#### **BID DOCUMENTS**

#### **FOR**

Las Colonias Park Restroom/Shelter IFB-3996-15-DH

#### **Responses Due:**

February 17, 2015 prior to 2:00pm 250 N. 5<sup>th</sup> Street City Clerk's Office, Room #111 Grand Junction, CO 81501

#### **Purchasing Representative:**

Duane Hoff Jr., Senior Buyer duaneh@gicity.org 970-244-1545

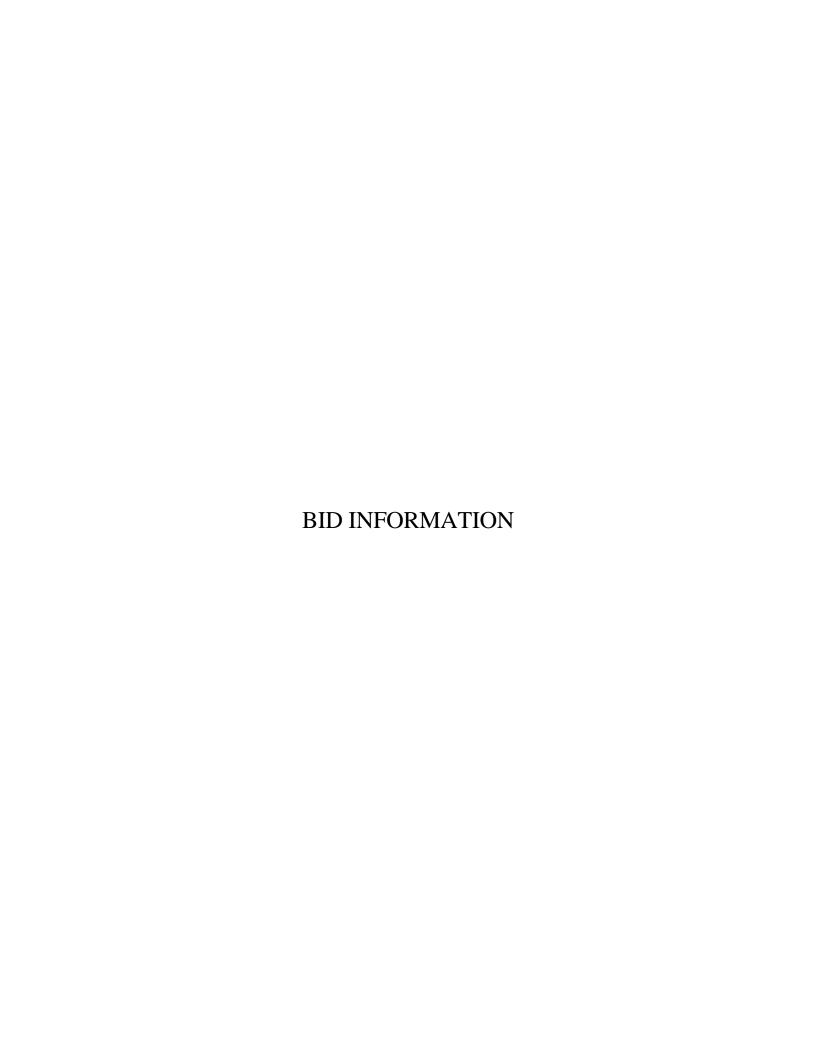


#### BID DOCUMENTS FOR Los Colonias Park Restroom/Shelter

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#### **INVITATION TO BID**

The City of Grand Junction will receive sealed bids at the Office of the City Clerk at City Hall, 250 North Fifth Street, Grand Junction, Colorado, 81501, prior to 2:00 p.m. on Tuesday, February 17, 2015 for the Las Colonias Park Restroom/Shelter Project. All bids will be opened and read aloud at the City Auditorium immediately following the submittal deadline. The Project generally consists of all labor, equipment and materials to construct the restroom facility to the Plans and Specifications. The scope of work and all dimensions should be verified by Contractors prior to submission of bids.

Contractors submitting bids over \$50,000 must be prequalified in accordance with the City's "Rules and Procedures for Prequalification of Contractors." Application forms for prequalification are available at the Administration Office of the Department of Public Works and Planning (970-256-4126) or on the Public Works & Planning/Engineering page at <a href="https://www.gjcity.org">www.gjcity.org</a>. Prequalification applications must be submitted two weeks prior to bid opening date. Bids received from non-prequalified contractors will not be opened.

The July 2010 edition of the "City Standard Contract Documents for Capital Improvements Construction", Plans, Specifications and other Bid Documents are available for review or download on the Bids page at <a href="www.gicity.org">www.gicity.org</a>. For technical information, please contact Jerod Timothy, Project Manager at the Department of Public Works and Planning (970-244-1565).

For contractual information, please contact Duane Hoff Jr., Senior Buyer (970-244-1545).

A mandatory pre-bid meeting will be held for this project on Wednesday, February 4, 2015 at 2:00 pm in the City Hall Auditorium.

The City Clerk's Office will stamp the date and mark the time received on all bids. Bids not received prior to the date and time indicated on the Invitation to Bid will not be considered. The City is not responsible for delays occasioned by the U.S. Postal Service, the internal mail delivery system of the City, or any other means of delivery employed by the Bidder.

Each Bid shall be submitted on a form furnished by the City and must be accompanied by a certified check, cashier's check or Bid Bond in an amount not less than 5% of the amount of the Bid and made payable to the City of Grand Junction, Colorado. The successful Bidder will be required to furnish a Performance Bond and a Labor and Material Payment Bond, both in the amount of 100% of the total Contract amount, in conformity with the requirements of the Contract Documents and on forms provided by the City.

			CITY OF GRAND JUNCTION, COLORAD	LORADO
			Duane Hoff Jr., Senior Buyer	
Published:	Published:	The Daily Sentinel -		

#### INSTRUCTIONS TO BIDDERS

The following instructions are given for the purpose of guiding Bidders in properly preparing their bids and constitute a part of the *Contract Documents* and shall be strictly complied with.

- 1. <u>Definitions and Terms.</u> See Article I, Section 3 of the General Contract Conditions in the *Standard Contract Documents for Capital Improvements Construction*.
- 2. <u>Copies of *Bid Documents*.</u> Complete sets of the *Bid Documents* may be reviewed at the Administration Office of the Department of Public Works and Planning at City Hall, 250 North 5th Street, Grand Junction, Colorado 81501. Electronic Copies thereof may be obtained.

Complete sets of *Bid Documents* shall be used in preparing Bids; neither City nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of *Bid Documents*.

City and Engineer in making copies of *Bid Documents* available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

- 3. <u>Prequalification of Bidders:</u> Contractors submitting bids over \$50,000 must be prequalified in accordance with the City's "Rules and Procedures for Prequalification of Contractors." Contractors who are currently prequalified with the Colorado Department of Transportation (CDOT) will meet the requirements for prequalification by the City, unless the City has information or basis to the contrary. Application forms for Contractor prequalification are available at the Administration Office of the Department of Public Works and Planning, City Hall, 250 North 5<sup>th</sup> Street, Grand Junction, CO, 81501.
- 4. <u>Liquidated Damages for Failure to Enter Into Contract.</u> Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to readvertise, or otherwise dispose of the Work as the City may determine best serves its interest.

- 5. <u>Time of Completion.</u> Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Contract Documents.
- 6. Examination of Contract Documents and Site. Before submitting a Bid, each Bidder shall:
  - a. Examine the *Contract Documents* thoroughly;
  - b. Visit the site to familiarize itself with local conditions that may in any manner affect cost, progress, or performance of the Work;
  - c. Become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress or performance of the Work;
  - d. Study and carefully correlate Bidder's observations with the *Contract Documents*, and;
  - e. Notify the Engineer of all conflicts, errors, ambiguities or discrepancies in or among the *Contract Documents*

On request, the City will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid. It shall be the Bidder's responsibility to make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (including without limitation, surface, subsurface and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the work and which the Bidder deems necessary to determine its Bid for performing the work in accordance with the time, price and other terms and conditions of the Contract Documents. Location of any excavation or boring made by Bidder shall be subject to prior approval of City and applicable agencies. Bidder shall fill all holes, restore all pavements to match the existing structural section and shall clean up and restore the site to its former condition upon completion of such exploration. The City reserves the right to require the Bidder to execute an access agreement with the City prior to accessing the site.

The lands upon which the Work is to be performed, rights of way, and access thereto, and other lands designated for use by Contractor in performing the Work, are identified on the Drawings.

Information and data reflected in the *Contract Documents* with respect to underground utilities at or contiguous to the site are based upon information and data furnished to the City and the Engineer by the owners of such underground utilities or others, and the City does not assume responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the *Contract Documents*.

By submission of a Bid, the Bidder shall be conclusively presumed to represent that the Bidder has complied with every requirement of these Instructions to Bidders, that the *Contract Documents* are not ambiguous and are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

7. <u>Interpretations.</u> All questions about the meaning or intent of the *Contract Documents* shall be submitted to the Purchasing Supervisor in writing.

Written comments or questions must be received by the Engineer at least forty-eight (48) hours (excluding Saturdays, Sundays, and Holidays) prior to the time set for Bid Opening.

If questions received by the Engineer or Purchasing Supervisor are deemed to be sufficiently significant and received sufficiently in advance of the Bid opening, an Addendum to the *Bid Documents* may be issued. Otherwise, a written copy of the question and decision or interpretation will be posted on Bids page at <a href="www.gjcity.org">www.gjcity.org</a>. It shall be the responsibility of each Bidder to make itself aware of all such posted questions and decisions or interpretations and, by submitting a Bid, each Bidder shall be conclusively be deemed to have such knowledge. After Bid Opening, all Bidders must abide by the decision of the Engineer as to all such decisions or interpretations. Bidders may not rely upon oral interpretations of the meaning of the plans, specifications or other bid documents and any oral or other interpretations or clarifications will be without legal force or effect.

- 8. Quantities of Work. Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work. The City does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in Article VIII, Section 70 of the *General Contract Conditions*. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in Article VIII, Sections 69 through 71 of the *General Contract Conditions*.
- 9. <u>Substitutions.</u> The materials, products and equipment described in the *Bid Documents* shall be regarded as establishing a standard of required performance, function, dimension, appearance, or quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Bidder submits a written request for approval to the Engineer at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Bidder shall set forth changes in other materials, equipment, or other portions of the Work including changes of the work of other contracts, which incorporation of the proposed substitution would require to be included. The Engineer's decision of approval or disapproval of a proposed substitution shall be final. If the Engineer approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

10. <u>Bid Guaranty.</u> Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the State of Colorado, and made payable without condition to the City; or a Bid Bond in the form set forth in the *Bid Documents* executed by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount.

Once the City issues a Notice of Award, the apparent Successful Bidder has ten (10) Calendar Days to enter into a Contract in the form prescribed and to furnish the required Performance and Payment Bonds. Failure to do so will result in forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Bid Guaranties for all except the three lowest qualified Bids shall be returned within five (5) Working Days of Bid Opening. When the Successful Bidder files satisfactory Performance and Payment Bonds and Certificates of Insurance, the Bid Guaranties of the three lowest Bidders shall be returned.

Each bidder shall guaranty its total bid price for a period of sixty-five (65) Calendar Days from the date of the bid opening. Except for forfeiture due to reasons discussed above, Bid Guaranties of all Bidders shall be returned to them within sixty-five (65) Calendar Days from the date of Bid Opening.

11. Bid Form. The Bid Form, provided by the City, must be completed in ink or by typewriter.

The Bidder shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Bid Schedule provides a choice to be made by the Bidder, Bidder's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Bid Form must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

The address to which communications regarding the Bid are to be directed must be shown.

- 12. <u>Irregular Bids.</u> A Bid will be considered irregular and may be rejected for the following reasons:
  - a. Submission of the Bid on forms other than those supplied by the City;
  - b. Alteration, interlineations, erasure, or partial detachment of any part of the forms which are supplied herein;
  - Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
  - d. Failure to acknowledge receipt of any or all issued Addenda;
  - e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
  - f. Failure to list the names of Subcontractors used in the Bid preparation as required in the Bid Form;
  - g. Submission of a Bid that in the opinion of the Purchasing Manager is unbalanced so that each item does not reasonably carry its own proportion of cost or which contains inadequate or unreasonable prices for any item;
  - h. Tying of the Bid with any other bid or contract; and
  - i. Failure to calculate Bid prices as described herein.
- 13. <u>Submission of Bids.</u> The completed Bid Form and Bid Guaranty shall be submitted at the time and place indicated in the Invitation to Bid and must be in a ten-inch by thirteen-inch opaque sealed envelope marked SEALED BID with the project title and the name and address of the Bidder.
- 14. <u>Modification and Withdrawal of Bids Before Opening.</u> Bids may be modified or withdrawn by an appropriate document duly executed and delivered to the place where Bids are to be submitted at any time prior to Bid Opening.
- 15. <u>Opening of Bids.</u> Bids will be opened and read aloud at the time and place stated in the Invitation to Bid. All Bidders, their representatives, and other interested parties are encouraged to attend the Bid Opening.

Within five (5) Working Days after Bid Opening, all Bids will be tabulated and copies sent to all Bidders. The bid tabulation sheet(s) will be available to the public.

16. <u>Disqualification of Bidders.</u> A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the City, upon debt or contract, or that has defaulted, as surety or otherwise, upon any obligation to the City, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that they are responsible, have a practical knowledge of the project bid upon and that they have the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
- b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future work of the City until such participant has been reinstated as a qualified bidder.
- 17. <u>Withdrawal of Bids After Opening.</u> No Bid may be withdrawn by any bidder for sixty-five (65) Calendar Days after the Bid Opening.
- 18. <u>Evaluation of Bids and Bidders.</u> The City reserves the right to:
  - reject any and all Bids,
  - waive any and all informalities,
  - negotiate final terms with the Successful Bidder, and
  - disregard any and all nonconforming, nonresponsive or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The City may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the City.

The City will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the *Contract Documents* to the City's satisfaction within the Contract Time.

The Bidder shall furnish the City all information and data requested by the City to determine the ability of the Bidder to perform the Work. The City reserves the right to reject the Bid if the evidence submitted by, or investigation of such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Bidder authorizes the City to perform such investigation of the Bidder as the City deems necessary to establish the responsibility, qualifications and financial ability of the Bidder and, by its signature thereon, authorizes the City to obtain reference information concerning the Bidder and releases the party providing such information and the City from any and all liability to the Bidder as a result of such reference information so provided.

The City reserves the right to reject the Bid of any Bidder who does not pass any evaluation to the City's satisfaction.

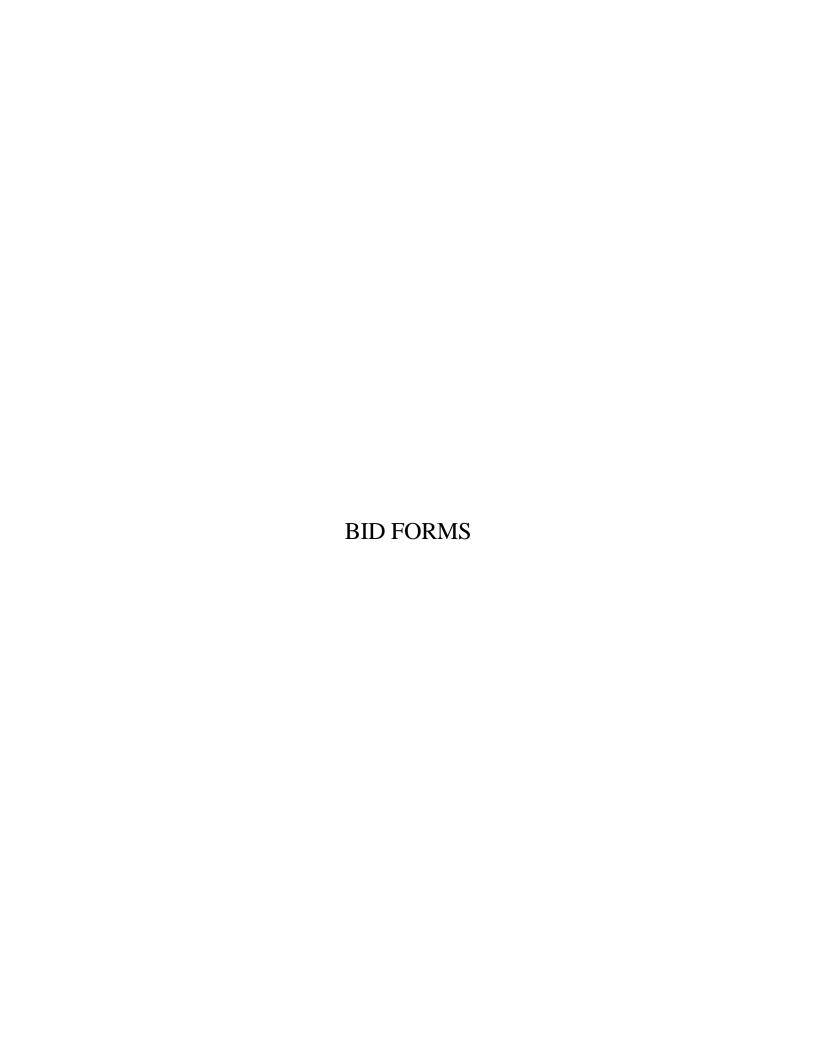
If the Contract is to be awarded, it will be awarded to the Bidder who, by evaluation, the City determines will best meet the City's interests.

The City reserves the right to accept or reject the Work contained in any of the Bid Schedules or alternates, either in whole or in part.

19. Award of Contract. Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by four (4) unsigned copies of the Contract and the Performance and Payment Bond forms. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver four (4) copies of the Contract, Performance Bond, Payment Bond and Certificates of Insurance to the City. Within ten (10) Calendar Days thereafter, the City will deliver two (2) fully executed counterparts of the Contract to the Contractor. No contract shall exist between the Successful Bidder and the City and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

- 20. <u>Insurance.</u> The Contractor shall secure and maintain such insurance policies as will provide the coverage and contain other provisions specified in the General Contract Conditions, or as modified in the Special Contract Conditions.
  - The Contractor shall file four (4) copies of the policies or Certificates of Insurance acceptable to the City with the Purchasing Supervisor within ten (10) Calendar Days after issuance of the Notice of Award. These Certificates of Insurance shall contain a provision that coverage afforded under the policies shall not be canceled unless at least thirty (30) Calendar Days prior written notice has been given to the City.
- 21. <u>Sales and Use Taxes.</u> The Contractor and all Subcontractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes in accordance with the provisions of the General Contract Conditions. Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures and equipment.
- 22. <u>Affirmative Action.</u> In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions.
- 23. <u>Preconstruction Meeting.</u> Prior to the commencement of construction activities, a preconstruction meeting shall be held which shall include the Contractor, representatives of the City, utility companies and others effected by or involved in the project. Attendance by the Contractor is mandatory.
- 24. Pre-Bid Meeting. See the Special Conditions for details of pre-bid meeting (if any).



#### BID FORM FOR Las Colonias Park Restroom/Shelter

TO: The City of Grand Junction 250 North Fifth Street Grand Junction, Colorado 81501-2668

The undersigned Bidder, having thoroughly examined the Construction Drawings, Specifications, and other Bid Documents; having investigated the location of, and conditions affecting the proposed work, and being acquainted with and fully understanding the extent and character of the Work covered by this Bid; and all other factors and conditions affecting or which may be affected by the Work:

HEREBY PROPOSES and agrees, if this Bid is accepted, to enter into a Contract with the City on the form included in the *Contract Documents* and to furnish all required materials, tools, equipment, and plant; to perform all necessary labor and superintendence; and to undertake and complete the Work or approved portions thereof, in full accordance with and in conformity with the Construction Drawings, Specifications, and all other Contract Documents hereto attached or by reference made a part hereof, and for the following prices.

### Bid Schedule: Las Colonias Park Restroom/Shelter

Contractor:
-------------

Item	CDOT, City					
No.	Ref.	Description	Quantity	Units	Unit Price	Total Price
1	203	Disposal of Radioactive Materials	150.	CY	\$	\$
2	208	Erosion Control - Concrete Washout Structure	1.	LUMP	\$	\$
3	620	Portable Sanitary Facility	1.	LUMP	\$	\$
4	626	Mobilization	1.	LUMP	\$	\$
5	630	Construction Zone Traffic Control (See SP - 4)	1.	LUMP	\$	\$
6	630	Traffic Control Plan	1.	LUMP	\$	\$
7	Plan Set	Restroom Shelter	1.	LUMP	\$	\$
MC R		Minor Contract Revisions				\$ 10,000.00
				Bid Amount:	<b>\$</b> _	
	Bid An	nount:				

dollars

### Bid Schedule: Las Colonias Park Restroom/Shelter

#### **Bid Alternate**

Contractor:
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Item	CDOT, City					
No.	Ref.	Description	Quantity	Units	Unit Price	Total Price
1	203	Disposal of Radioactive Materials	150.	CY	\$	\$
2	208	Erosion Control - Concrete Washout Structure	1.	LUMP	\$	\$
3	620	Portable Sanitary Facility	1.	LUMP	\$	\$
4	626	Mobilization	1.	LUMP	\$	\$
5	630	Construction Zone Traffic Control (See SP - 4)	1.	LUMP	\$	\$
6	630	Traffic Control Plan	1.	LUMP	\$	\$
7	Plan Set	Restroom Shelter - Replace Proposed Shelter Lighting with LED Luminaires (Bid Alternate)	1.	LUMP	\$	\$
MC R		Minor Contract Revisions				\$ 10,000.00
				Bid Amount:	\$	
	Bid An	nount (Bid Alternate):				dollars

The undersigned Bidde	r hereby agrees to execute the Contract in conformity with this Bid, to have
ready and furnish the re	equired Payment and Performance Bonds, executed by a Surety acceptable to
the City and provide C	ertificates of Insurance evidencing the coverage and provisions set forth in
Contract within ten (10)	Calendar Days of the City's issuance of a Notice of Award.
The	, a corporation of the State of,
is hereby proposed as	Surety on said Performance and Payment Bonds. If such Surety is not
approved by the City, as	nother and satisfactory Surety will be proposed.
Enclosed herewith is a l	Bid Guaranty as defined in the attached Instructions to Bidders in the amount
of	which Bid Guaranty the undersigned Bidder
agrees to be paid to an	nd become the property of the City, as Liquidated Damages and not as a
penalty should the Bid	be accepted, the Contract Notice of Award issued, and should the Bidder fail
or refuse for any reason	n to enter into the Contract in the form prescribed. The Bidder shall furnish
the required Bonds and	d Insurance Certificates within ten (10) Calendar Days of issuance of the
Notice of Award.	
The following persons, with the undersigned Bi	firms or corporations are interested as joint ventures, partners or otherwise adder in this proposal:
Name:	
Address:	
Name:	
Address:	
If there are no such pers	sons, firms or corporations, please so state in the following space

The undersigned Bidder proposes to subcontract	the following portion of Work:	
Name & address of Sub-Contractor	Description of work to be performed	% of <u>Contract</u>
		_ _ _
The undersigned Bidder acknowledges the right to waive informalities and irregularities therein ir	, , , , , , , , , , , , , , , , , , ,	— Sids submitted and
By submission of the Bid, each Bidder certifies certifies as to his own organization, that this collusion, consultation, communication, or agree other Bidder or with any competitor.	Bid has been arrived at indep	endently, without

By submission of a Bid, the Bidder shall be conclusively presumed to represent that the Bidder has complied with every requirement of the "Instructions to Bidders".

The Work shall be completed within the Contract Time as specified in the Special Conditions.

Bidder hereby acknowledges receipt of Addenda Numbers: \_\_\_\_, \_\_\_\_, \_\_\_\_.

Bidder, by his signature hereon, hereby authorizes the obtaining of reference information containing the Bidder's qualifications, experience and general ability to perform the work and hereby releases the party providing such information and the City from any and all liability to Bidder as the result of such reference information being provided. Bidder further waives any right to receive copies of information so provided to the City.

Bidder agrees to perform all Work described in the Contract Documents for the unit prices or the lump sum as shown on the Bid Form, and acknowledges that the quantities shown on the Bid Schedule are approximate only and are intended principally to serve as guides for the purpose of comparing and evaluating Bids.

It is further agreed that any quantities of work to be performed at unit prices and material to be furnished may be increased or decreased as may be considered necessary in the opinion of the City, to complete the Work fully as planned and contemplated, and that all quantities of Work, whether increased or decreased, are to be performed at the unit prices set forth in the Bid, except as otherwise provided for in the Contract Documents.

It is further agreed that any lump sum prices may be increased to cover additional work ordered by the City, but not shown on the Plans or required by the Specifications, in accordance with the provisions of the Contract Documents. Similarly, they may be decrease to cover deletions of work so ordered.

By submitting a Bid, the Bidder acknowledges that the bid process is solely intended to serve the public interest in achieving the highest quality of services and goods at the lowest price, and that no right, interest or expectation shall inure to the benefit of the Bidder as the result of any reliance or participation in the process.

The undersigned Bidder further grants to the City the right to award this Contract on the basis of any possible combination of base bids and alternate(s) (if any) that best suit the City's needs.

Dated this	day of	, 20	
Bidder:			
Address:			
C' t			
Title			
If a corporation:			
State of inco	orporation:		
Attest:			(seal)

#### **BID BOND**

#### KNOW ALL MEN BY THESE PRESENTS,

that we,	( an individual,
a partnership, a corporation incorporated in	n the State of) as Principal,
and	(incorporated in the
State of) as Surety, are he	eld and firmly bound unto the City of Grand
Junction, Colorado, (hereinafter called "City") in the	ne penal sum of
dollars (\$	), lawful money of the United States, for the
payment of which sum we bind ourselves, our	heirs, executors, administrators, successors, and
assigns, jointly and severally, firmly by these prese	ents.
THE CONDITION OF THIS OBLIGATION	IS SUCH, that WHEREAS the Principal has
submitted the accompanying Bid dated	for construction of
(the	e Project) for the City and

WHEREAS, the City has required as a condition for receiving said Bid that the Principal deposit with the City either a cashier's check or a certified check equivalent to not less than five percent of the amount of said Bid or in lieu thereof furnish a Bid Bond for said amount conditioned that in event of a failure to execute the proposed Contract for such construction and to provide the required Performance and Payment Bonds and Insurance Certificates if the Contract be awarded to the Bidder, that said sum be paid immediately to the City as Liquidated Damages and not as a penalty for the Principal's failure to perform.

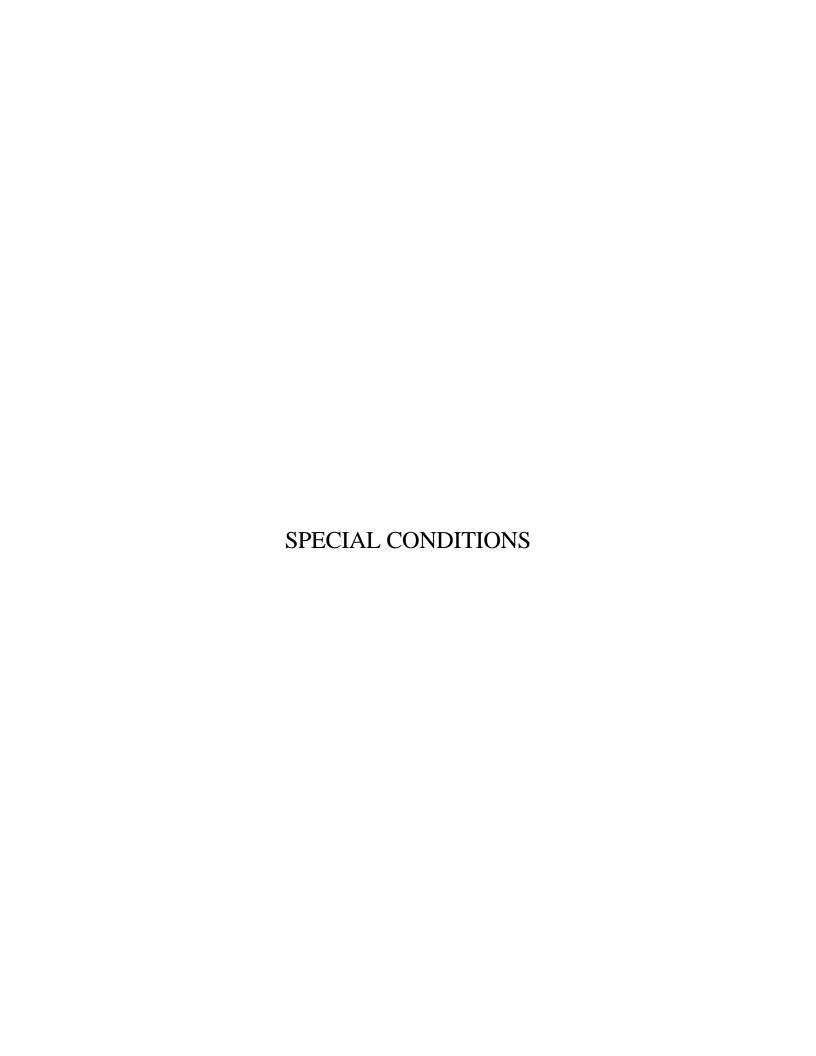
NOW, THEREFORE, if the Principal shall, within the period specified therefore, on the attached prescribed forms presented to the Bidder for signature, enter into a written Contract with the City in accordance with said Bid as accepted, and give Performance and Payment Bonds with good and sufficient Surety, or Sureties, as may be required upon the forms prescribed by the City, for the faithful performance and the proper fulfillment of said Contract, provide Certificates of Insurance as required by said Contract, and provide all other information and documentation required by the Contract Documents, then this obligation shall be void and of no effect, otherwise to remain in full force and effect. In the event suit is brought upon this bond by the City and the City prevails, the principal and surety shall pay all costs incurred by the City in such suit, including reasonable attorneys' fees and costs to be fixed by the Court.

