90.33
				06/01/2025			\$16.15	\$0.00	\$91.66
				12/01/2025			\$16.15	\$0.00	\$93.13
				06/01/2026	5 \$63.5	56 \$14.75	\$16.15	\$0.00	\$94.46
				12/01/2026	5 \$65.0	04 \$14.75	\$16.15	\$0.00	\$95.94
For apprentice r	rates see "	Apprentice- C	PERATING ENGINEERS"						
COMPRESSOR OPERATING ENGIN				06/01/2023	3 \$35.3	30 \$14.75	\$16.15	\$0.00	\$66.20
OI EKATING ENGIN	VEEKS LC	CAL 4		12/01/2023	\$36.	12 \$14.75	\$16.15	\$0.00	\$67.02
				06/01/2024	\$36.9	97 \$14.75	\$16.15	\$0.00	\$67.87
				12/01/2024	\$37.9	92 \$14.75	\$16.15	\$0.00	\$68.82
				06/01/2025	5 \$38.	77 \$14.75	\$16.15	\$0.00	\$69.67
				12/01/2025	\$39.7	72 \$14.75	\$16.15	\$0.00	\$70.62
				06/01/2026	5 \$40.:	58 \$14.75	\$16.15	\$0.00	\$71.48
				12/01/2026	5 \$41.5	53 \$14.75	\$16.15	\$0.00	\$72.43
Issue Date: 06	 5/28/201			t Number 202206	28 006				

DELEADER (BRII			01/01/2023	\$56.06	\$8.65	\$23.05	\$0.00	\$87.76
PAINTERS LOCAL 35	ZONE	1	07/01/2023	\$57.26	\$8.65	\$23.05	\$0.00	\$88.96
			01/01/2024	\$58.46	\$8.65	\$23.05	\$0.00	\$90.16
			07/01/2024	\$59.66	\$8.65	\$23.05	\$0.00	\$91.36
			01/01/2025	\$60.86	\$8.65	\$23.05	\$0.00	\$92.56
-		tice - PAINTER Local 35 - BRIDG re Date - 01/01/2023	ES/TANKS					
	ер	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
1		50	\$28.03	\$8.65	\$0.00	\$0.00	\$36.68	
2		55	\$30.83	\$8.65	\$6.27	\$0.00	\$45.75	
3		60	\$33.64	\$8.65	\$6.84	\$0.00	\$49.13	
4		65	\$36.44	\$8.65	\$7.41	\$0.00	\$52.50	
5		70	\$39.24	\$8.65	\$19.63	\$0.00	\$67.52	
6		75	\$42.05	\$8.65	\$20.20	\$0.00	\$70.90	
7		80	\$44.85	\$8.65	\$20.77	\$0.00	\$74.27	
8		90	\$50.45	\$8.65	\$21.91	\$0.00	\$81.01	
Ef	ffectiv	re Date - 07/01/2023				Supplemental		
Sto	ер	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
1		50	\$28.63	\$8.65	\$0.00	\$0.00	\$37.28	
2		55	\$31.49	\$8.65	\$6.27	\$0.00	\$46.41	
3		60	\$34.36	\$8.65	\$6.84	\$0.00	\$49.85	
4		65	\$37.22	\$8.65	\$7.41	\$0.00	\$53.28	
5		70	\$40.08	\$8.65	\$19.63	\$0.00	\$68.36	
6		75	\$42.95	\$8.65	\$20.20	\$0.00	\$71.80	
7		80	\$45.81	\$8.65	\$20.77	\$0.00	\$75.23	
8		90	\$51.53	\$8.65	\$21.91	\$0.00	\$82.09	
No	otes:	Steps are 750 hrs.						
A	 ppren	tice to Journeyworker Ratio:1:1					'	
DEMO: ADZEMA	N		06/01/2023	\$43.73	\$9.40	\$17.82	\$0.00	\$70.95
ABORERS - ZONE 1 For apprentice rates	s see "/	Apprentice- LABORER"	12/01/2023	\$44.98	\$9.40	\$17.82	\$0.00	\$72.20
EMO: BACKHO		ADER/HAMMER OPERATOR	06/01/2023	\$44.73	\$9.40	\$17.82	\$0.00	\$71.95
ABORERS - ZONE 1 For apprentice rates	s see "/	Apprentice- LABORER"	12/01/2023	\$45.98	\$9.40	\$17.82	\$0.00	\$73.20
EMO: BURNERS		··	06/01/2023	\$44.48	\$9.40	\$17.82	\$0.00	\$71.70
ABORERS - ZONE 1			12/01/2023	\$45.73	\$9.40 \$9.40	\$17.82	\$0.00	\$71.70
For apprentice rates	s see "A	Apprentice- LABORER"						
	TE CU	JTTER/SAWYER	06/01/2023	\$44.73	\$9.40	\$17.82	\$0.00	\$71.95
ABORERS - ZONE 1		Apprentice- LABORER"	12/01/2023	\$45.98	\$9.40	\$17.82	\$0.00	\$73.20

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Effective Date Base Wage Health

Classification

Issue Date: 06/28/2023

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Supplemental

Unemployment

Pension

Total Rate

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: JACKHAMMER OPERATOR	06/01/2023	\$44.48	\$9.40	\$17.82	\$0.00	\$71.70
LABORERS - ZONE 1	12/01/2023	\$45.73	\$9.40	\$17.82	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER	06/01/2023	\$43.73	\$9.40	\$17.82	\$0.00	\$70.95
LABORERS - ZONE I	12/01/2023	\$44.98	\$9.40	\$17.82	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR	06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
	06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
	12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
	06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
	12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
	06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
	12/01/2026	\$63.09	\$14.75	\$16.15	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
PILE DRIVER LOCAL 56 (ZONE 1)						
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT)	00/01/2020	Ф 7 2. 60	ΦO 40	¢22.12	\$0.00	#10 <i>C</i> 12
PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT)	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
PILE DRIVER LOCAL 56 (ZONE 1)		,	**			
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) DRAWBRIDGE - SEIU LOCAL 888	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN ELECTRICIANS LOCAL 103	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86

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Pension Unemployment

Step	ive Date - 03/01/2023 percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rat
1	40	\$23.69	\$13.00	\$0.71	\$0.00	\$37.40
2	40	\$23.69	\$13.00	\$0.71	\$0.00	\$37.40
3	45	\$26.65	\$13.00	\$16.13	\$0.00	\$55.78
4	45	\$26.65	\$13.00	\$16.13	\$0.00	\$55.78
5	50	\$29.62	\$13.00	\$16.63	\$0.00	\$59.23
6	55	\$32.58	\$13.00	\$17.13	\$0.00	\$62.7
7	60	\$35.54	\$13.00	\$17.63	\$0.00	\$66.1
8	65	\$38.50	\$13.00	\$18.13	\$0.00	\$69.63
9	70	\$41.46	\$13.00	\$18.62	\$0.00	\$73.08
10	75	\$44.42	\$13.00	\$19.13	\$0.00	\$76.53
Notes:	App Prior 1/1/03; 30/35/40/					
Appre	entice to Journeyworker Rati	io:2:3***				

	Appre	entice to Journeyworker Ratio:2:3*	**				'	
ELEVATOR ELEVATOR CO			01/01/202	22 \$65.62	\$16.03	\$20.21	\$0.00	\$101.86
		ntice - ELEVATOR CONSTRUCTO ive Date - 01/01/2022 percent	OR - Local 4 Apprentice Base Wage	. Uaalth	Pension	Supplemental Unemployment	Total Rate	
	1 step	50						
	2	55	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84	
	3	65	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33	
	4		\$42.65	\$16.03	\$20.21	\$0.00	\$78.89	
	5	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17	
	3	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74	
	Notes	Steps 1-2 are 6 mos.; Steps 3-5 are						
	Appre	entice to Journeyworker Ratio:1:1						
ELEVATOR ELEVATOR CO		UCTOR HELPER SS LOCAL 4	01/01/202	22 \$45.93	\$16.03	\$20.21	\$0.00	\$82.17
For appren	tice rates see	"Apprentice - ELEVATOR CONSTRUCTOR"						
		AIL ERECTOR (HEAVY & HIGHWA	AY) 06/01/202	23 \$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZO	ONE I (HEAV	Y & HIGHWAY)	12/01/202	23 \$45.08	\$9.40	\$17.82	\$0.00	\$72.30
			06/01/202	24 \$46.56	\$9.40	\$17.82	\$0.00	\$73.78
			12/01/202	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
			06/01/202	25 \$49.53	\$9.40	\$17.82	\$0.00	\$76.75
			12/01/202	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
			06/01/202	26 \$52.58	\$9.40	\$17.82	\$0.00	\$79.80
			12/01/202	26 \$54.08	\$9.40	\$17.82	\$0.00	\$81.30

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)					Onemployment	
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	05/01/2023	\$49.06	\$14.50	\$16.15	\$0.00	\$79.71
OPERATING ENGINEERS LOCAL 4	11/01/2023	\$50.30	\$14.50	\$16.15	\$0.00	\$80.95
	05/01/2024	\$51.54	\$14.50	\$16.15	\$0.00	\$82.19
	11/01/2024	\$52.83	\$14.50	\$16.15	\$0.00	\$83.48
	05/01/2025	\$54.27	\$14.50	\$16.15	\$0.00	\$84.92
	11/01/2025	\$55.56	\$14.50	\$16.15	\$0.00	\$86.21
	05/01/2026	\$57.00	\$14.50	\$16.15	\$0.00	\$87.65
	11/01/2026	\$58.29	\$14.50	\$16.15	\$0.00	\$88.94
D	05/01/2027	\$59.72	\$14.50	\$16.15	\$0.00	\$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"			***	01615	Ф0.00	
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	05/01/2023	\$50.62	\$14.50	\$16.15	\$0.00	\$81.27
	11/01/2023	\$51.87	\$14.50	\$16.15	\$0.00	\$82.52
	05/01/2024	\$53.12	\$14.50	\$16.15	\$0.00	\$83.77
	11/01/2024	\$54.42	\$14.50	\$16.15	\$0.00	\$85.07
	05/01/2025	\$55.87	\$14.50	\$16.15	\$0.00	\$86.52
	11/01/2025	\$57.17	\$14.50	\$16.15	\$0.00	\$87.82
	05/01/2026	\$58.62	\$14.50	\$16.15	\$0.00	\$89.27
	11/01/2026	\$59.92	\$14.50	\$16.15	\$0.00	\$90.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	05/01/2027	\$61.37	\$14.50	\$16.15	\$0.00	\$92.02
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	05/01/2023	\$24.20	\$14.50	\$16.15	\$0.00	\$54.85
OPERATING ENGINEERS LOCAL 4	11/01/2023	\$24.93	\$14.50	\$16.15	\$0.00	\$55.58
	05/01/2024	\$25.66	\$14.50	\$16.15	\$0.00	\$56.31
	11/01/2024	\$26.42	\$14.50	\$16.15	\$0.00	\$57.07
	05/01/2025	\$27.27	\$14.50	\$16.15	\$0.00	\$57.92
	11/01/2025	\$28.03	\$14.50	\$16.15	\$0.00	\$58.68
	05/01/2026	\$28.88	\$14.50	\$16.15	\$0.00	\$59.53
	11/01/2026	\$29.64	\$14.50	\$16.15	\$0.00	\$60.29
	05/01/2027	\$30.49	\$14.50	\$16.15	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER ELECTRICIANS LOCAL 103	03/01/2023	\$59.23	\$13.00	\$21.63	\$0.00	\$93.86
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	03/01/2023	\$48.34	\$13.00	\$19.01	\$0.00	\$80.35
LOCAL 103 For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER)	06/01/2023	\$43.96	\$14.75	\$16.15	\$0.00	\$74.86
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$44.97	\$14.75	\$16.15	\$0.00	\$75.87
	06/01/2024	\$46.03	\$14.75	\$16.15	\$0.00	\$76.93
	12/01/2024	\$47.21	\$14.75	\$16.15	\$0.00	\$78.11
	06/01/2025	\$48.27	\$14.75	\$16.15	\$0.00	\$79.17
	12/01/2025	\$49.44	\$14.75	\$16.15	\$0.00	\$80.34
	06/01/2026	\$50.50	\$14.75	\$16.15	\$0.00	\$81.40
	12/01/2026	\$51.68	\$14.75	\$16.15	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLAGGER & SIGNALER (HEAVY & HIGHWAY)	06/01/2023	\$25.98	\$9.40	\$17.82	\$0.00	\$53.20
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2023	\$25.98	\$9.40	\$17.82	\$0.00	\$53.20
	06/01/2024	\$27.01	\$9.40	\$17.82	\$0.00	\$54.23
	12/01/2024	\$27.01	\$9.40	\$17.82	\$0.00	\$54.23
	06/01/2025	\$28.09	\$9.40	\$17.82	\$0.00	\$55.31
	12/01/2025	\$28.09	\$9.40	\$17.82	\$0.00	\$55.31
	06/01/2026	\$29.21	\$9.40	\$17.82	\$0.00	\$56.43
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	12/01/2026	\$29.21	\$9.40	\$17.82	\$0.00	\$56.43
FLOORCOVERER FLOORCOVERERS LOCAL 2168 ZONE I	03/01/2022	\$51.77	\$9.33	\$20.27	\$0.00	\$81.37

