

LEVI WATER SUPPLY CORPORATION

FALLS COUNTY WATER PLANT SITE

2026



Board Members

- Chris Miller President
- John Hahne Vice President
- Connie Wedemeyer Secretary
- Will Donaldson Board Member
- Brett Kramer Board Member

Approved by Levi W.S.C.
this 20th day of JULY, 2026.

General Manager 07-20-2026
Date

KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS
Firm Reg. No. F-510




07-20-2026

P:\Levi WSC\2024\124-109 Water Plant Site\CAD\WORKING\GENERAL\GENERAL SHEETS.dwg - AG-01

A. GENERAL

- AG-00. COVER
- AG-01. INDEX OF SHEETS & LOCATION MAP
- AG-02. GENERAL NOTES
- AG-03. GENERAL NOTES
- AG-04. PIPING AND INSTRUMENTATION DIAGRAM
- AE-01. - AE-02. ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS
- AS-01. - AS-22. SPECIAL INSPECTIONS TABLES

B. SITE IMPROVEMENTS

- BC-01. SITE LAYOUT - OVERALL
- BC-02. SITE LAYOUT - YARD PIPING
- BC-03. YARD PIPING PROFILES
- BE-01. OVERALL SITE PLAN
- BE-02. OVERALL SITE PLAN

C. WELL DISCHARGE PUMP STATION

- CM-01. PLAN & SECTIONS
- CE-01. WELL DISCHARGE PUMP STATION POWER PLAN
- CS-01. FOUNDATION PLAN
- CS-02. FOUNDATION SECTION

D. 100,000 GALLON GROUND STORAGE TANK

- DM-01. PLAN, ELEVATION & DETAILS
- DE-01. GROUND STORAGE TANK POWER PLAN
- DS-01. FOUNDATION PLAN
- DS-02. FOUNDATION SECTIONS

E. PUMP STATION & CHLORINE ROOM

- EM-01. PLAN
- EM-02. SECTIONS A-A & B-B
- EM-03. SECTIONS C-C & D-D
- EE-01. POWER PLAN
- EE-02. LIGHTING PLAN
- EE-03. MECHANICAL PLAN
- ES-01. CODE INFORMATION
- ES-02. LIFE SAFETY PLAN
- ES-03. COMCHECK
- ES-04. FOUNDATION PLAN
- ES-05. FOUNDATION SECTIONS
- ES-06. FOUNDATION SECTIONS
- ES-07. FLOOR / WALL REINFORCING PLAN NOTES
- ES-08. FLOOR / WALL REINFORCING PLAN
- ES-09. FINISH SELECTIONS / CMU DETAIL
- ES-10. CMU DETAILS
- ES-11. CMU DETAILS
- ES-12. CMU DETAILS
- ES-13. DOOR / HARDWARE SCHEDULES
- ES-14. DOOR DETAILS
- ES-15. DOOR DETAILS
- ES-16. INTERIOR SIGNAGE SCHEDULE / DETAILS
- ES-17. EXTERIOR ELEVATION
- ES-18. EXTERIOR ELEVATION
- ES-19. EXTERIOR ELEVATION
- ES-20. EXTERIOR ELEVATION
- ES-21. OVERALL BUILDING SECTION
- ES-22. OVERALL BUILDING SECTION
- ES-23. ENLARGED DETAILS
- ES-24. ROOF FRAMING PLAN
- ES-25. COMPONENTS AND CLADDING LOADING
- ES-26. TRUSS LOADING SCHEDULE / DETAILS
- ES-27. TRUSS / ROOF SHEATHING DETAILS
- ES-28. ROOF PLAN / DETAILS
- ES-29. ACCESSIBILITY DETAILS
- ES-30. ACCESSIBILITY DETAILS
- ES-31. ACCESSIBILITY DETAILS
- ES-32. ACCESSIBILITY DETAILS

F. 10,000 GALLON HYDROTANK

- FM-01. PLAN & SECTION
- FE-01. HYDROTANK POWER PLAN
- FS-01. FOUNDATION PLAN
- FS-02. FOUNDATION SECTION

G. METER VAULT (ADD ALTERNATE B)

- GM-01. PLAN & SECTION
- GE-01. METER VAULT POWER PLAN
- GS-01. WALL / UPPER SLAB FOUNDATION PLANS
- GS-02. FOUNDATION SECTION

H. GENERATOR (ADD ALTERNATE A)

- HE-01. ALTERNATE BID: STANDBY GENERATOR POWER PLAN
- HS-01. FOUNDATION PLAN
- HS-02. FOUNDATION SECTION

I. ELECTRICAL DIAGRAMS

- IE-01. ONE-LINE DIAGRAM
- IE-02. ELECTRICAL SCHEDULES
- IE-03. ELECTRICAL SCHEDULES

S. STANDARD DETAILS

- SC-01. CHAIN-LINK FENCING & GATE, TAPPING SADDLE & INJECTOR
- SC-02. EROSION CONTROL
- SC-03. EMBEDMENT
- SC-04. WATER
- SE-01. ELECTRICAL SPECIFICATIONS
- SE-02. ELECTRICAL SPECIFICATIONS
- SE-03. ELECTRICAL GENERATOR SPECIFICATIONS
- SE-04. ELECTRICAL GENERATOR SPECIFICATIONS
- SE-05. ELECTRICAL ATS SPECIFICATIONS
- SE-06. ELECTRICAL SPECIFICATIONS
- SE-07. ELECTRICAL SPECIFICATIONS
- SE-08. ELECTRICAL SPECIFICATIONS
- SE-09. ELECTRICAL SPECIFICATIONS
- SE-10. ELECTRICAL SPECIFICATIONS
- SE-11. ELECTRICAL SPECIFICATIONS
- SS-01. TYPICAL CONCRETE DETAILS
- SS-02. TYPICAL CONCRETE DETAILS
- SS-03. TYPICAL CONCRETE DETAILS
- SS-04. TYPICAL CONCRETE DETAILS
- SS-05. TYPICAL CONCRETE DETAILS
- SS-06. TYPICAL CONCRETE DETAILS
- SS-07. TYPICAL CONCRETE DETAILS
- SS-08. TYPICAL CONCRETE DETAILS

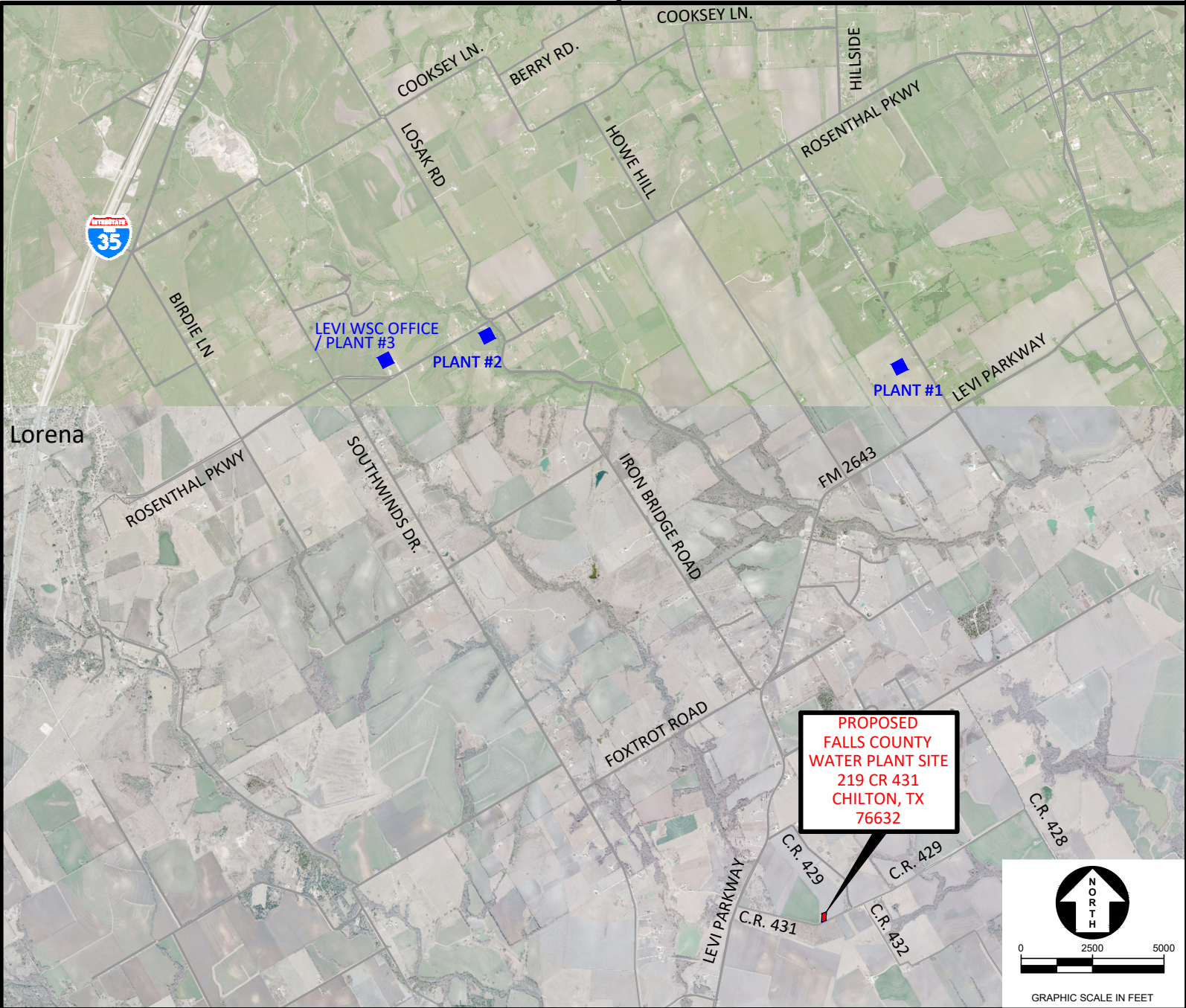
AREA DESIGNATION

- A GENERAL
- B SITE DRAWINGS
- C WELL DISCHARGE PUMP STATION
- D 100,000 GALLON GROUND STORAGE TANK
- E PUMP STATION & CHLORINE ROOM
- F HYDROTANK
- G METER VAULT ADD ALTERNATE B
- H GENERATOR ADD ALTERNATE A
- I ONE-LINE DIAGRAM / SCHEMATICS
- S STANDARD DETAILS

DISCIPLINE

- A ARCHITECTURAL
- G GENERAL
- C CIVIL
- E ELECTRICAL
- I INSTRUMENTATION
- M MECHANICAL
- S STRUCTURAL

SHEET NUMBERS ARE :
(AREA DESIGNATION) (DISCIPLINE) - (SHEET NUMBER)



NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 20, 2026 - 5:03pm	
KPA Firm Registration Number F-510		Plotted By: ZLOPEZ	

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026





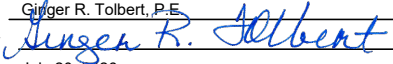
KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
INDEX OF SHEETS & LOCATION MAP

SHEET NO. AG-01
OF 4

P:\Levi WSC\2024\124-109 Water Plant Site\CAD\WORKING\GENERAL\GENERAL SHEETS.dwg - AG-02

Texas Commission on Environmental Quality Water Pollution Abatement Plan General Construction Notes				General Notes				Construction Layout/Project Coordination							
1. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.				1. All barricades, signs, and traffic control for this project shall conform to the latest edition of the Texas Manual on Uniform Traffic Control Devices for Streets and Highways.				13. Contractor shall locate material storage areas away from storm water conveyance systems. Contractor shall provide protected storage areas for chemicals, paints, solvents, fertilizers and other potentially toxic materials off site.				1. Levi WSC will provide the daily on-site construction representation for this project.			
2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.				2. The bidders for this project shall familiarize themselves with all requirements of working in state and county rights-of-way and Levi Water Supply Corp. easements. The bidders shall familiarize themselves with all insurance requirements for said work and shall include in their bids, insurance costs and insurance premiums that provide for the state of Texas, Falls County and the engineer as additional insured's under the contractor's policies.				14. Contractor shall advise owner immediately, verbally and in writing, of any fuel or toxic material spills onto the project construction area and the actions to be taken to remedy the problem.				2. Pre-construction conference			
3. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.				3. Blasting is not permitted on this project.				15. Contractor is responsible for disposing of his fuels, materials, and contaminated excavations in a legally approved manner.				A. Prior to beginning work on the project and soon after the award of the contract, a conference will be held among the representatives of Levi WSC, the engineer, the contractor, and any subcontractor that will be involved in the work. At that time, the contractor shall submit charts or briefs, outlining the manner of execution of the work that is intended in order to complete the specified work within the allotted time. This conference will more completely establish the sequence of work to be followed and establish the estimated progress schedule for completion of the various tasks. When applicable, the pre-construction conference will be held only after installation of the erosion and sedimentation controls. This conference may take place on the site to demonstrate competence with the erosion and sedimentation control plan and water pollution abatement plan.			
4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.				4. All construction operations shall be accomplished in accordance with applicable regulations of the U.S. Occupational Safety and Health Administration. Copies of the OSHA standards may be purchased from the U.S. government printing office: information and related reference materials may be obtained from OSHA; 903 San Jacinto, Austin, Texas.				16. Contractor is responsible for complying with all applicable environmental laws.				B. In addition, at this conference, the contractor shall be responsible for furnishing the engineer with all of the following, as specified herein or as directed by the engineer:			
5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.				5. These plans prepared by Kasberg, Patrick & Associates, LP, do not extend to or include designs or systems pertaining to the safety of the contractor or its employees, agents or representatives in the performance of the work. The seal of Kasberg, Patrick & Associates, LP registered professional engineer(s) hereon does not extend to any such safety systems that may now or hereafter be incorporated in the work. The contractor shall prepare or obtain the appropriate safety systems, including the plans and specifications.				18. Contractor shall coordinate all materials testing, including soil density tests and related soils analysis. Tests shall be accomplished by an independent laboratory, at the frequency, time and location as specified in the technical specifications. A copy of the test results shall be forwarded to Levi WSC's representative, and the contractor. Tests, which show unsatisfactory results, shall be repeated at the expense of the contractor subsequent to the contractor's remedial activities.				• Samples of all materials to be used on the project with identification as to product name; name, location, phone number (including area code) and mailing address of product source and manufacturer, if different from source; content of product; amount of each ingredient in the product, and manufacturer's directions as to use and application of the product, if applicable.			
6. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).				6. Contractor shall comply with all applicable local, state and federal requirements regarding excess and waste material, including methods of handling and disposal.				19. The trench excavation and shoring safety plan system as required by the laws of the state of Texas and as outlined in the technical specifications will be required as a minimum trench safety measure and shall be submitted to Levi WSC prior to the beginning of construction. Implementation of the submitted trench safety plan shall be the sole responsibility of the contractor.				• Manufacturer's literature of all materials and equipment installed on the project.			
7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.				7. Contractor shall maintain access to public and private facilities during construction.				20. Existing paving, buildings and other items shown on the plans is not specifically related to the work of the contractor and is shown for information only.				3. Protection of vehicular and pedestrian traffic is of the utmost importance for the project. The traffic control and sequence of construction plan shall address all anticipated situations in this regard with sufficient detail.			
8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).				8. Contractor shall notify Levi Water Supply Corp. a minimum of 3 working days, (Monday-Friday) in advance of construction startup, followed by a letter of confirmation. Contractor shall also give a minimum of 3 working days, (Monday-Friday), notice to all authorized inspectors, superintendents or persons in charge of private and public utilities affected by his operations prior to commencement of work.				21. Any water hauled to the site during the installation shall be paid by the contractor.				4. The plans for this project show proposed elevations, slopes and dimensions that are intended for actual placement. However, there may be some instances where existing conditions make it impractical to achieve the ideal. In those instances, the Levi WSC will assist the contractor in making proper field changes to better account for field conditions.			
9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.				9. Location of existing utilities shown on the plans was compiled from record information. No warranty is implied as to the actual location of existing utilities. Contractor shall field verify locations of existing utilities prior to the commencement of construction. Contractor should call the Levi Water Supply Corp. at (254) 857-3050 for visual aide in identifying the approximate location of the existing utilities. If there are any conflicts between proposed and existing utilities, or if the existing utilities are in any way different from what is shown on the drawings, then it shall be the contractor's responsibility to notify the owner or other affected utility before proceeding with any construction. The contractor shall be responsible for resolving all conflicts at his expense. Levi Water Supply Corp. will consider any conflicts at said locations on a case-by-case basis in order to determine if the contractor should be reimbursed for his expense in solving said conflict.				22. TxDOT requires 48-hour notification prior to any proposed work in state right of way.				5. Levi WSC's representative shall identify the limits of construction prior to commencement of the project.			
10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.				10. Contractor shall make all due precautions to protect existing facilities from damage. Any damage to existing facilities incurred as a result of these construction operations are to be repaired immediately by the contractor to at least the preexisting condition at no additional cost to Levi WSC.				23. This project is a calendar day project and therefore shall be void of rain days as credit to construction time. Levi WSC will not accept rain days unless a month within the project time has had rain days in excess of the average rain days for that month. Days of drying for the project site will not be considered.				6. Contractor shall field verify all civil and electrical below ground piping/conduit to avoid conflicts at crossings. At all piping/conduit crossings, there shall be a minimum of 12" of clearance between pipe and conduit. If revisions are required, contractor shall coordinate with engineer/owner.			
11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.				11. Contractor shall coordinate interruptions of all utilities and services with all applicable utility company or companies. All work shall be in accordance with the requirements of the applicable utility company or agency involved.				Month Rain Days				Site Grading Notes			
								January7 days				1. Contractor shall remove built up material on adjacent public roadways resulting from his work. Cleaning shall be at least once a day.			
								February7 days				2. Contractor shall protect stockpiled material such that storm water will not adversely affect erosion control, sidewalks, traffic, private property, or the San Gabriel River.			
								March7 days				3. Required fill embankment shall be placed and compacted per technical specifications in maximum 6-inch loose lifts and compacted as stated in the specifications.			
								April7 days							
								May8 days							
								June6 days							
								July6 days							
								August5 days							
								September7 days							
								October7 days							
								November7 days							
								December7 days							

				PROJECT NO. 2024 - 109			KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. AG-02
				DRAWN BY Zachary B. Lopez				GENERAL NOTES 1	
NO.	DATE	REVISION	BY	DESIGNED BY Ginger R. Tolbert, P.E.					
© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510		Plot Date: Jul 20, 2026 - 3:41pm Plotted By: ZLOPEZ		APPROVED BY  DATE July 20, 2026					

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Paving And Concrete Notes

- Any existing pavement, curbs and/or sidewalk damaged or removed by the contractor that are not a part of this contract shall be repaired by the contractor to at least the preexisting condition at his expense before acceptance of the work.
- The contractor shall provide Levi WSC with a barricade and signing plan, which will include how traffic will be handled during construction. The barricades, signs and lights shall conform to the latest edition of the Texas Manual On Uniform Traffic Control Devices For Streets And Highways. The contractor can utilize the typical TxDOT Traffic Control Sheets for this project.
- All concrete to be class "A" for site work per technical specifications and all reinforcing steel to be ASTM A-615 Grade 60, unless otherwise noted.
- Natural subgrade - loose, disturbed or undisturbed natural subgrade beneath pavement should be scarified and rolled. Subgrade compactions shall not exceed 100%. Proof-rolling and preparation of subgrade shall be in accordance with TxDOT item 216 "proof rolling" and item 132 embankment.
- Concrete rip rap shall be 4-inch thickness, Class "B" concrete with 6" x 6" x #6 welded wire flat-sheet mesh. Finished concrete shall receive a broom finish and sprayed with type 2 membrane curing compound. The rip rap shall be placed with a 24-inch depth by 6-inch wide toe ditch at the bottom of slope edge and with an 18-inch depth by 6-inch wide toe ditch at the top of slope edge.

Project Notes

- Contractor shall contact Levi the owner for existing utility locations prior to any excavation. In advance of construction, the contractor shall verify the locations of all utilities to be extended, tied to or altered, or subject to damage/inconvenience by the construction operations.
- Contractor shall strip 6 inches of topsoil from all areas subject to grade modifications. Contractor shall remove any area of weak soil.
- The contractor shall be responsible and liable for all job site safety, management of job site personnel, supervision of the use of job site equipment and direction of all construction procedures, methods and elements required to complete the construction of the proposed improvements.
- The contractor shall protect all existing fences. In the event that a fence shall be removed, the contractor shall replace said fence or portion thereof with the same type of fencing to a quality of equal or better than the original fence. This work shall be considered subsidiary to the project, unless specifically identified in the bid form.

Testing And Submittals

- The contractor shall be responsible for providing material samples as well as any manufacturers literature of materials used on this project as required by the engineer. Any costs associated with any sampling and testing shall be the responsibility of the contractor. These costs shall be considered as incidental and the contractor will not be entitled to any additional compensation.
- The contractor shall be responsible for and pay for all charges of testing laboratories for services in connection with initial tests made on all imported materials to the project sites including but not limited to embedment materials, fill material, backfill material, select material, crushed limestone base, subbase, concrete, steel, wood forms, liquid asphalt, aggregate, water, cement, curing compound, guard rail, etc. The tests for which the contractor will typically be responsible are Atterberg limits, sieve analysis, plasticity indices, mix design, California bearing ratios, proctors (moisture density curves) and all tests required by the specifications that prove the material brought to the project sites meets or exceeds the specifications and contract documents. The owner, Levi WSC, will pay all the charges of testing laboratories for services in connection with in place field densities, concrete cylinders testing, HMAC density tests and any in place test required for quality assurance. Retesting after failure of in place tests shall be at the expense of the contractor.

Americans with Disabilities Act

- This project is intended to conform to the Americans with Disabilities Act.
- The contractor shall be aware of construction procedures, finished product requirements of this act, and coordinate all activities to satisfy this act.

TCEQ Water Storage Tank General Construction Notes:

- The water storage tank must be constructed in accordance with the current Texas commission on environmental quality (TCEQ) rules and regulations for public water system 30 Texas Administrative Code (TAC) Chapter 290 subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "rules and regulations for public water systems."
- All facilities for potable water storage shall be covered and designed, fabricated, erected, tested and disinfected in strict accordance with current American Water Works Association (AWWA) standards and shall be provided with the minimum number, size and type of roof vents, man ways, drains, sample connections, access ladders, overflows, liquid level indicators on-site, and other appurtenances as specified in these rules.
- Disinfection of water storage facilities shall be in strict accordance with AWWA Standard C652-11 or most recent.
- Dechlorination of disinfecting water shall be in strict accordance with AWWA Standard C655-09 or most recent.
- Bolted tanks shall be designed, fabricated, erected and tested in strict accordance with current AWWA Standard D103. Welded tanks shall be designed, fabricated, erected and tested in strict accordance with current AWWA Standard D100. The roof of all metal tanks shall be designed and erected so that no water ponds at any point on the roof and, in addition, no area of the roof shall have a slope of less than 0.75 inch per foot. Concrete tank roofs shall be constructed in strict compliance with their respective AWWA Standard.
- Roof vents shall be installed in strict accordance with current AWWA Standards and shall be equipped with approved screens to prevent entry of animals, birds, insects and heavy air contaminants. Screens shall be fabricated of corrosion resistant material and shall be 16 mesh or finer. Screens shall be securely clamped in place with stainless or galvanized bands or wires and shall be designed to withstand winds of not less than tank design criteria (unless specified otherwise by engineer).
- All roof openings shall be designed in accordance with AWWA Standards. If an alternate 30 inch diameter access opening is not provided in a storage tank, the primary roof access opening shall not be less than 30 inches in diameter. Other roof openings required only for ventilating purposes during cleaning, repairing, or painting operations shall not be less than 24 inches in diameter or as specified by the licensed professional engineer. An existing tank without a 30-inch in diameter access opening must be modified to meet this requirement when major repair or maintenance is performed on the tank. Each access opening shall have raised curbing at least four inches in height with lockable cover that overlaps the curbing at least two inches in a downward direction. Where necessary, a gasket shall be used to make positive seal when the hatch is closed. All hatches shall remain locked except during inspections and maintenance.
- Overflows shall be designed in strict accordance with current AWWA Standards and shall terminate with a gravity-hinged and weighted cover, an elastomeric duckbill valve, or other approved device to prevent the entrance of insects and other nuisances. The cover shall fit tightly with no gap over 1/16 inches. If the overflow terminates at any point other than the ground level, it shall be located near enough and at a position accessible from a ladder or the balcony for inspection purposes. The overflow(s) shall be sized to handle the maximum possible fill rate without exceeding the capacity of the overflow(s). The discharge opening of the overflow(s) shall be above the surface of the ground and shall not be subject to submergence.
- All clearwells and water storage tanks shall have a liquid level indicator located at the tank site. The indicator can be a float with a moving target, an ultrasonic level indicator, or a pressure gauge calibrated in feet of water. If an elevated tank or standpipe has a float with moving target indicator, it must also have a pressure indicator located at ground level. Pressure gauges must not be less than three inches in diameter and calibrated at not more than two-foot intervals. Remote reading gauges at the owner's treatment plant or pumping station will not eliminate the requirement for a gauge at the tank site unless the tank is located at the plant or station.

- Inlet and outlet connections shall be located so as to prevent short circuiting or stagnation of water. Clearwells used for disinfectant contact time shall be appropriately baffled.
- Clearwells and potable water storage tanks shall be thoroughly tight against leakage, shall be located above the ground water table and shall have no walls in common with any other plant units containing water in the process of treatment. All associated appurtenances including valves, pipes and fittings shall be tight against leakage.
- All clear wells, ground storage tanks, standpipes, and elevated tanks shall be painted, disinfected, and maintained in strict accordance with current awwa standards. However, no temporary coatings, wax grease coatings, or coating materials containing lead will be allowed. No other coatings will be allowed which are not approved for use (as a contact surface with potable water) by the United States Environmental Protection Agency (EPA), NSF International, or the United States Food and Drug Administration (FDA). All newly installed coatings must conform to ANSI/NSF International Standard 61 and must be certified by an organization accredited by ANSI.
- All clear wells, ground storage tanks, standpipes, and elevated tanks shall be painted, disinfected, and maintained in strict accordance with current AWWA Standards. However, no temporary coatings, wax grease coatings, or coating materials containing lead will be allowed. No other coatings will be allowed which are not approved for use (as a contact surface with potable water) by the United States Environmental Protection Agency (EPA), NSF International, or the United States Food and Drug Administration (FDA). All newly installed coatings must conform to ANSI/NSF International Standard 61 and must be certified by an organization accredited by ANSI.
- No tanks or containers shall be used to store potable water that has previously been used for any non-potable purpose. Where a used tank is proposed for use, a letter from the previous owner or owners must be submitted to the commission which states the use of the tank.
- Access manways in the riser pipe, shell area, access tube, bowl area or any other location opening directly into the water compartment shall be located in strict accordance with current AWWA Standards. These openings shall not be less than 24 inches in diameter. However, in the case of a riser pipe or access tube of 36 inches in diameter or smaller, the access manway may be 18 inches times 24 inches with the vertical dimension not less than 24 inches. The primary access manway in the lower ring or section of a ground storage tank shall be not less than 30 inches in diameter. Where necessary, for any access manway which allows direct access to the water compartment, a gasket shall be used to make a positive seal when the access manway is closed.
- Service pump installation taking suction from storage tanks shall provide automatic low water level cutoff devices to prevent damage to the pumps. The service pump circuitry shall also resume pumping automatically once the minimum water level is reached in the tank.
- Pursuant to 30 TAC §290.44(b)(1), the maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent.

Water Line Notes

- Water lines shall minimum depths of 42 inches below finished grade. Top of valve stems to be 18 inches to 36 inches below finished grade.
- Contractor shall coordinate the connection of proposed water lines to existing water lines with the owner.
- Water line testing and sterilization shall be performed in accordance with applicable technical specifications and TCEQ chapter 290 rules.
- Pressure rating of valves, fittings and appurtenances shall equal or exceed the pressure rating of adjacent water pipeline.
- All water line fittings and bends shall be ductile iron unless noted otherwise.
- All underground ductile iron pipe and fittings shall be wrapped with minimum of millimeter thickness polyethylene wrap in accordance with AWWA C105.
- Contractor shall provide adequate thrust blocking to withstand test pressures.

- Contractor shall comply with manufacturer's recommendation for curvature of lines and / or deflection of pipe joints.
- Contractor shall provide pipe manufacturer's plugs or caps at all pipe stub-outs on water lines not connecting to other lines. Contractor shall remove plugs or caps and connect to existing lines where shown on plans.
- Corporation stops shall be located to avoid future driveways. Corporation stops shall be located within 5 feet of the front lot corner or in the middle of the lot.
- All fire hydrants shall be M&H, or Mueller and shall be domestic.
- All gate valves shall be M&H, Mueller, or CLOW and shall be domestic.
- All fittings shall be mechanically restrained. All restraints shall be swivel, flange or mega-lug.
- All exposed exterior above ground piping shall be insulated with 2-inch fiberglass insulation manufactured by Knauf Insulation®, Mason Insulation® or approved equal. Fiberglass insulation shall be covered with RPR Products, Inc. Insul-Mate™ Aluminum Jacketing or approved equal unless otherwise specified.

NO.	DATE	REVISION	BY
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KPA Firm Registration Number F-510		Plotted By: ZLOPEZ	

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



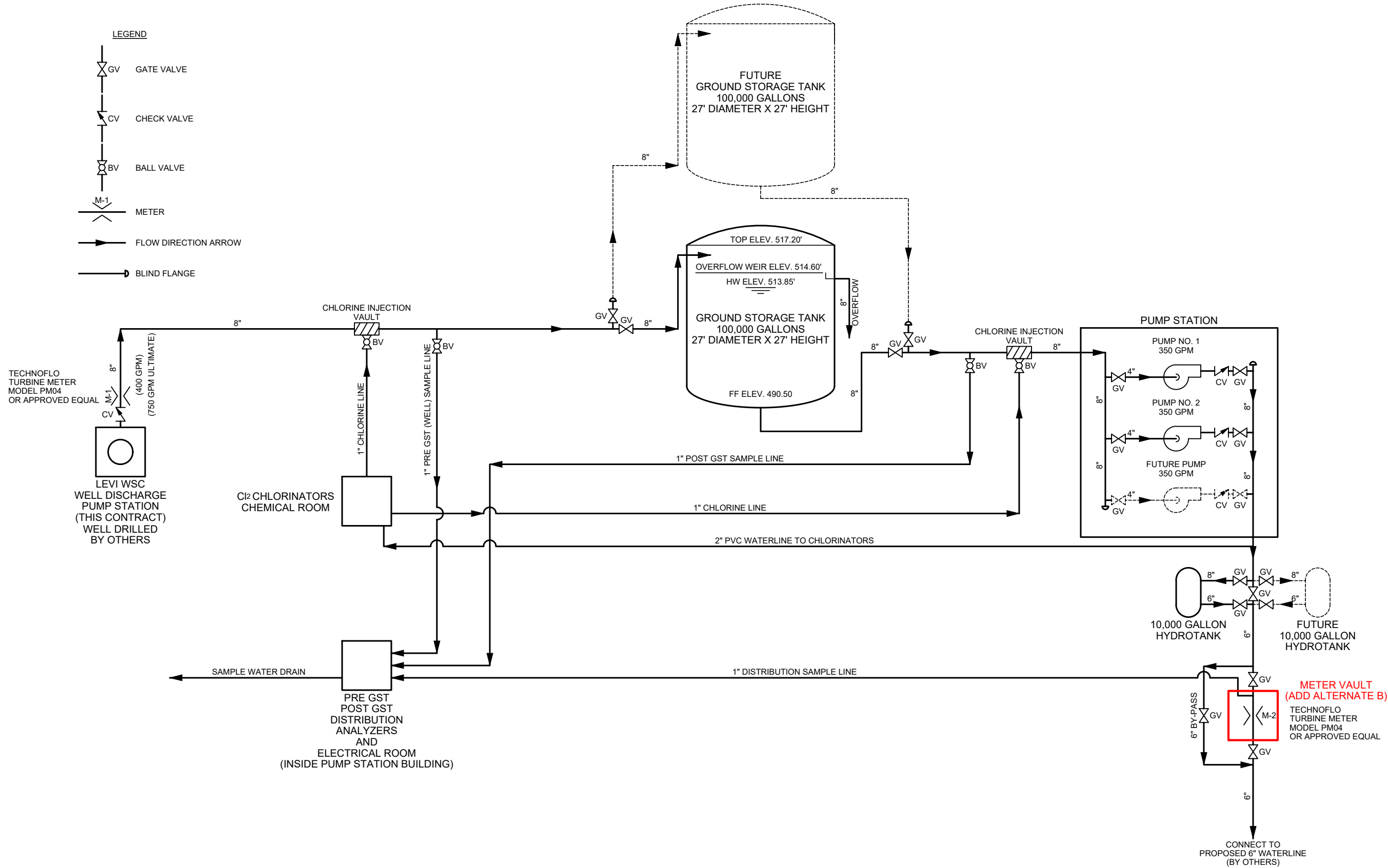


KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
GENERAL NOTES 2

SHEET NO. AG-03
OF 4

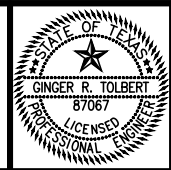
P:\Levi WSC\2024\24-108 Water Plant Site\CAD\WORKING\MECHANICAL\SCHEMATIC.dwg - AG-04



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2		Plotted By: ZLOPEZ	

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PROJECT NO.	2024 - 132
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



KPA

KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
PIPING & INSTRUMENTATION DIAGRAM

SHEET NO. AG-04
OF 4

PLAN LEGEND

ONE LINE AND CONTROL SCHEMATIC LEGEND

SYMBOL	DESCRIPTION
	SPACE HEATER
	PHASE FAILURE RELAY
	DRAW-OUT CIRCUIT BREAKER
	INSTANTANEOUS/TIME OVERCURRENT RELAY
	NEUTRAL TIME OVERCURRENT RELAY
	CABLE TERMINATOR
	UNDERVOLTAGE/PHASE-SEQUENCE RELAY
	LOCKOUT RELAY
	DESOLED OXYGEN SENSOR
	FLOW SWITCH
	ANALYTIC INDICATOR
	LEVEL TRANSDUCER
	FLOW METER

GROUNDING LEGEND

ONE LINE AND CONTROL SCHEMATIC LEGEND (CONT'D)

<u>SYMBOL</u>	<u>DESCRIPTION</u>
<u>STF</u>	LEVEL SENSOR TERMINATION ENCLOSURE
<u>TS</u>	TEMPERATURE SWITCH
<u>MP</u>	MOISTURE PROBE
<u>SOV</u>	SOLENOID VALVE
<u>LS</u>	LIMIT SWITCH
<u>AS</u>	AMMETER SWITCH
<u>VS</u>	VOLTMETER SWITCH
<u>PS</u>	PRESSURE SWITCH
<u>LC</u>	LIGHTING CONTACTOR

- E1.0A ELECTRICAL SYMBOLS
- E1.0B ELECTRICAL NOTES & ABBREVIATIONS
- E1.1A ELECTRICAL SPECIFICATIONS
- E1.1B ELECTRICAL SPECIFICATIONS
- E1.2A ELECTRICAL GENERATOR SPECIFICATIONS
- E1.2B ELECTRICAL GENERATOR SPECIFICATIONS
- E1.3 ELECTRICAL ATS SPECIFICATIONS
- E2.0 OVERALL SITE PLAN
- E2.1 OVERALL SITE PLAN
- E2.2 PUMP STATION AND CHLORINE ROOM POWER PLAN
- E2.3 PUMP STATION AND CHLORINE ROOM LIGHTING PLAN
- E2.4 ENLARGED SITE PLAN
- E2.5 ENLARGED SITE PLAN
- E3.0 ONE—LINE DIAGRAM
- E4.0 ELECTRICAL SCHEDULES
- E4.1 ELECTRICAL SCHEDULES
- E4.2 ELECTRICAL DETAILS
- E4.3 ELECTRICAL DETAILS
- E4.4 ELECTRICAL DETAILS
- E4.5 ELECTRICAL DETAILS
- E4.6 ELECTRICAL DETAILS
- E5.0 VFD ENCLOSURE DETAILS
- E5.1 WELL PUMP CONTROL PANEL DETAILS

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Engineering, LLC.
14425 Falcon Head Blvd.
Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

				PROJECT NO. 3740125			KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. AE-02	
				DRAWN BY PD						
NO.	DATE	REVISION		BY				DESIGNED BY SO		
© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510		Plot Date: Jul 16, 2026 - 4:09pm Plotted By: PATRICIA.OROZCO						APPROVED BY SK DATE 06/23/25		OF 2
ELECTRICAL NOTES AND ABBREVIATOS										

ABBREVIATIONS

A AMPERES OR TRIP AMPERES
AC ALTERNATING CURRENT
ACT ABOVE COUNTER TOP
A/C AIR CONDITIONING
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AIC SYMMETRICAL AMPS INTERRUPTING CAPACITY
AWG AMERICAN WIRE GAGE
BD BOARD
BLDG BUILDING
C CONDUIT
CAB CABINET
CAP CAPACITOR
CB CIRCUIT BREAKER
CKT CIRCUIT
CL CURRENT LIMITING
CONN CONNECT OR CONNECTION
CONT'D CONTINUED
CONTR CONTRACTOR
CPT CONTROL POWER TRANSFORMER
CT CURRENT TRANSFORMER
CU COPPER
DBL DOUBLE
DIM DIMENSION
DISC SW DISCONNECT SWITCH
DC DIRECT CURRENT
EA EACH
EC ELECTRICAL CONTRACTOR
EF EXHAUST FAN
ELEC ELECTRICAL
EM EMERGENCY
EMT ELECTRICAL METALLIC TUBING
ENCL ENCLOSURE
EQUIP EQUIPMENT
FLA FULL LOAD AMPS
FLEX FLEXIBLE CONDUIT
FIX FIXTURE
GC GENERAL CONTRACTOR
GALV GALVANIZED
GEN GENERATOR

ABBREVIATIONS (CONT'D)

GED GROUNDING ELECTRODE SYSTEM
GT GREATER THAN
GFCI GROUND FAULT CIRCUIT INTERRUPTER
GFI GROUND FAULT INTERRUPTER
GND GROUND
HOA HAND-OFF-AUTO
HP HORSEPOWER
HT HEIGHT
HTR HEATER
HZ HERTZ
JB JUNCTION BOX
KCMIL THOUSAND CIRCULAR MILLS
kVA KILOVOLT AMPERES
KW KILOWATT
KWH KILOWATT HOURS
LA LIGHTNING ARRESTOR
L-L LINE TO LINE
L-N LINE TO NEUTRAL
LTG LIGHT OR LIGHTING
MC MECHANICAL CONTRACTOR
MCB MAIN CIRCUIT BREAKER
MCC MOTOR CONTROL CENTER
MCP MOTOR CIRCUIT PROTECTOR
MIN MINIMUM
MLO MAIN LUGS ONLY
MSB MAIN SWITCH BOARD
MTD MOUNTED
MTG MOUNTING
N.C. NORMALLY CLOSED
NEC NATIONAL ELECTRICAL CODE
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT NEUTRAL
NIC NOT IN THIS CONTRACT
N.O. NORMALLY OPEN
NTS NOT TO SCALE
OC ON CENTER
OH OVERHEAD
OL OVERLOAD
ø PHASE

ABBREVIATIONS (CONT'D)

P POLE
PC PHOTOELECTRIC
PEN PENDANT
PNL PANELBOARD
PRV PRESSURE REDUCING VALVE
PVC POLYVINYL CHLORIDE
R RELOCATED
RECP RECEPTACLE
REQ'D REQUIRED
REQ'MTS REQUIREMENTS
RGC RIGID GALVANIZED STEEL CONDUIT
RM ROOM
SCH SCHEDULE
SE SERVICE ENTRANCE
SM SURFACE MOUNT
SN SOLID NEUTRAL
SOV SOLENOID OPERATED VALVE
SPACE SPACES(S) ONLY (NO BREAKER OR DEVICE)
SPARE SPARE BREAKER OR DEVICE
SPD SURGE PROTECTIVE DEVICE
SPECS CONTRACT SPECIFICATIONS
SS STAINLESS STEEL HARDWARE
SWBD SWITCHBOARD
SW SWITCH
SWGR SWITCH GEAR
TB TELEPHONE BACKBOARD
TTB TELEPHONE TERMINAL BOARD
TYP TYPICAL
UE UNDERGROUND ELECTRIC
UL UNDERWRITERS LABORATORIES
UON UNLESS OTHERWISE NOTED
UT UNDERGROUND TELEPHONE
VA VOLT AMPERES
W WATTS
W/ WITH
WH WATER HEATER
WP WEATHER PROOF
XFMR TRANSFORMER
XMTR TRANSMITTER
1/C SINGLE CONDUCTOR CABLE
3/C THREE CONDUCTOR CABLE

GENERAL NOTES: (APPLICABLE TO ALL ELECTRICAL SHEETS)

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ALL CITY, COUNTY, AND STATE REGULATIONS, NFPA, ANSI, UL, IEEE, AND THE LOCAL CODE AUTHORITY HAVING JURISDICTION. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND INSPECTIONS.
- ALL ELECTRICIANS SHALL BE LICENSED BY THE APPROPRIATE CITY, STATE, OR LOCAL CODE AUTHORITY HAVING JURISDICTION.
- THE ELECTRICAL CONTRACTOR SHALL FOLLOW ALL OSHA AND OWNER SAFETY RULES AS REQUIRED TO WORK ON THIS SITE.
- ALL INSTALLATIONS SHALL BE DONE IN A NEAT AND WORKMAN LIKE MANNER.
- ALL POWER OUTAGES SHALL BE PERFORMED DURING NON-BUSINESS HOURS. COORDINATE ALL POWER OUTAGES WITH THE OWNER. NOTIFY THE OWNER IN WRITING 10 DAYS PRIOR TO SCHEDULING ANY POWER OUTAGES.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY ELECTRICAL POWER AND LIGHTING REQUIRED FOR THIS PROJECT.
- THE DEMOLITION DRAWINGS (IF APPLICABLE) ARE DIAGRAMMATIC IN NATURE. THE ELECTRICAL CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT SCOPE OF WORK PRIOR TO SUBMITTING THEIR BID.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ELECTRICAL REQUIREMENTS OF ALL OWNER PROVIDED EQUIPMENT AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- ALL WORK SHOWN ON DRAWINGS IS NEW UNLESS OTHERWISE NOTED.
- ALL GROUNDING SHALL BE PER NEC AND LOCAL CODES.
- ALL ELECTRICAL CONSTRUCTION ON THE PROJECT SHALL CONFORM TO THE NEC AND ALL OTHER AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED AND PAY ALL FEES.
- ALL WIRING SHALL BE FREE OF SHORTS AND GROUNDS. NO CIRCUIT WIRING SHALL BE LOADED BEYOND THE PERMITTED AMPACITIES ALLOWED BY THE NEC. ALL WIRE SIZES ARE FOR COPPER.
- CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BID.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND MATERIALS NECESSARY TO MAKE A COMPLETE AND WORKABLE JOB INCLUDING FINAL HOOK-UP OF ALL EQUIPMENT.
- FIRE STOP SHALL BE PROVIDED AT ALL LOCATIONS WHERE ELECTRICAL EQUIPMENT OR SYSTEMS PENETRATE FIRE RATED WALLS. SEE ARCHITECTURAL PLANS FOR RATED WALL LOCATIONS. CONTROL WIRING TO MECHANICAL EQUIPMENT IS NOT SHOWN ON THESE SHEETS.
- RISER AND ONE-LINE DIAGRAMS ARE MEANT TO SHOW ONLY VERTICAL AND ELECTRICAL RELATIONSHIPS AND THEREFORE MAY NOT INCLUDE ALL REQUIRED EQUIPMENT, DEVICES AND ACCESSORIES.
- EQUIPMENT INTERRUPTING CAPACITIES SPECIFIED IN THE CONTRACT DOCUMENTS ARE BASED UPON EQUIPMENT CHARACTERISTICS AND IMPEDANCES SHOWN ON THE DRAWINGS. IF ACTUAL INSTALLED EQUIPMENT DEVIATES FROM THESE CHARACTERISTICS OR HAS LOWER IMPEDANCES THE CONTRACTOR SHALL INCREASE THE INTERRUPTING CAPACITIES OF ALL ITEMS ON THE LOAD SIDE OF THE DEVIANT EQUIPMENT IN DIRECT PROPORTION TO THE CHANGED CHARACTERISTICS. INTERRUPTING CAPACITIES SHALL NOT BE REDUCED TO VALUES LESS THAN THOSE REQUIRED BY THE CONTRACT DOCUMENTS.
- EQUIPMENT SIZES ARE AS DESIGNED. CIRCUIT BREAKERS, CONDUIT, MOTOR STARTERS, DISCONNECT SWITCHES, PLUG-IN'S, ETC., SHALL BE ADJUSTED TO THE EQUIPMENT SUBMITTED AND APPROVED FOR INSTALLATION ON THIS PROJECT.
- REFER TO ARCHITECTURAL OR CIVIL DRAWINGS FOR SITE INFORMATION.
- LIGHT FIXTURE MOUNTING HEIGHTS ARE MEASURED BETWEEN THE FLOOR OR FINISHED GRADE AND THE BOTTOM OF THE FIXTURE OR AS SHOWN IN ARCHITECTURAL DRAWINGS.

E1.0B

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_AS-01.dwg

READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

010002: GENERAL STRUCTURAL REQUIREMENTS

1. THESE PLAN SPECIFICATIONS APPLY TO STRUCTURAL DOCUMENTS SEALED BY THE STRUCTURAL ENGINEER AND ARE INTENDED TO BE COMPLEMENTARY TO, AND USED IN CONJUNCTION WITH, THE PLANS AND SPECIFICATIONS, INCLUDING THOSE PREPARED BY OTHER DISCIPLINES. CONTRACTOR SHALL REVIEW THE ENTIRE SET OF DOCUMENTS AND PROMPTLY REPORT ANY DISCREPANCIES TO THE PRIME AND STRUCTURAL ENGINEERS. ANY SUCH DISCREPANCIES SHALL BE RESOLVED TO THE MORE STRINGENT REQUIREMENTS, AS DETERMINED BY THE PRIME AND STRUCTURAL ENGINEERS, UNLESS OTHERWISE AUTHORIZED.
- PRIME ENGINEER: KPA ENGINEERS
(DESIGN PROFESSIONAL OF RECORD) TEMPLE, TEXAS
(254) 773-3731
- STRUCTURAL ENGINEER: WINTON ENGINEERING, INC.
WACO, TEXAS
(254) 776-7024
- NOTE: UNLESS SPECIFICALLY AUTHORIZED OTHERWISE, ALL CORRESPONDENCE FOR THIS PROJECT, INCLUDING RFIs, SHOP DRAWINGS, CHANGE ORDERS, REQUESTS FOR SUBSTITUTIONS, ETC. SHALL BE SUBMITTED TO THE DESIGN PROFESSIONAL OF RECORD AS INDICATED ABOVE.**
2. WINTON ENGINEERING IS THE STRUCTURAL ENGINEER FOR THE PROJECT, BUT HAS NOT BEEN RETAINED IN THE ROLE OF THE "DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE" AS DEFINED BY THE INTERNATIONAL BUILDING CODE, NOR OF THE "DESIGN PROFESSIONAL WITH OVERALL RESPONSIBILITY" AS DEFINED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION, ELIMINATION OF ARCHITECTURAL BARRIERS. OWNER AND CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR THE REQUIRED PROJECT REGISTRATION, SUBMISSION, PERMITTING, AND COORDINATION WITH APPLICABLE AUTHORITIES.
3. ALL STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH:
- A. CITY OF LEVI STANDARDS AND REGULATIONS
 - B. TEXAS GOVERNMENT CODE, CHAPTER 469, 2012 TEXAS ACCESSIBILITY STANDARDS
 - C. INTERNATIONAL BUILDING CODE - 2018 EDITION
- INCLUDING LOCAL SUPPLEMENTS, EXCEPT WHERE CODES OF APPLICABLE REGULATORY AGENCIES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.
4. THE CONTRACTOR SHALL HAVE AVAILABLE, AT THE JOB SITE AT ALL TIMES, ONE COPY OF THE STRUCTURAL DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS, AND SPECIAL CONDITIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS AND INSPECTION REPORTS.
5. IT IS THE INTENT OF THESE STRUCTURAL DOCUMENTS TO DESCRIBE A FUNCTIONALLY COMPLETE STRUCTURAL PROJECT. ALL LABOR, DOCUMENTATION, SERVICES, MATERIALS, OR EQUIPMENT THAT MAY BE REASONABLY INFERRED FROM THESE DOCUMENTS OR FROM PREVAILING CUSTOM OR TRADE USAGE AS BEING REQUIRED TO PRODUCE THE INTENDED RESULT, WHETHER OR NOT SPECIFICALLY CALLED FOR, SHALL BE PROVIDED AT NO ADDITIONAL COST TO OWNER.
6. CONTRACTOR SHALL REPORT ANY DISCREPANCIES OR DESIGN DEFECTS IN THESE STRUCTURAL DOCUMENTS TO THE PRIME AND STRUCTURAL ENGINEERS PRIOR TO SUBMISSION OF BIDS OR PROPOSALS, OR IF NOT REASONABLY DISCERNIBLE USING AN ORDINARY LEVEL OF DILIGENCE DURING PREPARATION OF BIDS AND PROPOSALS, BEFORE COMMENCING THE AFFECTED WORK.
7. "TYPICAL" DETAILS SHOWN ON THE STRUCTURAL DRAWINGS SHALL APPLY TO CONDITIONS ON THE PROJECT THAT ARE THE SAME AS OR SIMILAR TO THAT SHOWN, WHETHER OR NOT SUCH DETAILS ARE SPECIFICALLY REFERENCED AT EACH LOCATION, UNLESS SHOWN OTHERWISE. NOTIFY STRUCTURAL ENGINEER OF CONFLICTS, DISCREPANCIES, OR QUESTIONS REGARDING THE APPLICABILITY OF "TYPICAL" DETAILS.

010002: GENERAL STRUCTURAL REQUIREMENTS (CONT.)

8. ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FROM, OR MODIFICATION TO THE STRUCTURE OR ANY PART OF THE STRUCTURE DESCRIBED IN THESE DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE PRIME AND STRUCTURAL ENGINEERS FOR REVIEW. A SHOP DRAWING SUBMITTAL SHALL NOT BE DEEMED A WRITTEN REQUEST FOR DEVIATION UNLESS THE PROPOSED CHANGE IS CLEARLY AND SPECIFICALLY IDENTIFIED.
- A. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE PRIME AND STRUCTURAL ENGINEERS.
 - B. NO CHANGE ORDER CONSIDERATION WILL BE GIVEN TO CHANGES FOR WHICH THE PRIME AND STRUCTURAL ENGINEERS WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
9. CONTRACTOR SHALL SUPERVISE, INSPECT, AND DIRECT ALL WORK IN A COMPETENT AND EFFICIENT MANNER, AND SHALL, AT ALL TIMES DURING THE PROGRESS OF THE WORK, ASSIGN A COMPETENT ON-SITE SUPERINTENDENT WHO IS FAMILIAR WITH THE PROJECT REQUIREMENTS AND IS CAPABLE OF COORDINATING WORK OF ON-SITE TRADE CONTRACTORS. CORRECTIONS REQUIRED DUE TO THE FAILURE TO DO SO WILL BE MADE AT CONTRACTOR'S EXPENSE, INCLUDING APPLICABLE PROFESSIONAL FEES.
- 10. THE STRUCTURAL DRAWINGS AND PLAN SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY PROGRAMS AND PRECAUTIONS IN CONNECTION WITH THE WORK, AND SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORK, OTHER PROPERTY, THE WORKERS AND OTHER PERSONS DURING DEMOLITION AND CONSTRUCTION.**
11. SITE VISITS BY THE STRUCTURAL ENGINEER, IF ANY, ARE SOLELY FOR THE LIMITED PURPOSE OF OBSERVING THE PROGRESS OF WORK AND DETERMINING, IN GENERAL, WHETHER WORK IS PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SUCH VISITS DO NOT INCLUDE EXHAUSTIVE, CONTINUOUS, OR DETAILED INSPECTIONS OF THE CONTRACTOR'S WORK AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS AND PROGRAMS, AND FOR PERFORMING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE LAWS, CODES, AND REGULATIONS.
12. CONTRACTOR SHALL OBTAIN ALL PERMITS AND APPROVALS REQUIRED FOR THE STRUCTURAL WORK BEFORE COMMENCING THAT WORK AND SHALL MAINTAIN SUCH PERMITS AND APPROVALS IN EFFECT FOR THE DURATION OF CONSTRUCTION.
13. BEFORE COMMENCING THE AFFECTED WORK, CONTRACTOR SHALL VERIFY ALL DIMENSIONS, FIELD CONDITIONS, AND EXISTING CONSTRUCTION. CONTRACTOR SHALL PROMPTLY REPORT ANY DISCREPANCIES TO THE PRIME AND STRUCTURAL ENGINEERS BEFORE PROCEEDING WITH THE AFFECTED WORK.
14. CONTRACTOR SHALL NOT STORE MATERIALS OR OPERATE EQUIPMENT ON FLOORS OR ROOFS IN A MANNER THAT IMPOSES LOADS EXCEEDING EIGHTY PERCENT (80%) OF THE DESIGN LOADS INDICATED ON THE DRAWINGS. MATERIALS SHALL BE PLACED SO AS TO AVOID IMPACT LOADING. CONTRACTOR SHALL ENSURE THAT ALL SUBCONTRACTORS ARE INFORMED OF THESE LOADING RESTRICTIONS AND COMPLY WITH THEM.
- 15. DO NOT LOAD SLAB-ON-GRADE OR STRUCTURAL SLABS WITH ERECTION CRANES OR OTHER HEAVY EQUIPMENT. STRUCTURAL ENGINEER HAS NOT DESIGNED SUCH SLABS FOR ERECTION EQUIPMENT. ADDITIONAL SLAB THICKNESS AND/OR REINFORCING MAY BE REQUIRED. CONTRACTORS INTENDING TO PLACE EQUIPMENT ON SLABS SHALL BE RESPONSIBLE TO PROVIDE EQUIPMENT SUPPORT PLANS AND TO OBTAIN STRUCTURAL ENGINEER'S APPROVAL PRIOR TO COMMENCING WORK.**
16. STRUCTURAL PRODUCTS, MATERIALS, AND SYSTEMS LISTED HEREIN AS "OR EQUAL" SHALL BE EQUIVALENT TO THE NAMED PRODUCT, MATERIAL, OR SYSTEM IN FORM, FUNCTION, AND CONSTRUCTION. STRUCTURAL ENGINEER SHALL BE THE SOLE JUDGE AS WHETHER PRODUCTS, MATERIALS, AND SYSTEMS ARE IN FACT EQUIVALENT. THE COST OF ANY MODIFICATIONS TO OTHER PRODUCTS, MATERIALS, AND SYSTEMS REQUIRED TO INCORPORATE AN "OR EQUAL" INTO THE WORK SHALL BE BORNE BY THE CONTRACTOR SUBMITTING THE PROPOSED SUBSTITUTION.
17. PROVIDE OTHER MATERIALS, NOT SPECIFICALLY DESCRIBED HEREIN, BUT REQUIRED FOR A COMPLETE AND PROPER STRUCTURAL INSTALLATION, AS SELECTED BY THE CONTRACTOR(S) SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER.
- 18. PRINCIPAL OPENINGS IN THE STRUCTURAL SYSTEMS ARE SHOWN ON THE STRUCTURAL DRAWINGS. ANY OPENINGS NOT SHOWN OR DETAILED THAT REQUIRE PENETRATION, CUTTING, OR SLEEVING OF BEAMS, JOISTS, WALLS, OR OTHER STRUCTURAL MEMBERS SHALL BE REFERRED TO THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTING. DO NOT CUT STRUCTURAL MEMBERS, INCLUDING REINFORCING STEEL, WITHOUT APPROVAL FROM STRUCTURAL ENGINEER PRIOR TO ANY CUTTING OR DEMOLITION.**

010002: GENERAL STRUCTURAL REQUIREMENTS (CONT.)

19. ALL OPENINGS FOR ELECTRICAL AND MECHANICAL WORK SHALL BE SIZED AND LOCATED BY ELECTRICAL AND MECHANICAL CONTRACTORS AND FORMED BY THE TRADE CONTRACTOR FOR THE AFFECTED WORK.
20. REFER TO SECTIONS, ELEVATIONS, AND SPECIFICATIONS FOR ADDITIONAL REINFORCEMENT, INSERTS, ANCHORS, WATERPROOFING, FLASHING, CAULKING, SEALANTS, AND SIMILAR ITEMS. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE PRIME AND STRUCTURAL ENGINEERS PRIOR TO COMPLETION OF THE SHOP DRAWINGS.
21. ALL POST-INSTALLED ANCHORS SHALL BE ICC-ES APPROVED AS CODE COMPLIANT FOR IBC 2018 CONSTRUCTION IN CRACKED AND UNCRACKED CONCRETE, UNLESS NOTED OTHERWISE.
- A. CONCRETE:
 - a. ANCHOR EPOXY:
 - HILTI "HIT-RE 500 V3" EPOXY (SLOW CURE)
 - HILTI "HIT-HY 200-A V3" EPOXY (FAST CURE)
 - b. MECHANICAL ANCHORS:
 - HILTI "KWIK BOLT-T22" EXPANSION ANCHORS (MEDIUM DUTY)
 - HILTI "HDA" UNDERCUT ANCHORS (HEAVY DUTY)
 - HILTI "HSL-3" EXPANSION ANCHORS (HEAVY DUTY)
 - B. SOLID GROUTED MASONRY:
 - a. ADHESIVE ANCHORS:
 - HILTI "HIT-HY 270" ADHESIVE WITH HILTI "HAS-E" CONTINUOUSLY THREADED ROD
 - b. MECHANICAL ANCHORS:
 - HILTI "KWIK BOLT-T22" EXPANSION ANCHORS
 - HILTI "KWIK HUS" SCREW ANCHORS / SIMPSON STRONG-TIE "TITEN HD" SCREW ANCHORS
 - C. HOLLOW/MULTI-WYTHE MASONRY:
 - a. ADHESIVE ANCHORS:
 - HILTI "HIT-HY 270" ADHESIVE WITH HILTI "HAS-E" CONTINUOUSLY THREADED ROD
 - USE APPROPRIATE SIZE SCREEN TUBE PER ADHESIVE MANUFACTURER'S RECOMMENDATION.
22. GROUT UNDER COLUMN BASE PLATES SHALL BE A NON-SHRINK, NON-METALLIC, NON-CORROSIVE TYPE WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI (ASTM C1107). THE SHEAR AND BOND STRENGTH OF THIS GROUT SHALL BE HIGHER THAN THE PARENT CONCRETE PRODUCTS.
23. SEAL ALL EXPOSED EXPANSION, CONSTRUCTION, AND CONTROL JOINTS. SEAL OTHER JOINTS AS DETAILED OR SPECIFIED.
24. LOCATION OF ALL UNDERGROUND UTILITIES AND IMPROVEMENTS SHALL BE VERIFIED BEFORE ANY EXCAVATION. NOTIFY THE PRIME AND STRUCTURAL ENGINEERS OF ANY CONFLICTS.

012500: SUBSTITUTIONS

1. REFER TO PRIME ENGINEER'S PLANS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. IF DISCREPANCIES EXIST, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. BID AND INSTALL STRUCTURAL MATERIALS AS INDICATED IN THE CONTRACT DOCUMENTS. STRUCTURAL SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN SUBMITTED IN WRITING TO THE PRIME ENGINEER AND APPROVED BY THE STRUCTURAL ENGINEER BEFORE INCORPORATION INTO THE WORK.
3. SUBSTITUTION REQUESTS WILL BE CONSIDERED WHEN ONE OR MORE OF THE FOLLOWING CONDITIONS APPLY:
- A. THE CONTRACT DOCUMENTS ALLOW "OR EQUAL" OR SIMILAR LANGUAGE.
 - B. THE SPECIFIED PRODUCT CANNOT BE PROVIDED WITHIN THE CONTRACT TIME, PROVIDED THE DELAY IS NOT ATTRIBUTABLE TO THE CONTRACTOR'S FAILURE TO PROCEED PROMPTLY OR TO COORDINATE THE WORK PROPERLY.
 - C. THE SPECIFIED PRODUCT CANNOT BE PROVIDED IN A MANNER THAT IS COMPATIBLE WITH OTHER MATERIALS OR SYSTEMS INDICATED.
 - D. THE SPECIFIED PRODUCT CANNOT RECEIVE APPROVAL BY AUTHORITIES HAVING JURISDICTION.
 - E. THE PROPOSED SUBSTITUTION OFFERS A SUBSTANTIAL ADVANTAGE TO THE OWNER IN COST, TIME, OR OTHER MATERIAL CONSIDERATIONS, AFTER ACCOUNTING FOR RESPONSIBILITIES THE OWNER MAY BE REQUIRED TO ASSUME, INCLUDING ADDITIONAL COMPENSATION TO THE STRUCTURAL ENGINEER FOR EVALUATION OF THE SUBSTITUTION.

(CONTINUED ON SHEET AS-02)

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7/20/26
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						PROJECT NO. <u>2024-109</u>				KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE		SHEET NO. AS-01				
						DRAWN BY <u>Jared Kelm</u>											
NO.		DATE		REVISION		BY											
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READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

012500: SUBSTITUTIONS (CONT.)

4. CONTRACTOR'S SUBMITTAL OF SHOP DRAWINGS OR SAMPLES DOES NOT CONSTITUTE AN ACCEPTABLE AND VALID REQUEST FOR, NOR APPROVAL OF, A SUBSTITUTION.
5. BY SUBMITTING A REQUEST FOR SUBSTITUTION, CONTRACTOR REPRESENTS THAT THE PROPOSED PRODUCT OR METHOD HAS BEEN INVESTIGATED AND DETERMINED TO BE EQUAL OR SUPERIOR IN QUALITY AND PERFORMANCE TO THAT INDICATED.
- A. CONTRACTOR SHALL PROVIDE THE SAME WARRANTY REQUIRED FOR THE SPECIFIED PRODUCT OR METHOD AND SHALL COORDINATE INSTALLATION OF THE APPROVED SUBSTITUTION, INCLUDING CHANGES REQUIRED TO OTHER WORK.
- B. CONTRACTOR WAIVES CLAIMS FOR ADDITIONAL COST OR TIME ARISING FROM THE SUBSTITUTION AND SHALL REIMBURSE OWNER FOR COSTS OF REDESIGN OR REVISIONS REQUIRED BY THE SUBSTITUTION.
6. SUBSTITUTION REQUESTS SHALL INCLUDE COMPLETE PRODUCT DATA, DRAWINGS, A DESCRIPTION OF THE PROPOSED SUBSTITUTION, SAMPLES WHERE APPLICABLE OR REQUESTED, A COMPARISON OF SIGNIFICANT CHARACTERISTICS WITH THOSE INDICATED, AND CONTRACTOR'S CERTIFICATION THAT THE PROPOSED SUBSTITUTION WILL PROVIDE A COMPLETED WORK PRODUCT EQUAL TO OR BETTER THAN THAT INDICATED.
7. CONTRACTOR'S SUBMITTAL OF SHOP DRAWINGS OR SAMPLES DOES NOT CONSTITUTE AN ACCEPTABLE AND VALID REQUEST FOR, NOR APPROVAL OF, A SUBSTITUTION.

013323: SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1. REFER TO PRIME ENGINEER'S PLANS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. IF DISCREPANCIES EXIST, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. SUBMIT COMPLETE SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR REVIEW AND APPROVAL BEFORE FABRICATION BEGINS OR STRUCTURAL CONSTRUCTION STARTS.
- A. **THE STRUCTURAL ENGINEER'S REVIEW IS LIMITED TO DETERMINING WHETHER THE SUBMITTED ITEMS GENERALLY CONFORM TO THE CONTRACT DOCUMENTS AND DESIGN INTENT. SUCH REVIEW DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR CORRECT FABRICATION, CONSTRUCTION, INSTALLATION, OR COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.**
3. SUBMIT SHOP DRAWINGS AND PRODUCT DATA IN PDF FORMAT AS A SINGLE PDF FILE FOR EACH SUBMITTAL, INCLUDING THE TRANSMITTAL SHEET. UNLESS OTHERWISE INSTRUCTED BY THE PRIME ENGINEER, **SUBMIT ALL STRUCTURAL AND ARCHITECTURAL SUBMITTALS TO THE PRIME ENGINEER AND COPY "SUBMITTALS@WINTON-ENG.COM".**
4. SUBMIT ACTUAL SAMPLES OF MATERIALS WHERE COLOR OR FINISH SELECTIONS ARE REQUIRED. SAMPLES WILL BE RETAINED BY THE STRUCTURAL ENGINEER AND SHALL REPRESENT THE FULL RANGE OF AVAILABLE COLORS AND FINISHES, UNLESS A SPECIFIC SELECTION IS INDICATED ON THE PLANS.
- A. COLOR CHARTS MAY BE PROVIDED FOR INITIAL REVIEW; HOWEVER, PHYSICAL SAMPLES ARE REQUIRED FOR FINAL APPROVAL.
- B. FINAL MATERIAL SELECTIONS WILL NOT BE MADE UNTIL ALL REQUIRED COLOR SELECTIONS HAVE BEEN SUBMITTED. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS ACCORDINGLY.
5. AT PROJECT COMPLETION, AND PRIOR TO SUBSTANTIAL COMPLETION, SUBMIT A SINGLE COMBINED PDF CONTAINING SDS SHEETS FOR ALL MATERIALS USED OR INSTALLED ON THE PROJECT. SDS SHEETS SHALL BE ORGANIZED AND BOOKMARKED IN ACCORDANCE WITH CSI MASTERFORMAT.
6. THE CONTRACTOR SHALL THOROUGHLY REVIEW SHOP DRAWINGS BEFORE SUBMISSION AND SHALL INDICATE THAT REVIEW BY APPLYING THE CONTRACTOR'S STAMP OR CERTIFICATION. **SUBMITTALS LACKING THE CONTRACTOR'S STAMP, OR SHOWING EVIDENCE OF INCOMPLETE CONTRACTOR REVIEW, MAY BE REJECTED AND RETURNED WITHOUT REVIEW.**
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR:
- A. CHECKING AND VERIFYING ALL DIMENSIONS AND CONDITIONS, INCLUDING FIELD DIMENSIONS AND FIELD CONDITIONS.
- B. VERIFYING ALL INFORMATION RELATED SOLELY TO FABRICATION PROCESSES AND TO THE MEANS, METHODS, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
- C. COORDINATING THE WORK WITH OTHER TRADES.
- D. PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

013323: SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES (CONT.)

8. SUBMISSION OF SHOP DRAWINGS CONSTITUTES THE CONTRACTOR'S CERTIFICATION THAT THE SUBMITTED MATERIALS CAN BE PROPERLY INCORPORATED INTO THE PROJECT AND INSTALLED WITHIN THE ALLOCATED SPACES.
9. **CONTRACT DOCUMENTS SHALL NOT BE REPRODUCED OR MODIFIED FOR USE AS SHOP DRAWINGS.**
10. **BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF SHOP DRAWING SUBMITTALS FOR APPROVAL BY THE STRUCTURAL ENGINEER. SUBMITTALS SHALL GENERALLY BE MADE IN THE ORDER OF THE REQUESTED RETURN DATES AND ON A UNIFORM, ORDERLY SCHEDULE THAT ALLOWS ADEQUATE TIME FOR REVIEW AND RETURN. SUBMITTALS CONTAINING AN EXCESSIVE NUMBER OF ITEMS MAY REQUIRE ADDITIONAL REVIEW TIME.**
11. ALLOW **A MINIMUM OF 10 WORKING DAYS** FROM THE STRUCTURAL ENGINEER'S RECEIPT OF SHOP DRAWINGS FROM THE PRIME ENGINEER FOR RETURN OF THE SUBMITTAL TO THE PRIME ENGINEER. ALLOW ADDITIONAL TIME AS NEEDED FOR THE PRIME ENGINEER'S REVIEW AND PROCESSING.
12. UNDER BASIC SERVICES, THE STRUCTURAL ENGINEER WILL REVIEW EACH SUBMITTAL NO MORE THAN **TWO TIMES**. ADDITIONAL REVIEWS REQUIRED DUE TO THE CONTRACTOR'S FAILURE TO SUBMIT IN ACCORDANCE WITH THE SPECIFICATIONS OR PROJECT REQUIREMENTS MAY RESULT IN ADDITIONAL CHARGES TO THE CONTRACTOR.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELAYS CAUSED BY REJECTION OF INADEQUATE OR INCOMPLETE SHOP DRAWINGS.

014000: STRUCTURAL DESIGN CRITERIA

1. DESIGN SUPERIMPOSED LIVE LOADS:
- SLAB-ON-GRADE 250.0 PSF (MINIMUM)
2. ROOF AREA LIVE LOADS:
- $L_o = 20 \text{ PSF}$
- $L_r = L_o (R_1)(R_2)$ (where $12 \leq L_r \leq 20$)
- $R_1 = 1$ for $A_t \leq 200 \text{ S.F.}$
- $R_1 = 1.2 - 0.001(A_t)$ for $200 \text{ S.F.} < A_t < 600 \text{ S.F.}$
- $R_1 = 0.6$ for $A_t \geq 600 \text{ S.F.}$
- $R_2 = 1$ for $F \leq 4$
- $R_2 = 1.2 - 0.05(F)$ for $4 < F < 12$
- $R_2 = 0.6$ for $F \geq 12$
- WHERE A_t = TRIBUTARY AREA SUPPORTED BY MEMBER.
- WHERE F = NUMBER OF INCHES OF RISE PER FOOT.
3. COLLATERAL LOAD:
- A. ALLOWANCES FOR THE FOLLOWING COLLATERAL LOADS HAVE BEEN MADE, WHERE APPLICABLE:
- a. ROOFING 5.0 PSF
- b. CEILINGS 2.0 PSF
- c. HVAC DUCTWORK / PIPING / CONDUIT 3.0 PSF
4. CONCENTRATED LOADS:
- A. CONCENTRATED LOADS FOR SPRINKLER MAINS, PIPING, OR DUCTWORK SHALL BE INVESTIGATED INDEPENDENTLY AND SUPPORTED AS REQUIRED.
- B. ALL CONCENTRATED LOADS FOR MECHANICAL EQUIPMENT OR OTHER ITEMS SUPPORTED ON OR FROM THE ROOF STRUCTURE, IF ANY, ARE INDICATED ON THE STRUCTURAL DRAWINGS. NO ADDITIONAL LOADS SHALL BE PLACED ON OR SUSPENDED FROM THE ROOF SYSTEM WITHOUT PRIOR NOTIFICATION TO, AND WRITTEN APPROVAL FROM, THE STRUCTURAL ENGINEER CONFIRMING THAT SUCH LOADS HAVE BEEN INCORPORATED INTO THE BUILDING DESIGN.
5. DESIGN DEAD LOADS:
- A. THE WEIGHTS OF ALL BUILDING COMPONENTS HAVE BEEN ESTIMATED IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICE.
- B. THE WEIGHTS OF ALL PERMANENT CONSTRUCTION ARE BASED ON THE LOCATIONS AND COMPOSITIONS AS SHOWN ON DESIGN DRAWINGS ISSUED FOR BID.
- C. THE CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER OF ANY FIELD CHANGES TO THE ORIGINAL DESIGN THAT MAY AFFECT THE WEIGHT, LOCATION OR LOADING CHARACTERISTICS OF ANY BUILDING COMPONENT. WRITTEN VERIFICATION OF THE STRUCTURAL ACCEPTABILITY OF SUCH CHANGES SHALL BE OBTAINED PRIOR TO IMPLEMENTATION. APPLICABLE PROFESSIONAL FEES MAY APPLY.

014000: STRUCTURAL DESIGN CRITERIA (CONT.)

6. WIND LOADING FOR NEW CONSTRUCTION SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF SECTION 1609 OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, AND ASCE 7-16, BASED ON:
- A. 3 SECOND GUST WIND VELOCITY 119 MPH
- B. EXPOSURE "C"
- C. RISK CATEGORY IV
7. SNOW LOADING FOR NEW CONSTRUCTION SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF SECTION 1608 OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, AND ASCE 7-16, BASED ON:
- A. GROUND SNOW LOAD (p_g) 5.0 PSF
- B. EXPOSURE FACTOR (C_e) 0.9 (FULLY EXPOSED)
- C. THERMAL FACTOR (C_t) 1.2
- D. SNOW IMPORTANCE FACTOR (I_s) 1.2
8. SEISMIC LOADING FOR NEW CONSTRUCTION SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF SECTION 1613 OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION, AND ASCE 7-16, BASED ON:
- A. SITE SOIL CLASS "D"
- B. MAPPED SPECTRAL RESPONSE AT SHORT PERIODS (S_s) 0.063 g
- C. MAPPED SPECTRAL RESPONSE AT 1 SECOND PERIOD (S_1) 0.041 g
- D. DESIGN SPECTRAL RESPONSE AT SHORT PERIODS (S_{DS}) 0.068 g
- E. DESIGN SPECTRAL RESPONSE AT 1 SECOND PERIOD (S_{D1}) 0.066 g
- F. SITE COEFFICIENT F_a 1.6
- G. SITE COEFFICIENT F_v 2.4
- H. SEISMIC DESIGN CATEGORY "A"
- I. SEISMIC IMPORTANCE FACTOR (I_e) 1.5
9. THE SUBSURFACE INFORMATION AND FOUNDATION DESIGN ARE BASED ON REPORT NO. W24-045, PREPARED BY LANGERMAN ENGINEERING, INC., AND DATED AUGUST 5, 2024.
- A. ALLOWABLE BEARING VALUE:
- a. PUMP STATION 2,000.0 PSF
- b. GROUND STORAGE TANK 3,000.0 PSF
- c. STRATUM = COMPACTED SELECT FILL
- d. MINIMUM FOOTING OR BEAM DEPTH = 24 INCHES BELOW FINAL GROUND SURFACE.
- B. SUBGRADE MODULUS 150.0 KCF
- C. REGIONAL CLIMATIC INDEX (C_w) 18
- D. EFFECTIVE PI 21

014100: ACCESSIBLE ELEMENTS AND SPACES

1. ALL CONSTRUCTION SHALL COMPLY WITH THE 2012 TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- A COPY OF THE 2012 TAS IS AVAILABLE AT: <https://www.tdlr.texas.gov/ab/ab.htm>
2. GROUND AND FLOOR SURFACES ALONG ACCESSIBLE ROUTES AND WITHIN ACCESSIBLE ROOMS AND SPACES SHALL BE FIRM, SLIP-RESISTANT, AND FREE OF IRREGULARITIES THAT CREATE OBSTACLES OR HAZARDS, IN ACCORDANCE WITH TAS/ADA SECTION 302.
3. ALL OBJECTS PROTRUDING FROM WALLS OR OVERHEAD SHALL COMPLY WITH TAS/ADA SECTION 204.
4. MANEUVERING CLEARANCES AT ALL DOORS SHALL COMPLY WITH TAS/ADA SECTION 404.2.4.
5. DOOR HARDWARE, CLOSERS, AND OPENING FORCE SHALL COMPLY WITH TAS/ADA SECTION 404.
6. ALL CONTROLS AND OPERATING MECHANISMS SHALL BE COMPLY WITH THE CLEAR FLOOR SPACE AND REACH-RANGE REQUIREMENTS OF TAS/ADA SECTIONS 205 AND 309.



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7/20/26
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014529: TESTING LABORATORY SERVICES

1. THIS PLAN SPECIFICATION APPLIES TO WORK INDICATED ON THE STRUCTURAL PLANS. REFER TO THE PRIME ENGINEER'S PLANS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. IF DISCREPANCIES EXIST AFFECTING STRUCTURAL WORK, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. ALL INSPECTION AND TESTING REQUIRED HEREIN SHALL BE PERFORMED BY A QUALIFIED, INDEPENDENT TESTING AND INSPECTION AGENCY ACCEPTABLE TO THE OWNER AND, WHERE REQUIRED, APPROVED BY THE BUILDING OFFICIAL.
3. UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS, THE TESTING AND INSPECTION AGENCY SHALL BE RETAINED BY THE OWNER OR OWNER'S REPRESENTATIVE.

A. THE AGENCY SHALL BE QUALIFIED IN ACCORDANCE WITH THE FOLLOWING, AS APPLICABLE TO THE SERVICES PROVIDED:

ASTM E329: STANDARD SPECIFICATION FOR AGENCIES ENGAGED IN CONSTRUCTION INSPECTION, TESTING OR SPECIAL INSPECTION

ASTM D3740: STANDARD PRACTICE FOR MINIMUM REQUIREMENTS FOR AGENCIES ENGAGED IN TESTING AND/OR INSPECTION OF SOIL AND ROCK AS USED IN ENGINEERING DESIGN AND CONSTRUCTION

ASTM C1093: STANDARD PRACTICE FOR ACCREDITATION OF TESTING AGENCIES FOR MASONRY

ASTM A370: STANDARD TEST METHODS AND DEFINITIONS FOR MECHANICAL TESTING OF STEEL PRODUCTS
- B. STEEL INSPECTION AND TESTING PERSONNEL SHALL BE QUALIFIED FOR THE SPECIFIC METHODS PERFORMED, AND THE AGENCY SHALL MAINTAIN ACCREDITATION OR QUALIFICATIONS APPROPRIATE TO ITS SCOPE OF SERVICES.
- C. ALL TESTING AND INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE, REFERENCED STANDARDS, THE CONTRACT DOCUMENTS, AND THE STATEMENT OR SCHEDULE OF SPECIAL INSPECTIONS SHOWN ON THE PLANS, IF APPLICABLE.
4. PAYMENT:

A. PAYMENT FOR THE INITIAL TESTING COSTS SHALL BE PAID AS SPECIFIED IN THE CONTRACT DOCUMENTS.

B. COSTS FOR RE-TESTING OR ADDITIONAL TESTING REQUIRED DUE TO NON-CONFORMING WORK, FAILURE TO PROVIDE ACCESS, FAILURE TO PROVIDE REQUIRED NOTICE, OR OTHER CONTRACTOR-CAUSED DELAYS SHALL BE PAID BY THE CONTRACTOR.

C. TESTING OR INSPECTION REQUIRED SOLELY FOR THE CONTRACTOR'S MEANS, METHODS, SEQUENCING, SAFETY PROGRAMS, OR CONVENIENCE SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE PAID FOR BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL PROVIDE TIMELY NOTICE TO THE APPROVED TESTING AND INSPECTION AGENCY AND SHALL SCHEDULE AND COORDINATE SERVICES AS REQUIRED. WORK REQUIRING INSPECTION OR TESTING SHALL NOT BE CONCEALED UNTIL THE REQUIRED INSPECTION OR TESTING HAS BEEN PERFORMED.

A. EARTHWORK: INSTALLATION, MOISTURE CONDITIONING, AND COMPACTION OF THE SUBGRADE, PAD, AND BACKFILL ASSOCIATED WITH THE STRUCTURE.

B. CONCRETE REINFORCEMENT: INSPECT REINFORCING STEEL, EMBEDDED ITEMS, AND ANCHOR RODS OR BOLTS CAST INTO CONCRETE, WHERE APPLICABLE, BEFORE CONCRETE PLACEMENT. NOTIFY THE CONTRACTOR OF NON-CONFORMING WORK. REPORT UNCORRECTED NON-CONFORMING WORK TO THE PRIME ENGINEER, STRUCTURAL ENGINEER, AND BUILDING OFFICIAL WHEN REQUIRED.

C. CONCRETE STRENGTH: REFER TO PLAN SPECIFICATION SECTION 033000: CAST-IN-PLACE CONCRETE FOR SAMPLING, FIELD TESTING, AND COMPRESSIVE-STRENGTH TESTING REQUIREMENTS.

D. STRUCTURAL STEEL:

a. PROVIDE FIELD INSPECTION OF STRUCTURAL STEEL MEMBERS AND CONNECTIONS, INCLUDING APPLICABLE INSPECTION OF MATERIAL IDENTIFICATION, WELDING, HIGH-STRENGTH BOLTING, AND ERECTION, AS REQUIRED BY THE CONTRACT DOCUMENTS AND APPLICABLE CODE.

b. PERFORM NONDESTRUCTIVE TESTING OF WELDS WHERE REQUIRED BY THE CONTRACT DOCUMENTS OR THE APPLICABLE CODE, INCLUDING COMPLETE JOINT PENETRATION WELDS WHERE SPECIFIED.

014529: TESTING LABORATORY SERVICES (CONT.)

- c. VERIFY REQUIRED WELDER AND WELDING OPERATOR QUALIFICATIONS.
- d. VERIFY INSTALLATION OF HIGH-STRENGTH BOLTED CONNECTIONS WHERE REQUIRED BY THE CONTRACT DOCUMENTS OR THE APPLICABLE CODE.
- A. WOOD: PROVIDE FIELD INSPECTION OF WOOD WALLS, JOISTS, DECKING, FASTENERS, HOLDDOWNS AND OTHER ITEMS IDENTIFIED IN THE CONTRACT DOCUMENTS OR THE SCHEDULE OF REQUIRED INSPECTIONS ON THE PLANS, AS APPLICABLE.
- B. MASONRY:

a. PROVIDE FIELD INSPECTION OF MASONRY MORTAR PROPORTIONS, JOINT CONSTRUCTION, AND REINFORCEMENT.

b. VERIFY UNIT SIZE AND PLACEMENT, ANCHORAGE, AND COMPLIANCE WITH HOT- ANS COLD-WEATHER INSTALLATION PROCEDURES.

c. VERIFY PROPER MASONRY GROUTING METHODS.
- G. REFER TO THE SCHEDULE OF REQUIRED INSPECTIONS ON THE PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEND COPIES OF COMPACTION REPORTS, CONCRETE TEST REPORTS, AND ALL OTHER REQUIRED TEST AND INSPECTION REPORTS DIRECTLY FROM THE TESTING AGENCY TO THE CONTRACTOR, PRIME ENGINEER, OWNER, AND STRUCTURAL ENGINEER. REPORT DISCREPANCIES PROMPTLY AND SUBMIT A FINAL REPORT WHEN REQUIRED BY THE BUILDING CODE OR THE AUTHORITY HAVING JURISDICTION.

015600: SECURITY AND PROTECTION

1. REFER TO THE PRIME ENGINEER'S PLANS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. IF DISCREPANCIES EXIST, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY MEASURES, MATERIALS AND EQUIPMENT REQUIRED TO SECURE AND PROTECT THE WORK, EXISTING IMPROVEMENTS ON AND ADJACENT TO THE SITE, CONTRACTOR'S EMPLOYEES, AND THE PUBLIC DURING THE PROJECT.

A. ALL OVERHEAD WORK ABOVE OCCUPIED SPACES SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL WORKPLACE SAFETY REQUIREMENTS, INCLUDING OSHA.
3. SECURITY AND PROTECTION MAY INCLUDE, BUT IS NOT LIMITED TO:

A. TEMPORARY FIRE PROTECTION

B. ENCLOSURE FENCES

C. BARRICADES, WARNING SIGNS, LIGHTS

D. SECURITY ENCLOSURE AND LOCKUP OF WORK

E. OTHER AS MAY BE REQUIRED BY GOVERNING REGULATIONS
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL REQUIRED SECURITY AND PROTECTION MEASURES, INCLUDING COORDINATION AND DIVISION OF RESPONSIBILITIES AMONG SUBCONTRACTORS.

A. PROVIDE SECURITY AND PROTECTION WHEN FIRST REQUIRED AT THE SITE, AND MAINTAIN, EXPAND, AND MODIFY SUCH MEASURES AS NEEDED THROUGHOUT THE CONSTRUCTION PERIOD.

B. PROVIDE ALL SECURITY AND PROTECTION MEASURES IN A SAFE, SANITARY, AND LAWFUL MANNER THAT DOES NOT INTERFERE WITH THE WORK OR THE OWNER'S DAILY OPERATIONS.

C. REMOVE TEMPORARY SECURITY AND PROTECTION MEASURES WHEN NO LONGER REQUIRED AND RESTORE THE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION OR TO A CONDITION ACCEPTABLE TO THE OWNER.

017400: CLEANING

1. EACH CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO MAINTAIN THE SITE AND ADJACENT PROPERTY FREE FROM ACCUMULATIONS OF WASTE, DEBRIS AND RUBBISH RESULTING FROM THEIR WORK. DO NOT ALLOW MATERIALS TO BLOW OR SCATTER ON THE SITE.
2. ESTABLISH AND ENFORCE A DAILY SYSTEM FOR COLLECTING AND DISPOSING OF WASTE MATERIALS IN A SAFE AND LEGAL MANNER. PROVIDE ON-SITE CONTAINERS SUITABLE FOR WASTE COLLECTION.

017400: CLEANING (CONT.)

3. AT PROJECT COMPLETION, REMOVE ALL REMAINING WASTE MATERIALS, RUBBISH, TOOLS, EQUIPMENT, MACHINERY, AND SURPLUS MATERIALS. CLEAN ALL EXPOSED AREAS SO THE PROJECT SITE IS LEFT CLEAN AND READY FOR OCCUPANCY.
4. IMMEDIATELY PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, PROVIDE FINAL CLEANING OF THE WORK. FINAL CLEANING SHALL RETURN EACH SURFACE OR UNIT OF WORK TO THE LEVEL OF CLEANLINESS EXPECTED UNDER A FIRST-CLASS COMMERCIAL CLEANING AND MAINTENANCE PROGRAM. FINAL CLEANING SHALL INCLUDE, BUT IS NOT LIMITED TO:

A. REMOVE ALL LABELS NOT REQUIRED TO REMAIN AS PERMANENT LABELS.

B. CLEAN ALL EXPOSED EXTERIOR AND INTERIOR SURFACES TO A DUST-FREE AND DIRT-FREE CONDITION. REPAIR, PATCH, OR TOUCH UP ANY MARRED SURFACES.

C. CLEAN ALL FLOORS AND SURFACES BROOM-CLEAN OR VACUUM-CLEAN. REMOVE STAINS AND ALL FOREIGN DEPOSITS.

D. CLEAN ALL LIGHT FIXTURES AND LAMPS.

E. RAKE ALL GROUNDS TO A SMOOTH, EVEN-TEXTURED SURFACE.
5. FINAL CLEANING SHALL BE PERFORMED BY EXPERIENCED WORKERS OR PROFESSIONAL CLEANERS.

031100: FORMWORK

1. REFER TO THE PRIME ENGINEER'S PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. IF DISCREPANCIES EXIST, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. CONSTRUCT FORMWORK IN ACCORDANCE WITH THE DRAWINGS AND THESE PLAN SPECIFICATIONS.
3. FORMWORK DESIGN IS THE CONTRACTOR'S RESPONSIBILITY.
4. COMPLY WITH APPLICABLE CODES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION. DESIGN, ERECT, SUPPORT, BRACE AND MAINTAIN FORMWORK IN ACCORDANCE WITH ACI 301 AND ACI STANDARD 347, SO IT WILL SAFELY SUPPORT VERTICAL AND LATERAL LOADS WHICH MIGHT BE APPLIED UNTIL SUCH LOADS CAN BE SUPPORTED SAFELY BY THE CONCRETE STRUCTURE.
5. LIMIT FORM-FACING PANEL DEFLECTION TO L/360 OF EACH COMPONENT SPAN.
6. CONSTRUCT FORMS TO THE SIZES, SHAPES, LINES, AND DIMENSIONS INDICATED TO OBTAIN ACCURATE ALIGNMENT, LOCATION, GRADES, AND PLUMB AND LEVEL FINISHED WORK.
7. PROVIDE SOUND, SMOOTH PLYWOOD FORM-FACING FOR CONCRETE SURFACES THAT WILL REMAIN EXPOSED.
8. SET ALL FORM TIES IN EXPOSED AREAS AT A UNIFORM SPACING, EQUIDISTANT FROM PERIMETER EDGES, AND ALIGNED BOTH HORIZONTALLY AND VERTICALLY.
9. EXCEPT FOR METAL FORMS, USE NEW MATERIALS. MATERIALS MAY BE REUSED IF THEY ARE THOROUGHLY CLEANED, RECONDITIONED, RECOATED BEFORE EACH USE, AND CAPABLE OF PRODUCING FORMWORK OF THE REQUIRED QUALITY
10. TREAT FORMWORK WITH A NON-STAINING FORM-RELEASE AGENT TO PREVENT ADHESION TO THE CONCRETE.
11. AT EXPOSED EXTERIOR AND INTERIOR (WHERE PRESENT) HORIZONTAL LINES, MAKE POURS TO A WOODEN GUIDE STRIP OR THE BOTTOM OF A WOOD BLOCKOUT OR CHAMFER STRIP FASTENED TO THE FORMS TO PRODUCE A STRAIGHT LINE. CHAMFER 3/4" ALL EXPOSED HORIZONTAL AND VERTICAL EDGES, EXCEPT SHEET LEDGES, WHICH SHALL HAVE NO CHAMFER.
12. BEAM FORMS:

A. EARTH CUTS MAY BE USED AS FORMS, WHERE PERMITTED BY THE DRAWINGS AND ACCEPTED BY THE STRUCTURAL ENGINEER. EARTHEN FORMS SHALL BE SMOOTH, STRAIGHT, AND STABLE, AND SHALL PERMIT THE BOTTOM OF THE EXCAVATION TO BE KEPT CLEAN AND THE DESIGN BEAM DIMENSIONS TO BE MAINTAINED. BEAM DIMENSIONS EXCEEDING THOSE INDICATED ARE NOT PERMITTED.

B. FORM ALL VISIBLY EXPOSED SURFACES TO NOT LESS THAN 6 INCHES BELOW FINISHED GRADE. REVIEW FINAL GRADING INFORMATION TO ENSURE THAT ADEQUATE FORMWORK DEPTH IS PROVIDED.
- C. WHERE EROSION OR SLOUGHING OF FILL RESULTS IN BEAM DIMENSIONS LARGER THAN INDICATED, PROVIDE FORMS AS REQUIRED TO PRODUCE THE SPECIFIED BEAM SIZE AT NO ADDITIONAL COST TO THE OWNER.

(CONTINUED ON SHEET AS-04)

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031100: FORMWORK (CONT.)

13. COORDINATE ANCHOR ROD AND EMBED LOCATIONS WITH THE STRUCTURAL DRAWINGS AND APPROVED SUBMITTALS.
- A. SET CAST-IN-PLACE ANCHOR RODS USING STEEL OR PLYWOOD TEMPLATES SECURELY FASTENED TO THE FORMWORK.
14. REMOVAL OF FORMS:
- A. DO NOT DISTURB OR REMOVE FORMS UNTIL THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAFE REMOVAL AND THE MEMBER HAS ATTAINED SUFFICIENT STRENGTH TO SUPPORT ITS OWN WEIGHT AND IMPOSED CONSTRUCTION LOADS.
- B. WHERE FORMWORK IS REMOVED IN LESS THAN SEVEN DAYS, PROVIDE CURING IN ACCORDANCE WITH SECTION 033000 - CAST-IN-PLACE CONCRETE.
- C. DO NOT REMOVE FORMS IN LESS THAN 48 HOURS.
- D. REMOVE FORMS CAREFULLY TO AVOID MARRING OR GOUGING FINISHED CONCRETE SURFACES AND TO KEEP CORNERS TRUE, SHARP, AND UNBROKEN.
- E. COMPLETELY FILL FORM TIE HOLES, ROD HOLES, AND SIMILAR VOIDS IN THE CONCRETE.
- a. USE A CEMENTITIOUS PATCHING MATERIAL SUITABLE FOR THIS APPLICATION.
- b. AT VISIBLE SURFACES, PATCHING MATERIALS SHALL MATCH ADJACENT CONCRETE IN COLOR AND TEXTURE.
- c. DAMPEN HOLES BEFORE FILLING, FINISH PATCHES FLUSH, AND GRIND AS REQUIRED TO MATCH ADJACENT SURFACES.

032000: CONCRETE REINFORCEMENT

1. THIS PLAN SPECIFICATION APPLIES TO THE CONCRETE REINFORCEMENT WORK DESIGNED BY THE STRUCTURAL ENGINEER AND INDICATED ON THE STRUCTURAL DRAWINGS. REFER TO THE DRAWINGS AND SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL REQUIREMENTS. IF DISCREPANCIES AFFECTING STRUCTURAL WORK EXIST, THESE PLAN SPECIFICATIONS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. ALL CONCRETE REINFORCEMENT WORK SHALL BE IN ACCORDANCE WITH:
- A. ACI 318-14: BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE
- B. ACI SP-66: ACI DETAILING MANUAL. DETAILING OF REINFORCEMENT SHALL COMPLY WITH ACI 315-99, AS INCORPORATED THEREIN, OR OTHER CURRENTLY ADOPTED ACI DETAILING REQUIREMENTS.
- C. ACI 350-06: CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
- D. ACI ACI 350.5-12: SPECIFICATIONS FOR ENVIRONMENTAL CONCRETE STRUCTURES (WHERE DISCREPANCIES WITH THIS SPECIFICATION OCCUR, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY, UNLESS OTHERWISE DIRECTED.)
3. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI SP-66. BENDING SHALL COMPLY WITH ACI 318.
4. MATERIALS:
- A. DEFORMED CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
- a. **ALL REINFORCING STEEL SHALL BE DOMESTICALLY PRODUCED, UNLESS OTHERWISE APPROVED IN ADVANCE BY THE OWNER AND STRUCTURAL ENGINEER.**
- B. DO NOT HEAT OR WELD REINFORCING BARS TO MODIFY THEIR SHAPE WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- C. WELDED WIRE REINFORCEMENT (WWR) SHALL BE DEFORMED AND SHALL COMPLY WITH ASTM A1064. GALVANIZED WWR SHALL ADDITIONALLY COMPLY WITH ASTM A1060.
- a. REPAIR ALL VISIBLE DAMAGE TO GALVANIZING ON THE JOBSITE IN ACCORDANCE WITH APPLICABLE ASTM REQUIREMENTS. COAT ALL CUT, SHEARED OR SAWN ENDS OF REINFORCEMENT.
- b. REINFORCEMENT SHALL BE FREE OF SCALE, LOOSE RUST, MUD OR OTHER DELETERIOUS COATINGS THAT COULD REDUCE BOND TO CONCRETE. LIGHT SURFACE RUST THAT DOES NOT REDUCE THE CROSS-SECTIONAL AREA IS ACCEPTABLE.

032000: CONCRETE REINFORCEMENT (CONT.)

- D. TIE WIRE SHALL BE BLACK ANNEALED STEEL, 16 GAUGE MINIMUM, COMPLYING WITH ASTM A510.
- E. BOLSTERS, CHAIRS, SPACERS AND OTHER DEVICES USED TO SPACE, SUPPORT AND SECURE REINFORCEMENT SHALL BE PLASTIC OR WIRE BAR-TYPE SUPPORTS COMPLYING WITH THE CRSI "MANUAL OF STANDARD PRACTICE", UNLESS NOTED OTHERWISE.
- a. ALL BAR SUPPORTS SHALL BE OF HEIGHTS TO PROPERLY LOCATE THE REINFORCING IN THE FINISHED CONCRETE.
- b. DO NOT USE WOOD OR OTHER NON-COMPLYING MATERIALS SUBJECT TO DETERIORATION.
- c. FOR SLAB-ON-GRADE **ONLY**, CONCRETE DOBIE BLOCKS SPECIFICALLY INTENDED FOR REINFORCEMENT SUPPORT MAY BE USED.
- DO NOT USE CLAY BRICKS, CMU BLOCKS OR ANY OTHER WATER-ABSORBING MATERIALS.
 - CONCRETE DOBIE BLOCKS SHALL BE MANUFACTURED USING STANDARD 4,000 PSI CONCRETE, AND SHALL COMPLY WITH REQUIREMENTS FOR CRSI CLASS 1 BAR SUPPORTS.
- d. SUPPORTS FOR BEAM STEEL SHALL BE CONTINUOUS CHAIR TYPE, INSTALLED PERPENDICULAR TO LENGTH OF STEEL.
- e. PROVIDE BEARING PLATES WHERE REQUIRED TO PREVENT SETTLEMENT OF SUPPORTS IN SAND OR FILL MATERIALS.
- f. WHERE THE CONCRETE SURFACE WILL BE EXPOSED TO THE WEATHER OR TO VIEW IN THE FINISHED STRUCTURE, THE PORTIONS OF ALL SUPPORTS AND ACCESSORIES IN CONTACT WITH THE FORMWORK SHALL BE CRSI CLASS 1 PROTECTION.
5. REINFORCING STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.
- A. SHOP DRAWINGS SHALL INCLUDE DETAILS AND PRODUCT DATA FOR REINFORCING BARS, ANCHORS, SUPPORTS AND OTHER ITEMS PROVIDED UNDER THIS SECTION.
- B. SHOP DRAWINGS SHALL INCLUDE A PLACEMENT PLAN INDICATING THE LOCATION OF ALL STIRRUPS, LAPS AND BEAM REINFORCEMENT.
- C. WHERE SLABS OR FOOTINGS REQUIRE MULTIPLE LAYERS OF REINFORCING, SHOP DRAWINGS SHALL INDICATE REINFORCING ORIENTATION AND PLACEMENT SEQUENCE.**
- D. SHOP DRAWINGS SUBMITTED WITHOUT A PROPER PLACEMENT PLAN WILL BE RETURNED WITHOUT REVIEW.**
6. DELIVERY AND STORAGE:
- A. DELIVER REINFORCEMENT BUNDLED AND TAGGED TO IDENTIFY EACH PIECE AS DETAILED ON THE APPROVED SHOP DRAWINGS.
- B. STORE ABOVE GROUND IN A MANNER TO PREVENT EXCESSIVE RUSTING AND FOULING WITH DIRT, GREASE AND OTHER BOND-BREAKING COATINGS.
7. CONCRETE PROTECTION FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE:
- A. UNLESS NOTED OTHERWISE ON THE DRAWINGS, PROVIDE THE FOLLOWING CLEAR COVER FOR ALL REINFORCING STEEL.
- a. GRADE BEAMS 3" BOTTOM, 2" SIDES, 2" TOP
- b. SLAB-ON-GRADE 2" FROM TOP
- c. PILASTERS 3" BOTTOM, 2" SIDES, 3" TOP
- d. FOOTINGS 3" BOTTOM, 3" SIDES, 2" TOP
- e. MAT SLABS 3" BOTTOM, 3" SIDES, 2" TOP
- B. FOR CONDITIONS NOT INDICATED ABOVE, PROVIDE MINIMUM CONCRETE COVER IN ACCORDANCE WITH ACI 318, SECTION 20.5.1.
- C. TOLERANCES FOR REINFORCING COVER SHALL BE PER ACI 117.1R TABLE 5.4.1.1.
- a. MEMBERS 4 INCH THICK OR LESS ± 1/4"
- b. OVER 4 INCH AND NOT OVER 12 INCHES ± 3/8"
- c. OVER 12 INCHES ± 1/2"
8. REINFORCING DETAILS:
- A. REINFORCING ORIENTATION AND PLACEMENT ARE CRITICAL AND SHALL CONFORM TO THE DRAWINGS. THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS PRIOR TO SUBMISSION TO VERIFY ACCURACY AND COMPLETENESS.**
- B. GRADE BEAM REINFORCEMENT SHALL BE "CONTINUOUS" AND SHALL USE CLASS "B" LAP SPLICES, UNLESS NOTED OTHERWISE.
- C. BOTTOM BARS SHALL BE SPLICED OVER SUPPORTS OR AT INTERSECTING BEAMS. TOP BARS SHALL BE SPLICED AT MIDSPAN OF GRADE BEAMS.

032000: CONCRETE REINFORCEMENT (CONT.)