IN WITNESS WHEREOF, the above bound parties have executed this instrument under their several seals the name and corporate seal of each corporate party being hereto affixed and duly signed by its undersigned representative pursuant to authority of its governing board.

Dated this	day of	, 20	
Principal: _			
Address: _			
Signed: _			(seal)
Title:			
Surety: _			
Address: _			
Cionad.			(seel)
Signed: _			(seal)
Title:			

#### INSTRUCTIONS FOR COMPLETING BID BOND

- 1. The full legal name and residence of each individual executing this Bond as Principal must be inserted in the first paragraph.
- 2. If the Principal is a partnership, the full name of the partnership and all individuals must be inserted in the first paragraph which must recite that individuals are partners composing the partnership, and all partners must execute the Bond as individuals.
- 3. The State of incorporation of each corporate Principal or Surety to the Bond must be inserted in the first paragraph and the Bond must be executed under the corporate seal of said party attested by its secretary or other appropriate officer.
- 4. Attach a copy of the power-of-attorney for the Surety's agent.



#### Las Colonias Park Restroom/Shelter

#### SPECIAL CONDITIONS

The performance of the Work for this Project shall conform to the General Contract conditions presented in the City of Grand Junction's *Standard Contract Documents for Capital Improvements Construction*, revised July 2010, except as specifically modified or supplemented herein or on the Construction Drawings.

- SC-1 **Project Description:** The Project shall also consists of all labor, equipment and materials to construct one restroom facility to the Plans and Specifications. The scope of work and all dimensions should be verified by Contractors prior to submission of bids.
- SC-2 **Project Manager:** The Project Manager for the Project is Jerod Timothy, who can be reached at (970)244-1565. All notices, letters, submittals, and other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction Department of Public Works and Planning Attn: Jerod Timothy, Project Manager 250 North Fifth Street Grand Junction, CO 81501

- SC-3 **Pre-Bid Meeting:** A mandatory pre-bid meeting will be held at 2:00 p.m. on Wednesday, February 4, 2015, in the City Hall Auditorium, 250 North 5th Street.
- SC-4 <u>Affirmative Action:</u> The Contractor is not required to submit a written Affirmative Action Program for the Project.
- SC-5 <u>Time of Completion:</u> The scheduled time of Completion for the Project is **75 Calendar Days** from the starting date specified in the Notice to Proceed.

Completion is achieved when site clean up and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

The anticipated schedule for the Project is as follows:

Solicitation Posted January 30, 2015

Mandatory Site Visit February 4, 2015

Inquiry Deadline February 6, 2014

Addendum Posted February 10, 2014

Bid Opening: February 17, 2015

City Council approval: March 4, 2015

Notice of Award: March 5, 2015

Contractor delivers Contract,

Bond and Insurance Cert. March 12, 2015
Preconstruction meeting: March 12, 2015
Begin work: March 16, 2015
Final Completion: May 29, 2015
Holidays: May 25, 2015

#### SC-6 Liquidated Damages:

If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the date for Final Completion may be extended in writing by the Owner. As provided elsewhere, this provision does not apply for delays caused by the City. The parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of \$500 is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: Additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives is written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is substantially complete. In addition to the Work being substantially complete, Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after

having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Substantial or Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred..

SC-7 Working Days and Hours: The daytime working hours are as follows:

#### Weekdays Only

7:00 a.m. to 5:00 p.m.

SC-8 Permits: The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the work *including the Mesa County Building Permit*. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the contractor observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the owner, he shall assume full responsibility and shall bear all costs attributable.

The City has filed for the Building permit and supplied Mesa County with construction drawings, Gamma Radiation Survey, City of Grand Junction Planning Clearance, Fire Department Clearance and the Cross Connection permit.

- SC-9 <u>Insurance Limits:</u> The minimum insurance limits for the Project are as stated in the General Contract Conditions.
- SC-10 <u>City Furnished Materials:</u> The City will furnish the following materials for the Project:
   **Drinking Fountain**-Supplied by City installed by the Contractor.
- SC-11 **Project Newsletters:** None

- SC-12 **Project Sign:** Project signs, if any, will be furnished and installed by the City.
- SC-13 <u>Authorized Representatives of the City:</u> Those authorized to represent the City shall include project engineers, project managers and inspectors employed by the City, only.
- SC-14 <u>Uranium Mill Tailings:</u> It is anticipated that radioactive mill tailings will be encountered on this Project. Material excavated shall be hauled to the City's designated containment facility located at 333 West Avenue. Contractor shall adhere to Section 203 of the Standard Contract Documents for Capital Improvements Construction, Revised July, 2010.
- SC-15 <u>Fugitive Petroleum or Other Contamination:</u> It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.
- SC-16 <u>Traffic Control:</u> The Contractor shall provide and maintain traffic control in accordance with the approved Traffic Control Plan and the *Manual on Uniform Traffic Control Devices*. A Traffic Control Plan shall be prepared by the Contractor and reviewed by the City two days prior to the pre-construction meeting.
  - 1. Traffic control shall include 6' chain link fence around the shelter. The site shall be secured/locked when the contractor or subcontractor is not present.
- SC-17 <u>Stockpiling Materials and Equipment:</u> All stockpiling/storage shall be in accordance with General Contract Condition Section 51.
- SC-18 <u>Excess Materials:</u> All excess materials shall be disposed in accordance with General Contract Condition Section 50.
- SC-19 <u>Clean-Up:</u> The Contractor is responsible for cleaning up all loose materials that have been swept into gutters and storm drains, the Park itself and onto sidewalks and driveways. The costs for all clean-up work shall be considered incidental and will not be paid for separately.
- SC-20 Existing Utilities and Structures: Utilities were <u>not</u> potholed during design of this project. The location of existing utilities and structures shown on the Plans is approximate with the information gathered during design. It is the responsibility of the Contractor to pothole/locate and protect all structures and utilities in accordance with General Contract Condition Section 37.
- SC-21 <u>Interruption of Utilities and Services:</u> The Contractor shall notify all City facilities affected by the interruption of utilities and other services caused by his operation. Such notice shall be given at least 24 hours prior to the interruption. Notice shall be given for, but not limited to the interruption of domestic water, sanitary sewer, trash pickup, mail delivery and changes in access to the property.
- SC-22 <u>Discrepancy between Bid Schedule and Construction Notes:</u> In the event of a discrepancy between a Pay Item description in the Bid Schedule and the description for

the same Pay Item in the drawings/construction notes; the language in the Bid Schedule shall govern or supersede that found elsewhere.

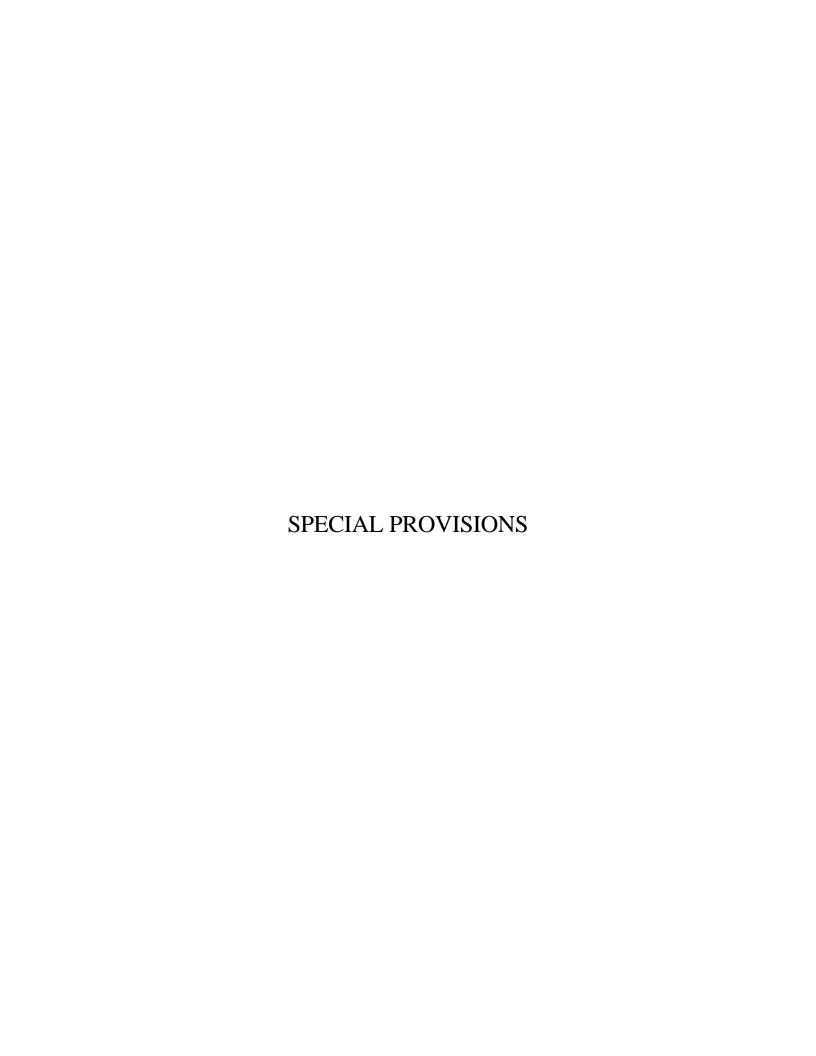
- SC-23 <u>Incidental Items:</u> Any item of work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of work, will be considered as incidental to those items, and will be included in the cost of those items
- SC-24 <u>Survey:</u> The City will provide construction staking. The Contractor shall give the City survey crew a minimum of 48 hours notice for all requested survey.

#### SC-25 Work to be Performed by the City:

- Irrigation
- Landscaping

#### SC-26 Work to be Performed by the Others:

- Xcel Energy– Site lighting and electrical supply adjacent to shelter.
- SC-27 <u>CMU Block</u>: The CMU block color shall match the CMU block at both the east and west shelters at Lincoln Park. For further information contact Greg Kearns with General Shale at (970 248-9723.
- SC-28 **<u>Bid Alternate:</u>** There will be a Bid Alternate for the lighting at the shelter for installation of LED lighting in place of traditional fixtures and luminaries.
- SC-29 **Retainage:** The amount to be retained from partial payment shall be five (5) percent of the total value of the work completed as determined from the cumulative request for payment for the entire project.



#### Las Colonias Park Restroom/Shelter

#### SPECIAL PROVISIONS

#### **GENERAL:**

The descriptions of the pay items listed in the Bid Schedule for this Project may not agree with those listed in the Standard Specifications. Payment for all Work performed, as required in the Contract Documents, will be in accordance with the items and units listed in the Bid Schedule.

#### STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION:

The *City of Grand Junction Standard Specifications for Road and Bridge Construction* are hereby modified or supplemented for this Project as follows:

#### SP-1 SECTION 201 – CLEARING AND GRUBBING

Section 201 of the Standard Specifications is hereby revised for this project as follows:

Subsection 201.04, add the following:

Clearing and grubbing shall be considered incidental to the construction of the Project and shall not be included in the bid schedule. This includes finish grading adjacent to the shelter and curb, gutter and sidewalk.

#### SP-2 SECTION 208 – EROSION CONTROL

Add the following to this subsection:

208.05(n) Add the Following:

Concrete Washout Structure:

Water for clean-up of equipment used in the mixing or distribution of concrete shall not be discharged to any storm water facilities, drain ways, or deposited into any open fields. The waste water used shall either be wasted on an open excavation area on in an onsite detention facility for future disposal.

Subsection 208.08 Payment for Best Management Practices.

The disposal of wash water shall be considered incidental to the concrete and will not be measured for or paid for separately.

Add the following to this subsection:

Pay Item Pay Unit

Erosion Control (Complete In Place)

Lump Sum

#### SP-3 SECTION 601 – STRUCTURAL CONCRETE

Section 601 of the Standard Specifications is hereby revised for this project as follows:

Subsection 601.02, Classification:

#### CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

- 4,500 PSI Compressive at 28 Days
- 6% air ±1.5%
- Slump 4", Loads exceeding 4 ½" shall be rejected
- Water Cement Ratio to be batched no greater than 0.45.
- Field delivery water cement ratio greater than 0.47 will be subject to rejection.

Subsection 601.06, Batching:

This CDOT Specification has been added to this Project:

The Contractor shall furnish a batch ticket (delivery ticket) with each load for all concrete. Concrete delivered without a batch ticket containing complete information as specified shall be rejected. The Contractor shall collect and complete the batch ticket at the placement site and deliver all batch tickets to the Engineer or his representative at the end of each day. The Engineer or his representative shall have access to the batch tickets at any time during the placement. The following information shall be provided on each ticket:

- 1. Suppliers name and date
- 2. Truck number
- 3. Project name and location
- 4. Concrete class and designation number
- 5. Cubic yards batched
- 6. Type brand and amount of each admixture
- 7. Type, brand, and amount of cement and fly ash
- 8. Weights of fine and course aggregates

- 9. Moisture of fine and course aggregates
- 10. Gallons of batch water

The contractor shall add the following information to the batch ticket at time of placement:

- 1. Gallons of water added by the truck operator.
- 2. Number of revolutions of the drum for mixing
- 3. Discharge time

#### <u>SP-4 SECTION 630 – CONSTRUCTION ZONE TRAFFIC CONTROL</u>

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsections 630.09, Basis of Payment shall include the following:

The Contractor shall provide 6' chain link fence for site security. At the end of each working day the Contractor shall secure project site.

# APPENDIX A PROJECT SUBMITTAL FORM

### **PROJECT SUBMITTAL FORM**

PROJECT: Las Colon	ias Park Restro	om/Sneiter		
CONTRACTOR:				
PROJECT ENGINEER: Jerod Timo	othy			
	Date	Resubmittal	Resubmittal	Date
Description	Received	Requested	Received	Accepted
EDOGUON GOVE		W		
EROSION CONT	ROL / STORM	WATER MANA	GEMENT	
Concrete Washout				
	SHELTER/RES	STROOM		
Concrete Mix Design (Class D)				
Base Course Gradation, Proctor Curve				
Subbase Course Gradation, Proctor Curve				
Rebar				
Electrical				
Mechanical				
HVAC				
Equipment				
CMU Block				

	Date	Resubmittal	Resubmittal	Date
Description	Received	Requested	Received	Accepted
PERMITS, PLANS, OTHER				
Traffic Control Plan				
Construction Schedule				

# APPENDIX B SOILS REPORT



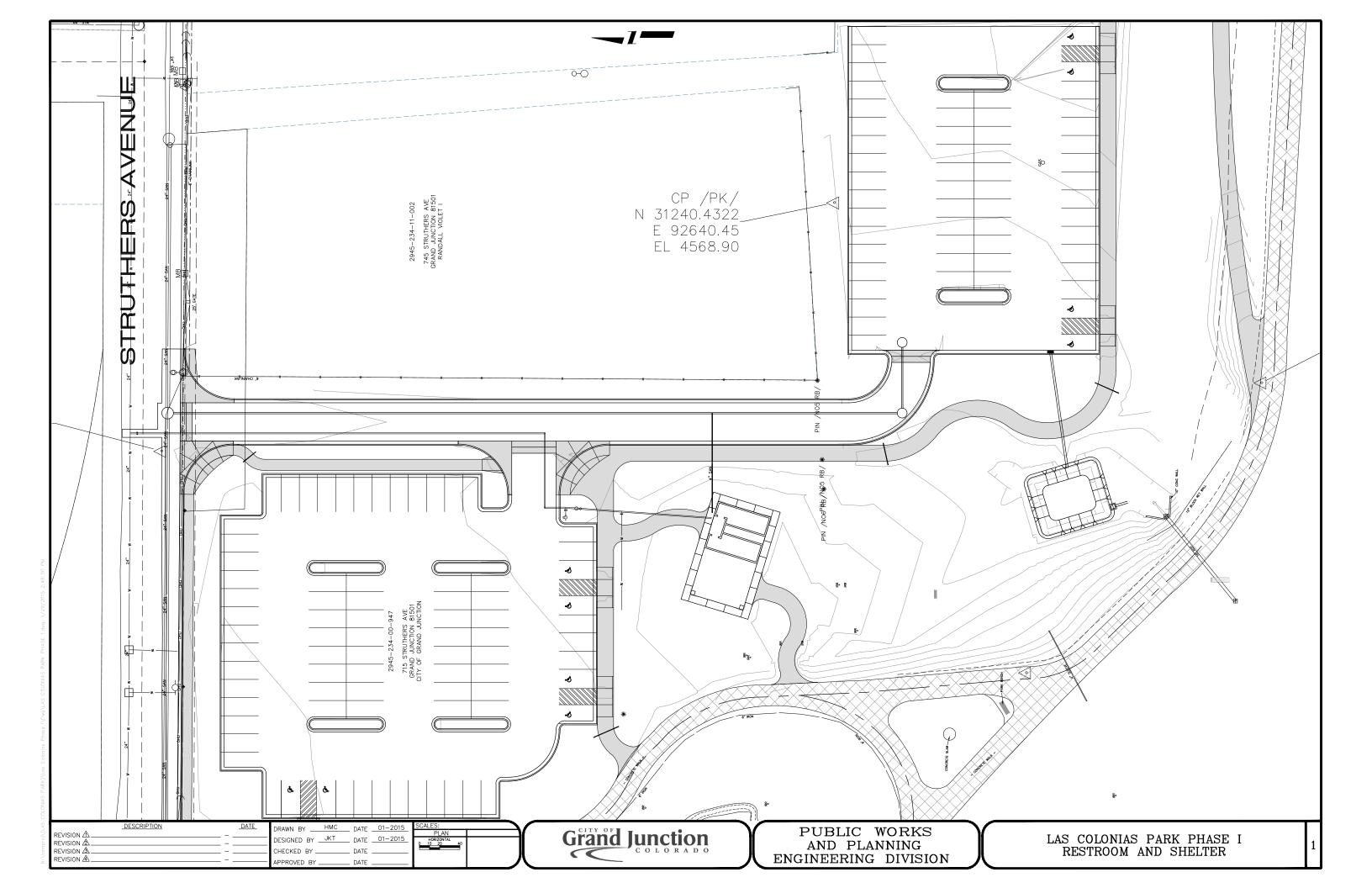
## LAS COLONIAS PARK PHASE I RESTROOM AND SHELTER

## 715 STRUTHERS AVE CITY OF GRAND JUNCTION, CO

OWNER: CITY OF GRAND JUNCTION ATTN: Jerod Timothy 250 N. 5th St. Grand Junction, CO 81501 (970) 244-1565 ARCHITECT:
Yow Architects
ATTN: Kreg Obergfell
1109 Glengary Pl
Colorado Springs, CO
80921
(719) 648-3011

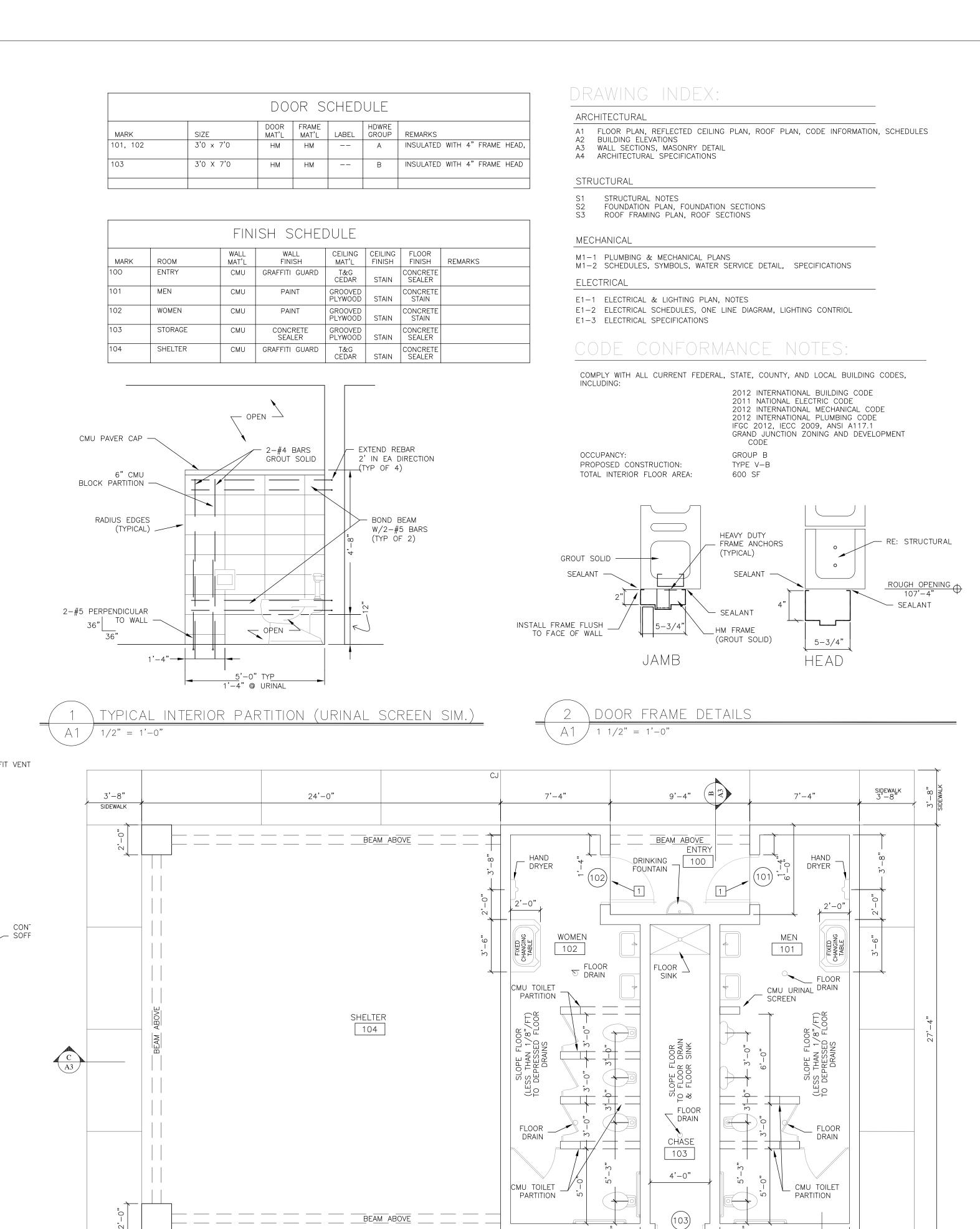
STRUCTURAL:
LINDAUER DUNN, INC
ATTN: JEFF DUNN
802 Rood
Grand Junction, CO
81501
(970) 241-0900

MECHANICAL/ELECTRICAL:
BIGHORN CONSULTING
ENGINEERS
ATTN: Blaine Buck
569 S Westgate Dr
Grand Junction, CO
81505
(970) 241-8709



DRAWING NO.

A1



9'-4"

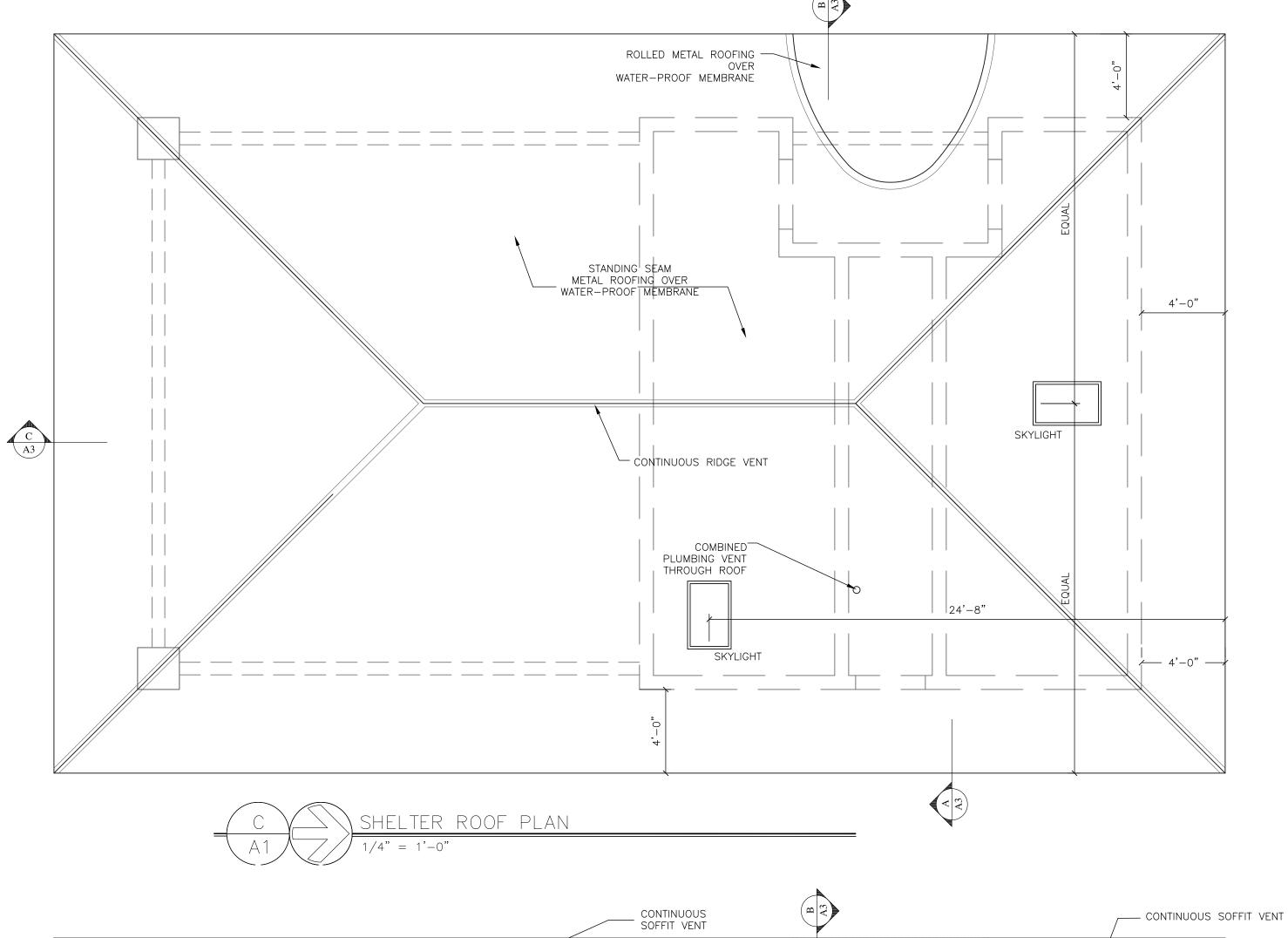
1. TOP OF INTERIOR CONCRETE SLAB AT +100'-0". TOP OF EXTERIOR CONCRETE

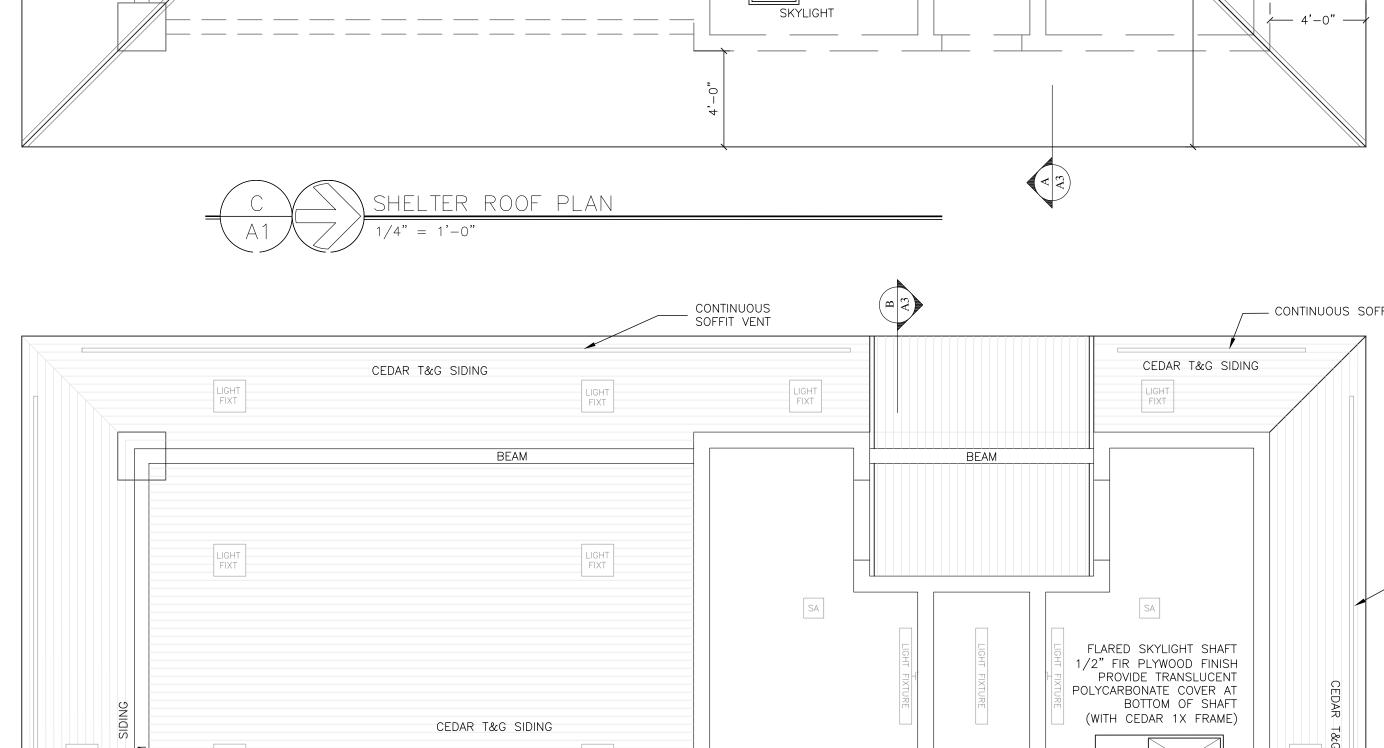
SLAB AT 1/2" BELOW INTERIOR CONCRETE SLAB AT DOOR, TYPICAL.

