May 17, 2019

ADDENDUM ACKNOWLEDGEMENT FORM

To Whom It May Concern:

Concerning the ***PSJA ISD NEW SWIMMING FACILITIES BID # 18-19-039***, to be opened at 4:00 p.m., Wednesday, May 22, 2019. Please consider the following:

Addendum Number:	*Description of REVISED Addendum:*
2	***QUESTIONS AND ANSWERS*** ***REVISED SPECIFICATIONS / DRAWINGS***

For any questions pertaining to these changes, please contact Emily Garza, Director of Purchasing at (956) 354-2000.

Sincerely,

Emily Garza

Emily Garza
Director of Purchasing

With the acceptance of this form, I acknowledge that I have received the above ***"ADDENDUM ACKNOWLEDGEMENT FORM"*** for the ***PSJA ISD NEW SWIMMING FACILITIES BID # 18-19-039***, to be opened at 4:00 p.m., Wednesday, May 22, 2019. Please include a signed copy of this "**ADDENDUM ACKNOWLEDGMENT FORM"** with your bid/proposal.

Company Name:	Holchemont Ltd.	Authorized Signature:	
Address:	900 N. Main Street	Authorized Signature (Print):	Michael C. Montalvo/ Manager of Holchemont Management, LLC it's General Partner
City / State / Zip:	McAllen, Texas 78501	Email:	che@holchemont.com
Telephone Number:	956.686.2901	Fax Number:	956.686.2925

Addendum Number 02

May 17, 2019

To the Drawings and Specification dated April 11, 2019

PART 1 – GENERAL

1.1 PURPOSE

A. The modification narrative which follows provides responses to bidder, pre-bid queries and an abbreviated listing of changes to the contract documents in response to those queries. The narrative is not intended to be an all-encompassing or detailed account or explanation of changes or modifications made to the contract documents. Modifications to the contract documents have been annotated within each separate document, whether specification or drawing, to identify the area of modification. The Contractor is responsible to perform a thorough review of the contract documents, including previous and current documents for modifications that affect the work. This narrative is not a part of the contract documents. The printed contract documents have supremacy over any information contained within this document.

B. The intent of this document is to provide an aid in establishing a general understanding of modifications to the work that may or may not affect the scope, quality, project requirements, contract sum, construction schedule, etc. Any questions regarding modifications or this document should be made to the Architect in writing within five days of the issue of the contract document modification.

C. Receipt of this Addendum shall be acknowledged on the Proposal Form.

1.2 GENERAL

A. PROPOSAL DUE DATE & TIME: **Wednesday, May 22, 2019 at 4:00pm**

B. LAST DAY FOR QUESTIONS: **Friday, May 17, 2019 at 10:00am**

1.3 PRE-PROPOSAL QUESTIONS

A. On sheet E2.02, keynote #EP15 is not shown. Please advise.

1. Refer to Addendum No. 2 from LEAF Engineers, dated 5/15/2019, attached.

B. On sheet E2.01, keynotes #EP1 & #EP10 are not shown. Please advise.

1. Refer to Addendum No. 2 from LEAF Engineers, dated 5/15/2019, attached.

C. Sheet G0.01 clarify if fire sprinkler system will be required. Under the heading of Active Fire Safety Features shows req/prov. Under the headings Fire Protection System (Chapters 6, 9 & 10) shows Concessions and Press Box not required to have sprinklers. Clarify no concession or press box shown.

1. According to both the City of San Juan and the City of Alamo, a Fire Sprinkler System is NOT required for either building, as per building type and square-footage. Refer to revised "Codes & Standards" section on Sheet G0.01. Code Summary on Sheet G0.10 is now deleted. The Scope of Work for both locations does not include a Concession Stand or a Press Box.

D. On sheet E1.02 (see attached) electrical sub is requesting more information such as type of electrical primary manhole as noted in note 7. What is the distance from new loop feed transformer installed near existing building next to track as noted in note 2 to proposed transformer note 1 (required for pricing). If we are to follow plans drive will be shut down for some time and drive will be torn up but will be patched (will never be the same). Drive appears to be in good condition and maybe design team could consider placing proposed primary line behind east curb line in green area (see attached google map.

1. Refer to Addendum No. 2 from LEAF Engineers, dated 5/15/2019, attached.

E. On page 08 44 13 – 15.2.6, the specifications say it is to be a "Baked Enamel or Powder Coat Finish… Color and Glass: Selected by Architect." Later it says the aluminum finish is to have a 20 year Warranty. Looking at other swimming facilities they appear to have a white finish. What is the architect's selected aluminum finish selection? Keep in mind our supplier's maximum extended warranty for powder finish is 10 years and the maximum extended warranty for 70% Kynar paint is 20 years, as specified. Please advise.

1. Provide a 70% Kynar finish, with a 20-year warranty, as specified. Specification Section 08 44 13 - Glazed Aluminum Curtain Walls, is revised for clarification. See attachment.

F. Irrigation plans only call out for Reclaimed irrigation valves.(non-potable). Is rest of irrigation equipment to be reclaimed such as pipe, heads and valve boxes or potable water material?

1. See Landscape Addendum No. 2 for clarification.

G. On All doors in the door schedule are shown as "F" for flush yet there are many elevations showing other face types. Are windows "A" thru "E" to be FRP except D1 as aluminum in the alternate?

1. Refer to the revised Sheet A6.01, Door Schedule, for revised door types.

H. Can you clarify on placement and which valves will operate with which controller? As there are three controllers listed, but only two shown on the plans? 1 (ACC 1200 SS Conventional) & 2 (ACC 99 2 Wire).

1. See Landscape Addendum No. 2 for clarification.

I. Doors that need revision: 103-1, 108-1, 110-1, 111-1, 113-1, 115-1 1. Contradiction on the door schedule, on door marks it as pairs and on the floor plan it shows as single. Also, on some of the double doors, they are 3070 and frames size is 5070. 3070 will not fit into frame. Please advise.

1. Refer to the revised Sheet A6.01, Door Schedule, for revised door frame sizes.

J. Window schedule needs frame material. Please advise.

1. Refer to the revised Sheet A6.01, Window Schedule, for correct frame material.

K. Please clarify the solid plastic locker dimensions. The plan list has conflicting information.

1. Provide 15” wide x 24” deep double-tiered lockers.

L. It states in the specs that there needs to be two superintendents and two job trailers... Can you please clarify?

1. GC shall provide a separate project superintendent and job trailer for each of the two building sites.

M. What is the Color selection for the following: On page 08 44 13 – 15.2.6, the specifications say it is to be a “Baked Enamel or Powder Coat Finish… Color and Glass: Selected by Architect.” Later it says the aluminum finish is to have a 20 year Warranty. Looking at other swimming facilities they appear to have a white finish. What is the architect’s selected aluminum finish selection? Keep in mind our supplier’s maximum extended warranty for powder finish is 10 years and the maximum extended warranty for 70% Kynar paint is 20 years, as specified. Please advise.

1. Owner shall make the final color selection of all materials during the Submittal phase of the Project, from the manufacturers’ full line of standard and metallic Kynar finish selections.

N. LOCKERS: Specs call for 18” deep, however, plans show 24” deep. Which one is correct? Please advise.

1. Provide 24” deep lockers.

O. On Drawing Sheet IR3, please advise if the quantity total on the Irrigation Schedule are intended to be a complete count for both campuses, or if it is for only one of the campuses.

1. See Landscape Addendum No. 2 for response.

P. Irrigation: Are backflow devices, if required, PVB type or RP types?

1. See Landscape Addendum No. 2 for response.

Q. Irrigation: Are backflow devices required at both locations?

1. See Landscape Addendum No. 2 for response.

PART 2 – SPECIFICATIONS

2.1 DIVISION 08

A. 08 44 13 – GLAZED ALUMINUM CURTAIN WALLS

1. Revised section for clarification of aluminum finish type.

2.2 DIVISION 22

A. 22 40 00 – PLUMBING FIXTURES

1. Revised Plumbing Fixture Type SH-3.

PART 3 – DRAWINGS

3.1 ARCHITECTURAL

A. Sheet G0.01: Index has been updated to reflect the revised sheets listed below.

B. Sheet G0.01: Codes & Standards have been updated on sheet.

C. Sheet G0.10: Code information removed from sheet.

D. Sheet G0.10: Occupant Load added to sheet.

E. Sheet A2.01: incorporates the revisions below.

F. Sheet A6.01: Door & Window Schedule updated.

G. Sheet A9.01: Ramp widened on Detail 6, to 3'–6".

3.2 STRUCTURAL

A. See Structural Narrative from Chanin Engineering, dated 05/17/2019, attached.

3.3 ELECTRICAL & PLUMBING

A. See Addendum No. 2 Narrative from LEAF Engineers, dated 05/17/2019, attached.

END OF ADDENDUM 02

05/17/2019

HEFFNER DESIGN TEAM, PLLC

ADDENDUM NO. TWO

PSJA ISD NEW AQUATIC FACILITIES
May 17, 2019

Each bidder shall acknowledge receipt of this addendum on the bid form and shall incorporate all changes in the bid.

A. DESCRIPTION OF CHANGES

1. All irrigation equipment shall be for potable water. No non-potable irrigation equipment is required.

B. DRAWING CHANGES

1. None.

C. GENERAL INFORMATION

1. Question: Irrigation plans only call out for Reclaimed irrigation valves.(nonpotable). Is rest of irrigation equipment to be reclaimed such as pipe, heads and valve boxes or potable water material?
   Answer: All irrigation material is required to follow the equipment listed in the Potable Irrigation specification section. Disregard the Non-Potable Irrigation specification section.

2. Question: Can you clarify on placement and which valves will operate with which controller. As there are three controllers listed, but only two shown on the plans. 1 (ACC 1200 SS Conventional) & 2 (ACC 99 2 Wire).
   Answer: On IR1: 1 existing controller and 1 new. On IR2: 1 new controller. All new valves will be controlled by the new controller. The two new controllers will be ACC 1200 SS Conventional. The legend says three controllers because the software recognized the existing controller as new controller.

3. Question: On Drawing Sheet IR3, please advise if the quantity total on the Irrigation Schedule are intended to be a complete count for both campuses, or if it is for only one of the campuses.
   Answer: The schedule is a complete count for both campuses.

4. Question: Are the backflow devices, if required, PVB type or RP types?
   Answer: Detail F/IR4 indicates a PVB.

5. Question: Are backflow devices required at both locations?
   Answer: Yes

END OF ADDENDUM

05-17-19

CHANIN ENGINEERING

STRUCTURAL ENGINEERING

400 NOLANA SUITE H2
MCALLEN, TX 78504
TEL. 956- 687- 9421
FAX 956- 687- 3218
FIRM REG. NUMBER F-9369

ADDENDUM NO. 2

May 14, 2019

"PSJA ISD NEW SWIMMING FACILITIES"

PLEASE NOTE CHANGES AS FOLLOWS:

No. 1 Attachments:

A. Revisions to Foundation Plan Sheets S2.01 and S2.02.
   a. (2) Arch E (30x42 size sheet)

B. Revisions to Detail Sheets S5.01 and S6.01.
   a. (2) Arch E (30x42 size sheet)

End of Addendum #2

Addendum Number 02

05/17/2019

To Drawings and Specifications dated April 11th, 2019

PSJA ISD NEW SWIMMING FACILITIES
San Juan, Texas,
Alamo, Texas

Prepared by: LEAF Engineers, Inc.
601 NW Loop 410, Suite 400
San Antonio, Texas 78216

LEAF Project No.: 18309SP

Notice to Proposers:

A. Receipt of this Addendum shall be acknowledged on the Proposal Form.

B. This Addendum forms part of the Contract documents for the above referenced project and shall be incorporated integrally therewith.

C. Each proposer shall make necessary adjustments and submit his proposal with full knowledge of all modifications, clarifications, and supplemental data included therein. Where provisions of the following supplemental data differ from those of the original Contract Documents, this Addendum shall govern.

SPECIFICATIONS

Item No. 01: Revised SH-3 in plumbing fixtures section 22 40 00.

DRAWINGS

Item No. 01: Re: **E2.01 POWER PLAN:** Added missing keyed notes EP1 and EP10 as indicated on the attached drawing E2.01.

Item No. 02: Re: **E2.02 LIGHTING PLAN:** Added missing keyed note EL15 as indicated on the attached drawing E2.02.

Item No. 03: Re: **P1.01 PLUMBING SITE PLAN:** Revised sanitary sewer stub-out to 6".

Item No. 04: Re: **P1.02 PLUMBINGSITE PLAN:** Revised sanitary sewer stub-out to 6".

Item No. 05: Re: **P3.01 PLUMBING ENLARGED PLAN:** Add cold water to SH-3.

Item No. 07: Re: **P6.01 PLUMBING SCHEDULES:** Revised SH-3 to include a mixing valve.

END OF ADDENDUM NO. 02

601 N.W. Loop 410, Suite 400 \\ San Antonio, Texas 78216 \\ P 210-638-7200 \\ F 210-829-0578 \\ LEAFengineers.com

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Provide a complete system of plumbing fixtures and trim.

B. All materials and equipment for the potable water system shall meet the latest mandates and requirements for lead free required by law that goes into effect January 2014.

1.3 SUBMITTALS

A. Product Data: Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

B. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Accept fixtures on site in factory packaging. Inspect for damage.

B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.5 EXTRA MATERIALS

A. Furnish two sets of faucet washers flush valve service kits lavatory supply fittings shower heads toilet seats.

PART 2 - PRODUCTS

2.1 FLUSH VALVE WATER CLOSETS

A. Fixture Manufacturers:
   1. American Standard Plumbing.
   2. Kohler Co.
   3. Zurn.

B. Fixture Trim Manufacturers:
   1. Bemis
   2. Beneke
   3. Church
   4. Delaney

5. Sloan Valve Co.

6. Zurn Industries.

C. WC-1: ASME A112.19.2M; floor mounted, siphon jet vitreous china closet bowl, with elongated rim, 1-1/2 inch top back spud, china bolt caps. Provide as indicated on plumbing fixture schedule.

1. Floor mounted: Kohler Model Wellcomme Ultra K-96053

2. Or provide as indicated on plumbing fixture schedule

D. WC-2: Same as WC-1, except mounted at ADA/TAS height for appropriate age group.

1. Floor mounted: Kohler Model Highcliff K-96057-SSL-0

2. Or provide as indicated on plumbing fixture schedule

E. Exposed Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with non-hold open handle, escutcheon, seat bumper, 2” offset flush connection, integral screwdriver stop and vacuum breaker; maximum 1.28 gallon. Sloan Model Royal or Zurn AV Series or Sloan 111-1.28 (standard), Sloan 115-1.28 DFB (ADA) or provide as indicated on plumbing fixture schedule.

F. Seat: White/BLack plastic, open front, extended back, self-sustaining hinge, stainless steel mounting hardware, brass bolts, with without cover. Manufacturer: Bemis, Beneke, Olsonite, and Church. Bemis 1655CT or provide as indicated on plumbing fixture schedule.

2.2 WALL HUNG URINALS

A. Fixture Manufacturers:
1. American Standard Plumbing.

2. Kohler Co.

B. Fixture Trim Manufacturers:
1. Delaney

2. Sloan.

3. Zurn.

C. All urinal flush valves shall meet the latest mandates and requirements for lead free required by law that goes into effect January 2014.

D. U-1: ASME A112.19.2M; vitreous china, wall hung, elongated rim integral trap, removable stainless steel strainer, 3/4 inch top spud, provide chair carrier as required. Kohler Model Bardon K-4904-ET or provide as indicated on plumbing fixture schedule.

E. U-2: Same as U-1, except mounted at ADA/TAS height for appropriate age group.

F. Exposed Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with non-hold open handle, escutcheon, integral screwdriver stop with vandal resistant stop

cap, vacuum breaker; maximum one (1) pint flush volume. Sloan Model Royal, or Zurn AV series. Sloan Flushometer 186-0.125 DBP or provide as indicated on plumbing fixture schedule.

G. Wall Mounted Carrier: ASME A112.6.1; cast iron and steel frame with rectangular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs. Provide bottom bearing plate. Jay R. Smith figure 0637, or equal by Zurn and watts or provide as indicated on plumbing fixture schedule.

2.3 LAVATORIES

A. Fixture Manufacturers:
1. American Standard Plumbing.
2. Kohler Co
3. Crane
4. Eljer

B. Fixture Trim Manufacturers:
1. Sloan
2. T & S Brass.
3. Chicago.
4. Speakman.

C. All lavatory faucets and trim shall meet the latest mandates and requirements for lead free required by law that goes into effect January 2014.

D. L-1, Vitreous China Wall Hung Basin: ASME A112.19.2M; Kohler Model K-2005 vitreous china wall hung lavatory 21 x 15 inch minimum, with four (4) inch high back, 3 deck holes, rectangular basin with splash lip, front overflow, and soap depression. Provide floor mounted carrier for correct lavatory type. Provide as indicated on plumbing fixture schedule.
1. Supply Fitting: ASME A112.18.1 (Type A); chrome plated brass spout, metering valve cartridge, supply fitting with open grid strainer, water economy aerator with maximum 0.5 gpm flow, ADA compliant. Chicago Faucet Co. Series, or equivalent by T&S Brass, and American Standard. Chicago 802-VE2805-665ABCP or provide as indicated on plumbing fixture schedule.

E. Accessories:
1. Chrome plated 17 gage brass P-trap with clean-out plug and arm with escutcheon.
2. Chrome plated 17 gage open grid P. O. plug.
3. Removable key stops.
4. Flexible supplies.
5. Trap and waste insulated and offset to meet ADA compliance.

6. Tempering valve – Power LFe480 series, Acorn, or Leonard.

F. Floor Mounted Carrier: ASME A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded studs for fixture hanger, concealed arm supports, bearing plate and studs. Jay R. Smith 710 Series, or equal by Zurn and watts.

2.4 SHOWERS (Regular) – (SH-1)

A. Manufacturers:
1. Chicago Faucet Co.
2. Acorn Engineering Company.
3. Speakman.
4. Leonard Valve Co.
5. Symmons
6. Powers

B. SH-1: ASME A112.18.1; concealed shower supply with pressure balanced or thermostatic mixing valves, integral service stops, chrome plated vandal-proof institutional head with integral wall bracket, built-in 1.5 gpm flow, and escutcheon. Acorn 418B-W or provide as indicated on plumbing fixture schedule.

2.5 SHOWERS (ADA) – (SH-2)

A. Manufacturers:
1. Acorn Engineering Company.
2. Powers.
3. Approved equal.

B. SH-2 ADA: ASME A112.18.1 and ASSE 1016-2011; concealed shower supply with pressure balanced and thermostatic mixing valves, integral service stops, hand held shower (HHC25) with 69 inch metal clad hose and 24 inch glide mounted on right hand side (HHSH), flow rate 1.5 GPM. ACORN 418ADAWH-W-PSO-LCH-LFS-LGB-SB or provide as indicated on plumbing fixture schedule.

2.6 SHOWERS (Regular) – (SH-3)

A. Manufacturers:
1. Chicago Faucet Co.
2. Acorn Engineering Company.
3. Speakman.
4. Leonard Valve Co.
5. Symmons
6. Powers

B. SH-3: ASME A112.18.1; concealed shower supply with metered valve, integral service stops, chrome plated vandal-proof institutional head with integral wall bracket, built-in 1.5 gpm flow, and escutcheon. Acorn 418B-W-MV or provide as indicated on plumbing fixture schedule.

2.7 SHOWERS (ADA) – (SH-4)

A. Manufacturers:
1. Acorn Engineering Company.
2. Powers.
3. Approved equal.

B. SH-4 ADA: ASME A112.18.1 and ASSE 1016-2011; concealed shower supply with pressure balanced and thermostatic mixing valves, integral service stops, hand held shower (HHC25) with 69 inch metal clad hose and 24 inch glide mounted on right hand side (HHSH), flow rate 1.5 GPM. ACORN 416BBF-W-LFS-LGB-LRD-SB or provide as indicated on plumbing fixture schedule.

2.8 ELECTRIC DRINKING FOUNTAIN

A. Manufacturers:
1. Elkay Mfg.
2. Halsey Taylor
3. Oasis Corp.
4. Haws.

B. Fountain: (EDF-1
1. ARI 1010; (ADA) Hydroboost bottle filling station, bi-level cooler, wall mount, non-filtered, non-refrigerated stainless. Mechanically activated, sanitary sensor activated, green counter, laminar flow, antimicrobial, real drain. Electronic bottle filler sensor with mechanical front and side bubbler pushbar. Halsey Taylor Model HTHB-HACDBLSS-NF provide as indicated on plumbing fixture schedule.
2. Capacity: 7.6 gph of water with inlet at 80 degrees F and room temperature of 90 degrees Fahrenheit.
3. Electrical: 115V / 60HZ. Maximum 1/5 hp compressor, cord and plug for connection to electric wiring system including grounding connector.
4. Provide cane touch apron, Halsey Taylor Model 42522 for HAC Series or provide as indicated on plumbing fixture schedule.

2.9 EMERGENCY EYE AND FACE WASH (EW-1)

A. Manufacturers:
1. Encon Safety Products
2. Haws.
3. Bradley.
4. Guardian Safety Equipment

B. ANSI Z358.1; wall mounted, stainless steel bowl with elbow, 1-1/4 inch galvanized steel waste, instant action stay open valve actuated by push flag, four spray heads, dust cover assembly and wall mount bracket. Tailpiece and chrome plated brass P-trap supplied by others. Furnish universal emergency sign. Guardian Model GBF-1994BC w/ AP-275-600 or provide as indicated on plumbing fixture schedule.

2.10 EMERGENCY COMBINATION SHOWER WITH EYE AND FACE WASH (EW-#)

A. Manufacturers:
1. Encon Safety Products
2. Haws Drinking Faucet Co.
3. Bradley
4. Guardian Safety Equipment
5. Speakman
6. Or approved equal

B. Barrier Free, all stainless steel construction, corrosion resistant, combination eye/face wash and shower safety station with stainless steel shower head, stainless steel bowl, stainless steel flag handle and floor flange, 1 ¼" IPS Schedule 40 stainless steel pipe and fittings, 1" IPS and ½" IPS U.S. made stainless steel stay open ball valves, and polished stainless steel pull rod. Unit shall have (4) polypropylene 'GS Plus' spray heads with integral "flip-top" dust covers, filters, and 1.8-GPM flow control orifices mounted on a stainless steel head assembly. Unit shall include ANSI compliant sign.

C. Performance: Unit complies with ADA requirements for accessibility by handicapped persons. Unit shall meet or exceed ANSI Z358.1 – 2004, and come with a full 2-year warranty.

D. Fixture:
1. (EW-2): Guardian Equipment GBF1994 or provide as indicated on plumbing fixture schedule.
2. (EW-3): Guardian Equipment GBF 2150SSH-PCC for all Lab Classrooms.
3. (EW-4): Guardian Equipment GBF1909SSH-GC (orange) For Central Plant and unfinished area.

E. Alarm Option:
1. AP275-200 alarm unit, with light and horn. (blue color light) Light and horn shall be installed in corridor outside of science lab (120 VAC, 0.5 AMP).
2. Locate the blue light in the ceiling of the main corridor area directly outside room where emergency shower is installed. Provide one light per shower/valve configuration. Guardian AP280-235 (120v/1/60hz – 0.11 amp) for GBF 2150SSH-GC and Guardian AP280-230 (120v/1/60hz – 0.11 amp) for GBF 1909SSH-GC

F. Hot water Option: TMV G3800LF Thermostatic mixing valve per ANSI Z358.1-2014.

G. Supply and Waste Piping: 1-1/4 inch galvanized steel pipe pedestal with floor flange.

H. Furnish universal emergency sign.

2.11 SERVICE SINKS (SS-1)

A. Manufacturers:
1. Fixture Manufacturers:
a. Fiat Products
b. Florestone
c. Stern Williams

2. Fixture Trim Manufacturers:
a. Chicago Faucet Co.
b. Fiat Products
c. Stern Williams
d. T & S Brass & Bronze Works Inc.

B. SS-1: Single bowl 32 x 32 x 10 inch high. Receptor composed of pearl grey marble chips and white Portland cement ground smooth, grouted and sealed to resist stains, floor mounted, with 1-1/4 inch wide shoulders, vinyl bumper guard, stainless steel dome strainer. Stern Williams Model SBC-1900 or provide as indicated on plumbing fixture schedule.

C. Accessories:
1. Three (3) feet of 5/8 inch diameter plain end reinforced synthetic hose with stainless steel wall bracket. Stern Williams Model T-35.

2. Mop hanger. Stern Williams Model T-40.

3. Or provide as indicated on plumbing fixture schedule

D. SS-2: 12” corner type w/drop front, bowl 32 x 32 x 12 inch high. Receptor composed of pearl grey marble chips and white Portland cement ground smooth, grouted and sealed to resist stains, floor mounted, with 1-1/4 inch wide shoulders, vinyl bumper guard, stainless steel dome strainer, floor mounted. Stern Williams Model SBC-1725 or provide as indicated on plumbing fixture schedule.

E. Accessories:
1. Three (3) feet of 5/8 inch diameter plain end reinforced synthetic hose with stainless steel wall bracket. Stern Williams Model T-35.

2. Mop hanger. Stern Williams Model T-40.

3. Or provide as indicated on plumbing fixture schedule

2.12 LAVATORY INSULATION KIT

A. Manufacturers:
1. Truebro
2. Plumberex

B. Product Description: Safety Covers conforming to ANSI A177.1 and consisting of insulation kit of molded closed cell vinyl construction, 3/16 inch thick, white color, for insulating tailpiece, P-trap, valves, and supply piping. Furnish with weep hole and angle valve access covers.