- D. PROVIDE STANDARD ACI 90-DEGREE HOOKS AT DISCONTINUOUS ENDS OF TOP BARS. ORIENT HOOKS AS INDICATED ON THE DRAWINGS.
- E. PROVIDE #5 CORNER BARS IN THE EXTERIOR FACE OF ALL BEAMS AT CORNERS. **REFER TO DETAILS FOR LENGTH AND SPACING.**
- F. PROVIDE #4 DIAGONAL BARS AT CORNERS OF SLAB OPENINGS AND RE-ENTRANT CORNERS, AND #4 BENT BARS AT ALL ROUND PENETRATIONS 4" IN DIAMETER AND LARGER. **REFER TO DETAILS FOR LENGTH AND SPACING.**
- G. UNLESS NOTED OTHERWISE, DOWELS SHALL EXTEND A MINIMUM OF (36) BAR DIAMETERS.
9. FABRICATION:
- A. FABRICATE REINFORCEMENT TO THE REQUIRED SHAPES AND DIMENSIONS, WITHIN FABRICATION TOLERANCES STATED IN THE CRSI "MANUAL OF STANDARD PRACTICES".
- B. IN THE EVENT OF FABRICATION ERRORS, DO NOT STRAIGHTEN OR RE-BEND REINFORCEMENT IN A MANNER THAT WILL DAMAGE OR WEAKEN THE MATERIAL.
- C. REINFORCEMENT WITH ANY OF THE FOLLOWING DEFECTS WILL BE REJECTED:
- a. BAR LENGTHS, DEPTHS, AND/OR BENDS EXCEEDING THE SPECIFIED FABRICATION TOLERANCES;
- b. BENDS OR KINKS NOT SHOWN ON THE DRAWINGS; OR
- c. BARS WITH REDUCED CROSS-SECTION DUE TO EXCESSIVE RUSTING OR OTHER CAUSE.
10. PLACING OF REINFORCEMENT SHALL BE AS FOLLOWS:
- A. CLEAN REINFORCEMENT OF EXCESSIVE MUD, MILL SCALE, EARTH, LOOSE OR FLAKY RUST, AND OTHER MATERIALS THAT REDUCE BOND WITH CONCRETE.
- B. REINFORCING BARS SHALL BE WIRED TOGETHER AT INTERSECTIONS AND LAPS IN ACCORDANCE WITH THE CRSI "PLACING REINFORCING BARS" PUBLICATION TO PREVENT DISPLACEMENT BY CONSTRUCTION LOADS OR THE PLACING OF CONCRETE.
- C. PROVIDE BAR CHAIRS, SUPPORTS AND SPACERS AT 4'-0" O.C. MAXIMUM FOR ALL LAYERS OF REINFORCEMENT IN SLABS AND FOOTINGS, AND AS REQUIRED TO MAINTAIN SPECIFIED COVER IN BEAMS.
- D. DO NOT USE SUPPORTS AS BASES FOR RUNWAYS FOR CONCRETE CONVEYING EQUIPMENT AND SIMILAR CONSTRUCTION LOADS.
- E. SET WIRE TIES SO THAT TWISTED ENDS ARE DIRECTED AWAY FROM EXPOSED CONCRETE SURFACES. IN SLABS, ALL WIRE TIES SHALL BE BENT DOWN (KNOCKED DOWN) PRIOR TO CONCRETE PLACEMENT.
- F. PLACE REINFORCEMENT TO MAINTAIN THE REQUIRED MINIMUM CONCRETE COVER.
- G. DO NOT PLACE REINFORCING BARS MORE THAN 2" BEYOND THE LAST LEG OF ANY CONTINUOUS BAR SUPPORT.
- H. WHERE REINFORCING STEEL IS INDICATED AT "X" INCHES ON CENTER, PLACE ONE BAR WITHIN 3 INCHES OF EACH EDGE OF THE SLAB, BEAM OR OTHER CONCRETE MEMBER. SPACE THE REMAINING BARS AT NOT MORE THAN THE INDICATED SPACING.
- I. WELDED WIRE REINFORCEMENT (WWR) SHALL BE LAPPED ONE GRID PLUS 2 INCHES AT SIDE LAPS AND 12" AT END LAPS.

033000: CAST-IN-PLACE CONCRETE

1. THIS PLAN SPECIFICATION APPLIES TO CAST-IN-PLACE CONCRETE WORK DESIGNED BY THE STRUCTURAL ENGINEER AND SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL INFORMATION. IF DISCREPANCIES AFFECTING STRUCTURAL WORK EXIST, THE STRUCTURAL DRAWINGS AND THESE PLAN SPECIFICATIONS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. CAST-IN-PLACE CONCRETE WORK SHALL COMPLY WITH THE FOLLOWING, EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE INDICATED IN THE CONTRACT DOCUMENTS:
- A. ACI 117-10: SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS
- B. ACI 301-20: SPECIFICATIONS FOR STRUCTURAL CONCRETE
- C. ACI 302.1R-15: GUIDE TO CONCRETE FLOOR AND SLAB CONSTRUCTION
- D. ACI 305.1-14: SPECIFICATION FOR HOT WEATHER CONCRETING
- E. ACI 305R-20: GUIDE TO HOT WEATHER CONCRETING
- F. ACI 306.1-90: STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING
- G. ACI 306R-16: GUIDE TO COLD WEATHER CONCRETING
- H. ACI 308.1-11: SPECIFICATION FOR CURING CONCRETE
- I. ACI 318-14: BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE

(CONTINUED ON SHEET AS-05)

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KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510		Plot Date: Jul 20, 2026 - 10:02am Plotted By: JARED	

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-04
OF 22

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_AS-01.dwg

READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

033000: CAST-IN-PLACE CONCRETE (CONT.)

- J. ACI 350-06: CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
- K. ACI 350.5-12: SPECIFICATIONS FOR ENVIRONMENTAL CONCRETE STRUCTURES (WHERE DISCREPANCIES WITH THIS SPECIFICATION OCCUR, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY, UNLESS OTHERWISE DIRECTED.)
3. CAST-IN-PLACE CONCRETE FOR ALL STRUCTURES SHOWN IN THESE STRUCTURAL DRAWINGS SHALL BE PROVIDED AS SPECIFIED IN THIS SECTION.
- A. CONCRETE FOR OTHER CIVIL, SITEWORK AND PAVING, IF APPLICABLE, IS SPECIFIED ELSEWHERE.
4. MIXING, TRANSPORTING, PLACING, AND CURING OF CONCRETE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE REFERENCED ACI STANDARDS AND THE CONTRACT DOCUMENTS.
- A. ALL CONCRETE DETAILING AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 301, UNLESS NOTED OTHERWISE.
- B. ALL CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI-117, EXCEPT AS MAY BE MODIFIED IN THESE DOCUMENTS.
5. NOTIFY STRUCTURAL ENGINEER AND THE APPROVED MATERIALS TESTING LABORATORY A MINIMUM OF TWO BUSINESS DAYS (48 HOURS) IN ADVANCE OF CONCRETE PLACEMENT.
- A. WHEN PROVIDING NOTICE, INDICATE:
- a. TIME AND DATE WHEN THE INSTALLATION OF STEEL REINFORCEMENT WILL BE COMPLETED AND READY FOR OBSERVATION.
- b. APPROXIMATE TIME AND DATE OF CONCRETE PLACEMENT.
- B. MODIFICATIONS TO STEEL REINFORCEMENT, IF REQUIRED, MUST BE COMPLETED PRIOR TO CONCRETE PLACEMENT. CONTRACTOR SHALL ALLOW TIME FOR MODIFICATIONS OR SHALL OTHERWISE BE PREPARED TO POSTPONE CONCRETE PLACEMENT.
- C. DO NOT COMMENCE PLACEMENT OF CONCRETE UNTIL REINFORCEMENT HAS BEEN REVIEWED BY AN APPROVED INSPECTION AGENCY, AS REQUIRED. THE STRUCTURAL ENGINEER MAY NOT BE PRESENT AT ALL CONCRETE PLACEMENT; HOWEVER, REQUIRED NOTICE SHALL STILL BE PROVIDED FOR EACH PLACEMENT REGARDLESS OF WHETHER THE STRUCTURAL ENGINEER WILL BE PRESENT.
- D. FAILURE TO PROVIDE REQUIRED NOTICE, OR PLACEMENT OF CONCRETE WITHOUT REQUIRED OBSERVATION, MAY REQUIRE REMOVAL AND REPLACEMENT OF REINFORCING STEEL OR CONCRETE AT THE CONTRACTOR'S EXPENSE.
6. PROVIDE SUBMITTALS FOR ALL CONCRETE MATERIALS.
- A. SUBMITTALS SHALL INCLUDE A MIX DESIGN FOR EACH REQUIRED CONCRETE TYPE, TOGETHER WITH CURRENT TEST RESULTS FOR EACH MIX DESIGN DATED NOT MORE THAN 24 MONTHS BEFORE SUBMITTAL.
- B. ALL MIX DESIGNS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THESE SPECIFICATIONS. ANY REQUESTED VARIATIONS SHALL BE NOTED ON THE SUBMITTALS AND ARE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER.
- C. SUBMITTALS MUST IDENTIFY THE PROPOSED USE OF EACH MIX DESIGN SUBMITTED.
7. CONCRETE:
- A. CONCRETE IN THE AREAS LISTED BELOW SHALL CONTAIN NORMAL-WEIGHT SAND AND GRAVEL AGGREGATE AND ASTM C150 TYPE I, TYPE II, OR TYPE III CEMENT, AND SHALL ACHIEVE THE INDICATED 28-DAY COMPRESSIVE STRENGTH (F'c) AND MINIMUM EXPOSURE CLASS IN ACCORDANCE WITH ACI 318 TABLE 19.3.1.1:
- | | | |
|--|-----------|-------------------------|
| a. MASONRY FILL | 2,500 PSI | CLASS F0 |
| b. FOOTINGS | 3,000 PSI | CLASS F0 |
| c. GRADE BEAMS | 3,500 PSI | CLASS F1 |
| d. SLAB-ON-GRADE (INTERIOR) | 3,500 PSI | CLASS F0 |
| e. STRUCTURAL SLABS AND WALLS (INTERIOR) | 4,000 PSI | CLASS F0 |
| f. ENVIRONMENTAL STRUCTURES | 4,000 PSI | CLASS F2 |
| g. AREAS SUBJECT TO CORROSIVES** | 4,500 PSI | ACI 350-06, TABLE 4.2.2 |
- * WHERE CONCRETE IS PLACED MONOLITHICALLY, THE HIGHEST CONCRETE STRENGTH AND EXPOSURE CLASS FOR THE ELEMENTS BEING PLACED ARE REQUIRED.
- ** CONCRETE REQUIREMENTS FOR AREAS SUBJECT TO CORROSIVES SHALL SUPERSEDE GENERAL REQUIREMENTS.

033000: CAST-IN-PLACE CONCRETE (CONT.)

- B. FLY ASH COMPLYING WITH ASTM C618, CLASS F, MAY BE USED AT THE CONTRACTOR'S OPTION IN CONCRETE MIX DESIGNS, PROVIDED THAT FLY ASH DOES NOT EXCEED 20 PERCENT OF THE TOTAL CEMENTITIOUS MATERIAL BY WEIGHT.
- a. THE CONTRACTOR SHALL VERIFY ALL CONCRETE FINISH REQUIREMENTS WITH DRAWINGS AND SPECIFICATIONS, AND SHALL COORDINATE CONCRETE MIX DESIGN, PLACEMENT AND CURING REQUIREMENTS OF THE FINISH MANUFACTURER, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER.
- C. OTHER SUPPLEMENTARY CEMENTITIOUS MATERIALS ARE PROHIBITED OR SHALL BE PERMITTED ONLY BY THE FORMAL SUBMITTAL PROCESS AND APPROVAL BY THE STRUCTURAL ENGINEER.
- D. MINIMUM CEMENTITIOUS MATERIAL CONTENTS SHALL BE PER TABLE 8.4.1B OF ACI 302.1R. MINIMUM PORTLAND CEMENT MATERIALS CONTENT FOR TROWEL FINISHED SURFACES SHALL BE 400 LBS/CY.
- E. FOR ENVIRONMENTAL CONCRETE, MINIMUM CEMENTITIOUS MATERIAL CONTENTS FOR CONCRETE SHALL BE PER TABLE 4.1.2.1 OF ACI 350.
- a. NOMINAL MAX AGGREGATE OF 1-1/2" 515 PCY
- b. NOMINAL MAX AGGREGATE OF 1" 535 PCY
- F. AGGREGATE SHALL CONFORM TO ASTM C33 FOR NORMAL WEIGHT AGGREGATE.
- a. FINE AGGREGATE SHALL BE GRADED IN ACCORDANCE WITH ACI 302.1R, TABLE 8.5.1.
- b. NOMINAL MAXIMUM AGGREGATE SIZE SHALL COMPLY WITH ACI 318, SECTION 26.4.2.1. USE THE LARGEST PRACTICABLE AGGREGATE SIZE COMPATIBLE WITH MEMBER DIMENSIONS, REINFORCEMENT SPACING AND PLACE REQUIREMENTS.
- c. FOR ENVIRONMENTAL CONCRETE, NOMINAL MAXIMUM AGGREGATE SIZE SHALL BE PER SECTION 3.3.2 OF ACI 350. IN GENERAL, THE LARGEST PRACTICAL-SIZE AGGREGATE SHALL BE USED.
- d. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 1-1/2".
- e. AGGREGATE FOR MASONRY FILL SHALL BE PEA GRAVEL.
- G. AIR CONTENT:
- a. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260 AND SHALL BE PROVIDED ONLY IN CONCRETE EXPOSED TO FREEZE-THAW CYCLES, SEVERE WEATHERING OR DEICER CHEMICALS. DO NOT PROVIDE AIR ENTRAINMENT IN CONCRETE SURFACES TO RECEIVE A TROWEL FINISH.
- AIR CONTENT, WHEN REQUIRED, SHALL COMPLY WITH ACI 318, TABLE 19.3.3.1 FOR THE APPLICABLE EXPOSURE CLASS. FOR ENVIRONMENTAL CONCRETE, COMPLY WITH ACI 350, TABLE 4.2.1 FOR THE SPECIFIED EXPOSURE CONDITION.
 - DELIVERED AIR CONTENT SHALL BE WITHIN +/- 1.5 PERCENT OF THE SPECIFIED VALUE.
- b. ENTRAPPED AIR CONTENT IN NON-AIR ENTRAINED CONCRETE THAT WILL RECEIVE A TROWELED FINISH SHALL NOT EXCEED 3 PERCENT.
- H. OTHER ADMIXTURES SHALL CONFORM TO ASTM C494.
- I. CALCIUM CHLORIDE SHALL NOT BE USED. ADMIXTURES CONTAINING CHLORIDE IONS, OTHER THAN TRACE IMPURITIES, SHALL NOT BE PERMITTED. TOTAL CHLORIDE CONTENT SHALL NOT EXCEED 0.1 PERCENT BY WEIGHT OF CEMENT.
- J. WATER SHALL BE CLEAN, POTABLE AND FREE FROM OILS, ACIDS, ALKALIS, SALTS, ORGANIC MATERIALS AND OTHER SUBSTANCES DELETERIOUS TO CONCRETE OR REINFORCEMENT.
- K. MAXIMUM WATER/CEMENTITIOUS MATERIAL RATIOS SHALL BE THE LOWEST OF:
- a. 0.42 FOR CONCRETE SUBJECT TO CORROSIVES.
- b. 0.45 FOR CONCRETE IN ENVIRONMENTAL STRUCTURES
- c. 0.50 FOR ALL OTHER CONCRETE.
- L. SLUMP, PRIOR TO ADDITION OF WATER REDUCTION ADMIXTURES OR PLASTICIZERS, SHALL BE:
- a. FOOTINGS 5" MAX, 3" MIN
- b. GRADE BEAMS 5" MAX, 3" MIN
- c. SLAB-ON-GRADE 5" MAX, 3" MIN
- d. STRUCTURAL SLABS AND WALLS 5" MAX, 3" MIN
- e. ENVIRONMENTAL STRUCTURES 5" MAX, 3" MIN
- f. AREAS SUBJECT TO CORROSIVES 5" MAX, 3" MIN

033000: CAST-IN-PLACE CONCRETE (CONT.)

- M. SLUMPS SHALL BE WITHIN THE SPECIFIED RANGES AT THE TIME OF PLACEMENT. CONCRETE NOT MEETING THESE REQUIREMENTS MAY BE REJECTED.
- a. CONCRETE WITH SLUMP BELOW THE SPECIFIED RANGE SHALL BE EVALUATED FOR WORKABILITY AND PROPER CONSOLIDATION PRIOR TO ACCEPTANCE. CONCRETE THAT CANNOT BE ADEQUATELY PLACED AND CONSOLIDATED SHALL BE REJECTED.
- b. CONCRETE EXCEEDING THE SPECIFIED MAXIMUM SLUMP SHALL NOT BE ACCEPTED
- N. IF THE PRESENCE OF SULFATES IN THE SOIL ARE DISCOVERED DURING THE EXCAVATION AND PAD PREPARATION, ADJUST CONCRETE MIX PROPERTIES AS REQUIRED PER ACI 318, TABLE 19.3.2.1, SUBJECT TO THE STRUCTURAL ENGINEER'S APPROVAL.
8. MIXING CONCRETE:
- A. CONCRETE SHALL BE FURNISHED BY A READY-MIX CONCRETE PLANT APPROVED BY THE STRUCTURAL ENGINEER. ALL CONCRETE SHALL BE SUPPLIED FROM A SINGLE APPROVED PLANT FOR EACH CONTINUOUS POUR, UNLESS OTHERWISE APPROVED.
- a. IF CONTRACTOR CHOOSES TO OBTAIN CONCRETE MIXES FROM MULTIPLE PLANTS, A SINGLE CONCRETE MIX MUST BE USED FOR THE ENTIRE POUR AND THE CONTRACTOR MUST RECORD WHAT PLANT AND MIX WAS USED FOR EACH POUR.
- B. TRANSIT MIX CONCRETE IN ACCORDANCE WITH PROVISIONS OF ASTM C94 "STANDARD SPECIFICATION FOR READY-MIXED CONCRETE".
- C. REJECT CONCRETE THAT HAS STOOD FOR MORE THAN 30 MINUTES AFTER LEAVING THE MIXER, OR THAT IS NOT PLACED WITHIN 300 DRUM REVOLUTIONS OR WITHIN 60 MINUTES AFTER INITIAL ADDITION OF WATER TO THE MIX, WHICHEVER OCCURS FIRST. IF THE ATMOSPHERIC TEMPERATURE IS BELOW 90 DEGREES F, THE TIME LIMIT MAY BE EXTENDED TO 90 MINUTES.
- D. WHEN ADDITIONAL WATER IS ADDED, CONCRETING MIXING FOR AT LEAST FIVE MINUTES, WITH A MINIMUM OF ONE MINUTE OF MIXING IMMEDIATELY BEFORE DISCHARGE. UNLESS OTHERWISE DIRECTED, TOTAL MIXING TIME FOR EACH BATCH SHALL BE 15 MINUTES AFTER INITIAL ADDITION OF WATER.
9. PLACING CONCRETE:
- A. PREPARATION:
- a. REMOVE FOREIGN MATTER ACCUMULATED IN THE FORMS.
- b. RIGIDLY CLOSE OPENINGS LEFT IN THE FORMWORK.
- c. WET WOOD FORMS SUFFICIENTLY TO TIGHTEN UP CRACKS. WET OTHER MATERIAL SUFFICIENTLY TO MAINTAIN WORKABILITY OF THE CONCRETE.
- d. USE ONLY CLEAN TOOLS.
- e. PRIOR TO PLACING CONCRETE, REMOVE WATER FROM THE EXCAVATION BY PUMPING OR OTHER MEANS APPROVED BY STRUCTURAL ENGINEER.
- B. FORMWORK MEMBERS SHALL BE OF SUFFICIENT NUMBER AND SHALL BE SO ARRANGED TO PREVENT MOVEMENT OF CONCRETE FORMWORK DURING OR AFTER CONCRETE PLACEMENT.
- C. CONVEYING:
- a. PERFORM CONCRETE PLACEMENT AT A RATE THAT MAINTAINS CONCRETE IN A PLASTIC CONDITION AND ENSURES PROPER INTEGRATION WITH PREVIOUSLY PLACED CONCRETE.
- b. DEPOSIT CONCRETE AS NEARLY AS PRACTICABLE IN ITS FINAL POSITION TO MINIMIZE SEGREGATION DUE TO REHANDLING OR FLOWING.
- c. DO NOT USE CONCRETE THAT HAS BECOME UNWORKABLE, DOES NOT MEET SPECIFIED QUALITY CONTROL REQUIREMENTS, OR HAS BEEN CONTAMINATED BY FOREIGN MATERIALS.
- d. REMOVE REJECTED CONCRETE FROM THE JOBSITE.
- D. PLACING CONCRETE:
- a. SPECIFIED THICKNESSES FOR SLAB-ON-GRADE ARE MINIMUM. ACTUAL THICKNESS SHALL NOT EXCEED -3/4" FOR ANY SAMPLE, OR -3/8" FOR THE AVERAGE OF ALL SAMPLES, WHEN SAMPLED ACCORDING TO THE REQUIREMENTS OF ACI 117.
- b. IN-PLACE THICKNESS FOR STRUCTURAL/ELEVATED SLABS SHALL BE +/- 1/4" OF THE SPECIFIED THICKNESS.
- c. CONCRETE SHALL BE PLACED IN LARGE BLOCKS OR UNIFORM STRIP PLACEMENTS. CHECKERBOARD PLACEMENT SEQUENCES ARE NOT PERMITTED.
- d. DEPOSIT AND CONSOLIDATE CONCRETE IN A CONTINUOUS OPERATION WITHIN THE LIMITS OF CONSTRUCTION JOINTS UNTIL THE PLACEMENT OF EACH PANEL OR SECTION IS COMPLETE.
- e. STRIKE OFF AND SCREED SURFACES TO THE REQUIRED ELEVATION USING STRAIGHT EDGES.

(CONTINUED ON SHEET AS-06)

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KASBERG, PATRICK & ASSOCIATES, LP
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TEMPLE, TEXAS 76501

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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-05
OF 22

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READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

033000: CAST-IN-PLACE CONCRETE (CONT.)

- f. BULLFLOAT OR DARBIE THE SURFACE TO PRODUCE A UNIFORM PLANE FREE OF BUMPS AND HOLLOW.
- g. DO NOT ADD WATER TO THE CONCRETE SURFACE DURING FINISHING. DO NOT WORK OR REWORK THE SURFACE PRIOR TO THE START OF FINAL FINISHING OPERATIONS.
- E. CONSOLIDATION:
- a. CONSOLIDATE EACH LAYER OF CONCRETE IMMEDIATELY AFTER PLACEMENT USING INTERNAL CONCRETE VIBRATORS, SUPPLEMENTED AS NECESSARY BY HAND SPADING, RODDING, OR TAMPING. CONSOLIDATE CONCRETE SUFFICIENTLY TO ELIMINATE AIR VOIDS AND ENSURE FULL CONTACT WITH FORMS AND REINFORCEMENT. EXCEPTIONS MAY BE MADE FOR SLABS-ON-GRADE, WHERE INTERNAL VIBRATION IS NOT TYPICALLY REQUIRED.
- b. FOR EXPOSED CONCRETE, LIGHTLY TAP FORMWORK AS NECESSARY TO IMPROVE SURFACE FINISH.
- c. DO NOT VIBRATE FORMS OR REINFORCEMENT.
- d. DO NOT USE VIBRATORS TO TRANSPORT CONCRETE WITHIN FORMS.
- F. WEATHER CONDITIONS:
- a. PROTECTION: UNLESS ADEQUATE PROTECTION IS PROVIDED, DO NOT PLACE CONCRETE DURING RAIN, SLEET OR SNOW. PREVENT PRECIPITATION FROM INCREASING MIXING WATER OR DAMAGING FINISHED SURFACES.
- b. COLD WEATHER - ODO NOT PLACE CONCRETE WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES F, UNLESS COLD WEATHER CONCRETING MEASURES ARE IMPLEMENTED IN ACCORDANCE WITH ACI 306.1 AND 306R.
- PROTECT CONCRETE FROM FREEZING FOR A MINIMUM OF 24 HOURS AFTER PLACEMENT. WHEN FORECAST TEMPERATURES ARE EXPECTED TO REACH 40 DEGREES F OR BELOW DURING THIS PERIOD, NOTIFY THE STRUCTURAL ENGINEER AT LEAST 24 HOURS PRIOR TO PLACEMENT AND PROVIDE REQUIRED COLD WEATHER PROTECTION MEASURES.
- c. HOT WEATHER - LIMIT CONCRETE PLACING TEMPERATURE TO PREVENT LOSS OF SLUMP, FLASH SETTING OR COLD JOINTS. (APPROX. 95 DEGREES F MAXIMUM). COMPLY WITH ACI 305.1 AND 305R.
10. CONCRETE FINISHING:
- A. ALL CONCRETE SHALL BE FINISHED IN ACCORDANCE WITH ACI 301.
- a. UNLESS NOTED OTHERWISE, INTERIOR SLABS HAVE A "CLASS 1 - EXPOSED" FINISH PER ACI 302.1R WITH A NORMAL STEEL-TROWELED SURFACE.
- b. EXTERIOR SLABS SHALL HAVE A LIGHT BROOM FINISH IN ACCORDANCE WITH ACI 301, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- B. ENVIRONMENTAL STRUCTURES (FORMED SURFACES):
- a. ENVIRONMENTAL SURFACE FINISH 1.0 (ESF-1.0) ON CONCRETE SURFACES NOT EXPOSED TO VIEW
- b. ENVIRONMENTAL SURFACE FINISH 2.0 (ESF-2.0) ON CONCRETE SURFACES NOT EXPOSED TO VIEW AND EXPECTED TO CONTAIN LIQUIDS, GASES, OR BOTH
- c. ENVIRONMENTAL SURFACE FINISH 3.0 (ESF-3.0) ON CONCRETE SURFACES EXPOSED TO VIEW
- C. ENVIRONMENTAL STRUCTURES (UNFORMED SURFACES):
- a. SCRATCH FINISH - FOR SURFACES INTENDED TO RECEIVE BONDED CEMENTITIOUS MIXTURES
- b. FLOAT FINISH - FOR WALKS, DRIVES, STEPS, RAMPS, AND FOR SURFACES INTENDED TO RECEIVE WATERPROOFING, ROOFING, INSULATION, OR SAND-BED TERRAZZO
- c. LIGHT TROWELED FINISH - FOR EXPOSED SLAB SURFACES IN ENVIRONMENTAL BASIN AND CONTAINMENT STRUCTURES
- d. NORMAL TROWELED FINISH - FOR FLOORS INTENDED AS WALKING SURFACES, AND FLOORS IN PROCESSING, STORAGE, AND WAREHOUSING AREAS

033000: CAST-IN-PLACE CONCRETE (CONT.)

- D. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, PROVIDE THE FOLLOWING FINISHES AT THE LOCATIONS INDICATED.
- a. APPLY FLOAT FINISH TO SURFACES THAT ARE TO RECEIVE TROWEL FINISHES OR ARE TO BE COVERED WITH OTHER SUBSEQUENT FINISHES.
- b. APPLY TROWEL FINISH TO SURFACES THAT ARE TO BE EXPOSED TO VIEW, UNLESS OTHERWISE NOTED, AND TO SURFACES THAT ARE TO RECEIVE RESILIENT FLOORING, CARPETING, PAINT OR OTHER THIN-FILM FINISH SYSTEMS.
- c. MONOLITHIC FINISH SHALL BE PERFORMED BY SCREEDING THE CONCRETE TO THE REQUIRED ELEVATION, FOLLOWED BY FLOATING TO PRODUCE A TRUE, EVEN PLANE. WHILE THE CONCRETE IS STILL PLASTIC, FLOAT THE SURFACE TO BRING SUFFICIENT MOISTURE TO THE SURFACE, THEN TROWEL TO A SMOOTH, UNIFORM FINISH. EXTERIOR SLABS SHALL BE FINISHED AS INDICATED ABOVE.
- E. RANDOM TRAFFIC FLOOR FINISH TOLERANCES SHALL COMPLY WITH THE FOLLOWING, PER ASTM E1155 METHOD:
- a. MODERATELY FLAT $SO F_f = 25 / SO F_L = 20$
- F. TOPS OF UNFORMED EXPOSED SURFACES SHALL BE EDGED AND TROWEL FINISHED.
- G. CHAMFER ALL EXPOSED CONCRETE EDGES AS DETAILED ON THE DRAWINGS.
11. CURING:
- A. ALL CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 301 AND ACI 308.1.
- B. CONCRETE MAY BE CURED BY APPLICATION OF A CURING COMPOUND CONFORMING TO ASTM C309, OR BY WATER CURING FOR A MINIMUM OF 7 DAYS.
- C. VERIFY COMPATIBILITY OF CURING COMPOUND WITH ALL FLOOR FINISHES, HARDENERS (IF APPLICABLE) AND ADHESIVES PRIOR TO USE.
- D. WATER CURE SLABS THAT WILL RECEIVE QUARRY TILE, COMPOSITION FLOORING, OR ANY OTHER BONDED FLOORING SYSTEMS.
- E. CONCRETE NOT WATER CURED SHALL BE CURED WITH AN APPROVED CURING COMPOUND.
- a. APPLY CURING COMPOUND USING A FAN-TYPE SPRAY NOZZLE TO PROVIDE A CONTINUOUS, UNIFORM FILM OVER THE ENTIRE SURFACE.
- b. APPLY CURING COMPOUND AS SOON AS THE CONCRETE HAS SET SUFFICIENTLY TO PREVENT SURFACE DAMAGE, AND IN ALL CASES ON THE SAME DAY AS PLACEMENT.
12. SEALANT:
- A. UNLESS OTHERWISE SPECIFIED, ALL NEW EXPOSED INTERIOR FLOOR SURFACES SHALL BE SEALED WITH THE APPLICATION OF A STANDARD SEALING AND DUSTPROOFING SEALANT COMPLYING WITH ASTM C309, EQUAL TO "SIKAGARD®-180 KNS WB" AS MANUFACTURED BY SIKA CORPORATION, OR APPROVED EQUAL.
- B. ALL SURFACES SHALL BE PROPERLY CURED AS SPECIFIED ABOVE. PREPARE SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS PRIOR TO APPLICATION OF SEALANT. SURFACES SHALL BE CLEAN, DRY, AND FREE OF DUST, OIL, GREASE, OLD SEALERS AND ANY OTHER CONTAMINANTS THAT MAY INHIBIT PROPER BOND. REPAIR ANY DAMAGED AREAS OF EXISTING CONCRETE PRIOR TO APPLICATION.
- C. APPLY A COAT OF STANDARD DUSTPROOFING SEALANT AFTER ALL TRADES HAVE COMPLETED THEIR WORK AND THE FLOOR AREA IS READY FOR OCCUPANCY.
13. SPECIAL REQUIREMENTS:
- A. FOR CONCRETE THAT WILL BE EXPOSED THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT THE CONCRETE SURFACES DURING ORDERING, PLACING, FINISHING, AND CURING AND THROUGHOUT BUILDING CONSTRUCTION AND FINISH OPERATIONS.
- B. PROTECTION: THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO OR CONTAMINATION OF THE CONCRETE SURFACES IN AREAS WITH EXPOSED FLOOR FINISHES THROUGHOUT THE PROJECT.
- a. THE CONCRETE SURFACE SHALL BE TREATED AS A FINISHED SURFACE AT ALL TIMES DURING CONSTRUCTION.
- b. DO NOT ALLOW FOOD OR DRINK IN THESE AREAS.
- c. DO NOT PLACE OR STORE OBJECTS ON THE CONCRETE SURFACE FOR A MINIMUM OF SEVEN DAYS AFTER PLACEMENT.
- d. ALL LIFTS AND EQUIPMENT USED ON THE CONCRETE SURFACE SHALL HAVE NON-MARRING WHEELS OR TIRES.

033000: CAST-IN-PLACE CONCRETE (CONT.)

- e. DO NOT OPERATE EQUIPMENT LEAKING OILS OR PETROLEUM-BASED PRODUCTS ON THE CONCRETE SURFACE WITHOUT PROTECTION.
- f. DO NOT PERFORM PIPE CUTTING OR SIMILAR OPERATIONS ON THE CONCRETE SURFACE WITHOUT PROTECTION.
- g. PROTECT THE CONCRETE SURFACE FROM DAMAGE BY ONSITE TRADES AND CONSTRUCTION EQUIPMENT USING A BREATHABLE PROTECTION SYSTEM, SUCH AS 2-PLY OVERLAPPING KRAFT PAPER OR APPROVED EQUAL.
- h. IN AREAS WHERE OVERHEAD WORK IS REQUIRED, PROVIDE ADDITIONAL PROTECTION SUCH AS PLYWOOD OR OSB.
- C. EXAMINATION: THE FINISH SUBCONTRACTOR SHALL INSPECT THE CONCRETE SUBSTRATE AND NOTIFY THE CONTRACTOR OF UNSATISFACTORY CONDITIONS PRIOR TO PROCEEDING. VERIFY MOISTURE VAPOR EMISSION RATE PRIOR TO APPLICATION OF FLOOR FINISHES.
14. STANDARD CONCRETE STRENGTH TEST CYLINDERS SHALL BE PREPARED AND TESTED IN ACCORDANCE WITH APPLICABLE ACI AND ASTM STANDARDS. AN INDEPENDENT TESTING LABORATORY SHALL PERFORM TESTS AND REPORT RESULTS TO THE STRUCTURAL ENGINEER, CONTRACTOR AND OWNER.
- A. PROVIDE ONE SET OF CYLINDERS (FOUR CYLINDERS PER SET) FOR EACH 50 CUBIC YARDS, OR PORTION THEREOF, OF CONCRETE PLACED EACH DAY, WITH A MINIMUM OF ONE SET PER POUR.
- B. CYLINDERS SPECIFIED ABOVE ARE FOR THE OWNER'S USE IN DETERMINING ACCEPTABILITY OF THE CONCRETE. ADDITIONAL CYLINDERS REQUIRED FOR FORM STRIPPING OR CONTRACTOR USE SHALL BE PROVIDED BY THE CONTRACTOR.
- C. TEST ONE CYLINDER AT 7 DAYS, TWO AT 28 DAYS, AND HOLD THE FINAL CYLINDER, UNLESS NOTED OTHERWISE.
- D. TEST CYLINDER SHALL BE MADE FROM CONCRETE REPRESENTATIVE OF THE MATERIAL ACTUALLY PLACED. ADDITION OF WATER OR OTHER ACTIONS THAT MAY ALTER CONCRETE PROPERTIES AFTER SAMPLING MAY RESULT IN REJECTION OF THE CONCRETE. REJECTED CONCRETE SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- E. AS A MINIMUM, TESTING LAB TECHNICIAN SHALL NOTE AND RECORD:
- | | |
|-------------------------------|--|
| PROJECT NAME | CONCRETE TEMPERATURE |
| DATE AND TIME CONCRETE POURED | AMBIENT TEMPERATURE |
| REPORT NUMBER | AIR CONTENT (IF ENTRAINED) |
| TESTING LAB PERSONNEL | CONCRETE SUPPLIER |
| AREA OF CONCRETE PLACEMENT | TRUCK NUMBER |
| CYLINDER MARK | BATCH TICKET NUMBER |
| MIX NUMBER | 28 DAY STRENGTH REQUIREMENT |
| SLUMP | WATER ADDED TO TRUCK PRIOR TO SAMPLING |
- F. IN ADDITION, THE TESTING LAB TECHNICIAN SHALL RECORD ANY ADDITIONAL OBSERVATIONS THAT MAY AFFECT THE QUALITY OF THE CONCRETE WHILE ON SITE. SUCH OBSERVATIONS MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER ADDED AFTER SAMPLING, EXCESSIVE TIME BETWEEN INITIAL ADDITION OF WATER AND PLACEMENT, OR OTHER IMPROPER HANDLING OF CONCRETE.
15. THE CONTRACTOR SHALL MAINTAIN COPIES OF ALL BATCH TICKETS ON SITE UNTIL PROJECT COMPLETION AND SHALL MAKE THEM AVAILABLE FOR REVIEW UPON REQUEST BY THE PRIME OR STRUCTURAL ENGINEERS.
16. JOINTS:
- A. FORM JOINTS NOT INDICATED ON THE DRAWINGS TO MINIMIZE IMPAIRMENT OF STRUCTURAL STRENGTH AND APPEARANCE.
- a. DO NOT PERMIT HORIZONTAL JOINTS, EXCEPT WHERE SHOWN OR WHERE THEY OCCUR AT NORMAL CONSTRUCTION JOINTS.
- b. LOCATE VERTICAL JOINTS WITHIN THE MIDDLE ONE-THIRD OF SPANS, UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.
- c. MAINTAIN CONTINUOUS SOFFIT ALIGNMENT WHERE BEAMS OF VARYING DEPTHS INTERSECT.
- B. PREPARE JOINTS BETWEEN PIERS OR FOOTINGS AND SUPPORTED PILASTERS OR BEAMS BY ROUGHENING THE HARDENED CONCRETE SURFACE TO EXPOSE COARSE AGGREGATE UNIFORMLY, REMOVING LAITANCE AND LOOSE OR DAMAGED MATERIAL.
- C. SAW CUT CONTROL JOINTS ARE NOT REQUIRED IN STRUCTURAL SLABS.

(CONTINUED ON SHEET AS-07)



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				PROJECT NO. 2024-109				KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE		SHEET NO. AS-06
				DRAWN BY Jared Kelm					STRUCTURAL PLAN SPECIFICATIONS		
				DESIGNED BY Jim Winton, P.E.							OF 22
				APPROVED BY Jim Winton, P.E.							
NO.		DATE		REVISION		BY		© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510			Plot Date: Jul 20, 2026 - 10:02am Plotted By: JARED

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033000: CAST-IN-PLACE CONCRETE (CONT.)

- D. WHERE REQUIRED, SAW CUT CONTROL JOINTS SHALL BE MADE AS SOON AS THE CONCRETE CAN BE CUT WITHOUT EXCESSIVE RAVELING, TYPICALLY WITHIN 12 TO 24 HOURS AFTER PLACEMENT.
- a. SAW CUT JOINTS SHALL BE CUT USING DIAMOND BLADES APPROXIMATELY 1/8 INCH WIDE.
- b. **IMMEDIATELY PRIOR TO OCCUPATION BY OWNER.** CLEAN JOINTS WITH COMPRESSED AIR, PREPARE AS RECOMMENDED BY THE JOINT FILLER MANUFACTURER, AND FILL JOINTS WITH THE SPECIFIED FILLER.
- PROVIDE A SEMI-RIGID EPOXY JOINT FILLER MEETING THE FOLLOWING:
 - 100% SOLIDS, TWO-COMPONENT, LOW-SHRINK EPOXY EQUAL TO **"PRO-FLEX"** BY DAYTON SUPERIOR, OR APPROVED EQUAL.
 - SHORE A HARDNESS (ASTM D2240) 85 +/- 5
 - ULTIMATE ELONGATION (ASTM D638) MINIMUM 71%
- E. EXPANSION JOINTS:
- a. INSTALL EXPANSION JOINTS USING FULL-DEPTH BITUMINOUS JOINT FILLER OF THE THICKNESS INDICATED ON THE DRAWINGS.
- b. ENSURE JOINTS ARE STRAIGHT, TRUE AND FINISHED FLUSH WITH ADJACENT SURFACES. PROVIDE REMOVABLE "ZIP" STRIPS TO ALLOW FOR PROPER SEALANT INSTALLATION.
- c. SEALANT SHALL BE A ONE-COMPONENT, NON-PRIMING, SELF-LEVELING ELASTOMERIC POLYURETHANE SEALANT EQUAL TO **"SIKAFLEX® SL 1"** AS MANUFACTURED BY SIKA CORPORATION, OR APPROVED EQUAL.
- F. ALL BELOW GRADE JOINTS INDICATED ON THE DRAWINGS OR IN DETAILS SHALL INCLUDE APPROVED PVC WATERSTOPS. JOINTS NOT SHOWN BUT REQUIRED FOR CONSTRUCTION SHALL BE SUBMITTED TO AND APPROVED BY THE STRUCTURAL ENGINEER.
- a. WATERSTOPS SHALL BE:
- RIBBED CENTER-BULB PVC WATERSTOP, EQUAL TO SIKA® **"GREENSTREAK®"**
- b. INSTALL ALL WATERSTOPS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING SPLICES, TERMINATIONS AND INTERSECTIONS.
- c. WATERSTOPS USED IN POTABLE WATER STRUCTURES SHALL COMPLY WITH NSF/ANSI 61 AND SHALL MEET THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS SPECIFICATION CRD-C 572.
- d. PROVIDE FACTORY-FABRICATED FITTINGS FOR ALL INTERSECTIONS, INCLUDING "L", "T", "X", AND SIMILAR CONFIGURATIONS. FIELD-FABRICATED INTERSECTIONS ARE NOT PERMITTED UNLESS APPROVED.
- e. UNLESS NOTED OTHERWISE OR RECOMMENDED BY THE WATERSTOP MANUFACTURER:
- NON-MOVEMENT (CONSTRUCTION) JOINTS: PROVIDE FLAT RIBBED PVC WATERSTOPS, 1/4 INCH x 6 INCH.
 - MOVEMENT JOINTS: PROVIDE RIBBED CENTER-BULB PVC WATERSTOPS, 3/8 INCH x 9 INCH FOR EXPANSION JOINTS AND 1/4 INCH x 6 INCH FOR CONTRACTION JOINTS.
 - WALL BASE JOINTS: PROVIDE RIBBED CENTER-BULB PVC WATERSTOPS, 3/8 INCH x 6 INCH.
- f. SECURE WATERSTOPS IN POSITION USING GROMMETS, PRE-PUNCHED HOLES, OR HOG RINGS AT 12 INCHES ON CENTER, TIED TO REINFORCEMENT TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.
17. INSERTS, SLEEVES, AND BLOCK-OUTS:
- A. PRIOR TO CONCRETE PLACEMENT, ALL DRAWINGS SHALL BE REVIEWED AND PROVIDE ALL REQUIRED BLOCK-OUTS. PROVIDE AND COORDINATE THE PLACEMENT OF EMBEDS AND ALL OTHER DEVICES REQUIRED FOR ATTACHMENT OF OTHER WORK.
- B. ALL PIPE SLEEVES IN CONCRETE MEMBERS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE OR PVC, UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS. SLEEVE LOCATIONS SHALL BE SUBMITTED AND APPROVED BY THE STRUCTURAL ENGINEER. PROVIDE TWO ADDITIONAL STIRRUPS ON EACH SIDE OF SLEEVES IN BEAMS, SPACED AS DIRECTED BY THE STRUCTURAL ENGINEER.
- C. ALL PIPE PENETRATIONS SHALL BE WRAPPED WITH PROTECTIVE SHEATHING COMPATIBLE WITH CONCRETE AND CAPABLE OF RESISTING CHEMICAL ATTACK FROM CONCRETE AND ALLOWING FOR THERMAL EXPANSION AND CONTRACTION OF THE PIPING. MINIMUM SHEATHING WALL THICKNESS SHALL BE 0.025 INCHES.

033000: CAST-IN-PLACE CONCRETE (CONT.)

18. VAPOR RETARDER UNDER BUILDING SLABS:
- A. **UNDER BUILDING SLAB**, PROVIDE A MINIMUM 10-MIL MULTI-LAYER PLASTIC EXTRUSION VAPOR RETARDER MANUFACTURED WITH POLYOLEFIN RESINS, CONFORMING TO ASTM E1745, CLASS C OR BETTER, WITH A MAXIMUM WATER VAPOR PERMEANCE OF 0.0209 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM F1249, EQUAL TO **"SEGO® WRAP 10-MIL CLASS C VAPOR BARRIER"**, OR APPROVED EQUAL.
- B. **UNDER GROUND STORAGE TANK SLAB**, PROVIDE A MINIMUM 15-MIL MULTI-LAYER PLASTIC EXTRUSION VAPOR RETARDER MANUFACTURED WITH POLYOLEFIN RESINS, CONFORMING TO ASTM E1745, CLASS C OR BETTER, WITH A MAXIMUM WATER VAPOR PERMEANCE OF 0.0086 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM F1249, EQUAL TO **"SEGO® WRAP 15-MIL VAPOR BARRIER"**, OR APPROVED EQUAL.
- C. INSTALL THE VAPOR RETARDER IN ACCORDANCE WITH ASTM E1643, "STANDARD PRACTICE FOR THE SELECTION, DESIGN, INSTALLATION AND INSPECTION OF WATER VAPOR RETARDERS USED IN CONTACT WITH EARTH OR GRANULAR FILL UNDER CONCRETE SLABS".
- a. PLACE SHEETING OVER A LEVEL SAND CUSHION. LAP SHEETING ACROSS THICKENED SECTIONS AS SHOWN ON THE DRAWINGS AND SECURE TO FORMS USING TAPE OR MECHANICAL FASTENERS AS APPROPRIATE.
- D. JOINTS, PENETRATIONS, AND REPAIRS:
- a. LAP ALL SHEET JOINTS A MINIMUM OF 8 INCHES.
- SEAL LAPPED JOINTS WITH A LOW-PERMEANCE, PRESSURE-SENSITIVE TAPE SPECIFICALLY RECOMMENDED BY THE SHEETING MANUFACTURER.
- b. SEAL AROUND ALL PENETRATIONS THROUGH THE VAPOR RETARDER USING MANUFACTURER-RECOMMENDED LOW-PERMEANCE TAPE OR WATER-BASED ASPHALT EMULSION MASTIC.
- c. PATCH ALL TEARS AND DAMAGE IN THE VAPOR RETARDER WITH MATERIAL OF THE SAME TYPE.
- SMALL TEARS MAY BE REPAIRED WITH TAPE.
 - LARGER TEARS SHALL BE PATCHED WITH A PIECE OF SECTION OF SHEETING, EXTENDING A MINIMUM OF 6 INCHES BEYOND THE DAMAGED AREA IN ALL DIRECTIONS AND SEALED.
- d. ENSURE SHEETING IS CLEAN AND DRY PRIOR TO APPLICATION OF TAPE OR MASTIC.
- e. DO NOT DRIVE GRADE STAKES THROUGH THE VAPOR RETARDER. WHERE PENETRATIONS CANNOT BE AVOIDED, SEAL ALL PENETRATIONS IN ACCORDANCE WITH THE REQUIREMENTS ABOVE PRIOR TO CONCRETE PLACEMENT.

040000: MASONRY

1. THIS PLAN SPECIFICATION IS FOR STRUCTURAL LOAD-BEARING MASONRY WORK DESIGNED BY THE STRUCTURAL ENGINEER AND INDICATED ON THE STRUCTURAL PLANS. REFER TO PLANS AND SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL INFORMATION ON REQUIRED FIRE-RATINGS, FINISHES, VENEER, FLASHINGS, WATERPROOFING, ACCESSORIES, CLEANING, AND RELATED NON-STRUCTURAL ITEMS. IF DISCREPANCIES AFFECTING STRUCTURAL WORK EXIST, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE DIRECTED.
2. ALL MASONRY WORK SHALL BE IN ACCORDANCE WITH THE:
- A. TMS STANDARD 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- B. TMS STANDARD 602-16: SPECIFICATION FOR MASONRY STRUCTURES
3. LOAD-BEARING CMU SHALL BE HOLLOW, OF MEDIUM OR NORMAL WEIGHT, 16" LONG x 8" HIGH (NOMINAL) UNITS, COMPLYING WITH ASTM C90.
- A. UNITS SHALL BE SMOOTH FACED OR SPLIT FACED AS SHOWN ON THE DRAWINGS.
- B. OBTAIN ALL UNITS FROM A SINGLE MANUFACTURER, WITH UNIFORM TEXTURE AND COLORS. COLORS SHALL BE AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD SELECTION.
- C. PROVIDE SPECIAL SHAPES AS SHOWN ON PLANS AND AS OTHERWISE REQUIRED.
- D. UNITS SHALL BE LAID IN RUNNING BOND.
- E. UNITS SHALL HAVE NET AREA COMPRESSIVE STRENGTH, F'm, OF 2,000 PSI OR MORE.
- F. ALL EXTERIOR CMU SHALL BE PROVIDED WITH INTEGRAL WATER REPELLENT BLOCK ADMIXTURE, EQUAL TO **"DRY-BLOCK"** BY GCP APPLIED TECHNOLOGIES. WATER REPELLENT CMU SHALL COMPLY WITH THE PERFORMANCE CRITERIA OF NMCA TEK 19-7.

040000: MASONRY (CONT.)

- G. UPON COMPLETION, ALL MASONRY SHALL BE CLEANED AND SEALED ON BOTH INTERIOR AND EXTERIOR SURFACES WITH (2) COATS OF A CLEAR, PENETRATING MODIFIED SILOXANE/SILANE WATER REPELLENT, EQUAL TO **"PRIME-A-PELL PLUS"** BY TNEMEC OR APPROVED EQUAL.
- a. **NOTE: AT AREAS INDICATED ON THE DRAWINGS OR SCHEDULES TO BE PAINTED OR HAVE AN EPOXY COATING, THIS SEALANT SHALL NOT BE APPLIED. APPLICATION OF SEALANT WILL AFFECT ADHESION OF FINISH PRODUCT.**
- b. A TEST APPLICATION MUST BE PERFORMED IN ORDER TO DETERMINE EXACT COVERAGE RATES AND COMPATIBILITY. PROVIDE ADDITIONAL MATERIAL IF REQUIRED TO PROPERLY TREAT THE MASONRY FOR WATER REPELLENCY.
- c. ALL MATERIALS SHALL BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
4. MORTAR SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C270.
- A. TYPE "M" MORTAR SHALL BE USED FOR ALL MASONRY IN DIRECT CONTACT WITH SOILS AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
- B. TYPE "S" MORTAR SHALL BE USED FOR ALL OTHER MASONRY AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 1,800 PSI.
- C. COLORS SHALL BE AS SELECTED BY THE OWNER FROM MANUFACTURER'S STANDARD SELECTION.
- D. ALL EXTERIOR CMU MORTAR SHALL INCORPORATE AN INTEGRAL WATER REPELLENT ADMIXTURE, EQUAL TO **"DRY-BLOCK"** MORTAR ADMIXTURE, AS MANUFACTURED BY GCP APPLIED TECHNOLOGIES OR APPROVED EQUAL.
5. MASONRY GROUT SHALL COMPLY WITH ASTM C476.
- A. GROUT SHALL COMPLY WITH TMS 602 FOR THE DIMENSIONS OF GROUT SPACES AND POUR HEIGHT.
- B. GROUT SHALL HAVE 28-DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
- C. GROUT SLUMP SHALL BE 8" TO 11" AS MEASURED ACCORDING TO ASTM C143.
6. REFER TO SPECIFICATIONS, STRUCTURAL PLANS, WALL SECTIONS, SCHEDULES, DETAILS, ETC. FOR FIRE RATING REQUIREMENTS OF CMU, LOCATIONS OF BOND BEAMS, FILLED CELLS, LINTELS, SPECIAL SHAPES, WALL TIES, FLASHINGS, EMBEDDED ITEMS, AND GENERAL MASONRY REQUIREMENTS.
7. REINFORCING BARS IN FILLED CELLS, BOND BEAMS AND LINTELS SHALL CONFORM TO ASTM A615, GRADE 60.
8. HORIZONTAL JOINT REINFORCING:
- A. HORIZONTAL REINFORCING FOR SINGLE WIDTH WALLS SHALL BE STANDARD LADDER TYPE.
- B. SIDE RODS AND CROSS RODS SHALL BE MINIMUM 9 GAUGE CARBON STEEL, COMPLYING WITH ASTM A951 AND A1064 (80,000 PSI TENSILE STRENGTH). UNITS SHALL BE PROVIDED IN LENGTHS OF 10', WITH CROSS RODS SPACED AT 16" ON CENTER.
- C. WIDTH OF HORIZONTAL REINFORCING SHALL BE SELECTED BASED ON BLOCK WIDTH AND CAVITY DIMENSIONS. PROVIDE MINIMUM 5/8" COVER, OR AS OTHERWISE REQUIRED BY TMS STANDARDS.
- D. LOCATE HORIZONTAL REINFORCING ABOVE FIRST COURSE FROM BOTTOM AND BELOW LAST COURSE AT TOP OF ALL WALLS, ABOVE CMU LINTEL/BOND BEAM OVER OPENINGS, AND AT NO MORE THAN 16" ON CENTER BETWEEN.
- E. PROVIDE PREFABRICATED CORNER AND TEE UNITS.
- F. FINISH:
- a. ALL HORIZONTAL REINFORCING IN WALLS WHICH HAVE ANY EXTERIOR EXPOSURE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS B-2 (1.5 OZ/SF SURFACE AREA).
- b. HORIZONTAL REINFORCING IN INTERIOR WALLS WHICH HAVE NO EXTERIOR EXPOSURE MAY BE MILL GALVANIZED IN ACCORDANCE WITH ASTM A641 (0.10 OZ/SF SURFACE AREA), OR HOT-DIP GALVANIZED AS SPECIFIED ABOVE.
- G. **ALL HORIZONTAL REINFORCING IN CORROSIVE AREAS SHALL BE TYPE 316 STAINLESS STEEL.**
9. CONTROL JOINTS:
- A. ALL CONTROL JOINTS INDICATED ON PLANS/SECTIONS SHALL BE PROVIDED WITH A PREFORMED EXTRUDED RUBBER JOINT GASKET DESIGNED FOR MASONRY WALLS, EQUAL TO **"RS STANDARD"** AS MANUFACTURED BY HOHMANN & BARNARD, INC., OR APPROVED EQUAL.
- a. RUBBER MATERIAL SHALL CONFORM TO ASTM D2000 M2AA-805 (TYPE RUBBER 654-06) WITH A DUROMETER HARDNESS OF 80 (+/- 5) WHEN TESTED IN CONFORMANCE WITH ASTM D2240.

(CONTINUED ON SHEET AS-08)

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. **AS-07**

OF **22**

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DESIGNED BY	Jim Winton, P.E.
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DATE	July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_AS-01.dwg

READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

040000: MASONRY (CONT.)

10. SUBMIT SHOP DRAWINGS FOR ALL MASONRY MATERIALS AND ACCESSORIES, INCLUDING:
- A. MANUFACTURER'S DATA AND INFORMATION SUFFICIENT TO INDICATE COMPLIANCE WITH THE REQUIREMENTS OF THIS SECTION.
 - B. LAYOUT OF ALL REINFORCING TO BE PROVIDED, ADEQUATELY DETAILED INCLUDING ACCESSORIES.
 - C. SAMPLES OF ALL MASONRY UNITS AND MORTAR COLORS. PROVIDE A MINIMUM 8'x8' MOCKUP ON-SITE FOR OWNER'S APPROVAL OF ALL COLORS, TEXTURES, AND INSTALLATION. (PORTIONS OF FINAL STRUCTURES MAY BE UTILIZED FOR MOCKUPS AT CONTRACTOR'S SOLE RISK.)
11. DELIVER, STORE, AND HANDLE ALL MASONRY UNITS AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GENERAL INDUSTRY STANDARDS.
12. ALL STRUCTURAL ATTACHMENTS TO CMU WALLS SHALL BE MADE WITH EMBEDDED ANCHOR BOLTS OR APPROVED POST-INSTALLED FASTENERS. ALL FASTENERS SHALL BE INSTALLED INTO FILLED CELLS OR BOND BEAMS WITH PROPER CLEARANCES AS REQUIRED BY THE FASTENER MANUFACTURER AND APPROPRIATE CODES. **MOLLY TYPE BOLTS AND EXPANSION ANCHORS ARE SPECIFICALLY PROHIBITED.**
13. REINFORCE ALL JAMBS, CORNERS, INTERSECTIONS, ETC., WITH ONE VERTICAL BAR IN FILLED CELL. BAR SIZE SHALL MATCH THAT OF VERTICAL BAR REQUIRED IN ADJACENT WALL, UNLESS OTHERWISE NOTED ON PLANS.
14. UNLESS NOTED OTHERWISE ON THE DRAWINGS, REINFORCE CMU WALLS AND BOND BEAMS AS FOLLOWS:
- A. 8" WALLS UNDER 14' TALL SHALL BE REINFORCED WITH (1) #4 VERTICAL IN FILLED CELLS AT 48" O.C.
 - B. 8" WALLS OVER 14' TO 18'-8" SHALL BE REINFORCED WITH (1) #5 VERTICAL IN FILLED CELLS AT 48" O.C., EXCEPT THAT REINFORCING IN FIRST 8' FROM EXTERIOR CORNERS SHALL BE #5 IN FILLED CELL AT 32" O.C.
 - C. WHERE OPENINGS IN EXTERIOR WALLS EXCEED THE SPECIFIED REBAR SPACING, PROVIDE ADDITIONAL FILLED CELLS EACH SIDE OF OPENING EQUAL TO THE NUMBER OF FILLED CELLS DISPLACED BY THE OPENING.
 - D. VERTICAL REINFORCING SHALL BE CONTINUOUS THROUGH BOND BEAMS. FOR BOND BEAMS AT TOP OF WALL, EXTEND VERTICAL REINFORCING TO 1" CLEAR OF TOP OF BOND BEAM.
 - E. REINFORCE 8" WIDE x 8" DEEP CMU BOND BEAMS WITH ONE (1) #4, AND 8" WIDE x 16" DEEP CMU BOND BEAMS WITH TWO (2) #5 CONTINUOUS. REFER TO PLAN DETAILS FOR INSTALLATION LOCATIONS.
 - F. **NOTE THAT THE ABOVE REQUIREMENTS ARE MINIMUM. ADDITIONAL REINFORCING INDICATED ON PLANS IS TO BE INSTALLED IN ADDITION TO THE REQUIREMENTS ABOVE.**
15. REINFORCING BARS SHALL BE LOCATED IN THE CENTER OF A CELL AND SHALL BE LAP SPICED A MINIMUM OF 24" FOR #4 REBAR, 30" FOR #5 REBAR, AND 36" FOR #6 REBAR. WIRE TIE BARS NEAR EACH END OF THE LAP. CELLS SHALL BE FILLED WITH THE SPECIFIED CONCRETE AFTER EVERY SIXTH COURSE.
16. CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS.
- A. IF NOT SHOWN, JOINTS SHALL GENERALLY BE LOCATED WITHIN 10'-0" OF CORNERS AND A MAXIMUM SPACING OF 20'-0" O.C. BETWEEN.
 - B. CONTRACTOR SHALL SUBMIT A PROPOSED JOINTING PLAN PRIOR TO BEGINNING ANY WORK IN THE FIELD.
17. ALL JOINTS SHALL BE TOOLED.

051200: STRUCTURAL STEEL

1. STRUCTURAL STEEL DETAILING, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH
- A. AISC 303-16: CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES
 - B. AISC 360-16: SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
2. ALL STRUCTURAL STEEL SHALL BE FABRICATED IN A FACILITY OPERATING UNDER THE GENERAL REQUIREMENTS OF AN AISC-CERTIFIED FABRICATOR UNDER THE BUILDING FABRICATOR CERTIFICATION PROGRAM, CATEGORY STD, UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL.
3. SUBMIT SHOP AND ERECTION DRAWINGS FOR ALL STRUCTURAL STEEL WORK FOR THE STRUCTURAL ENGINEER'S REVIEW PRIOR TO FABRICATION.
- A. STEEL SHOP DRAWINGS SHALL INCLUDE ALL NEW MATERIAL AFFECTED BY THE WORK.
 - B. IN ADDITION TO THE DETAILING OF SHOP FABRICATION, THE SHOP DRAWINGS SHALL ADEQUATELY DETAIL ALL FIELD CONNECTIONS.
 - C. SHOW WELD SIZES, INCLUDING LENGTHS AND LOCATIONS, FOR WELDED CONNECTIONS.
 - D. SHOW BOLT SIZES, GRADES, AND LOCATIONS FOR ALL BOLTED CONNECTIONS.
4. VERIFY ALL DIMENSIONS REQUIRED FOR FABRICATION AND ERECTION, INCLUDING FIELD MEASUREMENTS WHERE APPLICABLE. THE FABRICATOR AND ERECTOR SHALL BE RESPONSIBLE FOR PROPER FIT-UP OF FRAMING.
5. ALL APPROVED OPENINGS AND SLEEVES, IF ANY, IN STRUCTURAL STEEL MEMBERS ARE NOTED ON THE STRUCTURAL DRAWINGS AND SHALL BE SHOP CUT ONLY. **FIELD CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED UNLESS APPROVED IN ADVANCE BY THE STRUCTURAL ENGINEER.**
6. ALL EXPOSED SHEARED AND THERMALLY CUT EDGES SHALL BE PLANED OR FINISHED SMOOTH.
7. ALL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, 50 KSI.
8. ALL STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B, Fy = 35 KSI.
9. ALL HOLLOW STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B, Fy = 46 KSI OR ASTM A1085, Fy = 50 KSI.
10. ALL OTHER STRUCTURAL STEEL, INCLUDING PLATE AND SHEET MATERIAL, SHALL CONFORM TO ASTM A36, Fy = 36 KSI.
11. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 36 OR 55 AS INDICATED. PROVIDE LEVELING NUTS BELOW BASE PLATES AND HEAVY HEX NUTS ABOVE, WITH HARDENED WASHERS. AFTER FINAL ALIGNMENT AND PLUMBING OF COLUMNS, BASE PLATES SHALL BE FULLY GROUTED WITH NON-SHRINK GROUT TO ACHIEVE FULL BEARING.
12. ALL BOLTED CONNECTIONS SHALL COMPLY WITH THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" AND SHALL USE ASTM F3125 GRADE A325 BOLTS, ASTM A563 NUTS AND ASTM F436 WASHERS.
- A. HARDENED WASHERS SHALL BE PROVIDED ON NUT SIDE OF BOLT FOR TORQUING AS REQUIRED. WASHERS SHALL BE USED UNDER THE BOLT HEAD AND NUT WHEN OVERSIZED HOLES OR SLOTTED HOLES OCCUR IN THE OUTSIDE PLATES OF A JOINT.
13. UNLESS OTHERWISE NOTED, BOLTED CONNECTIONS SHALL USE SNUG-TIGHTENED JOINTS. SNUG-TIGHT IS THE CONDITION ATTAINED USING A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
14. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE SELECTED FROM THE CURRENT AISC STEEL CONSTRUCTION MANUAL.
- A. UNLESS NOTED OTHERWISE, BEAM-TO-BEAM AND BEAM-TO-COLUMN CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE REQUIRED SHEAR STRENGTH OF THE CONNECTED BEAM.
 - B. WHERE THE REQUIRED SHEAR STRENGTH IS NOT DESIGNATED ON THE DRAWINGS, DESIGN FOR A MINIMUM OF **55 PERCENT** OF THE ALLOWABLE UNIFORM LOAD ON THE BEAM.
 - C. UNLESS NOTED OTHERWISE, USE SIMPLE SHEAR CONNECTIONS CONSISTENT WITH THE DESIGN LOADS INDICATED ON THE DRAWINGS AND APPLICABLE AISC DESIGN REQUIREMENTS.
15. SCHEMATIC CONNECTION DETAILS ARE PROVIDED AS AN AID TO THE STRUCTURAL STEEL FABRICATOR FOR DETAILING TYPICAL CONNECTIONS. THE FABRICATOR MAY, AT ITS OPTION, DETAIL CONNECTIONS IN A MODIFIED MANNER OTHER THAN THAT SHOWN, PROVIDED THE FINAL CONNECTION DETAILS ARE SUBMITTED FOR THE STRUCTURAL ENGINEER'S APPROVAL.
16. SHOP-FABRICATED STRUCTURAL STEEL MEMBERS SHALL BE CLEANED IN ACCORDANCE WITH **SSPC-SP 2** AND SHALL RECEIVE THE FABRICATOR'S STANDARD LEAD- AND CHROMATE-FREE RUST-INHIBITING SHOP COAT, EXCEPT WHERE EMBEDDED IN CONCRETE OR MORTAR, WHERE FIELD WELDING IS REQUIRED, OR WHERE MEMBERS ARE TO BE GALVANIZED.
- A. **WHERE PERMANENTLY EXPOSED, STEEL SHALL BE PREPARED IN ACCORDANCE WITH SSPC-SP 6 PRIOR TO PAINTING. ALL SEAMS SHALL BE ORIENTED TO THE LEAST VISIBLE SIDE.**

051200: STRUCTURAL STEEL (CONT.)

17. WHERE INDICATED ON THE DRAWINGS, STRUCTURAL STEEL, INCLUDING PLATE MATERIAL, SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123/A23M. FASTENERS AND HARDWARE TO BE GALVANIZED SHALL COMPLY WITH ASTM A153/A153M, WHERE APPLICABLE.
- A. ALL JOINTS NOT REQUIRING STRUCTURAL WELDING SHALL BE SEAL WELDED WITH 1/8" WELDS PRIOR TO GALVANIZING.
 - B. PROVIDE ZINC PLUGS, OF DIAMETER REQUIRED, IN ALL VENT HOLES.
 - C. REPAIR OF DAMAGED AREAS:
 - a. AT THE GALVANIZING PLANT:
 - THE TOTAL SIZE OF THE DAMAGED AREA THAT MAY BE REPAIRED SHALL COMPLY WITH REQUIREMENTS OF ASTM A123.
 - b. FIELD REPAIRS:
 - ALL FIELD REPAIRS SHALL BE KEPT TO A MINIMUM, CONSISTING OF REPAIRS TO MINOR SCRAPES AND BLEMISHES OCCURRED DURING INSTALLATION. EXCESSIVE AREAS REQUIRING REPAIR WILL NOT BE ACCEPTABLE AND MAY REQUIRE REMOVAL AND REPLACEMENT OF MATERIALS. NOTIFY THE STRUCTURAL ENGINEER IF SUCH AN INSTANCE OCCURS.
 - ALL REPAIR WORK PERFORMED ONSITE DURING INSTALLATION SHALL IN ACCORDANCE WITH ASTM A780/A780M.
 - DAMAGED AREA MUST BE DRY AND CLEAN OF OIL, GREASE, EXISTING COATING, CORROSIVE PRODUCTS, OR ANY OTHER MATERIALS THAT WILL AFFECT ADHESION.
 - ALL DAMAGED AREAS SHALL BE COATED WITH A ZINC-RICH PAINT, EQUAL TO **"7000 SYSTEM COLD GALVANIZING COMPOUND"** AS MANUFACTURED BY RUSTOLEUM®, OR **"ZRC® COLD GALVANIZING REPAIR COMPOUND"** AS MANUFACTURED BY ZRC WORLDWIDE®.
 - ZINC-RICH PAINT MUST CONTAIN 92%-95% METALLIC ZINC IN DRY FILM.
 - ZINC-RICH PAINT SHALL BE APPLIED WITH A FILM THICKNESS 50% GREATER THAN THE MINIMUM REQUIRED ZINC THICKNESS FOR THE REMAINDER OF THE GALVANIZED MEMBER, AS SPECIFIED IN ASTM A123. COATING SHALL NOT BE GREATER THAN 4.0 MILS, AS CRACKING OR FLAKING MAY OCCUR. COATING THICKNESS SHALL BE MEASURED USING A MAGNETIC, ELECTROMAGNETIC, OR EDDY CURRENT GAUGE.
18. SPLICING OF STRUCTURAL STEEL MEMBERS, WHERE NOT DETAILED, SHALL NOT BE ALLOWED.
19. ALL BEAMS SHALL BE CAMBERED UPWARD BY THE AMOUNTS SHOWN ON THE DRAWINGS.
- A. BEAMS WITHOUT A SPECIFIED CAMBER SHALL BE ORIENTED SUCH THAT ANY INCIDENTAL MILL CAMBER IS UPWARD.
 - B. TOLERANCE ON CAMBER SHALL BE -0" TO +3/8".
 - C. CAMBER SHALL BE AS MEASURED IN THE FIELD.
20. ALL WELDING SHALL CONFORM TO AWS D1.1, STRUCTURAL WELDING CODE - STEEL. ELECTRODES FOR FIELD AND SHOP WELDING SHALL CONFORM TO AWS A5.1 (E70 SERIES).
- A. WELD SIZES NOT INDICATED SHALL MEET AWS MINIMUM REQUIREMENTS.
 - B. FILLET WELDS NOT SPECIFIED AS TO LENGTH SHALL BE CONTINUOUS.
 - C. ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS.
21. ALL STRUCTURAL STEEL ERECTION SHALL BE SET ACCURATELY IN LOCATIONS AND TO ELEVATIONS INDICATED ON THE DRAWINGS, AND ACCORDING TO AISC 303 AND ANSI/AISC 360.
- A. THE VARIATION FROM PLUMB FOR AN INDIVIDUAL COLUMN INTENDED TO BE VERTICAL SHALL BE EQUAL TO OR LESS THAN 1/500 OF THE DISTANCE BETWEEN THE WORKING POINTS. (WORKING POINTS SHALL BE THE ACTUAL CENTERLINE OF THE MEMBER AT EACH END OF THE PIECE.)
 - B. FOR AN INDIVIDUAL COLUMN, THE ALLOWED HORIZONTAL VARIATION IN LOCATION FROM THE SPECIFIED POSITION AT THE BASE SHALL BE EQUAL TO OR LESS THAN 1/4" IN ANY DIRECTION.
22. ALL STRUCTURAL STEEL ERECTION SHALL ALSO COMPLY WITH THE REQUIREMENTS OF OSHA CONSTRUCTION STANDARD 29 CFR 1926, SUBPART R.
- A. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE TEMPORARY BRACING TO ASSURE STRUCTURAL STABILITY DURING CONSTRUCTION.



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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-08
OF 22

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READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

055000: METAL FABRICATIONS

1. THIS PLAN SPECIFICATION APPLIES TO METAL FABRICATIONS DESIGNED OR SPECIFIED BY THE STRUCTURAL ENGINEER. REFER TO DRAWINGS AND SPECIFICATIONS PREPARED BY OTHER DISCIPLINES FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE AND INSTALL ALL MISCELLANEOUS METAL ITEMS AND FABRICATIONS AS SHOWN ON THE DRAWINGS, SCHEDULES, DETAILS AND AS REQUIRED FOR A COMPLETE INSTALLATION.
3. MISCELLANEOUS METALS MAY INCLUDE, BUT ARE NOT LIMITED TO:

A. CONCRETE EMBEDS
4. EACH ITEM SHALL BE SECURELY INSTALLED AND PROPERLY ANCHORED TO ADJOINING CONSTRUCTION.
5. SUBMIT SHOP DRAWINGS AND ERECTION DRAWINGS FOR ALL MISCELLANEOUS METAL ITEMS.
6. MATERIALS:

A. STEEL BARS, PLATES, AND SHAPES: ASTM A36.

B. CASTINGS: SOFT GRAY IRON, ALUMINUM, OR BRONZE.

C. ALUMINUM SHAPES, PLATES, AND EXTRUSIONS: 6061-T6.

D. STAINLESS STEEL SHAPES, PLATES, AND EXTRUSIONS: TYPE 304.
7. PROVIDE FASTENERS FOR ALL MATERIALS. SEPARATE DISSIMILAR MATERIALS WHERE REQUIRED.

A. EXPANSION ANCHORS: HILTI "KWIK-BOLT 3" OR APPROVED EQUAL.

B. ADHESIVE ANCHORS: HILTI "HIT" ANCHORS OR APPROVED EQUAL.

C. MASONRY FASTENERS: HILTI "KWIK-CON II+" OR APPROVED EQUAL.

D. METAL-TO-METAL AND METAL-TO-WOOD FASTENERS: AS SHOWN ON DRAWINGS OR PER MANUFACTURER RECOMMENDATIONS.
8. ALL FERROUS METALS SHALL BE CLEANED PER SSPC-SP2 AND RECEIVE ONE SHOP COAT OF RUST-RESISTING, LEAD- AND CHROMATE-FREE PRIMER, EXCEPT:

A. ITEMS EMBEDDED IN CONCRETE OR MORTAR

B. ITEMS RECEIVING FIRE-RESISTIVE MATERIALS

C. ITEMS TO BE FIELD WELDED

D. ITEMS TO BE GALVANIZED
9. WHERE GALVANIZING IS INDICATED, GALVANIZE PER ASTM A123/A153 AFTER FABRICATION.

A. SEAL-WELD ALL NON-STRUCTURAL JOINTS PRIOR TO GALVANIZING.

B. PROVIDE ZINC PLUGS FOR ALL VENT HOLES.
10. EXECUTION:

A. CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS PRIOR TO PREPARING FINAL SHOP DRAWINGS AND FABRICATION.

B. INSPECT SITE CONDITIONS PRIOR TO INSTALLATION. DO NOT PROCEED UNTIL CONDITIONS DETRIMENTAL TO PROPER INSTALLATION ARE CORRECTED.
11. ALL WELDING SHALL CONFORM TO AWS D1.1, STRUCTURAL WELDING CODE - STEEL. ELECTRODES FOR FIELD AND SHOP WELDING SHALL CONFORM TO AWS A5.1 (E70 SERIES).

A. WELD SIZES NOT INDICATED SHALL MEET AWS MINIMUM REQUIREMENTS.

B. FILLET WELDS NOT SPECIFIED AS TO LENGTH SHALL BE CONTINUOUS.

C. ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS.

061000: WOOD AND WOOD FRAMING

1. LUMBER AND ITS FASTENINGS SHALL CONFORM TO THE "NATIONAL DESIGN SPECIFICATIONS OF WOOD CONSTRUCTION" (2018 EDITION WITH 2018 NDS SUPPLEMENT), AS PUBLISHED BY THE AMERICAN WOOD COUNCIL.
2. WOOD FRAMING AND RELATED ACCESSORIES, INCLUDING FIRESTOPPING, NOT SPECIFICALLY DETAILED SHALL COMPLY WITH THE APPLICABLE BUILDING CODE MINIMUM REQUIREMENTS.
3. PROVIDE ADEQUATE TEMPORARY BRACING TO MAINTAIN STRUCTURAL STABILITY DURING CONSTRUCTION.

061000: WOOD AND WOOD FRAMING (CONT.)

4. COORDINATE WOOD FRAMING WITH OTHER TRADES. PROVIDE ADDITIONAL FRAMING AS REQUIRED AT OPENINGS AND PENETRATIONS FOR LIGHTING, DUCTWORK, HVAC EQUIPMENT, AND OTHER BUILT-IN ITEMS.

A. WHERE AN OPENING EXCEEDS THE TYPICAL FRAMING SPACING SHOWN ON THE PLANS, PROVIDE DOUBLE MEMBERS ALONG EACH SIDE OF THE OPENING AND HEADERS AT EACH END WITH PROPERLY SIZED HANGERS, UNLESS OTHERWISE DIRECTED.

B. NOTIFY THE STRUCTURAL ENGINEER WHEN AN OPENING SIZE OR LOCATION REQUIRES MODIFICATION OF MORE THAN ONE FRAMING MEMBER.
5. SUBMIT PRODUCT DATA TO THE STRUCTURAL ENGINEER BEFORE FABRICATION OR INSTALLATION.

A. INCLUDE LUMBER AND PLYWOOD TYPES, SPECIES, GRADES, AND TREATMENTS, IF APPLICABLE.

B. INCLUDE INFORMATION ON PRESERVATIVES OR FIRE RESISTANCE TREATMENT IF APPLICABLE.

C. INCLUDE STEEL HARDWARE, INCLUDING CLIPS, BRACKETS, HANGERS, HOLDOWNS, AND ASSOCIATED FASTENERS.
6. ALL LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED TESTING AGENCY, AND SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS, **UNLESS OTHERWISE NOTED ON THE DRAWINGS:**

A. PLATE STOCK: NO. 3 OR BETTER SOUTHERN PINE (SPIB).

B. BLOCKING, FURRING, AND NAILERS SHALL BE UTILITY GRADE OR BETTER SOUTHERN PINE (SPIB), DOUGLAS FIR (WWPA), SPRUCE-PINE-FIR (NLGA).
7. ALL LUMBER IN PERMANENT CONTACT WITH MASONRY, CONCRETE OR EARTH SHALL BE TREATED WITH A WATERBORNE PRESERVATIVE (CA, ACQ, MCA) IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION STANDARD U1-18.

A. SILL PLATES AND OTHER ABOVE GRADE MEMBERS IN CONTACT WITH CONCRETE OR IN DAMP LOCATIONS - UC2 INTERIOR DAMP.

B. WOOD USED IN ABOVE GROUND EXTERIOR CONSTRUCTION WHICH IS PROTECTED BY A COATING AND CONSTRUCTED SUCH THAT WATER WILL DRAIN QUICKLY FROM THE SURFACE - UC3A ABOVE GROUND PROTECTED.

C. WOOD USED IN ABOVE GROUND EXTERIOR CONSTRUCTION WHICH IS UNPROTECTED - UC3B ABOVE GROUND EXPOSED.

D. WOOD USED IN CONTACT WITH THE GROUND OR FRESH WATER OR OTHER SITUATIONS FAVORABLE TO DETERIORATION, OR WHICH MAY BE DIFFICULT TO MAINTAIN, REPAIR, OR REPLACE AND WHICH ARE CRITICAL TO THE PERFORMANCE AND SAFETY OF SYSTEMS - UC4A GROUND CONTACT.

E. FOR CONDITIONS NOT LISTED ABOVE, COMPLY WITH AWP A U1.

F. ALL TREATED LUMBER SHALL BE DRIED AFTER TREATMENT TO A MAXIMUM MOISTURE CONTENT OF 19%.

G. FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES IN TREATED LUMBER SHALL BE TREATED WITH A COPPER NAPHTHENATE- OR OXINE COPPER-BASED PRESERVATIVE IN ACCORDANCE WITH THE WOOD MANUFACTURER'S RECOMMENDATIONS AND AWP A STANDARD M4.
8. MISCELLANEOUS PLYWOOD:

A. FILLER STRIPS - CD-X VENEER CORE

B. MISC. DECKING - CD-X VENEER CORE
9. PLYWOOD ROOF SHEATHING:

A. ROOF SHEATHING SHALL BE APA-RATED VENEER CORE PLYWOOD SHEATHING (40/20), EXPOSURE I OR EXTERIOR, MINIMUM **19/32"** THICK, WITH TONGUE-AND-GROOVE EDGES.

B. INSTALL PANELS WITH FACE GRAIN PERPENDICULAR TO SUPPORTS AND CONTINUOUS OVER TWO OR MORE SPANS. WHERE POSSIBLE, LAY OUT PANELS TO AVOID WIDTHS LESS THAN 24 INCHES.

C. PANEL END JOINTS SHALL OCCUR OVER FRAMING. INSTALL CLIPS (ONE MIDWAY BETWEEN EACH SUPPORT) OR LUMBER BLOCKING AT SIDE JOINTS. NOTE: CLIPS OR LUMBER BLOCKING ARE NOT REQUIRED WITH TONGUE-AND-GROOVE EDGES.

D. SPACE PANELS 1/8 INCH AT ENDS AND EDGES, UNLESS A DIFFERENT GAP IS REQUIRED BY THE PANEL MANUFACTURER.

E. FASTEN ROOF SHEATHING TO WOOD STRUCTURE WITH:

a. PANELS 3/8" TO 1" THICK - 8d COMMON NAILS.

b. SPACE NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES (3/8" FROM PANEL EDGES) AND 12" O.C. OVER INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

F. COVER ROOF SHEATHING AS SOON AS POSSIBLE TO PROTECT AGAINST EXCESSIVE MOISTURE PRIOR TO ROOFING APPLICATION.

061000: WOOD AND WOOD FRAMING (CONT.)

10. EXTERIOR PLYWOOD WALL SHEATHING:

A. EXTERIOR PLYWOOD WALL SHEATHING SHALL BE APA-RATED SHEATHING (32/16), EXPOSURE I OR EXTERIOR, MINIMUM **15/32"** THICK.

B. INSTALL PANELS WITH FACE GRAIN PERPENDICULAR TO STUDS, UNLESS NOTED OTHERWISE. WHERE POSSIBLE, LAY OUT PANELS TO AVOID WIDTHS LESS THAN 24 INCHES.

C. PANEL END JOINTS SHALL OCCUR OVER A STUD, STAGGERED BY AT LEAST TWO SUPPORTS. PROVIDE CONTINUOUS 2x BLOCKING AT ALL SIDE JOINTS. ALL PANEL EDGES SHALL BE SUPPORTED.

D. SPACE PANELS 1/8 INCH AT ENDS AND EDGES, UNLESS A DIFFERENT GAP IS REQUIRED BY THE PANEL MANUFACTURER.

E. FASTEN EXTERIOR WALL SHEATHING TO WOOD FRAMING PER BELOW, UNLESS NOTED OTHERWISE ON THE DRAWINGS OR SHEAR WALL SCHEDULE:

a. PANELS 3/8" TO 15/32" THICK - 6d COMMON NAILS.

b. PANELS 19/32" TO 1" THICK - 8d COMMON NAILS.

c. SPACE FASTENERS AT 6" O.C. AT SUPPORTED PANEL EDGES (3/8" FROM PANEL EDGES) AND 12" O.C. OVER INTERMEDIATE SUPPORTS.
11. FASTENERS:

A. ALL WOOD FRAMING CONNECTIONS SHALL BE MADE WITH FASTENERS PER TABLE 2304.10.1 OF THE 2018 INTERNATIONAL BUILDING CODE, UNLESS SHOWN OTHERWISE ON DRAWINGS OR NOTED ABOVE.

B. ALTERNATE FASTENERS SHALL HAVE PUBLISHED CAPACITIES EQUAL TO OR GREATER THAN THOSE SPECIFIED AND SHALL BE SUPPORTED BY CURRENT ICC-ES REPORTS OR OTHER APPROVED EVALUATION DOCUMENTS.

C. SPECIALTY FASTENERS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE CO., INC. OR APPROVED EQUAL. OTHER FASTENERS MUST HAVE PUBLISHED CAPACITIES EQUAL TO OR EXCEEDING THOSE OF THE SIMPSON FASTENER THEY ARE INTENDED TO REPLACE.

D. FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIP GALVANIZED, STAINLESS STEEL, OR OTHERWISE COMPATIBLE WITH THE TREATMENT CHEMICALS IN ACCORDANCE WITH THE TREATED WOOD MANUFACTURER'S RECOMMENDATIONS.

E. CONNECTIONS AND FASTENERS FOR EXTERIOR NON-TREATED WOOD SHALL BE HOT-DIP GALVANIZED PER ASTM A123 AND A153.

F. ALL FASTENERS EXPOSED TO CHLORINE ENVIRONMENT SHALL BE TYPE 316 STAINLESS STEEL.
12. SET CARPENTRY WORK TO THE REQUIRED LINES AND LEVELS, WITH MEMBERS PLUMB, TRUE AND SECURELY FASTENED. ASSEMBLE WORK IN ACCORDANCE WITH THE DRAWINGS AND APPLICABLE CODES.

061753: WOOD TRUSSES

1. TRUSS FABRICATOR SHALL DESIGN, FABRICATE, AND SUPPLY WOOD ROOF TRUSSES AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. INCLUDE REQUIRED ANCHORAGE, BLOCKING, CURBING, MISCELLANEOUS FRAMING, AND BRACING ASSOCIATED WITH THE TRUSS SYSTEM.
2. CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO ERECT AND INSTALL WOOD TRUSSES.
3. ALL TRUSSES SHALL COMPLY WITH APPLICABLE STRUCTURAL BUILDING COMPONENTS ASSOCIATION (SBCA) AND TRUSS PLATE INSTITUTE (TPI) INDUSTRY STANDARDS AND SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS FOR THE DESIGN LOADS INDICATED ON THE DRAWINGS.
4. ALL WORK SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION AND APPLICABLE STATE AND LOCAL REGULATIONS.
5. TRUSS SUBMITTAL SHALL INCLUDE THE FOLLOWING:

A. TRUSS BLOCKING REQUIREMENTS.

B. INSTALLATION, SECURING AND BRACING REQUIREMENTS FOR ALL TRUSSES.
6. DESIGN AND FABRICATION OF WOOD TRUSSES SHALL COMPLY WITH ANSI/AWC NDS-2024, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AND ANSI/TPI 1.2022, "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION".

(CONTINUED ON SHEET AS-10)

W

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-09

OF 22

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READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

061753: WOOD TRUSSES (CONT.)

7. LUMBER:
- A. LUMBER SHALL BE IDENTIFIED BY THE GRADE MARK OF AN AGENCY APPROVED BY THE AMERICAN LUMBER STANDARDS COMMITTEE, AND SHALL BE THE SIZE, SPECIES, AND GRADE SHOWN ON THE TRUSS DESIGN DRAWINGS, OR AN APPROVED EQUIVALENT ACCEPTABLE TO THE TRUSS DESIGNER.
 - a. CHORD AND WEB MEMBERS SHALL BE EITHER SOUTHERN YELLOW PINE OR DOUGLAS FIR.
 - b. LUMBER MOISTURE CONTENT AT THE TIME OF FABRICATION SHALL NOT EXCEED 19 PERCENT NOR BE LESS THAN 7 PERCENT.
 - B. ADJUSTMENTS TO DESIGN VALUES FOR LOAD DURATION AND CONDITIONS OF USE SHALL BE IN ACCORDANCE WITH ANSI/TPI 1.
 - C. FIRE-RETARDANT-TREATED LUMBER, WHERE REQUIRED, SHALL COMPLY WITH THE CONTRACT DOCUMENTS, THE MANUFACTURER'S LISTING AND INSTRUCTIONS, ANSI/TPI 1, AND APPLICABLE CODE REQUIREMENTS. DESIGN VALUES SHALL REFLECT TREATMENT-RELATED STRENGTH REDUCTIONS AND SHALL BE DOCUMENTED BY THE TREATING MANUFACTURER. PROVIDE CERTIFICATION OF COMPLIANCE.
8. TRUSS CONNECTOR PLATES:
- A. TRUSS CONNECTOR PLATES SHALL COMPLY WITH ANSI/TPI 1.
 - B. TRUSS CONNECTOR PLATES SHALL BE MANUFACTURED FROM STRUCTURAL QUALITY GALVANIZED SHEET STEEL NOT LESS THAN 20 GAUGE THICKNESS, WITH MINIMUM YIELD AND TENSILE STRENGTHS AS REQUIRED BY ANSI/TPI 1 AND THE MANUFACTURER'S EVALUATION REPORT.
 - C. THE CORROSION-RESISTANT COATING SHALL BE G60 AND SHALL COMPLY WITH ASTM A653/A653M OR THE MANUFACTURER'S CURRENT ICC-ES EVALUATION REPORT, AS APPLICABLE.
 - D. IN AREAS EXPOSED TO CHLORINE ENVIRONMENT, SPECIAL APPLIED COATINGS OR TYPE 316 STAINLESS STEEL ARE REQUIRED.
9. IMPROPERLY FITTED JOINTS OR OPEN JOINTS RELYING ON CONNECTOR PLATE STIFFNESS TO TRANSFER STRESSES ARE NOT PERMITTED AND **WILL NOT BE ACCEPTED**.
10. LUMBER WITH DEAD KNOTS OR WANE AT CONNECTOR PLATE LOCATIONS SHALL NOT BE USED.
11. DESIGN AND DETAILING OF PREMANUFACTURED PRODUCTS, CONNECTORS, AND ACCESSORIES SHALL COMPLY WITH ANSI/AWC NDS-2024, ANSI/TPI 1-2022, AND THE MANUFACTURER'S PUBLISHED REQUIREMENTS.
12. SHOP DRAWINGS:
- A. INCLUDE THE FOLLOWING ON SHOP DRAWINGS:
 - a. APPLICABLE BUILDING CODE AND EDITION USED FOR DESIGN;
 - b. TRUSS PLACEMENT DIAGRAM IDENTIFYING THE LOCATION OF EACH TRUSS;
 - c. TRUSS SLOPE OR DEPTH, SPAN, AND SPACING;
 - d. LOCATION OF ALL JOINTS AND SUPPORTS;
 - e. REQUIRED BEARING WIDTHS;
 - f. APPLICABLE DESIGN LOADS, INCLUDING:
 - TOP CHORD LIVE LOAD, INCLUDING CONTROLLING ROOF LIVE, RAIN, OR SNOW LOAD, AS APPLICABLE;
 - TOP CHORD DEAD LOAD;
 - BOTTOM CHORD LIVE LOAD;
 - BOTTOM CHORD DEAD LOAD;
 - CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION;
 - CONTROLLING WIND AND SEISMIC LOADS, WHERE APPLICABLE; AND
 - OTHER APPLICABLE LATERAL LOADS, INCLUDING DRAG STRUT LOADS.
 - g. ADJUSTMENTS TO LUMBER AND CONNECTOR PLATE DESIGN VALUES FOR CONDITIONS OF USE.
 - h. EACH REACTION, INCLUDING MAGNITUDE AND DIRECTION.
 - i. METAL CONNECTOR PLATE TYPE, SIZE, THICKNESS OR GAGE, AND DIMENSIONED LOCATION OF EACH PLATE, EXCEPT WHERE SYMMETRIC ABOUT THE JOINT INTERFACE. IDENTIFY THE COATING AND COATED THICKNESS FOR EACH CONNECTOR PLATE TYPE WHERE EXPOSED TO A CHLORINE ENVIRONMENT.
 - j. LUMBER SIZE, SPECIES, AND GRADE FOR EACH MEMBER.

061753: WOOD TRUSSES (CONT.)

- k. CONNECTION REQUIREMENTS FOR THE FOLLOWING:
 - TRUSS-TO-TRUSS GIRDER.
 - TRUSS PLY-TO-PLY.
 - FIELD SPLICES.
 - l. CALCULATED DEFLECTION RATIO OR MAXIMUM DEFLECTION FOR LIVE AND TOTAL LOAD, AND KCR (CREEP FACTOR), AS APPLICABLE.
 - m. MAXIMUM AXIAL COMPRESSION FORCES IN TRUSS MEMBERS REQUIRED FOR DESIGN OF PERMANENT CONTINUOUS LATERAL BRACING. INDICATE THESE FORCES ON THE TRUSS DESIGN DRAWINGS OR IN SUPPLEMENTAL DOCUMENTS; AND
 - n. REQUIRED PERMANENT TRUSS MEMBER BRACING LOCATION.
- B. ALL TRUSS SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED IN WRITING BY THE CONTRACTOR BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER.
- C. SHOP DRAWINGS WILL NOT BE REVIEWED WITHOUT THE SEAL AND SIGNATURE OF THE TRUSS ENGINEER ON ALL TRUSS ENGINEERING SHEETS.
13. GENERAL:
- A. FABRICATION OF TRUSSES SHALL COMPLY WITH ANSI/TPI 1 AND APPLICABLE ICC-ES EVALUATION REPORTS, WHERE REQUIRED. WHERE MORE STRINGENT, THE CONTRACT DOCUMENTS SHALL GOVERN.
 - B. FABRICATE TRUSSES IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
 - C. FABRICATE TRUSSES IN JIGS, WITH MEMBERS ACCURATELY CUT TO PROVIDE FULL CONTACT AT JOINTS.
 - D. EACH CHORD SPLICE SHALL OCCUR ONLY AFTER THE MEMBER EXTENDS THROUGH AT LEAST TWO PANEL POINTS.
 - E. THE TRUSS FABRICATOR SHALL PARTICIPATE IN A TPI-RECOGNIZED QUALITY ASSURANCE PROGRAM AND SHALL PROVIDE INSPECTION REPORTS UPON REQUEST.
 - F. THE TRUSS FABRICATOR SHALL IDENTIFY REQUIRED HARDWARE AT TRUSS CONNECTIONS.
14. HANDLING, INSTALLATION, AND BRACING:
- A. TRUSSES SHALL BE COVERED AND PROTECTED FROM MOISTURE DURING SHIPPING, STORAGE, AND CONSTRUCTION.
 - B. TRUSSES SHALL BE HANDLED DURING MANUFACTURING, DELIVERY AND BY THE CONTRACTOR AT THE JOB SITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE BENDING.
 - C. TRUSSES ARE DESIGNED FOR IN-SERVICE CONDITIONS ONLY. THE CONTRACTOR SHALL PROVIDE REQUIRED TEMPORARY RESTRAINT AND BRACING DURING LIFTING AND ERECTION.
 - D. UNLOAD, STORE, AND HANDLE TRUSSES TO MINIMIZE LATERAL STRAIN, PREVENT TOPPLING WHEN BANDING IS REMOVED, AND PROTECT TRUSSES FROM DAMAGE DUE TO SITE ACTIVITIES AND ENVIRONMENTAL EXPOSURE.
 - E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING, INSTALLATION, AND TEMPORARY RESTRAINT AND BRACING OF TRUSSES IN ACCORDANCE WITH SBCA BCSI, GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING, AND BRACING OF METAL-PLATE-CONNECTED WOOD TRUSSES.
 - F. REPORT APPARENT TRUSS DAMAGE TO THE TRUSS MANUFACTURER BEFORE ERECTION.
 - G. SET AND SECURE TRUSSES LEVEL, PLUMB, AND IN THEIR CORRECT LOCATIONS. MAINTAIN EACH TRUSS IN PROPER ALIGNMENT UNTIL PERMANENT RESTRAINT AND BRACING ARE INSTALLED.
 - H. CUTTING OR ALTERING TRUSSES IS NOT PERMITTED. IF A TRUSS IS BROKEN, DAMAGED, OR ALTERED, REPAIR OR MODIFICATION SHALL NOT PROCEED WITHOUT WRITTEN APPROVAL FROM A REGISTERED DESIGN PROFESSIONAL.
 - I. DO NOT APPLY POINT LOADS TO TRUSS WEB MEMBERS UNLESS SPECIFICALLY APPROVED BY THE TRUSS MANUFACTURER.
 - J. DO NOT PLACE CONCENTRATED LOADS ON TRUSSES UNTIL REQUIRED RESTRAINT, BRACING, AND PERMANENTLY ATTACHED STRUCTURAL SHEATHING ARE IN PLACE. DO NOT STACK BUNDLES OF CONSTRUCTION MATERIALS ON TRUSSES UNLESS SPECIFICALLY DESIGNED FOR SUCH LOADS.
 - K. THE CONTRACTOR SHALL PROVIDE THE APPROVED TRUSS SUBMITTAL PACKAGE AND ALL SUPPLEMENTARY INFORMATION TO THE PARTY RESPONSIBLE FOR TRUSS INSTALLATION.
 - L. TRUSSES SHALL BE PERMANENTLY RESTRAINED AND BRACED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND SBCA BCSI.
 - a. PERMANENT RESTRAINT REQUIREMENTS FOR INDIVIDUAL TRUSS MEMBERS SHALL BE DETERMINED BY THE TRUSS DESIGNER AND INDICATED ON THE SHOP DRAWINGS.
 - b. PERMANENT TRUSS SYSTEM RESTRAINT AND BRACING SHALL BE DESIGNED BY THE STRUCTURAL ENGINEER.

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061753: WOOD TRUSSES (CONT.)

- c. TRUSSES SHALL BE ANCHORED OR RESTRAINED TO PREVENT OUT-OF-PLANE MOVEMENT AND SYSTEM BUCKLING. PROVIDE PERMANENT LATERAL RESTRAINT BY ONE OR MORE OF THE FOLLOWING:
 - ANCHORAGE TO SOLID ENDWALLS; OR
 - PERMANENT DIAGONAL BRACING IN THE PLANE OF THE WEB MEMBERS; OR
 - OTHER ENGINEERED MEANS ACCEPTABLE TO THE BUILDING DESIGNER.
- M. THE CONTRACTOR SHALL FURNISH MATERIALS REQUIRED FOR TEMPORARY AND PERMANENT RESTRAINT AND BRACING.

071300: WEATHER-RESISTANT MEMBRANE

- PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL WEATHER-RESISTANT BARRIERS ON THE EXTERIOR SIDE OF WALL SHEATHING WHERE SHOWN ON THE DRAWINGS.
 - A. REFER TO SPECIFICATION SECTION 074113 - PREFINISHED METAL PANELS AND TRIM FOR UNDERLAYMENT AT PLYWOOD ROOF DECKS.
- BEHIND METAL WALL PANELS:
 - A. WEATHER-RESISTANT MEMBRANE SHALL BE A DRAINAGE-TEXTURED, SPUN-BONDED POLYETHYLENE, NON-WOVEN, NON-PERFORATED AIR- AND WATER-RESISTIVE BARRIER EQUAL TO DUPONT™ "TYVEK® COMMERICALWRAP D®".
 - B. MINIMUM BASIS WEIGHT OF MATERIAL SHALL BE 2.4 OZ/YD².
 - C. INSTALL A PREMIUM SELF-ADHERED FLASHING EQUAL TO DUPONT™ "STRAIGHTFLASH™" BEHIND ALL MOUNTING BRACKETS OR HAT CHANNELS.
- PROVIDE SUBMITTALS FOR ALL WEATHER-RESISTANT MEMBRANE AND RELATED MATERIALS, INCLUDING:
 - A. MANUFACTURER'S SPECIFICATIONS AND PRODUCT DATA DEMONSTRATING COMPLIANCE WITH THIS SPECIFICATION.
 - B. INSTALLATION INSTRUCTIONS.
- ALL WEATHER-RESISTANT MEMBRANE MATERIALS SHALL BE CLASS A RATED WITH A FLAME-SPREAD INDEX OF ≤ 5 AND SMOKE-DEVELOPED INDEX OF ≤ 25.
- INSTALL MEMBRANE PRIOR TO INSTALLATION OF DOORS AND WINDOWS, FOLLOWING MANUFACTURER'S INSTRUCTIONS. PROVIDE SEAM TAPE, FLASHINGS, FASTENERS, AND SEALANTS REQUIRED FOR A WATERTIGHT INSTALLATION.
 - A. SEAM TAPE SHALL BE 3" WIDE, EQUAL TO DUPONT™ "TYVEK® TAPE".
 - B. FASTENERS SHALL BE MANUFACTURER-RECOMMENDED FOR THE SUBSTRATE, CORROSION-RESISTANT, AND PROVIDED WITH PROPER CAPS.
 - C. INSTALL MEMBRANE IN SHINGLE FASHION WITH MINIMUM 6" LAPS.
- FLASH AND SEAL ALL OPENINGS AND PERIMETERS PER MANUFACTURER RECOMMENDATIONS.
- PROTECT INSTALLED BARRIER FROM DAMAGE UNTIL INSTALLATION OF FINAL FINISHES.

072100: BUILDING INSULATION

- FURNISH AND INSTALL ALL BUILDING INSULATION AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR A COMPLETE INSTALLATION.
- COMPLY WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR DELIVERY, STORAGE, HANDLING AND INSTALLATION. DO NOT INSTALL WET OR DAMAGED MATERIALS.
- PROVIDE PRODUCT DATA SUBMITTALS FOR ALL INSULATION TYPES, INCLUDING R-VALUE, THICKNESS, FIRE PERFORMANCE AND INSTALLATION REQUIREMENTS.
- INSULATION R-VALUES:
 - A. INSTALL INSULATION TO ACHIEVE MINIMUM R-VALUES SHOWN ON THE DRAWINGS.
 - B. R-VALUES SHALL BE FOR INSULATION MATERIAL ONLY, DETERMINED IN ACCORDANCE WITH ASTM C518.
- MATERIALS:
 - A. FRAMED WALLS:
 - a. UNFACED FIBERGLASS BATT INSULATION: ASTM C665 TYPE I, FORMALDEHYDE-FREE, NON-COMBUSTIBLE (ASTM E136). BASIS-OF-DESIGN: OWENS CORNING "ECOTOUCH PINK", OR APPROVED EQUAL.
 - b. KRAFT-FACED FIBERGLASS BATT INSULATION (WHERE ONE SIDE OF WALL IS EXPOSED): ASTM C665, TYPE II, CLASS C, FORMALDEHYDE-FREE, NON-COMBUSTIBLE (ASTM E136). BASIS-OF-DESIGN: OWENS CORNING "ECOTOUCH PINK KRAFT-FACED", OR APPROVED EQUAL.

(CONTINUED ON SHEET AS-11)

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KPA Firm Registration Number F-510		Plotted By: JARED	

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-10
OF 22

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READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

072100: BUILDING INSULATION (CONT.)

- B. FRAMED ROOFS / ATTIC SPACES:
- a. KRAFT-FACED FIBERGLASS BATT INSULATION (WHERE ONE SIDE OF WALL IS EXPOSED): ASTM C665, TYPE II, CLASS C, FORMALDEHYDE-FREE, NON-COMBUSTIBLE (ASTM E136). BASIS-OF-DESIGN: OWENS CORNING "ECOTOUCH PINK KRAFT-FACED", OR APPROVED EQUAL.
 - b. INSTALL AS A SINGLE LAYER SYSTEM.
 - c. SUPPORT INSULATION AS REQUIRED TO PREVENT SAGGING BETWEEN TRUSSES (E.G., POULTRY NETTING OR EQUIVALENT WHERE NO CEILING BELOW IS PRESENT).
6. SURFACE BURNING: UNFACED INSULATION SHALL HAVE MAXIMUM FLAME SPREAD INDEX OF 25, AND MAXIMUM SMOKE DEVELOPED INDEX OF 50, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
7. DELIVER ALL MATERIALS IN MANUFACTURER'S ORIGINAL PACKAGING AND STORE IN A DRY LOCATION PER MANUFACTURER'S INSTRUCTIONS.
8. INSTALLATION:
- A. EXAMINE ALL SUBSTRATES AND CONDITIONS AFFECTING THE WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
 - B. INSTALL INSULATION IN ACCORDANCE WITH ASTM C1320 AND MANUFACTURER'S INSTRUCTIONS.
 - C. INSTALL INSULATION FULL THICKNESS OVER ENTIRE AREA WITHOUT GAPS OR VOIDS. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS.
 - D. ENSURE CONTINUITY OF THE BUILDING THERMAL ENVELOPE AND AIR BARRIER TO PREVENT AIR LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACES.
 - E. DO NOT INSTALL INSULATION IN CONTACT WITH NON-IC RATED RECESSED LIGHT FIXTURES. MAINTAIN MINIMUM 3-INCH CLEARANCE OR AS REQUIRED BY FIXTURE MANUFACTURER AND APPLICABLE CODES.
 - F. FRICTION-FIT UNFACED BATT INSULATION IN STUD CAVITIES. SECURE FACED INSULATION BY STAPLING FLANGES TO FRAMING MEMBERS WHERE APPLICABLE.
 - G. INSTALL VAPOR RETARDER FACING TOWARD THE CONDITIONED SIDE UNLESS NOTED OTHERWISE.
 - H. SUPPORT INSULATION AS REQUIRED TO MAINTAIN POSITION AND PREVENT SAGGING (INCLUDING USE OF NETTING OR EQUIVALENT WHERE REQUIRED).
 - I. PROTECT ALL INSULATION FROM DAMAGE BY WEATHER OR CONSTRUCTION ACTIVITIES UNTIL PERMANENTLY ENCLOSED.

