

City of Naperville

RFQ-22-114 Work Order #4
Engineering Services for Central
Elevated Water Tank Relocation

Submitted by:



Revised: March 23, 2023

March 23, 2023

Mr. Jason Xi
Engineering Manager
Department of Public Utilities - Water/Wastewater
City of Naperville
400 South Eagle Street
Naperville, IL 60566

Subject: City of Naperville - RFQ-22-114 Central Elevated Water Tank Relocation

Dear Mr. Xi:

The City needs an experienced team to design a new 0.5 MG waterspheroid style tank to replace your existing water storage tank. Baxter & Woodman has a long history of designing elevated storage tanks, including one of the first water spheroid tanks built in the early 1950s. After carefully reviewing the project, our team has identified opportunities to provide added value to the City's project, including:

- **Competitive Bidding:** Bidding the tank demolition and new elevated tank construction separately can lead to more competition and potentially lower prices. Contractors who specialize in demolition may not necessarily have experience in constructing new tanks, and vice versa. Therefore, bidding each part separately allows the City to choose from a wider pool of specialized contractors, thereby increasing the chances of getting more competitive bids.
- **Railroad Coordination:** Constructing in close proximity to the Burlington Northern and Santa Fe Railway Company (BNSF) railroad may pose specific requirements and regulations that must be followed to confirm compliance. In the case of the tank construction project, we expect the railroad coordination to be minimal as long as construction in the airspace above does not encroach on the BNSF rights-of-way.
- **Public Outreach:** Public involvement is a critical aspect of any infrastructure project, including the construction of an elevated storage tank. Baxter & Woodman offers a variety of tools to help promote a positive public response, including on-site signage, project visualization and pre-construction renderings, and project canvassing. A proactive and transparent approach to public involvement can help to build support and understanding for the project, and can lead to a more positive outcome for all stakeholders involved.

If the City has any questions after reviewing our proposal, please contact me at 815-444-3335 or via email at dwold@baxterwoodman.com. We are excited to help Naperville with this exciting project!

Sincerely,

BAXTER & WOODMAN, INC.
CONSULTING ENGINEERS



Derek J. Wold, PE, BCEE
Executive Vice President

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Project Approach

Suggestions for Project Improvement

Baxter & Woodman will work closely with City staff to prepare drawings and specifications for the new 0.5 MG waterspheroid style tank to replace the existing water storage tank.

This project includes the demolition of the existing 0.5 MG, multi-leg elevated water storage tank located in the middle of the parking lot and immediately adjacent to the northern border of the property and the south edge of the East 5th Street right-of-way. We've identified several suggestions for the City's consideration that would enhance the Central Elevated Water Tank Relocation project.

Competitive Bids

Tank demolition requires the services of a contractor that specializes in tank demolition. The construction of a new elevated tank is performed by the tank supplier, such as Chicago, Bridge & Iron. While the tank contractor could administer the demolition contract, they will increase the cost to cover their liability as well as their markup of the subcontractor's fee. It would be in the City's best interest to bid these two projects separately to promote more competitive bids. It is recommended the tank demolition not commence until the new tank is completed and all radio equipment located in the prefabricated structure below the tank has been relocated to inside the new tank.

Maintaining Tank and Radio Equipment in Service During Construction

While the City has the backup systems to permit demolition of the existing tank before the new tank is constructed, by keeping the tank and radio equipment in service, the equipment does not have to be moved twice or stored off site until the new tank is ready to receive it. The existing tank cannot be demolished until the radio equipment and the existing enclosure have been moved from under the tank. The equipment would have to be temporarily relocated, potentially off site, then returned to be placed inside the new tank. By waiting until the new tank is completed, the equipment only needs to be move once. The prefabricated radio equipment enclosure can be moved from under the tank and stored for possible repurposing.

Construction Staging

The proposed tank is to be located on the same general site as the existing tank with the purpose of keeping as much of the parking lot property available for use as possible. In addition to functioning as a parking lot for the Metra Station, it also functions as a parking lot for a Farmers Market during the summer. The site is bordered by the BNSF railroad to the south, East 5th Avenue to the north, Loomis Street to the far west, and the Sports Measures Database Management Company to the east.

Elevated Storage Tank Experience

Baxter & Woodman has designed numerous elevated storage tanks over the past 77 years including one of the first water spheroid tanks constructed by Chicago Bridge and Iron in the early 1950s.

Baxter & Woodman is currently designing and providing construction services for three elevated tanks in various stages of design and construction ranging from 0.5 MG to 1.5 MG.



Efficient Demolition: Keeping Radio Equipment in Service During Tank Construction

The main constraint with the site is the need for a 150-ft diameter construction area around the tank. The successful tank contractor will need that area to stage the steel tank pieces before lifting them into position to weld them together. In addition to the construction area, the diameter of the tank bowl will be a concern. Also known as the "dripline", the largest part of the tank bowl will be located roughly 116 feet in the air.

The dripline must be located outside any building setbacks dictated by City building codes while not encroaching on the BNSF rights-of-way or East 5th Avenue rights-of-way.

The tank will probably be located 80 feet west of the east property line with Sports Measures Database Management Company and 75 feet north of the BNSF railroad property line. That will place the dripline approximately 47 feet north of the railroad rights-of-way and a similar distance from the East 5th Avenue Rights-of-way. This will afford the most room for future recoating of the tank.

Altitude Valve

The City has requested that an altitude valve be incorporated into the tank design. While it is customary to place the valve and maintenance by-pass for the valve in a "pit" below the tank floor, this is typically done to place the valve and associated pilot system below the frost line to prevent freezing. This is not conducive to maintenance as the valve would be in a "confined space" below grade. In as much as a controlled climate structure will be built in the tank to house the radio equipment, the altitude valve could be located in an additional room ("wet room"). Being located on-grade, inspection and maintenance will be much easier. It is further recommended that the maintenance by-pass valve be capable of opening or closing remotely in the event the altitude valve fails to open or close.

Tank Mixing System

AWWA and the IEPA recognize the value of utilizing a mixing system on tanks that have a single inlet and outlet. The system mixes the tank that distributes chlorine entering the tank at the bottom throughout the tank. It is recommended that the "Dual-Riser" type of mixing system be added to the tank contract. This system is a non-

Public Outreach

Considering construction will impact the parking lot that serves Naperville's Farmers Market, early and ongoing communication to stakeholders is key to promoting a positive public response. Baxter & Woodman offers a robust communication plan that can be implemented from design through construction consisting of:



On-Site Signage - providing information about road closures, detours, and alternative routes



Project Visualization - Visualization provides a clear and realistic representation of the project, helping stakeholders to understand the design more easily



Project Canvassing - Handing out flyers to visitors at the Farmers Market ahead and during construction will mitigate the impacts of the project by providing information about noise, dust, and other potential disruptions, as well as outlining any measures that will be taken to minimize these impacts

invasive mixing system, which means there is no equipment mounted in the bowl of the tank. All equipment is located on the floor in the tank base. This system also has the capability to boost the chlorine residual if needed. The 2-hp, 150-gpm circulating pump could be located in the same room as the altitude valve and would operate on 240 V, single phase.

Continuous Chlorine Residual Monitoring

A continuous chlorine monitoring system from Swan Analytical USA, Inc. will be incorporated into the design of the "wet room" side of the enclosure planned for the base of the tank. Connections to the sanitary sewerage system as well as floor drains will be included. The signal from the unit will be provided for transmission to the City's SCADA system.

BNSF Railroad Concerns

Baxter & Woodman has worked with the BNSF railroad on several projects. Based upon a recent contact with the railroad, as long as the tank bowl does not encroach on the BNSF rights-of-way, they have no issues with the construction.



Railroad Coordination: Baxter & Woodman does not anticipate conflicts with the nearby railroad.

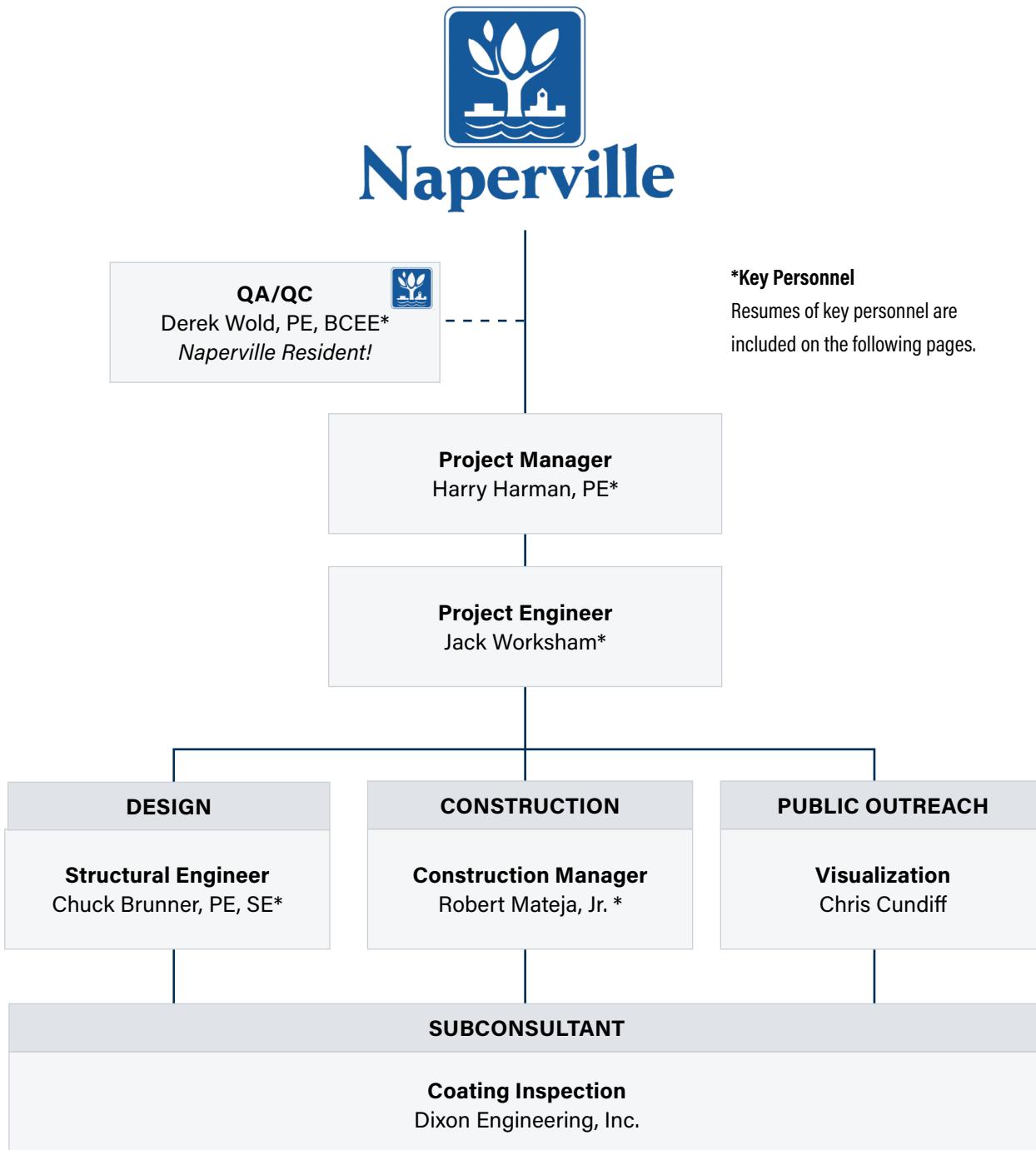
Tank Construction

The tank will be constructed in four-phases.

Phase I	Construction of the Tank Foundation Assuming soil conditions are adequate, a "spread footing" will be utilized. This will require a large excavation that will be approximately 50 feet in diameter and 10 ft deep. The location of the tank will place it within both the eastern parking lot and in the main parking lot, which has an elevation difference of 5 feet to 6 feet. The foundation of the tank will need to be in the lower-level parking lot. The grading around the tank will need to be modified; Baxter & Woodman will work with the City Staff to determine the best approach.
Phase II	Construction Preparation Once the concrete spread footing is ready to receive the tank, pieces of the steel tank will begin to arrive on site. This includes a specially designed crane that is attached to the center of the tank and lifts sheet steel pieces into position for welding.
Phase III	Electrical System Installation Once the basic tank is erected the electrical system including lighting panel, lights, conduit, and aircraft warning lights are installed. Any miscellaneous features will be completed including the interior structure to house the radio equipment tank mixing system, altitude valve, etc.
Phase IV	Radio Equipment Relocation Phase IV will be the relocation of the existing radio equipment into the building constructed inside the base of the tank.

Project Team & Qualifications

The City of Naperville will be served by an experienced team dedicated to providing outstanding responsiveness, high quality services, and meeting your expectations. Our team is deeply invested in your project's success considering the Principal on our team, QA/QC Reviewer Derek Wold, is a Naperville resident. The City can be confident we will deliver your project on time and within budget.



Harry D. Harman, PE

Project Manager



Harry is the firm's Technical Director for Potable Water Systems. He routinely serves as Senior Design Engineer and QA/QC Reviewer with expertise in treatment facility design and operation, water distribution system analysis, and computer modeling. He also has extensive experience with electrical and instrumentation/control systems related to water and wastewater treatment, lift and pumping stations, ground and elevated storage tanks, and surface water and groundwater treatment issues.

REPRESENTATIVE PROJECTS

Allendale Association, IL

Design Engineer, Elevated Storage Tank Replacement Investigation Advisor, Elevated Storage Tank Replacement Design

City of Delavan, Wisconsin

Project Manager/Design Engineer, 0.5mg East Side Elevated Storage Tank

Fox River Water Reclamation District, IL

Project Manager/Design Engineer, Skyline Utility 0.6mg Elevated Storage Tank

Gilberts, IL

Project Manager/Project Design Engineer, Clublands of Gilberts Elevated Storage Tank

Glenview, IL

Project Manager/Designer, 0.75mg Elevated Storage Tank Dual-Riser Design

Island Lake, IL

Project Manager/Design Engineer, Westridge Water Treatment Plant and Elevated Storage Tank
Senior Design Engineer, Northside Elevated Storage Tank

Lakewood, IL

Project Manager/Design Engineer, Turnberry Elevated Storage Tank and Well House Replacement

Maple Park, IL

Design Engineer, Elevated Storage Tank Design

Marengo, IL

Design Engineer, 2003 Water System Improvements - 1.0mg Water Storage Tank

South Elgin, IL

Project Manager/Design Engineer, Eastside Elevated Storage Tank

Sycamore, IL

Project Engineer, Elevated Storage Tank Design

EDUCATION

B.S., Civil Engineering, Purdue University, 1977

Joined Firm in 1983

Years of Experience: 46

REGISTRATIONS

Licensed Professional Engineer: Illinois, Indiana, Florida, Texas, Wisconsin, Costa Rica

PAPERS/PRESENTATIONS

Sharing An Elevated Storage Tank During Tank Maintenance – A Tale of Two Villages, ISAWWA Section Conference (Springfield, IL) 2010

Water Storage Tanks – Operation, Maintenance, and Rehabilitation: Tank Site Selection, Tank Sizing, and Tank Permitting, College of Engineering, University of Wisconsin – Madison, February 27, 2007 (Visiting Instructor)

“Dual-Riser” Elevated Water Storage Tanks at Well Houses and WTPs – What Was An “Old Idea” Provides New Solutions, ISAWWA Section Conference (Springfield, IL) 2007

Derek J. Wold, PE, BCEE

QA/QC Reviewer



EDUCATION

B.S. Civil Engineering,
University of IL at Champaign-Urbana, 1996

M.S. Environmental
Engineering, IL Institute of
Technology, 2002

Joined Firm in 1996

Years of Experience: 27

REGISTRATIONS

Licensed Professional
Engineer: Illinois

Licensed Professional
Engineer: Florida

Licensed Professional
Engineer: Texas

Board Certified Environmental
Engineer, American Academy
of Environmental Engineers

HONORS & AWARDS

2017 Central States Water
Environment Association:
Collection Systems Award

Derek is a Naperville resident and works out of our Naperville office. He leads Baxter & Woodman's Wastewater Group and serves as Executive Vice President on the firm's Board of Directors. He works closely with many growing and established municipalities and sanitary districts on planning infrastructure to serve growth and redevelopment areas and is the recognized water/wastewater expert for the numerous local municipalities and agencies the firm serves, including Plainfield, Downers Grove Sanitary District, Elmhurst, Carol Stream, Crystal Lake, and Crest Hill.

REPRESENTATIVE PROJECTS

Plainfield, IL

127th Street Ground Storage Tank and Pumping Station

Project Manager for the Ground Storage and Pumping Station project. Designed a pumping station and ground storage tank to allow the Village to receive Lake Michigan water from IL American Water Company to pump it into the distribution system. The ground storage tank is a five million gallon prestressed concrete tank equipped with mixing valves. The pumping station was designed with an initial capacity of 15mgd. The station contains two 250-Hp pumps to pump from the tank to the Village's low pressure zone and two 400-Hp pumps to pump to the high pressure zone.

Two features were included in the station to reduce pumping and electrical cost: a bypass line was installed to allow water to flow directly into the low pressure zone when the incoming pressure is above 50psi and three 100-Hp booster pumps were also installed to pump directly from the incoming transmission main to the high pressure zone. The pumping station was designed to accommodate three additional pumps to increase the ultimate capacity to 28mgd to serve a population of 140,000.

Plainfield, IL

Grande Park 1.25 MG Elevated Water Storage Tank

Project Manager for the design of Plainfield's Grande Park Elevated Water Storage Tank improvements.

Renwick Road 1.0 MG Elevated Water Storage Tank

Project Manager for the design of Plainfield's 1 MG waterspheroid tank on Renwick Road, just west of Route 59.

Beecher, IL

Water System Master Plan Update

Project Manager for Water Master Plan which analyzed and evaluated the capability of the Village of Beecher's water supply, storage and distribution facilities to meet the present and future water needs of the Village.

Shorewood, IL

Walnut Trails 1.0 MG Elevated Water Storage Tank

Project Manager for the design of the Village's 1.0 MG waterspheroid tank, located just south of Route 52 and West of Route 59.

William "Jack" J. Worsham

Project Engineer



EDUCATION

M.S., Civil Engineering, Case Western Reserve University, 2019

B.S., Civil Engineering, Case Western Reserve University, 2018

Joined Firm in 2019

Years of Experience: 4

CONTINUING EDUCATION

The ABC's of Trench Drainage – ACO, Inc., July 2019

SKILLS

AutoCAD
ArcGIS
Microstation

ACHIEVEMENTS

Water Environment Federation Student Design Completion, 2018; Winner, presented at WEFTEC Student Design Competition

Jack is experienced with water resources engineering and water/wastewater planning and engineering. His water resources experience includes hydraulics, hydrology, and design of water and stormwater improvements. He recently completed widespread water main improvements for the City of Joliet that included more than 21 miles of water main over 15 project areas. Jack works closely with senior engineers in our water and wastewater departments.

REPRESENTATIVE PROJECTS

Beecher, IL

Dixie Highway (IL 1) Water Main Crossing

Project Engineer for the design of approximately 1,000-linear feet of water main, primarily directionally drilled crossing of IL 1 (Dixie Highway). Coordination was required with Illinois Environmental Protection Agency (IEPA), Illinois Department of Transportation (IDOT), and Will County for permitting and utility companies for service relocation and conflict identification.

Glenview, IL

Tall Trees Phase 1 Project 2 Roadway and Utility Improvements

Project Engineer for the re-design of 2,500-linear feet of water main, re-design of 1,000-linear feet of water main, and IEPA permitting as part of a roadway and infrastructure improvement project within the Tall Trees neighborhood.

Hoffman Estates, IL and Palatine, IL

2021 Interconnect, Booster Station and Water Main

Project Engineer for the design of 2,800-linear feet of 8-inch and 12-inch diameter water main to provide for an emergency water supply interconnection between the villages of Hoffman Estates and Palatine. Assisted with utility coordination, IEPA permitting, and cost estimating.

Joliet, IL

2022 Water Main Improvements

Project Engineer for the replacement of more than 21 miles of water main distributed across fifteen project areas. The water mains ranged in size from 6-inch to 16-inch, in addition to a directionally drilled 24-inch casing for a Canadian National Railway crossing.

Joliet, IL

2021 Water Main Improvements

The project consisted of six project areas encompassing six miles of water main replacement. Jack's project responsibilities consisted of utility coordination for all six projects; the design of approximately 7,500-linear feet of water main with hydrants, valves, and appurtenances; editing specifications and cost estimates for two project areas; and coordination of IEPA permits for all six areas.

Lake County Division of Transportation, IL

Hunt Club Road at Washington Street Intersection Improvements Phase I/II

Project Engineer for the design of 2,800-linear feet of water main and IEPA permitting as part of a high-volume intersection improvement project in Gurnee.

Charles A. Brunner, PE, SE

Structural Engineer



EDUCATION

B.S., Civil Engineering, Purdue University, 1983

Joined Firm in 1987

Years of Experience: 40

REGISTRATIONS

Licensed Structural Engineer: Illinois

Licensed Professional Engineer: Illinois, Wisconsin, Florida, and Texas

CERTIFICATIONS

NBIS Certified Program Manager, Illinois Department of Transportation

ASSOCIATIONS

International Code of Council (ICC)

American Society of Civil Engineers (ASCE)

Structural Engineers Institute (SEI)

American Concrete Institute (ACI)

American Institute of Steel Construction (AISC)

Chuck is called upon to review the structural design of all projects, including well houses, pumping stations, water storage facilities, water and wastewater treatment facilities, bridges, retaining walls, and drainage structures. He is also an IDOT-approved National Bridge Inspection Program Manager and routinely prepares bridge inspection reports for our municipal clients.

REPRESENTATIVE PROJECTS

Carpentersville, IL

Western Utilities Extension

Project Manager and Engineer of Record for design of 1,500,000-gallon, waterspheroid style, steel elevated water storage tank.

Addison, IL

Golden Gate Elevated Water Storage Tank

Project Engineer for design of 750,000-gallon, fluted column style, steel, elevated water storage tank.

Carpentersville, IL

Bolz Road Elevated Water Storage Tank

Project Manager and Engineer of Record for design of 750,000-gallon, waterspheroid style, steel elevated water storage tank.

McHenry, IL

Water System Improvements Tank No. 3

Project Manager and Engineer of Record for design of 750,000-gallon, waterspheroid style, steel elevated water storage tank.

McHenry, IL

Water System Improvements Tank No. 4

Project Manager and Engineer of Record for design of 1,000,000-gallon, waterspheroid style, steel elevated water storage tank.

Park Forest, IL

Autumn Ridge Elevated Water Storage Tank

Project Manager and Engineer of Record for design of 500,000-gallon, waterspheroid style, steel elevated water storage tank.

Rochelle, IL

Water System Improvements

Project Manager and Engineer of Record for design of 500,000-gallon, waterspheroid style, steel elevated water storage tank.

Woodstock, IL

Sanctuary of Bull Valley Elevated Water Storage Tank

Project Manager and Engineer of Record for design of 300,000-gallon waterspheroid style, steel elevated water storage tank.

Robert E. Mateja, Jr.

Construction Manager



EDUCATION

B.A., Environmental Design
University of Wisconsin

Joined Firm in 2011

Years of Experience: 32

TRAINING/CERTIFICATION

Doug Cartland, Inc.
“Creating Excellence in
Communication and Customer
Relations” training, 2016

Doug Cartland, Inc.
“Problem/Communication
Resolution” training, 2017

Bob is a senior construction manager with over 30 years of experience. Much of his construction expertise has been developed through the planning and construction of municipal (public sector) projects. Bob is skilled in all phases of new, renovation, and design-build construction projects from design stage through management, completion, and closeout. His professional reputation and attitude foster open communications and good relationships between owners, engineers, and contractors.

REPRESENTATIVE PROJECTS

Beloit, WI

Well No. 14, Blending Reservoir and Pumping Station

Construction Manager for the construction of a new deep well, 2.5mg pre-stressed concrete, wire wound, ground level potable water storage tank, and pumping station to mitigate high nitrate levels from nearby Well No. 11. The new water supply facilities are also used to help prop up hydraulic gradients in the area and provide the ability for “off-peak” electrical power utilization.

Bolingbrook, IL

Sewage Treatment Plant No. 3 Renovation

Construction Manager for the major renovation to the wastewater treatment plant. Improvements included new oxidation ditch, two final settling tanks, renovation to the raw sewage pump station, renovation to RAS and WAS pump stations, new electrical and control building, and chemical feed building.

Elmhurst, IL

Water Reclamation Facility Grit Removal System Replacement

Provided cost estimation for the replacement of 25-year-old grit removal system, including grit pumps; grit tank equipment (scrapers, blades, flow deflectors); grit classifiers; gates/valves; and air piping/nozzles; influent sampler; interior and exterior yard lighting; piping and electrical revisions required for the grit removal system; and control system and panel.

Delavan, WI

Elevated Tank Improvements

Construction Manager for 0.5mg elevated tank improvements.

Round Lake, IL

Panther Elevated Storage Tank

Construction Manager for Panther Elevated Storage Tank Improvements.

Crystal Lake, IL

Crystal Lake Water Treatment Plant No. 2

Construction Manager for Crystal Lake’s Water Treatment Plant No. 2



Dixon Engineering, Inc. (DIXON) is headquartered in Lake Odessa, Michigan. DIXON Was founded in 1981 and incorporated in the State of Michigan in 1984. DIXON is a consulting engineering firm specializing in the evaluation and preparation of specifications and contract documents for the coating and rehabilitation of steel and concrete structures. They offer an extensive structural and coating inspection program, specializing in water storage tanks, clarifiers, pump stations, piping galleries and bridges. They have been specifying containment system requirements for lead abatement on water storage tanks since 1987.

William J. Dixon, P.E. started as a tank painting contractor from 1972 to 1974 where he observed the lack of independent third party inspection on storage tank projects. Within DIXON'S first five years of business we developed over 200 clients in the Industrial, Federal and State sectors. Their credibility is enhanced by the fact that we coordinate with, but are completely independent of contractors and material suppliers. This allows for unbiased inspections and recommendations. DIXON now has over 1300 municipal, industrial, Federal and State clients. They perform over 150 maintenance inspections and provide inspection services on over 60 coating projects annually. DIXON began with one engineer, one inspector, and one office staff person. We now employ over 60 people in 10 offices in 8 states.

DIXON maintains a staff of engineers and field technicians who are National Association of Corrosion Engineers (NACE), American Welding Society (AWS) certified, and American Petroleum Institute (API) 651 certified. Their training and experience ensures satisfactory work standards with all work meeting project specifications.

DIXON has been a leader in the coating engineering and inspection field as well as regulatory compliance for the coating industry for over 30 years. William J. Dixon, President and Founder, is actively involved with the American Water Works Association (AWWA), national and state sections; and the Society for Steel Coatings. He has chaired many committees and presently is an AWWA D-100 Standards Council Member.

The experience DIXON has gained from thousands of storage tank inspections and coating inspection projects, allows them to help owners achieve their goal of maximizing the service lives of their storage tanks, while minimizing their maintenance costs.