2.13 FLOOR DRAINS

A. Manufacturers:
   1. Josam Mfg.,
   2. Jay R. Smith Mfg.,
   3. Wade Spec. Products
   4. Zurn Industries
   5. Mifab
   6. Watts

B. Floor Drain (FD-1): ASME A112.21.1; Top round floor drain, lacquered cast iron two piece body with double drainage flange, weep holes, reversible clamping collar, and round, adjustable nickel-bronze strainer. Jay R. Smith Model 2010, 2015 or provide as indicated on plumbing fixture schedule.

C. Floor Drain (FD-2): ASME A112.21.1; Top square floor drain, lacquered cast iron two piece body with double drainage flange, weep holes, reversible clamping collar, and round, adjustable square nickel-bronze strainer with removable perforated sediment bucket. Jay R. Smith 2010, 2015 or provide as indicated on plumbing fixture schedule.

D. Floor Drain (FD-3): ASME A112.21.1; Cast iron flanged receptor with seepage holes, acid resistant coated interior and indirect waste drain, nickel bronze rim and secured grate. Aluminum dome bottom strainer or sediment bucket. Jay R. Smith Model 3020, 3021 or provide as indicated on plumbing fixture schedule.

E. Floor Drain (FD-4): ASME A112.21.1;medium duty drains with 8-1/2” round top, duco cast iron body and flashing collar with cast iron bar. Jay R. Smith 2110, 2115. Provide as indicated on plumbing fixture schedule.

F. Floor Drain (FD-5): ASME A112.21.1; Large capacity solid bottom suspended sediment bucket, fabricated steel body with galvanized coating inside and outside, cast iron grate, stainless steel ported bucket with mesh screen and lift bar. Jay R. Smith 2450, 2455. Provide as indicated on plumbing fixture schedule.

G. Hubdrain (HD-1): Jay R. Smith 2270 Series or provide as indicated on plumbing fixture schedule.

H. Hubdrain (HD-2): Stainless Steel. Jay R. Smith 9700 Series or provide as indicated on plumbing fixture schedule.

2.14 FLOOR SINKS

A. Manufacturers:
   1. Josam Mfg.
   2. Jay R. Smith Mfg.
   3. Wade Spec. Products
   4. Zurn Industries

5. Mifab

6. Watts

B. Floor Sink (FS-1): Cast iron body with integral seepage pan, acid resistant interior, nickel bronze rim and secured 1/2 grate. Aluminum dome bottom strainer and eight (8) inch square top. Jay R. Smith 3100 Series or provide as indicated on plumbing fixture schedule.

C. FS-2, Jay R. Smith 3140-13, 12 inches, 3/4 grate or provide as indicated on plumbing fixture schedule.

D. FS-3, Jay R. Smith 9700 Series, 12 inches, 3/4 grate or provide as indicated on plumbing fixture schedule.

2.15 TRAP SEAL PRIMERS

A. Trap Seal Primers-Pressure Drop Type (TP-1)
1. PPP model P2-500 pressure drop activated brass trap seal primer, with inlet opening of 1/2 inch (13) male N.P.T. and outlet opening of female 1/2 inch (13) N.P.T. Complete with four view holes and removable filter screen. Serves up to 6 floor drain traps and requires no adjustments and no air pre-charge.

2. PPP model P1-500 trap seal primer distribution unit with four 3/8 inch (10) F.P.T brass nipple outlet connections to serve either 2, 3, or 4 floor drain traps and a 1/2 inch (13) M.P.T inlet connection. Unit complete with four 1/4 inch (6) diameter vent holes in the lid and three 1/8 inch (3) diameter Phillips Head screws to secure the lid to the body.

3. Provide connection adapters as required for number of drains served.

4. Install exposed in mechanical rooms at +48 " A.F.F. in readily accessible location.

B. Trap Seal Primers-Flush Valve Type (TP-2)
1. Vacuum breaker trap primer attached to water closet flush valve, similar to Sloan VBF-72-A.

C. Trap Seal Primer: (TP-3), Jay R. Smith 2698 Series.

D. Trap Seal Primer, Automatic, (TP-4), Jay R. Smith 2699 Series, Kitchen.

2.16 TRAP GUARDS

A. Provide trap guards (TG-1) in all floor drains and floor sinks not in restrooms, kitchen, and mechanical rooms to be manufactured by Provent System

B. Provide trap guards (TG-2) inline floor drain trap sealer to be manufactured by Rectorseal.

2.17 TRENCH DRAIN

A. TD-1:

1. Precast polyester concrete channel of interlocking design with built in slope of 0.6 percent. Radiused bottom, with stainless steel grate.

2. Supply with concrete anchors, and required end caps and outlets. Six (6) inches wide and lengths as required, long. Not for use above grade.

3. Smith/Aco Model 9931-ADA. Provide slotted Resin heavy duty ADA composite grate, JR Smith Model 9870-494-PADAB. Color to be selected by Architects

2.18 CLEANOUTS

A. Cleanouts shall be provided where indicated on Drawings and elsewhere as required by code.

1. Cleanouts in pipelines shall consist of cast iron ferrule and heavy duty cleanout plug with square head as scheduled on the Drawings. Where piping is concealed in floors or walls cleanouts shall be installed in or near surface of floor or walls and have countersunk plugs with covers

B. Cleanouts shall be provided at the base of the stack on all sanitary, waste and drainage stacks. Base of stack cleanouts on piping located within walls or partitions shall be cast iron cleanout tee with countersunk plug and chromium-plated round access cover, J.R. Smith figure or approved equal.

C. Manufacturers:

1. Josam Mfg.

2. Jay R. Smith Mfg.

3. Wade Spec. Products

4. Zurn Industries

5. Mifab

6. Watts

D. Floor, Outdoors: Coated cast iron body with gasket seal ABS plug and round cast iron scoriated non-skid cover. Jay R. Smith, Model 4220-F-C-U.

E. Floor, Indoors (CO): Coated cast iron body with gasket seal ABS plug, threaded top assembly with round nickel bronze scoriated cover in service areas. Jay R. Smith, Model 4025 – F-C-U.

F. Wall Cleanout (WCO): Line type with lacquered cast iron body with bronze taper thread plug and round stainless steel access cover secured with vandal proof screw. Jay R. Smith Model 4420-U.

G. Floor, Stainless Steel Indoors (CO): Coated cast iron body with gasket seal ABS plug, threaded top assembly with round stainless steel scoriated cover in service areas. Jay R. Smith Model 9760 Series.

2.19 ROOF DRAINS

A. Manufacturers: Josam, J.R. Smith, Zurn or equal.

B. Roof Drain (RD-1):
   1. Assembly: ASME A112.21.2M.

   2. Body: Lacquered cast iron with sump.

   3. Strainer: Removable aluminum dome with vandal proof screws.

   4. Accessories: Coordinate with roofing type, provide all required accessories:
      a. Membrane flange and membrane clamp with integral gravel stop.
      b. Adjustable under deck clamp.
      c. Roof sump receiver.
      d. Waterproofing flange.
      e. Provide fixed extensions whenever possible in place of adjustable extensions when the distance needed is longer than what can be adjusted

C. Roof Drain (RD-2):
   1. Assembly: ASME A112.21.2M.

   2. Body: Lacquered cast iron with sump.
   3. Strainer: Removable aluminum dome with vandal proof screws.

   4. Accessories: Coordinate with roofing type, provide all required accessories:
      a. Membrane flange and membrane clamp with integral gravel stop.
      b. Adjustable under deck clamp.
      c. Roof sump receiver.
      d. Waterproofing flange.
      e. Use threaded connection for pipe sizes 6” or larger.
      f. Provide fixed extensions whenever possible in place of adjustable extensions when the distance needed is longer than what can be adjusted

D. Overflow Roof Drain (OD-1):
   1. Assembly: ASME A112.21.2M.

   2. Body: Lacquered cast iron with sump.

   3. Strainer: Removable aluminum dome with vandal proof screws.

   4. Waterdam extended to two (2) inches above flood elevation.

   5. Accessories: Coordinate with roofing type:
      a. Membrane flange and membrane clamp with integral gravel stop.
      b. Adjustable under deck clamp.
      c. Roof sump receiver.
      d. Waterproofing flange.
      e. Provide fixed extensions whenever possible in place of adjustable extensions when the distance needed is longer than what can be adjusted

E. All roof drains shall be provided with no-hub connection.

2.20 HOSE BIBS

A. Manufacturers:
   1. Josam Mfg.
   2. Jay R. Smith Mfg.
   3. Woodford
   4. Zurn Industries
   5. Mifab
   6. Watts

B. HB-1:
   1. Manufacturers: Woodford Model B24 or provide as indicated on plumbing fixture schedule.
   2. Interior: Polish brass, anti-siphon, vacuum breaker, enclosed in flush mounted wall box and adjustable brass nut with deep stem guard.

C. HB-2:
   1. Manufacturers: Woodford Model B65, or provide as indicated on plumbing fixture schedule.
   2. Interior: Polish brass Bronze, automatic draining freezeless wall hydrant, single check hose connection anti-siphon vacuum breakers, hydrants drain as handle shut off , permanent type brass valve body with hemispherical seating surface.

D. HB-3:
   1. Manufacturers: Woodford Model 24 or provide as indicated on plumbing fixture schedule.
   2. Interior: Polish brass, anti-siphon, vacuum breaker and adjustable brass nut with deep stem guard.

2.21 WALL HYDRANTS

A. Manufacturers:
   1. Josam Mfg.
   2. Jay R. Smith Mfg.
   3. Woodford.
   4. Zurn Industries
   5. Mifab
   6. Watts

B. WH-1:
   1. Woodford B65, Non-Freeze, or provide as indicated on plumbing fixture schedule.

2. ASSE 1019; Chrome, non-freeze, self-draining type with lockable recessed box hose thread spout, hand wheel locks shield and removable key, and integral vacuum breaker.

C. WH-2:
1. Woodford B22, Non-Freeze, or provide as indicated on plumbing fixture schedule.

2. Wall Hydrant (WH-2): ASSE 1019; non-freeze, self-draining type with lockable recessed box hose thread spout, hand wheel locks shield and removable key, and integral vacuum breaker for hot and cold water.

D. Yard Hydrant: WH-3
1. Woodford HCB67, ASSE 1019, or provide as indicated on plumbing fixture schedule.

2. Lockable box type, non-freeze hot and cold mixer, chrome finish with permanent type brass valve body with hemispherical seating surface, automatic draining and hose connection, backflow preventer and check valve.

2.22 RECESSED VALVE BOX

A. Manufacturers: Guy Gray, or approved equal.

B. RVB-1, Refrigerator/Ice Machine: Stainless steel preformed rough-in box with brass valves with wheel handle slip in finishing cover. IPS Model SSMIB8AB.

C. RVB-2, Washing Machine: Galvanized steel preformed rough-in box with brass long shank valves with wheel handles, valves with single lever handle, socket for two (2) inch waste, slip in finishing cover. IPS Model SSWB-3.

2.23 DOWNSPOUT NOZZLES (DSN-1)

A. Manufacturers: Jay R. Smith 1775 Series with vandal proof option and in fabricated polished brass or provide as indicated on plumbing fixture schedule.

B. Product Description: Cast bronze body and wall flange round with offset bottom section.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 31 13 - Administrative Requirements: Coordination and project conditions.

B. Verify walls and floor finishes are prepared and ready for installation of fixtures.

C. Verify electric power is available and of correct characteristics.

D. Confirm millwork is constructed with adequate provision for installation of counter top lavatories and sinks.

3.2 PREPARATION

A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

A. Install each fixture with trap, easily removable for servicing and cleaning.

B. Provide chrome plated rigid or flexible supplies to fixtures with loose key or screwdriver stops, reducers, and escutcheons.

C. Install components level and plumb.

D. Install and secure fixtures in place with wall supports wall carriers and bolts.

E. Seal fixtures to wall and floor surfaces with sealant, color to match fixture.

F. For ADA accessible water closets, install flush valve with handle to wide side of stall.

G. Emergency Shower: Provide a floor drain at each shower installation. Jay R. Smith Model 2005-A07NB-P or provide as indicated on plumbing fixture schedule.

H. Provide power wiring, including control power transformers as required for all sensor type fixtures.

I. Bolt carriers to the floor.

J. All sinks shall have an offset rear centered drain.

3.4 INTERFACE WITH OTHER PRODUCTS

A. Review millwork shop-drawings. Confirm location and size of fixtures and openings before rough in and installation.

3.5 ADJUSTING

A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

A. Clean plumbing fixtures and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Do not permit use of fixtures before final acceptance.

END OF SECTION 24 40 00

SECTION 08 44 13 - GLAZED ALUMINUM CURTAIN WALLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Requirements including but not limited to:
   1. Glazed aluminum curtain walls.
   2. Exterior and interior manual swing entrance doors.
   3. Accessories necessary for a complete installation.

1.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, licensed in the State of Texas with experience in the design of curtainwalls and aluminum storefronts to design glazed aluminum curtain walls using performance requirements and design criteria indicated.

B. Provide curtain wall assembly, storefront system, and windows by a single source and tested as a combined single assembly.

C. System Description: Curtainwall assembly fabricated from aluminum stick framed system with exposed interior and exterior metal framing. Design system to allow for installation tolerances, expansion and contractor of adjacent materials and joint design.
   1. Drawings are diagrammatic and do not identify or solve thermal or structural movement, glazing, anchorage, or moisture disposal. Details establish basic dimension of unit, sight lines, and profiles of members.
   2. Glass, sealants, and interior finishes do not contribute to framing member strength, stiffness, or lateral stability.
   3. Design and fabricate glazing systems for interior glazing.
   4. Design perimeter conditions to allow for installation tolerances, expansion and contraction of adjacent materials, and sealant manufacturer's recommended joint design.
   5. Design attachments to address site conditions, expansion, and contraction movements to eliminate possibility of loosening, weakening, or fracturing connection between units and building structure or between units themselves.
   6. Allow for expansion and contraction due to structural movement without detriment to appearance or performance.
   7. Design system to drain to exterior face of wall, water entering joints and condensation occurring within system by drain holes and gutters of adequate size to evacuate water without infiltration to interior or the top of lower lites of glass.
   8. Design metal faces to be visually flat under lighting conditions.
   9. Design interior dense EPDM wedge gasket with sealed corners, with maximum 30% compression when glazed, to create a water and air seal.
   10. Design rigid isolators to maintain flatness of face caps and provide thermal break between exterior and interior members.
   11. For stresses placed on structural silicone sealants, maintain sealant manufacturer's recommended maximum.
   12. Not Permitted: Vibration harmonics, wind whistles, noises caused by thermal movement, thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system.

D. Performance Criteria: Coordinate with Section 084100 for performance criteria, fabrication, and erection standards. Provide curtain wall assemblies to meet or exceed performance requirements:
   1. Design and fabricate curtain wall to withstand the operating loads without measurable permanent deflection. Limit deflections to provide the normal degree of rigidity required to avoid glass breakage, air infiltration, and objectionable results of excessive flexibility.
   2. Glazed aluminum curtain walls shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
   3. Failure also includes the following:
      a. Thermal stresses transferring to building structure.
      b. Glass breakage.
      c. Noise or vibration created by wind and thermal and structural movements.
      d. Loosening or weakening of fasteners, attachments, and other components.
      e. Failure of operating units.

E. Structural Loads:
   1. Wind Loads: Design, fabricate, and install framing system to withstand the maximum inward and outward wind pressures required by IBC.
      a. Basic Wind Speed: Refer to Structural Drawings.
      b. Exposure Category: Refer to Structural Drawings.
      c. Risk Category: Refer to Structural Drawings.

   2. Deflection of Framing Members: At design wind pressure:
      a. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not exceeding 1/175 of the glass edge length for each individual glazing lite or 1/175 of clear span for spans up to 13 feet 6 inches (4.1 m) and to 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 13 feet 6 inches (4.1 m) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19.1 mm), whichever is less.
      b. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.
         1.) Operable Units: Provide a minimum 1/16 inch (1.6 mm) clearance between framing members and operable units.

      c. Cantilever Deflection: Where framing members overhang an anchor point:
         1.) Perpendicular to Plane of Wall: No greater than 1/240 of clear span plus 1/4 inch (6. 35 mm) for spans greater than 11 feet 8-1/4 inches (3.6 m) or 1/175 times span, for spans less than 11 feet 8-1/4 inches (3.6 m).

      d. Do not permit permanent deformation (set) in metal framing work. Permanent deformation, fastener, weld, or gasket failure, component breakage or disengagement shall not occur under wind loading equal to 1.5 times the wind loads (positive or negative). Permanent deformation shall be taken as deflection without recovery exceeding 1/1000 times span.

F. Structural: Test according to ASTM E 330:
   1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
   2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
   3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

G. Air Infiltration: Test according to ASTM E 283 for infiltration:
   1. Fixed Framing and Glass Area:
      a. Maximum air leakage of 0.06 cfm/sq. ft. (0.30 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa) and 6.24 lbf/sq. ft. (300 Pa).

H. Water Penetration under Static Pressure: Test according to ASTM E 331:
   1. No evidence of water penetration through fixed glazing and framing areas when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 10 lbf/sq. ft. (480 Pa).

I. Water Penetration under Dynamic Pressure: Test according to AAMA 501.1:
   1. No evidence of water penetration through fixed glazing and framing areas when tested at dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 10 lbf/sq. ft. (480 Pa).
   2. Maximum Water Leakage: According to AAMA 501.1. Water leakage does not include water controlled by flashing and gutters, or water that is drained to exterior.

J. Interstory Drift: Accommodate design displacement of adjacent stories indicated.
   1. Design Displacement: Indicated on Drawings.
   2. Test Performance: Complying with criteria for passing based on building occupancy type when tested according to AAMA 501.4 at design displacement and 1.5 times the design displacement.

K. Energy Performance: Certify and label energy performance according to NFRC:
   1. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than 0.57 Btu/sq. ft. x h x deg F (3.23 W/sq. m x K) as determined according to NFRC 100.
   2. Solar Heat Gain Coefficient: Fixed glazing and framing areas shall have a solar heat gain coefficient of no greater than 0.40 as determined according to NFRC 200.
   3. Condensation Resistance: Fixed glazing and framing areas shall have an NFRC certified condensation resistance rating of no less than 35 as determined according to NFRC 500. Excessive condensation is defined as the accumulation of uncontrolled condensate flowing from the curtain wall at any location, or visible ice, frost, or water on more than 5% of the area of any module of the exterior wall.

L. Noise Reduction: Test according to ASTM E 90, with ratings determined by ASTM E 1332:
   1. Outdoor-Indoor Transmission (OITC) Class: Minimum 34.

M. Sound Transmission: Provide window wall and storefront systems with fixed glazing and framing areas having sound transmission characteristics of:
   1. Sound Transmission Class (STC): Minimum 31 standard and 37 laminated STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.

N. Blast Resistance:
   1. Hazard Rating: Minimal Hazard per ASTM F 1642.
   2. Performance Condition: 3b per GSA-TS01.

O. Windborne Debris Impact Resistance: Pass missile impact and cyclic pressure tests when tested according to ASTM E 1886 and testing information in ASTM E 1996 for Wind Zone 4.
   1. Large Missile Test: For glazed openings located within 30 feet (9.1 m) of grade.
   2. Small Missile Test: For glazed openings located more than 30 feet (9.1 m) above grade.

P. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:

1. Temperature Change: 120 degrees F (67 degrees C), ambient; 180 degrees F (100 degrees C), material surfaces.
2. Thermal Cycling: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.
    a. High Exterior Ambient Air Temperature: That which produces an exterior metal surface temperature of 180 degrees F (82 degrees C).
    b. Low Exterior Ambient Air Temperature: 0 degrees F (minus 18 degrees C).

Q. Structural Sealant Joints:
1. Designed to carry gravity loads of glazing.
2. Designed to produce tensile or shear stress of less than 20 psi (138 kPa).

R. Structural Sealant: Capable of withstanding tensile and shear stresses imposed by structural sealant glazed curtain walls without failing adhesively or cohesively. When tested for preconstruction adhesion and compatibility, cohesive failure of sealant shall occur before adhesive failure.
1. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
2. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant-to-substrate bond strength exceeds sealant's internal strength.

S. Design Modifications: Submit design modifications necessary to meet performance requirements and field coordination.
1. Variations in details or materials shall not adversely affect the appearance, durability, or strength of components, nor shall variations cause excessive stress, or deflections, to building structural frame.
2. Maintain general design concept without altering size of members, profiles, and alignment.

1.4 SUBMITTALS

A. Combined Submittals: Combine submittals for exterior curtainwall and storefronts into a single submission. Submit combined shop drawing which has been reviewed, annotated, and coordinated by each of the principal exterior cladding subcontractors.
1. As an indication of review, and as a condition of acceptance by the Architect, provide combined submittal with a cover sheet clearly indicating the signatures of the Contractor and each exterior cladding subcontractor.
2. Coordinate curtainwall, storefronts and entrances, windows, ACM, and window wall submittals.

B. Product Data: Manufacturer technical data for each type of product, including construction details, material descriptions, dimensions of individual components and profiles, and finishes.

C. Shop Drawings: Submit plans, elevations, sections, full size details, and attachments to other work.
1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
2. Include full size isometric details of each vertical to horizontal intersection of glazed aluminum curtain walls, showing the following:
    a. Joinery, including concealed welds.
    b. Anchorage.
    c. Expansion provisions.
    d. Glazing.
    e. Flashing and drainage.
    f. Thermal breaks.

g. Interface with building construction.

3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
4. Indicate glazing details, methods, locations of various types and thickness of glass, emergency breakout locations, and internal sealant requirements.
5. Indicate locations of exposed fasteners and joints for Architect's acceptance.

D. Fabrication Sample (Mock Up Drawings): Submit drawings for field mockup of each vertical to horizontal intersection of assemblies, made from 12 inch (300 mm) lengths of full size components and showing details of the following:
1. Joinery, including concealed welds.
2. Anchorage.
3. Expansion provisions.
4. Glazing.
5. Flashing and drainage.

E. Delegated Design Submittal: For glazed aluminum curtain walls indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for the preparation.

F. Structural Calculations: Submit sealed copies of structural calculations indicating complete compliance with the specified performance requirements. Submit calculations prepared, signed, and sealed by a Professional Engineer licensed in the State of Texas.

G. Preconstruction Laboratory Mockup Testing Submittals: Submit the following:
1. Testing Program: Developed specifically for Project.
2. Test Reports: Prepared by a qualified preconstruction testing agency for each mockup test.
3. Record Drawings: Record drawings prepared from as built drawings of preconstruction laboratory mockups showing changes made during preconstruction laboratory mockup testing.

H. Energy Performance Certificates: For glazed aluminum curtain walls, accessories, and components from manufacturer.
1. Basis for Certification: NFRC certified energy performance values for each glazed aluminum curtain wall.

I. Reports: Submit the following:
1. Product Test Reports: Submit report for tests performed by a qualified testing agency.
2. Quality Control Program: Program developed specifically for Project, including fabrication and installation, according to recommendations in ASTM C 1401. Include periodic quality control reports.
3. Source quality control reports.
4. Field quality control reports.

J. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related Work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

K. Maintenance Data: Submit maintenance data to include in maintenance manuals.

L. Maintenance Data for Structural Sealant: For structural sealant glazed curtain walls to include in maintenance manuals. Include ASTM C 1401 recommendations for post-installation-phase quality control program.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Building Code: Comply with applicable requirements of IBC with Austin amendments for building cladding.
   2. Energy Code: Comply with applicable provisions of the IECC.
   3. Surface Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
      a. Flame Spread Index: 25 or less.
      b. Smoke Developed Index: 450 or less.

   4. Accessibility Requirements: Comply with applicable requirements.
      a. U.S. Architectural and Transportation Barriers Compliance Board Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG).
      b. ICC/ANSI A117.1 Accessible and Useable Building and Facilities.
      c. Texas Accessibility Standards (TAS) 2012.

   5. Welding Standards: Welding shall be performed by skilled and qualified mechanics. Welding shall be performed in accordance with the applicable provisions of AWS D1.1 *Structural Welding Code - Steel* and AWS D1.2 *Structural Welding Code - Aluminum*.
   6. Federal Standard 16 CFR 1201, Consumer Product Safety Commission (CPSC): *Safety Standard for Architectural Glazing Materials*, published in Code of Federal Regulations (CFR).
      a. Comply with applicable requirements of authorities having jurisdiction, wherever requirements conflict the more stringent shall be required. Obtain approvals from authorities.
      b. As a minimum provide safety glazing complying with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for Category II materials.

   7. Structural Sealant Glazing: Comply with ASTM C 1401 for design and installation of structural sealant glazed curtain walls.
   8. Energy Performance Standards: NFRC for minimum standards of energy performance, materials, components, accessories, and fabrication. Comply with more stringent requirements if indicated.

B. Manufacturer/Fabricator Qualifications: Fabricator specializing in the fabrication of aluminum framed window wall and window systems and components, having minimum 10 years documented experience, and with sufficient production capacity, organized quality control and testing procedures, and published written and illustrated installation manuals, to produce and install the entrance assemblies required.

C. Installer Qualifications: Firm that specializes in the erection of aluminum framed window wall, storefront, and window systems, having minimum 10 years documented experience, and approved or certified by manufacturer/fabricator.
   1. Engineering Responsibility: Prepare data for curtainwall, storefront, and window systems, including Shop Drawings, based on testing and engineering analysis of manufactured units in systems similar to those indicated.
      a. Professional Engineer Qualifications: A professional engineer who is legally licensed to practice in the State of Texas, experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of heavy glass storefront and entrance system similar to those indicated in material, design, and extent.

D. Laboratory Mockup Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025.

E. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025.

F. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.
   1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

G. Structural Sealant Glazing: Comply with ASTM C 1401 for design and installation of curtain wall assemblies.

H. Source Limitations: Obtain components of curtain wall system, including framing entrances and accessories, from single manufacturer.

I. Preinstallation Conference: Conduct conference at site.

J. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
   1. Build mockup of typical wall area as shown on Drawings.
   2. Perform testing on mockups according to specified requirements.
   3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
   4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

K. Preconstruction Laboratory Mockups:
   1. Preconstruction Testing Service: Owner will engage a qualified testing agency to perform testing on preconstruction laboratory mockups.
   2. Build preconstruction laboratory mockups at testing agency facility; use personnel, products, and methods of construction that will be used at Project site.
      a. Size and Configuration: As indicated on Drawings.
      b. Notify Architect seven days in advance of the dates and times when preconstruction laboratory mockups will be constructed and tested.

   3. Preconstruction Laboratory Mockup Testing Program: Test preconstruction laboratory mockups according to requirements. Perform the following tests in the following order:
      a. Structural: ASTM E 330 at 50 percent of positive test load.
      b. Air Infiltration: ASTM E 283.
      c. Water Penetration under Static Pressure: ASTM E 331.
      d. Water Penetration under Dynamic Pressure: AAMA 501.1.
      e. Structural: ASTM E 330 at 100 percent of positive and negative test loads. Repeat the following:
         1) Air Infiltration: ASTM E 283.
         2) Water Penetration under Static Pressure: ASTM E 331.

      f. Interstory Drift: AAMA 501.4 at 100 percent of design displacement. Repeat the following:
         1) Air Infiltration: ASTM E 283.
         2) Water Penetration under Static Pressure: ASTM E 331.

      g. Vertical Interstory Movement: AAMA 501.7. Repeat the following:
         1) Air Infiltration: ASTM E 283.

2) Water Penetration under Static Pressure: ASTM E 331.

h. Thermal Cycling: According to AAMA 501.5. Repeat the following:
1) Air Infiltration: ASTM E 283.
2) Water Penetration under Static Pressure: ASTM E 331.

i. Structural: ASTM E 330 at 100 and 150 percent of positive and negative test loads. Repeat the following:
1) Air Infiltration: ASTM E 283.
2) Water Penetration under Static Pressure: ASTM E 331.

L. Laboratory Mockup Testing: Curtain wall mock up testing shall include components of fixed window units, glazed framing including captured mullions and SSG mullions, and storefront units in mock up.
1. Laboratory Mockup Testing: Provide mockups as specified for testing. Verify required mockup submittals are reviewed and have received final approval from the Architect prior to construction of the mockups.
a. Laboratory testing mockups are used as a standard for judging visual and performance acceptability of the Work for the project. Replace unsatisfactory work as directed. Provide personnel to construct exterior wall mockups who will be the same personnel who will be performing and supervising the actual Work. Simulate actual construction conditions as accurately as possible in every way. Provide extra materials necessary to replace any which fail during tests. Cut glass used in mockups to the minimum tolerances expected in the final exterior wall installation.
b. Size: As shown but not less than the requirements of AAMA Standard 501 and ASTM E 331 Section 9. Provide larger mockup(s) if the proposed exterior wall details create a condition requiring a larger mockup(s) for proper evaluation and testing. Provide mockups at wall testing facility complete with glass, aluminum framing, metal panels, anchors, connections, flashings, sealants, and joint fillers as accepted on the mockup shop drawings. Do not take special precautions or use techniques that do not represent those to be used on the work.
c. Laboratory Testing: Notify the Architect of the readiness of the mockups for preliminary and final testing. Do not begin the testing program without the presence of the Owner's representative and the Architect.
1) Preliminary Test: Conduct single static pressure test at 50 percent of the maximum Wind Pressure followed by a single test for water penetration at 50 percent of the pressure specified.
a) The preliminary test is purposely limited to a single event. No interim or repeat preliminary testing for Contractor benefit or correction of systems shall be permitted.

2) Preform tests of the mockup(s) in accordance with the standards except as modified, in the order listed, and in accordance with the specified performance criteria. Tests 1 and 5 shall be conducted at 1.57 lbf/sq. ft. (75 Pa) and 6.24 lbf/sq. ft. (300 Pa), respectively. Tests 2, 3, and 6 shall be conducted at 12 lbf/sq. ft. (600 Pa) for 1 cycle, maintaining the test pressure for 15 minutes.
a) Test 1 (For Air Infiltration): ASTM E 283. Extraneous air leakage (tare) shall be limited to 10 percent or less of the net air leakage through the exterior wall assembly as provided under ASTM E 283. Provide pressure taps as required within the test chamber to ensure uniform stratification of design test pressure across the exterior wall assembly.
b) Test 2 (For Water Penetration - Uniform Static Pressure): ASTM E 331.
c) Test 3 (For Water Penetration - Dynamic Pressure): AAMA 501.1.
d) Test 4 (For Structural Performance): ASTM E 330, Method B, test to .5, and 1.0 times the wind pressure, during test. Deflection readings shall be taken at end connections and midspans of main framing

members, at intersections of framing members and at midspans of glass holding members, glass, and panels. Take readings for both positive and negative loading. If failure occurs through glass breakage prior to achieving 1.5 times the maximum wind pressure, replace glass and repeat test. Two successive failures of the same light or panel not otherwise attributable to inherent glass defects will be considered unacceptable. Further tests shall be suspended until deficiencies are corrected, which may include increasing the stiffness of glass holding members and/or adjustment of the glazing details.

e) Test 5 (Retest for Air Infiltration): ASTM E 283. Extraneous air leakage (tare) shall be limited to 10 percent or less of the net air leakage through the exterior wall assembly as provided under ASTM E 283. Provide pressure taps as required within the test chamber to ensure uniform stratification of design test pressure across the exterior wall assembly.

f) Test 6 (Retest for Water Penetration, Uniform Static Pressure): ASTM E331.

g) Test 7 (For Structural Performance): ASTM E 330, Method B, except conduct test to 1.5 times the maximum wind pressure. Record pressures and deflections at 1.5 times the wind pressure, during test.

h) Test 8 (For Live Load Deflection Performance): AAMA 501.4 Modified. Test for live load deflection by applying vertical load to the frame supporting the mockup specimen, so as to induce a deflection in the mockup equivalent to the live load deflection identified on the drawings at the location the mockup is simulating. The load shall be applied and released through ten (10) cycles. Visually inspect mockup specimen after each displacement.

i) Test 9 (Exterior Window Maintenance Equipment Test): Perform concentrated load testing on the exterior wall maintenance tie back equipment attached to the exterior wall framing. Apply outward, inward, and side-loading of a magnitude and for a duration as required to comply with the authorities having jurisdiction for window washing equipment. There shall be no failure or gross permanent distortion of the tie back equipment or any part of the exterior wall framing.

j) Test 10 (For Thermal Transmittance and Condensation Resistance): At the completion of Test 9, carefully disassemble the glass, glazing, and metal framing components and reassemble them as a mockup, and test the mockup, in accordance with AAMA 1503.1.

d. Corrective Measures: Correct deficiencies in mockups observed during testing and repeat tests as required to show compliance with performance standards. Deficiencies requiring repair or modification to mockup(s) require complete retesting of mockup(s) beginning with the specified Preliminary Test unless otherwise directed by the Architect.

1) The Owner will pay the cost of the first mock up test. The cost of subsequent tests and retesting is the responsibility of the contractor. The Contractor shall bear costs for additional retesting until compliance with performance standards is accomplished.

2) Incorporate corrective measures indicated by the test report into the final exterior wall assemblies after review by the Architect.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Identify components of curtainwall work after fabrication by marks clearly indicating location in the building. Package components to protect components from damage during shipping and handling.

B. Storage on Site: Store units, components, and materials in clean, dry location, away from uncured concrete, masonry work, sprayed on fireproofing work, and construction activities. Cover with nonstaining waterproof paper, tarpaulin, or polyethylene sheeting to permit circulation of air inside the covering.

C. Keep handling on site to a minimum. Exercise care to avoid damage to finishes of metals or breakage of glass.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions of supporting structure by field measurements before fabrication so curtainwall work is accurately designed, fabricated, and fitted to the structure. Indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work. Use Contractor's lines and benchmarks as a basis for measurements.
   1. Established Dimensions: Where field measurements cannot be made without delaying the work, establish dimensions and proceed with fabricating curtainwalls without field measurements. Coordinate supporting structure construction to ensure actual dimensions correspond to established dimensions.

1.8 WARRANTY

A. Assembly Warranty: Written warranty signed by manufacturer, Contractor, and Installer in which the manufacturer agrees to repair or replace components of glazed aluminum curtain wall that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Failure to meet performance requirements.
      b. Structural failures including, but not limited to, excessive deflection.
      c. Glass breakage due to defective design.
      d. Noise or vibration created by wind and thermal and structural movements.
      e. Deterioration of metals, metal finishes, and materials beyond normal weathering.
      f. Water penetration through fixed glazing and framing areas.
      g. Deterioration of materials and finishes beyond normal weathering.
      h. Failure of insulating glass.
      i. Noise or vibration created by wind and thermal and structural movements.
      j. Failure of operating components.

   2. Warranty Period: Ten (10) years from date of Substantial Completion.

B. Finish Warranty: Written warranty signed by manufacturer in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory applied finishes within specified warranty period.
   1. Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

   2. Warranty Period: Twenty (20) years from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

A. Entrance Door Hardware:
   1. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of entrance door hardware.

2. Initial Maintenance Service: Beginning at Substantial Completion, provide six months full maintenance by skilled employees of entrance door hardware Installer. Include quarterly preventive maintenance, repair, or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper entrance door hardware operation at rated speed and capacity. Provide parts and supplies the same as those used in the manufacture and installation of original equipment.

PART 2 - PRODUCTS

2.1 FRAMING

A. Basis of Design Manufacturer/Product: Kawneer North America, 1600 Series or equivalent product from list of approved manufacturers. Other manufacturers must have a minimum of five (5) years experience manufacturing products meeting or exceeding the specifications and comply with Division 1 requirements regarding substitutions to be considered.
1. Arcadia, Inc.
2. Bruce Wall Systems Corporation.
3. CMI Architectural.
4. EFCO Corporation.
5. EXTECH/Exterior Technologies, Inc.
6. Oldcastle Building Enclosure.
7. Pittco Architectural Metals, Inc.
8. SAFTI FIRST Fire Rated Glazing Solutions.
9. Trulite Glass & Aluminum Solutions, LLC.
10. Tubelite Inc.
11. U.S. Aluminum; a brand of C.R. Laurence.
12. Unitized Systems LLC.
13. Vistawall International.
14. Vitro America.
15. Waltek & Company Limited.
16. Wausau Window and Wall Systems; Apogee Wausau Group.
17. YKK AP America, Inc.

B. Framing Members: Extruded or formed aluminum framing members of thickness required and reinforced necessary to support imposed loads.
1. Construction: Thermally broken.
2. Glazing System: Retained mechanically with gaskets on two sides and structural sealant on two sides.
3. Glazing Plane: Front.
4. Finish: Baked enamel or powder coat finish.
5. Color: Architect to select from manufacturer's full range.
6. Fabrication Method: Factory fabricated unit and mullion system.

C. Aluminum Curtain Wall System: Kawneer Co., Inc., 1600IR Wall System 2 or equivalent product from list of approved manufacturers:
1. Structural Properties:
   a. Limit the dead load deflection of horizontal members supporting glass to 1/175 of the clear span with a 1/8 inch maximum deflection.
   b. Limit the deflection of any member in a direction parallel to the plane of the wall and of any corner mullion in both parallel and perpendicular directions to a maximum of 25 percent of the glass bite dimension and maintain a minimum of 1/8 inch clearance between the member and the edge of the glass, panel, or other component.
   c. Limit the wind load deflection of any member to 1/240 plus 1/4 inch of the clear span, based on "pinned" ends.

d. Limit the wind load deflection of corner mullions to the span as specified above, with the specified pressure acting on one face of the building with no pressure acting on the adjacent face, or 1/2 the specified pressure acting on one face of the building with 1/2 the specified suction acting on the adjacent face, whichever is the greatest.
e. No wall element shall sustain permanent deflection of glass breakage under maximum design load.
f. The panels and their connections shall accommodate movements of the structure resulting from lateral forces. Provide connections with sufficient ductility to preclude brittle failure, at or near, welds.

D. Framing Sizes: 2-1/2 inches x 7-13/16 inches where indicated on the drawings. Miter ends of horizontals to form segmented curve at commons

E. Pressure Caps: Aluminum components that mechanically retain glazing with snap on aluminum trim that conceals fasteners.

F. Brackets and Reinforcements: High strength aluminum with nonstaining, nonferrous shims for aligning system components.

G. Materials:
1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
a. Sheet and Plate: ASTM B 209 (ASTM B 209M).
b. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
c. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
d. Structural Profiles: ASTM B 308/B 308M.

2. Steel Reinforcement: Zinc rich, corrosion resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.
a. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
b. Cold Rolled Sheet and Strip: ASTM A 1008/A 1008M.
c. Hot Rolled Sheet and Strip: ASTM A 1011/A 1011M.

3. Carbon Steel: ASTM A36.

2.2 ENTRANCES

A. Entrance Doors: Glazed entrance doors for manual swing operation.
1. Door Construction: 1-3/4 inch (44.5 mm) overall thickness, with minimum 0.125 inch (3.2 mm) thick, extruded aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
2. Door Design: Nominal width of 6 inch (152.4 mm) vertical stiles and 6-1/2 inch (165.1 mm) bottom rail.
3. Glazing Stops and Gaskets: Square, snap on, extruded aluminum stops and preformed gaskets.

B. Entrance Door Hardware: Refer to Section 08 71 00 for aluminum entrance hardware sets.
1. Basis of Design: Series 500 Wide Stile, swing door standard as manufactured by Kawneer Co., Inc. or equivalent product from list of approved manufacturers.
2. Provide entrance door hardware and entrance door hardware sets indicated in door and frame schedule for each entrance door to comply with requirements in this Section.

a. Opening-Force Requirements:
   1) Egress Doors: Maximum than 15 lbf 67 N to release the latch and not more than 30 lbf 133 N to set the door in motion and not more than 15 lbf (67 N) to open the door to its minimum required width.
   2) Accessible Interior Doors: Maximum 5 lbf to fully open door.

b. Weather Stripping: Standard replaceable components to match existing.
c. Weather Sweeps: Standard exterior door bottom sweep with exposed fasteners on mounting strip to match existing.

2.3 GLAZING

A. Glazing: Comply with Section 08 80 00.

B. Glazing Gaskets: Comply with Section 08 80 00.

C. Glazing Sealants: Recommended by manufacturer.

D. Structural Glazing Sealants: ASTM C 1184, chemically curing silicone formulation that is compatible with system components with which it comes in contact, specifically formulated and tested for use as structural sealant and approved by structural-sealant manufacturer for use in curtainwall assembly indicated.
   1. Color: Architect to select color from manufacturer's full range.

E. Weatherseal Sealants: ASTM C 920 for Type S; Grade NS; Class 25; Uses NT, G, A, and O; chemically curing silicone formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural sealant, weatherseal sealant, and structural sealant glazed curtainwall manufacturers for this use.
   1. Color: Match structural sealant.

2.4 ACCESSORIES

A. Fasteners and Accessories: Corrosion resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
   1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
   2. Reinforce members as required to receive fastener threads.
   3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.

B. Anchors: Three way adjustable anchors with minimum adjustment of 1 inch (25.4 mm) that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.
   1. Concrete and Masonry Inserts: Hot dip galvanized cast iron, malleable iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.

C. Concealed Flashing: Corrosion resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

D. Bituminous Paint: Cold applied asphalt mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil (0.762-mm) thickness per coat.

2.5 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:
1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing from interior.
6. Provisions for safety railings mounted on interior face of mullions.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
8. Components curved to indicated radii.

D. Fabricate components to resist water penetration:
1. Internal guttering system or other means to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.
2. Pressure equalized system or double barrier design with primary air and vapor barrier at interior side of glazed aluminum curtain wall and secondary seal weeped and vented to exterior.

E. Curtainwall Framing: Fabricate components for assembly using shear block system.

F. Factory Assembled Frame Units:
1. Rigidly secure nonmovement joints.
2. Prepare surfaces that are in contact structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion.
3. Preparation includes, but is not limited to, cleaning and priming surfaces.
4. Seal joints watertight unless otherwise indicated.
5. Install glazing to comply with requirements in Section 08 80 00.

G. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
1. At exterior doors, provide weather stripping at fixed stops.
2. At interior doors, provide weather stripping at stops to prevent metal to metal contact.

H. Entrance Doors: Reinforce doors as required for installing entrance door hardware.
1. At pairs of exterior doors, provide compression type weather stripping retained in adjustable strip and mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

I. After fabrication, clearly mark components to identify locations according to Shop Drawings.

2.6 ALUMINUM FINISHES

A. ~~Baked Enamel or Powder Coat~~ High Performance Fluoropolymer Finish (containing PVDF resin): 70% Kynar FSF resin-based coatings comply with AAMA 2605 ~~2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm).~~ Comply with coating manufacturer's written instructions for cleaning, coating, and finish.
1. Color and Gloss: Selected by Architect.

2.7 SOURCE QUALITY CONTROL

A. Structural Sealant: Perform quality control procedures complying with ASTM C 1401 recommendations including, but not limited to, assembly material qualification procedures, sealant testing, and assembly fabrication reviews and checks.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, adjoining construction, structural support, anchorage, and conditions for compliance with requirements for installation tolerances and conditions affecting performance of the work.
   1. Verify rough opening dimensions, levelness of sill plate, and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and built in components to ensure weathertight window wall installation.
   2. Notify Architect in writing, of dimensions, or conditions, found which prevent proper execution of the window wall work, including specified tolerances.

B. Proceed with installation after correcting unsatisfactory conditions.

3.2 PREPARATION

A. Prepare surfaces that will contact structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.

3.3 INSTALLATION

A. Coordinate installation with building enclosure work.

B. Comply with manufacturer's written instructions for installing curtain wall, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
   1. Do not install damaged components.
   2. Fit frame joints to produce hairline joints free of burrs and distortion.
   3. Rigidly secure nonmovement joints.
   4. Remove loose particles present or resulting from fabrication or field cutting and drilling by blowing out joints with oil free compressed air, or by vacuuming joints.
   5. Remove protective coatings, oils from cutting and drilling operations, and residue on metallic surfaces with solvents that leave no residue.
   6. Do not allow solvent to air dry without wiping. Use lint free towels for wiping of surfaces. Wipe metal surfaces with IPA (isopropyl alcohol) or xylene unless otherwise required by compatibility and adhesion testing results. Seal joints watertight. Clean excess joint sealants from finished surfaces.
   7. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
   8. Where welding is required, weld components in concealed locations to minimize distortion or discoloration of finish. Protect glazing surfaces from welding.
   9. Seal joints watertight unless otherwise indicated.
   10. Set components within erection tolerances with uniform joints. Place components on shims and fasten to supporting substrates using bolts and similar fasteners.
   11. Do not erect components that are warped, deformed, bowed, dented, defaced, or damaged and impair strength or appearance. Remove and replace members damaged in process of erection.

12. Coat concealed surfaces of dissimilar materials, and ferrous metal components, with heavy coating of bituminous paint, zinc rich primer or separation in accordance with manufacturer's recommendations. Where aluminum components will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
13. Do not burn, cut into or field drill holes or slots in building framing member without written acceptance of the structural engineer.

C. Metal Protection:
1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with primer, applying sealant or tape, or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum is in contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

D. Entrance Doors and Hardware: Install doors to produce smooth operation and tight fit at contact points.
1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field Installed Entrance Door Hardware: Install surface mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

E. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.

F. Install components plumb and true in alignment with established lines and grades.

G. Permanently fasten to building structure with manufacturer recommended attachments and shims to permanently fasten system to building structure. Securely anchor components and units in place, allowing for required movement, including expansion and contraction. Set sill members in bed of sealant. Set other members with internal sealants and baffles to provide weathertight construction.

H. Water Drainage: Compartmentalize each light of glass using joint plugs and silicone sealant to divert water to the horizontal weep locations. Locate weep holes in the horizontal pressure plates and covers to divert water to the exterior of the building.

I. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather stripping contact and hardware movement to produce proper operation.

J. Glazing: Install glazing gaskets and sealants in accordance with manufacturer's instructions without exception; including surface preparations. Refer to Section 088000.
1. Prepare surfaces that will contact structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.

K. Insulation: Refer to Section 07 21 00.

L. Weatherseal: Install weatherseal sealant according to Section 07 92 00 and according to sealant manufacturer's written instructions to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.

3.4 ERECTION TOLERANCES

A. Erection Tolerances: Install glazed aluminum curtain walls to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet (3.2 mm in 3 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
2. Level: 1/8 inch in 20 feet (3.2 mm in 6 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
3. Alignment:
   a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch (12.7 mm) wide, limit offset from true alignment to 1/16 inch (1.6 mm).
   b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch (12.7 to 25.4 mm) wide, limit offset from true alignment to 1/8 inch (3.2 mm).
   c. Where surfaces are separated by reveal or protruding element of 1 inch (25.4 mm) wide or more, limit offset from true alignment to 1/4 inch (6 mm).
4. Location: Limit variation from plane to 1/8 inch in 12 feet (3.2 mm in 3.6 m); 1/2 inch (12.7 mm) over total length.
5. Tolerances are not accumulative.

3.5 FIELD QUALITY CONTROL

A. The Owner reserves the rights to engage an independent testing and inspection agency to verify the adequacy of the Contractor's quality control. Obtain inspections from representative of the Owner's independent testing and inspection agency. Testing and inspecting agency will interpret tests and state in each report whether tested Work complies with or deviates from requirements.

B. Test Area: Perform tests on representative areas of glazed aluminum curtain walls.

C. Field Quality Control Testing: Perform the following test on representative areas of glazed aluminum curtain walls.
1. Water Spray Test: Before installation of interior finishes has begun, areas designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.
   a. Perform a minimum of three tests in areas as directed by Architect.
   b. Perform tests in each test area as directed by Architect. Perform at least three tests, prior to 10, 35, and 70 percent completion.
2. Air Infiltration: ASTM E 783 at 1.5 times the rate specified for laboratory testing but not more than 0.09 cfm/sq. ft. (0.45 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).
   a. Perform a minimum of three tests in areas as directed by Architect.
   b. Perform tests in each test area as directed by Architect. Perform at least three tests, prior to 10, 35, and 70 percent completion.
3. Water Penetration: ASTM E 1105 at a minimum static-air-pressure differential of 0.67 times the static-air-pressure differential specified for laboratory testing, but not less than 6.24 lbf/sq. ft. (300 Pa), and shall not evidence water penetration.

D. Structural Sealant Adhesion: Test structural sealant according to recommendations in ASTM C 1401, Destructive Test Method A, *Hand Pull Tab (Destructive)*, Appendix X2.
1. Test a minimum of six areas on each building facade.
2. Repair installation areas damaged by testing.

E. Glazed aluminum curtain walls will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports.

G. Remove and replace noncomplying windows and retest as specified.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.6 CLEANING

A. Clean metal surfaces promptly after installation, exercising care to avoid damage to factory finished exposed surfaces.

B. Wash glass on both faces not more than 4 days prior to date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer. Remove excess glazing and sealant compounds, dirt, and other substances.

C. Immediately remove deleterious material from surfaces of aluminum.

3.7 PROTECTION

A. Institute protective measures required throughout the remainder of the construction period to ensure that window wall Work will be without damage or deterioration, other than normal weathering, at time of acceptance.