072119: FOAMED-IN-PLACE MASONRY WALL INSULATION

1. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL FOAMED-IN-PLACE MASONRY WALL INSULATION IN ALL CMU WALLS SURROUNDING AND DIVIDING ENCLOSED SPACES.
2. FOAMED-IN-PLACE INSULATION SHALL BE "CORE-FILL 500™" BY TAILORED CHEMICAL PRODUCTS, OR APPROVED EQUAL.
3. INSULATION SHALL BE NON-COMBUSTIBLE, CLASS A BUILDING MATERIAL WITH THE FOLLOWING ASTM E84 RATINGS:
- A. FLAME SPREAD INDEX: 0
 - B. SMOKE-DEVELOPED INDEX: 5
 - C. FUEL CONTRIBUTED: 0
4. INSULATION SHALL PROVIDE AN IN-PLACE R-VALUE OF 9.1 IN 8" NOMINAL WEIGHT CMU WALLS (CORRESPONDING TO R-4.91 PER INCH OF INSULATION).
5. INSTALL INSULATION AFTER ALL MASONRY AND CONCRETE WORK IS COMPLETE AND PRIOR TO INTERIOR FINISH WORK.
6. INSTALL PER MANUFACTURER'S STANDARD RECOMMENDED PROCEDURES, PRESSURE-INJECTING FOAM TO FILL ALL OPEN CELLS AND VOIDS IN HOLLOW CONCRETE BLOCK IN THE AREAS NOTED.
7. AFTER FOAM INSULATION SETS, REMOVE ANY EXCESS FOAM FROM THE EXTERIOR OF THE CAVITY AND DISPOSE OF LEGALLY.
8. DO NOT PAINT OR SEAL MASONRY WALLS UNTIL AT LEAST 72 HOURS AFTER FOAM INSULATION INSTALLATION.

074113: PREFINISHED METAL PANELS, TRIM, AND RELATED MATERIALS

1. SCOPE:
- A. PROVIDE AND INSTALL PREFINISHED METAL ROOF, WALL, AND SOFFIT PANEL SYSTEMS, INCLUDING MATCHING TRIM, GUTTERS AND DOWNSPOUTS, TOGETHER WITH ALL REQUIRED UNDERLAYMENTS, CLOSURES, FASTENERS, AND SECONDARY SUBFRAMING NECESSARY TO ACHIEVE A COMPLETE, PROPERLY INSTALLED, AND WEATHERTIGHT SYSTEM.
2. MANUFACTURER QUALIFICATIONS:
- A. METAL PANELS AND TRIM SHALL BE MANUFACTURED IN A FACILITY ACCREDITED IN ACCORDANCE WITH IAS AC472, PART B, WHERE APPLICABLE.
 - a. PROVIDE METAL PANELS SYSTEMS FROM A SINGLE-SOURCE MANUFACTURER UTILIZING FIXED-BASE ROLL FORMING EQUIPMENT.
 - b. MANUFACTURER SHALL HAVE A MINIMUM OF FIVE (5) YEARS DOCUMENTED EXPERIENCE PRODUCING SIMILAR SYSTEMS FOR COMPARABLE APPLICATIONS.
3. INSTALLER QUALIFICATIONS:
- A. INSTALLER SHALL HAVE A MINIMUM OF FIVE (5) YEARS EXPERIENCE WITH SUCCESSFULLY COMPLETED PROJECTS OF SIMILAR SIZE, TYPE AND COMPLEXITY.
4. SUBMITTALS:
- A. SUBMIT COMPLETE SHOP DRAWINGS AT LEAST 10 DAYS PRIOR TO FABRICATION. INCLUDE PANEL LAYOUTS, FRAMING PLANS, SOFFIT LAYOUTS, TRIM AND FLASHING DETAILS, ATTACHMENT METHODS, AND ACCESSORIES.
 - B. CLEARLY IDENTIFY AND REMOVE OR MARK AS "NOT APPLICABLE" ALL STANDARD DETAILS OR INFORMATION NOT SPECIFIC TO THIS PROJECT.
 - C. SUBMIT PRODUCT DATA INDICATING MATERIAL PROPERTIES, SECTION PROPERTIES, FINISHES, AND PERFORMANCE CHARACTERISTICS FOR EACH COMPONENT.
 - D. SAMPLES:
 - a. PROVIDE MANUFACTURER'S FULL RANGE COLOR CHARTS FOR INITIAL SELECTION BY OWNER.
 - b. PROVIDE MINIMUM 4-INCH X 4-INCH SAMPLES OF SELECTED COLORS FOR FINAL APPROVAL.
 - E. BASIS-OF-DESIGN / SUBSTITUTIONS:
 - a. SUBMISSION OF COMPARABLE PRODUCTS SHALL INCLUDE COMPLETE PRODUCT DATA AND CERTIFIED INDEPENDENT TEST DATA DEMONSTRATING COMPLIANCE.
 - b. PROVIDE REFERENCES FOR A MINIMUM OF FIVE (5) INSTALLATIONS AT LEAST FIVE (5) YEARS OLD, INCLUDING OWNER AND ARCHITECT CONTACT INFORMATION.
 - c. PROVIDE SAMPLE WARRANTIES.
5. DELIVERY, STORAGE AND HANDLING:
- A. PROTECT METAL PANEL PRODUCTS DURING SHIPPING, HANDLING, AND STORAGE TO PREVENT STAINING, DENTING, DEFORMATION, OR OTHER DAMAGE.
 - B. DELIVER, UNLOAD, STORE, AND ERECT PANELS IN A MANNER THAT PREVENTS DISTORTION AND PROTECTS SURFACES FROM EXPOSURE TO WEATHER AND CONSTRUCTION-RELATED DAMAGE.
 - C. STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE BLOCKING OR SPACERS TO ALLOW VENTILATION AND DRAINAGE AND TO FACILITATE HANDLING.
6. WARRANTIES:
- A. PROVIDE A TWO (2) YEAR WEATHERTIGHT INSTALLATION WARRANTY FROM THE INSTALLER/CONTRACTOR.
 - B. PROVIDE MANUFACTURER'S TWENTY-FIVE (25) YEAR LIMITED FINISH WARRANTY FOR ROOF PANELS, INCLUDING:
 - a. COLOR FADE NOT EXCEEDING 5 HUNTER UNITS PER ASTM D2244.
 - b. CHALKING NOT EXCEEDING A NO. 8 RATING PER ASTM D4214.
 - c. NO PEELING, CRACKING, CHECKING, OR LOSS OF ADHESION.
 - C. PROVIDE MANUFACTURER'S MINIMUM ONE (1) YEAR WARRANTY COVERING DEFECTS IN MATERIALS FOR METAL PANEL SYSTEMS, COMMENCING AT SUBSTANTIAL COMPLETION.
7. BASIS-OF-DESIGN MANUFACTURER:
- A. PRODUCTS ARE SPECIFIED BASED ON MBCI METAL WALL AND ROOF SYSTEMS, DIVISION OF NCI GROUP, INC.; HOUSTON, TX.
 - B. COMPARABLE PRODUCTS OF OTHER MANUFACTURERS ARE ALLOWED, SUBJECT TO VERIFICATION OF EQUIVALENT MATERIAL STRENGTHS, SECTION PROPERTIES, AND OTHER PRODUCT AND MANUFACTURER QUALIFICATIONS SPECIFIED HEREIN, AND APPROVAL OF THE OWNER AND STRUCTURAL ENGINEER.

074113: PREFINISHED METAL PANELS, TRIM, AND RELATED MATERIALS (CONT.)

- C. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL DOCUMENTATION REQUIRED TO CONFIRM COMPARABLE PRODUCTS, PRIOR TO INSTALLATION.
8. PERFORMANCE REQUIREMENTS:
- A. PROVIDE METAL PANEL SYSTEMS THAT COMPLY WITH APPLICABLE ENERGY CODE REQUIREMENT AS INDICATED IN THE CONTRACT DOCUMENTS.
 - B. STRUCTURAL PERFORMANCE: PROVIDE METAL PANEL SYSTEMS CAPABLE OF SPANNING REQUIRED DISTANCES AND RESISTING DESIGN LOADS IN ACCORDANCE WITH ASCE 7-16 AND PLAN SPECIFICATION SECTION 014000: STRUCTURAL DESIGN CRITERIA.
 - C. WIND UPLIFT RESISTANCE: PROVIDE ROOF PANEL ASSEMBLIES TESTED IN ACCORDANCE WITH UL 580 AND RATED NOT LESS THAN CLASS 90, OR AS REQUIRED FOR PROJECT-SPECIFIC WIND DESIGN CRITERIA.
 - D. THERMAL MOVEMENT: DESIGN AN INSTALL METAL PANEL SYSTEMS TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION DUE TO AMBIENT AND INTERNAL TEMPERATURE VARIATIONS, AS WELL AS MOVEMENT OF THE SUPPORTING STRUCTURE AND DIFFERENTIAL TEMPERATURES ACROSS PANEL SECTIONS, WITHOUT:
 - a. BUCKLING, OIL CANNING, OR PERMANENT DEFORMATION
 - b. FASTENER FAILURE, LOOSENING, OR SLOT BINDING
 - c. DAMAGE TO ADJACENT CONSTRUCTION
 - d. LOSS OF WEATHERTIGHTNESS OR SYSTEM PERFORMANCE
9. BASE MATERIAL SPECIFICATIONS:
- A. ROOF AND WALL PANEL MATERIAL: BASE MATERIAL SHALL BE "GALVALUME PLUS™" AS MANUFACTURED BY BETHLEHEM STEEL CORPORATION (G90 GALVANIZED ALLOWED AT FACTORY PAINTED MATERIAL), OR EQUAL, CONFORMING TO THE REQUIREMENTS OF ASTM A446, GRADE E OR GRADE D. MINIMUM YIELD STRESS SHALL BE 80,000 PSI FOR GRADE E AND 50,000 PSI FOR GRADE D. FINISH SHALL BE AS SPECIFIED ON THE DRAWINGS.
10. ROOF AND WALL COVERING, AND RELATED MATERIALS:
- A. GUTTERS, DOWNSPOUTS, FLASHING AND TRIM:
 - a. FLASHING SHALL BE MINIMUM 26 GAUGE SHEET METAL. TRIM, GUTTERS, AND DOWNSPOUTS SHALL BE MINIMUM 24 GAUGE SHEET METAL.
 - GAUGE THICKNESS SHALL BE INCREASED AS REQUIRED TO COMPLY WITH THE LATEST EDITION OF THE SMACNA ARCHITECTURAL SHEET METAL MANUAL WHERE MORE STRINGENT.
 - b. GUTTERS AND DOWNSPOUTS SHALL BE SIZED BY THE FABRICATOR AND PROVIDED AND INSTALLED WHERE INDICATED ON THE DRAWINGS OR AS REQUIRED FOR PROPER DRAINAGE, UNLESS NOTED OTHERWISE.
 - c. UNLESS OTHERWISE NOTED, FINISH FOR ALL EXPOSED TRIM SHALL MATCH THE COLOR AND TEXTURE OF ADJACENT EXTERIOR PANELS, AS SELECTED BY THE OWNER FROM THE MANUFACTURER'S STANDARD OPTIONS. RIDGE TRIM SHALL MATCH THE ROOF PANEL FINISH UNLESS NOTED OTHERWISE.
 - d. CONCEALED TRIM MAY HAVE A MILL FINISH OR GALVALUME FINISH UNLESS NOTED OTHERWISE.
 - e. PROVIDE ALL PERIMETER FLASHING AND TRIM AS INDICATED ON THE DRAWINGS AND AS REQUIRED TO ACHIEVE A COMPLETE, WEATHERTIGHT INSTALLATION.
 - f. PERIMETER FLASHING AND TRIM ASSEMBLIES SHALL BE DETAILED AND INSTALLED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION OF THE ROOF SYSTEM WITHOUT RESTRICTING MOVEMENT OR COMPROMISING SYSTEM PERFORMANCE.
 - g. PROVIDE FLEXIBLE MEMBRANE FLASHING COMPONENTS AT INTERFACES REQUIRING MOVEMENT, AS RECOMMENDED BY THE ROOF SYSTEM MANUFACTURER.
 - B. WALL PANELS:
 - a. WALL PANELS SHALL BE "PBR" METAL PANELS, DESIGNED TO BE INSTALLED DIRECTLY OVER PURLINS OR GIRTS, AS MANUFACTURED BY MBCI, OR APPROVED EQUAL.
 - b. PANELS SHALL BE 26 GAUGE (MINIMUM), SHALL PROVIDE 36" NET COVERAGE, AND SHALL HAVE MAJOR RIBS 1-1/4" HIGH SPACED 12" ON CENTER, WITH TWO SMALLER RIBS IN THE FLAT AREA BETWEEN. ALL SIDE LAPS SHALL BE AT LEAST ONE MAJOR RIB.
 - c. PANELS SHALL BE SUPPLIED IN LENGTHS AS LONG AS POSSIBLE TO MINIMIZE ENDLAPS.
 - d. EXPOSED PANELS SHALL HAVE SMOOTH TEXTURE AND FLUOROPOLYMER TWO-COAT SYSTEM (0.2 - 0.3 MIL PRIMER WITH 0.7 - 0.8 MIL 70 PERCENT PVDF FLUOROPOLYMER COLOR COAT, AAMA 621), EQUAL TO MBCI "SIGNATURE 300".
 - COLOR SHALL BE AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLOR SELECTION.

(CONTINUED ON SHEET AS-12)

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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-11
OF 22

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READ ALL PLAN NOTES, SPECIFICATIONS AND DETAILS. NO ALLOWANCES WILL BE MADE FOR THE FAILURE TO DO SO.

074113: PREFINISHED METAL PANELS, TRIM, AND RELATED MATERIALS (CONT.)

- C. ROOF PANELS:
- a. ROOF PANELS SHALL BE **"PBR"** METAL PANELS, DESIGNED TO BE INSTALLED DIRECTLY OVER PURLINS OR GIRTS, AS MANUFACTURED BY MBCI, OR APPROVED EQUAL.
 - b. PANELS SHALL BE 26 GAUGE (MINIMUM), SHALL PROVIDE 36" NET COVERAGE, AND SHALL HAVE MAJOR RIBS 1-1/4" HIGH SPACED 12" ON CENTER, WITH TWO SMALLER RIBS IN THE FLAT AREA BETWEEN. ALL SIDE LAPS SHALL BE AT LEAST ONE MAJOR RIB.
 - c. PANELS SHALL BE SUPPLIED IN LENGTHS AS LONG AS POSSIBLE TO MINIMIZE ENDLAPS.
 - d. EXPOSED PANELS SHALL HAVE SMOOTH TEXTURE AND FLUOROPOLYMER TWO-COAT SYSTEM (0.2 - 0.3 MIL PRIMER WITH 0.7 - 0.8 MIL 70 PERCENT PVDF FLUOROPOLYMER COLOR COAT, AAMA 621), EQUAL TO MBCI **"SIGNATURE 300"**.
 - COLOR SHALL BE AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLOR SELECTION.
 - NOTE THAT THIS ROOF IS CONSIDERED TO BE A STEEP-SLOPED ROOF (2:12 AND GREATER), AND THEREFORE IS NOT REQUIRED TO COMPLY WITH COOL ROOF REQUIREMENTS.
11. MISCELLANEOUS MATERIAL SPECIFICATIONS:
- A. FASTENERS:
- a. ALL PANEL FASTENERS SHALL BE LONG-LIFE, SELF-TAPPING SCREWS.
 - b. ALL FASTENERS EXPOSED TO VIEW SHALL BE PROVIDED WITH A FACTORY-APPLIED COATING TO MATCH SURROUNDING PANELS.
 - c. ALL EXPOSED FASTENERS SHALL HAVE EPDM OR NEOPRENE WASHERS UNDER HEADS.
 - d. ALL SELF-TAPPING/SELF-DRILLING FASTENERS, BOLTS, NUTS, SELF-LOCKING RIVETS, AND OTHER SUITABLE FASTENERS SHALL BE DESIGNED TO WITHSTAND SPECIFIED DESIGN LOADS.
 - e. LOCATE AND SPACE ALL EXPOSED FASTENERS PER MANUFACTURER'S RECOMMENDED SPACINGS, IN A TRUE VERTICAL AND HORIZONTAL ALIGNMENT. USE PROPER TORQUE SETTINGS TO OBTAIN CONTROLLED UNIFORM COMPRESSION FOR A POSITIVE SEAL WITHOUT RUPTURING THE EPDM OR NEOPRENE WASHER.
- B. SEALANTS AND CLOSURES:
- a. ALL OUTSIDE METAL CLOSURES SHALL BE FABRICATED FROM GALVALUME SHEET STEEL OF THE SAME GAUGE, FINISH AND COLOR AS THE PANELS.
 - b. ALL TAPE SEAL SHALL BE PRESSURE-SENSITIVE, 100 PERCENT SOLIDS, POLYISOBUTYLENE COMPOUND SEALING TAPE WIT A RELEASE PAPER BACKING. PROVIDE PERMANENTLY ELASTIC, NON-SAGGING, NON-TOXIC, NON-STAINING TAPE SEAL APPROVED BY THE METAL ROOF SYSTEM MANUFACTURER.
 - c. ALL JOINT SEALANT SHALL BE A ONE-PART ELASTOMERIC POLYURETHANE SEALANT APPROVED BY THE METAL ROOF SYSTEM MANUFACTURER.
- C. UNDERLAYMENT:
- a. COLD-APPLIED SHEET UNDERLAYMENT MINIMUM 30 MILS THICK, CONSISTING OF SLIP-RESISTANT, POLYETHYLENE-FILM TOP SURFACE LAMINATED TO A LAYER OF BUTYL OR SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE-PAPER BACKING, SPECIFICALLY RECOMMENDED FOR USE AS PANEL UNDERLAYMENT AND APPROVED BY THE METAL PANEL SYSTEM MANUFACTURER. PROVIDE PRIMER WHEN RECOMMENDED BY UNDERLAYMENT MANUFACTURER FOR SUBSTRATE.
 - b. UNDERLAYMENT SHALL BE HEAT-RATED AND APPROVED FOR USE UNDER METAL ROOF PANELS (260 DEGREE FAHRENHEIT MINIMUM).
12. ACCESSORIES:
- A. ROOF JACKS: PROVIDE **"DEKTITE"** ROOF JACKS THROUGH ROOF AND/OR WALLS FOR MECHANICAL VENTS AND OTHER COVERING PENETRATIONS.
 - B. CURBS AND CRICKETS FOR OPENINGS SHALL BE ONE PIECE, CONTINUOUS WELDED, ALUMINUM AS MANUFACTURED BY L&M CURBS, SPECIFICALLY FABRICATED FOR THE ROOF PANEL SYSTEM USED.
 - C. OPENINGS:
 - a. PROVIDE FRAMING AS REQUIRED FOR ALL MECHANICAL EQUIPMENT AND OTHER OPENINGS.
 - b. PROVIDE PREFINISHED TRIM AND MAKE WATERTIGHT.

074113: PREFINISHED METAL PANELS, TRIM, AND RELATED MATERIALS (CONT.)

13. INSTALLATION:
- A. EXAMINE SUBSTRATES AND SUPPORTING FRAMEWORK WITH INSTALLER PRESENT. VERIFY THAT CONDITIONS ARE ACCEPTABLE FOR INSTALLATION OF METAL PANEL SYSTEMS.
 - a. CONFIRM THAT SUPPORT COMPONENTS ARE INSTALLED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND ARE PROPERLY SPACED TO MEET MANUFACTURER REQUIREMENTS.
 - b. PANEL SUPPORT TOLERANCES: VERIFY THAT SUPPORTING FRAMING IS WITHIN THE MORE STRINGENT OF MANUFACTURER TOLERANCES OR THE FOLLOWING:
 - 1/4 INCH IN 20 FOOT IN ANY DIRECTION.
 - 3/8 INCH ACROSS ANY SINGLE ROOF PLANE.
 - c. DO NOT PROCEED WITH INSTALLATION UNTIL OUT-OF-TOLERANCE OR OTHERWISE DEFICIENT CONDITIONS HAVE BEEN CORRECTED.
 - B. INSTALL SUBFRAMING, GIRTS, FURRING, AND OTHER PANEL SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND APPLICABLE INDUSTRY STANDARDS.
 - C. APPLY SELF-ADHERING SHEET UNDERLAYMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING USE OF PRIMER WHERE REQUIRED. ROLL ALL LAPS TO ENSURE FULL ADHESION.
 - a. APPLY UNDERLAYMENT OVER THE ENTIRE ROOF SURFACE UNLESS NOTED OTHERWISE.
 - D. INSTALL METAL PANEL SYSTEMS IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND APPROVED SHOP DRAWINGS.
 - a. INSTALL PANELS TRUE TO LINE AND PLANE, FREE OF WAVES, WARPS, OIL CANNING, BUCKLING, FASTENING STRESSES, OR DISTORTION.
 - b. ANCHOR PANELS AND COMPONENTS SECURELY TO RESIST SPECIFIED LOADS.
 - c. ALLOW FOR THERMAL AND STRUCTURAL MOVEMENT WITHOUT DEFORMATION, FASTENER FAILURE, OR DAMAGE TO ADJACENT MATERIALS.
 - E. INSTALL TRIM, FLASHING, AND ACCESSORIES USING MANUFACTURER-RECOMMENDED FASTENERS AND SEALANTS TO ACHIEVE A WEATHERTIGHT SYSTEM.
 - a. COORDINATE INSTALLATION WITH ADJACENT MATERIALS AND ASSEMBLIES TO ACCOMMODATE THERMAL MOVEMENT.
 - b. PROVIDE ALL REQUIRED COMPONENTS FOR A COMPLETE INSTALLATION, INCLUDING TRIM, COPINGS, FLASHINGS, SEALANTS, CLOSURE STRIPS, AND RELATED ITEMS.
 - c. USE CONCEALED FASTENERS EXCEPT WHERE OTHERWISE INDICATED ON APPROVED SHOP DRAWINGS.
 - d. SET ALL ELEMENTS TRUE TO LINE AND LEVEL WITH JOINTS AND SEAMS THAT ARE PERMANENTLY WEATHERTIGHT.
 - F. DO NOT MODIFY PRIMARY STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
14. CLEANING AND PROTECTION:
- A. INSPECT ALL PREFINISHED MATERIALS FOR DAMAGE AND FINISH DEFECTS.
 - a. REPLACE MATERIALS DAMAGED DURING SHIPMENT AT NO COST TO THE OWNER.
 - b. REPAIR OR REPLACE MATERIALS DAMAGED DURING INSTALLATION, AS DETERMINED BY THE OWNER / STRUCTURAL ENGINEER. MINOR DAMAGE MAY BE REPAIRED USING MANUFACTURER-APPROVED TOUCH-UP METHODS; MAJOR DAMAGE SHALL REQUIRE REPLACEMENT.
 - B. REMOVE PROTECTIVE FILMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CLEAN FINISHED SURFACES USING METHODS RECOMMENDED BY THE MANUFACTURER.
 - C. PROTECT PANELS DURING FIELD WELDING OR ABRASIVE OPERATIONS. REPAIR MINOR COATING DAMAGE WITH MANUFACTURER-APPROVED TOUCH-UP MATERIALS. REPLACE COMPONENTS WITH SIGNIFICANT DAMAGE.
 - D. PRIME AND TOUCH UP ABRADED AREAS AND FASTENER HEADS WITH MANUFACTURER-SUPPLIED COATINGS AFTER INSTALLATION.

079200: JOINT SEALANTS

- 1. PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO INSTALL ALL CAULKING AND SEALANTS AS SHOWN ON THE DRAWINGS AND AS REQUIRED FOR A COMPLETE, WATERTIGHT INSTALLATION. SEAL ALL EXPANSION JOINTS, JOINTS BETWEEN VERTICAL SURFACES AND ADJACENT WALKS OR PAVING, JOINTS AROUND EXTERIOR OPENINGS, FRAMES, SILLS, LOUVERS, AND ALL PENETRATIONS IN EXTERIOR WALLS.
- 2. CAULK ALL INTERSECTIONS OF DISSIMILAR BUILDING MATERIALS.
- 3. OBTAIN EACH TYPE OF SEALANT FROM A SINGLE MANUFACTURER.
- 4. USE QUALIFIED INSTALLERS FAMILIAR WITH MANUFACTURER REQUIREMENTS.
- 5. SUBMIT SHOP DRAWINGS, INCLUDING:
 - A. MATERIAL LIST
 - B. MANUFACTURER'S CURRENT SPECIFICATIONS AND PRODUCT DATA
 - C. COLOR SAMPLES FOR EACH EXPOSED SEALANT
- 6. DO NOT INSTALL SEALANTS WHEN:
 - A. TEMPERATURES ARE OUTSIDE MANUFACTURER LIMITS (NEVER BELOW 40 °F)
 - B. SUBSTRATES ARE WET (UNLESS ALLOWED BY MANUFACTURER)
 - C. JOINT WIDTHS ARE OUTSIDE ALLOWABLE TOLERANCES
 - D. CONTAMINANTS AFFECTING ADHESION ARE PRESENT
- 7. INSTALLER WARRANTY: 2 YEARS FROM SUBSTANTIAL COMPLETION
- 8. MANUFACTURER WARRANTY: MINIMUM 20-YEAR WARRANTY
- 9. PRODUCT WARRANTY: MANUFACTURER'S STANDARD PRODUCT WARRANTY APPLIES IN FULL.
- 10. COMPATIBILITY: PROVIDE SEALANTS, PRIMERS AND BACKINGS PROVEN COMPATIBLE WITH EACH AND WITH SUBSTRATES.
- 11. COLORS:
 - A. COLORS SELECTED BY OWNER/STRUCTURAL ENGINEER FROM MANUFACTURER'S STANDARD AVAILABLE SELECTIONS.
 - B. MATCH SPECIFIED COLORS WHERE INDICATED.
 - C. OBTAIN FIELD APPROVAL OF EXPOSED COLORS BEFORE INSTALLATION.
- 12. POLYURETHANE JOINT SEALANTS (SELF-LEVELING):
 - A. SINGLE-COMPONENT, NON-PRIMING, ELASTOMERIC, POLYURETHANE JOINT SEALANT, ASTM C920 - TYPE S, GRADE P, CLASS 35, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:

SIKA:	"SIKAFLEX® SL 1"
PECORA CORPORATION	
TREMCO INCORPORATED	"DYMONIC® FC"
DAP PRODUCTS, INC.	
- 13. LATEX JOINT SEALANTS:
 - A. ACRYLIC LATEX OR SILICONIZED ACRYLIC LATEX, ASTM C834 - TYPE OP, GRADE NF, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:

SIKA:	"SIKACRYL® NP 520"
PECORA CORPORATION:	"AC-20® +SILICONE"
TREMCO INCORPORATED:	"TREMIFLEX® 834"
DAP PRODUCTS, INC.:	"ALEX PLUS" OR "DYNAFLEX 230"
- 14. SILICONE JOINT SEALANTS:
 - A. NEUTRAL-CURING SILICONE JOINT SEALANT, ASTM C920 - TYPE S, GRADE NS, CLASS 50, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:

DOW	
GE SILICONES	
PECORA CORPORATION	
TREMCO INCORPORATED	
- 15. URETHANE JOINT SEALANTS (NON-SAG):
 - A. SINGLE-COMPONENT, URETHANE JOINT SEALANT, ASTM C920 - TYPE S, GRADE NS, CLASS 25, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:

SIKA:	"SIKAFLEX® NP 1"
PECORA CORPORATION:	"DYNATROL I-XL"
TREMCO INCORPORATED:	"VULKEM® 116" OR "DYMONIC® 100"

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DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-12
OF 22

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079200: JOINT SEALANTS (CONT.)

- B. MULTI-COMPONENT, URETHANE JOINT SEALANT, ASTM C920 - TYPE M, GRADE NS, CLASS 50, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:
- SIKA: "SIKAFLEX® NP 2"
- PECORA CORPORATION: "DYNATROL II"
- TREMCO INCORPORATED: "DYMERIC® 240 FC"
- C. MULTI-COMPONENT, TRAFFIC GRADE, URETHANE JOINT SEALANT, ASTM C920 - TYPE M, GRADE P, CLASS 50, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:
- POLYMERIC SYSTEMS, INC.: "PSI-270"
- TREMCO INCORPORATED: "VULKEM® 445SSL"
16. POLYSULFIDE JOINT SEALANTS (NON-SAG):
- A. MULTI-COMPONENT, POLYSULFIDE JOINT SEALANT, ASTM C920 - TYPE M, GRADE NS, CLASS 25, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:
- PECORA CORPORATION: "SYNTHACALK GC2+"
- POLYMERIC SYSTEMS, INC.: "PSI-275"
17. SILYL-TERMINATED POLYETHER (STPE) SEALANTS:
- A. SINGLE-COMPONENT, NON-SAG, SILYL-TERMINATED POLYETHER JOINT SEALANT, ASTM C920 - TYPE S, GRADE NS, CLASS 25, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURERS:
- SIKA: "SIKAFLEX® HY 150"
- DAP PRODUCTS, INC.: "SIDEWINDER"
- B. SINGLE COMPONENT, NON-SAG, SILYL-TERMINATED POLYETHER JOINT SEALANT, ASTM C920 - TYPE S, GRADE NS, CLASS 25, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURER:
- DAP PRODUCTS, INC.: "3.0 ALL PURPOSE"
- C. MILDEW-RESISTANT, SINGLE COMPONENT, NON-SAG, SILYL-TERMINATED POLYETHER, JOINT SEALANT, ASTM C920 - TYPE S, GRADE NS, CLASS 25, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURER:
- DAP PRODUCTS, INC.: "3.0 KITCHEN AND BATH MICROBAN"
- D. SINGLE COMPONENT, POURABLE, TRAFFIC-GRADE, SILYL-TERMINATED POLYETHER, JOINT SEALANT; ASTM C920 - TYPE S, GRADE P, CLASS 12.5, EQUAL TO AS PRODUCED BY THE FOLLOWING MANUFACTURER:
- DAP PRODUCTS, INC.: "3.0 SELF-LEVELING"
18. JOINT SEALANT BACKING:
- A. GENERAL: PROVIDE SEALANT BACKINGS THAT ARE NON-STAINING, COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS AND OTHER JOINT FILLERS, AND APPROVED BY THE SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING.
- B. CYLINDRICAL SEALANT BACKINGS: SEALANT BACKER RODS SHALL COMPLY WITH ASTM C1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN), APPROVED BY THE SEALANT MANUFACTURER FOR THE JOINT APPLICATION INDICATED, AND SIZED TO CONTROL SEALANT DEPTH AND OPTIMIZE SEALANT PERFORMANCE.
- C. BOND-BREAKER TAPE: IN JOINTS TOO SHALLOW FOR BACKER ROD INSTALLATION, USE POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY THE SEALANT MANUFACTURER TO PREVENT THREE-SIDED ADHESION.
19. MISCELLANEOUS MATERIALS:
- A. PRIMER: USE PRIMER RECOMMENDED BY THE SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION, AS DETERMINED FROM PRE-CONSTRUCTION JOINT-SEALANT-SUBSTRATE TESTS AND FIELD TESTS.
- B. CLEANERS FOR NONPOROUS SURFACES: USE CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF BOTH THE SEALANT AND THE SEALANT BACKING MATERIALS.
- C. MASKING TAPE: PROVIDE NON-STAINING, NON-ABSORBENT MASKING TAPE COMPATIBLE WITH JOINT SEALANTS AND ADJACENT SURFACES.
20. THE INSTALLER MUST EXAMINE SUBSTRATES, JOINT CONFIGURATION, TOLERANCES, AND CONDITIONS AFFECTING SEALANT PERFORMANCE, AND NOTIFY THE CONTRACTOR IN WRITING OF UNSATISFACTORY CONDITIONS. DO NOT PROCEED UNTIL CONDITIONS ARE CORRECTED TO THE SATISFACTION OF THE MANUFACTURER AND INSTALLER.

079200: JOINT SEALANTS (CONT.)

21. CLEAN JOINTS IMMEDIATELY BEFORE INSTALLING SEALANTS, FOLLOWING THE SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS.
22. PRIME JOINT SUBSTRATES WHERE RECOMMENDED BY THE SEALANT MANUFACTURER OR INDICATED BY PRE-CONSTRUCTION TESTS. APPLY PRIMER ONLY TO AREAS OF SEALANT BOND; AVOID MIGRATION ONTO ADJOINING SURFACES.
23. USE MASKING TAPE WHERE NEEDED TO PREVENT SEALANT OR PRIMER FROM CONTACTING ADJACENT SURFACES. REMOVE TAPE IMMEDIATELY AFTER TOOLING WITHOUT DISTURBING THE SEAL.
24. COMPLY WITH ASTM C1193 "STANDARD GUIDE FOR USE OF JOINT SEALANT" FOR MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.
25. INSTALL BACKER RODS TO SUPPORT SEALANTS AND ACHIEVE REQUIRED SEALANT DEPTH AND CROSS-SECTION.
- A. DO NOT LEAVE GAPS BETWEEN ENDS OF BACKER RODS.
- B. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR BACKER RODS.
- C. REPLACE ANY ABSORBENT BACKER ROD THAT BECOMES WET.
26. WHERE SEALANTS ARE INSTALLED IN MOVING JOINTS WITHOUT BACKER ROD, INSTALL BOND-BREAKER TAPE TO PREVENT THREE-SIDED ADHESION.
27. IMMEDIATELY AFTER APPLICATION AND BEFORE SKINNING, TOOL SEALANTS TO FORM SMOOTH, UNIFORM BEADS, ELIMINATE AIR POCKETS AND ENSURE ADHESION.
- A. REMOVE EXCESS SEALANT FROM ADJACENT SURFACES.
- B. USE TOOLING AGENTS APPROVED BY THE SEALANT MANUFACTURER.
- C. PROVIDE CONCAVE JOINT PROFILE PER ASTM C1193 FIGURE 8A, UNLESS OTHERWISE INDICATED.
28. CLEAN ALL EXCESS SEALANT FROM ADJACENT SURFACES USING METHODS APPROVED BY THE SEALANT AND SUBSTRATE MANUFACTURERS. USE MASKING AND PROTECTIVE MEASURES TO PREVENT SMEARS.
29. PROTECT INSTALLED SEALANTS FROM DAMAGE, CONTAMINATION AND ADVERSE CONDITIONS UNTIL SUBSTANTIAL COMPLETION. REPAIR DAMAGED AREAS BY REMOVING AND REPLACING SEALANT SO REPAIRS ARE INDISTINGUISHABLE FROM ORIGINAL WORK.

081100: METAL DOORS AND FRAMES

1. FURNISH AND INSTALL METAL DOORS AND FRAMES AS SHOWN ON THE DRAWINGS AND AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION.
2. METAL DOORS AND FRAMES SHALL BE IN ACCORDANCE WITH ANSI/SDI A250.8-2017 (SDI-100) "SPECIFICATIONS FOR STANDARD STEEL DOORS AND FRAMES".
- A. DOORS AND FRAMES SHALL BE AS MANUFACTURED BY STEELCRAFT, CECO, CURRIES, DEANSTEEL, REPUBLIC OR APPROVED SDI-CERTIFIED EQUAL.
3. DOORS:
- A. DOORS SHALL BE FLUSH CONSTRUCTION, 1-3/4" THICK, WITH TH E FOLLOWING MINIMUM STEEL FACE GAUGES:
- a. INTERIOR DOORS: 18-GAUGE GALVANIZED STEEL (SDI LEVEL 2 - HEAVY DUTY)
- b. EXTERIOR DOORS: 16-GAUGE GALVANIZED STEEL (SDI LEVEL 3 - EXTRA HEAVY DUTY)
- B. DOOR PERFORMANCE LEVELS SHALL COMPLY WITH SDI-108-18, TABLE 1 - RECOMMENDED SELECTION AND USAGE GUIDE.
- C. DOOR EDGES SHALL BE SEAMLESS, WITH VERTICAL SEAMS FILLED AND DRESSED SMOOTH.
- D. DOOR CORES SHALL BE POLYSTYRENE OR POLYURETHANE, PROVIDING:
- a. U-FACTOR ≤ 0.16 PER ASTM C518
- b. U-FACTOR ≤ 0.45 PER ASTM C1363
4. FRAMES:
- A. FRAMES SHALL BE FULLY WELDED, FABRICATED FROM 16-GAUGE COMMERCIAL-QUALITY COLD-ROLLED STEEL, SDI LEVEL 2 OR 3 (MATCH DOOR).
- B. FRAMES INSTALLED IN NEW OPENINGS IN EXISTING DRYWALL MAY BE KNOCK-DOWN TYPE WITH PRIOR APPROVAL.
- C. PROVIDE GALVANIZED STEEL TOP CAPS FOR ALL EXTERIOR DOORS.
- D. PROVIDE JAMB AND FLOOR CLIPS APPROPRIATE FOR THE WALL SYSTEM.
5. DOORS AND FRAMES SHALL BE CLEANED, PHOSPHATIZED AND FINISHED WITH ONE COAT OF BAKED-ON RUST-INHIBITING PRIMER IN ACCORDANCE WITH ANSI/SDI A250.11-2012.

081100: METAL DOORS AND FRAMES (CONT.)

6. MANUFACTURING TOLERANCES FOR DOORS AND FRAMES SHALL COMPLY WITH SDI-117-19 "MANUFACTURING TOLERANCES FOR STANDARD STEEL DOORS AND FRAMES".
7. REINFORCE ALL DOORS FOR HINGES, LOCKS, CLOSERS AND SIMILAR ITEMS PER SDI-100, TABLE 4 "MINIMUM HARDWARE REINFORCING THICKNESS".
8. WHERE INDICATED, PROVIDE LABELED FIRE DOOR AND FRAME ASSEMBLIES, INCLUDING SMOKE CONTROL COMPONENTS AND STEEL ASTRAGALS WHERE REQUIRED
- A. ASSEMBLIES SHALL COMPLY WITH THE LATEST EDITIONS OF ANSI/UL 10C (FIRE TESTS OF DOOR ASSEMBLES), NFPA 80 (FIRE DOORS AND OTHER OPENING PROTECTIVES), AND NFPA 105 (SMOKE DOOR ASSEMBLIES).
9. PROVIDE COMPLETE SUBMITTAL DATA INCLUDING:
- A. DOOR AND FRAME TYPES
- B. CONSTRUCTION DETAILS
- C. METHODS OF ASSEMBLY
- D. HARDWARE LOCATIONS
- E. ANCHORAGE AND FASTENING METHODS
- F. FINISH REQUIREMENTS
10. STORE, HANDLE, AND PROTECT INSTALL DOORS IN ACCORDANCE WITH SDI-100.
11. INSTALL DOORS AND FRAMES PLUMB, LEVEL, SQUARE AND RIGIDLY SECURED IN ACCORDANCE WITH ANSI/SDI A250.11-2012. ADJUST DOORS AFTER INSTALLATION TO ENSURE PROPER OPERATION.
12. INSTALL HARDWARE IN ACCORDANCE WITH THE HARDWARE MANUFACTURER'S RECOMMENDATIONS, TEXAS ACCESSIBILITY STANDARDS (TAS), AND ANSI/SDI A250.6 "RECOMMENDED PRACTICE FOR HARDWARE REINFORCING".

081613: FRP DOORS AND FRAMES

1. FURNISH AND INSTALL FIBERGLASS REINFORCED PLASTIC (FRP) DOORS AND RESIN TRANSFER MOLDED FRAMES (RTM) AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR A COMPLETE INSTALLATION.
2. BASIS-OF-DESIGN:
- A. ALL DOORS AND FRAMES SHALL BE "MODEL CP1 - STANDARD CONSTRUCTION SERIES" AS MANUFACTURED BY CHEM-PRUF DOOR COMPANY, LTD. WWW.CHEM-PRUF.COM
- B. SUBSTITUTIONS: PRODUCTS BY OTHER MANUFACTURERS WILL BE CONSIDERED ONLY IF THE PROPOSED MANUFACTURER SUBMITS WRITTEN DOCUMENTATION DOCUMENTING FULL COMPLIANCE WITH THIS SPECIFICATION.
- C. ALL PRODUCTS SHALL BE MANUFACTURED IN THE UNITED STATES.
3. DOORS SHALL HAVE PUBLISHED TEST DATA FROM AN INDEPENDENT, ACCREDITED LABORATORY DEMONSTRATING PROPERTIES EQUAL TO OR EXCEEDING THOSE OF THE BASIS-OF-DESIGN PRODUCT FOR:
- A. DOOR STRUCTURAL PROPERTIES
- B. LAMINATE PROPERTIES
- C. CORE PROPERTIES
4. QUALIFICATIONS:
- A. MANUFACTURER: MINIMUM 10 YEARS DOCUMENTED EXPERIENCE PRODUCING FRP DOORS AND FRAMES WITH SUCCESSFUL IN-SERVICE PERFORMANCE.
- B. INSTALLER: EXPERIENCED IN FRP DOOR INSTALLATIONS OF SIMILAR SIZE AND COMPLEXITY WITH SUCCESSFUL IN-SERVICE PERFORMANCE.
- C. SOURCE LIMITATIONS:
- a. DOORS AND FRAMES SHALL BE PROVIDED BY A SINGLE MANUFACTURER.
- b. HARDWARE AND ACCESSORIES SHALL BE FURNISHED AND FACTORY-INSTALLED BY THE DOOR MANUFACTURER.
- c. VISION GLASS SHALL BE FURNISHED AND INSTALLED BY THE DOOR MANUFACTURER.
5. PROVIDE SUBMITTAL DATA IN ACCORDANCE WITH SECTION 013300: SHOP DRAWINGS AND SAMPLES. INCLUDE:
- A. PRODUCT TECHNICAL DATA:
- a. ACKNOWLEDGMENT THAT PRODUCTS SUBMITTED MEET REQUIREMENTS OF STANDARDS REFERENCED.
- b. MANUFACTURER SHALL PROVIDE CERTIFICATE OF COMPLIANCE WITH CURRENT LOCAL AND FEDERAL REGULATIONS AS IT APPLIES TO THE MANUFACTURING PROCESS.

(CONTINUED ON SHEET AS-14)

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STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-13

OF 22

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 20, 2026 - 10:02am	
KPA Firm Registration Number F-510		Plotted By: JARED	

PROJECT NO.	2024-109
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APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

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081613: FRP DOORS AND FRAMES (CONT.)

- c. MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- d. SCHEDULE OF DOORS AND FRAMES INDICATING THE SPECIFIC REFERENCE NUMBERS USED ON THE OWNER'S PROJECT DOCUMENTS, NOTING DOOR TYPE, FRAME TYPE, SIZE, HANDING AND APPLICABLE HARDWARE.
- e. DETAILS OF CORE AND EDGE CONSTRUCTION. INCLUDING FACTORY CONSTRUCTION SPECIFICATIONS.
- f. CERTIFICATION OF MANUFACTURER'S QUALIFICATIONS.
- B. SUBMITTAL DRAWINGS AND DATA:
 - a. SUMMARY DOOR SCHEDULE INDICATING THE SPECIFIC REFERENCE NUMBERS AS USED ON OWNER'S DRAWINGS, WITH COLUMNS NOTING DOOR TYPE, FRAME TYPE, SIZE, HANDING, ACCESSORIES AND HARDWARE.
 - b. A DRAWING DEPICTING FRONT AND REAR DOOR ELEVATIONS SHOWING HARDWARE WITH BILL OF MATERIAL FOR EACH DOOR.
 - c. DRAWING SHOWING DIMENSIONAL LOCATION OF EACH HARDWARE ITEM AND SIZE OF EACH DOOR.
 - d. INDIVIDUAL PART DRAWING AND SPECIFICATIONS FOR EACH HARDWARE ITEM AND FRP PART OR PRODUCT.
 - e. CONSTRUCTION AND MOUNTING DETAIL FOR EACH FRAME TYPE.
- C. SAMPLES:
 - a. PROVIDE ONE COMPLETE MANUFACTURED DOOR SAMPLE WHICH REPRESENTS ALL ASPECTS OF THE TYPICAL MANUFACTURING PROCESS, INCLUDING MOLDED IN GELCOAT COLOR AND FACE PLATE CONSTRUCTION. ONE EDGE SHOULD EXPOSE THE INTERIOR OF THE DOOR DEPICTING THE UNIQUE U-SHAPED CONTINUOUS PIECE STILE AND RAIL, HARDWARE REINFORCEMENT AND CORE MATERIAL.
- D. OPERATIONS AND MAINTENANCE MANUAL:
 - a. INCLUDE RECOMMENDED METHODS AND FREQUENCY FOR MAINTAINING OPTIMUM CONDITION OF FIBERGLASS DOORS AND FRAMES UNDER ANTICIPATED TRAFFIC AND USE CONDITION.
 - b. INCLUDE ONE SET OF FINAL AS BUILT DRAWINGS WITH THE SAME REQUIREMENTS AS MENTIONED IN SECTION B ABOVE.
 - c. INCLUDE CERTIFICATE OF WARRANTY FOR DOOR AND FRAME LISTING SPECIFIC DOOR REGISTRATION NUMBERS.
 - d. INCLUDE HARDWARE DATA SHEETS AND HARDWARE MANUFACTURER'S WARRANTIES.
- 6. DELIVERY, STORAGE AND HANDLING:
 - A. EACH DOOR AND FRAME SHALL BE DELIVERED INDIVIDUALLY CRATED FOR PROTECTION FROM DAMAGE IN CARDBOARD CONTAINERS, CLEARLY MARKED WITH PROJECT INFORMATION, DOOR LOCATION, SPECIFIC REFERENCE NUMBER AS SHOWN ON DRAWINGS, AND SHIPPING INFORMATION. EACH CRATE SHALL CONTAIN ALL FASTENERS NECESSARY FOR INSTALLATION AS WELL AS COMPLETE INSTALLATION INSTRUCTIONS.
 - a. DOORS SHALL BE STORED IN THE ORIGINAL CONTAINER ON EDGE, OUT OF INCLEMENT WEATHER FOR PROTECTION AGAINST THE ELEMENTS.
 - b. HANDLE DOORS PURSUANT TO THE MANUFACTURER'S RECOMMENDATIONS AS POSTED ON OUTSIDE OF CRATE.
- 7. WARRANTY:
 - A. ALL FIBERGLASS DOORS AND FRAMES HAVE A LIFETIME GUARANTEE AGAINST FAILURE DUE TO CORROSION. ADDITIONALLY, FIBERGLASS DOORS AND FIBERGLASS FRAMES ARE GUARANTEED FOR TEN YEARS AGAINST FAILURE DUE TO MATERIALS AND WORKMANSHIP, INCLUDING WARP, SEPARATION OR DELAMINATION, AND EXPANSION OF THE CORE.
 - B. ON SITE ASSISTANCE SHALL BE AVAILABLE.
- 8. FIBERGLASS REINFORCED PLASTIC DOORS:
 - A. DOORS SHALL BE MADE OF FIBERGLASS REINFORCED PLASTIC (FRP) USING CLASS 1 PREMIUM RESIN WITH NO FILLERS THAT IS SPECIFICALLY TAILORED TO RESIST CHEMICALS AND CONTAMINANTS TYPICALLY FOUND IN ENVIRONMENT FOR WHICH THESE SPECIFICATIONS ARE WRITTEN.
 - a. DOORS SHALL BE 1-3/4 INCH THICK AND OF FLUSH CONSTRUCTION, HAVING NO SEAMS OR CRACKS.

081613: FRP DOORS AND FRAMES (CONT.)

- b. FOR CONSISTENCY IN THE RESIN CHEMISTRY TAILORED FOR THIS APPLICATION AND TO MAINTAIN THE SAME PHYSICAL PROPERTIES THROUGHOUT THE STRUCTURE, ALL FIBERGLASS COMPONENTS INCLUDING FACE PLATES, STILES AND RAILS AND FRAMES MUST BE FABRICATED BY THE SAME MANUFACTURER.
- c. COMPONENTS OBTAINED THROUGH VARIOUS OUTSIDE SOURCES FOR PLANT ASSEMBLY WILL NOT BE ACCEPTED.
- B. DOOR PLATES SHALL BE 0.125 INCH THICK MINIMUM, MOLDED IN ONE CONTINUOUS PIECE, STARTING WITH 25 MIL GELCOAT OF THE COLOR SPECIFIED, INTEGRALLY MOLDED WITH MULTIPLE LAYERS OF 1.5 OUNCES PER SQUARE FOOT FIBERGLASS MAT AND ONE LAYER OF 18 OUNCE PER SQUARE YARD FIBERGLASS WOVEN ROVING.
- a. EACH LAYER SHALL BE INDIVIDUALLY LAMINATED WITH RESIN AS MENTIONED ABOVE. DOOR PLATE WEIGHT SHALL NOT BE LESS THAN 0.97 LBS PER SQUARE FOOT AT A RATIO OF 30/70 GLASS TO RESIN.
- b. PLATE ALONE TO WITHSTAND LARGE MISSILE IMPACT PER FBC TAS 201.
- c. FACE PLATES MANUFACTURED USING THE PULTRUSION PROCESS DO NOT ALLOW FOR A SMOOTH MOLDED GELCOAT FINISH, THE USE OF WOVEN ROVING FOR ADEQUATE PLATE THICKNESS, STRENGTH AND WEIGHT, OR THE APPROPRIATE GLASS TO RESIN RATIO AND WILL NOT MEET THE QUALITY STANDARDS OF THIS PROJECT.
- C. STILES AND RAILS SHALL BE CONSTRUCTED STARTING FROM THE OUTSIDE TOWARD THE INSIDE, WITH A MATRIX OF AT LEAST THREE LAYERS OF 1.5 OUNCE PER SQUARE FOOT OF FIBERGLASS MAT.
- a. THE STILE AND RAIL SHALL BE MOLDED IN ONE CONTINUOUS PIECE TO A U-SHAPED CONFIGURATION AND TO THE EXACT DIMENSIONS OF THE DOOR. IN THIS MANNER THERE WILL BE NO MITER JOINTS AND DISPARATE MATERIALS USED TO FORM THE ONE-PIECE STILE AND RAIL.
- D. CORE MATERIAL SHALL BE POLYPROPYLENE PLASTIC HONEYCOMB CORE WITH A NON-WOVEN POLYESTER VEIL FOR UNPARALLELED PLATE BONDING, 180 PSI TYPICAL COMPRESSION RANGE UNLESS OTHERWISE REQUESTED.
- E. INTERNAL REINFORCEMENT SHALL BE #2 SPF OF SUFFICIENT AMOUNT TO ADEQUATELY SUPPORT REQUIRED HARDWARE AND FUNCTION OF SAME.
- F. FINISH OF DOOR FRAME SHALL BE IDENTICAL WITH 25 MIL RESIN-RICH GELCOAT OF THE SPECIFIED COLOR INTEGRALLY MOLDED IN AT TIME OF MANUFACTURE RESULTING IN A SMOOTH GLOSS SURFACE THAT IS DENSE AND NON-POROUS.
- a. TO ACHIEVE OPTIMUM SURFACE CHARACTERISTICS, THE GELCOAT SHALL BE CURED WITHIN A TEMPERATURE RANGE OF 120F TO 170F CREATING AN IMPERMEABLE OUTER SURFACE, UNIFORM COLOR THROUGHOUT, AND A PERMANENT HOMOGENEOUS BOND WITH THE RESIN/FIBERGLASS SUBSTRATE BENEATH.
- b. ONLY THE HIGHEST QUALITY GELCOAT SHALL BE USED TO ENSURE ENDURING COLOR AND PHYSICAL PROPERTIES. PAINT AND/OR POST APPLICATION OF GELCOAT RESULTS IN POOR MECHANICAL FUSION AND WILL BE DEEMED UNACCEPTABLE FOR THIS APPLICATION.
- c. THE FINISH OF THE DOOR AND FRAME MUST BE FIELD REPAIRABLE WITHOUT COMPROMISING THE INTEGRITY OF THE ORIGINAL UNIFORM COMPOSITE STRUCTURE, FUNCTION OR PHYSICAL STRENGTH.
- G. WINDOW OPENINGS SHALL BE PROVIDED FOR AT TIME OF MANUFACTURE AND SHALL BE COMPLETELY SEALED SO THAT THE INTERIOR OF THE DOOR IS NOT EXPOSED TO THE ENVIRONMENT.
- a. FIBERGLASS RETAINERS, WHICH HOLD THE GLAZING IN PLACE, SHALL BE RESIN TRANSFER MOLDED WITH A PROFILE THAT DRAINS AWAY FROM GLAZING.
- b. THE WINDOW RETAINER MUST MATCH THE COLOR AND FINISH OF THE DOOR PLATES WITH 25 MIL OF RESIN-RICH GELCOAT INTEGRALLY MOLDED IN AT TIME OF MANUFACTURE. MECHANICAL FASTENERS SHALL NOT BE USED TO ATTACH RETAINERS.
- c. GLASS, AS SPECIFIED HEREIN, SHALL BE FURNISHED AND INSTALLED BY DOOR AND FRAME MANUFACTURER.
- d. IN ORDER TO MAINTAIN UNIFORM APPEARANCE, PRODUCT LONGEVITY AND THE CORROSION RESISTANCE THIS APPLICATION REQUIRES, WINDOW RETAINERS FABRICATED FROM METAL, PVC OR VINYL WILL NOT BE ACCEPTED.
- H. LOUVER OPENINGS SHALL BE COMPLETELY SEALED SO THAT THE INTERIOR OF THE DOOR IS NOT EXPOSED TO THE ENVIRONMENT. LOUVERS ARE TO BE SOLID FIBERGLASS "V" VANES AND SHALL MATCH THE COLOR AND FINISH OF THE DOOR PLATES.
- I. TRANSOMS SHALL BE IDENTICAL TO THE DOORS IN FINISH, CONSTRUCTION, MATERIALS, THICKNESS AND REINFORCEMENT.

081613: FRP DOORS AND FRAMES (CONT.)

- 9. FIBERGLASS REINFORCED PLASTIC FRAMES:
 - A. FRAMES (RATED AND NON-RATED) SHALL BE FIBERGLASS AND MANUFACTURED USING THE RESIN TRANSFER METHOD CREATING ONE SOLID PIECE (NO VOIDS) WITH COMPLETE UNIFORMITY IN COLOR AND SIZE.
 - a. BEGINNING WITH A MINIMUM 25 MIL GELCOAT LAYER MOLDED IN AND A MINIMUM OF TWO LAYERS OF CONTINUOUS STRAND FIBERGLASS MAT SATURATED WITH RESIN, THE FRAME WILL BE OF ONE-PIECE CONSTRUCTION WITH MOLDED STOP.
 - b. ALL FRAME PROFILES SHALL HAVE A CORE MATERIAL OF 2 PSF POLYURETHANE FOAM. METAL FRAMES OR PULTRUDED FIBERGLASS FRAMES WILL NOT BE ACCEPTED.
 - B. FINISH OF FRAME SHALL BE IDENTICAL TO THE DOOR WITH 25 MIL RESIN-RICH GELCOAT OF THE SPECIFIED COLOR INTEGRALLY MOLDED IN AT TIME OF MANUFACTURE.
 - a. TO ACHIEVE OPTIMUM SURFACE CHARACTERISTICS, THE GELCOAT SHALL BE CURED WITHIN A TEMPERATURE RANGE OF 120F TO 170F CREATING AN IMPERMEABLE OUTER SURFACE, UNIFORM COLOR THROUGHOUT, AND A PERMANENT HOMOGENEOUS BOND WITH THE RESIN/FIBERGLASS SUBSTRATE BENEATH.
 - b. ONLY THE HIGHEST QUALITY GELCOAT WILL BE USED TO ENSURE ENDURING COLOR AND PHYSICAL PROPERTIES. PAINT AND/OR POST APPLICATION OF GELCOAT RESULT IN POOR MECHANICAL FUSION AND WILL BE DEEMED UNACCEPTABLE FOR THIS APPLICATION.
 - c. THE FINISH OF THE DOOR AND FRAME MUST BE FIELD REPAIRABLE WITHOUT COMPROMISING THE INTEGRITY OF THE ORIGINAL UNIFORM COMPOSITE STRUCTURE, FUNCTION OR PHYSICAL STRENGTH.
 - C. JAMB/HEADER CONNECTION SHALL BE MITERED FOR TIGHT FIT.
 - D. INTERNAL REINFORCEMENT SHALL BE CONTINUOUS WITHIN THE STRUCTURE TO ALLOW FOR MOUNTING OF SPECIFIED HARDWARE.
 - a. REINFORCING MATERIAL SHALL BE A DENSE MATRIX OF CLOTH GLASS FIBERS AND PREMIUM RESIN WITH A MINIMUM HINGE SCREW HOLDING VALUE OF 1000 LBS PER SCREW.
 - b. ALL REINFORCING MATERIALS SHALL BE COMPLETELY ENCAPSULATED.
 - c. DOCUMENTED STRENGTH OF FRAME SCREW HOLDING VALUE AFTER THIRD INSERT MUST BE SUBMITTED.
 - d. DISSIMILAR MATERIALS, SUCH AS STEEL, WILL BE DEEMED UNACCEPTABLE AS REINFORCEMENT FOR HARDWARE ATTACHMENT.
 - E. MORTISES FOR HARDWARE SHALL BE ACCURATELY MACHINED BY CNC TO HOLD DIMENSIONS TO +/- 0.010 INCH IN ALL THREE AXIS.
 - F. HINGE POCKETS SHALL BE ACCURATELY MACHINED BY CNC TO FACILITATE HEAVY DUTY HINGES AT ALL HINGE LOCATIONS, USING SHIMS WHEN STANDARD WEIGHT HINGES ARE USED.
10. HARDWARE:
 - A. SEE HARDWARE SPECIFICATIONS IN SECTION 087000: FINISH HARDWARE.
 - B. THE SPECIAL NATURE OF THIS MATERIAL REQUIRES THAT ALL RELATED HARDWARE AS SPECIFIED MUST BE FURNISHED AND INSTALLED BY THE DOOR FRAME MANUFACTURER TO MAINTAIN PRODUCT QUALITY AND FUNCTION AS WELL AS TO ENSURE SUFFICIENT SUPPORT/REINFORCEMENT, PRECISION TOOLING AND PROPER SEALING METHODS ARE PROVIDED.
11. INSTALLATION CONDITIONS:
 - A. VERIFY OPENINGS ARE CORRECTLY PREPARED TO RECEIVE DOORS AND FRAMES.
 - B. VERIFY OPENINGS ARE CORRECT SIZE AND DEPTH IN ACCORDANCE WITH SUBMITTAL DRAWINGS.
12. INSTALLER'S EXAMINATION:
 - A. DOOR INSTALLER SHALL EXAMINE CONDITIONS UNDER WHICH CONSTRUCTION ACTIVITIES OF THIS SECTION ARE TO BE PERFORMED AND SUBMIT A WRITTEN REPORT TO GENERAL CONTRACTOR IF CONDITIONS ARE UNACCEPTABLE.
 - a. GENERAL CONTRACTOR SHALL SUBMIT TWO COPIES OF THE INSTALLER'S REPORT TO THE STRUCTURAL ENGINEER WITHIN 24 HOURS OF RECEIPT.
 - b. INSTALLER SHALL NOT PROCEED WITH INSTALLATION UNTIL ALL UNACCEPTABLE CONDITIONS HAVE BEEN CORRECTED.
13. DELIVERY AND INSTALLATION:
 - A. DOORS SHALL BE DELIVERED AT JOB SITE INDIVIDUALLY CRATED. EACH CRATE TO BE CLEARLY MARKED WITH THE SPECIFIC OPENING INFORMATION FOR QUICK AND EASY IDENTIFICATION.
 - B. ALL SINGLE DOORS TO BE SHIPPED COMPLETELY ASSEMBLED IN THE FRAME WITH HARDWARE INSTALLED. DOUBLE DOORS TO BE PRE-HUNG AT THE FACTORY TO ENSURE A PROPER FIT AND THAT HARDWARE FUNCTIONS PROPERLY, THEN DISASSEMBLED FOR SHIPPING PURPOSES.

(CONTINUED ON SHEET AS-15)

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STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-14

OF 22

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081613: FRP DOORS AND FRAMES (CONT.)

- C. INSTALL DOOR OPENING ASSEMBLIES IN ACCORDANCE WITH SHOP DRAWINGS AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, USING INSTALLATION METHODS AND MATERIALS SPECIFIED IN INSTALLATION INSTRUCTIONS.
- D. **FIELD ALTERATION OF DOORS OR FRAMES TO ACCOMMODATE FIELD CONDITIONS IS STRICTLY PROHIBITED.**
- E. SITE TOLERANCES: MAINTAIN PLUMB AND LEVEL TOLERANCE SPECIFIED IN MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- F. FIRE LABELED DOORS, FRAMES AND ANY ASSOCIATED HARDWARE MUST BE INSTALLED BY QUALIFIED PROFESSIONAL INSTALLERS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND THE LATEST REVISION OF NFPA 80.
- G. INSTALLED DOORS AND FRAMES SHALL BE PLUMB, LEVEL, AND RIGIDLY SECURE IN PLACE.
14. ADJUSTING:
- A. ADJUST DOORS IN ACCORDANCE WITH THE DOOR MANUFACTURER'S MAINTENANCE INSTRUCTIONS TO SWING OPEN AND SHUT WITHOUT BINDING AND TO REMAIN IN PLACE AT ANY ANGLE WITHOUT BEING MOVED BY GRAVITATIONAL INFLUENCE.
- B. ADJUST DOOR HARDWARE TO OPERATE CORRECTLY IN ACCORDANCE WITH HARDWARE MANUFACTURER'S MAINTENANCE INSTRUCTION.
15. PROTECTION:
- A. PROTECT DOOR OPENING ASSEMBLIES AND DOOR HARDWARE FROM DAMAGE BY SUBSEQUENT CONSTRUCTION ACTIVITIES UNTIL FINAL INSPECTION.

087000: FINISH HARDWARE

1. FURNISH AND INSTALL FINISH HARDWARE AS SHOWN ON PLANS AND AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION.
- A. ALL HARDWARE FOR FIBERGLASS DOORS SHALL BE FURNISHED AND INSTALLED IN DOOR BY THE DOOR MANUFACTURER. REFER TO SPECIFICATION SECTION 081613: FIBERGLASS DOORS AND FRAMES.
- B. CONTRACTOR SHALL COORDINATE SELECTION OF HARDWARE PROVIDED BY FIBERGLASS DOOR MANUFACTURER AND OTHERS TO ENSURE THAT ALL HARDWARE MEETS THESE SPECIFICATIONS AND THAT ALL HARDWARE OF SIMILAR TYPE IS FROM THE SAME MANUFACTURER.
2. ALL HARDWARE SHALL BE SUPPLIED AND INSTALLED TO MEET CURRENT ACCESSIBILITY REQUIREMENTS OF THE ADA AND TEXAS ACCESSIBILITY STANDARDS (TAS).
3. WHERE REQUIRED, PROVIDE DOOR HARDWARE RATED FOR USE IN ASSEMBLIES COMPLYING WITH NFPA 80, LISTED AND LABELED BY A QUALIFIED TESTING AGENCY FOR THE REQUIRED FIRE PROTECTION AND SMOKE CONTROL RATINGS.
4. MATERIALS:
- A. WHERE USED IN A CORROSIVE ENVIRONMENT, ALL HARDWARE INCLUDING INTERNAL MECHANISMS SHALL BE CORROSION RESISTANT. ALL STEEL COMPONENTS SHALL BE HEAVY GAUGE TYPE 316 STAINLESS STEEL.
- B. ALL EXTERIOR DOOR HARDWARE SHALL BE GRADE 1. ALL INTERIOR DOOR HARDWARE SHALL BE GRADE 2 OR BETTER.
- C. DOOR HARDWARE SHALL BE PER MANUFACTURERS LISTED IN DOOR HARDWARE SCHEDULE(S) OR APPROVED EQUAL.
- a. ACCEPTABLE ALTERNATE HINGES AS MANUFACTURED BY HAGER, STANLEY, OR APPROVED EQUAL.
- b. ACCEPTABLE ALTERNATE LOCKS AND LATCHES AS MANUFACTURED BY YALE, CORBIN RUSSWIN, OR APPROVED EQUAL.
- c. ACCEPTABLE ALTERNATE PANIC DEVICES SHALL BE **"98/99 SERIES"** AS MANUFACTURED BY VON DUPRIN, OR APPROVED EQUAL.
- d. ACCEPTABLE ALTERNATE CLOSERS AS MANUFACTURED BY YALE, STANLEY, CORBIN RUSSWIN, OR APPROVED EQUAL.
- e. ACCEPTABLE ALTERNATE THRESHOLDS, WEATHERSTRIPPING, DOOR SWEEPS, KICK PLATES, AND LIGHT SEALS AS MANUFACTURED BY NATIONAL GUARD PRODUCTS, REESE WEATHERSTRIPPING COMPANY, OR ZERO WEATHERSTRIPPING COMPANY.

087000: FINISH HARDWARE (CONT.)

5. FINISH:
- A. ALL NON-STAINLESS STEEL EXPOSED HARDWARE SHALL BE US26D SATIN CHROME (BHMA 626) UNLESS OTHERWISE NOTED.
- B. STAINLESS STEEL HARDWARE SHALL BE US32D SATIN STAINLESS STEEL (BHMA 630).
6. KEY LOCKS AS DIRECTED BY OWNER.
- A. WHERE EXISTING SYSTEMS ARE IN PLACE, KEY TO MATCH.
- B. ALL KEYING SHALL BE FACTORY KEYED.
- C. ESTABLISH MASTER KEY SYSTEM FOR BUILDING AS DIRECTED.
7. PROVIDE SUBMITTALS AND PRODUCT DATA FOR ALL MATERIALS SUPPLIED UNDER THIS SECTION. INCLUDE MATERIAL DESIGNATIONS, FINISHES, AND CONSTRUCTION/INSTALLATION DETAILS.
8. DELIVER MATERIALS TO JOBSITE IN ORIGINAL PACKAGING AND STORE SECURELY IN A MANNER APPROVED BY THE OWNER. PROVIDE CONSTRUCTION KEYING OR A KEY CONTROL SYSTEM AS DIRECTED/APPROVED BY OWNER.
9. COORDINATE WITH OWNER FOR ELECTRONIC SECURITY EQUIPMENT AS REQUIRED.
10. EXAMINE ALL AREAS AND CONDITIONS WHERE WORK OF THIS SECTION WILL BE INSTALLED AND CORRECT CONDITIONS WHICH WOULD BE DETRIMENTAL TO PROPER INSTALLATION AND OPERATION.
11. INSTALL ALL HARDWARE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. VERIFY PROPER OPERATION UPON COMPLETION OF INSTALLATION AND MAKE ADJUSTMENTS AS NECESSARY.

099000: PAINTING

1. ALL SURFACES INDICATED ON THE DRAWINGS TO BE PAINTED SHALL BE RECEIVE A COMPLETE COATING SYSTEM INCLUDING PROPER SURFACE PREPARATION, PRETREATMENT, AND A MINIMUM OF ONE PRIME COAT AND TWO FINISH COATS, UNLESS NOTED OTHERWISE. USE COATING SYSTEMS RECOMMENDED BY THE MANUFACTURER FOR EACH SUBSTRATE.
2. PAINT PRODUCTS SHALL BE AS MANUFACTURED BY SHERWIN WILLIAMS, BENJAMIN MOORE, AND PPG, OR OTHER APPROVED EQUAL. USE COMMERCIAL-GRADE OR BETTER PRODUCTS.
3. ALL COATINGS SHALL COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION.
4. PAINT SYSTEMS:
- A. ALL PAINT SYSTEMS ARE BASED ON SHERWIN WILLIAMS, UNLESS NOTED OTHERWISE. EQUIVALENT PRODUCTS OF APPROVED MANUFACTURERS WILL BE ACCEPTED.
- B. STEEL: PAINT ALL STEEL WITH A 100% ACRYLIC, WATER-REDUCIBLE, CORROSION-RESISTANT COATING SYSTEM INTENDED FOR INDUSTRIAL USE, EQUAL TO:
- a. PRIMER: **"DTM ACRYLIC PRIMER"** (2.5-5.0 MIL D.F.T.)
- b. PAINT: (2) COATS **"DTM ACRYLIC"** (2.5-4.0 MIL D.F.T./CT.)
- c. FINISH: SEMI-GLOSS
- C. INTERIOR MASONRY (EPOXY): PAINT ALL EXPOSED CMU WITH A TWO-COMPONENT, WATER-BASED, CATALYZED, EPOXY COATING SYSTEM, EQUAL TO:
- a. PRIMER: **"LOXON, A24W00200 ACRYLIC RESIN SURFACER"** (8.0 MIL D.F.T.)
- b. PAINT: (2) COATS **"B70 SERIES"** (2.5-3.0 MIL D.F.T./CT.)
- c. FINISH: SEMI-GLOSS
- D. INTERIOR MASONRY (EPOXY - CORROSIVE ENVIRONMENT): PAINT ALL EXPOSED CMU WITH A TWO-COMPONENT, WATER-BASED, CATALYZED, EPOXY COATING SYSTEM, EQUAL TO:
- d. PRIMER: **"KEM CATI-COAT HS EPOXY® FILLER/SEALER"** (15.0 MIL D.F.T.)
- e. PAINT: (2) COATS **"DURA-PLATE® 235 MULTI-PURPOSE EPOXY"** (5.0 MIL D.F.T./CT.)
- f. FINISH: SEMI-GLOSS
- E. EXTERIOR MASONRY (SEALED): USE **"PRIME-A-PELL PLUS SERIES 662"** AS MANUFACTURED BY TNEMEC COMPANY.
5. COLORS: UNLESS NOTED ON THE DRAWINGS, COLORS SHALL BE AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD SELECTIONS.
6. SUBMIT PRODUCT DATA FOR ALL MATERIALS TO ENSURE COMPLIANCE WITH PRODUCT CHARACTERISTICS AND PERFORMANCE DATA, INCLUDING INSTALLATION INSTRUCTIONS AND FULL RANGE OF SAMPLES TO INDICATE AVAILABLE COLORS AND TEXTURES.
7. EXAMINE ALL SUBSTRATES, ADJOINING CONSTRUCTION, AND OTHER CONDITIONS WHICH MAY AFFECT THE WORK TO BE INSTALLED. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

099000: PAINTING (CONT.)

- A. MAXIMUM MOISTURE CONTENT OF SUBSTRATES:
- a. CONCRETE: 12 PERCENT
- b. MASONRY (CLAY AND CMU): 12 PERCENT
8. ALL SURFACES SHALL BE CLEAN, SOUND, AND PROPERLY PREPARED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- A. FILL ALL VOIDS AND REPAIR ANY CRACKS GREATER THAN HAIRLINE WIDTH PRIOR TO APPLICATION OF COATINGS / PRIMERS.
- B. ALL STEEL SHALL BE CLEANED FREE FROM GREASE, DIRT, OILS, OR OTHER CONTAMINANTS WHICH MIGHT INTERFERE WITH PROPER PAINT ADHESION.
- C. ALL RUST OR CORROSION SHALL BE REMOVED BY MEANS OF APPROVED RUST REMOVING CHEMICALS, WIRE BRUSH, SANDBLASTING, OR OTHER APPROVED METHODS AND TREATED TO PREVENT FUTURE CORROSION BEFORE PAINTING.
9. APPLY WATER BASED PAINTS ONLY WHEN THE TEMPERATURE OF THE SURFACES TO BE PAINTED AND SURROUNDING AIR TEMPERATURES ARE BETWEEN 50 DEGREES F AND 90 DEGREES F. APPLY SOLVENT-THINNED PAINTS ONLY WHEN TEMPERATURE OF SURFACES TO BE PAINTED AND SURROUNDING AIR TEMPERATURES ARE BETWEEN 45 DEGREES F AND 95 DEGREES F.
10. DO NOT APPLY PAINT IN SNOW, RAIN, FOG, OR MIST, WHEN THE RELATIVE HUMIDITY EXCEEDS 85 PERCENT, AT TEMPERATURES LESS THAN 5 DEGREES F ABOVE THE DEW POINT, OR TO DAMP OR WET SURFACES.
11. DURING THE ACTUAL APPLICATION AND DRYING OF INTERIOR PAINT AND UNTIL NORMAL OCCUPANCY OF THE BUILDING OCCURS, MAINTAIN A MINIMUM TEMPERATURE OF 60 DEGREES F.
12. APPLY PAINTS AND COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO THE MANUFACTURER'S DIRECTIONS.
- A. SEAL ALL SURFACES AS REQUIRED TO ELIMINATE PINHOLES.
- B. APPLY ALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
13. PROTECT SURFACES NOT BEING PAINTED CONCURRENTLY, OR NOT TO BE PAINTED, AND THE FINISHED WORK OF OTHER TRADES.
14. APPLY ALL MATERIALS UNDER ADEQUATE ILLUMINATION, SPREAD EVENLY AND FLOW ON SMOOTHLY WITHOUT RUNS OR SAGS. APPLY MATERIALS NO THINNER THAN THE MANUFACTURER'S RECOMMENDED SPREADING RATE. PROVIDE THE TOTAL DRY FILM THICKNESS OF THE ENTIRE SYSTEM AS RECOMMENDED BY MANUFACTURER.
15. VENTILATION SHALL BE PROVIDED AT ALL TIMES.
16. ALL MATERIALS SHALL BE APPLIED AND CUT IN NEATLY SO THAT THEY DRY UNIFORMLY TO COLOR AND SHEEN SPECIFIED, FREE FROM RUNS, SAGS, WRINKLES, SHINERS, STREAKS, AND BRUSH MARKS.
17. ALLOW SUFFICIENT DRYING TIME BETWEEN COATS, MODIFYING THE PERIOD AS RECOMMENDED BY THE MATERIAL MANUFACTURER TO SUIT ADVERSE WEATHER CONDITIONS.

101400: IDENTIFYING DEVICES

1. FURNISH AND INSTALL INTERIOR IDENTIFYING DEVICES AT LOCATIONS SHOWN ON PLANS. INCLUDE ALL SIGNAGE, FASTENERS, AND MOUNTING DEVICES AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION.
2. MATERIALS: MINIMUM 1/8" THICK PLASTIC LAMINATE WITH PLAIN EDGES, EQUAL TO **"POPULAR CHOICE SERIES"** AS MANUFACTURED BY BEST SIGN SYSTEMS, INC. OR APPROVED EQUAL.
3. LOCATIONS AND LETTERING SHALL BE AS SHOWN ON DRAWINGS.
4. ALL SIGNAGE SHALL INCLUDE PICTOGRAPHS AND RAISED BRAILLE LETTERING. AND SHALL BE MOUNTED, IN COMPLETE COMPLIANCE WITH ALL ADA/TAS REQUIREMENTS.
5. PROVIDE COMPLETE SUBMITTALS FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION.
6. INSTALL IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATION'S AND ACCORDING TO ADA/TAS REQUIREMENTS. COORDINATE WITH OTHER TRADES TO ENSURE PROPER BLOCKING WHERE REQUIRED. NOTIFY STRUCTURAL ENGINEER OF ANY DISCREPANCIES.
7. AFTER INSTALLATION, CLEAN SOILED SIGN SURFACES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. PROTECT ALL INSTALLED ITEMS UNTIL OWNER'S OCCUPANCY. REPLACE ANY DAMAGED UNITS.



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REGISTRATION #F-0282

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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-15
OF 22

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104300: EMERGENCY AID SPECIALTIES

- 1. SELF-CONTAINED BREATHING APPARATUS (SCBA) STORAGE CASES SHALL BE SURFACE-MOUNTED, EQUAL TO **"MODEL NO. 4100"** DELUXE WALL CASE, AS MANUFACTURED BY ALLEGRO INDUSTRIES.
 - A. CASE, DOOR, HINGES AND LATCHES SHALL BE MADE OF A CORROSION-RESISTANT ABS MATERIAL WITH ULTRAVIOLET INHIBITORS.
 - B. CASE SHALL INCLUDE A CLEAR CAST ACRYLIC SHELF AND A POWDER COATED STEEL SCBA UNIVERSAL CYLINDER BRACKET.
 - C. DOOR SHALL BE SINGLE HINGED, RIVETED, AND PROVIDED WITH A CLEAR VIEWING PANEL AND A RUBBER SEAL AT CASE.
 - D. DOOR SHALL BE PROVIDED WITH CLEAR MARKINGS ON THE FACE IDENTIFYING THE CONTENTS.
 - E. CASE SHALL BE SECURELY ANCHORED IN PLACE, PLUMB, LEVEL AND SQUARE, IN PROPER PLANES WITH OTHER WORK. INSTALLED HEIGHT SHALL BE IN COMPLIANCE WITH TAS.
- 2. SELF-CONTAINED BREATHING APPARATUS (SCBA) MASK AND CYLINDER SHALL BE AS PROVIDED BY OWNER.

104400: FIRE EXTINGUISHERS AND CABINETS

- 1. FIRE EXTINGUISHERS MUST COMPLY WITH NFPA 10 AND LOCAL FIRE DEPARTMENT REGULATIONS.
 - A. FIRE EXTINGUISHERS SHALL BE DRY CHEMICAL TYPE EQUAL TO LARSEN'S MODEL NO. **"MP5"**.
 - B. FIRE EXTINGUISHERS SHALL HAVE A U.L. RATING OF 2A-10B:C, SIZE 4-1/4" DIAM. BY 15-1/4" HIGH.
- 2. FIRE EXTINGUISHER CABINETS SHALL BE SURFACE-MOUNTED, EQUAL TO **"MODEL NO. 3100"** FIRE EXTINGUISHER WALL CASE, AS MANUFACTURED BY ALLEGRO INDUSTRIES.
 - A. CASE AND DOOR SHALL BE MADE OF A HIGH IMPACT, CORROSION-RESISTANT ABS MATERIAL WITH ULTRAVIOLET INHIBITORS.
 - B. CASE SHALL BE CAPABLE OF SUPPORTING EXTINGUISHERS UP TO 30 LBS. SIZE.
 - C. DOOR SHALL BE SINGLE HINGED, RIVETED, AND PROVIDED WITH A CLEAR VIEWING PANEL AND A RUBBER SEAL AT CASE.
- 3. WHERE FIRE EXTINGUISHER CABINETS ARE NOT SHOWN, PROVIDE LARSEN'S MODEL **"821"** BRACKET.
- 4. INSTALL FIRE EXTINGUISHER, IN CABINET, FULLY CHARGED WITH REQUIRED CHEMICAL, WITH TAG STATING DATE AND SIGNATURE OF PARTY WHO PERFORMED CHARGING OPERATION. CABINETS SHALL BE SECURELY ANCHORED IN PLACE, PLUMB, LEVEL AND SQUARE, IN PROPER PLANES WITH OTHER WORK. INSTALLED HEIGHT SHALL BE IN COMPLIANCE WITH TAS.

310002: FOUNDATION EXCAVATION AND PAD CONSTRUCTION

- 1. THIS PLAN SPECIFICATION COVERS EXCAVATION, SUBGRADE PREPARATION, FILL PLACEMENT, AND FOUNDATION PAD CONSTRUCTION FOR THE STRUCTURES SPECIFIED BY THE STRUCTURAL ENGINEER.
 - A. REFER TO PLANS AND SPECIFICATIONS PREPARED BY OTHER DISCIPLINES FOR ADDITIONAL INFORMATION, INCLUDING THE REQUIREMENTS FOR GENERAL EXCAVATION AND FILL.
 - B. ADDITIONAL REQUIREMENTS FOR SITE EXCAVATION AND FILL, PAVING EXCAVATION AND FILL, AND GENERAL EARTHWORK MAY BE INCLUDED IN THE CIVIL DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS, AND NOTES. REFER TO THE CIVIL DOCUMENTS FOR THOSE ADDITIONAL REQUIREMENTS.
 - C. IF DISCREPANCIES EXIST BETWEEN THESE PLAN SPECIFICATIONS, THE DRAWINGS, THE GEOTECHNICAL ENGINEERING REPORT, OR THE CIVIL DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REQUEST CLARIFICATION FROM THE STRUCTURAL ENGINEER BEFORE PROCEEDING. UNLESS OTHERWISE DIRECTED BY THE STRUCTURAL ENGINEER, THE MOST RESTRICTIVE APPLICABLE REQUIREMENT SHALL GOVERN.
- 2. THE CONTRACTOR SHALL SUBMIT PRODUCT DATA AND TEST REPORTS TO THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT OF NEW FILL MATERIALS.
 - A. REFER TO SECTION "SOIL MATERIALS" OF THESE PLAN SPECIFICATIONS BELOW FOR SPECIFIC MATERIAL REQUIREMENTS.
 - B. PRODUCT DATA AND TEST REPORTS SHALL BE PROVIDED FOR ALL REQUIRED MATERIALS USED FOR THIS PROJECT AND SHALL INDICATE THEIR COMPLIANCE WITH THE APPLICABLE STANDARDS.

310002: FOUNDATION EXCAVATION AND PAD CONSTRUCTION (CONT.)

- 3. THE CONTRACTOR SHALL PERFORM EXCAVATION AND FOUNDATION PAD CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS, THESE PLAN SPECIFICATIONS AND THE GEOTECHNICAL ENGINEERING REPORT.
 - A. THE CONTRACTOR SHALL OBTAIN, REVIEW AND BECOME FAMILIAR WITH THE GEOTECHNICAL ENGINEERING REPORT AND ALL MEMORANDA AND ADDENDA.
 - B. MAINTAIN SUBGRADE AND FILL MOISTURE CONTENTS WITHIN THE SPECIFIED RANGES FROM THE TIME OF FILL PLACEMENT UNTIL CONCRETE FOUNDATIONS ARE PLACED. PROTECT THE PAD FROM DRYING, SATURATION AND DISTURBANCE AS NECESSARY TO COMPLY WITH THESE REQUIREMENTS.
- 4. NOTIFICATIONS:
 - A. **THE CONTRACTOR SHALL NOTIFY THE APPROVED MATERIALS TESTING LABORATORY AND THE STRUCTURAL ENGINEER NOT LESS THAN TWO BUSINESS DAYS, OR 48 HOURS, PRIOR TO BEGINNING FOUNDATION PAD CONSTRUCTION.**
- 5. PAD PREPARATION:
 - A. STRIP AND REMOVE ALL VEGETATION, ROOTS, AND TOPSOIL CONTAINING ORGANIC MATERIAL.
 - a. THE ESTIMATED STRIPPING DEPTH IS SIX (6) INCHES; HOWEVER, THE ACTUAL DEPTH SHALL BE DETERMINED BASED ON FIELD OBSERVATIONS.
 - B. REMOVE ALL EXISTING FILL, BELOW GRADE ROOTS, EXISTING STRUCTURES, UTILITIES AND OTHER OBSTRUCTIONS WITHIN THE FOOTPRINT OF NEW CONSTRUCTION TO THE DEPTH REQUIRED FOR FOUNDATION PAD CONSTRUCTION OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - C. REMOVE EXISTING SOIL FROM BENEATH THE PROPOSED FOUNDATIONS TO A MINIMUM DEPTH AS INDICATED BELOW. REMOVE ADDITIONAL EXISTING MATERIAL IF REQUIRED TO PROVIDE THE MINIMUM DEPTH OF COMPACTED ENGINEERED FILL INDICATED BELOW BENEATH THE BOTTOM SURFACE OF THE FOUNDATION SLABS OR FOOTINGS.
 - a. WELL DISCHARGE PUMP STATION (C) 2 FEET
 - b. GROUND STORAGE TANK (D) 6 FEET
 - c. PUMP STATION BUILDING (E) 6 FEET
 - d. HYDROTANK FOUNDATION (F) 2 FEET
 - e. METER VAULT (G) 2 FEET
 - f. GENERATOR PAD (H) 2 FEET
 - D. EXTEND THE SOIL REMOVAL AND REPLACEMENT AND PAD CONSTRUCTION A MINIMUM OF **2 FEET** BEYOND THE FOOTPRINT OF NEW CONSTRUCTION, INCLUDING ADJACENT ATTACHED STRUCTURES IF APPLICABLE, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
 - E. UPON COMPLETION OF THE EXCAVATION, PROOF-ROLL THE EXPOSED SUBGRADE USING A HEAVY PNEUMATIC-TIRED ROLLER, LOADED DUMP TRUCK OR SIMILAR EQUIPMENT WITH A MINIMUM OPERATING WEIGHT OF 25 TONS. PROOF-ROLLING OPERATIONS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER. ALL SOFT, YIELDING, OR PUMPING SUBGRADE SHALL BE REMOVED, REPLACED, MOISTURE-CONDITIONED, OR OTHERWISE CORRECTED AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - F. BASED ON THE RESULTS OF PROOF-ROLLING, AS OBSERVED BY THE GEOTECHNICAL ENGINEER:
 - a. IF REQUIRED, SCARIFY THE EXPOSED SUBGRADE TO A DEPTH OF 6 INCHES, MOISTURE CONDITION TO NEAR OPTIMUM MOISTURE CONTENT AND RE-COMPACT TO THE DENSITY SPECIFIED FOR FILL AS INDICATED BELOW.
 - b. IF SUBGRADE SOILS ARE FOUND TO BE STABLE AND ACCEPTABLE, COMPACT THE EXPOSED SUBGRADE TO THE DENSITY SPECIFIED HEREIN.
 - G. WHEN UNSTABLE OR PUMPING SOILS ARE ENCOUNTERED DURING CONSTRUCTION, CLEAN OVERSIZED STONE MAY BE USED, SUBJECT TO APPROVAL BY THE GEOTECHNICAL ENGINEER, TO IMPROVE THE SUBGRADE AND PROVIDE A FIRM WORKING SURFACE.
 - H. PLACE COMPACTED ENGINEERED FILL TO THE MINIMUM DEPTHS INDICATED BELOW, OR GREATER IF REQUIRED TO ACHIEVE FINAL FOUNDATION PAD ELEVATIONS, ON TOP OF THE APPROVED SUBGRADE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT.
 - a. WELL DISCHARGE PUMP STATION (C) 2 FEET (STRUCTURAL)
 - b. GROUND STORAGE TANK (D) 6 FEET (2 STRUCTURAL, 4 SELECT)
 - c. PUMP STATION BUILDING (E) 6 FEET (2 STRUCTURAL, 4 SELECT)
 - d. HYDROTANK FOUNDATION (F) 2 FEET (STRUCTURAL)
 - e. METER VAULT (G) 2 FEET (STRUCTURAL)
 - f. GENERATOR PAD (H) 2 FEET (STRUCTURAL)
 - I. ALL ENGINEERED FILL OUTSIDE THE STRUCTURE FOOTPRINT THAT IS NOT COVERED BY IMPERVIOUS SURFACES SHALL BE CAPPED WITH A 12-INCH LAYER OF NATURAL FAT CLAY.

310002: FOUNDATION EXCAVATION AND PAD CONSTRUCTION (CONT.)

- J. ALL UTILITY TRENCHES EXTENDING UNDER THE STRUCTURE SHALL BE SEALED IMMEDIATELY OUTSIDE THE PAD EXCAVATION WITH A NATURAL FAT CLAY PLUG HAVING A MINIMUM WIDTH OF 12 INCHES AND EXTENDING THE FULL DEPTH OF THE TRENCH.
- 6. OTHER CONSIDERATIONS:
 - A. THE STRUCTURES ARE LOCATED IN AN AREA OF EXPANSIVE CLAY SOILS. FUTURE DIFFERENTIAL MOVEMENTS ARE POSSIBLE BETWEEN AREAS SUPPORTED BY IMPROVED SOILS AND SURROUNDING SIDEWALKS, UTILITIES, AND SIMILAR IMPROVEMENTS WHICH BEAR IN, OR ON, THE EXPANSIVE SOILS. TO HELP LIMIT SUCH MOVEMENT AND RESULTING DAMAGE, THE FOLLOWING RECOMMENDATIONS AND CONSIDERATIONS ARE PROVIDED:
 - a. THE TOP OF THE FOUNDATION PAD SHALL BE ABOVE THE ADJACENT FINISHED GRADE. SITE GRADING SHALL BE DESIGNED, INSTALLED, AND MAINTAINED TO PROVIDE POSITIVE SURFACE DRAINAGE AWAY FROM STRUCTURES AND STRUCTURAL PADS SO THAT WATER DOES NOT POND DURING OR AFTER CONSTRUCTION.
 - b. WHERE PRACTICABLE, EXTEND PAVED SURFACES TO THE FOUNDATION PERIMETER TO SERVE AS A BARRIER TO SOIL MOISTURE INFILTRATION AND EVAPORATION.
 - c. CONNECTIONS OF SIDEWALKS, DRIVES, AND PAVING OUTSIDE THE FOUNDATION SHOULD BE DETAILED TO ACCOMMODATE ANTICIPATED DIFFERENTIAL MOVEMENT.
 - d. ROOF DRAINAGE SHOULD BE COLLECTED AND DISCHARGED TO THE STORM DRAIN SYSTEM OR TO A PAVED AREA WITH POSITIVE DRAINAGE, AT A POINT NOT LESS THAN 10 FEET FROM THE FOUNDATION.
 - e. PAVING AND SIDEWALK JOINTS ADJACENT TO FOUNDATIONS SHALL BE SEALED TO LIMIT MOISTURE PENETRATION. THE OWNER SHOULD IMPLEMENT A MAINTENANCE PROGRAM TO INSPECT, REPAIR, AND REPLACE JOINT SEALANT AS NEEDED.
 - f. LANDSCAPING IRRIGATION SYSTEMS SHALL BE DESIGNED, LOCATED, AND MAINTAINED TO PREVENT EXCESSIVE MOISTURE ADJACENT TO THE FOUNDATION.
 - g. TREES AND SHRUBS SHOULD NOT BE PLANTED OR MAINTAINED WITHIN A DISTANCE FROM THE FOUNDATION EQUAL TO THEIR MATURE HEIGHT. WHERE TREES ARE LOCATED WITHIN THIS DISTANCE, THE OWNER SHOULD CONSIDER INSTALLING A VERTICAL MOISTURE AND ROOT BARRIER.
 - h. FLOWER BEDS AND PLANTING BEDS SHOULD NOT BE LOCATED IMMEDIATELY ADJACENT TO THE FOUNDATION PERIMETER.
 - i. CONTRACTION, CONTROL, AND EXPANSION JOINTS SHOULD BE DESIGNED AND PLACED THROUGHOUT THE STRUCTURE, INCLUDING INTERSECTIONS BETWEEN NEW AND EXISTING STRUCTURES, TO ASSIST IN CONTROLLING CRACKING RESULTING FROM SHRINKAGE, THERMAL MOVEMENT, AND SOIL MOVEMENT.
 - j. UTILITY CONNECTIONS TO STRUCTURES, OR TO SYSTEMS SUPPORTED BY OR ATTACHED TO STRUCTURES, SHOULD USE FLEXIBLE CONNECTIONS TO ACCOMMODATE POTENTIAL DIFFERENTIAL MOVEMENTS.
- 7. SOIL MATERIALS:
 - A. **STRUCTURAL FILL:**
 - a. THE TOP 2 FEET OF ENGINEERED FILL BELOW THE GROUND STORAGE TANK SHALL BE "STRUCTURAL FILL" AS DESIGNATED IN THE GEOTECHNICAL REPORT, MEETING THE REQUIREMENTS OF 2014 TXDOT ITEM 247, TYPE A, GRADE 1-2 OR BETTER.
 - b. WHERE THE TANK MANUFACTURER REQUIRES SPECIAL MATERIAL DIRECTLY BELOW THE SLAB, SUCH AS DRAINAGE ROCK OR A SPECIFIC TYPE OF CRUSHED ROCK, PROVIDE THE MATERIAL, THICKNESS, AND COMPACTION REQUIRED BY THE TANK MANUFACTURER.
 - B. **SELECT FILL:**
 - a. FILL MATERIAL BELOW THE TOP 2 FEET OF STRUCTURAL FILL AT THE GROUND STORAGE TANK, AND SELECT FILL UNDER OTHER STRUCTURES, SHALL COMPLY WITH THE "SELECT FILL" REQUIREMENTS OF THE GEOTECHNICAL ENGINEERING REPORT AND SHALL BE FREE OF ROOTS, TRASH AND OTHER ORGANIC MATERIAL.
 - b. SELECT FILL SHALL MEET THE REQUIREMENTS OF 2014 TXDOT ITEM 247, TYPE A OR D, GRADE 3 OR BETTER.
 - c. "CRUSHER FINES" ARE NOT ALLOWED AS SELECT FILL MATERIAL.
 - C. SAND CUSHION UNDER SLAB:
 - a. PROVIDE A 1- TO 2-INCH-THICK SAND CUSHION BELOW SLABS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. THE SAND SHALL BE APPROVED BY THE STRUCTURAL ENGINEER AND THE GEOTECHNICAL ENGINEER AND SHALL HAVE A P.I. NOT EXCEEDING 15. ACCEPTABLE MATERIAL MAY INCLUDE REJECT BUILDER'S SAND OR BANK-RUN SAND. THE SAND CUSHION SHALL BE PROVIDED BY THE CONCRETE CONTRACTOR.

(CONTINUED ON SHEET AS-17)

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-16

OF 22

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310002: FOUNDATION EXCAVATION AND PAD CONSTRUCTION (CONT.)

8. OVERSIZED STONE:
- A. OVERSIZED STONE SHALL BE CLEAN, WITH LESS THAN 5 PERCENT PASSING THE NO. 200 SIEVE, AND SHALL HAVE A PARTICLE SIZE OF 3 TO 6 INCHES. STONE SHALL CONSIST OF CRUSHED STONE, NOT RIVER ROCK.
 - B. DUE TO THE SIZE OF THE STONE, NORMAL SOIL COMPACTION REQUIREMENTS DO NOT APPLY. HOWEVER, THE STONE SHALL BE WORKED INTO THE SUBGRADE IN A UNIFORM MANNER TO PROVIDE ADEQUATE STABILIZATION AND SUPPORT FOR THE FILL MATERIAL AND OVERLYING CONSTRUCTION.
 - C. WHERE THE THICKNESS OF OVERSIZED STONE EXCEEDS 8 INCHES, PLACE AN APPROVED FILTER FABRIC OVER THE STONE TO PREVENT MIGRATION OF FINES.
9. COMPACTING:
- A. CONTROL SOIL COMPACTION DURING CONSTRUCTION TO ACHIEVE THE MINIMUM PERCENTAGE OF MAXIMUM DRY DENSITY SPECIFIED BELOW, AS DETERMINED IN ACCORDANCE WITH ASTM D698 (OR TEX-113-E) OR ASTM D1557, AS APPLICABLE. FIELD DENSITY TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D6938, OR BY AN APPROVED METHOD ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
 - B. INSTALL FILL MATERIAL IN MAXIMUM 8-INCH LOOSE LIFTS, COMPACTED TO A MAXIMUM THICKNESS OF 6 INCHES PER LIFT.
 - a. PLACEMENT AND COMPACTION OF STRUCTURAL FILL SHALL BE OBSERVED, MONITORED, AND TESTED ON A FULL-TIME BASIS BY THE GEOTECHNICAL ENGINEER OR THE APPROVED MATERIALS TESTING LABORATORY, AS REQUIRED BY THE GEOTECHNICAL ENGINEERING REPORT.
 - b. EACH LIFT SHALL BE TESTED FOR COMPLIANCE BEFORE PLACEMENT OF SUBSEQUENT LIFTS.
 - C. COMPACT SOIL MATERIALS TO NOT LESS THAN THE FOLLOWING MINIMUM DENSITIES WITHIN THE SPECIFIED MOISTURE CONTENT RANGE, UNLESS OTHERWISE SPECIFIED IN THE GEOTECHNICAL ENGINEERING REPORT.
 - a. SUBGRADE: COMPACT TO NOT LESS THAN **95 PERCENT** OF ASTM D698 MAXIMUM DRY DENSITY AT A MOISTURE CONTENT FROM OPTIMUM TO 3 PERCENT ABOVE OPTIMUM.
 - b. FOUNDATION PADS:
 - **GROUND STORAGE TANK:** COMPACT EACH LAYER OF MATERIAL TO AT LEAST **95 PERCENT** OF ASTM D1557 MAXIMUM DRY DENSITY AT A MOISTURE CONTENT FROM OPTIMUM TO 3 PERCENT ABOVE OPTIMUM.
 - AFTER COMPLETION AND APPROVAL OF THE COMPLETED GROUND STORAGE TANK FOUNDATION PAD, ALLOW A MINIMUM WAITING PERIOD OF 3 WEEKS BEFORE BEGINNING CONSTRUCTION OF THE TANK FOUNDATION SLAB.
 - INITIAL TANK FILLING SHALL BE LIMITED TO ONE-HALF CAPACITY FOR NOT LESS THAN 3 WEEKS, UNLESS OTHERWISE REQUIRED BY THE TANK MANUFACTURER OR GEOTECHNICAL ENGINEER.
 - **OTHER STRUCTURES:** COMPACT EACH LAYER OF MATERIAL TO AT LEAST **95 PERCENT** OF ASTM D1557 MAXIMUM DRY DENSITY AT A MOISTURE CONTENT FROM OPTIMUM TO 3 PERCENT ABOVE OPTIMUM.
 - D. MOISTURE CONTROL:
 - a. WHERE SUBGRADE OR A LAYER OF SOIL MATERIAL MUST BE MOISTURE-CONDITIONED BEFORE COMPACTION, UNIFORMLY APPLY WATER TO THE SURFACE OF THE SUBGRADE OR SOIL LAYER WITHOUT ALLOWING FREE WATER TO APPEAR ON THE SURFACE DURING OR AFTER COMPACTION OPERATIONS.
 - b. REMOVE AND REPLACE, OR SCARIFY AND AIR-DRY, SOIL MATERIAL THAT IS TOO WET TO COMPACT TO THE SPECIFIED DENSITY.
 - c. SOIL MATERIAL REMOVED DUE TO EXCESSIVE MOISTURE THAT PREVENTS PROPER COMPACTION MAY BE STOCKPILED OR SPREAD AND ALLOWED TO DRY. FACILITATE DRYING BY DISKING, HARROWING, OR PULVERIZING AS NECESSARY. CONTINUE DRYING OPERATIONS UNTIL THE MOISTURE CONTENT IS REDUCED TO A LEVEL SUITABLE FOR COMPACTION, AS DETERMINED BY MOISTURE-DENSITY RELATIONSHIP TESTING AND APPROVED BY THE GEOTECHNICAL ENGINEER.
 - d. PROLONGED EXPOSURE TO OR INUNDATION OF BEARING SURFACES BY WATER MAY RESULT IN A REDUCTION IN BEARING CAPACITY AND AN INCREASE IN COMPRESSIBILITY. IF SUCH CONDITIONS OCCUR OR CONSTRUCTION IS DELAYED, DEEPEN AND CLEAN FOOTING OR DRILLED SHAFT EXCAVATIONS TO EXPOSE A COMPETENT BEARING SURFACE, AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

310002: FOUNDATION EXCAVATION AND PAD CONSTRUCTION (CONT.)

10. FIELD QUALITY CONTROL:
- A. OBTAIN INSPECTION AND APPROVAL FROM THE APPROVED MATERIALS TESTING LABORATORY AND THE GEOTECHNICAL ENGINEER FOR ALL SUBGRADES AND FILL LAYERS, INCLUDING TRENCHES AND EXCAVATIONS, BEFORE SUBSEQUENT CONSTRUCTION IS PERMITTED THEREON.
 - B. UNDER STRUCTURES, PROVIDE A MINIMUM OF ONE FIELD DENSITY TEST PER STRUCTURE PER LIFT FOR EVERY **3,000 SQUARE FEET** OF FOUNDATION AREA, WITH NOT LESS THAN THREE TESTS PER LIFT. FOR STRUCTURES LESS THAN 3,000 SQUARE FEET, FIELD DENSITY TESTING MAY BE REDUCED TO TWO TESTS PER STRUCTURE PER LIFT.
 - C. SUBMIT SAMPLES OF ALL PROPOSED FILL MATERIALS TO THE APPROVED TESTING LABORATORY FOR EVALUATION AND APPROVAL PRIOR TO PLACEMENT.
 - D. IF THE GEOTECHNICAL ENGINEER DETERMINES, BASED ON APPROVED MATERIALS TESTING LABORATORY REPORTS, THAT SUBGRADE OR FILL DOES NOT MEET SPECIFIED DENSITY REQUIREMENTS, PERFORM ADDITIONAL COMPACTION AND TESTING AS DIRECTED.
 - E. REFER TO THE PRIME ENGINEER'S SPECIFICATIONS FOR REQUIREMENTS REGARDING SELECTION OF, COORDINATION WITH, AND PAYMENT FOR THE APPROVED MATERIALS TESTING LABORATORY.
11. PROTECTION FOR SITE AND TRENCH EXCAVATIONS:
- A. THE DESIGN OF TEMPORARY EXCAVATION SUPPORT SYSTEMS, TRENCH SAFETY SYSTEMS, AND SLOPE STABILITY MEASURES FOR TEMPORARY OPEN-CUT EXCAVATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE ALL DESIGN AND CONSTRUCTION REQUIRED TO MAINTAIN STABLE TEMPORARY EXCAVATIONS. SHORE, SLOPE, OR BENCH EXCAVATIONS AS REQUIRED TO MAINTAIN THE STABILITY OF THE EXCAVATION SIDES AND BOTTOM.
 - B. CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL ALSO BE RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS.
 - C. AS A MINIMUM, ALL TRENCHING AND EXCAVATION SHALL BE PERFORMED IN ACCORDANCE WITH OSHA 29 CFR PART 1926, SUBPART P, "EXCAVATIONS," INCLUDING APPLICABLE APPENDICES, AND WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
 - D. THE CONTRACTOR'S ATTENTION IS DIRECTED TO CHAPTER 756, SUBCHAPTER C, OF THE TEXAS HEALTH AND SAFETY CODE, WHICH REQUIRES ADEQUATE SAFETY SYSTEMS FOR TRENCH EXCAVATIONS EXCEEDING 5 FEET IN DEPTH, IN ACCORDANCE WITH OSHA 29 CFR PART 1926, SUBPART P.
 - E. A TRENCH EXCAVATION PLAN (TEP) SHALL BE SUBMITTED TO THE PRIME ENGINEER FOR RECORD PURPOSES ONLY PRIOR TO ANY TRENCHING IN EXCESS OF 5 FEET IN DEPTH. ONLY ONE TEP IS REQUIRED FOR THE WORK, PROVIDED THAT ALL TRADES AND SUBCONTRACTORS COMPLY WITH THE TEP.
 - F. THE CONTRACTOR'S "COMPETENT PERSON," AS DEFINED IN OSHA 29 CFR PART 1926, SHALL EVALUATE MATERIALS EXPOSED IN EXCAVATIONS AS PART OF THE CONTRACTOR'S SAFETY PROCEDURES, SHALL ESTABLISH MINIMUM LATERAL DISTANCES FROM THE CREST OF A SLOPE FOR VEHICLES, SPOIL PILES, AND OTHER SURCHARGE LOADS, AND SHALL ESTABLISH PROTECTIVE MEASURES FOR EXPOSED SLOPE FACES.

