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To: Prospective Bidders

From: Wold Architects and Engineers

Date: February 29, 2016

Comm. No: 133030

Subject: **Addendum No. 2** for Bidding Documents for the: **Scott County Sheriff Patrol Headquarters**

BIDS DUE MARCH 7, 2016 AT 1:00 P.M.

This addendum forms a part of the Contract Documents dated February 8, 2016. Acknowledge receipt of this Addendum on the space provided on the Bid Form. Failure to do so may result in disqualification of Bid.

This Addendum consists of three (3) typed sheets and the following attachments:
Project Manual: 00 41 13, 01 21 00, 03 41 00, 08 36 00, 23 21 44.33, 28 23 00, 28 31 11
Drawings: C1.03, C1.04, C1.05, C1.07, C1.08, A1.00, A1.11, A3.01, S1.11, P3.03, M3.05, E0.1, E1.0, E2.0, E4.0, E6.0, E7.1
Details: 31010, 31011, 31033, 31108

PRIOR APPROVALS

The following schedule amends designated specification sections to list additional acceptable manufacturers. Use of any product by any of these manufacturers will be permitted only if after review of shop drawings or detailed product data per Section 01 33 00, Architect determines that proposed materials or equipment are equivalent in performance, construction and appearance to product(s) specified.

Where anticipated product substitutions would alter the design or space requirements indicated on the Drawings, pay for cost of design and construction revisions including the cost of associated work by other contractors.

For complete requirements, see Specification Section 01 25 00 – Substitutions and Product Options.

Section No.	Item	Type	Acceptable Manufacturer
22 40 00	2.01.A.4	Faucets	T&S Brass
23 09 50	2.01.A	Variable Frequency Drives	Emerson
23 21 13	2.06.B.1	Balancing Valves	Pro Hydronic Specialties
23 21 13	2.07.A	Tangential Air Separators	Patterson Pump; Wheatley
23 21 13	2.07.A	Diaphragm Expansion Tanks	Patterson Pump; Wheatley
23 21 13	2.07.A	Buffer Tanks	Wheeler Manufacturing
23 21 23	2.01.A.1	Inline Pumps	Patterson Pump
23 21 23	2.01.A.2	Base-Mounted Pumps	Patterson Pump
23 34 16	2.01.A	Centrifugal Roof Ventilators	Jenco Fans
23 37 13	2.01.A	Diffusers, Registers, and Grilles	Raymon Donco

23 37 23	2.04.A	Roof Hoods	Pennbarry
23 52 16	2.01.A	Boilers	Camus
23 81 26	2.01.A	Split-System A/C	LG
23 84 13	2.01.A	Humidifiers	Neptronic

PROJECT MANUAL

1. SECTION 00 41 13 – BID FORM
   A. Reissued this Addendum.
2. SECTION 01 23 00 – ALTERNATES
   A. Reissued this Addendum.
3. SECTION 03 41 00 – PRECAST STRUCTURAL CONCRETE
   A. Reissued this Addendum.
4. SECTION 08 36 00 SECTIONAL METAL OVERHEAD DOORS
   A. Reissued this Addendum.
5. SECTION 23 21 14.33 – GROUND HEAT EXCHANGER FLUSHING, TESTING, AND FILLING
   A. Reissued this Addendum.
6. SECTION 28 23 00 – VIDEO SURVEILLANCE
   A. Issued this Addendum.
7. SECTION 28 31 11 – DIGITAL ADDRESSABLE FIRE ALARM SYSTEM
   A. Reissued this Addendum.

DRAWINGS

1. SHEET C1.03 – SITE PLAN
   A. Reissued this Addendum
2. SHEET C1.04 – SITE PLAN DETAILS AND NOTES
   A. Reissued this Addendum
3. SHEET C1.05 – SITE PLAN DETAILS
   A. Reissued this Addendum
4. SHEET C1.07 – GRADING AND EROSION CONTROL PLAN, DETAILS, AND NOTES
   A. Reissued this Addendum
5. SHEET C1.08 – UTILITY PLAN
   A. Reissued this Addendum
6. SHEET A1.00 – CODE PLAN
   A. Reissued this Addendum
7. SHEET A1.11 – MAIN LEVEL FLOOR PLAN
   A. Reissued this Addendum
8. SHEET A3.01 – ENLARGED TOILET PLANS / INTERIOR ELEVATIONS
   A. Reissued this Addendum.
9. SHEET S1.11 – FOUNDATION PLAN
   A. Reissued this Addendum.
10. SHEET P3.03 – PLUMBING DETAILS AND SCHEDULES
    A. Reissued this Addendum.
11. SHEET M3.05 – MECHANICAL SCHEDULES
    A. Reissued this Addendum
12. SHEET E0.1 – ELECTRICAL SITE PLAN
    A. Reissued this Addendum
9. SHEET E1.0 – MAIN LEVEL LIGHTING PLAN
   A. Reissued this Addendum.

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10. SHEET E2.0 – MAIN LEVEL POWER PLAN
    A. Reissued this Addendum.
11. SHEET E4.0 – MAIN LEVEL SAFETY AND SECURITY PLAN
    A. Reissued this Addendum.
12. SHEET E6.0 – RISER DIAGRAM
    A. Reissued this Addendum.
13. SHEET E7.1 – ELECTRICAL SCHEDULES
    A. Reissued this Addendum.

DETAILS

1. DETAIL OF CONSTRUCTION 31010
   A. Detail reissued this Addendum.
2. DETAIL OF CONSTRUCTION 31011
   A. Detail reissued this Addendum.
3. DETAIL OF CONSTRUCTION 31033
   A. Detail reissued this Addendum.
4. DETAIL OF CONSTRUCTION 31108
   A. Detail reissued this Addendum.

END OF ADDENDUM #2

SECTION 00 41 13

BID FORM

BID PROPOSAL FOR: SCOTT COUNTY SHERIFF
PATROL HEADQUARTERS
3206 SOUTH 16TH STREET
ELDRIDGE, IOWA 52748

BID TO: Scott County
Administrative Center Reception Desk, 6th Floor
600 West Fourth Street
Davenport, Iowa 52801-1030

BID FROM: _____

We have examined the Contract Documents for the proposed Scott County Sheriff Patrol Headquarters Project as prepared by Wold Architects and Engineers, Palatine, Illinois, and the conditions affecting the work.

In accordance therewith the undersigned proposes to furnish all labor and materials for Construction as set forth in the Contract Documents, including Addenda Nos. _____ issued thereto.

1. Accompanying this proposal is a Bid Security for all work, required to be furnished by Contract Documents, the same being subject to forfeiture in the event of default by the undersigned.

2. I agree to complete the Project, provided a contract is executed within 30 calendar days, by April 28, 2017.

3. I understand the Owner reserves the right to reject any or all bids, and it is agreed that this bid may not be withdrawn for a period of forty-five (45) days from the opening thereof.

A. Base Bid

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars $ _____

B. Alternates

1. The Bidder agrees to add to or deduct from the Base Bid Sum the following amounts to perform the alternate work described in Section 01 23 00, including all associated costs.

a. Alternate No. 1 ADDED CONCRETE PAD

Add/Deduct _____ Dollars $ _____

b. Alternate No. 2 LVT INSTALLATION AT CORRIDORS

Add/Deduct _____ Dollars $ _____

c. Alternate No. 3 ADDITIONAL FIBER RUN

Add/Deduct _____ Dollars $ _____

d. Alternate No. 4 PROVIDE ALTERNATE FIRE ALARM MANUFACTURER(S)

Add/Deduct _____ ***Dollars $*** _____

Alternate Manufacturer Name _____

C. Unit Prices (CHANGE IN SCOPE OF WORK)

1. Over Excavation $_____ cu. yd.
2. Granular Fill $_____ cu. yd.
3. Soils Amendment $_____ sq. yd.

DATE _____

FIRM NAME _____

OFFICIAL ADDRESS _____

_____

TELEPHONE NUMBER ____(_____)_____

FAX NUMBER ____(_____)_____

BY _____

TITLE _____

END OF SECTION 00 41 13

SECTION 01 23 00

ALTERNATES

PART 1: GENERAL

1.01 DESCRIPTION

A. This Section describes the limits of the requested alternates to the Contract work. Refer to the Product/Execution Articles of the appropriate Specifications and the Drawings for information pertaining to the work of each alternate.