Apprentice - FI	LOORCOVERER - Local 2168 Zone I
Effective Date -	03/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.89	\$9.33	\$1.79	\$0.00	\$37.01
2	55	\$28.47	\$9.33	\$1.79	\$0.00	\$39.59
3	60	\$31.06	\$9.33	\$14.90	\$0.00	\$55.29
4	65	\$33.65	\$9.33	\$14.90	\$0.00	\$57.88
5	70	\$36.24	\$9.33	\$16.69	\$0.00	\$62.26
6	75	\$38.83	\$9.33	\$16.69	\$0.00	\$64.85
7	80	\$41.42	\$9.33	\$18.48	\$0.00	\$69.23
8	85	\$44.00	\$9.33	\$18.48	\$0.00	\$71.81

| Notes: Steps are 750 hrs. % After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps) Step 1&2 \$32.94/ 3&4 \$39.66/ 5&6 \$60.32/ 7&8 \$67.10

FORK LIFT/CHERRY PICKER	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
	06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
	12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
	06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
	12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
	06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
	12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS	06/01/2023	\$35.30	\$14.75	\$16.15	\$0.00	\$66.20
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$36.12	\$14.75	\$16.15	\$0.00	\$67.02
	06/01/2024	\$36.97	\$14.75	\$16.15	\$0.00	\$67.87
	12/01/2024	\$37.92	\$14.75	\$16.15	\$0.00	\$68.82
	06/01/2025	\$38.77	\$14.75	\$16.15	\$0.00	\$69.67
	12/01/2025	\$39.72	\$14.75	\$16.15	\$0.00	\$70.62
	06/01/2026	\$40.58	\$14.75	\$16.15	\$0.00	\$71.48
	12/01/2026	\$41.53	\$14.75	\$16.15	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

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GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR		01/01/2023	\$51.35	\$8.65	\$23.05	\$0.00	\$83.05	
SYSTEMS) GLAZIERS LOCAL	L 35 (ZONE	E 1)	07/01/2023	\$52.55	\$8.65	\$23.05	\$0.00	\$84.25
		,	01/01/2024	\$53.75	\$8.65	\$23.05	\$0.00	\$85.45
			07/01/2024	\$54.95	\$8.65	\$23.05	\$0.00	\$86.65
			01/01/2025	\$56.15	\$8.65	\$23.05	\$0.00	\$87.85
	Effect	ntice - GLAZIER - Local 35 Zone 1 ive Date - 01/01/2023	A C D W	T 1d	n :	Supplemental Unemployment	TAIRA	
	Step	percent	Apprentice Base Wage		Pension		Total Rate	
	1 2	50	\$25.68	\$8.65	\$0.00	\$0.00	\$34.33	
		55	\$28.24	\$8.65	\$6.27	\$0.00	\$43.16	
	3	60	\$30.81	\$8.65	\$6.84	\$0.00	\$46.30	
	4	65	\$33.38	\$8.65	\$7.41	\$0.00	\$49.44	
	5	70	\$35.95	\$8.65	\$19.63	\$0.00	\$64.23	
	6	75	\$38.51	\$8.65	\$20.20	\$0.00	\$67.36	
	7	80	\$41.08	\$8.65	\$20.77	\$0.00	\$70.50	
	8	90	\$46.22	\$8.65	\$21.91	\$0.00	\$76.78	
	Effecti	ive Date - 07/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50	\$26.28	\$8.65	\$0.00	\$0.00	\$34.93	
	2	55	\$28.90	\$8.65	\$6.27	\$0.00	\$43.82	
	3	60	\$31.53	\$8.65	\$6.84	\$0.00	\$47.02	
	4	65	\$34.16	\$8.65	\$7.41	\$0.00	\$50.22	
	5	70	\$36.79	\$8.65	\$19.63	\$0.00	\$65.07	
	6	75	\$39.41	\$8.65	\$20.20	\$0.00	\$68.26	
	7	80	\$42.04	\$8.65	\$20.77	\$0.00	\$71.46	
	8	90	\$47.30	\$8.65	\$21.91	\$0.00	\$77.86	
	Notes:	Steps are 750 hrs.					 	
	Appre	entice to Journeyworker Ratio:1:1						
		R/CRANES/GRADALLS	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
OPERATING ENG	INEEKS LO	OCAL 4	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
			06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
			12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
			06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
			12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
			06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
			12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68

Effective Date Base Wage Health

Classification

Supplemental

Unemployment

Pension

Total Rate

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Apprentice - OPERATING ENGINEERS - Local 4

Total Rate

06/01/2023 **Effective Date -**Supplemental Apprentice Base Wage Health Unemployment Total Rate Step percent Pension 1 55 \$29.85 \$44.60 \$14.75 \$0.00 \$0.00 2 60 \$32.57 \$14.75 \$16.15 \$0.00 \$63.47 3 65 \$16.15 \$35.28 \$14.75 \$0.00 \$66.18 4 70 \$38.00 \$14.75 \$16.15 \$0.00 \$68.90 5 75 \$40.71 \$14.75 \$16.15 \$0.00 \$71.61 6 80 \$43.42 \$14.75 \$16.15 \$0.00 \$74.32 7 85 \$46.14 \$14.75 \$16.15 \$0.00 \$77.04 8 90 \$48.85 \$14.75 \$16.15 \$0.00 \$79.75 12/01/2023 **Effective Date -**Supplemental Unemployment Total Rate Step percent Apprentice Base Wage Health Pension 1 55 \$30.54 \$14.75 \$45.29 \$0.00 \$0.00 2 60 \$0.00 \$33.32 \$14.75 \$16.15 \$64.22 3 65 \$36.09 \$14.75 \$16.15 \$0.00 \$66.99 4 70 \$38.87 \$14.75 \$16.15 \$0.00 \$69.77 5 75 \$41.65 \$14.75 \$16.15 \$0.00 \$72.55 6 80 \$44.42 \$14.75 \$16.15 \$0.00 \$75.32 7 85 \$47.20 \$14.75 \$16.15 \$0.00 \$78.10 8 90 \$49.98 \$14.75 \$16.15 \$0.00 \$80.88 Notes: Apprentice to Journeyworker Ratio:1:6 HVAC (DUCTWORK) \$26.64 \$2.83 02/01/2023 \$55.31 \$14.11 \$98.89 SHEETMETAL WORKERS LOCAL 17 - A \$26.64 08/01/2023 \$57.01 \$14.11 \$2.83 \$100.59 \$26.64 \$2.83 02/01/2024 \$58.71 \$14.11 \$102.29 08/01/2024 \$60.46 \$14.11 \$26.64 \$2.83 \$104.04 02/01/2025 \$26.64 \$2.83 \$62.21 \$14.11 \$105.79 \$26.64 \$2.83 08/01/2025 \$64.06 \$14.11 \$107.64 \$109.59 02/01/2026 \$66.01 \$26.64 \$2.83 \$14.11 For apprentice rates see "Apprentice- SHEET METAL WORKER" HVAC (ELECTRICAL CONTROLS) \$0.00 03/01/2023 \$59.23 \$13.00 \$21.63 \$93.86 ELECTRICIANS LOCAL 103 For apprentice rates see "Apprentice- ELECTRICIAN" HVAC (TESTING AND BALANCING - AIR) 02/01/2023 \$55.31 \$14.11 \$26.64 \$2.83 \$98.89 SHEETMETAL WORKERS LOCAL 17 - A \$26.64 \$2.83 08/01/2023 \$57.01 \$14.11 \$100.59 02/01/2024 \$58.71 \$14.11 \$26.64 \$2.83 \$102.29 08/01/2024 \$60.46 \$14.11 \$26.64 \$2.83 \$104.04 02/01/2025 \$26.64 \$2.83 \$105.79 \$62.21 \$14.11 08/01/2025 \$14.11 \$26.64 \$2.83 \$107.64 \$64.06 \$2.83 02/01/2026 \$14.11 \$26.64 \$109.59 \$66.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537	03/01/2023	\$63.43	\$12.50	\$20.80	\$0.00	\$96.73
PIPEFII IERS LOCAL 55/	09/01/2023	\$65.18	\$12.50	\$20.80	\$0.00	\$98.48
	03/01/2024	\$66.98	\$12.50	\$20.80	\$0.00	\$100.28
	09/01/2024	\$68.78	\$12.50	\$20.80	\$0.00	\$102.08
	03/01/2025	\$70.58	\$12.50	\$20.80	\$0.00	\$103.88
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC PIPEFITTERS LOCAL 537	03/01/2023	\$63.43	\$12.25	\$20.80	\$0.00	\$96.48
FIFEFII IERS LOCAL 33/	09/01/2023	\$65.18	\$12.25	\$20.80	\$0.00	\$98.23
	03/01/2024	\$66.98	\$12.25	\$20.80	\$0.00	\$100.03
	09/01/2024	\$68.78	\$12.25	\$20.80	\$0.00	\$101.83
	03/01/2025	\$70.58	\$12.25	\$20.80	\$0.00	\$103.63
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
LABORERS - ZONE I	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$44.33	\$9.40	\$17.82	\$0.00	\$71.55
LABURERS - ZUNE I (HEAVI & HIGHWAI)	12/01/2023	\$45.58	\$9.40	\$17.82	\$0.00	\$72.80
	06/01/2024	\$47.06	\$9.40	\$17.82	\$0.00	\$74.28
	12/01/2024	\$48.53	\$9.40	\$17.82	\$0.00	\$75.75
	06/01/2025	\$50.03	\$9.40	\$17.82	\$0.00	\$77.25
	12/01/2025	\$51.53	\$9.40	\$17.82	\$0.00	\$78.75
	06/01/2026	\$53.08	\$9.40	\$17.82	\$0.00	\$80.30
	12/01/2026	\$54.58	\$9.40	\$17.82	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
INSULATOR (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	09/01/2022	\$53.85	\$13.80	\$17.14	\$0.00	\$84.79

Apprentice -	ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston
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	Effective Date - 09/01/2022 Supplen							
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total	Rate
	1	50	\$26.93	\$13.80	\$12.42	\$0.00	\$5	53.15
	2	60	\$32.31	\$13.80	\$13.36	\$0.00	\$5	59.47
	3	70	\$37.70	\$13.80	\$14.31	\$0.00	\$6	55.81
	4	80	\$43.08	\$13.80	\$15.25	\$0.00	\$7	72.13
	Notes:	Steps are 1 year						
	Appre	ntice to Journeyworker Ratio:1:4						
	ONWORKER/WELDER		03/16/2023	3 \$52.72	\$8.35	\$26.70	\$0.00	\$87.77
IRONWORKERS LO	CAL 7 (B	OSTON AREA)	03/16/2024	4 \$53.97	\$8.35	\$26.70	\$0.00	\$89.02