FLOOR PLAN KEYNOTES #

CJ = SIDEWALK CONTROL JOINT

SHELTER FLOOR PLAN





LIGHT

CEDAR T&G SIDING

1/4" = 1'-0"

PROVIDE TRANSLUCENT POLYCARBONATE

CONTINUOUS

SOFFIT VENT

FLARED SKYLIGHT SHAFT

1/2" FIR PLYWOOD FINISH

(WITH CEDAR 1X FRAME)

SHELTER REFLECTED CEILING PLAN

COVER AT BOTTOM OF SHAFT

1/2" GROOVED EXTERIOR GRADE

PLYWOOD (STAIN)

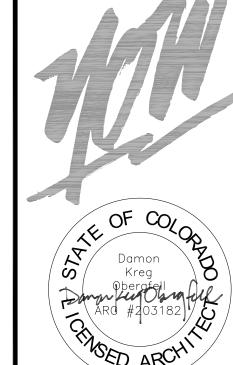
1/2" GROOVED EXTERIOR GRADE

PLYWOOD (STAIN)

22" X 36" PLYWOOD

LIGHT FIXT

ATTIC CRAWLSPACE DOOR

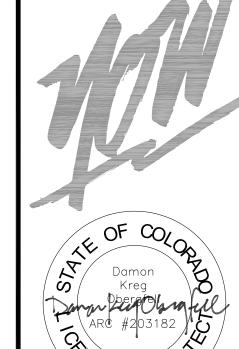


**ARCHITECTS** 

Shelter Colonias Park Las

Job No. 14.126 File A Sheets Drawn By DKO Date 10/21/2014

DRAWING NO.



ado Springs, CO 719-475-8133 ARCHITEC

Las Colonias Park Shelter

Job No. 14.126 Directory Grand Junction, Las Colonias File A Sheets Drawn By DKO Date 10/21/2014

DRAWING NO.

**A3** 

Work required by the successful bidder of this project shall be conducted in B. Store and protect products in accordance with manufacturers' a professional manner and to the satisfaction of the Architect. If the instructions and information contained in the Construction Documents are not sufficient for the Contractor to produce high quality work or if discrepancies or questions exist, the Contractor shall request interpretation, clarification or corrections prior to bidding. If the Contractor fails to take such action work must be be performed in a satisfactory manner and requests for additional time or fees may be denied. By submitting a bid, the Contractor represents that he fully understands the nature and extent of the work, all factors and conditions affecting or which may be affected by it and characteristics of its various parts and elements and their fitting together and functioning.

- PROJECT COORDINATION A. The Contractor shall be responsible for coordination of the Project. It is recognized the the Construction Drawings are diagrammatic in showing certain physical relationships of the various elements and systems and their interfacing with other elements and systems. Establishment and coordination of these relationships is the exclusive responsibility of the Contractor. Each entity involved in the performance of the Work shall cooperate in the overall coordination of
- B. The Owner shall designate a Project Coordinator who shall represent and be authorized to act on behalf of the Owner with respect to the
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of
- ambiguities and conflicts E. Comply with instructions of the Project Coordinator for use of
- temporary utilities and construction facilities. F. Coordinate field engineering and layout work under instructions of the
- G. Make the following types of submittals to Architect through the Project Coordinator: Shop drawings, product data, and samples. Test and inspection reports. Closeout submittals.

A. Maintain at job site, one copy of the Construction Drawings. Make note of revisions and note the actual location of concealed controls, underground utilities and conduits for future use.

### EXISTING UTILITIES

A. Verify locations of all existing utilities prior to starting any work. Coordinate service and utility extensions to the Project site.

### WASTE DISPOSAL

A. Establish and enforce a daily system for collecting and disposing of waste materials. Provide dumpster on site.

### COMPLETE SYSTEMS

A. It is the intent of the Construction Drawings that all systems, including mechanical and electrical, be complete and functional to provide the intended or specified performance. The Contractor shall provide all incidental items and parts necessary to achieve this requirement. Provide power, utilities, piping, drains, services and their connections to A. Clean substrate surfaces prior to applying next material or equipment and systems requiring them.

## CLEANING AND PROTECTION OF THE WORK

A. At the time each unit of the work or element of the construction is completed (substantially) in each area of the project, clean the unit or element to a condition suitable for use and repair damage. Replace elements which in the opinion of the Architect are damaged beyond successful restoration. Protect, clean and restore the Project elements LAYING OUT THE WORK throughout the Construction period until the Owner officially takes possession.

## GUARANTEES

The basic warranty of the project and all of its elements shall extend for not less than one year after the Owner takes official possession.

## SECTION 01400 - QUALITY REQUIREMENTS

## CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified
- B. Comply with manufacturers' instructions, including each step in sequence. All manufactured articles, materials and equipment shall be directed by the manufacturer
- C. Should manufacturers' instructions conflict with Contract
- Documents, request clarification from Architect before proceeding D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship. E. Have Work performed by persons qualified to produce required and B.
- specified quality. F. Verify that field measurements are as indicated on shop drawings or as
- instructed by the manufacturer. G. Secure products in place with positive anchorage devices designed and
- sized to withstand stresses, vibration, physical distortion, and disfigurement.

### DEFECT ASSESSMENT A. Replace Work or portions of the Work not conforming to specified

B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct an appropriate remedy or adjust

## <u>SECTION 01600 - PRODUCT REQUIREMENTS</u>

# SUBMITTALS

payment.

- A. Submit five (5) copies of shop drawings, product data and samples for all manufactured materials. Such submittals shall be completely reviewed by the Contractor prior to delivery to the Project Manager. The Contractor shall verify conformance with the requirements of Construction Documents and shall verify dimensions and compatibility with other elements of the Project. The Contractor shall submit with such promptness as to cause no delay in his own work allowing not less than two (2) weeks for Architect's review.
- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work. . For selection from standard finishes, submit samples of the full range
- of the manufacturer's standard colors, textures, and patterns.

### RANSPORTATION AND HANDLING Coordinate schedule of product delivery to designated prepared

- areas in order to minimize site storage time and potential damage to stored materials.
- Transport and handle products in accordance with manufacturer's instructions.
- Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are

## SECTION 01600 - PRODUCT REQUIREMENTS (continued)

- STORAGE AND PROTECTION
- instructions. Store with seals and labels intact and legible.
- Prevent contact with material that may cause corrosion, discoloration, or staining
- Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

## <u>SECTION 01700 - EXECUTION REQUIREMENTS</u>

- COORDINATION A. Coordinate scheduling, submittals, and work of the various sections of the Project Requirements to ensure efficient and orderly sequence of installation of interdependent construction elements, with
- provisions for accommodating items installed later. Notify affected utility companies and comply with their requirements. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- Coordinate space requirements, supports, and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other
- installations, for maintenance, and for repairs. E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of
- fixtures and outlets with finish elements. Coordinate completion and clean—up of work of separate sections. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

Documents, to minimize disruption of Owner's activities.

- Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a
- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached. C. Take field measurements before confirming product orders or beginning
- fabrication, to minimize waste due to over—ordering or misfabrication. D. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

- B. Seal cracks or openings of substrate prior to applying next material or substance
- Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond

A. Promptly notify Architect of any discrepancies discovered.

## GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with nufacturer's instructions and recommendations, and so avoid waste due to necessity for replacement. B. Make vertical elements plumb and horizontal elements level, unless
- otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated. D. Make consistent texture on surfaces, with seamless transitions,
- unless otherwise indicated. Make neat transitions between different surfaces, maintaining texture and appearance.

## CUTTING AND PATCHING

- applied, installed, connected, erected, used, cleaned and conditioned as A. Execute cutting and patching including excavation and fill to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and 8. Interior concrete shall be sufficiently cured to allow concrete to
  - to fit products together to integrate with other work. Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing. In
  - existing work, minimize damage and restore to original condition. C. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
  - Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval. Restore work with new products in accordance with requirements of
  - Contract Documents.
  - Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material to full thickness of the penetrated element. Refinish surfaces to match adjacent finish. For continuous surfaces,
  - Make neat transitions. Patch work to match adjacent work in texture GENERAL PROCEDURES AND PROJECT CONDITIONS and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

refinish to nearest intersection or natural break. For an assembly,

## PROGRESS CLEANING

refinish entire unit.

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the
- Remove debris, junk, and trash from site.
- Leave site in clean condition, ready for subsequent work. E. Clean up spillage and wind-blown debris from public and private lands.

## PROTECTION OF INSTALLED WORK

D. Clean filters of operating equipment.

A. Protect installed work from damage by construction operations.

### A. Adjust operating products and equipment to ensure smooth and unhindered operation.

- A. Use cleaning materials that are nonhazardous. B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

### <u>SECTION 01700 - EXECUTION REQUIREMENTS</u> (continued) CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Notify Architect when work is considered ready for Substantial
- Completion. C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's
- D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.
- Notify Architect when work is considered finally complete. Complete items of work determined by Architect's final inspection.

## <u>SECTION 02200 - EARTHWORK</u>

- TEST REPORTS-EXCAVATING, FILLING AND GRADING A. The Owner, at his own discretion and cost, may engage soil testing and inspection service (Soils Engineer) for quality control testing
- during earthwork operations. B. The Soils Engineer shall be consulted as an Owner's representative and B. Shop Drawings: Indicate materials, component profiles and elevations, shall approve fill materials, method of placement, moisture contents and percent compaction. Soil materials, whether from sources on or off site must be approved by the Soils Engineer as suitable for intended use and specifically for foundation bearing, fill and backfill.
- be staked on site and approved by the Owner's Project Manager. D. Finished Excavation shall be observed by the Soils Engineer and Structural Engineer prior to placement of any Concrete.
- E. Backfill material shall be free of deleterious material and rocks having a diameter of more than 4". Fill material in areas to receive new concrete walks shall be placed in even layers not exceeding 8" of loose depth and uniformly compacted as directed by the Soils Engineer (not less than 95 percent of maximum dry density as defined by ASTM D698). Provide organic topsoil in other disturbed areas, compact and grade to match adjacent areas. Grade areas surrounding the structure to cause rapid runoff of surface water. Provide the slope required by the Soils Engineer or not less than 6" in 12 feet. Finish grade surfaces shall be free from irregular changes and within 0.10 foot of required sub or finish grade elevations. Spread stockpiled topsoil and compact to minimum six (6) inch depth at all areas not designated for walks, paving or structures.

## SECTION 03300 - CONCRETE

- A. STANDARDS. Conform to applicable ACI and ASTM Standards including but not limited to:
- ACI 301 Specifications for Structural Concrete for Buildings ASTM C-94 Specifications for Ready-Mixed Concrete
- ACI 318 Building Code Requirements for Reinforced Concrete <u>SUBMITTALS</u>. Furnish proposed design mix for each class of concrete
- specified, a minimum of two (2) weeks prior to placement. Provide product data for curing and sealing compounds. CONCRETE MATERIALS. Refer to the Structural drawings for concrete
- strength and reinforcing requirements. D. STAINING AND SEALING COMPOUNDS. Lithochrome Tintura Stain and
- Scofield Selectseal—W by L.M. Scofield Co., or approved equal. Construct forms complying with ACI 347, to the exact sizes, shapes, lines and dimensions shown, and as required to obtain accurate alignment, location, grades, level and plumb work in finished
- structures. Plumbing and utilities which pass through floor slabs shall be isolated from the slab. 2. Comply with the specified codes and standards, and Concrete Reinforcing Steel Institute recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports, and coordinate locations of dowels with the
- Masonry Contractor. Furnish ready—mixed concrete mixed and delivered per ASTM C94. Place concrete in compliance with the practices and recommendations of ACI 304R-89, and as herein specified. Protect freshly placed concrete from premature drying and excessive cold and hot temperatures, and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete. Cure in accordance
- with ACI 301 procedures. 5. After placing slabs, plane the surface to a tolerance not exceeding 1/8 inch in two feet. Slope surfaces uniformly to drain where
- required. After leveling, finish per the Architect. 6. Apply float finish to monolithic slab surfaces that are to receive trowel finish and other finishes as hereinafter specified. At Interior floors, apply trowel finish, unless otherwise shown. At Exterior walks, apply a non-slip broom finish. Broom finish shall be applied
- perpendicular to length of walk. 7. Do not use liquid curing materials on interior flatwoor. Cure interior flatwoork with new, nonstaining, high quality curing paper.
- become reactive, minimum 28 days. Prepare surfaces and apply stain and sealer in strict conformance with A. SKYLIGHTS: Provide Model #2448G by AIA industries or approved manufacturers directions.

## SECTION 04220 - MASONRY

A. ASTM C90-03. All applicable NCMA TEK publications.

A. Product Data on Conctrete Masonry Units, reinforcing and all accessories. CMU and mortar color samples.

## CONCRETE MASONRY UNITS

A. Provide light weight colored CMU with a compressive strength not less than 1900 psi. Architect shall select colors and pattern.

# Comply with applicable codes and National Concrete Masonry

- Association TEK publications 2. Install units in a running bond pattern with concave mortar joints. Rake out mortar in preparation for application of sealants. Prevent grout, mortar or other materials from staining the face of masonry
- to be left exposed. Provide high quality colored mortar, Type M or S in accordance with Table No. 2103.7 of the International Building Code. Submit True Tone Mortar colors for selection by the Architect. 4. Insulate exterior walls with Perlite.

## <u>SECTION 06100 - ROUGH CARPENTRY</u>

A. All lumber shall be gradestamped by an agency certified by the Board of  $\frac{4}{2}$ . Review of the American Lumber Standards Committee, Inc. and manufactured in accordance with Product Standard PS 20, as published by the U.S. Department of Commerce.

A. Provide product data. Provide Cedar Siding samples.

- A. Framing Lumber, provide Hem-Fir dress lumber, S4S, unless otherwise noted, kiln dried to maximum 19% moisture content, Stud Grade with Fb = 675 psi and E = 1,200,000 psi.. Plywood concealed, APA rated sheathing grade, Exposure 1, Group 1 or 2 species for wall and roof
- B. Plywood soffits, 1/2" fir siding with grooves @ 4", T-1-11 or approved A. All doors and frames shall be manufactured of commercial quality cold

## SECTION 06100 - ROUGH CARPENTRY (continued)

- STK grading. D. Continuous soffit vents, aluminum, painted brown, provide model SV202 by Airvent or approved equal.

C. Comply with recommendations of the APA for installation of plywood.

C. Cedar siding (for soffits), 1x4 tongue and groove, Select Tight Knot —

## INSTALLATION

- A. Refer to International Building Code for maximum span tables and fastening schedules. B. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.

Provide Simpson Strong—Tie Panel Sheathing Clips to brace unsupported

## SECTION 06194 - FABRICATED WOOD TRUSSES

## SUBMITTALS

A. Trusses shall be designed by a professional engineer employed by the Manufacturer and registered in the State of Colorado. assembly methods, details, fastening methods, accessory listings,

C. Location of the new structure and proposed Finish Floor Elevation shall

A. Follow Manufacturer's installation instructions and recommendations. B. Lift trusses into position, taking care to prevent out-of-plane bending. Set and secure level, plumb and at correct locations. Install permanent bracing and bridging prior to application of loads.

## <u>SECTION 07210 - BUILDING INSULATION</u>

hardware location and design loads.

## PRODUCTS

A. MINERAL/GLASS FIBER BATT INSULATION. Glass or other inorganic (non-asbestos) fibers formed with binders into resilient, flexible blankets or semi—rigid batts; ASTM C665, types as indicated, density not less than 0.5 pounds per cubic foot for glass and 2.5 pounds per cubic foot for mineral wool; thermal conductivity (k-value at 75oF) of 0.27; manufacturer's standard sizes, thicknesses to provide R-30 at roofs.

A. Comply with manufacturer's instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work. Extend insulation full thickness as shown over entire surface to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation and mastic. Apply a single layer of insulation of the required thickness, unless

### otherwise shown or required to make up the total thickness. <u>SECTION 07610 - METAL ROOFING</u>

A. Product data. Color samples.

### A. Continuous length—roll formed panels with 1 3/4" tall ribs on 16 inch centers. Fastening system shall be concealed. Panel

all flashings and fascia trims in materials and colors to match the roofing panel. Provide Snap—Clad metal panel system by PAC-CLAD Petersen Aluminum or approved equal. Panel finish

materials shall be minimum 24 gauge. Roof system shall include

selected from manufacturer's full line of colors including metallic B. Provide all necessary items, trims, clips, nuts, and bolts necessary

### for a sound and secure weather—tight installation. C. W.R. Grace Ice and Water Guard roof underlayment, or approved

- EXECUTION A. Comply with manufacturer's instructions for the particular conditions of installation. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific
- recommendations before proceeding with the work. B. Roll form radius roof panels as required to meet profile of arched C. Install metal roofing over a self adhesive, composite 40 mil

## SECTION 07720 - ROOF ACCESSORIES

## SUBMITTALS

A. Product data.

rubberized membrane.

equal. Skylight shall be manufacturer's standard curb mount skylight. Provide curb extension as required for proper installation of skylight, membrane flashings, metal roofing, roofing flashings and roof insulation. Outside unit dimensions shall be approximately 24x48 (inches). Provide with heat—mirror treated, clear Glazing.

## Fabricate units to withstand 40 pound live loading.

- EXECUTION A. Separate metal surfaces of roof accessories from dissimilar metals, and from wood and cementitious substrates, by a thick coating of fibrated bituminous compound or other separation as recommended
- by the metal manufacturer, and as required to prevent corrosive B. Anchor roof accessories permanently to the substrate by methods which are adequate for the sizes and locations of units. Comply with manufacturer's instructions for the particular conditions of installation. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before

## <u>08100 - HOLLOW METAL DOORS AND FRAMES</u>

proceeding with the work.

- STANDARDS 1. ANSI/SDI-100-98 - Recommended Specifications for Standard Steel
- 2. SDI-105-91 Recommended Erection Instructions for Steel Frames 3. SDI-107-78 - Hardware on Steel Doors (reinforcement application) ANSI-A250.4-1994 - Steel Doors and Frames Physical Endurance

Conform to HMMA 861 standards except where more stringent

requirements are specified 6. IBC 2006 — International Building Code 7. ANSI-A117.1 - Accessible and Usable Building and Facilities

steel per ASTM-A569.

A. Submit shop drawings showing fabrication and installation of standard door and frame types, conditions at openings, details of construction, location and installation requirements of door and frame hardware reinforcements, and details of joints and connections. Show anchorage and accessory items.

rolled steel per ASTM—A366 and A568 general requirements or galvanized

Internal reinforcing may be manufactured of hot rolled pickled and oiled

to A60 or G60 minimum coating weight standard per ASTM—A924.

### <u>08100 - HOLLOW METAL DOORS AND FRAMES (continued)</u> PRODUCTS

- B. Supports and anchors shall be fabricated of not less that 18—gauge
- sheet steel, galvanized where galvanized frames are used.
- C. Where items are to be built into exterior walls, inserts, bolts and fasteners shall be not dipped galvanized in compliance with ASTM-A153, C. Manufacturer's Instructions: Indicate special surface preparation Class C or D as applicable.
- D. Rust inhibitive enamel or paint primer shall be used, baked on, and suitable as a base for specified finish paints complying with ANSI A224.1, "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces on Steel Doors and Frames."

- A. Provide 1 3/4" thick doors of materials and ANSI/SDI-100 grades and
- B. Exterior Doors: Level 3, Model 2 Seamless. Exterior doors shall be minimum 16—gauge steel with both lock and hinge rail edge of door intermittently welded, filled and ground smooth the full height of door. Exterior doors shall be insulated with a solid slab of expanded polystyrene or polyurethane foam permanently bonded to the inside of each face skin. The top of all doors shall be closed flush by the addition B. Surfaces: Correct defects and clean surfaces which affect work of this

A. Provide hollow metal frames for doors of types and styles as shown on the drawings and schedules. Conceal fastenings unless otherwise indicated. Exterior Frames: Level 2, 16-gauge. 5 3/4 inch jamb depth base bid, 7 3/4 inch jamb depth for stone veneer alternate.

of a 16-gauge screwed-in top cap to prevent water infiltration.

at the welded areas. All welds to be flush with neatly mitered or butted material cuts. C. All frames shall have minimum 7 gauge hinge reinforcements, 14—gauge

B. Fabricate frames with mitered and faces only welded corners, re-prime

- lock strike reinforcing, and 12-gauge closer reinforcing. D. Provide temporary shipping bars to be removed before setting frames.
- A. Comply with provisions of SDI-105, "Recommended Erection Instructions for Steel Door Frames," unless otherwise indicated. Set frames accurately in position, plumbed, aligned, and braced securely until permanent
- anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged. B. In masonry construction, install at least 3 wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Acceptable anchors include masonry wire anchors and masonry T—shaped anchors. Coordinate frame anchor placement with wall
- construction. C. Coordinate installation of hardware. D. Maximum Diagonal Distortion: 1/16 inch measured with

straight edges, crossed corner to corner.

## 08700 - DOOR HARDWARE

A. Submit copies of finish hardware schedule in vertical format, listing each door opening, and organized into "hardware sets" indicating complete designations of every item required for each door opening to function as intended. Note any special mounting instructions or requirements with the

B. Submit catalog cuts and/or product data sheets for all scheduled finish WARRANTY A. All items, except as noted below, shall be warranted in writing by the manufacturer against failure due to defective materials and workmanship PRODUCTS

completion and acceptance. In the event of product failure, promptly

### repair or replace item with no additional cost to the owner. Cylindrical locksets — Heavy Duty: Five (5) years. Door closers: Ten (10) years

hardware schedule.

HARDWARE GROUPS A. MEN and WOMEN (doors 101 and 102) — Provide pushplate, pull, deadbolt, flushbolt, closer with adjustble stop and hold open, sign, weathering, and

### B. STORAGE (door 103) — Provide storeroom type lever—lockset, latch—guard, deadbolt, overhead stop, weathering and hinges.

- A. Provide the following or approved equal:
- Hinges Hager BB1279
- Norton CLP-8301T NO SUBSTITUTIONS Closers Locksets Best 9K Series
- Deadbolts Best 9K Series Flushbolts Adams Rite Cylinder Operated Flushbolt —1870 HM Series
- (Restroom Doors to lock in the full open position) Best (verify with Owner) Push/Pulls Trimco (4" x 16")
- Latch—guard Trimco Weathering Pemko Wall Stops Rockwood

Trimco (Men, Women, International symbol of accessibility).

A. All hardware to be furnished in US32D 630 Stainless Steel Satin Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by

- referenced standards for the applicable units of hardware. A. Mount hardware units at heights indicated in the following applicable
- publications, except as specifically indicated or required to comply with the governing regulations. 1. "Recommended Locations for Builders Hardware for Standard Doors and Frames" by the Door and Hardware Institute (DHI.)
- trade practice by an experienced hardware installer. Care shall be exercised not to mar or damage adjacent work. B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and

reinstallation or application of surface protection with finishing work

specified in the Division 9 Sections. Do not install surface—mounted

items until finishes have been completed on the substrates involved.

2. All hardware shall be applied and installed in accordance with best

## SECTION 09900 - PAINTS AND COATINGS

- A. The work of this Section includes prep, priming, sanding and cleaning; painting/staining and finishing of all walls, ceilings, soffits, beams and wood trim; painting of all hollow metal door and door frames; painting of unfinished mechanical, plumbing and electrical items; application of graffiti protection; and caulking of all joints as required by these
- specifications and as directed by the Architect steel doors and frames. Include details of each frame type, elevations of B. Paint and stain colors will be selected by the Architect after all samples are submitted and approved. The Architect will issue a color schedule with an itemized list of colors to be applied. No paint shall be applied until the color schedule is issued. C. Rquirements of this section are that all items, and surfaces which are normally painted and finished in a project of this type and quality be

paint system. Typical plywood and cedar siding finished soffits and

the graffiti guard applied, prior to approval).

included. All toilet room walls shall have block—fill and an elastomeric

ceilings shall be stained. Provide a clear graffiti—guard system over CMU

- A. Product Data: Provide data on all finishing products, including VOC

SECTION 09900 - PAINTS AND COATINGS (continued)

- content. Paint color fan deck. B. Samples: Submit two paper chip samples, 8 x 8 inch in size
- illustrating range of colors and textures available for each surface finishing product scheduled.
- Maintenance Data: Submit data on cleaning, touch—up, and repair of painted and coated surfaces.

## A. Verify that surfaces are ready to receive Work as instructed by the

### product manufacturer. B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper

- Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces
- section. Remove or repair existing coatings that exhibit surface Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow
- Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch—up patches inconspicuous. Clean surfaces with solvent. Prime bare steel Interior Wood Items to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections

with sealer. Fill nail holes and cracks after primer has dried; sand

Interior Wood Items to Receive Transparent Finish: Wipe off dust and

grit prior to sealing, seal knots, pitch streaks, and sappy sections

with sealer. Fill nail holes and cracks after sealer has dried; sand

between coats. Back prime concealed surfaces before installation.

### lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

- Apply products in accordance with manufacturer's instructions. Caulk joints between similar materials, fill nail holes, prime and clean
- Two separate coats of paint or stain shall be applied. Allow applied coats to dry before next coat is applied. Apply each coat to uniform

D. Caulk joints at perimeter of plumbing fixture and wall or floor.

surfaces to be painted prior to painting

## <u>SECTION 10155 - TOILET PARTITIONS</u>

for a minimum period of one (1) year commencing on the date of final A. The work of this section includes stall doors at each of the toilets.