END OF SECTION 08 44 13

ABBREVIATIONS

A.D.	AREA DRAIN		
A.D.A.	AMERICANS WITH DISABILITIES ACT	N.D.	NAPKIN DISPOSAL
A.D.A.	2010 ADA STANDARDS FOR ACCESSIBLE DESIGN	N.I.C.	NOT IN CONTRACT
		N.T.S.	NOT TO SCALE
A.D.A.A.G.	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES	N.V.	NAPKIN VENDOR
		NO.	NUMBER
A.F.F.	ABOVE FINISH FLOOR	NOM.	NOMINAL
A.F.G.	ABOVE FINISH GRADE		
A.H.J.	ATHORITY HAVING JURISDICTION	O.C.	ON CENTER (S)
A/C	AIR CONDITIONING	O.C.E.W.	ON CENTER EACH WAY
ACC.	ACCESIBLE, ACCESSIBILITY	O.D.	OUTSIDE DIAMETER
ACP.	ACOUSTICAL PANEL	O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
ACT.	ACOUSTICAL TILE		
ADJ.	ABADJUSTABLE	O.H.	OPPOSITE HAND
ALT.	ALTERNATE	OPNG.	OPENING
ALUM.	ALUMINUM	OPP.	OPPOSITE
ASPH.	ASPHALT		
∠	ANGLE	P. LAM. / PLAM	PLASTIC LAMINATE
B.O.D.	BOTTOM OF DECK	P.C.	PRECAST
B.U.R.	BUILT-UP ROOF	P.H.	PAPER HOLDER
BD.	BOARD	P.L.	PROPERTY LINE
BLDG.	BUILDING	P.P.	POWER POLE
BLK.	BLOCK	P.W.B.	PREFINISHED WALL BOARD
BM.	BEAM	PL.	PLATE
		PLUMB.	PLUMBING
C	CHANNEL	PLYWD.	PLYWOOD
C.J.	CONTROL JOINT	POL.	POLISHED
C.M.U.	CONCRETE MASONRY UNIT	PR.	PAIR
C.W.	COLD WATER	PREFIN.	PRE-FINISHED
CAB, CABT	CABINET	PT	PRESSURE-TREATED
CFMF	COLD-FORMED METAL FRAMING	PT.	POINT
CFSF	COLD-FORMED STEEL FRAMING	PTD.	PAINTED
CL	CENTERLINE		
CLG.	CEILING	Q.T.	QUARRY TILE
CLR	CLEAR		
COL.	COLUMN	R / RAD	RADIUS
COMP.	COMPRESSIBLE	R.O.	ROUGH OPENING
CONC.	CONCRETE	RCP	REFLECTED CEILING PLAN
COND.	CONDITION	RD	ROOF DRAIN
CONT.	CONTINUOUS	RE. , REF.	REFER TO / REFERENCE / SEE
CORR.	CORRIDOR	RECP.	RECEPTACLE
CPT.	CARPET (ED)	REINF.	REINFORCE (D), (ING)
CT.	CERAMIC TILE	REQ'D.	REQUIRED
CTSK.	COUNTER SINK	RES.	RESILIENT
		REV.	REVISION (S), REVISED
D	DRYER	RF	RECREATIONAL RESILIENT FLOORING
D.F.	DRINKING FOUNTAIN		
D.P.	DAMPPROOFING	RPG.	RELOCATABLE PAINTED GYPSUM BOARD
D.S.	DOWN SPOUT		
DIA.	DIAMETER	RSS.	ROD STOCK AND SEALANT
DIM.	DIMENSION		
DTL.	DETAIL	S.C.	SEALED CONCRETE
DWG.	DRAWING	S.D.	SOAP DISPENSER
		S.N.D.	SANITARY NAPKIN DISPOSAL
E.J.	EXPANSION JOINT	SCHED	SCHEDULE
E.Q.	EQUAL	SCPL	SOLID CORE PLASTIC LAMINATE
EA.	EACH	SECT	SECTION
EDF	ELECTRIC DRINKING FOUNTAIN	SHT	SHEET
EL.	ELEVATION (HEIGHT)	SIM	SIMILAR
ELEC.	ELECTRICAL	SPC	SPECIAL COATING SYSTEM
ELECT.	ELECTRICAL	SPEC	SPECIFICATION (S)
ELEV	ELEVATION (DRAWING)	SQ.	SQUARE
EQUIP	EQUIPMENT	SS / SS. STL	STAINLESS STEEL
EXIST	EXISTING	STL	STEEL
EXP	EXPANSION	STRUC / STRUCT	STRUCTURAL
EXT	EXTERIOR		
F.E.	FIRE EXTINGUISHER	SUSP	SUSPENDED
F.E.C.	FIRE EXTINGUISHER CABINET	SVDF	SHEET VINYL DANCE FLOORING
F.H.C.	FIRE HOSE CABINET	SVF	SHEET VINYL FLOORING
FB.	FACE BRICK	T.A.S.	TEXAS ACCESSIBILITY STANDARDS (2012)
FD.	FLOOR DRAIN		
FIN.	FINISH (ED)	T.B.	TACK BOARD
FIXT.	FIXTURE	T.D.R.	TOWEL DISPENSER AND RECEPTACL
FLR.	FLOOR (ING)	T.O.	TOP OF
FLSHG.	FLASHING	T.O.B.	TOP OF (WOOD) BLOCKING
FLUOR	FLUORESCENT	T.O.M.	TOP OF MASONRY
FRP	FIBER REINFORCED PLASTIC	T.O.P.	TOP OF PARAPET
		T.O.S.	TOP OF STEEL
G.B.	GRAB BAR	T.T.D.	TOILET TISSUE DISPENSER
G.I.	GALVANIZED IRON	TEL.	TELEPHONE
GA.	GAUGE	TERR	TERRAZZO
GALV.	GALVANIZED	THK	THICK (NESS)
GCMU	GLAZED CONCRETE MASONRY UNIT	TYP	TYPICAL
GEN.	GENERAL		
GEN.	GENERAL	U.N.O.	UNLESS NOTED OTHERWISE
GL.	GLASS / GLAZING	UR.	URINAL
GL.	GLASS		
GR.	GRADE	V	VENT
GTP.	GLAZED TILE PAVER	V.C.T.	VINYL COMPOSITION TILE
GWB	GYPSUM WALL BOARD	V.I.F.	VERIFY IN FIELD
GYP.	GYPSUM	VENT.	VENTILATING, VENTILATED
		VER.	VERIFY
H.W.	HOT WATER	VERT.	VERTICAL
HM	HOLLOW METAL FRAME	VGB	(PREFINISHED) VINYL CLAD GYPSUM BOARD
HORIZ.	HORIZONTAL		
HT.	HEIGHT	VWC	VINYL WALL COVERING
I.D.	INSIDE DIAMETER	W	WASHING MACHINE
I.P.S.	IRON PIPE SIZE	W.P.	WATER PROOFING
INSUL	INSULATE (ED), (ION)	W.S.	WEATHERSTRIP
INT.	INTERIOR	W.W.	WATER WELL
		W.W.F.	WELDED WIRE FABRIC
JT.	JOINT	W.W.M.	WOVEN WIRE MESH
		W/	WITH
L.P.	LIGHT POLE	WC	WATER CLOSET
LAM.	LAMINATE (D)	WD	WOOD
LAV.	LAVATORY	WDW	WINDOW
LT.	LIGHT	WT	WEIGHT
LT. WT.	LIGHTWEIGHT		
M.O.	MASONRY OPENING		
MAS.	MASONRY		
MATL.	MATERIAL (S)		
MAX.	MAXIMUM		
MB.	MARKER BOARD		
MECH.	MECHANICAL		
MEM	MEMBRANE		
MEM. WP.	MEMBRANE WATERPROOFING		
MEP	MECHANICAL, ELECTRICAL, PLUMBING		
MEPT	MECHANICAL, ELECTRICAL, PLUMBING, TECHNOLOGY		
MEZZ.	MEZZANINE		
MFR. / MANUF.	MANUFACTURE (R)		
MH.	MANHOLE		
MIN.	MINIMUM		
MISC.	MISCELLANEOUS		
MOD	MODULAR		
MTL	METAL		
MTP.	METAL TOILET PARTITION		

SHEET NUMBERING

SHEET NUMBER

A2.01A

BUILDING AREA

SEQUENCE (.01 - .99.....etc.)

SHEET DISCIPLINE TYPE

DISCIPLINE

G	GENERAL
C	CIVIL
L	LANDSCAPE
CA	SPORTS
S	STRUCTURAL
D	DEMOLITION
A	ARCHITECTURAL
M	MECHANICAL
E	ELECTRICAL
P	PLUMBING
T	TECHNOLOGY
FS	FOOD SERVICE
AV	ACOUSTICAL
TH	THEATRICAL

0	GENERAL
1	SITE
2	FLOOR PLANS (Note: Flip Sheets are Schedules)
3	ROOF
4	ENLARGED PLANS
5	PLAN DETAILS
6	ELEVATIONS (Exterior and Interior)
7	PARTITION TYPES, WALL SECTIONS
8	CASEWORK, MILLWORK
9	DOORS, WINDOWS, FRAMES
10	CEILINGS

CODES & STANDARDS

GENERAL INFORMATION - ALAMO, TX

LOCATION: 800 S Alamo Rd, Alamo, TX, 78516

AGENCY INFORMATION: Pharr-San Juan-Alamo ISD 601 E Kelly Ave., Pharr, TX 78577 (956) 354-2000

ARCHITECT: PBK Sports 11 Greenway Plaza, 15th Floor Houston, TX 77046

RESPONDING FIRE DEPARTMENT: Alamo Fire Department

REASON FOR SUBMITTAL: New Construction

WATER SERVICE: San Juan City Water Works

TDLR REGISTRATION NO.: XXXXXXX-XX

PROJECT DESCRIPTION

THE PHARR - SAN JUAN - ALAMO ISD SWIMMING FACILITIES ARE COMPRISED OF A 25M x 25YD COMPETITION POOL, INSTRUCTIONAL POOL, AND DIVING POOL (ALTERNATE NO. 2), WITH SPECTATOR BLEACHERS, POOL DECK, PUBLIC & STUDENT RESTROOMS, CLASSROOM & COACHES FACILITIES.

APPLICABLE CODES

2012 - INTERNATIONAL BUILDING CODE
2012 - INTERNATIONAL MECHANICAL CODE
2012 - INTERNATIONAL PLUMBING CODE
2012 - NATIONAL PLUMBING CODE
TEXAS DEPARTMENT OF HEALTH STANDARD FOR SWIMMING POOLS AND SPAS
2017 - NATIONAL ELECTRIC CODE
2012 - INTERNATIONAL FIRE CODE
2015 - INTERNATIONAL ENERGY CONSERVATION CODE
2012 - TEXAS ACCESSIBILITY STANDARDS
2012 - ICC - 300 - STANDARD FOR BLEACHERS

USE & OCCUPANCY CLASSIFICATIONS - (CHAPTER 3)

Pool Building - A4 & A5 (ref. sec. 304.1)

BUILDING HEIGHT AND AREAS - (CHAPTER 5)

Pool Building = 6,989 sq. ft.
Number of Stories = 1

ACTIVE FIRE SAFETY FEATURES

	Req.	Prov.
Fire Alarm System:	✓	✓
Manual Pull Station:	✓	✓
Exit Signs:	✓	✓
Minimum Egress Lighting:	✓	✓
Fire Extinguishers:	✓	✓
Fire Sprinklers:		
Smoke Detection:		
Emergency Lighting:	✓	✓
Duct Detection:	✓	✓
Fire Pump:		

TYPE OF CONSTRUCTION (CHAPTER 6)

Pool Building - TYPE II-B (**II - 000 - NFPA 101**)
Max. allowable area = 9,500 sq. ft.
Max. allowable height = 55' - 0"
Max. story allowed = 2
***Area, Stories, & Height complied with construction Type II-B (TYPE II - 000)**

Building Elements Fire Resistance Rating Requirements (ref. sec. table 601)

	2012 IBC TABLE 601	NFPA 101 TABLE A.8.2.1.2
Structural frame	0	0
Non bearing wall & interior partition	0	0
Floor construction	0	0
Roof construction	0	0
Exterior wall (ref. table 602)	0	0

FIRE PROTECTION SYSTEM (CHAPTER 9)

Automatic sprinkler system required for A4 occupancies in excess of 12,000 SF. (ref. 903.2.1.4).
-No fire sprinkler requirement for A4 buildings of less than 12,000 SF.

A manual fire alarm system shall be installed in accordance with NFPA 72 in Group A occupancies having an occupant load of 300 or more (ref. 907.2.1)

GENERAL INFORMATION - SAN JUAN, TX

LOCATION: 805 W Ridge Rd, San Juan, TX, 78589

AGENCY INFORMATION: Pharr-San Juan-Alamo ISD 601 E Kelly Ave., Pharr, TX 78577 (956) 354-2000

ARCHITECT: PBK Sports 11 Greenway Plaza, 15th Floor Houston, TX 77046

RESPONDING FIRE DEPARTMENT: Pharr Fire Department

REASON FOR SUBMITTAL: New Construction

WATER SERVICE: Pharr Utilities Division

TDLR REGISTRATION NO.: XXXXXXX-XX

PROJECT DESCRIPTION

THE PHARR - SAN JUAN - ALAMO ISD SWIMMING FACILITIES ARE COMPRISED OF A 25M x 25YD COMPETITION POOL, INSTRUCTIONAL POOL, AND DIVING POOL (ALTERNATE NO. 2), WITH SPECTATOR BLEACHERS, POOL DECK, PUBLIC & STUDENT RESTROOMS, CLASSROOM & COACHES FACILITIES.

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2012 - NATIONAL PLUMBING CODE
TEXAS DEPARTMENT OF HEALTH STANDARD FOR SWIMMING POOLS AND SPAS
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2012 - INTERNATIONAL FIRE CODE
2012 - INTERNATIONAL ENERGY CONSERVATION CODE
2012 - TEXAS ACCESSIBILITY STANDARDS
2012 - ICC - 300 - STANDARD FOR BLEACHERS

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Exit Signs:	✓	✓
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Fire Extinguishers:	✓	✓
Fire Sprinklers:		
Smoke Detection:		
Emergency Lighting:	✓	✓
Duct Detection:	✓	✓
Fire Pump:		

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SITE LOCATION MAP - MEMORIAL EARLY COLLEGE HS ALAMO, TX

SITE LOCATION MAP - EARLY COLLEGE HS SAN JUAN, TX

PLAN NORTH
NORTH

DRAWING INDEX

PBK Sports
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Houston, TX 77046
713-965-0608 P
713-961-4571 F
TX Firm: F-3709
PBK.com

PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH — TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ
14378
STATE OF TEXAS
05.09.2019

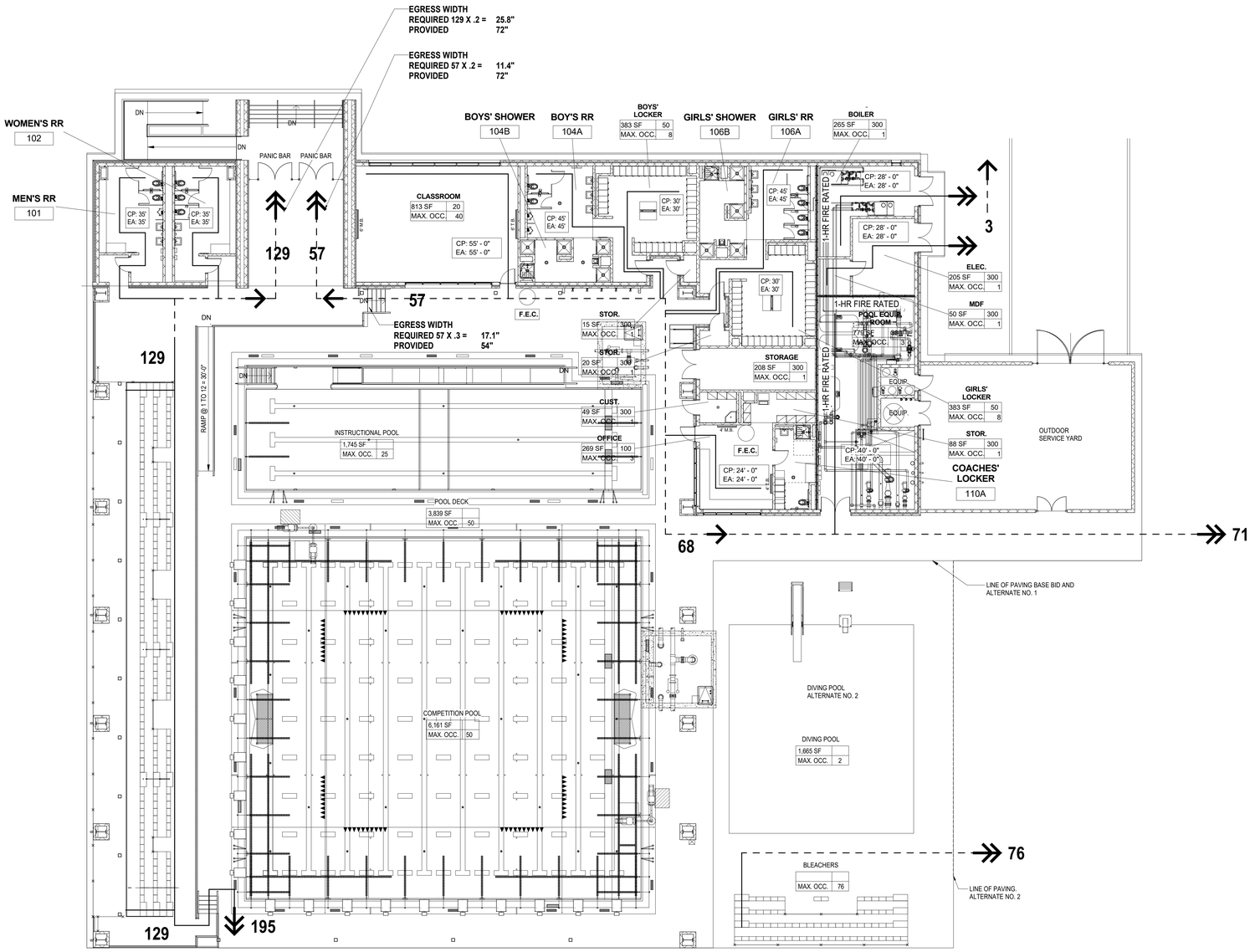
CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: 05.09.19
DRAWN BY: Author
CHECKED BY: Checker

REVISIONS

No.	Description	Date
1	Addendum 1	05.09.19
2	Addendum 2	05.14.19

INDEX & CONVENTIONS

G0.01



12 LIFE SAFETY PLAN

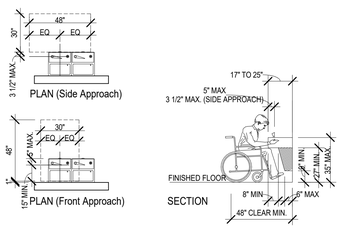
3/32" = 1'-0"

LIFE SAFETY SYMBOLS LEGEND

- MEANS OF EGRESS - PATH OF TRAVEL
- MEANS OF EGRESS - COMMON PATH OF TRAVEL
- POINT OF EXIT
- EXIT DISCHARGE
- DIRECTION OF TRAVEL
- 1-HR FIRE RATED
- 2-HR FIRE RATED
- 3-HR FIRE RATED
- F.E. — FIRE EXTINGUISHER
- F.E.C. — FIRE EXTINGUISHER CABINET
- CP: 0" / EA: 0" — COMMON PATH OF TRAVEL/ EXIT ACCESS TRAVEL DISTANCE

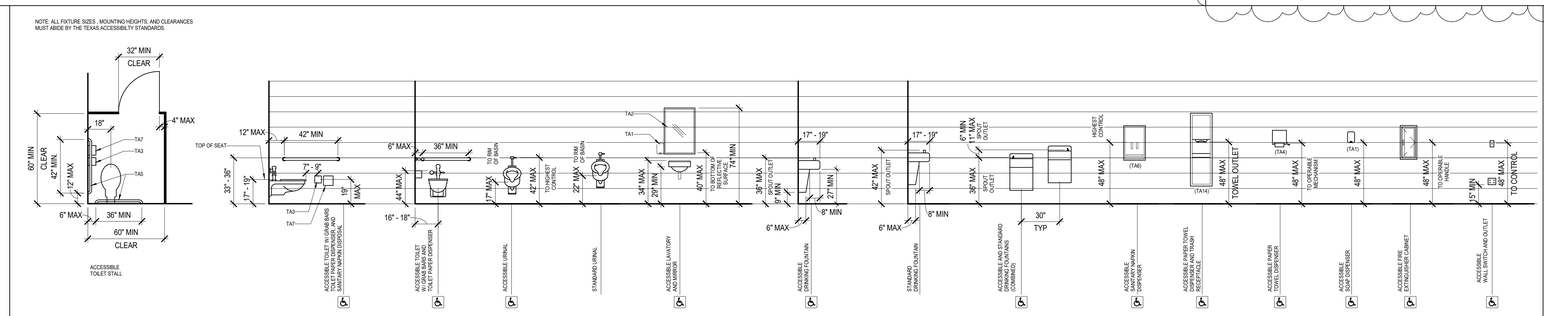
OCCUPANT LOAD

Name	Occupancy	Area	Load Factor	Occupants
DIVING POOL		1450 SF		2
INSTRUCTIONAL POOL		2105 SF		25
COMPETITION POOL		6161 SF		50
BLEACHERS		-		258
BLEACHERS (DIVING)		-		76
CLASSROOM		813 SF	20 SF	40
BOY'S RR	LOCKER ROOM	203 SF	50 SF	0
GIRLS' RR	LOCKER ROOM	187 SF	50 SF	0
BOILER	MAINTENANCE / STORAGE	265 SF	300 SF	1
ELEC.	MAINTENANCE / STORAGE	205 SF	300 SF	1
MDF	MAINTENANCE / STORAGE	50 SF	300 SF	1
POOL EQUIP. ROOM	MAINTENANCE / STORAGE	779 SF	300 SF	3
OFFICE	OFFICE	269 SF	100 SF	3
STORAGE	MAINTENANCE / STORAGE	208 SF	300 SF	1
COACHES' LOCKER	LOCKER ROOM	132 SF	50 SF	3
STOR.	MAINTENANCE / STORAGE	20 SF	300 SF	1
STOR.	MAINTENANCE / STORAGE	15 SF	300 SF	1
GIRLS' LOCKER	LOCKER ROOM	383 SF	50 SF	8
BOYS' LOCKER	LOCKER ROOM	383 SF	50 SF	8
STOR.	MAINTENANCE / STORAGE	88 SF	300 SF	1
CUST.	MAINTENANCE / STORAGE	49 SF	300 SF	1
WOMEN'S RR	LOCKER ROOM	299 SF	50 SF	0
SANITIZER	MAINTENANCE / STORAGE	40 SF	300 SF	1
BUFFER	MAINTENANCE / STORAGE	42 SF	300 SF	1
MEN'S RR	LOCKER ROOM	327 SF	50 SF	0
SERVICE YARD	MAINTENANCE / STORAGE	1326 SF		0
POOL DECK	POOL DECK	3839 SF	50 SF	77
TOTAL				563



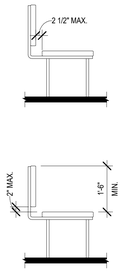
6 DRINKING FOUNTAIN GUIDELINE

1/4" = 1'-0"



5 MOUNTING HEIGHTS GRADES 9-12 AND STANDARD HEIGHT

1/4" = 1'-0"



1 BENCH BACK SUPPORT

1/2" = 1'-0"

PBK Sports
11 Greenway Plaza, 22nd Floor
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713-965-0608 P
713-961-4571 F
TX Firm: F-3709
PBK.com

PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH — TRUE NORTH

EDMUND X. RAMIREZ — REGISTERED ARCHITECT — 14374 — STATE OF TEXAS

05.09.2019

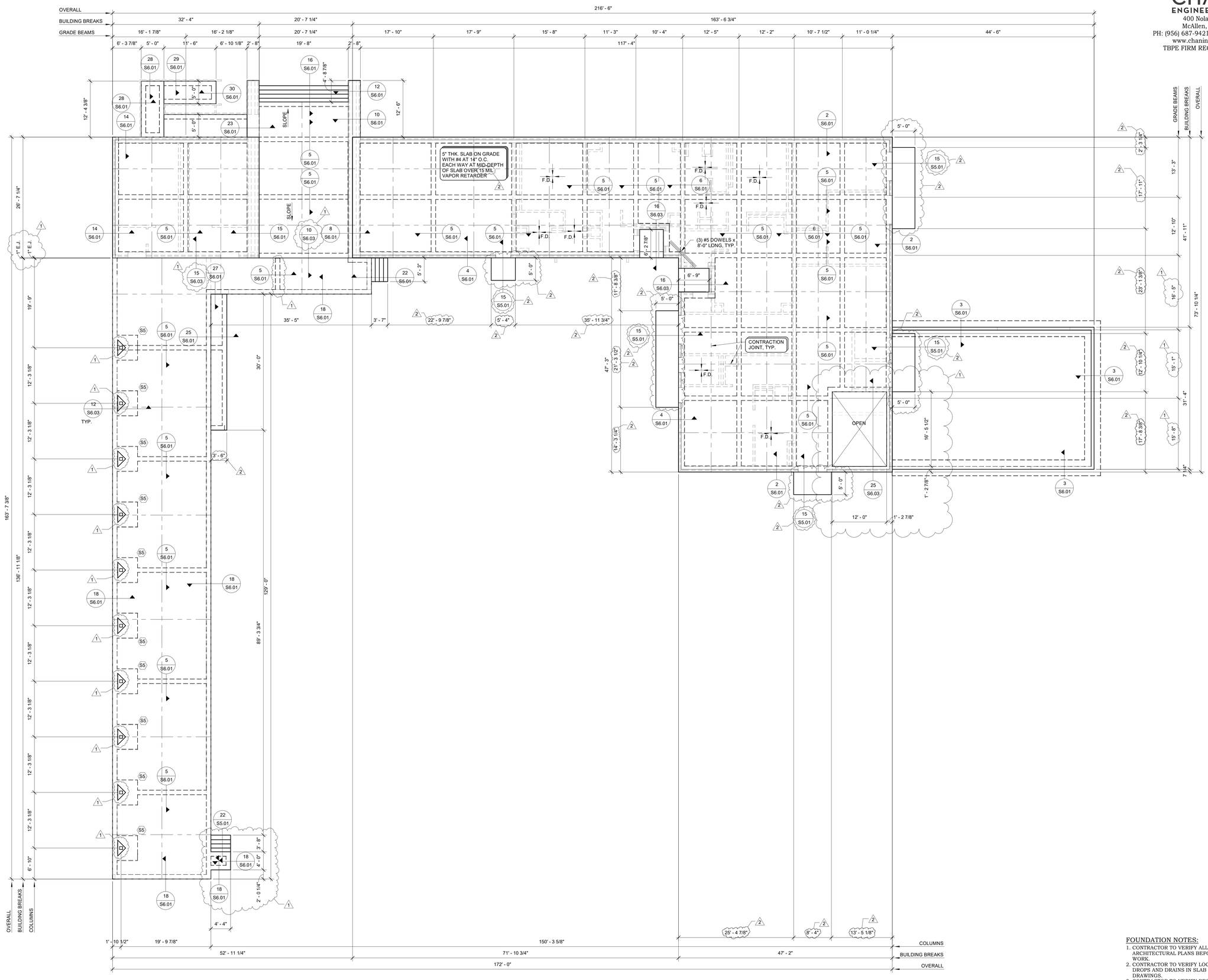
CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: 05.09.19
DRAWN BY: Author
CHECKED BY: Checker

REVISIONS

No.	Description	Date
2	Addendum 2	05.14.19

CODE INFO & LIFE SAFETY

G0.10



1 FOUNDATION PLAN - BASE BID
1/8" = 1'-0"

FOUNDATION NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING WORK.
2. CONTRACTOR TO VERIFY LOCATION OF ANY/ALL DROPS AND DRAINS IN SLAB WITH ARCHITECTURAL DRAWINGS.
3. CONTRACTOR TO VERIFY REQUIRED F.F.E. WITH CIVIL ENGINEERING DRAWINGS.
4. ▭ INDICATES 1 1/2" SLAB DEPRESSION. VERIFY EXACT LOCATION AND DEPTH WITH ARCHITECTURAL PLANS.