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		ntice ^[R] ive Date -	ONWORKER - Local 7 Bos 03/16/2023	rton					
	Step	percent	03/10/2023	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	÷
	1	60		\$31.63	\$8.35	\$26.70	\$0.00	\$66.68	3
	2	70		\$36.90	\$8.35	\$26.70	\$0.00	\$71.95	5
	3	75		\$39.54	\$8.35	\$26.70	\$0.00	\$74.59)
	4	80		\$42.18	\$8.35	\$26.70	\$0.00	\$77.23	3
	5	85		\$44.81	\$8.35	\$26.70	\$0.00	\$79.86	ó
	6	90		\$47.45	\$8.35	\$26.70	\$0.00	\$82.50)
		ive Date -	03/16/2024				Supplemental		
	Step	percent		Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	2
	1	60		\$32.38	\$8.35	\$26.70	\$0.00	\$67.43	3
	2	70		\$37.78	\$8.35	\$26.70	\$0.00	\$72.83	3
	3	75		\$40.48	\$8.35	\$26.70	\$0.00	\$75.53	3
	4	80		\$43.18	\$8.35	\$26.70	\$0.00	\$78.23	3
	5	85		\$45.87	\$8.35	\$26.70	\$0.00	\$80.92	2
	6	90		\$48.57	\$8.35	\$26.70	\$0.00	\$83.62	2
	Notes:								
	Appre	ntice to Joi	urneyworker Ratio:1:4						
		VING BRE	AKER OPERATOR	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
ORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"		.ABORER"	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30	
BORER		••		06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
ORERS - ZONI	E 1			12/01/2023		\$9.40	\$17.82	\$0.00	\$72.05

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Total Rate

Ste	60 70 80 90 fective Date -	12/01/2023	\$26.15 \$30.51 \$34.86 \$39.22 Apprentice Base Wage	\$9.40 \$9.40 \$9.40 \$9.40	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 Supplemental Unemployment	Total Rate \$53.37 \$57.73 \$62.08 \$66.44	
2 3 4 Effi Ste 1 2	70 80 90 fective Date - ep percent 60	12/01/2023	\$30.51 \$34.86 \$39.22 Apprentice Base Wage	\$9.40 \$9.40 \$9.40 Health	\$17.82 \$17.82 \$17.82 Pension	\$0.00 \$0.00 \$0.00 Supplemental	\$57.73 \$62.08 \$66.44	
3 4 Effi Ste 1 2	80 90 fective Date - ep percent	12/01/2023	\$34.86 \$39.22 Apprentice Base Wage	\$9.40 \$9.40 Health	\$17.82 \$17.82 Pension	\$0.00 \$0.00 Supplemental	\$62.08 \$66.44	
4 Effi Ste 1 2	90 fective Date - per percent 60	12/01/2023	\$39.22 Apprentice Base Wage	\$9.40 Health	\$17.82 Pension	\$0.00	\$66.44	
$\frac{\mathbf{Eff}}{\mathbf{Ste}}$	fective Date - ep percent 60	12/01/2023	Apprentice Base Wage	Health	Pension	Supplemental		
$\frac{\text{Ste}}{1}$	ep percent 60	12/01/2023					Total Rate	
1 2	60					Unemployment	Total Rate	
2			\$26.90	\$9.40				
	70			ψ2.40	\$17.82	\$0.00	\$54.12	
3			\$31.38	\$9.40	\$17.82	\$0.00	\$58.60	
	80		\$35.86	\$9.40	\$17.82	\$0.00	\$63.08	
4	90		\$40.35	\$9.40	\$17.82	\$0.00	\$67.57	
No	otes:							
Ap	oprentice to Jo	ourneyworker Ratio:1:5						
	Y & HIGHWA		06/01/2023	3 \$43.58	\$9.40	\$17.82	\$0.00	\$70.8
- ZONE I (E	HEAVY & HIGHW	AY)	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.0
			06/01/2024	\$46.31	\$9.40	\$17.82	\$0.00	\$73.5
			12/01/2024	\$47.78	\$9.40	\$17.82	\$0.00	\$75.0
			06/01/2025	\$49.28	\$9.40	\$17.82	\$0.00	\$76.5
			12/01/2025	\$50.78	\$9.40	\$17.82	\$0.00	\$78.0
			06/01/2026	\$52.33	\$9.40	\$17.82	\$0.00	\$79.5

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Total Rate

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
Elborado Porte (ilentificación)	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
MARBLE & TILE FINISHERS	02/01/2023	\$46.25	\$11.49	\$20.37	\$0.00	\$78.11
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2023	\$47.89	\$11.49	\$20.37	\$0.00	\$79.75
	02/01/2024	\$48.89	\$11.49	\$20.37	\$0.00	\$80.75
	08/01/2024	\$50.57	\$11.49	\$20.37	\$0.00	\$82.43
	02/01/2025	\$51.61	\$11.49	\$20.37	\$0.00	\$83.47
	08/01/2025	\$53.33	\$11.49	\$20.37	\$0.00	\$85.19
	02/01/2026	\$54.41	\$11.49	\$20.37	\$0.00	\$86.27
	08/01/2026	\$56.17	\$11.49	\$20.37	\$0.00	\$88.03
	02/01/2027	\$57.29	\$11.49	\$20.37	\$0.00	\$89.15

Apprentice - *MARBLE & TILE FINISHER - Local 3 Marble & Tile* **Effective Date -** 02/01/2023

percent 50 60		Apprentice Base Wage	Health	Pension	Unemployment	T-4-1 D-4-
				1 Chiston	Onemployment	Total Rate
60		\$23.13	\$11.49	\$20.37	\$0.00	\$54.99
00		\$27.75	\$11.49	\$20.37	\$0.00	\$59.61
70		\$32.38	\$11.49	\$20.37	\$0.00	\$64.24
80		\$37.00	\$11.49	\$20.37	\$0.00	\$68.86
90		\$41.63	\$11.49	\$20.37	\$0.00	\$73.49
e Date -	08/01/2023				Supplemental	
percent		Apprentice Base Wage	Health	Pension	Unemployment	Total Rate
50		\$23.95	\$11.49	\$20.37	\$0.00	\$55.81
60		\$28.73	\$11.49	\$20.37	\$0.00	\$60.59
70		\$33.52	\$11.49	\$20.37	\$0.00	\$65.38
80		\$38.31	\$11.49	\$20.37	\$0.00	\$70.17
90		\$43.10	\$11.49	\$20.37	\$0.00	\$74.96
	90 e Date - percent 50 60 70 80	90 e Date - 08/01/2023 percent 50 60 70 80	90 \$41.63 e Date - 08/01/2023 percent Apprentice Base Wage 50 \$23.95 60 \$28.73 70 \$33.52 80 \$38.31	90 \$41.63 \$11.49 e Date - 08/01/2023 percent Apprentice Base Wage Health 50 \$23.95 \$11.49 60 \$28.73 \$11.49 70 \$33.52 \$11.49 80 \$38.31 \$11.49	90 \$41.63 \$11.49 \$20.37 e Date - 08/01/2023 percent Apprentice Base Wage Health Pension 50 \$23.95 \$11.49 \$20.37 60 \$28.73 \$11.49 \$20.37 70 \$33.52 \$11.49 \$20.37 80 \$38.31 \$11.49 \$20.37	90 \$41.63 \$11.49 \$20.37 \$0.00 e Date - 08/01/2023 percent Apprentice Base Wage Health Pension Unemployment 50 \$23.95 \$11.49 \$20.37 \$0.00 60 \$28.73 \$11.49 \$20.37 \$0.00 70 \$33.52 \$11.49 \$20.37 \$0.00 80 \$38.31 \$11.49 \$20.37 \$0.00

Apprentice to Journeyworker Ratio:1:3

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Classification			Effective Da	te Base Wag	e Health	Pension	Supplemental Unemployment	Total Rate
		ILELAYERS & TERRAZZO MEC	H 02/01/2023	\$60.37	\$11.49	\$22.31	\$0.00	\$94.17
BRICKLAYERS LOC	CAL 3 - M.	ARBLE & TILE	08/01/2023	\$62.42	\$11.49	\$22.31	\$0.00	\$96.22
			02/01/2024	\$63.67	\$11.49	\$22.31	\$0.00	\$97.47
			08/01/2024	\$65.77	\$11.49	\$22.31	\$0.00	\$99.57
			02/01/2025	\$67.07	\$11.49	\$22.31	\$0.00	\$100.87
			08/01/2025	\$69.22	\$11.49	\$22.31	\$0.00	\$103.02
			02/01/2026	\$70.57	\$11.49	\$22.31	\$0.00	\$104.37
			08/01/2026	\$72.77	\$11.49	\$22.31	\$0.00	\$106.57
			02/01/2027	7 \$74.17	\$11.49	\$22.31	\$0.00	\$107.97
	Apprei Effecti Step	ntice - MARBLE-TILE-TERRAZZO ve Date - 02/01/2023 percent	O MECHANIC - Local 3 Ma Apprentice Base Wage		Pension	Supplementa Unemploymen		
	1 step	50						
	2	60	\$30.19	\$11.49	\$22.31	\$0.00		
	3	70	\$36.22	\$11.49	\$22.31	\$0.00		
	4		\$42.26	\$11.49	\$22.31	\$0.00		
	5	80	\$48.30	\$11.49	\$22.31	\$0.00		
	3	90	\$54.33	\$11.49	\$22.31	\$0.00	\$88.13	
	Effecti Step	ve Date - 08/01/2023 percent	Apprentice Base Wage	Health	Pension	Supplementa Unemploymen		
	1	50	\$31.21	\$11.49	\$22.31	\$0.00	\$65.01	
	2	60	\$37.45	\$11.49	\$22.31	\$0.00	\$71.25	
	3	70	\$43.69	\$11.49	\$22.31	\$0.00	\$77.49	
	4	80	\$49.94	\$11.49	\$22.31	\$0.00	\$83.74	
	5	90	\$56.18	\$11.49	\$22.31	\$0.00	\$89.98	
	Notes:							
	Appre	ntice to Journeyworker Ratio:1:5						
IECH. SWEEI	PER OP	ERATOR (ON CONST. SITES)	06/01/2023	3 \$53.69	\$14.75	\$16.15	\$0.00	\$84.59
PERATING ENGI			12/01/2023		\$14.75	\$16.15	\$0.00	\$85.83
			06/01/2024		\$14.75	\$16.15	\$0.00	\$87.11
			12/01/2024		\$14.75	\$16.15	\$0.00	\$88.55
			06/01/2025		\$14.75	\$16.15	\$0.00	\$89.83
			12/01/2025		\$14.75	\$16.15	\$0.00	\$91.27
			06/01/2020		\$14.75	\$16.15	\$0.00	\$92.55
					\$14.75 \$14.75	\$16.15	\$0.00	\$93.99
For apprentice	rates see '	Apprentice- OPERATING ENGINEERS"	12/01/2026	, \$03.09	\$14.73	φ10.13	φυ.υυ	φ 73. 99

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Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
12/01/2026	\$63.09	\$14.75	\$16.15	\$0.00	\$93.99
01/02/2023	\$47.27	\$8.58	\$21.57	\$0.00	\$77.42
	06/01/2023 12/01/2023 06/01/2024 12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026	06/01/2023 \$53.69 12/01/2023 \$54.93 06/01/2024 \$56.21 12/01/2024 \$57.65 06/01/2025 \$58.93 12/01/2025 \$60.37 06/01/2026 \$61.65 12/01/2026 \$63.09	06/01/2023 \$53.69 \$14.75 12/01/2023 \$54.93 \$14.75 06/01/2024 \$56.21 \$14.75 12/01/2024 \$57.65 \$14.75 06/01/2025 \$58.93 \$14.75 12/01/2025 \$60.37 \$14.75 06/01/2026 \$61.65 \$14.75 12/01/2026 \$63.09 \$14.75	06/01/2023 \$53.69 \$14.75 \$16.15 12/01/2023 \$54.93 \$14.75 \$16.15 06/01/2024 \$56.21 \$14.75 \$16.15 12/01/2024 \$57.65 \$14.75 \$16.15 06/01/2025 \$58.93 \$14.75 \$16.15 12/01/2025 \$60.37 \$14.75 \$16.15 06/01/2026 \$61.65 \$14.75 \$16.15 12/01/2026 \$63.09 \$14.75 \$16.15	Effective Date Base Wage Health Pension Unemployment 06/01/2023 \$53.69 \$14.75 \$16.15 \$0.00 12/01/2023 \$54.93 \$14.75 \$16.15 \$0.00 06/01/2024 \$56.21 \$14.75 \$16.15 \$0.00 12/01/2024 \$57.65 \$14.75 \$16.15 \$0.00 06/01/2025 \$58.93 \$14.75 \$16.15 \$0.00 12/01/2025 \$60.37 \$14.75 \$16.15 \$0.00 06/01/2026 \$61.65 \$14.75 \$16.15 \$0.00 12/01/2026 \$63.09 \$14.75 \$16.15 \$0.00