SUBMITTALS.

and accessories. Transmit copy of each to the Installer. Submit shop drawings for the fabrication and erection of toilet partition assemblies which are not fully described in manufacturer's data. Show all anchorage and accessory items. Provide one set actual samples of available finishes for Architect's selection. Comply with Handicap Accessibility requirements of "The Americans With

A. Submit manufacturer's detailed technical data for materials, fabrication

and installation. Include catalog cuts of hardware, anchors, fastenings

Disabilities Act." Submit setting drawings, templates and instructions

- for the installation of anchorage devices built into other work.
- density polyethylene doors and hardware by Santana or approved equal. Material: Solid Plastic High Density Polyethylene Type: Pilaster type,

Hardware and Accessories: solid plastic pilaster shoes and full

continuous plastic wall brackets, color to coordinate with system.

Finish: Colors as selected from manufacturer's standards

Partitions shall be constructed of CMU. Provide heavy—duty high

Hardware: Manufacturer's standard design, heavy—duty operating hardware and accessories, cast aluminum. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of finished to match hardware, with security screw—type heads and nuts.

### For each stall, pull, heavy slide bar latch, rubber—tipped bumpers, gravity hinges with concealed ball—bearing rollers. Coordinate, prepare

as required for other accessories as specified in this section. When possible, take field measurement prior to preparation of shop drawings and fabrications to ensure proper fitting of the work. Otherwise, indicate field measurements on final shop drawings. Furnish inserts and anchoring devices which must be built into other

Install partitions rigid, straight, plumb and level, with the panels laid

out as shown on Drawings. Provide clearances of not more than 1/2

work for the installation of toilet partitions and related work.

Coordinate delivery with other work to avoid delay.

### inch between pilasters and panels, and not more than one inch between panels and walls. Install door bumpers on partitions or walls.

30", (or approved equal)

installation instructions to the Installer.

Baby Changing Stations, Koala Kare KB112-01RE

Grab Bars, Bradley Model 812 (or approved equal)

SECTION 10800 - TOILET ACCESSORIES A. Submit product literature of each proposed accessory to the Architect for review and approval. Submit manufacturer's technical data and

installation instructions for each accessory. Transmit copies of

for the installation of anchorage devices built into other work.

Comply with Handicap Accessibility requirements of "The Americans With

Disabilities Act." Submit setting drawings, templates and instructions

A. The work of this section includes the following items: Hand Dryer, World Hand Dryer model XA5 surface mount.

Stainless Steel Mirrors (provide at each lav), Bradley Model 748, 24" x

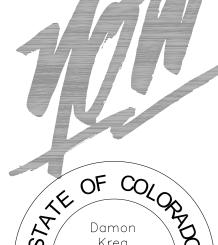
Napkin/Tampon Disposal (provide at each women's toilet), Bradley 4722-15 (or approved equal) Toilet Paper Holders, Supplied by Owner, Installed by General Contractor

## Paper Towel Dispenser, Supplied by Owner, Installed by General

- INSTALLATION Use concealed fastenings. Provide anchors, bolts and other necessary anchorages, and attach accessories securely to walls and partitions in locations as shown or directed.
- material as the accessories, or of galvanized steel, as recommended by Install exposed mounting devices and fasteners finished to match the accessories.

Install concealed mounting devices and fasteners fabricated of the same

Provide theft—resistant fasteners for all accessory mountings. Secure accessories in accordance with the manufacturer's instructions for each item and each type of substrate construction. and stone surfaces that are not painted (submit a sample of each with Unless otherwise indicated, align units with fixtures, other elements and as directed by Architect. Conform to The Americans With Disabilities Act for positions and mounting heights for access to the handicapped.



9

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elte  $\Box$ S olonias

A Sheets

Job No. 14.126 Directory Grand Junction, Las Colonia Drawn By DKO 10/21/2014

Job No. 14.109 Directory Grand Junction, Las Colonias File S Sheets Drawn By JDG Revised

DRAWING NO.

 ANCHOR BOLT ADD'L ADDITIONAL ADJACENT A.I.S.C. - AMERICAN INSTITUTE OF STEEL CONSTRUCTION ALT. ALTERNATE ARCHITECTURAL ARCH. A.S.T.M. - AMERICAN SOCIETY FOR TESTING & MATERIALS BLDG. BUILDING BM. B.O. BOT. BEAM BOTTOM OF BOTTOM BSMT. BASEMENT BETWEEN CANT. CANTILEVER CARDBOARD CHAMFER C.J. CLR. - CONTROL/CONSTRUCTION JOINT - CLEAR, CLEARANCE C.M.U. - CONCRETE MASONRY UNIT COL. COLUMN CONC. CONCRETE CONN. CONNECTION CONST. CONSTRUCTION CONT. CONTINUOUS CONTR. CONTRACTOR CTRD. CENTERED - CURTAIN WALL DET. DIAG. DETAIL DIAGONAL DIAM. DIAMETER DIM. DIMENSION DISCONT. - DISCONTINUOUS DEAD LOAD DWG. DRAWING EACH EACH FACE

- SIMPSON TYPE

- G.L. 5 1/8x12

EACH SIDE

4'-8"

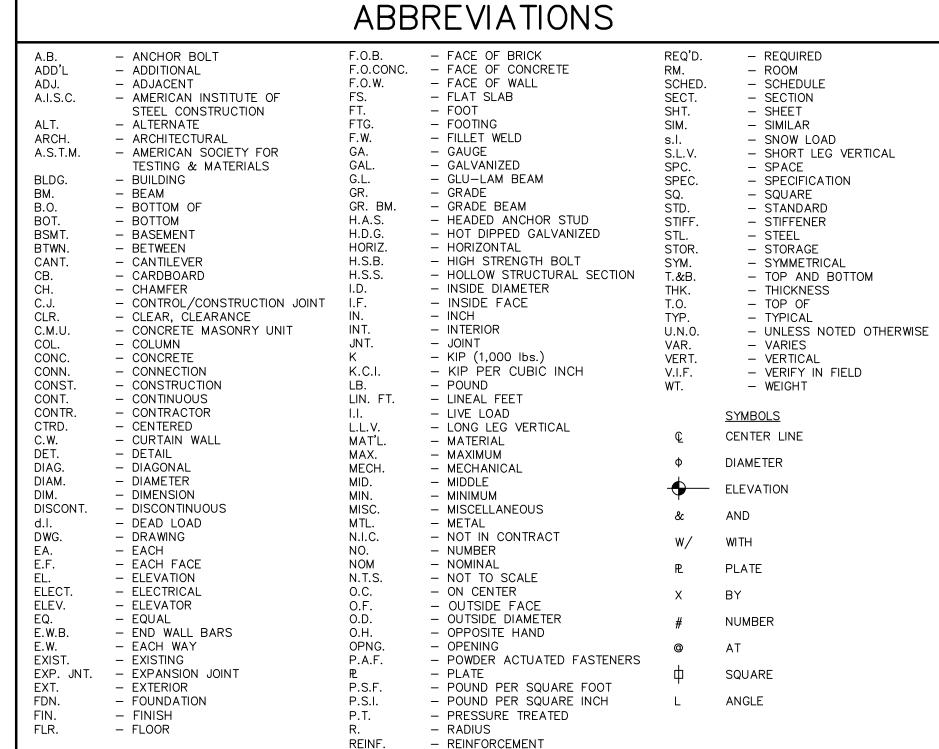
3/4"=1'-0

(TYP.)

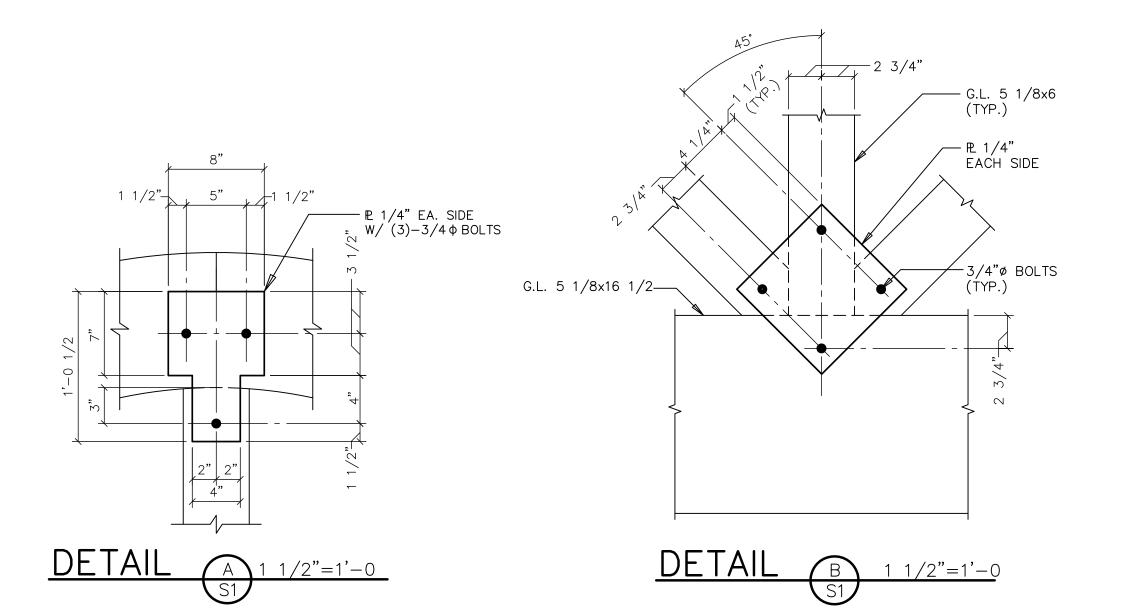
CURVED MEMEBER

(TYP. EACH SIDE)

"A34" CLIP



REINFORCEMENT



(7 THUS:)

2x10 SOLID -

CANTILEVER

& T-1

G.L. 5 1/8×16 1/2 —

8" C.M.U. -

SEE REINF.

SHEET S1

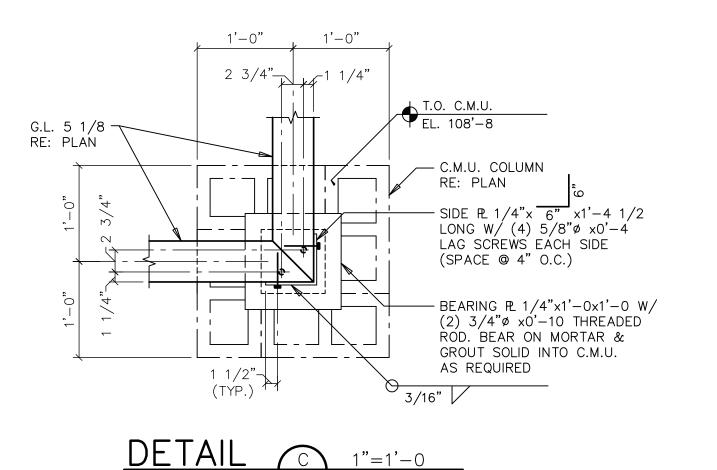
TRUSS BEARING EL. 108'-9"

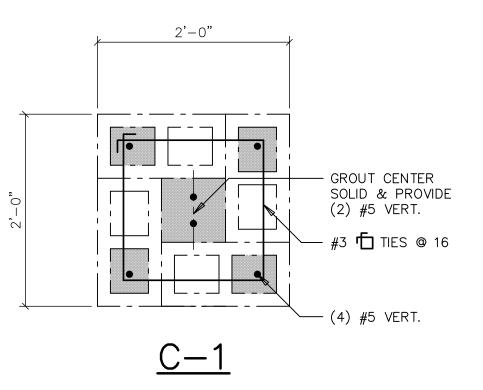
SCHEDULE ON

BLOCKING @

4'-8"

TRUSS T-1





C.M.U. COLUMN DETAIL

V <sub>asd</sub>	89 mph 0.018
ос <sub>рі</sub> ————————————————————————————————————	0.018
C. SEISMIC	
SEISMIC USE GROUP	I
IMPORTANCE FACTOR (Ie)	1.0
SPECTRAL RESPONSE COEFFICIENTS	0.302
5DS	0.302 0.095
SITE CLASS	0.093
BASIC SEISMIC	
FORCE RESISTING SYSTEM	ORDINARY REINFORCED MASONRY
	5k
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE
2. CONCRETE:	
A. ALL CONCRETE SHALL DEVELOP 3,000 PSI COMP	
B. ALL REINFORCING SHALL CONFORM TO ASTM A6	
C. NO SPLICES OF REINFORCEMENT SHALL BE MADE	
BY THE STRUCTURAL ENGINEER. LAP SPLICES,	
OF 36 BAR DIAMETERS. MAKE ALL BARS CONTI	
D. STAGGER SPLICES A MINIMUM OF 4'-0 FOR TOP FOUNDATIONS, UNLESS OTHERWISE SHOWN OR NO	
FOUNDATIONS, UNLESS OTHERWISE SHOWN OR IN	OTED.
3. WOOD:	
A. ALL BEAMS AND HEADERS 2 TO 4 INCHES THICK	SHALL BE HEM—FIR NO. 2 AND BETTER
WITH Fb = $850$ PSI AND E = $1,300,000$ PSI.	O ODADE WITH EL CZE DCI AND
B. STUDS AND PLATES SHALL BE HEM-FIR IN STUD E = 1,200,000 PSI.	) GRADE WITH FD = 6/3 PSI AND
C. GLUE LAMINATED (G.L.) BEAMS:	
(1) ALL LAMINATED MEMBERS SHALL BE FABRICA	ATED WITH ONE OF THE FOLLOWING SPECIES:
DOUGLAS FIR, HEMLOCK, LARCH, OR SOUTHE	
(2) LAMINATED MEMBERS SHALL BE DETAILED AN	ND FABRICATED IN ACCORDANCE WITH THE
STANDARD SPECIFICATIONS FOR THE DESIGN	
LAMINATED LUMBER, PUBLISHED BY THE A.I.	T.C. AND THE APPROPRIATE LUMBER
PRODUCER'S ASSOCIATION.	
(3) LAMINATED MEMBERS SHALL BE FABRICATED	AS FOLLOWS:
a. BEAMS:	0.45 \/4
	24F-V4 24F-V8
(4) LAMINATED MEMBERS SHALL BE BUILT UP US	
MEMBER SIZES NOTED ARE NET.	SING 2 NOMINAL MATERIAL. LAMINATED
(5) MEMBERS EXPOSED TO VIEW SHALL BE FURN	JISHED IN "ARCHITECTURAL" APPEARANCE
GRADE. MEMBERS TO BE CONCEALED BY FILE	
"INDUSTRIAL" GRADE.	
(6) ADHESIVES USED SHALL COMPLY WITH THE S	SPECIFICATIONS AS CONTAINED IN
VOLUNTARY PRODUCT STANDARD PS56-73,	STRUCTURAL GLUED LAMINATED TIMBER.
WET-USE ADHESIVES ARE TO BE USED FOR	ALL MEMBERS EXPOSED TO THE WEATHER.
4. MASONRY:	
A. ALL REINFORCING IN MASONRY WALLS SHALL BE	FULLY ENCLOSED WITH GROUT. USE PEA
GRAVEL MIX WITH f'c = 3,000 PSI.	
B. CONCRETE MASONRY SHALL CONSIST OF LIGHTWE	EIGHT CONCRETE BLOCK WITH A COMPRESSIVE
STRENGTH OF 1,900 PSI.	AODTAD FOR A DISTANCE OF 04" DENEATH
C. FILL ALL VOIDS AND BLOCK CELLS SOLID WITH M AND 12" EACH SIDE OF ALL BEAM REACTIONS O	
OTHERWISE SHOWN OR NOTED.	N OTHER CONCENTRATED LOADS, UNLESS
D. MASONRY IS TO BE LAID IN TYPE "M" OR "S" M	ORTAR IN ACCORDANCE WITH TABLE NO.
	TYDE "N" MASONDY CEMENT MODIAD IS NOT

GENERAL NOTES

A. ROOF (SNOW) ----- 30 PSF

EXPOSURE ----- C

BUILDING CATEGORY ----- II

IMPORTANCE FACTOR (Iw) ----- 1.0

V<sub>ult</sub> ----- 115 mph

1. LIVE LOADS USED IN DESIGN:

5. FOUNDATIONS: FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS BY HUDDLESTON BERRY, JOB NO. 00208-0044. RECOMMENDATIONS IN THIS REPORT SHOULD BE FOLLOWED. A. ALLOWABLE SOIL BEARING PRESSURE-----1,500 PSF B. MODULUS OF SUBGRADE REACTION -----250 KCF SOILS ENGINEER OF RECORD SHALL EXAMINE EXCAVATION TO VERIFY BEARING PRESSURE AND SOILS

2103.7 IN THE INTERNATIONAL BUILDING CODE. TYPE "N" MASONRY CEMENT MORTAR IS NOT

E. MASONRY WALLS MUST BE ADEQUATELY BRACED DURING CONSTRUCTION TO WITHSTAND

WIND AND SEISMIC LOADS. BRACING MUST REMAIN IN PLACE UNTIL ROOF (AND FLOOR)

CONDITIONS PRIOR TO CONSTRUCTION.

6. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

ACCEPTABLE.

C.M.U. R	EINFORCING SCHEDULE
	CING AT 8" C.M.U. GROUT ALL VERTICAL REINFORCING ALL EXTEND THROUGH BOND BEAMS TO 2" CLR.

DIAPHRAGMS ARE FULLY CAPABLE OF PROVIDING LATERAL SUPPORT.

EAMS TO 2" CLR. BELOW TOP OF C.M.U. USE STANDARD "DUR-O-WAL" "LADUR TYPE" @ 16" O.C. HORIZONTAL PROVIDE #5 CONT. VERTICAL EACH SIDE OF ALL OPENINGS AND CONTROL JOINTS. EXTEND 2'-0

MINIMUM EACH SIDE OF OPENING. GROUT SOLID. 5. LAP ALL VERTICAL REINFORCING MINIMUM OF 40 BAR DIAMETERS.

PROVIDE #5 x 4'-0 @ 48 DOWELS FROM STEMWALL TO C.M.U. LAP 2'-0 WITH VERTICAL REINFORCING AND GROUT SOLID.

	PLYWOO	D NAILING S	CHEDULE	
USE	THICKNESS	SPAN/INDEX RATIO	EDGE NAILING	INTER NAILING
ROOF	5/8"	32/16	8d @ 6" O.C.	8d @ 12" O.C.

1. PLYWOOD SHEATHING SHALL BE APA GRADE TRADEMARKED CDX W/ EXTERIOR GLUE. LAY UP PLYWOOD W/ FACE GRAIN PERPENDICULAR TO SUPPORTS AND STAGGER JOINTS. ALL NAILING COMMON NAILS; RING SHANKED FOR ROOF AND FLOOR SHEATHING. REFER TO TABLE ABOVE FOR USE REQUIREMENTS.

2. O.S.B. SHEATHING MAY BE USED AS AN ALTERNATE TO PLYWOOD W/ PRIOR APPROVAL OF OWNER AND ARCHITECT. O.S.B. SHEATHING SHALL HAVE A SPAN RATING EQUIVALENT TO OR BETTER THAN THE PLYWOOD IT REPLACES. ATTACHMENT AND THICKNESS (WITHIN 1/32") SHALL BE THE SAME AS THE PLYWOOD IT REPLACES.

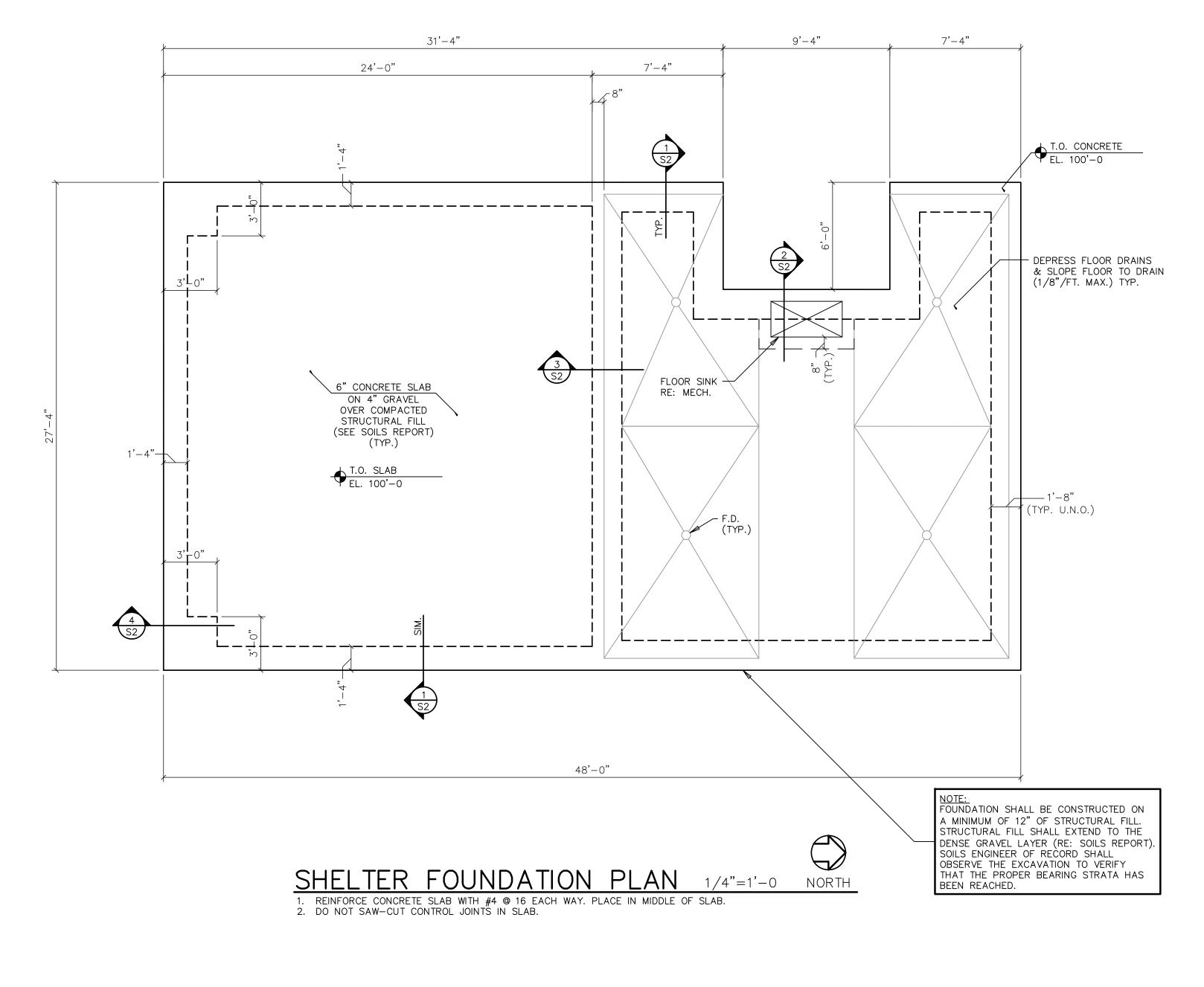
	LOOSE LINTEL SCHEDULE										
OPENING	LINTEL	BEARING EA. END	REMARKS								
3'-6 OR LESS	L 3 1/2x3x1/4	4"	S.L.V.								

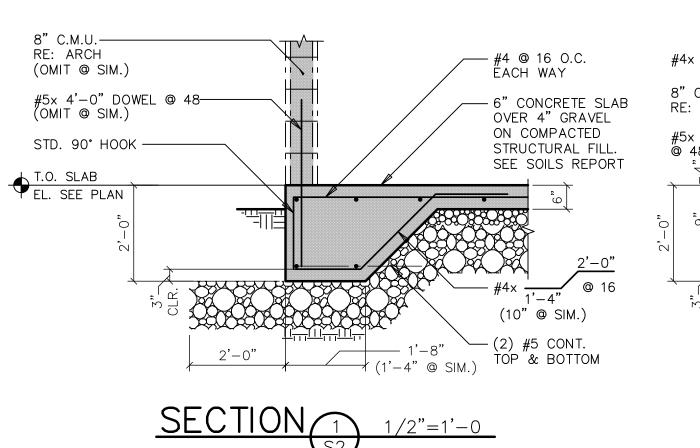
1. WHERE ANGLE LINTELS ARE REQUIRED, PROVIDE ONE ANGLE FOR EACH 4" OR LESS THICKNESS OF MASONRY.

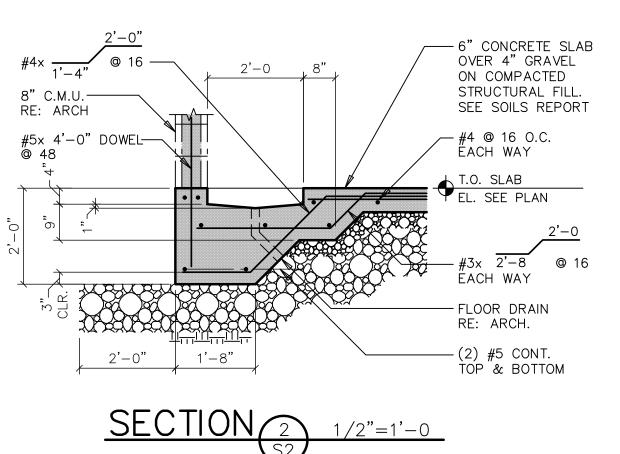
Job No. 14.109 Directory Grand Junction, Las Colonias File S Sheets Drawn By JDG

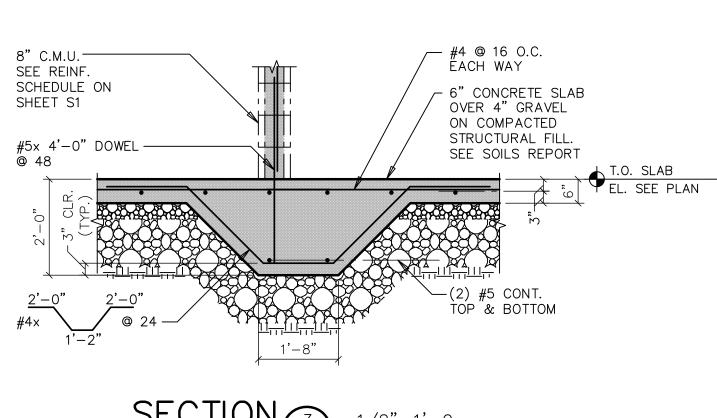
DRAWING NO.

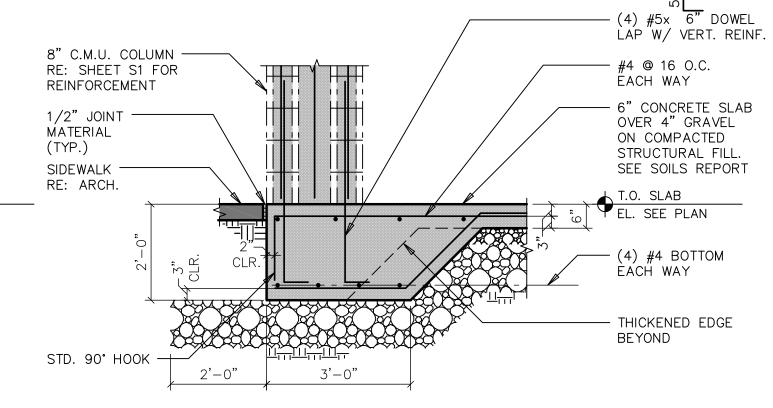
**S2** 











SIMPSON TYPE "L50" CLIP. EACH TRUSS ATTACH TO BEAM W/

@ 8" O.C.