Milestone Schedule

	MONTH ONE		MONTH TWO		MONTH THREE		MONTH FOUR		MONTH FIVE		MONTH SIX		MONTH SEVEN		CONSTRUCTION																		
	MAY 1, 2023	MAY 8, 2023	MAY 15, 2023	MAY 22, 2023	MAY 29, 2023	JUNE 5, 2023	JUNE 12, 2023	JUNE 19, 2023	JUNE 26, 2023	JULY 3, 2023	JULY 10, 2023	JULY 17, 2023	JULY 24, 2023	JULY 31, 2023	AUGUST 7, 2023	AUGUST 14, 2023	AUGUST 21, 2023	AUGUST 28, 2023	SEPTEMBER 4, 2023	SEPTEMBER 11, 2023	SEPTEMBER 18, 2023	SEPTEMBER 25, 2023	OCTOBER 2, 2023	OCTOBER 9, 2023	OCTOBER 16, 2023	OCTOBER 23, 2023	OCTOBER 30, 2023	NOVEMBER 6, 2023	NOVEMBER 13, 2023	NOVEMBER 20, 2023	NOVEMBER 27, 2023	Q1 2024	Q2 2025
PRELIMINARY DESIGN																																	
SITE VISIT	X																																
SURVEY		X																															
MECHANICAL TANK DESIGN	X	X	X																														
SITE BASE DRAWING FROM CADD	X																																
LOCATE TANK ON SITE	X																																
MEET WITH CLIENT TO CONFIRM LOCATION		X																															
RETURN SITE LAYOUT TO CADD		X																															
RECEIVE SITE PLAN FROM CADD		X																															
ARRANGE FOR SOIL REPORT	X																																
BEGIN ELECTRICAL/INSTRU DESIGN		X	X	X	X																												
CIVIL/SITE DESIGN		X	X	X	X																												
RECEIVE SOILS REPORT																																	
STRUCTURAL DESIGN												X	X	X																			
FINAL DESIGN																																	
CIVIL DESIGN DETAILS			X	X																													
MECHANICAL DESIGN DETAILS			X	X																													
ELECTRICAL/INSTRUMENT DETAILS			X	X																													
STRUCTURAL DETAILS			X	X																													
SPECIFICATIONS					X	X	X				X																						
PEER REVIEWS																	X																
ADDRESS PEER REVIEW COMMENTS																																	
COST ESTIMATES			X	X																													
FINAL DOCUMENTS																		X															
PERMITS - IEPA (90-DAYS)															X																		
PERMITS - FAA						X													X														
BIDDING ASSISTANCE																		X	X	X	X												
BID OPENING																				X													
LETTER OF RECOMMENDATION																					X												
CONSTRUCTION																																	
Notice to Proceed																						X											
Substantial Completion																							X										
Final Completion																								X									

Fee Schedule



Naperville

The cost of all equipment and labor to complete the work as identified shall no exceed:

\$ 192,670.00

Quote Provided by:



Signature

Derek J. Wold, PE BCEE

Printed

Company and Address: Baxter & Woodman, Inc.

1548 Bond St., Suite 103

Naperville, IL 60563

QUOTES ARE DUE NO LATER THAN 2:00 P.M. STANDARD CENTRAL TIME ON **FRIDAY,
March 17, 2023. QUOTES TO BE SUBMITTED BY EMAIL TO JASON XI AT
xij@naperville.il.us. ANY QUESTIONS SHOULD BE EMAILED TO JASON XI AT
xij@naperville.il.us. THE CITY OF NAPERVILLE IS TAX EXEMPT.**

Detailed Fee Breakdown

Village of Naperville							
Plan Number: 222457.40							
Plan Name: NAPRC-Central Water Storage Tank Relocation							
Level	Emp	Planned Hrs	Planned Labor Bill	Compensation Fee	Consultant Fee	Reimb Allowance	Total Compensation
Overall Project Total		916.00	101,700.00	108,920.00	83,750.00	0.00	192,670.00
CS100 Construction Services		400.00	11,420.00	11,420.00	48,750.00	0.00	60,170.00
Dixon Engineering (Sub)		340.00			48,750.00		
Charles Brunner		6.00	1,440.00				
Harry Harman		6.00	1,200.00				
Robert Mateja		44.00	8,140.00				
Edward Shoop		4.00	640.00				
CS200 Outside Contracts (Integration Design)				0.00	35,000.00	0.00	35,000.00
WEXPEN Reimbursable expenses				200.00	0.00	0.00	200.00
WI100 Preliminary Design		226.00	38,820.00	40,800.00	0.00	0.00	40,800.00
Michael Becker		40.00	7,000.00				
Anthony Bianchin		20.00	3,700.00				
Charles Brunner		12.00	2,880.00				
Michael Gryn		36.00	7,200.00				
Harry Harman		25.00	5,000.00				
Constance Kilgore		5.00	700.00				
Kerry Lantau		40.00	5,600.00				
Joseph Molidor		2.00	300.00				
Adonis Nacino		10.00	1,400.00				
Jack Worsham		36.00	5,040.00				
WI200 Final Design		172.00	28,840.00	32,500.00	0.00	0.00	32,500.00
Michael Becker		40.00	7,000.00				
Charles Brunner		8.00	1,920.00				
Michael Gryn		36.00	7,200.00				
Harry Harman		20.00	4,000.00				
Kerry Lantau		12.00	1,680.00				
KathyJo Townson		16.00	1,440.00				
Jack Worsham		40.00	5,600.00				
WI300 Peer Reviews		14.00	2,730.00	3,000.00	0.00	0.00	3,000.00
Charles Brunner		2.00	480.00				
Timothy Chan		4.00	740.00				
Michael Gryn		2.00	400.00				
Robert Mateja		6.00	1,110.00				
WI400 Cost estimates		20.00	3,880.00	4,000.00	0.00	0.00	4,000.00
Michael Gryn		4.00	800.00				
Harry Harman		8.00	1,600.00				
Robert Mateja		8.00	1,480.00				
WI500 Permits		16.00	2,300.00	2,500.00	0.00	0.00	2,500.00
Harry Harman		4.00	800.00				
Barbara Tobin		4.00	380.00				
Jack Worsham		8.00	1,120.00				
WI600 Bidding Assistance		14.00	2,910.00	3,000.00	0.00	0.00	3,000.00
Michael Becker		2.00	350.00				
Charles Brunner		2.00	480.00				
Carolyn Grieves		2.00	480.00				
Harry Harman		8.00	1,600.00				
WI700 General Project Administration		54.00	10,800.00	11,500.00	0.00	0.00	11,500.00
Michael Becker		2.00	350.00				
Charles Brunner		1.00	240.00				
Michael Gryn		4.00	800.00				
Harry Harman		38.00	7,600.00				
Derek Wold		5.00	1,250.00				
Jack Worsham		4.00	560.00				

Appendix A: Receipt of Addendum

**CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS**

RFQ 22-114 WO#4

CENTRAL ELEVATED WATER TANK RELOCATION

The attention of bidders is called to the following changes, clarifications and/or additions/deletions to the original contract specifications and drawings and they shall be taken into account in preparing proposals and shall be part of the Contract Documents:

INFORMATION

- A Mandatory pre-bid meeting was held on February 27, 2023 at 1:00 pm at 418 E 5th Avenue, Naperville, IL. The sign-in sheet from the meeting is attached.
- An example of water tower equipment layout from City North Elevated Water Tower is attached for consultant's reference.

SCOPE CHANGES

1. The following scopes are excluded from the design:
 - a. The new elevated water tank's structural design will not be part of the design tasks in this project. However, consultants need to include enough information in the bid document so that the contractor can provide shop drawings accordingly.
 - b. The city will directly hire a contractor to perform soil borings and provide the information for the consultant to include in the bid package. The consultant would need to provide the city with the boring locations and requirements.
2. The flowing scope is added to the design:
 - a. Please coordinate with the City Department of Transportation, Engineering Development (TED) for the new parking lot layout after the existing water tower is removed.
 - b. If additional space from the parking lot is needed to install the new water elevated tank, the consultant needs to coordinate with the City TED Department.

Bidders shall include this Addendum #1 in the Offer to Contract.

Attachments: Pre-Bid Meeting sign in sheet;
Example Project: North Elevated Water Tower

Jason Xi
Engineering Manager
February 27, 2023

PRE-BID MEETING SIGN IN SHEET

CENTRAL ELEVATED WATER TANK DESIGN

February 27, 1:00AM

418 5th Avenue, Naperville

Name	Affiliation	Phone	Email
Jason Xi	City of Naperville	(630)420-6702 desk (630)854-2479 cell	xij@naperville.il.us
Harry Hakemian	BAYTEK & Woodman	815-525-3845 815-444-3235	hakemian@baytekwoodman. com
Luke Mattson	CIORBA	708-892-9795(c)	lmatson@ciorba.com
D Blenniss	Naperville	877-775-9096	blennissd@naperville.il.us
Andrew Deitchman	Fehr Graham	630 897 4651	adeitchman@FehrGraham.com
See King	Naperville	630 420 4160	KingJ@naperville.il.us
Katrina Lopez	CIORBA	(847)878-4782	klopez@ciorba.com
Tony Conn	COW		
Alex Bielawa	Naperville		bielawa@naperville.il.us
Kai Huang	CDM Smith Naperville	312-509-5884	Huangk@cdmsmith.com

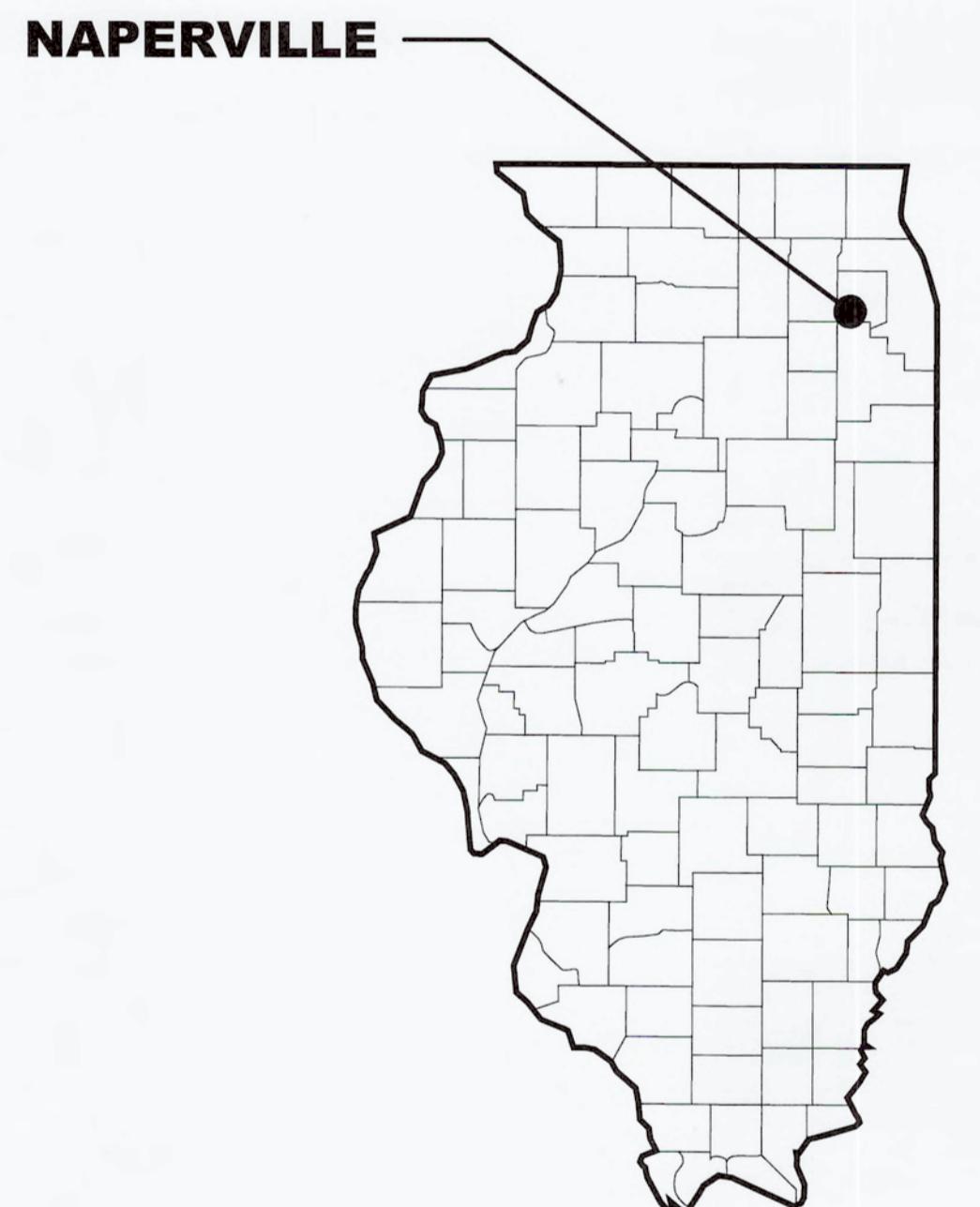
SAMPLE PROJECT

IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31

FOR THE

CITY OF NAPERVILLE

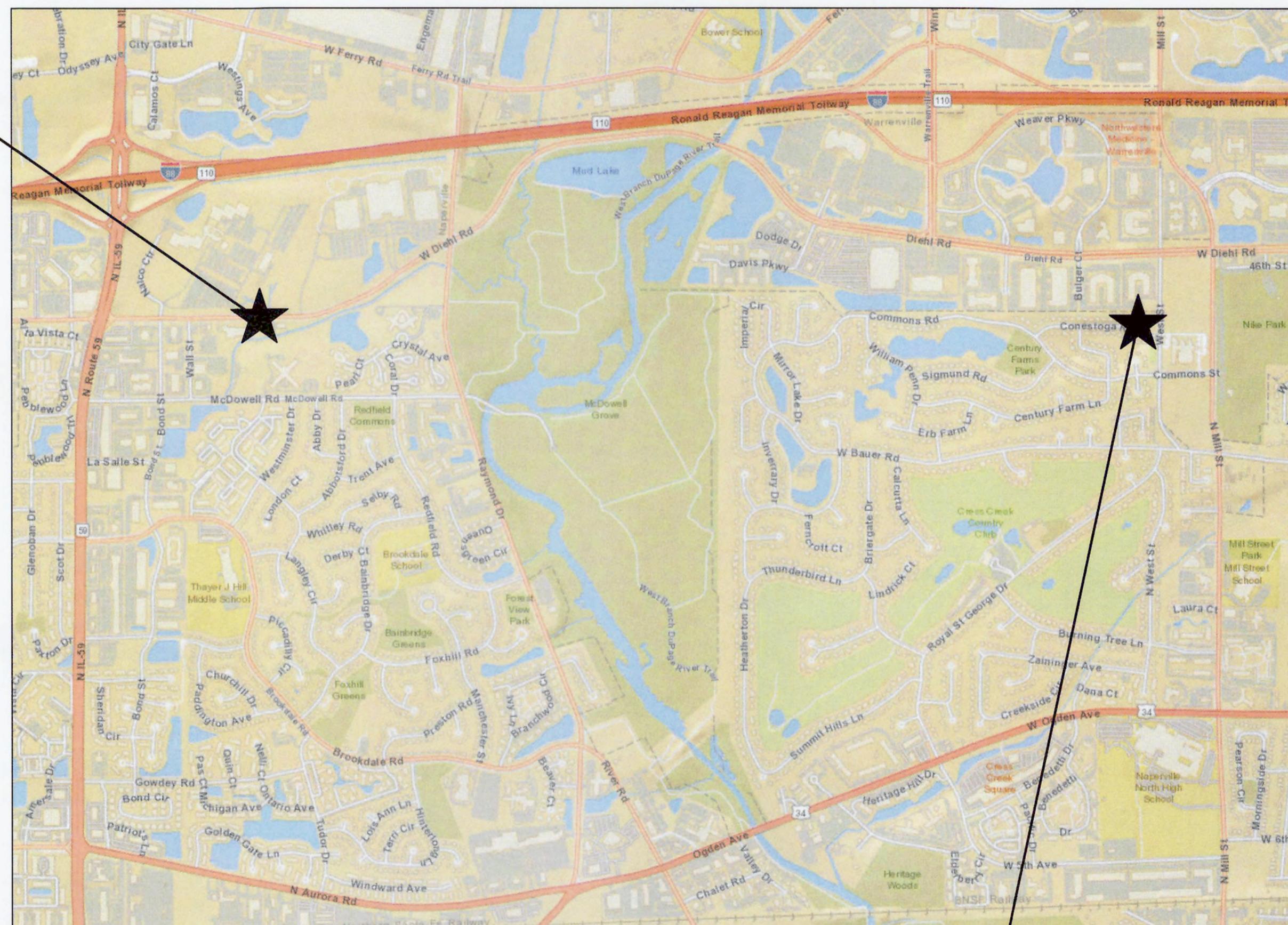
NAPERVILLE, ILLINOIS



PROJECT LOCATION MAP
NO SCALE

1170 SOUTH HOUBOLT ROAD
JOLIET, IL 60431
815 744-4200
815 744-4215 FAX
WWW.STRAND.COM
IDFPR NO. 184-001273

WELL NO. 31
1570 W. DIEHL ROAD,
NAPERVILLE, IL



AREA MAP
NO SCALE

WELL NO. 28
1603 N. WEST STREET,
NAPERVILLE, IL

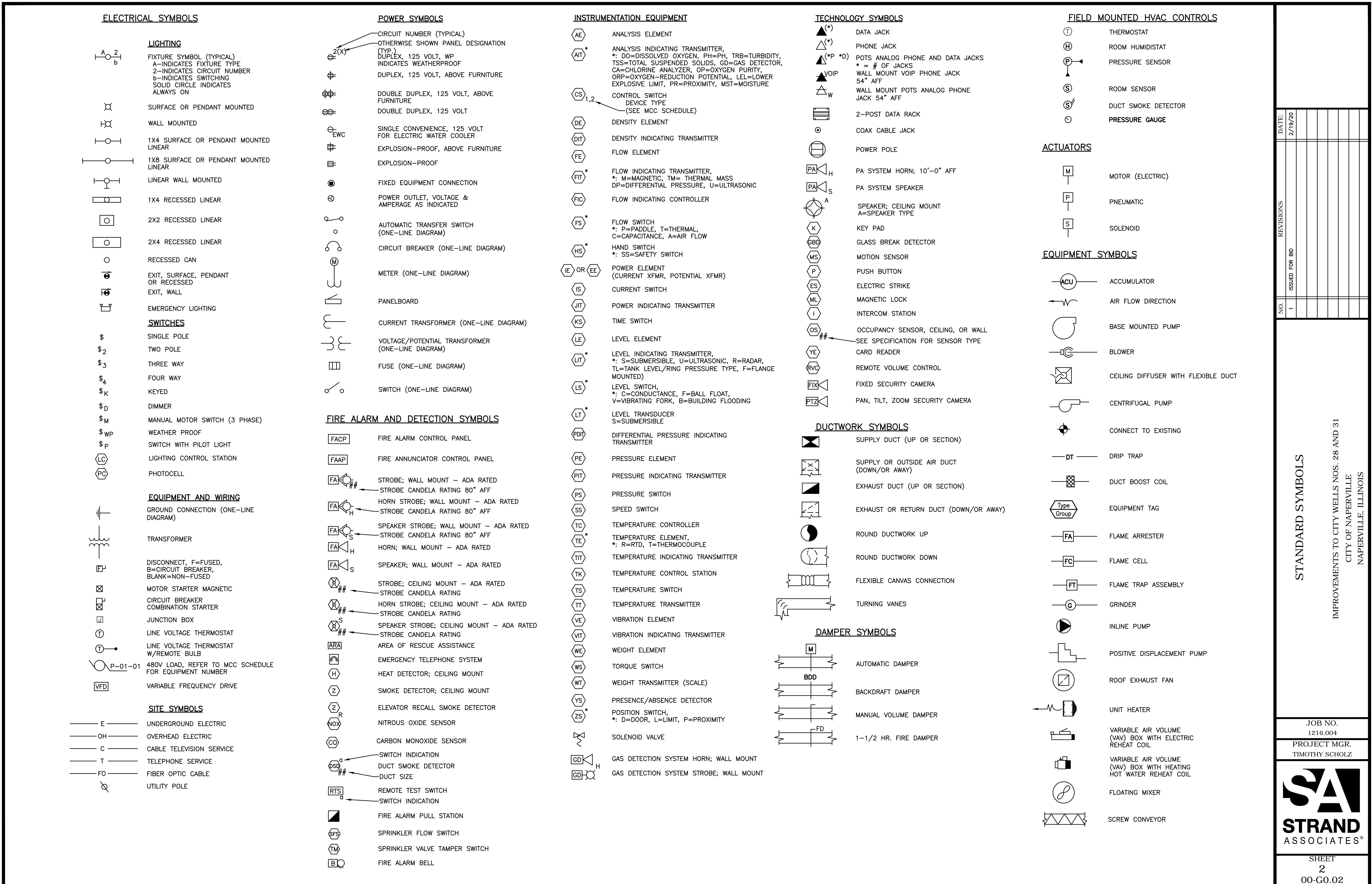
LIST OF DRAWINGS

SHEET NO.	DRAWING NO.	DRAWING TITLE
1	00-G0.01	TITLE SHEET, SITE LOCATION MAP, AND LIST OF DRAWINGS
2	00-G0.02	STANDARD SYMBOLS
3	00-G0.03	ABBREVIATIONS
4	28-C1.01	WELL NO. 28 AND NET SITE PLAN
5	28-C1.02	WELL NO. 28 AND NET SITE EROSION CONTROL AND RESTORATION PLAN
6	28-C1.03	WELL NO. 28 PROPOSED UTILITY SITE PLAN
7	28-CE1.01	WELL NO. 28 DEMOLITION AND PROPOSED ELECTRICAL SITE PLAN
8	28-C5.01	WELL NO. 28 SECTIONS AND DETAILS - 1
9	28-C5.02	WELL NO. 28 SECTIONS AND DETAILS - 2
10	28-D1.01	WELL NO. 28 VALVE VAULT DEMOLITION PLAN AND SECTIONS
11	28-CSM1.01	WELL NO. 28 VALVE VAULT PLAN, AND SECTIONS
12	28-CSM1.02	WELL NO. 28 CHLORINE ROOM PLAN, SECTIONS, AND DETAILS
13	28-DE1.01	ELEVATED TANK PEDESTAL DEMOLITION AND ELECTRICAL PLANS
14	28-E1.02	WELL NO. 28 VALVE VAULT AND CHLORINE BUILDING ELECTRICAL PLANS
15	28-P1.01	WELL NO. 28 VALVE VAULT AND NET DETAILS AND SCHEMATICS
16	28-P1.02	WELL NO. 28 NET CHLORINE SCHEMATICS
17	28-E5.01	WELL NO. 28 VALVE VAULT AND NET ELECTRICAL DETAILS AND SCHEDULES
18	31-C1.01	WELL NO. 31 AND NWWWW SITE PLAN
19	31-CE1.01	WELL NO. 31 DEMOLITION AND ELECTRICAL SITE PLANS
20	31-C1.02	WELL NO. 31 AND NWWWW RESTORATION PLAN
21	31-C5.01	WELL NO. 31 DETAILS
22	31-D1.01	WELL NO. 31 VALVE VAULT DEMOLITION PLAN AND SECTIONS
23	31-CSM1.04	WELL NO. 31 VALVE VAULT PLAN AND SECTIONS
24	31-ASM1.02	NWWWW CHLORINE ROOM DEMOLITION PLAN- CHLORINE ROOM PLAN, AND PUMP STATION PLANS
25	31-P1.01	WELL NO. 31 AND NWWWW CHLORINE SCHEMATICS
26	31-P4.02	WELL NO. 31 DWG AND RESERVOIR CHLORINE SCHEMATIC
27	31-E1.01	WELL NO. 31 NWWWW PUMPING STATION, CHLORINE ROOM, AND VALVE VAULT ELECTRICAL PLANS
28	31-E5.01	WELL NO. 31 ELECTRICAL ELEVATIONS, SCHEDULES, AND ONE-LINE DIAGRAM
29	99-E5.01	ELECTRICAL DETAILS AND SCHEDULES



CONTRACT 1-2019
BID NUMBER 20-071

ISSUED FOR BID FEBRUARY 19, 2020



GENERAL EQUIPMENT ABBREVIATIONS

AC	AIR COMPRESSOR
ACU	ACCUMULATOR
ADT	AUTOMATIC DRIP TRAP
AFT	AUTOMATIC FILTER
AOV	AIR OPERATED VALVE
AM	ANOXIC MIXER
AST	AUTOMATIC STRAINER
BSLP	BLENDED SLUDGE PUMP
B	BLOWER
BC	BRIDGE CRANE
BFP	BELT FILTER PRESS
BFPFP	BFP FEED PUMP
BVF	BUTTERFLY VALVE
BLP	BIOSOLIDS LOADING PUMP
BLR	BOILER
BP	BOOSTER PUMP
BSLMP	BLENDED SLUDGE MIXING PUMP
BSLM	BLENDED SLUDGE PUMP
BSTM	BIOSOLIDS STORAGE MIXER
BTP	BIOSOLIDS TRANSFER PUMP
CENT	CENTRIFUGE
CNTP	CENTRATE PUMP
CENTP	CENTRIFUGE FEED PUMP
CP	CHEMICAL PUMP
COMP	COMPRESSOR
CON	CONVEYOR
DBC	DEWATERED BIOSOLIDS CONVEYOR
DCP	DECANT PUMP
DEWP	DISINFECTED EFFLUENT PUMP
DP	DRAINAGE PUMP
DRLP	DIGESTER RECIRCULATION PUMP
DSLMP	DIGESTER MIXING PUMP
DSLTP	DIGESTED SLUDGE TRANSFER PUMP
DT	DRIP TRAP
DOW	DOWNDOWN OPENING WEIR GATE
EFC	EXCESS FLOW CLARIFIER
EFP	EXCESS FLOW PUMP
EFSP	EXCESS FLOW SOLIDS PUMP
EP	EFFLUENT PUMP
FC	FINAL CLARIFIER
FCD	FINAL CLARIFIER DRIVE
FEP	FINAL EFFLUENT PUMP
FILT	FILTER
FM	FLOW METER
FT	FLAME TRAP
GBT	GRAVITY BELT THICKENER
GC	GRIT CLASSIFIER
GFM	GAS FLOW METER
GCS	GAS COMPRESSOR SKID
GP	GRIT PUMP
GRN	GRINDER
GT	GRIT TRAP
GUH	GAS UNIT HEATER
GW	GRIT WASHER
H	HOIST
HBT	HYDROPNEUMATIC BOOSTER TANK
HTX	HEAT EXCHANGER
IP	INFLOW PUMP
MA	MOTORIZED ACTUATOR
MBV	MOTORIZED BALL VALVE
MFS	MECHANICAL FINE SCREEN
MIX	MIXER
MOV	MOTOR OPERATED VALVE
MP	MIXING PUMP
MPE	MISCELLANEOUS PROCESS EQUIPMENT
MST	MANUAL STRAINER
MT	MICROTURBINE
NRP	NITRATE RECYCLE PUMP
OCD	OVERHEAD COILING DOOR
OCE	ODOR CONTROL EQUIPMENT
ODE	OXIDATION DITCH EQUIPMENT
PC	PROGRESSING CAVITY PUMP
PCD	PRIMARY CLARIFIER DRIVE
PCFD	PRIMARY CLARIFIER FLOCCULATOR DRIVE
PF	POLYMER FEEDER
PFP	POLYMER FEED PUMP
PLWP	PLANT WATER PUMP
PRCP	PHOSPHORUS REMOVAL CHEMICAL PUMP
PRCT	PHOSPHORUS REMOVAL CHEMICAL TANK
PREP	PRIMARY EFFLUENT PUMP
PRFP	PROCESS RETURN FLOW PUMP
PRSP	PRIMARY SLUDGE PUMP
PTP	POLYMER TRANSFER PUMP
RAD	REFRIGERATED AIR DRYER
RASP	RETURN ACTIVATED SLUDGE PUMP
RDT	ROTARY DRUM THICKENER
RDTP	ROTARY DRUM THICKENER FEED PUMP
RM	RAPID MIXER
SA	SAMPLER
SBFP	SODIUM BISULFITE FEED PUMP
SBST	SODIUM BISULFITE STORAGE TANK
SCMP	SCUM PUMP
SCW	SCREENINGS WASHER
SEJ	SEWAGE EJECTOR

PLUMBING ABBREVIATIONS

SG	SLIDE GATE
SHFP	SODIUM HYPOCHLORITE FEED PUMP
SHST	SODIUM HYPOCHLORITE STORAGE TANK
SLG	SLUICE GATE
SP	SUMP PUMP
SRT	SILOXANE REMOVAL TANK
SSC	SCREENINGS SCREW CONVEYOR
STCP	STRUVITE CHEMICAL PUMP
STG	STOP GATE
STR	STRAINER
SV	SOLENOID VALVE
SWP	SCREENINGS WASHER/PRESS
TV	TELESCOPING VALVE
TWASP	TWAS PUMP
UV	ULTRAVIOLET DISINFECTION
WASP	WAS PUMP