313116: TERMITE PROTECTION

1. PROVIDE TERMITE TREATMENT FOR CONTROL OF SUBTERRANEAN TERMITES, INCLUDING A CONTINUOUS HORIZONTAL AND VERTICAL PESTICIDE BARRIER REQUIRED FOR A COMPLETE AND PROPER APPLICATION.
- A. TREAT SOIL BELOW GRADE BEAMS AND GROUND-SUPPORTED SLABS.
2. BEFORE TREATMENT, CONTRACTOR SHALL SUBMIT WRITTEN DISCLOSURE INFORMATION FOR ALL PROPOSED WOOD-DESTROYING INSECT TREATMENT FOR THE SITE TO THE STRUCTURAL ENGINEER.
- A. SUBMIT THE FOLLOWING INFORMATION:
 - a. DIAGRAMS OR PLANS IDENTIFYING THE AREAS TO BE TREATED, WITH ACCURATE DIMENSIONS.
 - b. DESCRIPTION OF AREAS TO BE TREATED.
 - c. PRODUCT LABEL FOR EACH PESTICIDE RECOMMENDED OR USED. IF A PHYSICAL BARRIER IS USED, SUBMIT THE APPLICABLE UNIT OF MEASUREMENT, LAYOUT, AND INSTALLATION DIAGRAM;
 - d. WARRANTY TERMS, IF ANY;
 - e. SIGNATURE APPROVING THE DISCLOSURE DOCUMENTS BY A CERTIFIED APPLICATOR OR LICENSED TECHNICIAN EMPLOYED BY THE TREATMENT PROVIDER AND LICENSED IN THE APPROPRIATE TERMITE CATEGORY;
 - f. TERMITICIDE CONCENTRATION OR MINIMUM NUMBER OF BAIT STATIONS, IF APPLICABLE.

313116: TERMITE PROTECTION (CONT.)

3. APPLICATOR SHALL BE LICENSED BY THE TEXAS DEPARTMENT OF AGRICULTURE IN THE APPROPRIATE STRUCTURAL PEST CONTROL CATEGORY FOR TERMITE AND WOOD-DESTROYING INSECT TREATMENT. APPLICATOR SHALL HAVE NOT LESS THAN 5 YEARS OF EXPERIENCE PERFORMING COMPARABLE WORK.
4. PRODUCTS USED SHALL BE REGISTERED FOR THE INTENDED USE AND SHALL BE APPLIED IN ACCORDANCE WITH EPA-APPROVED LABELING AND APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- A. APPLY PRODUCTS AT LABEL-PRESCRIBED RATES AND BY LABEL-PRESCRIBED METHODS, AND COMPLY WITH ALL LABEL PRECAUTIONS AND APPLICABLE FEDERAL AND STATE REQUIREMENTS.
 - B. APPLY TREATMENT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE TEXAS ADMINISTRATIVE CODE GOVERNING SUBTERRANEAN TERMITE TREATMENT, INCLUDING 4 TAC CHAPTER 7, SUBCHAPTER H, DIVISION 5.
5. COMPLY WITH ALL TEXAS DEPARTMENT OF AGRICULTURE NOTICE AND REPORTING REQUIREMENTS APPLICABLE TO THE SPECIFIC TREATMENT BEING PERFORMED.
6. PROTECT TREATED SOIL FROM DISTURBANCE AFTER APPLICATION.

316100: SPREAD FOOTINGS

1. SPREAD FOOTINGS SHALL BE REINFORCED CONCRETE AS INDICATED ON THE DRAWINGS AND SHALL BEAR ON THE SPECIFIED BEARING STRATUM.
- A. CONCRETE SHALL COMPLY WITH SECTION 033000: CAST-IN-PLACE CONCRETE.
2. LOCATE FOOTINGS WITHIN 2 INCHES OF THE POSITION SHOWN ON THE DRAWINGS.
3. CONTRACTOR SHALL COORDINATE ANCHOR ROD AND EMBED LOCATIONS WITH THE APPROVED SUBMITTALS.
- A. SET CAST-IN-PLACE ANCHOR RODS USING STEEL OR PLYWOOD TEMPLATES SECURELY FASTENED TO THE FORMWORK.
4. EXCAVATIONS FOR SHALLOW SPREAD FOOTINGS SHOULD BE NEATLY EXCAVATED AND PROPERLY FORMED.
- A. PERFORM EXCAVATION USING EQUIPMENT CAPABLE OF PROVIDING A CLEAN, UNDISTURBED BEARING SURFACE.
 - B. EXCAVATE THE BOTTOM 6 INCHES OF FOUNDATION EXCAVATIONS USING A SMOOTH-MOUTHED EXCAVATION BUCKET OR HAND LABOR.
5. THE BOTTOM OF EACH FOOTING EXCAVATION SHALL BE FIRM, DRY, AND FREE OF LOOSE MATERIAL OR DEBRIS.
- A. OVER-EXCAVATION AREAS SHALL BE FILLED WITH LEAN CONCRETE OR COMPACTED LOW-SWELL SELECT FILL.
 - B. IF GROUNDWATER IS ENCOUNTERED, INSTALL SUMP OUTSIDE THE REQUIRED PERIMETER OF THE FOOTING AS NECESSARY FOR DEWATERING.
 - C. AFTER DEWATERING AND BEFORE PLACEMENT OF ANY APPROVED STABILIZING ROCK OR FILL, THE BEARING SURFACE AT THE BOTTOM OF EXCAVATION SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR STRUCTURAL ENGINEER. REMOVE LOOSE OR UNSTABLE MATERIAL AND REPLACE IT WITH APPROVED COMPACTED FILL OR LEAN CONCRETE.
6. MAINTAIN EXCAVATIONS FREE OF WATER AND LOOSE MATERIAL. PROVIDE SHORING AS REQUIRED TO PREVENT THE COLLAPSE OR CAVE-IN OF SPREAD FOOTING EXCAVATIONS.
7. WHEN PRACTICABLE, FOOTING EXCAVATIONS SHALL BE EXCAVATED, CLEANED, REINFORCED, AND FILLED WITH CONCRETE THE SAME DAY.
- A. DO NOT LEAVE EXCAVATIONS OPEN OVERNIGHT UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
 - B. IF EXCAVATIONS MUST REMAIN OPEN OVERNIGHT, COVER AND PROTECT THEM TO PREVENT MOISTURE LOSS AND INJURY TO PERSONS ON-SITE.
 - C. BACKFILL EXCAVATIONS THAT CANNOT BE FILLED WITH CONCRETE WITHIN 24 HOURS, UNLESS OTHERWISE APPROVED BY STRUCTURAL AND GEOTECHNICAL ENGINEERS.
8. PLACE REINFORCING STEEL AND CONCRETE IMMEDIATELY AFTER FOOTING EXCAVATION IS COMPLETED AND INSPECTED BY THE STRUCTURAL ENGINEER OR MATERIALS TESTING LABORATORY TO VERIFY THE FOLLOWING:
- A. DEPTH AND BEARING STRATUM
 - B. CLEANLINESS OF EXCAVATION
 - C. PROPER HANDLING OF GROUNDWATER SEEPAGE
 - D. FOOTING DIMENSIONS AND REINFORCEMENT



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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
STRUCTURAL PLAN SPECIFICATIONS

SHEET NO. AS-17
OF 22

DRAWING TO BE READ IN COLOR

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STATEMENT OF SPECIAL INSPECTIONS												
(PER SECTION 110 AND CHAPTER 17 OF 2018 IBC, AISC 360-16, AC1 318-14, TMS 402-16, TMS 602-16)												
VERIFICATION & INSPECTION	SPECIAL INSPECTORS ⁽⁷⁾							FREQUENCY		REFERENCE STANDARD OR COMPLIANCE DOCUMENT	IBC REFERENCE	REMARKS
	B.O.	CO.	C.M.	E.O.R.	L.S.	A.H.J.	A.T.P.	CONT.	PERIODIC			
REPORT REQUIREMENT (IBC 2018, 1704.2.4)												
SPECIAL INSPECTOR(S) TO KEEP RECORD OF SPECIAL INSPECTIONS AND FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.			X					X			1704.2.4	
INSPECTION OF FABRICATED ITEMS (IBC 2018, 1704.2.5)												
WORK DONE IN FABRICATOR'S SHOP REQUIRES INSPECTOR, UNLESS THE FABRICATOR IS REGISTERED AND APPROVED ACCORDING TO IBC 1704.25.1. WHERE FABRICATOR IS APPROVED, PROVIDE FABRICATOR CERTIFICATION DOCUMENT.			X						X		1704.2.5 (DOCUMENT REQUIRED)	NOT REQUIRED IF BUILDING OFFICIAL ALLOWS. SEE NOTE IN PLAN SPECIFICATIONS.
AT COMPLETION OF FABRICATION, SUBMIT CERTIFICATE OF COMPLIANCE TO BUILDING OFFICIAL STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.			X						X		1704.2.5.1 (DOCUMENT REQUIRED)	NOT REQUIRED IF BUILDING OFFICIAL ALLOWS. SEE NOTE IN PLAN SPECIFICATIONS.
STATEMENT OF SPECIAL INSPECTIONS (IBC 2018,1704.3)												
A REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL PREPARE A STATEMENT OF SPECIAL INSPECTIONS.				X					X		1704.3 (THIS DOCUMENT)	
CONTRACTOR RESPONSIBILITY (IBC 2018, 1704.4)												
EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC FORCE RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR A WIND- OR SEISMIC- RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY.		X							X		1704.4 (DOCUMENT REQUIRED)	
SUBMITTALS TO THE BUILDING OFFICIAL (IBC 2018, 1704.5)												
IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:												
CERTIFICATES OF COMPLIANCE FOR THE FABRICATION OF STRUCTURAL, LOAD-BEARING, OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES ON THE PREMISES OF A REGISTERED AND APPROVAL FABRICATOR IN ACCORDANCE WITH 1704.2.5.1.		X						X		IBC 1704.2.5.1 (FABRICATOR)	1704.5	
STRUCTURAL OBSERVATION (IBC 2018, 1704.6)												
THE OWNER SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS. PRIOR TO COMMENCEMENT OF OBSERVATIONS, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT IDENTIFYING THE FREQUENCY AND EXTENT OF STRUCTURAL OBSERVATIONS.									X		1704.6.1, 1704.6.2, AND 1704.6.3	
STEEL CONSTRUCTION INSPECTION (IBC 2018, 1705.2.1)												
STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360.			X						X	AISC 360	1705.2.1	



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
SPECIAL INSPECTIONS TABLE

SHEET NO. AS-18
OF 22

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STATEMENT OF SPECIAL INSPECTIONS												
(PER SECTION 110 AND CHAPTER 17 OF 2018 IBC, AISC 360-16, AC1 318-14, TMS 402-16, TMS 602-16)												
VERIFICATION & INSPECTION	SPECIAL INSPECTORS ⁽⁷⁾							FREQUENCY		REFERENCE STANDARD OR COMPLIANCE DOCUMENT	IBC REFERENCE	REMARKS
	B.O.	CO.	C.M.	E.O.R.	L.S.	A.H.J.	A.T.P.	CONT.	PERIODIC			
STEEL WELDING (AISC 360-16, TABLE N5.4-1, N5.4-2, N5,4-3)												
INSPECTIONS PRIOR TO WELDING												
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS.			X						X	AISC 360, TABLE N5.4-1		
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE.			X						X	AISC 360, TABLE N5.4-1		
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE.			X						X	AISC 360, TABLE N5.4-1		
MATERIAL IDENTIFICATION (TYPE/GRADE).			X						X	AISC 360, TABLE N5.4-1		
WELDER IDENTIFICATION SYSTEM.			X						X	AISC 360, TABLE N5.4-1		
FIT-UP OF CJP GROOVE WELDS (INCLUDING JOINT GEOMETRY): JOINT PREPARATIONS; DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL); CLEANLINESS (CONDITION OF STEEL SURFACES); TACKING (TACK WELD QUALITY AND LOCATION).			X						X	AISC 360, TABLE N5.4-1		
CONFIGURATION AND FINISH OF ACCESS HOLES.			X						X	AISC 360, TABLE N5.4-1		
FIT-UP OF FILLET WELDS: DIMENSIONS (ALIGNMENT, GAPS AT ROOT); CLEANLINESS (CONDITION OF STEEL SURFACES); TACKING (TACK WELD QUALITY AND LOCATION).			X						X	AISC 360, TABLE N5.4-1		
CHECK WELDING EQUIPMENT.			X						X	AISC 360, TABLE N5.4-1		
INSPECTIONS DURING WELDING												
CONTROL AND HANDLING OF WELDING CONSUMABLES: PACKAGING; EXPOSURE CONTROL.		X							X	AISC 360, TABLE N5.4-2		
NO WELDING OVER CRACKED TACK WELDS.		X							X	AISC 360, TABLE N5.4-2		
ENVIRONMENTAL CONDITIONS: WIND SPEED WITHIN LIMITS; PRECIPITATION AND TEMPERATURE.		X							X	AISC 360, TABLE N5.4-2		
WPS FOLLOWED: SETTINGS ON WELDING EQUIPMENT; TRAVEL SPEED; SELECTED WELDING MATERIALS; SHIELDING GAS TYPE / FLOW RATE; PREHEAT APPLIED; INTERPASS TEMPERATURE MAINTAINED (MIN. / MAX.); PROPER POSITION (F, V, H, OH).		X							X	AISC 360, TABLE N5.4-2		
WELDING TECHNIQUES: INTERPASS AND FINAL CLEANING; EACH PASS WITHIN PROFILE LIMITATIONS; EACH PASS MEETS QUALITY REQUIREMENTS.		X							X	AISC 360, TABLE N5.4-2		
INSPECTIONS AFTER WELDING												
WELDS CLEANED.			X						X	AISC 360, TABLE N5-4.3		
SIZE, LENGTH AND LOCATIONS OF WELDS.			X						X	AISC 360, TABLE N5-4.3		
WELDS MEET VISUAL ACCEPTANCE CRITERIA: CRACK PROHIBITION; WELD / BASE-METAL FUSION; CRATER CROSS SECTION; WELD PROFILES; WELD SIZE; UNDERCUT; POROSITY.			X						X	AISC 360, TABLE N5-4.3		
ARC STRIKES			X						X	AISC 360, TABLE N5-4.3		
k- AREA (WHEN WELDING OF DOUBLER PLATES , CONTINUITY PLATES, OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" OF THE WELD.)			X						X	AISC 360, TABLE N5-4.3		
WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES (AFTER ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS.)			X						X	AISC 360, TABLE N5-4.3		
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED).			X						X	AISC 360, TABLE N5-4.3		
REPAIR ACTIVITIES			X						X	AISC 360, TABLE N5-4.3		
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER			X						X	AISC 360, TABLE N5-4.3		
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE E.O.R.			X						X	AISC 360, TABLE N5-4.3		



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. AS-19
SPECIAL INSPECTIONS TABLE (CONT.)	OF 22

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STATEMENT OF SPECIAL INSPECTIONS												
(PER SECTION 110 AND CHAPTER 17 OF 2018 IBC, AISC 360-16, AC1 318-14, TMS 402-16, TMS 602-16)												
VERIFICATION & INSPECTION	SPECIAL INSPECTORS ⁽⁷⁾							FREQUENCY		REFERENCE STANDARD OR COMPLIANCE DOCUMENT	IBC REFERENCE	REMARKS
	B.O.	CO.	C.M.	E.O.R.	L.S.	A.H.J.	A.T.P.	CONT.	PERIODIC			
STEEL BOLTING (AISC 360-16, TABLES N5.6-1, N5.6-2, & N5.6-3)												
INSPECTIONS PRIOR TO BOLTING												
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS.			X						X	AISC 360, TABLE N5.6-1		
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS.			X						X	AISC 360, TABLE N5.6-1		
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS TO BE EXCLUDED FROM SHEAR PLANE).			X						X	AISC 360, TABLE N5.6-1		
PROPER BOLTING DETAIL PROCEDURE SELECTED FOR JOINT DETAIL.			X						X	AISC 360, N5.6-1		
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS.			X						X	AISC 360, N5.6-1		
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHOD USED.			X						X	AISC 360, N5.6-1		
PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS.			X						X	AISC 360, N5.6-1		
INSPECTIONS DURING BOLTING												
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED.		X							X	AISC 360, N5.6-2		
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION.		X							X	AISC 360, N5.6-2		
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING.		X							X	AISC 360, N5.6-2		
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES.		X							X	AISC 360, N5.6-2		
INSPECTIONS AFTER BOLTING												
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS.			X							AISC 360, TABLE N5.6-3		
CONCRETE CONSTRUCTION (IBC 2018, 110.3.1, 110.3.2 & TABLE 1705.3)												
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.			X	X					X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4 TABLE 1705.3	
INSPECTION OF ANCHORS CAST IN CONCRETE.			X						X	ACI 318: 17.8.2	TABLE 1705.3	
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.											TABLE 1705.3	
ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.			X					X	ACI 318: 17.8.2.4			
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE.			X						X	ACI 318: 17.8.2		
VERIFY USE OF REQUIRED DESIGN MIX.			X						X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3, TABLE 1705.3	
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.			X					X		ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1908.10, TABLE 1705.3	
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.			X					X		ACI 318: 26.5	1908.6, 1908.7, 1908.8, TABLE 1705.3	
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.			X						X	ACI 318: 26.5.3-26.5.5	1908.9, TABLE 1705.3	
VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.			X						X	ACI 318: 26.11.2	TABLE 1705.3	
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X							X	ACI 318: 26.11.1.2(B)	TABLE 1705.3	



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. AS-20
SPECIAL INSPECTIONS TABLE (CONT.)	OF 22

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_AS-01.dwg

STATEMENT OF SPECIAL INSPECTIONS													
(PER SECTION 110 AND CHAPTER 17 OF 2018 IBC, AISC 360-16, AC1 318-14, TMS 402-16, TMS 602-16)													
VERIFICATION & INSPECTION	SPECIAL INSPECTORS ⁽⁷⁾							FREQUENCY		REFERENCE STANDARD OR COMPLIANCE DOCUMENT	IBC REFERENCE	REMARKS	
	B.O.	CO.	C.M.	E.O.R.	L.S.	A.H.J.	A.T.P.	CONT.	PERIODIC				
MASONRY (TMS 402-16 / TMS 602-16 & IBC 2018, 1705.4)													
AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:													NO SPECIAL INSPECTIONS ARE REQUIRED FOR LEVEL 1 MASONRY. (1) - REQUIRED FOR THE FIRST 5,000 S.F. OF AAC MASONRY. (2) - REQUIRED FOR THE FIRST 5,000 S.F. OF AAC MASONRY.
PROPORTIONS OF SITE-PREPARED MORTAR.			X						LVL 2 / 3	TMS 602, 2.1, 2.6 A, & 2.6 C			
GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES.			X						LVL 2 / 3	TMS 602, 3.4 & 3.6 A			
SAMPLE PANEL CONSTRUCTION.			X					LVL 3	LVL 2	TMS 602, 1.6 D			
PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:													
GROUT SPACE.			X					LVL 3	LVL 2	TMS 602, 3.2 D & 3.2 F			
PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS.			X					LVL 3	LVL 2	TMS 402, 6.1, 6.3.1, 6.3.6 & 6.3.7 TMS 602, 3.2 E & 3.4			
PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.			X						LVL 2 / 3	TMS 602, 2.6 B & 2.4 G.1.b			
VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:													
MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS.			X						LVL 2 / 3	TMS 602, 1.5			
PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION.			X	N					LVL 2 / 3	TMS 602, 3.3 B			
SIZE AND LOCATION OF STRUCTURAL MEMBERS.			X						LVL 2 / 3	TMS 602, 3.3 F			
TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.			X					LVL 3	LVL 2	TMS 402, 1.2.1(e), 6.2.1 & 6.3.1			
PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F).			X						LVL 2 / 3	TMS 602, 1.8 C & 1.8 D			
OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.			X					LVL 3	LVL 2	TMS 602, 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3 & 1.4 B.4			
WOOD (IBC 2018, 110.3.4 & 1705.5)													
HIGH-LOAD DIAPHRAGMS			X						X	IBC 2306.2 & 1704.2 (APPROVED CONSTRUCTION DWGS)	1705.5.1		
METAL-PLATE-CONNECTED WOOD TRUSSES WITH OVERALL HEIGHT OF 60 INCHES OR GREATER, OR TRUSSES SPANNING 60 FEET OR GREATER.			X						X	APPROVED TRUSS SUBMITTAL PACKAGE (BRACING)	1705.5.2		
WOOD FRAMING (AFTER ALL DECKING, SHEATHING, FIRE BLOCKING, AND MEP ARE IN PLACE)	X		X	X					X				
SOILS / FILL (IBC 2018, TABLE 1705.6)													
OBSERVE PREPARED SITE AND SUBGRADE PRIOR TO PLACEMENT OF FILL.			X	N					X			PRIOR TO PLACEMENT OF FILL.	
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.			X						X		TABLE 1705.6	PRIOR TO PLACEMENT OF FILL.	
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.			X						X		TABLE 1705.6		
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.			X						X		TABLE 1705.6	PRIOR TO AND DURING FILL. (RE: PLAN SPECS.)	
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.			X					X			TABLE 1705.6		
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.			X						X		TABLE 1705.6		



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7/20/26
ORIGINAL SIGNED COPY IS ON FILE AT WINTON ENGINEERING, INC.

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 20, 2026 - 10:02am	
KPA Firm Registration Number F-510		Plotted By: JARED	

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
SPECIAL INSPECTIONS TABLE (CONT.)

SHEET NO. AS-21
OF 22

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Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_AS-01.dwg

STATEMENT OF SPECIAL INSPECTIONS												
(PER SECTION 110 AND CHAPTER 17 OF 2018 IBC, AISC 360-16, AC1 318-14, TMS 402-16, TMS 602-16)												
VERIFICATION & INSPECTION	SPECIAL INSPECTORS ⁽⁷⁾							FREQUENCY		REFERENCE STANDARD OR COMPLIANCE DOCUMENT	IBC REFERENCE	REMARKS
	B.O.	CO.	C.M.	E.O.R.	L.S.	A.H.J.	A.T.P.	CONT.	PERIODIC			
SPECIAL INSPECTIONS FOR FABRICATED ITEMS (IBC 2018, 1705.10)												
SPECIAL INSPECTIONS OF FABRICATED ITEMS SHALL BE PERFORMED IN ACCORDANCE WITH 1704.2.5.			X								1704.2.5 & 1705.10	
SPECIAL INSPECTIONS FOR WIND RESISTANCE (IBC 2018, 1705.11)												
WIND RESISTANCE FOR BUILDINGS AND STRUCTURES PER 1705.11:												
WIND-RESISTING COMPONENTS: 1. ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS. 2. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.			X						X		1705.11.3	
OTHER (IBC 2018, 110.3.6, 110.3.7, 110.3.8 & 110.3.11)												
ENERGY EFFICIENCY.	X						X		X		110.3.8	PRIOR TO CONCEALMENT FROM VIEW.
FINAL INSPECTION.	X			X					X		110.3.11	AFTER ALL WORK REQUIRED BY BUILDING PERMIT IS COMPLETED.
<u>NOTES:</u> 1. THE OWNER SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER 1705 (THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS IDENTIFIED IN 110). 2. SPECIAL INSPECTORS SHALL BE AN INDEPENDENT, ESTABLISHED, AND QUALIFIED "APPROVED AGENCY" AS DETERMINED BY THE BUILDING OFFICIAL. 3. ALL INSPECTIONS SHALL BE MADE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 110 AND 1704 OF THE 2018 IBC. 4. THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR INSPECTION PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS. 5. RECORDS: A. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. B. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF WORK. C. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE APPLICANT AND BUILDING OFFICIAL. 6. WHERE INSPECTION OR NOTIFICATION IS REQUIRED, CONTRACTOR SHALL NOTIFY EACH OF THE LISTED PARTIES A MINIMUM OF (2) BUSINESS DAYS PRIOR TO THE REQUIRED INSPECTIONS. DO NOT PROCEED WITH WORK WITHOUT PROPER INSPECTIONS. 7. INSPECTIONS INDICATED FOR BUILDING OFFICIAL ARE THOSE STRUCTURAL INSPECTIONS REQUIRED BY 110 OF THE 2018 IBC AND ARE CONSIDERED MINIMUM. CONTRACTOR SHALL REFER TO 110 AND CONTACT THE LOCAL A.H.J. TO CONFIRM ANY ADDITIONAL LOCAL NOTIFICATION OR INSPECTION REQUIREMENTS. 8. LEGEND: X - INSPECTION AND NOTIFICATION REQUIRED / N - ONLY NOTIFICATION REQUIRED.											<u>SPECIAL INSPECTORS:</u> B.O. = BUILDING OFFICIAL CO. = CONTRACTOR C.M. = CONSTRUCTION MATERIALS TESTING COMPANY E.O.R. = ENGINEER OF RECORD L.S. = LICENSED SURVEYOR A.H.U. = AUTHORITY HAVING JURISDICTION A.T.P. = APPROVED THIRD-PARTY INSPECTOR	



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WE JOB# 2023-064

TSEPLS FIRM

REGISTRATION #F-0282

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KPA Firm Registration Number F-510		Plotted By: JARED	

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
SPECIAL INSPECTIONS TABLE (CONT.)

SHEET NO. AS-22
OF 22

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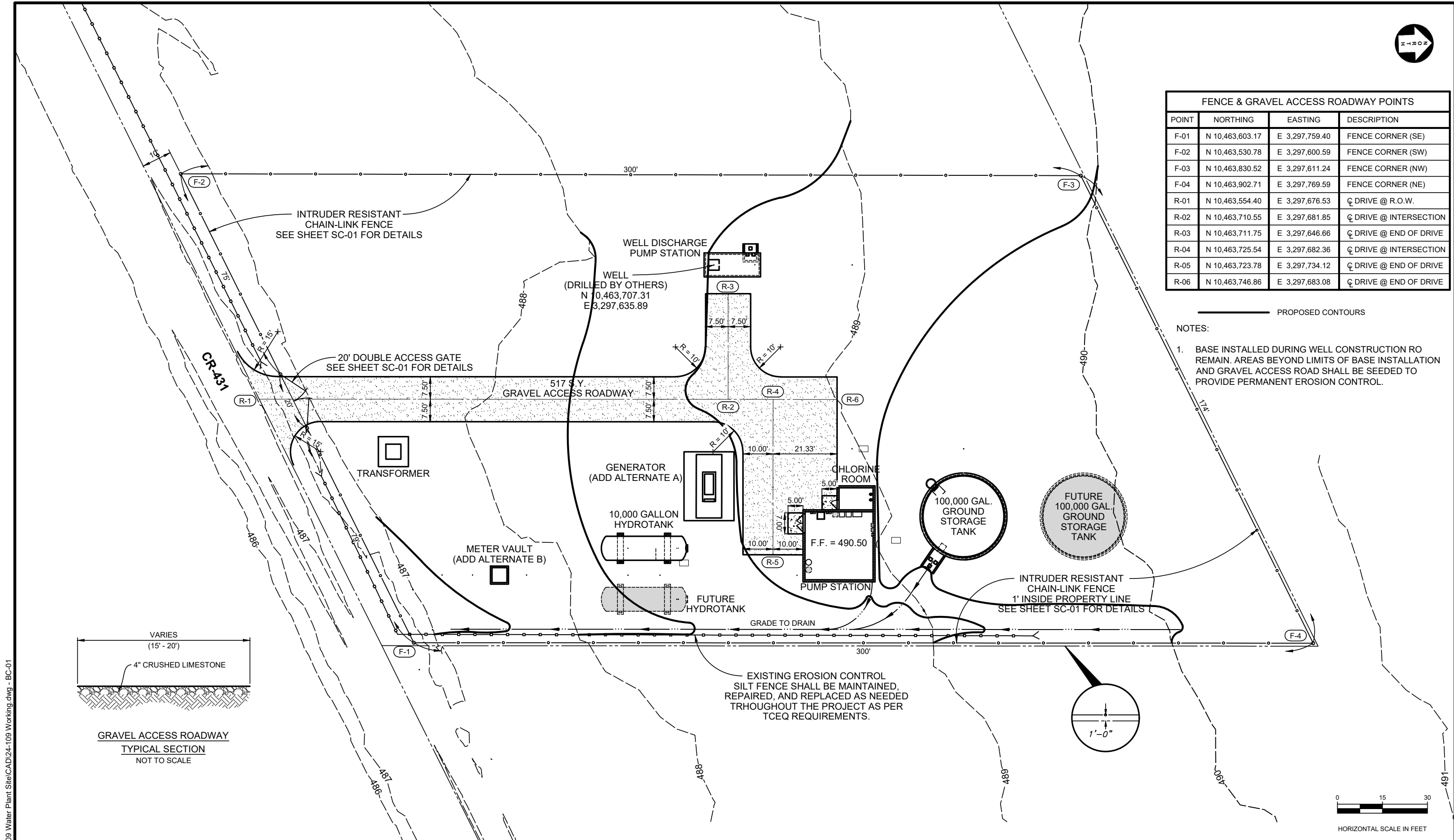


FENCE & GRAVEL ACCESS ROADWAY POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
F-01	N 10,463,603.17	E 3,297,759.40	FENCE CORNER (SE)
F-02	N 10,463,530.78	E 3,297,600.59	FENCE CORNER (SW)
F-03	N 10,463,830.52	E 3,297,611.24	FENCE CORNER (NW)
F-04	N 10,463,902.71	E 3,297,769.59	FENCE CORNER (NE)
R-01	N 10,463,554.40	E 3,297,676.53	CL DRIVE @ R.O.W.
R-02	N 10,463,710.55	E 3,297,681.85	CL DRIVE @ INTERSECTION
R-03	N 10,463,711.75	E 3,297,646.66	CL DRIVE @ END OF DRIVE
R-04	N 10,463,725.54	E 3,297,682.36	CL DRIVE @ INTERSECTION
R-05	N 10,463,723.78	E 3,297,734.12	CL DRIVE @ END OF DRIVE
R-06	N 10,463,746.86	E 3,297,683.08	CL DRIVE @ END OF DRIVE

PROPOSED CONTOURS

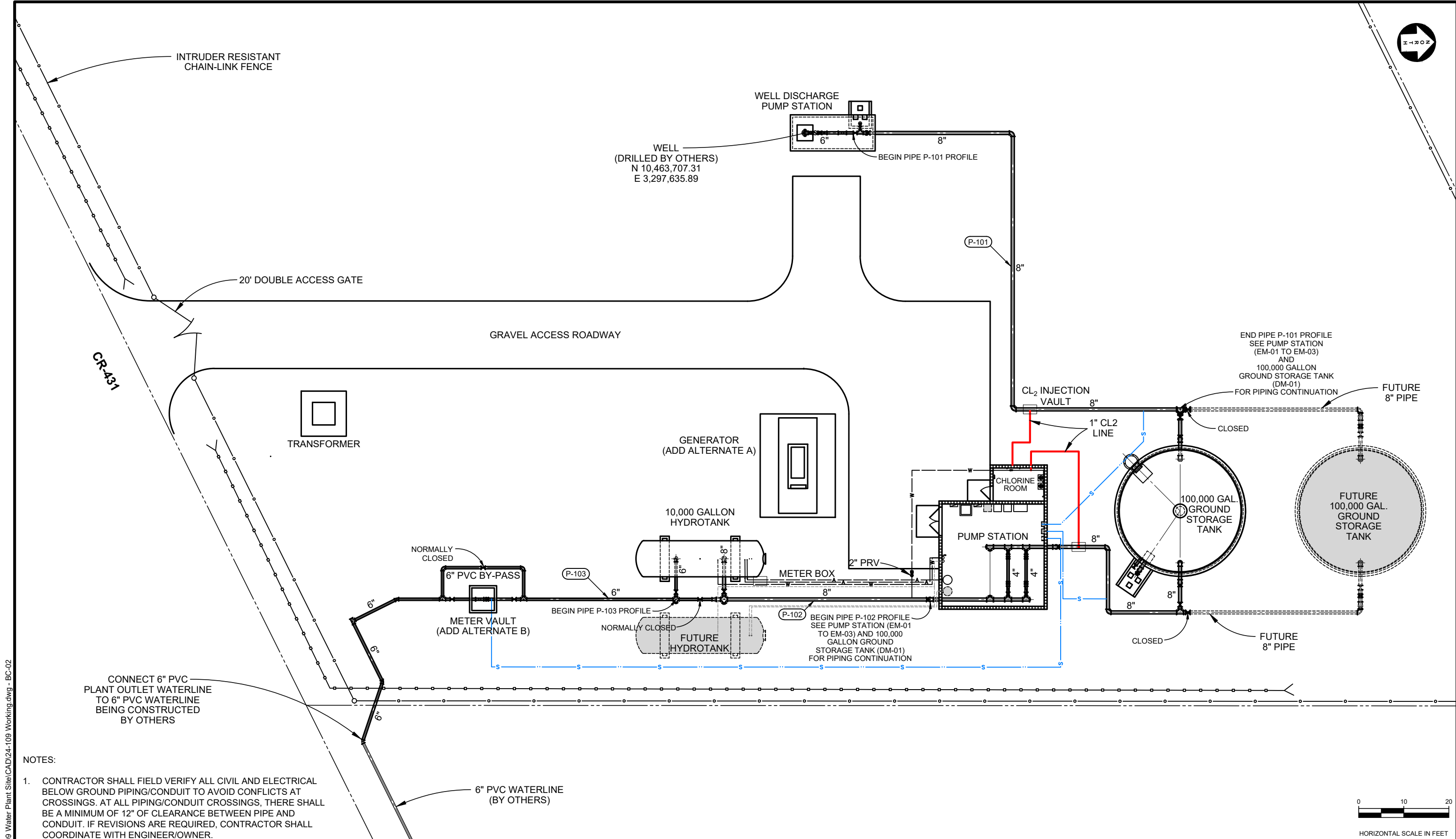
NOTES:

- BASE INSTALLED DURING WELL CONSTRUCTION RO REMAIN. AREAS BEYOND LIMITS OF BASE INSTALLATION AND GRAVEL ACCESS ROAD SHALL BE SEED TO PROVIDE PERMANENT EROSION CONTROL.



P:\Levi WSC\2024\24-109 Water Plant Site\CAD\24-109 Working.dwg - BC-01

				PROJECT NO. 2024 - 109			 KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE		SHEET NO. BC-01	
				DRAWN BY Zachary B. Lopez							
NO. DATE REVISION BY				DESIGNED BY Ginger R. Tolbert, P.E.							
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				DATE 07/20/2026				SITE LAYOUT - OVERALL		OF 3	
Plot Date: Jul 20, 2026 - 5:03pm Plotted By: ZLOPEZ											



NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL CIVIL AND ELECTRICAL BELOW GROUND PIPING/CONDUIT TO AVOID CONFLICTS AT CROSSINGS. AT ALL PIPING/CONDUIT CROSSINGS, THERE SHALL BE A MINIMUM OF 12" OF CLEARANCE BETWEEN PIPE AND CONDUIT. IF REVISIONS ARE REQUIRED, CONTRACTOR SHALL COORDINATE WITH ENGINEER/OWNER.

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KPA Firm Registration Number F-510			Plotted By: ZLOPEZ

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	07/20/2026

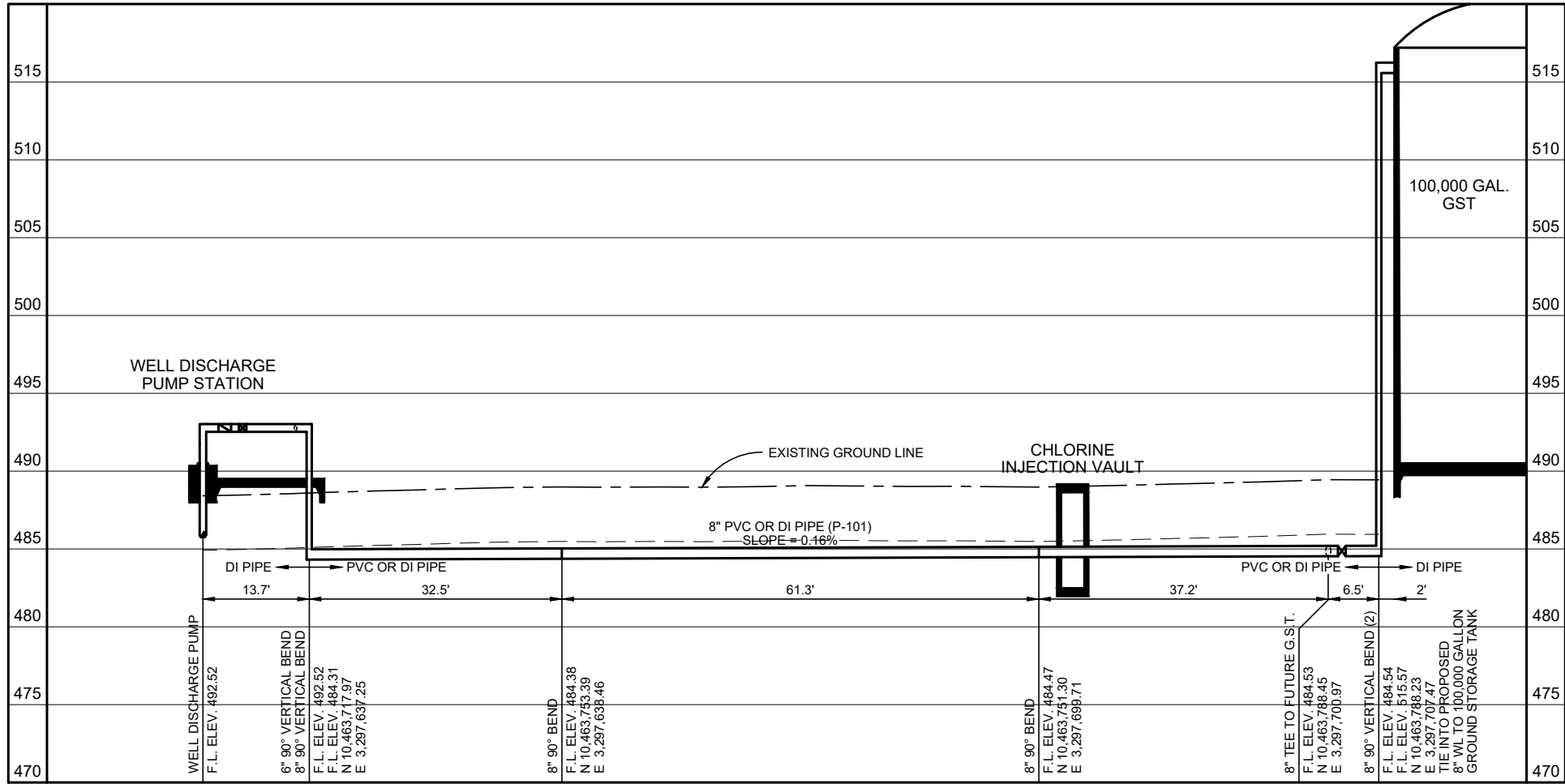


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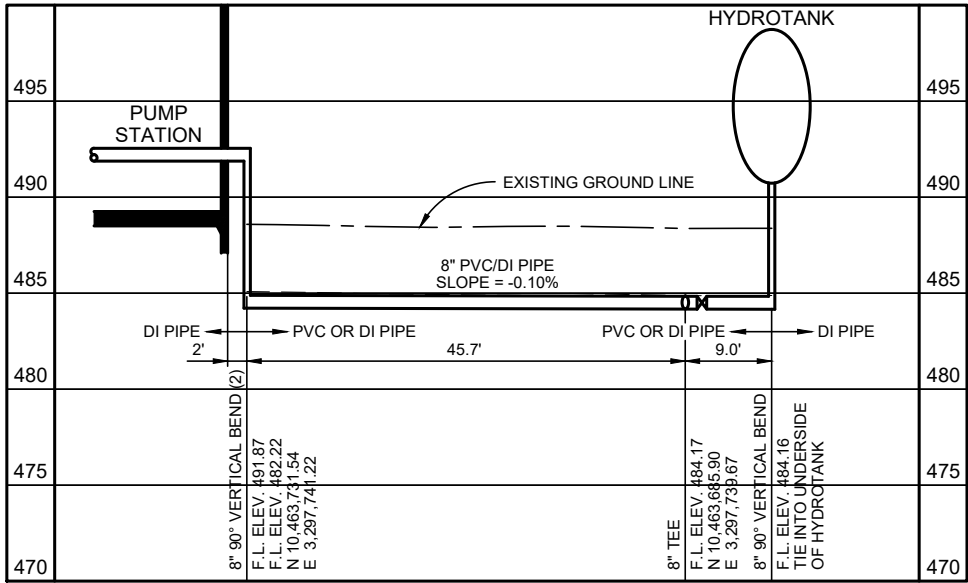
LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
SITE LAYOUT YARD PIPING

SHEET NO. BC-02
OF 3

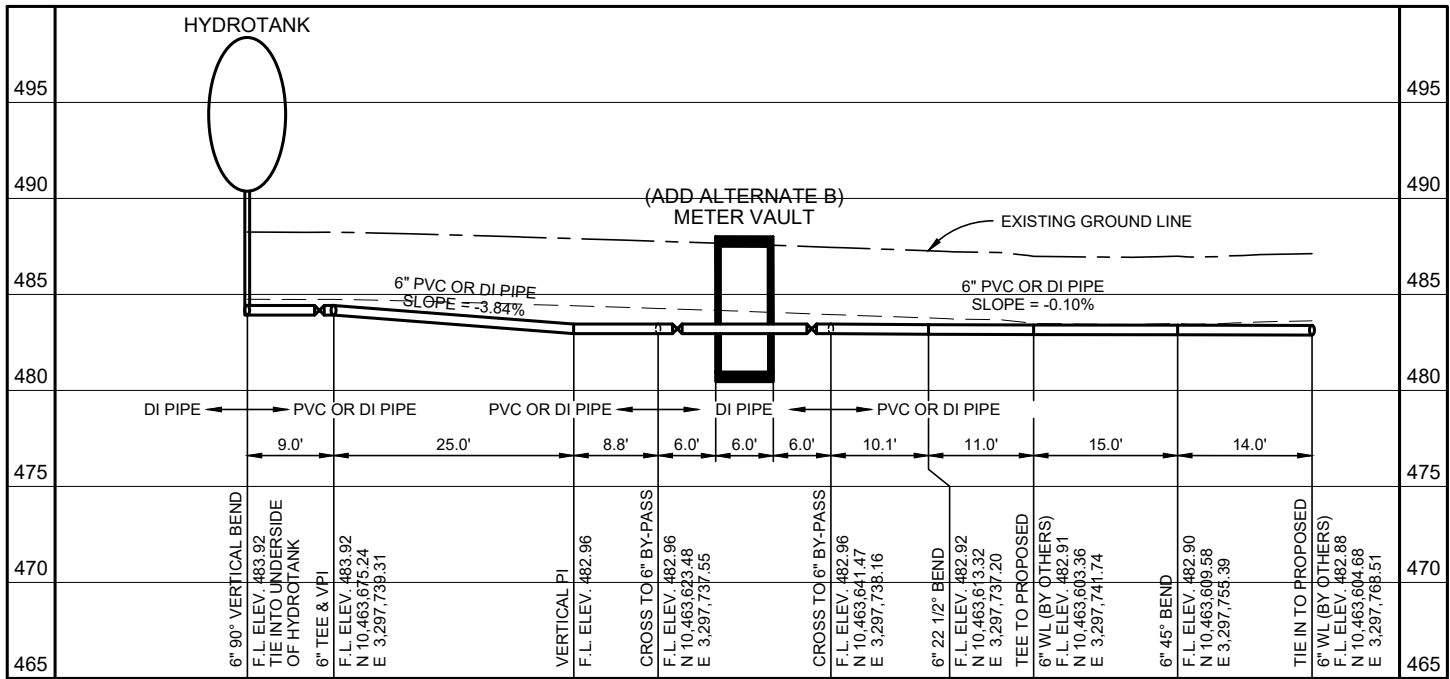
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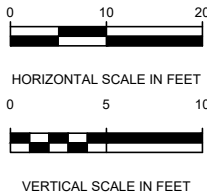
PIPE PROFILE P-101



PIPE PROFILE P-102



PIPE PROFILE P-103



NO.	DATE	REVISION	BY
1	Jul 20, 2026	3:41pm	ZLOPEZ

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	07/20/2026



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. BC-03
YARD PIPING PROFILES LINE P-101, P-102 & P-103	OF 3

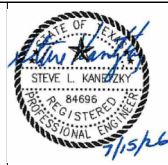
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TBPE Firm No. F-2356
SKE PROJECT # 3740125

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Plot Date: Jul 16, 2026 - 4:24pm Plotted By: PATRICIA.OROZCO			

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25





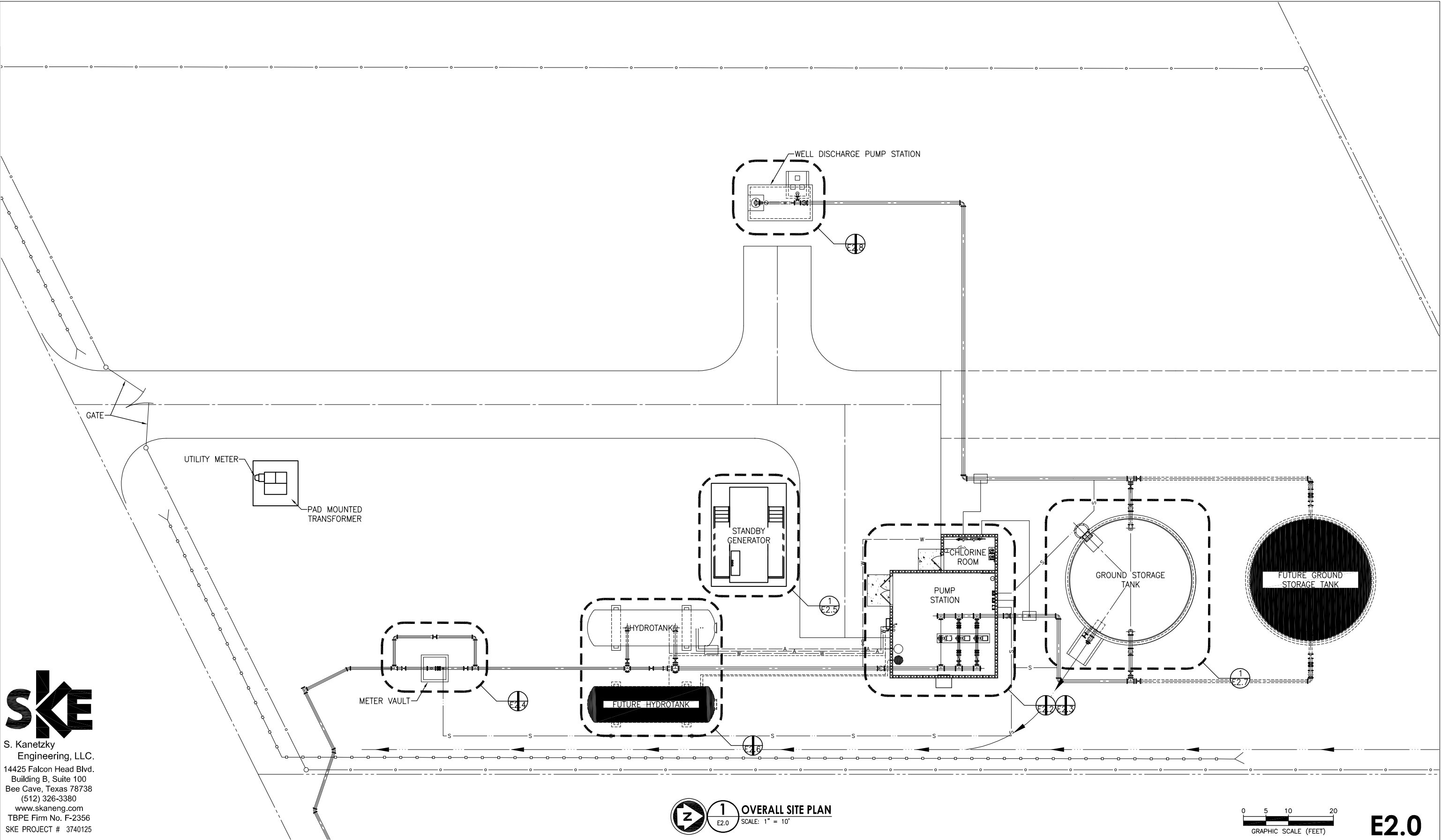
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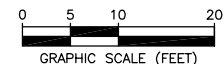
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
OVERALL SITE PLAN

SHEET NO	BE-01
OF	2



 **1**
E2.0 **OVERALL SITE PLAN**
SCALE: 1" = 10'

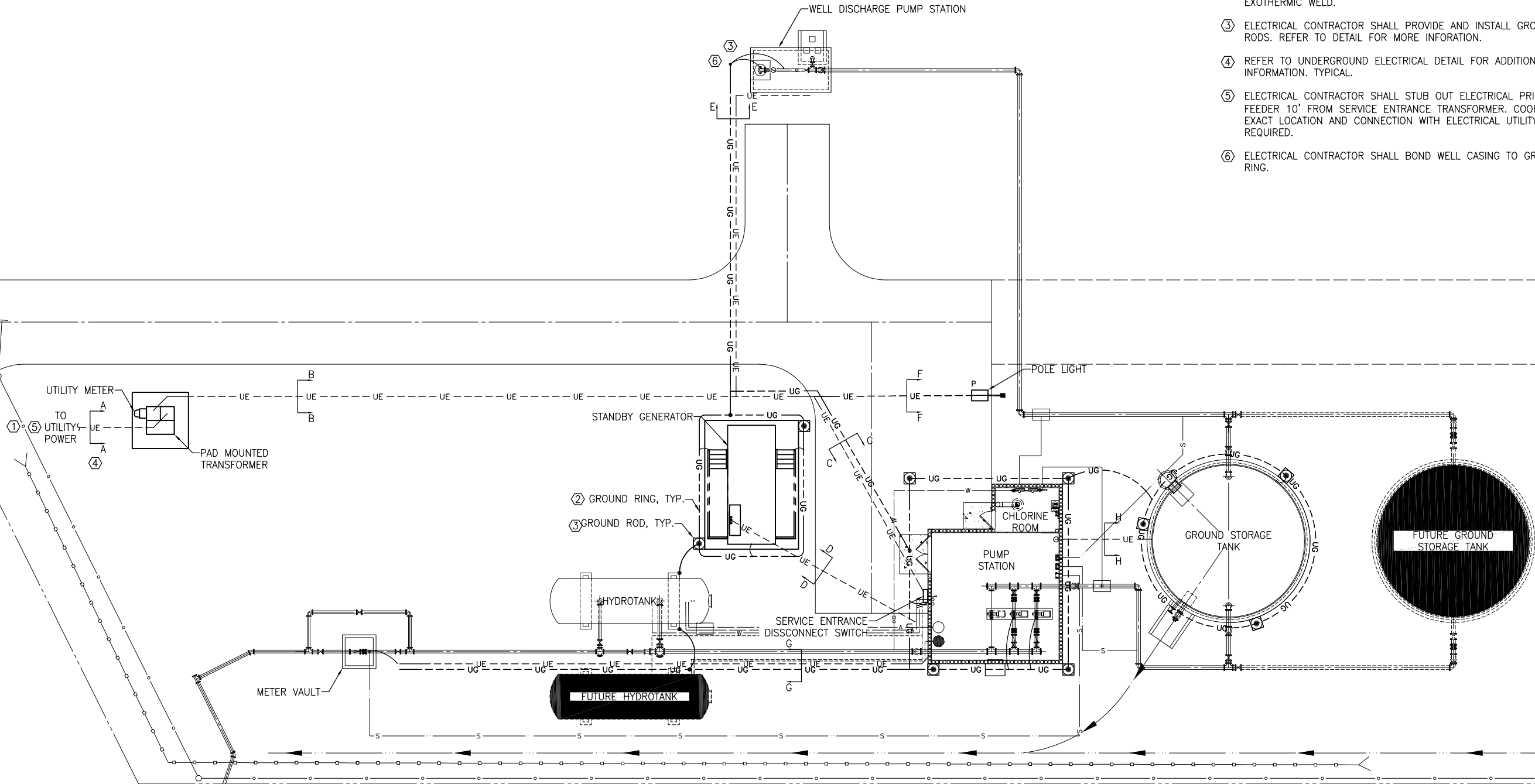


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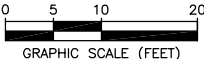
P:\SKE\Project\Share\Projects\2025\3740125 - KPA Levi WSC Falls County WTP\01 Design Phase\ CAD - Current\260716 - Updated Print\WG1_3740125-E21.dwg - E2.1

REFERENCE NOTES

- ① ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL NEW 600A, 277/480V, 3 PHASE 4 WIRE ELECTRIC SERVICE. ELECTRICAL CONTRACTOR IS TO COORDINATE WITH HEART OF TEXAS ELECTRIC COOPERATIVE, WWW.HOTEC.COOP (1-800-840-2957). PROVIDE PULL STRING IN EACH CONDUIT. VERIFY EXACT LOCATION OF TRANSFORMER PRIOR TO INSTALLATION. SEE DETAILS FOR UTILITY REQUIREMENTS.
- ② ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL #3/0 BARE COPPER GROUNDING RING. BOND MAIN CIRCUIT BREAKER, ELECTRICAL BUILDING, GROUND STORAGE TANK, FLOW METER, MOTOR CASINGS AND GENERATOR SKID TO GROUNDING ELECTRODE SYSTEM VIA EXOTHERMIC WELD.
- ③ ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL GROUND RODS. REFER TO DETAIL FOR MORE INFORMATION.
- ④ REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.
- ⑤ ELECTRICAL CONTRACTOR SHALL STUB OUT ELECTRICAL PRIMARY FEEDER 10' FROM SERVICE ENTRANCE TRANSFORMER. COORDINATE EXACT LOCATION AND CONNECTION WITH ELECTRICAL UTILITY AS REQUIRED.
- ⑥ ELECTRICAL CONTRACTOR SHALL BOND WELL CASING TO GROUNDING RING.



1 OVERALL SITE PLAN
E2.1 SCALE: 1" = 10'



E2.1



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TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
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Plot Date: Jul 16, 2026 - 4:28pm Plotted By: PATRICIA.OROZCO			

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



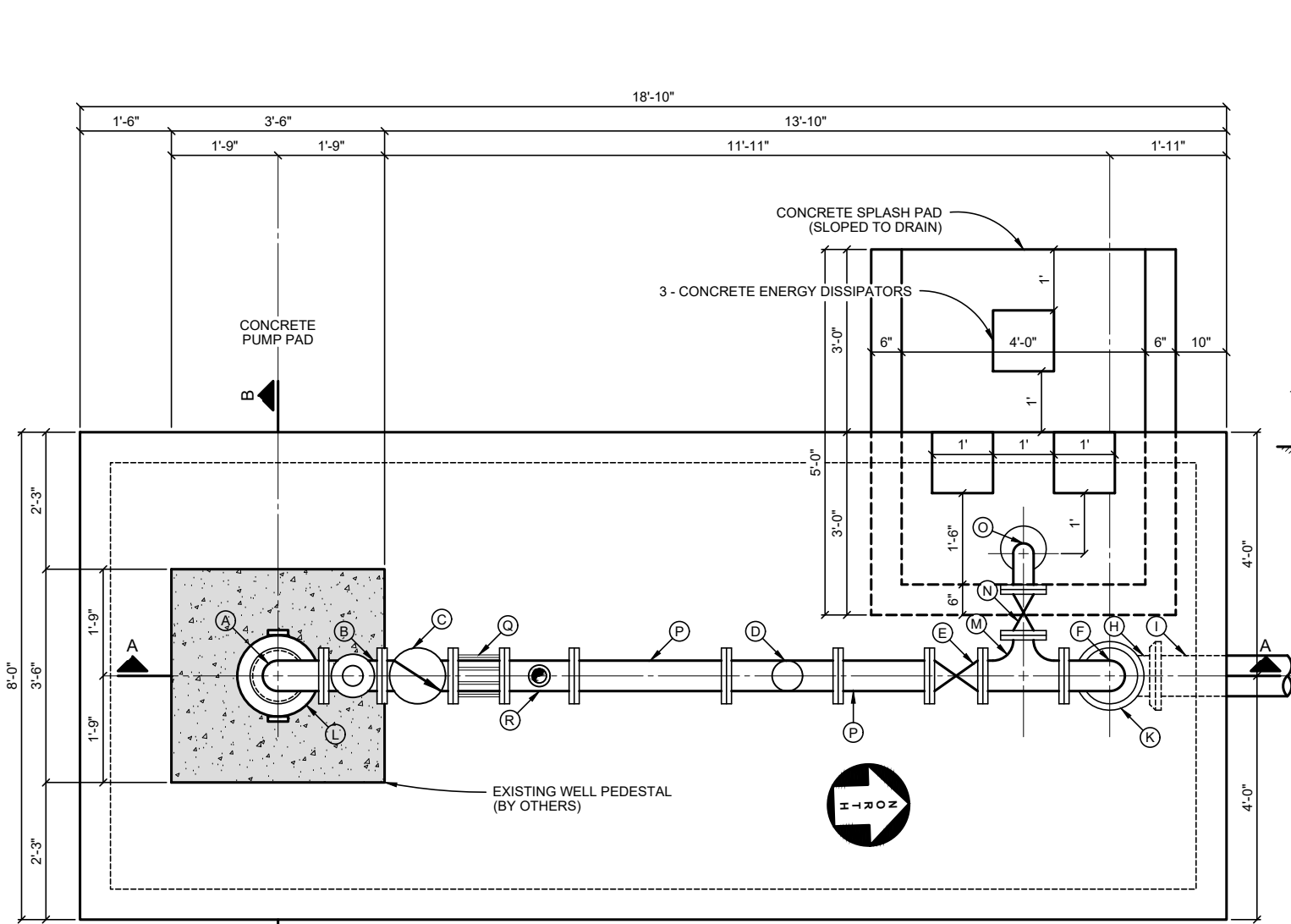
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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

OVERALL SITE PLAN

SHEET NO **BE-02**
OF **2**

P:\Levi WSC\2024\124-109 Water Plant Site\CAD\WORKING\MECHANICAL\WELL PUMP STATION.dwg - CM-01



WELL DISCHARGE PUMP STATION

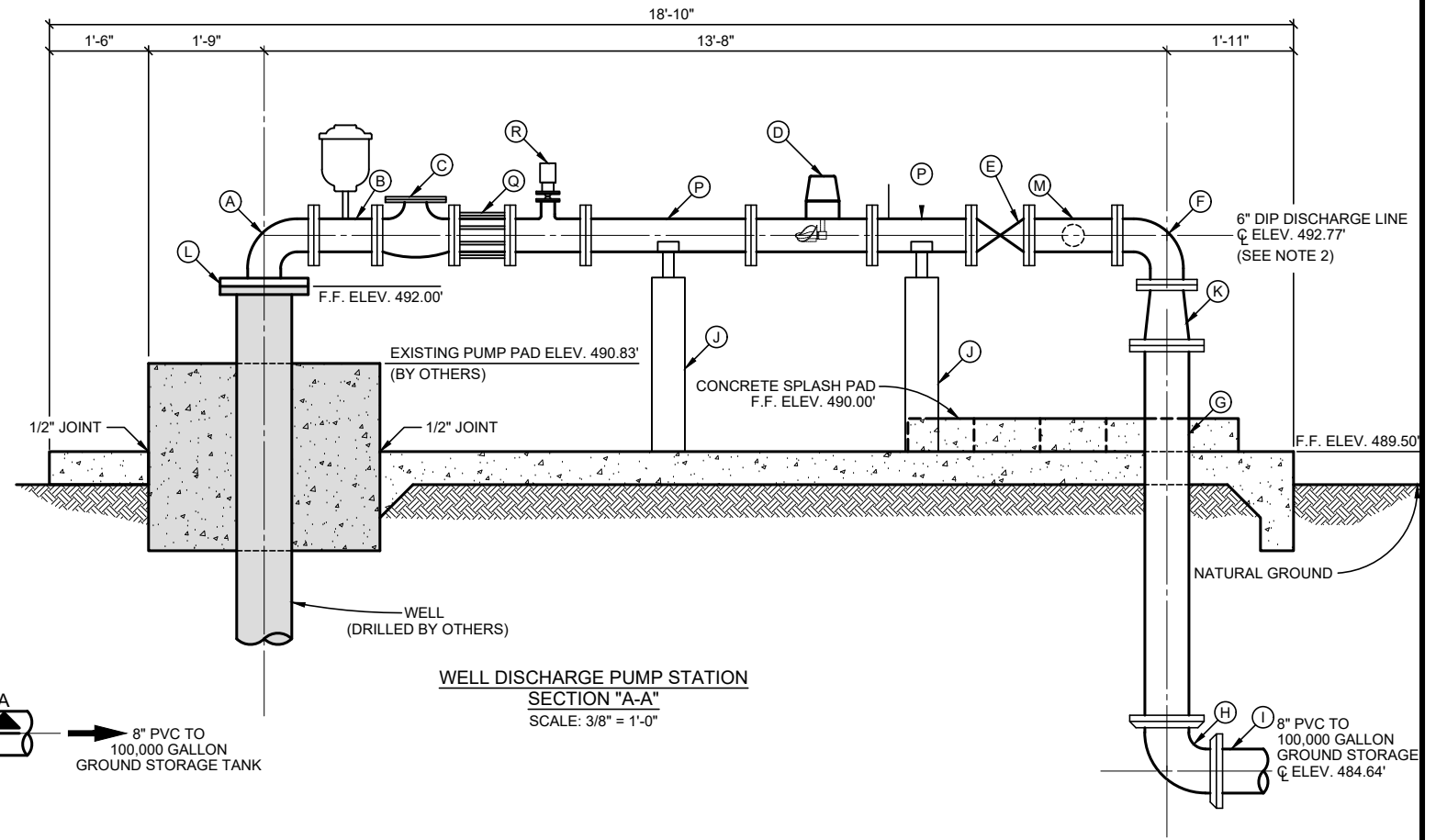
PLAN

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

PIPE FITTINGS APPLIES TO WELL DISCHARGE PUMP STATION SHEET ONLY (CM-01)			
LETTER	SIZE	JOINT	DESCRIPTION
A	6"	FLG	DI PIPE DISCHARGE ELBOW
B	6"	FLG	DI PIPE SPOOL TAPPED W/2" AIR VALVE
C	6"	FLG	CHECK VALVE
D	6"	FLG	TURBINE METER (SEE NOTE 1)
E	6"	FLG	GATE VALVE
F	6"	FLG	90° BEND
G	8"	FLG X PE	DI PIPE
H	8"	MJ	90° BEND
I	8"	PE	PVC PIPE
J	-	-	PIPE SUPPORT
K	8" X 6"	FLG	REDUCER
L	-	-	SURFACE PLATE
M	6" X 4"	FLG	TEE
N	4"	FLG	GATE VALVE
O	4"	FLG	45° BEND WITH FLAP VALVE
P	6"	FLG	DI PIPE SPOOL
Q	6"	-	FLEXIBLE COUPLING
R	6"	FLG	PRESSURE RELIEF VALVE

NOTES:

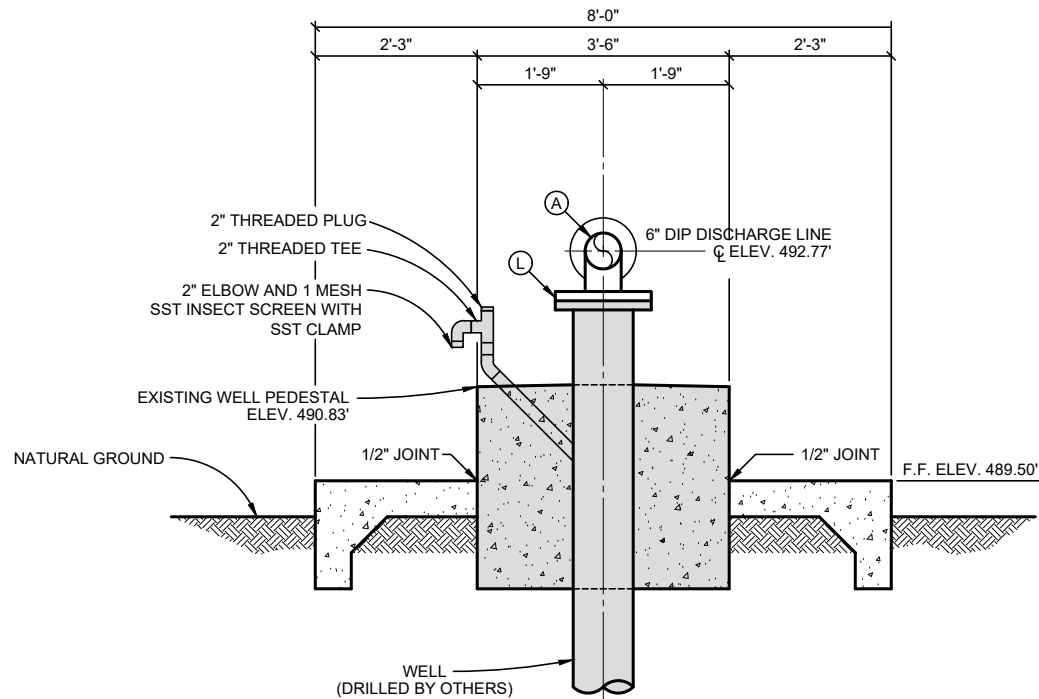
- TURBINE METER SHALL BE 6" FLANGED AS MANUFACTURED BY TECHNOFLO® MODEL PM04 OR APPROVED EQUAL. INSTALL SAMPLE TAP AND PRESSURE GAUGE ON SPOOL UPSTREAM OF TURBINE.
- ALL EXPOSED EXTERIOR ABOVE GROUND WATER PIPING SHALL BE INSULATED WITH 2-INCH FIBERGLASS INSULATION MANUFACTURED BY KNAUF INSULATION®, MASON INSULATION® OR APPROVED EQUAL. FIBERGLASS INSULATION SHALL BE COVERED WITH RPR PRODUCTS, INC. INSUL-MATE™ ALUMINUM JACKETING OR APPROVED EQUAL UNLESS OTHERWISE SPECIFIED.



WELL DISCHARGE PUMP STATION

SECTION "A-A"

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



WELL DISCHARGE PUMP STATION

SECTION "B-B"

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

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KPA Firm Registration Number F-510	Plotted By: ZLOPEZ		

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



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TEMPLE, TEXAS 76501

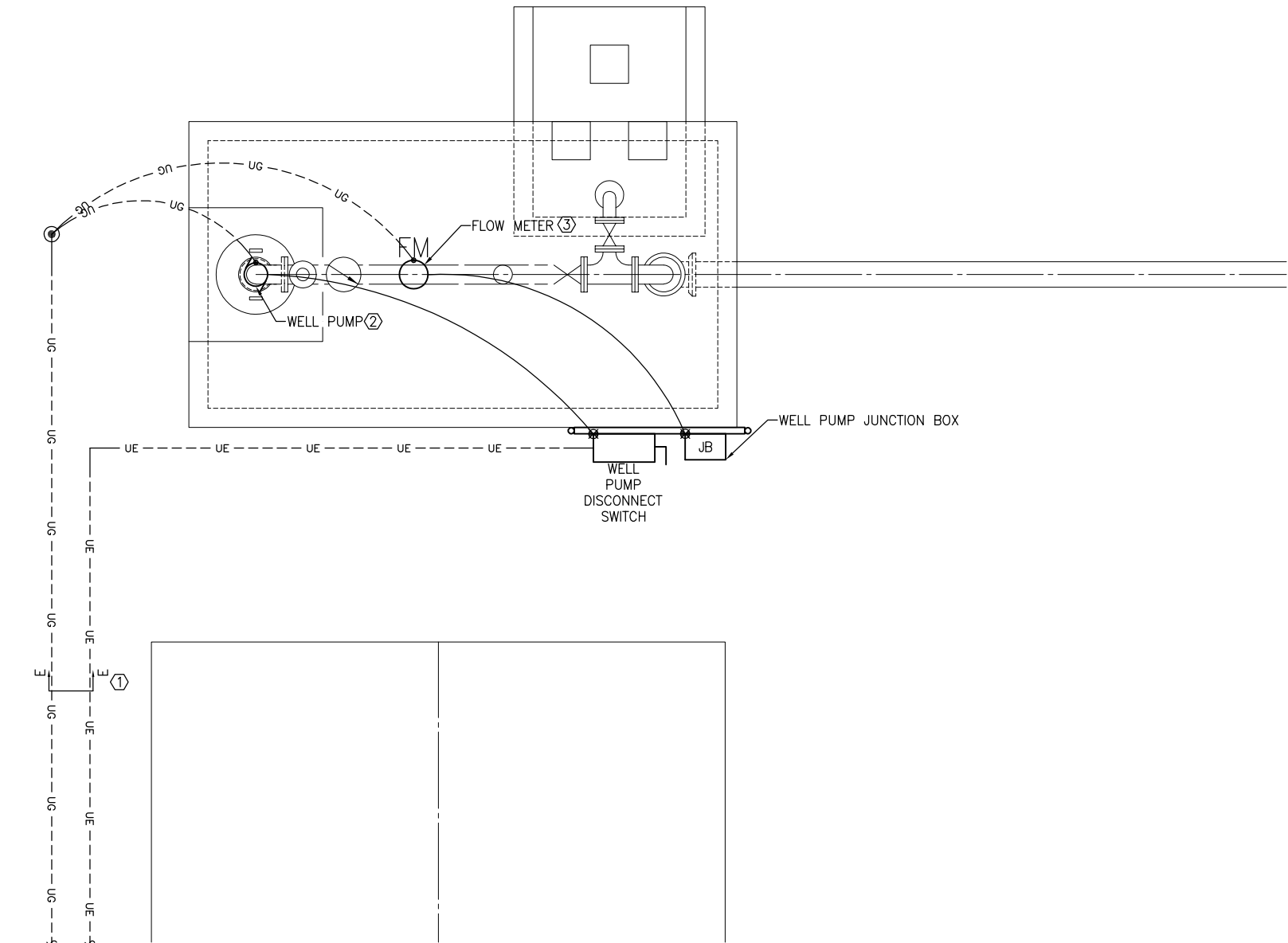
LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE
WELL DISCHARGE PUMP STATION
PLAN & SECTION

SHEET NO. CM-01
OF 1

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TBPE Firm No. F-2356
SKE PROJECT # 3740125



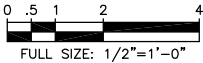
SEE SHEET
E2.1 FOR
CONTINUATION



1
E2.8

WELL DISCHARGE PUMP STATION POWER PLAN

SCALE: 1" = 1'-0"



E2.8

REFERENCE NOTES

- ① REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.
- ② ELECTRICAL CONTRACTOR SHALL BOND WELL CASING TO GROUNDING RING.
- ③ ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL FLOW METER TYPE TECHNOFLO MODEL PM04.

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 16, 2026 - 4:48pm	
KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. CE-01 OF 1
WELL DISCHARGE PUMP STATION POWER PLAN	

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_CS-01.dwg



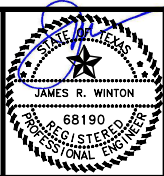
1 FOUNDATION PLAN

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

CONCRETE TYPE:

- ☐ STRUCTURAL
- ☒ SLAB-ON-GRADE
- ☐ CORROSIVE ENVIRONMENT
- ☐ LIQUID-CONTAINING ENVIRONMENTAL STRUCTURE

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

WELL DISCHARGE PUMP STATION
FOUNDATION PLAN

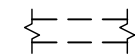
SHEET NO. CS-01

OF 2

TYPICAL CONCRETE PLAN NOTES

- REFER TO SHEETS **AS-01 - AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
- THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
- VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL BLOCK-OUTS, DEPRESSIONS, EMBEDS, ELECTRICAL BOXES, PIPE PENETRATIONS, AND SIMILAR ITEMS WITH CIVIL AND MEP PLANS PRIOR TO FORMING CONCRETE. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
- CONTRACTOR SHALL COORDINATE WITH FINAL ELECTRICAL/PLUMBING PLANS, AND WITH ELECTRICAL AND PLUMBING SUBCONTRACTORS, REGARDING ALL WORK REQUIRED WITHIN FOUNDATION, INCLUDING AT A MINIMUM, GROUND WIRE CONNECTIONS, PIPE / CONDUIT PENETRATIONS, PIPE SLEEVES, ETC. **IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE AND COORDINATE ALL INSPECTIONS REQUIRED BY THE SPECIFICATIONS, AND BY AUTHORITIES HAVING JURISDICTION, PRIOR TO PLACING CONCRETE.**
- ALL PIPING AND CONDUIT SHALL BE UNDER FULL DEPTH OF SLAB AND SHALL NOT BE LAID ON TOP OF SUBGRADE OR RUN Laterally WITHIN BEAMS.**
- ALL HORIZONTAL BEAM PENETRATIONS SHALL BE MADE IN THE CENTER 1/3 OF BEAM DEPTH. ENLARGE BEAM PER DETAIL **2/SS-01** WHERE REQUIRED.
- PLACE ALL REINFORCING STEEL WITH PROPER CLEARANCES, LAPS, AND TIE/STIRRUP SPACINGS. REFER TO DETAILS.
- PROVIDE BAR CHAIRS, SUPPORTS, STANDEES AND SPACERS AT 4'-0" ON CENTER MAXIMUM FOR ALL LAYERS OF STEEL IN SLABS, AND AS REQUIRED TO MAINTAIN CLEARANCES AT BEAMS.
- NOTIFY PRIME ENGINEER, STRUCTURAL ENGINEER, AND CONSTRUCTION MATERIALS TESTING COMPANY A MINIMUM OF (2) BUSINESS DAYS PRIOR TO PLACING CONCRETE. INDICATE APPROXIMATE TIME OF POUR, AS WELL AS WHEN STEEL REINFORCING WILL BE COMPLETED FOR OBSERVATION.**
- FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

TYPICAL CONCRETE PLAN LEGEND



GRADE BEAM

U.N.O. = UNLESS NOTED OTHERWISE



DETAIL NUMBER

T.O.S. = TOP OF SLAB

SECTION MARK

T.O.C. = TOP OF SPLASH PAD CURB

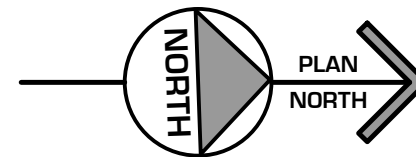
SHEET NUMBER

O.C. = ON CENTER



SLOPE

O.C.E.W. = ON CENTER EACH WAY

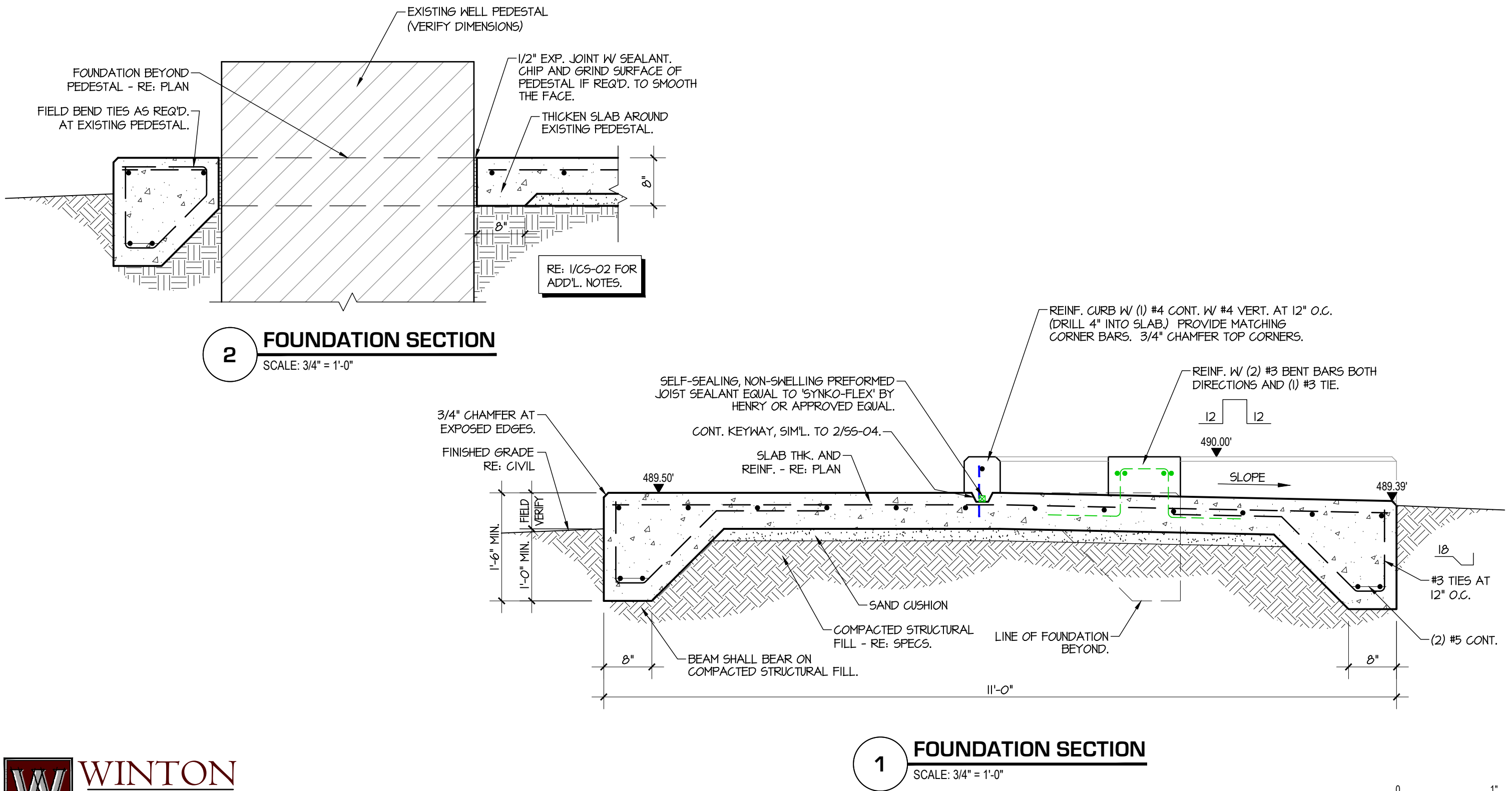


SCALE: 3/8"=1'-0"

DRAWING TO BE READ IN **COLOR**

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IF SCALE ABOVE DOES NOT EQUAL 1",
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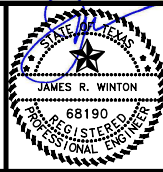
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0 1"
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DRAWING TO BE READ IN COLOR

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Plot Date: Jul 20, 2026 - 10:15am Plotted By: JARED			

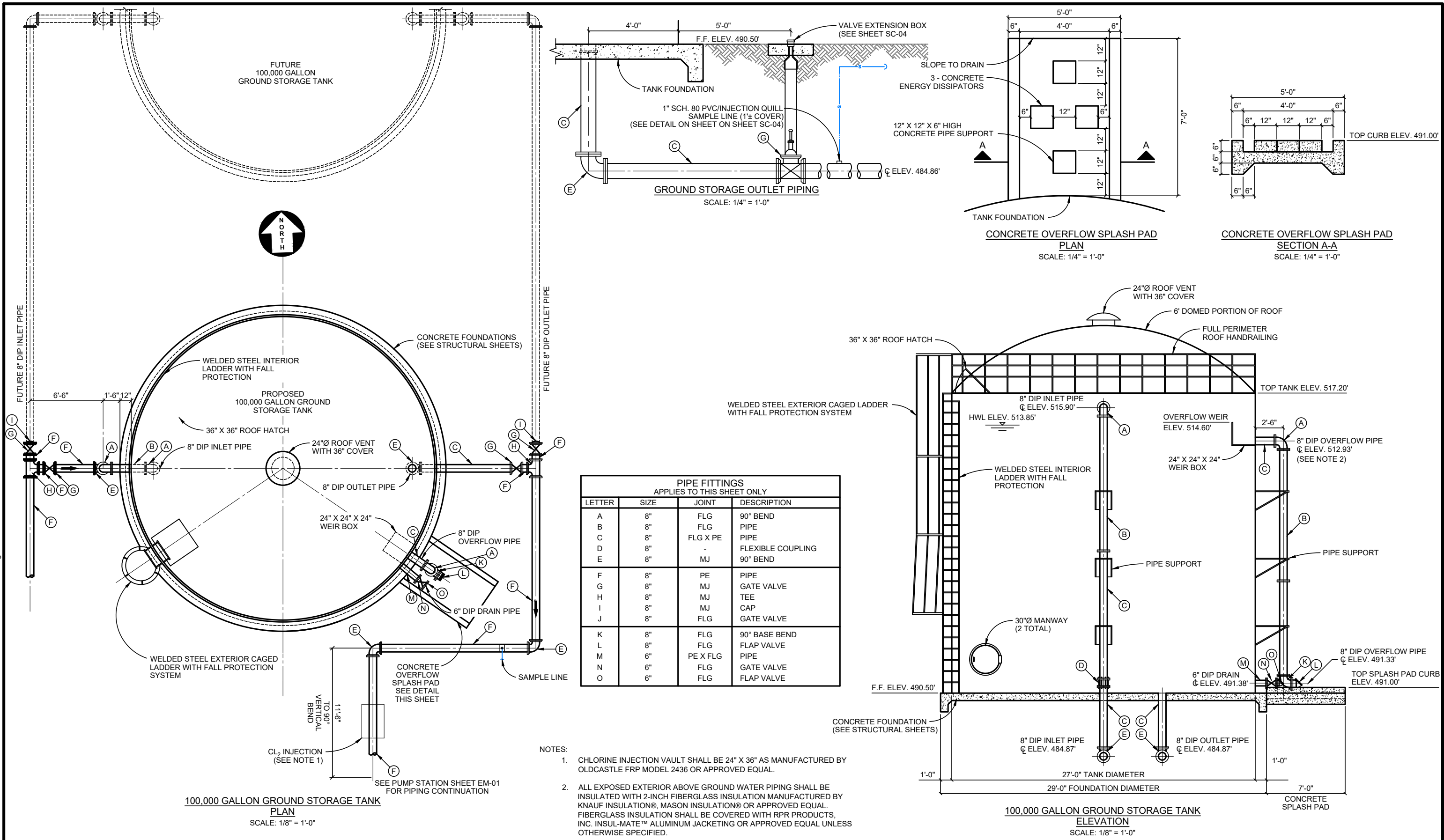
PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. CS-02
WELL DISCHARGE PUMP STATION FOUNDATION SECTIONS	OF 2

P:\Levi WSC\2024\124-108 Water Plant Site\CAD\WORKING\MECHANICAL\GROUND STORAGE TANK.dwg - DM-01



PROJECT NO. 2024 - 109						KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. DM-01	
DRAWN BY Douglas L. Krumnow									
DESIGNED BY Ginger R. Tolbert, P.E.									
APPROVED BY									
DATE July 20, 2026				100,000 GALLON GROUND STORAGE TANK PLAN, ELEVATION & DETAILS					OF 1

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KPA Firm Registration Number F-510

Plot Date: Jul 20, 2026 - 3:41pm
Plotted By: ZLOPEZ

P:\SKE\Projects\2025\3740125 - KPA Levi WSC Falls County WTP\01 Design Phase\CAD - Current\260716 - Updated Print\WG1_3740125-E27.dwg - E2.7



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Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 16, 2026 - 4:46pm	
KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

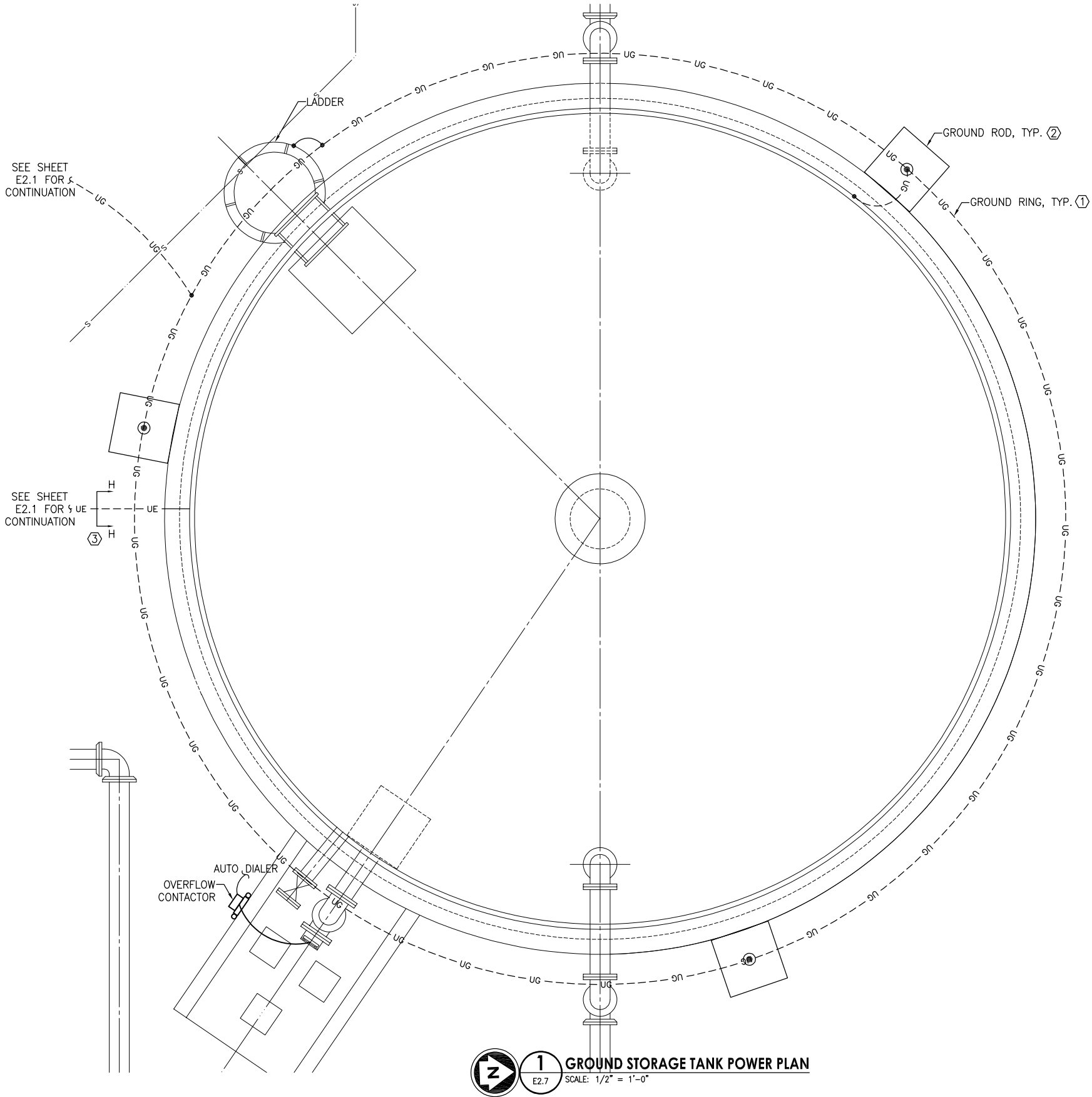
PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



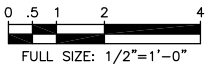
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CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
GROUND STORAGE TANK POWER PLAN

SHEET NO	DE-01
OF	1



- REFERENCE NOTES**
- ① ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL #3/0 BARE COPPER GROUNDING RING. BOND GROUND STORAGE TANK, LADDER, AND WELL PUMP TO GROUNDING ELECTRODE SYSTEM VIA EXOTHERMIC WELD.
 - ② ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL GROUND RODS. REFER TO DETAILS FOR MORE INFORMATION.
 - ③ REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.
 - ④ ELECTRICAL CONTRACTOR SHALL BOND WELL CASING TO GROUNDING RING.



E2.7

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_DS-01.dwg



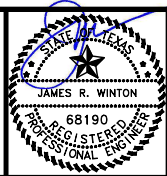
1 FOUNDATION PLAN

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

TANK DESIGN WEIGHT ALLOWANCES:

- EMPTY..... 35,000#±
- FULL..... 870,000#±

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TEMPLE, TEXAS 76601

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

100,000 GALLON GROUND STORAGE TANK
FOUNDATION PLAN

SHEET NO. **DS-01**

OF **2**

NO.	DATE	REVISION	BY
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KPA Firm Registration Number F-510			
Plot Date: Jul 20, 2026 - 10:18am		Plotted By: JARED	

CONCRETE TYPE:	
☐	STRUCTURAL
☐	SLAB-ON-GRADE
☐	CORROSIVE ENVIRONMENT
☒	ENVIRONMENTAL STRUCTURE

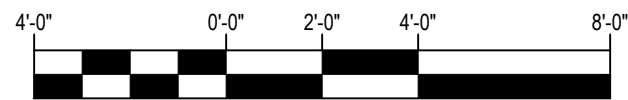
- ## TYPICAL CONCRETE PLAN NOTES
- REFER TO SHEETS **AS-01 - AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
 - THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
 - VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL BLOCK-OUTS, DEPRESSIONS, EMBEDS, PIPE PENETRATIONS, ELECTRICAL BOXES, AND SIMILAR ITEMS WITH CIVIL AND MEP PLANS PRIOR TO FORMING CONCRETE. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
 - CONTRACTOR SHALL COORDINATE WITH FINAL ELECTRICAL/PLUMBING PLANS, AND WITH ELECTRICAL AND PLUMBING SUBCONTRACTORS, REGARDING ALL WORK REQUIRED WITHIN FOUNDATION, INCLUDING AT A MINIMUM, GROUND WIRE CONNECTIONS, PIPE / CONDUIT PENETRATIONS, PIPE SLEEVES, ETC. **IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE AND COORDINATE ALL INSPECTIONS REQUIRED BY THE SPECIFICATIONS, AND BY AUTHORITIES HAVING JURISDICTION, PRIOR TO PLACING CONCRETE.**
 - ALL PIPING AND CONDUIT SHALL BE UNDER FULL DEPTH OF SLAB AND SHALL NOT BE LAID ON TOP OF SUBGRADE OR RUN LATERALLY WITHIN BEAMS.**
 - PLACE ALL REINFORCING STEEL WITH PROPER CLEARANCES, LAPS, AND TIE/STIRRUP SPACINGS. REFER TO DETAILS.
 - PROVIDE BAR CHAIRS, SUPPORTS, STANDEES AND SPACERS AT 4'-0" ON CENTER MAXIMUM FOR ALL LAYERS OF STEEL IN SLABS, AND AS REQUIRED TO MAINTAIN CLEARANCES AT BEAMS.
 - NOTIFY PRIME ENGINEER, STRUCTURAL ENGINEER, AND CONSTRUCTION MATERIALS TESTING COMPANY A MINIMUM OF (2) BUSINESS DAYS PRIOR TO PLACING CONCRETE. INDICATE APPROXIMATE TIME OF POUR, AS WELL AS WHEN STEEL REINFORCING WILL BE COMPLETED FOR OBSERVATION.**
 - FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

TYPICAL CONCRETE PLAN LEGEND

	DETAIL NUMBER	U.N.O.	= UNLESS NOTED OTHERWISE
	SECTION MARK	T.O.C.	= TOP OF CONCRETE
	SHEET NUMBER	O.C.	= ON CENTER
	SLOPE	O.C.E.W.	= ON CENTER EACH WAY

NOTES:

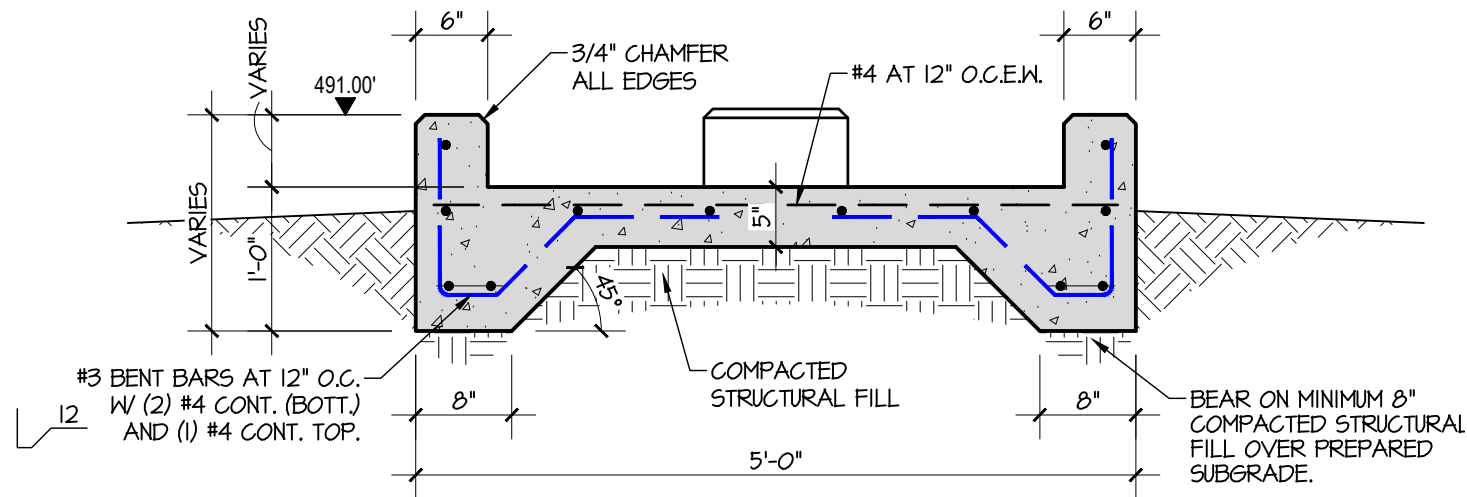
- CONSTRUCTION OF MAT SLAB SHALL NOT BEGIN UNTIL A MINIMUM OF 3 WEEKS AFTER COMPLETION AND APPROVAL OF THE FOUNDATION PAD.
- TANK SHOULD BE FILLED TO NO MORE THAN 1/2 CAPACITY FOR A MINIMUM OF 3 WEEKS.



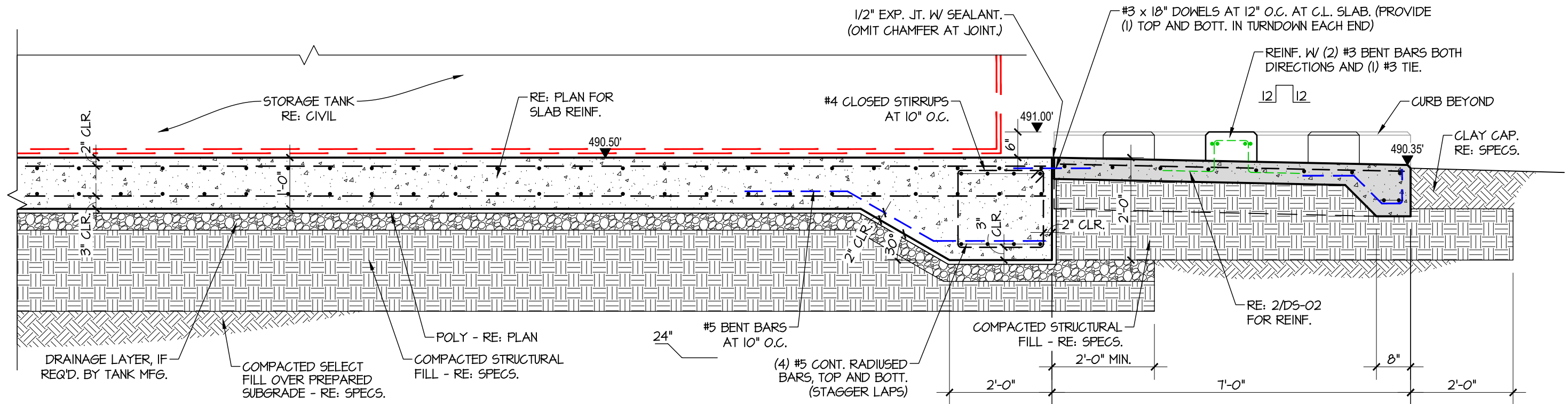
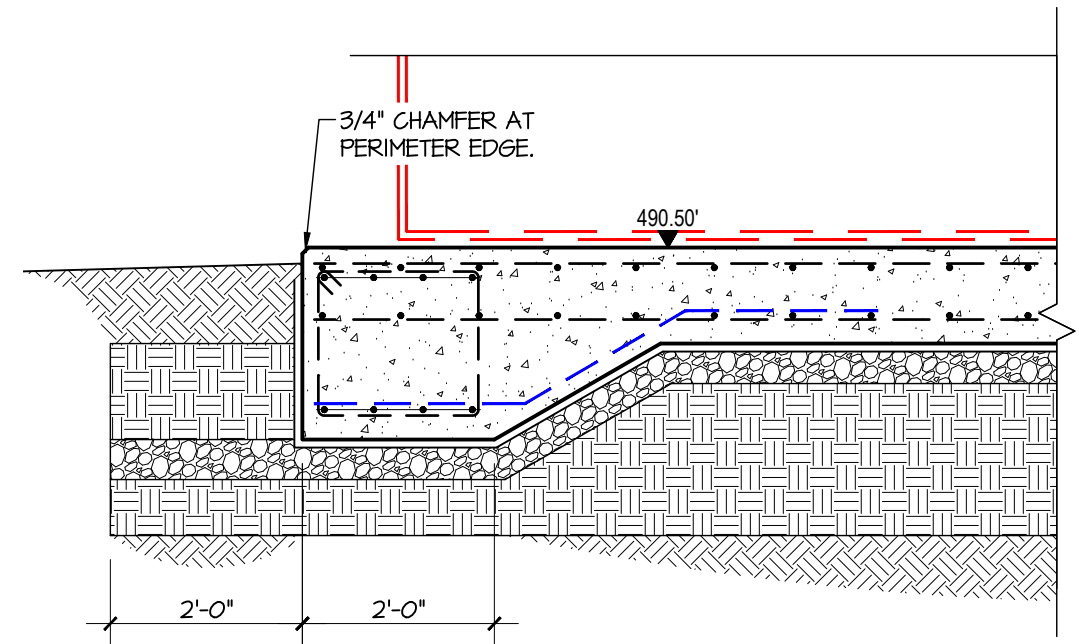
SCALE: 1/4"=1'-0" **DRAWING TO BE READ IN COLOR**

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Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_DS-01.dwg



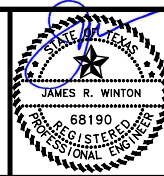
2 SECTION AT CONC. OVERFLOW
SCALE: 3/4" = 1'-0"



1 OVERALL TANK FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

100,000 GALLON GROUND STORAGE TANK
FOUNDATION SECTIONS

SHEET NO. **DS-02**

OF **2**

NO.	DATE	REVISION	BY
1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 10:27am	JARED
2	Jul 20, 2026	Plotted By: JARED	

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KPA Firm Registration Number F-510

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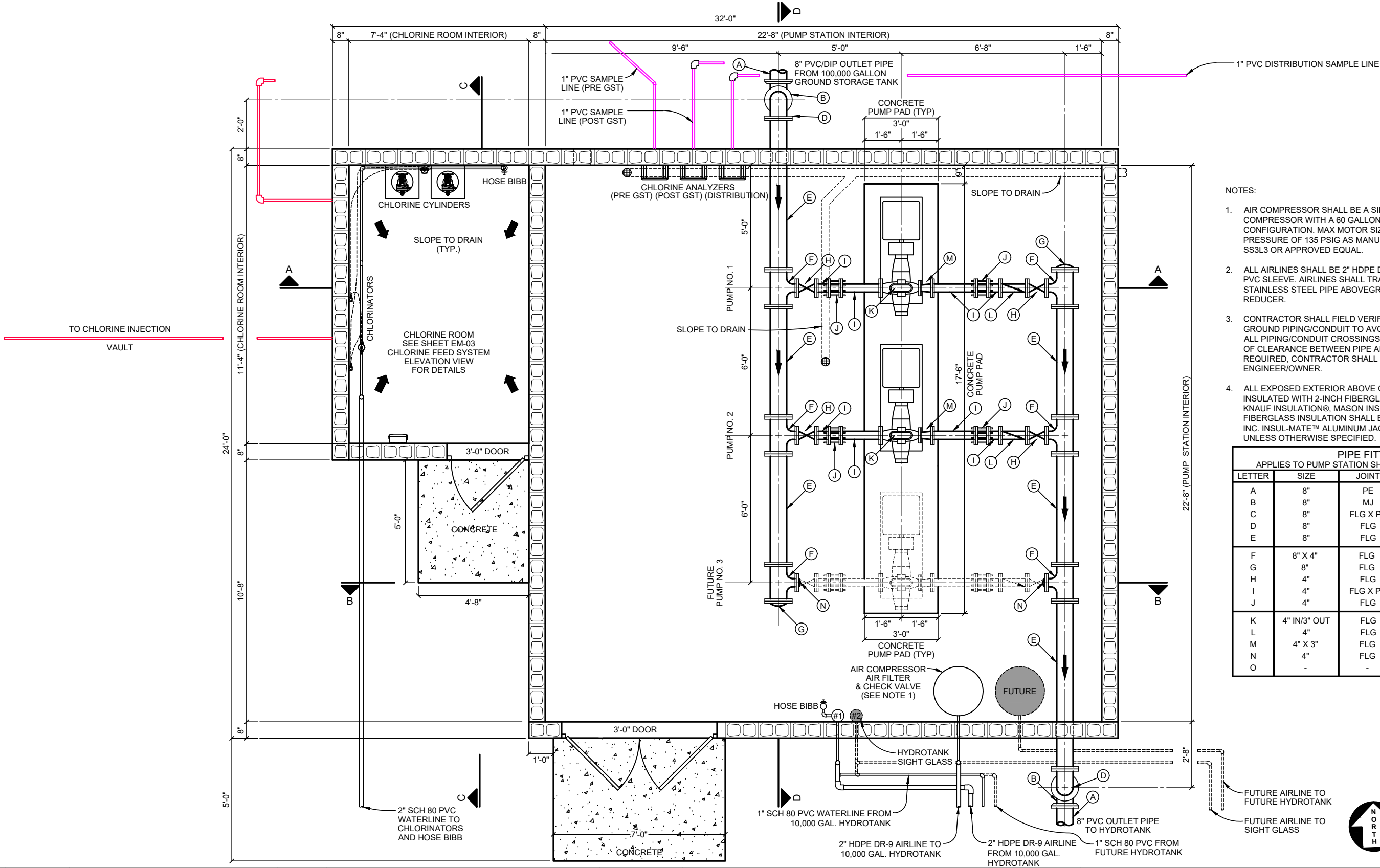
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P:\Levi WSC\2024\24-109 Water Plant Site\CAD\WORKING\MECHANICAL\PUMP STATION.dwg - EM-01

PUMP STATION & CHLORINE ROOM

PLAN

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



NOTES:

- AIR COMPRESSOR SHALL BE A SINGLE STAGE ELECTRIC AIR COMPRESSOR WITH A 60 GALLON ASME VERTICAL TANK CONFIGURATION. MAX MOTOR SIZE OF 5 HP WITH AN OPERATING PRESSURE OF 135 PSIG AS MANUFACTURED BY INGERSOLL RAND SS3L3 OR APPROVED EQUAL.
- ALL AIRLINES SHALL BE 2" HDPE DR-9 BELOW GRADE, ENCASED IN 4" PVC SLEEVE. AIRLINES SHALL TRANSITION TO 1" GALVANIZED STAINLESS STEEL PIPE ABOVEGROUND WITH 2" X 1" GALVANIZED REDUCER.
- CONTRACTOR SHALL FIELD VERIFY ALL CIVIL AND ELECTRICAL BELOW GROUND PIPING/CONDUIT TO AVOID CONFLICTS AT CROSSINGS. AT ALL PIPING/CONDUIT CROSSINGS, THERE SHALL BE A MINIMUM OF 12" OF CLEARANCE BETWEEN PIPE AND CONDUIT. IF REVISIONS ARE REQUIRED, CONTRACTOR SHALL COORDINATE WITH ENGINEER/OWNER.
- ALL EXPOSED EXTERIOR ABOVE GROUND WATER PIPING SHALL BE INSULATED WITH 2-INCH FIBERGLASS INSULATION MANUFACTURED BY KNAUF INSULATION®, MASON INSULATION® OR APPROVED EQUAL. FIBERGLASS INSULATION SHALL BE COVERED WITH RPR PRODUCTS, INC. INSUL-MATE™ ALUMINUM JACKETING OR APPROVED EQUAL UNLESS OTHERWISE SPECIFIED.