B. Each proposal under an alternate shall include all incidental work and all adjustments necessary to accommodate the changes. All work shall meet the requirements of the Drawings, Specifications and appropriate details.

C. Submit each alternate proposal as an individual cost for the particular alternate and shall be proposed under the premise that no other alternates have been accepted. Should the work of an alternate called for by the Bid Form not affect the cost of the work, state "No Change" in the space provided. If an alternate is left blank, the Owner reserves the right to throw out the entire bid or interpret the alternate as "No Change".

D. Include taxes which are applicable to work involved in alternates as well as costs, if any, for increased coverage of bonds and insurance.

E. Any of the alternates may be accepted by Owner and will be used in determining the low bidder.

F. Owner may, at his option, vary the scope of the work by authorizing alternates which will add to the work, deduct from the work or substitute materials, equipment or methods.

G. Each Bidder shall examine the Drawings and Specifications to determine the extent to which his work is affected by bid alternates. Include in the space provided on the bid form the cost of any added or deducted work resulting from each alternate.

H. Contractor is responsible for providing work if applicable to each alternate, whether or not an added or deducted cost is included on his bid form.

PART 2: EXECUTION

2.01 IMPLEMENTATION

A. If the Owner elects to proceed on the basis of one or more of the alternates, make all modifications to the Work required in the furnishing and installation of the selected alternate or alternates subject to the approval of the Architect at no additional cost to the Owner except as proposed in the Bid.

B. Coordinate pertinent related work and modify surrounding work as required to properly integrate the work under each alternate, and to provide the complete construction required by Contract Documents.

C. If so stated in the Agreement, or modifications thereto, provide alternate materials, equipment and/or construction as specified.

2.02 ALTERNATES

A. Alternate No. 1 Additional Concrete Pad

1. Provide cost to provide an additional concrete pad as shown on the Drawings.

B. Alternate No. 2 Provide LVT at main corridors

1. Provide cost to install LVT at main building corridors as shown on the Drawings.

C. Alternate No. 3 Additional Fiber Run

1. Provide cost to install Fiber from handhole, at South 16th Street and BlackHawk Trail Road, west to the exiting Secondary Roads Facility as shown on Drawings.

D. Alternate No. 4 Provide Alternate Fire Alarm Manufacturer(s).

1. Provide cost for providing alternate fire alarm manufacturers as outlined in Electrical Specifications Section 28 31 11. List name of alternate manufacturer on bid form.

END OF SECTION 01 23 00

SECTION 03 4100

PRECAST STRUCTURAL CONCRETE

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, Details of Construction, and General Provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Spandrels.

B. Wall panels

C. Grout packing.

1.03 RELATED SECTIONS

A. Section 01 4533 - Structural Testing And Special Inspection

B. Section 03 2100 - Concrete Reinforcement

C. Section 03 3000 - Cast-in-Place Concrete

1.04 REFERENCE STANDARDS

A. ACI 301-10 - Specifications for Structural Concrete for Buildings; 2010

B. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2008.

C. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.

D. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.

E. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength; 2002

F. ASTM A 416/A 416M - Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete; 2006.

G. ASTM A496 - Steel Welded Wire Reinforcement, Deformed, for Concrete; 2002

H. ASTM A 497/A 497M - Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete; 2007.

I. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2007.

J. ASTM B633 - Electrodeposited Coatings of Zinc on Iron and Steel; 1998el

K. ASTM B766 - Electrodeposited Coatings of Cadmium; 2003

L. ASTM C 150 - Standard Specification for Portland Cement; 2007.

M. ASTM C881 - Epoxy-Resin-Base Bonding Systems for Concrete; 2002

N. ASTM F1554 - Anchor Bolts, Steel 36, 55, and 105-ksi Yield Strength; 1999

O. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2008.

P. AWS D1.4/D1.4M - Structural Welding Code - Reinforcing Steel; American Welding Society; 2005.

Q. PCI MNL-116 - Manual for Quality Control for Plants and Production of Structural Precast Concrete Products; Precast/Prestressed Concrete Institute; 1999, Fourth Edition.

R. PCI MNL-120 - PCI Design Handbook - Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute;

Sixth Edition, 2004.

S. PCI MNL-123 - Design and Typical Details of Connections for Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute; 1988, Second Edition.

T. PCI MNL-135 - Tolerance Manual for Precast and Prestressed Concrete Construction; Precast/Prestressed Concrete Institute; 2000.

U. International Building Code (IBC) - 2009

1.05 DESIGN REQUIREMENTS

A. Conform to ACI 318 and MSBC for design load and construction requirements applicable to work of this section.

B. Design components to withstand dead loads and design loads in the configuration indicated on the drawings and as follows:

1. Maximum Allowable Wind Load Deflection of Wall Assemblies: 1/240 span.

2. Calculate structural properties of framing members in accordance with ACI 318.

C. Design system to accommodate construction tolerances, deflection of other building structural members and clearances of intended openings.

1.06 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a pre-installation conference one week prior to commencing work of this section.

1. Instruct others when field cutting is required for openings that are 8 inches and smaller.

2. Discuss limitations, if any, on field cutting of openings.

B. Design loadings shall include initial handling and erection conditions and all dead, wind, and live loads specified on the contract documents including partition weights given on the Drawings. Precast supplier shall review architectural and structural drawings to verify adequacy of precast members supporting partitions and other non-structural elements near openings, at edges, etc.

C. Design deviations will be permitted only with written approval of the Engineer. Any proposed deviations must include complete design calculations and drawings.

1.07 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings

1. Erection drawings: Include member piece marks with size and shape of each member; plans/elevations showing all products furnished by supplier; sections/details showing connections and cast in items; joints and openings between members and structure; description of all loose cast-in field hardware; locations of field installed anchors, fire ratings of all members; and all dead, live and other applicable design loads.

2. Include anticipated camber and deflection of precast members where camber or deflection exceeds L/360 or 1/2", and where camber and deflection vary more than 1/4" between adjacent units.

3. Production drawings on request. Include elevation view of each member, sections/details to show quantity and position of reinforcing, anchors, and inserts, handling devices, dimensions and finished, strand prestress, concrete strength, and estimated camber.

C. Calculations

1. Submit calculations for wall panels, spandrels, and connections.

2. Review of calculations shall be for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Contractor remains responsible for correctness and completeness of submitted calculations.

3. Calculations to be certified by a professional engineer licensed in the State in which the Project is located.

D. Submit sufficient evidence to the Structural Engineer, on request, that all persons performing shop and field welding are currently certified by AWS for the procedures they are performing.

E. Precast plant certification on request.

1.09 QUALITY ASSURANCE

A. Designer Qualifications: Design precast concrete members under direct supervision of a Professional Structural Engineer experienced in design of precast concrete and licensed in the State in which the Project is located.

B. The precast concrete manufacturing plant shall be certified by the Precast/Prestressed Concrete Institute, Plant Certification Program, in categories ***C1A*** ~~C3A and C4A~~, at the time of bidding.