For apprentice rates see "Apprentice- LABORER" LER (OTHER THAN TRUCK CRANES, GRADALLS) 606/01/2023 \$24.34 \$14.75 \$16.15 \$0.00 \$55.2 \$12/01/2023 \$24.91 \$14.75 \$16.15 \$0.00 \$55.8 \$12/01/2024 \$25.51 \$14.75 \$16.15 \$0.00 \$57.0 \$12/01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$58.3 \$12/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.9 \$12/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$12/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$60.5 \$16.15 \$0.00 \$60.5 \$16.15 \$16.15 \$0.00 \$60.5 \$16.1			ntice - MILLWRIGHT - I	Local 1121 Zo	one 1					
1 55 \$26.00 \$8.58 \$5.72 \$0.00 \$40.30 2 65 \$30.73 \$8.58 \$17.93 \$0.00 \$57.24 3 75 \$35.45 \$8.58 \$18.98 \$0.00 \$63.01 4 85 \$40.18 \$8.58 \$20.01 \$0.00 \$68.77 Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66) Steps are 2,000 hours \$12/01/2023 \$43.83 \$9.40 \$17.82 \$0.00 \$71.00 Steps are 2,000 hours \$12/01/2023 \$45.08 \$9.40 \$17.82 \$0.00 \$72.3 For apprentice rates see "Apprentice-LABORER" \$12/01/2023 \$45.08 \$9.40 \$17.82 \$0.00 \$72.3 For apprentice rates see "Apprentice-LABORER" \$12/01/2023 \$24.34 \$14.75 \$16.15 \$0.00 \$55.2 Steps are 2,000 hours \$1.00 \$1.00 \$1.00 \$1.00 \$1.00 For apprentice rates see "Apprentice-LABORER" \$1.00 \$1.00 \$1.00 \$1.00 LER (TOTHER THAN TRUCK CRANES,GRADALLS) \$1.00 \$1.00 \$1.00 \$1.00 Go(01/2024 \$25.51 \$14.75 \$16.15 \$0.00 \$55.00 Steps are 2,000 hours \$1.00 \$1.00 \$1.00 \$1.00 Steps are 3,000 hours \$1.00 \$1.00 \$1.00 Steps are 3,000 hours \$1.00 \$1.00 \$1.00 \$1.00 Steps are 3,000 hours \$1.00 \$1.00 \$1.00 Steps are 4,000 hours \$1.00 \$1.00 \$1.00 \$1.00 Steps are 3,000 hours \$1.00 \$1.00 \$1.00 \$1.00 Steps are 3,000 hours \$1.00 \$1.00 \$1.00 \$1.00 Steps are 4,000 hours \$1.00					Apprentice Base Wage	Health	Pension		To	ntal Rate
2 65 \$30.73 \$8.58 \$17.93 \$0.00 \$57.24 \$3 75 \$35.45 \$8.58 \$18.98 \$0.00 \$63.01 \$4 85 \$40.18 \$8.58 \$20.01 \$0.00 \$68.77 \$										
3 75		2			• • • • •	,	*	*		*
Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)		3								
but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66) Steps are 2,000 hours Apprentice to Journeyworker Ratio:1:4 DRTAR MIXER 80RERS - 200E 1 12/01/2023 \$43.83 \$9.40 \$17.82 \$0.00 \$71.0 12/01/2023 \$45.08 \$9.40 \$17.82 \$0.00 \$72.3 For apprentice rates see "Apprentice-LABORER" LER (OTHER THAN TRUCK CRANES,GRADALLS) 66/01/2023 \$24.34 \$14.75 \$16.15 \$0.00 \$55.2 ERATING ENGINEERS LOCAL 4 12/01/2024 \$25.51 \$14.75 \$16.15 \$0.00 \$55.64 12/01/2024 \$26.17 \$14.75 \$16.15 \$0.00 \$57.6 12/01/2025 \$26.77 \$14.75 \$16.15 \$0.00 \$58.3 66/01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$58.3 66/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.3 66/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.3 66/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.5 12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$58.5 12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$58.5 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$60.5 ERATING ENGINEERS LOCAL 4 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$60.5 ERATING ENGINEERS LOCAL 4 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$60.5 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$60.5 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$60.5 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$60.5 12/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$63.5		4			• • • •			*		
### Total Profitice rates see "Apprentice- LABORER" 12/01/2023 \$45.08 \$9.40 \$17.82 \$0.00 \$72.3			but do receive annuity. (Steps are 2,000 hours	Step 1 \$5.72,	-					
12/01/2023 \$45.08 \$9.40 \$17.82 \$0.00 \$72.3					06/01/2023	\$43.83	8 \$9.40	\$17.82	\$0.00	\$71.05
12/01/2023 \$24.91 \$14.75 \$16.15 \$0.00 \$55.8 \$06/01/2024 \$25.51 \$14.75 \$16.15 \$0.00 \$55.8 \$06/01/2024 \$26.17 \$14.75 \$16.15 \$0.00 \$57.0 \$06/01/2025 \$26.77 \$14.75 \$16.15 \$0.00 \$57.0 \$06/01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$57.0 \$12/01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$58.3 \$06/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.3 \$06/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$59.5 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$0.00 \$159.5 \$16.15 \$16.15 \$0.00 \$159.5 \$16.15 \$16.			"Apprentice- LABORER"		12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
12/01/2023 \$24.91 \$14.75 \$16.15 \$0.00 \$55.8 \$06/01/2024 \$25.51 \$14.75 \$16.15 \$0.00 \$55.8 \$06/01/2024 \$25.51 \$14.75 \$16.15 \$0.00 \$56.4 \$12/01/2024 \$26.17 \$14.75 \$16.15 \$0.00 \$57.0 \$06/01/2025 \$26.77 \$14.75 \$16.15 \$0.00 \$57.0 \$12/01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$58.3 \$06/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.3 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 \$12/01/2023 \$29.67 \$14.75 \$16.15 \$0.00 \$60.5 \$12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$60.5 \$12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$61.2 \$12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 \$12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 \$12/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 \$12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$63.5 \$12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$63.5 \$12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3	`			DALLS)	06/01/2023	\$24.34	\$14.75	\$16.15	\$0.00	\$55.24
12/01/2024 \$26.17 \$14.75 \$16.15 \$0.00 \$57.0 \$60.01/2025 \$26.77 \$14.75 \$16.15 \$0.00 \$57.0 \$60.01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$58.3 \$60.01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.9 \$60.01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$59.5 \$60.	ERATING ENGI	NEERS LO	OCAL 4		12/01/2023	\$24.91	\$14.75	\$16.15	\$0.00	\$55.81
06/01/2025 \$26.77 \$14.75 \$16.15 \$0.00 \$57.60					06/01/2024	\$25.51	\$14.75	\$16.15	\$0.00	\$56.41
12/01/2025 \$27.43 \$14.75 \$16.15 \$0.00 \$58.3 06/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.9 12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 For apprentice rates see "Apprentice- OPERATING ENGINEERS" LER (TRUCK CRANES, GRADALLS) 66/01/2023 \$29.67 \$14.75 \$16.15 \$0.00 \$60.5 ERATING ENGINEERS LOCAL 4 12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$61.2 06/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$61.9 12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 06/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3					12/01/2024	\$26.17	\$14.75	\$16.15	\$0.00	\$57.07
06/01/2026 \$28.02 \$14.75 \$16.15 \$0.00 \$58.90 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.50 \$12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.50 \$12/01/2023 \$29.67 \$14.75 \$16.15 \$0.00 \$60.50 \$12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$61.20 \$12/01/2024 \$31.00 \$14.75 \$16.15 \$0.00 \$61.20 \$12/01/2024 \$31.80 \$14.75 \$16.15 \$0.00 \$61.20 \$12/01/2024 \$31.80 \$14.75 \$16.15 \$0.00 \$62.70 \$12/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.50 \$12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.30					06/01/2025	\$26.77	\$14.75	\$16.15	\$0.00	\$57.67
TERRITING ENGINEERS LOCAL 4 12/01/2026 \$28.69 \$14.75 \$16.15 \$0.00 \$59.5 12/01/2023 \$29.67 \$14.75 \$16.15 \$0.00 \$60.5 12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$61.2 12/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$61.2 12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 12/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3					12/01/2025	\$27.43	\$14.75	\$16.15	\$0.00	\$58.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS" LER (TRUCK CRANES, GRADALLS) 66/01/2023 \$29.67 \$14.75 \$16.15 \$0.00 \$60.5 ERATING ENGINEERS LOCAL 4 12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$61.2 06/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$61.2 12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 06/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3					06/01/2026	\$28.02	\$14.75	\$16.15	\$0.00	\$58.92
12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$61.2 \$0.00 \$61.9 \$0.00 \$62.7 \$0.00 \$12/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 \$12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3	For apprentice	rates see '	"Apprentice- OPERATING ENGI	NEERS"	12/01/2026	\$28.69	\$14.75	\$16.15	\$0.00	\$59.59
12/01/2023 \$30.36 \$14.75 \$16.15 \$0.00 \$61.2 06/01/2024 \$31.08 \$14.75 \$16.15 \$0.00 \$61.9 12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 06/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3	,		· /		06/01/2023	\$29.67	7 \$14.75	\$16.15	\$0.00	\$60.57
12/01/2024 \$31.88 \$14.75 \$16.15 \$0.00 \$62.7 06/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3	ERATING ENGI	NEERS LO	OCAL 4		12/01/2023	\$30.36	\$14.75	\$16.15	\$0.00	\$61.26
06/01/2025 \$32.60 \$14.75 \$16.15 \$0.00 \$63.5 12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3					06/01/2024	\$31.08	\$14.75	\$16.15	\$0.00	\$61.98
12/01/2025 \$33.40 \$14.75 \$16.15 \$0.00 \$64.3					12/01/2024	\$31.88	\$14.75	\$16.15	\$0.00	\$62.78
					06/01/2025	\$32.60	\$14.75	\$16.15	\$0.00	\$63.50
06/01/2026 \$34.12 \$14.75 \$16.15 \$0.00 \$65.0					12/01/2025	\$33.40	\$14.75	\$16.15	\$0.00	\$64.30
· · · · · · · · · · · · · · · · · · ·					06/01/2026	\$34.12	\$14.75	\$16.15	\$0.00	\$65.02

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

12/01/2026

\$34.92 \$14.75 \$16.15

\$0.00

\$65.82

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
	06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
	12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
	06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
	12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
	06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2026	\$63.09	\$14.75	\$16.15	\$0.00	\$93.99
PAINTER (BRIDGES/TANKS)	01/01/2023	\$56.06	\$8.65	\$23.05	\$0.00	\$87.76
PAINTERS LOCAL 35 - ZONE 1	07/01/2023	\$57.26	\$8.65	\$23.05	\$0.00	\$88.96
	01/01/2024	\$58.46	\$8.65	\$23.05	\$0.00	\$90.16
	07/01/2024	\$59.66	\$8.65	\$23.05	\$0.00	\$91.36
	01/01/2025	\$60.86	\$8.65	\$23.05	\$0.00	\$92.56