ELECTRICAL ABBREVIATIONS

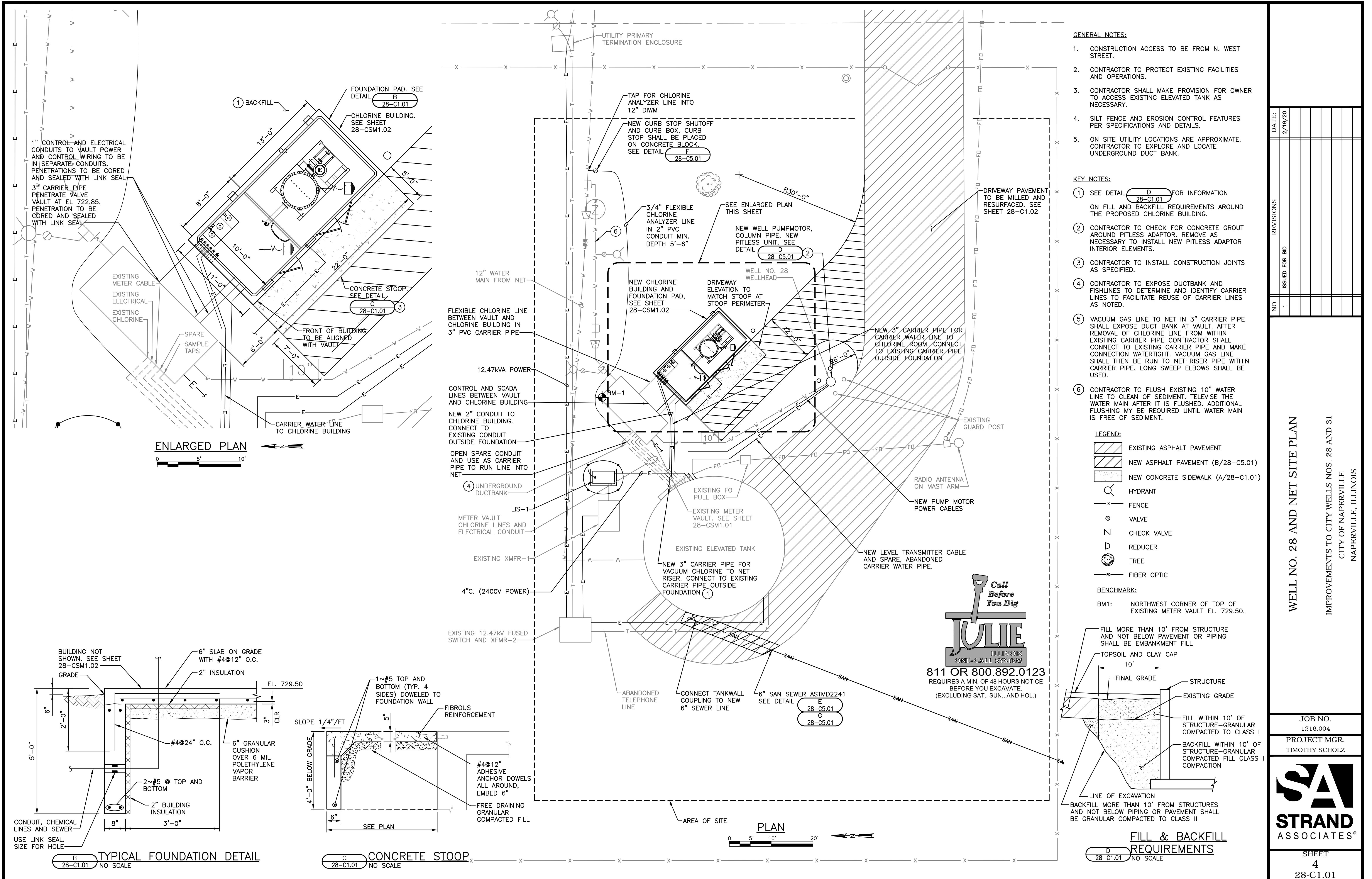
FO	FAIL OPEN
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FT	FEET
GA	GAUGE
GPM	GALLONS PER MINUTE
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
OV	OUTLET VELOCITY
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SP	STATIC PRESSURE

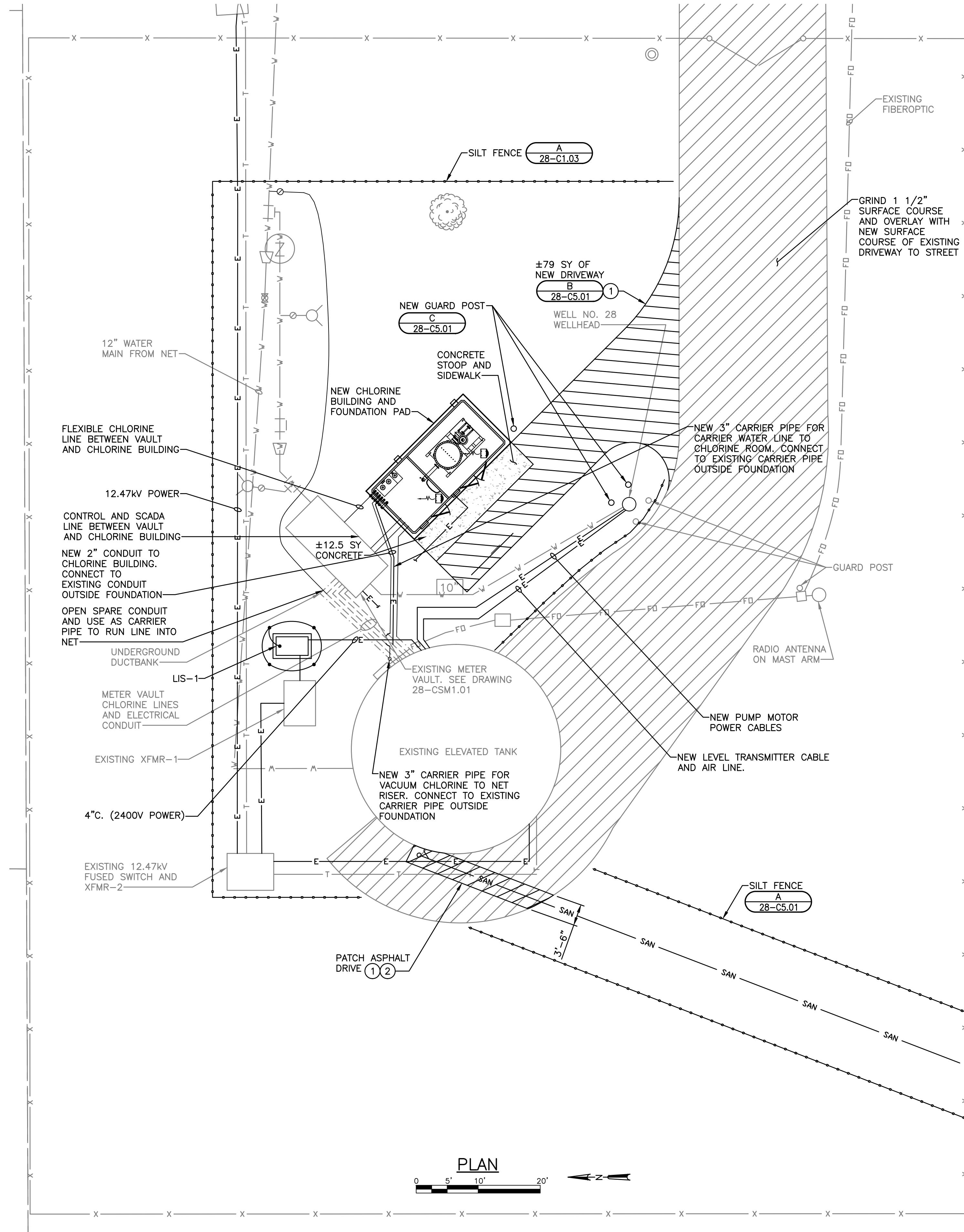
ABBREVIATIONS

NO.	ISSUED FOR BID	REVISIONS	DATE:
1			2/19/20

HVAC EQUIPMENT ABBREVIATIONS

ACCU	AIR COOLED CONDENSING UNIT
AFR	ARCHITECTURAL FINE TUBE RADIATION
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
BLR	BOILER
BB	BASEBOARD
C	CONVECTOR
CD	CEILING DIFFUSER
CHILL	CHILLER
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CWP	CHILLED WATER PUMP
DC	DRY COOLER
DEH	DEHUMIDIFIER
DL	DRUM LOUVER
EBB	ELECTRIC BASEBOARD
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EL	EXPANSION LOOP
ER	EXHAUST REGISTER
ERC	ELECTRIC REHEAT COIL
ERU	ENERGY RECOVERY UNIT
EWH	ELECTRIC WALL HEATER
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FR	FINNED TUBE RADIATION
FUR	FURNACE
GDF	GAS DUCT FURNACE
GRV	GRAVITY ROOF VENTILATOR
GUH	GAS UNIT HEATER
HC	HEATING COIL
HP	HEAT PUMP
HRP	HEAT RECOVERY PUMP
HU	HUMIDIFIER
HWH	HOT WATER UNIT HEATER
HWP	HOT WATER PUMP
HTX	HEAT EXCHANGER
ICF	INDUSTRIAL CEILING FAN
IR	INFRARED HEATER
L	LOUVER
MAU	MAKE-UP AIR UNIT
P	PUMP
PWP	PROCESS WATER PUMP
RF	RETURN FAN
RG	RETURN GRILLE
RR	REGISTER
RTU	ROOFTOP UNIT
SD	SUCTION DIFFUSER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
ST	STEAM TRAP
SUH	STEAM UNIT HEATER
TCP	TEMPERATURE CONTROL PANEL
TG	TRANSFER GRILLE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME BOX
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
WSHP	WATER SOURCE HEAT PUMP
XT	EXPANSION TANK





GENERAL NOTES:

1. PROVIDE SEED AND BLANKET FOR ALL DISTURBED GRASSED AREAS.
2. TRAFFIC CONTROL SHALL USE IDOT STANDARD TRAFFIC CONTROL DEVICES AND PLANS.
3. ASPHALT DAMAGED IN CONSTRUCTION SHALL BE SAWCUT, REMOVED TO SUB GRADE AND PATCHED AS SHOWN IN DETAIL.
4. CONSTRUCTION ACCESS TO BE FROM N. WEST STREET.
5. CONTRACTOR TO PROTECT EXISTING FACILITIES AND OPERATIONS.

KEY NOTES:

1. BACKFILL TRENCH WITHIN 2 FEET OF DRIVEWAY WITH COMPACTED FILL AS SPECIFIED.
2. SEE DETAIL B 28-C5.01 FOR CITY ROAD REPLACEMENT.

WELL NO. 28 AND NET SITE
EROSION CONTROL AND RESTORATION PLAN

IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31
CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS

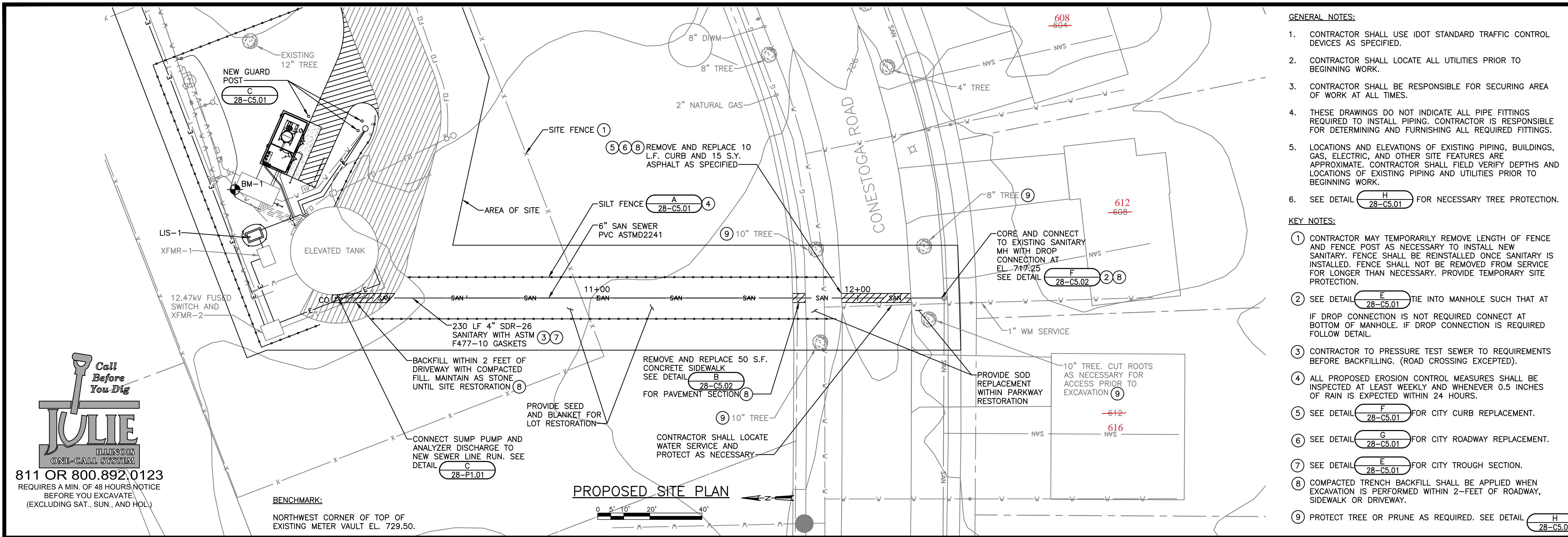
NO.	ISSUED FOR BID	REVISIONS	DATE:
1			2/19/20

JOB NO. 1216.004	PROJECT MGR. TIMOTHY SCHOLZ
811 OR 800.892.0123	REQUIRES A MIN. OF 48 HOURS NOTICE BEFORE YOU EXCAVATE. (EXCLUDING SAT., SUN., AND HOL.)