C. Perform work of this section in accordance with requirements of PCI MNL-116, PCI MNL-120, PCI MNL-123, and PCI MNL-135.

D. Fabricator Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of experience.

E. Erector Qualifications: Company specializing in erecting products of this section with minimum 5 years of experience.

F. Welder Qualifications: Qualified within previous 12 months in accordance with AWS D1.1 and AWS D1.4.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Handle precast members in position consistent with their shape and design. Lift and support only from support points.

B. Lifting or Handling Devices: Capable of supporting member in positions anticipated during manufacture, storage, transportation, and erection.

C. Protect members to prevent staining, chipping, or spalling of concrete.

D. Mark each member with date of production and final position in structure.

E. Storage:

1. Store all units off ground. Place stored units so the identification marks are discernible.

2. Separate stacked members by battens across full width of each bearing points.

3. Stack so that lifting devices are accessible and undamaged. Do not use upper member of stacked tier as storage area for shorter member or heavy equipment.

1.11 PROJECT CONDITIONS

A. Coordinate the work of framing components not pre-tensioned but associated with the work of this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. Cement: Gray portland type, conforming to ASTM C 150, Type I.

B. Aggregate, Sand, Water, Admixtures: Determined by precast fabricator as appropriate to design requirements and PCI MNL-116.

C. Fly ash: ASTM C618, type C or F. Use only on precast members not exposed to view with Architect/Engineer's approval.

2.02 REINFORCEMENT

A. Tensioning Steel Tendons: ASTM A 416/A 416M, Grade 250 (1725); seven-wire stranded steel cable; low-relaxation type; full length without splices; uncoated.

B. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).

1. Deformed billet-steel bars.

C. Steel Welded Wire Reinforcement: ASTM A 185/A 185M plain type or ASTM A 497/A 497M deformed type; in flat sheets; unfinished.

2.03 ACCESSORIES

A. Connecting and Supporting Devices: Plates, angles, items cast into concrete, and inserts conforming to PCI MNL-123, and as follows:

1. Structural Steel Material: Carbon steel conforming to ASTM A 36/A 36M, or ASTM A500 Grade B..
2. Anchor Bolts: ASTM F1554
3. Bolts, Nuts and Washers: High strength steel type recommended for structural steel joints.
4. Welded headed studs: AWS D1.1-Type B
5. Deformed bar anchors: ASTM ASTM A496
6. Welding electrodes: E70XX
7. Interior Finish: Prime painted, except where device surfaces will be in contact with concrete or will require field welding.

B. Grout:

1. Non-shrink, non-metallic, minimum compressive strength of 10,000 psi at 28 days.
2. Epoxy-Resin Grout: Two components mineral-filled epoxy-resin: ASTM C881.

C. Bearing Pads

1. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. Surface hardness of 70 to 90 Shore A durometer. Capable of supporting a compressive stress of 3000 psi (20.7 MPa) with no cracking, splitting or delaminating in the internal portions of the pad. Masticord: JVI (www.jvi-inc.com) or approved equal.
2. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, 50 to 70 Shore A durometer per ASTM D 2240, minimum tensile strength 2250 psi per ASTM D 412..

D. Insulation: Manufacturer's standard extruded polystyrene to achieve a wall R-value of 15 or greater – R-Value of 5 per inch minimum ***for 3 inches of insulation in wall panel (see Detail of Construction 31019).***

E. Wydth Connectors: Delta Ties by Dayton Superior.

E. Prime Paint: Zinc rich alkyd type.

2.04 FABRICATION

A. Conform to fabrication procedures specified in PCI MNL-116.

B. Maintain plant records and quality control program during production of precast members. Make records available upon request.

C. Ensure reinforcing steel, strands, anchors, inserts, plates, angles, and other cast-in items are embedded and located as indicated on Drawings. Keep strands or wires clean of substances harmful to bonding of strand to concrete.

D. Tension reinforcement tendons as required to achieve design load criteria.

E. Provide required openings with a dimension larger than 8 inches and embed accessories provided under other sections of the specifications, at indicated locations.

F. Exposed Ends at Stressing Tendons: Fill recess with non-shrink grout, trowel flush.

G. Provide AWS certified welders for all shop welding.

H. Wall Panels:

1. Exterior: Provide reveal recesses and joints as shown on the Drawings. See Drawings for color and texture.

2. When openings in precast panels are shown on drawings, provide color and finish throughout depth of panel at all sides of opening as indicated.

3. Coordinate electrical device location rough-in with Electrical Contractor.

I. Panel Identification:

1. Mark each precast panel to correspond to identification mark on shop drawings for panel location.

2. Mark each precast panel with date cast.

2.05 FINISHES

A. Ensure exposed-to-view finish surfaces of precast concrete members are uniform in color and appearance.

B. Cure members under identical conditions to develop required concrete quality, and minimize appearance blemishes such as non-uniformity, staining, or surface cracking.

C. Finish members to PCI MNL-116 Standard grade.

E. Exposed-to-View Finish at interior of Garage: Grade A finish – Surface holes or bubbles over 1/4 inch filled with matching cementitious paste, fins or protrusions removed and surface ground smooth.

F. Power Trowel Finish: Smooth steel-trowel finish unformaed surfaces. Consolidate concrete, bring to proper level with straightedge, float and trowel to a smooth, uniform finish. Surface to be painted or have tile installed – see Room Finish Schedule for finishes.

2.06 FABRICATION TOLERANCES

A. Conform to fabrication tolerances specified in PCI MNL-135.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that site conditions are ready to receive work and field measurements are as shown on Drawings.

B. Verify that supporting structure is ready to receive work, including all bearing surfaces, location and alignment of inserts and anchorage items cast in the structure.

C. Notify the General Contractor in writing of required corrections, if unsatisfactory conditions or deficiencies are observed. Do not begin work until corrections are made

3.02 ERECTION

A. Erect members without damage to structural capacity, shape, or finish. Replace or repair damaged members.

B. Align and maintain uniform horizontal and vertical joints, as erection progresses.

C. Maintain temporary bracing in place until final support is provided. Protect members from staining.

D. Provide temporary lateral support to prevent bowing, twisting, or warping of members.

E. Adjust differential camber between precast members to tolerance before final attachment.

F. Install bearing pads.

G. Level differential elevation of adjoining horizontal members with grout to maximum slope of 1:12.

H. Set vertical units dry, without grout, attaining joint dimension with lead or plastic spacers.

I. Secure units in place. Perform welding in accordance with AWS D1.1.

J. Cooperate with other trades in permitting insertion of anchors, hangers, electrical outlets, etc.

K. Remove erection devices or cut off flush with the surface of the member.

3.03 TOLERANCES

A. Erect members level and plumb within allowable tolerances.

B. Conform to PCI MNL-135 for erection tolerances.

C. When members cannot be adjusted to conform to design or tolerance criteria, cease work and advise Architect. Execute modifications as directed.

3.04 FIELD OPENINGS AND ANCHORS BY OTHER TRADES

A. Field cut openings smaller than 8" in all directions using power saws or core drills. Receive written approval of opening locations by the precast prestressed manufacturer and Architect before cutting. Repair all unsightly spalls or chips caused by cutting.

B. Receive approval of type and location of field installed fasteners from precast prestressed manufacturer and Architect. Anchors shall not contact prestressing steel.

3.05 FIELD QUALITY CONTROL

A. Structural Testing and Special Inspection

1. Comply with the requirements of Section 05 1200 - Structural metal Framing.
2. The Owner will employ a Special Inspector for the following:
    a. Visually inspect welds connecting embeds to structural steel supporting members.
    b. Visually inspect welds at all connections between precast members.