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

Effective Dat	e - 01/01/2023				Supplemental	
Step perce	ent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate
1 50		\$28.03	\$8.65	\$0.00	\$0.00	\$36.68
2 55		\$30.83	\$8.65	\$6.27	\$0.00	\$45.75
3 60		\$33.64	\$8.65	\$6.84	\$0.00	\$49.13
4 65		\$36.44	\$8.65	\$7.41	\$0.00	\$52.50
5 70		\$39.24	\$8.65	\$19.63	\$0.00	\$67.52
6 75		\$42.05	\$8.65	\$20.20	\$0.00	\$70.90
7 80		\$44.85	\$8.65	\$20.77	\$0.00	\$74.27
8 90		\$50.45	\$8.65	\$21.91	\$0.00	\$81.01
Effective Dat	se - 07/01/2023				Supplemental	
Step perce	ent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate
1 50		\$28.63	\$8.65	\$0.00	\$0.00	\$37.28
		\$28.63 \$31.49	\$8.65 \$8.65	\$0.00 \$6.27	\$0.00 \$0.00	\$37.28 \$46.41
2 55						
2 55 3 60		\$31.49	\$8.65	\$6.27	\$0.00	\$46.41
2 55 3 60 4 65		\$31.49 \$34.36	\$8.65 \$8.65	\$6.27 \$6.84	\$0.00 \$0.00	\$46.41 \$49.85
2 55 3 60 4 65		\$31.49 \$34.36 \$37.22	\$8.65 \$8.65 \$8.65	\$6.27 \$6.84 \$7.41	\$0.00 \$0.00 \$0.00	\$46.41 \$49.85 \$53.28
2 55 3 60 4 65 5 70		\$31.49 \$34.36 \$37.22 \$40.08	\$8.65 \$8.65 \$8.65 \$8.65	\$6.27 \$6.84 \$7.41 \$19.63	\$0.00 \$0.00 \$0.00 \$0.00	\$46.41 \$49.85 \$53.28 \$68.36

Apprentice to Journeyworker Ratio:1:1

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Classification			Effective Da	te Base Wage	e Health	Pension	Supplemental Unemployment	Total Rate
		SANDBLAST, NEW) *	01/01/2023	\$52.75	\$8.65	\$23.05	\$0.00	\$84.45
		rfaces to be painted are new const sused. PAINTERS LOCAL 35 - ZONE 1	truction, 07/01/2023	\$53.95	\$8.65	\$23.05	\$0.00	\$85.65
∟w pami rate	snan be	useu.Painters LOCAL 33 - ZONE 1	01/01/2024	\$55.15	\$8.65	\$23.05	\$0.00	\$86.85
			07/01/2024	\$56.35	\$8.65	\$23.05	\$0.00	\$88.05
			01/01/2025	\$57.55	\$8.65	\$23.05	\$0.00	\$89.25
	Effecti	ntice - PAINTER Local 35 Zono ve Date - 01/01/2023				Supplementa		
	Step	percent	Apprentice Base Wage		Pension	Unemploymen		
	1	50	\$26.38	\$8.65	\$0.00	\$0.00		
	2	55	\$29.01	\$8.65	\$6.27	\$0.00	\$43.93	
	3	60	\$31.65	\$8.65	\$6.84	\$0.00	\$47.14	
	4	65	\$34.29	\$8.65	\$7.41	\$0.00	\$50.35	
	5	70	\$36.93	\$8.65	\$19.63	\$0.00	\$65.21	
	6	75	\$39.56	\$8.65	\$20.20	\$0.00	\$68.41	
	7	80	\$42.20	\$8.65	\$20.77	\$0.00	\$71.62	
	8	90	\$47.48	\$8.65	\$21.91	\$0.00	\$78.04	
	Effecti Step	ve Date - 07/01/2023	Apprentice Base Wage	Health	Pension	Supplementa Unemploymen		
	$\frac{3 G_{\rm P}}{1}$	50	\$26.98	\$8.65	\$0.00	\$0.00		
	2	55	\$29.67	\$8.65	\$6.27	\$0.00		
	3	60			\$6.84			
	4	65	\$32.37 \$35.07	\$8.65 \$8.65	\$7.41	\$0.00 \$0.00		
	5	70						
	6	75	\$37.77 \$40.46	\$8.65	\$19.63 \$20.20	\$0.00		
	7	80	\$40.46	\$8.65	\$20.20	\$0.00		
	8	90	\$43.16 \$48.56	\$8.65 \$8.65	\$20.77 \$21.91	\$0.00 \$0.00		
	Notes:	Steps are 750 hrs.						
		1						
	Appre	ntice to Journeyworker Ratio:1	:1					
INTER (SPI		SANDBLAST, REPAINT)	01/01/2023	\$50.81	\$8.65	\$23.05	\$0.00	\$82.51
LIND LOCAL	JJ ZOM		07/01/2023	\$52.01	\$8.65	\$23.05	\$0.00	\$83.71
			01/01/2024	\$53.21	\$8.65	\$23.05	\$0.00	\$84.91
			01/01/2025	\$55.61	\$8.65	\$23.05	\$0.00	\$87.31

Supplemental

Total Rate

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\$23.05

\$0.00

\$87.85

Total Rate

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
1	50	\$25.41	\$8.65	\$0.00	\$0.00	\$34.06	
2	55	\$27.95	\$8.65	\$6.27	\$0.00	\$42.87	
3	60	\$30.49	\$8.65	\$6.84	\$0.00	\$45.98	
4	65	\$33.03	\$8.65	\$7.41	\$0.00	\$49.09	
5	70	\$35.57	\$8.65	\$19.63	\$0.00	\$63.85	
6	75	\$38.11	\$8.65	\$20.20	\$0.00	\$66.96	
7	80	\$40.65	\$8.65	\$20.77	\$0.00	\$70.07	
8	90	\$45.73	\$8.65	\$21.91	\$0.00	\$76.29	
Effect	ive Date - 07/01/2023				Supplemental		
Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
1	50	\$26.01	\$8.65	\$0.00	\$0.00	\$34.66	
2	55	\$28.61	\$8.65	\$6.27	\$0.00	\$43.53	
3	60	\$31.21	\$8.65	\$6.84	\$0.00	\$46.70	
4	65	\$33.81	\$8.65	\$7.41	\$0.00	\$49.87	
5	70	\$36.41	\$8.65	\$19.63	\$0.00	\$64.69	
6	75	\$39.01	\$8.65	\$20.20	\$0.00	\$67.86	
7	80	\$41.61	\$8.65	\$20.77	\$0.00	\$71.03	
8	90	\$46.81	\$8.65	\$21.91	\$0.00	\$77.37	
Notes							
	Steps are 750 hrs.					i	
Appre	entice to Journeyworker Ratio:1:1	. — — — — -					
	RUSH, NEW) *	01/01/2023	\$51.35	\$8.65	\$23.05	\$0.00	\$8
	faces to be painted are new construction a used. PAINTERS LOCAL 35 - ZONE 1	, 07/01/2023	\$52.55	\$8.65	\$23.05	\$0.00	\$8
siiaii UC	J USCULI AIN LEAS LOCAL 33 - ZONE I	01/01/2024	\$53.75	\$8.65	\$23.05	\$0.00	\$8
		07/01/2024	\$54.95	\$8.65	\$23.05	\$0.00	\$8

01/01/2025

\$56.15

\$8.65

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Apprentice -	PAINTER - Local 35 Zone 1 - BRUSH NEW
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	Effect	ive Date - 01/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50	\$25.68	\$8.65	\$0.00	\$0.00	\$34.33	
	2	55	\$28.24	\$8.65	\$6.27	\$0.00	\$43.16	
	3	60	\$30.81	\$8.65	\$6.84	\$0.00	\$46.30	
	4	65	\$33.38	\$8.65	\$7.41	\$0.00	\$49.44	
	5	70	\$35.95	\$8.65	\$19.63	\$0.00	\$64.23	
	6	75	\$38.51	\$8.65	\$20.20	\$0.00	\$67.36	
	7	80	\$41.08	\$8.65	\$20.77	\$0.00	\$70.50	
	8	90	\$46.22	\$8.65	\$21.91	\$0.00	\$76.78	
	Effecti	ive Date - 07/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50	\$26.28	\$8.65	\$0.00	\$0.00	\$34.93	
	2	55	\$28.90	\$8.65	\$6.27	\$0.00	\$43.82	
	3	60	\$31.53	\$8.65	\$6.84	\$0.00	\$47.02	
	4	65	\$34.16	\$8.65	\$7.41	\$0.00	\$50.22	
	5	70	\$36.79	\$8.65	\$19.63	\$0.00	\$65.07	
	6	75	\$39.41	\$8.65	\$20.20	\$0.00	\$68.26	
	7	80	\$42.04	\$8.65	\$20.77	\$0.00	\$71.46	
	8	90	\$47.30	\$8.65	\$21.91	\$0.00	\$77.86	
	Notes:							
		Steps are 750 hrs.					i	
	Appre	ntice to Journeyworker Ratio:1:1						
PAINTER / TA		RUSH, REPAINT)	01/01/2023	\$49.41	\$8.65	\$23.05	\$0.00	\$81.11
TAINTERS LOCAL	. 55 - ZUNI	<i>2</i> 1	07/01/2023	\$50.61	\$8.65	\$23.05	\$0.00	\$82.31
			01/01/2024	\$51.81	\$8.65	\$23.05	\$0.00	\$83.51
			07/01/2024	\$53.01	\$8.65	\$23.05	\$0.00	\$84.71
			01/01/2025	\$54.21	\$8.65	\$23.05	\$0.00	\$85.91

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Total Rate

	Step	ve Date - 01/01/2023 percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
	1	50	\$24.71	\$8.65	\$0.00	\$0.00	\$33.36	
	2	55	\$27.18	\$8.65	\$6.27	\$0.00	\$42.10	
	3	60	\$29.65	\$8.65	\$6.84	\$0.00	\$45.14	
	4	65	\$32.12	\$8.65	\$7.41	\$0.00	\$48.18	
	5	70	\$34.59	\$8.65	\$19.63	\$0.00	\$62.87	
	6	75	\$37.06	\$8.65	\$20.20	\$0.00	\$65.91	
	7	80	\$39.53	\$8.65	\$20.77	\$0.00	\$68.95	
	8	90	\$44.47	\$8.65	\$21.91	\$0.00	\$75.03	
	Effecti	ve Date - 07/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50	\$25.31	\$8.65	\$0.00	\$0.00	\$33.96	
	2	55	\$27.84	\$8.65	\$6.27	\$0.00	\$42.76	
	3	60	\$30.37	\$8.65	\$6.84	\$0.00	\$45.86	
	4	65	\$32.90	\$8.65	\$7.41	\$0.00	\$48.96	
	5	70	\$35.43	\$8.65	\$19.63	\$0.00	\$63.71	
	6	75	\$37.96	\$8.65	\$20.20	\$0.00	\$66.81	
	7	80	\$40.49	\$8.65	\$20.77	\$0.00	\$69.91	
	8	90	\$45.55	\$8.65	\$21.91	\$0.00	\$76.11	
	Notes:							
		Steps are 750 hrs.					i	
		ntice to Journeyworker Ratio:1:1						
		ARKINGS (HEAVY/HIGHWAY) Y & HIGHWAY)	06/01/2023	\$43.58	\$9.40	\$17.82	\$0.00	\$70.80
KERS - ZONE	I (IILA)	i & monwar)	12/01/2023	\$44.83	\$9.40	\$17.82	\$0.00	\$72.05
			06/01/2024	\$46.31	\$9.40	\$17.82	\$0.00	\$73.53
			12/01/2024	\$47.78	\$9.40	\$17.82	\$0.00	\$75.00
			06/01/2025	\$49.28	\$9.40	\$17.82	\$0.00	\$76.50
			12/01/2025	\$50.78	\$9.40	\$17.82	\$0.00	\$78.00
			06/01/2026	\$52.33	\$9.40	\$17.82	\$0.00	\$79.55
_			12/01/2026	\$53.83	\$9.40	\$17.82	\$0.00	\$81.05
		'Apprentice- LABORER (Heavy and Highway)				****		
		UCKS DRIVER IL NO. 10 ZONE A	12/01/2021	\$36.88	\$13.41	\$16.01	\$0.00	\$66.30
R AND DO CK) DRIVER LOC		NSTRUCTOR (UNDERPINNING ANI	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
		'Apprentice- PILE DRIVER"						
E DRIVER DRIVER LOC	41 56 (70	ONE 1)	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59