PIPE FITTINGS APPLIES TO PUMP STATION SHEETS ONLY (EM-01 - EM-03)			
LETTER	SIZE	JOINT	DESCRIPTION
A	8"	PE	PVC PIPE
B	8"	MJ	90° BEND
C	8"	FLG X PE	DI PIPE
D	8"	FLG	90° BEND
E	8"	FLG	PIPE
F	8" X 4"	FLG	TEE
G	8"	FLG	BLIND FLANGE
H	4"	FLG	GATE VALVE
I	4"	FLG X PE	DI PIPE
J	4"	FLG	FLEXIBLE COUPLING
K	4" IN/3" OUT	FLG	PUMP
L	4"	FLG	CHECK VALVE
M	4" X 3"	FLG	REDUCER
N	4"	FLG	BLIND FLANGE
O	-	-	PIPE SUPPORT

NO.	DATE	REVISION	BY
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Plot Date: Jul 20, 2026 - 5:03pm Plotted By: ZLOPEZ			

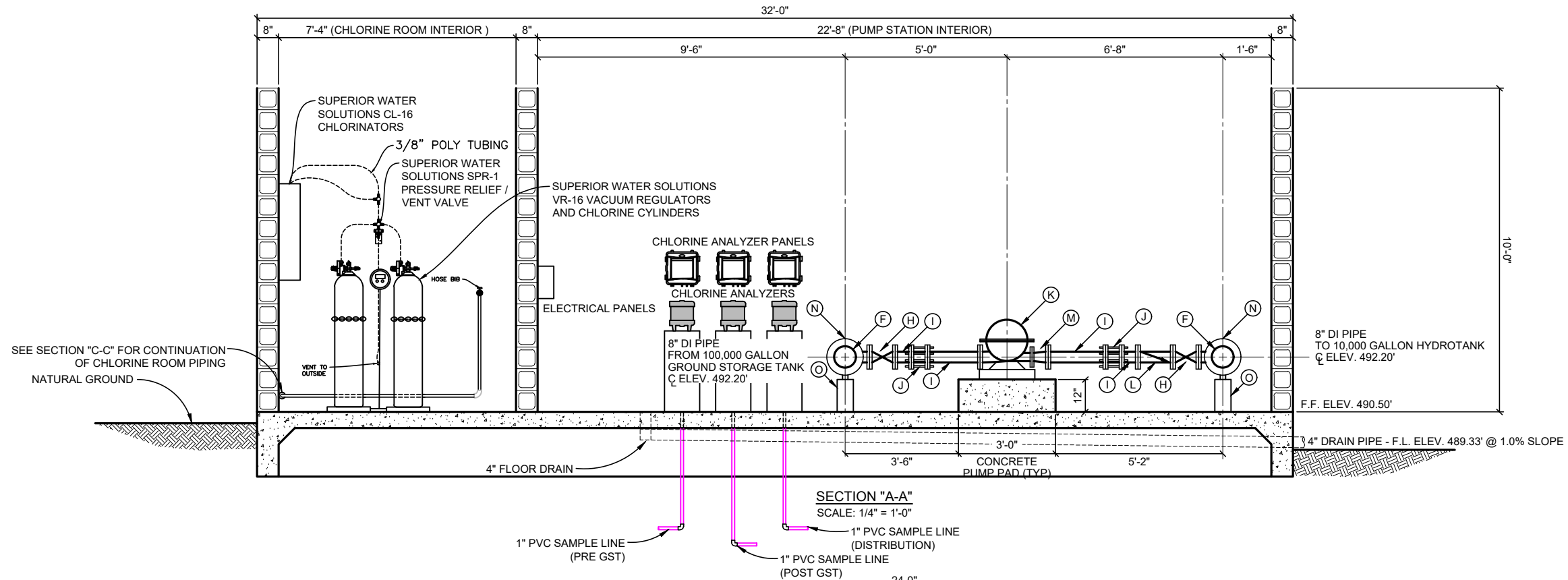
PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



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CONSULTING ENGINEERS
TEMPLE, TEXAS 76601

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. EM-01 OF 3
PUMP STATION & CHLORINE ROOM PLAN	

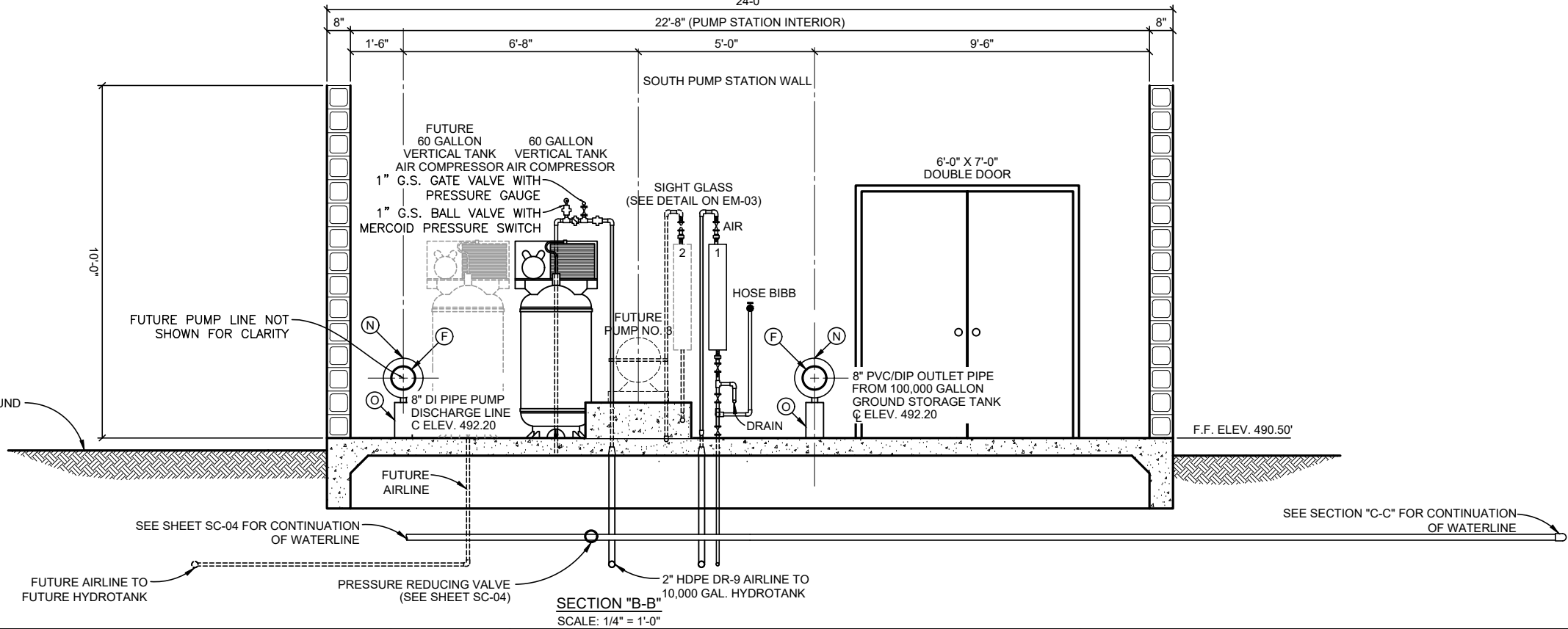
P:\Levi WSC\2024\124-109 Water Plant Site\CAD\WORKING\MECHANICAL\PUMP STATION.dwg - EM-02



PIPE FITTINGS			
APPLIES TO PUMP STATION SHEETS ONLY (EM-01 - EM-03)			
LETTER	SIZE	JOINT	DESCRIPTION
A	8"	PE	PVC PIPE
B	8"	MJ	90° BEND
C	8"	FLG X PE	DI PIPE
D	8"	FLG	90° BEND
E	8"	FLG	PIPE
F	8" X 4"	FLG	TEE
G	8"	FLG	BLIND FLANGE
H	4"	FLG	GATE VALVE
I	4"	FLG X PE	DI PIPE
J	4"	FLG	FLEXIBLE COUPLING
K	4" IN/3" OUT	FLG	PUMP
L	4"	FLG	CHECK VALVE
M	4" X 3"	FLG	REDUCER
N	4"	FLG	BLIND FLANGE
O	-	-	PIPE SUPPORT

NOTES:

- ALL AIRLINES SHALL BE 2" HDPE DR-9 BELOW GRADE, ENCASED IN 4" PVC SLEEVE. AIRLINES SHALL TRANSITION TO 1" GALVANIZED STAINLESS STEEL PIPE ABOVEGROUND WITH 2" X 1" GALVANIZED REDUCER.
- CONTRACTOR TO PROVIDE ADEQUATE UNIONS FOR ASSEMBLY AND DISASSEMBLY.
- PRESSURE GAUGE AND SWITCH TO BE EQUIPPED WITH PRESSURE SNUBBERS AND BALL VALVES.
- LEVEL AND PRESSURE CONTROLS FOR THE 10,000 GAL. HYDROTANK SHALL BE COORDINATED AND SET PER LEVI WSC'S DESIRED OPERATING CONDITIONS. THE AIR COMPRESSOR SHALL NOT RUN WHILE ANY PUMP IS RUNNING.

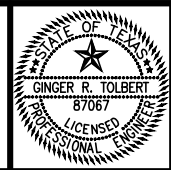


NO.	DATE	REVISION	BY
1	2024-10-24	1	ZLOPEZ

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KPA Firm Registration Number F-510

Plot Date: July 20, 2026 - 5:04pm
Plotted By: ZLOPEZ

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
SECTIONS "A-A" & "B-B"

SHEET NO. **EM-02**
OF **3**

P:\SKE\Project\Share\Projects\2025\3740125 - KPA Levi WSC Falls County WTP\01 Design Phase\ CAD - Current\260716 - Updated Print\WG1_3740125-E22.dwg - E2.2



S. Kanetzky
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Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
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Plot Date: Jul 16, 2026 - 4:32pm		Plotted By: PATRICIA.OROZCO	

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



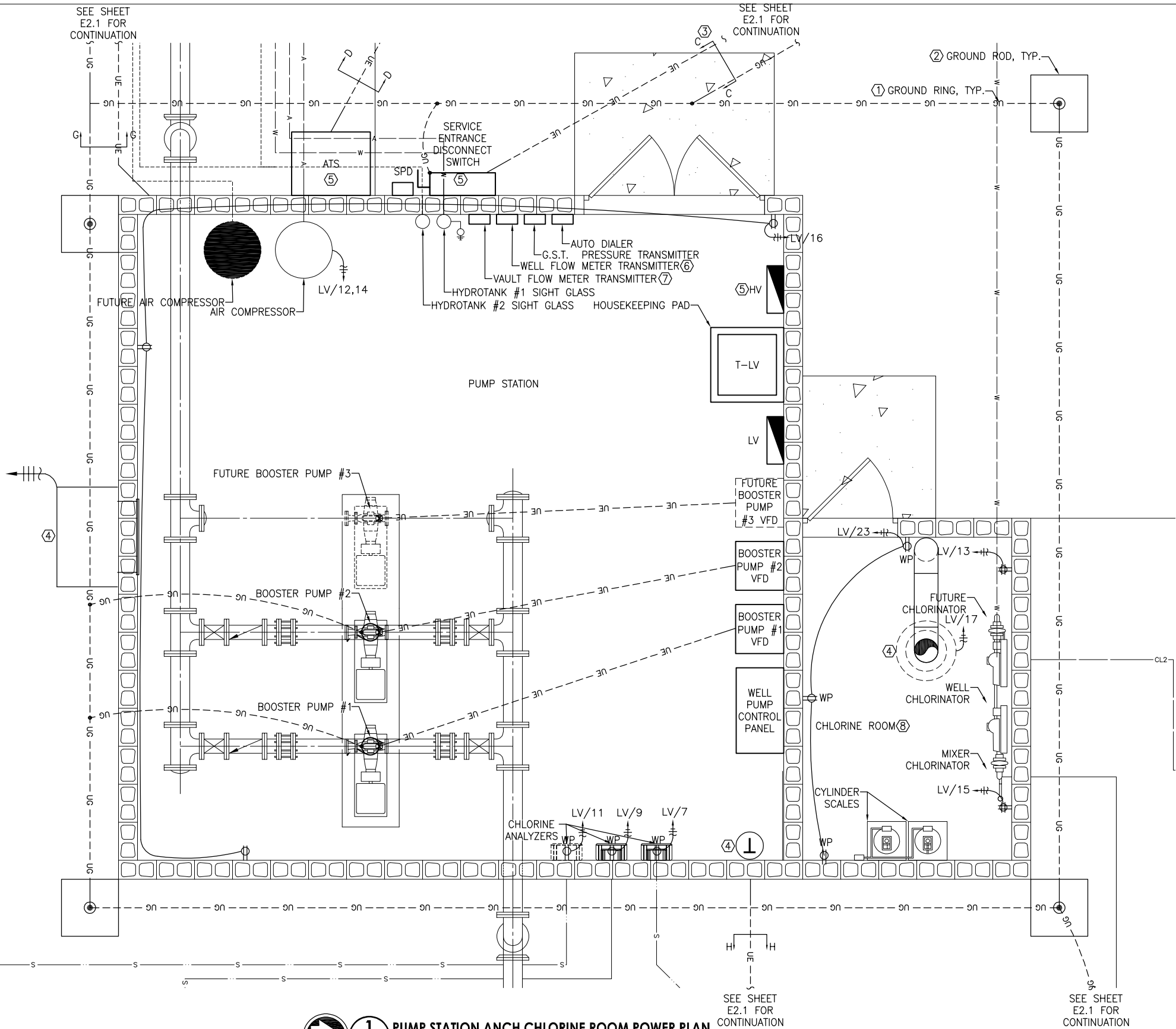
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CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION AND CHLORINE ROOM POWER PLAN

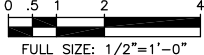
SHEET NO. **EE-01**

OF **2**



REFERENCE NOTES

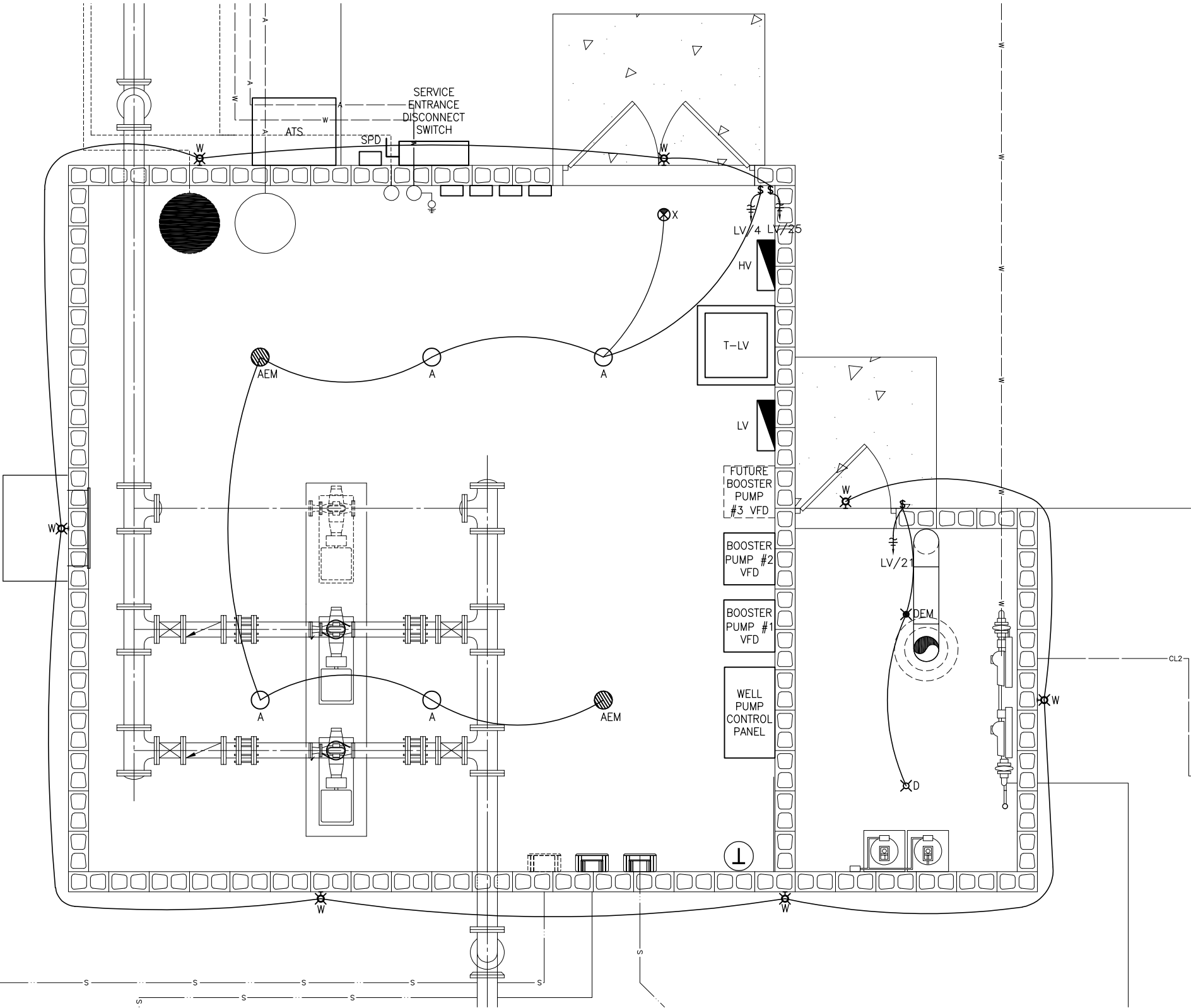
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL #3/0 BARE COPPER GROUNDING RING. BOND MOTOR CASINGS, MAIN CIRCUIT BREAKER, AND BUILDING TO GROUNDING ELECTRODE SYSTEM VIA EXOTHERMIC WELD.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL GROUND RODS. REFER TO DETAIL FOR MORE INFORMATION.
- REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.
- PROVIDE AND INSTALL HVAC UNIT, THERMOSTAT, AND EXHAUST FAN PER MECHANICAL DRAWINGS.
- REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION. TYPICAL.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL WELL FLOW METER TRANSMITTER.
- ALTERNATE BID: ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL VAULT FLOW METER TRANSMITTER.
- ELECTRICAL CONTRACTOR TO USE PVC FOR ALL CONDUIT RUNS IN CHLORINE ROOM.



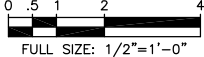
E2.2

REFERENCE NOTES

① REFER TO "LIGHTING FIXTURE SCHEDULE" FOR MORE INFORMATION. TYPICAL.



1 PUMP STATION ANCH CHLORINE ROOM LIGHTING PLAN ①
E2.3 SCALE: 1/2" = 1'-0"



E2.3



S. Kanetzky
Engineering, LLC
14425 Falcon Head Blvd.
Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
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Plot Date: Jul 16, 2026 - 4:34pm Plotted By: PATRICIA.OROZCO			

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



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CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

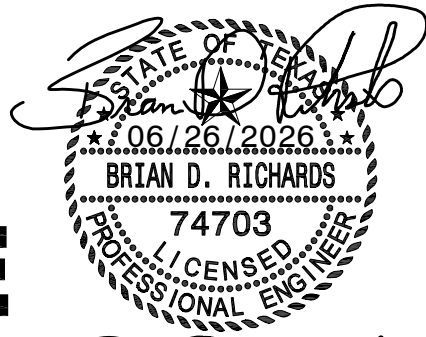
LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
PUMP STATION AND CHLORINE ROOM LIGHTING PLAN

SHEET NO.	EE-02
OF	2

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SKE PROJECT # 3740125



SOLARE
ENGINEERING UNLIMITED, INC.

1300 Summit Avenue, Suite 514 Fort Worth, Texas 76102
Tel 817.529.6800 Fax 817.529.0649 www.solare-eng.com
Texas Registration # F-10963

LOREN COOK - 100 ACRUB, 140 CFM,
1/4 HP, 120 V, 1 PHASE, WITH
STAINLESS STEEL BIRD SCREEN.
9.5" CURB WITH METAL LINER.
PROVIDE EPOXY COATING ON
ALL COMPONENTS IN CONTACT
WITH THE AIR STREAM, INLCUDING
FAN WHEEL AND ROOF CURB.

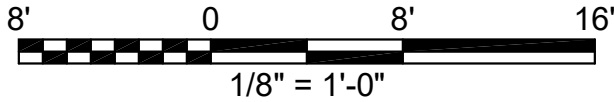
8Ø FIBERGLASS
DUCT WITH FIBER-
GLASS FITTINGS.

ROUTE DUCT
DOWN TO 6"
ABOVE FLOOR.

LOREN COOK 8PR INTAKE HOOD
WITH BIRD SCREEN, ROOF CURB
AND 8" FIBERGLASS DUCT EXTENDED
TO 4" BELOW CEILING.

BARD WALL MOUNT
W5SAF-C00XPXXXX
PROVIDE BARD SUPPLY
AND RETURN GRILLES
AND MATCHING WALL
SLEEVES.
MOUNT AS HIGH AS
POSSIBLE.
480 VOLT, 3 PHASE
MCA - 13 AMPS
FLA - 8.2 AMPS
MOCP - 15 AMPS

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



NO.	DATE	REVISION	BY
©2026 Kasberg, Patrick & Associates, LP		Plot Date: Jun 26, 2026 - 12:27pm	
KPA Firm Registration Number F-510		Plotted By: B. RICHARDS	

PROJECT NO.	3740125
DRAWN BY	BDR
DESIGNED BY	BDR
APPROVED BY	WTP
DATE	06/26/26



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
MECHANICAL PLAN

SHEET NO. EE-03
OF 3

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

APPLICABLE CODES				
JURISDICTION	CITY	COUNTY		STATE
CODE ENFORCEMENT	CITY OF LEVI	FALLS		TEXAS
ZONING				TEXAS
CODE	TITLE	EDITION	AMENDMENTS	EDITION
BUILDING	INTERNATIONAL BUILDING CODE	2018		
ENERGY	INTERNATIONAL ENERGY CONSERVATION CODE	2018		
FIRE	INTERNATIONAL FIRE CODE, INCLUDING APPENDICES B, C, D, E, F, G AND I	2018		
FUEL GAS	INTERNATIONAL FUEL GAS CODE, INCLUDING APPENDICES A, B, C, AND D	2018		
MECHANICAL	INTERNATIONAL MECHANICAL CODE, INCLUDING APPENDIX A	2018		
PLUMBING	INTERNATIONAL PLUMBING CODE, INCLUDING APPENDICES D AND E	2018		
ELECTRICAL	NATIONAL ELECTRICAL CODE	2023		
HEALTH				
ACCESSIBILITY	TEXAS ACCESSIBILITY STANDARDS (TAS)	2012		

BUILDING ADDRESS / LEGAL DESCRIPTION	
BUILDING ADDRESS:	LEGAL DESCRIPTION:
COUNTY ROAD 431 LORENA, TEXAS	2.0 ACRES A0081 ZARZA PEDRO FALLS COUNTY, TEXAS

USE AND OCCUPANCY						
OCCUPANCY ⁽¹⁾	USE GROUP ⁽²⁾	TYPE OF CONSTRUCTION ⁽³⁾	FIRE SPRINKLER ⁽⁴⁾	MANUAL FIRE ALARM ⁽⁵⁾	MIXED-USE ⁽⁶⁾	AREA (SF)
EQUIPMENT BUILDING	U	V-B	NOT REQ'D. (903.2.4)	NOT REQ'D. (907.2.4)	N	608
TOTAL OCCUPIED/OCCUPIABLE AREA ⁽⁷⁾						608
1. PER 2018 IBC TABLE 1004.5 2. PER IBC 2018 CHAPTER 3 3. PER 2018 IBC CHAPTER 6 4. PER 2018 IBC CHAPTER 9, SECTION 903.2 5. PER 2018 IBC CHAPTER 9, SECTION 907.2 6. PER 2018 IBC SECTION 508.3, NON-SEPARATED OCCUPANCIES 7. PER 2018 IBC, SECTION 202: DEFINITION OF AREA, BUILDING - AREA INCLUDED WITHIN SURROUNDING EXTERIOR WALLS AND/OR FIREWALLS						

GENERAL BUILDING SUMMARY			
BUILDING HEIGHT LIMITATIONS		HEIGHT	BUILDING AREA LIMITATIONS
ALLOWABLE BUILDING HEIGHT (FT) (IBC TABLE 504.3) ⁽¹⁾		40	ALLOWABLE AREA FACTOR (IBC TABLE 506.2) ⁽¹⁾
ALLOWABLE NUMBER OF STORIES (IBC TABLE 504.4) ⁽¹⁾		1	MODIFIED ALLOWABLE AREA ⁽²⁾
ACTUAL HEIGHT (FEET)		13'-4"	ACTUAL AREA ⁽³⁾
ACTUAL HEIGHT (NUMBER OF STORIES)		1	ACTUAL BUILDING FOOTPRINT
1. BASED ON GROUP U (UTILITY) OCCUPANCY AND TYPE V-B CONSTRUCTION 2. MODIFICATION NOT NECESSARY - ACTUAL AREA IS LESS THAN ALLOWABLE 3. AREA INCLUDED WITHIN SURROUNDING EXTERIOR WALLS (PER IBC SECTION 202 DEFINITION OF AREA, BUILDING).			

INTERIOR FINISHES (TABLE 803.11)						
OCCUPANCY GROUP	SPRINKLERED			NON-SPRINKLERED		
	EXIT ENCLOSURES & EXIT PASSAGEWAYS	CORRIDORS	ROOMS AND ENCLOSED SPACES	EXIT ENCLOSURES & EXIT PASSAGEWAYS	CORRIDORS	ROOMS AND ENCLOSED SPACES °
U	NO RESTRICTIONS			NO RESTRICTIONS		
• SUSPENDED ACOUSTICAL CEILINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C635 AND ASTM C626 (IBC 2018 - 808.1.1.1) • INTERIOR FLOOR FINISHES SHALL COMPLY WITH DOC FF-1 "PILL TEST" (CP5C 16 CFR PART 1630) (IBC 2018 - 804.4.1) • INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E84 OR UL 723 AND GROUPED IN THE FOLLOWING CLASSES ACCORDING TO THEIR FLAME SPREAD AND SMOKE-DEVELOPED INDEXES (IBC 2018 - 803.1.2)						
	<u>CLASS</u>	<u>FLAME SPREAD</u>	<u>SMOKE-DEVELOPED</u>			
	CLASS A:	0 - 25	0 - 450			
	CLASS B:	26 - 75	0 - 450			
	CLASS C:	76 - 200	0 - 450			
• GENERAL CONTRACTOR SHALL SUBMIT DOCUMENTATION OF FINAL INTERIOR FINISH SELECTIONS TO BUILDING OFFICIAL PRIOR TO INSTALLATION.						

OCCUPANT LOAD (T1004.5)					
FUNCTION OF SPACE	AREA (SF)	FACTOR (SFPP) ⁽¹⁾	NET/ GROSS	LOAD (OCCUPANTS)	REMARKS
CHLORINE ROOM	84	300	GROSS	1	
PUMP ROOM	517	300	GROSS	2	
TOTAL OCCUPANT LOAD				3	



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				PROJECT NO. 2024-109			KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. ES-01
NO.	DATE	REVISION	BY	DRAWN BY Cathy Kraemer					
© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510				DESIGNED BY Jim Winton, P.E.					
Plot Date: Jul 20, 2026 - 12:09pm Plotted By: JARED				APPROVED BY Jim Winton, P.E.				PUMP STATION & CHLORINE ROOM CODE INFORMATION	OF 32

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

MEANS OF EGRESS (CHAPTER 10)			
AREA DESIGNATION	CHLORINE	PUMP RM.	REMARKS
OCCUPANT LOAD:			IBC T1004.5
MAIN	1	2	
TOTAL OCCUPANT LOAD:	1	2	
EXIT CAPACITY ⁽¹⁾	170	340	
MINIMUM EXITS ⁽²⁾			
NUMBER (REQUIRED/PROVIDED)	1	1	IBC T1006.3.2
PANIC HARDWARE REQUIRED (Y/N) ⁽⁴⁾	N	N	
EXIT ACCESS REQUIREMENTS			
MAXIMUM LENGTH OF EXIT ACCESS TRAVEL (FEET) REQ'D.	300	300	IBC T1017.2
MAXIMUM COMMON PATH OF EGRESS TRAVEL (FEET) REQ'D.	100	100	IBC T1006.2.1
1. BASED ON: IBC 2018. 1005.3.2 OTHER EGRESS COMPONENTS = 0.2 INCHES/OCCUPANT			
2. BASED ON 2018 IBC TABLE 1006.3.2			
3. PER 2018 IBC SECTION 1007.1.1, EXCEPTION 2			
4. PER 2018 IBC 1010.1.10			

OCCUPANT LOAD LEGEND

EQUIPMENT BUILDING (U) OCCUPANCY
(300 S.F. PER PERSON - GROSS)

DIRECTION OF EGRESS

INCHES OF EGRESS WIDTH

EGRESS CAPACITY

XX

XXX

X-X

XXX S.F.

XX

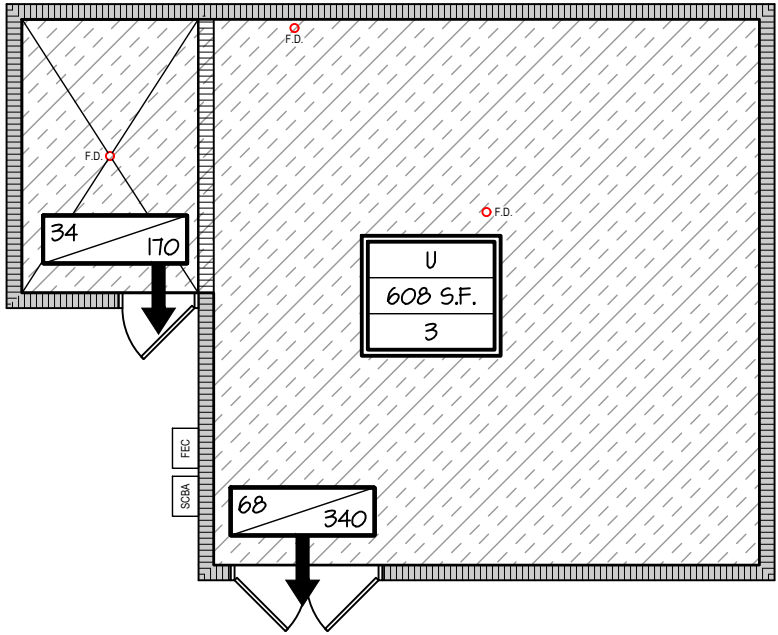
OCCUPANCY GROUP

AREA (SQUARE FT.)

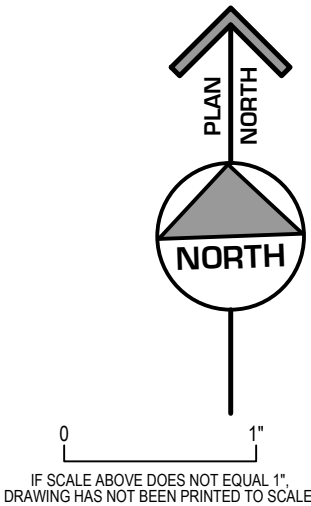
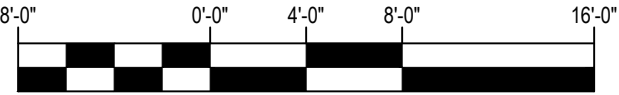
OCCUPANT LOAD (PERSONS)

NOTES:

- GROSS FLOOR AREA INCLUDES FLOOR INSIDE PERIMETER OF EXTERIOR WALLS WITHOUT DEDUCTION FOR CORRIDORS, STAIRWAYS, RAMPS, CLOSETS, AND THICKNESS OF INTERIOR WALLS/ COLUMNS. (2018 IBC - SECTION 202)
- NET FLOOR AREA INCLUDES ACTUAL AREA OCCUPIED, NOT INCLUDING UNOCCUPIED ACCESSORY AREAS SUCH AS CORRIDORS, STAIRWAYS, RAMPS, TOILET ROOMS, MECHANICAL ROOMS, AND CLOSETS. (2018 IBC - SECTION 202)
- OCCUPANT LOADS PER 2018 IBC - SECTION 1004.
- EGRESS CAPACITY BASED ON 0.20 INCHES/OCCUPANT OR 0.30 INCHES/OCCUPANT (STAIRWAYS) PER 2018 IBC - 1005.3.



1 LIFE SAFETY PLAN
SCALE: 1/8" = 1'-0"



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SCALE: 1/8"=1'-0" DRAWING TO BE READ IN **COLOR**



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TEMPLE, TEXAS 76601

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
LIFE SAFETY PLAN

SHEET NO. **ES-02**

OF **32**

NO.	DATE	REVISION	BY
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KPA Firm Registration Number F-510			
Plot Date: Jul 20, 2026 - 12:09pm			
Plotted By: JARED			

PROJECT NO.	2024-109
DRAWN BY	Cathy Kraemer
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite4\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg



COMcheck Software Version 4.1.5.5
Envelope Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: Levi Water Supply Corp. - Falls County Plant Site
Location: Lorena, Texas
Climate Zone: 2a
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
High Performance HVAC, 1.0 credit

Building Area	Floor Area
1-Workshop : Nonresidential	608

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor ^(a)
Floor 1: Slab-On-Grade:Unheated, [Bldg. Use 1 - Workshop] (b)	112	---	---	0.730	0.730
Roof 1: Attic Roof with Wood Joists, [Bldg. Use 1 - Workshop] : Comment: Roof slope = 2:12	701	19.0	0.0	0.053	0.027
NORTH					
Exterior Wall 1A: Concrete Block:8", Partially Grouted, Cells Insulated, Normal Density, Furring: None (c), [Bldg. Use 1 - Workshop]	320	---	0.0	0.151	0.151
Exterior Wall 1B: Wood-Framed, 16" o.c., [Bldg. Use 1 - Workshop]	41	13.0	0.0	0.089	0.064
EAST					
Exterior Wall 2A: Concrete Block:8", Partially Grouted, Cells Insulated, Normal Density, Furring: None (c), [Bldg. Use 1 - Workshop]	240	---	0.0	0.151	0.151
Exterior Wall 2B: Wood-Framed, 16" o.c., [Bldg. Use 1 - Workshop]	12	19.0	0.0	0.067	0.064
SOUTH					
Exterior Wall 3A: Concrete Block:8", Partially Grouted, Cells Insulated, Normal Density, Furring: None (c), [Bldg. Use 1 - Workshop]	240	---	0.0	0.151	0.151
Door 102: Insulated Metal, Swinging, [Bldg. Use 1 - Workshop] : Comment:	53	---	---	0.160	0.610
Exterior Wall 3B: Wood-Framed, 16" o.c., [Bldg. Use 1 - Workshop]	35	13.0	0.0	0.089	0.064
Exterior Wall 4B: Wood-Framed, 16" o.c., [Bldg. Use 1 - Workshop]	20	13.0	0.0	0.089	0.064
Exterior Wall 5A: Concrete Block:8", Partially Grouted, Cells Insulated, Normal Density, Furring: None (c), [Bldg. Use 1 - Workshop]	80	---	0.0	0.151	0.151
Door 101: Insulated Metal, Swinging, [Bldg. Use 1 - Workshop] : Comment:	24	---	---	0.160	0.610
Exterior Wall 5B: Wood-Framed, 16" o.c., [Bldg. Use 1 - Workshop]	5	13.0	0.0	0.089	0.064
Exterior Wall 6B: Wood-Framed, 16" o.c., [Bldg. Use 1 - Workshop]	6	19.0	0.0	0.067	0.064
WEST					
Exterior Wall 4A: Concrete Block:8", Partially Grouted, Cells Insulated,	113	---	0.0	0.151	0.151

Project Title: Levi Water Supply Corp. - Falls County Plant Site
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Report date: 06/25/26
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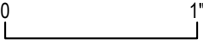
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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
COMcheck

SHEET NO. **ES-03**

OF **32**



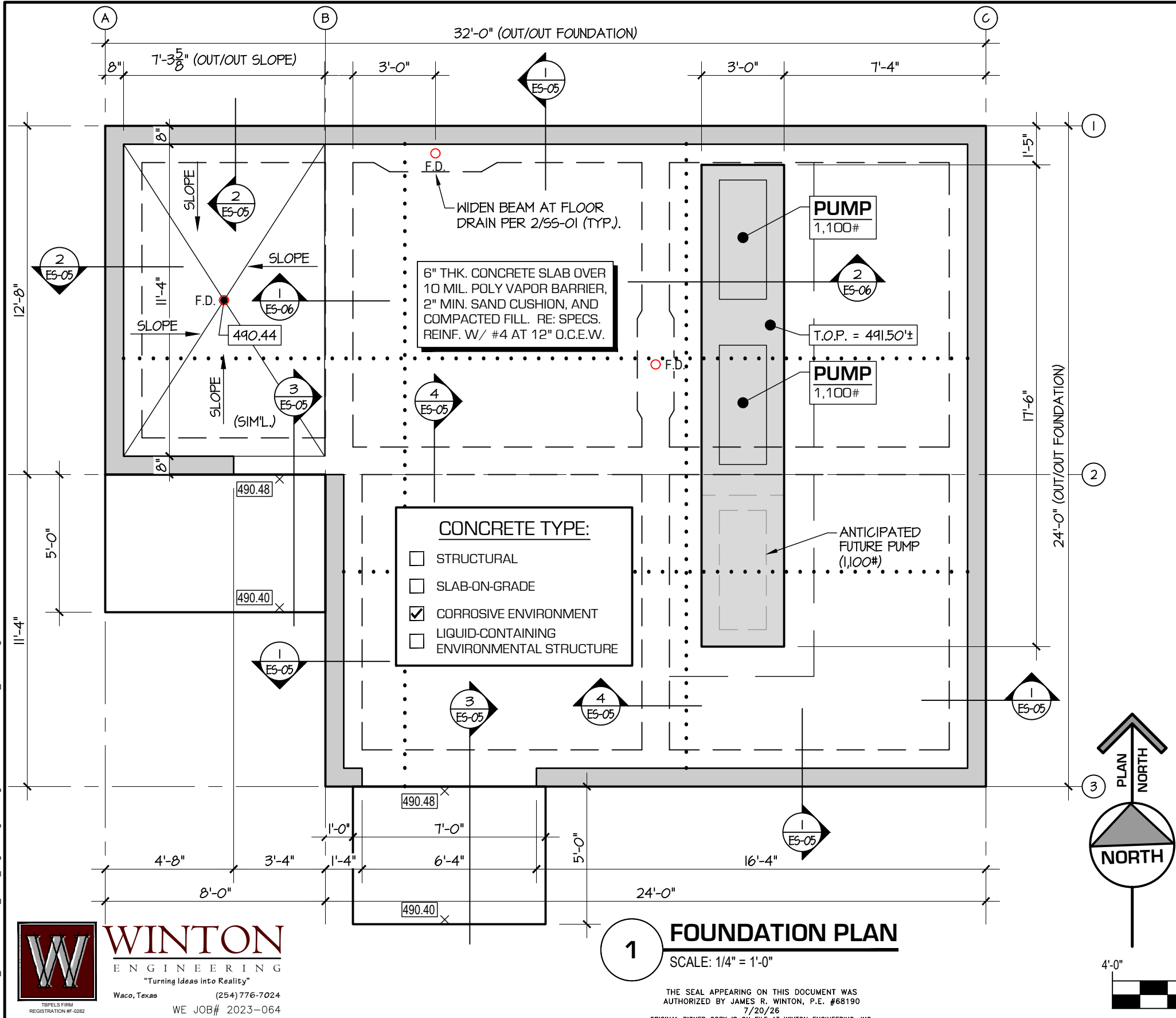
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Plot Date: Jul 20, 2026 - 12:09pm		Plotted By: JARED	

PROJECT NO.	2024-109
DRAWN BY	Cathy Kraemer
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

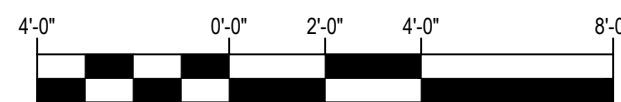


TYPICAL CONCRETE PLAN NOTES

- REFER TO SHEETS **AS-01 - AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
- TOP OF CONCRETE FOR PUMP STATION & CHLORINE ROOM = 490.50' (ACTUAL - VERIFY W/ CIVIL).**
- THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
- VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL DOORS, BLOCK-OUTS, DEPRESSIONS, EMBEDS, FLOOR DRAINS, ELECTRICAL BOXES, AND SIMILAR ITEMS WITH ARCHITECTURAL AND MEP PLANS PRIOR TO FORMING CONCRETE. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
- CONTRACTOR SHALL COORDINATE WITH FINAL ELECTRICAL/PLUMBING PLANS, AND WITH ELECTRICAL AND PLUMBING SUBCONTRACTORS, REGARDING ALL WORK REQUIRED WITHIN FOUNDATION, INCLUDING AT A MINIMUM, GROUND WIRE CONNECTIONS, PIPE / CONDUIT PENETRATIONS, PIPE SLEEVES, ETC. **IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE AND COORDINATE ALL INSPECTIONS REQUIRED BY THE SPECIFICATIONS, AND BY AUTHORITIES HAVING JURISDICTION, PRIOR TO PLACING CONCRETE.**
- ALL PIPING AND CONDUIT SHALL BE UNDER FULL DEPTH OF SLAB AND SHALL NOT BE LAID ON TOP OF SUBGRADE OR POLY, OR RUN Laterally WITHIN BEAMS.**
- ALL HORIZONTAL BEAM PENETRATIONS SHALL BE MADE IN THE CENTER 1/3 OF BEAM DEPTH. ENLARGE BEAM PER DETAIL **2/SS-01** WHERE REQUIRED.
- PLACE ALL REINFORCING STEEL WITH PROPER CLEARANCES, LAPS, AND TIE/STIRRUP SPACINGS. REFER TO DETAILS.
- PROVIDE BAR CHAIRS, SUPPORTS, STANDEES AND SPACERS AT 4'-0" ON CENTER MAXIMUM FOR ALL LAYERS OF STEEL IN SLABS AND FOOTINGS, AND AS REQUIRED TO MAINTAIN CLEARANCES AT BEAMS.
- NOTIFY PRIME ENGINEER, STRUCTURAL ENGINEER, AND CONSTRUCTION MATERIALS TESTING COMPANY A MINIMUM OF (2) BUSINESS DAYS PRIOR TO PLACING CONCRETE. INDICATE APPROXIMATE TIME OF POUR, AS WELL AS WHEN STEEL REINFORCING WILL BE COMPLETED FOR OBSERVATION.**
- FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

TYPICAL CONCRETE PLAN LEGEND

.....	SAW CUT	U.N.O.	= UNLESS NOTED OTHERWISE
---	GRADE BEAM	CJ	= CONTROL / CONSTRUCTION JOINT
	SECTION MARK	F.D.	= FLOOR DRAIN (RE: PLUMBING)
	DETAIL NUMBER	T.O.C.	= TOP OF CONCRETE
	SHEET NUMBER	T.O.P.	= TOP OF PEDESTAL
	SLOPE	O.C.	= ON CENTER
		O.C.E.W.	= ON CENTER EACH WAY



0 1"
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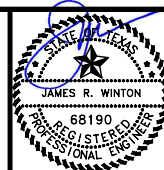
SCALE: 1/4"=1'-0" **DRAWING TO BE READ IN COLOR**



1 FOUNDATION PLAN

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

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

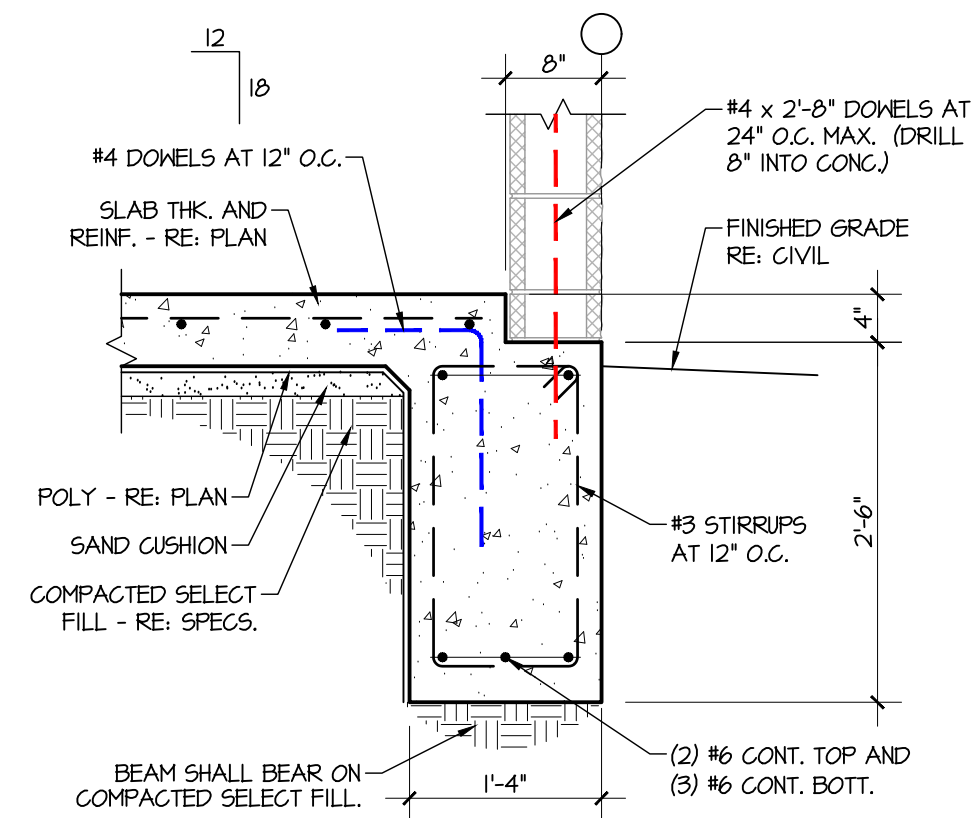
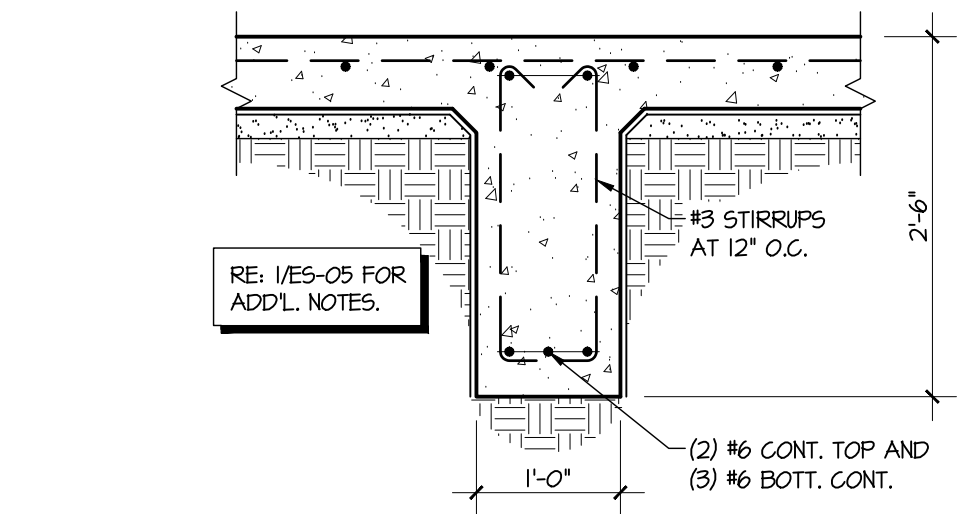
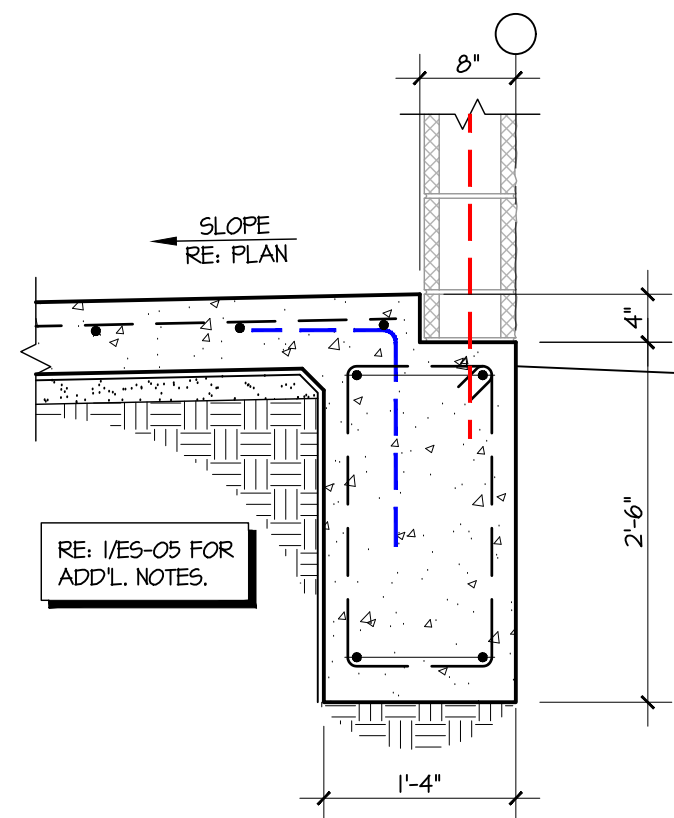
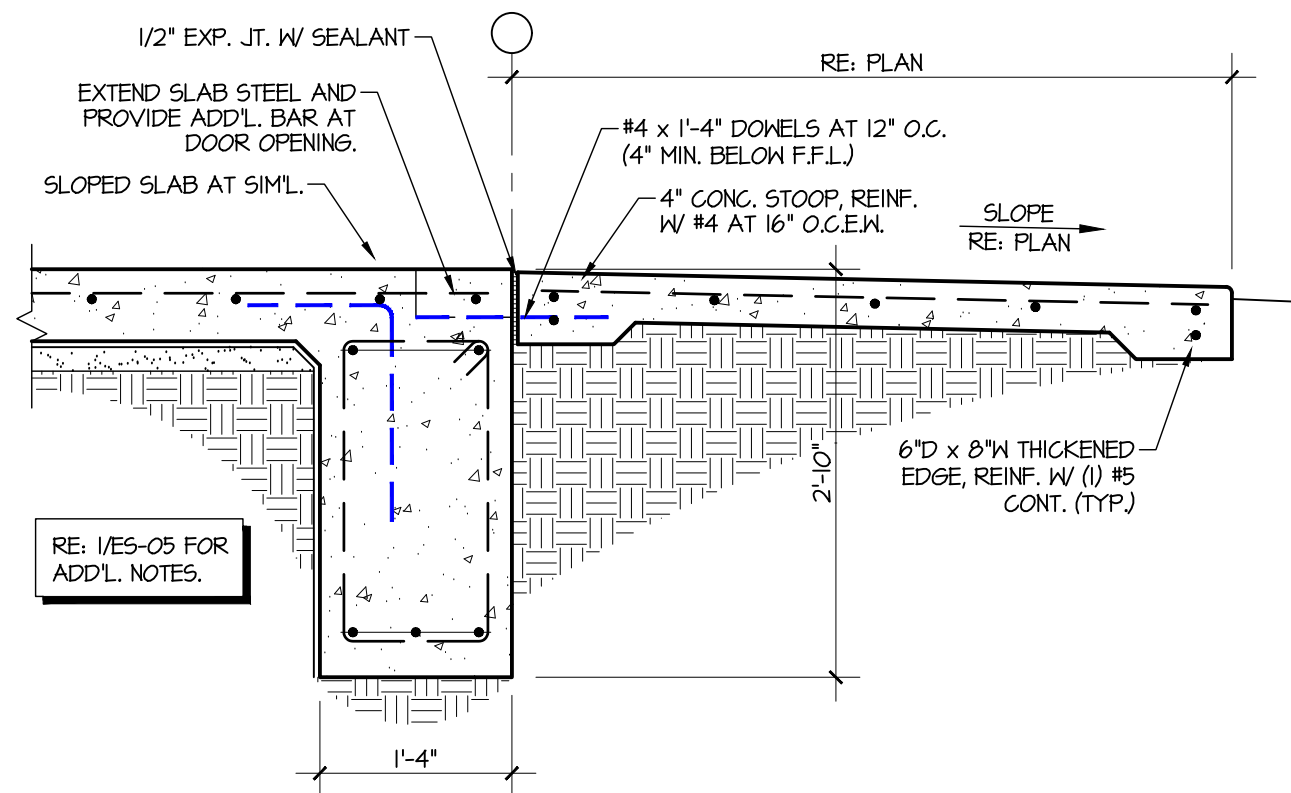
PUMP STATION & CHLORINE ROOM
FOUNDATION PLAN

SHEET NO. **ES-04**

OF **32**

NO.	DATE	REVISION	BY
1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 12:09pm	JARED
2	Jul 20, 2026	Plotted By: JARED	

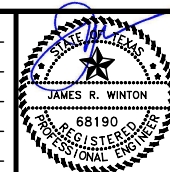
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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



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TEMPLE, TEXAS 76501

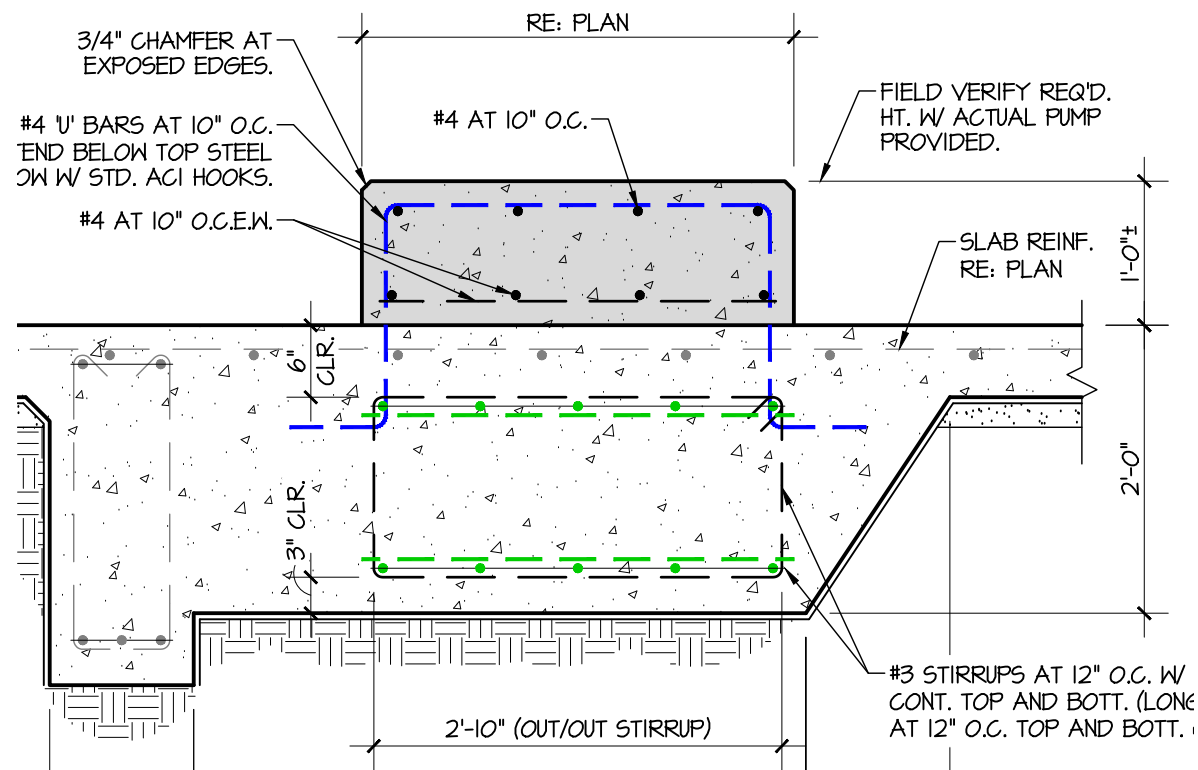
LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

**PUMP STATION & CHLORINE ROOM
FOUNDATION SECTIONS**

SHEET NO. **ES-05**
OF **32**

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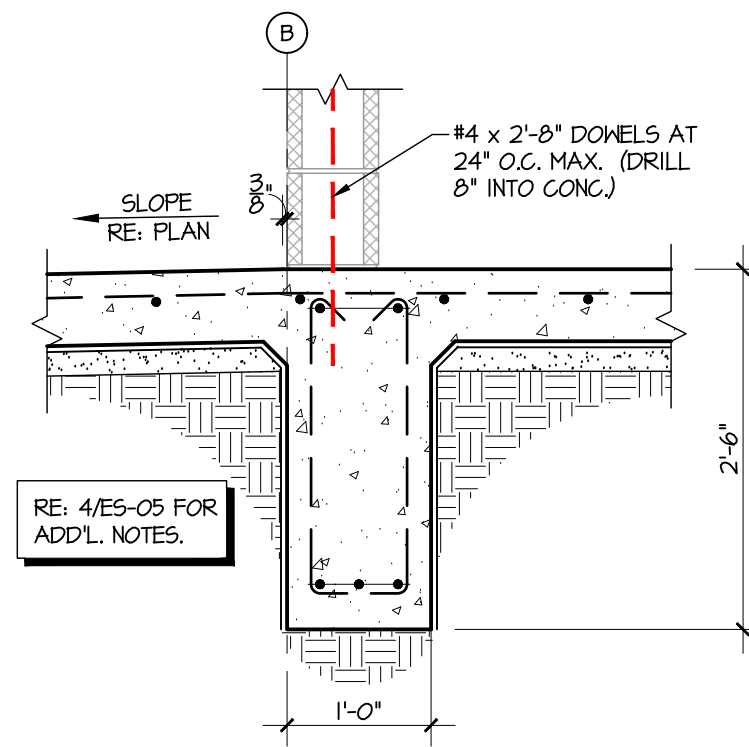
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2

TYP. PUMP PEDESTAL SECTION

SCALE: 3/4" = 1'-0"



1

INTERIOR BEAM AT CMU

SCALE: 3/4" = 1'-0"

0 1"

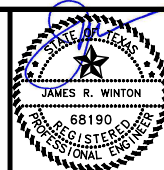
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WE JOB# 2023-064

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PUMP STATION & CHLORINE ROOM
FOUNDATION SECTIONS

SHEET NO. **ES-06**

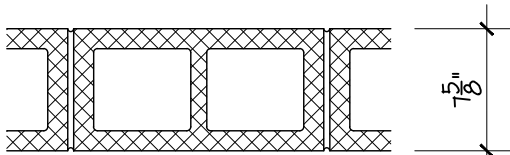
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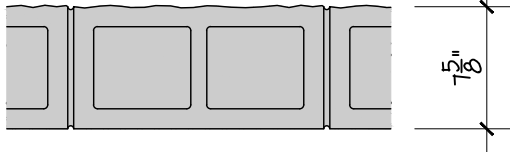
PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
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DATE	July 20, 2026

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A INTERIOR WALL: 8" (NOMINAL)
SMOOTH FACE CMU



B EXTERIOR WALL: 8" (NOMINAL)
SPLIT FACE / SMOOTH CMU W/
FOAMED-IN-PLACE INSULATION



1

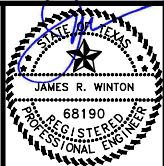
WALL PARTITION TYPES

SCALE: NOT TO SCALE



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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
FLOOR / WALL REINFORCING PLAN NOTES

SHEET NO. **ES-07**

OF **32**

SYMBOLS LEGEND

ROOM
100

ROOM IDENTIFICATION

100

DOOR NUMBER - SEE SHEET **ES-13**

A

WALL PARTITION TYPE - SEE SHEET **ES-07** & **ES-08**

X

AX.XX

INTERIOR / EXTERIOR ELEVATION

ABBREVIATIONS

U.N.O. =	UNLESS NOTED OTHERWISE	FEC =	FIRE EXTINGUISHER CABINET
CJ =	CONTROL JOINT	FE =	FIRE EXTINGUISHER W/ BRACKET
FD =	FLOOR DRAIN RE: PLUMBING		

TYPICAL PLAN LEGEND



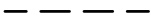
CMU WALL



STEEL BEAM



MASONRY LINTEL



STEEL LINTEL



DETAIL NUMBER



SECTION MARK



SHEET NUMBER

U.N.O. = UNLESS NOTED OTHERWISE

T.O.B. = TOP OF BEAM

B.O.B. = BOTTOM OF BEAM

T.O.M. = TOP OF MASONRY

T.O.W. = TOP OF WALL

LLV = LONG LEG VERTICAL

LLH = LONG LEG HORIZONTAL

LSV = LONG SIDE VERTICAL

LSH = LONG SIDE HORIZONTAL

GENERAL NOTES

- THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
- CONTRACTOR SHALL ENSURE THAT THE BUILDING THERMAL ENVELOPE IS SEALED AND AIR BARRIER IS PROPERLY INSTALLED IN A CONTINUOUS MANNER TO RESTRICT OR PREVENT THE PASSAGE OF AIR BETWEEN CONDITIONED AND UNCONDITIONED SPACES.
- ALL DIMENSIONS AT NEW WALLS ARE TO FACE OF MASONRY, UNLESS NOTED OTHERWISE.
- ALL CONSTRUCTION TO BE IN COMPLIANCE WITH THE LATEST EDITION OF THE TEXAS DEPARTMENT OF LICENSING AND REGULATION - ARCHITECTURAL BARRIERS. ANY CONDITION CONTRARY TO THESE STANDARDS SHALL BE BROUGHT TO ATTENTION OF THE STRUCTURAL ENGINEER IMMEDIATELY.
- ALL MEANS OF EGRESS SHALL BE ILLUMINATED TO A MINIMUM OF 1 FT. CANDLE WITH BATTERY BACKUP PER 2018 IBC SECTION 1008.
- PROVIDE ILLUMINATED EXIT SIGNS WITH BATTERY BACKUP PER 2018 IBC SECTION 1013.

TYP. CMU REINFORCING PLAN NOTES

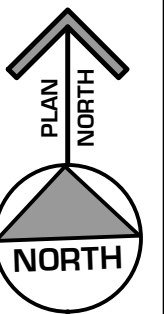
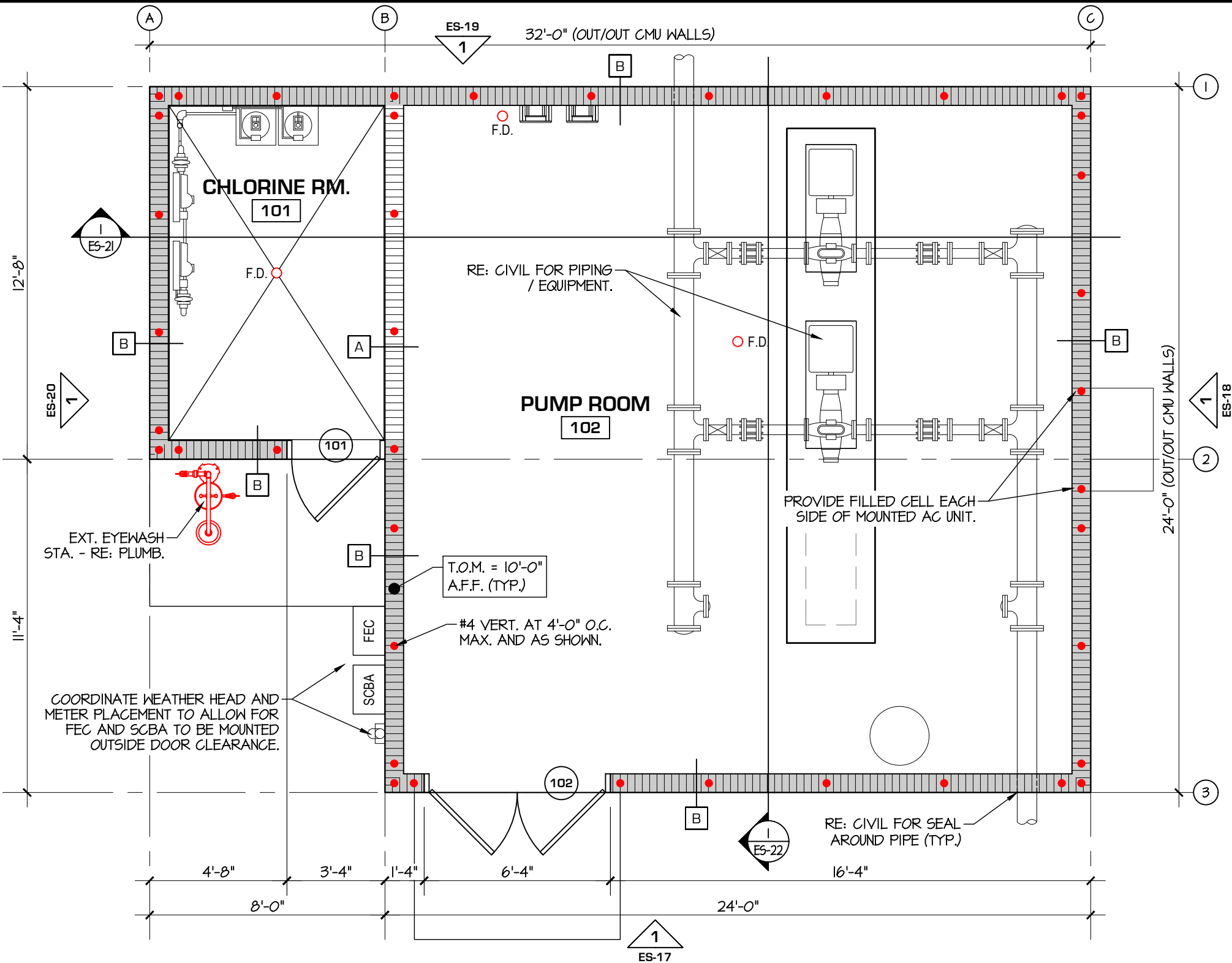
- REFER TO SHEETS **AS-01** - **AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
- TOP OF CONCRETE FOR PUMP STATION & CHLORINE ROOM = 489.25' (ACTUAL - VERIFY W/ CIVIL).**
- THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
- VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL DOORS AND OTHER MISCELLANEOUS OPENINGS WITH ALL PLANS PRIOR TO INSTALLING DRILLED SLAB DOWELS OR PLACING CMU. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
- PROVIDE 8" MINIMUM BEARING UNDER EACH END OF LINTELS, UNLESS NOTED OTHERWISE.
- PROVIDE FULL HEIGHT VERTICAL BAR EACH SIDE OF EVERY OPENING IN FILLED CELL - BAR SHALL RUN CONTINUOUSLY THROUGH LINTEL / BOND BEAM ABOVE OPENING. BAR SIZE SHALL MATCH VERTICAL BARS IN ADJACENT WALL - RE: PLAN.
- PLACE ALL REINFORCING STEEL CENTERED WITHIN CMU CELLS. REFER TO TYPICAL DETAILS FOR MINIMUM VERTICAL BAR LAPS.
- FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

0 1"

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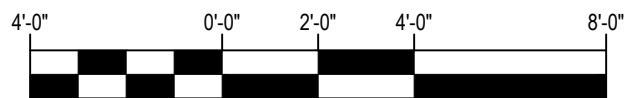
WE JOB# 2023-064

RE: ES-07 FOR PLAN
NOTES AND LEGENDS.

1

FLOOR / WALL REINFORCING PLAN

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

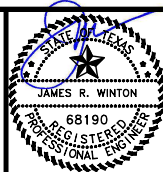


SCALE: 1/4"=1'-0"

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
FLOOR / WALL REINFORCING PLAN

SHEET NO. **ES-08**

OF **32**

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2		Plotted By: JARED	

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DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

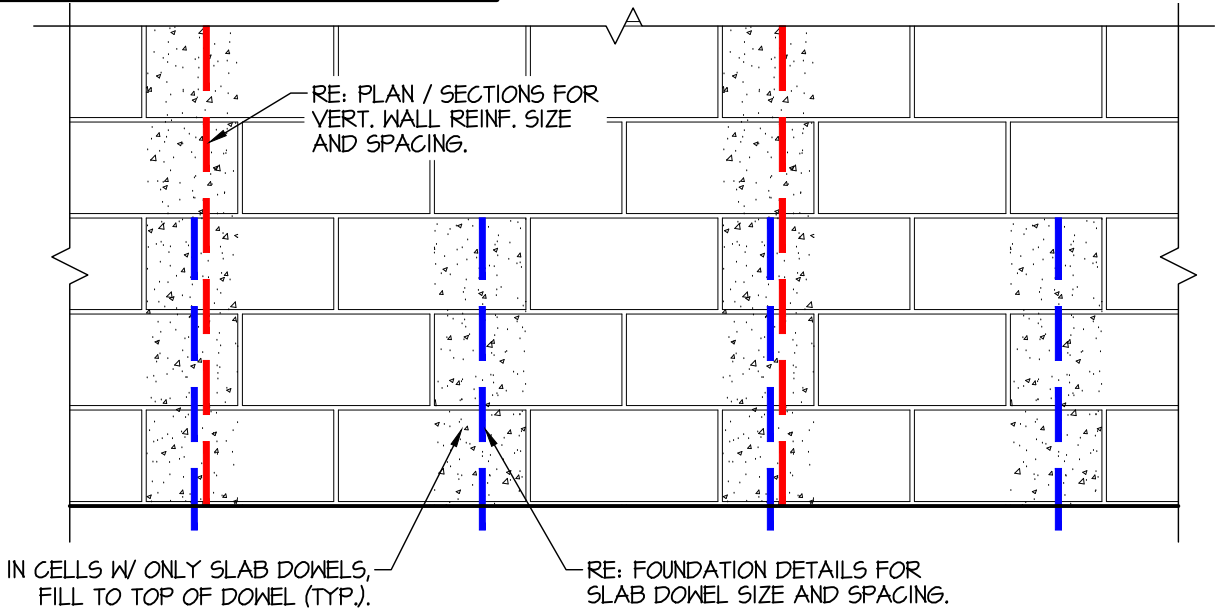
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INTERIOR FINISH SELECTIONS

FLOORING
SEALED CONCRETE - SEAL ALL CONCRETE W/ (2) COATS OF "SIKAGARD-180 KNS WB" AS MANUFACTURED BY SIKA CORPORATION OR APPROVED EQUAL.
BASE
NO BASE
WALL FINISH
PAINTED CMU (EPOXY - CORROSIVE ENVIRONMENT) - ROOM 101
PAINTED CMU (EPOXY) - ROOM 102
CEILING
GYP. BD. - TBT & PAINT (CHLORINE ROOM)
EXPOSED STRUCTURE (PUMP ROOM)
NOTES:
1. ALL SELECTIONS ARE FOR BIDDING PURPOSES ONLY.
2. PROVIDE MINIMUM 6"x6" COLOR SAMPLES OF MANUFACTURER'S STANDARD COLOR SELECTIONS. FINAL SELECTIONS WILL BE MADE BY OWNER AFTER ALL SAMPLES HAVE BEEN SUBMITTED.
3. VERIFY ALL COLOR SELECTIONS WITH OWNER PRIOR TO ORDERING OR FABRICATION.

EXTERIOR FINISH SELECTIONS

ITEM	TYPE / DESCRIPTION	COLOR / FINISH
ROOF PANELS	PREFINISHED PBR PANELS	TO BE SELECTED BY OWNER FROM MFG.'S STANDARD COLORS
WALL PANELS	PREFINISHED PBR PANELS	TO BE SELECTED BY OWNER FROM MFG.'S STANDARD COLORS
ACCENT TRIM, GUTTERS, & DOWNSPOUTS	PREFINISHED METAL	TO BE SELECTED BY OWNER FROM MFG.'S STANDARD COLORS
SPLIT FACE CMU	8x8x16 SPLIT FACE CONCRETE MASONRY UNITS	TO BE SELECTED BY OWNER FROM MFG.'S STANDARD COLORS
SMOOTH FACE CMU	8x8x16 SMOOTH FACE CONCRETE MASONRY UNITS	TO BE SELECTED BY OWNER FROM MFG.'S STANDARD COLORS
EXTERIOR DOORS / FRAMES	PAINTED HOLLOW METAL	COLOR TO MATCH TRIM
NOTES:		
1. ALL SELECTIONS ARE FOR BIDDING PURPOSES ONLY.		
2. PROVIDE MINIMUM 6"x6" COLOR SAMPLES OF MANUFACTURER'S STANDARD COLOR SELECTIONS. FINAL SELECTIONS WILL BE MADE BY OWNER AFTER ALL SAMPLES HAVE BEEN SUBMITTED.		
3. VERIFY ALL COLOR SELECTIONS WITH OWNER PRIOR TO ORDERING OR FABRICATION.		



1 TYP. CMU WALL DOWEL PLACEMENT
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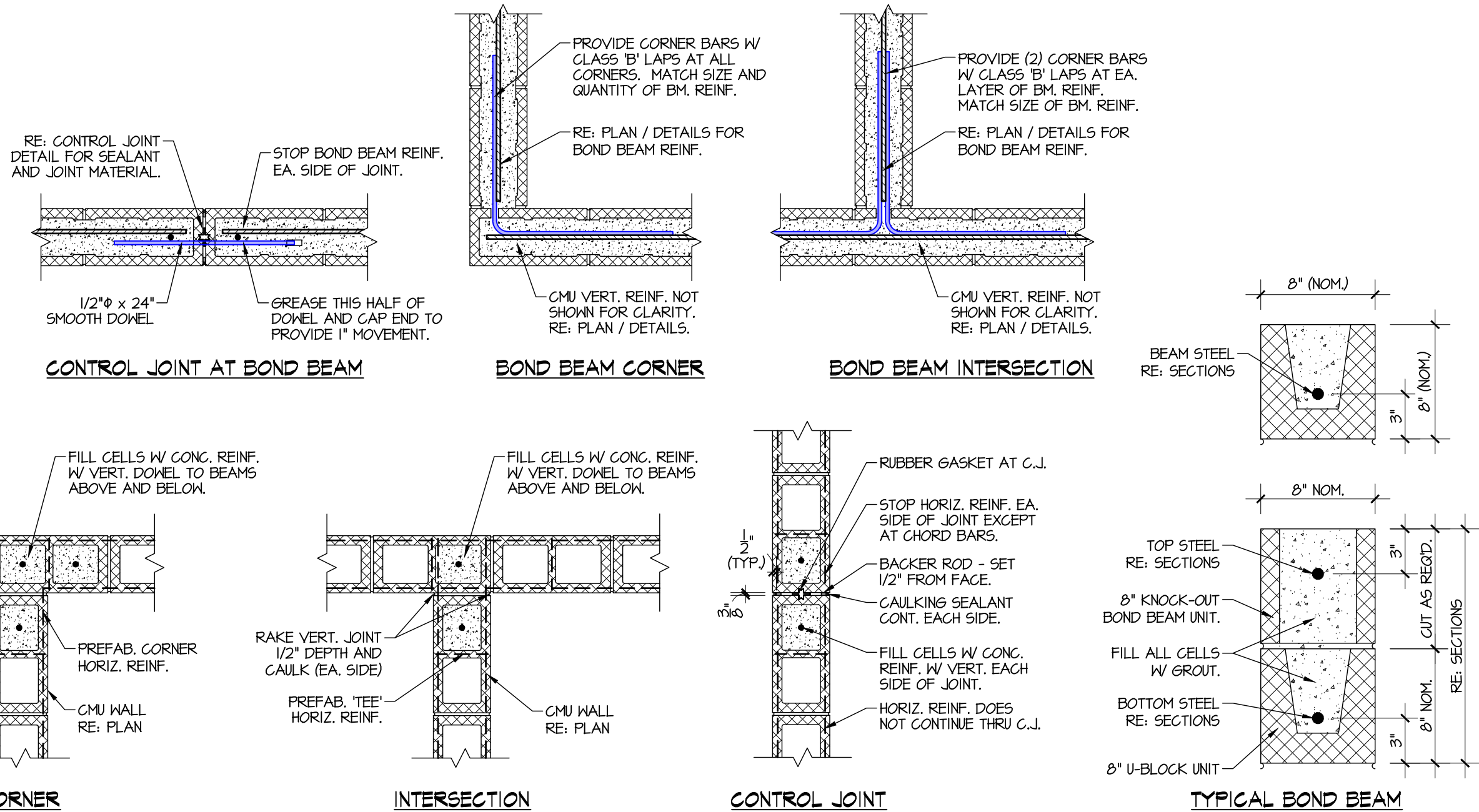
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NO. DATE REVISION BY © 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510				Plot Date: Jul 20, 2026 - 12:09pm Plotted By: JARED				PROJECT NO. 2024-109 DRAWN BY Jared Kelm DESIGNED BY Jim Winton, P.E. APPROVED BY Jim Winton, P.E. DATE July 20, 2026								KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501				LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE PUMP STATION & CHLORINE ROOM FINISH SELECTIONS / CMU DETAIL				SHEET NO. ES-09 OF 32			
--	--	--	--	--	--	--	--	--	--	--	--	---	--	--	--	---	--	--	--	--	--	--	--	--------------------------------------	--	--	--

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1 TYP. CMU WALL DETAILS
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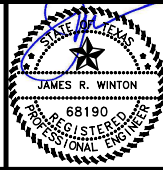
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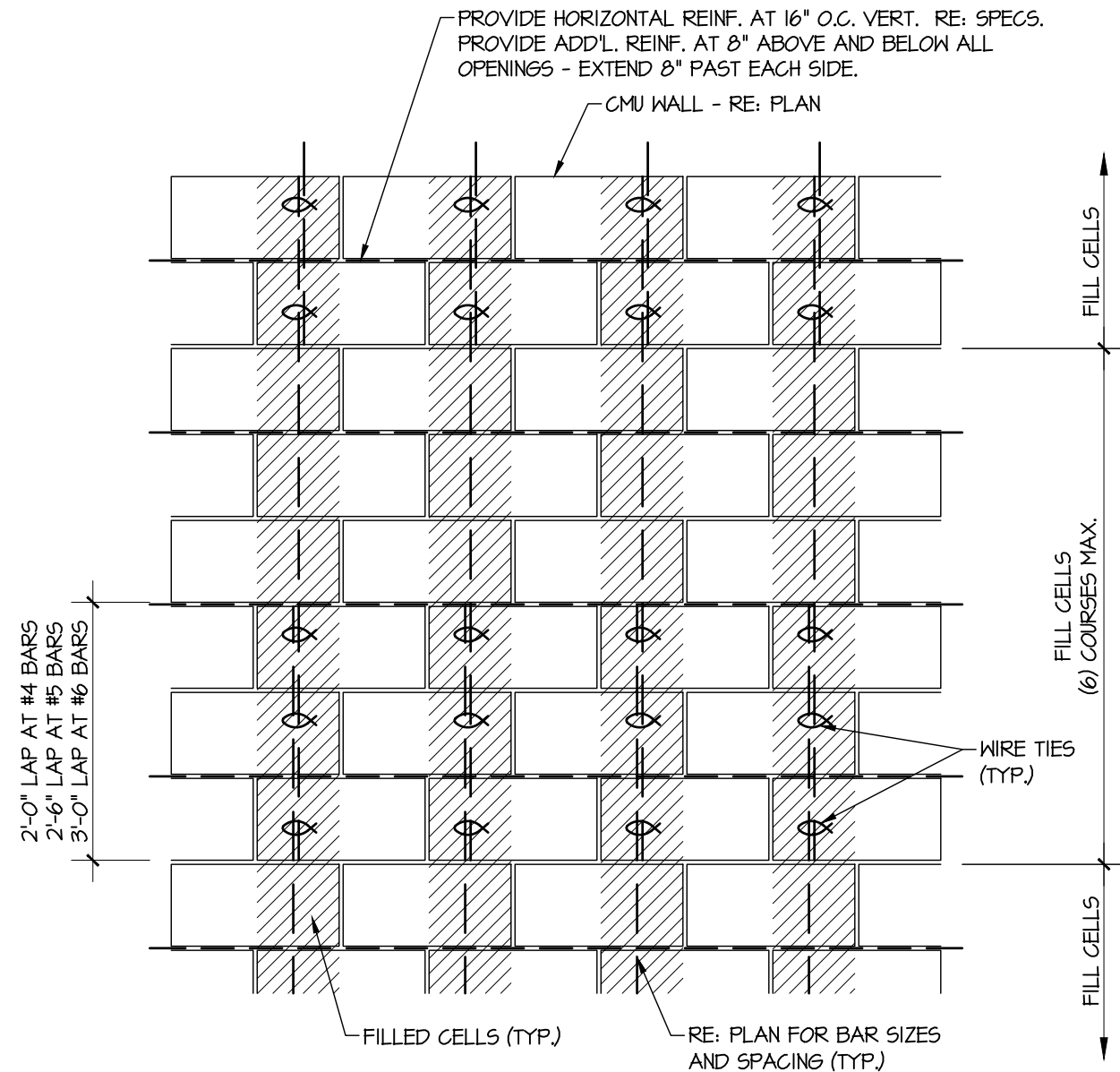
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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
PUMP STATION & CHLORINE ROOM CMU DETAILS

SHEET NO. ES-10
OF 32



2 **TYP. OPENING AT DOOR FRAME**
SCALE: NOT TO SCALE

1 TYP. CMU REINFORCING SPLICES

SCALE: NOT TO SCALE



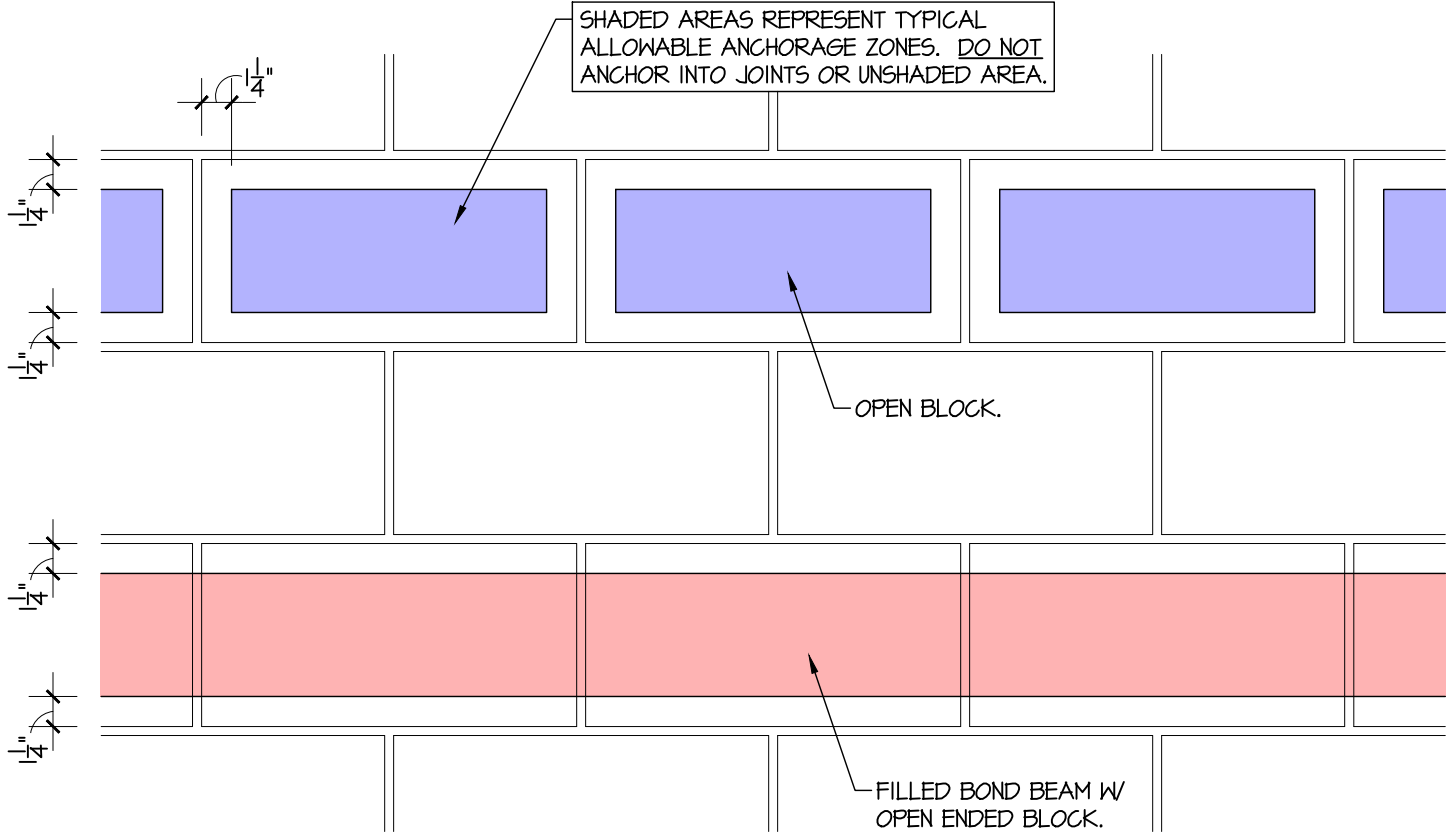
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				PROJECT NO. 2024-109				KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501		LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE		SHEET NO. ES-11
				DRAWN BY Jared Kelm						PUMP STATION & CHLORINE ROOM CMU DETAILS		
				DESIGNED BY Jim Winton, P.E.								
NO. DATE REVISION BY				APPROVED BY Jim Winton, P.E. DATE July 20, 2026								
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1 TYP. ANCHORAGE TO CMU
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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
CMU DETAILS

SHEET NO. **ES-12**

OF **32**

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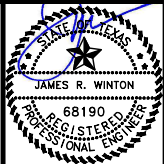
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DOOR SCHEDULE																			
DOOR NO.	LOCATION		SIZE (WxHxD)	DESCRIPTION					DOOR TYPE	FRAME TYPE	FIRE RATING	DOOR HARDWARE						HDWE SET	REMARKS:
	FROM	TO		DOOR	CORE	FINISH	FRAME	FINISH				LOCK	LATCH	PRIV	T'HLD	W'STP	CLOS		
101	EXT	101	3-0 x 7-0 x 1-3/4"	FG	-	P/F	FG	P/F	A	1	-	X			X	X	X	1	PANIC HARDWARE
102	EXT	102	PAIR 3-0 x 8-0 x 1-3/4"	MET	HC	PT	MET	PT	A	2	-	X			X	X	X	2	PANIC HARDWARE
DOOR SCHEDULE NOTES:										DOOR SCHEDULE LEGEND:									
1. COLOR OF ALL PAINTED DOORS AND FRAMES SHALL BE AS SELECTED BY OWNER.										MET = HOLLOW METAL ALUM = ALUMINUM WD = WOOD FG = FIBERGLASS									
2. COLOR OF ALL FIBERGLASS DOORS AND FRAMES SHALL BE AS SELECTED BY OWNER.										HC = HOLLOW CORE SC = SOLID CORE INS = INSULATED PL = PLASTIC LAMINATE PT = PAINT									
										P/F = PREFINISHED ANOD = ANODIZED ST = STAIN R/F = PREFINISHED REDIFRAME HR = HOUR									
										PRIV = PRIVACY LOCK T'HLD = THRESHOLD W'STP = WEATHERSTRIPPING CLOS = CLOSER									

DOOR HARDWARE SCHEDULE						
HARDWARE SET	MODEL NO.	MANUFACTURER		HARDWARE SET	MODEL NO.	MANUFACTURER
HW-1				HW-2		
1-1/2 PAIR BUTTS	TA2314: 4-1/2" x 4-1/2" x 32D x NRP	MCKINNEY		4 PAIR BUTTS	TA2314: 4-1/2" x 4-1/2" x 32D x NRP	MCKINNEY
1 RIM EXIT	43-8804F-PSB x 32D	SARGENT		1 RIM EXIT	43-8804F-PSB x 32D x 644 x RHR	SARGENT
1 CLOSER	1431-P10 x EN x TB	SARGENT		1 FLUSH BOLT (BOTTOM)	555-12" x 26D	ROCKWOOD
1 WALL DOOR STOP	401 x 32D	ROCKWOOD		1 FLUSH BOLT (TOP)	555-24" x 26D	ROCKWOOD
1 THRESHOLD	171A - 36"	PEMKO		1 CLOSER (ACTIVE)	1431-P10 x EN	SARGENT
1 SET WEATHERSTRIPPING	303SPK - 36" x 84"	PEMKO		1 SECURITY ASTRAGAL (ACTIVE)	3572SP - 96"	PEMKO
1 DOOR SWEEP	314CN - 36"	PEMKO		1 THRESHOLD	171A - 72"	PEMKO
1 DRIP CAP	346C - 40"	PEMKO		1 SET WEATHERSTRIPPING	303APK - 72" x 96"	PEMKO
				2 DOOR SWEEPS	315CN - 36"	PEMKO
				1 DRIP CAP	346C - 76"	PEMKO
DOOR HARDWARE NOTES:						
1. SEE PLAN SPECIFICATION 087000: FINISH HARDWARE FOR HARDWARE REQUIREMENTS.						
2. ALL FIRE-RATED DOOR ASSEMBLIES SHALL COMPLY WITH NFPA 80, NFPA 105, AND 2018 IBC SECTION 716.						
3. ALL ACCESS CONTROLLED DOORS AND HARDWARE SHALL BE INSTALLED IN ACCORDANCE WITH 2018 IBC SECTION 1010.1.9.						



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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
DOOR / HARDWARE SCHEDULES

SHEET NO. ES-13

OF 32

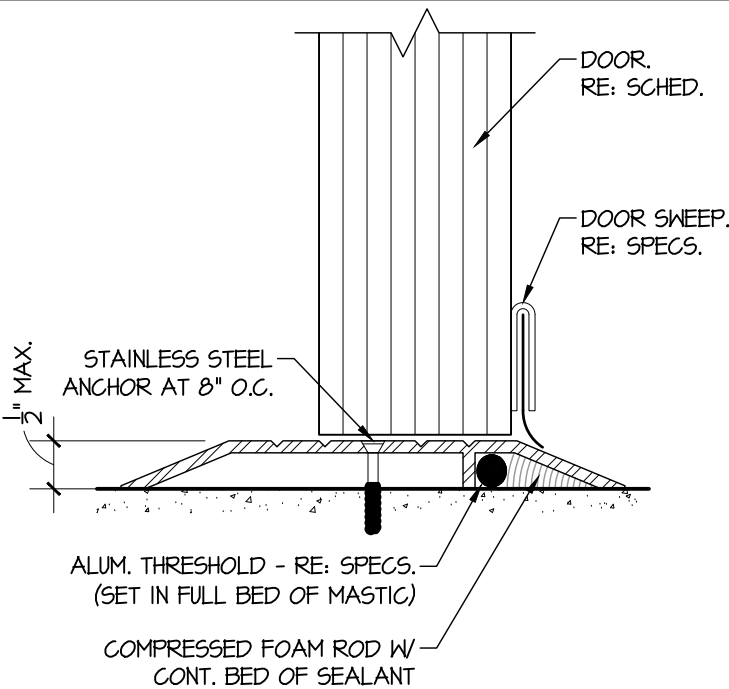
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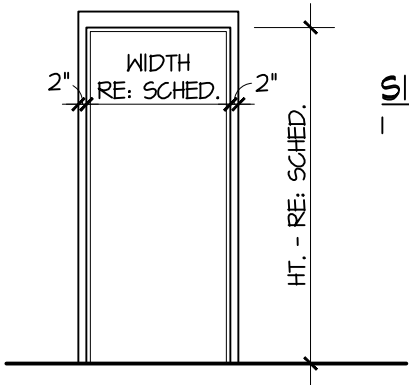
2

TYPICAL THRESHOLD AT DOOR

SCALE: NOT TO SCALE

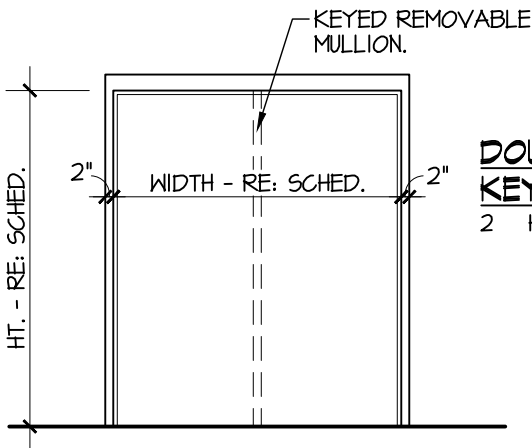
NOTE:

- PROVIDE SAFETY GLAZING IN ALL DOORS WITH GLASS AS REQUIRED BY 2018 IBC SECTION 2406.4.1.