3.06 PROTECTION

A. Protect members from damage caused by field welding or erection operations.

3.07 CLEANING

A. Clean weld marks, dirt, or blemishes from surface of exposed members.

B. Clean and prime exposed steel and welds immediately after erection.

END OF SECTION

SECTION 08 36 00

SECTIONAL METAL OVERHEAD DOORS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

A. Section includes:

1. Furnishing and installing sectional metal overhead doors.

2. Coordination with Parking Gate Operators for proper operations sequencing and operation as described in Part 3 of these specifications.

3. Provide remote control operators for overhead power door operator.

B. Related work in other sections:

1. Doorframes - Section 05 50 00.

2. Slide Gate Operators – Section 11 12 33.

3. Electrical wiring - Division 26.

1.03 SUBMITTALS

A. Submit in accordance with Section 01 33 00.

1. Shop Drawings: Submit fabrication and erection drawings. Show field verified dimensions, components, details and connections to other construction.

2. Wiring Diagrams: Submit wiring diagrams for operators and controls, for coordination with Division 26.

3. Field verify existing or coordinate with proposed electrical feeder voltage/phase and adjust submittal so motors are compatible.

1.04 QUALITY ASSURANCE

A. Installer shall be an authorized representative of the manufacturer with a minimum of five (5) years of experience installing products by the manufacturer.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Package, handle, deliver and store at the job site in a manner that will avoid damage or deformation.

1.06 WARRANTY

A. The overhead door manufacturer shall warrant the overhead doors and operators to be free of defective materials and workmanship for a minimum period of one year from the date of Substantial Completion.

B. In addition, the installed doors shall be warranted against rust penetration of the undamaged paint finish for a minimum period of two years from the date of Substantial Completion.

A. Submit per Section 01 78 23.

PART 2: PRODUCTS

2.01 MANUFACTURER

A. General:

1. Size doors as indicated on Drawings, allowing for proper fit and clearances at adjacent work. Field verify/coordinate as required.

2. Minimum R-value of 17.4, with maximum air infiltration rate of .08 cfm at 15 mph.

3. All components for each door are to be the product of one of the acceptable manufacturers, or items purchased by and approved by the manufacturer, except as noted otherwise.

4. Finish: Two-coat baked-on polyester

5. Color: Manufacturer's standard "taupe" or "tan" finish on exterior of door.

B. Acceptable Manufacturers/Products:Contractor shall select from the following acceptable manufacturers/products:

Manufacturer	Product
Overhead Door	Thermacore 596 Sectional Door
Wayne-Dalton	Thermospan 200 Sectional Door
Raynor	Thermaseal TM 200 Sectional Door

2.02 FABRICATION

A. Door Construction

1. Door panel sections: 26 gauge (minimum) hot-dipped galvanized embossed steel face sheets of interior and exterior faces permanently laminated to a 2" thick, high density polyurethane foam core. Section edges shall be formed to provide a non-conductive thermal break between the inside and outside faces and provide an interlocking ship-lap profile to a weathertight seal with the adjacent panel.

2. End Caps: 16 gauge, hot-dipped galvanized and sufficiently wide to accommodate double-end roller flanges. Door panel section ends are to be sealed with waterproof mastic before applying. Provide steel reinforcing plates for all intermediate hinge and hardware attachment points.

4. Gasketing (between panels): Compressible bulb-type gasketing at meeting point between panels.

5. Windload Design: Door and hardware to be designed to withstand a minimum wind loading of 20 PSF. Provide U-channel or truss-type struts as necessary to eliminate bowing or sagging.

C. Door Hardware

1. General: All hinges and other door fixtures, including tracks, are to be hot-dipped galvanized.

2. Spring Counterbalance: Overhead doors to have 100,000 cycle, oil tempered, helical wound torsion type spring counterbalance on a solid steel shaft complete with bearing assemblies. Provide blocking inside spring to keep from sagging if necessary. Cable drum is to be of die-cast aluminum with high-strength aircraft cable with a minimum 5 to 1 safety factor.

3. Tracks and Rollers:

   a. Provide 3" high-lift type track assembly with heavy-duty double-end roller hinges. 3" rollers shall have continuous steel rims with hardened ball bearings in case hardened inner and outer races with long stems.
   b. Horizontal sections of track shall be reinforced with continuous angle of adequate length and gauge to minimize deflection.

3. Chain Hoist: Overhead doors shall have a chain hoist for auxiliary manual operations..

C. Vision Lights:

1. Provide 24" x 12" rigid-frame vision lights within overhead door panels at locations as shown on Drawings.

2. Glazing to be ½" heat-tempered glass.

D. Weatherstripping:

1. General: Entire perimeter of overhead door is to be provided with weatherstripping by the manufacturer. All materials shall be designed for heavy-duty, low temperature, and high abrasion applications and be of PVC, EPDM, or coated neoprene.

2. Jamb and Head Seals: Flap type seal.

3. Bottom Seal: Compressible bulb-type strip.

E. Power Operators:

1. Heavy Industrial-Duty Gear Reduced Operators: LiftMaster GH Heavy Industrial Gear Reduced Operator, continuous-duty, high-starting torque motor with overhead protection and emergency chain hoist with electric interlock.

2. Electric Operator: Industrial-duty assembly, UL listed and labeled, with electric motor and factory-prewired motor controls, wormgear reduction unit, electric solenoid-actuated brake, manually operated chain hoist, 3-button open/close/stop control station, conduit-encased wiring from control circuit to motor, and accessories required for proper operation; operator shall be capable of driving door at a speed of approximately 8 to 9 inches (203 to 229 mm) per second..

3. Primary Speed Reduction Device: Wormgear-in-oil-bath reducer with synthetic "All Climate" oil with 43:1 to 45:1 speed reduction; permanently lubricated ball bearings on output shaft and output and door driven sprockets.

4. Brake: Electric solenoid-actuated brake capable of stopping and holding a door at any position.

5. Limit Switches: Fully adjustable, linear-driven limit mechanism synchronizing operator with door; low-friction nylon limit nuts fitted on threaded steel shaft that rotates on oil-tight self-lubricating bronze bushings; motor shall be removable without affecting limit switch settings.

6. Electric Motor: 460V 60 Hz, 3-phase, 1 HP, High-starting torque, continuous-duty, industrial-type motor protected against overload by current sensing and thermal overload devices. For 3-phase applications, incoming voltage field-selectable between 208V, 230V, and 460V, 60 Hz by properly positioning connector.

7. Motor Control and Enclosure: LiftMaster Logic 5.0 motor control shall be UL approved microprocessor solid-state type and shall include the capability to select one of the 7 wiring types: additional features shall include a maintenance alert diagnostic system, programmable timer-to-close with timer defeat input, mid-stop programming capabilities and a maximum run timer to provide motor overrun protection; motor control shall be housed in a NEMA 1 enclosure integral to the operator and shall conform to ANSI/NEMA ICS 6 (5HP motor does not have Logic control features).

8. Radio Receiver: LiftMaster Logic 5.0 on-board, 3-channel receiver with standard external antenna; equipped to accept Security+ 2.0 Rolling Code Technology remote controls and trinary DIP switch remote controls, with memory up to (30) 3-button controls (or 90 single-button remote controls) plus 30 wireless keypads, or an unlimited number of trinary DIP switch remote controls. Tri-band frequency (310/315/390 MHz) sends multiple radio signals to bypass radio interference.

9. 3-Button Control Station: 3-button station providing open/close/stop functionality shall be NEMA Type 1 with maintenance alert indicator to signal intervals for routine door and operator maintenance.