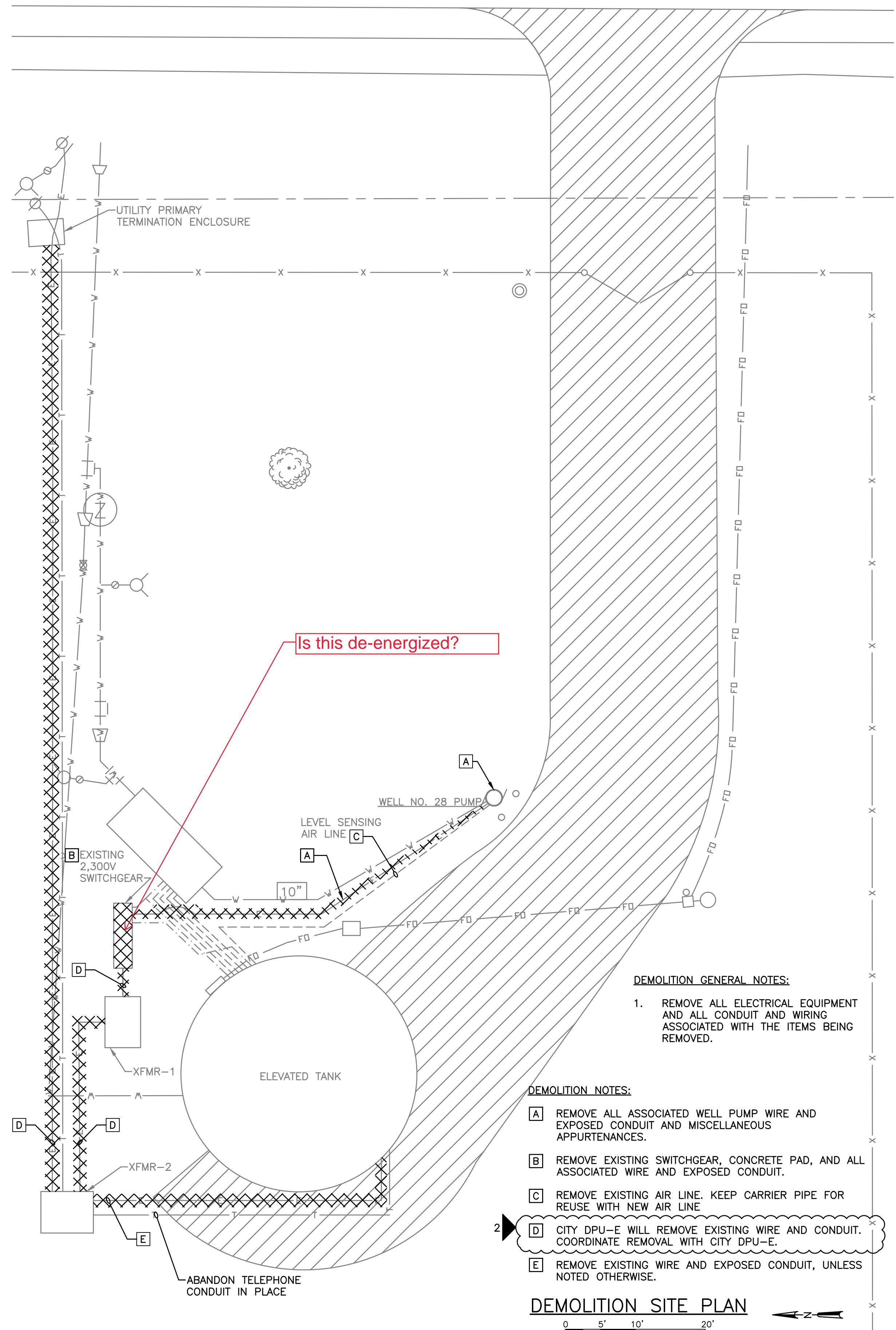


811 OR 800.892.0123
REQUIRES A MIN. OF 48 HOURS NOTICE
BEFORE YOU EXCAVATE.
(EXCLUDING SAT., SUN., AND HOL.)

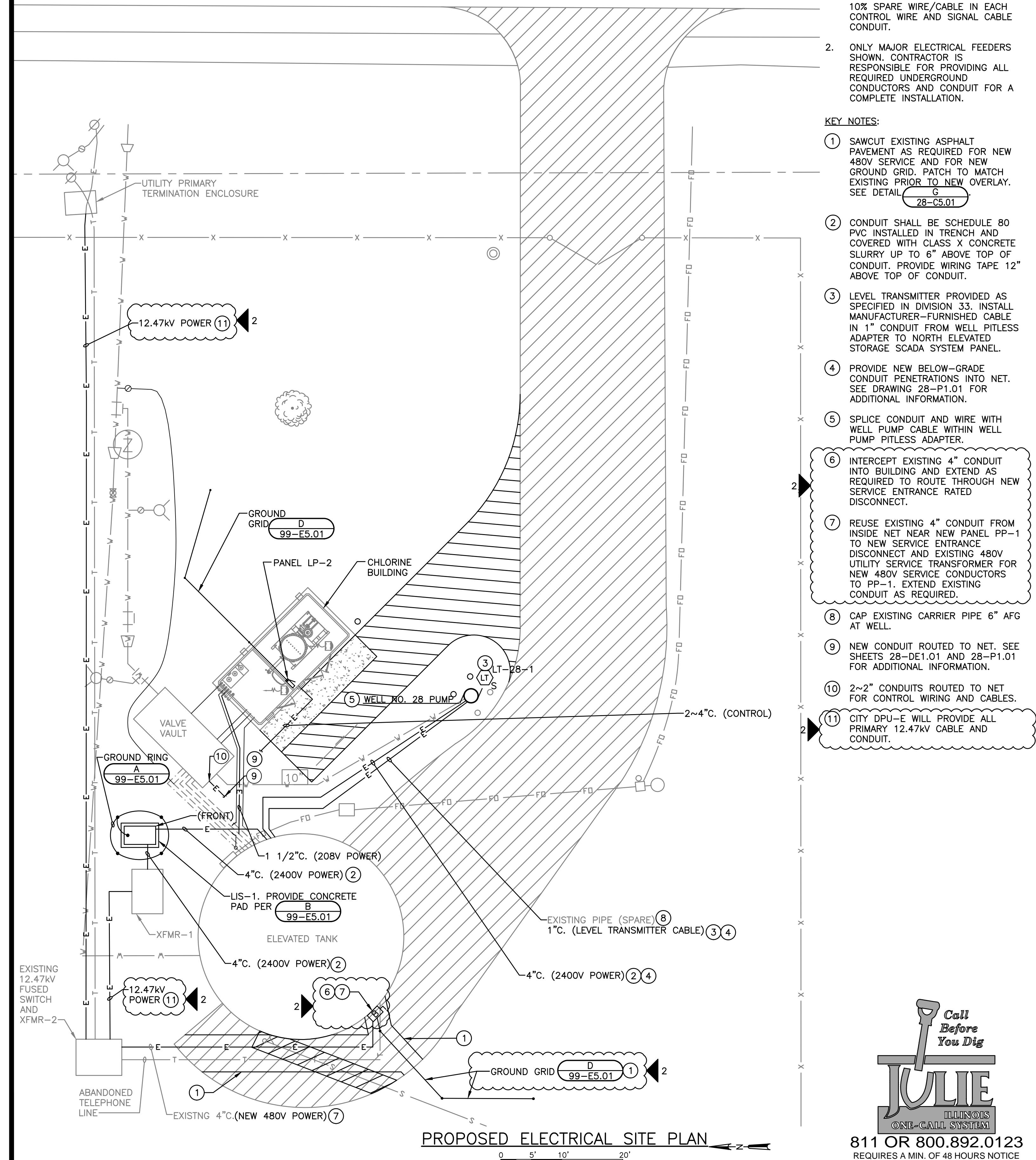
SHEET
5
28-C1.02



N. WEST STREET



N. WEST STREET



WELL NO. 28 DEMOLITION AND
PROPOSED ELECTRICAL SITE PLAN

IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31

CITY OF NAPERVILLE

NAPERVILLE, ILLINOIS

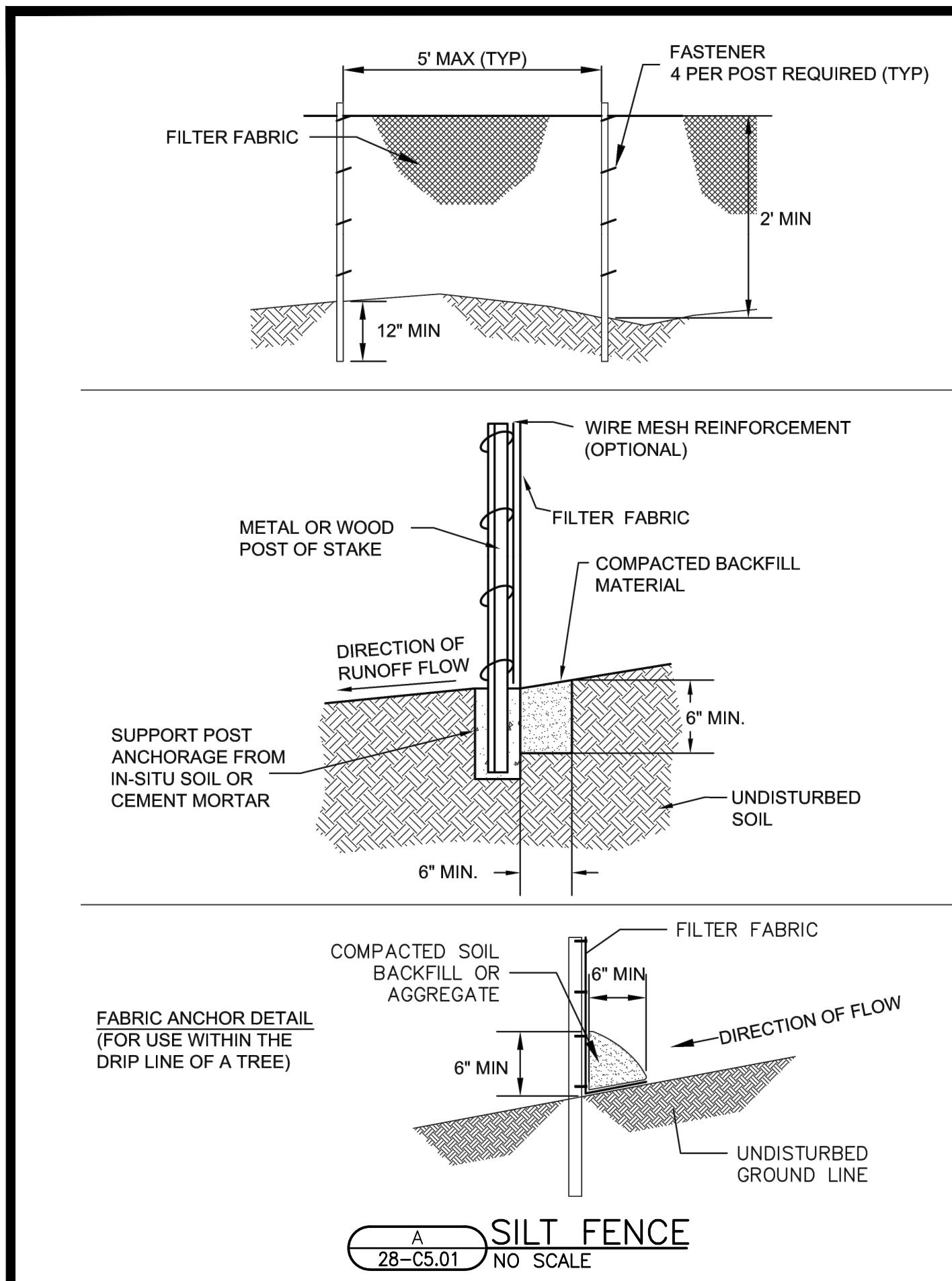
JOB NO.
1216.004

PROJECT MGR.
TIMOTHY SCHOLZ

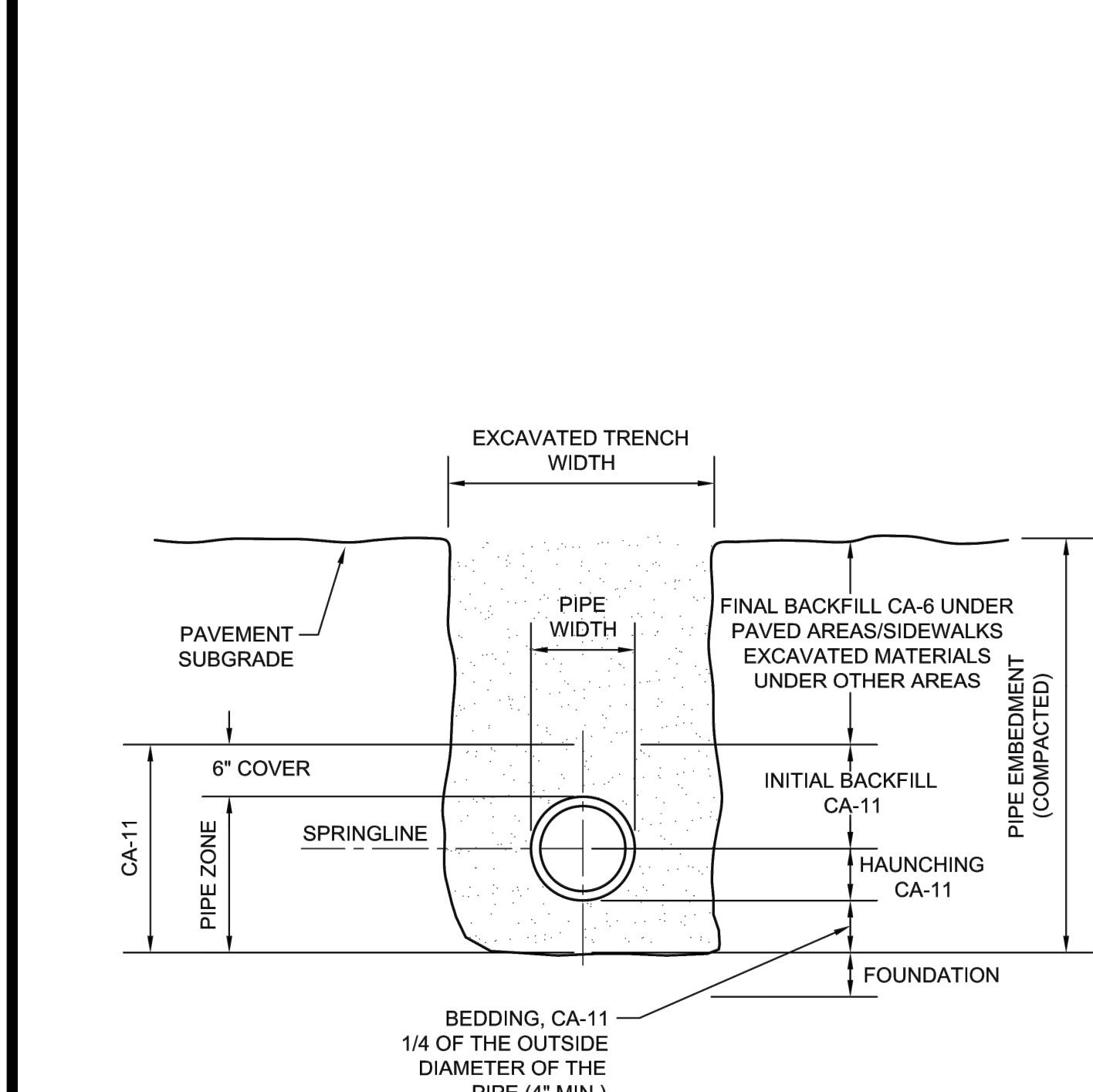


811 OR 800.892.0123
REQUIRES A MIN. OF 48 HOURS NOTICE
BEFORE YOU EXCAVATE.
(EXCLUDING SAT., SUN., AND HOL.)

SHEET
7
28-CE1.01



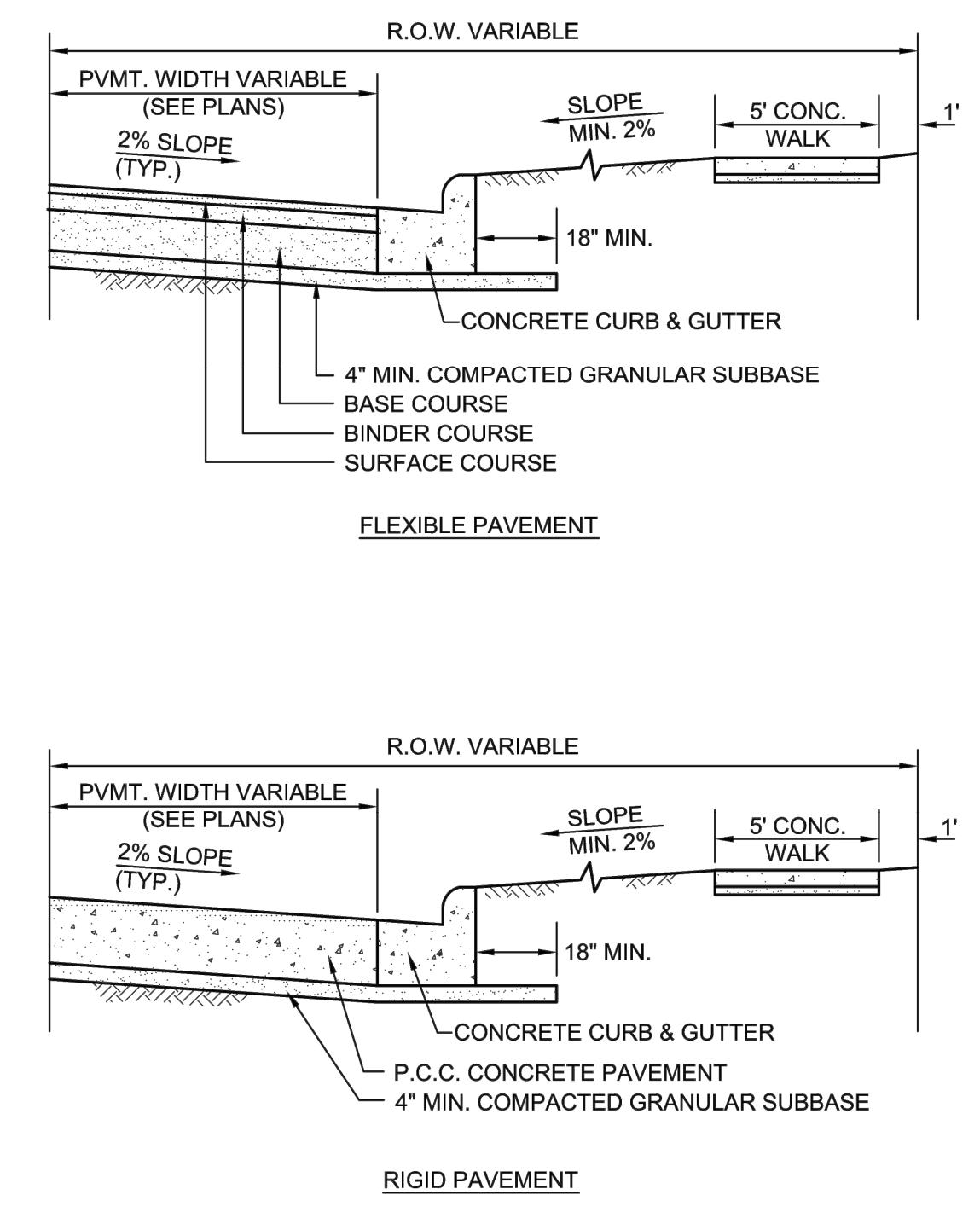
A SILT FENCE
28-C5.01 NO SCALE



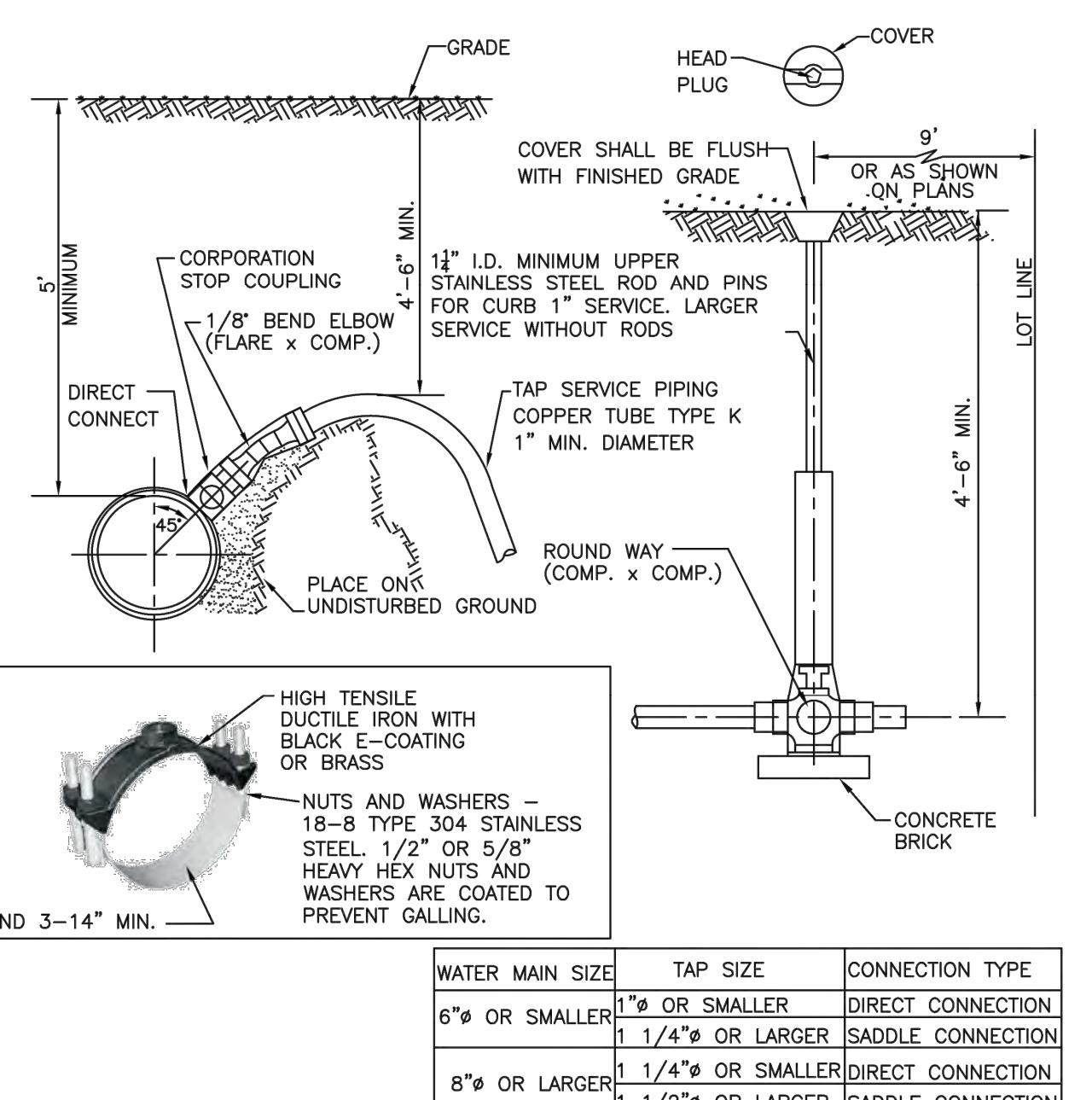
NOTES:

1. IN PAVED AREAS, ALL TRENCHES MUST BE COMPAKTED IN CONFORMANCE WITH SECTION 550.07 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.
2. IF FOUNDATION IS UNSUITABLE TO BED PIPE, UNDERCUTS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

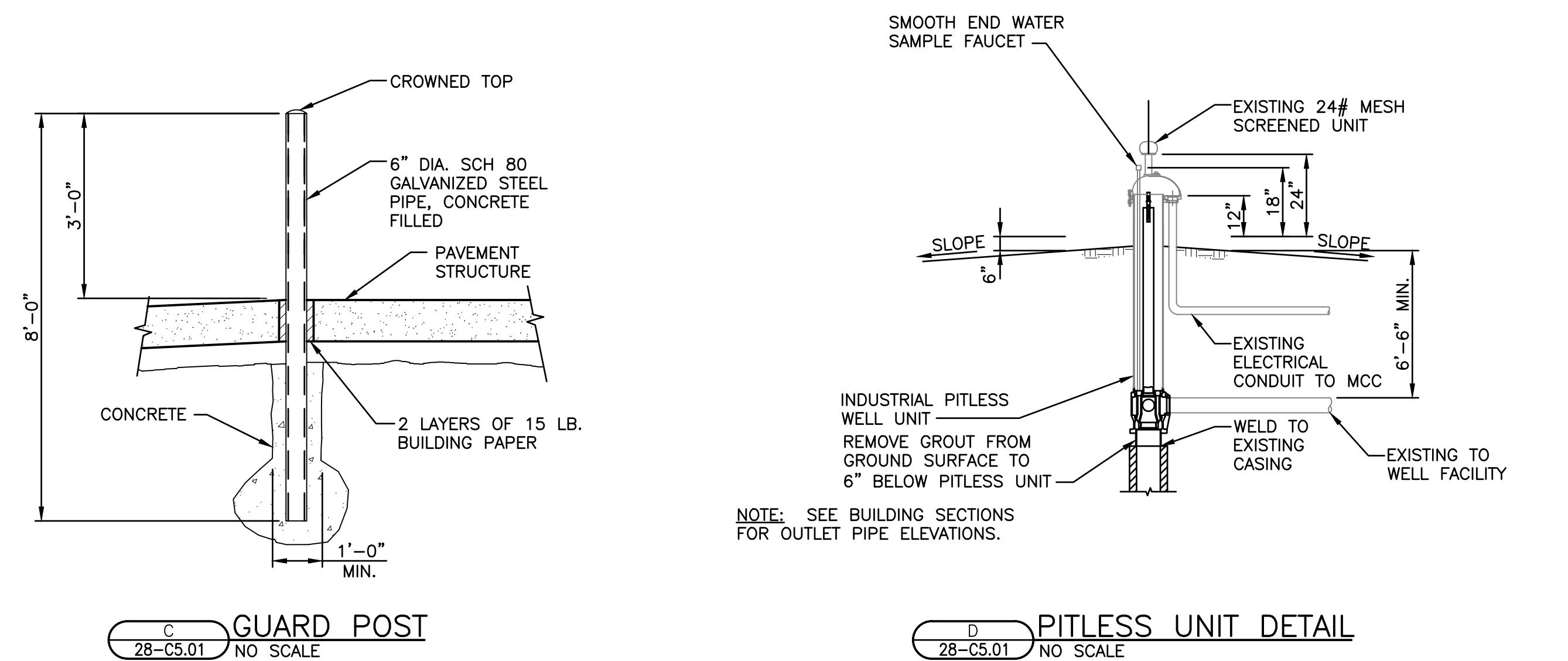
E TRENCH SECTION FOR PVC PIPE
28-C5.01 NO SCALE



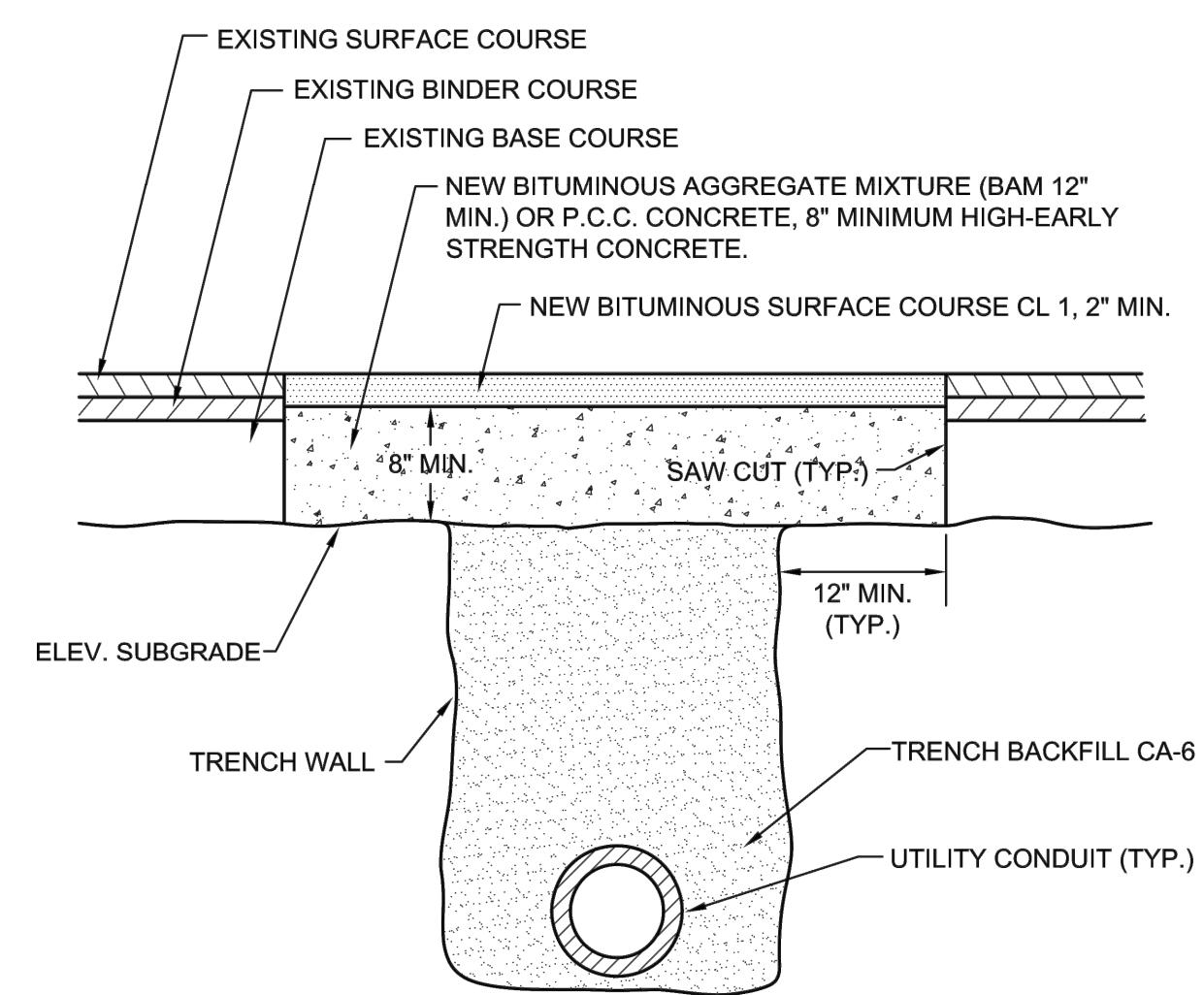
B NEW PAVEMENT SECTION
28-C5.01 NO SCALE



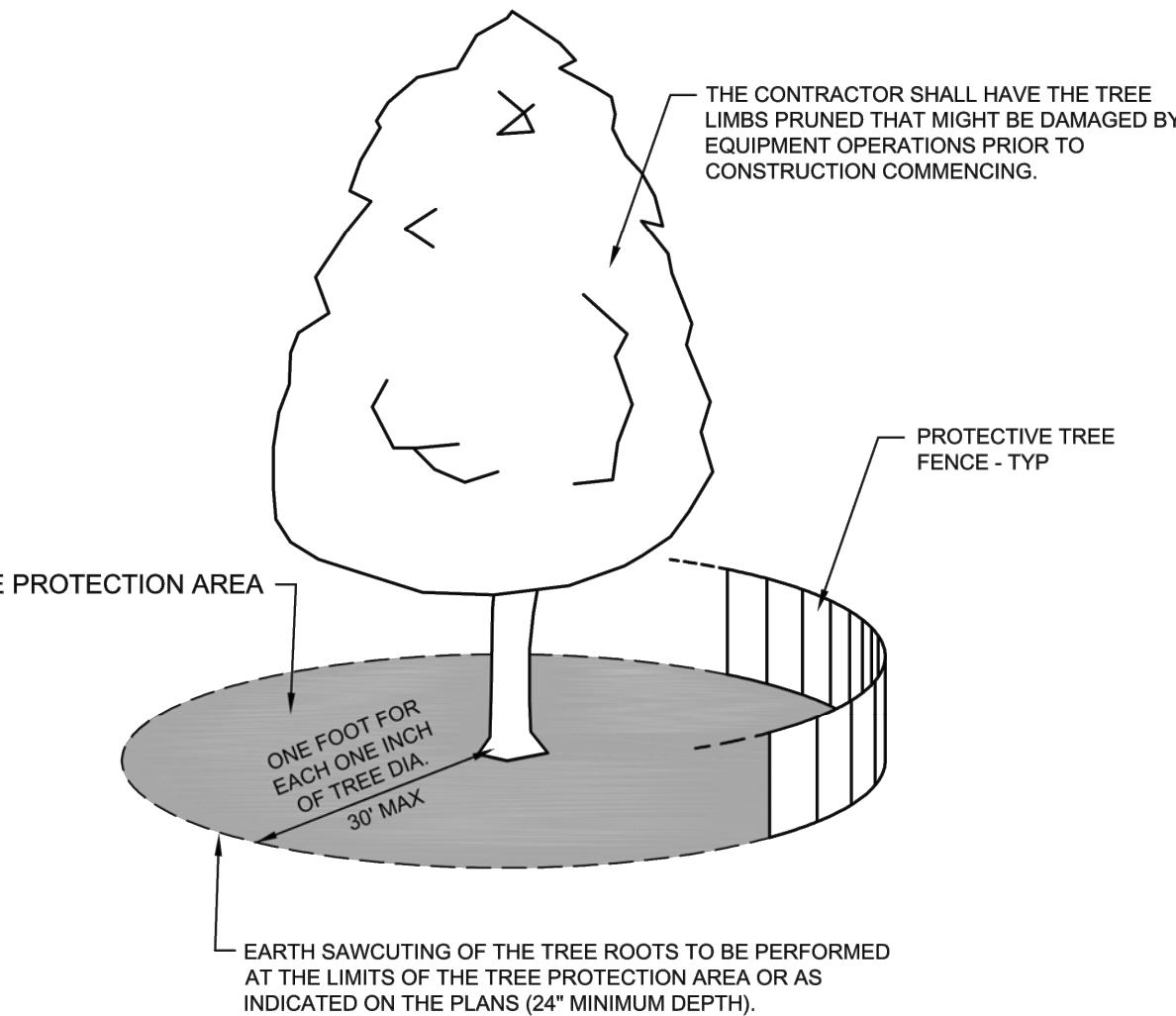
F SERVICE TAP AND CONNECTION
28-C5.01 NO SCALE



C GUARD POST
28-C5.01 NO SCALE

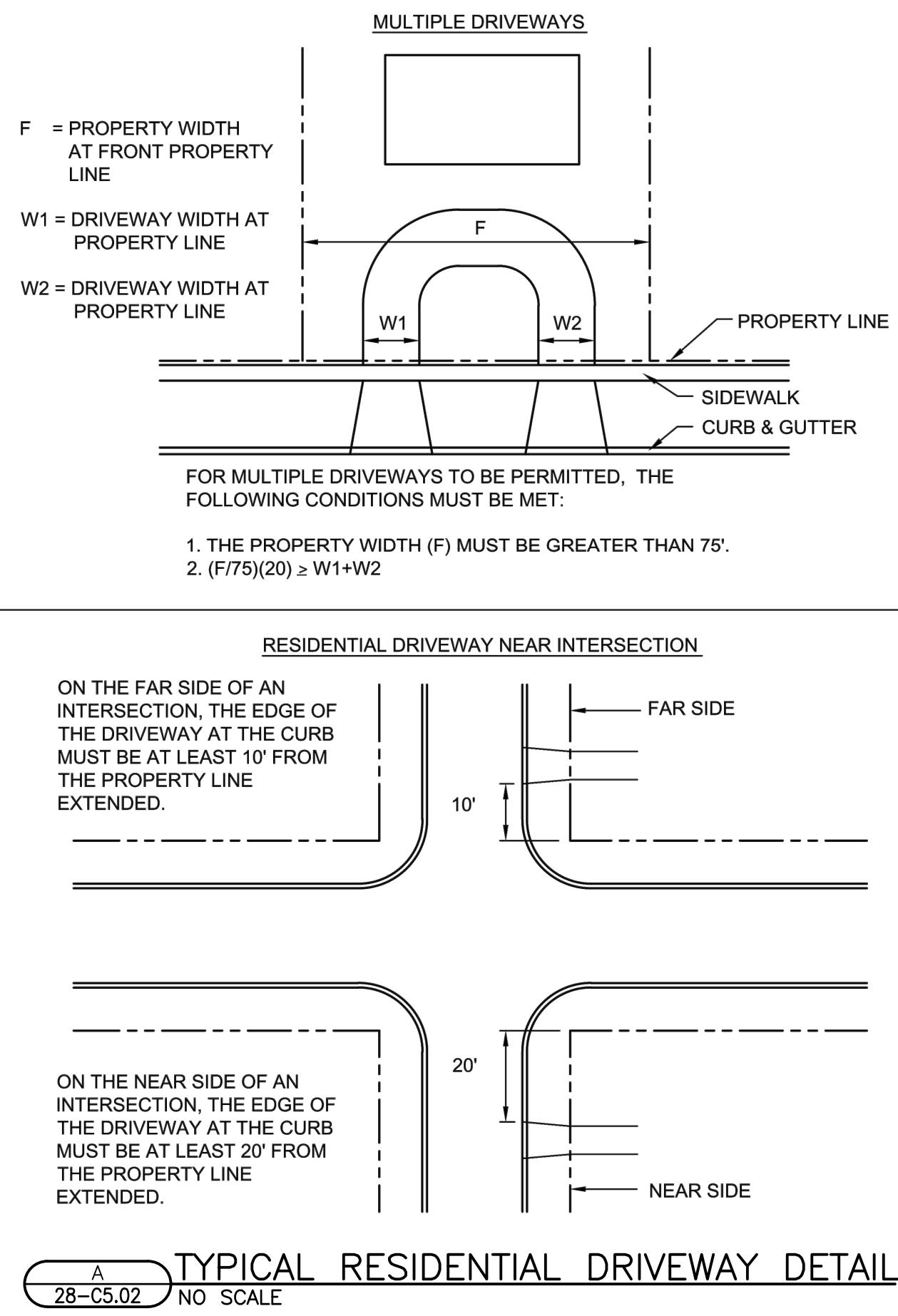


D PITLESS UNIT DETAIL
28-C5.01 NO SCALE

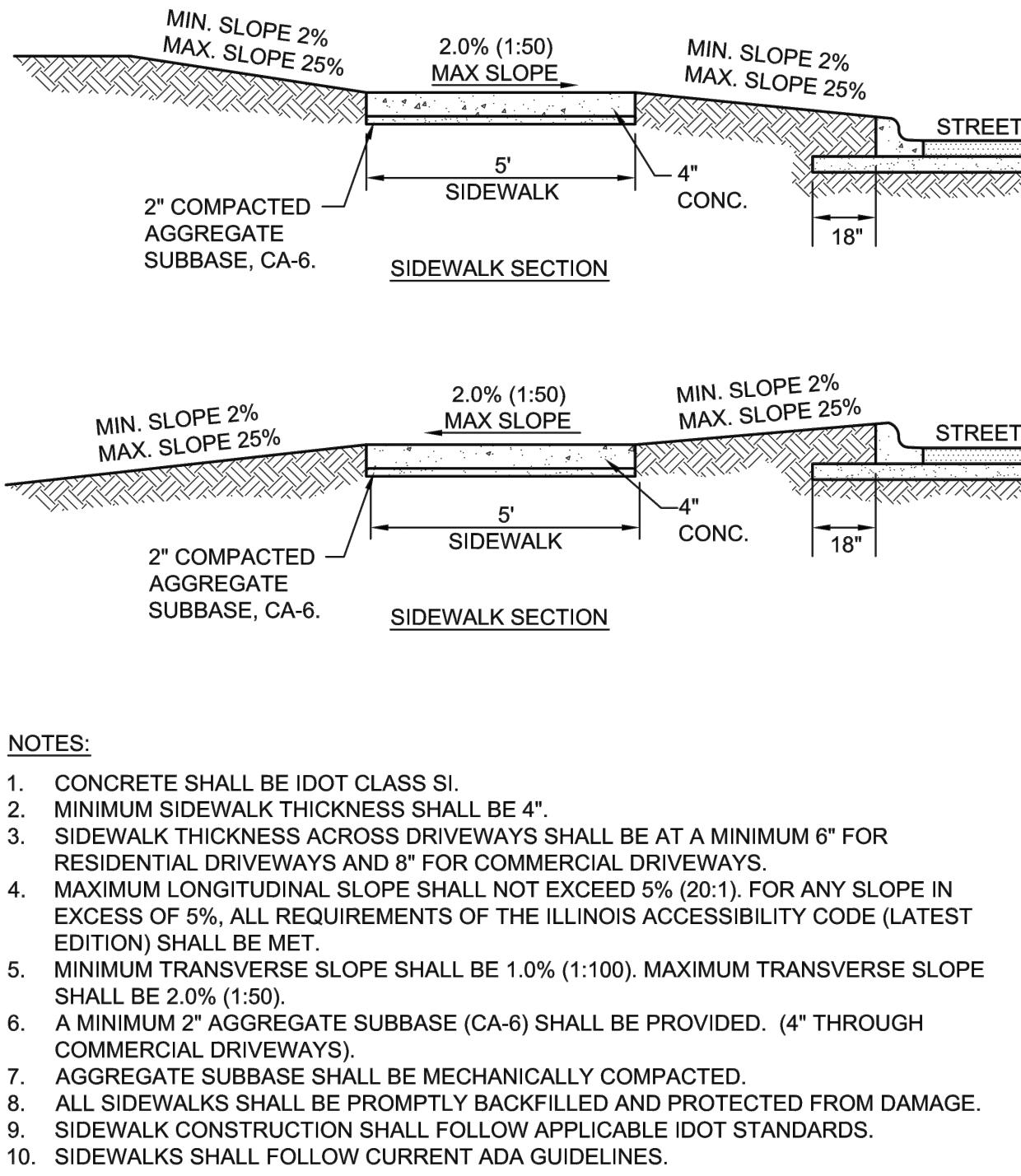


WELL NO. 28 SECTIONS AND DETAILS - 1

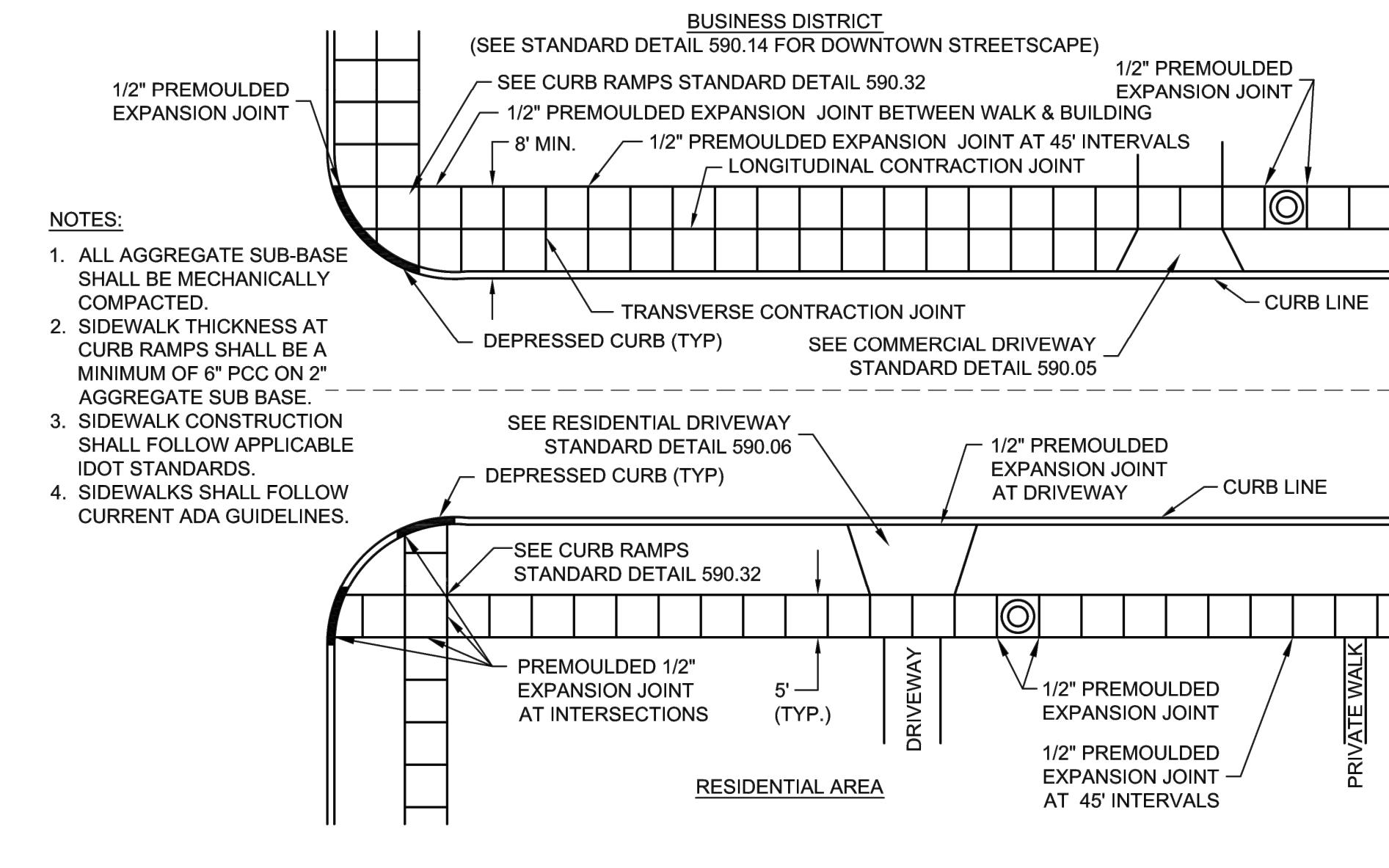
NO.	ISSUED FOR BID	REVISIONS	DATE:
1			2/19/20