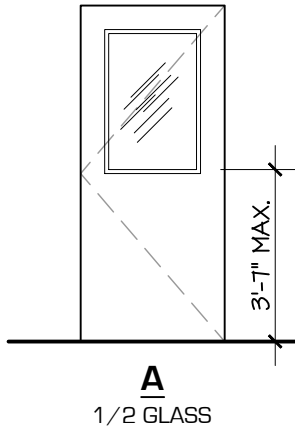
SINGLE SWING FRAME:

1 FRP W/ 4" HEAD



**DOUBLE SWING FRAME W/
KEYED REMOVABLE MULLION:**

2 HOLLOW METAL W/ 4" HEAD



1

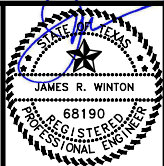
FRAME AND DOOR TYPES

SCALE: NOT TO SCALE



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WE JOB# 2023-064

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
DOOR DETAILS

SHEET NO. **ES-14**

OF **32**

0 1"
IF SCALE ABOVE DOES NOT EQUAL 1",
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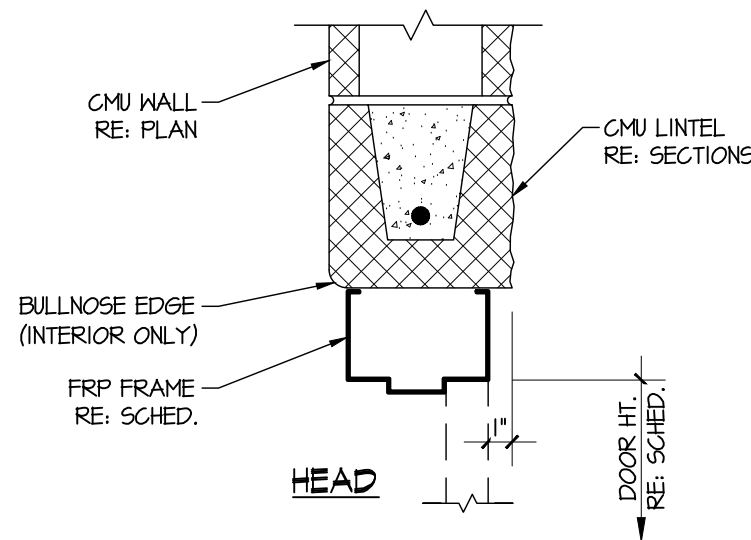
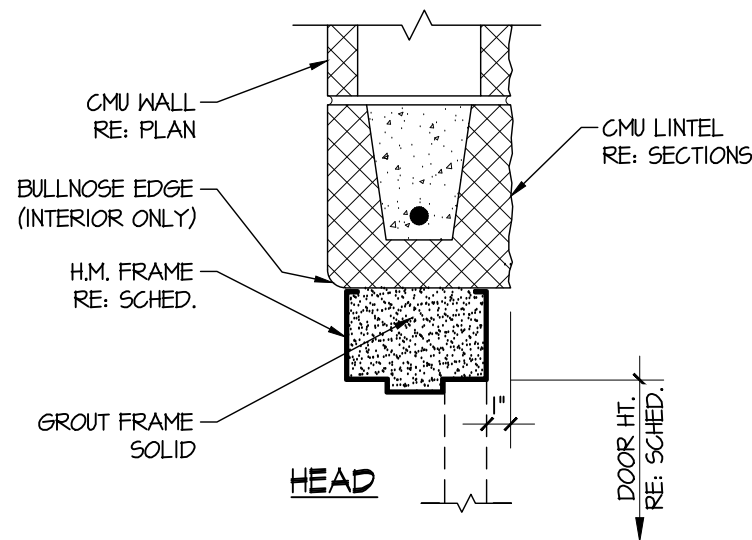
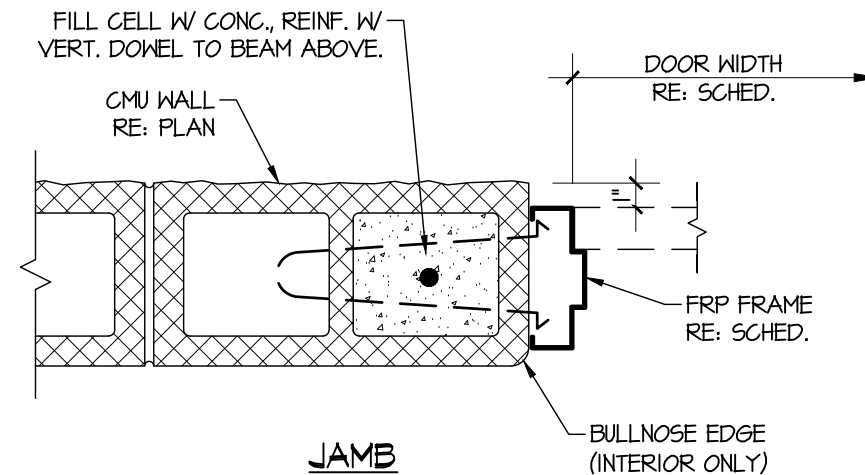
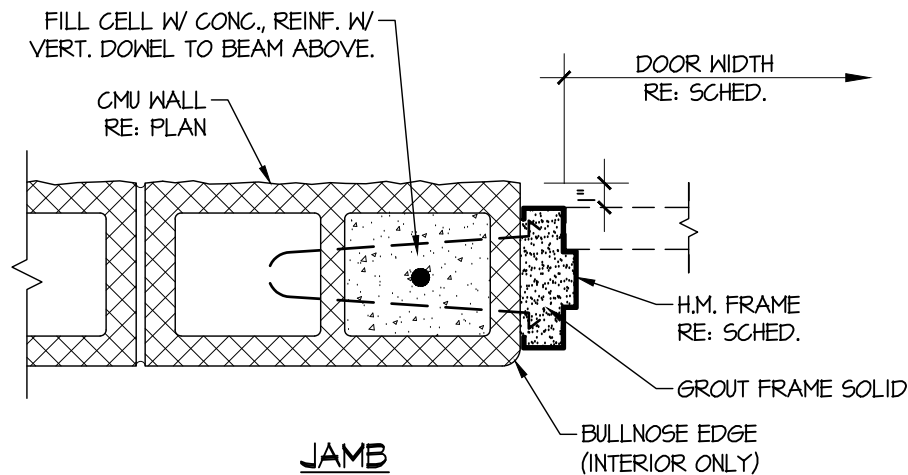
DRAWING TO BE READ IN COLOR

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Plot Date: Jul 20, 2026 - 12:09pm
Plotted By: JARED

PROJECT NO. 2024-109
DRAWN BY Jared Kelm
DESIGNED BY Jim Winton, P.E.
APPROVED BY Jim Winton, P.E.
DATE July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

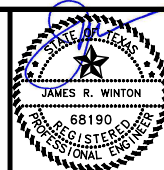


2 **TYP. H.M. FRAME AT CMU**
SCALE: NOT TO SCALE

1 **TYP. FRP FRAME AT CMU**
SCALE: NOT TO SCALE

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE
PUMP STATION & CHLORINE ROOM
DOOR DETAILS

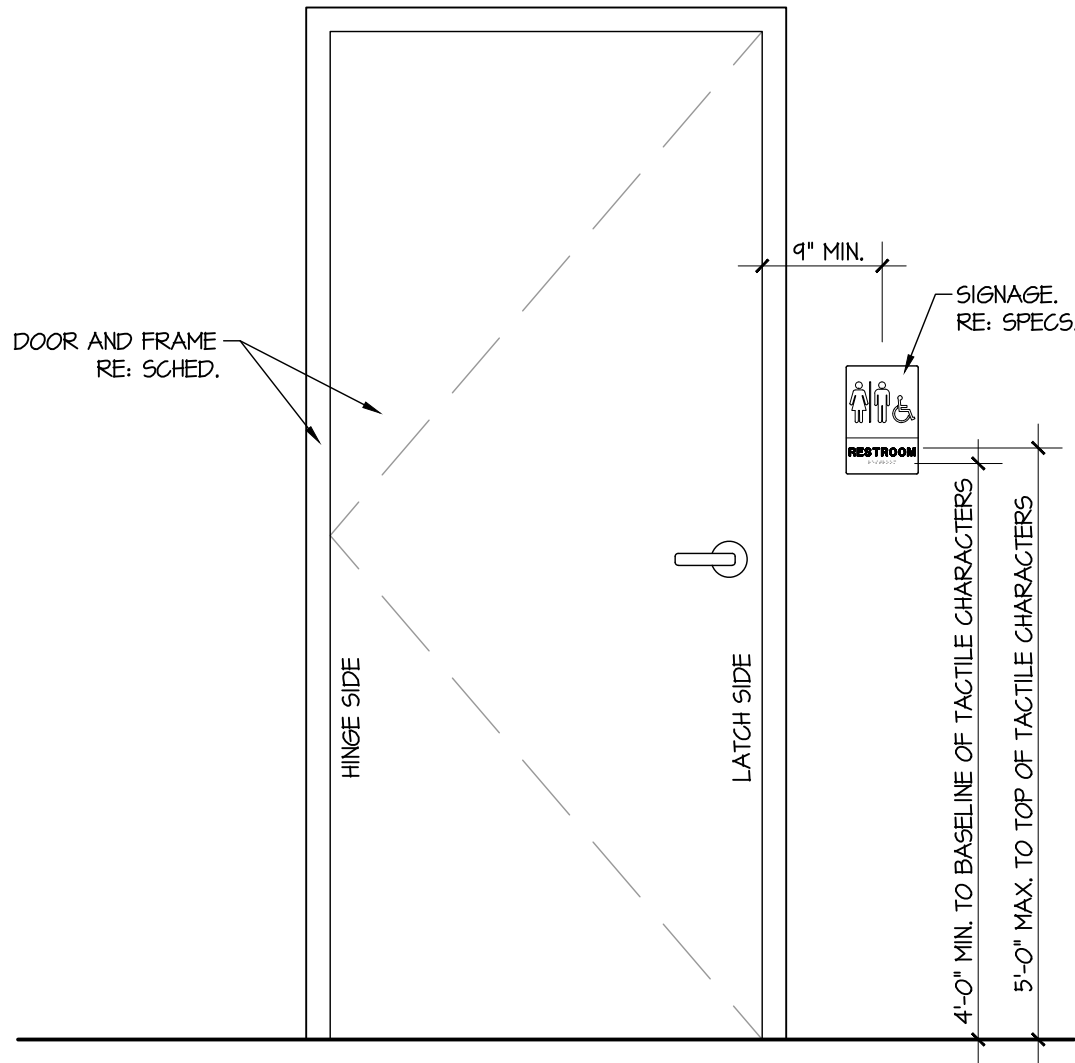
SHEET NO. **ES-15**
OF **32**

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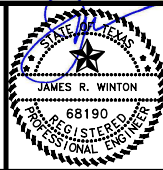


2 TYP. INTERIOR SIGNAGE LOCATION
SCALE: NOT TO SCALE



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REGISTRATION #F-0282
WE JOB# 2023-064

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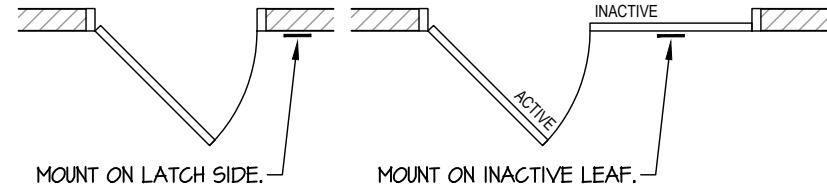
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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

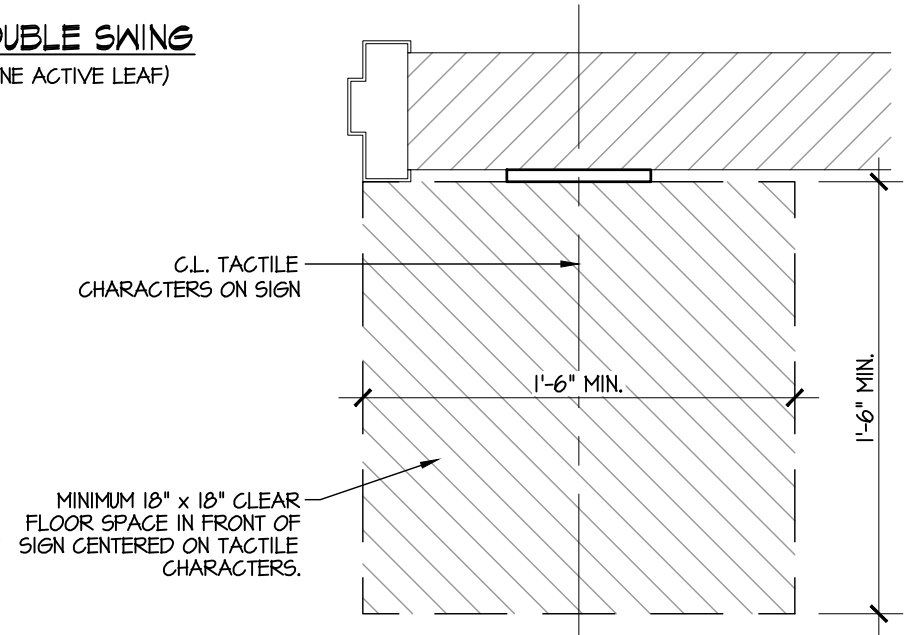
PUMP STATION & CHLORINE ROOM
INTERIOR SIGNAGE SCHEDULE / DETAILS

SHEET NO. ES-16

OF 32



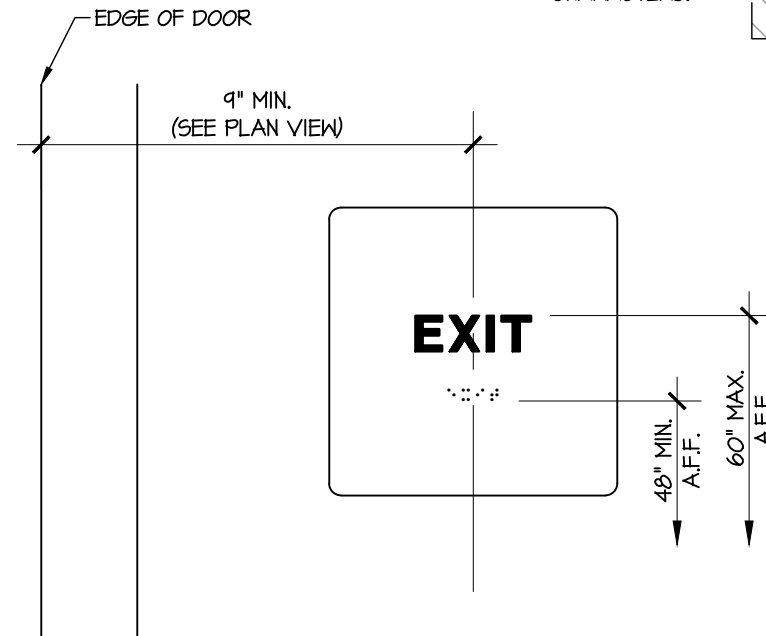
- RAISED CHARACTER INTERIOR SIGNS:
1. FACE COLOR AS SELECTED FROM MFG.'S STANDARD COLORS.
 2. LETTERS, NUMERALS, AND SYMBOL COLOR SHALL BE WHITE.
 3. SIGNS SHALL BE ATTACHED BY ADHESIVE AS RECOMMENDED BY THE MFG.
 4. SEE DETAILS AND SCHEDULE FOR MOUNTING LOCATIONS.
 5. ALL SIGNAGE SHALL HAVE RAISED LETTERS AND BRAILLE TO COMPLY WITH ADA AND TAS REQUIREMENTS.
 6. RE: SPECS. FOR SIZES.



PLAN VIEW AT SIGN



PROVIDE NFPA / OSHA
COMPLIANT ALUMINUM
SIGNAGE MOUNTED TO
EXTERIOR DOOR SURFACE.



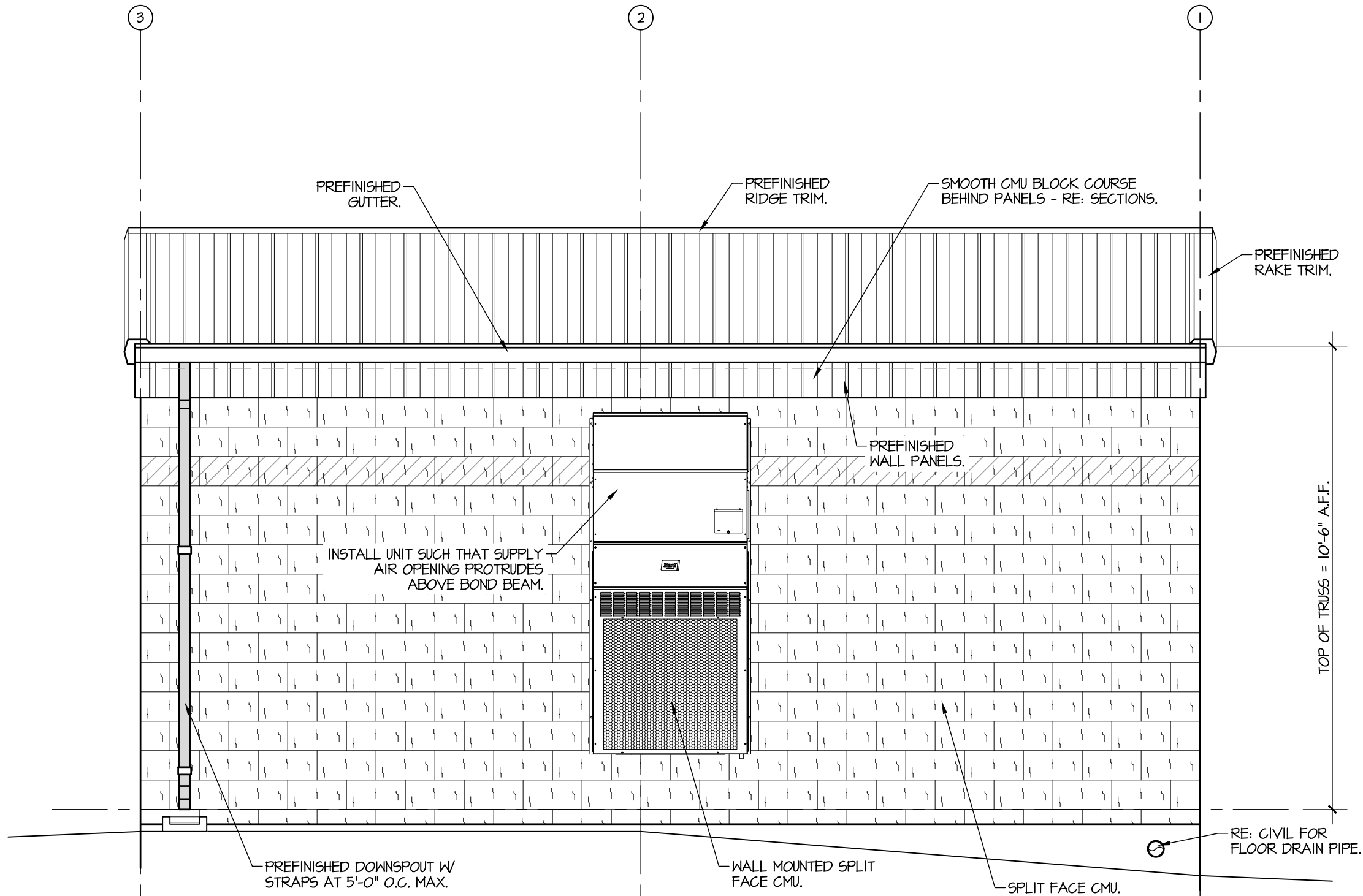
1 TYP. INTERIOR SIGNAGE
SCALE: NOT TO SCALE

INTERIOR SIGNAGE		
DOOR #	TEXT	LOCATION
101	EXIT	LEFT OF DOOR
101	DANGER	EXTERIOR OF DOOR
102	EXIT	INACTIVE DOOR

0 1"
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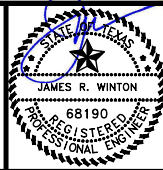
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Plotted By: JARED			

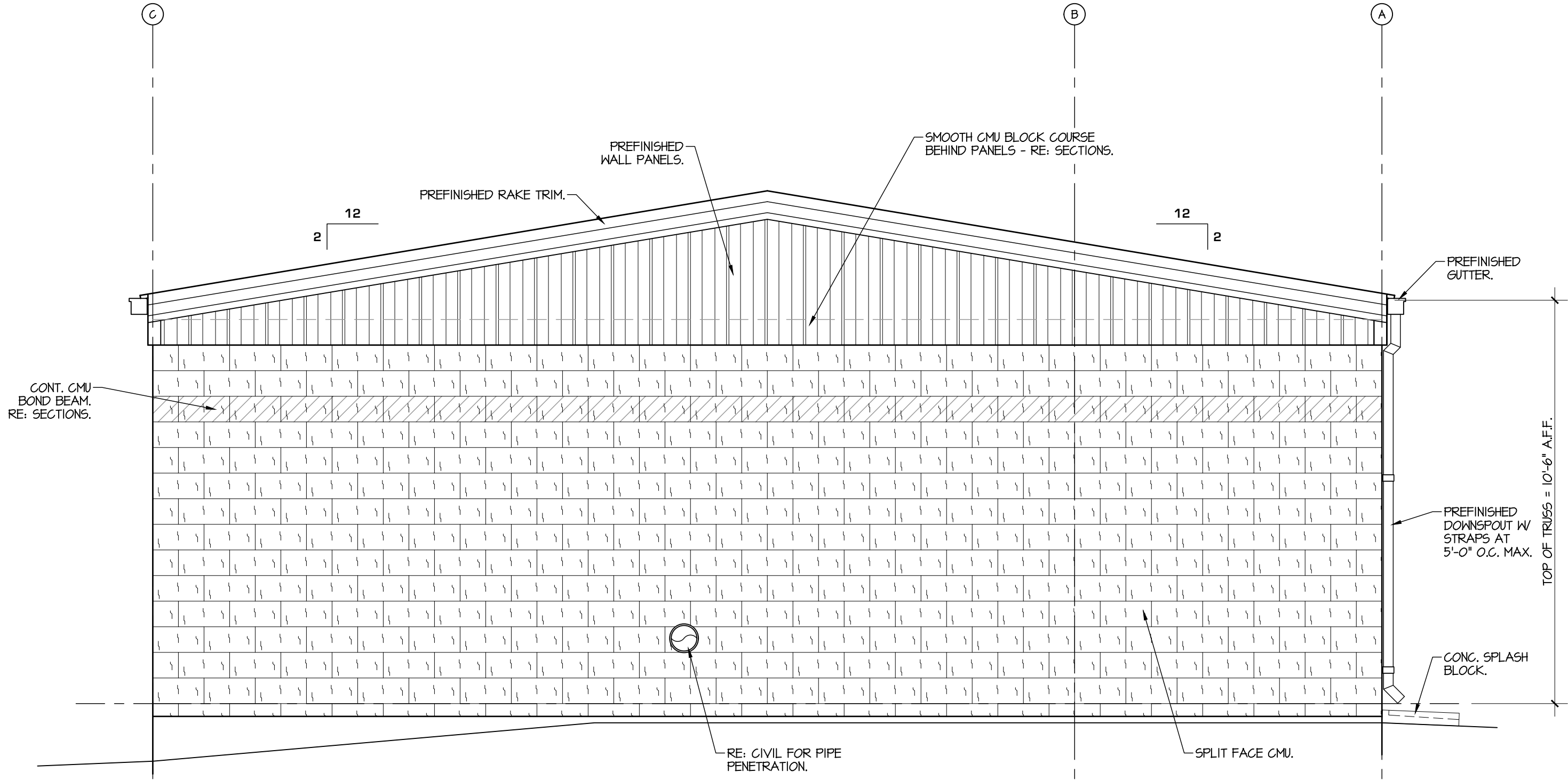
PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. ES-18
PUMP STATION & CHLORINE ROOM EXTERIOR ELEVATION	OF 32

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1 NORTH EXTERIOR ELEVATION
SCALE: 3/8" = 1'-0"



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PROJECT NO.	2024-109
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APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

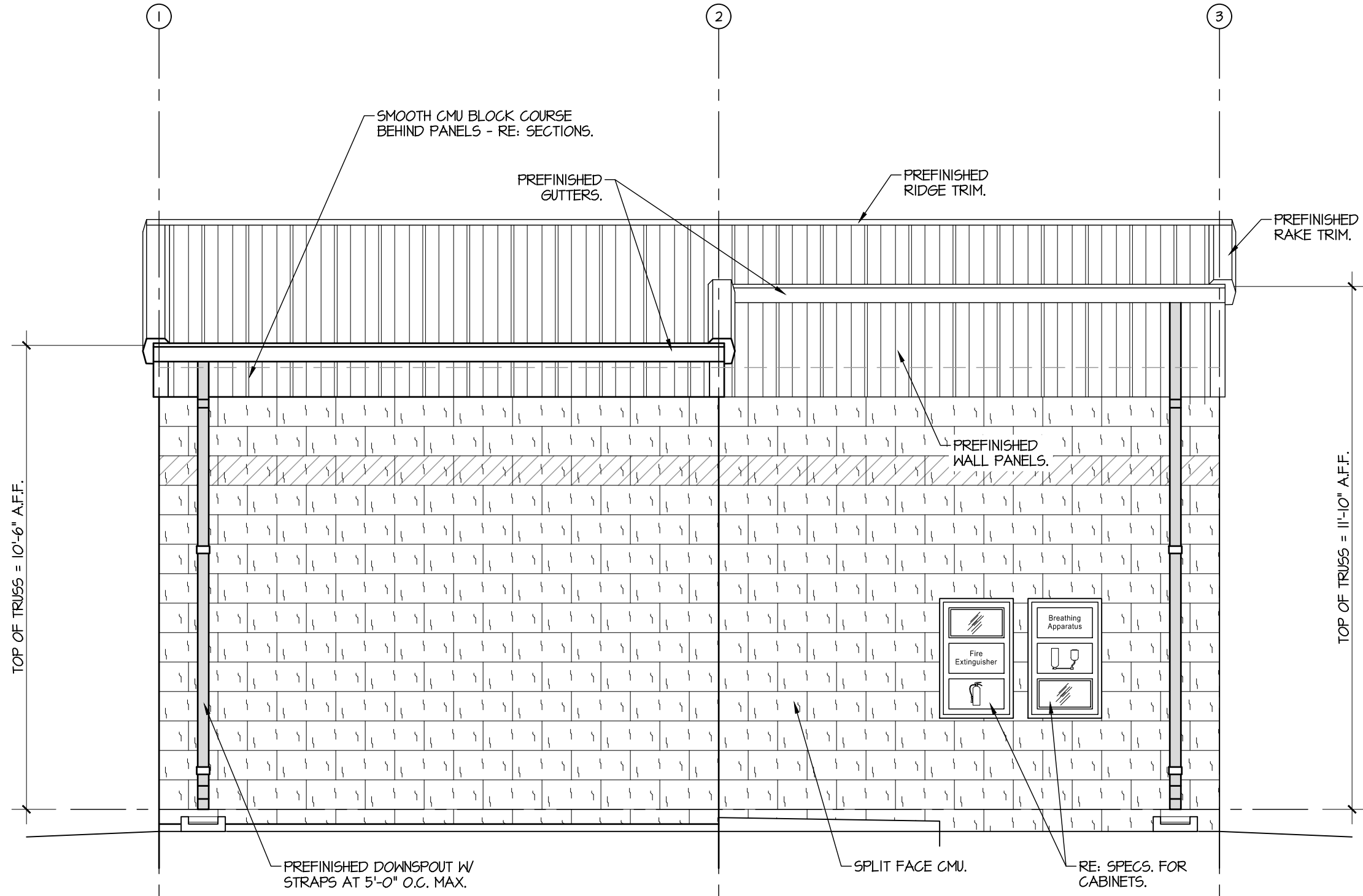


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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
PUMP STATION & CHLORINE ROOM EXTERIOR ELEVATION

SHEET NO. ES-19
OF 32

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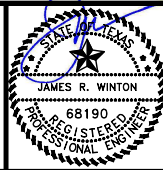
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KPA Firm Registration Number F-510	Plotted By: JARED		

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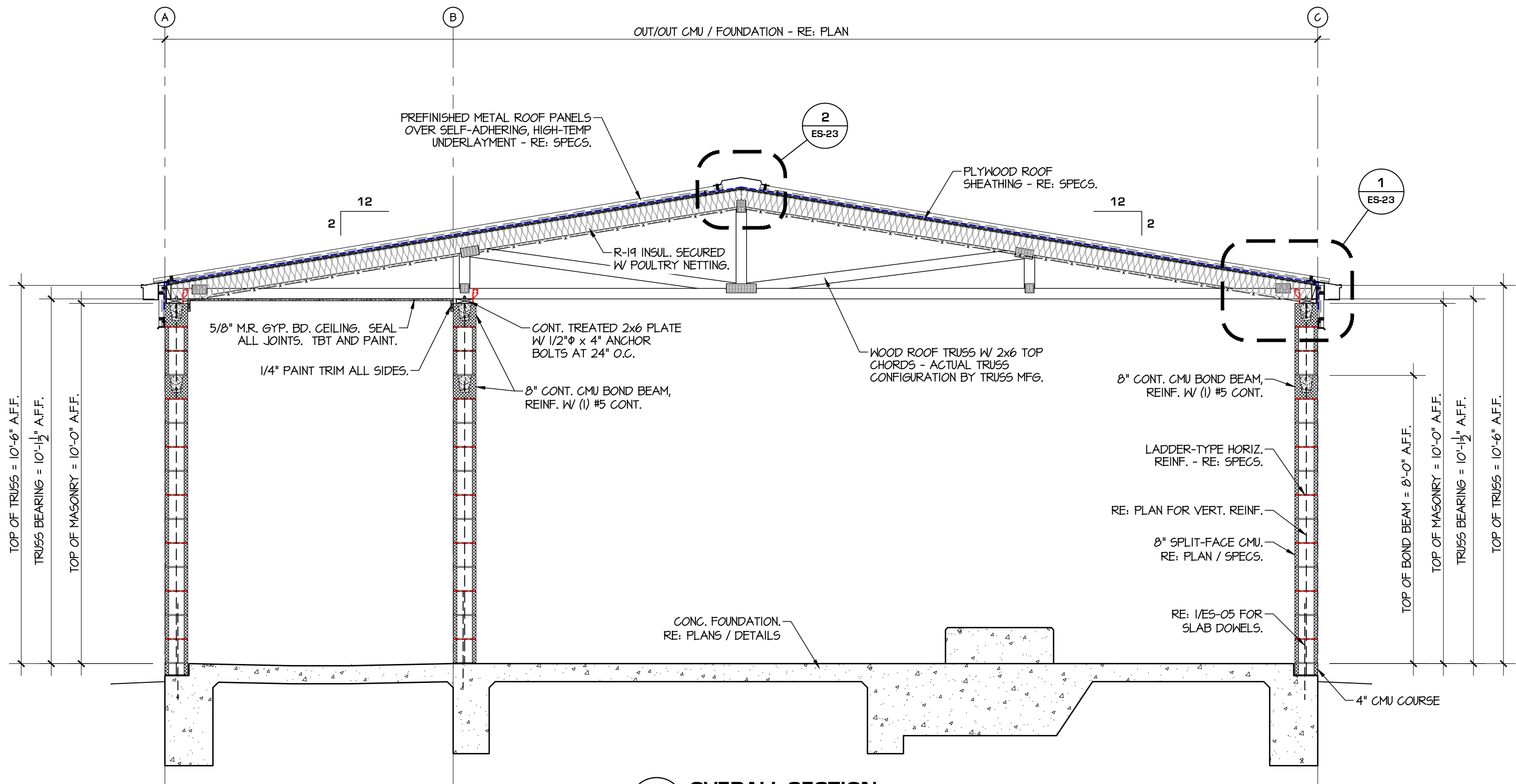


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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
PUMP STATION & CHLORINE ROOM EXTERIOR ELEVATION

SHEET NO. ES-20
OF 32

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



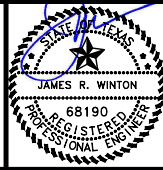
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DRAWN BY	Jared Kelm
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DATE	July 20, 2026



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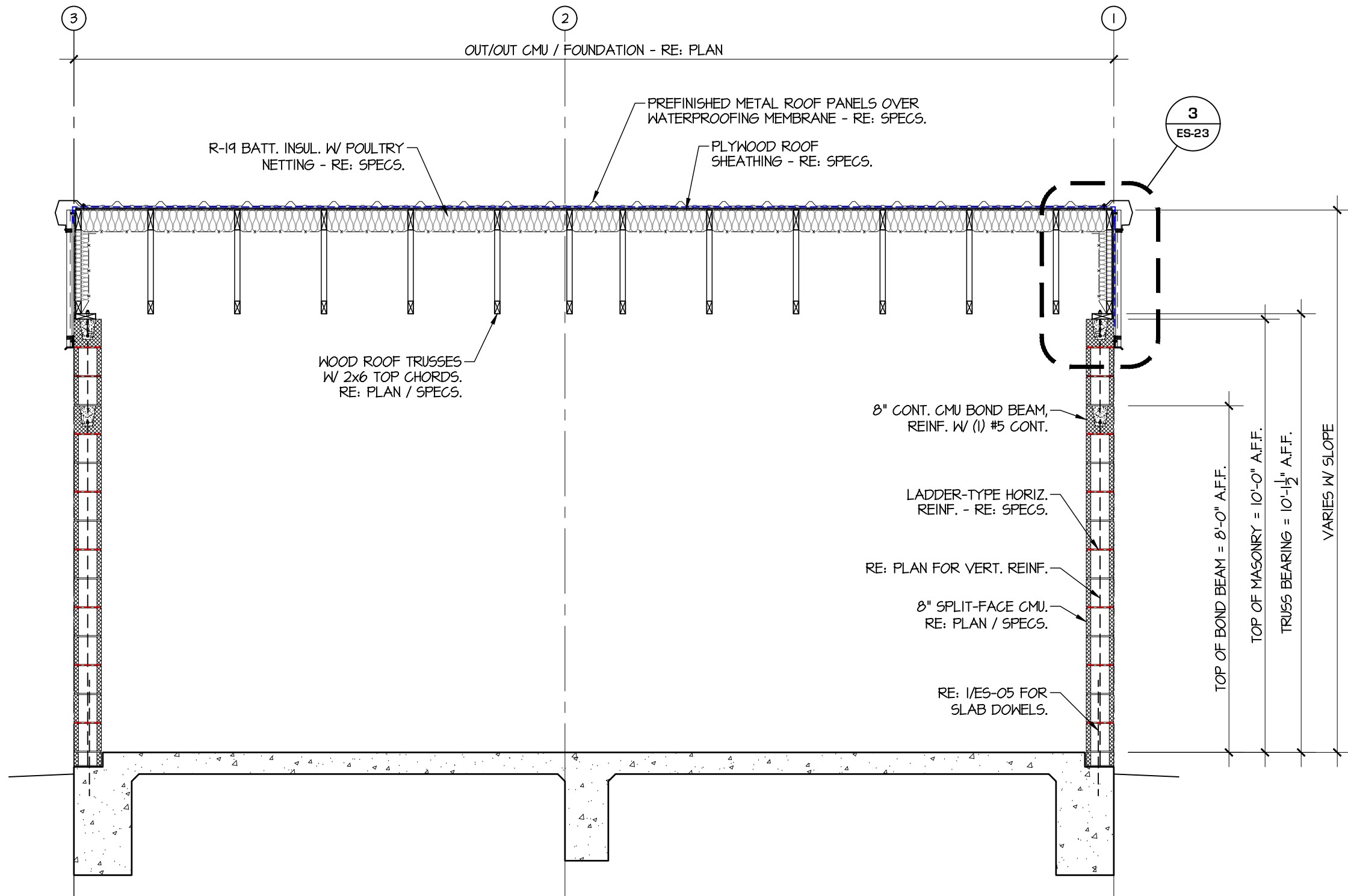
LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
OVERALL BUILDING SECTION

SHEET NO. ES-21

OF 32

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg



1

OVERALL SECTION

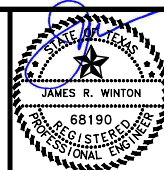
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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
OVERALL BUILDING SECTION

SHEET NO. **ES-22**

OF **32**

0 1"

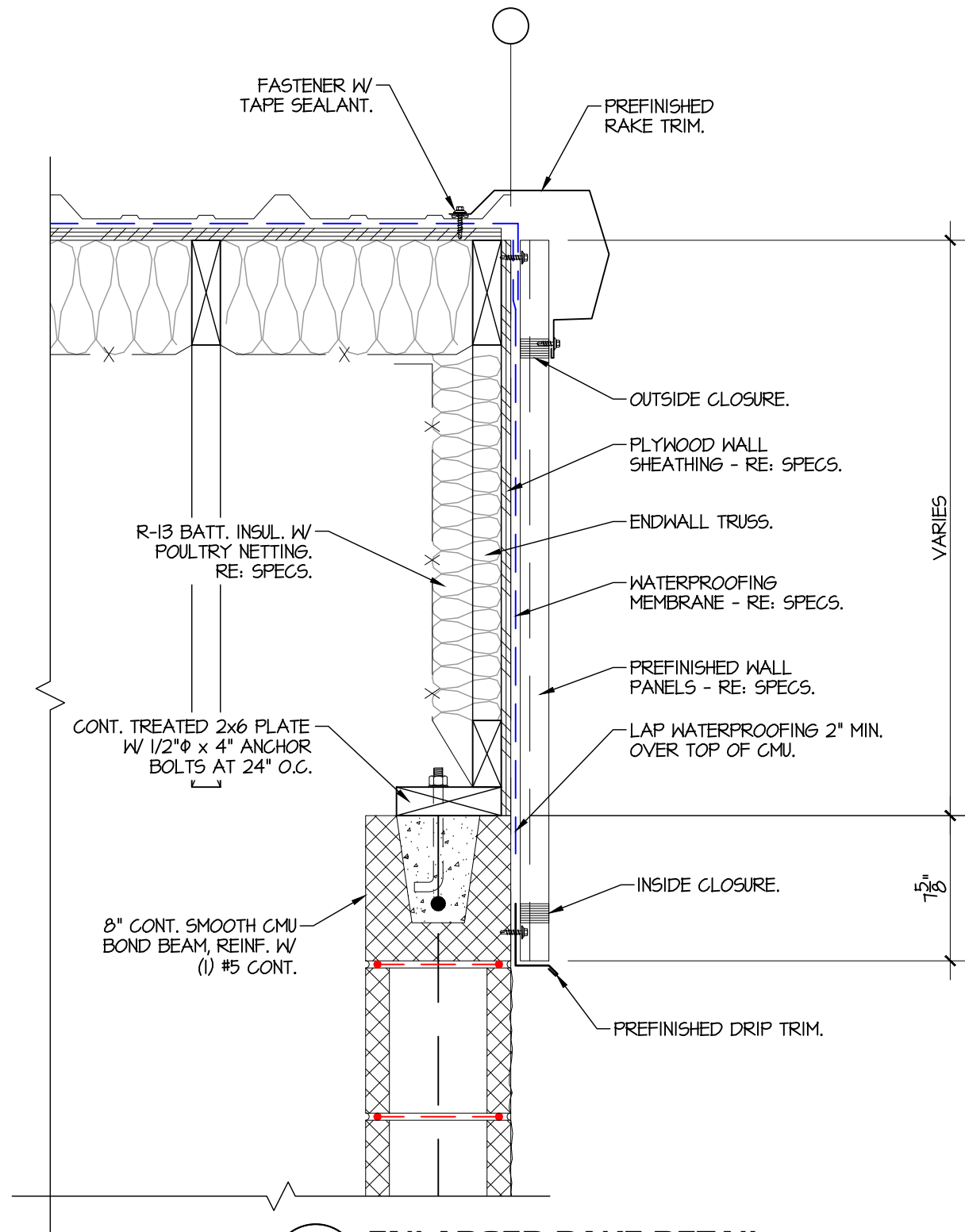
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DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

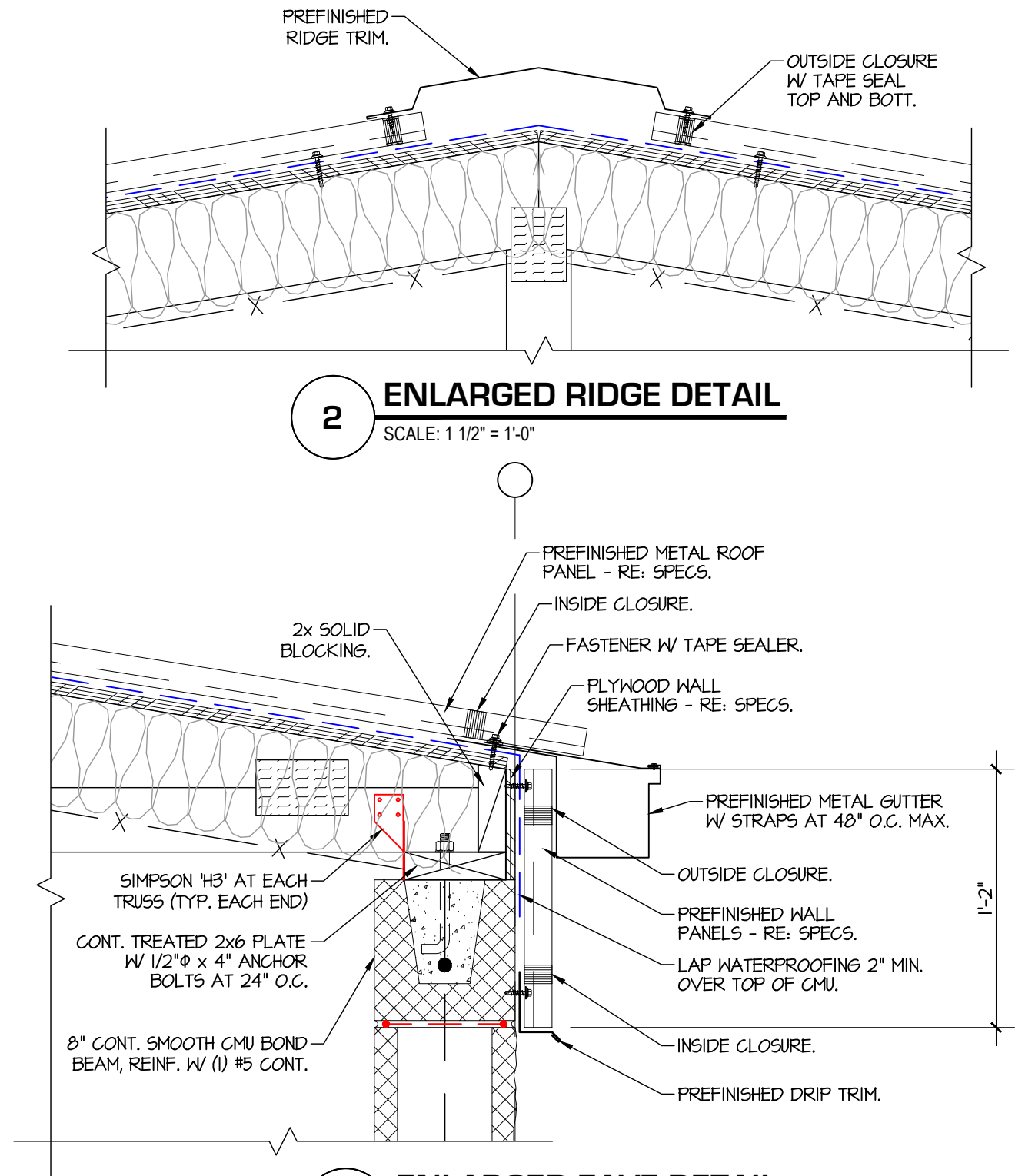
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3

ENLARGED RAKE DETAIL

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



1

ENLARGED EAVE DETAIL

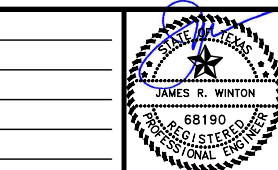
SCALE: 1 1/2" = 1'-0"

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
ENLARGED DETAILS

SHEET NO. **ES-23**

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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
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TYPICAL FRAMING PLAN NOTES

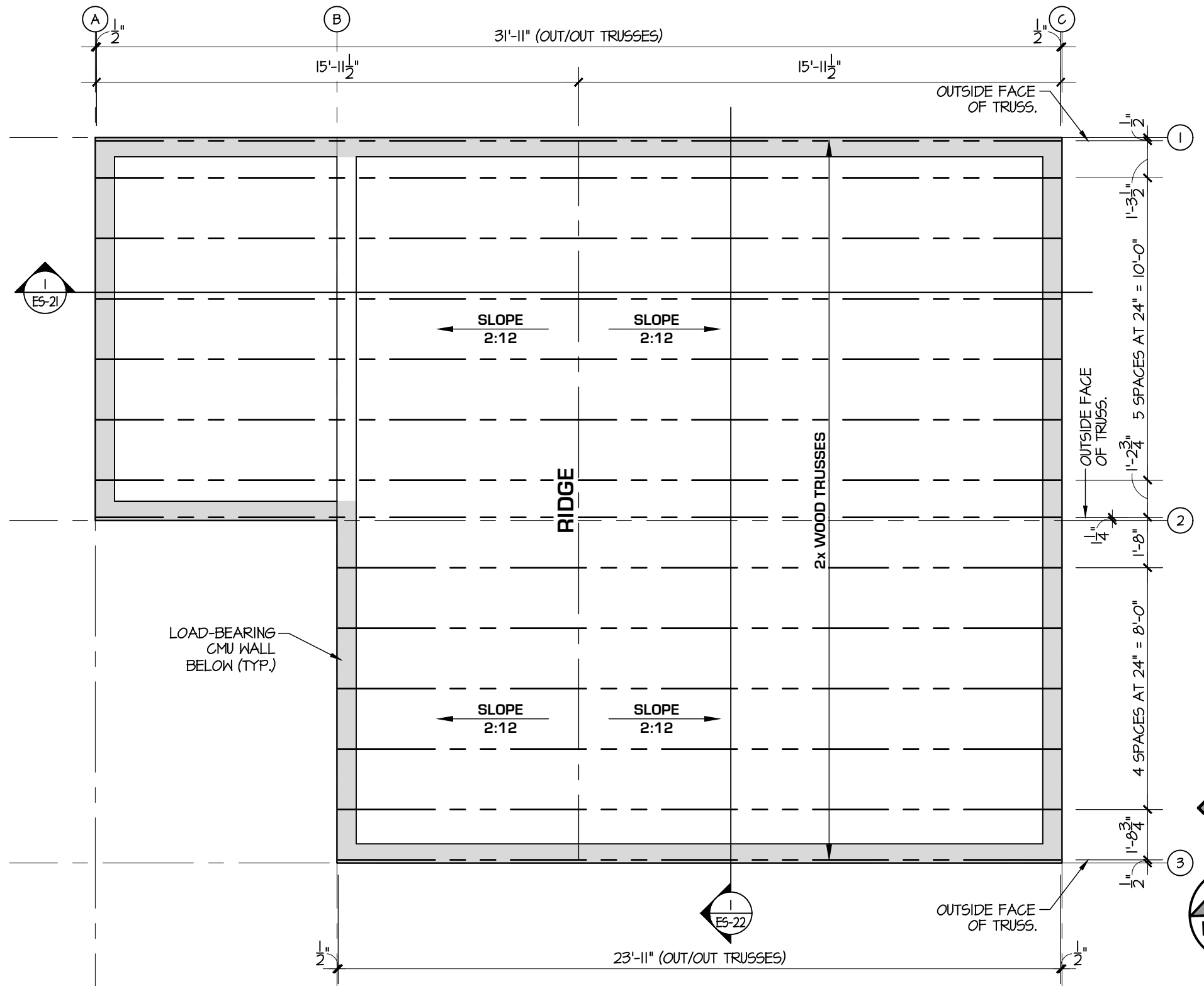
1. REFER TO SHEETS **AS-01** - **AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
2. **TOP OF CONCRETE FOR PUMP STATION & CHLORINE ROOM = 490.50' (ACTUAL - VERIFY W/ CIVIL).**
3. VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL OPENINGS WITH STRUCTURAL AND MEP PLANS. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
4. DO NOT BEGIN INSTALLATION OF ROOFING UNTIL INSTALLATION OF ROOF SHEATHING HAS BEEN COMPLETED AND OBSERVED BY STRUCTURAL ENGINEER.
5. ALL DISCONTINUOUS EDGES OF ROOF SHEATHING SHALL BE SUPPORTED. PROVIDE ADDITIONAL FRAMING AT OPENINGS WHERE REQUIRED AS DIRECTED BY STRUCTURAL ENGINEER.
6. FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

1. REFER TO SHEETS **AS-01 - AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
2. **TOP OF CONCRETE FOR PUMP STATION & CHLORINE ROOM = 490.50' (ACTUAL - VERIFY W/ CIVIL).**
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TYPICAL FRAMING PLAN LEGEND

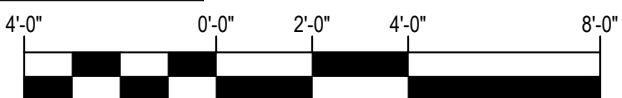
— — — — — WOOD TRUSS LOAD BEARING CMU WALL BELOW ————> DETAIL NUMBER ————> SECTION MARK ————> SHEET NUMBER 	U.N.O. = UNLESS NOTED OTHERWISE T.O.F. = TOP OF FRAMING (BOTTOM OF DECK) T.O.J. = TOP OF JOIST T.O.M. = TOP OF MASONRY WALL
---	---

RE: ES-25 FOR COMPONENTS AND CLADDING LOADING.
RE: ES-26 FOR TRUSS LOADING SCHEDULE.



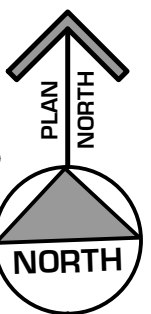
1 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0" 4'-0" (

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



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

DRAWING TO BE READ IN COLOR

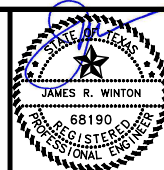


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FALLS COUNTY WATER PLANT SITE

**PUMP STATION & CHLORINE ROOM
ROOF FRAMING PLAN**

SHEET NO. **ES-24**

OF **32**

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KPA Firm Registration Number F-510		Plotted By: JARED	

PROJECT NO. 2024-109

DRAWN BY Jared KelmDESIGNED BY Jim Winton, P.E.

APPROVED BY Jim Winton, P.E.

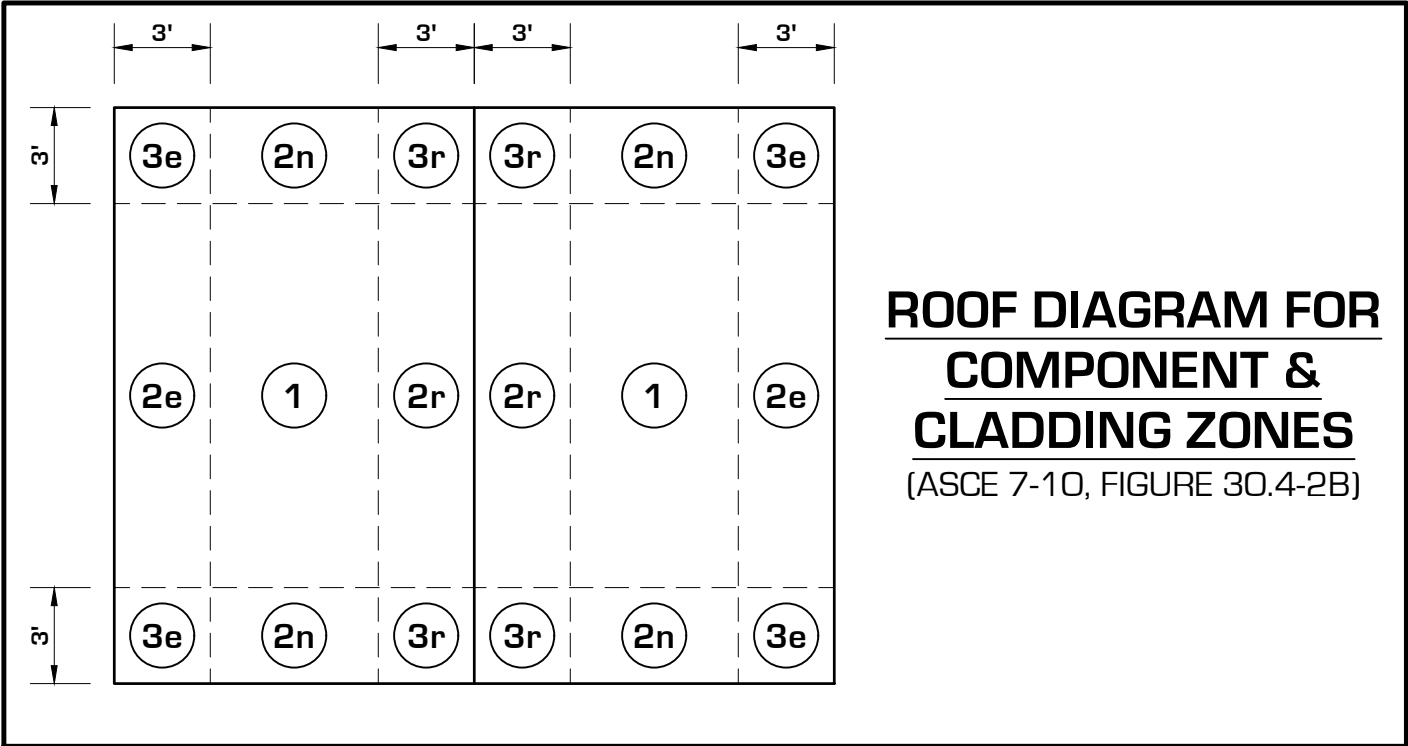
DATE July 20, 2026

Plot Date: Jul 20, 2026 - 12:10pm

Plotted By: JARED

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

Component and Cladding Wind Pressure Schedule													
ALL VALUES ARE POUNDS PER SQUARE FOOT (PSF) - STRENGTH LEVEL (1.0W)													
EFFECTIVE WIND AREA ⁽⁶⁾ (A) (SF)	ROOF						WALLS				OVERHANGS		
	UPLIFT						INWARD		OUTWARD				
	ZONE 1 (PSF)	ZONE 2e (PSF)	ZONE 2n (PSF)	ZONE 2r (PSF)	ZONE 3e (PSF)	ZONE 3r (PSF)	ZONE 4 (psf)	ZONE 5 (PSF)	ZONE 4 (PSF)	ZONE 5 (PSF)	ZONE 1 (PSF)	ZONE 2 (PSF)	ZONE 3 (PSF)
10	-56.03	-56.03	-81.73	-81.73	-81.73	-97.15	27.76	27.76	-30.7	-37.01	-	-	-
20	-56.03	-56.03	-70.66	-70.66	-70.66	-83.22	26.53	26.53	-28.84	-34.55	-	-	-
50	-34.08	-34.08	-56.03	-56.03	-56.03	-64.81	24.9	24.9	-27.21	-31.3	-	-	-
100	-17.48	-17.48	-44.96	-44.96	-44.96	-50.89	23.67	23.67	-25.98	-28.84	-	-	-
200	-17.48	-17.48	-33.89	-33.89	-33.89	-50.89	22.44	22.44	-24.76	-26.38	-	-	-
500	-17.48	-17.48	-30.33	-30.33	-30.33	-50.89	20.82	20.82	-23.13	-23.13	-	-	-
MAX. POSITIVE PRESSURE	18.39	18.39	18.39	18.39	18.39	18.39							
WIND PRESSURE SCHEDULE NOTES:													
1. PLUS AND MINUS SIGNS INDICATE PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES, RESPECTIVELY.													
2. INTERPOLATION MAY BE USED FOR FOR EFFECTIVE AREAS BETWEEN THE VALUES GIVEN. OTHERWISE, USE THE LOWER EFFECTIVE AREA.													
3. ALL VALUES ARE BASED UPON AN ENCLOSED BUILDING.													
4. WIND PRESSURES SHOWN ARE BASED ON STRENGTH LEVEL DESIGN. FOR SERVICE LEVEL DESIGN, MULTIPLY TABLE PROPERTIES BY 0.6.													
5. A DIRECTIONAL FACTOR (Kd) OF 0.85 HAS BEEN USED.													
6. EFFECTIVE WIND AREA IS DEFINED IN ASCE7, CHAPTER 26 AS "THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN 1/3 THE SPAN LENGTH."													



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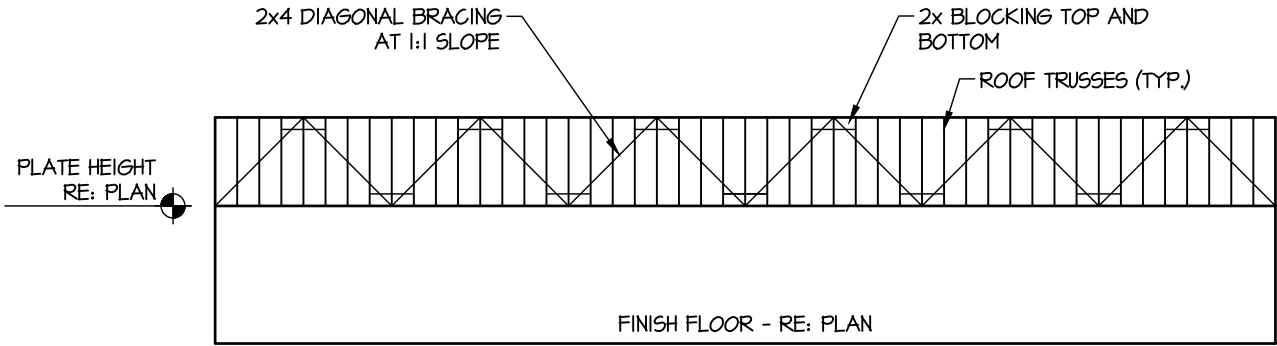
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Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

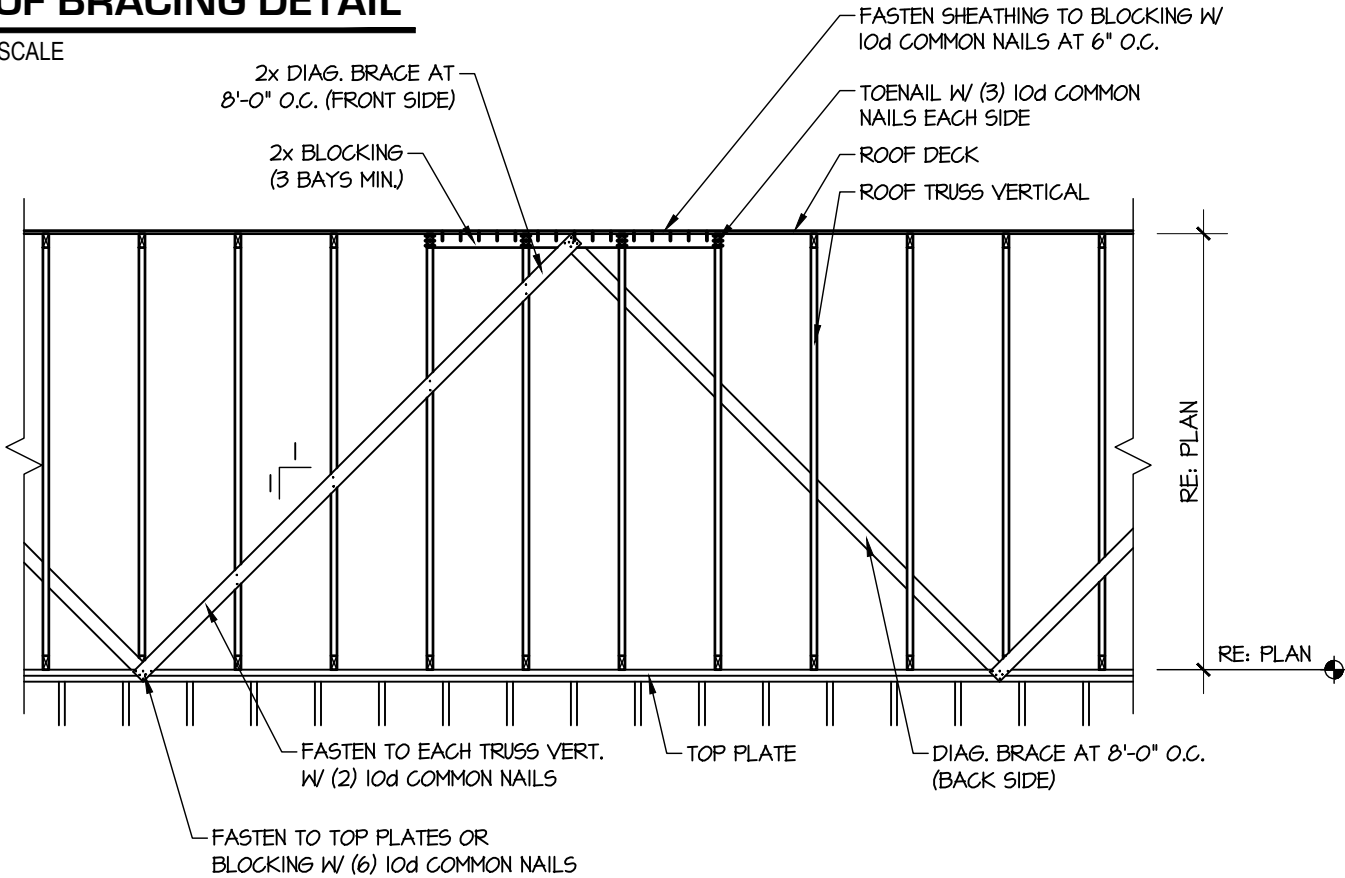
TRUSS LOADING SCHEDULE		
DESIGN CRITERIA		
TRUSSES		ROOF
UNIFORM LOADING IN PSF	TCLL	20
	TCDL	10
	BCLL	0
	BCDL	10
	TOTAL	40 PSF
U.S.I.		25%
CREEP INCREASE FACTOR		2
SPACING		24"
DEPTH/PITCH		2:12
DEFLECTION LIMITS LL : DL + LL		L/360 : L/240
NOTES: 1. TC = TOP CHORD, BC = BOTTOM CHORD, LL = LIVE LOAD, DL = DEAD LOAD. 2. ROOF LIVE LOADS MAY BE REDUCED ACCORDING TO APPLICABLE CODE REQUIREMENTS FOR RISE AND TRIBUTARY CONSIDERATIONS. 3. DEAD LOADS DO NOT INCLUDE SELF WEIGHT. 4. TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR COORDINATING WITH THE EQUIPMENT LOADS, DUCT PENETRATION AND CLEARANCE REQUIREMENTS OF ALL OTHER SYSTEMS INCLUDING MEP AND SPRINKLER PRESENT IN THE FLOOR AND ROOF CAVITY, INCLUDING 250# CONCENTRATED LIVE LOADS FOR INSTALLATION PERSONNEL PER NFPA 13. 5. BOTTOM CHORD OF TRUSSES ARE NOT BRACED BY CEILING CONSTRUCTION. RE: SECTIONS.		



- NOTES:
- BRACES SHALL BE 1x6 OR 2x4 STUD GRADE LUMBER.
 - BLOCKING SHALL BE 2x6 LUMBER.
 - NAIL SHEATHING TO BLOCKING W/ 10d COMMON NAILS AT 6" O.C.
 - NAIL BRACE TO BLOCKING W/ (6) 10d COMMON NAILS.
 - NAIL BLOCKING TO TRUSS W/ (3) 10d COMMON NAILS EACH SIDE.
 - NAIL BRACE TO INTERMEDIATE TRUSSES W/ (2) 10d COMMON NAILS.

2 TYP. ROOF BRACING DETAIL

SCALE: NOT TO SCALE



1 TYP. DIAGONAL TRUSS BRACING

SCALE: NOT TO SCALE

0 1"
IF SCALE ABOVE DOES NOT EQUAL 1",
DRAWING HAS NOT BEEN PRINTED TO SCALE.



THE SEAL APPEARING ON THIS DOCUMENT WAS
AUTHORIZED BY JAMES R. WINTON, P.E. #68190
7/20/26
ORIGINAL SIGNED COPY IS ON FILE AT WINTON ENGINEERING, INC.

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510			
Plot Date: Jul 20, 2026 - 12:10pm Plotted By: JARED			

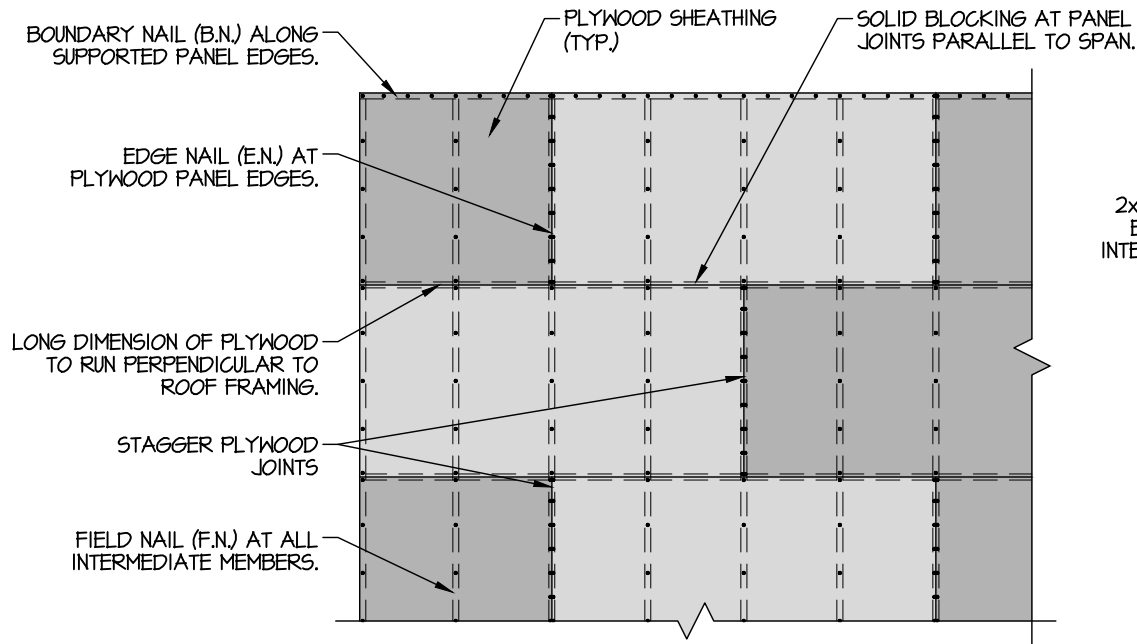
PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

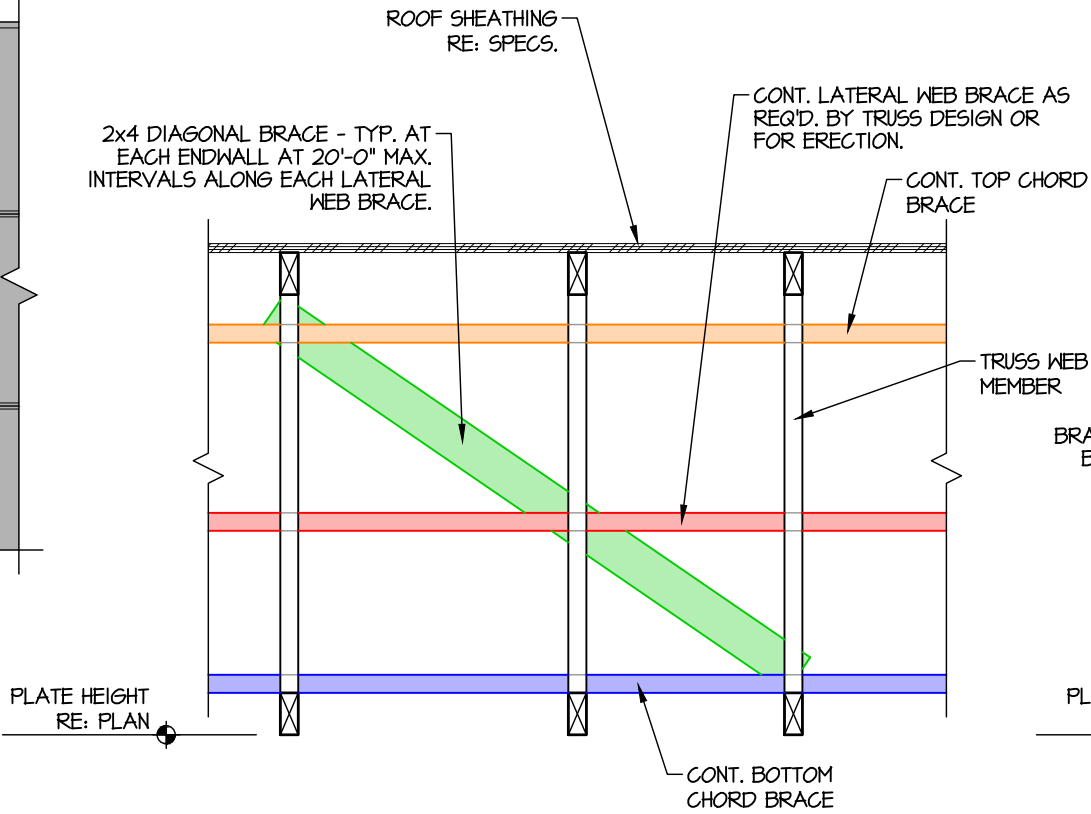
LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. ES-26
PUMP STATION & CHLORINE ROOM TRUSS LOADING SCHEDULE / DETAILS	OF 32

NAILING TABLE		
ZONE	BOUNDARY AND EDGES	FIELD
ZONE 1	6"	6"
ZONE 2	4"	4"
ZONE 3	3"	3"
NOTES: 1. REFER TO COMPONENT AND CLADDING WIND PRESSURE SCHEDULE AND ASSOCIATED DETAILS ON SHEET ES-25 FOR ZONE LOCATIONS. 2. ALL NAILS SHALL BE 8d COMMON.		

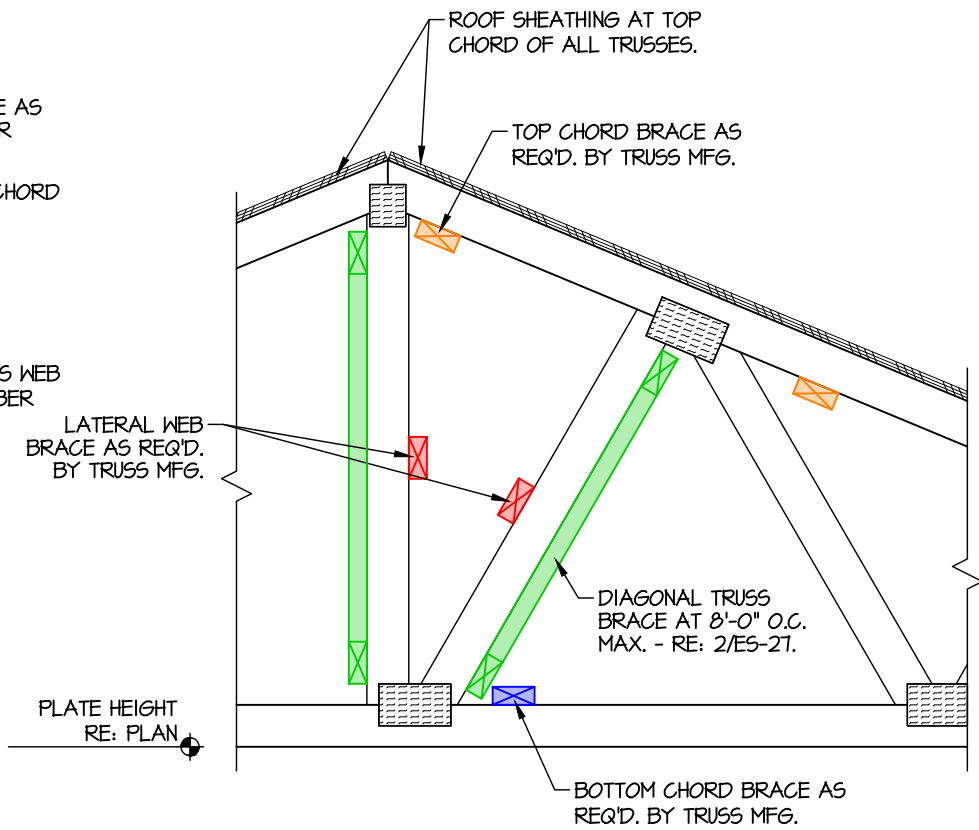


- NOTES:
- PLYWOOD NAILING SHALL BE INSPECTED.
 - MINIMUM PLYWOOD SHEET SIZE SHALL BE 2'-0" x 4'-0".
 - MINIMUM 3/8" NAILING EDGE DISTANCE.
 - EDGE NAIL (E.N.) OUTSIDE BEAMS AND AROUND ALL OPENINGS.

3 TYP. DECK PLACEMENT DETAIL
SCALE: NOT TO SCALE



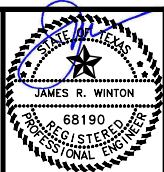
2 TYP. LATERAL SUPPORT ELEVATION
SCALE: NOT TO SCALE



1 TYP. LATERAL SUPPORT SECTION
SCALE: NOT TO SCALE



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CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
TRUSS / ROOF SHEATHING DETAILS

SHEET NO. ES-27

OF 32

DRAWING TO BE READ IN COLOR

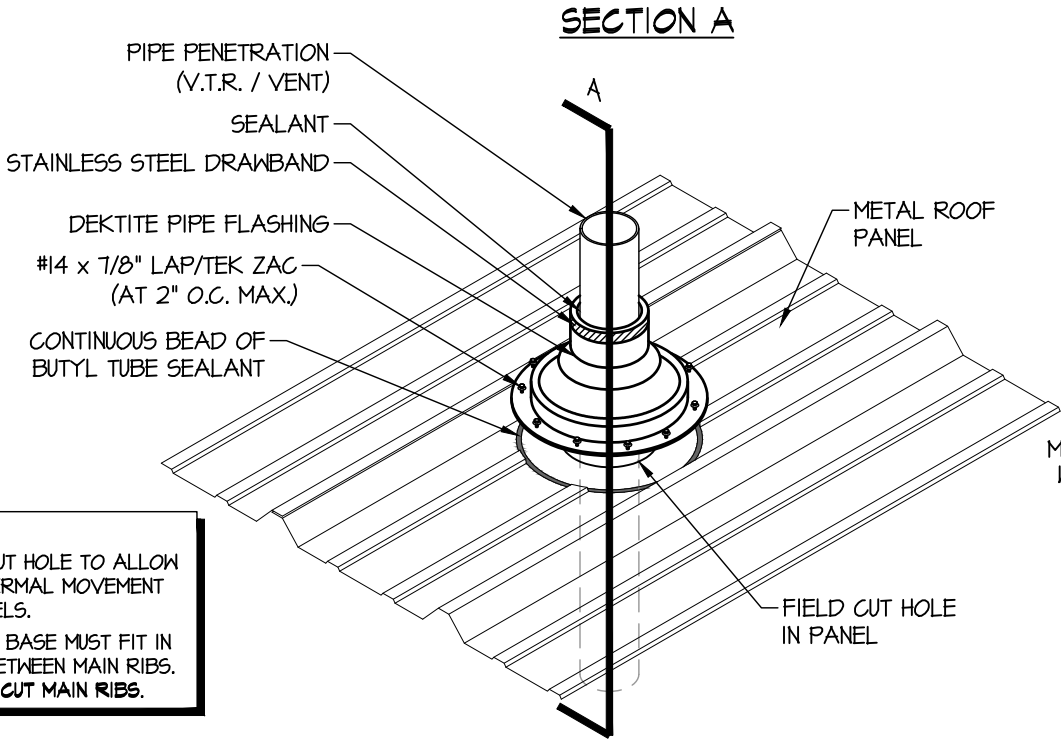
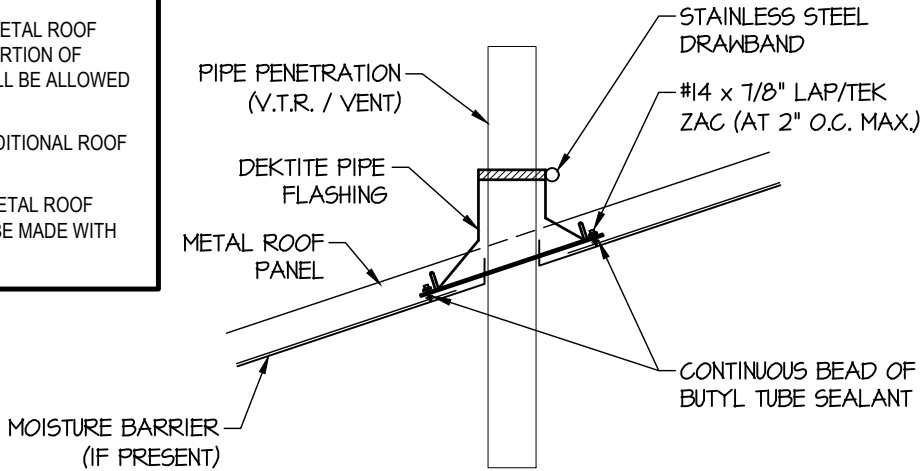
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NO.	DATE	REVISION	BY
1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 12:10pm	JARED
2	Jul 20, 2026	Plotted By: JARED	

© 2026 Kasberg, Patrick & Associates, LP
KPA Firm Registration Number F-510

ROOF NOTES

- 1. SUPPLY ALL ROOF PANELS IN LENGTHS AS LONG AS POSSIBLE.
- 2. ALL ROOF PENETRATIONS IN METAL ROOF SHALL BE MADE THRU FLAT PORTION OF PANEL. NO PENETRATIONS WILL BE ALLOWED THRU RIBS.
- 3. REFER TO MEP PLANS FOR ADDITIONAL ROOF PENETRATIONS.
- 4. ALL VENT PENETRATIONS IN METAL ROOF PANELS, IF REQUIRED, SHALL BE MADE WITH DEKTITE FLASHING.

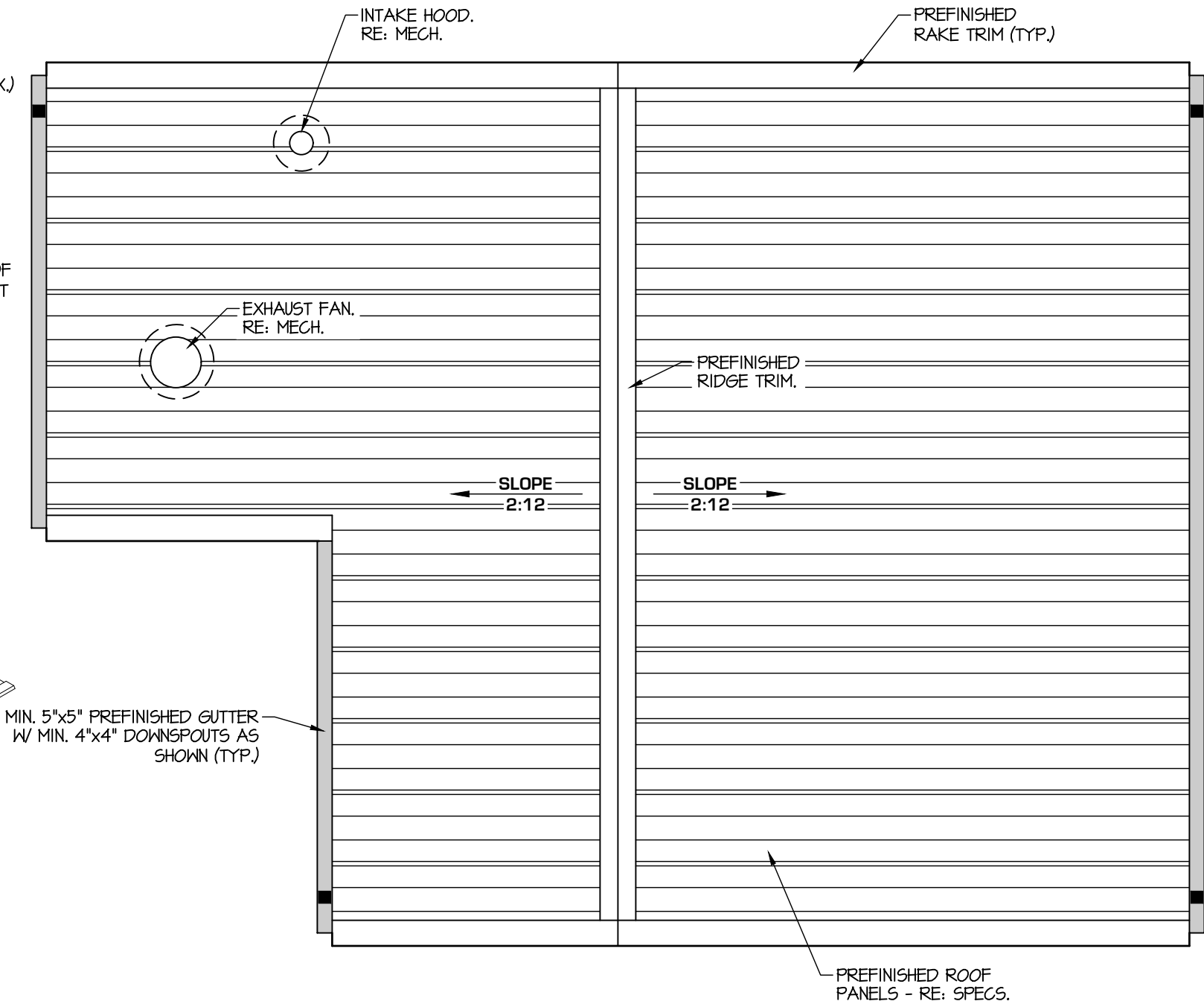


- NOTE:
- 1. OVER-CUT HOLE TO ALLOW FOR THERMAL MOVEMENT OF PANELS.
 - 2. DEKTITE BASE MUST FIT IN AREA BETWEEN MAIN RIBS. DO NOT CUT MAIN RIBS.

2

TYP. DEKTITE PIPE FLASHING

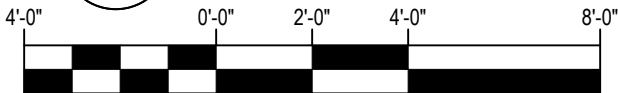
SCALE: NOT TO SCALE



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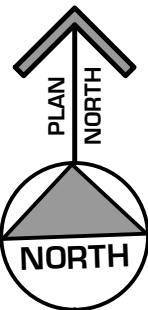
ROOF PLAN

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



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

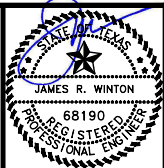
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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
ROOF PLAN / DETAILS

SHEET NO. ES-28

OF 32

NO.	DATE	REVISION	BY
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KPA Firm Registration Number F-510			
Plot Date: Jul 20, 2026 - 12:10pm			
Plotted By: JARED			

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

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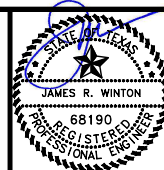
	MINIMUM MANEUVERING CLEARANCE	
APPROACH DIRECTION (SEE FIG. 404.2.4.2 ABOVE)	PERPENDICULAR TO DOORWAY	PARALLEL TO DOORWAY (BEYOND STOP/LATCH SIDE UNLESS NOTED)
FROM FRONT (FIG. A)	48"	0"
FROM FRONT (FIG. B&C)	42"	0"
FROM HINGE SIDE (FIG. D)	42"	22" ⁽²⁾
FROM HINGE SIDE (FIG. E)	42"	24"
1. DOORWAY WITH NO DOOR ONLY. 2. BEYOND POCKET/HINGE SIDE.		

TABLE 703.5.5 - VISUAL CHARACTER HEIGHT		
HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT (IN.)
40" TO LESS THAN OR EQUAL TO 70"	LESS THAN 72"	5/8"
	72" OR GREATER	5/8", PLUS 1/8" PER FOOT OF VIEWING DISTANCE ABOVE 180"
GREATER THAN 70" TO LESS THAN OR EQUAL TO 120"	180" AND GREATER	2", PLUS 1/8" PER FOOT OF VIEWING DISTANCE ABOVE 180"
GREATER THAN 120"	LESS THAN 21'-0"	3"
	21'-0" AND GREATER	3", PLUS 1/8" PER FOOT OF VIEWING DISTANCE ABOVE 21'-0"

*MEASURED CENTER TO CENTER

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PROJECT NO.	<u>2024-109</u>
DRAWN BY	<u>Jared Kelm</u>
DESIGNED BY	<u>Jim Winton, P.E.</u>
APPROVED BY	<u>Jim Winton, P.E.</u>
DATE	<u>July 20, 2026</u>



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LEVI WATER SUPPLY CORP.

FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM

ACCESSIBILITY DETAILS

SHEET NO. **ES-29**

OF **32**

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_ES-01.dwg

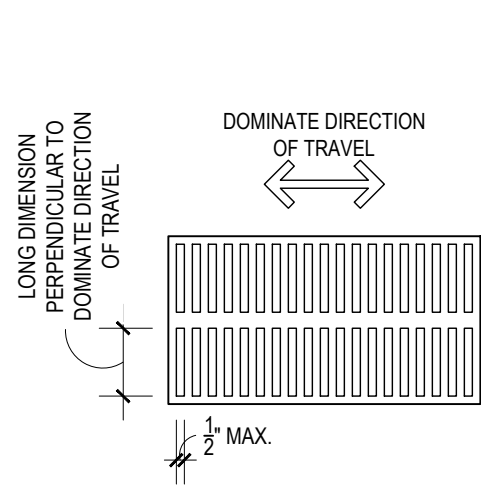


FIGURE 302.3
ELONGATED OPENINGS IN FLOOR
OR GROUND SURFACES

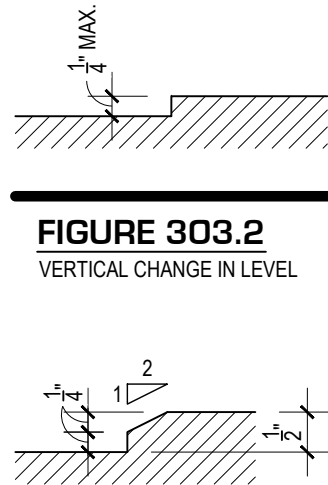


FIGURE 303.2
VERTICAL CHANGE IN LEVEL

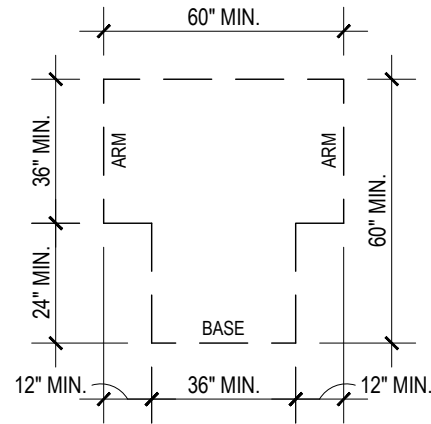


FIGURE 304.3.2
T-SHAPED TURNING SPACE

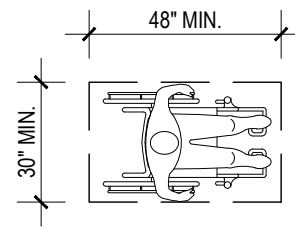


FIGURE 305.3
CLEAR FLOOR OR
GROUND SPACE

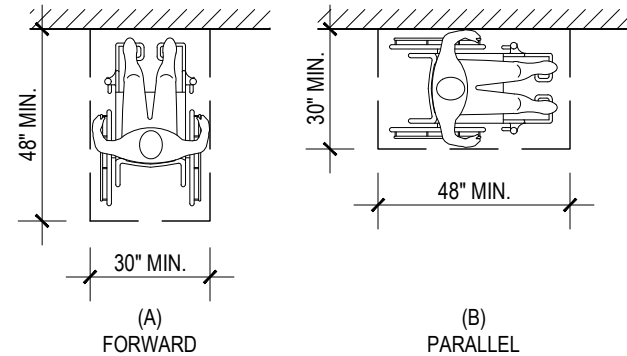


FIGURE 305.5
POSITION OF CLEAR FLOOR OR GROUND SPACE

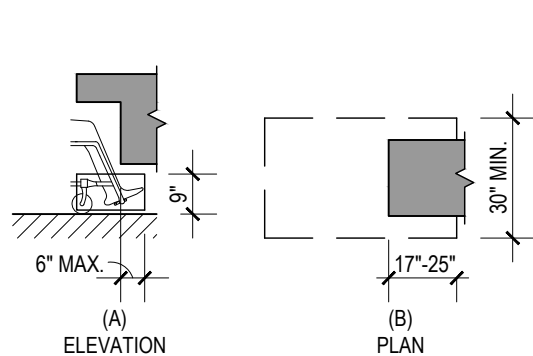


FIGURE 306.2
TOE CLEARANCE

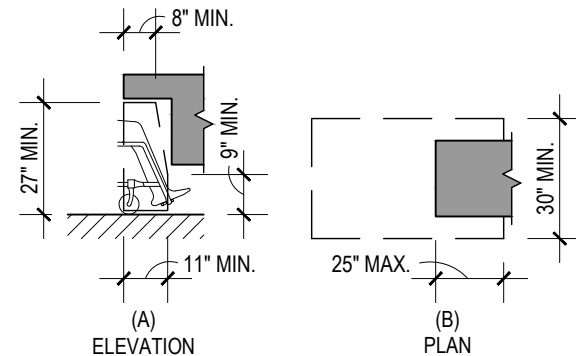


FIGURE 306.3
KNEE CLEARANCE

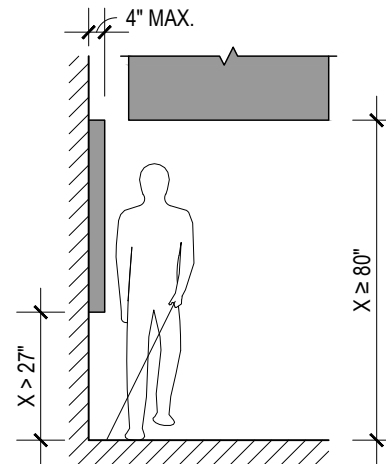


FIGURE 307.2
LIMITS OF PROTRUDING OBJECTS

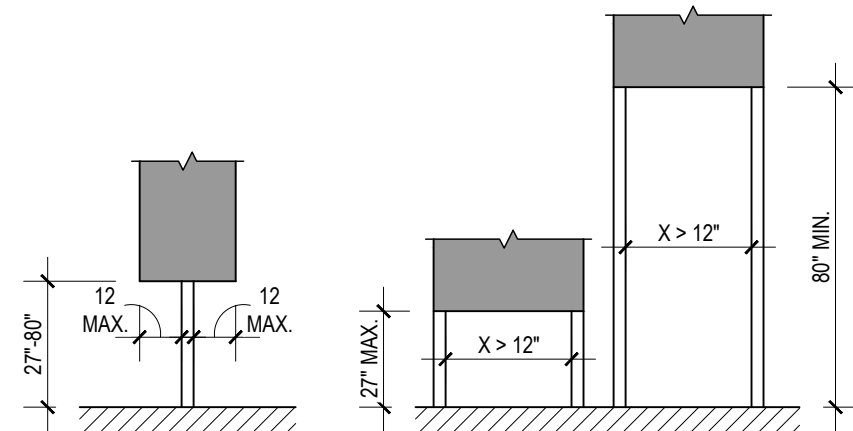


FIGURE 307.3
POST-MOUNTED PROTRUDING OBJECTS



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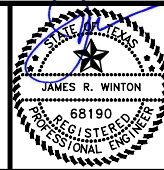
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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
PUMP STATION & CHLORINE ROOM ACCESSIBILITY DETAILS

SHEET NO. ES-30
OF 32

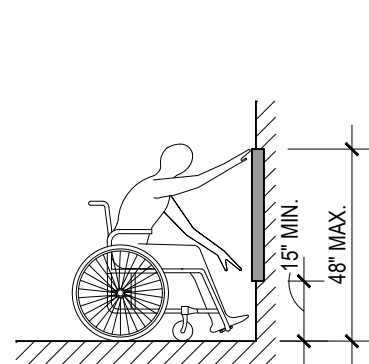


FIGURE 308.2.1
UNOBSTRUCTED FORWARD REACH

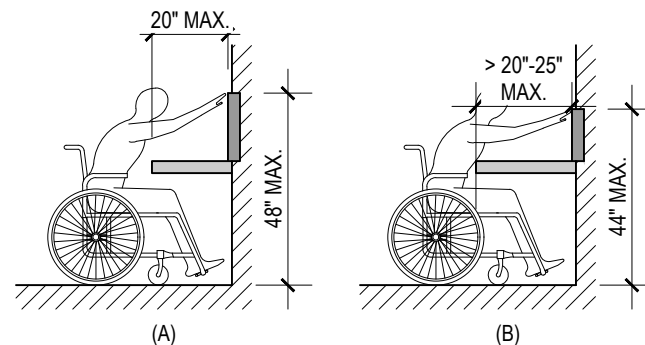


FIGURE 308.2.2
OBSTRUCTED HIGH FORWARD REACH

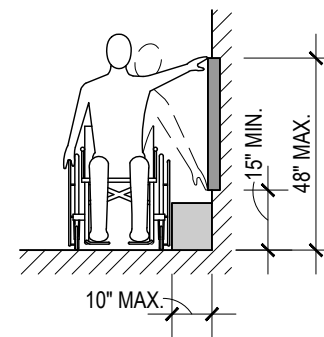


FIGURE 308.3.1
UNOBSTRUCTED SIDE REACH

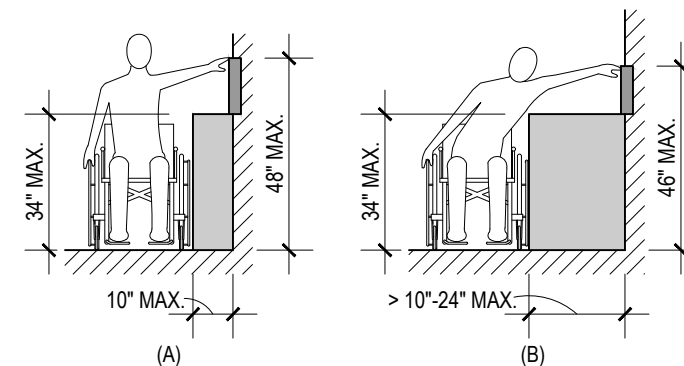
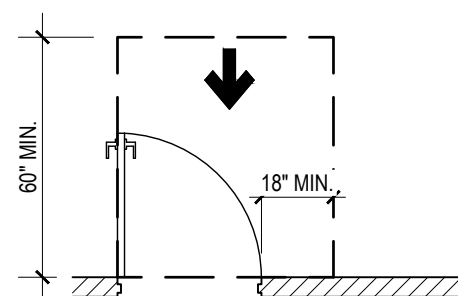
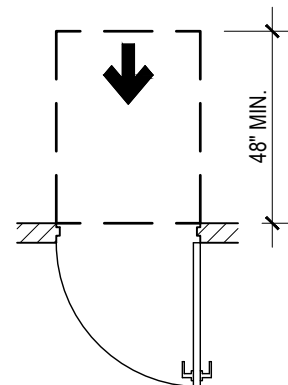


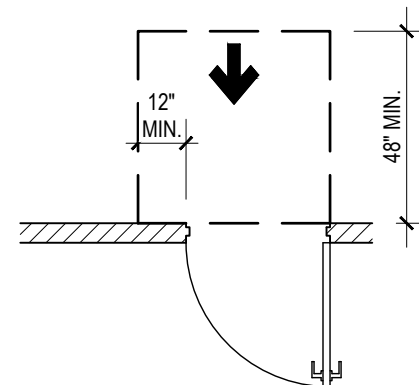
FIGURE 308.3.2
OBSTRUCTED HIGH SIDE REACH



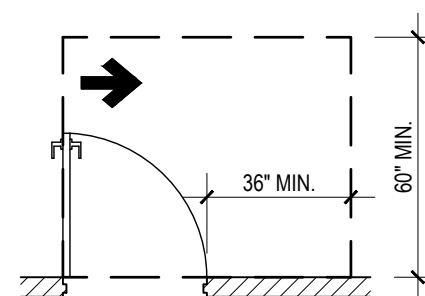
(A)
FRONT APPROACH, PULL SIDE



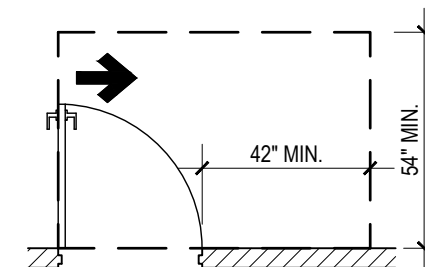
(B)
FRONT APPROACH, PUSH SIDE



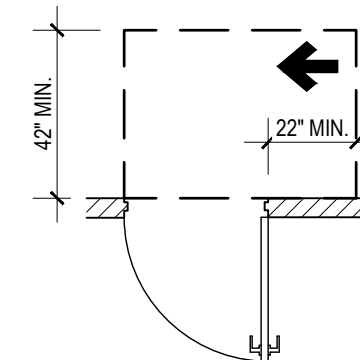
(C)
FRONT APPROACH, PUSH SIDE, DOOR
PROVIDED WITH BOTH CLOSER AND LATCH



(D)
HINGE APPROACH, PULL SIDE



(E)
HINGE APPROACH, PULL SIDE



(F)
HINGE APPROACH, PUSH SIDE

FIGURE 404.2.4.1
MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES



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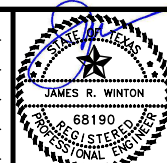
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KPA Firm Registration Number F-510	Plotted By: JARED		

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DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

PUMP STATION & CHLORINE ROOM
ACCESSIBILITY DETAILS

SHEET NO. **ES-31**

OF **32**

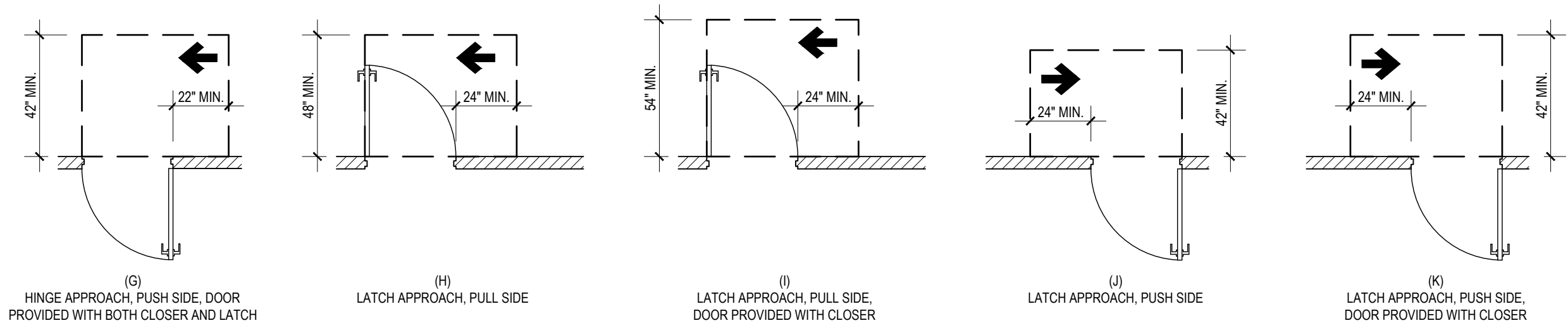


FIGURE 404.2.4.1 (CONT.)

MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES

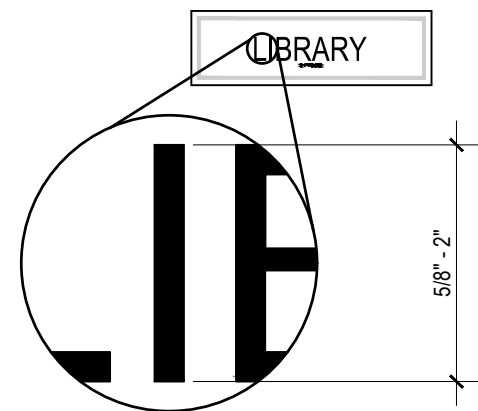


FIGURE 703.2.5

HEIGHT OF RAISED CHARACTERS

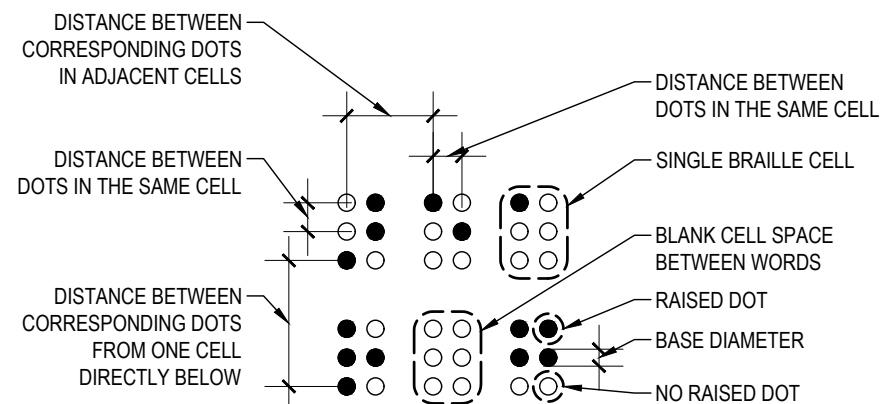


FIGURE 703.3.1

BRAILLE MEASUREMENTS

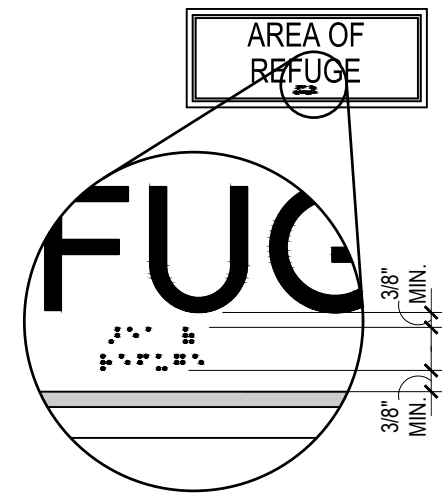


FIGURE 703.3.2

POSITION OF BRAILLE

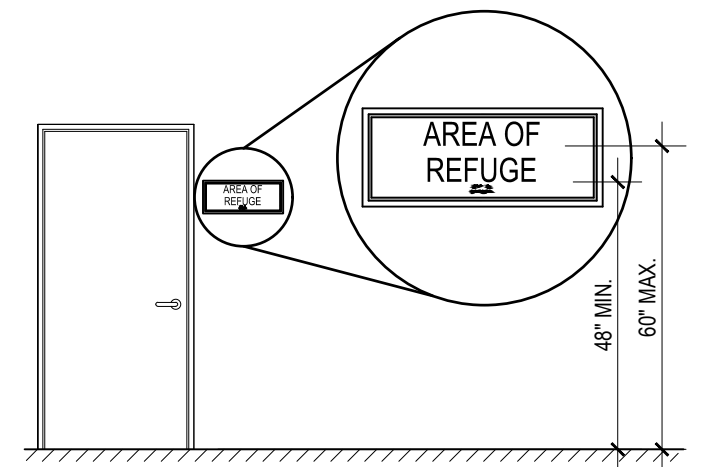


FIGURE 703.4.1

HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND



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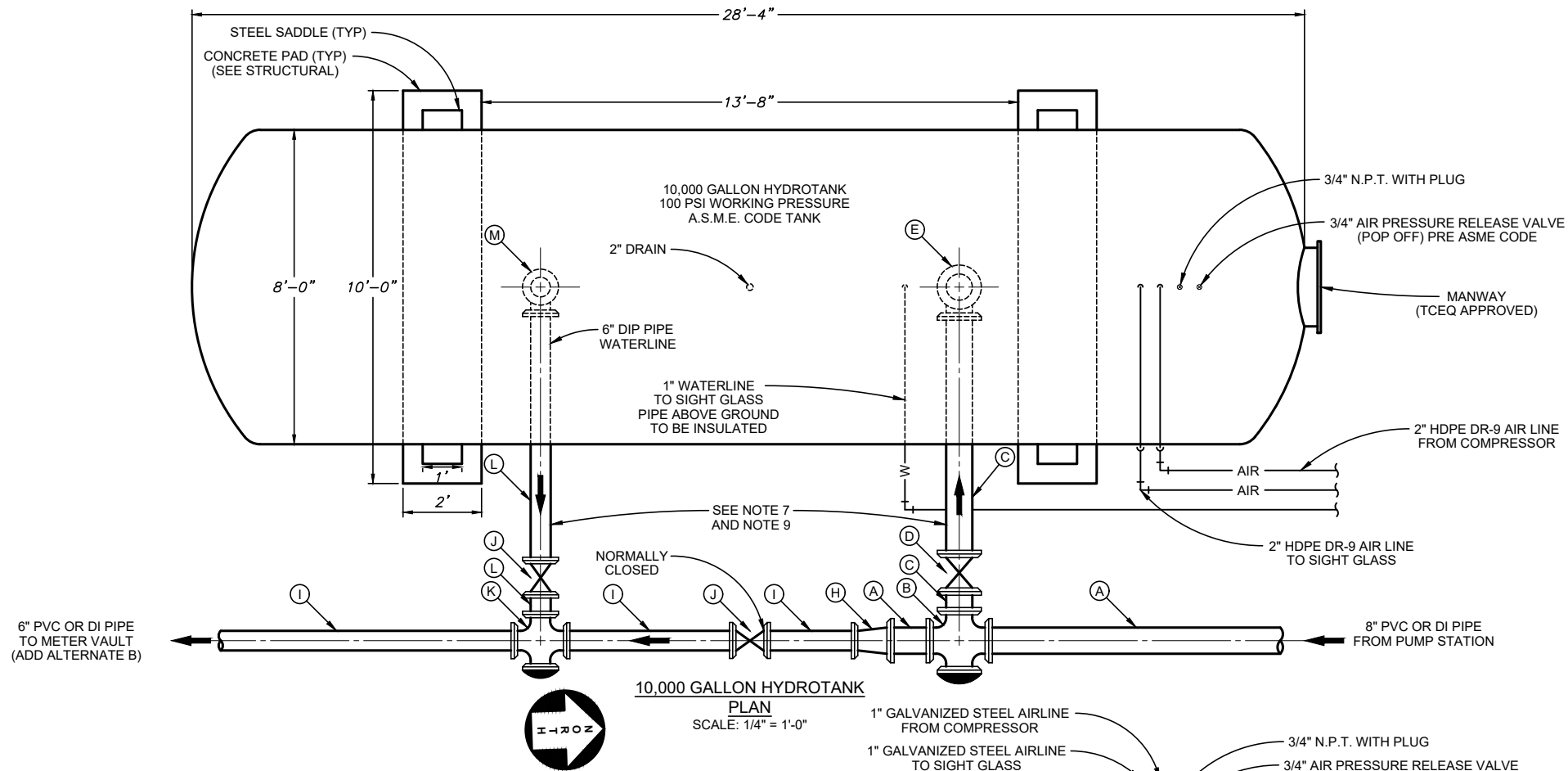
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				PROJECT NO. 2024-109			KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. ES-32 OF 32
				DRAWN BY Jared Kelm				PUMP STATION & CHLORINE ROOM ACCESSIBILITY DETAILS	
				DESIGNED BY Jim Winton, P.E.					
				APPROVED BY Jim Winton, P.E.					
NO.	DATE	REVISION	BY	DATE July 20, 2026					
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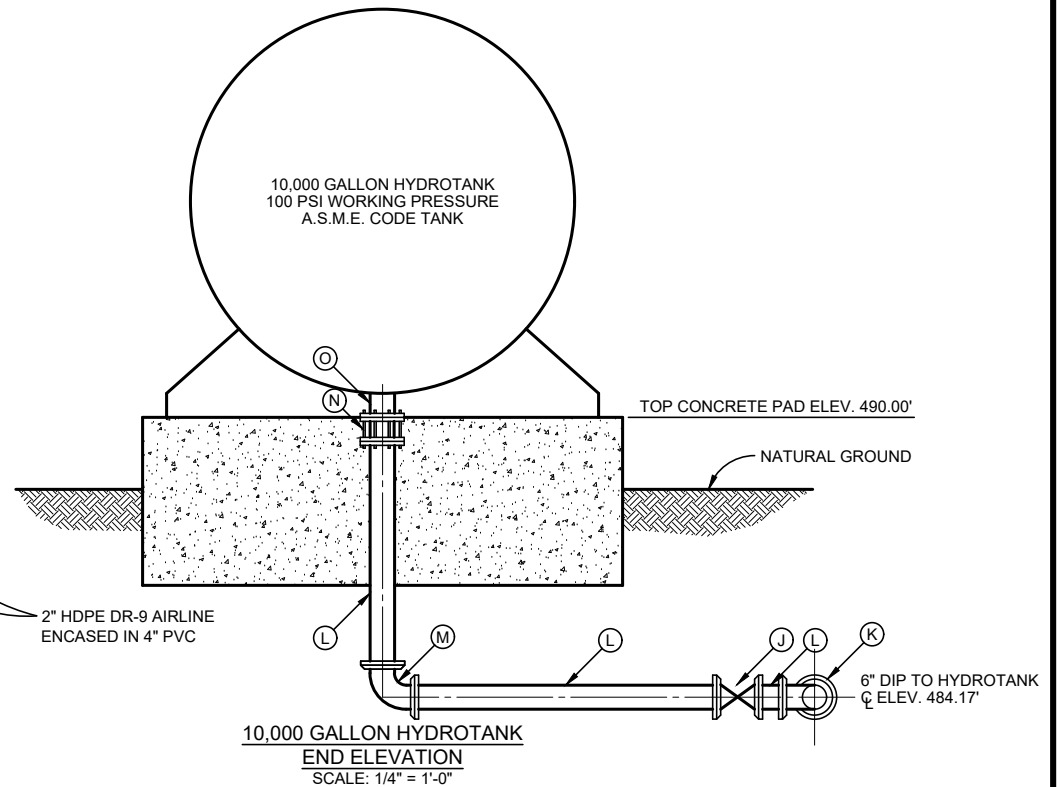
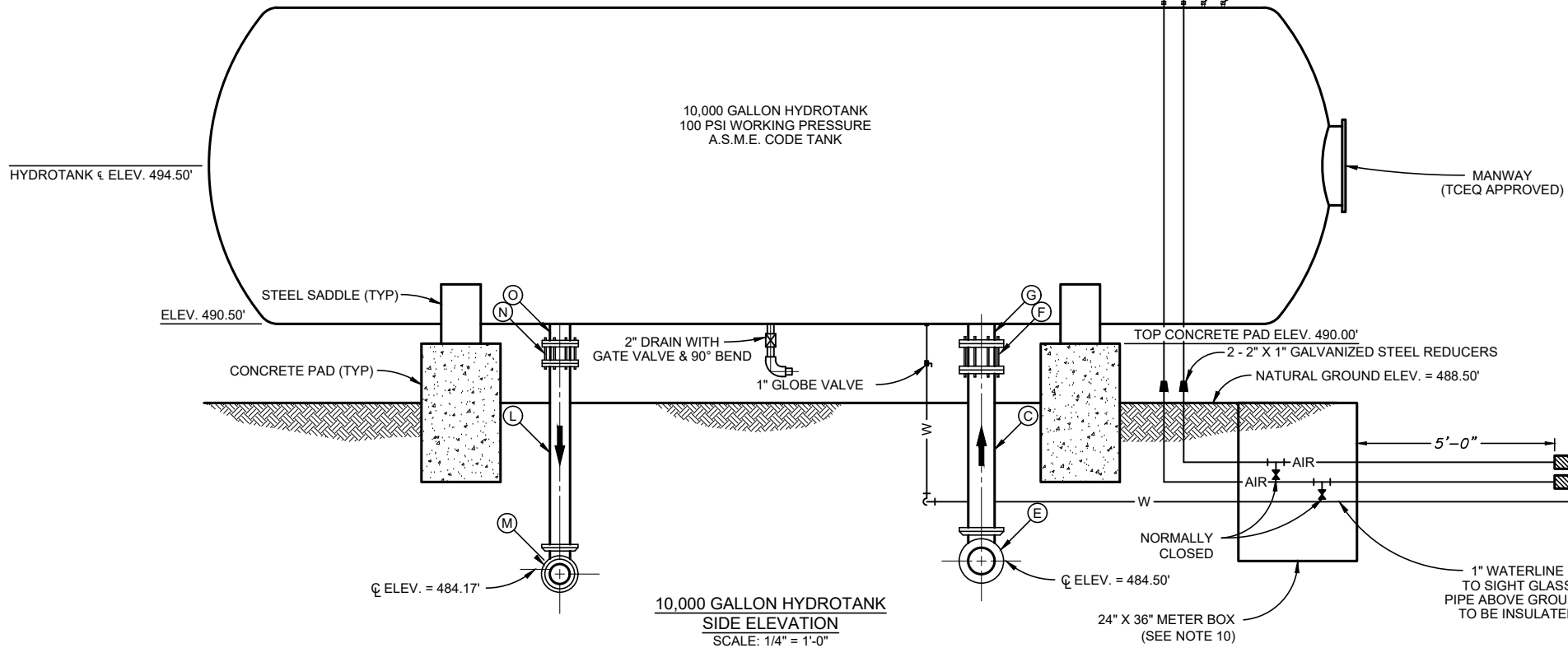
P:\Levi WSC\2024\124-108 Water Plant Site\CAD\WORKING\MECHANICAL\HYDROTANK.dwg - FM-01



NOTES:

1. METAL THICKNESS FOR HYDROTANK SHALL BE AS REQUIRED BY ASME CODE FOR 100 PSI WORKING PRESSURE AS NOTED.
2. THE HYDROTANK SHALL BE PROVIDED WITH A PRESSURE RELEASE DEVICE & EASILY READABLE PRESSURE GAUGE.
3. A SIGHT GLASS MUST BE PROVIDED FOR ALL TANKS 1000 GALLONS CAPACITY & GREATER.
4. ALL EXPOSED PIPING SHALL HAVE A MINIMUM OF 2" INSULATION.
5. ALL FLEXIBLE COUPLINGS SHALL HAVE THRUST HARNESS.
6. INTERNAL COATING SHALL COMPLY WITH NSF 61.
7. ALL 8" PIPING FROM THE TEE TO THE HYDROTANK SHALL BE 8" DI PIPE. ALL 6" PIPING FROM THE 6" TEE TO THE HYDROTANK SHALL BE 6" DI PIPE. ALL OTHER 6" & 8" PIPING, IN REGARDS TO THE HYDROTANK, MAY BE PVC OR DI PIPE.
8. ALL AIR LINES SHALL BE 2" HDPE DR-9 BELOW GRADE, ENCASED IN 4" PVC SLEEVE. AIRLINES SHALL TRANSITION TO 1" GALVANIZED STAINLESS STEEL PIPE ABOVEGROUND WITH 2" X 1" GALVANIZED REDUCER.
9. ALL EXPOSED EXTERIOR ABOVE GROUND WATER PIPING SHALL BE INSULATED WITH 2-INCH FIBERGLASS INSULATION MANUFACTURED BY KNAUF INSULATION®, MASON INSULATION® OR APPROVED EQUAL. FIBERGLASS INSULATION SHALL BE COVERED WITH RPR PRODUCTS, INC. INSUL-MATE™ ALUMINUM JACKETING OR APPROVED EQUAL UNLESS OTHERWISE SPECIFIED.
10. METER BOX SHALL BE 24" X 36" AS MANUFACTURED BY OLDCASTLE FRP MODEL 2436 OR APPROVED EQUAL.

PIPE FITTINGS APPLIES TO HYDROTANK SHEET ONLY (FM-01)			
LETTER	SIZE	JOINT	DESCRIPTION
A	8"	PE	PVC OR DI PIPE
B	8"	MJ	CROSS
C	8"	PE	DI PIPE
D	8"	MJ	GATE VALVE
E	8"	MJ	90° BEND
F	8"	FLG	FLEXIBLE COUPLING W/ THRUST HARNESS
G	8"	FLG X PE	DI PIPE
H	8" X 6"	MJ	REDUCER
I	6"	PE	PVC OR DI PIPE
J	6"	MJ	GATE VALVE
K	6"	MJ	CROSS
L	6"	PE	DI PIPE
M	6"	MJ	90° BEND
N	6"	FLG	FLEXIBLE COUPLING W/ THRUST HARNESS
O	6"	FLG X PE	DI PIPE



NO.	DATE	REVISION	BY
1	Jul 20, 2026	3:41pm	ZLOPEZ

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PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	Ginger R. Tolbert
DATE	July 20, 2026



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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

10,000 GALLON HYDROTANK
PLAN & SECTIONS

SHEET NO. FM-01

OF 1

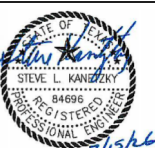
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Engineering, LLC.
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Building B, Suite 100
Bee Cave, Texas 78738
(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

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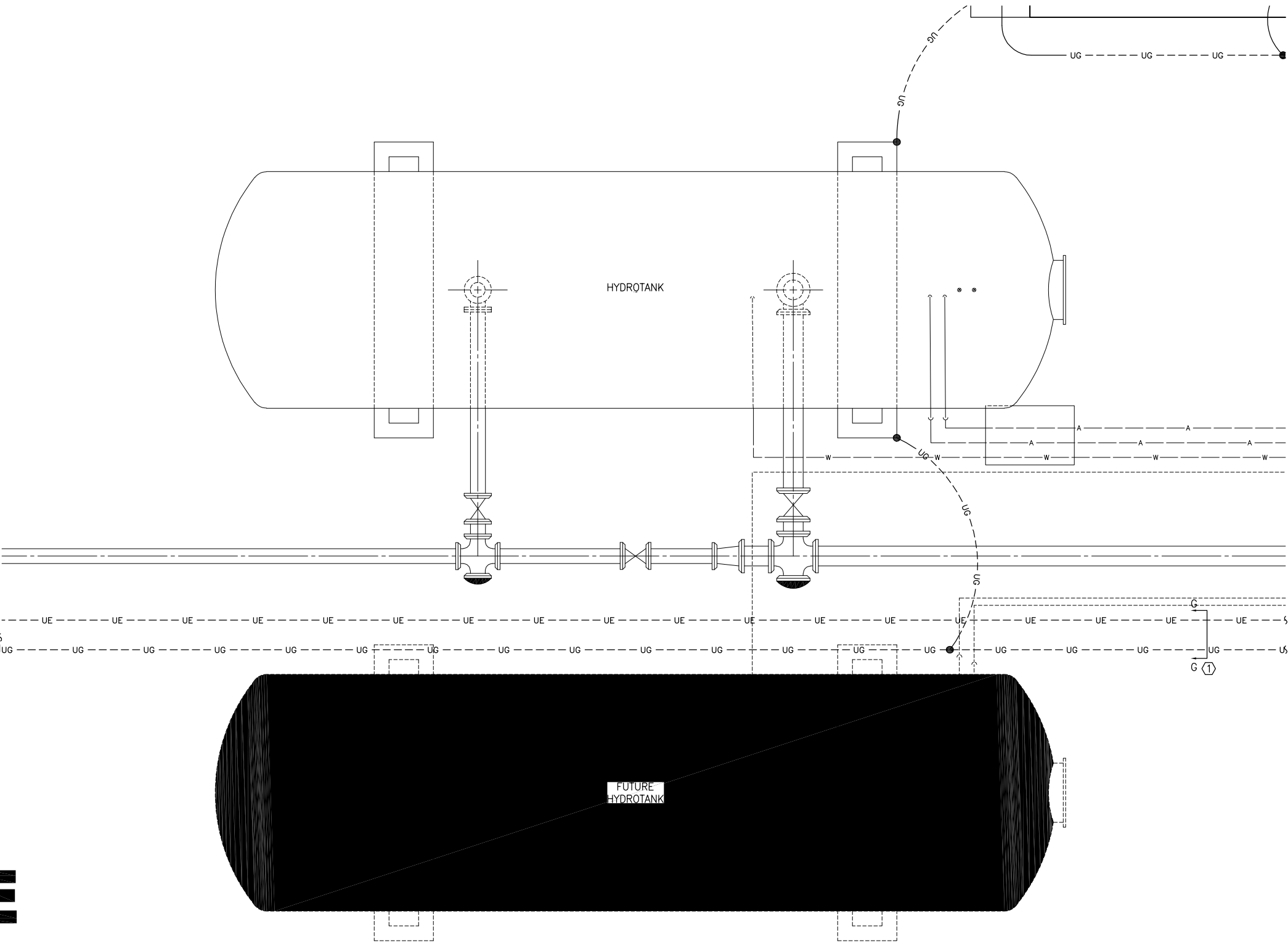
PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
HYDROTANK POWER PLAN

SHEET NO.	FE-01
OF	1



REFERENCE NOTES

- ① REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.



HYDROTANK POWER PLAN
E2.6 SCALE: 1/2" = 1'-0"



E2.6

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_FS-01.dwg



TANK DESIGN WEIGHTS:
• EMPTY15,000#±
• FULL98,400#±

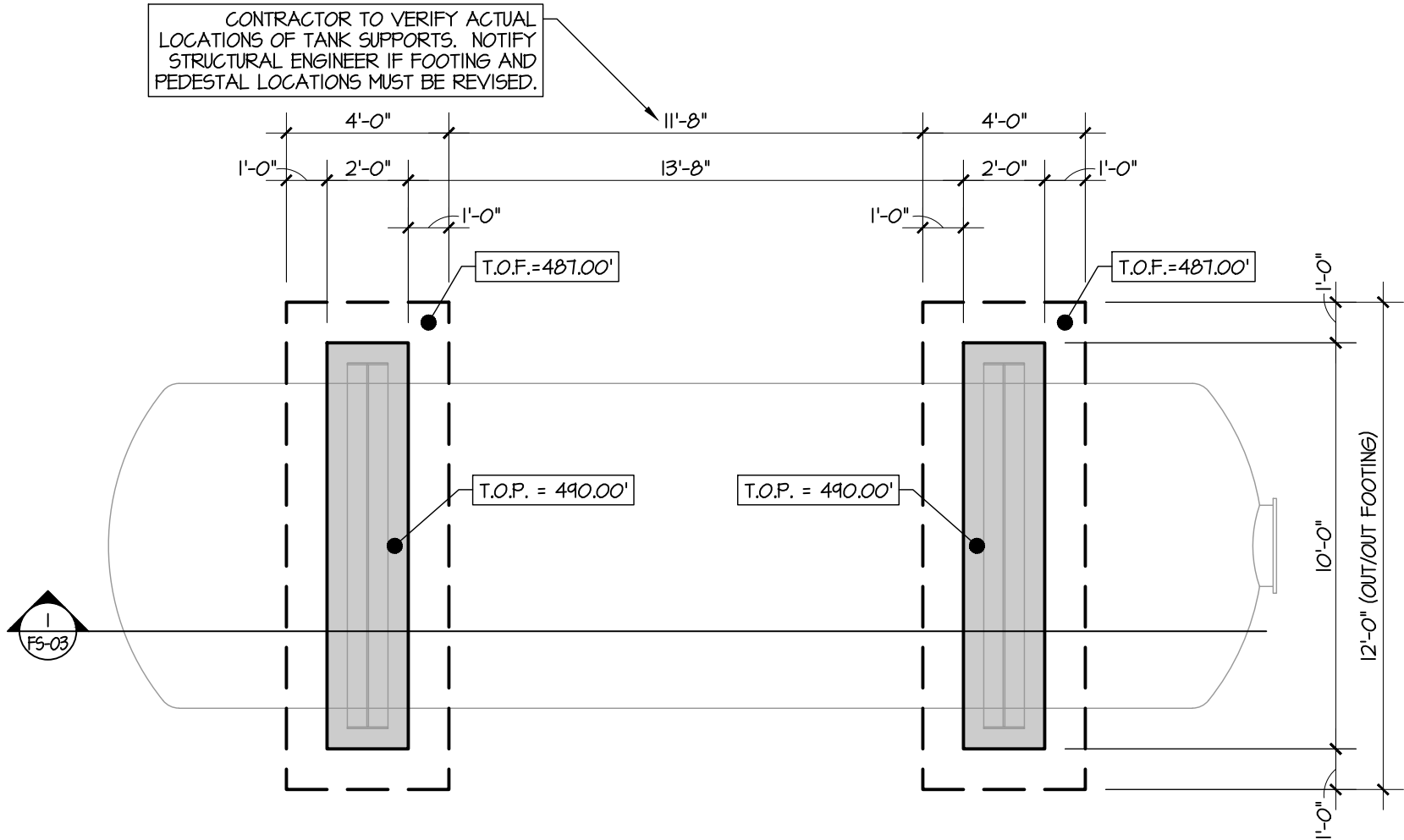
1 FOUNDATION PLAN

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

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CONCRETE TYPE:

- ☐ STRUCTURAL
- ☒ GRADE BEAMS
- ☒ FOOTING
- ☐ LIQUID-CONTAINING ENVIRONMENTAL STRUCTURE



- ## TYPICAL CONCRETE PLAN NOTES
- REFER TO SHEETS **AS-01 - AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
 - THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
 - VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL EQUIPMENT, BLOCK-OUTS, DEPRESSIONS, EMBEDS, ELECTRICAL BOXES, AND SIMILAR ITEMS WITH CIVIL AND MEP PLANS PRIOR TO FORMING CONCRETE. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
 - CONTRACTOR SHALL COORDINATE WITH FINAL ELECTRICAL/PLUMBING PLANS, AND WITH ELECTRICAL AND PLUMBING SUBCONTRACTORS, REGARDING ALL WORK REQUIRED WITHIN FOUNDATION, INCLUDING AT A MINIMUM, GROUND WIRE CONNECTIONS, PIPE / CONDUIT PENETRATIONS, PIPE SLEEVES, ETC. **IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE AND COORDINATE ALL INSPECTIONS REQUIRED BY THE SPECIFICATIONS, AND BY AUTHORITIES HAVING JURISDICTION, PRIOR TO PLACING CONCRETE.**
 - ALL PIPING AND CONDUIT SHALL BE UNDER FULL DEPTH OF FOOTING AND SHALL NOT BE LAID ON TOP OF SUBGRADE OR RUN Laterally WITHIN FOOTINGS.**
 - PLACE ALL REINFORCING STEEL WITH PROPER CLEARANCES, LAPS, AND TIE SPACINGS. REFER TO DETAILS.
 - PROVIDE BAR CHAIRS, SUPPORTS, STANDEES AND SPACERS AT 4'-0" ON CENTER MAXIMUM FOR ALL LAYERS OF STEEL IN FOOTINGS, AND AS REQUIRED TO MAINTAIN CLEARANCES AT BEAMS.
 - NOTIFY PRIME ENGINEER, STRUCTURAL ENGINEER, AND CONSTRUCTION MATERIALS TESTING COMPANY A MINIMUM OF (2) BUSINESS DAYS PRIOR TO PLACING CONCRETE. INDICATE APPROXIMATE TIME OF POUR, AS WELL AS WHEN STEEL REINFORCING WILL BE COMPLETED FOR OBSERVATION.**
 - FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

TYPICAL CONCRETE PLAN LEGEND

	GRADE BEAM	U.N.O.	= UNLESS NOTED OTHERWISE
	DETAIL NUMBER	CJ	= CONTROL / CONSTRUCTION JOINT
	SECTION MARK	T.O.F.	= TOP OF FOOTING
	SHEET NUMBER	T.O.C.	= TOP OF PEDESTAL
	SLOPE	O.C.	= ON CENTER
		O.C.E.W.	= ON CENTER EACH WAY

NORTH

PLAN NORTH

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"

0 1"

IF SCALE ABOVE DOES NOT EQUAL 1",
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SCALE: 1/4"=1'-0" **DRAWING TO BE READ IN COLOR**

NO.	DATE	REVISION	BY
1	July 20, 2026	Plot Date: Jul 20, 2026 - 12:18pm	JARED
2	July 20, 2026	Plotted By: JARED	

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KPA Firm Registration Number F-510

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

10,000 GALLON HYDROTANK
FOUNDATION PLAN

SHEET NO. **FS-01**

OF **2**

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_FS-01.dwg

3/4" CHAMFER ON ALL
EXPOSED HORIZ. EDGES.

RUB ALL EXPOSED CONC.

ANCH. BOLTS AS PROVIDED
BY TANK SUPPLIER.

STEEL TANK AND CRADLE
(BY TANK SUPPLIER)

#4 HORIZ. AT 10" O.C.
VERTICALLY, W/ (1) #4 CONT.
ALONG LENGTH OF PEDESTAL.

#5 VERT. DOWELS W/ STD.
ACI HOOK AT 10" O.C.

#4 'U' BARS AT 10" O.C. (AT
TOP AND AT EACH LAYER 12 12
OF REINF. AT ENDS)

#4 CONT. AT 10" O.C.
MAX. (HORIZ.)

REINF. FOOTING W/ #4 AT 12" O.C.
(TOP SHORT) AND #5 AT 12" O.C.
(BOTT. SHORT) AND (5) #4 (TOP
LONG) AND (5) #5 (BOTT. LONG)

RE: PLAN

PREPARED SUBGRADE.

24" MIN. COMPACTED
STRUCTURAL FILL - RE: SPECS.

490.00'

RE: CIVIL

487.00'

1'-0" MIN.

1'-0" FTG.

2'-0"

1

OVERALL FOUNDATION SECTION

SCALE: 3/4" = 1'-0"

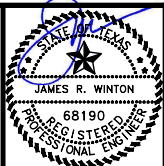
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1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 12:18pm Plotted By: JARED	

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

10,000 GALLON HYDROTANK
FOUNDATION SECTION

SHEET NO. **FS-02**

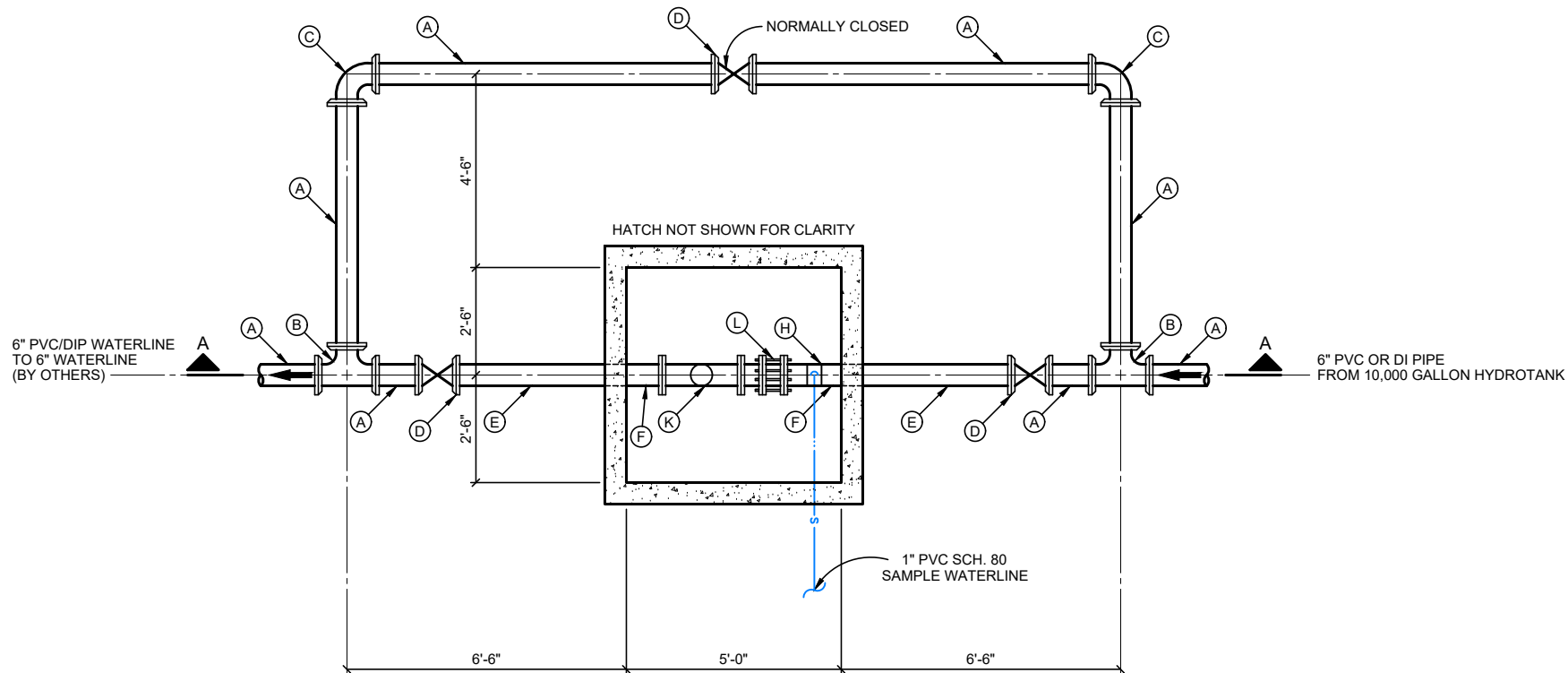
OF **2**

DRAWING TO BE READ IN COLOR

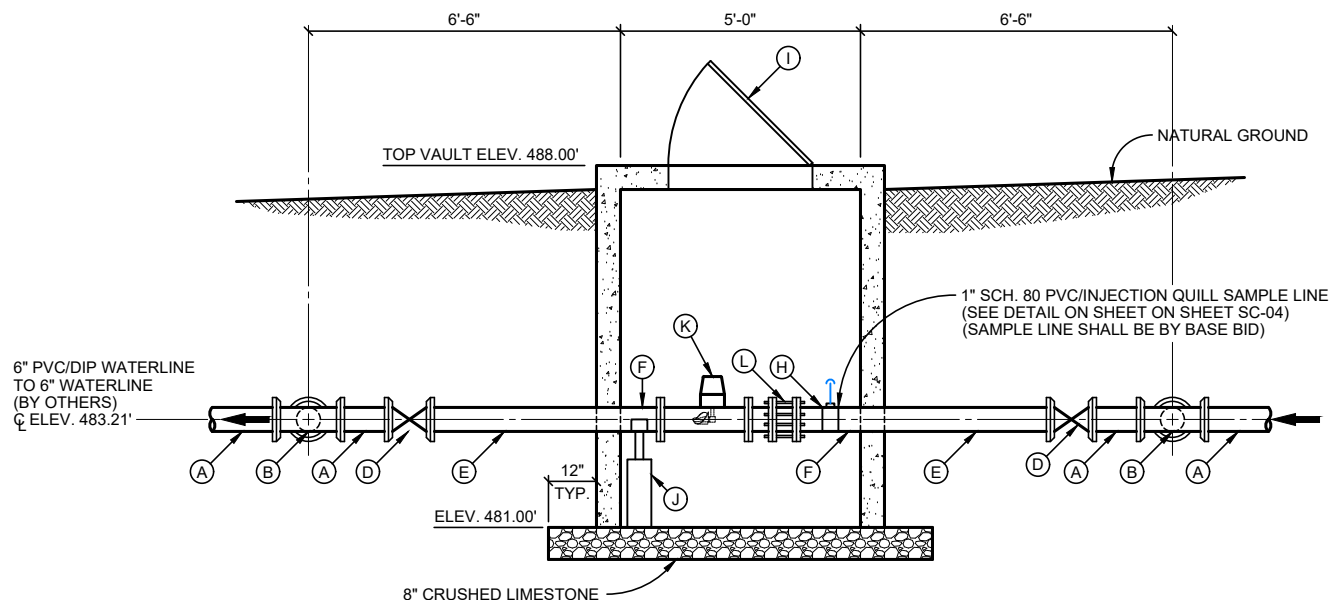
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P:\Levi WSC\2024\24-109 Water Plant Site\CAD\WORKING\METRIC\MASTER METER VAULT.dwg - GM-01



(ADD ALTERNATE B)
METER VAULT
PLAN
SCALE: 1/4" = 1'-0"



(ADD ALTERNATE B)
METER VAULT
SECTION "A-A"
SCALE: 1/4" = 1'-0"

PIPE FITTINGS APPLIES TO METER VAULT SHEET ONLY (GM-01)			
LETTER	SIZE	JOINT	DESCRIPTION
A	6"	PE	PVC PIPE
B	6"	MJ	TEE
C	6"	MJ	90° BEND
D	6"	MJ	GATE VALVE
E	6"	MJ X FLG	DI PIPE
F	6"	FLG X PE	DI PIPE
G	6"	FLG	DI PIPE
H	6" X 3/4"	-	TAPPING SADDLE
I	36" X 36"	-	ACCESS HATCH
J	-	-	PIPE SUPPORT
K	6"	FLG	TURBINE METER
L	6"	FLG	FLEX COUPLING

NOTES:

- ACCESS HATCH SHALL BE HALLIDAY SERIES S2R ACCESS DOOR - S2R7236 OR APPROVED EQUAL.
- TURBINE METER SHALL BE 6" FLANGED AS MANUFACTURED BY TECHNOFLO® MODEL PM04 OR APPROVED EQUAL.

NO.	DATE	REVISION	BY
1	Jul 20, 2026	3:41pm	ZLOPEZ

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PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



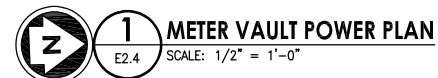
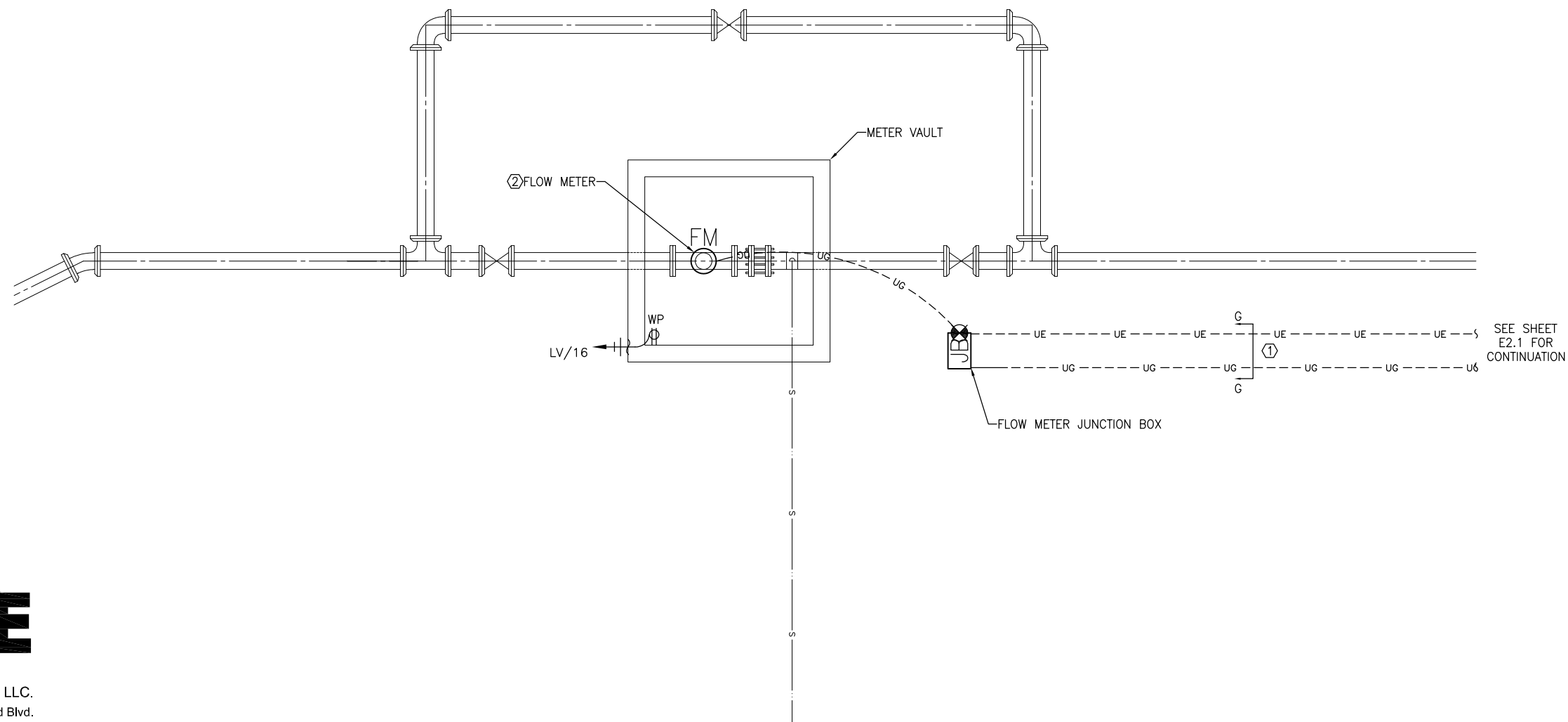
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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
METER VAULT (ADD ALTERNATE B) PLAN & SECTION

SHEET NO. **GM-01**
OF **1**

REFERENCE NOTES

- ① REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.
- ② ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL FLOW METER TYPE TECHNOFLO MODEL PM04.



E2.4

				PROJECT NO. 3740125				KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE		SHEET NO. GE-0
				DRAWN BY PD					OF 1		
NO. DATE REVISION BY				DESIGNED BY SO					METER VAULT POWER PLAN		
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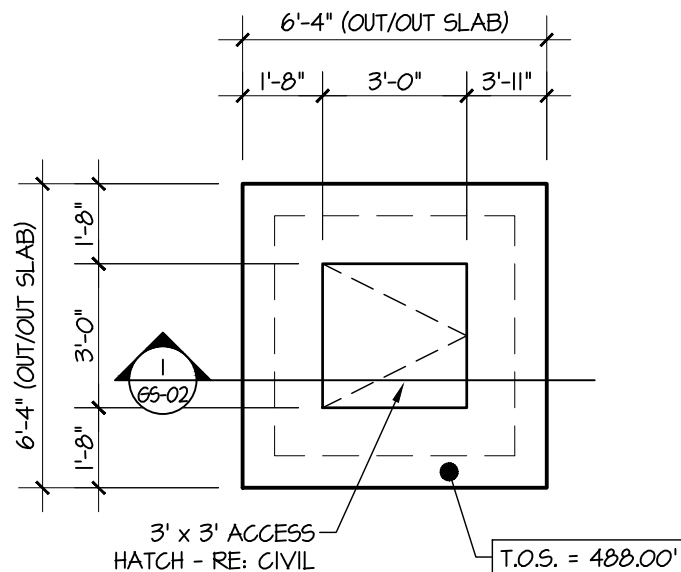


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2

UPPER SLAB FOUNDATION PLAN

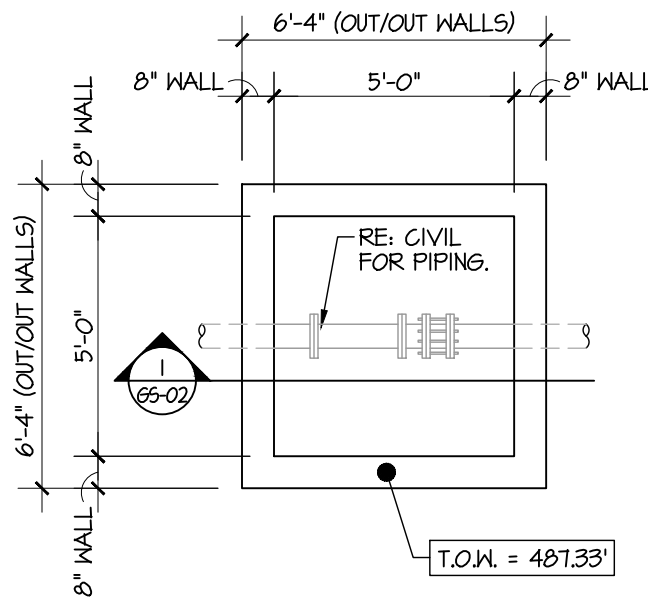
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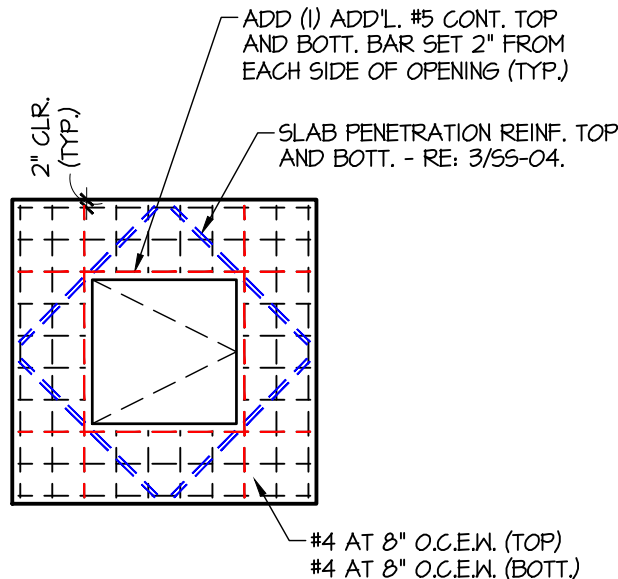
CONCRETE WALL LAYOUT

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



CONCRETE TYPE:

- ☐ STRUCTURAL
☐ SLAB-ON-GRADE
☐ CORROSIVE ENVIRONMENT
☒ LIQUID-CONTAINING ENVIRONMENTAL STRUCTURE



3

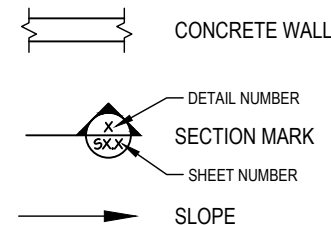
UPPER SLAB REINF. PLAN

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

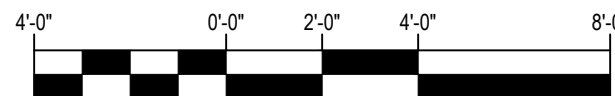
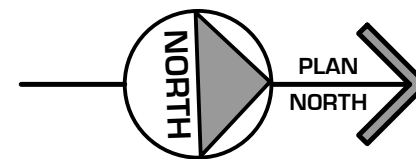
TYPICAL CONCRETE PLAN NOTES

- REFER TO SHEETS **AS-01 - AS-17** FOR STRUCTURAL PLAN SPECIFICATIONS.
- THESE PLANS ARE INTENDED TO DESCRIBE THE GENERAL REQUIREMENTS FOR THIS PROJECT. NOT ALL CONDITIONS ARE SPECIFICALLY DETAILED. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE AND FINISHED PRODUCT.
- VERIFY ALL DIMENSIONS, AND EXACT SIZE AND LOCATION OF ALL BLOCK-OUTS, DEPRESSIONS, EMBEDS, ELECTRICAL BOXES, PIPE PENETRATIONS, AND SIMILAR ITEMS WITH CIVIL AND MEP PLANS PRIOR TO FORMING CONCRETE. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES.
- CONTRACTOR SHALL COORDINATE WITH FINAL ELECTRICAL/PLUMBING PLANS, AND WITH ELECTRICAL AND PLUMBING SUBCONTRACTORS, REGARDING ALL WORK REQUIRED WITHIN FOUNDATION, INCLUDING AT A MINIMUM, GROUND WIRE CONNECTIONS, PIPE / CONDUIT PENETRATIONS, PIPE SLEEVES, ETC. **IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE AND COORDINATE ALL INSPECTIONS REQUIRED BY THE SPECIFICATIONS, AND BY AUTHORITIES HAVING JURISDICTION, PRIOR TO PLACING CONCRETE.**
- ALL PIPING AND CONDUIT SHALL BE UNDER FULL DEPTH OF SLAB AND SHALL NOT BE LAID ON TOP OF SUBGRADE OR RUN Laterally WITHIN WALLS.**
- PLACE ALL REINFORCING STEEL WITH PROPER CLEARANCES, LAPS, AND TIE/STIRRUP SPACINGS. REFER TO DETAILS.
- PROVIDE BAR CHAIRS, SUPPORTS, STANDEES AND SPACERS AT 4'-0" ON CENTER MAXIMUM FOR ALL LAYERS OF STEEL IN SLABS, AND AS REQUIRED TO MAINTAIN CLEARANCES AT WALLS.
- NOTIFY PRIME ENGINEER, STRUCTURAL ENGINEER, AND CONSTRUCTION MATERIALS TESTING COMPANY A MINIMUM OF (2) BUSINESS DAYS PRIOR TO PLACING CONCRETE. INDICATE APPROXIMATE TIME OF POUR, AS WELL AS WHEN STEEL REINFORCING WILL BE COMPLETED FOR OBSERVATION.**
- FAILURE TO COMPLY WITH THESE NOTES, THE PLANS, AND SPECIFICATIONS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF WORK AT CONTRACTOR'S EXPENSE.

TYPICAL CONCRETE PLAN LEGEND



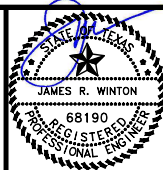
U.N.O. = UNLESS NOTED OTHERWISE
T.O.S. = TOP OF SLAB
T.O.W. = TOP OF WALL
O.C. = ON CENTER
O.C.E.W. = ON CENTER EACH WAY



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

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

METER VAULT (ADD ALTERNATE B)
WALL / UPPER SLAB FOUNDATION PLANS

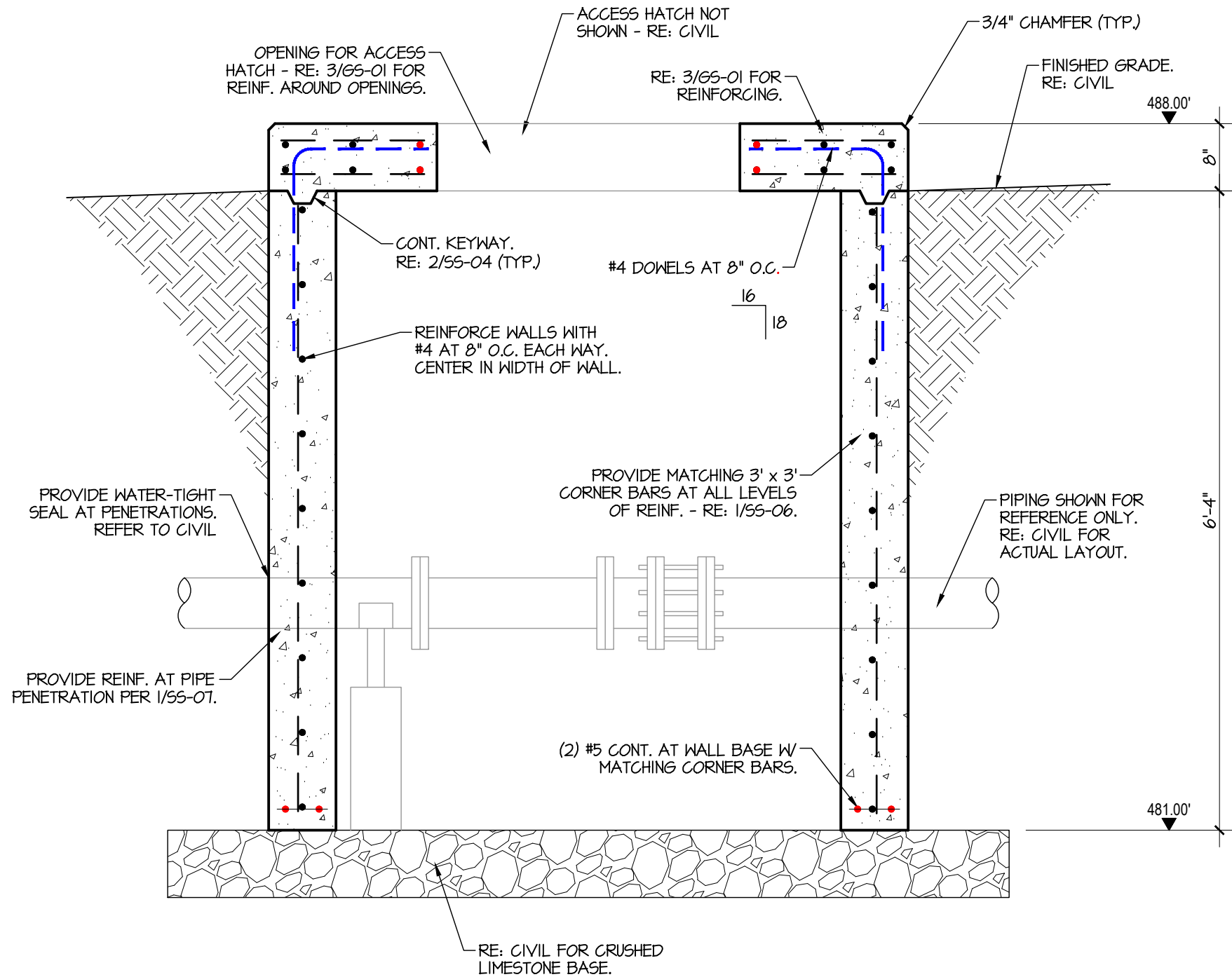
SHEET NO. **GS-01**

OF **2**

NO.	DATE	REVISION	BY
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Plot Date: Jul 20, 2026 - 12:24pm Plotted By: JARED			

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_GS-01.dwg



1

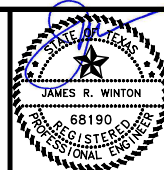
FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

MASTER METER VAULT (ADD ALTERNATE B)
FOUNDATION SECTION

SHEET NO. **GS-02**

OF **2**

0 1"
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1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 12:24pm	JARED
2	Jul 20, 2026	Plotted By: JARED	

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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

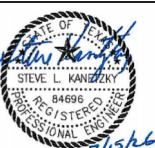
P:\SKE\Project\Share\Projects\2025\3740125 - KPA Levi WSC Falls County WTP\01 Design Phase\ CAD - Current\260716 - Updated Print\WG1_3740125-E25.dwg - E2.5



S. Kanetzky
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(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

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KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

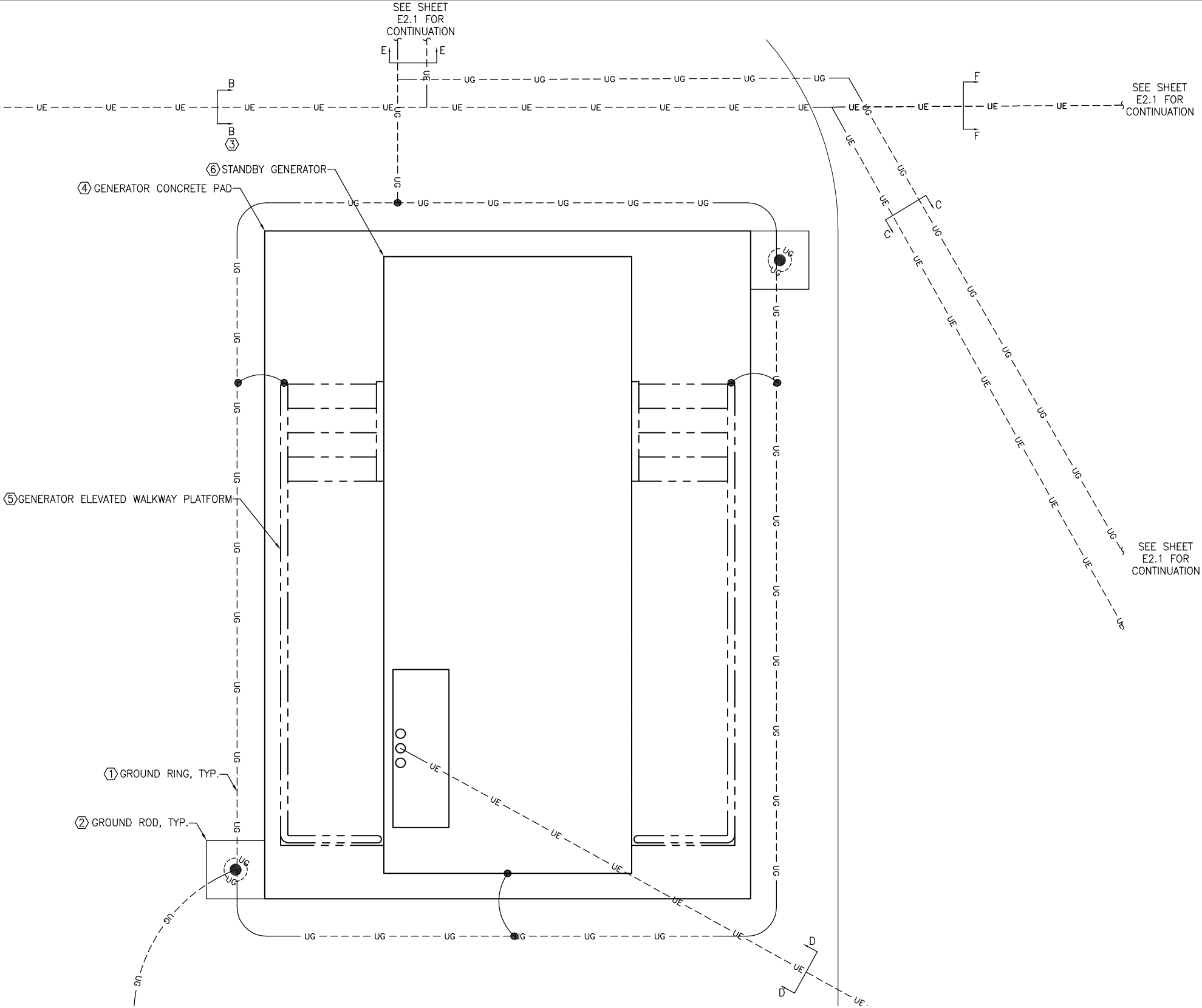
PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
ALTERNATE BID: STANDBY GENERATOR POWER PLAN

SHEET NO	HE-01
OF	1

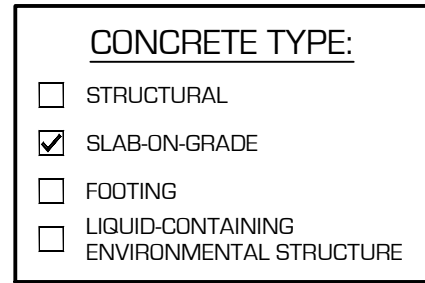


REFERENCE NOTES

- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL #3/0 BARE COPPER GROUNDING RING. BOND FLOW METER, PRESSURE TANK, AND GENERATOR SKID TO GROUNDING ELECTRODE SYSTEM VIA EXOTHERMIC WELD.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL GROUND RODS. REFER TO DETAILS FOR MORE INFORMATION.
- REFER TO UNDERGROUND ELECTRICAL DETAIL FOR ADDITIONAL INFORMATION. TYPICAL.
- ALTERNATE BID: ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL CONCRETE GENERATOR PAD FOR NEW STANDBY EMERGENCY GENERATOR. EXACT DIMENSIONS MAY VARY DEPENDING ON SELECTED MANUFACTURER.
- ALTERNATE BID: ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL GENERATOR ELEVATED WALKWAY PLATFORM. REFER TO DETAILS. EXACT REQUIRED HEIGHT OF PLATFORM TO BE COORDINATED WITH GENERATOR MANUFACTURER.
- ALTERNATE BID: ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL STANDBY GENERATOR 450 KW, 277/480V, 3 PHASE, 4-WIRE.

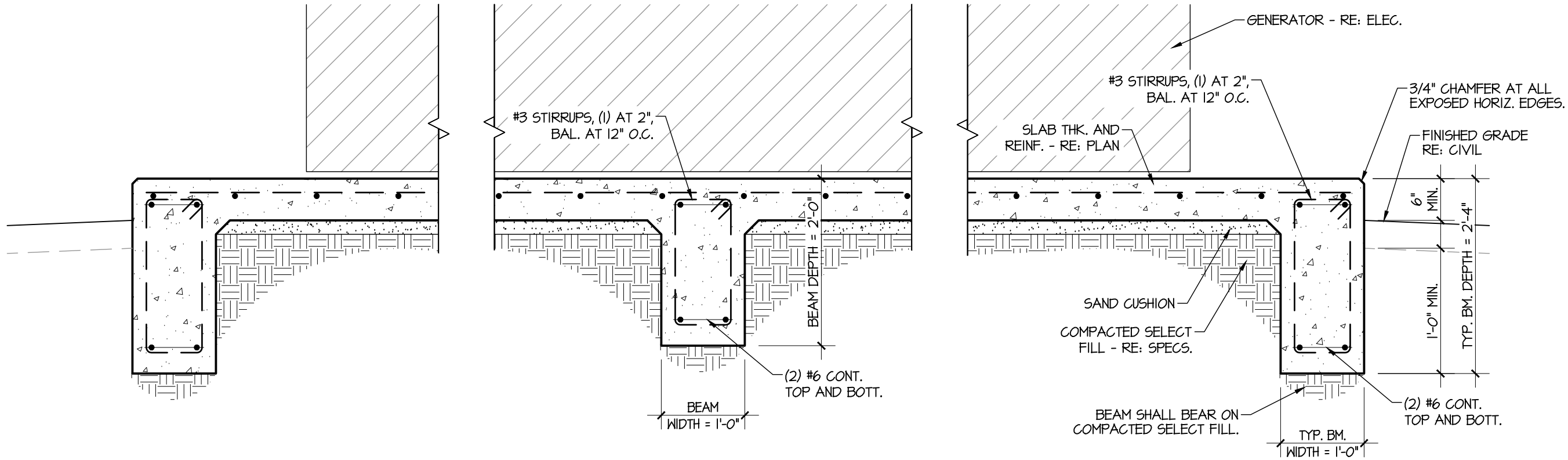


E2.5



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Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_HS-01.dwg



1 OVERALL FOUNDATION SECTION
SCALE: 3/4" = 1'-0"

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DRAWING TO BE READ IN **COLOR**



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KPA Firm Registration Number F-510	Plotted By: JARED		

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
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TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

GENERATOR (ADD ALTERNATE A)
FOUNDATION SECTION

SHEET NO. **HS-02**

OF **2**

P:\SKE\Project\Share\Projects\2025\3740125 - KPA Levi WSC Falls County WTP\01 Design Phase\ CAD - Current\260716 - Updated Print\WG1_3740125-E30.dwg - E3.0



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TBPE Firm No. F-2356
SKE PROJECT # 3740125

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KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

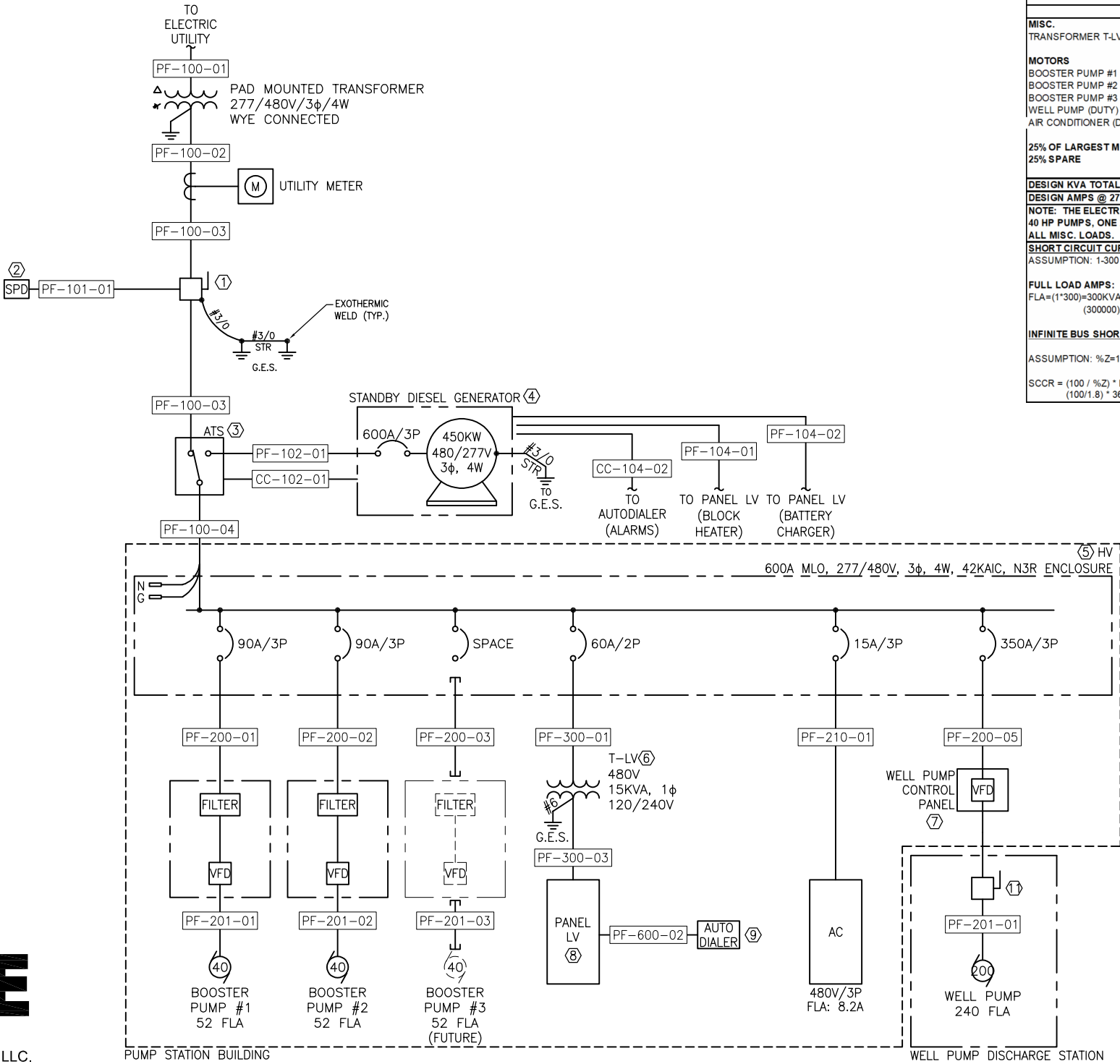
PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



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LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	
ONE-LINE DIAGRAM	

SHEET NO. IE-01
OF 3



1 ONE-LINE DIAGRAM 10
E3.0 SCALE:

LOAD CALCULATION					
	UTILITY			GENERATOR	
	HP	AMPS	KVA	STARTING	STEP
MISC.					
TRANSFORMER T-LV (1-PHASE)		63	30	N/A	1
MOTORS					
BOOSTER PUMP #1 (DUTY)	40	52	43	VFD	2
BOOSTER PUMP #2 (DUTY)	40	52	43	VFD	3
BOOSTER PUMP #3 (FUTURE/STANDBY)	40				
WELL PUMP (DUTY)	200	240	199	VFD	4
AIR CONDITIONER (DUTY)		8.2	7	FVNR	5
25% OF LARGEST MOTOR		60	50		
25% SPARE		119	93		
DESIGN KVA TOTAL			466		
DESIGN AMPS @ 277/480 VOLTS, 3 PHASE		593			
NOTE: THE ELECTRICAL SERVICE IS DESIGNED TO RUN TWO 40 HP PUMPS, ONE 200HP PUMP, ONE AIR CONDITIONER AND ALL MISC. LOADS.					
SHORT CIRCUIT CURRENT CALCULATION: ASSUMPTION: 1-300 KVA PAD MOUNTED TRANSFORMER					
FULL LOAD AMPS: FLA=(1*300)=300KVA (300000)/(480*1.73) = 361.27 A					
INFINITE BUS SHORT CIRCUIT CURRENT CALCULATION: ASSUMPTION: %Z=1.8 SCCR = (100 / %Z) * FLA (100/1.8) * 361.27 = 20,070.5 A					

REFERENCE NOTES

- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL SERVICE ENTRANCE DISCONNECT SWITCH 600A/3P/600AF/N4X304SS/SN/SE SQUARE D OR APPROVED EQUAL. USE BUSSMANN #FRS-R-600 OR EQUAL WITH FACTORY NEUTRAL KIT OR GROUND BAR..
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL SPD, EATON SPD-200-480Y-3-P OR EQUAL IN A NEMA 3R ENCLOSURE. CONNECTED TO LOAD SIDE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AUTOMATIC TRANSFER SWITCH, 600 AMP, 4 POLE, 600V, NEMA 3R ASCO OR EQUAL.
- ALTERNATE BID: ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL STANDBY GENERATOR 450 KW, 277/480V, 3 PHASE, 4-WIRE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PANEL HV, SQUARE D OR EQUAL.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL 15KVA TRANSFORMER T-LV, 480V PRIMARY, 120/240V SECONDARY, N1 ENCLOSURE TYPE SQUARE D OR EQUAL.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL WELL PUMP CONTROL PANEL, 3 PHASE, 4-WIRE IN A NEMA 1 ENCLOSURE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PANEL LV, SQUARE D OR EQUAL. REFER TO PANEL LV SCHEDULE FOR MORE INFORMATION.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AUTODIALER, OMNISITE CRYSTAL BALL OR EQUAL IN A NEMA 1 ENCLOSURE. CONNECTED TO LOAD SIDE.
- ELECTRICAL CONTRACTOR SHALL PROCURE THE SERVICES OF A QUALIFIED ENGINEERING FIRM TO PERFORM A COMPREHENSIVE POWER SYSTEMS STUDY. THE STUDY SHALL INCLUDE A SHORT CIRCUIT ANALYSIS, PROTECTIVE DEVICE COORDINATION, AND AN ARC FLASH HAZARD EVALUATION IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 70E AND IEEE 1584. ALL FINDING AND RECOMMENDATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO SYSTEM ENERGIZATION. ARC FLASH WARNING LABELS SHALL BE PROVIDED AND INSTALLED ON ALL APPLICABLE ELECTRICAL EQUIPMENT BASED ON THE RESULTS OF THE STUDY.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL DISCONNECT SWITCH 250A/3P/N4X304SS SQUARE D OR APPROVED EQUAL.

GENERAL NOTES

- IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROVIDE AND INSTALL ALL RACEWAYS AND CONDUCTORS CUMULATIVELY BETWEEN THE UNDERGROUND ELECTRICAL DETAILS, PANEL SCHEDULES, I/O SCHEDULES, AND CIRCUIT SCHEDULES. THE CIRCUIT SCHEDULES, I/O SCHEDULES AND PANEL SCHEDULES TAKE PRECEDENCE OVER THE UNDERGROUND ELECTRICAL DETAILS.
- THE AVAILABLE FAULT CURRENT FROM THE UTILITY PROVIDER IS AN ESTIMATE BASED ON THE BEST INFORMATION DURING THE DESIGN PHASE. THE UTILITY TRANSFORMER IMPEDANCE IS AN ESTIMATE BASED ON THE BEST INFORMATION DURING THE DESIGN PHASE. BASED ON FINAL INFORMATION FROM THE UTILITY COMPANY, IT MAY RESULT IN EQUIPMENT SPECIFICATION CHANGES WHICH MAY RESULT INTO A CHANGE TO THE ORIGINAL DESIGN.

E3.0

GENERAL NOTES

1. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROVIDE AND INSTALL ALL RACEWAYS AND CONDUCTORS CUMULATIVELY BETWEEN THE DUCT BANK DETAILS, PANEL SCHEDULES, AND CIRCUIT SCHEDULES. THE CIRCUIT SCHEDULES, AND PANEL SCHEDULES TAKE PRECEDENCE OVER THE DUCT BANK DETAILS.

CIRCUIT SCHEDULE					
TAG	RACEWAY	CONDUCTORS	FROM	TO	EQUIPMENT/FUNCTION
PUMP STATION					
PF-100-01	2 SETS 3" C	PULL STRING	UTILITY	PAD MOUNTED TRANSFORMER	POWER FEEDER
PF-100-02	2 SETS 3" C	2 SETS, 4#350, 1#1GND	PAD MOUNTED TRANSFORMER	S.E. MAIN CIRCUIT BREAKER	POWER FEEDER
PF-100-03	2 SETS 3" C	2 SETS, 4#350, 1#1GND	S.E. MAIN CIRCUIT BREAKER	AUTOMATIC TRANSFER SWITCH	POWER FEEDER
PF-100-04	2 SETS 3" C	2 SETS, 4#350, 1#1GND	AUTOMATIC TRANSFER SWITCH	PANEL HV	POWER FEEDER
PF-101-01	1" C	5#6	S.E. MAIN CIRCUIT BREAKER	SURGE PROTECTION DEVICE	SURGE PROTECTION
PF-102-01	2 1/2" C	PULL STRING	AUTOMATIC TRANSFER SWITCH	GENERATOR	POWER FEEDER
PF-104-01	1" C	3#10, 1#10GND	GENERATOR (BLOCK HEATER)	PANEL LV	POWER FEEDER
PF-104-02	1" C	3#12, 1#12GND	GENERATOR (BATTERY CHARGER)	PANEL LV	POWER FEEDER
PF-200-01	1 1/2" C	3#2, 1#8GND	PANEL HV	BOOSTER PUMP #1 VFD	POWER FEEDER
PF-200-02	1 1/2" C	3#2, 1#8GND	PANEL HV	BOOSTER PUMP #2 VFD	POWER FEEDER
PF-200-03	1 1/2" C	3#2, 1#8GND	PANEL HV	BOOSTER PUMP #3 VFD (FUTURE)	POWER FEEDER
PF-201-01	1" C	3#4, 1#10GND	BOOSTER PUMP #1 VFD	BOOSTER PUMP #1	POWER FEEDER
PF-201-02	1" C	3#4, 1#10GND	BOOSTER PUMP #2 VFD	BOOSTER PUMP #2	POWER FEEDER
PF-201-03	1" C	3#4, 1#10GND	BOOSTER PUMP #3 VFD	BOOSTER PUMP #3	POWER FEEDER
PF-210-01	1" C	3#12, 1#12GND	PANEL HV	AIR CONDITIONER	POWER FEEDER
PF-220-01	1" C	3#6, 1#10GND	PANEL HV	TRANSFORMER T-LV	POWER FEEDER
PF-220-02	1" C	3#6, 1#10GND	TRANSFORMER T-LV	PANEL LV	POWER FEEDER
PF-230-01	1" C	3#12, 1#12GND	PANEL LV	AUTO DIALER	POWER FEEDER
PF-230-02	1" C	2#12, 1#12GND	PANEL LV	PUMP STATION LIGHTS	POWER FEEDER
PF-230-03	1" C	2#10, 1#12GND	PANEL LV	PUMP STATION RECEPTACLES	POWER FEEDER
PF-230-06	1" C	2#12, 1#12GND	PANEL LV	POLE LIGHT	POWER FEEDER
CC-100-01	1" C	8#14, 1#12GND	AUTOMATIC TRANSFER SWITCH	GENERATOR	ALARMS/STATUS
CC-101-01	1" C	8#14	GENERATOR	AUTO DIALER	CONTROLS CIRCUIT
CC-101-02	1" C	4 TSP	BOOSTER PUMP #1 VFD	AUTO DIALER	CONTROLS CIRCUIT
CC-101-02	1" C	4 TSP	BOOSTER PUMP #2 VFD	AUTO DIALER	CONTROLS CIRCUIT
WELL DISCHARGE PUMP STATION					
PF-300-01	2 SETS 2 1/2" C	3#250, 1#4GND	PANEL HV	WELL PUMP CONTROL PANEL	POWER FEEDER
PF-300-02	2 SETS 2 1/2" C	3#250, 1#4GND	WELL PUMP CONTROL PANEL	WELL PUMP DISCONNECT SWITCH	POWER FEEDER
PF-300-03	2 SETS 2 1/2" C	3#250, 1#4GND	WELL PUMP DISCONNECT SWITCH	WELL PUMP	POWER FEEDER
PF-300-04	1" C	2#12, 1#12GND	PANLE LV	WELL PUMP FLOW METER TRANSMITTER	POWER FEEDER
CC-200-01	1" C	2#12, 1#12GND	FLOW METER TRANSMITTER	CONTROLS JUNCTION BOX	CONTROLS CIRCUIT
CC-200-02	1" C	2#12, 1#12GND	CONTROLS JUNCTION BOX	FLOW METER	CONTROLS CIRCUIT
CC-200-03	1" C	8#14	WELL PUMP VFD	AUTO DIALER	CONTROLS CIRCUIT
CHLORINE ROOM					
PF-400-01	1" C	2#12, 1#12GND	PANEL LV	CHLORINE ROOM LIGHTS	POWER FEEDER
PF-400-02	1" C	2#12, 1#12GND	PANEL LV	CHLORINE ROOM RECEPTACLES	POWER FEEDER
PF-401-01	1" C	2#12, 1#12GND	PANEL LV	CHLORINE SYSTEM SOLENOID VALVE	POWER FEEDER
PF-230-04	1" C	2#12, 1#12GND	PANEL LV	CHLORINE ANALYZER #1	POWER FEEDER
PF-230-05	1" C	2#12, 1#12GND	PANEL LV	CHLORINE ANALYZER #2	POWER FEEDER
GROUND STORAGE TANK					
CC-300-01	1" C	2#12, 1#12GND	OVERFLOW FLAP CONTACTS	AUTO DIALER	CONTROLS CIRCUIT
IC-100-01	1" C	1#16 TSP	G.S.T. PRESSURE TRANSDUCER	AUTO DIALER	INSTRUMENTATION CIRCUIT
IC-101-01	1" C	1#16 TSP	G.S.T. ANALYZER	AUTO DIALER	INSTRUMENTATION CIRCUIT
METER VAULT					
PF-600-01	1" C	3#12, 1#12GND	PANEL LV	FLOW METER TRANSMITTER	POWER FEEDER
PF-610-01	1" C	2#10, 1#12GND	PANEL LV	METER VAULT RECEPTACLES	POWER FEEDER
CC-400-01	1" C	3#12, 1#12GND	FLOW METER TRANSMITTER	CONTROLS JUNCTION BOX	CONTROLS CIRCUIT
CC-400-02	1" C	3#12, 1#12GND	CONTROLS JUNCTION BOX	FLOW METER	CONTROLS CIRCUIT
CC-400-03	1" C	8#14	WELL PUMP VFD	AUTO DIALER	CONTROLS CIRCUIT
HYDRO-TANK					
IC-200-01	1" C	1#16 TSP	PRESSURE TANK PRESSURE TRANSDUCER	AUTO DIALER	INSTRUMENTATION CIRCUIT

E4.0

SKE

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Bee Cave, Texas 78738
(512) 326-3380
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TBPE Firm No. F-2356
SKE PROJECT # 3740125

PROJECT NO. 3740125

DRAWN BY PD

DESIGNED BY SO

APPROVED BY SK

DATE 06/23/25

STATE OF TEXAS

REGISTERED PROFESSIONAL ENGINEER

84686

STEVE L. KANETZKY

7/15/26

KASBERG, PATRICK & ASSOCIATES, LP

CONSULTING ENGINEERS

TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP.

FALLS COUNTY WATER PLANT SITE

ELECTRICAL SCHEDULES

SHEET NO. IE-02

OF 3

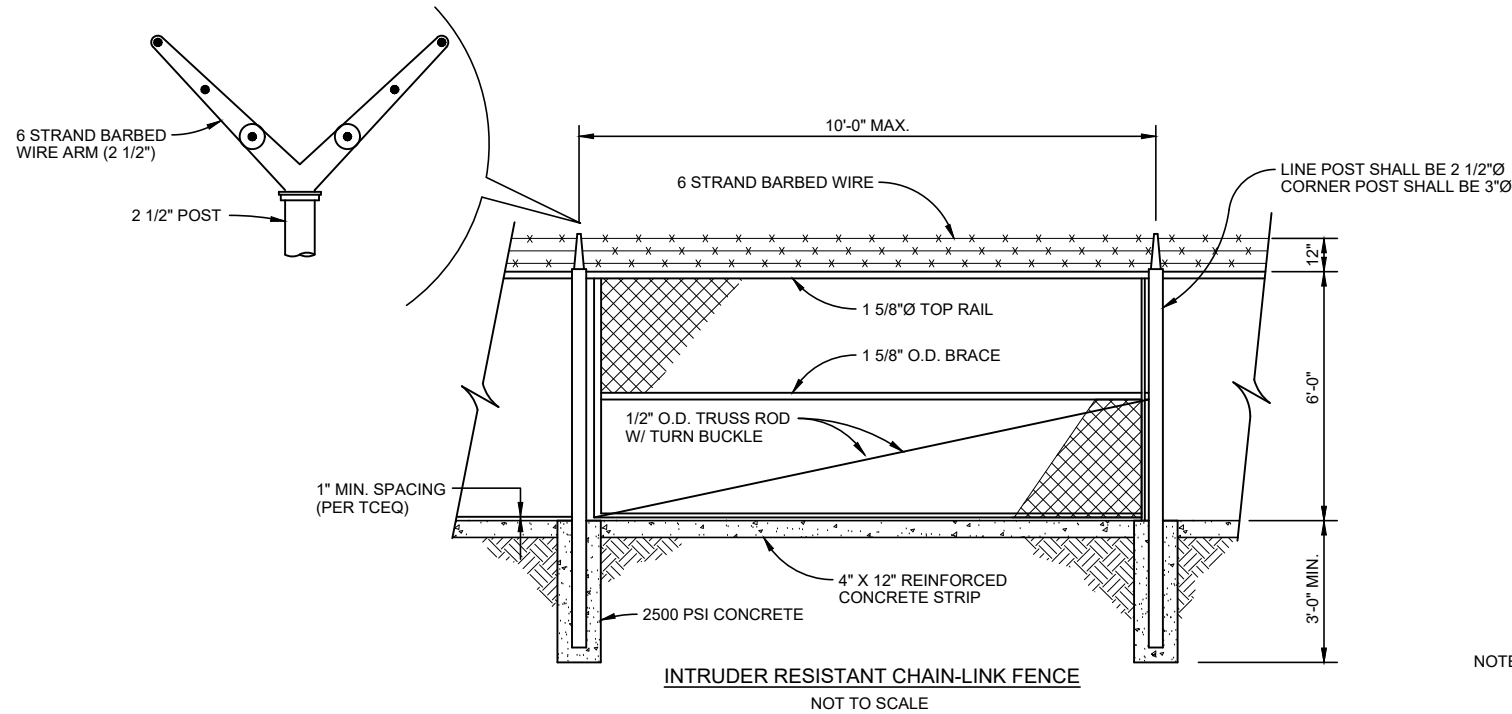
GENERAL NOTES

1. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROVIDE AND INSTALL ALL RACEWAYS AND CONDUCTORS CUMULATIVELY BETWEEN THE UNDERGROUND ELECTRICAL DETAILS, PANEL SCHEDULES, I/O SCHEDULES, AND CIRCUIT SCHEDULES. THE CIRCUIT SCHEDULES, I/O SCHEDULES AND PANEL SCHEDULES TAKE PRECEDENCE OVER THE UNDERGROUND ELECTRICAL DETAILS.

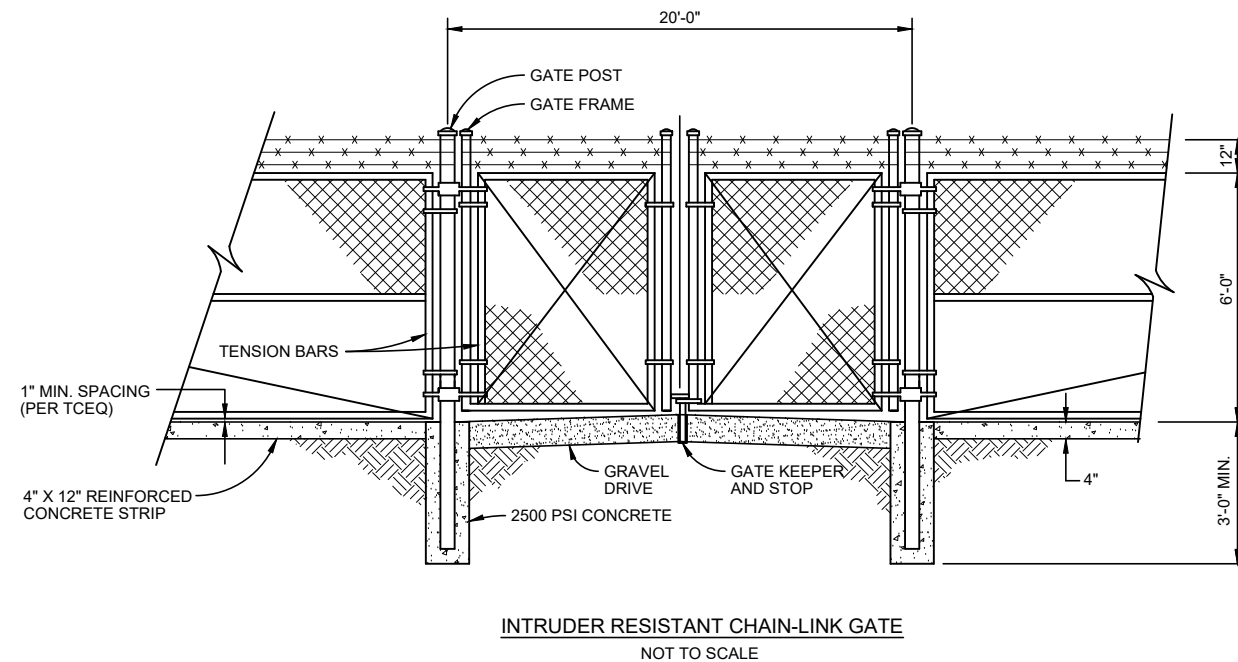
LIGHTING FIXTURE SCHEDULE									
TYPE	MANUFACTURER	CATALOG NO.	TYPE	LUMENS	COLOR TEMP	FIX. WATTS	VOLTS	MOUNTING	REMARKS
A	ILP	RB5S-12L-U-CCTS-PCL-BLK	LED	12,000	4000K	73.8	120	SURFACE	ROUND LIGHT SELECT SUITABLE FOR DAMP LOCATIONS
AEM	ILP	RB5S-12L-U-CCTS-PCL-BLK-EM/D	LED				120	SURFACE	SAME AS FIXTURE "A" W/ EMERGENCY BATTERY BACKUP
D	EELP VERSALED	HLVP4-F-40L-QT-40K-C1D2-120D-DIM-CM	LED	5,400	4000K	40	120	CEILING	EXPLOSION PROOF GENERAL PURPOSE VAPOR TIGHT-CLASS 1 DIV 2 (CHEMICAL BUILDING)
DEM	EELP VERSALED	HLVP4-F-40L-QT-40K-C1D2-120D-DIM-CM-EBLED	LED	5,400	4000K	40	120	CEILING	SAME AS FIXTURE "D" W/ EMERGENCY BATTERY BACKUP
P	SIGNIFY GARDCO	OPF-M-A10-840-T4W-AR1-UNV-BZ	LED	19,487	4000K	112	120	POLE	FULL CUTOFF, DARK SKY COMPLIANT POLE #SSA-CA-4-125-16-D1-DT5-BZ-VDA (SITE LIGHTING)
W	SIGNIFY STONCO	ASW25-SCT-G1-8-PCB-BW	LED	1,800	4000K	15	120	SURFACE	WALL PACK, MOUNTED AT 9' AFF. (EXTERIOR BUILDING)
X	SIGNIFY CHLORIDE	ER55LD-3-W-R	LED	N/A	N/A	2.48	120	CEILING	SINGLE-SIDED EMERGENCY EXIT SIGN WITH BATTERY PACK. DOUBLE SIDED SIGN & CHEVRON OPTION. CONNECT TO NON-SWITCHED CIRCUIT

PANEL LV															
AMPS: 100A MCB		PHASE: 1				MOUNTING: SURFACE									
VOLTAGE: 240/120V		WIRE: 3				MINIMUM AIC RATING: 10 KA									
LOCATION: PUMP STATION BUILDING		BUSSING: COPPER													
FED FROM: TRANSFORMER T-LV		NEMA: 1													
CKT. NO.	SERVICE DESCRIPTION	WIRE	BKR	POLES	KVA	A	B	KVA	POLES	BKR	WIRE	SERVICE DESCRIPTION	CKT. NO.		
1	GEN. BLOCK HEATER	10	30	2	2.5	3.0		0.5	1	20	12	WELL F.M. TRANS.	2		
3					2.5		2.7	0.2	1	20	12	INT. P.S. LIGHTS	4		
5	GEN. BATT. CHARGER	12	20	1	1.2	1.7		0.5	1	20	12	AUTO DIALER	6		
7	PRE G.S.T. ANALYZER #1	12	20	1	0.2		0.2	0.0	2	30	10	SPD	8		
9	POST G.S.T. ANALYZER #2	12	20	1	0.2	0.2		0.0					10		
11	DIST. G.S.T. ANALYZER #3	12	20	1	0.2		3.6	3.4	1	30	6	AIR COMPRESSOR	12		
13	CHLORINATOR #1	12	20	1	0.2	4.0		3.4					14		
15	CHLORINATOR #2	12	20	1	0.2		1.2	1.1	1	20	12	METER VAULT RECEPT.	16		
17	EXHAUST FAN	12	20	1	0.7	0.6		0.5	1	20	12	G.S.T. PRESS. TRANS.	18		
19	CHL. GAS DETECTOR	12	20	1	0.1		0.2	0.1	1	20	12	POLE LIGHT	20		
21	CHEM. ROOM LIGHTS	12	20	1	0.1	0.7		0.7	1	20	12	CHEM. ROOM RECEPT.	22		
23	EXT. P.S. LIGHTS	12	20	1	0.1		0.5	0.5	1	20	12	METER VAULT F.M. TRANS.	24		
25	SPARE		20	1	0.0	0.0		0.0	1	20		SPARE	26		
27	SPARE		20	1	0.0		0.0	0.0	1	20		SPARE	28		
29	SPACE		20	1	0.0	0.0		0.0	1	20		SPACE	30		
31	SPACE		20	1	0.0		0.0	0.0	1	20		SPACE	32		
33	SPACE		20	1	0.0	0.0		0.0	1	20		SPACE	34		
35	SPACE		20	1	0.0		0.0	0.0	1	20		SPACE	36		
37	SPACE		20	1	0.0	0.0		0.0	1	20		SPACE	38		
39	SPACE		20	1	0.0		0.0	0.0	1	20		SPACE	40		
41	SPACE		20	1	0.0	0.0		0.0	1	20		SPACE	42		
PHASE LOAD IN KVA: 10.2 8.4															
PHASE LOAD IN AMPS: 85 70															
NOTE: SQUARE D NQ OR EQUAL															

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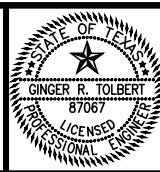


- NOTES:
1. ALL FITTINGS FOR FENCE & GATE SHALL BE GALVANIZED STEEL. NO ALUMINUM FITTINGS SHALL BE PERMITTED.
 2. ALL CONCRETE FOR POST FOOTINGS & REINFORCED CONCRETE STRIP SHALL BE 2500 PSI. END POST FOOTING SHALL BE 12"Ø & LINE POST FOOTING SHALL BE 10"Ø.
 3. ALL FABRIC SHALL BE #9 GAUGE - 2" MESH AND BE KNUCKLED TOP & TWIST SELVAGE BOTTOM.



NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP	Plot Date: Jul 20, 2026 - 3:41pm		
KPA Firm Registration Number F-510	Plotted By: ZLOPEZ		

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026

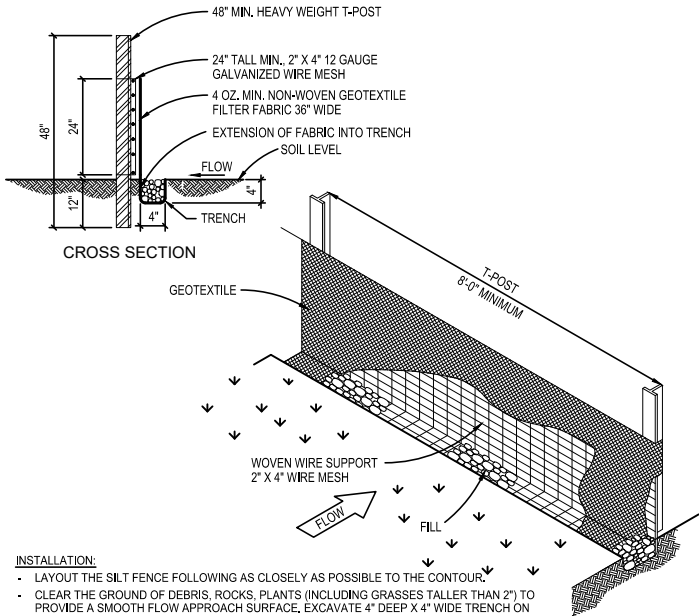


KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
DETAILS CHAIN-LINK FENCING & GATE, TAPPING SADDLE & INJECTOR

SHEET NO. SC-01
OF 4

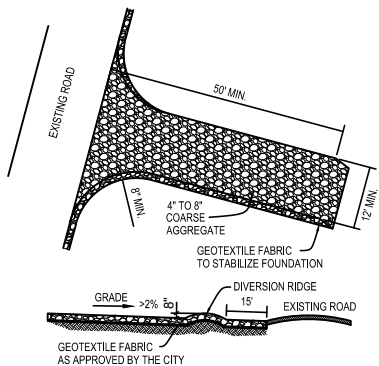
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INSTALLATION:

- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 4" DEEP X 4" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 11" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS.
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.

SILT FENCE



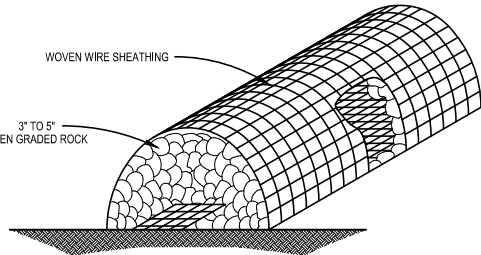
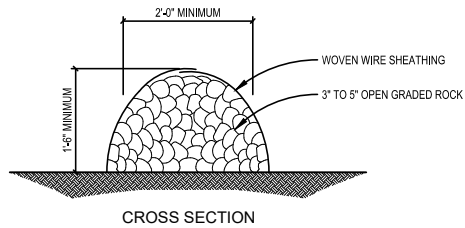
INSTALLATION:

- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE, RUNOFF FROM THE STABILIZED CONSTRUCTION ENTRANCE ONTO A PUBLIC STREET WILL NOT BE ACCEPTED.
- PLACE GEOTEXTILE FABRIC IF REQUIRED.
- PLACE ROCK AS REQUIRED.

INSPECTIONS AND MAINTENANCE GUIDELINES:

- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

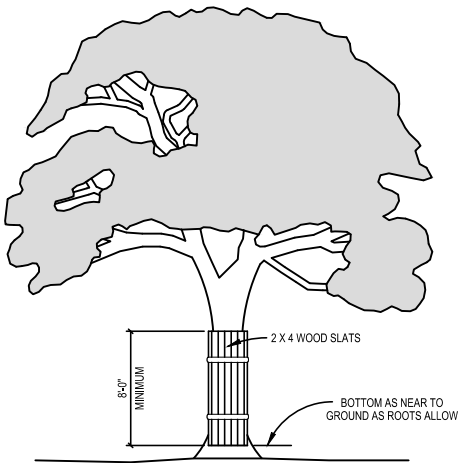
STABILIZED CONSTRUCTION ENTRANCE



INSTALLATION:

- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCLOSE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS ITS SHAPE.
- SECURE WITH THE WIRE.

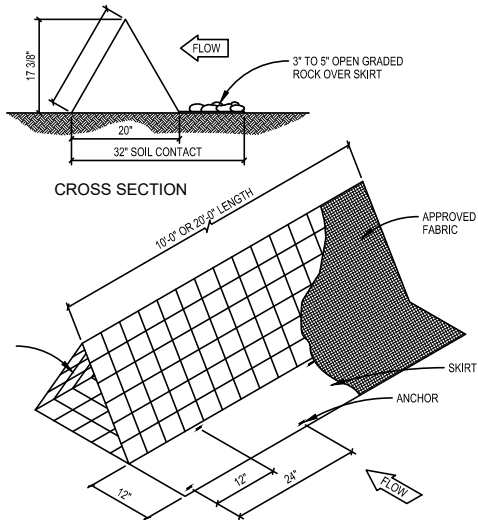
ROCK BERM



NOTES:

- WHERE ANY EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN FOUR FEET (4'-0") TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT FEET (8'-0") OR TO THE LIMITS OF LOWER BRANCHING IN ADDITION TO THE REDUCED FENCING PROVIDED.
- ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO (2) DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE, AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
- PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
- TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
- NO LANDSCAPE TOPSOIL DRESSING GREATER THAN FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
- PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

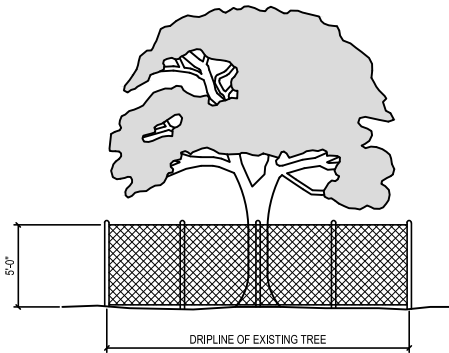
TREE PROTECTION - WOOD SLATS



INSTALLATION:

- LAYOUT THE FILTER DIKE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE THE FILTER DIKE SECTIONS ONE AT A TIME, WITH THE SKIRT ON THE UPHILL SIDES TOWARD THE DIRECTION OF FLOW, ANCHORING EACH SECTION TO THE GROUND BEFORE THE NEXT SECTION IS PLACED.
- ANCHORS SHOULD BE PLACED ON 2'-0" CENTERS ALTERNATING FROM FRONT TO BACK SO THAT THERE IS ACTUALLY ONLY 1'-0" IN BETWEEN ANCHORS.
- SECURELY FASTEN THE SKIRT FROM ONE SECTION OF FILTER DIKE TO THE NEXT.
- FILTER DIKES MUST MAINTAIN CONTINUOUS CONTACT WITH THE GROUND.

TRIANGULAR FILTER DIKE



NOTES:

- TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
- FENCES SHALL COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES, WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
 - SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
 - ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
 - WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
 - OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
- EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
 - WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
 - WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

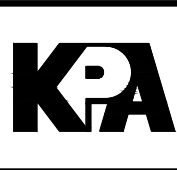
TREE PROTECTION - CHAIN LINK FENCE

EROSION/SEDIMENTATION AND TREE PROTECTION NOTES

- CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
- PLACEMENT OF EROSION/SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN, DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
- SEEDING FOR EROSION CONTROL TO BE APPLIED OVER AREAS DISTURBED BY CONSTRUCTION AS FOLLOWS:
 - FROM SEPTEMBER 15 TO MARCH 1, SEEDING TO BE WITH A COMBINATION OF 2 POUNDS PER 1,000 SQUARE FEET OF UNHULLED BERMUDA AND 2 POUNDS PER 1,000 SQUARE FEET OF WINTER RYE WITH A PURITY OF 95% WITH 90% GERMINATION.
 - FROM MARCH 2, TO SEPTEMBER 14, SEEDING TO BE WITH HULLED BERMUDA GRASS (CYNODEN DACTOLYN) AT A RATE OF 2 POUNDS PER 1,000 SQUARE FEET WITH A PURITY OF 95% WITH 85% GERMINATION.
- PLANTED AREAS SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS. RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
- RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
- A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
- CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION, EXCEPT WHERE CUTS ARE MADE IN SOLID ROCK.
- EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
- TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
- WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
- TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
- ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
- CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
- CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
- WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4") BEHIND THE AREA IN QUESTION.
- NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
- IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNER'S EXPENSE.
- INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP	Plot Date: Jul 20, 2026 - 3:41pm		
KPA Firm Registration Number F-510	Plotted By: ZLOPEZ		

PROJECT NO.	2024 - 109
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026

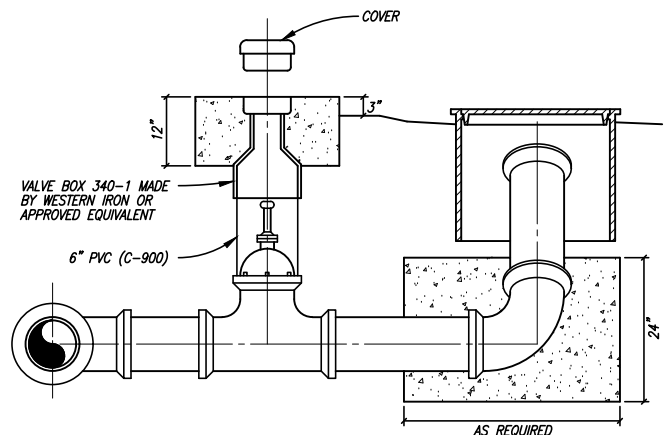
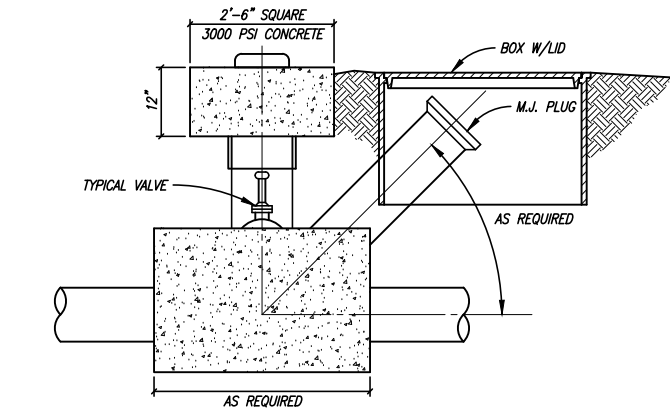


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TEMPLE, TEXAS 76501

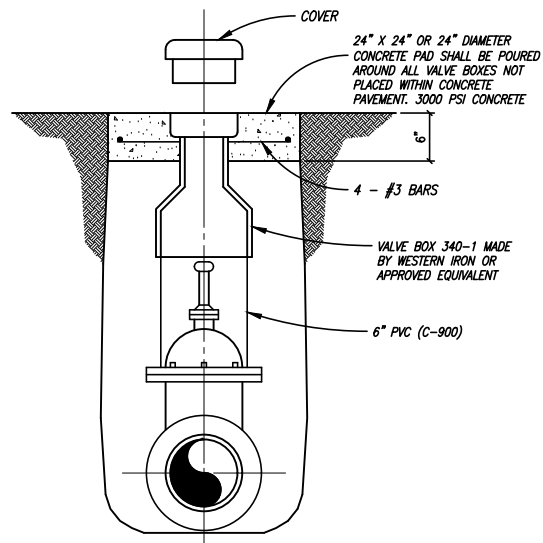
LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
DETAILS EROSION CONTROL

SHEET NO. SC-02
OF 4

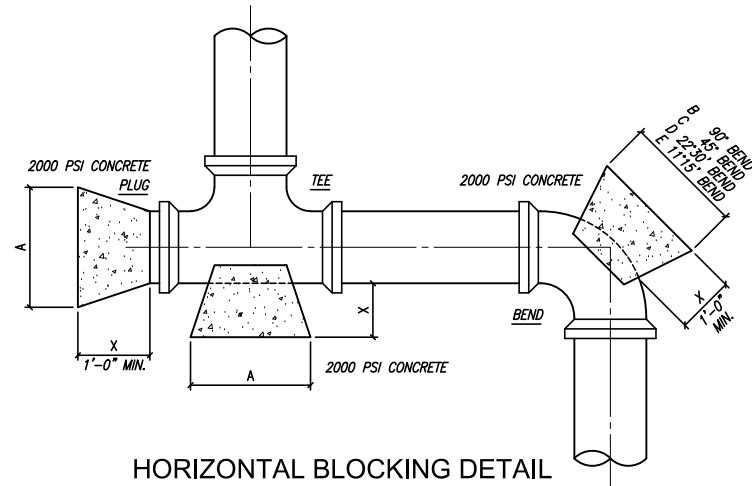
P:\Levi WSC\2024\24-109 Water Plant Site\CAD\WORKING\GENERAL SHEETS.dwg - SC-04



**TYPICAL
FLUSH VALVE INSTALLATION**
NOT TO SCALE



**TYPICAL
VALVE SETTING AND BOX
(BEHIND CURB LINE)**
NOT TO SCALE



HORIZONTAL BLOCKING DETAIL
NOT TO SCALE

HORIZONTAL BLOCKING TABLE																
PIPE SIZE	X"	PLUGS AND TEES			90° BENDS			45° BENDS			22° 30' BENDS			11° 15' BENDS		
		A"	AREA¹	VOL²	B"	AREA¹	VOL²	C"	AREA¹	VOL²	D"	AREA¹	VOL²	E"	AREA¹	VOL²
4"	1'-0"	1'-0"	.83	.05	1'-0"	.83	.05	1'-0"	.83	.05	1'-0"	.83	.05	1'-0"	.83	.05
6"	1'-6"	1'-0"	1.06	.06	1'-2"	1.50	.09	1'-0"	.83	.05	1'-0"	.83	.05	1'-0"	.83	.05
8"	1'-6"	1'-3"	1.89	.11	1'-6"	2.66	.15	1'-3"	1.44	.08	1'-0"	.83	.05	1'-0"	.83	.05
10"	1'-6"	1'-9"	2.95	.17	2'-0"	4.17	.24	1'-6"	2.26	.13	1'-3"	1.15	.07	1'-0"	.83	.05
12"	1'-6"	2'-0"	4.25	.24	2'-3"	6.00	.34	1'-9"	3.25	.18	1'-3"	1.65	.10	1'-0"	.83	.05
16"	2'-0"	2'-7"	7.54	.56	3'-0"	10.65	.79	2'-3"	5.76	.43	1'-8"	2.94	.22	1'-2"	1.48	.11
18"	2'-0"	2'-11"	7.70	.57	3'-5"	10.89	.82	2'-6"	5.89	.44	1'-10"	3.01	.22	1'-5"	1.51	.11
20"	2'-0"	3'-3"	7.86	.59	3'-9"	11.12	.89	2'-9"	6.01	.45	2'-0"	3.07	.23	1'-7"	1.54	.12
24"	2'-0"	3'-8"	11.33	.84	4'-3"	16.00	1.20	3'-2"	8.65	.65	2'-6"	4.42	.23	1'-10"	2.22	.17

¹ SQUARE FEET (MINIMUM)

² CUBIC YARDS (MAXIMUM)

2" CORPORATION STOP

SERVICE SADDLE WITH
1' THREADED OUTLET
(BRASS)

8" DISCHARGE PIPE

2" SCH 80 PVC PIPE

2" PRV

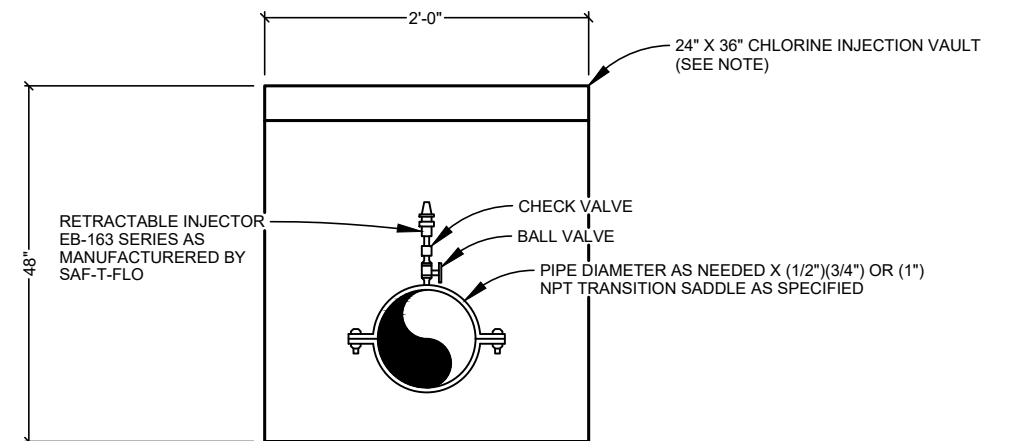
2" MALE UNIONS

NOTE:

1. PRESSURE REDUCING VALVE SHALL BE A 2" SERIES LFU5B-Z3 AS MANUFACTURED BY WATTS OR APPROVED EQUAL.

PRV ASSEMBLY

NTS



TAPPING SADDLE & INJECTOR

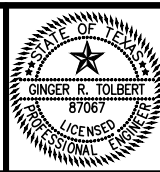
NOT TO SCALE

NOTE:

1. CHLORINE INJECTION VAULT SHALL BE 24" X 36" AS MANUFACTURED BY OLDCASTLE FRP MODEL 2436 OR APPROVED EQUAL.

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KPA Firm Registration Number F-510	Plotted By: ZLOPEZ		

PROJECT NO.	2024 - 132
DRAWN BY	Zachary B. Lopez
DESIGNED BY	Ginger R. Tolbert, P.E.
APPROVED BY	<i>Ginger R. Tolbert</i>
DATE	July 20, 2026



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
DETAILS WATER

SHEET NO. **SC-04**

OF **4**

- A. COPPER OF 98% CONDUCTIVITY.
- B. NO. 10 AND SMALLER: SOLID TYPE SIMPULL XHHW-2, EXCEPT AS OTHERWISE NOTED.
- C. NO. 8 AND LARGER: STRANDED, TYPE SIMPULL XHHW-2, EXCEPT AS OTHERWISE NOTED.
- D. MINIMUM SIZE CONDUCTORS USED SHALL BE NO. 12 AWG FOR ALL APPLICATIONS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE (A.C. CONTROLS, ETC.).
- E. USE WIRE AND CABLE FROM ONE (1) MANUFACTURER. DELIVER IN THE ORIGINAL WRAPPING BEARING THE UNDERWRITERS LABORATORIES (UL) LABEL.