10. Door Drive: Operator shall be equipped with roller chain and sprockets as specified below, and electrically interlocked, floor level disconnect, a chain hoist for manual operation and an electric solenoid-actuated brake to stop motor and hold the door in any position.

11. Roller Chain and Sprocket: 50B40 door sprocket and #50 drive chain.

12. Contactor Style (Mechanical) Motor Starter, Control, and Enclosure: Motor starter shall be an across-the-line, mechanically interlocked, magnetic-reversing contactor; motor control shall be housed in a NEMA 1 enclosure integral to operator; control enclosures shall conform to ANSI/NEMA ICS6.

E. Trolleys: Provide heavy duty dual trolley arrangement required due to door width.

F. Overhead Door Controls / Functionality:

1. Power Operator to be opened from the exterior by card reader (see door hardware and security).
2. Power Operator to be opened from the interior by ground loop / loop detector.
3. Power Operator to be opened at any time by surface mounted 3-button push control station with momentary contact open, stop, and constant contact close.
4. Each overhead door to operate separate of the other.

G. Safety Sensors:

1. ~~Provide electronic sensing reverse edge at bottom of door.~~ ***Provide industrial photo eyes at both sides of doors – LiftMaster Heavy-duty and weatherproof Industrial Photo Eye CPS-UN4***

G. Exhaust Port: Provide a carbon monoxide exhaust port in each of the doors.

H. ***Detector – Bircher Reglomat Hercules 2s microwave motion sensor.*** ~~Loop detector – Liftmaster P/N 71-416-7NH plug-in style loop detector~~

~~I. Pave over loop(s): LiftMaster 6' x 12' PL612P40; provide exit, and interrupt loops at each door.~~

~~J. Edge sensor – Miller Edge ME110 sensing edge~~

PART 3: EXECUTION

3.01 INSTALLATION

A. Install doors in accordance with reviewed shop drawings and in accordance with manufacturer's current printed instructions.

B. Touch-up mars and abraded spots after installation with factory furnished primer.

C. Adjust doors for proper operation after installation and prior to acceptance of building.

D. Coordinate installation of pave-over loop with installation of paving.

3.02 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner’s maintenance personnel to adjust, operate, and maintain sectional overhead doors. Refer to Section 01 79 00 Demonstration and Training.

END OF SECTION 08 36 00

SECTION 23 21 14.33

GROUND HEAT EXCHANGER FLUSHING, TESTING AND FILLING

PART 1 - GENERAL

1.01 CONDITIONS OF THE CONTRACT

A. The Conditions of the Contract (General, Supplementary, and other Conditions) and the General Requirements (Sections of Division 1) are hereby made a part of this Section.

1.02 SCOPE

A. An engineer approved Ground Heat Exchanger (GHX) Flushing/Testing Services Agent (Agent) will perform defined flushing, testing and filling services pertaining to the GHX system.

B. The Termination of Scope responsibilities under this Section shall be the building side adapter flanges of the GHX system manifold.

C. Agent shall review and understand all pertinent installation specifications, drawings, details, addenda and contract documents as required to perform work under this section.

D. Agent shall perform its work as required to ready the GHX system for service performing all of the following:

1. Fill the GHX system with water and flush through an open atmospheric chamber to substantially remove all air,
2. Circulate water through inline filtration to substantially entrain all debris, evacuate for removal, and prevent reintroduction of debris to the GHX system,
3. Measure and document design pressure differential for each GHX circuit,
4. Perform hydrostatic leak testing of the GHX system and manifold in accordance with ASTM F2164
5. Evacuate the flushing water and replace with specified heat transfer fluid. See Section 23 21 14.

1.03 REFERENCES

A. International Ground Source Heat Pump Association (IGSHPA)

1. Closed Loop Geothermal Heat Pump Systems – Design & Installation Standards.

B. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)

1. Handbook-HVAC Applications, Chapter 32, Geothermal Energy.
2. Commercial/Institutional Ground Source Heat Pump – Engineering Manual

C. ASTM International (ASTM)

1. Standard Practice for Field Leak Testing of PE Pressure Piping Systems – F 2164

D. Performance Pipe

1. Polyethylene Piping Installation Systems Manual.
2. Technical Note 802 – Leak Testing of Polyethylene Pipe for Municipal and Industrial Applications.
3. Book 3, Chapter 4: Inspection & Testing - Bulletin PP 900 2003.

1.04 QUALITY ASSURANCE

A. Bidder qualifications:

1. Agent suitability shall be approved by the project mechanical engineer. Prior to completing any flushing, testing, and filling activities, the Contractor shall submit Agent Approval Questionnaire for consideration. A copy of the questionnaire is included at the end of this Section for reference.

1.05 SUBMITTALS

A. Submit literature, images and control sequences describing apparatus. Include information on:

1. Reversing valves, flow meters, filtration, and atmospheric tank design,
2. Procedures and safety devices utilized to protect system from over-pressurization. Detail pressure relief set point of apparatus;
3. Manufacturer's descriptive literature relating to computer logging devices and a sample of computer generated graphical representation of test results. At minimum, the graphical representations shall include:

    a. Pressure over time as compared to specified parameters, and,
    b. Flow (peak and cumulative) over time as compared to specified parameters;

B. Submit work plan. Detail how GHX system will be divided into test sections, volume of each test section, and pressure relief set point of apparatus;

C. Describe procedures for verifying substantial debris and air removal from each test section;

D. Describe procedures and flow rate set points for circuit pressure drop measurement;

E. If on-site deionization of flushing water will be performed, describe equipment to be utilized.

1.06 EQUIPMENT

A. All test equipment will be furnished by Agent and will remain its property.

B. Purging/flushing/leak testing apparatus: The flushing and purging equipment shall encompass the following features:

1. A volume pump capable of circulating test sections at a velocity of not less than 2.5 ft/sec;
2. Inline filtration devices capable of complete debris removal (> ~~**500**~~***600*** micron) from fluid without degradation to the above stated velocity;
3. Measurement and communication devices capable of obtaining system pressure at the GHX manifold installed in the mechanical room or vault. Pressure measurement, for purposes of record documentation from any point within the apparatus, is specifically noncompliant;
4. Valving and bypass systems capable of flow reversal without exceeding maximum pressure within GHX;
5. Atmospheric release capabilities designed to minimize reintroduction of air to the GHX system;
6. Automated data logging capabilities including time, building manifold pressure, fluid flow rate. Manual data logging, for purposes of record documentation, is specifically noncompliant;
7. Hydrostatic pressure control capable of maintaining GHX system pressure to within +/- 2 PSI throughout duration of ASTM F2164 testing – regardless of pipe expansion.

C. Miscellaneous:

1. Refractometer

PART 2 PRODUCTS

2.01 HEAT TRANSFER FLUID

A. Supply of heat transfer fluid not included in scope. See Section 23 21 14.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine contract documents to become familiar with project requirements and to discover conditions in system design that may preclude proper testing of system. Understand coordination with other construction activities to identify activities which may threaten quality of final installation. Also, identify ambiguities in design intent that may affect overall project quality.

3.02 SEQUENCE OF WORK

A. Approved sequence of work, begin after connection of all circuits to manifold:

1. As relating to the GHX system:

   a. ~~**Introduce deionized flushing water**~~ ***Fill system with flushing water***
   b. Evacuate substantially all air and debris
   c. ~~**Perform ASTM F2164 hydrostatic testing**~~ ***Perform circuit pressure drop measurement***
   d. ~~**Introduce heat transfer solution**~~ ***Perform ASTM F2164 hydrostatic testing***
   e. ~~**Perform circuit pressure drop measurement**~~ ***Introduce heat transfer solution***
   f. Submit final report of activities

3.03 WORK EXECUTION

A. Observe manifold and appurtenances and notify engineer of any nonconformance with design intent or any condition which prevents proper and safe execution of work.