Total Rate

	Effecti	ive Date - 08/01/2020				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50	\$24.54	\$9.40	\$23.12	\$0.00	\$57.06	
	2	60	\$29.44	\$9.40	\$23.12	\$0.00	\$61.96	
	3	70	\$34.35	\$9.40	\$23.12	\$0.00	\$66.87	
	4	75	\$36.80	\$9.40	\$23.12	\$0.00	\$69.32	
	5	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78	
	6	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78	
	7	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68	
	8	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68	
	Notes:							
		% Indentured After 10/1/17; 45/4 Step 1&2 \$34.01/ 3&4 \$41.46/ 56						
	Appre	ntice to Journeyworker Ratio:1:5						
EFITTER &		MFITTER	03/01/2023	\$63.43	\$12.25	\$20.80	\$0.00	\$96.48
EFITTERS LOC	CAL 537		09/01/2023	\$65.18	\$12.25	\$20.80	\$0.00	\$98.23
			03/01/2024	\$66.98	\$12.25	\$20.80	\$0.00	\$100.03
			09/01/2024	\$68.78	\$12.25	\$20.80	\$0.00	\$101.83
			03/01/2025	\$70.58	\$12.25	\$20.80	\$0.00	\$103.63
		ntice - PIPEFITTER - Local 537						
	Effecti	ive Date - 03/01/2023	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
		ive Date - 03/01/2023 percent	Apprentice Base Wage		Pension	Unemployment	Total Rate	
	Effection Step	percent 40	\$25.37	\$12.25	\$8.55	Unemployment \$0.00	\$46.17	
	Step 1 2	percent 40 45	\$25.37 \$28.54	\$12.25 \$12.25	\$8.55 \$20.80	\$0.00 \$0.00	\$46.17 \$61.59	
	Effection Step	percent 40	\$25.37 \$28.54 \$38.06	\$12.25	\$8.55	Unemployment \$0.00	\$46.17	

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.07	\$12.25	\$8.55	\$0.00	\$46.87
2	45	\$29.33	\$12.25	\$20.80	\$0.00	\$62.38
3	60	\$39.11	\$12.25	\$20.80	\$0.00	\$72.16
4	70	\$45.63	\$12.25	\$20.80	\$0.00	\$78.68
5	80	\$52.14	\$12.25	\$20.80	\$0.00	\$85.19

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.

Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

Apprentice- LABORER" & HIGHWAY) Y & HIGHWAY) Apprentice- LABORER (Heavy and Highway) TTERS LOCAL 12 Attice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35 40	02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 ocal 12 Apprentice Base Wage	3 \$45.08 3 \$43.83 3 \$45.08 4 \$46.56 4 \$48.03 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 Total Rate \$43.51	\$71.05 \$72.30 \$71.05 \$72.30 \$73.78 \$75.25 \$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97 \$104.77
Apprentice- LABORER (Heavy and Highway) TTERS LOCAL 12 Attice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	06/01/202 12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 12/01/202 12/01/202 02/26/202 09/03/202 03/03/202 03/02/202 03/02/202 Apprentice Base Wage \$22.64	3 \$43.83 3 \$45.08 4 \$46.56 4 \$48.03 5 \$49.53 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$71.05 \$72.30 \$73.78 \$75.25 \$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
Apprentice- LABORER (Heavy and Highway) TTERS LOCAL 12 Attice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 02/26/202 09/03/202 03/03/202 03/02/202 03/02/202 Apprentice Base Wage \$22.64	3 \$45.08 4 \$46.56 4 \$48.03 5 \$49.53 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$72.30 \$73.78 \$75.25 \$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
Apprentice- LABORER (Heavy and Highway) TTERS LOCAL 12 Attice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 02/26/202 09/03/202 03/03/202 03/02/202 03/02/202 Apprentice Base Wage \$22.64	3 \$45.08 4 \$46.56 4 \$48.03 5 \$49.53 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$72.30 \$73.78 \$75.25 \$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	06/01/202 12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 Apprentice Base Wage \$22.64	4 \$46.56 4 \$48.03 5 \$49.53 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$73.78 \$75.25 \$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	12/01/202 06/01/202 12/01/202 06/01/202 12/01/202 12/01/202 02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 Apprentice Base Wage \$22.64	4 \$48.03 5 \$49.53 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$75.25 \$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	06/01/202 12/01/202 06/01/202 12/01/202 12/01/202 02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 Apprentice Base Wage \$22.64	5 \$49.53 5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 Total Rate	\$76.75 \$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	12/01/202 06/01/202 12/01/202 02/26/202 09/03/202 03/03/202 03/02/202 03/02/202 Apprentice Base Wage \$22.64	5 \$51.03 6 \$52.58 6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$78.25 \$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	06/01/202 12/01/202 02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 ocal 12 Apprentice Base Wage	5 \$52.58 5 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$9.40 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$79.80 \$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	12/01/202 02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 Apprentice Base Wage \$22.64	6 \$54.08 3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$9.40 \$14.07 \$14.07 \$14.07 \$14.07 \$14.07	\$17.82 \$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 Total Rate	\$81.30 \$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 ocal 12 Apprentice Base Wage \$22.64	3 \$64.69 3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$14.07 \$14.07 \$14.07 \$14.07 \$14.07	\$18.86 \$18.86 \$18.86 \$18.86 \$18.86	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$97.62 \$99.37 \$101.17 \$102.97
ritice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	02/26/202 09/03/202 03/03/202 09/01/202 03/02/202 ocal 12 Apprentice Base Wage	3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$14.07 \$14.07 \$14.07 \$14.07	\$18.86 \$18.86 \$18.86 \$18.86 Supplemental Unemployment	\$0.00 \$0.00 \$0.00 \$0.00	\$99.37 \$101.17 \$102.97
ntice - PLUMBER/GASFITTER - Love Date - 02/26/2023 percent 35	09/03/202 03/03/202 09/01/202 03/02/202 ocal 12 Apprentice Base Wage \$22.64	3 \$66.44 4 \$68.24 4 \$70.04 5 \$71.84	\$14.07 \$14.07 \$14.07 \$14.07	\$18.86 \$18.86 \$18.86 \$18.86 Supplemental Unemployment	\$0.00 \$0.00 \$0.00 \$0.00	\$99.37 \$101.17 \$102.97
ve Date - 02/26/2023 percent 35	03/03/202 09/01/202 03/02/202 ocal 12 Apprentice Base Wage \$22.64	4 \$68.24 4 \$70.04 5 \$71.84	\$14.07 \$14.07 \$14.07	\$18.86 \$18.86 \$18.86 Supplemental Unemployment	\$0.00 \$0.00 \$0.00	\$101.17 \$102.97
ve Date - 02/26/2023 percent 35	09/01/202 03/02/202 ocal 12 Apprentice Base Wage \$22.64	4 \$70.04 5 \$71.84 Health	\$14.07 \$14.07 Pension	\$18.86 \$18.86 Supplemental Unemployment	\$0.00 \$0.00 Total Rate	\$102.97
ve Date - 02/26/2023 percent 35	03/02/202 ocal 12 Apprentice Base Wage \$22.64	5 \$71.84 Health	\$14.07 Pension	\$18.86 Supplemental Unemployment	\$0.00 Total Rate	
ve Date - 02/26/2023 percent 35	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	φ101.//
ve Date - 02/26/2023 percent 35	Apprentice Base Wage \$22.64			Unemployment		
		\$14.07	\$6.80	00.02	\$43.51	
40	#37.00			\$0.00		
TU	\$25.88	\$14.07	\$7.72	\$0.00	\$47.67	
55	\$35.58	\$14.07	\$10.51	\$0.00	\$60.16	
65	\$42.05	\$14.07	\$12.36	\$0.00	\$68.48	
75	\$48.52	\$14.07	\$14.22	\$0.00	\$76.81	
ve Date - 09/03/2023				Supplemental		
percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
35	\$23.25	\$14.07	\$6.80	\$0.00	\$44.12	
40	\$26.58	\$14.07	\$7.72	\$0.00	\$48.37	
55	\$36.54	\$14.07	\$10.51	\$0.00	\$61.12	
65	\$43.19	\$14.07	\$12.36	\$0.00	\$69.62	
75	\$49.83	\$14.07	\$14.22	\$0.00	\$78.12	
-	•					
ntice to Journeyworker Ratio:**						
DLS (TEMP.)	03/01/202	3 \$63.43	\$12.00	\$20.80	\$0.00	\$96.23
	09/01/202	3 \$65.18	\$12.00	\$20.80	\$0.00	\$97.98
			\$12.00	\$20.80	\$0.00	\$99.78
			\$12.00	\$20.80	\$0.00	\$101.58
	03/01/202		-			\$103.38
n	55 65 75 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps a Step4 with lic\$69.00, Step5 with lic tice to Journeyworker Ratio:**	55 \$36.54 65 \$43.19 75 \$49.83 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr Step4 with lic\$69.00, Step5 with lic\$76.87 tice to Journeyworker Ratio:** LS (TEMP.) 03/01/202: 03/01/202:	55 \$36.54 \$14.07 65 \$43.19 \$14.07 75 \$49.83 \$14.07 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr Step4 with lic\$69.00, Step5 with lic\$76.87 tice to Journeyworker Ratio:** LS (TEMP.) 03/01/2023 \$63.43 09/01/2023 \$65.18 03/01/2024 \$66.98	\$36.54 \$14.07 \$10.51 65 \$43.19 \$14.07 \$12.36 75 \$49.83 \$14.07 \$14.22 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr Step4 with lic\$69.00, Step5 with lic\$76.87 tice to Journeyworker Ratio:** LS (TEMP.) 03/01/2023 \$63.43 \$12.00 09/01/2023 \$65.18 \$12.00 03/01/2024 \$66.98 \$12.00 09/01/2024 \$68.78 \$12.00	\$36.54 \$14.07 \$10.51 \$0.00 \$43.19 \$14.07 \$12.36 \$0.00 \$49.83 \$14.07 \$14.22 \$0.00 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr Step4 with lic\$69.00, Step5 with lic\$76.87 tice to Journeyworker Ratio:** LS (TEMP.) 03/01/2023 \$63.43 \$12.00 \$20.80 09/01/2023 \$65.18 \$12.00 \$20.80 03/01/2024 \$66.98 \$12.00 \$20.80 09/01/2024 \$66.98 \$12.00 \$20.80	\$36.54 \$14.07 \$10.51 \$0.00 \$61.12 65 \$43.19 \$14.07 \$12.36 \$0.00 \$69.62 75 \$49.83 \$14.07 \$14.22 \$0.00 \$78.12 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr Step4 with lic\$69.00, Step5 with lic\$76.87 tice to Journeyworker Ratio:** LS (TEMP.) 03/01/2023 \$63.43 \$12.00 \$20.80 \$0.00 09/01/2023 \$65.18 \$12.00 \$20.80 \$0.00 03/01/2024 \$66.98 \$12.00 \$20.80 \$0.00

Effective Date Base Wage Health

Classification

Supplemental

Unemployment

Pension

Total Rate

Issue Date: 06/28/2023 **Wage Request Number:** 20230628-006 **Page 29 of 39**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
ABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY &	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
HIGHWAY)	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)		40	4,,,,,			40000
POWDERMAN & BLASTER	06/01/2023	\$44.58	\$9.40	\$17.82	\$0.00	\$71.80
ABORERS - ZONE 1	12/01/2023	\$45.83	\$9.40	\$17.82	\$0.00	\$73.05
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS - ZONE 1 (HEAVY & HIGHWAY)	06/01/2023	\$44.58	\$9.40	\$17.82	\$0.00	\$71.80
ADOREMS - ZONE I (ILEAVI & INGILWAI)	12/01/2023	\$45.83	\$9.40	\$17.82	\$0.00	\$73.05
	06/01/2024	\$47.31	\$9.40	\$17.82	\$0.00	\$74.53
	12/01/2024	\$48.78	\$9.40	\$17.82	\$0.00	\$76.00
	06/01/2025	\$50.28	\$9.40	\$17.82	\$0.00	\$77.50
	12/01/2025	\$51.78	\$9.40	\$17.82	\$0.00	\$79.00
	06/01/2026	\$53.33	\$9.40	\$17.82	\$0.00	\$80.55
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)	12/01/2026	\$54.83	\$9.40	\$17.82	\$0.00	\$82.05
POWER SHOVEL/DERRICK/TRENCHING MACHINE	06/01/2022	Ф54.00	Ф1475	¢1./ 1.5	60.00	Φ07.10
OPERATING ENGINEERS LOCAL 4	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
	06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
	12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
	06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
	12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
	06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68
PUMP OPERATOR (CONCRETE)	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
	06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
	12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
	06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
	12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
	06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
	12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