- A. USE GALVANIZED STEEL OR CAST TYPE BOXES AT ALL OUTLETS FOR LIGHTING FIXTURES, WALL SWITCHES, WALL RECEPTACLES, ETC.
- B. SECURELY ATTACH OUTLET BOXES FOR FIXTURES AND DEVICES TO THE BUILDING STRUCTURE WITH EXPANSION BOLTS.
- C. FLUSH MOUNT ALL OUTLET BOXES, REGARDLESS OF WALL OR CEILING CONSTRUCTION, UNLESS THEY ARE SPECIFICALLY SHOWN AS BEING USED WITH EXPOSED CONDUIT. IF SURFACE MOUNTED, USE CAST TYPE AS SPECIFIED ABOVE. UTILITY BOXES ARE NOT ALLOWED.

A. INSTALL RACEWAYS EXPOSED. SUPPORT EXPOSED RACEWAYS FROM STRUCTURE AT INTERVALS NOT EXCEEDING TEN FEET (10') WITH MACHINE SCREWS FOR METAL CONSTRUCTION AND EXPANSION BOLTS FOR CONCRETE CONSTRUCTION.

B. INSTALL THE EDGES OF ALL OUTLET BOXES FLUSH WITH THE SURFACE IN WHICH THEY ARE RECESSED. SCREW ATTACH INTERNAL DEVICES BEFORE ATTACHING COVERPLATE. DO NOT USE COVERPLATES AS A MEANS OF TIGHTENING THE DEVICES IN PLACE.

A. FEEDER SWITCHES AND DISCONNECT SWITCHES: HEAVY DUTY, WITH QUICK MAKE/QUICK BREAK MECHANISM EXCEPT AS OTHERWISE NOTED. IN DAMP LOCATIONS OR EXPOSED TO THE WEATHER, USE NEMA 3R, RAINTIGHT.

B. DISCONNECT SWITCHES: FACTORY INSTALLED PROVISION FOR PADLOCKING IN EITHER THE "ON" OR "OFF" POSITION AND POWER SOURCE, BY PANEL OR SWITCHBOARD AND CIRCUIT NUMBER.

A. LABEL ALL PANELS, CONTROL POINTS, SWITCHES, AND MOTORS, AS DIRECTED. IDENTIFY PANELS BY PANEL NUMBER AND SECURED WITH SCREWS OR BOLTS (NO DOUBLE SIDED TAPE OR ADHESIVES). LABEL SWITCHES, INDICATING THE EQUIPMENT WHICH THEY CONTROL. ALL LABELS SHALL BE ENGRAVED. PANEL DIRECTORIES TO BE TYPED. COORDINATE ALL EQUIPMENT NUMBERING WITH MECHANICAL CONTRACTOR.

B. INSTALL ARC FLASH HAZARD LABELS ON ALL NEW SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES AND MOTOR CONTROL CENTERS PER NEC 110.16. PANDUIT #PPS0305W2100 OR EQUAL.

A. PROVIDE GROUNDING FOR ELECTRICAL SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL

- A. WHERE WIRING DEVICES ARE FLUSH MOUNTED, INSTALL STAINLESS STEEL COVERPLATES.
- B. WHERE WIRING DEVICES ARE SURFACE MOUNTED, INSTALL FORMED STEEL COVERPLATES WITH CADMIUM PLATING.
- C. WHERE WEATHERPROOF COVERPLATES ARE REQUIRED, MEET UL "WET LOCATION COVER CLOSED" REQUIREMENTS. USE COVERPLATES THAT ARE HINGED AND GASKETED WITH SPRING LOADED CLOSER.
- D. INSTALL FINISHED COVERPLATES ON ALL JUNCTION BOXES, OUTLET BOXES, SECTIONAL SWITCH BOXES, UTILITY BOXES, ETC.
- E. WHERE MORE THAN ONE (1) DEVICE IS INDICATED AT A LOCATION, MOUNT DEVICES IN COMBINED SECTION GANG BOXES, COVERED BY A COMMON PLATE.

A. DUPLEX RECEPTACLES: 20 AMPERE, 125 VOLT WITH NEMA 5R20 CONFIGURATION, SELF OR AUTOMATIC GROUNDING, GFCI.

B. SPECIAL MOUNTING HEIGHTS ARE NOTED ON THE ARCHITECTURAL DRAWINGS. UNLESS OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS, MOUNT DEVICES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:

1. DUPLEX RECEPTACLE	18"
2. WALL SWITCHES	48"
3. VOICE & VOICE/DATA OUTLETS	18"
4. WALL TELEPHONE OUTLETS	48"

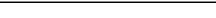
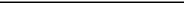
A. PROVIDE HEAVY-DUTY, AO, QUIET SWITCHES. THE SWITCHES SHALL BE HUBBELL 1221 OR EQUAL, 120-277 VOLT, 20 AMPERES, SPECIFICATION GRADE. SWITCHES SHALL BE SINGLE POLE, DOUBLE POLE, THREE WAY, FOUR WAY, OR KEY OPERATED AS SCHEDULED ON THE DRAWINGS AND SHALL BE THE SELF GROUNDING TYPE. COLOR SHALL BE IVORY.

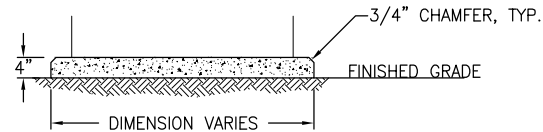
- A. PROVIDE ALL LIGHTING FIXTURES, AS SCHEDULED ON DRAWINGS, COMPLETE WITH HARDWARE. INSTALL COMPLETELY WIRED, CONNECTED AND IN OPERATING ORDER.
- B. CONFIRM ALL CEILING CONDITIONS, CLEARANCES AND OPERATING VOLTAGES BEFORE ORDERING LIGHTING FIXTURES.
- C. SUBMIT SHOP DRAWINGS.

- A. PROVIDE LIGHTING FIXTURES WHICH HAVE BEEN TESTED AND CERTIFIED FOR PROPER OPERATION BY THE FIXTURE'S MANUFACTURER.
- B. PROVIDE LIGHTING FIXTURES WITH TRIM COMPATIBLE WITH CEILING OR SURFACE ON OR IN WHICH INSTALLED.
- C. EACH LUMINAIRE SHALL HAVE TWO SUPPORT WIRES INSTALLED, ONE ON EACH END SECURED TO STRUCTURE, AT DIAGONAL CORNERS. LUMINAIRES IN FIRE RATED CEILINGS SHALL BE SUPPORTED ON ALL FOUR CORNERS.
- D. SUPPORT AND SECURELY ATTACH WITH GALVANIZED FASTENERS IN A LEVEL POSITION.
- E. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- F. FIRE RATED ASSEMBLIES, COMPLY WITH DETAILS OF UL LISTED ASSEMBLY.

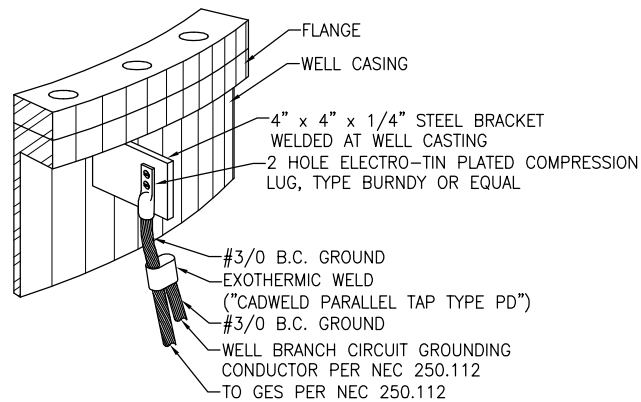
A. PROVIDE TEMPORARY POWER (SMALL TOOL) AND LIGHTING PER OSHA REQUIREMENTS.



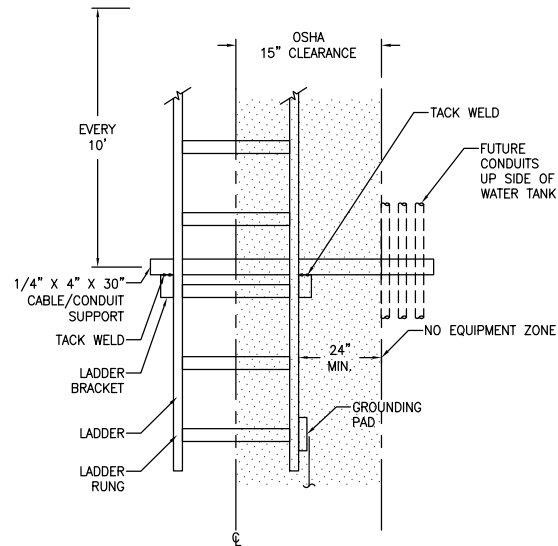
				PROJECT NO. 3740125			 KASBERG, PATRICK & ASSOCIATES, LP CONSULTING ENGINEERS TEMPLE, TEXAS 76501	LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE		SHEET NO. SE-02
				DRAWN BY PD						
NO. DATE REVISION BY				DESIGNED BY SO						
© 2026 Kasberg, Patrick & Associates, LP KPA Firm Registration Number F-510				APPROVED BY SK						OF 11
Plot Date: Jul 16, 2026 - 4:15pm Plotted By: PATRICIA.OROZCO				DATE 06/23/25				ELECTRICAL SPECIFICATIONS		



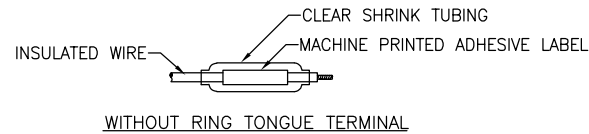
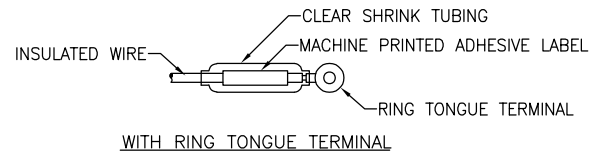
11 **DETAIL - HOUSEKEEPING PAD**
E4.2 SCALE: NTS



8 **DETAIL - GROUND AT WELL CASING**
E4.2 SCALE: NTS

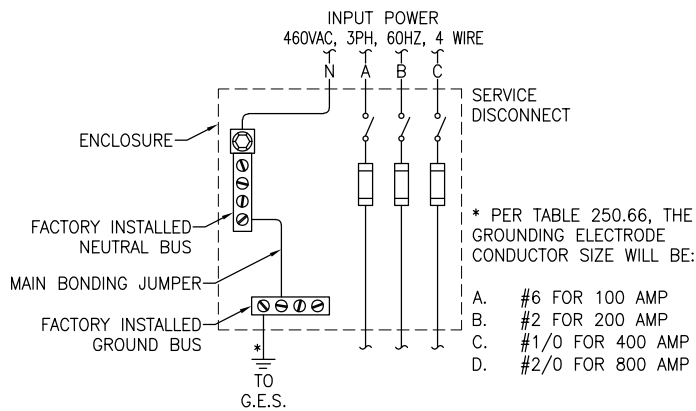


5 **DETAIL - TANK LADDER OSHA CLEARANCES**
E4.2 SCALE: NTS

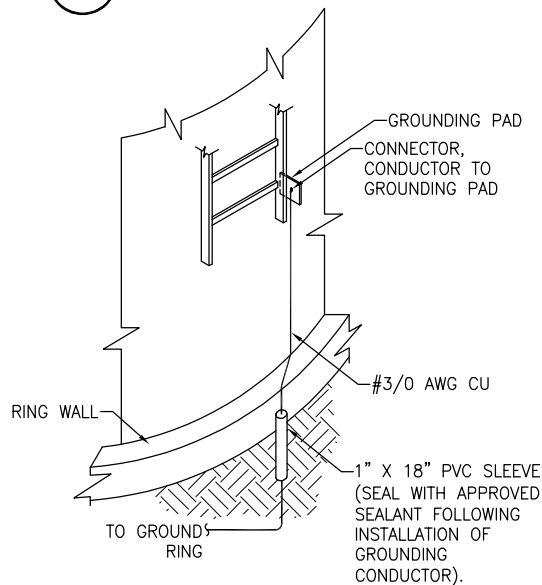


NOTE:
WHERE POSSIBLE RING TERMINALS SHALL BE USED. ONE OF THE ABOVE METHODS MUST BE USED ON ALL WIRE #8 AWG & SMALLER. THE SAME MUST ALSO BE USED ON LARGER WIRE UNLESS AN ALTERNATE METHOD IS SUBMITTED & APPROVED.

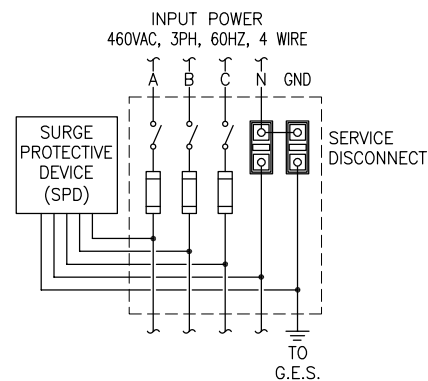
2 **DETAIL - WIRE TERMINATION AND MARKING**
E4.2 SCALE: NTS



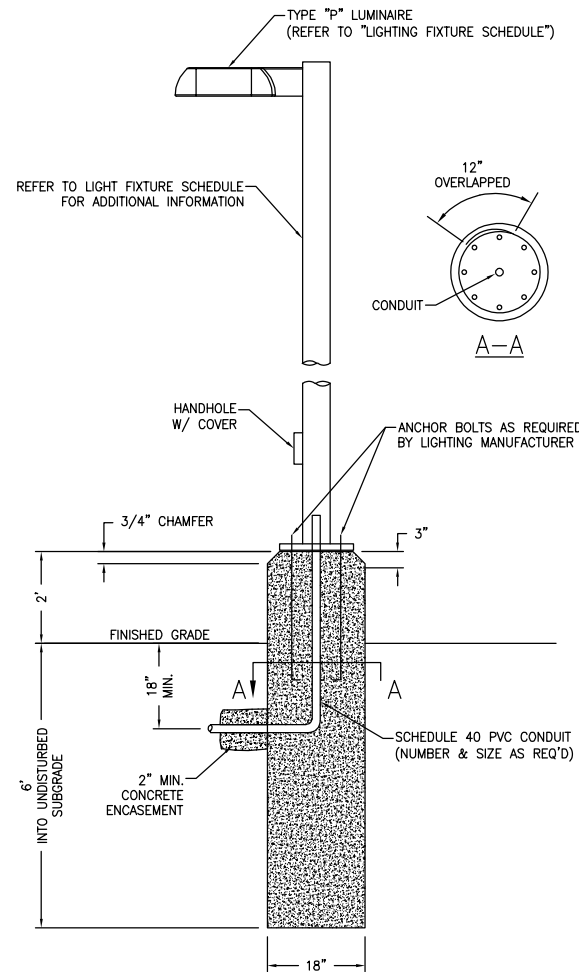
10 **DETAIL - GROUNDING SERVICE DISCONNECT**
E4.2 SCALE: NTS



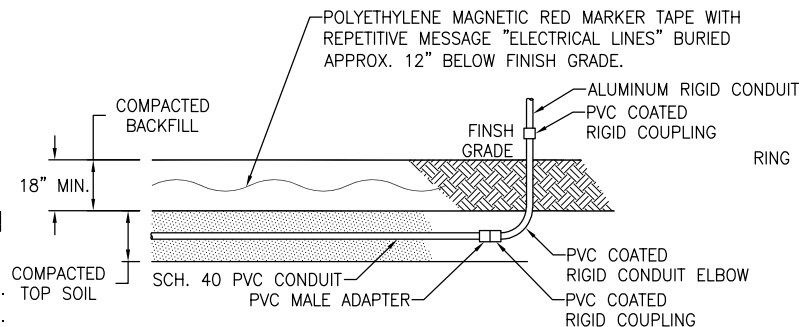
7 **DETAIL - TANK LADDER GROUNDING**
E4.2 SCALE: NTS



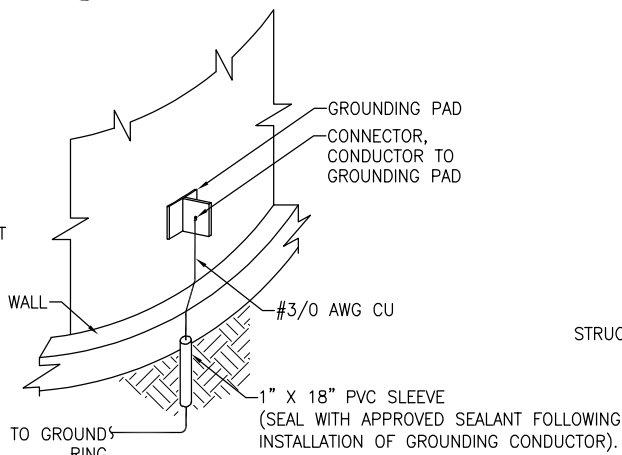
4 **DETAIL - SURGE PROTECTION DEVICE (SPD)**
E4.2 SCALE: NTS



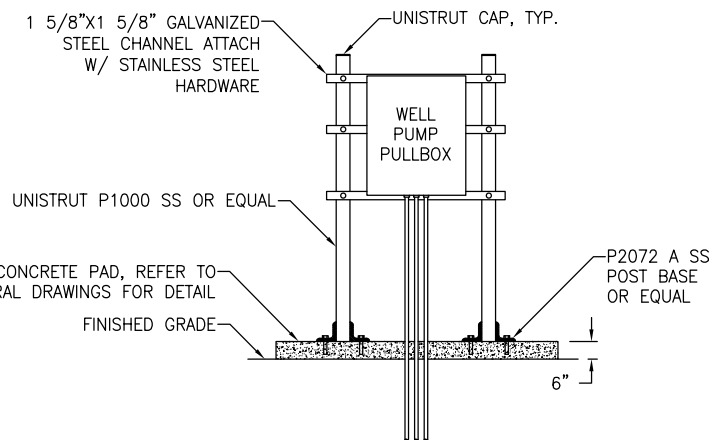
1 **DETAIL - POLE MOUNTED LIGHTING FIXTURE**
E4.2 SCALE: NTS



9 **DETAIL - TYPICAL UNDERGROUND CONDUIT RUN**
E4.2 SCALE: NTS



6 **DETAIL - METAL TANK GROUNDING**
E4.2 SCALE: NTS



3 **DETAIL - ELECTRICAL EQUIPMENT RACK**
E4.2 SCALE: NTS



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TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP	Plot Date: Jul 16, 2026 - 4:58pm		
KPA Firm Registration Number F-510	Plotted By: PATRICIA.OROZCO		

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



KASBERG, PATRICK & ASSOCIATES, LP
CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	
ELECTRICAL DETAILS	

SHEET NO. **SE-06**
OF **11**

E4.2

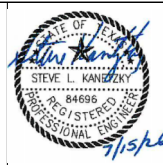
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TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 16, 2026 - 5:01pm	
KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25





KASBERG, PATRICK & ASSOCIATES, LP

CONSULTING ENGINEERS

TEMPLE, TEXAS 76501

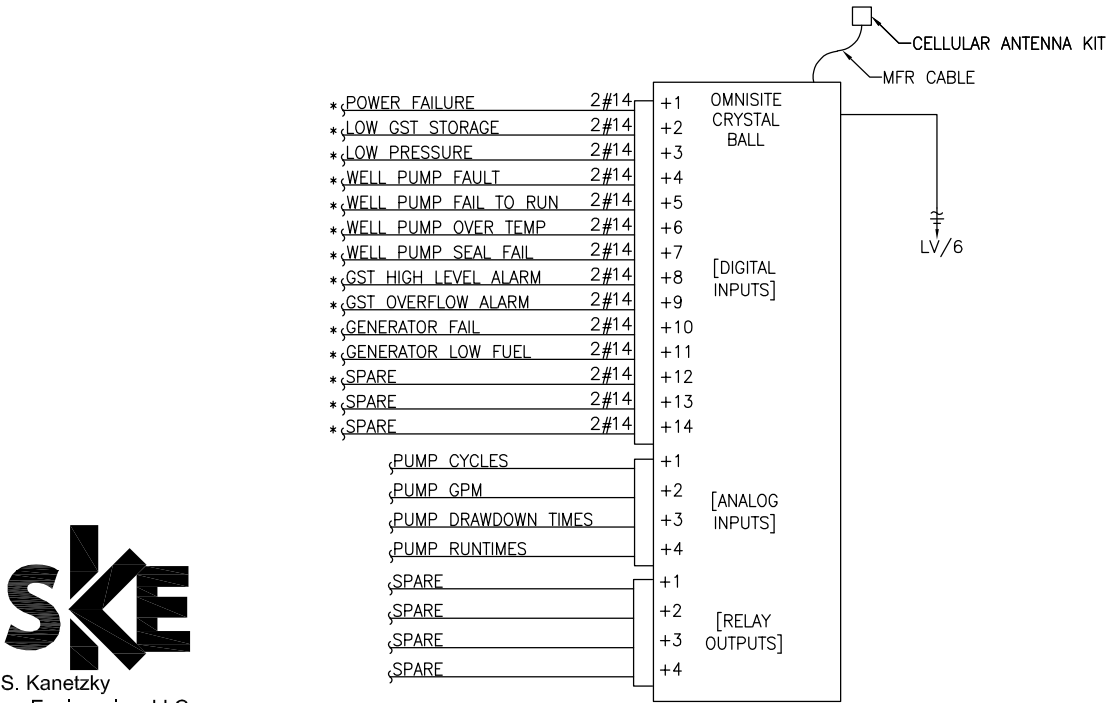
LEVI WATER SUPPLY CORP.

FALLS COUNTY WATER PLANT SITE

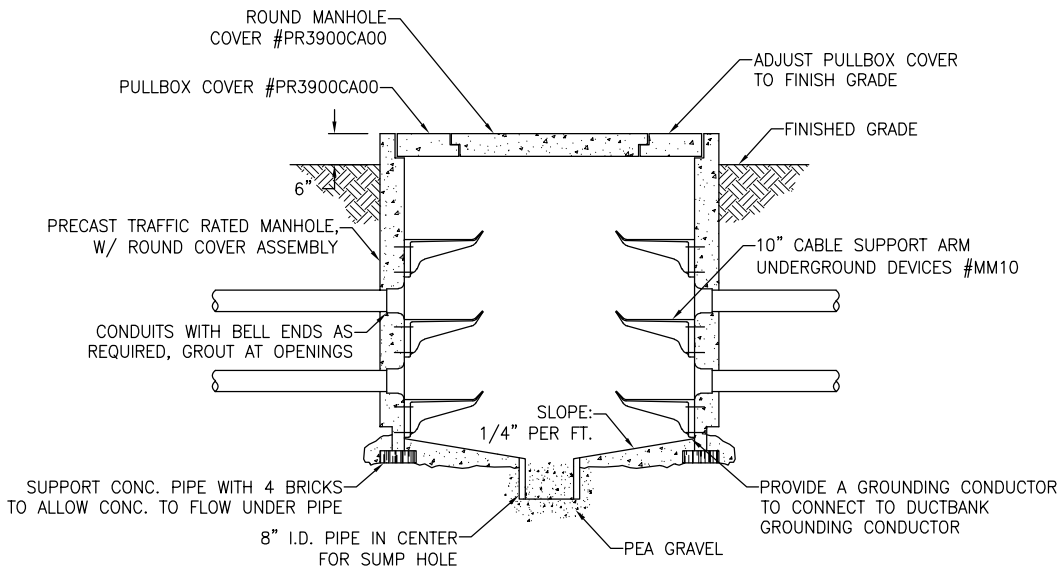
ELECTRICAL DETAILS

SHEET NO. **SE-07**

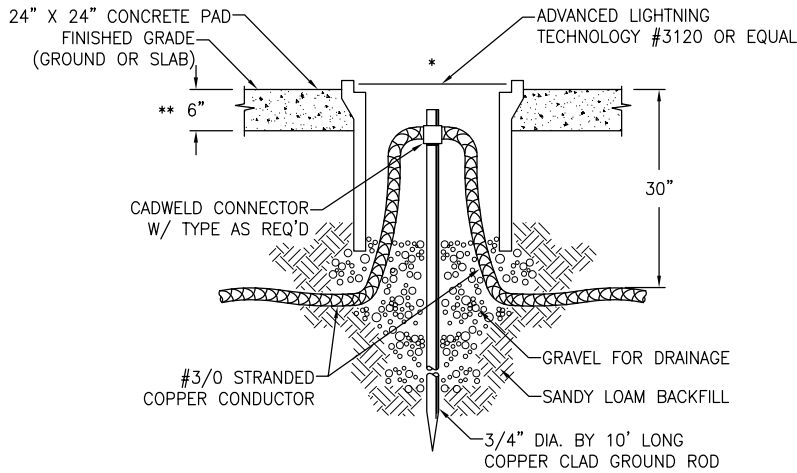
OF **11**



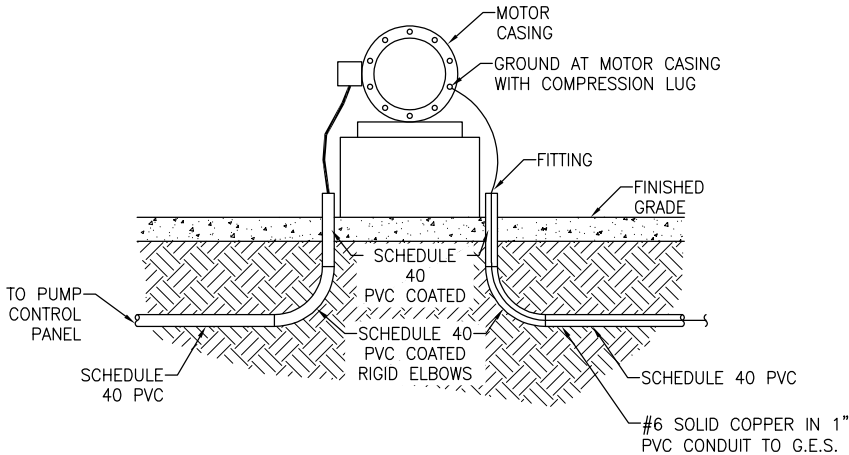
* INDICATES FIELD WIRING REQUIRED BY CONTRACTOR
5 OMNISITE - CRYSTAL BALL AUTO DIALER
E4.3 SCALE: NTS



NOTE: ALL CONDUIT ENTERING PULLBOXES MUST DRAIN TO PULLBOXES
4 DETAIL - MANHOLE
E4.3 SCALE: NTS



* INSTALL GROUND RODS AWAY FROM HEAVY TRAFFIC AREAS AND SIDEWALKS. COORDINATE EXACT LOCATION WITH CIVIL DRAWINGS
** INSTALL 2'X2'X6" CONCRETE PAD
2 DETAIL - 3/4" X 10' GROUND ROD
E4.3 SCALE: NTS



1 DETAIL - MOTOR POWER & GROUNDING
E4.3 SCALE: NTS

E4.3

P:\SKE\Projects\2025\3740125 - KPA Levi WSC Falls County WTP\01 Design Phase\CAD - Current\260716 - Updated Print\WGJ_3740125-E44.dwg - E4.4



S. Kanetzky
Engineering, LLC.
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(512) 326-3380
www.skaneng.com
TBPE Firm No. F-2356
SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 16, 2026 - 5:03pm	
KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

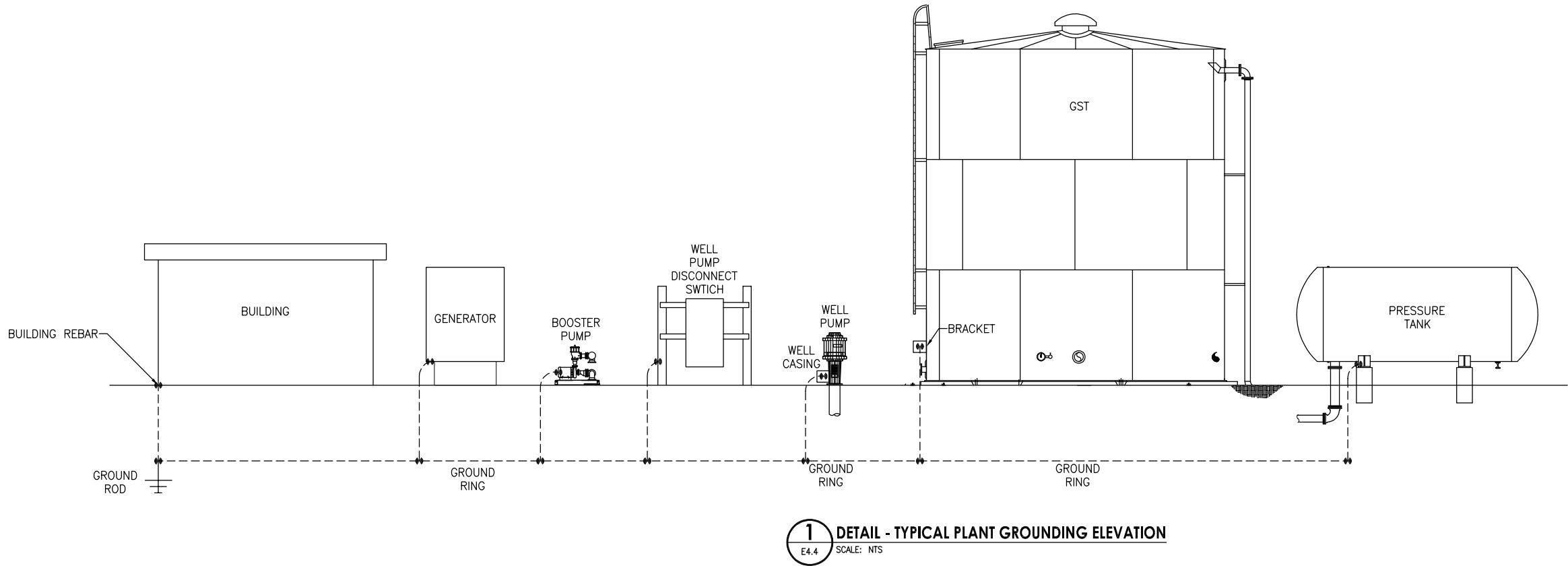
PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25



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CONSULTING ENGINEERS
TEMPLE, TEXAS 76501

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
ELECTRICAL DETAILS

SHEET NO.	SE-08
OF	11



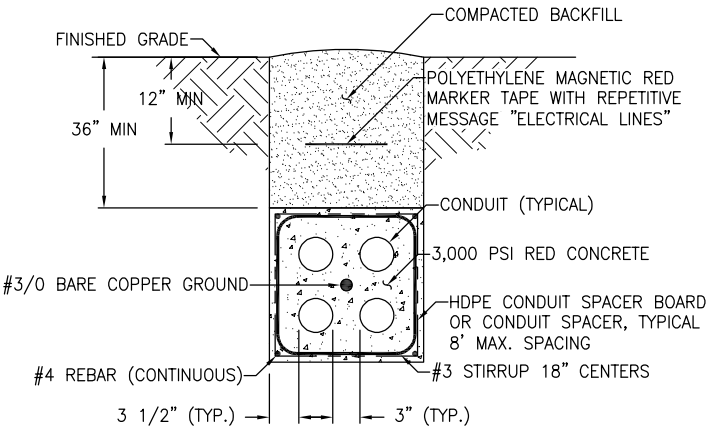
E4.4

REFERENCE NOTES

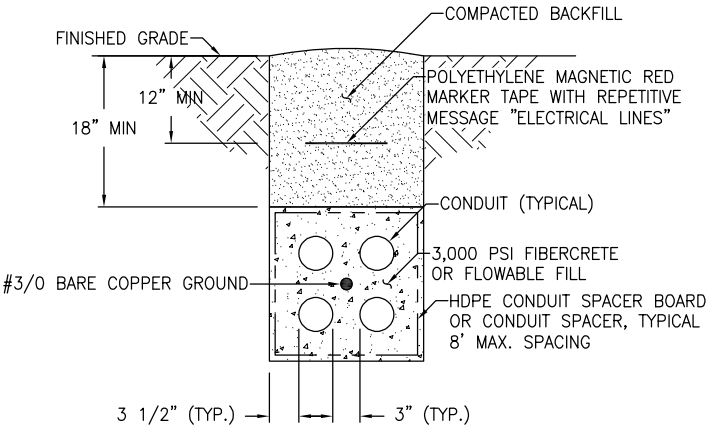
- ① REFER TO DUCTBANK SECTION DETAIL 1/E4.6 FOR CONSTRUCTION INFORMATION, TYPICAL.
- ② REFER TO UTILITY DUCTBANK SECTION DETAIL 2/E4.6 FOR CONSTRUCTION INFORMATION, TYPICAL.
- ③ REFER TO "CIRCUIT SCHEDULE" ON SHEET E4.0 FOR ADDITIONAL INFORMATION, TYPICAL.
- ④ ELECTRICAL CONTRACTOR SHALL VARY DEPTH AS REQUIRED TO PROVIDE A MINIMUM OF 18" OF CLEARANCE AT YARD PIPING CROSSING.

GENERAL NOTES

1. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROVIDE AND INSTALL ALL RACEWAYS AND CONDUCTORS CUMULATIVELY BETWEEN THE UNDERGROUND ELECTRICAL DETAILS, PANEL SCHEDULES, AND CIRCUIT SCHEDULES. THE CIRCUIT SCHEDULES, AND PANEL SCHEDULES TAKE PRECEDENCE OVER THE UNDERGROUND ELECTRICAL DETAILS.

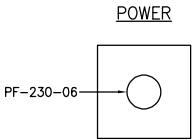


2 DETAIL - UTILITY DUCTBANK SECTION CONSTRUCTION, TYP.
E4.6 SCALE: NTS

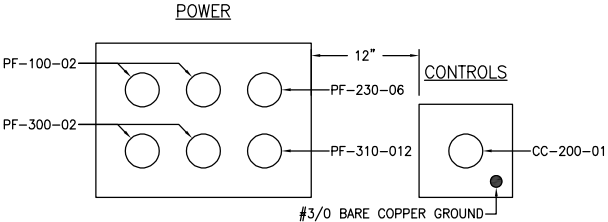


1 DETAIL - TYP. DUCTBANK SECTION CONSTRUCTION
E4.6 SCALE: NTS

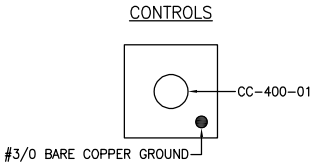
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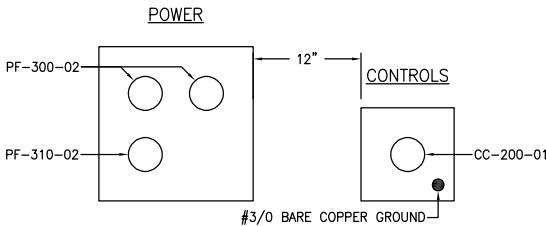
8 DETAIL - DUCTBANK SECTION F-F
E4.6 SCALE: NTS



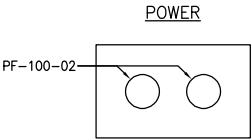
5 DETAIL - DUCTBANK SECTION C-C
E4.6 SCALE: NTS



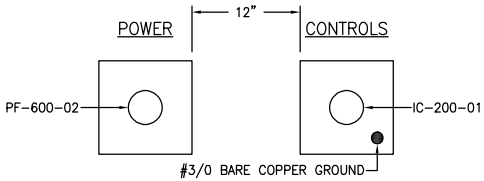
10 DETAIL - DUCTBANK SECTION H-H
E4.6 SCALE: NTS



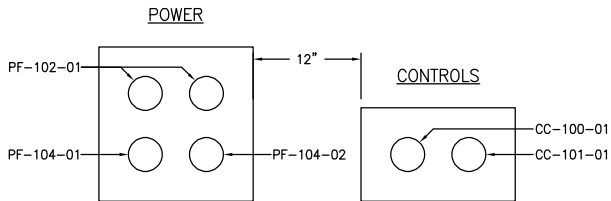
7 DETAIL - DUCTBANK SECTION E-E
E4.6 SCALE: NTS



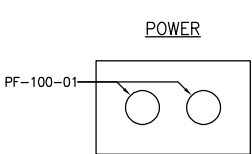
4 DETAIL - DUCTBANK SECTION B-B
E4.6 SCALE: NTS



9 DETAIL - DUCTBANK SECTION G-G
E4.6 SCALE: NTS



6 DETAIL - DUCTBANK SECTION D-D
E4.6 SCALE: NTS



3 DETAIL - DUCTBANK SECTION A-A
E4.6 SCALE: NTS



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SKE PROJECT # 3740125

NO.	DATE	REVISION	BY
© 2026 Kasberg, Patrick & Associates, LP		Plot Date: Jul 16, 2026 - 5:09pm	
KPA Firm Registration Number F-510		Plotted By: PATRICIA.OROZCO	

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25

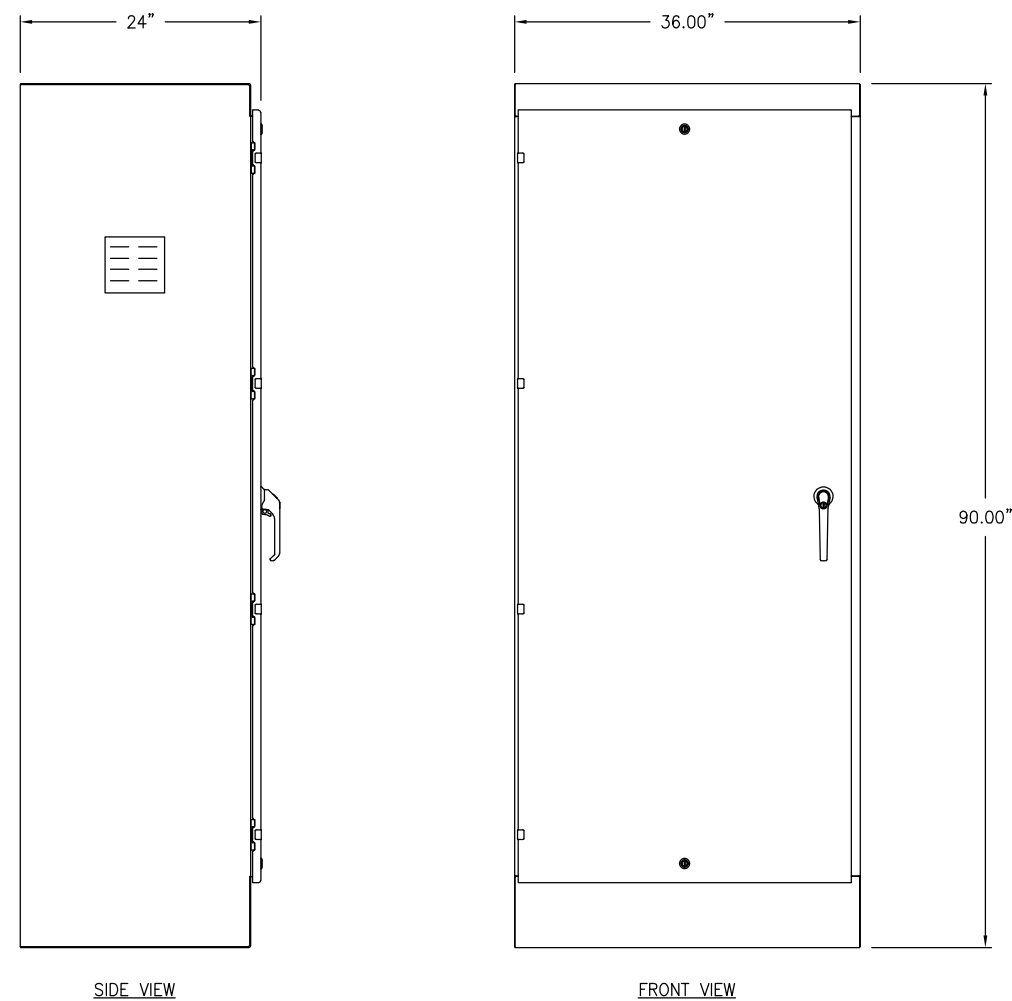


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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

ELECTRICAL DETAILS

SHEET NO. SE-09
OF 11



- ① VFD ENCLOSURE WIRING IS TYPICAL. FINAL HARDWARE CONFIGURATION WILL VARY ACCORDING TO SPECIFICATIONS. VFD/HARMONIC FILTER ENCLOSURE SHALL BE MANUFACTURED BY 5 STAR ELECTRIC, SAN ANTONIO, TX. 1(800) 229-8965 OR APPROVED EQUAL.
- ② VFD ENCLOSURES, 480V, 3 PHASE. VERIFY EXACT PUMP SIZES, SIZE CIRCUIT BREAKERS AND OVERLOADS ACCORDINGLY. PANEL SHALL BE MANUFACTURED BY 5 STAR ELECTRIC OR EQUAL.
- ③ PROVIDE AND INSTALL VFD TYPE YASWAKA FP605 #FP65-U-4-052-A-F-A OR EQUAL FOR EACH PUMP.

* = FIELD WIRED BY CONTRACTOR.

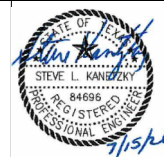
ENCLOSURE: NEMA 3R
W/ INNER DOOR. 36.00" X 90.00" X 24.00"

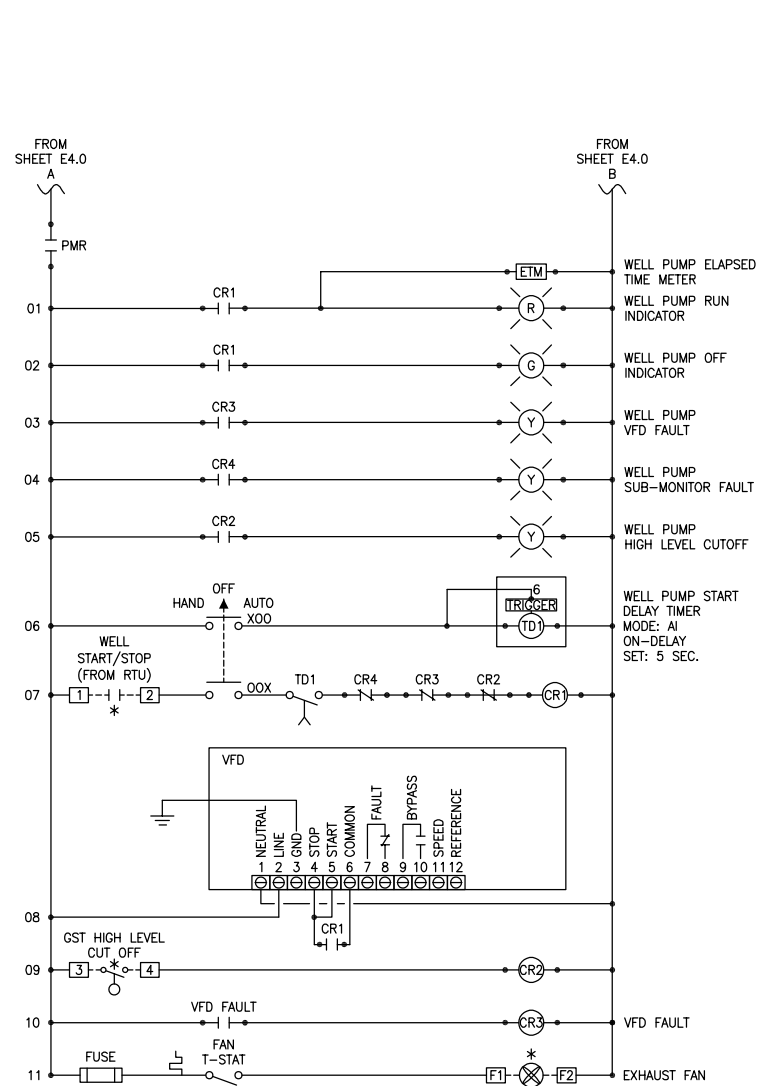
2 **VFD ENCLOSURE PANEL TYPICAL**
E5.0 SCALE: NTS

OF **11**

VFD ENCLOSURE DETAILS

PROJECT NO.	3740125
DRAWN BY	PD
DESIGNED BY	SO
APPROVED BY	SK
DATE	06/23/25





E5.1

LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

SHEET NO. **SE-11**

OF **11**



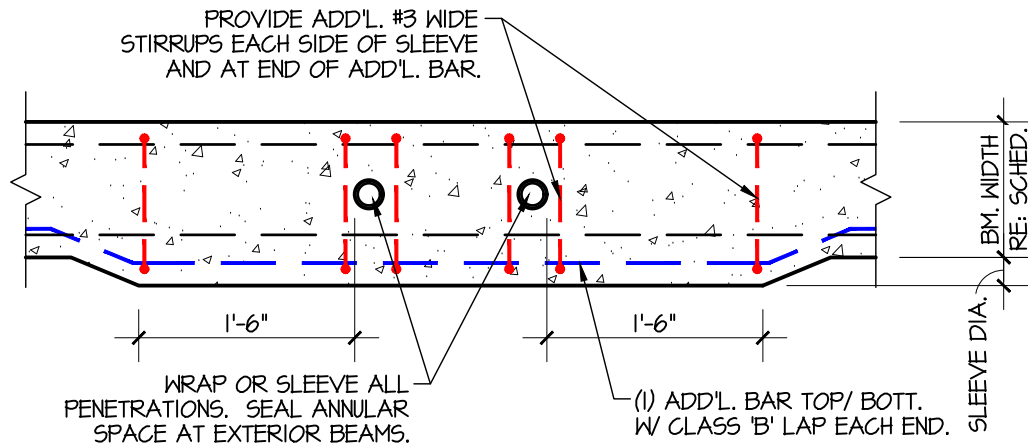
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PROJECT NO. 3740125
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 DESIGNED BY SO
 APPROVED BY SK
 DATE 06/23/25



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TEMPLE, TEXAS 76501

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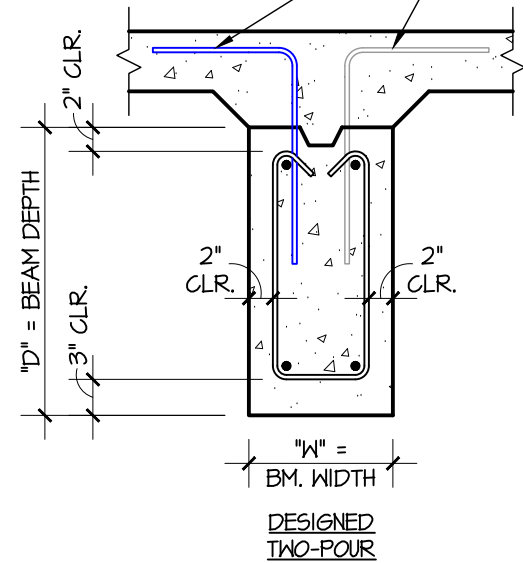
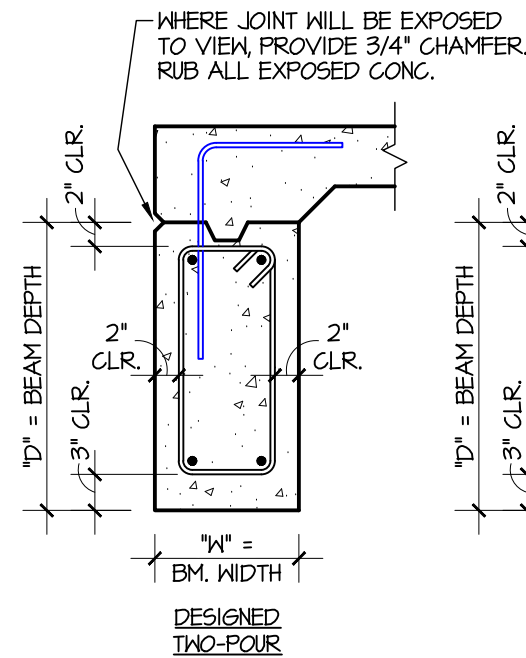
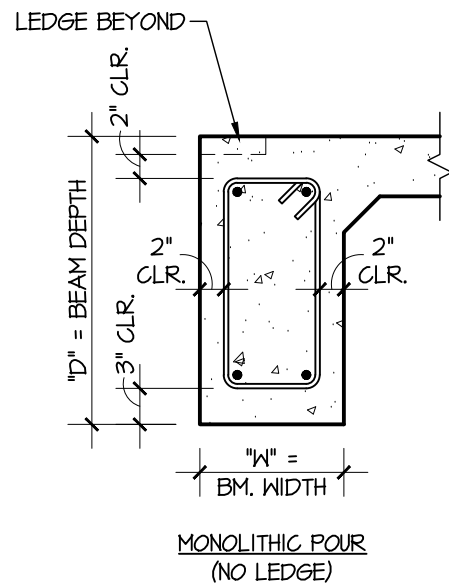
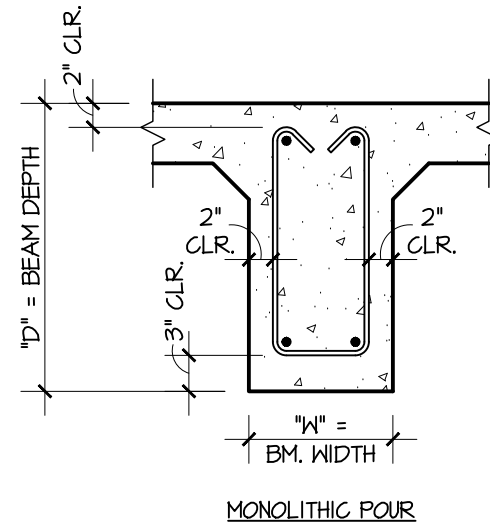
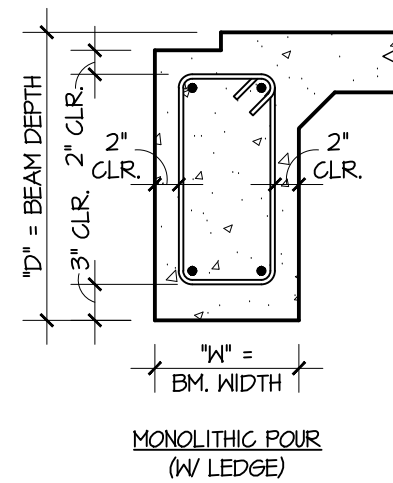
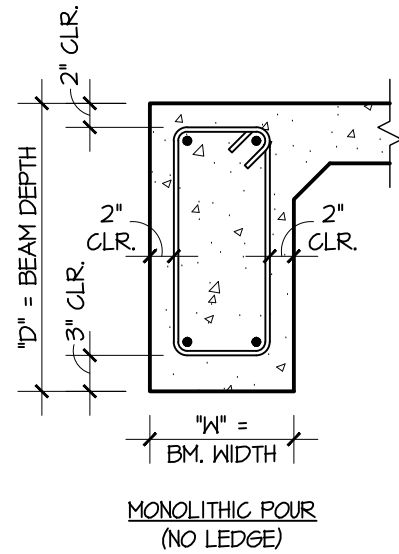


PLAN VIEW AT VERT. PENETRATION
(SIMILAR AT HORIZONTAL PENETRATION)

NOTES:

WHERE BEAMS ARE **VERTICALLY** PENETRATED BY PIPES, SLEEVES, OR OTHER OBJECTS **GREATER THAN 2" DIAMETER**, THE BEAM SHALL BE INCREASED IN **WIDTH** BY AT LEAST THE GREATEST DIMENSION OF THE SLEEVE, PIPE OR OBJECT. INCREASED BEAM WIDTH SHALL EXTEND 1'-6" PAST PENETRATION. PROVIDE (1) #4 TOP/BOTTOM AND ADD'L. #3 WIDE STIRRUPS, AS SHOWN ABOVE, AT WIDENED PORTION OF BEAM. AT PENETRATIONS **LESS THAN 2" DIAMETER**, PROVIDE ADD'L. TYPICAL BEAM STIRRUP EACH SIDE OF PENETRATION. **UNDER NO CIRCUMSTANCES SHALL ANY REBAR BE CUT.**

WHERE BEAMS ARE **HORIZONTALLY** PENETRATED BY PIPES, SLEEVES, OR OTHER OBJECTS **GREATER THAN 6" DIAMETER**, THE BEAM SHALL BE INCREASED IN **DEPTH** BY AT LEAST THE GREATEST DIMENSION OF THE SLEEVE, PIPE OR OBJECT. INCREASED DEPTH SHALL EXTEND 1'-6" PAST PENETRATION. PROVIDE (2) ADD'L. BOTTOM BARS (SAME SIZE AS BEAM STEEL) AND ADD'L. #3 STIRRUPS, SIMILAR TO AS SHOWN ABOVE, AT DEEPENED PORTION OF BEAM. AT PENETRATIONS **LESS THAN 6" DIAMETER**, PROVIDE ADD'L. TYPICAL BEAM STIRRUP EACH SIDE OF PENETRATION. **UNDER NO CIRCUMSTANCES SHALL ANY REBAR BE CUT.**

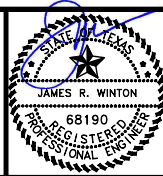


TYP. GRADE BEAM CLEARANCES / DIMENSIONS
SCALE: NOT TO SCALE



2 TYP. BEAM PENETRATIONS
SCALE: NOT TO SCALE

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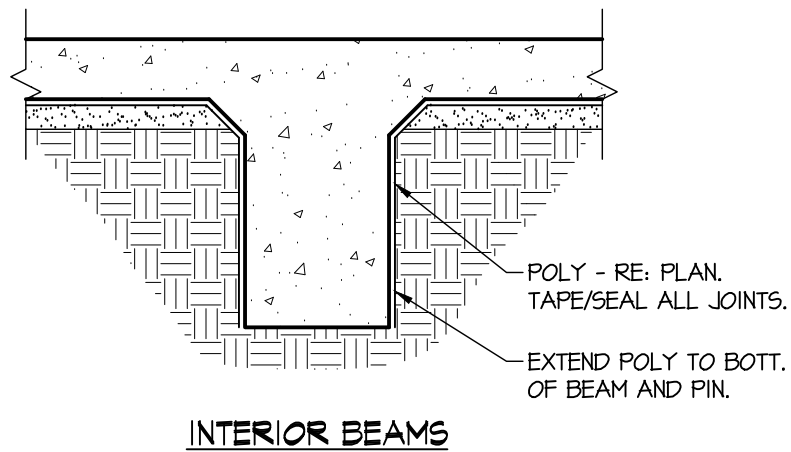
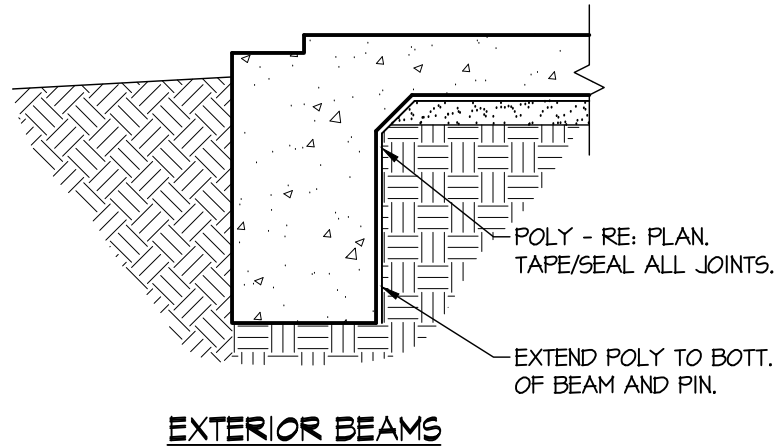
LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE
TYPICAL CONCRETE DETAILS

SHEET NO. **SS-01**
OF **8**

NO.	DATE	REVISION	BY
1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 9:19am	JARED
2	Jul 20, 2026	Plotted By: JARED	

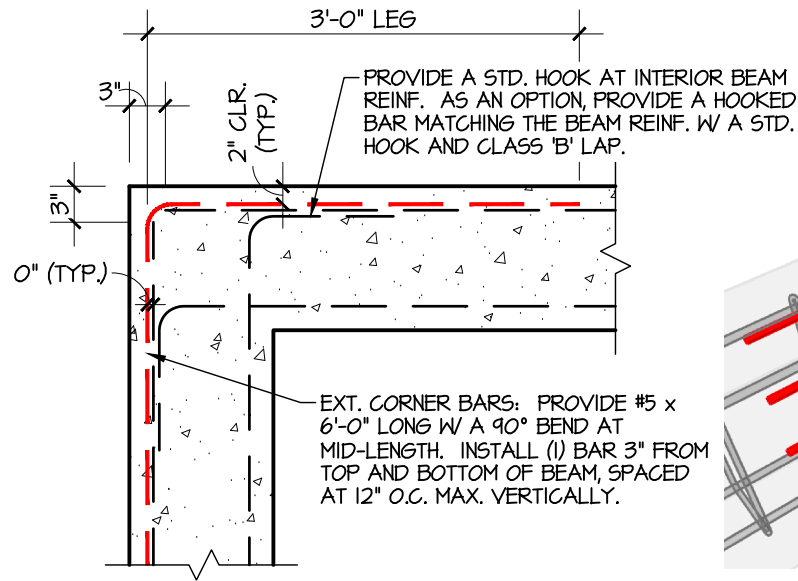
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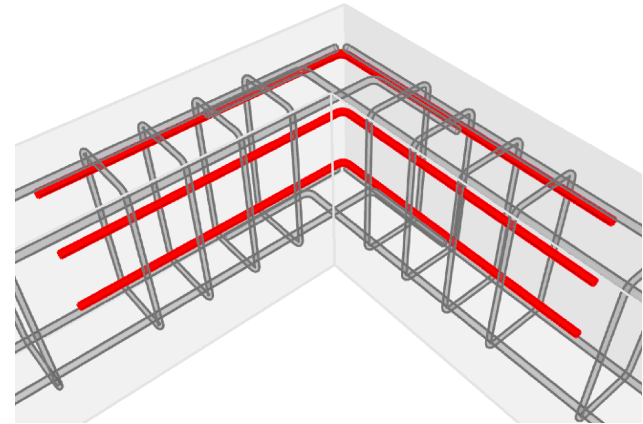


2 TYP. POLY AT GRADE BEAMS

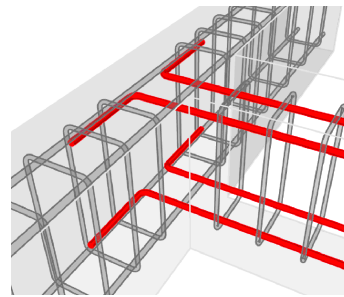
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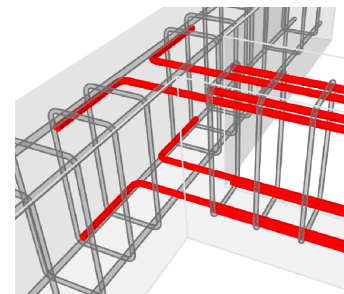
PLAN - CORNER (90°)



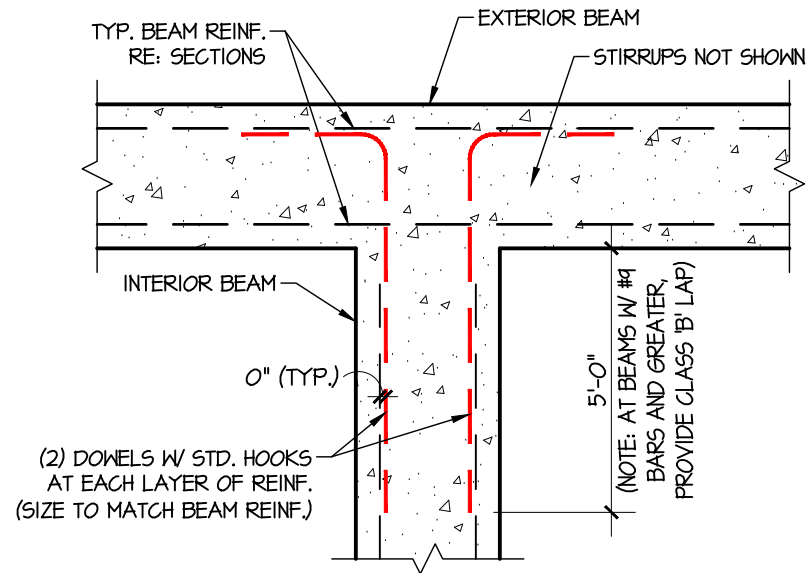
ISOMETRIC - CORNER (90°)



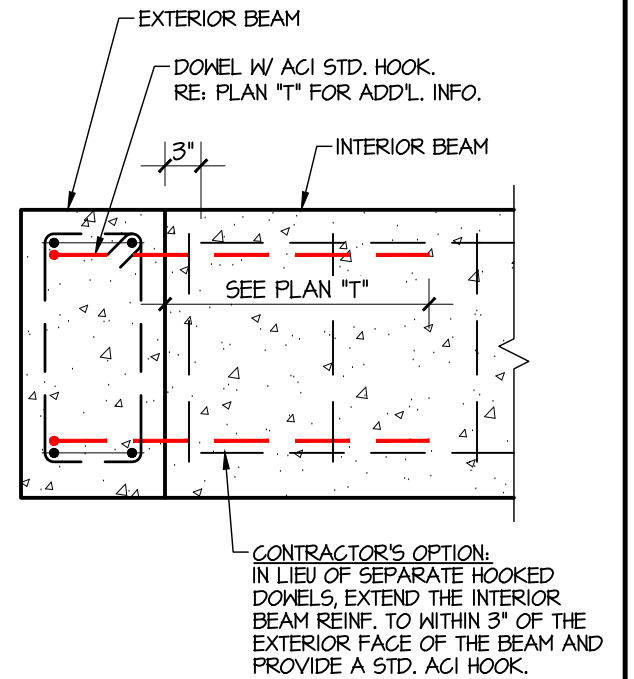
ISOMETRIC
(HOOKED BM. STEEL)



ISOMETRIC
(HOOKED DOWELS)



PLAN - BEAM INTERSECTION



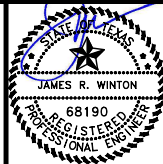
ELEV. - BEAM INTERSECTION

1 TYPICAL CORNER DETAILS

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

TYPICAL CONCRETE DETAILS

SHEET NO. SS-02

OF 8

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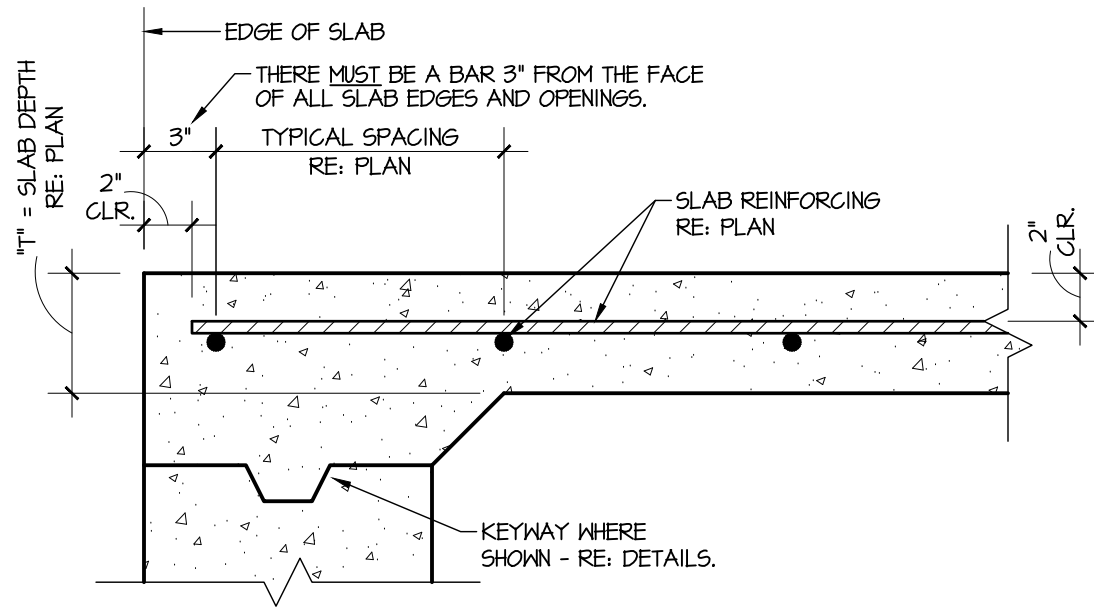
Plot Date: Jul 20, 2026 - 9:19am
Plotted By: JARED

PROJECT NO. 2024-109
DRAWN BY Jared Kelm
DESIGNED BY Jim Winton, P.E.
APPROVED BY Jim Winton, P.E.
DATE July 20, 2026

DRAWING TO BE READ IN COLOR

0 1"
IF SCALE ABOVE DOES NOT EQUAL 1",
DRAWING HAS NOT BEEN PRINTED TO SCALE.

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_SS-01.dwg



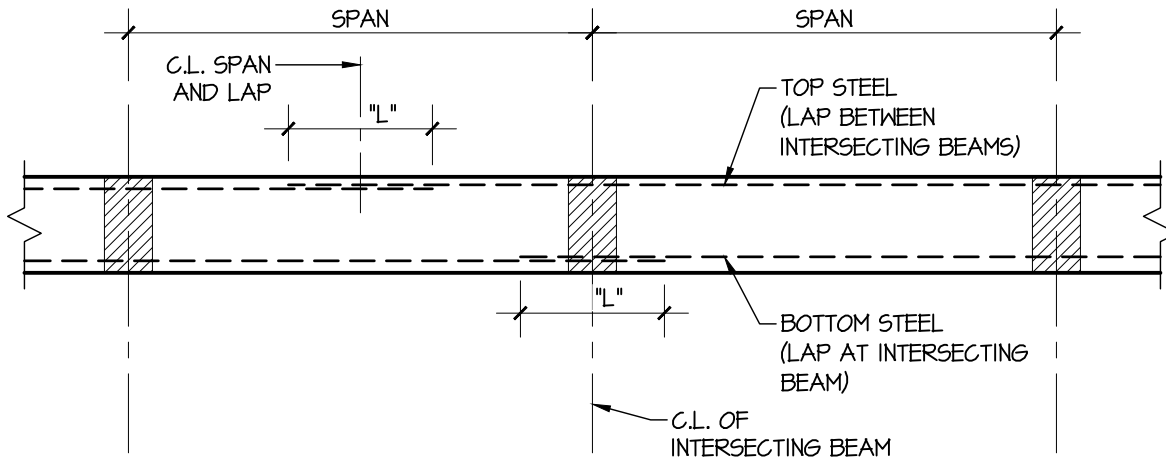
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TYP. SLAB STEEL CLEARANCES

SCALE: NOT TO SCALE

NOTES:

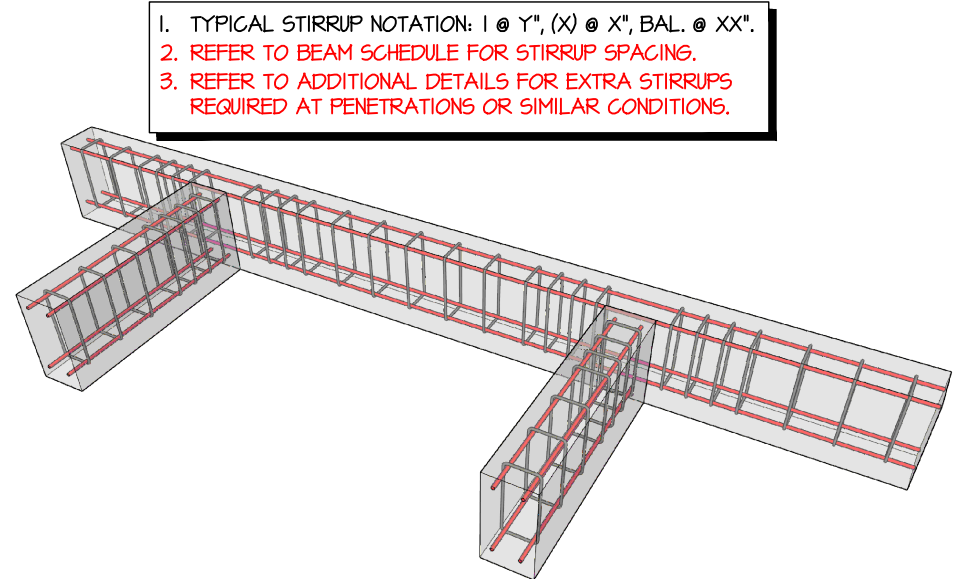
1. REFER TO TYPICAL LAP SCHEDULE FOR LAP LENGTH ("L").
2. REFER TO SECTIONS AND/OR SCHEDULE FOR GRADE BEAM.
3. BEAM STIRRUPS NOT SHOWN FOR CLARITY.



2

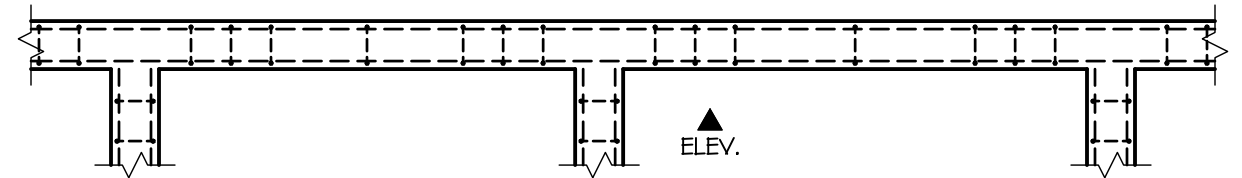
TYP. GRADE BEAM STEEL LAPS

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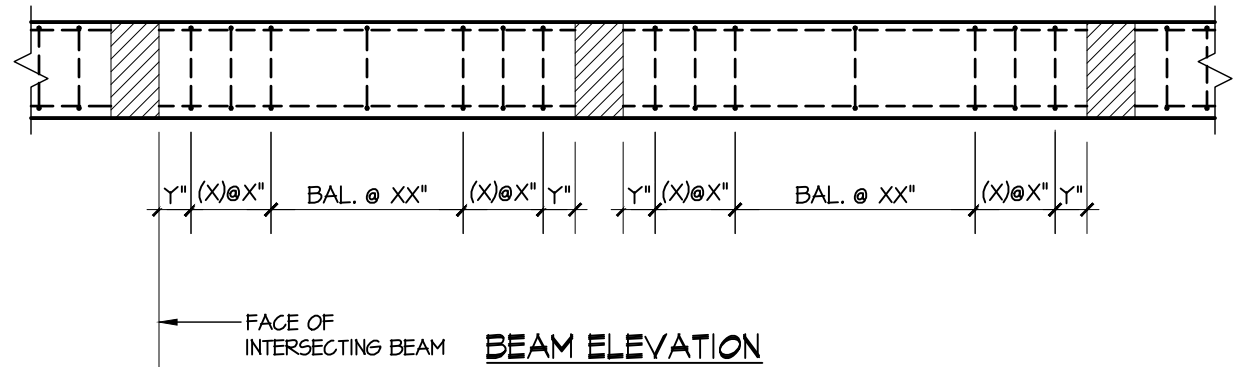


1. TYPICAL STIRRUP NOTATION: 1 @ Y", (X) @ X", BAL. @ XX".
2. REFER TO BEAM SCHEDULE FOR STIRRUP SPACING.
3. REFER TO ADDITIONAL DETAILS FOR EXTRA STIRRUPS REQUIRED AT PENETRATIONS OR SIMILAR CONDITIONS.

ILLUSTRATION



BEAM PLAN



1

TYP. STIRRUP SPACING LAYOUT

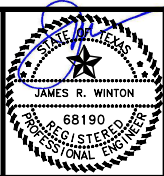
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0 1"
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DRAWING TO BE READ IN COLOR



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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

TYPICAL CONCRETE DETAILS

SHEET NO. SS-03

OF 8

NO.	DATE	REVISION	BY
1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 9:19am	JARED
2	Jul 20, 2026	Plotted By: JARED	

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KPA Firm Registration Number F-510

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

NOTE: AT PENETRATIONS AND RE-ENTRANT CORNERS IN SLABS WITH THICKNESS OF 6" OR GREATER, ALSO PROVIDE ADD'L. REINFORCING LOCATED 2" CLEAR FROM BOT. OF SLAB, UNLESS INDICATED OTHERWISE.

ENSURE SLAB REINF. IS WITHIN 3" OF PENETRATION ON ALL SIDES. WHERE NECESSARY, PROVIDE #4 x 4'-0" BARS, PLACED 2" BELOW TOP OF SLAB, CENTERED AT THE PENETRATION.

(2) #4 x 4'-0" AT 1" CLR. FROM TOP. PROVIDE BENT BARS IF/AS REQ'D. DUE TO ADJACENT CONFLICTS.

(2) #4 $\subset$ AT 1-1/2" CLR. FROM TOP, 2-1/2" CLR. FROM BOT.

(2) #4 $\subset$ AT 1" CLR. FROM TOP, 2" CLR. FROM BOT.

REINF. REQ'D. ONLY FOR 4" ϕ OR GREATER SLAB PENETRATION.

PROVIDE 1/2" EXPANSION JT. MATERIAL, FULL DEPTH OF SLAB. INSTALL BACKER ROD W/ ELASTOMERIC SEALANT.

PENETRATIONS

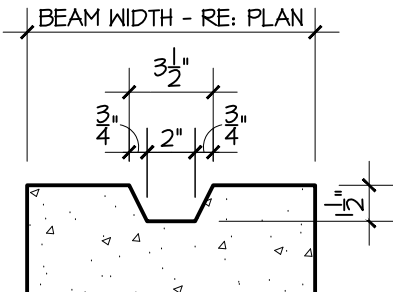
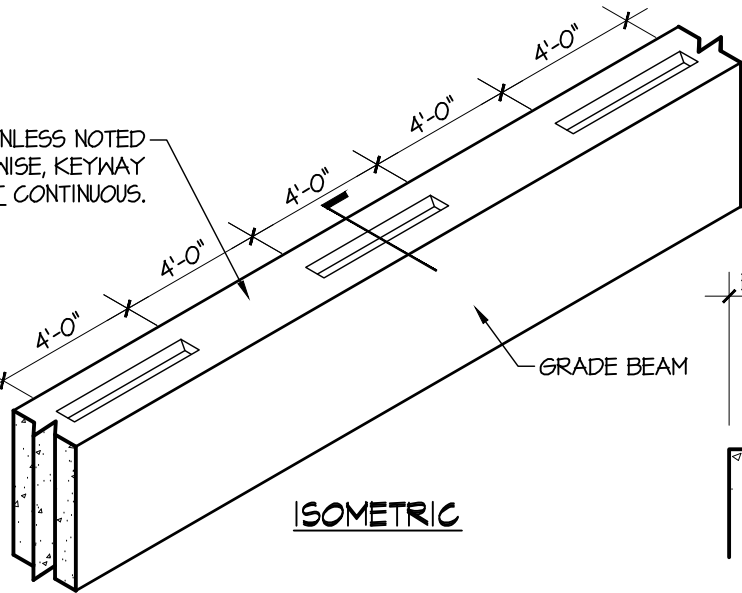
(2) #4 x 4'-0" AT 1" CLR. FROM TOP. PROVIDE BENT BARS WHERE REQ'D. AT INTERFERENCES.

EDGE OF SLAB, SLAB BLOCK-OUT, OR PREVIOUS POUR

NOTE: AT CORNERS W/ CONTROL JOINTS, OMIT REINF. BARS. DO NOT EXTEND RE-ENTRANT BARS ACROSS JOINTS.

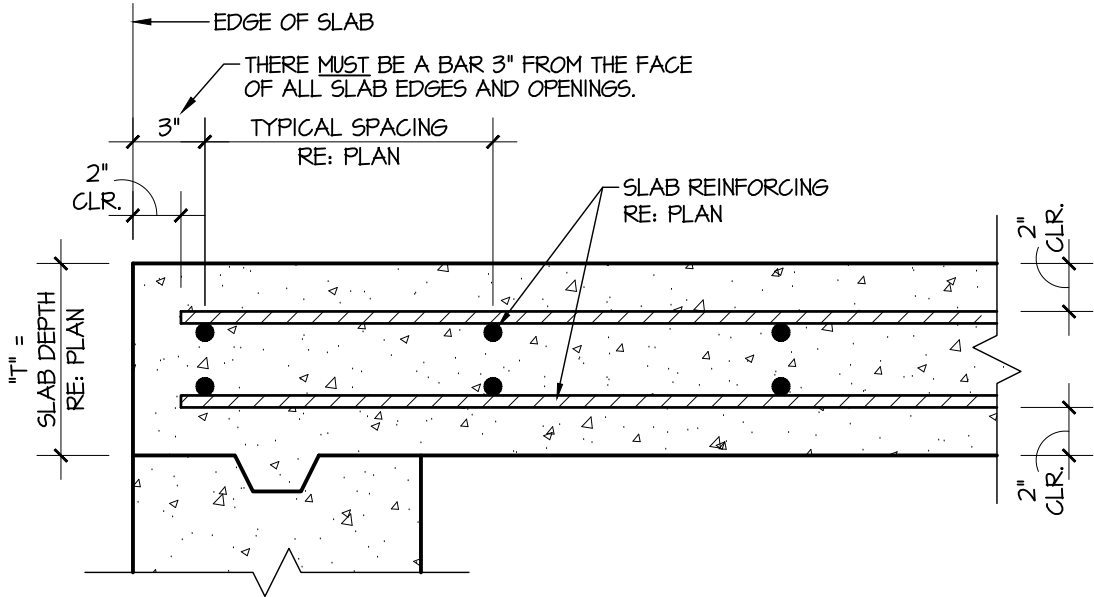
RE-ENTRANT

NOTE: UNLESS NOTED OTHERWISE, KEYWAY IS NOT CONTINUOUS.



2 TYP. KEYWAY DETAIL

SCALE: NOT TO SCALE



1 TYP. SLAB STEEL CLEARANCES

SCALE: NOT TO SCALE

0 1"
IF SCALE ABOVE DOES NOT EQUAL 1",
DRAWING HAS NOT BEEN PRINTED TO SCALE.

DRAWING TO BE READ IN COLOR

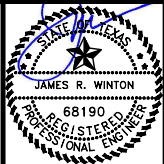


3

TYP. SLAB CORNER / PENETRATION REINF.

SCALE: NOT TO SCALE

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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

TYPICAL CONCRETE DETAILS

SHEET NO. SS-04

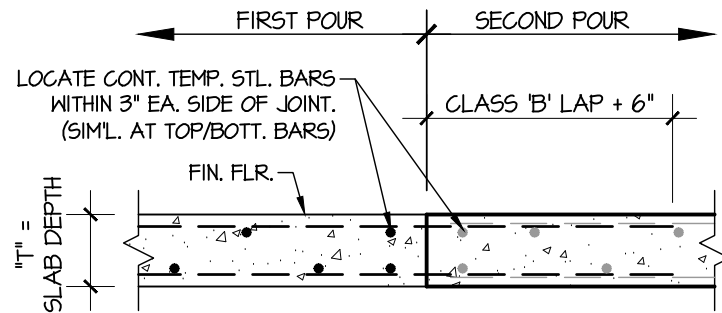
OF 8

NO.	DATE	REVISION	BY
1	Jul 20, 2026	Plot Date: Jul 20, 2026 - 9:19am	JARED
2	Jul 20, 2026	Plotted By: JARED	

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KPA Firm Registration Number F-510

PROJECT NO. 2024-109
DRAWN BY Jared Kelm
DESIGNED BY Jim Winton, P.E.
APPROVED BY Jim Winton, P.E.
DATE July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWaterSite\03_Plans_Engineering\Drawings\Construction\2023-064_SS-01.dwg

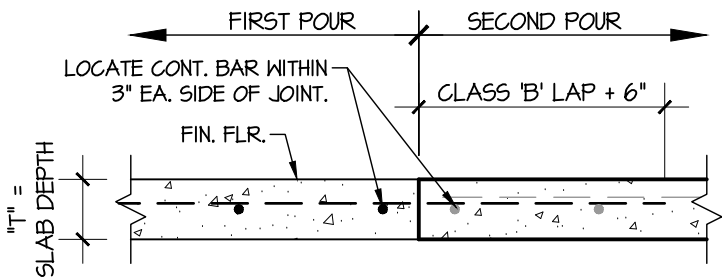


- NOTES:
1. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION JOINTS AS REQ'D. TO ACCOMMODATE THE CONCRETE POURING SEQUENCE.
 2. SUBMIT A PROPOSED JOINT LAYOUT TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONCRETE PLACEMENT.
 3. REFER TO PLANS FOR SLAB THICKNESS AND REINFORCING.

4

TYP. SLAB CONSTRUCTION JOINT

SCALE: NOT TO SCALE



- NOTES:
1. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION JOINTS AS REQ'D. TO ACCOMMODATE THE CONCRETE POURING SEQUENCE.
 2. SUBMIT A PROPOSED JOINT LAYOUT TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONCRETE PLACEMENT.
 3. REFER TO PLANS FOR SLAB THICKNESS AND REINFORCING.

3

TYP. SLAB CONSTRUCTION JOINT

SCALE: NOT TO SCALE



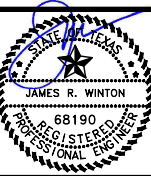
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WE JOB# 2023-064

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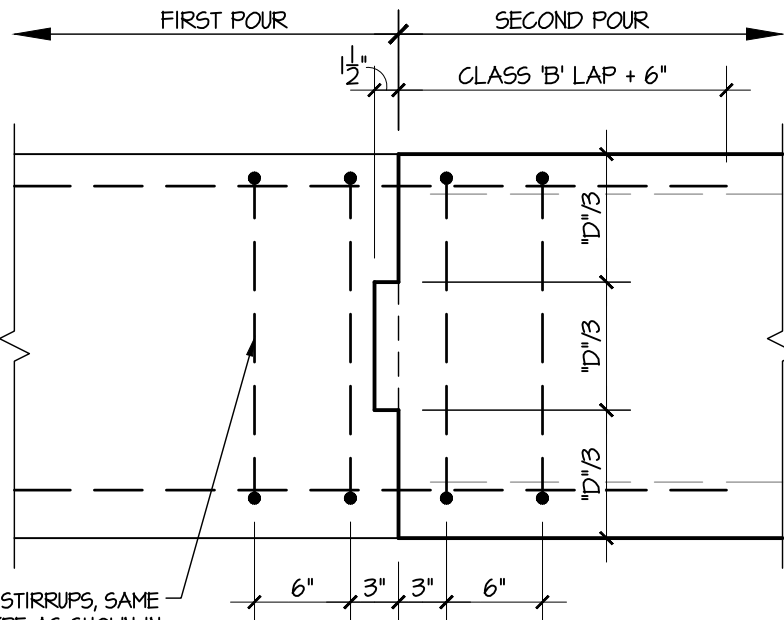
2

TYP. GRADE BM. CONSTRUCTION JT.

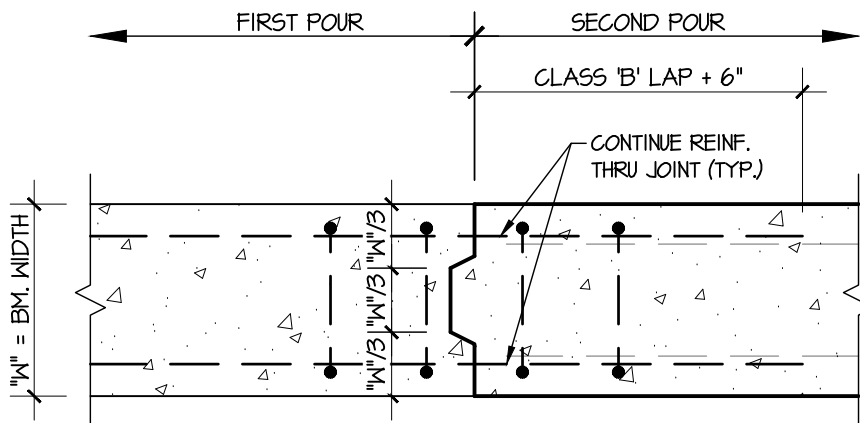
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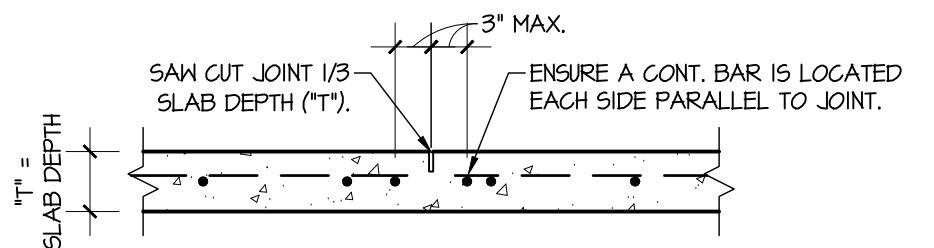


ELEVATION



PLAN VIEW

- NOTES:
1. REFER TO PLANS FOR SLAB THICKNESS AND REINFORCING.
 2. CUT EVERY OTHER REINF. BAR THAT CROSSES JOINT.
 3. FILL ALL JOINTS W/ AN EPOXY JOINT FILLER - RE: SPECS.
 4. ALLOW A MINIMUM OF 90 DAYS AFTER CONCRETE PLACEMENT BEFORE FILLING JOINTS. (PROTECT AS REQ'D.)



SAW CUT JOINT

1

TYPICAL SLAB CONTROL JOINT

SCALE: NOT TO SCALE

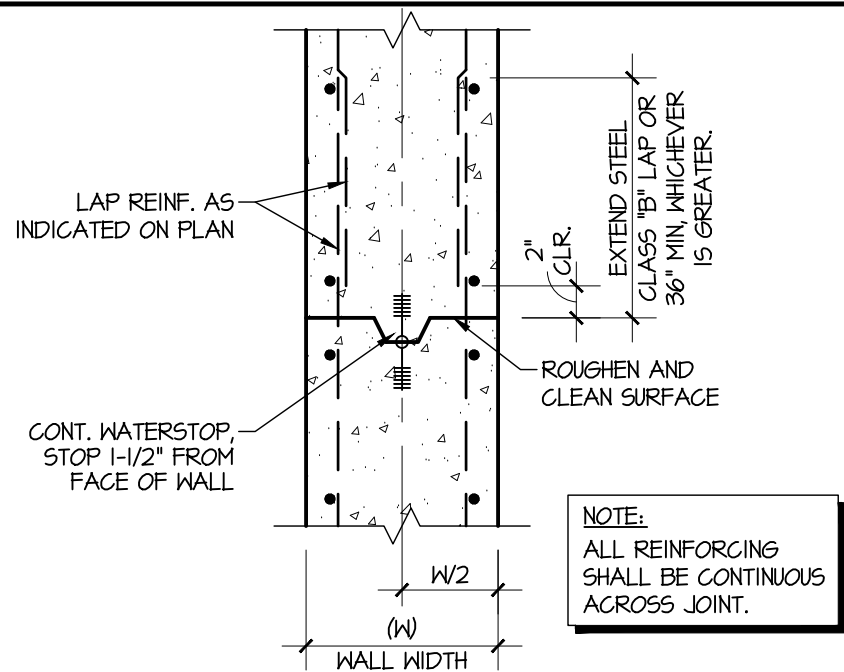
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DRAWING TO BE READ IN **COLOR**

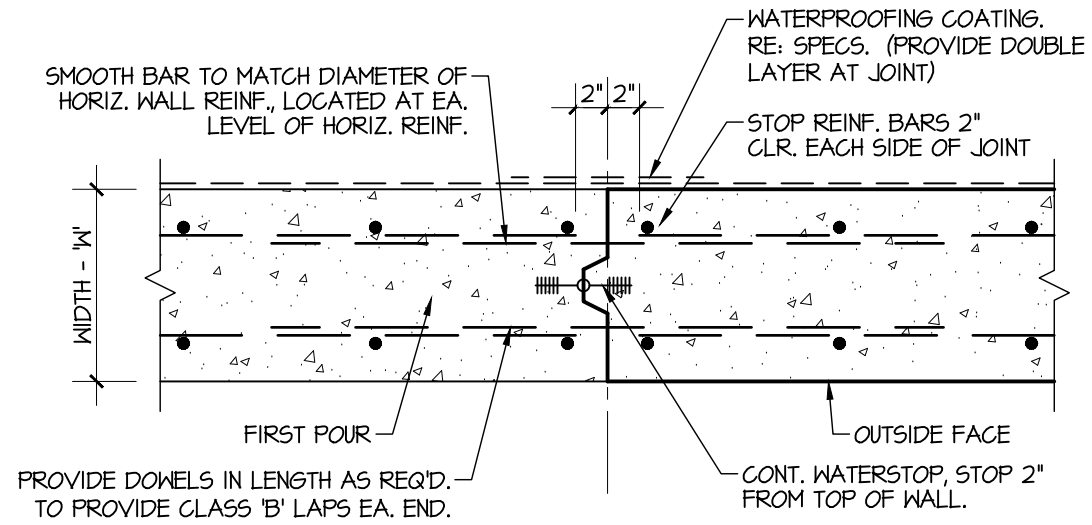
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Plot Date: Jul 20, 2026 - 9:19am Plotted By: JARED			

PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

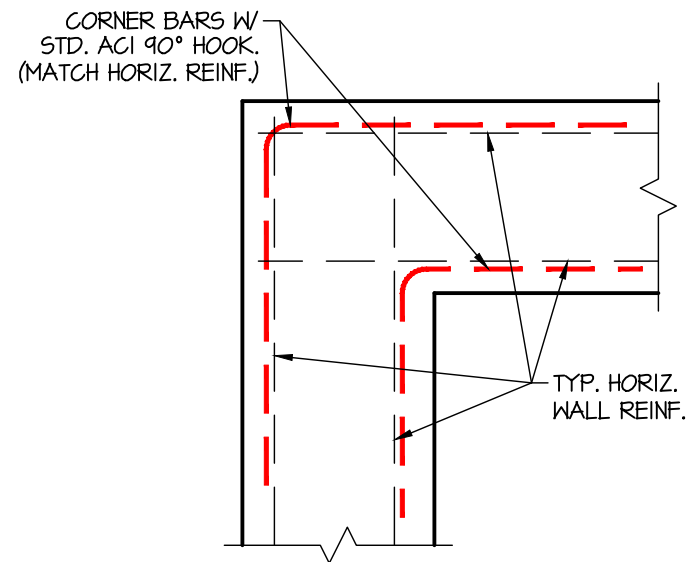
LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE	SHEET NO. SS-05
TYPICAL CONCRETE DETAILS	OF 8



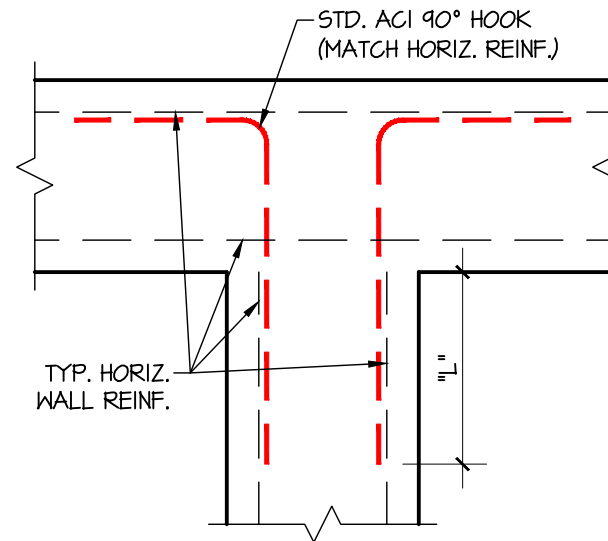
3 TYP. WALL HORIZ. CONSTRUCTION JOINT
SCALE: NOT TO SCALE



2 TYP. WALL VERT. CONSTRUCTION JOINT
SCALE: NOT TO SCALE



CORNER REINFORCING



INTERSECTION REINFORCING

"L" SHALL BE STD. CLASS "B" LAP REINFORCING FOR TOP BARS PER SCHEDULE ON SS-08, OR 36", WHICHEVER IS GREATER.

1 TYP. REINF. AT WALL INTERSECTIONS
SCALE: NOT TO SCALE



WINTON

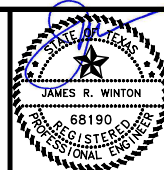
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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE
TYPICAL CONCRETE DETAILS

SHEET NO. **SS-06**
OF **8**

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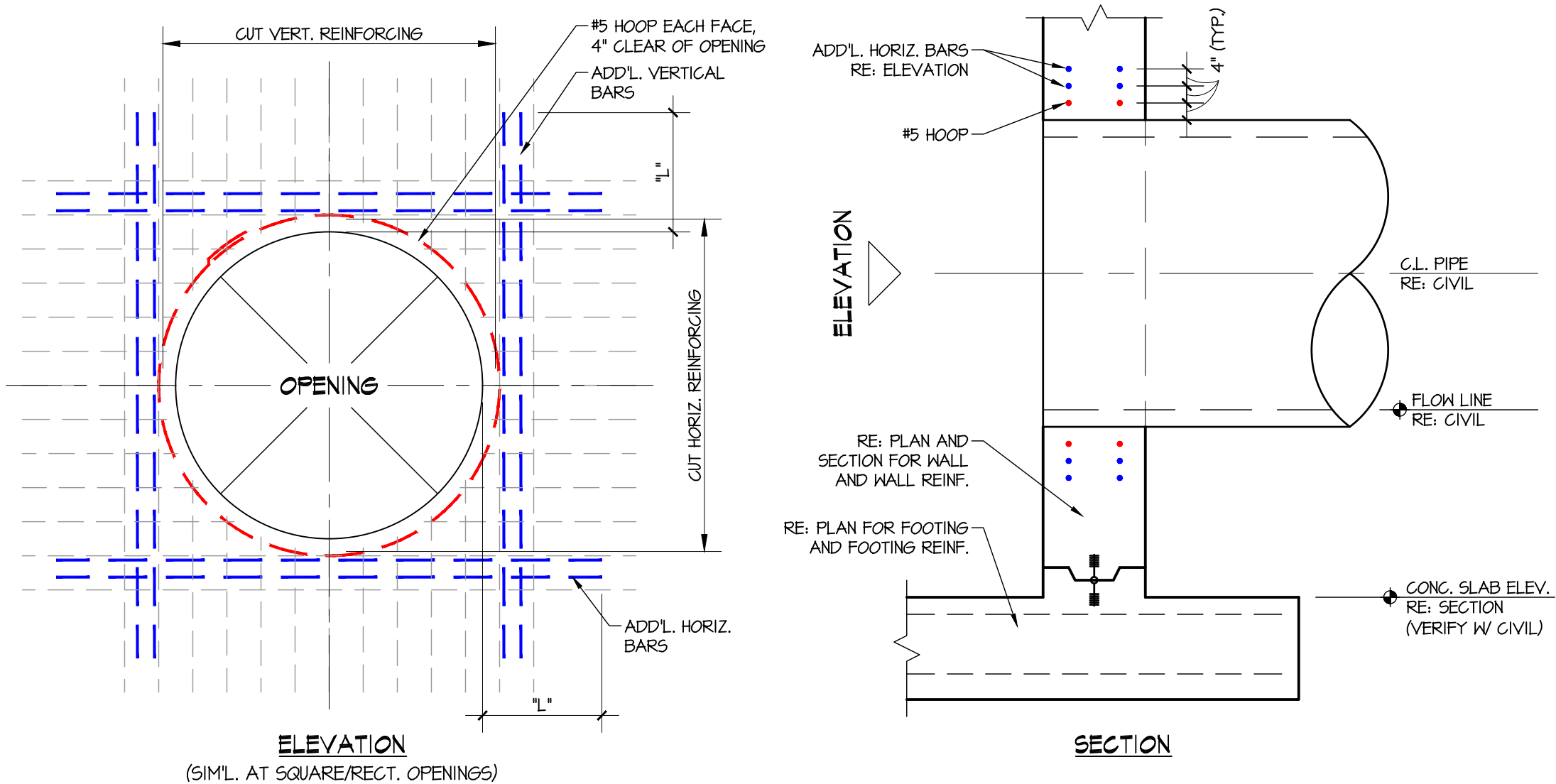
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Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_SS-01.dwg

NOTES:

1. EXTEND ALL CUT REINFORCING TO WITHIN 3" OF OPENINGS.
2. PROVIDE ADD'L. HORIZONTAL AND VERTICAL BARS AT EACH SIDE OF THE OPENING AS INDICATED. ADD'L. BARS SHALL MATCH THE SIZE AND TOTAL QUANTITY OF THE INTERRUPTED REINFORCING, WITH 1/2 PLACED AT EACH SIDE OF THE OPENING. PROVIDE A MINIMUM OF (2) BARS EACH SIDE OF OPENING - (1) AT EACH FACE.
3. LENGTH "L" SHALL BE A STD. CLASS "B" LAP PER THE SCHEDULE ON S-87, OR 36", WHICHEVER IS GREATER.



1

WALL REINFORCING AT PIPE

SCALE: NOT TO SCALE

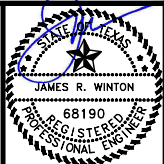
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LEVI WATER SUPPLY CORP.
FALLS COUNTY WATER PLANT SITE

TYPICAL CONCRETE DETAILS

SHEET NO. **SS-07**

OF **8**

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Plot Date: Jul 20, 2026 - 9:19am
Plotted By: JARED

PROJECT NO. 2024-109
DRAWN BY Jared Kelm
DESIGNED BY Jim Winton, P.E.
APPROVED BY Jim Winton, P.E.
DATE July 20, 2026

Drawing: X:\Cloud-Jobfiles\2023-064_LeviWellSite\03_Plans_Engineering\Drawings\Construction\2023-064_SS-01.dwg

REINFORCING BAR LAP SCHEDULE																	
BAR SIZE	LAP CLASS	CONCRETE COVER = 0.75 IN				CONCRETE COVER = 1.50 IN				CONCRETE COVER = 2.00 IN				CONCRETE COVER = 3.00 IN			
		F'C = 3,000 PSI		F'C = 4,000 PSI		F'C = 3,000 PSI		F'C = 4,000 PSI		F'C = 3,000 PSI		F'C = 4,000 PSI		F'C = 3,000 PSI		F'C = 4,000 PSI	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	A	13	12	12	12	13	12	12	12	13	12	12	12	13	12	12	12
	B	17	13	15	12	17	13	15	12	17	13	15	12	17	13	15	12
#4	A	22	17	19	15	17	13	15	12	17	13	15	12	17	13	15	12
	B	28	22	24	19	23	17	20	15	23	17	20	15	23	17	20	15
#5	A	32	24	28	21	22	17	19	15	22	17	19	15	22	17	19	15
	B	41	32	36	28	28	22	24	19	28	22	24	19	28	22	24	19
#6	A	43	33	37	29	26	20	22	17	26	20	22	17	26	20	22	17
	B	56	43	48	37	34	26	29	22	34	26	29	22	34	26	29	22
#7	A	69	53	60	46	43	33	37	28	38	29	33	25	38	29	33	25
	B	90	69	78	60	55	43	48	37	49	38	42	33	49	38	42	33
#8	A	86	66	74	57	54	41	47	36	43	33	37	29	43	33	37	29
	B	111	86	96	74	70	54	60	47	56	43	48	37	56	43	48	37
NOTES:																	
1. LAPS ARE IN INCHES PER ACI 318-14.																	
2. WHERE SPECIFIED CONCRETE COVER IS NOT TABULATED, USE VALUES FROM NEXT LOWEST COVER DIMENSION.																	
3. ALL SPLICE LENGTHS ABOVE ARE BASED ON UNCOATED REBAR.																	
4. TABULATED VALUES ARE BASED ON A MIN. YIELD STRENGTH OF 60,000 PSI AND NORMAL-WEIGHT CONCRETE. LENGTHS ARE IN INCHES.																	
5. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-14, SECTIONS 25.4.2.3 AND 25.5.1, RESPECTIVELY, WITH BAR SIZES LIMITED TO #3 THROUGH #11.																	
6. WHEN THE VARIABLE "C _b " FROM ACI 25.4.2.3 WAS CALCULATED, IT WAS ASSUMED THAT CONCRETE COVER CONTROLLED. THAT IS, C-C SPACING WAS ASSUMED TO BE GREATER THAN 1.0 d _b PLUS TWICE THE CONCRETE COVER.																	
7. LAP SPLICE LENGTHS (12 INCHES MIN.) ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS; CLASS A = 1.0 ℓ _d AND CLASS B = 1.3 ℓ _d (ACI 318 25.5.1). WHEN DETERMINING THE LAP SPLICE LENGTH, ℓ _d IS CALCULATED WITHOUT THE 12-INCH MINIMUM OF ACI 25.4.2.1.																	
8. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.																	

W

TSPELS FIRM
REGISTRATION #F-0282

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PROJECT NO.	2024-109
DRAWN BY	Jared Kelm
DESIGNED BY	Jim Winton, P.E.
APPROVED BY	Jim Winton, P.E.
DATE	July 20, 2026

LEVI WATER SUPPLY CORP. FALLS COUNTY WATER PLANT SITE
TYPICAL CONCRETE DETAILS

SHEET NO. SS-08
OF 8