B. Attach pressure transducers to supply and return manifolds in mechanical room or vault. Ensure dependable signal is transmitted to data logging equipment.

C. Isolate interior piping from GHX manifold before initiating flushing operations.

D. Connect apparatus hoses to fill ports on manifold. Observe connections for evidence of leaks and repair as necessary prior to flushing.

E. Ensure data logging equipment is functioning properly.

F. Per submitted work plan, remove air and debris from GHX system as follows:

1. Activate pressure relief devices to prevent over pressurization of GHX system,
2. Set apparatus flow rate to achieve minimum specified velocity,
3. Open supply and return valves for the selected circuits to be flushed, ensure all others are closed,
4. ~~**Introduce deionized water to the test section and evacuate all resident water to storm drain or other receptacle as per regulation or construction manager approval,**~~
5. When test section is filled with ~~**deionized**~~ water, redirect outflow to atmospheric tank/filtration assembly,
6. Circulate test section and monitor total flow as follows:

a. Flow forward direction until at least ~~**3X**~~ ***1.5X*** test section volume has been achieved,
b. Flow reverse direction until at least ~~**3X**~~ ***1.5X*** test section volume has again been achieved,
c. Flow forward direction until at least ~~**5X**~~ ***3X*** test section volume has been achieved.

7. Observe pressure indicators and atmospheric tank for evidence that substantially all air has been removed. Continue flow until substantially all air has been purged from system,
8. Repeat for remaining test sections.
9. ***When individual circuit flushing is complete, open all circuit valves to increase flow rate through manifold to <2.5-ft/sec. for a totalized flow of 500 gallons.***

G. ~~**Open all circuit valves, verify building piping isolation valves are closed and seated, connect pressure lines from apparatus to building or vault manifold.**~~ ***Per submitted work plan, set apparatus flow rate and manifold valve positions to initiate circuit drop pressure measurement. Stabilize flow through the first test section/circuit at flow rate specified in work plan. Record pressure drop. Repeat for remaining test sections/circuits.***

H. Perform hydrostatic testing in accordance with ASTM F2164 and as follows:

1. Initial Expansion Phase: Gradually increase pressure to the ground heat exchange piping until the specified test pressure is attained. Add make-up water as necessary to maintain specified test pressure to within +/- 2 PSI for a duration of 4 hours,
2. Test Phase: After 4 hours of expansion, reduce test pressure by 10 PSI and monitor manifold pressure for a duration of 1 hour. Do not add or release pressure to/from the manifold during Test Phase,
3. Pass/Fail Criteria: If no visual leakage is observed, and pressure at the end of the Test Phase remains within +/- 5% of set point, a passing test is indicated,
4. Depressurization Phase: Depressurize the system by releasing water at a controlled rate. Avoid sudden depressurization as this can damage GHX system,
5. Maximum Duration of Testing Revolution: When maximum Test Pressure is between system design pressure and 1.5 times the system design pressure or more, total testing time including the time required to pressurize, stabilize, hold test pressure, and depressurize shall not exceed eight (8) hours.
6. Retesting: If retesting is necessary, depressurize and correct any leaks in the system. Do not attempt to fix leaks while the piping is under pressure. Allow the test section to relax for at least 8 hours before reinitiating leak test.

I. If a passing test is indicated in accordance with ASTM F2164, adjust manifold valves in accordance with work plan. Disconnect pressure line between apparatus and building/vault manifold.

J. Introduce heat transfer fluid to GHX system and evacuate flushing water to sanitary drain or other receptacle as per regulation. ~~**Utilizing a refractometer, continuously sample outflow to measure until specified minimum propylene glycol concentration is attained. Dispose of any heat transfer fluid in accordance with governing regulation.**~~

~~**K. When specified concentration of propylene glycol is measured from test section, redirect outflow to recirculate heat transfer fluid from/to GHX. Repeat for remaining test sections/circuits.**~~

~~**L. Per submitted work plan, set apparatus flow rate and manifold valve positions to initiate circuit drop pressure measurement.**~~

~~**M. Stabilize flow through the first test section/circuit at flow rate specified in work plan. Record pressure drop. Repeat for remaining test sections/circuits.**~~

~~**N. Upon completion of pressure drop measurement/documentation for all test sections/circuits, close all circuit valves and briefly flush through manifold at > 2.5 ft/sec to remove any remaining debris which may have settled within manifold.**~~

O. Close manifold flushing valves, remove all Agent owned equipment, hoses and instruments. Return manifold to pretest condition.

P. Open all circuit supply/return valves. Leave system under pressure if possible. ~~**Not to exceed 25 psi.**~~

Q. Coordinate as necessary with geothermal contractor to assure the overall functioning of the ground heat exchanger system.

3.04 FINAL REPORTING

A. Minimum required information to be included in final report:

1. GENERAL REPORT DATA:

    a. Agent name and address
    b. Project name & location
    c. Geothermal contractor name and site supervisor
    d. Report date
    e. Signature page by the Agent certifying the report

2. RESULTS OF TESTING/OBSERVATION:

    a. Flow testing

        1) Describe Agent work required to substantially remove all air and debris from GHX system,
        2) Describe any modifications performed to building/vault manifold(s) to facilitate work,
        3) Provide graphical representations of computer logged data demonstrating flow rates, total flow requirements, and pressure drop conformance with specified criteria. Graphs shall indicate results in relation to pass/fail criteria. Pressure drop measurements shall be presented for each circuit.

    b. Leak testing

        1) Describe any failed attempts to perform work along with corrective actions required to facilitate successful leak testing,
        2) Provide graphical representations of computer logged data demonstrating conformance with ASTM F2164 pressure testing procedure. Graph shall indicate results in relation to pass/fail criteria and shall represent GHX system in its entirety.

3. PREPARATION FOR SERVICE

    a. Include total volume of heat transfer fluid introduced to GHX,
    b. Note final position of all valves and GHX system pressure upon completion of Agent scope,
    c. Note if any propylene glycol was released on site and procedures utilized to comply with regulation.

GROUND HEAT EXCHANGER FLUSHING, TESTING AND FILLING
Agent Approval Questionnaire

The nature of the work specified in this Section documents, in part, the degree in which the overall ground heat exchanger installation conforms to design intent. Results of this documentation shall be relied upon as an important measurement of installation quality and shall provide evidence in the event of dispute.

This questionnaire enables objective verification of the specific requirements and experience the agent must possess to perform such work on this project.

To obtain approval to perform work under Section 23 21 14.33, complete this questionnaire in its entirety and submit prior to performing any work. Provide detail for any "No" answers.