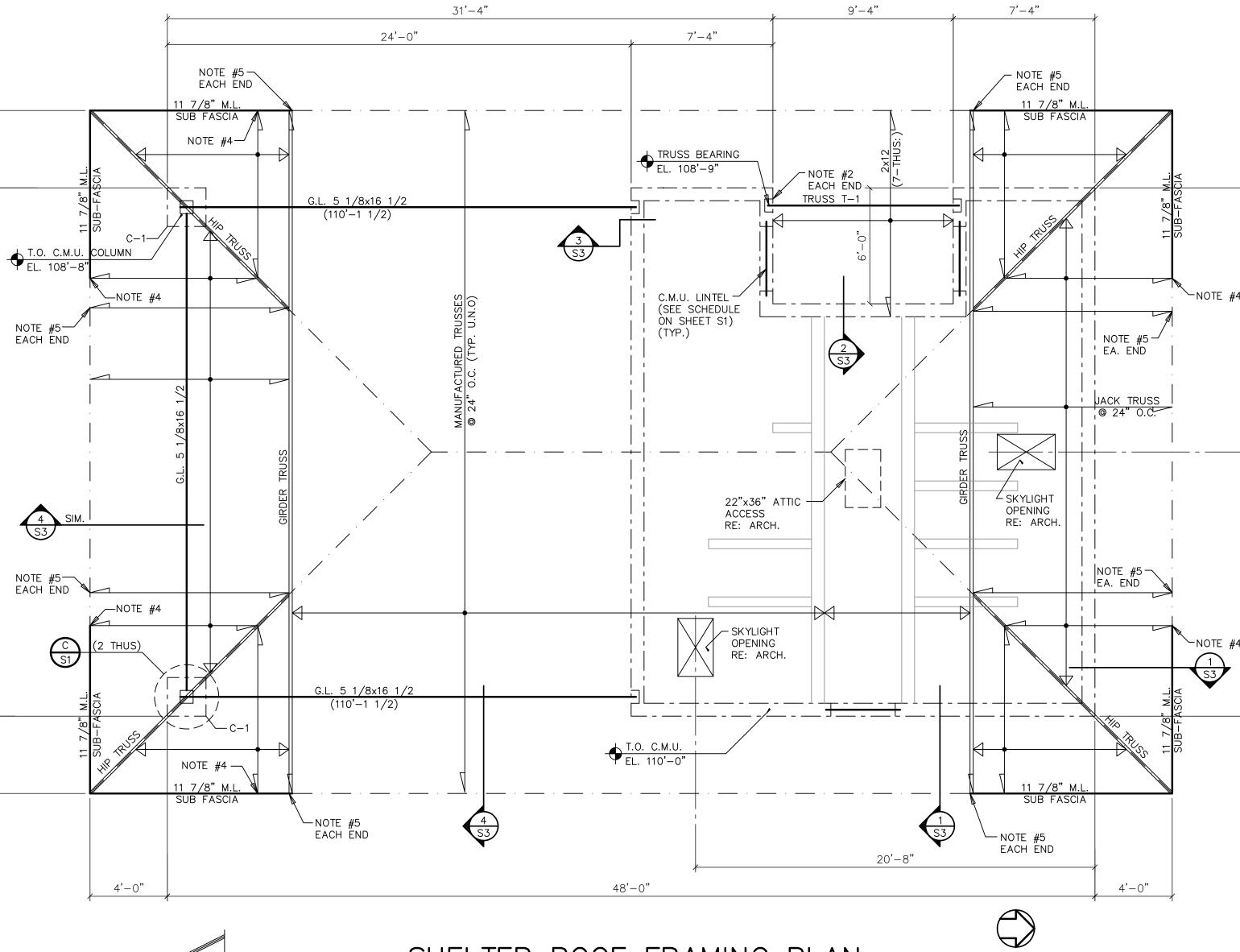
TRUSS BEARING

— G.L. 5 1/8x16 1/2

EL. 110'-1 1/2

1/4"ø x0'-4 1/2 SĆREWS

DRAWING NO.





- ALL TRUSS FRAMING CONNECTORS TO BE SIZED BY TRUSS MANUFACTURER.
   PROVIDE BEAM POCKET W/ 4" MIN. BEARING. ATTACH BEAMS W/ TYPE "HGLBA" BEAM SEAT.
- 3. DESIGN TRUSS WEB MEMBERS TO SUPPORT & ALLOW INSTALLATION AND MAINTENANCE OF MECHANICAL UNITS (REFER TO

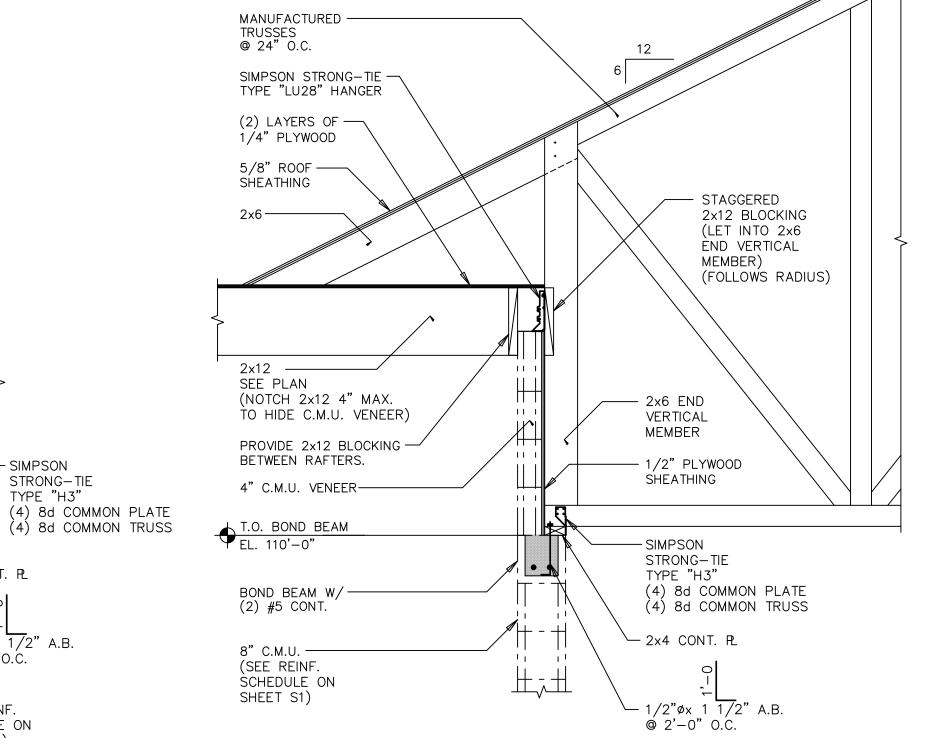
5/8" ROOF -

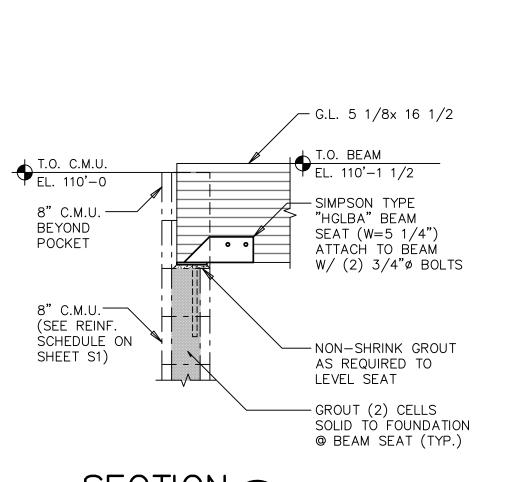
SHEATHING

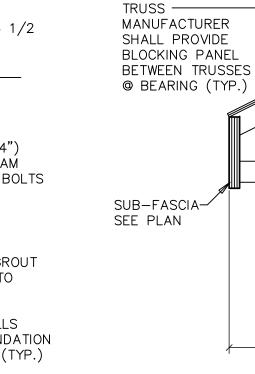
◎ 2'-0 0.C.

MANUFACTURED TRUSSES

- 4. PROVIDE TYPE "L70" CLIP.
  5. PROVIDE TYPE "LS90" CLIP.
- 6. TRUSS MANUFACTURER SHALL DESIGN TRUSS SPACING TO ALLOW FOR OPENINGS SHOWN.









- SIMPSON STRONG-TIE TYPE "H3"

---- 2x8 CONT. PL

- 8" C.M.U.

(SEE REINF.

SHEET S1)

SCHEDULE ON

1/2"øx 1 1/2" A.B. @ 2'-0" O.C.

5/8" ROOF — SHEATHING

MANUFACTURED -TRUSSES @ 24" O.C.

SUB-FASCIA-/ SEE PLAN

T.O. BOND BEAM EL. 110'-0"

BOND BEAM W/ (2) #5 CONT.

4'-0"

**SECTION** 2 3/4"=1'-0

S3

### DRAWING FLAG NOTES: <

- 1 CW DOWN ON WALL AND THROUGH WALL TO LAVATORY.  $1\frac{1}{2}$  WASTE DOWN TO 2" WASTE BELOW FLOOR AND  $1\frac{1}{2}$ " VENT UP ON WALL TO ABOVE CEILING. TRAP FOR SINK WILL BE ON THE MECHANICAL ROOM SIDE OF THE WALL.
- 1" CW DOWN ON WALL AND THROUGH WALL TO URINAL. 2" WASTE DOWN TO 2" WASTE BELOW FLOOR AND  $1\frac{1}{2}$ " VENT UP ON WALL TO ABOVE CEILING.
- 1" CW DOWN ON WALL AND THROUGH WALL TO WATER CLOSET. 4" WASTE UNDER FLOOR AND 2" VENT UP ON WALL TO ABOVE CEILING.
- COMBINE ALL VENTS TO 3" VENT THRU ROOF.
- $\stackrel{1}{=}$  CW DOWN ON WALL AND THROUGH TO DRINKING FOUNTAIN.  $1\frac{1}{2}$  WASTE DOWN ON WALL TO 2" WASTE BELOW FLOOR.  $1\frac{1}{2}$ " VENT UP ON WALL TO ABOVE
- CEILING.

  (6) 3" CW DOWN ON WALL AND THROUGH WALL TO HOSE BIBB.
- 2" VENT UP ON WALL TO ABOVE CEILING. TYPICAL ALL
- SLOPE ALL HOT AND COLD WATER LINES TO DRAIN AT LOW POINT. INSTALL VALVES TO PROVIDE FOR COMPLETE DRAIN DOWN, TO PREVENT FREEZE
- INSTANT HOT WATER HEATERS. SEE SCHEDULE FOR FURTHER INFORMATION.
- TS-1 THERMOSTAT, ROBERTSHAW MODEL 300-201 1.25 AMPS, 10 24 VOLTS. SLIMLINE PROGRAMMABLE HEATING THERMOSTAT WITH LCD READOUT AND MODEL 10-528 REMOTE SENSOR.

## GENERAL NOTE:

ALLOWED.

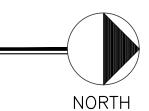
1. CONTRACTOR TO VERIFY ALL SITE UTILITIES AND MODIFY/EXTEND AS REQUIRED — PROVIDE IN BID FOR ADJUSTMENTS — NO ADJUSTMENT TO BID SUM

2. HORIZONTAL WATER PIPING SHALL BE LOCATED AS CLOSE TO CEILING AS POSSIBLE. ROUTE ALL VERTICAL DROPS DOWN TO FIXTURES IMMEDIATELY ADJACENT TO THE PLUMBING VENT FOR THAT FIXTURE. COORDINATE LAYOUT OUT WITH OWNER TO MAXIMIZE USABLE WALL SPACE

3. VENT ALL FIXTURES PER CURRENT INTERNATIONAL PLUMBING CODE REQUIREMENTS.

MECHANICAL FLOOR PLAN

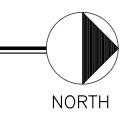
SCALE: 1/4"=1'-0'



CONNECT AT WASTE 1 1/2 SCHOOL STATE OF THE S

PLUMBING FLOOR PLAN

SCALE: 1/4"=1'-0'





YOW ARCHILECIS 15 S. Weber, Colorado Springs, CO



M. Blaine Buck, 10-28-14

fructural: ndauer Dunn lectrical/Mechanical: ighorn Consulting Engineers

Park Shelter

of Grand Junction

Job No. 14.126

Directory Grand Junction, Las Colonias

File A Sheets

Drawn By DKO

DRAWING N

M1-1

### MECHANICAL SPECIFICATIONS

- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS,
- AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED. B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK
- OF THIS NATURE. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF
- THE CONDITIONS THAT MAY EFFECT THE WORK, NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR

"APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

### 3. FLEXIBLE DUCT WORK

- A. FLEXIBLE TYPE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERIAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED
- RATING NOT EXCEEDING 50. B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN
- 6 LINEAR FEET PER RUN. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

### 4. DUCTWORK

- A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE
- WITH THE "SMACNA" APPLICABLE MANUALS. B. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED
- C. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH
- PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS. D. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS, SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW
- EXCEEDS 150 CFM. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA"
- STANDARDS AND ACCEPTED GOOD PRACTICE. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES.DIMENSIONS MAY BE

FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.

CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED. G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2"

### 5. HVAC CONTROLS

A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR A. FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

### 6. MISCELLANEOUS

DETAILS OF THE EQUIPMENT.

- A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
- DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.

  THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE
- THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE

## GUARANTEE

- MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
- FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

### PLUMBING SPECIFICATION.

### 1. SCOPE OF WORK:

- THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A
- COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION), ALL LOCAL CODES AND ALL OTHER REGULATION
- GOVERNING WORK OF THIS NATURE. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK.
- NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL

- SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE
- ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE

### 4. DOMESTIC WATER SUPPLY PIPING

- UNDERGROUND: PROVIDE TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED
- ABOVE GROUND: PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS, COPPER OR BRASS FITTINGS.
- ALL SOLDER TO BE "NO LEAD" TYPE ALL HOT WATER PIPING TO BE INSULATED WITH 1" FIBERGLASS INSULATION. ALL COLD WATER PIPING TO BE INSULATED WITH 1/2" FOAM INSULATION.

## 5. SANTARY/STORM DRAINAGE AND VENT PIPING.

- ABOVE GRADE -2" BELOW: SCH.40 GALV. STL. PIPE WITH SCREWED ENDS OR SCH. 40PVC WITH SOLVENT JOINTS OR DWV COPPER WITH SOLDER JOINTS. ALL SOLDER TO BE "NO LEAD" TYPE. -3" AND ABOVE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND
- SPIGOT JOINTS; OR SCH 40 PVC WITH SOLVENT JOINTS. BELOW GRADE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS; OR SCH 40 PVC WITH SOLVENT JOINTS. PVC PIPING SHALL NOT BE USED IN AIR PLENUM
- CEILINGS AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS, OR FLOORS. DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN
- DRAINAGE PIPING 3" SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/4" PER FOOT. AND PIPING LARGER THAN 3" SHALL BE RUN AT A GRADE OF NO LESS
- THAN 1/8"PER FOOT. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING
- ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER INTERNATIONAL PLUMBING CODE (LATEST EDITION).ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS

### 6. PIPE SUPPORTS

- ABOVE GRADE ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORMED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN INTERNATIONAL PLUMBING CODE (LATEST EDITION).
- BELOW GRADE EARTH SHALL BE EXCAVATED TO A MINIMUM DEPTH WITH AN EVEN
- SURFACE TO INSURE SOLID BEARING OF PIPE FOR ITS ENTIRE LENGTH. INTERIOR: THE PIPE SHALL BE INSTALLED (UNLESS OTHERWISE SPECIFIED)A MINIMUM OF 4
- NCHES BELOW THE BOTTOM OF THE SLAB AND SHALL NOT BE IN ANY DIRECT CONTACT WITH THE CONCRETE AT ANY POINT. EXTERIOR: THE WATER PIPE SHALL HAVE A MINIMUM OF 42" OF COVER AND THE SANITARY

## WASTE PIPE SHALL HAVE A MINIMUM OF 24" OF COVER.

### 7. MISCELLANEOUS

- COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATIONS. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS
- AND DIMENSIONS AT THE JOB SITE. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION. THE EXACT DIMENSIONS OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO

# ENSURE THAT THE EQUIPMENT WILL FIT THE AVAILABLE SPACE.

PLUMBING SYSTEM SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION).

## 9. GUARANTEE

- MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE AND BE GUARANTEED FOR THE
- SAME PERIOD.
  THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

HANG UNIT FROM STRUCTURE

SEE PLAN FOR DUCT SIZE

FLEXIBLE CONNECTION

PROVIDE CLEARANCE FOR FILTER REMOVAL

	WATER HEATER SCHEDULE												
DESIG.	MANUFACTURE & MODEL NUMBER	GPM RISE	KW OUTPUT	Ø	VOLT	LOCATION	NOTES						
WH-1	STIEBEL ELTON MINI 6	1.0 GPM @ 40 RISE	4.7 KW	1	208	IN MECH ROOM	1						
WH-2	STIEBEL ELTRON MINI 6	1.0 GPM @ 40 RISE	4.7 KW	1	208	IN MECH ROOM	1						

1. INSTANT	HOW	WATER	HEATER,	MOUNT	ON	WALL,	18"	ABOVE	FLOOR,	PROVIDE	BDT	
THERMOSTA	ATIC M	IIXING V	ALVE, IN	PIPING	CHA	SE, 💈"	CON	NECTION	NS.			

			A	AIR DEVICE	SCHEDULI		
	DESIG.	TYPE OF INSTALLATION	MANUFACTURER & MODEL NUMBER	CONNECTION SIZE	ACCESSORIES	PANEL OR FACE SIZE	NOTES
	SA-1	CEILING SUPPLY	KRUEGER SHR	8"	0.B.D.	12X12	1
	RA-1	CEILING RETURN	KRUEGER SHR	8"	OPEN THROAT	12X12	2
	EA-1	SIDEWALL	METALAIRE RH-1	8"	OPEN THROAT	12X6	3
	EA-2	SIDEWALL	METALAIRE RH-1	10"	OPEN THROAT	12X12	3
		E MOUNT, FRAME 22, STEEL GRII GRILLE CONSTRUCTION, O DEFLEC					

FIXTURE CONNECTION SCHEDULE											
WATER CLOSET (FLUSH VALVE) WASTE VENT HW CW											
WATER CLOSET (FLUSH VALVE)	3"	2"	_	1"							
URINAL (FLUSH VALVE)	2"	1-1/2"	_	1"							
LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"							
DRINKING FOUNTAIN/E.W.C.	1-1/2"	1-1/2"	_	1/2"							
FLOOR DRAIN	2"	1-1/2"	_	_							
MOP SINK	2"	1-1/2"	1/2"	1/2"							

COLD WATER SUPPLY —

1-1/2"

*WASTE PIPES	BELOW	SLABS	ON	GRADE	ARE	Α	MINIMUM	OF	2"	DIA

SIZES SHOWN ARE MINIMUM PIPE SIZES TO A SINGLE FIXTURE.

FIXTURES LISTED ARE NOT NECESSARILY USED ON THIS PROJECT.

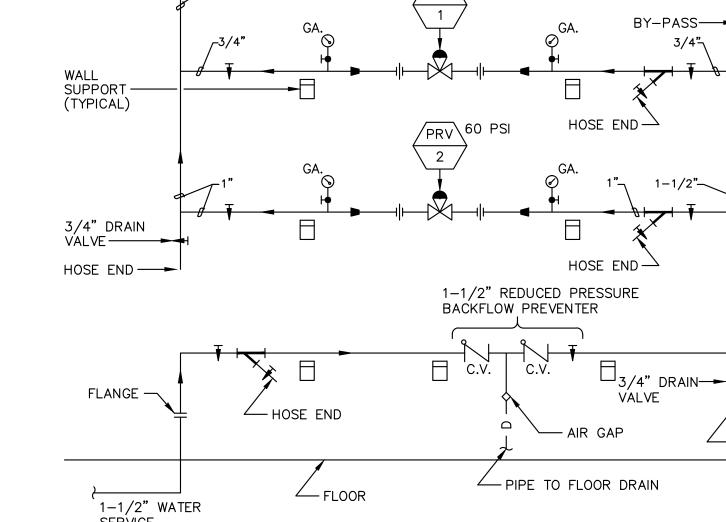
MINIMUM PIPE SIZE TO 2 OR MORE FIXTURES IS 3/4". ALL

DESIG.	UNIT DESCRIPTION	MANUFACTURER & CAT. NO.	DESCRIPTION	VOLTAGE AND PHASES	SIMILAR UNITS
DF-1	DRINKING FOUNTAIN	PROVIDED BY OWNER NONE	STERNS-WILLIAMS SINGLE BRUTE, SURFACE MOUNT DRINKING FOUNTAIN WITH FREEZE-RESISTANT VALVE SYSTEM MOUNTED ON BACK WALL	N/A	NONE
FD-1	FLOOR DRAIN	ZURN MODEL Z-415	DURA— COATED CAST IRON BODY FLOOR DRAIN WITH BOTTOM OUTLET, CLAMP, AND ADJUSTABLE TYPE B NICKEL BRONZE STRAINER. PIPE SIZE AS SHOWN ON DRAWING.	NO POWER REQUIRED	NONE
HA-1	WATER HAMMER ARRESTOR	ZURN MODEL Z-1700	SHOKTROL STAINLESS STEEL WATER HAMMER ARRESTOR WITH NESTING BELLOWS AND 1" IPS INLET	NO POWER REQUIRED	NON
HB-1	HOSE BIBB	WOODFORD MODEL 65	AUTOMATIC DRAINING FREEZELESS WALL HYDRANT WITH 3" CONNECTION, VACUUM BREAKER AND LOOSE KEY OPERATOR.	NO POWER REQUIRED	NON
LV-1	LAVATORY, ADA	KOHLER K-2007	KINGSTON VITREOUS CHINA WALL HUNG LAVATORY WITH HEAVY DUTY CARRIER, GRID STRAINER, OFFSET DRAIN, TRAP, KEYED STOPS, TRUEBRO LAV GUARD AND SLOAN ETF-600 FAUCET.	24VAC	NON
UR-1	URINAL, ADA	KOHLER MODEL K-4989-R	FRESHMAN VITREOUS CHINA WASH 1.0 GALLON URINAL WITH ¾ REAR STUD, 2" THREADED OUTLET, WALL HUNGER AND SLOAN 195-1 ES-S FLUSH VALVE	24VAC	NON
WC-1	WATER CLOSET	KOHLER MODEL K-4349	WELLCOMME VITREOUS CHINA ELONGATED 1.6 GALLON FLOOR MOUNT SIPHON JET FLUSHING ACTION TOILET WITH 1½" REAR SPUD. PROVIDE WITH OPEN FRONT SEAT, BOLT CAS. AND SLOAN MODEL 140-1.6 ES-S	24VAC	NON
WC-2	WATER CLOSET, ADA	KOHLER MODEL K-4367	HIGH CLIFF VITREOUS CHINA 17½" HIGH ELONGATED 1.6 GALLON FLOOR MOUNT SIPHON JET FLUSHING ACTION TOILET WITH 1½" REAR STUB. PROVIDE WITH OPEN FRONT SEAT, BOLT CAPS, AND SLOAN 140-1.6 ES-S FLUSH VALVE.	24VAC	NON
MS-1	CAST IN PLACE MOP SINK	SEE DESCRIPTION	CAST IN PLACE 2'X2' MOP SINK. PROVIDE FD-1 FOR FLOOR DRAIN AND FAUCET 36"A.F.F. WILLIAMS T-10-VB	24VAC	NON

									AIR	H.	ANDL	INC	<u>、</u> フ	UNI	T	SCH	HEDL	ILE			
DESIG.	AREA SERVED	CFM	EXT S.P. @ S.L.	MIN. CKT. AMPS		HEATIN KW	VG Ø	COIL VOLT	NO.	1	NSER Ø VOLT	RLA		NP. FA VOLT			VOLT	MANUFACTURE & MODEL NO.	HTG. INPUT KW	COIL COOLING CAP. MBH	NOTES
AHU-1	ENTIRE BUILDING	660	.3"	27.1	1	6	1	23								1	230	FIRST CO. 18XMBX	6		1
NOTES: 1. HORIZONTA	L FAN COIL, WITH	1/8 HP DIREC	T DRIVE THERMA	LLY PROTECTE	D MOTO	DR. 6 KW	HEAT	ER, FILTERS,	CONTAC	TOR, ANI	RELAY TO C	YCLE FA	N AND	) HEATING	ELEMEI	NTS.					

3. PROVIDE WITH FIELD INSTALLED INSECT SCREEN.

	EXHAUST FAN SCHEDULE												
DESIG.	CFM	S.P.	DIA.	RPM	WATTS	Ø	VOLT	MANUFACTURER & MODEL NUMBER	MOUNTING	POWERED BY	NOTES		
EF-1	143	.25			80.7	1	115	COOK GC 162	CEILING	SWITCH	1		
EF-1	143	.25			80.7	1	115	COOK GC 162	CEILING	SWITCH	1		
EF-2	320	.25			172	1	115	COOK GC 520	CEILING	SWITCH	1		
EF-2	2 320 .25 172 1 115 COOK GC 520 CEILING SWITCH 1												
	1. PROVIDE WITH STEEL INTERIOR GRILLES, SOLID STATE SPEED CONTROLLER, VIBRATION ISOLATORS, BACKDRAFT DAMPERS AND OCCUPANCY SENSORS TO CONTROL THE UNIT WITH THE LIGHT SWITCH.												



# AIR HANDLING UNIT MOUNTING DETAIL

AH-1

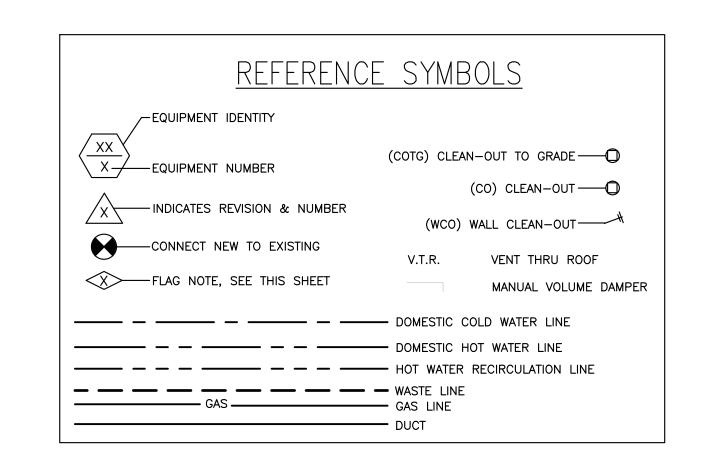
FLEXIBLE CONNECTION

VIBRATION ISOLATORS SUPPLIED WITH UNIT

SEE PLAN FOR DUCT SIZE -

PIPE TO FLOOR DRAIN SERVICE DOMESTIC WATER PRESSURE REDUCING STATION DETAIL NOT TO SCALE

PRV-1 3/4" WILKINS 600 W/ STRAINER PRV-2 1" WILKINS 600 W/ STRAINER



Job No. 14.126 Directory Grand Junction, Las Colonias A Sheets Drawn By DKO Date 10/21/2014

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Blaine Buck, 10-28-14

DRAWING NO.

### **GENERAL DRAWING NOTES:**

1. ALL CONDUITS AND CONVEYANCES SHALL BE CONCEALED.

2. SIZES OF WIRE AND CABLES ARE BASED UPON COPPER CONDUCTORS, UNLESS OTHERWISE INDICATED. ALL CIRCUITS SHALL CONTAIN (2)#12 AWG WITH (1)#12 GND IN 1/2" CONDUIT UNLESS

3. ALL PENETRATIONS IN OR THROUGH FIRE RATED PARTITIONS SHALL BE FIRE STOPPED IN SUCH A WAY THAT THE PENETRATION MATCHES THE FIRE RATING OF THE WALL.

4. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION BETWEEN THE APPROPRIATE DISCIPLINES AND CONTRACTORS.

5. COORDINATE ALL DEVICE, FIXTURE AND HARDWARE COLOR SELECTIONS WITH THE ARCHITECT PRIOR TO MAKING SHOP DRAWING SUBMITTALS.

7. ALL EXPOSED CONDUITS, BOXES, ETC. IN JANITOR'S/SERVICE ROOM SHALL BE PAINTED TO MATCH THE SURROUNDING SURFACE.

8. THE CONTRACTOR IS RESPONSIBLE FOR PATCHING, PAINTING, REPAIRING OR REPLACEMENT OF ALL WALLS, CEILING OR OTHER BUILDING ELEMENTS WHICH ARE DISTURBED AS PART OF THE INSTALLATION OF ELECTRICAL WORK.