CHANIN
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400 Nolana, Suite H2
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www.chaninengineering.com
TBPE FIRM REG. NUMBER F-9369

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PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH — TRUE NORTH

STATE OF TEXAS
MIGUEL CHANIN
93127
LICENSED
PROFESSIONAL ENGINEER
4-12-19

CLIENT: PSJA ISD
PROJECT NUMBER: 18330
DATE: 04-04-19
DRAWN BY: JP
CHECKED BY: MC

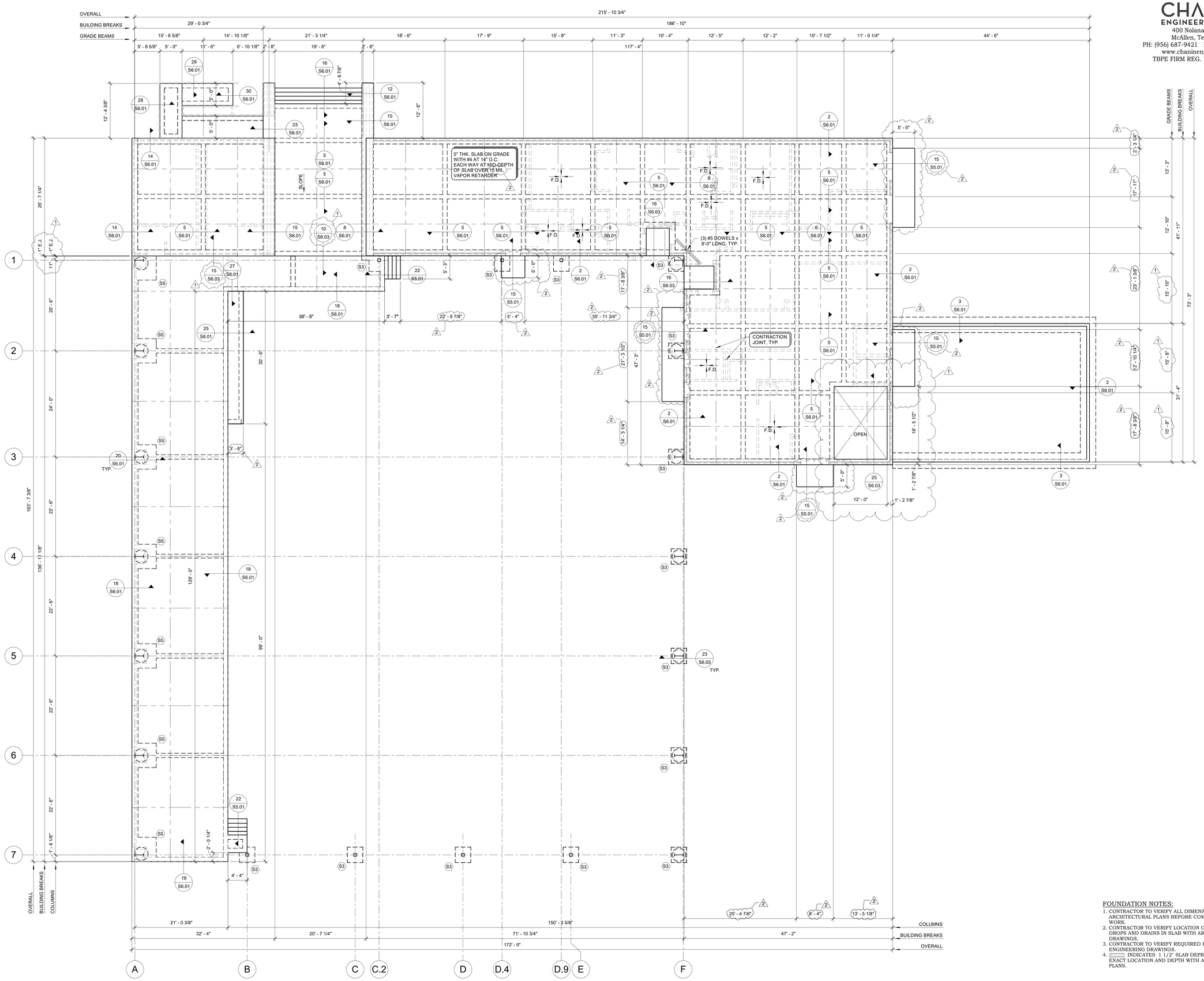
REVISIONS

No.	Description	Date
1	ADDENDUM #1	05-09-19
2	ADDENDUM #2	05-14-19

100% CD'S

FOUNDATION PLAN-BASE BID

S2.01



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1 FOUNDATION PLAN-ALTERNATE NO. 1
1/8" = 1'-0"

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SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH — TRUE NORTH

STATE OF TEXAS
MIGUEL CHANIN
93127
LICENSED
PROFESSIONAL ENGINEER
4-12-19

CLIENT: PSJA ISD
PROJECT NUMBER: 18330
DATE: 04-04-19
DRAWN BY: JP
CHECKED BY: MC

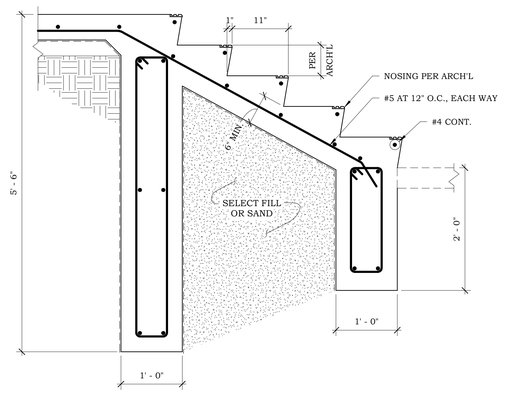
REVISIONS

No.	Description	Date
1	ADDENDUM #1	05-09-19
2	ADDENDUM #2	05-14-19

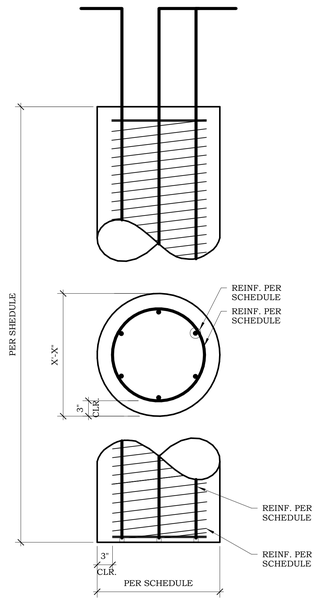
100% CD'S

FOUNDATION PLAN-ALTERNATE NO. 1

S2.02



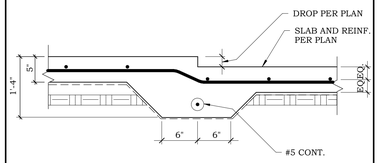
CONCRETE STAIRS DETAIL | 22



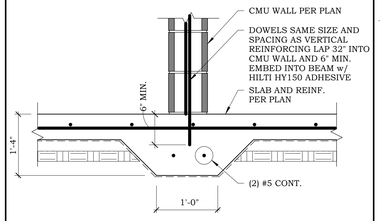
NOTE:
CONTRACTOR TO SUBMIT FINAL LIGHT POLE SPECIFICATIONS FOR REVIEW. DEPTH OF PIER MAY NEED TO BE ADJUSTED UPON REVIEW.

NOTE:
IF ANY GROUND WATER IS ENCOUTERED DURING DRILLING OPERATIONS, STEEL CASING MAY BE REQUIRED. 1

PIER DETAIL | 17

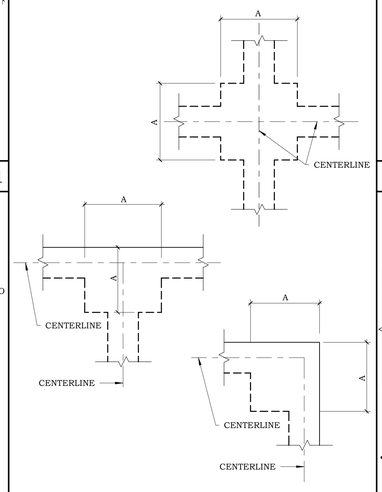


DROP AT SLAB ON GRADE | 11



THICKENED SLAB AT NON-BEARING CMU WALL | 12

FOOTING SCHEDULE AT STEEL COLUMNS			
TYPE	A	DEPTH	REBAR REINFORCEMENT
S2	2'-6"	3'-0"	#5'S AT 12" O.C. E.W. TOP & BOTTOM
S3	3'-6"	3'-0"	#5'S AT 12" O.C. E.W. TOP & BOTTOM
S4	4'-6"	3'-0"	#5'S AT 12" O.C. E.W. TOP & BOTTOM
S5	5'-6"	5'-6"	#5'S AT 12" O.C. E.W. TOP & BOTTOM AND MID.
S6	6'-6"	3'-0"	#5'S AT 8" O.C. E.W. TOP & BOTTOM
S7	7'-6"	3'-0"	#5'S AT 8" O.C. E.W. TOP & BOTTOM



FOOTING SCHEDULE | 7

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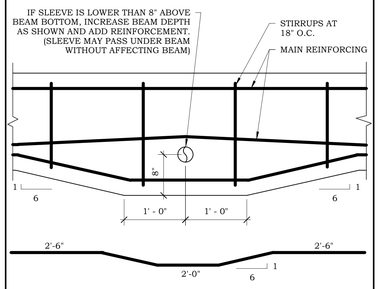
NOT USED | 1



TYPICAL SLEEVE IN GRADE BEAM | 2

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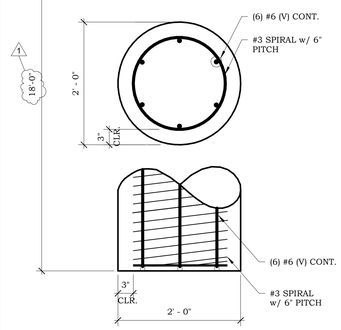
713-961-4571 F
TX Firm: F-3709
PBK.com

PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

NOT USED | 28

NOT USED | 23



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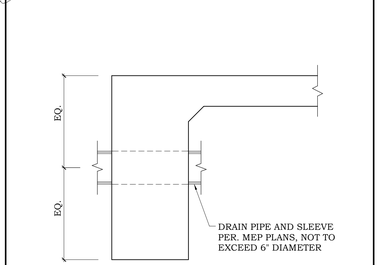
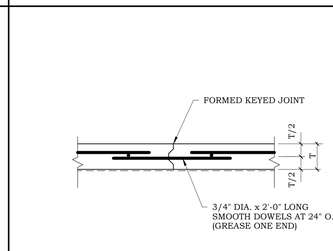
NOTE:
IF ANY GROUND WATER IS ENCOUTERED DURING DRILLING OPERATIONS, STEEL CASING MAY BE REQUIRED.

LIGHT POLE DETAIL | 19

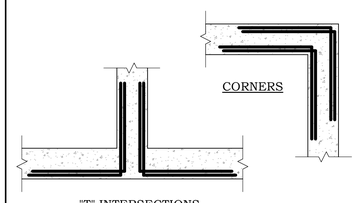


PIPE EXTERIOR FOOTING 1 | 13



1. CONTRACTOR TO SUBMIT ANY PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO STRUCTURAL ENGINEER BEFORE COMMENCING WORK.
2. GRADE BEAM REINFORCING SHALL BE CONTINUOUS THRU JOINT

CONSTRUCTION JOINT DETAIL | 8



NOTE:
PROVIDE (4) #6 x 6'-0" CORNER BARS (2-TOP & 2-BOTTOM) AS SHOWN IN DETAILS ABOVE

TYPICAL CORNER BARS | 3

NOT USED | 29

NOT USED | 24

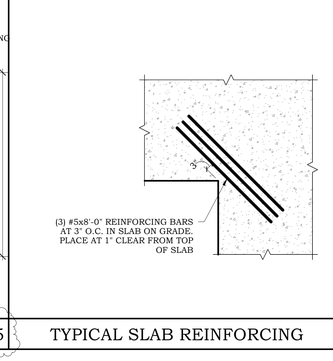
NOTE: BOTTOM OF PIER ELEVATION TAKEN FROM EXISTING NATURAL GRADE

NOTE: FOR MORE INFORMATION SEE DETAIL 17/S5.01

TYPE "P" FOOTING

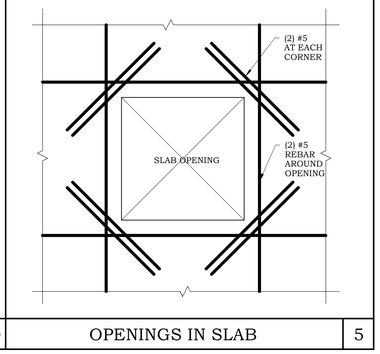
LIGHT POLE DETAIL | 19

PIER SCHEDULE | 14



1. JOINT PATTERN SHALL BE NEARLY SQUARE
2. JOINT SPACING SHALL NOT EXCEED 15'-0"

CONTRATION JOINT DETAIL | 9

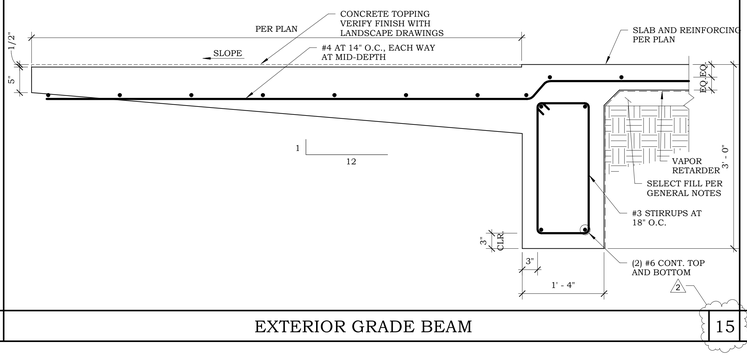


DIAMETER OF BENDS	
STIRRUPS AND TIES	4 db FOR #3 THRU #5 BARS
	6 db FOR #6 THRU #8 BARS
ALL OTHERS	6 db FOR #3 THRU #8 BARS
	8 db FOR #9 THRU #11 BARS
	10 db FOR #14 THRU #18 BARS

STANDARD HOOKS | 4

NOT USED | 30

NOT USED | 25



EXTERIOR GRADE BEAM | 15

TYPICAL SLAB REINFORCING | 10

OPENINGS IN SLAB | 5

KEY PLAN — PLAN NORTH — TRUE NORTH

STATE OF TEXAS
MIGUEL CHANIN
93127
LICENSED PROFESSIONAL ENGINEER
4-12-19

CLIENT: PSJA ISD
PROJECT NUMBER: 18330
DATE: 04-04-19
DRAWN BY: JP
CHECKED BY: MC

REVISIONS

No.	Description	Date
1	ADDENDUM #1	05-09-19
2	ADDENDUM #2	05-14-19

100% CD'S

TYPICAL DETAILS

S5.01

CHANIN
ENGINEERING, LLC
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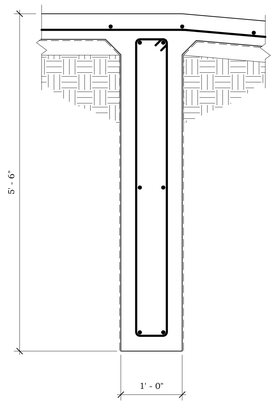
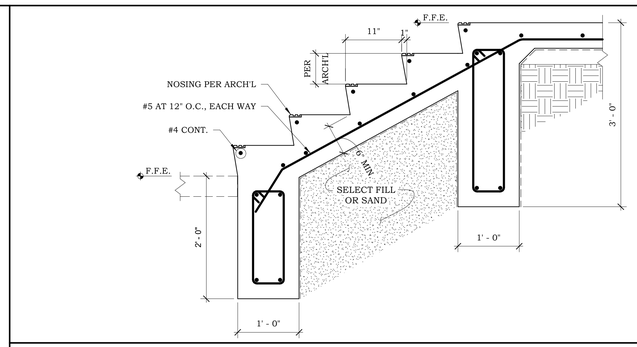
TX Firm: F-3709
PBK.com

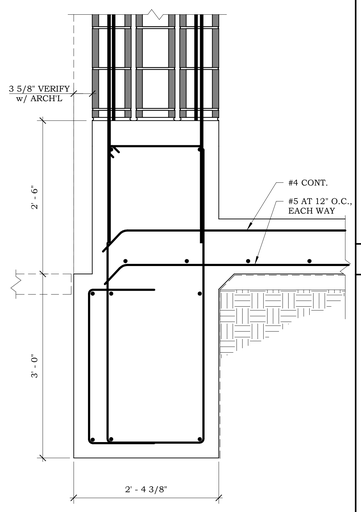
PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS



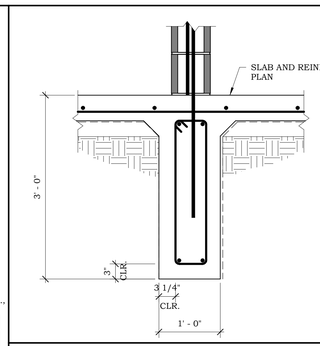
EXTERIOR GRADE BEAM | 27



EXTERIOR GRADE BEAM | 16

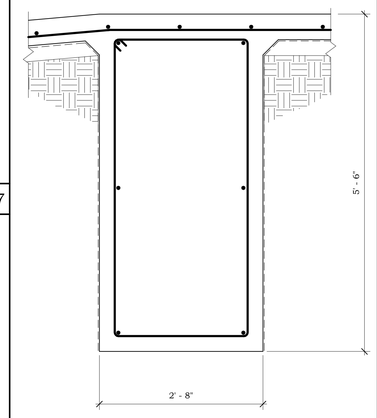


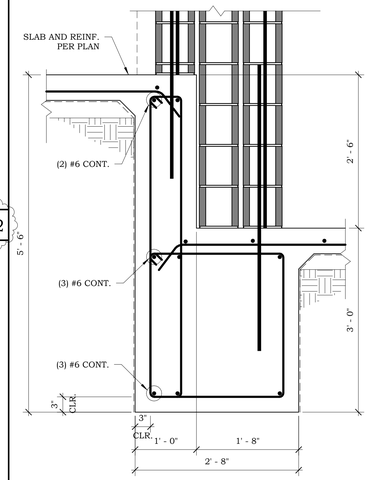
EXTERIOR GRADE BEAM | 12

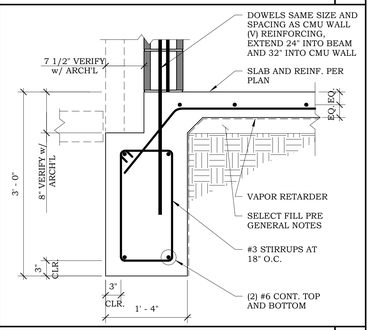


INTERIOR GRADE BEAM | 6

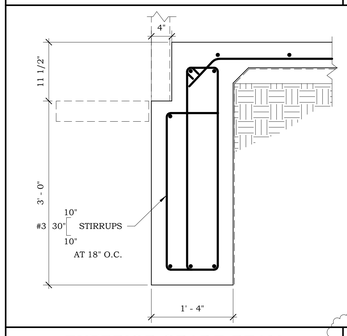
NOT USED | 1





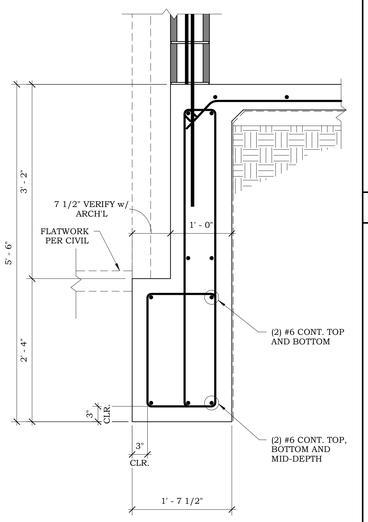


EXTERIOR GRADE BEAM | 2



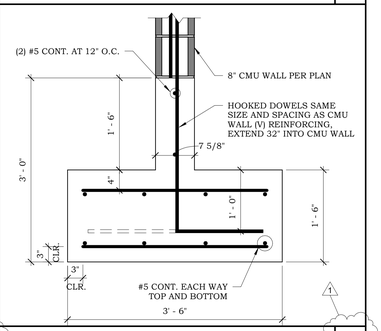
EXTERIOR GRADE BEAM | 28

EXTERIOR GRADE BEAM | 23



EXTERIOR GRADE BEAM | 14

EXTERIOR GRADE BEAM | 8



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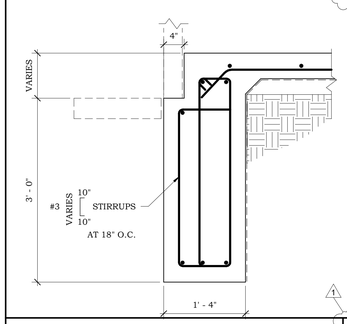
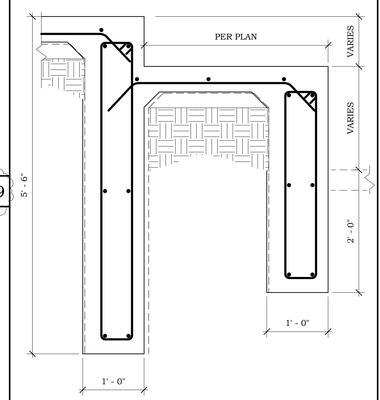
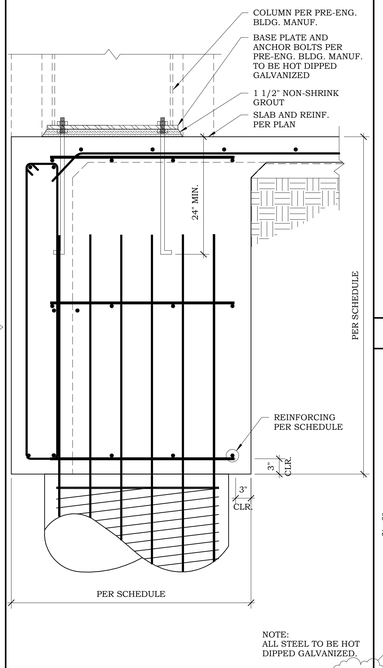