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Issue Date: 06/28/2023

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4	06/01/2023	\$35.30	\$14.75	\$16.15	\$0.00	\$66.20
PERATING ENGINEERS LOCAL 4	12/01/2023	\$36.12	\$14.75	\$16.15	\$0.00	\$67.02
	06/01/2024	\$36.97	\$14.75	\$16.15	\$0.00	\$67.87
	12/01/2024	\$37.92	\$14.75	\$16.15	\$0.00	\$68.82
	06/01/2025	\$38.77	\$14.75	\$16.15	\$0.00	\$69.67
	12/01/2025	\$39.72	\$14.75	\$16.15	\$0.00	\$70.62
	06/01/2026	\$40.58	\$14.75	\$16.15	\$0.00	\$71.48
For a constitution of the	12/01/2026	\$41.53	\$14.75	\$16.15	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS" READY-MIX CONCRETE DRIVER	05/01/2023	\$29.40	\$12.46	\$8.00	\$0.00	\$49.86
EAMSTERS 170 - Rosenfeld (Walpole)	01/01/2024	\$29.40	\$12.40	\$8.00	\$0.00	\$50.36
	05/01/2024	\$30.15	\$13.96	\$8.00	\$0.00	\$50.30 \$52.11
	01/01/2025			\$8.00	\$0.00	\$51.61
	05/01/2025	\$30.15	\$13.46	\$8.25	\$0.00	\$51.61 \$52.61
		\$30.90	\$13.46	\$8.25		
	01/01/2026	\$30.90	\$13.96		\$0.00	\$53.11
	05/01/2026	\$31.90	\$13.96	\$8.25	\$0.00	\$54.11
	01/01/2027	\$31.90	\$14.46	\$8.25	\$0.00	\$54.61
DECLAIMEDO	05/01/2027	\$32.90	\$14.46	\$8.25	\$0.00	\$55.61
ECLAIMERS PERATING ENGINEERS LOCAL 4	06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
	12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
	06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
	12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
	06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
	12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
	06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
D	12/01/2026	\$63.09	\$14.75	\$16.15	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS" IDE-ON MOTORIZED BUGGY OPERATOR	06/01/2022	¢42.02	\$0.40	\$17.82	90.00	\$71.05
ABORERS - ZONE 1	06/01/2023	\$43.83	\$9.40	*	\$0.00	\$71.05
For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
OLLER/SPREADER/MULCHING MACHINE	06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
PERATING ENGINEERS LOCAL 4	12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
	06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
	12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
	06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
	12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
	06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
	12/01/2026			\$16.15	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2020	\$63.09	\$14.75	\$10.15	\$0.00	\$93.99
OOFER (Inc.Roofer Waterproofng &Roofer Damproofg)	02/01/2023	\$48.53	\$12.78	\$20.20	\$0.00	\$81.51
OOFERS LOCAL 33	08/01/2023	\$50.03	\$12.78	\$20.20	\$0.00	\$83.01
	02/01/2024	\$51.28	\$12.78	\$20.20	\$0.00	\$84.26
	08/01/2024	\$52.78	\$12.78	\$20.20	\$0.00	\$85.76
	02/01/2025	\$54.03	\$12.78	\$20.20	\$0.00	\$87.01
	08/01/2025	\$55.53	\$12.78	\$20.20	\$0.00	\$88.51
				\$20.20	\$0.00	
	02/01/2026	\$56.78	\$12.78	φ ∠ U.∠U	φ υ. 00	\$89.76

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\$26.64

\$14.11

\$2.83

\$109.59

Total Rate

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02/01/2026

\$66.01

Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date Base Wage Health

Pension

		ve Date - 02/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	42	\$23.23	\$14.11	\$6.13	\$0.00	\$43.47	
	2	42	\$23.23	\$14.11	\$6.13	\$0.00	\$43.47	
	3	47	\$26.00	\$14.11	\$11.90	\$1.54	\$53.55	
	4	47	\$26.00	\$14.11	\$11.90	\$1.54	\$53.55	
	5	52	\$28.76	\$14.11	\$12.88	\$1.65	\$57.40	
	6	52	\$28.76	\$14.11	\$13.13	\$1.65	\$57.65	
	7	60	\$33.19	\$14.11	\$14.54	\$1.83	\$63.67	
	8	65	\$35.95	\$14.11	\$15.52	\$1.94	\$67.52	
	9	75	\$41.48	\$14.11	\$17.48	\$2.16	\$75.23	
	10	85	\$47.01	\$14.11	\$18.94	\$2.36	\$82.42	
		ve Date - 08/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	:
	1	42	\$23.94	\$14.11	\$6.13	\$0.00	\$44.18	
	2	42	\$23.94	\$14.11	\$6.13	\$0.00	\$44.18	
	3	47	\$26.79	\$14.11	\$11.90	\$1.58	\$54.38	
	4	47	\$26.79	\$14.11	\$11.90	\$1.58	\$54.38	
	5	52	\$29.65	\$14.11	\$12.88	\$1.70	\$58.34	
	6	52	\$29.65	\$14.11	\$13.13	\$1.70	\$58.59	
	7	60	\$34.21	\$14.11	\$14.54	\$1.89	\$64.75	
	8	65	\$37.06	\$14.11	\$15.52	\$2.00	\$68.69	
	9	75	\$42.76	\$14.11	\$17.48	\$2.23	\$76.58	
	10	85	\$48.46	\$14.11	\$18.94	\$2.45	\$83.96	
i	Notes:							
į		Steps are 6 mos.						
i.	Appre	ntice to Journeyworker Ratio:1:4						
		I MOVING EQUIP < 35 TONS IL NO. 10 ZONE A	12/01/202	1 \$37.34	\$13.41	\$16.01	\$0.00	\$66.76
		I MOVING EQUIP > 35 TONS IL NO. 10 ZONE A	12/01/202	1 \$37.63	\$13.41	\$16.01	\$0.00	\$67.05
RINKLER FIT		L 550 - (Section A) Zone 1	03/01/2023	3 \$66.20	\$10.90	\$23.20	\$0.00	\$100.3
MINKLEN FILLEK	5 LOCA	2 330 - (Bection A) Zone 1	10/01/2023	3 \$67.95	\$10.90	\$23.20	\$0.00	\$102.0
			03/01/2024	4 \$69.75	\$10.90	\$23.20	\$0.00	\$103.8
			10/01/2024	4 \$71.55	\$10.90	\$23.20	\$0.00	\$105.6
			03/01/2023	5 \$73.35	\$10.90	\$23.20	\$0.00	\$107.4

Total Rate

Eff	ective Date -	03/01/2023				Supplemental		
Ste			Apprentice Base Wage	Health	Pension	Unemployment	Total Rat	e
1	35		\$23.17	\$10.90	\$12.80	\$0.00	\$46.8	7
2	40		\$26.48	\$10.90	\$13.60	\$0.00	\$50.9	8
3	45		\$29.79	\$10.90	\$14.40	\$0.00	\$55.09	9
4	50		\$33.10	\$10.90	\$15.20	\$0.00	\$59.20	0
5	55		\$36.41	\$10.90	\$16.00	\$0.00	\$63.3	1
6	60		\$39.72	\$10.90	\$16.80	\$0.00	\$67.43	2
7	65		\$43.03	\$10.90	\$17.60	\$0.00	\$71.5	3
8	70		\$46.34	\$10.90	\$18.40	\$0.00	\$75.6	4
9	75		\$49.65	\$10.90	\$19.20	\$0.00	\$79.7	5
10	80		\$52.96	\$10.90	\$20.00	\$0.00	\$83.8	6
Eff Ste	rective Date -	10/01/2023	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rat	e
1	35		\$23.78	\$10.90	\$12.80	\$0.00	\$47.4	
2	40		\$27.18	\$10.90	\$13.60	\$0.00	\$51.6	
3	45		\$30.58	\$10.90	\$14.40	\$0.00	\$55.8	
4	50		\$33.98	\$10.90	\$15.20	\$0.00	\$60.0	
5	55		\$37.37	\$10.90	\$16.00	\$0.00	\$64.2	
6	60		\$40.77	\$10.90	\$16.80	\$0.00	\$68.4	
7	65		\$44.17	\$10.90	\$17.60	\$0.00	\$72.6	
8	70		\$47.57	\$10.90	\$18.40	\$0.00	\$76.8	
9	75		\$50.96	\$10.90	\$19.20	\$0.00	\$81.0	
10			\$54.36	\$10.90	\$20.00	\$0.00	\$85.2	
	40/45/50/ Steps are	e entered prior 9/30/10: /55/60/65/70/75/80/85 850 hours urneyworker Ratio:1:3						
AM BOILER C			06/01/2023	3 \$53.69	\$14.75	\$16.15	\$0.00	\$84.5
RATING ENGINEEF	S LOCAL 4		12/01/2023	3 \$54.93	\$14.75	\$16.15	\$0.00	\$85.8
			06/01/2024	4 \$56.21	\$14.75	\$16.15	\$0.00	\$87.1
			12/01/2024	4 \$57.65	\$14.75	\$16.15	\$0.00	\$88.5
			06/01/2023	5 \$58.93	\$14.75	\$16.15	\$0.00	\$89.8
			12/01/202:	5 \$60.37	\$14.75	\$16.15	\$0.00	\$91.2
			06/01/2020	6 \$61.65	\$14.75	\$16.15	\$0.00	\$92.5
			12/01/2020	5 \$63.09	\$14.75	\$16.15	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
OPERATING ENGINEERS LOCAL 4	12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
	06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
	12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
	06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
	12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
	06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2026	\$63.09	\$14.75	\$16.15	\$0.00	\$93.99
TELECOMMUNICATION TECHNICIAN ELECTRICIANS LOCAL 103	03/01/2023	\$47.38	\$13.00	\$19.63	\$0.00	\$80.01

Apprentice -	TELECOMMUNICATION TECHNICIAN - Local 103
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Effecti	ve Date -	03/01/2023				Supplemental	
Step	percent		Apprentice Base Wage	Health	Pension	Unemployment	Total Rate
1	45		\$21.32	\$13.00	\$0.65	\$0.00	\$34.97
2	45		\$21.32	\$13.00	\$0.65	\$0.00	\$34.97
3	50		\$23.69	\$13.00	\$15.20	\$0.00	\$51.89
4	50		\$23.69	\$13.00	\$15.20	\$0.00	\$51.89
5	55		\$26.06	\$13.00	\$15.58	\$0.00	\$54.64
6	60		\$28.43	\$13.00	\$15.96	\$0.00	\$57.39
7	65		\$30.80	\$13.00	\$16.34	\$0.00	\$60.14
8	70		\$33.17	\$13.00	\$16.73	\$0.00	\$62.90
9	75		\$35.54	\$13.00	\$17.11	\$0.00	\$65.65
10	80		\$37.90	\$13.00	\$17.48	\$0.00	\$68.38

Apprentice to	Journeyworkei	· Ratio:1	1:1
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TERRAZZO FINISHERS	02/01/2023	\$59.29	\$11.49	\$22.34	\$0.00	\$93.12
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2023	\$61.34	\$11.49	\$22.34	\$0.00	\$95.17
	02/01/2024	\$62.59	\$11.49	\$22.34	\$0.00	\$96.42
	08/01/2024	\$64.69	\$11.49	\$22.34	\$0.00	\$98.52
	02/01/2025	\$65.99	\$11.49	\$22.34	\$0.00	\$99.82
	08/01/2025	\$68.14	\$11.49	\$22.34	\$0.00	\$101.97
	02/01/2026	\$69.49	\$11.49	\$22.34	\$0.00	\$103.32
	08/01/2026	\$71.69	\$11.49	\$22.34	\$0.00	\$105.52
	02/01/2027	\$73.09	\$11.49	\$22.34	\$0.00	\$106.92