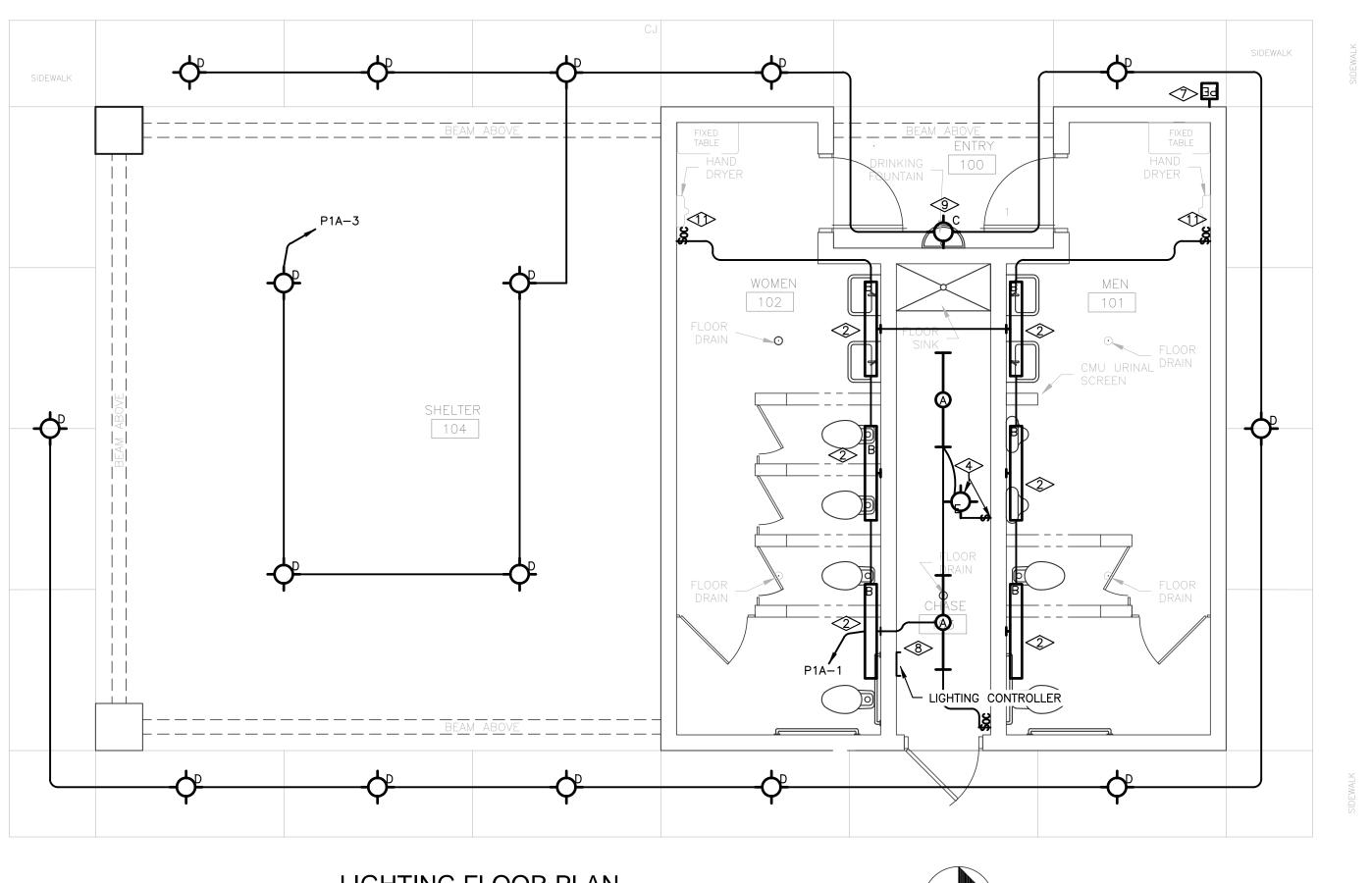
9. PROVIDE ELECTRICAL CONNECTION TO ALL FIRE SMOKE DAMPERS INCLUDING POWER AND FIRE ALARM. VERIFY EXACT SIZE AND FINAL LOCATION OF ALL DAMPERS WITH THE MECHANICAL CONTRACTOR. ALL ROOFTOP UNITS RATED AT MORE THAN 2000 CFM WILL BE OUTFITTED WITH A DUCT DETECTOR IN THE RETURN DUCT. ALL ROOFTOP UNITS RATED AT MORE THAN 15000 CFM WILL BE OUTFITTED WITH A DUCT DETECTOR IN BOTH THE SUPPLY AND RETURN DUCT AT ROOFTOP LEVEL AND IN THE RETURN DUCT AT EVERY LEVEL THAT IS SERVED. ELECTRICAL CONTRACTOR WILL PROVIDE A REMOTE TEST STATION AND ALL WIRING NECESSARY TO COMPLETE INSTALLATION.

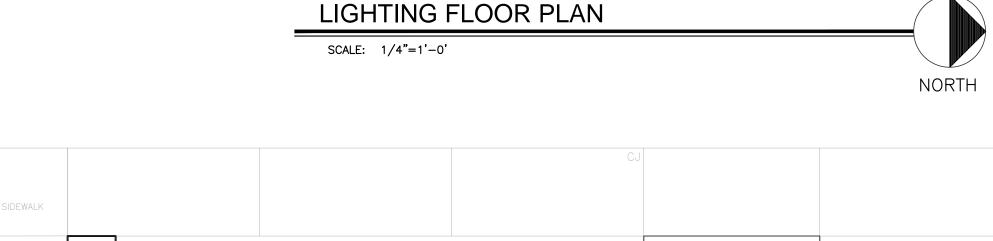
10. REFER TO THE ELECTRICAL CONNECTIONS SCHEDULE FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH PLUMBING AND HVAC EQUIPMENT AND OWNER/GENERAL CONTRACTOR FURNISHED EQUIPMENT.

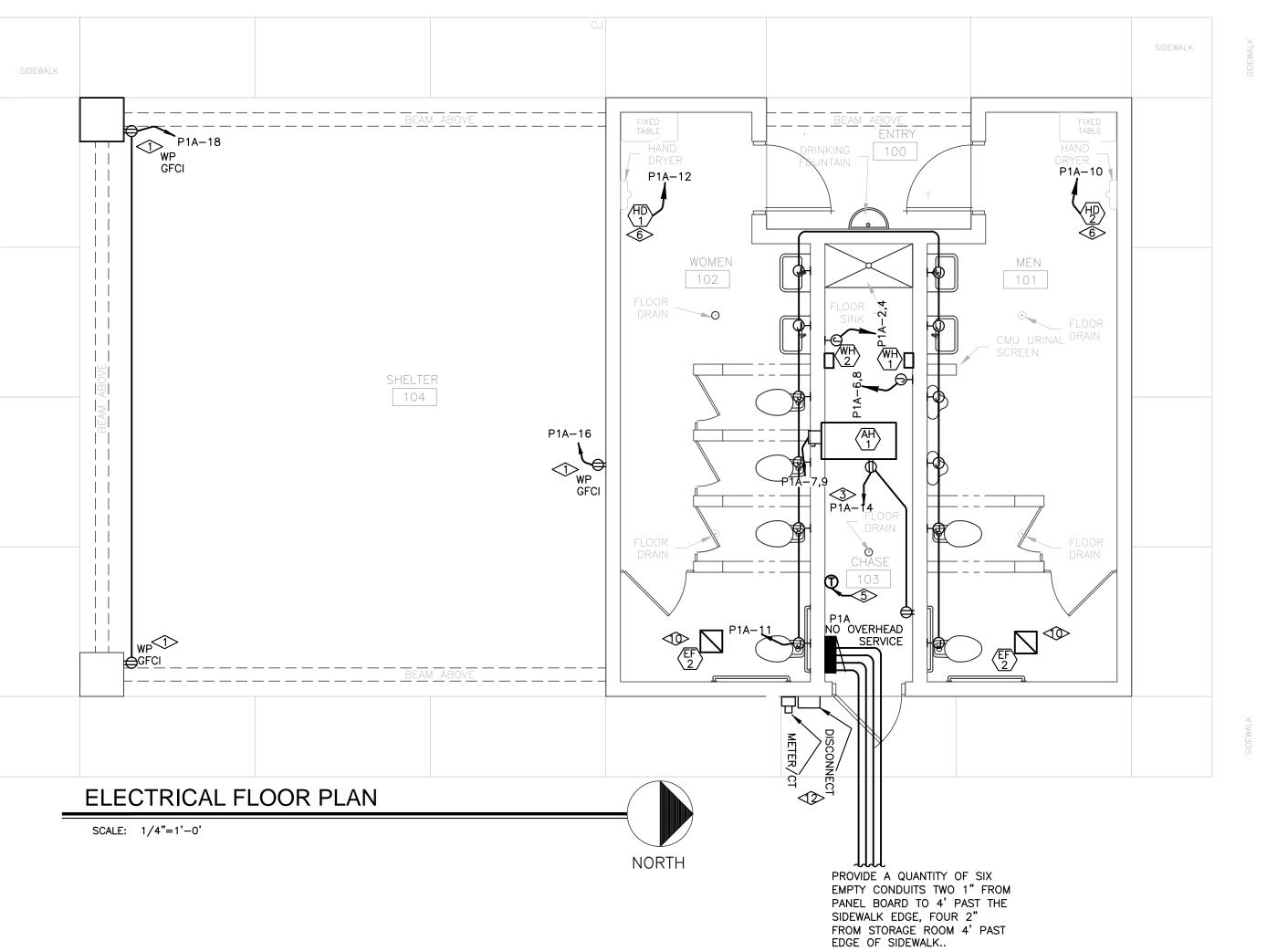
11. NOTES FROM ARCHITECT: ALL LIGHT FIXTURES SHALL BE SPACED ACCORDING TO THE ARCHITECTURAL PLANS, AT REGULAR AND REPETITIVE DIMENSIONS, CENTERED IF INDICATED. PROVIDE ALL REQUIRED WIRING TO POWER AND SWITCH LIGHT FIXTURES. CONCEAL WIRING FROM VIEW IN THE ENTRY, MEN, WOMEN AND SHELTER SPACES. WIRING IN ATTIC MAY BE WITHOUT CONDUIT IF ALLOWED BY CODE. WIRING IN STORAGE SHALL BE IN CONDUIT IF EXPOSED. COORDINATE EXACT LOCATION OF ELECTRICAL DEVICES SUCH AS RECEPTACLE SWITCHES AND CONVENIENCE OUTLETS WITH MASONRY DIMENSIONS, REQUEST CLARIFICATION IF NECESSARY. ALL RECEPTACLES TO HAVE GFCI PROTECTION. PRIOR TO BID DATE, COORDINATE WITH THE OWNER'S REPRESENTATIVE THE ELECTRICAL REQUIREMENTS FOR IRRIGATION CONTROLS, TELEPHONE, SECURITY AND DATA SYSTEMS.

**GENERAL DRAWING FLAG NOTES:** 

- EXTERIOR RECEPTACLE AND PLUG COVERS SHALL BE WEATHERPROOF TO COMPLY WITH NEC 406.8(A) AND 406.8(B)(2). THEY SHALL BE MORTARED-IN TYPE, FLUSH MOUNTED AND LOCKABLE. ALL EXTERIOR RECEPTACLE AND PLUG COVERS SHALL BE OPENED BY A SINGLE KEY. EXTERIOR RECEPTACLE AND PLUG COVERS SHALL BE MADE OF HEAVY CAST ALUMINUM OR IRON. COORDINATE COLOR WITH THE OWNER. INSTALL CONDUITS FEEDING THE SHELTER AREA RECEPTACLES UNDER SLAB.
- TYPE "B" WALL MOUNTED LIGHT FIXTURES ARE TO BE INSTALLED SO THAT THE TOP OF THE FIXTURE RESTS FLUSH AGAINST THE CEILING.
- 3 RECEPTACLE IS TO BE SURFACE MOUNTED IN THE ATTIC IN AN EASILY ACCESSIBLE LOCATION.
- 4 LIGHT FIXTURE "E" AND SWITCH ARE MOUNTED IN ATTIC SPACE. PLACE SWITCH IN LOCATION EASILY REACHED FROM THE ATTIC ACCESS DOOR.
- SEE MECHANICAL PLAN FOR DETAILS OF THERMOSTAT. CIRCUIT THERMOSTAT WITH AH-1 TO P1-7,9.
- 6 COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION.
- → PHOTOCELL TO BE PRECISION CATALOG #T-168 OR EQUAL.
- √9> MOUNT LIGHT FIXTURE IN THIS AREA AT 10'-4"
- CIRCUIT EXHAUST FAN IN THIS AREA TO P1-5 VIA LIGHTING CONTROLLER.
  PROGRAM LIGHTING CONTROL TO ENERGIZE FANS WHEN INTERIOR LIGHTS COME
- MOUNT OCCUPANCY SENSOR IN THIS LOCATION AS HIGH AS POSSIBLE TO AVOID VANDALISM. PROVIDE OCCUPANCY SENSOR WITH A ADD-A-RELAY.
- STUB (4) 1" PVC FROM P1 TO CLEAR OF CONCRETE FOR FUTURE USE.









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M. Blaine Buck, 10-28-14

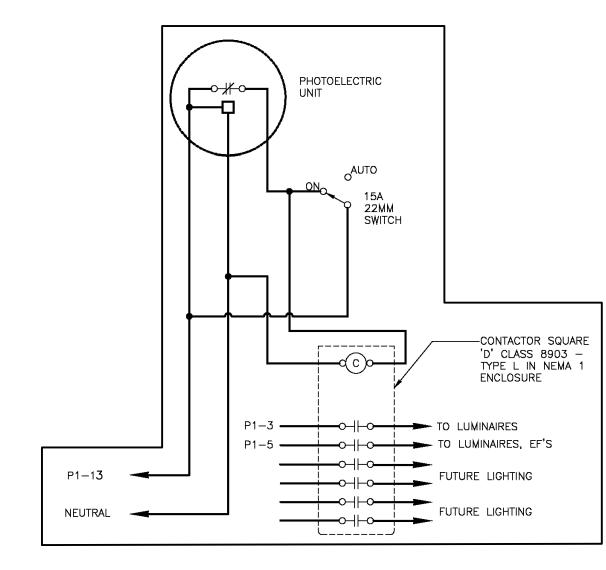
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Job No. 14.126 Directory Grand Junction, Las Colonias File A Sheets Drawn By DKO Date 10/21/2014

DRAWING NO.

E1

PANEL SCHEDULE - P1A TYPE: PANELBOARD VOLTAGE: 120/240 ENCLOSURE: NEMA1					BUS SIZE: 125 MAIN BRKR: NONE MOUNTING: SURFACE			PHASES: 1 WIRES: 3 SC RATING: 2		
LOAD TYPE	LOAD DESCRIPTION			AMPS POLES	CKT# LOAD	Ø	CKT# LOAD	AMPS POLES	LOAD TYPE	LOAD DESCRIPTION
LIGHTING	AREA LIGHTING			20A 1P	1 900	Α	2 2350	30A 2P	MECH HEATING	WATER HEATER #1
LIGHTING	VIA LIGHTING CONTI	ROLLER		20A 1P	3 800	В	4 2350		MECH HEATING	
MOTOR	EXHAUST FANS			15A 1P	5 200	Α	6 2350	30A 2P	MECH HEATING	WATER HEATER #2
MECH YEAR ROUND	AIR HANDLER			35A 2P	7 3252	В	8 2350		MECH HEATING	
MECH YEAR ROUND					9 3252	Α	10 2300	25A 1P	MECH HEATING	HAND DRYER #1
PROCESS	FLUSH VALVE			20A 1P	11 400	В	12 2300	25A 1P	MECH HEATING	HAND DRYER #2
LIGHTING	LIGHTING CONTROLLER			20A 1P	13 120	Α	14 360	20A 1P	RECEPTACLE	AREA SERVICE
SPARE	UNALLOCATED FUTURE			20A 1P	15 0	В	16 180	20A 1P	RECEPTACLE	AREA SERVICE
SPACE					17 0	Α	18 360	20A 1P	RECEPTACLE	AREA SERVICE
SPACE					19 0	В	20 0	20A 1P	SPARE	UNALLOCATED FUTURE
SPACE					21 0	Α	22 0	20A 1P	SPARE	UNALLOCATED FUTURE
SPACE					23 0	В	24 0		SPACE	
SPACE					25 0	Α	26 0		SPACE	
SPACE					27 0	В	28 0		SPACE	
SPACE					29 0	Α	30 0		SPACE	
LOADS BY TYPE:					LOADS B	Y PHAS	SE:		•	
LOAD TYPE		DEMAND FACTOR	DEMAND LOAD (VA)		PHASE			CONNECTED LOAD (VA)	CONNECT LOAD (AMPS	
LIGHTING KITCHEN PROCESS RECEPTACLES	1820.00 0.00 400.00 900.00	1.25 0.00 1.00	2275.00 0.00 400.00 900.00		A B C	_		12192.00 11632.00 	101.6 96.9 ———	0 A-B: 95.4 3 B-A: 95.4
MECH HEATING MECH COOLING MECH YEAR ROUND APPLIANCE MISCELLANEOUS MOTOR	900.00 14000.00 0.00 6504.00 0.00 0.00 200.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00	900.00 14000.00 0.00 6504.00 0.00 0.00 300.00		NOTES:	/AVERA E LARG		JDED IN MECHANICAL, PROCESS, OR MOTOR LOADS.		
SPARE LARGEST MOTOR 1 TOTAL	0.00 ABOVE 23824.00	1.00 0.25	0.00 1626.00 25905.00							



## LIGHTING CONTROL

NOT TO SCALE

	LUMINAIRE SCHEDULE											
TYPE	MANUFACTURER CATALOG NO.	MANUFACTURER CATALOG NO.	VOLTAGE MOUNTING # OF LAMPS	BALLAST LAMP TYPE LAMP CAT. #	DESCRIPTION							
Α	LITHONIA C 2 32 120 GEB10IS	ENGINEER APPROVED EQUIVALENT	120 CEILING SURFACE 2	ELECTRICAL F032/835/ECO 32W T8	4-3/16"Wx2-15/16"Dx48"L GENERAL PURPOSE STEEL CHANNEL WITH HIGH-GLOSS ENAMEL FINISH. INSTANT START BALLAST.							
В	FAIL—SAFE FCC—D 332 120 80/85 EB81 SF3	ENGINEER APPROVED EQUIVALENT	120 WALL SURFACE 3	ELECTRICAL F032/835/ECO 32W T8	8-1/2"W X 48"L X 8-1/2" H VANDAL PROOF FIXTURE WITH .187" POLYCARBONATE LENS & .125" PRISMATIC OVERLAY. ELECT. BALLAST.							
С	RUUD LIGHTING SE5503-1-J	ENGINEER APPROVED EQUIVALENT	120 WALL SURFACE 1	ELECTRICAL C335S76/D/M 35W HPS	8" SQ X 7-1/2" DEEP UP/DOWN CUTOFF, ALUMINUM HOUSING, POLYCARBONATE LENS, WET LOCATION LISTED. TAMPER PROOF LENS.							
D	FAIL-SAFE HDR-70HPS-120-81	ENGINEER APPROVED EQUIVALENT	120 CEILING RECESSED 1	70W HPS	7-5/8"Hx15-3/8" SQUARE RECESSED FIXTURE W/.156" PRISMATIC POLYCARBONATE LENS AND ELECTRONIC BALLAST, DAMP LOCATION LISTED.							
Ε	STONCO LIGHTING VK1GC	ENGINEER APPROVED EQUIVALENT	120 SURFACE 1	NONE REQUIRED INCANDESCENT 100W A19	4" X 4" X 8" CEILING SURFACE VAPORTIGHT JAR WITH CAST GUARD.							
0_0	LITHONIA 6ELM2NH	APPROVED EQUIVALENT	120/277 SURFACE WALL 2	NONE REQUIRED HALOGEN WITH UNIT	16.25"Wx5-3/8"Dx5"H IMPACT RESISTANT POLYCARBONATE HOUSING 8W HALOGEN LAMPS NICKEL CADMIUM BATTERY							
₩	LITHONIA LQMSW1G120/277ELN REFER TO NOTE 4	APPROVED EQUIVALENT	120/277 WALL/CEILING N/A	NONE REQUIRED LED WITH UNIT	12-1/4"Wx7-1/2"Hx2"D, WHITE POLYCARBONATE. HOUSING WITH GREEN LETTERING. NICAD BATTERY							
H⊗X	LITHONIA LHQMSW1G120/277 RO/ELN, *	APPROVED EQUIVALENT	120/277 WALL/CEILING N/A	NONE REQUIRED LED WITH UNIT	12-1/4"Wx7-1/2"Hx2"D, WHITE POLYCARBONATE, HOUSING WITH GREEN LETTERING, NICAD BATTERY WITH IND REMOTE HEAD.							
8	LITHONIA ELA-W-H0806	APPROVED EQUIVALENT	120/277 WALL/CEILING 1	NONE REQUIRED INCANDESCENT WITH UNIT	4.75"Wx7.75"Hx4.5"D WHITE SEALED REMOTE MOUNTED FIXTURE, 6 VOLT, 8 WATT LAMP, VERIFY COMPATIBILITY WITH EMERGENCY FIXTURE							

- 1. THE ELECTRONIC FLUORESCENT BALLAST SHALL HAVE A TOTAL HARMONIC DISTORTION OF PLUS/MINUS 20% AND A BALLAST FACTOR EQUAL TO OR GREATER THAN 80%
- 2. FLUORESCENT LUMINAIRE DISCONNECTING MEANS; INDOOR LOCATIONS, OTHER THAN DWELLINGS AND ASSOCIATED ACCESSORY STRUCTURES, FLUORESCENT LUMINARIES (FIXTURES) THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE OR BALLASTED LUMINAIRES THAT ARE SUPPLIED FROM MULTI-WIRE BRANCH CIRCUITS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO EACH LUMINAIRE (FIXTURE), TO DISCONNECT SIMULTANEOUSLY FROM THE SOURCE OF SUPPLY ALL CONDUCTORS OF THE BALLAST, INCLUDING THE GROUNDED CONDUCTOR IF ANY. THE LINE SIDE TERMINALS OF THE DISCONNECTING MEANS SHALL BE GUARDED. THE DISCONNECTING MEANS SHALL BE LOCATED SO AS TO BE ACCESSIBLE TO QUALIFIED PERSONS BEFORE SERVICING OR MAINTAINING THE BALLAST. THIS REQUIREMENT SHALL BECOME EFFECTIVE JANUARY 1, 2008.

	ALTERNATE LED LUMINAIRE SCHEDULE										
TYPE	MANUFACTURER CATALOG NO.	MANUFACTURER CATALOG NO.	VOLTAGE MOUNTING # OF LAMPS	BALLAST LAMP TYPE LAMP CAT. #	DESCRIPTION						
Α	COLUMBIA LIGHTING LCS-4-35-ML-E-U	ENGINEER APPROVED EQUIVALENT	120 CEILING SURFACE 1	5600LM 48W	4-7/16"Wx1-13/16"Dx48"L LED OPEN STRIP LIGHT GENERAL PURPOSE STEEL CHANNEL WITH HIGH-GLOSS ENAMEL FINISH.						
В	FAIL-SAFE FCC-X-4-LD3-2-HI-35- 120-80/85-ED1C-WL	ENGINEER APPROVED EQUIVALENT	120 SURFACE CLG 1	LED DRIVER LED 3500K, 6100LM 94W	8.5"X8.5"Wx10"W FACEx48"L VANDAL PROOF FIXTURE WITH .187" POLYCARBONATE LENS & .125" PRISMATIC OVERLAY.						
С	HUBBELL LIGHTING NRG-312LU-5K-BZ	ENGINEER APPROVED EQUIVALENT	120 WALL SURFACE 1	LED DRIVER LED 5000K, 1120LM 18W	5.39"Dx11"Hx6.89"W CAST ALUMINUM HOUSING, WET LOCATION LISTED. VANDAL RESISTANT & EFFICIENT SPREAD POLYCARBONATE LENS						
	HUBBELL LIGHTING NRG4-30LU-5K-BZ	ENGINEER APPROVED EQUIVALENT	120 CEILING SURFACE 1	525mA LED DRIVER LED 5100K, 6126LM, 70W	8.25"Hx14" SQUARE RECESSED FIXTURE, CLEAR PRISMATIC ACRYLIC LENS, DIE—CAST ALUMINUM HOUSING, WET LOCATION LISTED.						
Е	HUBBELL OUTDOOR LIGHTING VBGL-1	ENGINEER APPROVED EQUIVALENT	120 SURFACE 1	250mA LED DRIVER LED 4100K, 757LM, 11W	5.2"x10.37" CEILING SURFACE VAPORTIGHT JAR WITH CAST GUARD.						
0_0	LITHONIA 6ELM2NH	APPROVED EQUIVALENT	120/277 SURFACE WALL 2	NONE REQUIRED HALOGEN WITH UNIT	16.25"Wx5-3/8"Dx5"H IMPACT RESISTANT POLYCARBONATE HOUSING 8W HALOGEN LAMPS NICKEL CADMIUM BATTERY						
H	LITHONIA LQMSW1G120/277ELN REFER TO NOTE 4	APPROVED EQUIVALENT	120/277 WALL/CEILING N/A	NONE REQUIRED LED WITH UNIT	12-1/4"Wx7-1/2"Hx2"D, WHITE POLYCARBONATE. HOUSING WITH GREEN LETTERING. NICAD BATTERY						
H⊗	LITHONIA LHQMSW1G120/277 RO/ELN, *	APPROVED EQUIVALENT	120/277 WALL/CEILING N/A	NONE REQUIRED LED WITH UNIT	12-1/4"Wx7-1/2"Hx2"D, WHITE POLYCARBONATE, HOUSING WITH GREEN LETTERING, NICAD BATTERY WITH IND REMOTE HEAD.						
□0	LITHONIA ELA-W-H0806	APPROVED EQUIVALENT	120/277 WALL/CEILING 1	NONE REQUIRED INCANDESCENT WITH UNIT	4.75"Wx7.75"Hx4.5"D WHITE SEALED REMOTE MOUNTED FIXTURE, 6 VOLT, 8 WATT LAMP, VERIFY COMPATIBILITY WITH EMERGENCY FIXTURE						

- NOTES:

  1. THE ELECTRONIC FLUORESCENT BALLAST SHALL HAVE A TOTAL HARMONIC DISTORTION OF PLUS/MINUS 20% AND A BALLAST FACTOR EQUAL TO OR GREATER THAN 80%
- 2. FLUORESCENT LUMINAIRE DISCONNECTING MEANS; INDOOR LOCATIONS, OTHER THAN DWELLINGS AND ASSOCIATED ACCESSORY STRUCTURES, FLUORESCENT LUMINARIES (FIXTURES) THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE OR BALLASTED LUMINAIRES THAT ARE SUPPLIED FROM MULTI-WIRE BRANCH CIRCUITS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO EACH LUMINAIRE (FIXTURE), TO DISCONNECT SIMULTANEOUSLY FROM THE SOURCE OF SUPPLY ALL CONDUCTORS OF THE BALLAST, INCLUDING THE GROUNDED CONDUCTOR IF ANY. THE LINE SIDE TERMINALS OF THE DISCONNECTING MEANS SHALL BE GUARDED. THE DISCONNECTING MEANS SHALL BE LOCATED SO AS TO BE ACCESSIBLE TO QUALIFIED PERSONS BEFORE SERVICING OR MAINTAINING THE BALLAST. THIS REQUIREMENT SHALL BECOME EFFECTIVE JANUARY 1, 2008.

	MEC	HANI	CAL	. E	QUIF	PMEN	IT S	SCH	IED	ULE		
OMB: AG:	COMBINATION MOTOR STARTER MAGNETIC MOTOR STARTER		NF P,	⊰: N ∕i: F	ONE REPLUG-IN	QUIRED UNIT	CONT MAN: W/U:	: CO MA SL	NTRAC NUAL JPPLIE[	TOR MOTOR S WITH U	TARTER NIT:	
NIT O	FUNCTION (NOTES)	LOAD	VOLTS	ø	FULL LOAD AMPS	CONDUIT	CH CIR NO. CONDUCTOR	CUIT WIRE SIZE	GRND WIRE SIZE	BRKR SIZE	START	DISC FUSE
F 1	EXHAUST FAN #1 (TYPICAL OF 2)	80.7W	120	1	.83	1/2	2	#12		15		
F 2 VH 1	ÈXHAUST FAN #2 (TYPICAL OF 2)	172W	120	1	1.4	1/2	2	#12		15		
VH 1	WATER HEATER #1	4.7KW	240	1	22.5	1/2	2	#10		30	W/U	30 30
VH 2 AH 1	WATER HEATER #2	4.7KW	240	1	22.5	1/2	2	#10		30	W/U	30 30
AH 1	AIR HANDLER #1		240		27.1	1/2	3	#8		35	W/U	60 35
1D 1	HAND DRYER #1	2300K	120	1	20.0	1/2	2	#10		25		
1D 2	HAND DRYER #2	2300K	120	1	20.0	1/2	2	#10		25		

## ELECTRICAL LEGEND

NOTE: SYMBOLS SHOWN ARE STANDARD. VARIATION AND/OR COMBINATION MAY BE USED ON THE PLANS SUCH AS \$b (b: SWITCHING DESIGNATION), ⊕⁴ (4: CIRCUIT NO.),  $\square$  30A-2P (30A-2P: 30 AMPERE-TWO POLE), ETC. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWINGS OCCUR; THE ITEM SHALL BE PROVIDED AND INSTALLED.