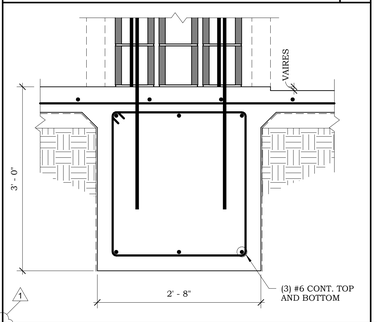
EXTERIOR GRADE BEAM | 29



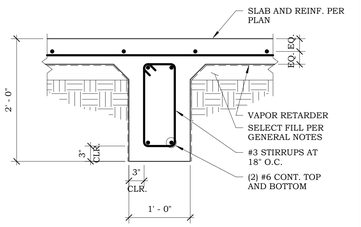
EXTERIOR GRADE BEAM | 25



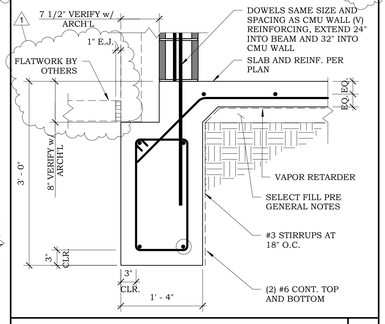
FOOTING AT STEEL COLUMN | 20



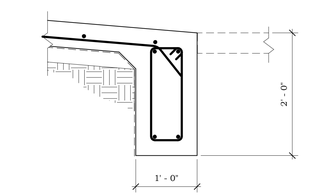
INTERIOR GRADE BEAM | 15



INTERIOR GRADE BEAM | 5



EXTERIOR GRADE BEAM | 4



EXTERIOR GRADE BEAM | 30

EXTERIOR GRADE BEAM | 10

KEY PLAN | PLAN NORTH | TRUE NORTH

STATE OF TEXAS
MIGUEL CHANIN
93127
LICENSED PROFESSIONAL ENGINEER
4-12-19

CLIENT	PSJA ISD
PROJECT NUMBER	18330
DATE	04-04-19
DRAWN BY	JP
CHECKED BY	MC

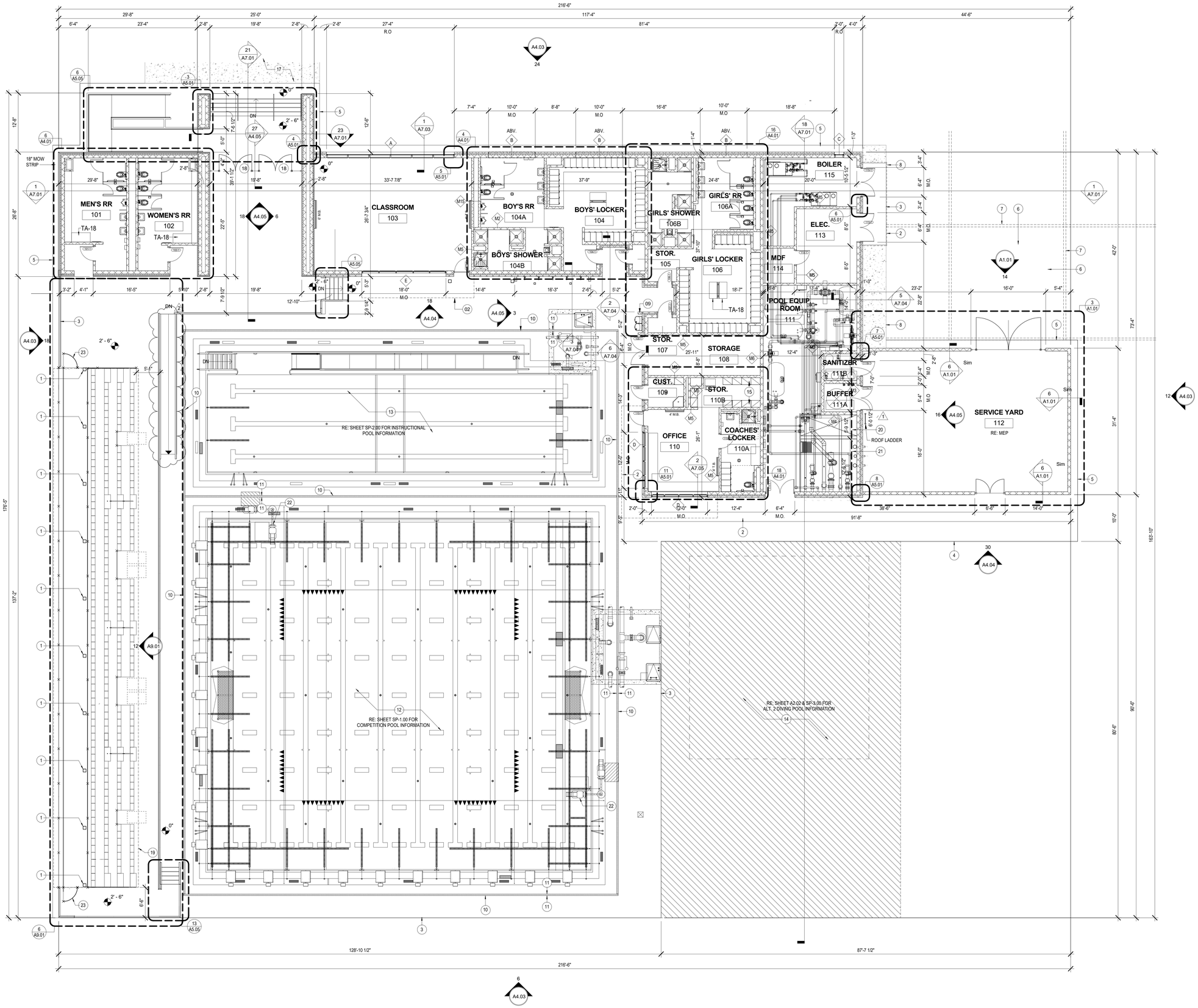
REVISIONS

No.	Description	Date
1	ADDENDUM #1	05-09-19
2	ADDENDUM #2	05-14-19

100% CD'S

DETAILS

S6.01



6 OVERALL FLOOR PLAN
1/8" = 1'-0"

KEY NOTES

1. 8'x8' ALUM. TUBES, BY CANOPY MANUF.
2. ALUM. CANOPY, ABV SHOWN DASHED
3. EDGE OF CONC. SLAB, RE: STRUCT.
4. EDGE OF CONC. PAVING RE: CIVIL.
5. 18" MOW STRIP, RE: CIVIL
6. CONC. DRIVE RE: CIVIL
7. CONC. CURB RE: CIVIL
8. SIDEWALK PAVING RE: CIVIL
9. ELECTRIC HI/LO DRINKING FOUNTAIN, ADA COMPLIANT
10. 4" TRENCH DRAN RE: DTL 29/A7.10
11. SLOPE TOWARDS DRAIN, TYP.
12. COMPETITION POOL. REFER TO SHEET SP-SERIES SHEETS FOR POOL INFORMATION
13. INSTRUCTIONAL POOL.
14. DIVING POOL, ALTERNATE NO. 2
15. PLASTIC SHELVING 24x18
16. MOP SINK RE: PLUMB.
17. ENTRY WALKWAY RE: SITE PLAN
18. 3' - 0" x 8' - 0" ORNAMENTAL STEEL GATES
19. LINE OF CANOPY ABOVE
20. BACK WASH CATCH BASIN @ 5'-0" B.F.F.
21. PUMP PIT, 5'-0" B.F.F.
22. POOL LIFT RE: SP-SERIES SHEETS
23. 3' - 0" CHAINLINK GATE

GENERAL ARCHITECTURAL DRAWING NOTES

1. BUILDING FLOOR PLAN DIMENSIONS ARE REFERENCED FROM STRUCTURAL GRID, FACE OF CONCRETE, FACE OF MASONRY, OR FACE OF FINISHED SURFACE, UNLESS NOTED OTHERWISE.
2. CASEWORK, PLUMBING FIXTURES, TOILET PARTITIONS, AND OTHER FIXTURES AND EQUIPMENT ARE DIMENSIONED FROM FINISHED SURFACES UNLESS NOTED OTHERWISE.
3. DIMENSIONS NOTED AS "FIELD VERIFY" SHALL BE CHECKED AT THE SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.
4. DIMENSIONS NOTED AS "CLEAR" REQUIRE SPECIFIC COORDINATION BETWEEN DISCIPLINES AND/OR MANUFACTURERS.
5. DO NOT SCALE DRAWING. WRITTEN DIMENSIONS TAKE PRECEDENCE. IF CLARIFICATION IS REQUIRED IN ORDER TO DETERMINE THE INTENT OF THE CONTRACT DOCUMENTS, CONTACT THE ARCHITECT.
6. NOTES OR DIMENSIONS LABELED "TYPICAL" SHALL APPLY TO SITUATIONS THAT ARE THE SAME OR SIMILAR.
7. REFER TO DETAIL 30/A7.10 FOR DOWNSPOUT DETAIL. DOWNSPOUTS ALL LABELLED 'DS'
8. PROVIDE THREE (3) 6'-0" X 6'-0" CONCRETE FLOOR MOCK UPS FOR ARCHITECT REIVEW. EACH MOCK UP SHALL BE A LIGHT BROOM CONCRETE FINISH WITH ONE (1) LIGHT TEXTURE FINISH, ONE (1) MEDIUM TEXTURE FINISH AND ONE (1) HEAVY TEXTURE FINISH.
9. ALL EXPOSED STEEL IN AQUATIC CENTER SHALL BE EPOXY PAINTED
10. ALL EXPOSED, INTERIOR CMU IN THE AQUATIC CENTER SHALL BE PAINTED WITH EPOXY PAINT, U.N.O.

PBK Sports
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713-965-0608 P
713-961-4571 F
TX Firm: F-3709
PBK.com

PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH / TRUE NORTH

REGISTERED ARCHITECT — EDMUND X. RAMIREZ — 14374 — STATE OF TEXAS
05.09.2019

CLIENT	PSJA ISD
PROJECT NUMBER	18309SP
DATE	05.09.19
DRAWN BY	TT
CHECKED BY	ER

REVISIONS

No.	Description	Date
1	Addendum 1	05.09.19
2	Addendum 2	05.14.19

OVERALL FLOOR PLAN - BASE BID

A2.01 (1)

2

DOOR SCHEDULE - FIRST FLOOR AREA A

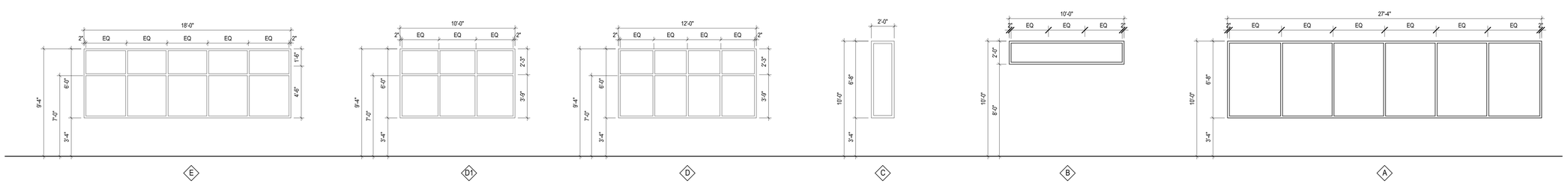
MARK	DOOR PANEL ELEV.	PAIR/ SING	SIZE W x H W	H	MATL.	DOOR FRAME ELEV.	SIZE W x H W	H	MATL.	DETAILS SILL	JAMB	HEAD	H.W.	CTRL ACCESS	FIRE RATING LABEL	REMARKS
101-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
102-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
103-1	HG	PAIR	3' - 0"	7' - 0"	FRP	1T	6' - 4"	9' - 4"	FRP		9/A6.02	15/A6.02				
104-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
105-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
106-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
107-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
108-1	F	PAIR	6' - 0"	7' - 0"	HM	1	6' - 4"	7' - 4"	HM		9/A6.02	15/A6.02				
109-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
110-1	HG	PAIR	3' - 0"	7' - 0"	FRP	1T	6' - 4"	9' - 4"	FRP		9/A6.02	15/A6.02				
110A-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
111-1	F	PAIR	3' - 0"	7' - 0"	FRP	2L	6' - 4"	9' - 4"	FRP		9/A6.02	15/A6.02				
111A-1	F	PAIR	2' - 6"	7' - 0"	FRP	2L	6' - 4"	9' - 4"	FRP		9/A6.02	15/A6.02				
111B-1	F	SING	3' - 0"	7' - 0"	FRP	1L	6' - 4"	9' - 4"	FRP		9/A6.02	15/A6.02				
113-1	F	PAIR	6' - 0"	7' - 0"	HM	1	6' - 4"	7' - 4"	HM		9/A6.02	15/A6.02				
114-1	F	SING	3' - 0"	7' - 0"	FRP	1M	3' - 4"	7' - 4"	FRP		9/A6.02	15/A6.02				
115-1	F	PAIR	3' - 0"	7' - 0"	FRP	2L	6' - 4"	9' - 4"	FRP		9/A6.02	15/A6.02				

WINDOW SCHEDULE - ALL

WT	FRAME SIZE W X H WIDTH	HEIGHT	WINDOW ELEV	FRAME MATERIAL	DETAILS SILL	JAMB	HEAD	COMMENTS
A	27' - 4"	6' - 8"	A	ALUM.				
B	10' - 0"	2' - 0"	B	FRP				
C	2' - 0"	6' - 8"	C	FRP				
D	12' - 0"	6' - 0"	D	FRP				
E	18' - 0"	6' - 0"	E	FRP				
D1	10' - 0"	6' - 0"	D1	FRP				ONLY INCLUDED IF ALTERNATE 1 IS ACCEPTED

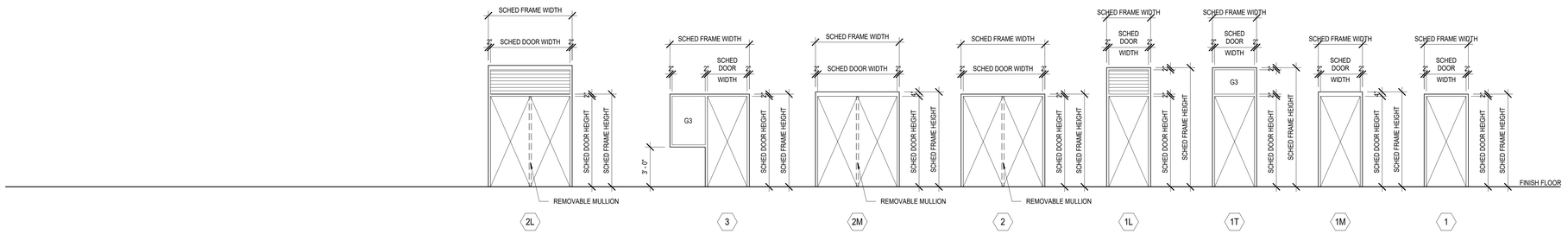
GLAZING PANEL SCHEDULE

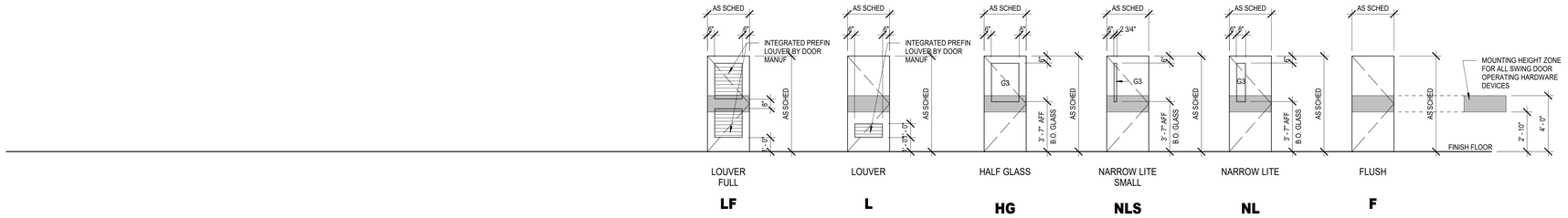
Type Mark	Type	Keynote
	1" Glass	
	1" Insulated Clear - 1 1/4" Offset	08 44 13



WINDOW ELEVATION TYPES

1/4" = 1'-0"





DOOR PANEL ELEVATION TYPES

1/4" = 1'-0"

DOOR SCHEDULE REMARKS

1. PANIC EXIT HARDWARE
2. NOT AN ENTRY DOOR, EXIT ONLY DOOR WITH LOCKING OPERABLE HARDWARE ON SWING-OUT SIDE OF DOOR
3. NO LOCKING HARDWARE
4. ELEC. DOOR OPENER
5. ELEC. CONTROLLED ACCESS HARDWARE WITH CARD READER
6. ELEC. CONTROLLED ACCESS HARDWARE WITH PUSH-BUTTON
7. ELEC. CONTROLLED ACCESS HARDWARE, ROUGH-IN ONLY
8. KEYED REMOVABLE CENTER MULLION
9. CENTER ASTRAGAL
10. 180 DEGREE SWING
11. CONT. HINGE
12. WEATHER-STRIP SEAL
13. FIRE SMOKE SEAL
14. SOUND SEAL
15. PEEP HOLE
16. DOOR BUZZER
17. DOOR CHIME ON OPEN
18. MANUAL HOLD-OPEN
19. MAGNETIC HOLD-OPEN, CONNECT TO FIRE ALARM
20. MAGNETIC HOLD-OPEN, CONNECT TO SECURITY SYSTEM
21. INSULATED DOOR
22. SOUND RATED DOOR ASSEMBLY, STC AS SPECIFIED
23. WINDSTORM DOOR HARDWARE SHALL BE TESTED AS PART OF A COMPLETE DOOR OPENING ASSEMLBY. THE TESTED DOOR OPENING ASSEMBLY SHALL INCLUDE DOOR HARDWARE. THE ENTIRE DOOR OPENING, INCLUDING DOOR HARDWARE, SHALL BE BY DOOR MANUF.
24. ACOUSTICAL GLASS TO MEET FIRE DOOR ASSEMBLY REQUIREMENTS FOR FIRE RATING INDICATED
25. MANUAL PUSH-UP OPERATION
26. ELEC MOTOR OPERATION WITH KEY SWITCH CONTROL, KEY SWITCH ON ONE SIDE OF DOOR ONLY
27. ELEC MOTOR OPERATION WITH KEY SWITCH CONTROL, KEY SWITCH ON BOTH SIDES OF DOOR
28. ELEC MOTOR OPERATION WITH PUSH-BUTTON CONTROL ON ONE SIDE OF DOOR ONLY
29. PANIC EXIT PUSH-BUTTON ON ONE SIDE OF DOOR ONLY
30. AUTOMATIC OPEN ON FIRE ALARM ACTIVATION
31. AUTOMATIC CLOSE ON FIRE ALARM ACTIVATION
32. FAIL SAFE IN OPEN POSITION
33. FAIL SAFE IN CLOSED POSITION
34. MAXIMUM OCCUPANCY SIGNAGE NEAR DOOR
35. SIGNAGE ON DOOR TO READ "NOT AN EXIT"

PBK Sports

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713-961-4571 F
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PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH — TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ
14374
STATE OF TEXAS

05.09.2019

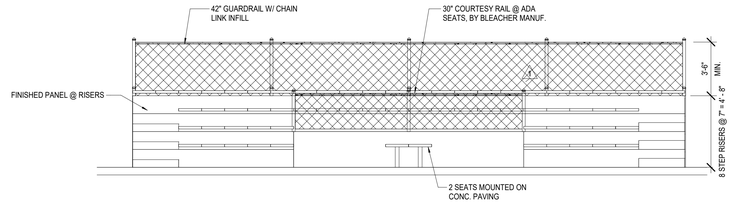
CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: 05.09.19
DRAWN BY: TT
CHECKED BY: ER

REVISIONS

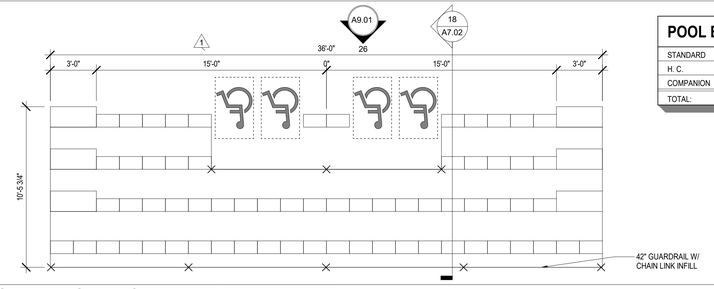
No.	Description	Date
2	Addendum 2	05.14.19

SCHEDULES & DOOR, WINDOW, & FRAME ELEVATIONS

A6.01

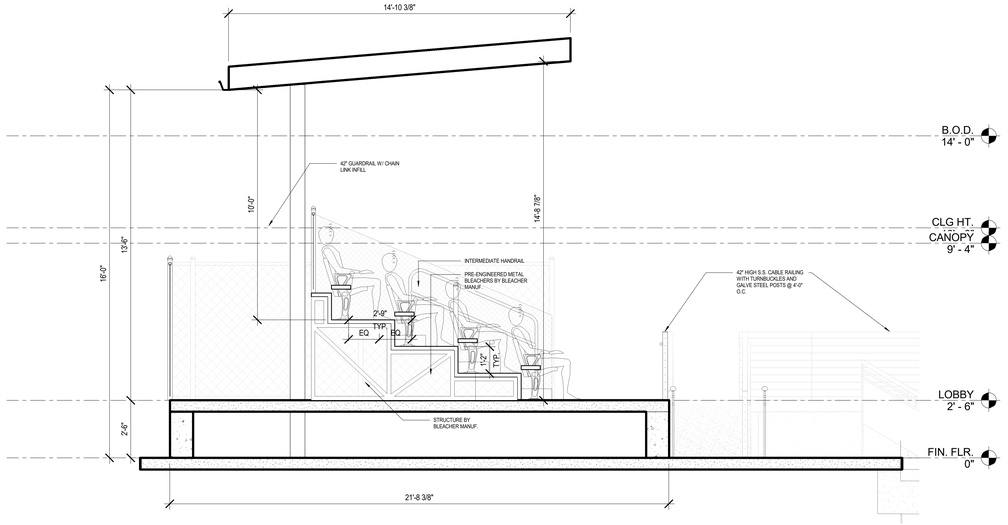


26 DIVING BLEACHER FRONT ELEVATION ALTERNATE #2
1/4" = 1'-0"

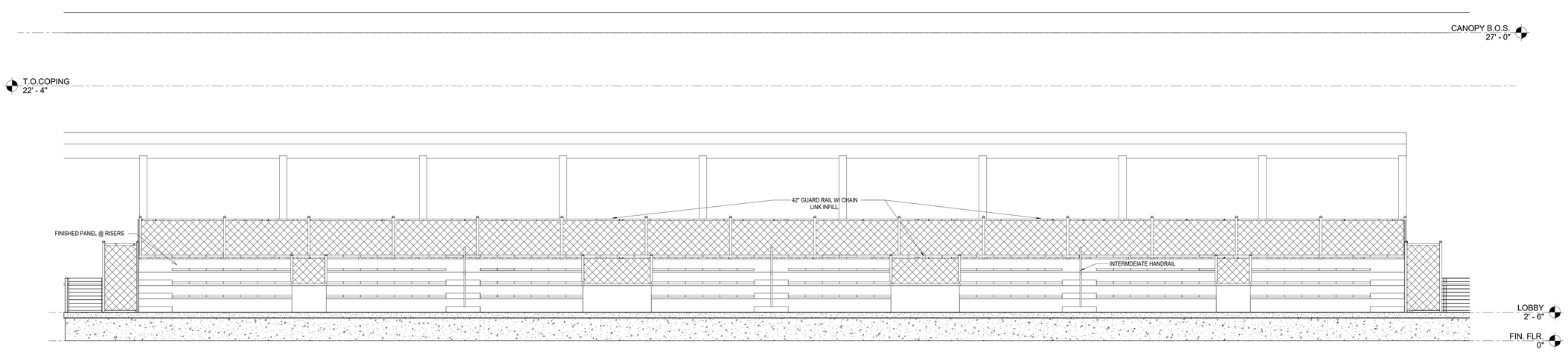


POOL BLEACHERS	
STANDARD	64
H. C.	4
COMPANION	4
TOTAL:	72

24 ENLARGED DIVING BLEACHER PLAN ALTERNATE #2
1/4" = 1'-0"

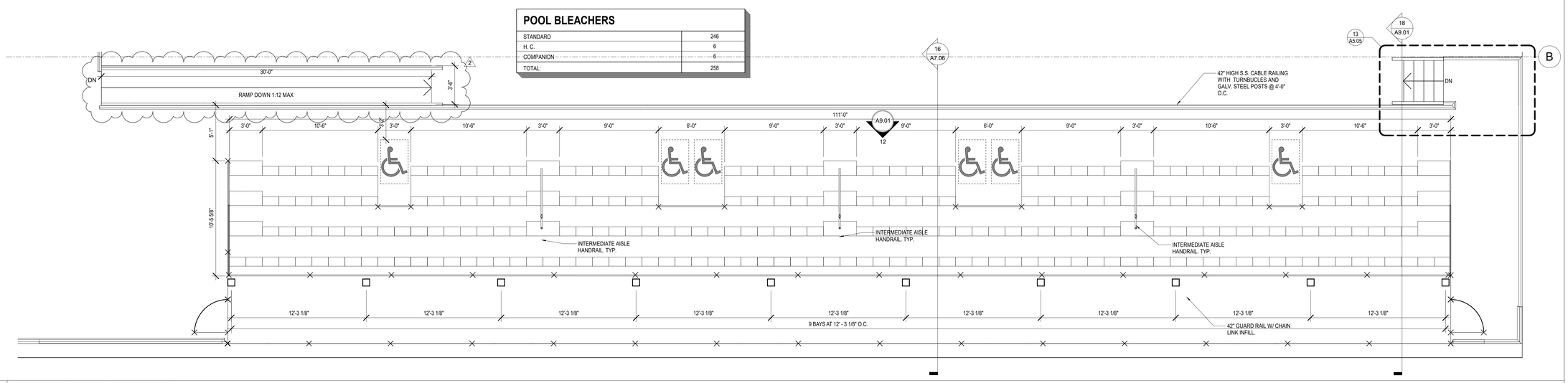


18 BLEACHER SECTION
3/8" = 1'-0"



12 BLEACHER FRONT ELEVATION
1/4" = 1'-0"

POOL BLEACHERS	
STANDARD	246
H. C.	6
COMPANION	6
TOTAL:	258



6 ENLARGED PLAN - BLEACHERS
1/4" = 1'-0"

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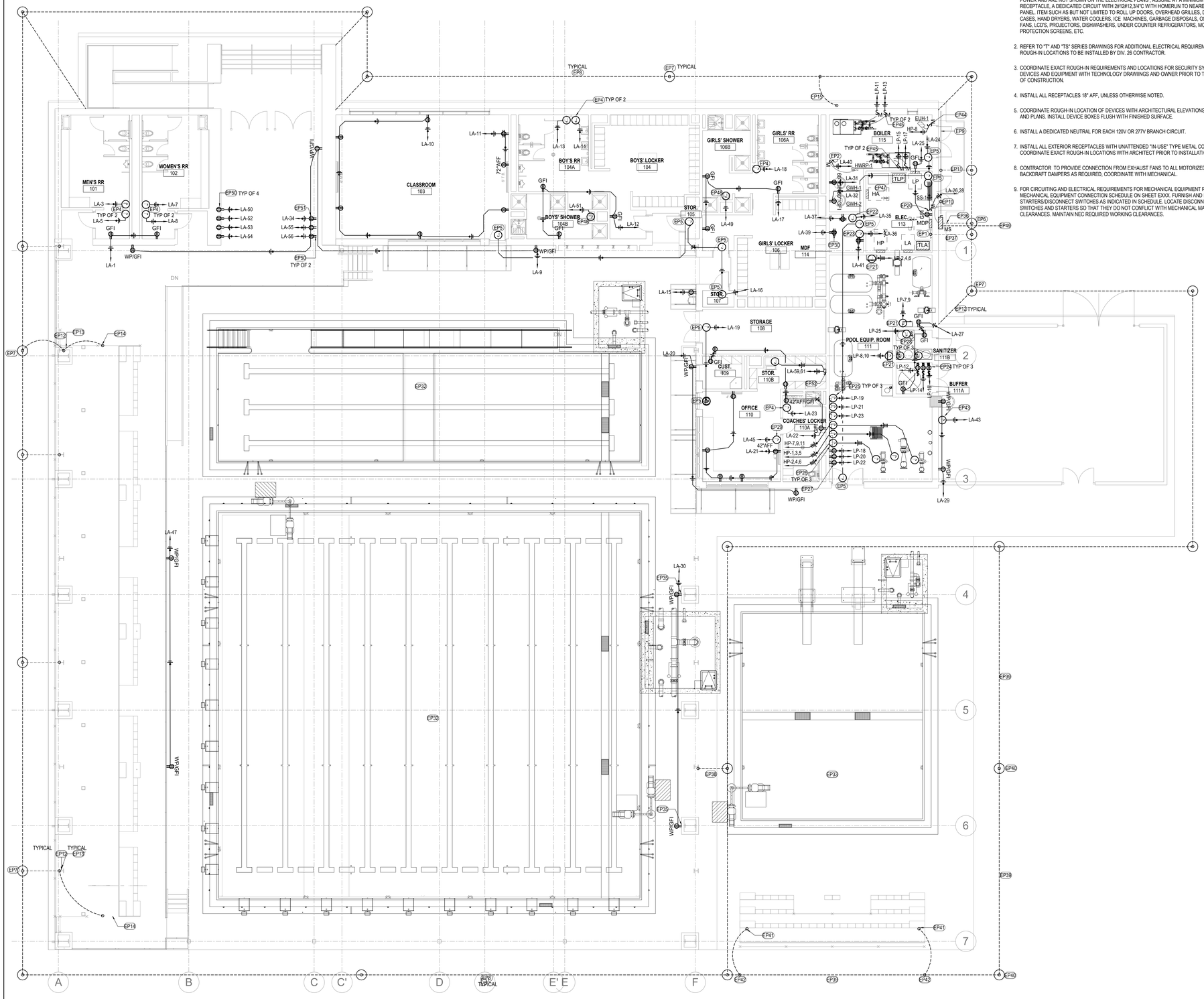
PROJECT NUMBER
18309SP
DATE
05.09.19
DRAWN BY
Author
CHECKED BY
Checker