Company Credentials:

Requirement Description	Yes	No
The agent is regularly engaged in the business of flushing, testing and filling of GHX system projects for hire, and can demonstrate not less than ~~one~~ ***three*** (~~1~~***3***) year experience performing this service on projects of similar size/complexity.		
Agent possesses a fluid filtration/air removal apparatus suitable to the requirements of the Section, and defined as: 1. Capable of achieving a continuous fluid velocity, as specified, through all circuits, and, 2. Capable of dependably removing particulate > 500 micron without degradation to specified velocity, and, 3. Capable of machine pressure monitoring at the building or vault manifold, and, 4. Capable of preventing damage to piping through machine logic controlled pressure relief, and, 5. Capable of flow reversal, with capability of bypassing flow as necessary to protect GHX system from damaging pressure waves, and, 6. Capable of atmospheric release of air purged from GHX system, designed to minimize reintroduction of air, and, 7. Capable of continuous machine data logging of time, fluid flow rate, total gallons flowed, and pressure as measured at building manifold or lowest accessible point in the GHX system.		
Agent possesses a hydrostatic testing apparatus suitable to the requirements of this Section, and defined as: 1. Capable of performing hydrostatic testing in conformance with ASTM F2164, and, 2. Capable of machine pressure monitoring at the building or vault manifold, and, 3. Capable of developing pressure hydrostatically, without introducing air into the GHX, and, 4. Capable of overcoming pipe expansion through continuous, logic controlled fluid make up, and, 5. Capable of maintaining pressure to within +/- 2 PSI for the duration of the ASTM F2164 Expansion Phase, and, 6. Capable of continuous machine data logging of time and GHX pressure as measured at building manifold, or lowest accessible point in the GHX system, and, 7. Capable of machine logic control of hydrostatic test procedure in accordance with ASTM F2164		

I acknowledge having read this Section 23 21 14.33 and this questionnaire and understand the requirements in their entirety. All responses accurately represent my company's Credentials.

Company Name: _____ Phone: _____

Signature: _____ Date: _____

END OF SECTION 23 21 14.33

SECTION 28 23 00

VIDEO SURVEILLANCE

PART 1: *GENERAL*

1.01 *RELATED DOCUMENTS*

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

1.02 *SUMMARY*

A. ***This Section includes video surveillance system - CCTV camera and accessories furnishing and installation.***

B. ***The scope of work includes the installation of cameras and coordination with the owner for camera testing once the owner vendor installs headend equipment and cameras cabling.***

C. ***Owner will be providing the following:***
   1. ***Patch panels***
   2. ***Cat-6 cabling***
   3. ***Patch cables***

1.03 *SUBMITTALS*

A. ***Product Data: For each type of product indicated, including dimensions and data on features, performance, electrical characteristics, ratings, and finishes.***

B. ***Equipment List: Include every piece of equipment by model number, manufacturer and serial number.***

C. ***Operation and Maintenance Data: For cameras and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data" include the following:***

   1. ***Lists of spare parts and replacement components recommended to be stored at the site for ready access.***

D. ***Warranty: Special warranty specified in this Section.***

1.04 *QUALITY ASSURANCE*

A. ***Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.***

B. ***Comply with NECA 1.***

C. ***Comply with NFPA 70.***

1.05 *WARRANTY*

A. ***Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.***

   1. ***Warranty Period: Three years from date of Substantial Completion.***

PART 2: ***PRODUCTS***

2.01 ***IP Camera***

A. ***1920x1080 (HDTV 1080P) to 320 x 240***

B. ***Video compression: H.264 Main Profile (MPEG-4 part 10/AVC), Motion JPEG.***

C. ***Frame rate: 25/30 fps with power line frequency 50/60 Hz.***

D. ***Minimum of 1.3 megapixel high sensitivity.***

E. ***Fixed mini dome network camera.***

F. ***Power over Ethernet (PoE).***

G. ***Comply with UL 60065, UL 639.***

H. ***Lens: 2.8mm, 118˚ view.***

I. ***Interior cameras shall be Axis Communications M3005-V. Exterior, weather-proof cameras shall be Axis Communications P3367-VE.***

2.02 ***SYSTEM REQUIREMENTS***

A. Video signal format shall comply with the NTSC standard composite video, interlaced. Composite video signal termination shall be 75 ohms.

B. Surge Protection: Protect components from voltage surges originating external to equipment housing and entering through power, communication, signal, control, or sensing leads. Include surge protection for external wiring of each conductor entry connection to components.

1. Minimum Protection for Communication, Signal, Control, and Low-Voltage Power Connections: Comply with requirements in Division 26 Section "Transient-Voltage Suppression for Low-Voltage Electrical Power Circuits" as recommended by manufacturer for type of line being protected.

PART 3: ***EXECUTION***

3.01 ***VIDEO SURVEILLANCE SYSTEM INSTALLATION***

A. Install cameras level and plumb.

B. Install cameras with 84-inch minimum clear space below cameras and their mountings. Change type of mounting to achieve required clearance.

C. Avoid ground loops by making ground connections at only the control station.

1. For 12- and 24-V dc cameras, connect the cable shields only at the monitor end.

3.02 ***FIELD QUALITY CONTROL***

A. Inspection: Verify that units are properly installed and labeled, and that interconnecting wires and terminals are coordinated with the owner.

B. Pretesting: Align and adjust system and pretest components by coordinating with the owner once the owner provides wiring, and functions to verify that they comply with specified requirements. Conduct tests with the owner at varying lighting levels, including day and night scenes as applicable after the owner installs cabling and head-end equipment. Prepare video surveillance equipment for acceptance and operational testing as follows:

1. Prepare equipment list described in Part 1 "Submittals" Article.

2. Set and name all preset positions; consult Owner's personnel.

3. Set sensitivity of motion detection.

4. Connect and verify responses to alarms.

5. Verify operation of control-station equipment.

C. Operational Tests: Perform operational system tests with the owner and the owner's vendor to verify that system complies with Specifications. Test cameras for proper operation in all functional modes.

D. Remove and replace malfunctioning items and retest as specified above.

E. Record test results for each camera.

F. Retest: Correct deficiencies identified by tests and observations and retest until specified requirements are met.

3.03 *CLEANING*

A. Clean installed items using methods and materials recommended in writing by manufacturer.

B. Clean camera-housing windows and lenses.

3.04 *DEMONSTRATION*

A. Train Owner's maintenance personnel to adjust, operate, and maintain video surveillance equipment.

1. Train Owner's maintenance personnel on procedures and schedules for troubleshooting, servicing, and maintaining equipment.

2. Demonstrate methods of determining optimum alignment and adjustment of components and settings for system controls.

3. Review equipment list and data in maintenance manuals. Refer to Division 01 Section "Operation and Maintenance Data"

END OF SECTION 28 23 00

SECTION 28 31 11

DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

PART 1: GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. System Description:

1. Noncoded, UL-Certified or FMG-placarded ~~**Notifier**~~ addressable system, with multiplexed signal transmission, dedicated to fire-alarm service only.

B. Provide complete addressable fire alarm system, including but not limited to:

1. Fire-alarm control unit.
2. Manual fire-alarm boxes.
3. System smoke detectors.
4. Notification appliances.
5. Remote annunciator.
6. Addressable interface devices.
7. Digital alarm communicator transmitter.

1.03 DEFINITIONS

A. NICET: National Institute for Certification in Engineering Technologies.

1.04 SUBMITTALS

A. General Submittal Requirements:

1. Shop Drawings shall be prepared by persons with the following qualifications:

a. Trained and certified by manufacturer in fire-alarm system design.
b. NICET-certified fire-alarm technician, Level III minimum.

B. Product Data: For each type of product indicated.

C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, required clearances, method of field assembly, components, control panel arrangements, and location and size of each field connection.

2. Comply with recommendations in the "Documentation" Section of the "Fundamentals of Fire Alarm Systems" Chapter in NFPA 72.

3. Device Address List: Coordinate with final system programming.

4. Sensor / detector detection patterns and adjustment ranges.

5. Include voltage drop calculations for notification appliance circuits.

6. Include battery-size calculations.

PART 2: PRODUCTS

2.01 GENERAL INFORMATION.

A. All electrical equipment and material shall be new and bear a recognized testing laboratory's label, where applicable. The type of equipment and/or material shall be designated by the location where it will be installed and so defined by NEMA / NFPA 70 standards.