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	Effecti Step	ve Date - 02/01/2023 percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
	1	50	\$29.65	\$11.49	\$22.34	\$0.00	\$63.48	
	2	60	\$35.57	\$11.49	\$22.34	\$0.00	\$69.40	
	3	70	\$41.50	\$11.49	\$22.34	\$0.00	\$75.33	
	4	80	\$47.43	\$11.49	\$22.34	\$0.00	\$81.26	
	5	90	\$53.36	\$11.49	\$22.34	\$0.00	\$87.19	
	Effecti	ve Date - 08/01/2023				Supplemental		
	Step	percent	Apprentice Base Wage	Health	Pension	Unemployment	Total Rate	
	1	50	\$30.67	\$11.49	\$22.34	\$0.00	\$64.50	
	2	60	\$36.80	\$11.49	\$22.34	\$0.00	\$70.63	
	3	70	\$42.94	\$11.49	\$22.34	\$0.00	\$76.77	
	4	80	\$49.07	\$11.49	\$22.34	\$0.00	\$82.90	
	5	90	\$55.21	\$11.49	\$22.34	\$0.00	\$89.04	
	Notes:							
	Appre	ntice to Journeyworker Ratio:1	:3					
EST BORING			06/01/2023	3 \$47.58	\$9.40	\$17.97	\$0.00	\$74.95
ABORERS - FOUN	NDATION .	AND MARINE	12/01/2023	\$48.83	\$9.40	\$17.97	\$0.00	\$76.20
			06/01/2024	\$50.31	\$9.40	\$17.97	\$0.00	\$77.68
			12/01/2024	\$51.78	\$9.40	\$17.97	\$0.00	\$79.15
			06/01/2025	\$53.28	\$9.40	\$17.97	\$0.00	\$80.65
								400.00
			12/01/2025	\$54.78	\$9.40	\$17.97	\$0.00	\$82.15
					\$9.40 \$9.40	\$17.97 \$17.97		
For apprentice	rates see "	Apprentice- LABORER"	12/01/2025	\$56.33			\$0.00	\$82.15
EST BORING	DRILL		12/01/2025 06/01/2026	\$56.33 \$57.83	\$9.40 \$9.40	\$17.97	\$0.00 \$0.00	\$82.15 \$83.70
	DRILL	ER HELPER	12/01/2026 06/01/2026 12/01/2026	\$56.33 \$57.83 \$43.70	\$9.40 \$9.40	\$17.97 \$17.97	\$0.00 \$0.00 \$0.00	\$82.15 \$83.70 \$85.20
EST BORING	DRILL	ER HELPER	12/01/2026 06/01/2026 12/01/2026	\$56.33 \$57.83 \$43.70 \$44.95	\$9.40 \$9.40 \$9.40	\$17.97 \$17.97 \$17.97	\$0.00 \$0.00 \$0.00 \$0.00	\$82.15 \$83.70 \$85.20 \$71.07
EST BORING	DRILL	ER HELPER	12/01/2025 06/01/2026 12/01/2026 06/01/2023	\$56.33 \$57.83 \$43.70 \$44.95 \$46.43	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40	\$17.97 \$17.97 \$17.97 \$17.97	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$82.15 \$83.70 \$85.20 \$71.07 \$72.32
EST BORING	DRILL	ER HELPER	12/01/2025 06/01/2026 12/01/2026 06/01/2023 12/01/2023 06/01/2024	\$56.33 \$57.83 \$43.70 \$444.95 \$46.43 \$47.90	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40	\$17.97 \$17.97 \$17.97 \$17.97 \$17.97	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$82.15 \$83.70 \$85.20 \$71.07 \$72.32 \$73.80
EST BORING	DRILL	ER HELPER	12/01/2025 06/01/2026 12/01/2026 06/01/2023 12/01/2024 12/01/2024	\$56.33 \$57.83 \$43.70 \$44.95 \$46.43 \$47.90 \$49.40	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40	\$17.97 \$17.97 \$17.97 \$17.97 \$17.97 \$17.97	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$82.15 \$83.70 \$85.20 \$71.07 \$72.32 \$73.80 \$75.27
EST BORING	DRILL	ER HELPER	12/01/2025 06/01/2026 12/01/2026 06/01/2023 12/01/2024 12/01/2024 06/01/2025	\$56.33 \$57.83 \$43.70 \$444.95 \$45.44 \$47.90 \$55.90	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40 \$9.40	\$17.97 \$17.97 \$17.97 \$17.97 \$17.97 \$17.97 \$17.97	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$82.15 \$83.70 \$85.20 \$71.07 \$72.32 \$73.80 \$75.27 \$76.77

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING LABORER	06/01/2023	\$43.58	\$9.40	\$17.97	\$0.00	\$70.95
LABORERS - FOUNDATION AND MARINE	12/01/2023	\$44.83	\$9.40	\$17.97	\$0.00	\$72.20
	06/01/2024	\$46.31	\$9.40	\$17.97	\$0.00	\$73.68
	12/01/2024	\$47.78	\$9.40	\$17.97	\$0.00	\$75.15
	06/01/2025	\$49.28	\$9.40	\$17.97	\$0.00	\$76.65
	12/01/2025	\$50.78	\$9.40	\$17.97	\$0.00	\$78.15
	06/01/2026	\$52.33	\$9.40	\$17.97	\$0.00	\$79.70
	12/01/2026	\$53.83	\$9.40	\$17.97	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS OPERATING ENGINEERS LOCAL 4	06/01/2023	\$53.69	\$14.75	\$16.15	\$0.00	\$84.59
	12/01/2023	\$54.93	\$14.75	\$16.15	\$0.00	\$85.83
	06/01/2024	\$56.21	\$14.75	\$16.15	\$0.00	\$87.11
	12/01/2024	\$57.65	\$14.75	\$16.15	\$0.00	\$88.55
	06/01/2025	\$58.93	\$14.75	\$16.15	\$0.00	\$89.83
	12/01/2025	\$60.37	\$14.75	\$16.15	\$0.00	\$91.27
	06/01/2026	\$61.65	\$14.75	\$16.15	\$0.00	\$92.55
Comment of the second of the s	12/01/2026	\$63.09	\$14.75	\$16.15	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS" TRAILERS FOR EARTH MOVING EQUIPMENT	12/01/2021	\$27.02	¢12.41	\$16.01	00.00	\$67.24
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2021	\$37.92	\$13.41	\$10.01	\$0.00	\$67.34
TUNNEL WORK - COMPRESSED AIR	06/01/2023	\$55.81	\$9.40	\$18.42	\$0.00	\$83.63
LABORERS (COMPRESSED AIR)	12/01/2023	\$57.06	\$9.40	\$18.42	\$0.00	\$84.88
	06/01/2024	\$58.54	\$9.40	\$18.42	\$0.00	\$86.36
	12/01/2024	\$60.01	\$9.40	\$18.42	\$0.00	\$87.83
	06/01/2025	\$61.51	\$9.40	\$18.42	\$0.00	\$89.33
	12/01/2025	\$63.01	\$9.40	\$18.42	\$0.00	\$90.83
	06/01/2026	\$64.56	\$9.40	\$18.42	\$0.00	\$92.38
E LIDOPENI	12/01/2026	\$66.06	\$9.40	\$18.42	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER" TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)			** **	#10.4 0	#0.00	**
LABORERS (COMPRESSED AIR)	06/01/2023	\$57.81	\$9.40	\$18.42	\$0.00	\$85.63
	12/01/2023	\$59.06	\$9.40	\$18.42	\$0.00	\$86.88
	06/01/2024	\$60.54	\$9.40	\$18.42	\$0.00	\$88.36
	12/01/2024	\$62.01	\$9.40	\$18.42	\$0.00	\$89.83
	06/01/2025	\$63.51	\$9.40	\$18.42	\$0.00	\$91.33
	12/01/2025	\$65.01	\$9.40	\$18.42	\$0.00	\$92.83
	06/01/2026	\$66.56	\$9.40	\$18.42	\$0.00	\$94.38
For apprentice rates see "Apprentice- LABORER"	12/01/2026	\$68.06	\$9.40	\$18.42	\$0.00	\$95.88
TUNNEL WORK - FREE AIR	06/01/2023	\$47.88	\$9.40	\$18.42	\$0.00	\$75.70
LABORERS (FREE AIR TUNNEL)	12/01/2023	\$49.13	\$9.40	\$18.42	\$0.00	\$76.95
	06/01/2024	\$50.61	\$9.40	\$18.42	\$0.00	\$78.43
	12/01/2024	\$52.08	\$9.40	\$18.42	\$0.00	\$79.90
	06/01/2025	\$53.58	\$9.40	\$18.42	\$0.00	\$81.40
	12/01/2025	\$55.08	\$9.40	\$18.42	\$0.00	\$82.90
	06/01/2026	\$56.63	\$9.40	\$18.42	\$0.00	\$84.45
	12/01/2026	\$58.13	\$9.40	\$18.42	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						

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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE)	06/01/2023	\$49.88	\$9.40	\$18.42	\$0.00	\$77.70
LABORERS (FREE AIR TUNNEL)	12/01/2023	\$51.13	\$9.40	\$18.42	\$0.00	\$78.95
	06/01/2024	\$52.61	\$9.40	\$18.42	\$0.00	\$80.43
	12/01/2024	\$54.08	\$9.40	\$18.42	\$0.00	\$81.90
	06/01/2025	\$55.58	\$9.40	\$18.42	\$0.00	\$83.40
	12/01/2025	\$57.08	\$9.40	\$18.42	\$0.00	\$84.90
	06/01/2026	\$58.63	\$9.40	\$18.42	\$0.00	\$86.45
For apprentice rates see "Apprentice- LABORER"	12/01/2026	\$60.13	\$9.40	\$18.42	\$0.00	\$87.95
VAC-HAUL	12/01/2021	\$37.34	\$13.41	\$16.01	\$0.00	\$66.76
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A						
WAGON DRILL OPERATOR	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1 For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	06/01/2023	\$43.83	\$9.40	\$17.82	\$0.00	\$71.05
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/01/2023	\$45.08	\$9.40	\$17.82	\$0.00	\$72.30
	06/01/2024	\$46.56	\$9.40	\$17.82	\$0.00	\$73.78
	12/01/2024	\$48.03	\$9.40	\$17.82	\$0.00	\$75.25
	06/01/2025	\$49.53	\$9.40	\$17.82	\$0.00	\$76.75
	12/01/2025	\$51.03	\$9.40	\$17.82	\$0.00	\$78.25
	06/01/2026	\$52.58	\$9.40	\$17.82	\$0.00	\$79.80
	12/01/2026	\$54.08	\$9.40	\$17.82	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
WASTE WATER PUMP OPERATOR OPERATING ENGINEERS LOCAL 4	06/01/2023	\$54.28	\$14.75	\$16.15	\$0.00	\$85.18
PPEKATING ENGINEERS LOCAL 4	12/01/2023	\$55.53	\$14.75	\$16.15	\$0.00	\$86.43
	06/01/2024	\$56.83	\$14.75	\$16.15	\$0.00	\$87.73
	12/01/2024	\$58.28	\$14.75	\$16.15	\$0.00	\$89.18
	06/01/2025	\$59.58	\$14.75	\$16.15	\$0.00	\$90.48
	12/01/2025	\$61.03	\$14.75	\$16.15	\$0.00	\$91.93
	06/01/2026	\$62.33	\$14.75	\$16.15	\$0.00	\$93.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2026	\$63.78	\$14.75	\$16.15	\$0.00	\$94.68
WATER METER INSTALLER	02/26/2022	0.4.60	Ø1407	¢10.07	20.02	¢07.62
PLUMBERS & GASFITTERS LOCAL 12	02/26/2023	\$64.69	\$14.07	\$18.86	\$0.00	\$97.62
	09/03/2023	\$66.44	\$14.07	\$18.86	\$0.00	\$99.37
	03/03/2024	\$68.24	\$14.07	\$18.86	\$0.00	\$101.17
	09/01/2024	\$70.04	\$14.07	\$18.86	\$0.00	\$102.97
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GA	03/02/2025 .SFITTER"	\$71.84	\$14.07	\$18.86	\$0.00	\$104.77

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Issue Date: 06/28/2023

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

 $All \ apprentices \ must be \ registered \ with \ the \ Division \ of \ Apprentices hip \ Training \ in \ accordance \ with \ M.G.L. \ c. \ 23, \ ss. \ 11E-11L.$

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

- ** Multiple ratios are listed in the comment field.
- *** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.
- **** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

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