REVISIONS

No.	Description	Date
1	Addendum 1	05.09.19
2	Addendum 2	05.14.19

BLEACHER PLANS

A9.01



GENERAL NOTES - POWER PLAN

1. FOR EQUIPMENT OR DEVICES SHOWN ON THE ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND ARE NOT SHOWN ON THE ELECTRICAL PLANS , ASSUME AT A MINIMUM A DUPLEX RECEPTACLE, A DEDICATED CIRCUIT WITH 2#12#12,3/4"C WITH HOMERUN TO NEAREST 120/208V PANEL. ITEM SUCH AS BUT NOT LIMITED TO ROLL UP DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MACHINES, GARBAGE DISPOSALS, OSCILLATING FANS, LCD'S, PROJECTORS, DISHWASHERS, UNDER COUNTER REFRIGERATORS, MOTORIZED PROTECTION SCREENS, ETC.
2. REFER TO "TI" AND "TIS" SERIES DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS AND ROUGH-IN LOCATIONS TO BE INSTALLED BY DIV. 26 CONTRACTOR.
3. COORDINATE EXACT ROUGH-IN REQUIREMENTS AND LOCATIONS FOR SECURITY SYSTEM DEVICES AND EQUIPMENT WITH TECHNOLOGY DRAWINGS AND OWNER PRIOR TO THE START OF CONSTRUCTION.
4. INSTALL ALL RECEPTACLES 18" AFF, UNLESS OTHERWISE NOTED.
5. COORDINATE ROUGH-IN LOCATION OF DEVICES WITH ARCHITECTURAL ELEVATIONS, DETAILS AND PLANS. INSTALL DEVICE BOXES FLUSH WITH FINISHED SURFACE.
6. INSTALL A DEDICATED NEUTRAL FOR EACH 120V OR 277V BRANCH CIRCUIT.
7. INSTALL ALL EXTERIOR RECEPTACLES WITH UNATTENDED "IN-USE" TYPE METAL COVERS. COORDINATE EXACT ROUGH-IN LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
8. CONTRACTOR TO PROVIDE CONNECTION FROM EXHAUST FANS TO ALL MOTORIZED BACKDRAFT DAMPERS AS REQUIRED, COORDINATE WITH MECHANICAL.
9. FOR CIRCUITING AND ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON SHEET EXXX. FURNISH AND INSTALL STARTERS/DISCONNECT SWITCHES AS INDICATED IN SCHEDULE. LOCATE DISCONNECT SWITCHES AND STARTERS SO THAT THEY DO NOT CONFLICT WITH MECHANICAL MAINTENANCE CLEARANCES. MAINTAIN NEC REQUIRED WORKING CLEARANCES.

KEYED NOTES - POWER PLAN

EP1 INSTALL GROUND BUS ON WALL AT 48" AFF TO CENTER OF BUS WITH STAND OFF ISOLATORS FOR GROUNDING OF SEPARATELY DIRVED SYSTEMS. INSTALL #4 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FROM BUS AND BOND TO BUILDING STEEL. SEE DETAIL 1/E7.01.

EP2 INSTALL 120V, 20A, HEAVYDUTY, TOGGLE DISCONNECT SWITCH FOR DOMESTIC WATER RECIRC PUMP WITH 2#12,#12GND,3/4"C ON WALL 48"AFF TO CENTER OF SWITCH IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION WIRING DIAGRAMS.

EP4 CONNECTION FOR ELECTRIC HAND DRYER ON WALL 48"AFF. COORDINATE EXACT LOCATION AND ROUGH-IN REQUIREMENTS WITH ARCHITECTURAL DRAWINGS AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS.

EP5 CONNECTION FOR DOOR POWER SUPPLY. INSTALL ABOVE ACCESSIBLE CEILING AND COORDINATE EXACT LOCATION WITH SECURITY DRAWINGS AND OWNER PRIOR TO INSTALLATION.

EP7 10'-0" LONG X 3/4" DIA. COPPER GROUND ROD DRIVEN INTO GROUND AT THIS APPROXIMATE LOCATION 5'-0" OUTSIDE OF BUILDING AS PART OF THE GROUNDING ELECTRODE SYSTEM AND GROUNDING SYSTEM LOOP.

EP8 #3/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FOR GROUNDING LOOP.

EP9 20'-0" LONG GROUND ELECTRODE ENCASED IN CONCRETE.

EP10 BONDED GROUNDING CONNECTION BETWEEN ENCASED GROUNDING ELECTRODE AND BUILDING DISCONNECT. INSTALL IN ACCORDANCE WITH NEC ARTICLE 250.

EP11 INSTALL #3 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FROM ENCASED GROUNDING ELECTRODE TO DRIVEN GROUND ROD ON GROUND LOOP.

EP12 #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR CONNECTED TO BUILDING STEEL AND BONDED TO GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC ARTICLE 250.

EP13 BONDED GROUND CONNECTION TO BUILDING STEEL IN ACCORDANCE WITH NEC ARTICLE 250.

EP14 #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR CONNECTED TO BLEACHERS AND BONDED TO BUILDING STEEL IN ACCORDANCE WITH NEC ARTICLE 250.

EP15 #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR CONNECTED TO DOMESTIC WATER LINE AND BONDED TO GROUNDING ELECTRODE IN ACCORDANCE WITH NEC ARTICLE 250.

EP20 INSTALL 250V, 20A, HEAVYDUTY, TOGGLE DISCONNECT SWITCH FOR SS-1 UNIT ON WALL 48"AFF TO CENTER OF SWITCH. UNIT SERVED FROM SSCU LOCATED ON ROOF. MAKE FINAL TERMINATIONS AT UNIT IN ACCORDNACE WITH MANUFACTURER'S INSTALLATION WIRING DIAGRAMS.

EP21 CONNECTION FOR ULTRAVIOLET SYSTEM. COORDINATE FINAL LOCATION WITH POOL CONSULTANT PRIOR TO ROUGH-IN.

EP22 CONNECTION FOR FIRE ALARM NAC PANEL. SERVE FROM DEDICATED 20A1P CIRCUIT BREAKER AND LABEL "FIRE ALARM EQUIPMENT". CIRCUIT BREAKER SHALL LOCKABLE TYPE AND LOCKED IN THE CLOSED (ON) POSITION.

EP23 CONNECTION FOR SECURITY PANEL. COORDINATE EXACT LOCATION AND ROUGH-IN REQUIREMENTS WITH TECHNOLOGY DRAWINGS PRIOR TO INSTALLATION.

EP24 CONNECTION FOR STENNER PUMP. MOUNT RECEPTACLE 18" AFF; MOUNT MOTOR RATED SWITCH 48"AFF. COORDINATE FINAL LOCATION WITH POOL CONSULTANT PRIOR TO ROUGH-IN.

EP25 CONNECTION FOR CHEMICAL CONTROL PANEL. COORDINATE FINAL LOCATION WITH POOL CONSULTANT PRIOR TO ROUGH-IN.

EP26 VFD FURNISHED BY POOL EQUIPMENT CONTRACTOR INSTALLED BY ELECTRICAL. VFD TO CONTROL PUMPS, CIRCUIT POOL PUMPS THROUGH VFD.

EP27 CONNECTION FOR WATER LEVEL CONTROL PANEL. COORDINATE FINAL LOCATION WITH POOL CONSULTANT PRIOR TO ROUGH-IN.

EP28 CONNECTION FOR CHLORINATION PUMP. COORDINATE FINAL LOCATION WITH POOL CONSULTANT PRIOR TO ROUGH-IN.

EP29 CONNECTION FOR TIME CLOCK. COORDINATE FINAL ELECTRICAL CONNECTION REQUIREMENT WITH TIME CLOCK INSTALLER PRIOR TO ROUGH-IN.

EP30 QUADRUPLEX RECEPTACLE FOR MDF RACK. LOCATE JUST ABOVE THE LADDER TRAY. COORDINATE FINAL LOCATION WITH MDF EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

EP32 CONTRACTOR SHALL INSTALL EQUIPOTENTIAL PLANE GROUNDING SYSTEM AT POOL IN ACCORDANCE WITH NEC ARTICLE 680. CONTRACTOR SHALL INSTALL 12"X12" WIRE MESH MIN. 36" AROUND POOL ENCLOSURE PER NEC ARTICLE 680. POOL EQUIPOTENTIAL PLANE GROUNDING SYSTEM SHALL BE BONDED TO THE GROUND RING IN ACCORDANCE WITH NEC ARTICLES 250 AND 680.

EP33 UNDER ALTERNATE #2 DIVE POOL - CONTRACTOR SHALL INSTALL EQUIPOTENTIAL PLANE GROUNDING SYSTEM AT POOL IN ACCORDANCE WITH NEC ARTICLE 680. CONTRACTOR SHALL INSTALL 12"X12" WIRE MESH MIN. 36" AROUND POOL ENCLOSURE PER NEC ARTICLE 680. POOL EQUIPOTENTIAL PLANE GROUNDING SYSTEM SHALL BE BONDED TO THE GROUND RING IN ACCORDANCE WITH NEC ARTICLES 250 AND 680.

EP35 UNDER ALTERNATE #1 - INSTALL OUTLETS ON COLUMN AS INDICATED.

EP36 #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FROM BUILDING DISCONNECT AND BONDED TO GROUNDING ELECTRODE AT GROUND RING IN ACCORDANCE WITH NEC ARTICLE 250.

EP37 #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FROM GROUND BUS AND BONDED TO GROUNDING ELECTRODE AT GROUND RING IN ACCORDANCE WITH NEC ARTICLE 250.

EP38 UNDER ALTERNATE #1 - #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FROM BUILDING STEEL AND BONDED TO GROUNDING ELECTRODE AT GROUND RING IN ACCORDANCE WITH NEC ARTICLE 250.

EP39 UNDER ALTERNATE #2 - INSTALL #3/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR FOR GROUNDING LOOP.

EP41 UNDER ALTERNATE #2 - INSTALL #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR CONNECTED TO BLEACHERS AND BONDED TO GROUNDING SYSTEM LOOP IN ACCORDANCE WITH NEC ARTICLE 250.

EP42 UNDER ALTERNATE #2 - BONDED CONNECTION TO GROUNDING SYSTEM LOOP IN ACCORDANCE WITH NEC ARTICLE 250.

EP43 CONNECTION FOR IRRIGATION CONTROLLER AT 48"AFF. COORDINATE EXACT LOCATION WITH LANDSCAPE DRAWINGS PRIOR TO THE START OF CONSTRUCTION.

EP44 INSTALL 250V, 20A, HEAVYDUTY, TOGGLE DISCONNECT SWITCH FOR ELECTRIC UNIT HEATER WITH 2#12,#12GND,3/4"C ON WALL 48"AFF TO CENTER OF SWITCH IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION WIRING DIAGRAMS.

EP45 INSTALL 120V, 20A, HEAVYDUTY, TOGGLE DISCONNECT SWITCH FOR POOL BOILER WITH 2#12,#12GND,3/4"C ON WALL 48"AFF TO CENTER OF SWITCH IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION WIRING DIAGRAMS.

EP47 LOCATION OF BATTERY INVERTER.

EP48 CONNECTION FOR SWIM SUIT SPINNER MACHINE WITH 2#12,#12GND,3/4"C. COORDINATE EACT LOCATION AND ROUGH-IN REQUIREMENTS WITH MANUFACTURER PRIOR TO THE START OF CONSTRUCTION.

EP49 UNDERGROUND ELECTRICAL DUCTBANK TO BUILDING FROM SERVICE TRANSFORMER. REFER TO SITE PLAN FOR CONTINUATION.

EP50 INSTALL 120V, 20A, WEATHER RESISTANT GFI RECEPTACLE ON STRUCTURAL FRAME OF SCOREBOARD FOR POWER TO SCOREBOARD MODULES. INSTALL 2#12, #12GND,3/4"C TO EACH DEVICE. COORDINATE EXACT ELECTRICAL ROUGH-IN LOCATION WITH SCOREBOARD MANUFACTURER PRIOR TO INSTALLATION. REFER TO POOL CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION.

EP51 INSTALL 120V, 20A, WEATHER RESISTANT GFI RECEPTACLE ON STRUCTURAL FRAME OF SCOREBOARD FOR SCOREBOARD CONTROLS. INSTALL 2#12, #12GND,3/4"C. COORDINATE EXACT ELECTRICAL ROUGH-IN LOCATION WITH SCOREBOARD MANUFACTURER PRIOR TO INSTALLATION. REFER TO POOL CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION.

EP52 30A2P, NON-FUSED DISCONNECT SWITCH FOR ICE MACHINE WITH 3#12,#12GND,3/4"C. INSTALL SWITCH ON WALL 48"AFF TO CENTER OF SWITCH.

1 **ELECTRICAL POWER PLAN**
SCALE: 1/8" = 1'-0"

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STATE OF TEXAS
DONALD C. RICHARDS
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LICENSED PROFESSIONAL ENGINEER
May 17, 2019
LEAF ENGINEERS
F-18672

CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: April 11, 2019
DRAWN BY: LARRY A. SCHAFFER
CHECKED BY: DON RICHARDS

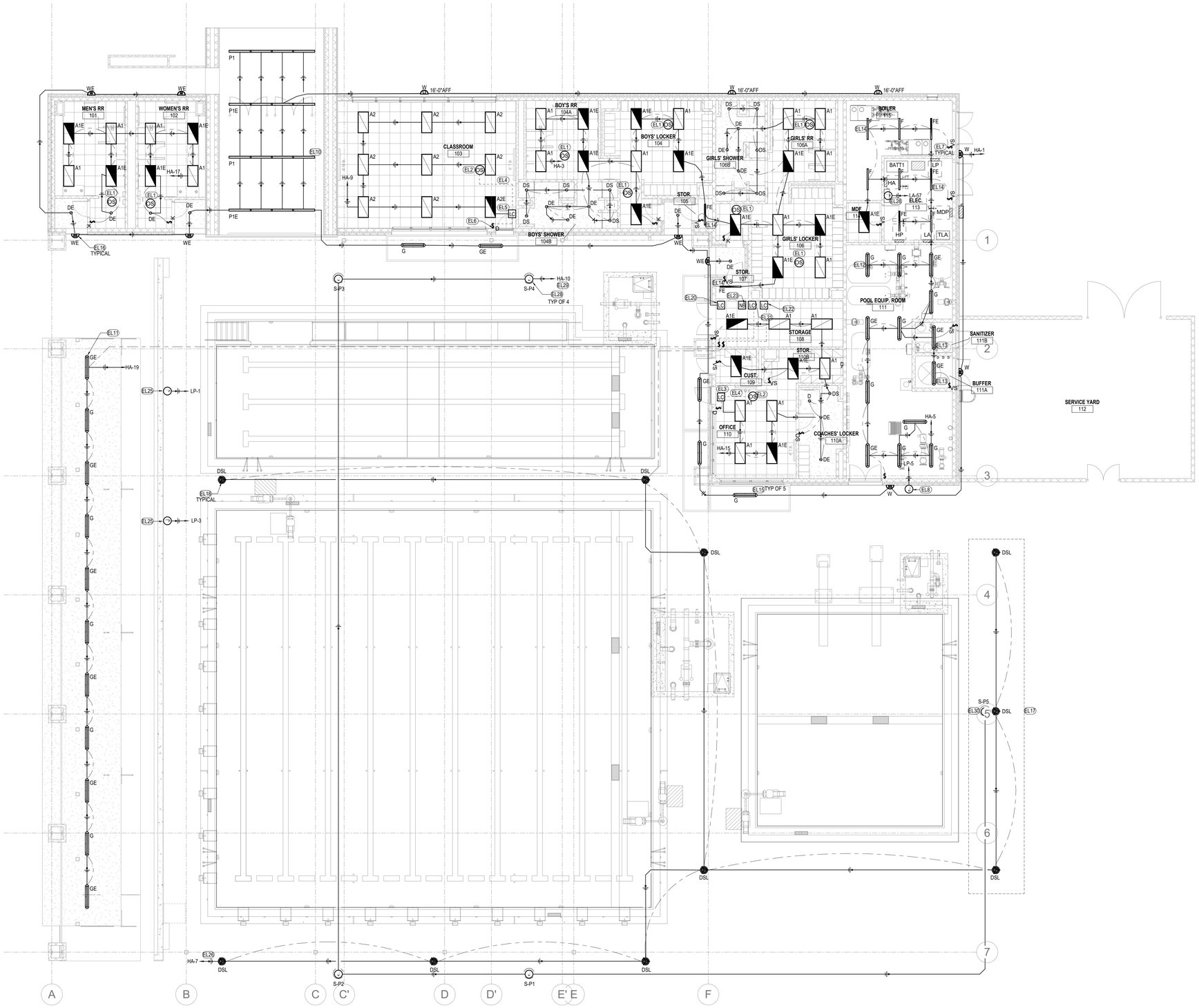
REVISIONS

No.	Description	Date
1	ADDENDUM No. 1	05/09/19
2	ADDENDUM No. 2	05/17/19

100% CONSRTUCTION DOCUMENTS

POWER PLAN

E2.01



1 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES - LIGHTING PLAN

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN (RCP) FOR EXACT LOCATION OF LIGHT FIXTURES. WHERE DISCREPANCIES EXIST THE LIGHTING SHOWN ON THIS PLAN SHALL GOVERN. FURNISH FIXTURES WITH TRIM COMPATIBLE WITH THE TYPE OF CEILING AS INDICATED ON THE RCP.
2. COORDINATE PLACEMENT OF FIXTURES WITH ACTUAL INSTALLATION OF MECHANICAL EQUIPMENT AND DUCTWORK.
3. INSTALL A DEDICATED NEUTRAL FOR EACH 120V OR 277V BRANCH CIRCUIT.
4. ALL EXIT LIGHTS SHALL BE CONNECTED TO THE UN-SWITCHED PHASE CONDUCTOR (CONSTANT HOT) OF THE CIRCUIT SERVING THE LIGHTING FIXTURES WITHIN THE SPACE. TAP UNSWITCHED HOTLEG AHEAD OF LIGHTING CONTROL PANEL OR CONTROLLER.
5. CONNECT EMERGENCY BATTERY UNITS IN LIGHTING FIXTURES TO THE UN-SWITCHED PHASE CONDUCTOR (CONSTANT HOT) OF THE CIRCUIT SERVING THE FIXTURES. TAP UNSWITCHED HOTLEG AHEAD OF LIGHTING CONTROL PANEL OR CONTROLLER.
6. WHERE TWO LIGHT SWITCHES ARE SHOWN ADJACENT TO EACH OTHER, THE SWITCH NEAREST THE DOOR CONTROLS THE ROW OF FIXTURES AT THE FRONT OF THE ROOM AND THE OTHER SWITCH CONTROLS THE REMAINING FIXTURES IN THE SPACE. UNLESS OTHERWISE NOTED.
7. ALL LIGHT SWITCHES AND WALL SWITCH OCCUPANCY SENSORS SHALL BE INSTALLED ON THE STRIKE SIDE OF DOOR. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION AND FINAL DOOR LOCATIONS IN FIELD.
8. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS, MOUNTING HEIGHTS OF THE EXIT SIGNS AND THE DIRECTIONAL CHEVRONS WITH THE ARCHITECTS EGRESS PLAN PRIOR TO INSTALLATION.
9. IN EXPOSED STRUCTURE AREAS. ROUTE FEEDER AND BRANCH CIRCUIT RACEWAYS PARALLEL AND PERPENDICULAR TO STRUCTURE.

KEYED NOTES - LIGHTING PLAN

EL1 LINE VOLTAGE CEILING MOUNTED OCCUPANCY SENSOR. SEE DETAIL 5/E7.02.

EL2 LOW VOLTAGE CEILING MOUNTED OCCUPANCY SENSOR. SEE ELECTRICAL DETAILS AND SPECIFICATIONS 26 09 43.

EL3 COACHES OFFICE LIGHTING CONTROLLER MOUNTED ABOVE ACCESSIBLE CEILING NEAR ENTRY DOOR. SEE DETAIL 1/E7.02 AND SPECIFICATION SECTION 26 09 43.

EL4 CLASS 2, CAT 5E CABLING FROM AREA LIGHTING CONTROLLER TO ROOM OCCUPANCY SENSOR AND WALL CONTROLLER. SEE DETAILS AND SPECIFICATIONS 26 09 43

EL5 CLASSROOM LIGHTING CONTROLLER MOUNTED ABOVE ACCESSIBLE CEILING NEAR ENTRY DOOR. SEE DETAIL 2/E7.02 AND SPECIFICATION SECTION 26 09 43.

EL6 LOW VOLTAGE WALL CONTROLLER WITH DIMMER AND TWO SCENE BUTTONS. "GENERAL", "AV". SEE DETAIL 2/E7.02 AND SPECIFICATIONS 26 09 43.

EL7 LINE VOLTAGE WALL MOUNTED VACANCY SENSOR. SEE ELECTRICAL DETAIL 4/E7.02 AND SPECIFICATIONS 26 09 43.

EL8 UNDER ALTERNATE #2 - INSTALL JUNCTION BOX WITH REMOVABLE GASKETED COVER FOR DIVE POOL LIGHTS. CAP OFF CONDUCTORS AND MAKE SAFE. CONTRACTOR TO INSTALL MIN. 3/4" CONDUIT TO POOL LIGHTING IN ACCORANCE WITH NEC ARTICLE 680 AND POOL CONSULTANT DRAWINGS.

EL10 INSTALL TYPE "P1" AND "P1E" LIGHT FIXTURES SUSPENDED FROM ENTRY CANOPY 2'-0" BELOW CANOPY OR HEIGHT AS SPECIFIED BY ARCHITECT AND SUPPORT FROM STRUCTURE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

EL11 INSTALL TYPE "G" AND "GE" LIGHT FIXTURES ON UNDERSIDE OF BLEACHER CANOPY AS HIGH AS POSSIBLE AND SUPPORT FROM STRUCTURE USING HDG STEEL "C" CHANNEL SUPPORTS AND ALLTHREAD RODS.

EL12 INSTALL TYPE "G" AND "GE" LIGHT FIXTURES IN SPACE 12'-0" AFF TO BOTTOM OF FIXTURE AND SUPPORT FROM STRUCTURE USING HDG STEEL "C" CHANNEL SUPPORTS AND ALLTHREAD RODS.

EL13 INSTALL TYPE "G" AND "GE" LIGHT FIXTURES IN SPACE 10'-0" AFF TO BOTTOM OF FIXTURE AND SUPPORT FROM STRUCTURE USING HDG STEEL "C" CHANNEL SUPPORTS AND ALLTHREAD RODS.

EL14 INSTALL TYPE "F" AND "FE" LIGHT FIXTURES IN SPACE 10'-0" AFF TO BOTTOM OF FIXTURE AND SUPPORT FROM STRUCTURE USING HDG STEEL "C" CHANNEL SUPPORTS AND ALLTHREAD RODS.

2 EL15 INSTALL TYPE "G" AND "GE" FIXTURES ON UNDERSIDE OF CANOPY.

EL16 INSTALL TYPE "W" AND "WE" FIXTURE ON WALL 10'-0" AFF TO BOTTOM OF FIXTURE. COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

EL17 UNDER ALTERNATE #2 - INSTALL LIGHTING AT DIVING POOL AS INDICATED.

EL18 NEW DECORATIVE POOL DECK LIGHTING POLE BASE. SEE DETAIL 3/E7.01.

EL20 NON-DIMMING LIGHTING CONTROLLER MOUNTED ABOVE ACCESSIBLE CEILING NEAR ENTRY DOOR FOR EXTERIOR BUILDING LIGHTING. SEE DETAIL 3/E7.02 AND SPECIFICATION SECTION 26 09 43.