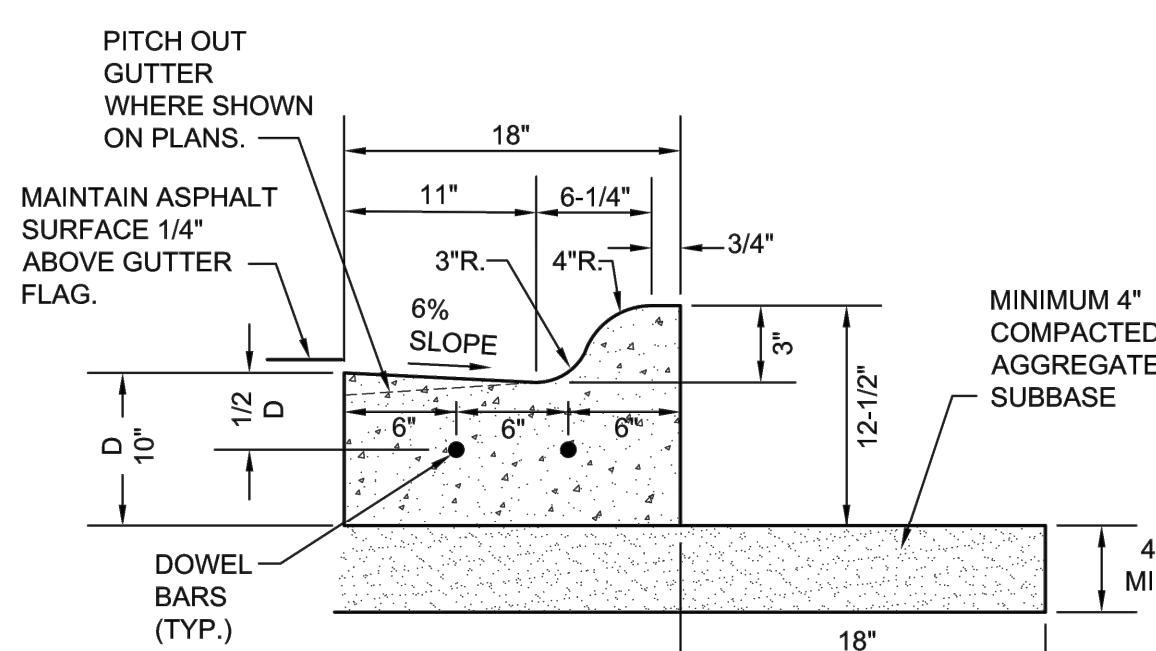
A 28-C5.02 TYPICAL RESIDENTIAL DRIVEWAY DETAIL NO SCALE



B
28-C5.02 SIDEWALK NO SCALE

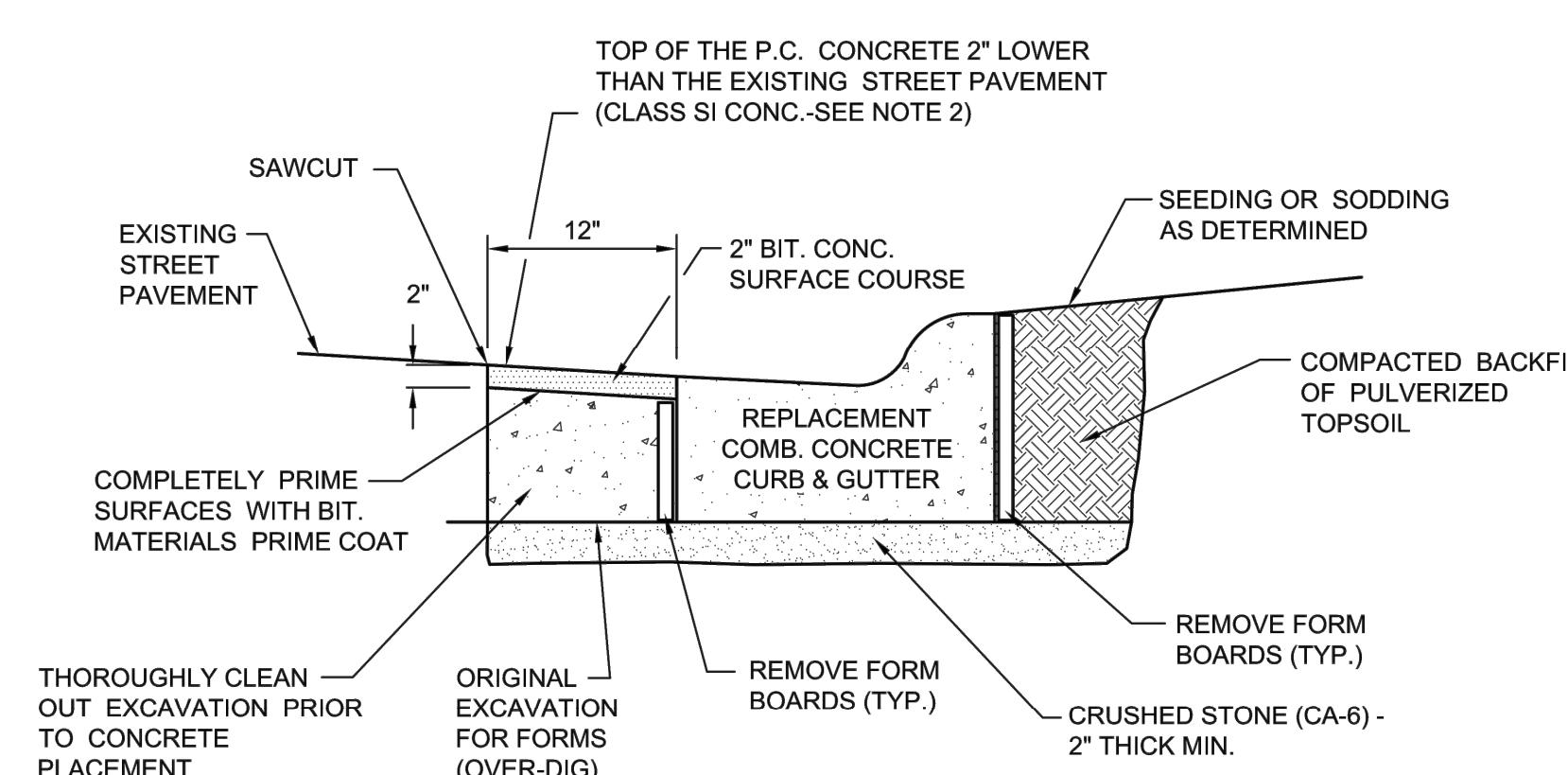


SIDEWALK CONSTRUCTION



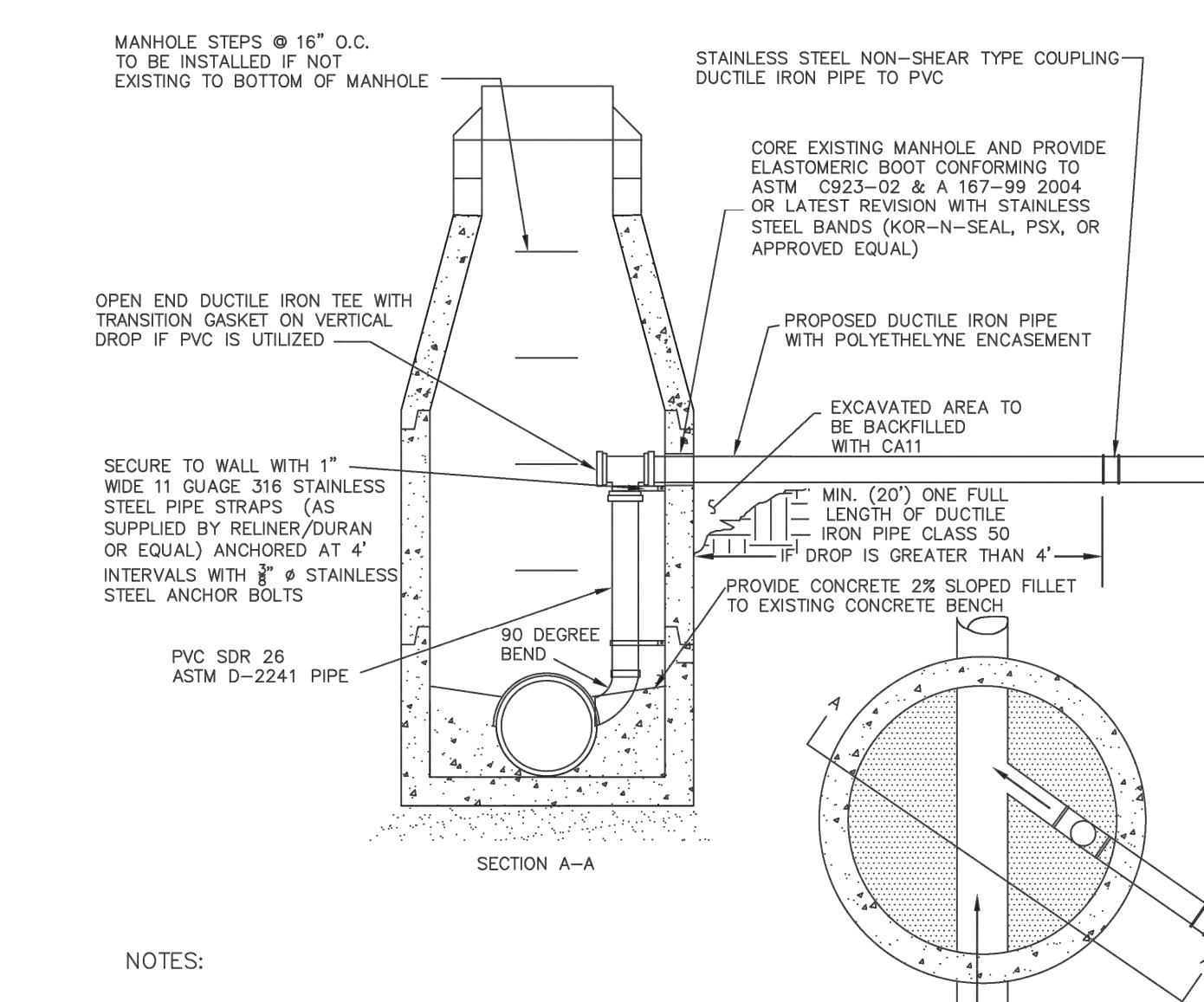
NOTES:

1. 3/4" PREFORMED BITUMINOUS EXPANSION JOINT WITH TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIA. X 18") WITH GREASE CAPS SHALL BE PLACED EVERY 150', 10' EITHER SIDE OF DRAINAGE STRUCTURES, P.C.'S, RADIUS POINTS AND BACK OF CUL-DE-SACS. WHEN EXPANSION JOINTS ARE CONSTRUCTED ADJACENT TO EXISTING CURB & GUTTER THE EXISTING CURB SHALL BE DRILLED AND TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" X 18") GROUTED IN PLACE. GREASE CAPS SHALL BE PLACED ON THE SIDE OF THE NEW CURB AND GUTTER SHALL HAVE A PINCHED STOP THAT WILL PROVIDE A MINIMUM 1" EXPANSION.
2. TOOLED CONTROL JOINTS OR SAWCUTS SHALL BE MADE EVERY 15'.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS AND SEALED WITH A CITY APPROVED JOINT SEALANT. JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.
4. FOR CURB AND GUTTER CONSTRUCTED OVER UTILITY TRENCHES, TWO (2) EPOXY COATED REINFORCING BARS (NO. 4) SHALL BE PLACED IN THE CURB AND GUTTER CENTERED OVER THE TRENCH.



NOTES:

1. THE COMPLETE REPAIR OF PAVEMENTS ADJACENT TO THE REPLACEMENT CONCRETE CURB AND GUTTER IS INCLUDED IN THE COST OF THE NEW CURB AND GUTTER.
2. CLASS SI CONCRETE SHALL BE POURED SEPARATELY FROM THE CURB ONCE THE FORM BOARDS HAVE BEEN REMOVED.

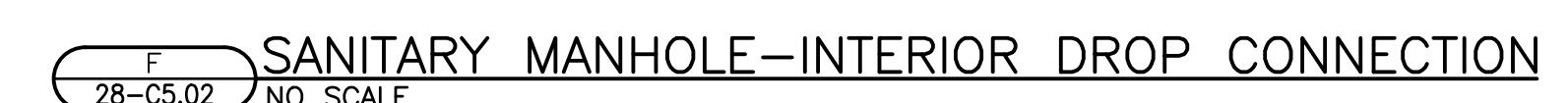


NOTES:

1. PVC PIPE WITHIN MANHOLE SHALL BE SDR-26.
2. FLOWLINE OF DROP SHALL BE LOCATED BETWEEN SPRINGLINE AND TOP OF SEWER MAIN.
3. EXISTING FLOW THROUGH MANHOLE SHALL BE UNOBSTRUCTED DURING CONSTRUCTION OR BYPASS PUMPED PER CITY APPROVAL.
4. ALL HARDWARE WITHIN MANHOLE SHALL BE 316 STAINLESS STEEL
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF NAPERVILLE DESIGN STANDARDS. INTERIOR DROP AND PROPOSED ELEVATIONS MUST BE APPROVED BY DEPARTMENT OF PUBLIC UTILITIES.
6. FLEXIBLE COUPLING CONNECTING DUCTILE IRON PIPE TO PVC PIPE SHALL BE A SHEAR RING TYPE COUPLING AS MANUFACTURED BY FERNCO, SERIES 1056R OR APPROVED EQUAL.



E CURB REPLACEMENT
28-C5.02 NO SCALE



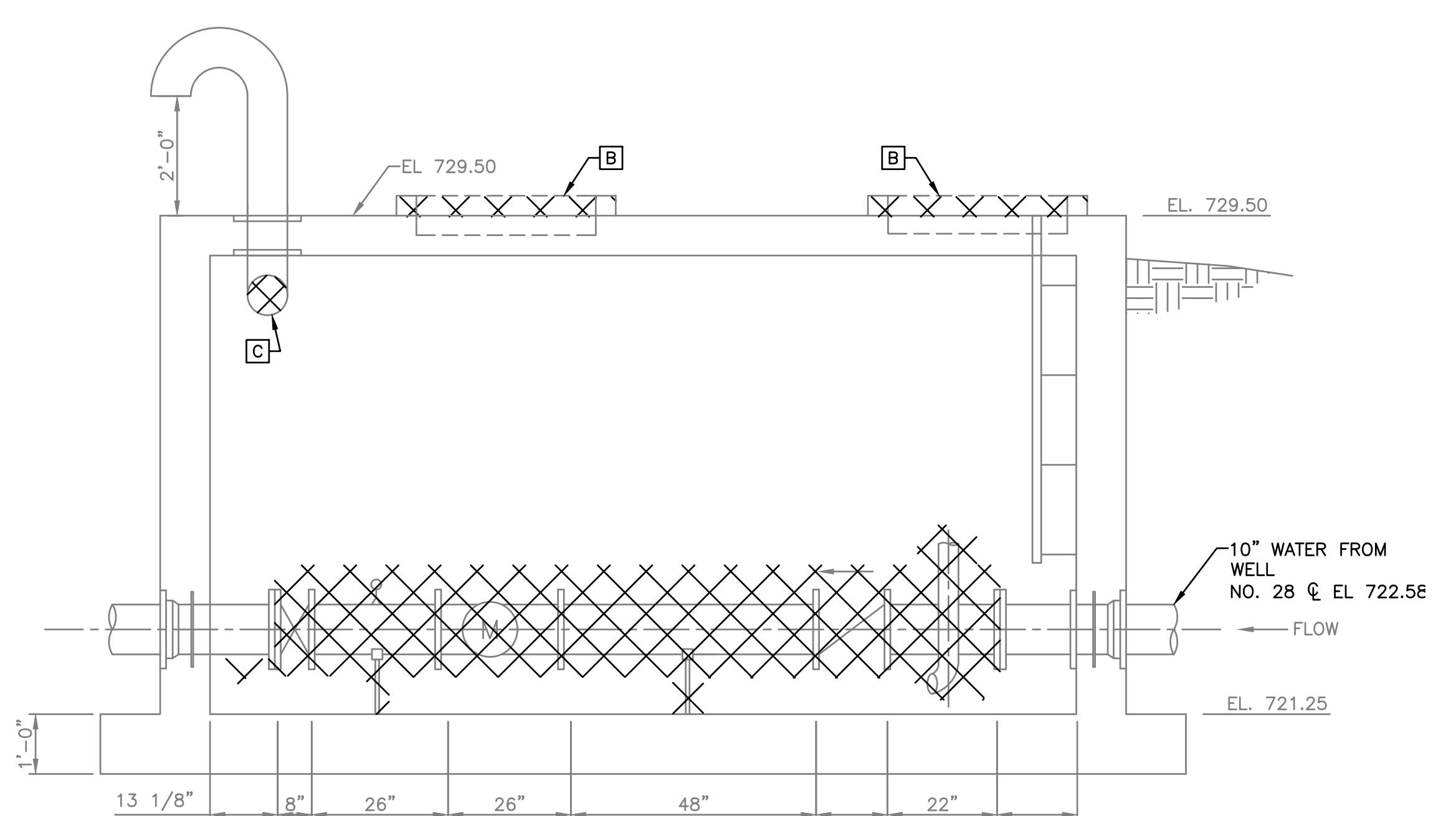
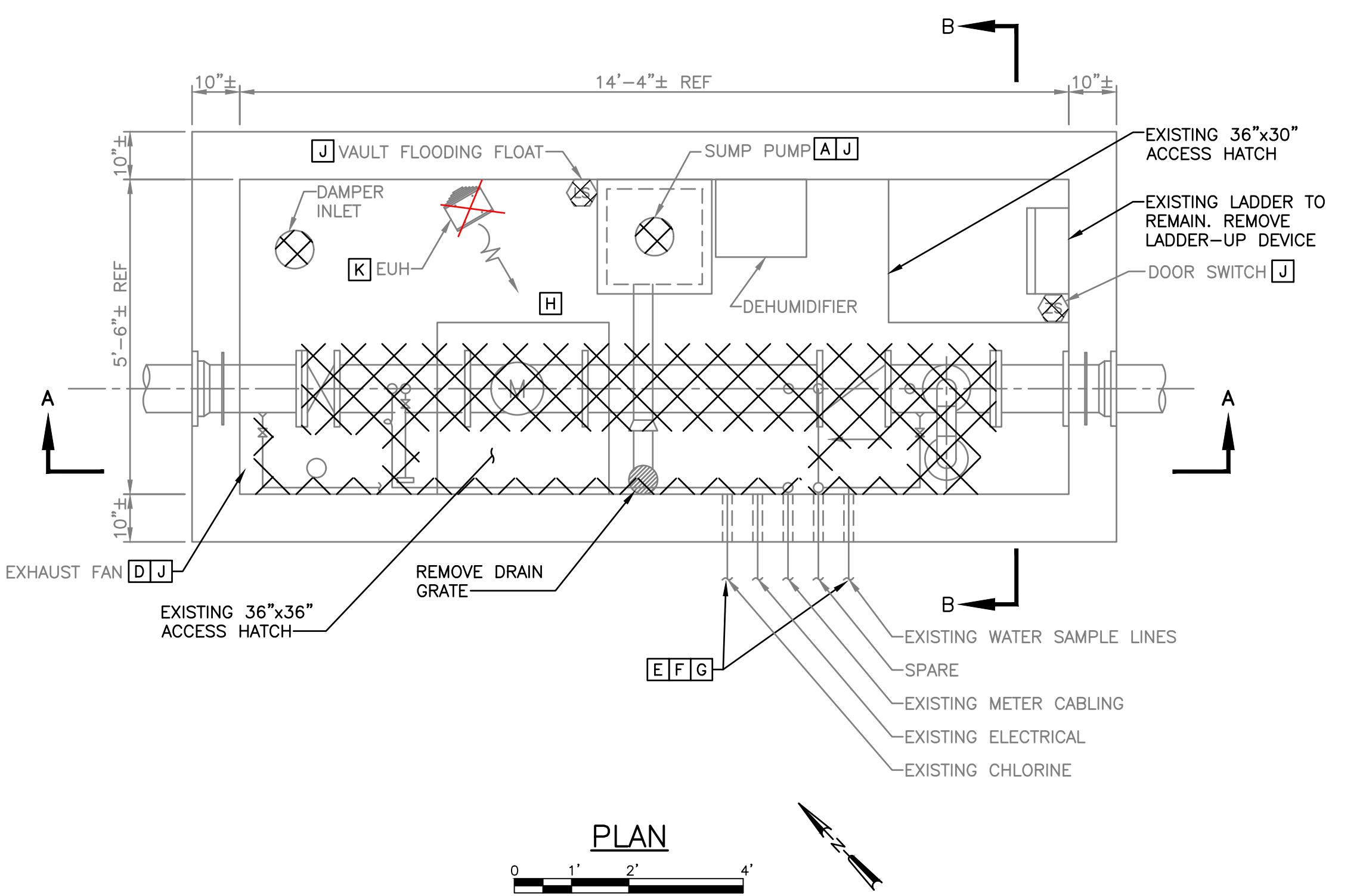
WELL NO. 28 VALVE VANT
DEMOLITION PLAN AND SECTIONS
IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31
CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS

JOB NO.
1216.004

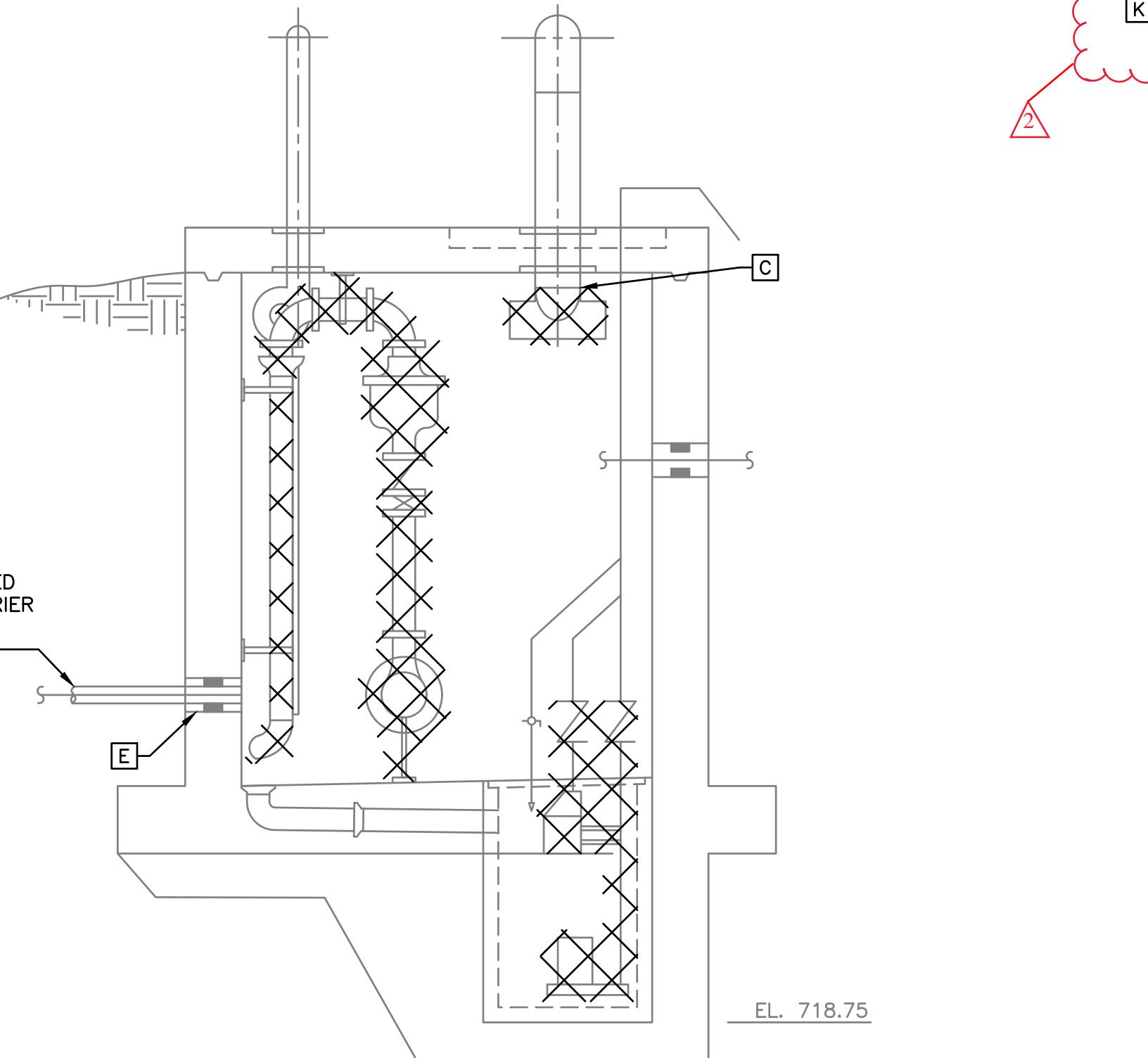
PROJECT MGR.
TIMOTHY SCHOLZ



SHEET
10
28-D1.01



SECTION A



SECTION B

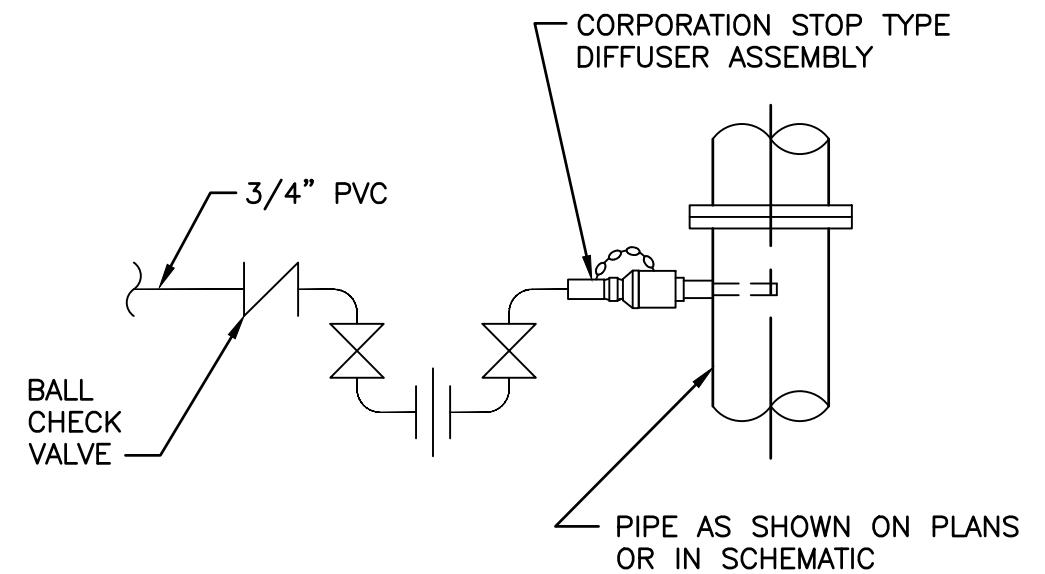
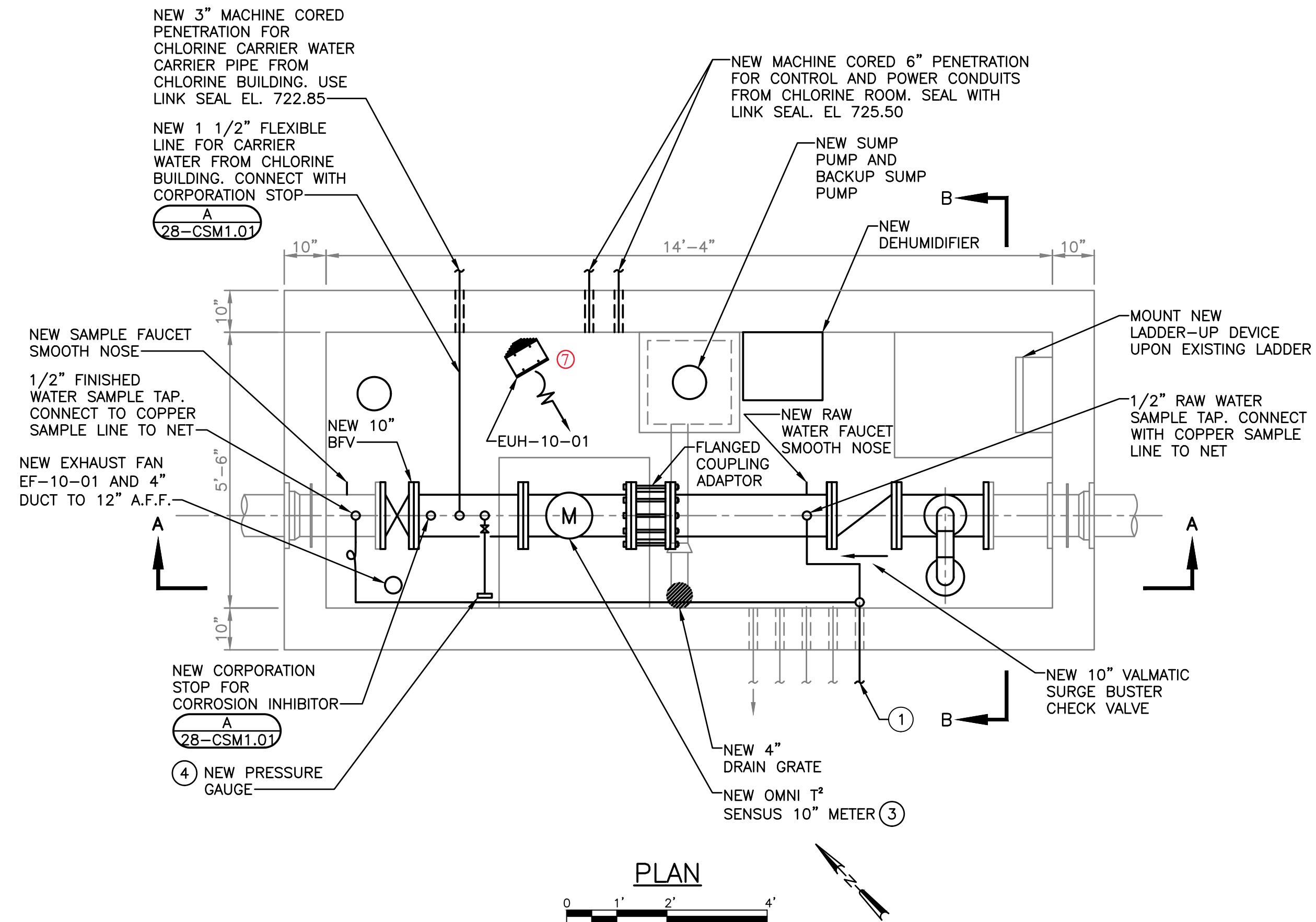
GENERAL NOTES:

1. REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AND MATERIALS ASSOCIATED WITH ITEMS BEING REMOVED AS SHOWN ON THIS DRAWING, AS WELL AS EXISTING ELECTRICAL DEVICES, MATERIALS, AND EQUIPMENT NOT BEING REUSED.
2. CONTRACTOR TO VERIFY DIMENSIONS OF VAULT.
3. ALL EXISTING ELECTRICAL EQUIPMENT/DEVICES ARE POWERED FROM EXISTING LIGHTING PANEL IN NORTH ELEVATED TANK.

DEMOLITION NOTES:

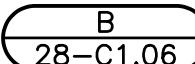
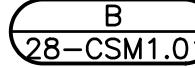
- [A] REMOVE SUMP PUMP, PREPARE DISCHARGE PIPES TO RECEIVE NEW PUMP AND BATTERY POWERED PUMP.
- [B] REMOVE EXISTING ACCESS DOORS. MAINTAIN CURBS AND PREPARE CURBS TO RECEIVE NEW ACCESS DOORS. SEE DETAIL B (28-CSM1.01)
- [C] REMOVE BACK DRAFT DAMPERS.
- [D] REMOVE EXHAUST FAN AND DUCT.
- [E] MAINTAIN EXISTING PVC CONDUIT IN WALL FOR SAMPLE LINES AND ELECTRICAL FEED. EL. 722.85. BREAK GROUTED CONDUIT OPEN TO ASCERTAIN CONDITION.
- [F] REMOVE CHLORINE FEEDLINE AND MAINTAIN CARRIER PIPE FOR FUTURE USE.
- [G] PULL FISHWIRE THROUGH CONDUITS TO CONFIRM USABILITY OF CONDUITS.
- [H] REMOVE EXISTING LIGHT FIXTURES, SWITCH, WIRING, AND CONDUIT.
- [J] REMOVE EXISTING EQUIPMENT/DEVICE AND ALL ASSOCIATED WIRE AND CONDUIT.
- [K] EXISTING UNIT HEATER SHALL REMAIN. REMOVE EXISTING CONTROLS, CONDUIT, AND WIRING. SHALL BE REMOVED AND REPLACED.

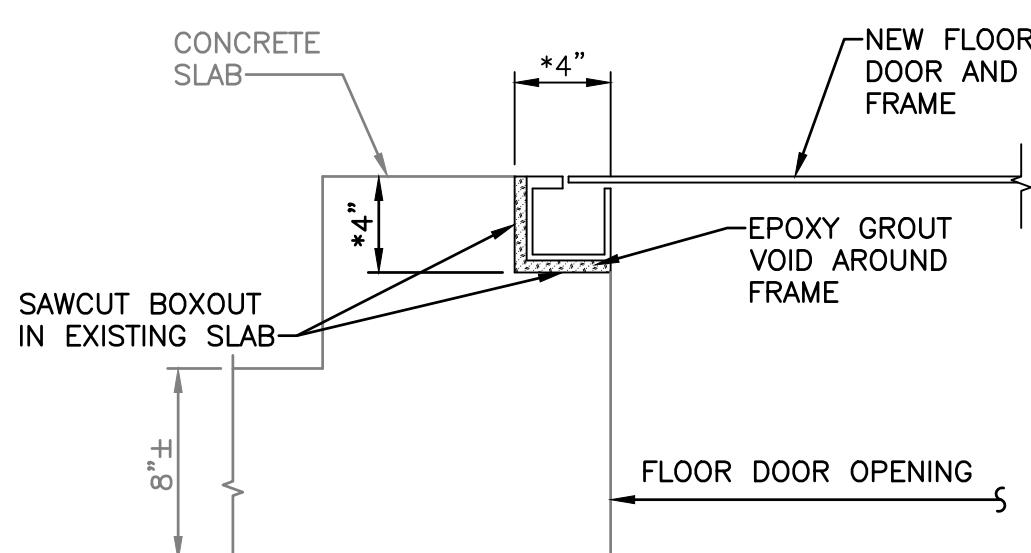
NO.	ISSUED FOR BID	REVISIONS	DATE:
1	2	ADDENDUM 2	07/29/20



A 28-CSM1.01 CORPORATION STOP NO SCALE

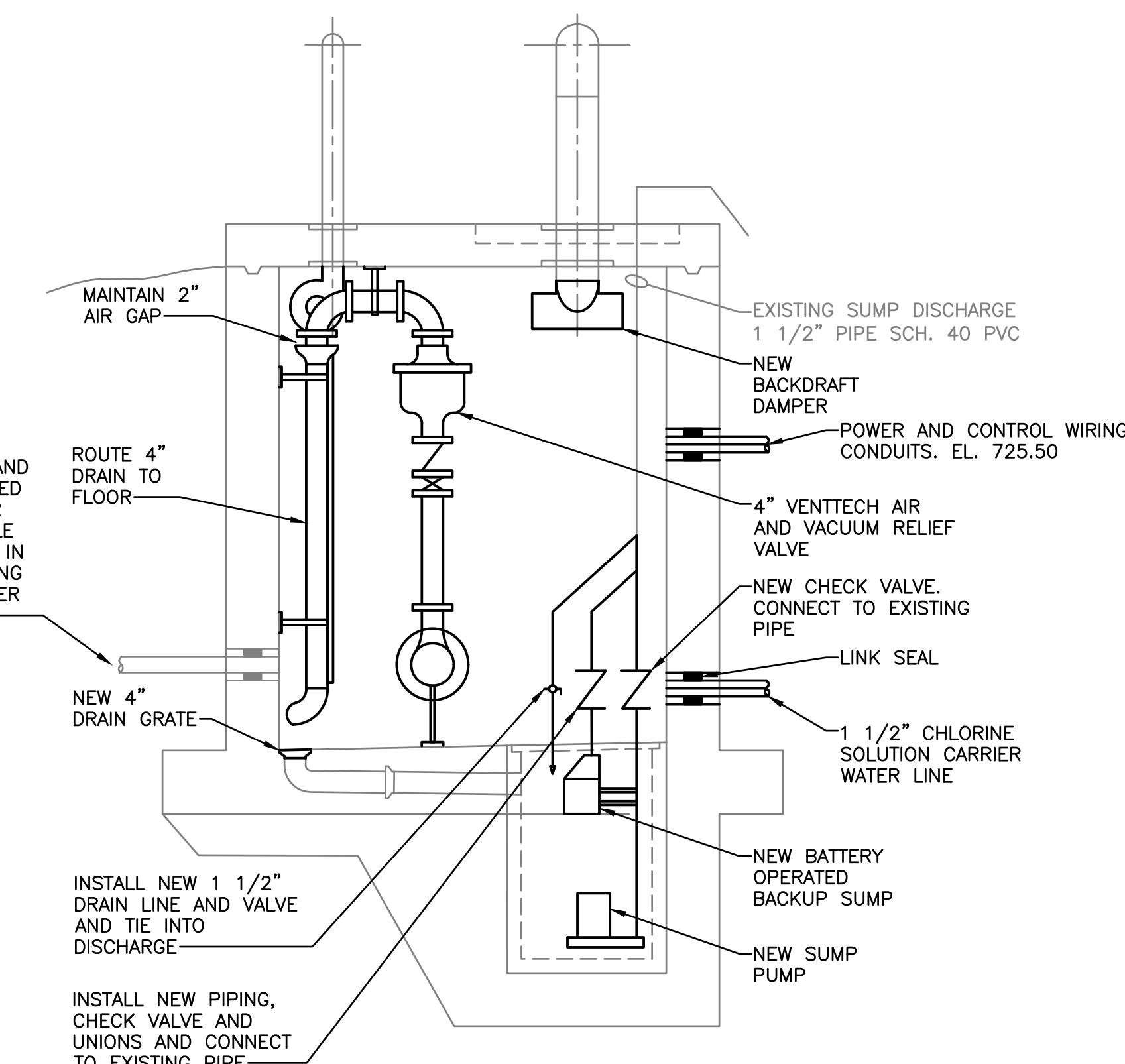
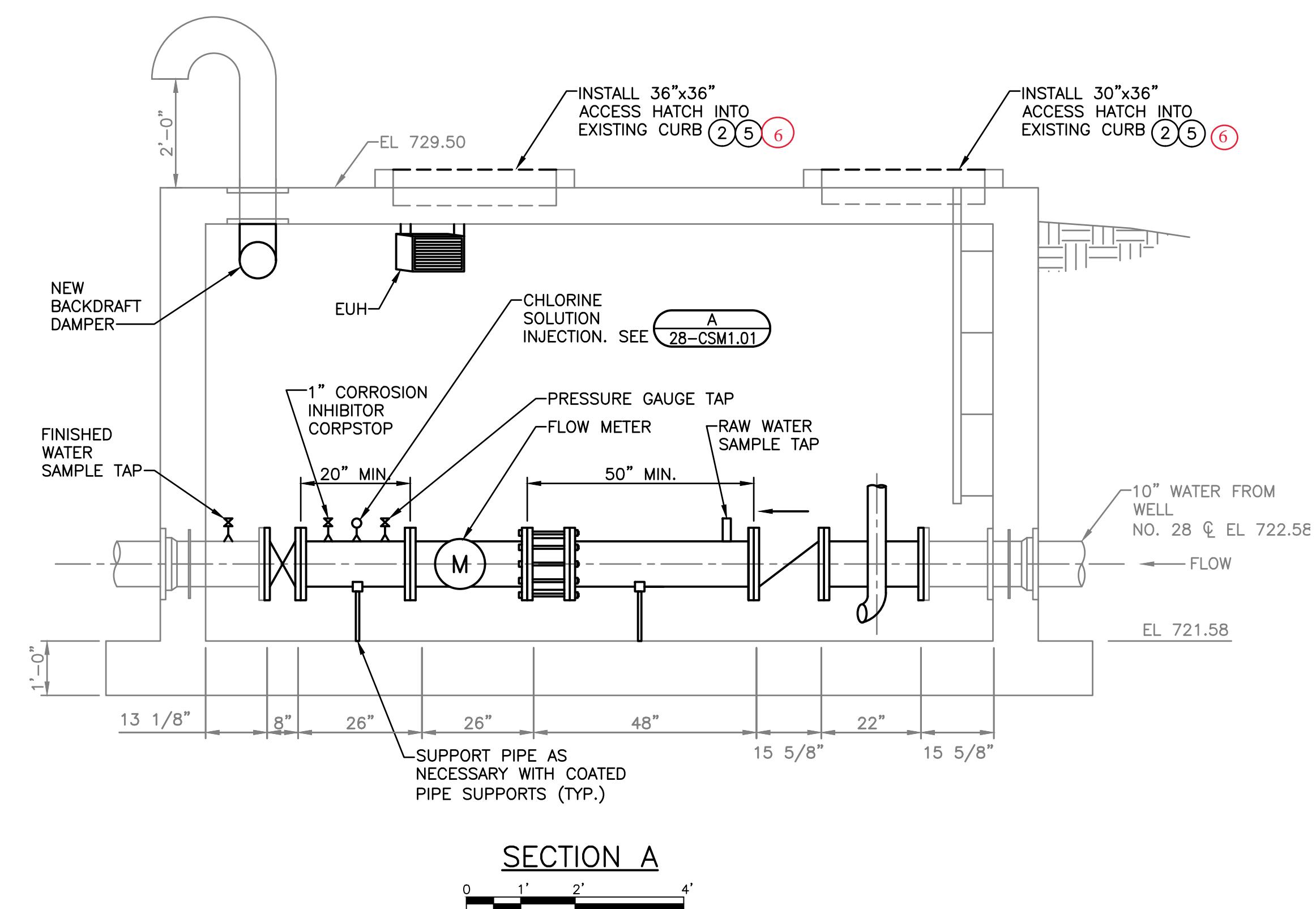
KEY NOTES:

- ① USE EXISTING COPPER RAW AND TREATED SAMPLE LINE CONDUIT. TO CONVEY RAW AND TREATED WATER SAMPLE LINES TO NET.
- ② PROVIDE NEW TYPE K FLOOR DOOR IN EXISTING CURB, SEE DETAIL  PIPE HATCH
DRAINAGE CHANNEL TO FLOOR.
- ③ OWNER WILL PROVIDE CONTRACTOR WITH SENSUS T² OMNI METER SCADA HEAD TO INSTALL FOR COMMUNICATION TO NET SCADA SYSTEM.
- ④ MOUNT PRESSURE GAUGE TO WALL. 5'-0" AFF.
- ⑤ REPLACE EXISTING ACCESS DOOR WITH TYPE K ACCESS DOOR. SEE DETAIL  .
28-CSM1.01
- ⑥ VALVE VAULT ACCESS HATCH NEEDS TO HAVE HATCH FALLING PROOF GRATE.
- ⑦ INSTALL NEW HEATER, CONTROL AND WIRES. REFER TO SPECIFICATION 23 82 39.



- * VERIFY DIMENSION W/
DOOR MANUFACTURER

B NEW FLOOR DOOR IN EXISTING SLAB
28-CSM1.01 NO SCALE



SECTION B

WELLING: 25 VIEWS
PLAN AND SECTIONS
IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31
CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS

CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS

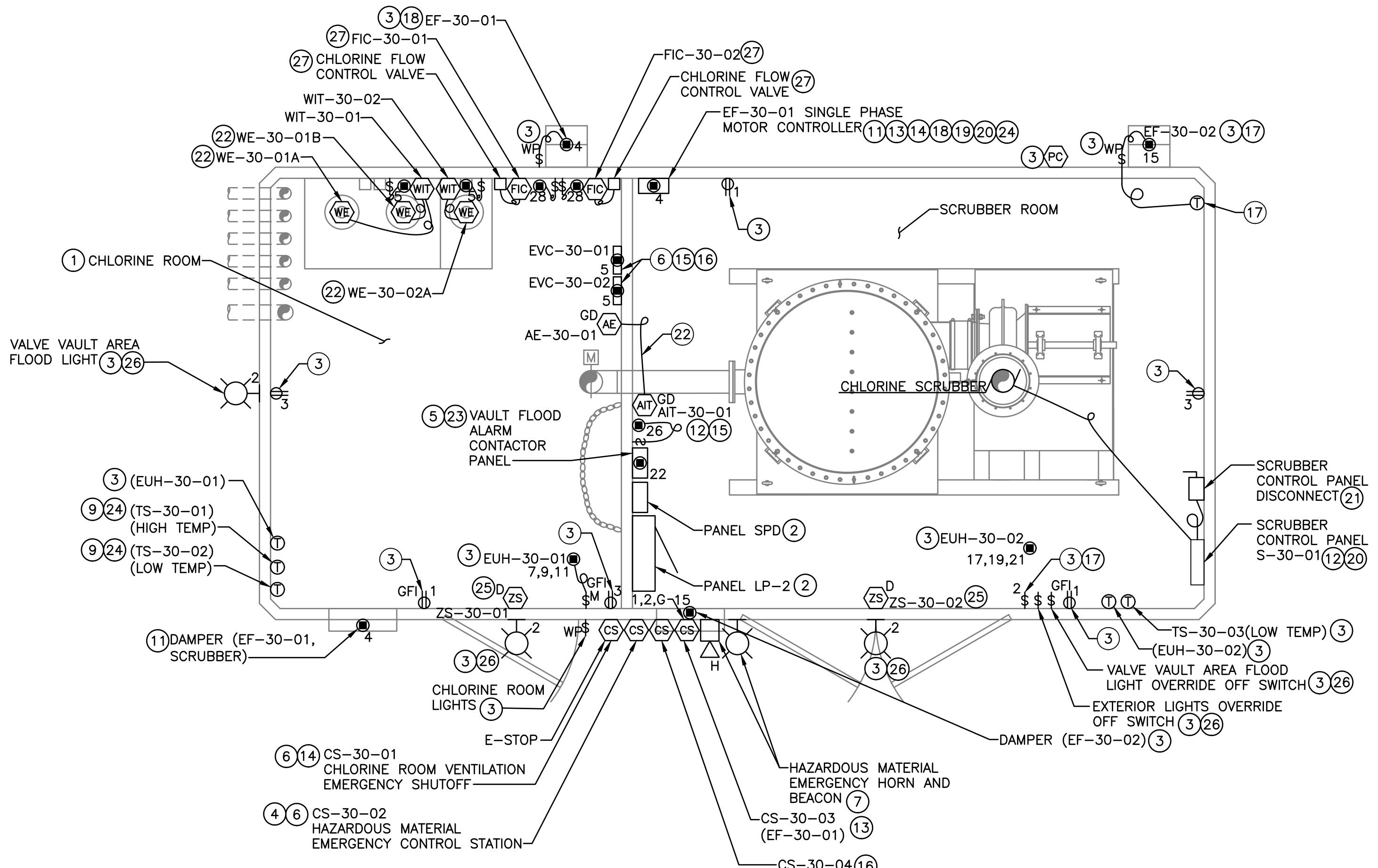
JOB NO.
1216.004

PROJECT MGR.
MOTHY SCHOLZ

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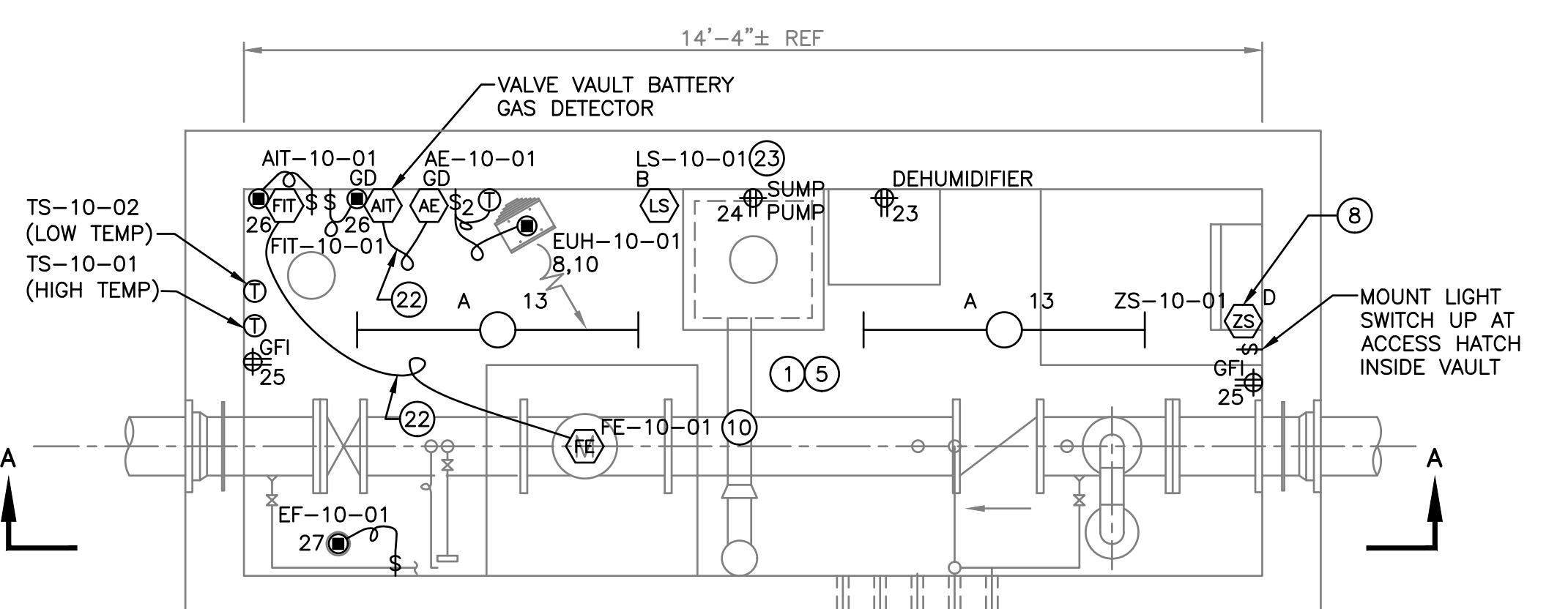
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ASSOCIATES®**

**SHEET
11
28-CSM1.01**



GENERAL NOTES:

- REFER TO SPECIFICATION SECTION 26 09 90 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM. PROVIDE 10% SPARE WIRE/CABLE IN EACH CONTROL WIRE AND SIGNAL CABLE CONDUIT.
- THERMOSTATS ON EXTERIOR WALLS SHALL HAVE INSULATED BASES.
- FIBERGLASS ENCLOSURE WALLS SHALL BE REINFORCED IN AREAS WHERE WALL MOUNTED EQUIPMENT IS LOCATED.
- DAMPERS NOT SHOWN WITH A CIRCUIT NUMBER SHALL BE POWERED FROM SAME CIRCUIT AS ASSOCIATED FAN. DAMPER SHALL OPEN WHEN FAN IS RUNNING.
- ALL ELECTRICAL WORK AND EQUIPMENT IN THIS AREA SHALL BE RATED NEMA 4X.
- LIGHTING PANEL LP-2 AND SPD PROVIDED BY BUILDING MANUFACTURER AS SPECIFIED IN SECTION 06 80 00. VERIFY EXACT LOCATION OF PANEL WITH BUILDING MANUFACTURER.
- LIGHT FIXTURES, OUTLETS, UNIT HEATERS (INCLUDING ASSOCIATED THERMOSTATS), EXHAUST FANS (INCLUDING ASSOCIATED THERMOSTATS), DISCONNECT SWITCHES, AND ASSOCIATED INTAKE DAMPERS PROVIDED AND FACTORY PRE-WIRED BY BUILDING MANUFACTURER AS SPECIFIED IN SECTION 06 80 00. ALL OTHER EQUIPMENT SHALL BE PROVIDED BY CONTRACTOR.
- PROVIDE A CONTROL STATION WITH RED, MUSHROOM-HEAD-TYPE, MAINTAINED PUSHBUTTON FOR MANUAL INITIATION OF A HAZARDOUS MATERIAL EMERGENCY ALARM. PROVIDE AUXILIARY CONTACTS AS REQUIRED TO MONITOR ALARM AT NORTH ELEVATED STORAGE SCADA SYSTEM PANEL. REFER TO SPECIFICATION SECTION 26 09 00, PART 3 FOR HARDWIRED CONTROLS. PROVIDE 2~#14 AND #14 GROUND IN 3/4" CONDUIT FROM CONTROL STATION TO NORTH ELEVATED STORAGE SCADA SYSTEM PANEL.
- PROVIDE AN 12-POLE, 30-AMP, NEMA-RATED CONTACTOR IN A NEMA 12 ENCLOSURE FOR CONTROL OF ALL LIGHTING PANEL CIRCUITS TO THE VALVE VAULT. CONTACTOR SHALL BE CONTROLLED SUCH THAT WHEN THE VALVE VAULT FLOODING FLOAT (LS-10-01) IS ACTIVATED, THE CONTACTOR SHALL BE DE-ENERGIZED THUS DE-ENERGIZING ALL CIRCUITS TO THE VALVE VAULT. THE CONTACTOR SHALL BE ENERGIZED AT ALL OTHER TIMES. PROVIDE AN AUXILIARY CONTACT ON THE SIGNAL FROM THE VALVE VAULT BUILDING FLOODING FLOAT SWITCH FOR VALVE VAULT FLOODING INDICATION AT THE SCADA SYSTEM PANEL IN THE ELEVATED TANK. PROVIDE MISCELLANEOUS RELAYS AND WIRING AS REQUIRED. CONTROL POWER TO THE PANEL SHALL BE FROM LP-2. VALVE VAULT FLOOD ALARM CONTACTOR PANEL SHALL BE FURNISHED BY SECTION 26 09 00 SYSTEM SUPPLIER. PROVIDE A RED PILOT LIGHT ON THE ENCLOSURE DOOR TO INDICATE WHEN THE FLOAT SWITCH IS ACTIVATED AND POWER HAS BEEN DE-ENERGIZED.
- PROVIDE 2~#14 IN 3/4" CONDUIT FROM CS-30-01 AND FROM CS-30-02 TO EVC-30-01 AND EVC-30-02 TO CLOSE VALVES WHEN THE HAZARDOUS MATERIAL ALARM IS ACTIVATED OR WHEN THE VENTILATION SYSTEM IS MANUALLY SHUT DOWN.
- PROVIDE ALARM HORN MODEL 876-N5 AND ALARM BEACON MODEL 105XBRMR120A AS MANUFACTURED BY EDWARDS SIGNAL, OR EQUAL, AND ALL REQUIRED MOUNTING HARDWARE. HORN AND BEACON SHALL BE POWERED FROM NORTH ELEVATED TANK SCADA SYSTEM PANEL AND CONTROLLED AS SPECIFIED UNDER SECTION 26 09 00, PART 3. PROVIDE A SIGN AS SPECIFIED IN SECTION 26 05 53 AT THE BEACON FOR HAZARDOUS MATERIAL ALARM AND AT THE HORN FOR HAZARDOUS MATERIAL ALARM AND CHLORINE GAS LEAK ALARM. PROVIDE 2~#12 AND #12 GROUND IN 3/4" CONDUIT FROM NORTH ELEVATED STORAGE SCADA SYSTEM PANEL TO HORN AND BEACON FOR 120V POWER.
- PROVIDE DOOR SWITCH MOUNTED ON ACCESS HATCH INSIDE VALVE VAULT.
- THERMOTSTAT FURNISHED BY BUILDING MANUFACTURER AS SPECIFIED IN SECTION 06 80 00 AND WIRED BY DIVISION 26 TO EF-30-01 MOTOR CONTROLLER.
- FLOW METER PROVIDED AS SPECIFIED IN DIVISION 40 AND WIRED BY DIVISION 26.
- INTAKE DAMPER ACTUATOR FURNISHED BY BUILDING MANUFACTURER AS SPECIFIED IN SECTION 06 80 00 AND WIRED BY DIVISION 26. DAMPER CIRCUIT CONDUCTORS SHALL BE ROUTED FROM LP-2 THROUGH EF-30-01 SINGLE PHASE MOTOR CONTROLLER.
- PROVIDE 2~#14 AND #14 GROUND IN 3/4" CONDUIT FROM GAS DETECTOR TRANSMITTER TO SCRUBBER CONTROL PANEL FOR LEAK DETECTED/START SIGNAL.
- PROVIDE 7~#14 AND #14 GROUND IN 3/4" CONDUIT FROM CS-30-03 TO EF-30-01 SINGLE PHASE MOTOR CONTROLLER.
- PROVIDE A RED, GLASS-BREAK-STYLE, MAINTAINED PUSHBUTTON CONTROL STATION, MODEL ST120-SN4-BP2-VS AS MANUFACTURED BY PILLA, OR EQUAL. CONTROL STATION SHALL BE LABELED "CHLORINE ROOM VENTILATION EMERGENCY SHUTOFF". PROVIDE 2~#14 AND #14 GROUND IN 3/4" CONDUIT TO EF-30-01 SINGLE PHASE MOTOR CONTROLLER.
- PROVIDE 2~#14 IN 3/4" CONDUIT FROM CHLORINE LEAK ALARM RELAY IN SCRUBBER CONTROL PANEL TO EVC-30-01 AND EVC-30-02.
- PROVIDE A CONTROL STATION WITH RED, MUSHROOM-HEAD-TYPE, MAINTAINED PUSHBUTTON TO MANUALLY CLOSE THE CHLORINE VALVES. PROVIDE AUXILIARY CONTACTS AS REQUIRED FOR EVC-30-01 AND EVC-30-02. PROVIDE 2~#14 IN 3/4" CONDUIT FROM CONTROL STATION TO EVC-30-01 AND EVC-30-02.
- TWO-POLE SWITCH SHALL CONTROL ROOM LIGHTS AND SHALL CONTROL EF-30-02 THROUGH THE FAN THERMOSTAT.
- EF-30-01 MOTOR CONDUCTORS SHALL BE ROUTED FROM LP-2 THROUGH EF-30-01 SINGLE PHASE MOTOR CONTROLLER.
- EF-30-01 SINGLE PHASE MOTOR CONTROLLER SHALL BE FURNISHED BY SECTION 26 09 00 SYSTEM SUPPLIER.
- PROVIDE 2~#14 AND #14 GROUND IN 3/4" CONDUIT FROM SCRUBBER CONTROL PANEL TO EF-30-01 SINGLE PHASE MOTOR CONTROLLER FOR SCRUBBER "RUNNING" STATUS.
- SCRUBBER CONTROL PANEL DISCONNECT SHALL BE SERVICE ENTRANCE RATED.
- PROVIDE MANUFACTURER-RECOMMENDED CABLE IN 3/4" CONDUIT FROM DEVICE TO TRANSMITTER.
- PROVIDE 2~#14 AND #14 GROUND IN 3/4" CONDUIT FROM LEVEL SWITCH TO VAULT FLOOD ALARM CONTACTOR PANEL IN CHLORINE BUILDING.
- PROVIDE 2~#14 AND #14 GROUND FROM THERMOSTAT TO EF-30-01 SINGLE PHASE MOTOR CONTROLLER.
- DOOR SWITCH FURNISHED BY BUILDING MANUFACTURER AS SPECIFIED IN SECTION 06 80 00 AND WIRED BY DIVISION 26.
- EXTERIOR LIGHT FIXTURES SHALL BE POWERED THROUGH THE PHOTOCELL AND ASSOCIATED OVERRIDE OFF SWITCH SO THAT WHEN THE LIGHTS ARE TURNED ON BY THE PHOTOCELL, THEY CAN BE TURNED OFF USING THE ASSOCIATED OVERRIDE OFF SWITCH.
- PROVIDE MANUFACTURER-RECOMMENDED CABLE IN 3/4" CONDUIT FROM FIC TO VALVE.

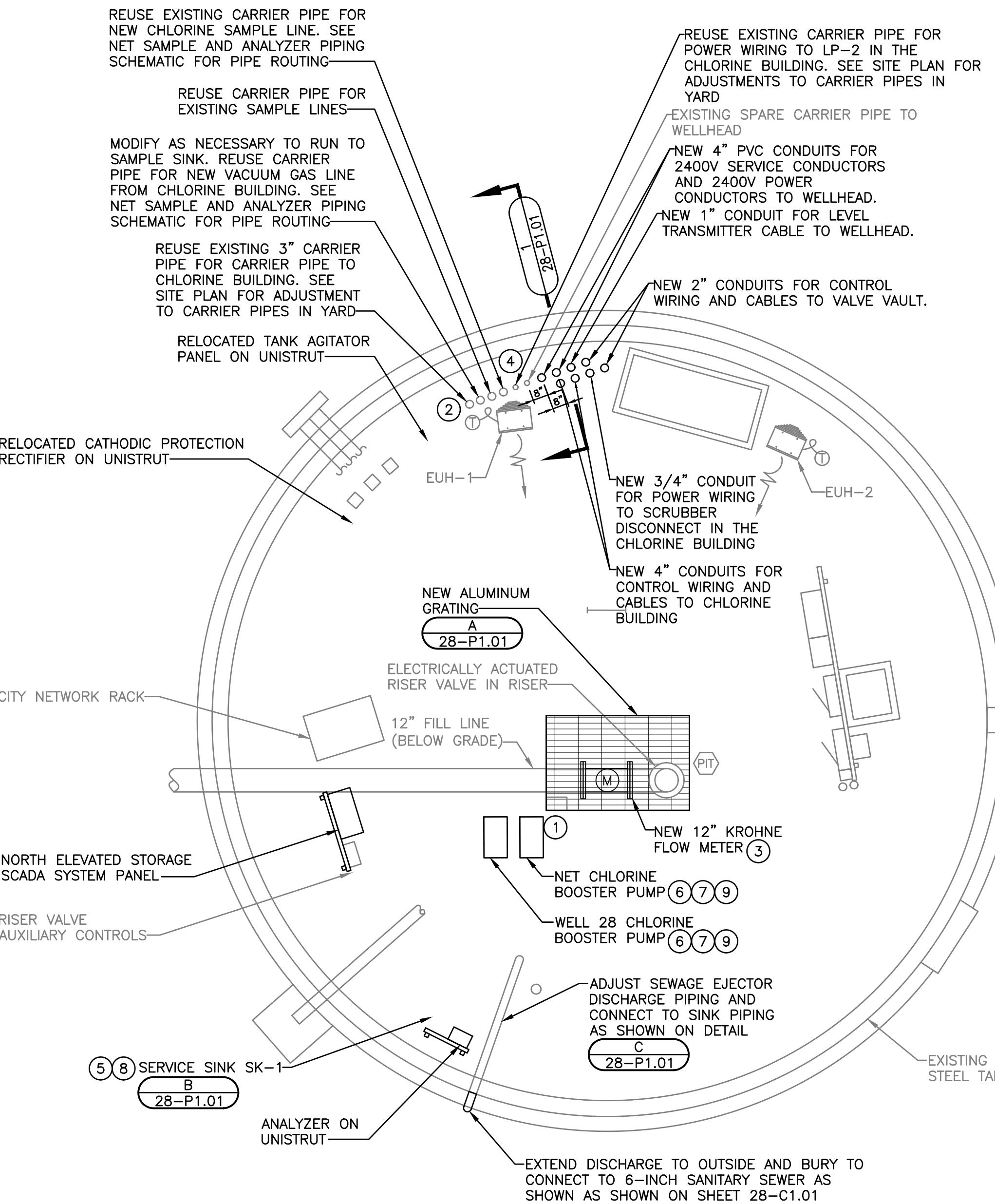
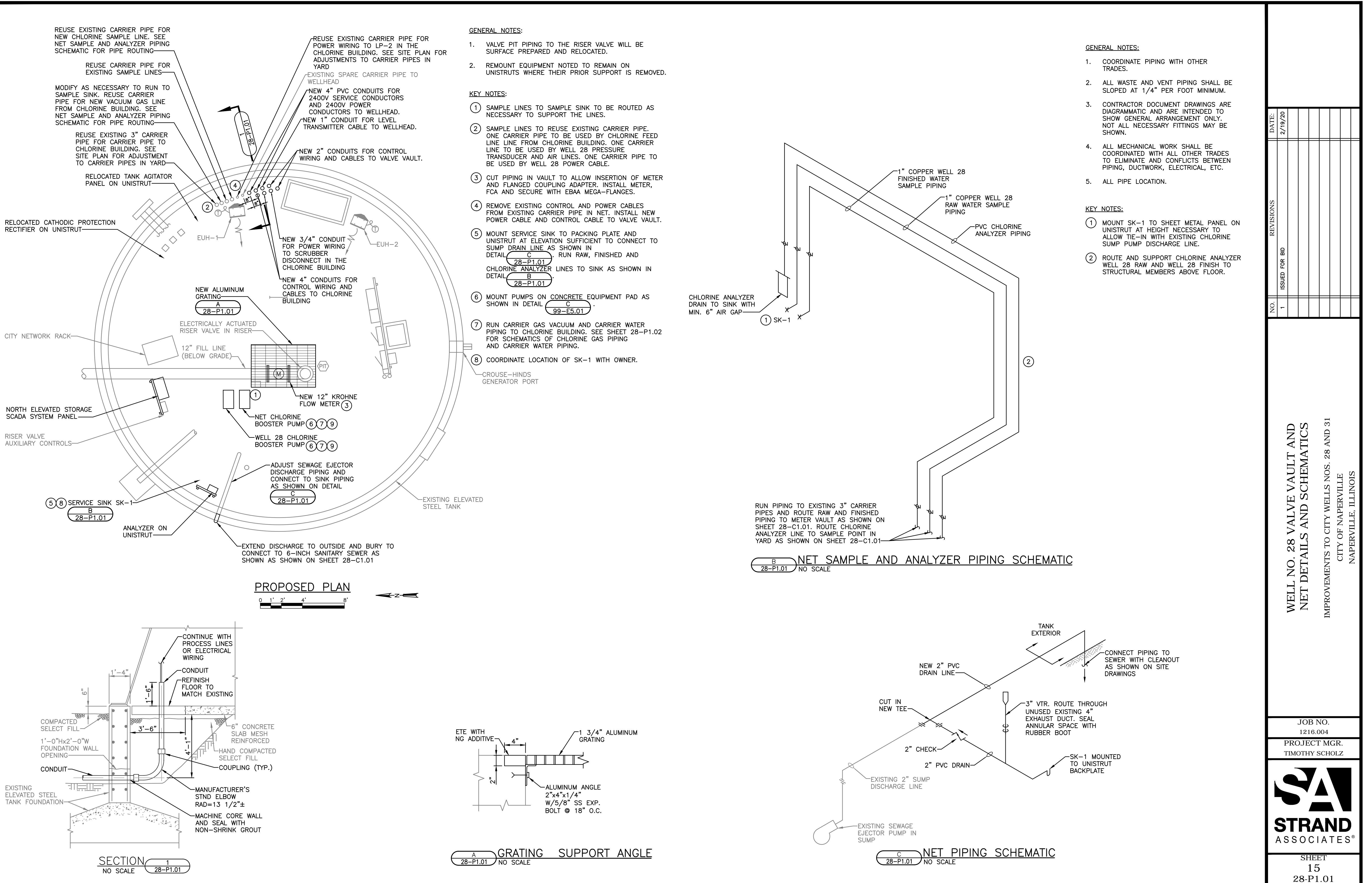


Proposed Valve Vault Electrical Plan

WELL NO. 28 VALVE VAULT AND CHLORINE BUILDING
ELECTRICAL PLANS
IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31
CITY OF NAPERVILLE
ILLINOIS

JOB NO.
1216.004
PROJECT MGR.
TIMOTHY SCHOLZ
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STRAND
ASSOCIATES®
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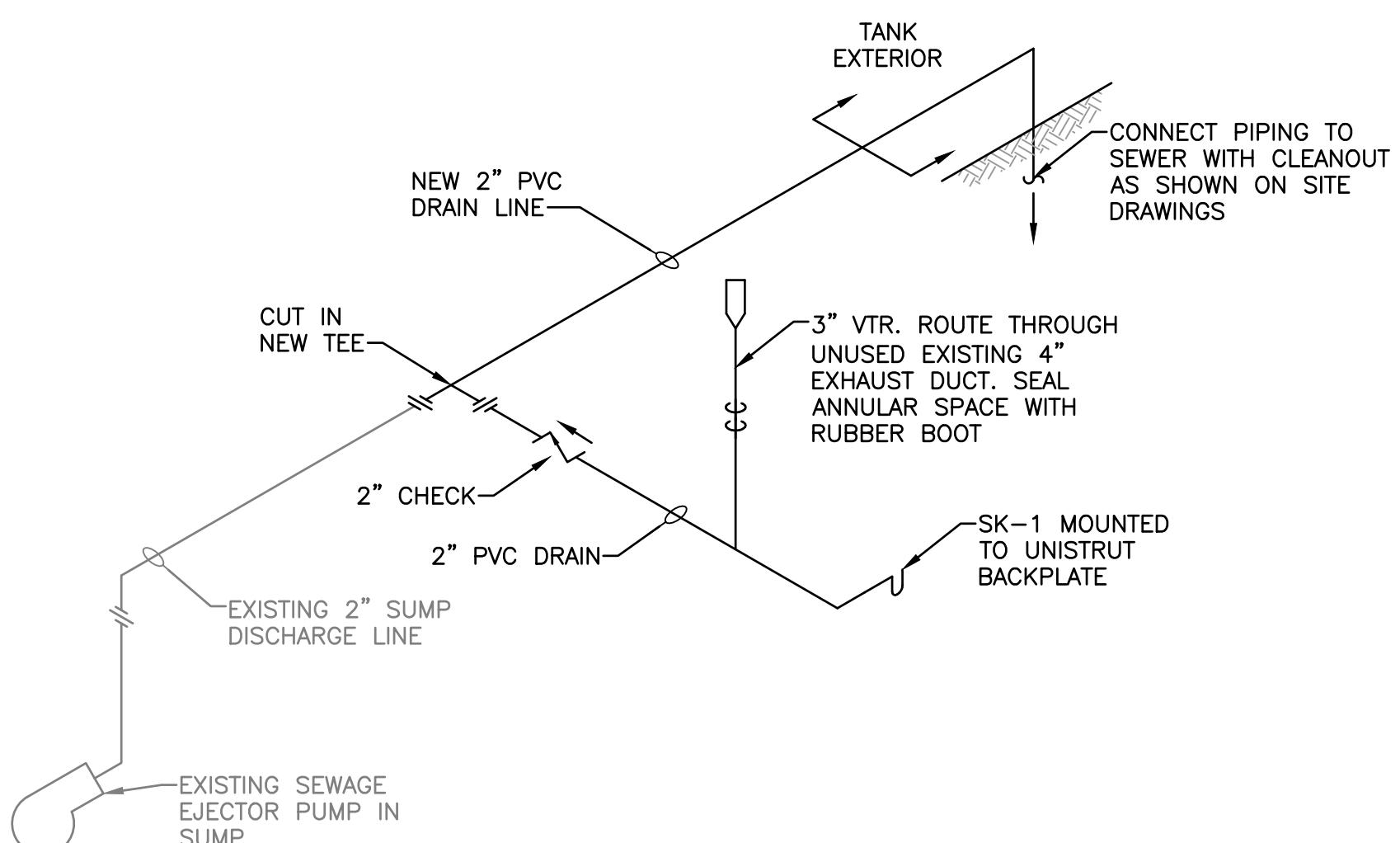
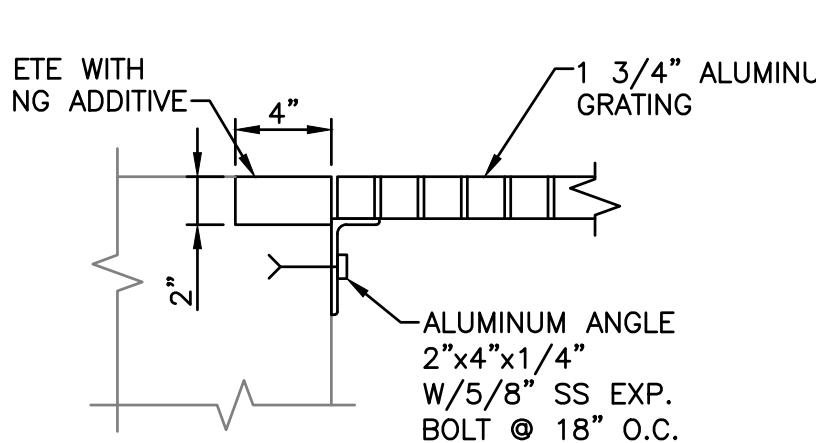
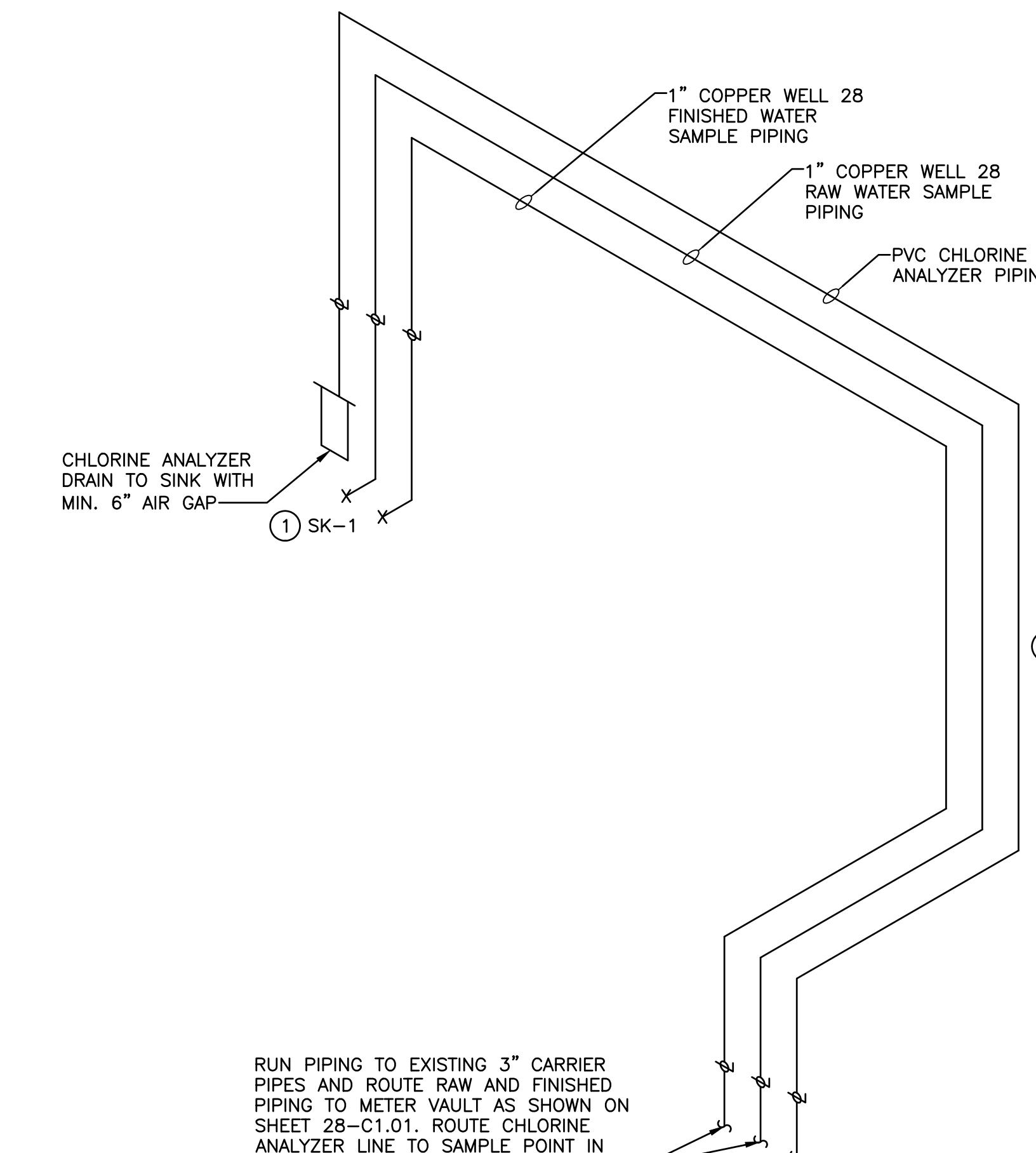


GENERAL NOTES:

1. VALVE PIT PIPING TO THE RISER VALVE WILL BE SURFACE PREPARED AND RELOCATED.
2. REMOUNT EQUIPMENT NOTED TO REMAIN ON UNISTRUTS WHERE THEIR PRIOR SUPPORT IS REMOVED.

KEY NOTES:

- ① SAMPLE LINES TO SAMPLE SINK TO BE ROUTED AS NECESSARY TO SUPPORT THE LINES.
- ② SAMPLE LINES TO REUSE EXISTING CARRIER PIPE. ONE CARRIER PIPE TO BE USED BY CHLORINE FEED LINE FROM CHLORINE BUILDING. ONE CARRIER LINE TO BE USED BY WELL 28 PRESSURE TRANSDUCER AND AIR LINES. ONE CARRIER PIPE TO BE USED BY WELL 28 POWER CABLE.
- ③ CUT PIPING IN VAULT TO ALLOW INSERTION OF METER AND FLANGED COUPLING ADAPTER. INSTALL METER, FCA AND SECURE WITH EBA MEGA-FLANGES.
- ④ REMOVE EXISTING CONTROL AND POWER CABLES FROM EXISTING CARRIER PIPE IN NET. INSTALL NEW POWER CABLE AND CONTROL CABLE TO VALVE VAULT.
- ⑤ MOUNT SERVICE SINK TO PACKING PLATE AND UNISTRUT AT ELEVATION SUFFICIENT TO CONNECT TO SUMP DRAIN LINE AS SHOWN IN DETAIL C. RUN RAW, FINISHED AND CHLORINE ANALYZER LINES TO SINK AS SHOWN IN DETAIL B.
- ⑥ MOUNT PUMPS ON CONCRETE EQUIPMENT PAD AS SHOWN IN DETAIL C.
- ⑦ RUN CARRIER GAS VACUUM AND CARRIER WATER PIPING TO CHLORINE BUILDING. SEE SHEET 28-P1.02 FOR SCHEMATICS OF CHLORINE GAS PIPING AND CARRIER WATER PIPING.
- ⑧ COORDINATE LOCATION OF SK-1 WITH OWNER.

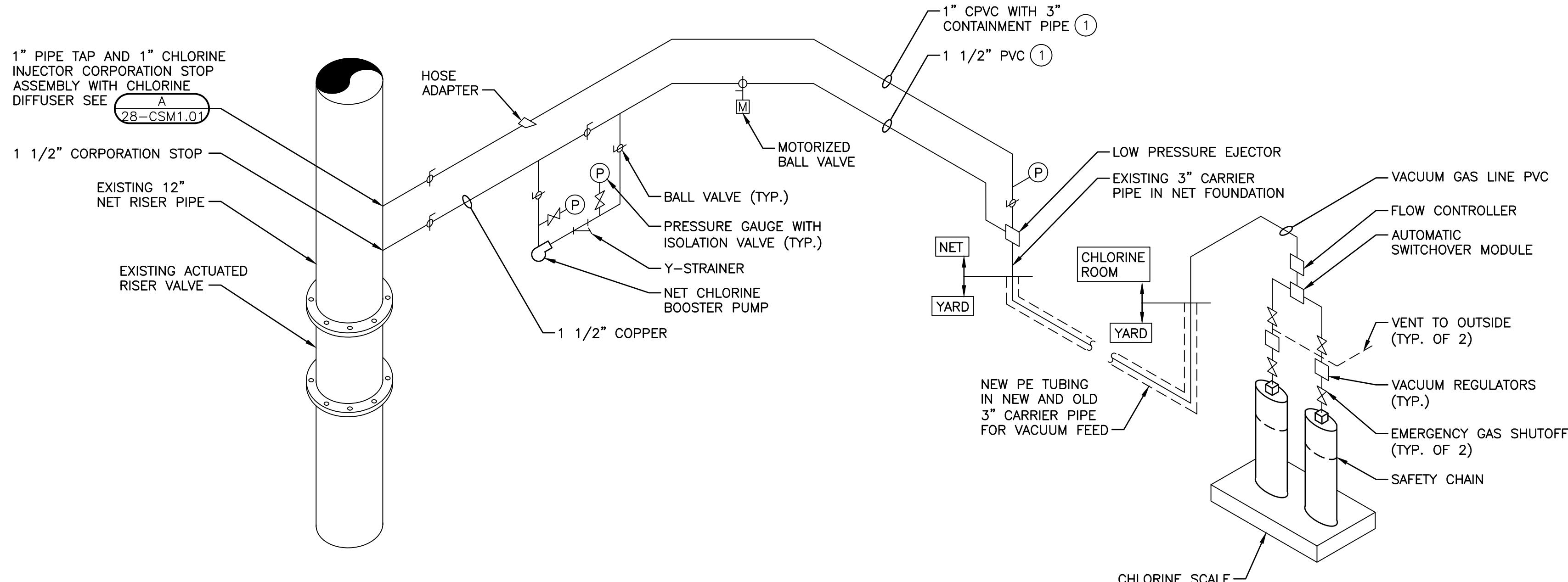


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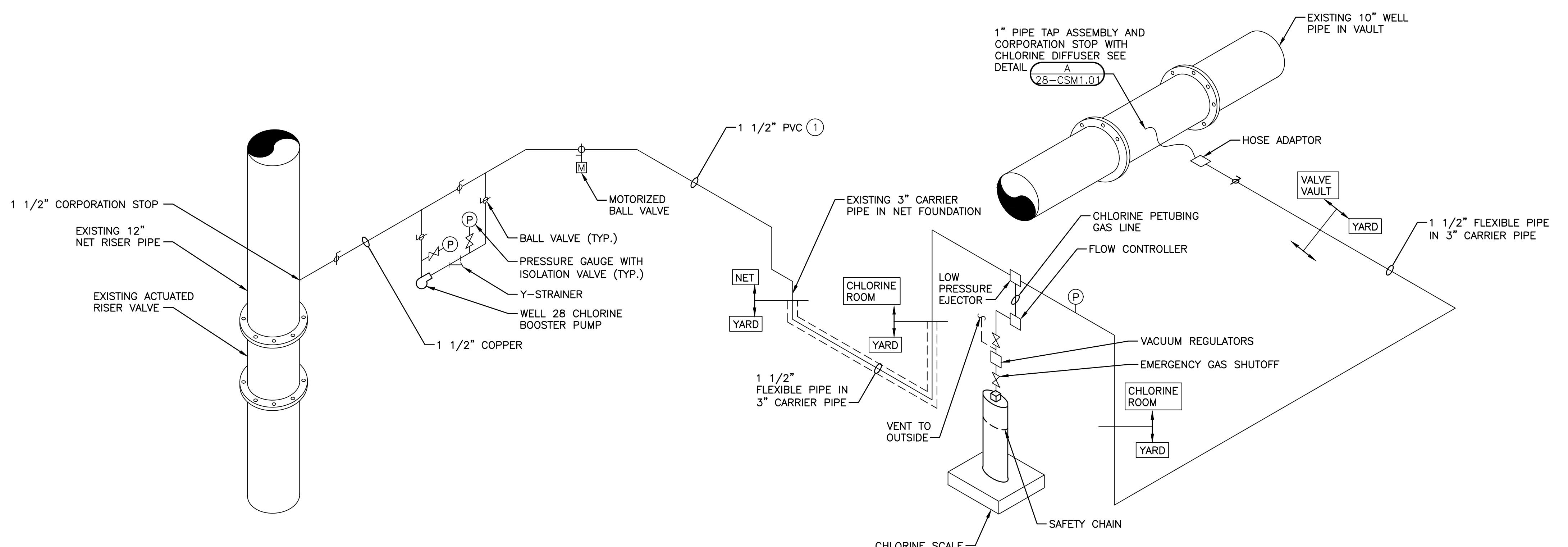
PROJECT MGR.
TIMOTHY SCHOLZ

STRAND ASSOCIATES®

SHEET 15
28-P1.01



NET CHLORINE SUPPLY SCHEMATIC
NO SCALE



WELL 28 CHLORINE SCHEMATIC
NO SCALE

KEY NOTES:

① RUN PIPING IN NEAT OVERHEAD LINES
SUPPORTED FROM EXISTING TANK BEAMS.