BRANCH CIRCUIT PANELBOARD TELEPHONE TERMINAL BOARD

FUSED SAFETY SWITCH / DISCONNECT

LIGHTING CONTACTOR

LA-7 CIRCUITRY HOMERUN: PANEL LA - CIR. #7 CONDUIT OR WIRE CONCEALED IN WALL/CLG.

CONDUIT OR WIRE UNDERFLOOR/UNDERGND. CEILING JUNCTION BOX - SURFACE/FLUSH

WALL JUNCTION BOX - SURFACE/FLUSH DUPLEX RECEPTACLE

SINGLE POLE SWITCH \$TO MANUAL MOTOR STARTER

A FLUORESCENT FIXTURE TYPE IN SCHEDULE WALL BRACKET FLUORESCENT FIXTURE

OPEN STRIP FLUORESCENT FIXTURE RECESSED CEILING DOWN LIGHT

DOUBLE FACE EXIT SIGN, WALL AND CEILING MOUNTED

SINGLE FACE EXIT SIGN, WALL AND CEILING MOUNTED

DRAWING FLAG NOTE ROOM DESIGNATION

WEATHERPROOF

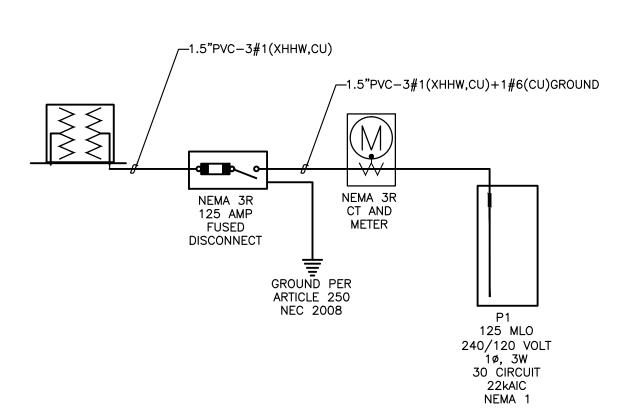
ABOVE FINISHED FLOOR

A.F.G. **ABOVE FINISHED GRADE** GFCI GROUND FAULT CIRCUIT INTERRUPTER

GP GFCI RECEPTACLE

EMERGENCY FUNCTION

MOUNTING HEIGHT - A.F.F. OR A.F.G. TO C.L. HIGH



## ONE-LINE DIAGRAM

NOT TO SCALE



M. Blaine Buck, 10-28-14

Shelter

Job No. 14.126 Directory Grand Junction, Las Colonias File A Sheets Drawn By DKO Date 10/21/2014

DRAWING NO.

SPECIAL CONDITIONS BEFORE SUBMITTING HIS OR HER PROPOSAL. B. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK INCLUDED IN THIS SECTION AND THE DELEGATION OF WORK TO THE ELECTRICAL CONTRACTOR, SHALL NOT RELIEVE HIM OF THIS RESPONSIBILITY. THE ELECTRICAL CONTRACTOR AND HIS SUBCONTRACTORS WHO PERFORM WORK UNDER THIS SECTION SHALL BE

RESPONSIBLE TO THE GENERAL CONTRACTOR. C. WHERE ITEMS OF THE GENERAL CONDITIONS OR OF THE SPECIAL CONDITIONS ARE REPEATED IN THIS SECTION OF THE SPECIFICATIONS, IT IS INTENDED TO CALL PARTICULAR ATTENTION TO OR QUALIFY THEM; IT IS NOT INTENDED THAT ANY OTHER PARTS OF THE GENERAL CONDITIONS OR SPECIAL CONDITIONS SHALL BE ASSUMED TO BE OMITTED IF NOT REPEATED HEREIN.

D.THE NAMING OF A CERTAIN BRAND OR MAKE OR MANUFACTURER IN THE SPECIFICATIONS IS TO ESTABLISH A QUALITY STANDARD FOR THE ARTICLE DESIRED. THE CONTRACTOR IS NOT RESTRICTED TO THE USE OF THE SPECIFIC BRAND OF THE MANUFACTURER NAMED UNLESS SO INDICATED IN THE SPECIFICATIONS. E. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND PRESENT FIVE (5) COPIES OF SHOP DRAWINGS OR BROCHURES FOR ALL FIXTURES. EQUIPMENT, AND ACCESSORIES TO THE ENGINEER FOR THE ENGINEER'S APPROVAL. ENGINEER CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR: DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF HIS WORK.

F. THE ELECTRICAL CONTRACTOR SHALL EXAMINE DRAWINGS RELATING TO WORK OF ALL TRADES AND BECOME FULLY INFORMED AS TO EXTENT AND CHARACTER OF WORK REQUIRED AND ITS RELATION TO ALL OTHER WORK

G.BEFORE SUBMITTING BID, CONTRACTOR SHALL VISIT THE SITE AND EXAMINE ALL ADJOINING EXISTING BUILDINGS, EQUIPMENT AND SPACE CONDITIONS ON WHICH HIS WORK IS IN ANY WAY DEPENDENT FOR THE BEST WORKMANSHIP AND OPERATION ACCORDING TO THE INTENT OF SPECIFICATIONS AND DRAWINGS. HE SHALL REPORT TO THE ARCHITECT ANY CONDITION WHICH MIGHT PREVENT HIM FROM INSTALLING HIS EQUIPMENT IN

H.NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO VISIT SITE, OR FOR ANY ALLEGED MISUNDERSTANDING OF MATERIALS TO BE FURNISHED OR WORK TO BE DONE. I. EXISTING CONDUITS, PIPES, EQUIPMENT, ETC.: REFER TO DIVISION I FOR ADDITIONAL REQUIREMENTS. EXISTING

CONDUITS, PIPES, UTILITY LINES, TANKS, EQUIPMENT, OR OTHER OBSTRUCTIONS WHETHER UNDERGROUND, CONCEALED, OR EXPOSED ARE NOT IN GENERAL INDICATED ON DRAWINGS. PRIOR TO START OF WORK, HAVE EXISTING UTILITY OBSTRUCTIONS CLEARLY MARKED BY UTILITIES LOCATOR SERVICE. PLAN WORK SO AS TO ROUTE AND LOCATE ALL NEW WORK TO AVOID THESE OBSTRUCTIONS. REPAIR OR REPLACE, AT NO COST TO OWNER, EXISTING INSTALLATIONS WHERE DAMAGED, OCCURRING DURING THE COURSE OF CONSTRUCTION. END OF SECTION 16010

SECTION 16015 ELECTRICAL DRAWINGS AND REFERENCE SYMBOLS

A.THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERALLY THE LOCATIONS OF MATERIAL AND EQUIPMENT. THESE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE WORK UNDER THIS SECTION WITH THE ARCHITECTURAL, STRUCTURAL, PLUMBING, HEATING AND AIR CONDITIONING, AND THE DRAWINGS OF OTHER TRADES FOR EXACT DIMENSIONS, CLEARANCES AND ROUGHING-IN LOCATIONS: THIS CONTRACTOR SHALL COOPERATE WITH ALL OTHER TRADES IN ORDER TO MAKE MINOR FIELD ADJUSTMENTS TO ACCOMMODATE THE WORK OF OTHERS. DO NOT RELY ON THE SCALE OF THE DRAWINGS FOR ROUGH-IN MEASUREMENTS, NOR USE THEM AS SHOP DRAWINGS.

B. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, EACH TO THE OTHER, AND THE WORK REQUIRED BY EITHER SHALL BE INCLUDED IN THE CONTRACT AS IF CALLED FOR BY BOTH. C. IF DIRECTED BY THE ARCHITECT, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE

MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR D.ELECTRICAL SYMBOLS USED ON THIS PROJECT ARE SHOWN IN A SYMBOL LIST ON THE ACCOMPANYING WORKING DRAWINGS. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON PROJECT DRAWINGS OCCURS, THE ITEM SHALL BE PROVIDED AND

END OF SECTION 16015

SECTION 16020

A.THE SCOPE OF THE WORK CONSISTS OF ELECTRICAL INSTALLATION AND MODIFICATION FOR THE CONSTRUCTION OF LINCOLN PARK SHELTER. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO; INSTALLATION OF MAIN DISTRIBUTION PANEL AND OTHER ITEMS AS CALLED OUT ON THE DRAWINGS FOR THE AREAS OF CONSTRUCTION.THIS WORK WILL ALSO INCLUDE: ELECTRICAL DISTRIBUTION INSTALLATION: POWERING OF MECHANICAL EQUIPMENT; AND OTHER ITEMS AS CALLED OUT ON THE DRAWINGS FOR THE CONSTRUCTION. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOR, MATERIALS, EQUIPMENT, MACHINERY, AND ANY AND ALL OTHER ITEMS NECESSARY TO COMPLETE THE SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL NOTE THAT ALL ITEMS OF EQUIPMENT ARE SPECIFIED IN THE SINGULAR; HOWEVER, THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REOUIRED FOR COMPLETE SYSTEMS.

B.IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED, AND READY

C. ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER WITH SUBMISSION OF BID, THE ELECTRICAL CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE ARCHITECT OF ANY MATERIALS OR APPARATUS BELIEVED INADEQUATE OR UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES. RULES: ANY NECESSARY ITEMS OR WORK OMITTED. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THE CONTRACTOR HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN HIS PROPOSAL, AND THAT HE WILL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION END OF SECTION 16020

CODES AND FEES A.ALI, MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY AND FIRE INSURANCE CARRIER'S REOUIREMENTS. CONTACT PROPER AUTHORITIES, OBTAIN AND PAY FOR REQUIRED PERMITS, NSPECTIONS AND UTILITY SERVICE CONNECTIONS. DO NOT INCLUDE ANY UTILITY COMPANY CHARGES THAT CAN BE BILLED DIRECTLY TO THE

B. IN CASE OF DIFFERENCE BETWEEN THE BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, FIRE INSURANCE CARRIER'S REQUIREMENTS, AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT IN WRITING OF ANY SUCH DIFFERENCE C. NONCOMPLIANCE: SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE

REQUIREMENTS OF THE APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, FIRE INSURANCE CARRIER'S REQUIREMENTS, AND UTILITY COMPANY REGULATIONS, HE SHALL BEAR THE COST ARISING IN CORRECTING ANY SUCH DEFICIENCY. END OF SECTION 16030

SECTION 16100 BASIC METHODS AND MATERIALS

SECTION 16101

A.PROTECTION: ALL WORK, MATERIALS AND EQUIPMENT SHALL BE COMPLETELY AND ADEQUATELY PROTECTED AT ALL TIMES. PAY FOR ALL DAMAGE, INJURY OR LOSS, EXCEPT SUCH AS MAY BE DIRECTLY DUE TO ERRORS IN THE CONTRACT DOCUMENTS OR BE CAUSED BY AGENTS OR EMPLOYEES OF THE OWNER. POST EFFECTIVE DANGER SIGNS WARNING AGAINST HAZARDS CREATED BY THE WORK. B. TRENCHING AND BACKFILLING: PERFORM ALL TRENCHING AND BACKFILL REQUIRED BY WORK UNDER THIS

DIVISION OF THE SPECIFICATIONS. TRENCHING AND BACKFILLING SHALL BE DONE IN ACCORDANCE WITH THE OWNER'S SOILS REPORT AND NOTES FROM STRUCTURAL DRAWINGS, REQUEST CLARIFICATION IF NECESSARY. THIS PORTION OF THE WORK SHALL BE EXECUTED UNDER THE DIRECT SUPERVISION OF THE GENERAL CONTRACTOR. TRENCHES SHALL BE EXCAVATED TO THE DEPTH REQUIRED FOR THE UTILITIES INVOLVED. THE TRENCH BOTTOM SHALL BE GRADED TRUE AND FREE FROM DEBRIS, STONES AND SOFT SPOTS. WHERE DIRECT BURIAL CABLES ARE USED FOUR INCHES OF FINE SAND SHALL BE PLACED IN THE BOTTOM OF THE TRENCH PRIOR TO CABLE PLACEMENT.

C.EOUIPMENT, MATERIALS, INSTALLATION: 1. ALL EQUIPMENT, ACCESSORIES AND SPECIALTIES CONNECTED TO EQUIPMENT AND ALL ITEMS OF MATERIAL

SHALL BE INSTALLED AS RECOMMENDED BY THEIR MANUFACTURERS UNLESS SPECIFICALLY 2. STATED OTHERWISE. PROVIDE PROPER SUPPORTS, MOUNTS, ETC., AS REQUIRED. 3. COORDINATE WITH THE GENERAL CONTRACTOR.

4. OBTAIN INSTRUCTIONS FROM THE ARCHITECT FOR INSTALLATION OF ITEMS NOT COMPLETELY COVERED BY CONTRACT DOCUMENTS OR PUBLISHED MANUFACTURER'S RECOMMENDATIONS D.EQUIPMENT FINISH: ALL ELECTRICAL EQUIPMENT SHALL BE FURNISHED FACTORY PAINTED OR FINISHED WITH TWO COATS OF HIGH GRADE ENAMEL AND IN THE MANUFACTURER'S STANDARD COLORS UNLESS OTHERWISE

1. UNPAINTED EQUIPMENT AND MATERIALS, EXCEPT CONDUIT IN CONCEALED SPACES, SHALL BE CLEANED AND PRIMED TO BE PAINTED BY THE PAINTING CONTRACTOR IN ACCORDANCE WITH THE PAINTING SECTION OF

2. THE COLORS OF ALL EXPOSED ELECTRICAL MATERIAL AND APPARATUS SHALL BE AS SELECTED BY THE OWNER. E. CHASES, SLEEVES, CUTTING, PATCHING 1. PROVIDE FOR NECESSARY CHASES, HOLES, SLEEVES, BOXES, INSERTS AND HANGERS BY ARRANGEMENT WITH

CONTRACTORS OF THE OTHER APPROPRIATE TRADES. PROVIDE "FLAMESEAL" OR OF THE APPROVED FIRESTOPPING MATERIAL AT ALL PENETRATIONS THROUGH RATED WALLS, FLOORS AND CEILINGS. 2. PROVIDE FOR ALL CUTTING AND PATCHING OF HOLES, OPENINGS, AND NOTCHES, OBTAIN WRITTEN APPROVAL. OF THE ARCHITECT BEFORE NOTCHING, BORING, CHIPPING, BURNING, DRILLING, WELDING TO STRUCTURAL

1. ALL WORK AND MATERIALS COVERED BY DRAWINGS AND SPECIFICATIONS SHALL BE SUBJECT TO INSPECTION AT ANY AND ALL TIMES BY REPRESENTATIVES OF THE ARCHITECT AND OWNER. IF ANY MATERIAL OR INSTALLATION DOES NOT CONFORM TO THE DRAWINGS AND SPECIFICATIONS, WITHIN THREE DAYS AFTER BEING WORK SHALL NOT BE CLOSED IN NOR COVERED BEFORE INSPECTION AND APPROVAL BY THE ARCHITECT. PROVIDE FOR UNCOVERING AND MAKING REPAIRS, AT NO EXTRA COST, WHEN UNINSPECTED

WORK HAS BEEN CLOSED IN. NOTIFY THE ARCHITECT WHEN WORK IS READY FOR INSPECTION. 3. NOTIFY PROPER AUTHORITIES WHEN WORK IS READY FOR ANY INSPECTIONS REQUIRED BY APPLICABLE CODES, RULES AND REGULATIONS, ALLOWING SUFFICIENT TIME FOR INSPECTIONS TO BE MADE WITHOUT HINDERING PROGRESS OF THE WORK, AND FURNISH THE OWNER, WITHOUT ADDITIONAL COSTS,

PROPER CERTIFICATES OF ACCEPTANCE FROM SUCH AUTHORITIES. 4. UPON COMPLETION OF ALL WORK AND ADJUSTMENT OF ALL EQUIPMENT, FINAL INSPECTION SHALL BE MADE UNDER DIRECTION OF THE ARCHITECT. TEST AND OPERATE ALL DEVICES, EQUIPMENT AND SYSTEMS TO DEMONSTRATE THAT THE ELECTRICAL SYSTEM IS COMPLETE AND FUNCTIONAL IN THE MANNER

G.CLEAN UP

1. DURING THE COURSE OF THE WORK REMOVE ANY MATERIALS NOT INSTALLED IN THE WORK WHICH CONFLICT WITH THE WORK OF OTHERS IF SO DIRECTED BY THE ARCHITECT.

2. AT COMPLETION OF WORK CLEAN UP AND REMOVE FROM THE PREMISES ALL DEBRIS AND MATERIALS NOT INSTALLED IN THE WORK SO THE PREMISES WILL BE LEFT CLEAN. WASH AND WIPE CLEAN ALL LIGHTING FIXTURES AND LAMPS WHICH MAY HAVE BECOME SOILED DURING INSTALLATION H.RECORD DRAWINGS: AT COMPLETION OF THE WORK FURNISH TO THE ARCHITECT TWO COMPLETE SETS OF

ELECTRICAL PRINTS MARKED TO SHOW THE WORK "AS-BUILT". I. MAINTENANCE AND OPERATING PROCEDURES: UPON COMPLETION OF ALLWORK AND ADJUSTMENT OF ALL EQUIPMENT INSTRUCT THE OWNER ON THE CORRECT OPERATION AND MAINTENANCE PROCEDURE FOR THE ELECTRICAL SYSTEM IN TOTAL. FURNISH 3 SETS OF TYPED MAINTENANCE MANUALS CONTAINING CUT SHEETS ON ALL EQUIPMENT, TABLES OF FUSES AND FOR WHAT EQUIPMENT, TABLE OF LAMPS AND BALLASTS AND FOR WHAT FIXTURES. INCLUDE A LIST OF CONTACTS WITH PHONE NUMBERS FOR ALL SYSTEMS FOR OWNERS' USE, IN THE EVENT THE ELECTRICAL SYSTEM REQUIRES SERVICE WORK WITHIN THE WARRANTY PERIOD.

J. GUARANTEE: GUARANTEE THAT ALL WORK GOVERNED BY THIS DIVISION SHALL BE NEW AND FREE OF DEFECTIVE WORK, MATERIALS, AND COMPONENTS FOR A PERIOD OF ONE YEAR AFTER WRITTEN ACCEPTANCE. REPAIR. REVISE AND REPLACE DEFECTS AS DIRECTED, WITH NO ADDITIONAL COST TO THE OWNER. (INCANDESCENT LAMPS, FUSES AND ANY EXISTING EQUIPMENT ARE EXEMPT). END OF SECTION 16101

A.PVC CONDUIT SHALL BE USED FOR ALL UNDERGROUND FEEDERS AND BRANCH CIRCUITS UNLESS OTHERWISE DIRECTED ON PLANS OR AS APPROVED BY NEC. ALL CONDUIT SHALL BE UL APPROVED B.CONDUIT SIZES SHALL BE AS INDICATED ON THE DRAWINGS, OR MINIMUM IN ACCORDANCE WITH THE NEC, INCLUDING PROVISION FOR GREEN EQUIPMENT GROUNDING CONDUCTOR USING 3/4 INCH MINIMUM CONDUIT. THE

USE OF 1/2 INCH CONDUIT ELSEWHERE MAY BE APPROVED IF CONDITIONS WARRANT. C.SPECIAL CONDUIT FITTINGS SHALL BE APPROPRIATE FOR EACH APPLICATION AND SHALL BE MANUFACTURED BY T & B OR APPROVED EQUAL D.CONDUIT SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.

E. THE ENTIRE CONDUIT SYSTEM SHALL BE INSTALLED TO PROVIDE A CONTINUOUS BOND THROUGHOUT THE F. ELECTRICAL METALLIC TUBING (EMT) MAY BE USED FOR BRANCH CIRCUITS AND RACEWAYS OTHER THAN FOR SERVICE ENTRANCE AND MAIN FEEDERS UNLESS PROHIBITED BY THE NEC OR LOCAL ORDINANCES. EMT SHALL BE

UL APPROVED, GALVANIZED INSIDE AND OUTSIDE, COMPLYING WITH ASA C-80.3 FOR ZINC COATED EMT WITH FITTINGS OF THE SAME TYPE MATERIAL AND FINISH. OF THE PRESSURE CONNECTED TYPE FOR EXTERIOR INSTALLATION AND OF THE SET SCREW TYPE FOR INTERIOR INSTALLATION. G.ALL CONDUIT JOINTS SHALL BE CUT SOUARE, REAMED SMOOTH, AND DRAWN UP TIGHT. BENDS OR OFFSETS SHALL BE MADE WITH AN APPROVED BENDER OR HICKEY, OR HUB-TYPE CONDUIT FITTINGS. NUMBER OF BENDS PER RUN

SHALL CONFORM TO THE NEC LIMITATIONS. H.CONCEALED CONDUITS SHALL BE RUN IN A DIRECT LINE WITH LONG SWEEP BENDS AND OFFSETS. EXPOSED CONDUITS SHALL BE PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES, USING CONDUIT FITTINGS FOR ALL

TURNS AND OFFSETS I. TRANSITIONS BETWEEN NONMETALLIC CONDUITS AND CONDUITS OF OTHER MATERIALS SHALL BE MADE WITH THE MANUFACTURER'S STANDARD ADAPTERS DESIGNED FOR SUCH PURPOSE. J. EXPOSED CONDUITS SHALL BE SECURELY FASTENED IN PLACE ON MAXIMUM 10 FOOT INTERVALS; AND HANGERS,

SUPPORTS OR FASTENERS SHALL BE PROVIDED AT EACH ELBOW AND AT THE END OF EACH STRAIGHT RUN TERMINATING AT A BOX OR CABINET K. USE EMT IN BLOCK WALLS AND EXPOSED AREAS OF STORAGE. ATTIC WIRING MAY BE WITHOUT CONDUIT IF CODE END OF SECTION 16111

SECTION 16120

WIRES AND CABLES A.WIRE AND CABLE SHALL MEET ALL STANDARDS AND SPECIFICATIONS APPLICABLE, AND SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE NEC. INSULATED WIRE AND CABLE SHALL HAVE SIZE, TYPE OF INSULATION, VOLTAGE AND MANUFACTURER'S NAME PERMANENTLY MARKED ON OUTER COVERING AT REGULAR INTERVALS NOT EXCEEDING FOUR FEET. WIRE AND CABLE SHALL BE DELIVERED IN COMPLETE COILS OR REELS WITH IDENTIFYING TAGS, STATING SIZE, TYPE OF INSULATION, ETC. B. WIRE AND CABLE SHALL BE SUITABLY PROTECTED FROM WEATHER AND OTHER DAMAGE DURING STORAGE AND HANDLING, AND SHALL BE IN FIRST CLASS CONDITION AFTER INSTALLATION.

C. WIRE AND CABLE SHALL BE FACTORY COLOR CODED WITH A SEPARATE COLOR FOR EACH PHASE AND NEUTRAL USED CONSISTENTLY THROUGHOUT THE SYSTEM. COLOR CODING SHALL BE AS REQUIRED BY THE NEC. D.ALL CONDUCTORS SHALL BE RATED 600 VOLTS, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS, OR FOR ELECTRONIC OR COMMUNICATION USE.

E. WIRE AND CABLE FOR VARIOUS APPLICATIONS SHALL BE AS FOLLOWS UNLESS OTHERWISE DESIGNATED: 1. WIRE #10 AND SMALLER SHALL BE SOLID; WIRE #8 AND LARGER SHALL BE STRANDED. 2. #12 THRU #6 DRY LOCATIONS: TYPE THHN, 90 DEGREES C.

3. #12 THRU #6 IN SLABS, UNDERGROUND, OR WET LOCATIONS: TYPE THWN OR TYPE XHHW, 75 DEGREES C 4. #4 AND LARGER: TYPE XHHW OR TYPE THWN 75 DEGREES C F. WIRE AND CABLE SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, ANACONDA WIRE & CABLE, ROME CABLE, TRIANGLE CONDUIT & CABLE, OR APPROVED EQUAL. SUBSTITUTION OF WIRE AND CABLE MANUFACTURER SHALL

BE ONLY WITH THE APPROVAL OF THE ARCHITECT/ENGINEER. G.FOR ANY SPECIFIC USE NOT COVERED HERE ABOVE, COMPLY WITH THE NEC IN CONDUCTOR USE H.ALL CIRCUITS SHALL BE 2#12+G UNLESS OTHERWISE NOTED ON DRAWINGS OR IN SCHEDULES. I. ALL 15 AND 20 AMP CIRCUITS WITH LENGTHS OVER 150 FT. SHALL HAVE THEIR CONDUCTOR SIZE INCREASED TO #10

FOR VOLTAGE DROP. END OF SECTION 16120 SECTION 16121

A.JOINTS ON BRANCH CIRCUITS SHALL OCCUR ONLY WHERE SUCH CIRCUIT DIVIDE AS INDICATED ON PLANS AND SHALL CONSIST OF ONE THROUGH CIRCUIT TO WHICH SHALL BE SPLICED THE BRANCH FROM THE CIRCUIT. IN NO CASE SHALL JOINTS IN BRANCH CIRCUITS BE LEFT FOR THE FIXTURE HANGER TO MAKE. NO SPLICES SHALL BE MADE IN CONDUCTOR EXCEPT AT OUTLET BOXES, JUNCTION BOXES, OR SPLICE BOXES. B. ALL JOINTS OR SPLICES FOR #10 AWG OR SMALLER SHALL BE MADE WITH UL APPROVED WIRE NUTS OR

COMPRESSION TYPE CONNECTORS. C. ALL JOINTS OR SPLICES FOR #8 AWG OR LARGER SHALL BE MADE WITH A MECHANICAL COMPRESSION CONNECTOR. AFTER THE CONDUCTORS HAVE BEEN MADE MECHANICALLY AND ELECTRICALLY SECURE, THE ENTIRE JOINT OR SPLICE SHALL BE COVERED WITH SCOTCH #33 TAPE OR APPROVED EQUAL TO MAKE THE INSULATION OF THE JOINT OR SPLICE EQUAL TO THE INSULATION OF THE CONDUCTORS. THE CONNECTOR SHALL BE UL APPROVED.

SECTION 16125 PULLING CABLES

END OF SECTION 16121

A.INSTALL CONDUCTORS IN ALL RACEWAYS AS REQUIRED, UNLESS OTHERWISE NOTED, IN A NEAT AND WORKMANLIKE MANNER. ALL EMPTY CONDUITS SHALL HAVE A #14 GALVANIZED PULL WIRE OR NYLON PULL CORD LEFT IN PLACE FOR FUTURE USE

TAGGED IN ALL PULL. HINCTION AND OUTLET BOXES AND IN THE GUTTER OF PANELS WITH APPR WIRE MARKERS C. NO LUBRICANT OTHER THAN POWDERED SOAPSTONE OR APPROVED PULLING COMPOUND MAY BE USED TO PULL D.AT LEAST EIGHT (8) INCHES OF SLACK WIRE SHALL BE LEFT IN EVERY OUTLET BOX WHETHER IT BE IN USE OR LEFT

B. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH THE NEC. MAINS, FEEDERS, SUBFEEDERS SHALL BE

E. ALL CONDUCTORS AND CONNECTIONS SHALL TEST FREE OF GROUNDS SHORTS AND OPENS BEFORE TURNING THE JOB OVER TO THE OWNER F. PULL BOXES SHALL BE REQUIRED IN RUNS OVER 100 FEET OR WHEN MORE THAN THREE 90-DEGREE BENDS ARE USED, OR AS INDICATED ON THE DRAWINGS. G.FEEDERS ARE TO BE RUN ABOVE GROUND TO ALL POWER PANELS AND LIGHTING PANELS, UNLESS INDICATED

OTHERWISE ON DRAWINGS. H. WHERE MOTORS HAVE CONDUIT TERMINAL BOXES, FEEDERS SHALL BE CONNECTED TO SAME BY FLEXIBLE MEANS. I. ALL MOTORS WITH SLIDING BASE MOUNTINGS SHALL HAVE NOT LESS THAN 18 INCHES NOR MORE THAN 6 FEET OF CONDUIT CONNECTING RIGID CONDUIT FEED TO MOTOR TERMINAL BOX. J. CONDUCTOR SPLICES SHALL BE MADE ONLY IN JUNCTION BOXES. TERMINAL BOXES, OR PULL BOXES.