EL21 NON-DIMMING LIGHTING CONTROLLER MOUNTED ABOVE ACCESSIBLE CEILING NEAR ENTRY DOOR FOR BLEACHER LIGHTING. CONTROLLER NOT REQUIRED IF ALTERNATE #1 IS ACCEPTED. SEE DETAIL 6/E7.02 AND SPECIFICATION SECTION 26 09 43.

EL22 NON-DIMMING LIGHTING CONTROLLER MOUNTED ABOVE ACCESSIBLE CEILING NEAR ENTRY DOOR FOR EXTERIOR POOL DECK LIGHTING. CONTROLLER NOT REQUIRED IF ALTERNATE #1 IS ACCEPTED. SEE DETAIL 6/E7.02 AND SPECIFICATION SECTION 26 09 43.

EL23 INSTALL NETWORK BRIDGE FOR EXTERIOR LIGHTING ABOVE ACCESSIBLE CEILING. SEE DETAIL 3/E7.02 AND SPECIFICATION SECTION 26 09 43.

EL25 BASE BID - JUNCTION BOX WITH REMOVABLE GASKETED COVER FOR POOL LIGHTS. CAP OFF CONDUCTORS AND MAKE SAFE. CONTRACTOR TO INSTALL MIN. 3/4" CONDUIT TO POOL LIGHTING IN ACCORANCE WITH NEC ARTICLE 680 AND POOL CONSULTANT DRAWINGS.

EL26 BASE BID - POOL DECK LIGHTING TO BE CIRCUITED THROUGH THE LIGHTING BATTERY INVERTER LOCATED IN THE ELECTRICAL ROOM.

EL28 UNDER ALTERNATE #3 - MUSCO SPORTS LIGHTING POLE INSTALLED BY MUSCO. REFER TO SPECIFICATIONS 26 56 68.

EL29 UNDER ALTERNATE #3 - SPORTS LIGHTING CIRCUIT TO BE ROUTED THROUGH MUSCO LIGHTING CONTROLLER.

EL30 INSTALL MUSCO SPORTS LIGHTING POLE AT THIS LOCATION ONLY IF ALTERNATES 2 AND 3 ARE ACCEPTED. REFER TO SPECIFICATIONS 26 56 68.

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May 09, 2019
LEAF ENGINEERS
F-18672

CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: April 11, 2019
DRAWN BY: LARRY A. SCHAFFER
CHECKED BY: DON RICHARDS

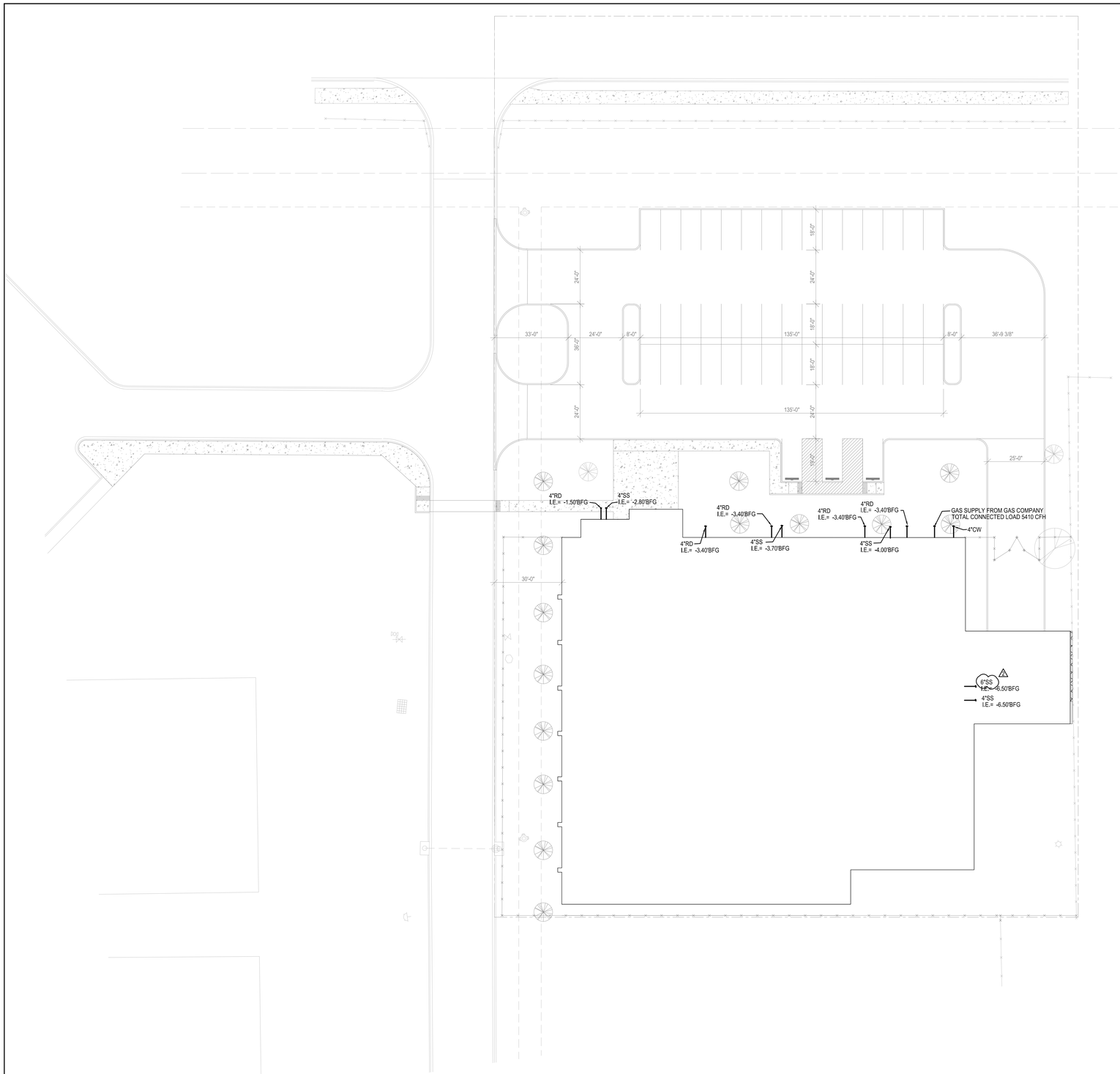
REVISIONS

No.	Description	Date
1	ADDENDUM No. 1	05/09/19
2	ADDENDUM No. 2	05/17/19

100% CONSRTUCTION DOCUMENTS

LIGHTING PLAN

E2.02



1 **PLUMBING SITE PLAN**
SCALE: 1" = 20' 0"

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CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: APRIL 11, 2019
DRAWN BY: MATTHEW TREVINO
CHECKED BY: DON RICHARDS

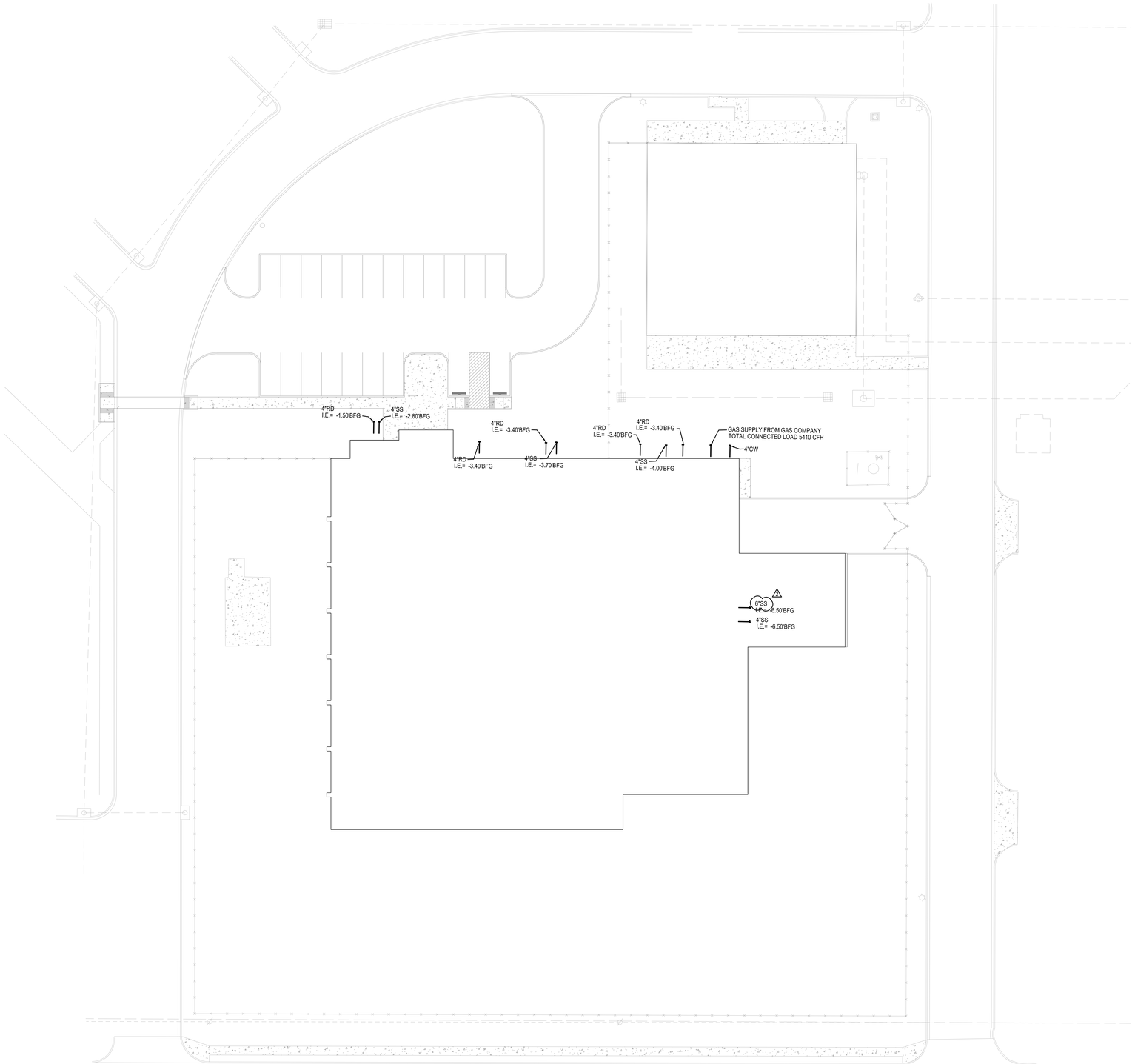
REVISIONS

No.	Description	Date
2	ADDENDUM No. 2	05/17/19

100% CONSTRUCTION DOCUMENTS

EARLY COLLEGE HS PLUMBING SITE PLAN

P1.01



1 **PLUMBING SITE PLAN**
SCALE: 1" = 20' 0"

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REVISIONS

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2	ADDENDUM No. 2	05/17/19

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MEMORIAL HS PLUMBING SITE PLAN

P1.02

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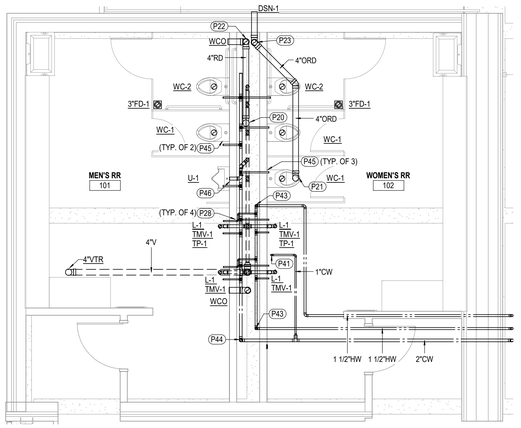
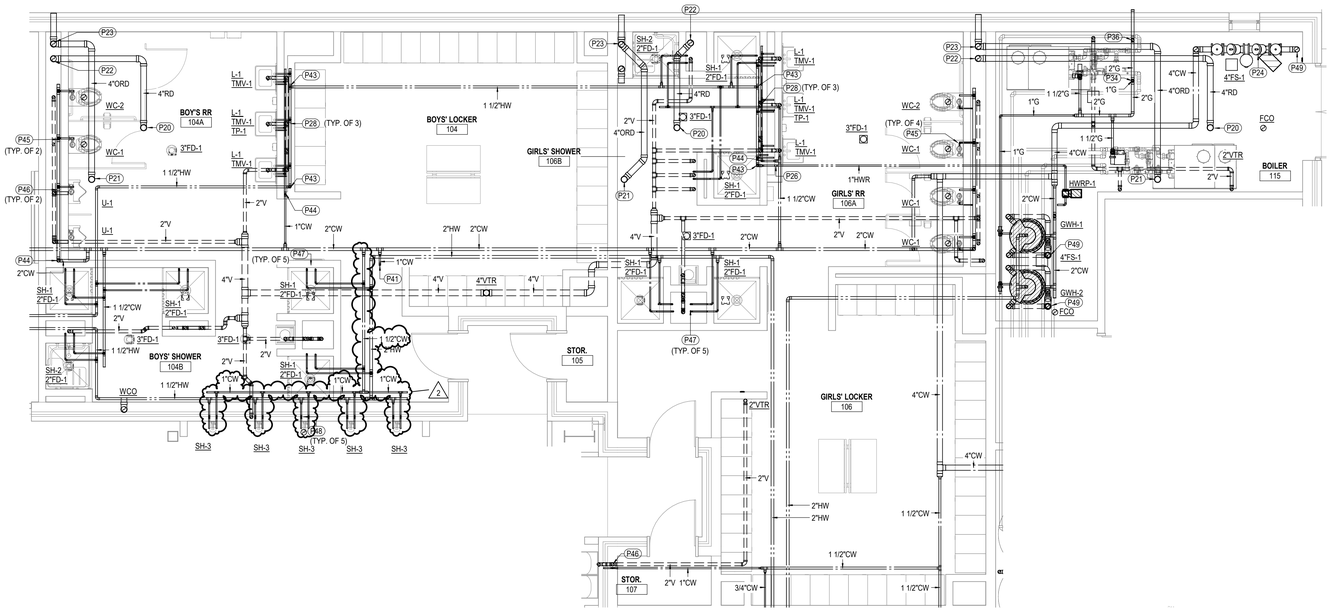


1 ENLARGED PLUMBING PLAN - MEN'S 101 & WOMEN'S 102
SCALE: 1/4" = 1'-0"



2 ENLARGED PLUMBING PLAN - BOY'S 104 & GIRL'S 106
SCALE: 1/4" = 1'-0"

KEYED NOTES - PLUMBING PLAN

P20 ROOF DRAIN PIPING DOWN FROM ROOF DRAIN. SIZE AS NOTED.

P21 OVER FLOW ROOF DRAIN PIPING DOWN FROM ROOF DRAIN. SIZE AS NOTED.

P22 ROOF DRAIN PIPING DOWN. PROVIDE WALL CLEAN OUT 12" ABOVE FINISHED FLOOR.

P23 OVER FLOW ROOF DRAIN PIPING DOWN TO DOWN SPOUT NOZZLE.

P24 PROVIDE LINE SIZED REDUCED PRESSURE ZONE ASSEMBLY EQUAL TO WATTS LF909. PROVIDE AIR GAP FITTING EQUALL TO WATTS 909AG-K. ROUTE DRAIN LINE FULL SIZE FROM AIR GAP FITTING TO NEAREST FLOOR SINK.

P26 PROVIDE BALANCING VALVE.

P28 3/4"CW AND 3/4"HW DOWN TO LAVATORY OR SINK.

P34 GAS PIPING DOWN THRU ROOF. SIZE AS NOTED.

P36 GAS PIPING UP. SUPPORT PIPING TO WALL. SIZE AS NOTED.

P41 1"CW UP TO ROOF HYDRANT REFER TO ROOF ACCESSORIES SPEC SECTION 07 72 00.

P43 HOT WATER PIPING DOWN IN CHASE. SIZE AS NOTED.

P44 COLD WATER PIPING DOWN IN CHASE. SIZE AS NOTED.

P45 1"CW AND 2" VENT UP.

P46 3/4"CW AND 2" VENT UP.

P47 3/4"CW AND 3/4"HW DOWN TO SHOWER VALVE.

P48 3/4"HW DOWN TO METER SHOWER VALVE.

P49 PROVIDE CONCENTRIC VENT. REFER TO GAS WATER HEATER SCHEDULE FOR MODEL NUMBERS.

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PSJA ISD NEW SWIMMING FACILITIES
SAN JUAN, TEXAS
ALAMO, TEXAS

KEY PLAN — PLAN NORTH — TRUE NORTH

STATE OF TEXAS
DONALD C. RICHARDS
61525
LICENSED
PROFESSIONAL ENGINEER
MAY 17, 2019
LEAF ENGINEERS
F-18672

CLIENT: PSJA ISD
PROJECT NUMBER: 18309SP
DATE: APRIL 11, 2019
DRAWN BY: MATTHEW TREVINO
CHECKED BY: DON RICHARDS

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PLUMBING ENLARGED PLANS

P3.01

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	CONNECTION SIZE				REMARKS
		WASTE	VENT	C.W.	H.W.	
WC-1	WATER CLOSET FLOOR-MOUNTED BOWL WITH 1-1/2" TOP SPUD; 1.28 GPF; ELONGATED RIM; PROVIDE ADJUSTABLE CARRIER.	4	2	1-1/2"	--	
WC-2	SAME AS WC-1 EXCEPT FLUSH VALVE SHALL BE ROUGHED-IN NO MORE THAN 44" A.F.F. WITH CENTER LINE OF FIXTURE 18" FROM FINISHED WALL OR PARTITION.	4	2	1-1/2"	--	
U-1	WALL HUNG HIGH EFFICIENCY URINAL WITH 3/4" TOP SPUD AND 0.125 GPF MANUAL FLUSH VALVE. MOUNT URINAL RIM AT 24" ABOVE FINISHED FLOOR. PROVIDE FLOOR SUPPORTED URINAL CARRIER.	2	2	3/4"	--	
U-2	SAME AS U-1 EXCEPT MOUNT RIM MAXIMUM 17" ABOVE FINISHED FLOOR.	2	2	3/4"	--	
L-1	WALL MOUNTED LAVATORY; FAUCET WITH 0.5 GPM AERATOR; ZURN Z-8746-CP OFFSET GRID DRAIN, ZURN Z-8802LR-CP ANGLE STOPS WITH 3/8" OD TUBING, DEARBORN 701-1 17 GA. PR0TRAP AND TRUBRO 105W OFFSET INSULATION KIT. INSULATION KIT NOT REQUIRED IF CABINET APRON IS INSTALLED, ADA, LEAD-FREE.	2	2	3/4"	3/4"	PROVIDE TEMPERING VALVE SIMILAR TO POWERS HYDROGUARD T/P SERIES E480.
SS-1	32"X32"X12" CORNER MOP SERVICE BASIN, WITH HOSE AND BRACKET, PROVIDE SERVICE SINK FAUCET W/ WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUT.	3	2	3/4"	3/4"	PROVIDE WITH WALL GUARDS.
SH-1	SINGLE SHOWER, CONCEALED SUPPLY W/ INTEGRATED THERMOSTATIC MIXING VALVES, INTEGRAL SERVICE STOPS, VANDAL-PROOF HEAD W/ WALL BRACKET, 1.5 GPM AERATOR; LEAD-FREE.	2	2	3/4"	3/4"	
SH-2	ADA SHOWER, CONCEALED SUPPLY W/ INTEGRATED THERMOSTATIC MIXING VALVES, INTEGRAL SERVICE STOPS, VANDAL-PROOF HEAD W/ WALL BRACKET, HAND HELD SHOWER W/ METAL CLAD HOSE AND SLIDE BAR, 1.5GPM AERATOR; ADA, LEAD-FREE.	2	2	3/4"	3/4"	
SH-3	SINGLE SHOWER, SURFACE MOUNTED PANEL W/ INTEGRATED THERMOSTATIC MIXING VALVES, INTEGRAL SERVICE STOPS, VANDAL-PROOF HEAD W/ WALL BRACKET, 1.5 GPM AERATOR; LEAD-FREE.	2	2	3/4"	3/4"	
EWC-1	WALL HUNG BI-LEVEL ELECTRIC DRINKING FOUNTAIN WITH BOTTLE FILLER, STAINLESS STEEL FINISH; DEARBORN 704-1 1-1/2" 17 GA. P-TRAP; BRASS CRAFT G2CR19 C ANGLE STOP, AQUAFLO SFC-120 PP STAINLESS STEEL FLEX CONNECTORS.	2	2	3/4"	--	
ES-1	COMBINATION DRENCH SHOWER AND HALO EYE/FACE WASH WITH BARRIER FREE PULL ROD.			1-1/4"		
FD-1	6" SQUARE NICKEL BRONZE STRAINER, TRAP PRIMER CONNECTION WITH CAST IRON BODY FLOOR DRAIN; PUSH ON GASKET OUTLET OR NO HUB OUTLET.	SEE PLANS			--	PROVIDE TRAP PRIMER
FS-1	8-1/2" SQUARE NICKEL BRONZE STRAINER W/ HALF GRATE, POLISHED ALUMINUM DOME BOTTOM STRAINER; PUSH ON GASKET OUTLET OR NO HUB OUTLET.	SEE PLANS			--	
HB-1	EXPOSED, ANTI-SIPHON WALL HYDRANT WITH INTEGRAL BACKFLOW PREVENTER.	--	--	3/4"	--	
WH-1	NON-FREEZE, ANTI-SIPHON WALL HYDRANT ENCASED IN STAINLESS STEEL BOX WITH OPERATING KEY LOCK.			3/4"	--	
TMV-1	SYMMONS 7-225 MIXING VALVE FOR POINT OF USE, VOLUME CONTROL SHUT-OFF VALVE ON OUTLET, CHECK VALVE ON INLETS, LEAD FREE.			3/4"	3/4"	
TMV-2	LAWLER MODEL 803 HIGH-LOW THERMOSTATIC MIXING VALVE, VOLUME CONTROL SHUT-OFF VALVE ON OUTLET, CHECK VALVE ON INLETS, LEAD FREE.			1-1/4"	1-1/4"	
RVB-1	GUY GRAY MODEL BIM875 REFRIGERATOR/ICE MACHINE BOX, STAINLESS STEEL PREFORMED ROUGH-IN BOX WITH BRASS VALVES WITH WHEEL HANDLE SLIP IN FINISHING COVER.			3/4"	--	
RVB-2	GUY GRAY MODEL B-200 WASHING MACHINE BOX, STAINLESS STEEL PREFORMED ROUGH-IN BOX WITH BRASS VALVES WITH WHEEL HANDLE SLIP IN FINISHING COVER.			3/4"	--	
RD-1	J.R.SMITH FIG. 1010Y-C-R-U ROOF DRAIN WITH LOW PROFILE DOME AND SUMP RECEIVER, UNDERDECK CLAMP.	--	--	--	--	
ORD-1	J.R.SMITH FIG. 1070Y-C-R-U OVERFLOW ROOF DRAIN WITH INTERNAL STANDPIPE AND SUMP RECEIVER, UNDERDECK CLAMP.	--	--	--	--	
DSN-1	REFER TO PLUMBING SPEC SECTION 22 40 00.					

2

NOTES:

1. ROUGH-IN SUPPLY WASTE AND VENT PIPE SIZES INDICATED ARE MINIMUM SIZES SHOWN FOR ROUGH-IN ONLY.
2. COORDINATE WITH PLUMBING FIXTURE MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER INSTALLATION OF ALL FIXTURES.
3. ALL PLUMBING FIXTURES SHALL BE COMPLETELY ROUGH IN BY THE PLUMBING CONTRACTOR AND SHALL MEET ALL CODES HAVING JURISDICTION.
4. ALL FIXTURES TO BE COMMERCIAL GRADE UNLESS OTHERWISE NOTED.
5. PROVIDE A WATER HAMMER ARRESTOR IN PIPING TO ALL FIXTURES AND/OR FIXTURE BANKS.

GAS WATER HEATER SCHEDULE

UNIT	MANUFACTURER & MODEL No.	LOCATION	CAPACITY (GAL)	RECOVERY (GPH)	TEMPERATURE RISE (°F)	INPUT (BTU)	REMARKS
GWH-1	A.O.SMITH BTH-150(A)	BOILER 115	100	173	100	150,000	PROVIDE WITH THERM-X-TROL ST-30V-C EXPANSION TANK. PROVIDE CONCENTRIC VENT KIT PART No. 100111100 PROVIDE CONDENSATE NEUTRALIZATION KIT PART No. 100112380 FOR EACH GAS WATER HEATER.
GWH-2	A.O.SMITH BTH-150(A)	BOILER 115	100	173	100	150,000	

PUMP SCHEDULE

UNIT	MANUFACTURER & MODEL No.	LOCATION	TYPE	INLET PRESSURE (PSI.)	OUTLET PRESSURE (PSI.)	RPM	CAPACITY		ELECTRICAL				REMARKS
							GPM	HEAD(FT.)	HP	VOLTS	PH	Hz	
HWRP-1	BELL & GOSSETT ecocirc XL B 20-35	BOILER 115	INLINE CIRCULATOR	-	-	-	5	5	1/12	120	1	60	*

PLUMBING PIPING MATERIAL SCHEDULE

SYSTEM	BELOW GRADE	ABOVE GRADE
STORM WATER PIPING	SCH 40 PVC	CAST IRON
SANITARY WATER PIPING	SCH 40 PVC	CAST IRON
DOMESTIC WATER PIPING	TYPE K COPPER	TYPE L COPPER
NATURAL GAS PIPING	SCH 40 BLACK STEEL WITH P.E. TAPE OR POLYETHYLENE	SCH 40 BLACK STEEL

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