WELL NO. 28 AND NET CHLORINE SCHEMATICS

IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31
CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS

JOB NO.
1216.004
PROJECT MGR.

PROJECT MGR.
TIMOTHY SCHOLZ

The logo for SAI consists of the letters 'SAI' in a bold, black, sans-serif font. The 'S' is a stylized, rounded letter, and the 'A' and 'I' are more geometric and blocky.

MEDIUM-VOLTAGE MOTOR CONTROL CENTER SCHEDULE – WELL NO. 28

EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION			MOTOR STARTER INFORMATION			CONTROL & INTERLOCKS			REMARKS***	
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP/ KW	VOLTS	F.L.A. IN AMPS	RPM	SIZE	TYPE	FUSE TYPE	I IN AMPS	CONTROL DEVICE (SEE INFO)	CONDUIT AND WIRE** 1ST ROW=CONTROL* 2ND ROW=POWER	
	WELL NO. 28	PUMP	WELL NO. 28	–	450	2400	114	1770	200A	RVSS	R	200	H-0-A,R,R,G,4,ETM	–	3~1/0, 4°C. SEE NOTE A IN SPECIFICATION SECTION 26 09 00 – CONTROLS AND INSTRUMENTATION, PART 3. R=RVSS FAULT, R=MOTOR OVERLOAD/FAULT

POWER PANEL PP-1 (3)

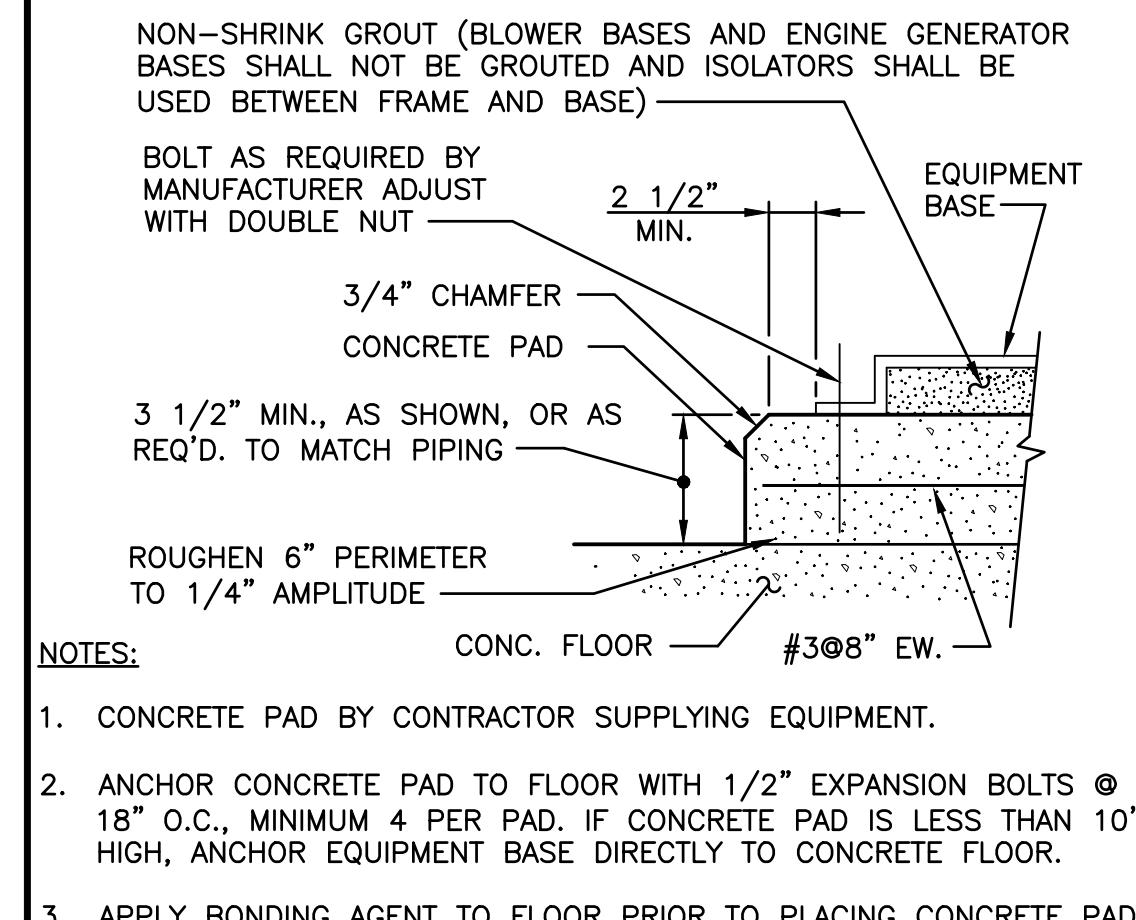
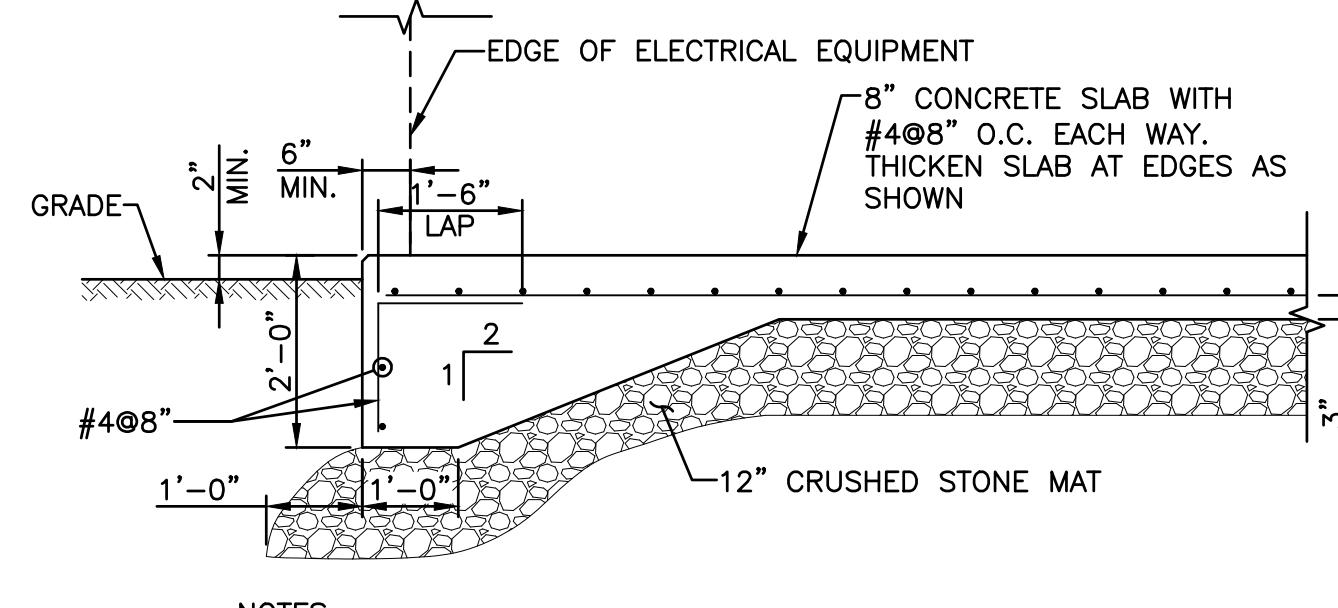
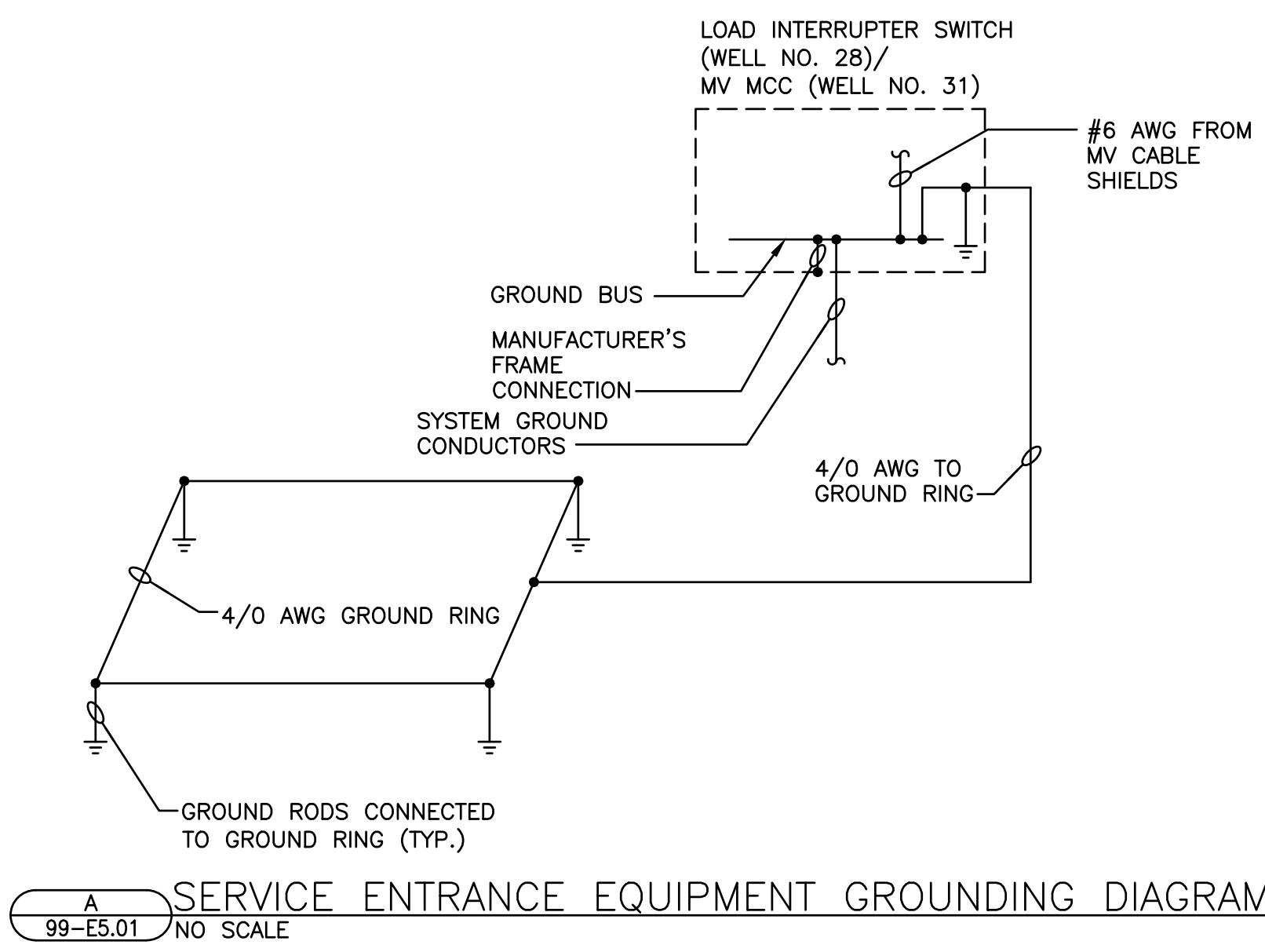
Service: 277/480V, 3Ø, 4W			Enclosure: NEMA 1			Mounting: Surface								
Main Breaker: 200/3 MCB						Main Bus: Copper								
Location: NET						SCIC: 65 KAIC								
Room Number/Description	Amps	Poles	Cct. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Cct. #	Poles	Amps	Room Number/Description	
EUH-1	20	3	1	3300	3300	3300	3300	3300	3300	2	3	20	EUH-2	
Riser Valve Actuator	15	3	9	120	120	0	0	0	0	4	3	20	Spare	
LP-1 XFMR	70	3	13	10144	11750	9590	0	0	0	14	3	30	Surge Protective Device	
Panel PP-1 Meter Enclosure	15	3	19	100	100	1100	1100	1100	1100	20	3	20	Scrubber Control Panel	
CWBP-28-01	15	3	21	1000	1000	1000	1000	1000	1000	22	3	15	CWBP-20-01	
			25							26				
			29							28				
Total Load per Phase per Side (VA)				14664	16270	14110	5400	5400	5400					
Total Load Phase A (VA)	20064	VA												
Total Load Phase B (VA)	21670	VA												
Total Load Phase C (VA)	19510	VA												
Total Connected Load (VA)	61244	VA												
Total Connected Load (A)	74	A												
Total Connected Load + 25%	92	A												
Spare 25%	23	A												
Feeder Load	115	A												

LIGHTING PANEL LP-1

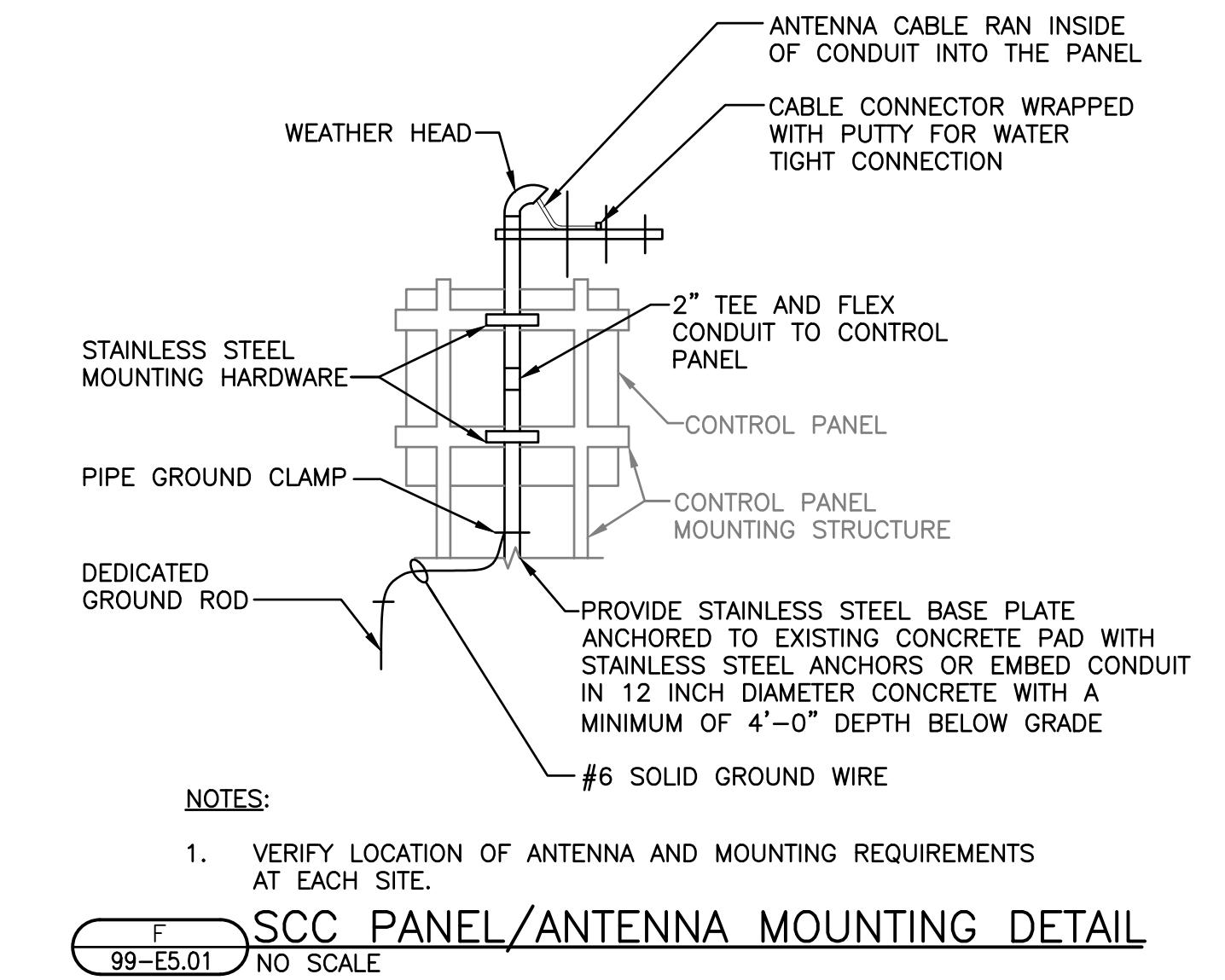
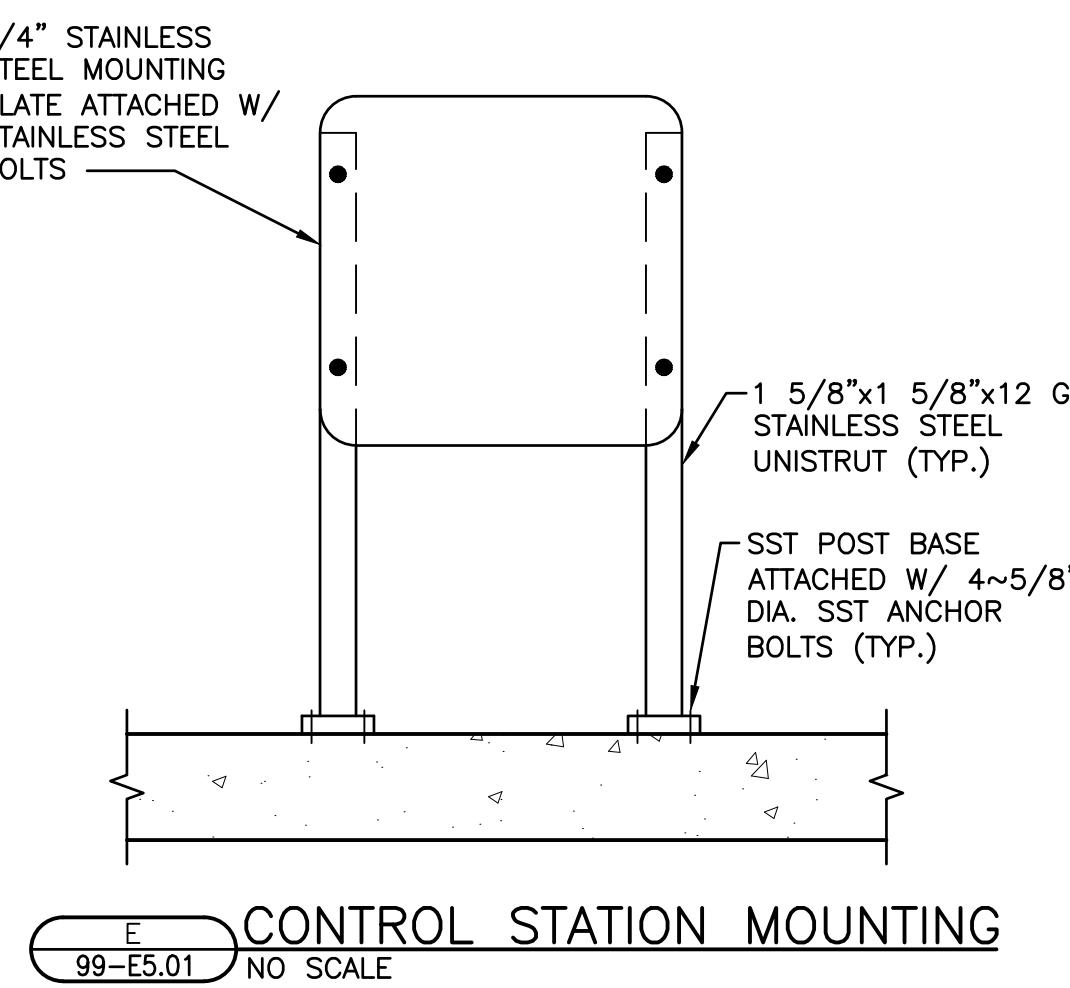
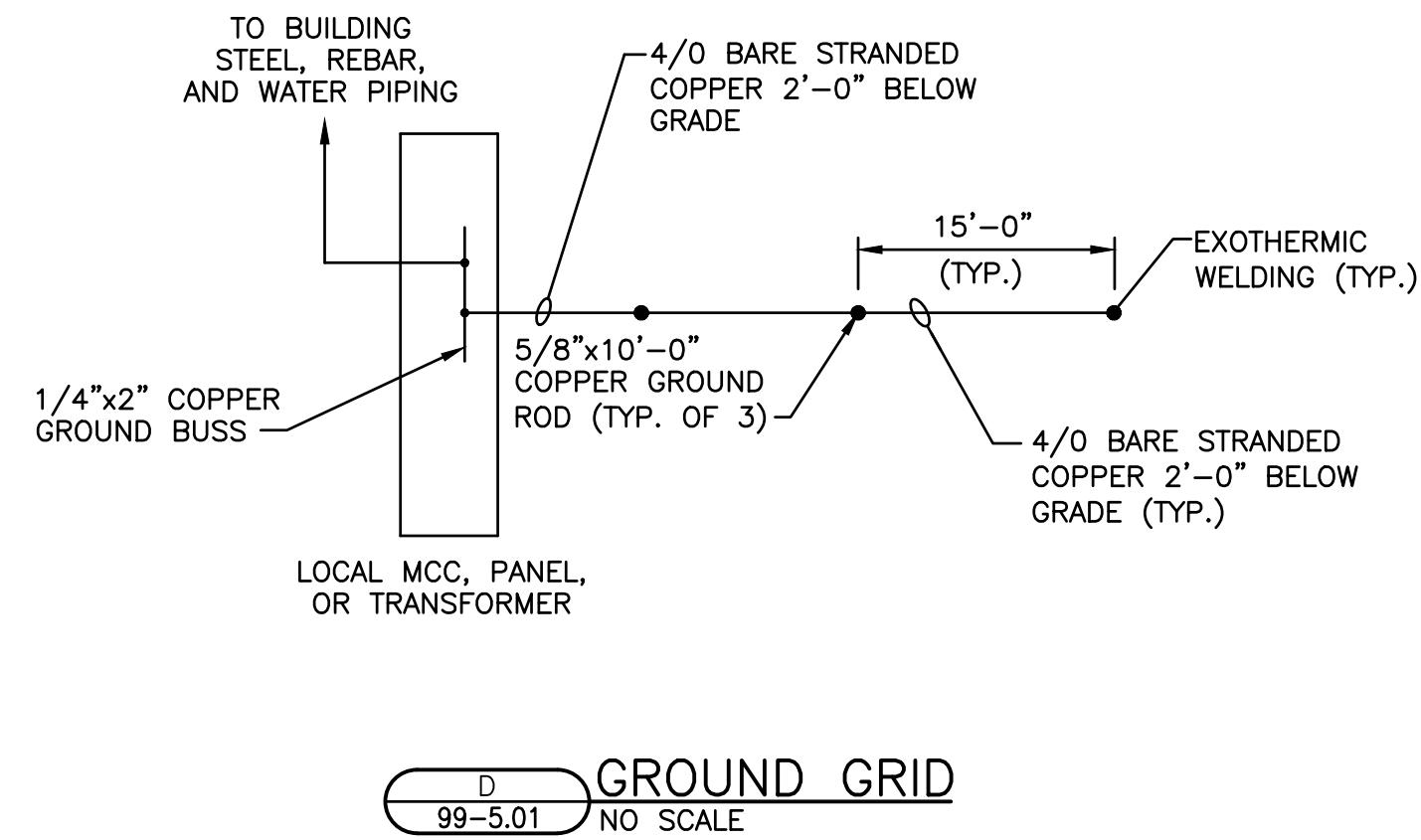
Service: 120/208V, 3Ø, 4W			Enclosure: NEMA 1			Mounting: Surface								
Main Breaker: 150/3 MCB						Main Bus: Copper								
Location: NET						SCIC: 10 KAIC								
Room Number/Description	Amps	Poles	Cct. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Cct. #	Poles	Amps	Room Number/Description	
Receptacles	20	1	1	540	260	200	2	1	20	2	1	20	Lights	
NET Sump Pump #1	20	1	3	900	400	400	4	1	20	4	1	20	Tower Lights	
City Network Rack	20	1	5	1000	300	300	6	1	20	6	1	20	North Elevated Storage SCADA Panel	
Cathodic Protection	20	1	7	450	700	700	8	1	20	8	1	20	Exterior Security Camera/Radio Pole	
Column Lights	20	1	9	800	900	900	10	1	20	10	1	20	NET Sump Pump #2	
Tank Agitator Panel *	20	1	11	1800	500	500	12	1	20	12	1	20	Riser Valve Auxiliary Controls	
LP-2	100	3	15	5882	0	0	14	1	20	14	1	20	Spare	
			17	5920	4280	4280	16	1	20	16	1	20	Spare	
FIT-20-01, AIT-20-02	20	1	19	400	0	0	20	1	20	20	1	20	Spare	
Spare	20	1	21	0	0	0	22	1	20	22	1	20	Spare	
Spare	20	1	23	0	0	0	24	1	20	24	1	20	Spare	
Spare	20	1	25	0	0	0	26	1	20	26	1	20	Spare	
Spare	20	1	27	0	0	0	28	1	20	28	1	20	Spare	
Spare	20	1	29	0	0	0	30	1	20	30	1	20	Spare	
Total Load per Phase per Side (VA)	7272	VA		7620	7080	960	1100	800						
Total Load Phase A (VA)	8232	VA												
* Provide GFI Breaker														
Total Connected Load (A)	69	A												
Total Connected Load + 25%	86	A												
Spare 25%	22	A												
Feeder Load	108	A												
Total Connected Load (VA)	24832	VA												
Total Connected Load (A)	69	A												
Total Connected Load + 25%	86	A												
Spare 25%	22	A												
Feeder Load	108	A												

LIGHTING PANEL LP-2 (3)

Service: 120/208V, 3Ø, 4W			Enclosure: NEMA 4X			Mounting: Surface								
Main Breaker: 100/3 MCB						Main Bus: Copper								
Location: Chlorine Building						SCIC: 10 KAIC								
Room Number/Description	Amps	Poles	Cct. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Cct. #	Poles	Amps	Room Number/Description	
Enclosure Receptacles	20	1	1	540	250	250	2	1	20	2	1	20	Enclosure and Exterior Lights	
Enclosure Receptacles	20	1	3	540	600	600	4	1	20	4	1	20	EF-30-01 and Intake Damper	
WIT-30-01, WIT-30-02, EVC-30-01, EVC-30-02														



NO.	ISSUED FOR BID	REVISIONS	DATE
1			2/19/20



ELECTRICAL DETAILS AND SCHEDULES
IMPROVEMENTS TO CITY WELLS NOS. 28 AND 31
CITY OF NAPERVILLE
NAPERVILLE, ILLINOIS

JOB NO.
1216.004

PROJECT MGR.
TIMOTHY SCHOLZ



SHEET
29
99-E5.01

Fixture Schedule					
Fixture Type	Manufacturer(s)	Model Number	Lamp Type	Mounting	Remarks
A	Metalex	4VT2-LD5-8-DR-UNV-L840-CD1-WL	58W LED	Surface	