END OF SECTION 16125

SECTION 16133 OUTLET BOXES

ALL OUTLET BOXES FOR CONCEALED WIRING SHALL BE SHEET METAL,

A.GALVANIZED OR CADMIUM PLATED, AT LEAST 1 « INCHES DEEP, SINGLE OR GANGED, OF SIZE TO ACCOMMODATE DEVICES AND NUMBER OF CONDUCTORS NOTED. BOXES SHALL BE EQUIPPED WITH PLASTER RING OR COVER AS NECESSARY. ALL OUTLET BOXES SHALL BE MANUFACTURED BY STEEL CITY OR APPROVED EQUAL. B. BOXES FOR EXPOSED WIRING SHALL BE MALLEABLE IRON, CADMIUM FINISH, OR CAST ALUMINUM ALLOY, AS MANUFACTURED BY STEEL CITY, AND SHALL NOT BE LESS THAN 4 INCHES SQUARE BY 1 « INCHES DEEP UNLESS

C. FIXTURE OUTLET BOXES SHALL BE MINIMUM 4 IN OCTAGONAL AND, WHERE REQUIRED AS OUTLET AND JUNCTION BOXES, THEY SHALL BE 4 11/16 INCHES BY 2 1/8 INCHES DEEP. END OF SECTION 16133

SECTION 16190

SUPPORTING DEVICES A.THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL METALLIC SUPPORTS AS REQUIRED FOR THE PROPER INSTALLATION OF RACEWAY SYSTEMS AND ALL OTHER EQUIPMENT INSTALLED UNDER THIS DIVISION OF THE CONTRACT CONFORMING TO THE LATEST EDITION OF THE NEC B.CONDUIT SHALL BE SUPPORTED ON APPROVED TYPES OF WALL BRACKETS, CEILING TRAPEZES, STRAP HANGERS

OR PIPE SUPPORTS, SECURED BY MEANS OF TOGGLE BOLTS IN HOLLOW MASONRY WALLS OR UNITS. EXPANSION BOLTS WILL BE USED IN CONCRETE OR BLOCK MACHINE SCREWS ON METAL SURFACES AND WOOD SCREWS ON WOOD CONSTRUCTION. C.CONDUIT SHALL BE SECURELY FASTENED TO ALL SHEET METAL OUTLETS, JUNCTION AND PULL BOXES WITH TWO

GALVANIZED LOCKNUTS AND BUSHING. CARE BEING TAKEN TO SEE THAT THE FULL NUMBER OF THREADS PROJECT THROUGH TO PERMIT THE BUSHING TO BE DRAWN TIGHT AGAINST THE END OF THE CONDUIT. AFTER WHICH THE LOCKNUTS SHALL BE MADE TIGHT SUFFICIENTLY TO DRAW THEM INTO FIRM ELECTRICAL CONTACT WITH THE OUTLET BOX. INSTALL A PLASTIC BUSHING ON END OF PIPE THREADS PROTRUDING INTO JUNCTION BOXES AND OTHER ENCLOSURES TO PROTECT CABLING. D.THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUPPORTS REQUIRED FOR THE ELECTRICAL

EQUIPMENT AND CONDUIT. END OF SECTION 16190

SECTION 16195 ELECTRICAL IDENTIFICATION

A.THE ELECTRICAL CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED ON THE DRAWINGS. ON COMPLETION OF THE PROJECT, TWO (2) COMPLETE SETS OF MARKED-UP PRINTS SHALL BE DELIVERED TO THE ARCHITECT. B. IDENTIFICATION OF EQUIPMENT

1. PROVIDE AND INSTALL LAMINATED BLACK AND WHITE LAMACOID NAMEPLATES FOR ALL SERVICE SWITCHES, DISTRIBUTION SWITCHES, DISTRIBUTION SWITCHBOARDS, BRANCH CIRCUIT PANELBOARDS, SAFETY SWITCHES, CABINETS, STARTERS, AND OTHER EQUIPMENT WITH THEIR CORRECT DESIGNATION. LABEI EQUIPMENT IN AREAS ACCESSIBLE TO THE PUBLIC ON INSIDE OF ENCLOSURE ONLY. NAMEPLATES SHALL BE FIRMLY SECURED TO FRONT COVER OR DOOR WITH TWO PROPERLY SIZED POP RIVETS. 2. MOUNT A TYPEWRITTEN DIRECTORY BEHIND PLASTIC ON THE INSIDE OF EACH BRANCH CIRCUIT PANEL DOOR,

GIVING THE NUMBER, DESCRIPTION AND LOCATION OF THE CIRCUIT CONTROLLED BY EACH CIRCUIT BREAKER. REVISE EXISTING DIRECTORIES TO REFLECT CIRCUIT MODIFICATIONS UNDER THIS CONTRACT. 3. ALL FUSED SAFETY SWITCHES AND FUSED SWITCH UNITS IN SWITCHBOARDS SHALL INDIVIDUALLY BEAR A FUSE LABEL SHOWING PROPER SIZE AND TYPE OF FUSE TO BE USED. 4. INSTALL WIRING DIAGRAMS ON THE INSIDE COVER OF ALL STARTERS, SWITCHES AND OTHER SUCH EQUIPMENT.

SUCH DIAGRAMS SHALL NOT BE HANDWRITTEN. 5. ALL JUNCTION BOXES WITH BLANK COVERS SHALL HAVE CIRCUITS CONTAINED THEREIN IDENTIFIED BY MEANS OF PERMANENT BLACK "MAGIC MARKER" ON THE COVER. END OF SECTION 16195

SECTION 16199 ELECTRONIC EQUIPMENT

A.THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND CONNECTION OF A PROPER POWER SUPPLY TO ALL ELECTRONIC EQUIPMENT FURNISHED BY OTHERS. HE SHALL VERIFY ALL VOLTAGE, FREQUENCY, ETC., REQUIREMENTS PRIOR TO ENERGIZING THE CIRCUIT. THOSE INSTALLING THE EQUIPMENT WILL BE RESPONSIBLE FOR THE PROPER OPERATION OF THE EQUIPMENT PROVIDED THE PROPER POWER SUPPLY CIRCUIT IS INSTALLED BY THE ELECTRICAL CONTRACTOR. B. PROVIDE TELEPHONE LINES TO EQUIPMENT CONTROL PANELS WITH MODEM ACCESS. COORDINATE WITH

MECHANICAL CONTRACTOR.

END OF SECTION 16401

SECTION 16400 SERVICE AND DISTRIBUTION

SECTION 16401

A.THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL RELATED DISTRIBUTION EQUIPMENT AS INDICATED ON THE FLOOR PLAN, DIAGRAMS, SCHEDULES, AND NOTES. ALL EQUIPMENT SHALL BE NEW AND UL LISTED. B. RELATED DOCUMENTS: DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND

SECTION 16440

DISCONNECT SWITCHES A.THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL SAFETY SWITCHES AS INDICATED ON THE

SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATIONS SECTION, APPLY TO WORK OF THIS SECTION.

SAFETY SWITCHES SHALL BE UL LISTED. 1. THE SWITCHES SHALL BE FUSED SAFETY SWITCHES (FSS) OR NON-FUSED SAFETY SWITCHES (NFSS) AS SHOWN ON THE DRAWINGS OR REQUIRED AND SHALL BE MANUFACTURED BY SIEMENS, SOUARE D. OR APPROVED EQUAL 2. SWITCHES SHALL HAVE A OUICK-MAKE AND OUICKBREAK OPERATING HANDLE AND MECHANISM WHICH SHALL

BE AN INTEGRAL PART OF THE BOX. PADLOCKING PROVISIONS SHALL BE PROVIDED FOR PADLOCKING IN THE OFF POSITION WITH AT LEAST THREE PADLOCKS. SWITCHES SHALL BE HORSEPOWER RATED FOR 250 VOLTS AC OR DC OR 600 VOLTS AC AS REQUIRED. LUGS SHALL BE UL LISTED FOR COPPER AND ALUMINUM CABLE. 3. SWITCHES SHALL BE FURNISHED IN NEMA I GENERAL PURPOSE ENCLOSURES WITH KNOCKOUTS UNLESS OTHERWISE NOTED OR REQUIRED. SWITCHES LOCATED ON THE EXTERIOR OF THE BUILDING OR IN "WET"

LOCATIONS SHALL HAVE NEMA 3R ENCLOSURES (WP). 4. THE SAFETY SWITCHES SHALL BE SECURELY MOUNTED IN ACCORDANCE WITH THE NEC. THE CONTRACTOR SHALL PROVIDE ALL MOUNTING MATERIALS AND INSTALL FUSES IN THE FSS. THE FUSES SHALL BE DUAL ELEMENT ON MOTOR CIRCUITS. END OF SECTION 16440

A.THE CONDUIT SYSTEMS AND NEUTRAL CONDUCTOR FOR THE WIRING SYSTEM, AND THE TELEPHONE SYSTEM SHALL BE SECURELY GROUNDED. THE GROUNDS SHALL BE NEC GROUNDS IN EACH CASE. B. A GROUND SHALL BE ESTABLISHED AND TESTS CARRIED OUT TO INDICATE THAT SATISFACTORY GROUND HAS BEEN ESTABLISHED IN ACCORDANCE WITH THE NEC C. WRITTEN RESULTS OF THIS TEST SHALL BE FORWARDED TO THE ENGINEER BEFORE CONNECTION TO THE SERVICE.

SECTION 16470 PANELBOARDS

A FURNISH AND INSTALL DISTRIBUTION AND POWER PANELBOARDS AS INDICATED IN THE PANELBOARD SCHEDULE AND WHERE SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE DEAD-FRONT SAFETY TYPE. EOUIPPED WITH QUICK-MAKE, QUICK-BREAK FUSIBLE BRANCH SWITCHES AND APPROVED FOR SERVICE ENTRANCE. THE ACCEPTABLE MANUFACTURERS OF THE PANELBOARD ARE SIEMENS, SQUARE D, AND GE, PROVIDED THEY ARE FULLY EQUAL TO THE TYPE LISTED ON THE DRAWINGS. THE PANELBOARD SHALL BE UL LISTED AND BEAR THE UL

B.ALL FUSIBLE BRANCH SWITCHES SHALL BE QUICK-MAKE, QUICK BREAK, WITH VISIBLE BLADES AND DUAI HORSEPOWER RATINGS SWITCH HANDLES SHALL PHYSICALLY INDICATE ON AND OFF POSITIONS. SUCH HANDLES SHALL ALSO BE ABLE TO ACCEPT THREE PADLOCKS HAVING HEAVY-DUTY INDUSTRIAL TYPE SHACKLES. COVERS SHALL BE INTERLOCKED WITH THE SWITCH HANDLES TO PREVENT OPENING IN THE ON POSITION. A MEANS SHALL BE PROVIDED TO ALLOW AUTHORIZED PERSONNEL TO RELEASE THE INTERLOCK FOR INSPECTION PURPOSES WHEN A SWITCH IS ON. A CARDHOLDER, PROVIDING CIRCUIT IDENTIFICATION, SHALL BE MOUNTED ON EACH BRANCH SWITCH. SWITCHES SHALL BE PROVIDED WITH FUSES OR AS NOTED ON THE DRAWINGS.

C. PANELBOARD BUS STRUCTURE AND MAIN LUGS OR MAIN SWITCH SHALL HAVE CURRENT RATINGS AS SHOWN ON THE PANELBOARD SCHEDULE. THE BUS STRUCTURE SHALL ACCOMMODATE PLUG-ON OR BOLTED BRANCH SWITCHES AND MOTOR STARTERS AS INDICATED IN THE PANELBOARD SCHEDULE WITHOUT MODIFICATION TO THE BUS ASSEMBLY, PROVIDE SOLID NEUTRAL ASSEMBLY (S/N).

D.SWITCHES AND PANELBOARD BUS STRUCTURE SHALL SAFELY AND WITHOUT FAILURE WITHSTAND SHORT CIRCUITS ON THE SYSTEMS CAPABLE OF DELIVERING UP TO 100,000 AMPERES RMS SYMMETRICAL, UNLESS

E. PANELBOARD ASSEMBLY SHALL BE ENCLOSED IN A STEEL CABINET. THE RIGIDITY AND GAUGE OF STEEL TO BE AS SPECIFIED IN UL STANDARD FOR CABINETS. THE SIZE OF WIRING GUTTERS SHALL BE IN ACCORDANCE WITH UL STANDARD. CABINETS SHALL BE EQUIPPED WITH A FRONT DOOR AND HAVE FULLY CONCEALED, SELF-ALIGNING TRIM CLAMPS. FRONTS SHALL BE FULL-FINISHED STEEL WITH RUST INHIBITING PRIMER AND BAKED ENAMEL

F. TERMINALS FOR FEEDER CONDUCTORS TO THE PANELBOARD MAINS AND NEUTRAL SHALL BE SUITABLE FOR THE TYPE OF CONDUCTOR SPECIFIED. TERMINALS FOR BRANCH CIRCUIT WIRING, BOTH BREAKER AND NEUTRAL, SHALL BE SUITABLE FOR THE TYPE OF CONDUCTOR SPECIFIED. G. BEFORE INSTALLING PANELBOARDS CHECK ALL OF THE ARCHITECTURAL DRAWINGS FOR POSSIBLE CONFLICT OF

SPACE AND ADJUST THE LOCATION OF THE PANELBOARD TO PREVENT SUCH CONFLICT WITH OTHER ITEMS. H.THE PANELBOARDS SHALL BE MOUNTED IN ACCORDANCE WITH THE NEC. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL MATERIAL FOR MOUNTING THE PANELBOARDS. END OF SECTION 16470

SECTION 16471

A.POWER AND LIGHTING PANELS SHALL BE OF THE DEAD-FRONT, SAFETY TYPE, WITH THERMAL MAGNETIC, QUICKMAKE, QUICK-BREAK, TRIP FREE, BOLTED-TYPE MOLDED CASE CIRCUIT BREAKERS. VOLTAGE RATINGS NUMBER OF POLES, FRAME SIZE, TRIP RATINGS, MAIN BREAKER OR LUGS, NEUTRAL BUS, AND GROUND BUS ARE ALL AS SHOWN ON THE DRAWINGS. BUS BARS SHALL BE RECTANGULAR, SOLID COPPER, SECURELY MOUNTED AND BRACED. ALL CONNECTIONS TO BUS BARS SHALL BE SECURELY BOLTED. CABINET BOXES SHALL BE CONSTRUCTED OF CODE GRADE GALVANIZED STEEL, SIZED TO PROVIDE MINIMUM 4-INCH WIDE WIRING GUTTERS ON SIDES, TOP AND BOTTOM. FRONTS SHALL BE CONSTRUCTED OF CODE GRADE STEEL, ADJUSTABLE INDICATING TRIM CLAMPS AND WITH DOOR PROVIDED WITH CONCEALED HINGES AND CYLINDER TYPE LOCK AND CATCH. TWO KEYS PER PANEL SHALL BE FURNISHED, AND ALL LOCKS KEYED ALIKE. FRONT SHALL BE FINISH PAINTED

B. POWER PANELS SHALL BE SIEMENS, TYPE S1, S2, S3, SE, OR ENGINEER APPROVED EQUAL, WITH BRANCH BREAKERS MAIN BREAKERS OR LUGS. NEUTRAL AND GROUND BUSES. ETC., ALL AS SHOWN ON THE DRAWINGS C. POWER AND LIGHTING PANEL CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH UL STANDARDS AND SHALL CONFORM TO NEMA STANDARDS. THEY SHALL BEAR THE UL LABEL. PANELS SHALL MEET USASI SPECIFICATIONS W-P-115A, TYPE 1, CLASS I.

D. ALL PANEL DIRECTORIES SHALL BE TYPED AND TERMINOLOGY APPROVED BY THE OWNER. END OF SECTION 16471

OVERCURRENT PROTECTIVE DEVICES

A.THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL WHERE INDICATED ON THE DRAWINGS OR AS REOUIRED BY THE NEC MOLDED CASE CIRCUIT BREAKERS IN A NEMA TYPE 1 ENCLOSURE. BREAKERS SHALL BE MANUALLY OPERATED, TRIP-FREE AND DESIGNED SO THAT ALL POLES OPEN SIMULTANEOUSLY. TRIPPING MECHANISM SHALL BE (THERMALLY, MAGNETICALLY) OPERATED, SHALL OPEN INSTANTANEOUSLY ON SHORT CIRCUITS AND HAVE TIME DELAY ON OVERLOADS, AND HAVE EFFECTIVE SCALING AGAINST TAMPERING. BREAKERS SHALL BE AS CALLED FOR ON THE DRAWINGS OR IN THE PANELBOARD SCHEDULE AND AS MANUFACTURED BY SIEMENS, SQUARE D, OR APPROVED EQUAL.

B. FUSES, UNLESS INDICATED OTHERWISE, SHALL BE DUAL ELEMENT, TIME LAG, CARTRIDGE TYPE AS MANUFACTURED BY BUSSMAN. FUSES FOR MOTOR CIRCUITS SHALL BE SIZED IN ACCORDANCE WITH THE NEC. LABELS INDICATING THE SIZE AND TYPE OF REPLACEMENT FUSES SHALL BE GLUED TO INSIDE OF DOOR ON ALL FUSIRI E SWITCHES AND PANEL BOARDS

C. ALL FUSES SHALL BE OF THE CURRENT AND VOLTAGE RATING AS REQUIRED OR INDICATED. D.SPARES: SPARE FUSES AMOUNTING TO 10% (MINIMUM THREE) OF EACH TYPE AND RATING SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR. THESE SHALL BE TURNED OVER TO THE OWNER UPON PROJECT COMPLETION. END OF SECTION 16475

SECTION 16900 CONTROLS AND INSTRUMENTATION

SECTION 16901

A. ALL EQUIPMENT AND MATERIALS USED IN RELATION TO CONTROL WORK FOR THE PROJECT SHALL BE NEW AND SHALL BEAR THE MANUFACTURER'S NAME AND TRADE NAME. THE EQUIPMENT AND MATERIAL SHALL BE ESSENTIALLY THE STANDARD PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN THE PRODUCTION OF THE REQUIRED TYPE OF EQUIPMENT AND SHALL BE THE MANUFACTURER'S LATEST APPROVED DESIGN.

B. THE ELECTRICAL CONTRACTOR SHALL RECEIVE AND PROPERLY STORE THE EQUIPMENT AND MATERIAL PERTAINING TO THE ELECTRICAL WORK. THE EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT, WATER, CHEMICAL OR MECHANICAL INJURY AND THEFT. THE MANUFACTURER'S DIRECTIONS SHALL BE FOLLOWED COMPLETELY IN THE DELIVERY, STORAGE, PROTECTION AND INSTALLATION OF ALL EQUIPMENT AND C. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL ITEM NECESSARY FOR THE COMPLETE

INSTALLATION OF THE EQUIPMENT AS RECOMMENDED OR AS REQUIRED BY THE MANUFACTURER OF THE EOUIPMENT OR REQUIRED BY CODE WITHOUT ADDITIONAL COST TO THE OWNER, REGARDLESS OF WHETHER THE ITEMS ARE SHOWN ON THE PLANS OR COVERED IN THE SPECIFICATIONS. D.IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CLEAN THE ELECTRICAL EQUIPMENT, MAKE NECESSARY ADJUSTMENTS AND PLACE THE EQUIPMENT INTO OPERATION BEFORE TURNING EQUIPMENT OVER TO OWNER. ANY PAINT THAT WAS SCRATCHED DURING CONSTRUCTION SHALL BE "TOUCHED-UP" WITH FACTORY COLOR PAINT TO THE SATISFACTION OF THE ARCHITECT. ANY ITEMS THAT WERE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED.

E. GENERAL 1. UNLESS OTHERWISE INDICATED ALL HEATING, VENTILATING, AIR CONDITIONING, PLUMBING, AND OTHER MECHANICAL EQUIPMENT, MOTORS, AND CONTROLS SHALL BE FURNISHED, SET IN PLACE AND WIRED AS

RESPONSIBLE DIVISION

ITEM	FURNISHED	SET	POWER- WIRED	CONTRO WIRED
EQUIPMENT	15	15	16	
COMBINATIO MOTOR STAR MOTOR STAR CONTACTORS	TERS, MAGNE TERS AND	TIC		
CONTACTOR	15	16	16	15
FUSED AND U	INFUSED			
DISCONNECT	SWITCHES,			
THERMAL OV	ERLOAD SWIT	ГCHES		
AND HEATER	S, MANUAL M	OTOR		
STARTERS				
	16(1)	16(1)	16	
MANUAL-OPE	ERATING AND			
MULTI-SPEED	SWITCHES			
	15	16	16	16
CONTROLS, R	ELAYS,			
TRANSFORMI	ERS			
	15	15	16	15
THERMOSTA	ΓS (LOW VOLT	AGE)		
AND TIME SW	/ITCHES			

15

16 15

THERMOSTATS(LINE VOLTAGE) TEMPERATURE CONTROL PANELS MOTOR AND SOLENOID VALVES, DAMPER MOTORS.

PE & EP SWITCHES PUSH-BUTTON STATIONS AND PILOT LIGHTS 15(2) HEATING, COOLING

VENTILATION AND AIR CONDITIONING CONTROLS EXHAUST FAN SWITCHES 15

SUBSCRIPT FOOTNOTES: (1) UNDER DIVISION 15 IF FURNISHED FACTORY-WIRED AS PART OF EQUIPMENT OR IF FURNISHED WITH COMBINATION

(2) IF ITEM IS FOR LINE VOLTAGE, SET IN PLACE AND CONNECT UNDER DIVISION 16. WHERE FACTORY MOUNTED ON EQUIPMENT OR ATTACHED TO PIPING OR DUCTS AND USING LINE VOLTAGE FURNISH AND SET UNDER DIVISION 15, CONNECT UNDER DIVISION 16.

CONTRACTOR PRIOR TO INSTALLING ELECTRICAL FACILITIES. BE RESPONSIBLE FO COORDINATION OF REVISIONS

2. VERIFY LOCATION AND NAMEPLATE DATA OF ALL MECHANICAL EQUIPMENT WITH THE MECHANICAL

AND MODIFICATIONS NECESSARY TO PROPERLY SUPPLY ELECTRICAL FACILITIES TO HEATING, VENTILATING, AIR CONDITIONING, PUMPS, MOTORS, CONTROLS, AND OTHER MECHANICAL EQUIPMENT INSTALLED IN PLACE OF EQUIPMENT SPECIFIED. REQUIRED ELECTRICAL FACILITIES CHANGES SHALL BE CONSIDERED TO BE A PART OF THE MECHANICAL CONTRACT 3. PROVIDE EACH MOTOR WITH A HORSEPOWER RATED DISCONNECT SWITCH AND MOTOR RUNNING OVERCURRENT PROTECTION PER N.E.C. 430-37. TO FACILITATE EASE AND SAFETY OF OPERATION AND MAINTENANCE OF MECHANICAL EOUIPMENT, LOCATE THE DISCONNECT SWITCH IMMEDIATELY ADJACENT TO THE MOTOR, UNLESS OTHERWISE INDICATED. SIZE THERMAL OVERLOAD HEATER UNITS FOR APPROXIMATELY 115% OF FULL LOAD

RECOMMENDED BY THE BUSSMAN MFG. CO. CHECK AND COORDINATE ALL STARTERS, FUSES, AND OTHER MOTOR-RUNNING PROTECTIVE DEVICES WITH THE EQUIPMENT THEY CONTROL, AND PROVIDE AND INSTALL THE CORRECT SIZE PROTECTIVE ELEMENTS AS REQUIRED. 4. DO NOT CONNECT MOTORS WHICH ARE OF A VOLTAGE RATING DIFFERENT THAN SUPPLY VOLTAGE. REPORT SAME TO THE ARCHITECT IN WRITING AND OBTAIN WRITTEN INSTRUCTIONS FOR RESOLUTION

5. USE FLEXIBLE CONDUIT FOR ALL CONNECTIONS TO DEVICES DIRECTLY ATTACHED TO DUCTS, PIPING AND

MOTOR CURRENT. SIZE FUSES IN ACCORDANCE WITH THE ACTUAL MOTOR NAMEPLATE RATING AND AS

MECHANICAL EQUIPMENT.

END OF SECTION 16901

A.AS SOON AS ELECTRIC POWER IS AVAILABLE AND CONNECTED TO SERVE THE EQUIPMENT IN THE BUILDING, AND EVERYTHING IS READY FOR FINAL TESTING AND PLACING IN SERVICE. A COMPLETE OPERATIONAL TEST SHALL BE MADE. THE CONTRACTOR SHALL FURNISH ALL NECESSARY INSTRUMENTS AND EQUIPMENT AND MAKE ALL TESTS. ADJUSTMENTS, AND TRIAL OPERATIONS AS REQUIRED TO PLACE THE SYSTEM IN A BALANCED AND SATISFACTORY OPERATING CONDITION; FURNISH ALL NECESSARY ASSISTANCE AND INSTRUCTIONS TO PROPERLY INSTRUCT THE

OWNER'S AUTHORIZED PERSONNEL IN THE OPERATION AND CARE OF THE SYSTEM. B. PRIOR TO TESTING THE SYSTEM, THE FEEDERS AND BRANCH CIRCUITS SHALL BE CONTINUOUS FROM MAIN FEEDERS TO MAIN PANELS, TO SUBPANELS, TO OUTLETS, WITH ALL BREAKERS AND FUSES IN PLACE. THE SYSTEM SHALL BE TESTED FREE FROM SHORTS AND GROUNDS. SUCH TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER'S REPRESENTATIVE.

C. NO CIRCUITS SHALL BE ENERGIZED WITHOUT THE OWNER'S APPROVAL. D.THE RIGHT IS RESERVED TO INSPECT AND TEST ANY PORTION OF THE EQUIPMENT AND/OR MATERIALS DURING THE PROGRESS OF ITS ERECTION. THE CONTRACTOR SHALL FURTHER TEST ALL WIRING AND CONNECTIONS FOR

CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OREQUIPMENT. E. THE CONTRACTOR SHALL TEST THE ENTIRE SYSTEM IN THE PRESENCE OF THE ARCHITECT OR HIS ENGINEER WHEN THE SYSTEM IS FINALLY COMPLETED TO INSURE THAT ALL PORTIONS ARE FREE FROM SHORT CIRCUITS OR GROUND FAULTS. END OF SECTION 16950

DEMONSTRATION OF ELECTRICAL EQUIPMENT

END OF DIVISION

A.THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE LOCAL AUTHORITY HAVING JURISDICTION IN ORDER THAT LOCAL INSPECTION MAY BE CARRIED OUT AT THE PROPER STAGE.

B.THE ELECTRICAL CONTRACTOR SHALL PAY FOR ALL PERMITS, INSPECTION FEES, AND INSTALLATION FEES AS REQUIRED TO COMPLETE THE WORK UNDER THIS SECTION OF THE CONTRACT.

C. THIS CONTRACTOR SHALL GUARANTEE THE MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWELVE (12) MONTHS FROM THE TIME THE INSTALLATION IS ACCEPTED BY THE OWNER. IF, DURING THIS TIME, ANY DEFECTS SHOULD SHOW UP DUE TO ANY DEFECTIVE MATERIALS, WORKMANSHIP, NEGLIGENCE OR WANT OF PROPER CARE ON THE PART OF THIS CONTRACTOR, HE SHALL FURNISH ANY NEW MATERIALS AS NECESSARY, REPAIR SAID DEFECTS, AND PUT THE SYSTEM IN ORDER AT HIS OWN EXPENSE ON RECEIPT OF NOTICE OF SUCH DEFECTS FROM THE ARCHITECT. THIS SPECIFICATION IS NOT INTENDED TO IMPLY THAT THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR NEGLIGENCE OF THE OWNER. END OF SECTION 16980

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