2.02 MANUFACTURERS

A. Subject to compliance with requirements, provide products by one of the following:

~~**1. NOTIFIER; a Honeywell company.**~~
1. Base Bid: NOTIFIER; a Honeywell Company.
2. Alternate No. 4: Simplex-Grinnell, Edwards Signaling, Siemens

2.03 SYSTEMS OPERATIONAL DESCRIPTION

A. Fire-alarm signal initiation shall be by one or more of the following devices and systems:

1. Manual stations.
2. Heat detectors.
3. Smoke detectors.
4. Duct smoke detectors.
5. Verified automatic alarm operation of smoke detectors.
6. Automatic sprinkler system water flow.
7. Fire-extinguishing system operation.
8. Fire standpipe system.

B. Fire-alarm signal shall initiate the following actions:

1. Continuously operate alarm notification appliances.
2. Identify alarm at fire-alarm control unit and remote annunciators.
3. Transmit an alarm signal to the remote alarm receiving station.
4. Unlock electric door locks in designated egress paths.
5. Release fire and smoke doors held open by magnetic door holders.
6. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
7. Close smoke dampers in air ducts of designated air-conditioning duct systems.
8. Recall elevators to primary or alternate recall floors.
9. Activate emergency shutoffs for gas and fuel supplies.
10. Record events in the system memory.

C. Supervisory signal initiation shall be by one or more of the following devices and actions:

1. Valve supervisory switch.
2. Low-air-pressure switch of a dry-pipe sprinkler system.
3. Elevator shunt-trip supervision.

D. System trouble signal initiation shall be by one or more of the following devices and actions:

1. Open circuits, shorts, and grounds in designated circuits.
2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
3. Loss of primary power at fire-alarm control unit.
4. Ground or a single break in fire-alarm control unit internal circuits.
5. Abnormal ac voltage at fire-alarm control unit.
6. Break in standby battery circuitry.
7. Failure of battery charging.
8. Abnormal position of any switch at fire-alarm control unit or annunciator.
9. Fire-pump power failure, including a dead-phase or phase-reversal condition.

SITE PLAN
SHERIFF'S PATROL HEADQUARTERS
ELDRIDGE, IOWA

OWNER - DEVELOPER

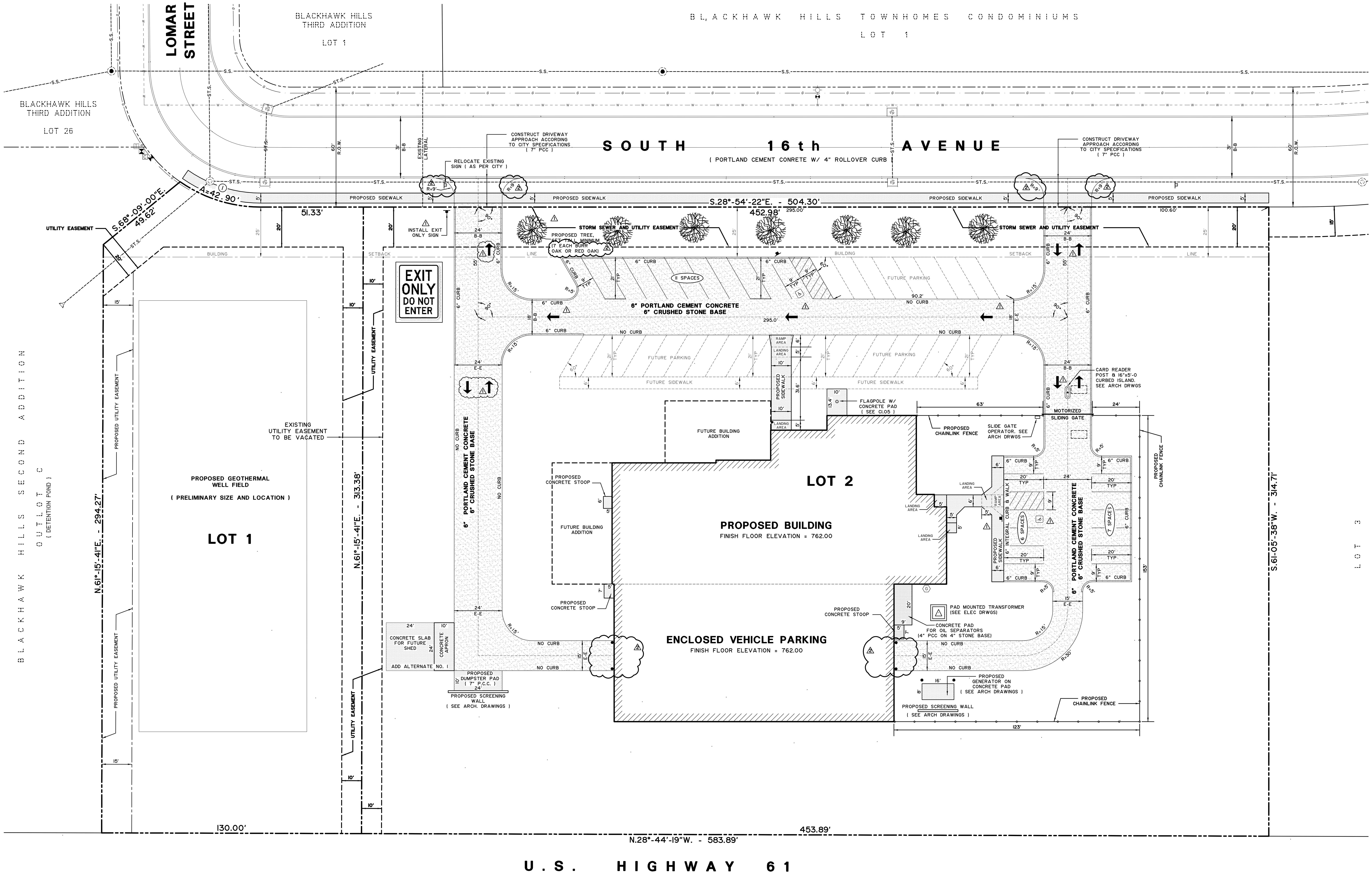
SCOTT COUNTY, IOWA
400 WEST 4th STREET
DAVENPORT, IOWA 52801

LEGAL DESCRIPTION

LOTS 1 AND 2
BLACKHAWK HILLS 4th ADDITION
TO THE CITY OF ELDRIDGE, IOWA

(SCALE: 1" = 20')

CURVE NUMBER	RADIUS	DELTA	ARC	CHORD	CHORD BEARING	TANGENT
1	70.50'	34°-52'-06"	42.90'	42.24'	N.13°-44'-24"W.	22.14'



SITE INFORMATION

EXISTING ZONING	-	C-3 (GENERAL BUISINESS DISTRICT)
LOT 1 AREA	-	40,730 SQUARE FEET, 0.935 ACRES, ±
LOT 2 AREA	-	142,400 SQUARE FEET, 3.269 ACRES, ±
TOTAL LOTS 1 AND 2 AREAS	-	183,130 SQUARE FEET, 4.204 ACRES, ±
TOTAL BUILDING AREA	-	21,000 SQUARE FEET
TOTAL HARD SURFACE AREA	-	25,000 SQUARE FEET
TOTAL OPEN SPACE AREA	-	137,130 SQUARE FEET
ONSITE PARKING	-	24 SPACES (INCLUDES 2 ADA SPACES) ⚠
INDOOR PARKING	-	19 SPACES
TOTAL PARKING	-	43 SPACES
TOTAL REQUIRED PARKING	-	38 SPACES

LEGEND

- EXISTING CONTOUR (INDEX)
- EXISTING CONTOUR (INTERMEDIATE)
- EXISTING STORM SEWER
- EXISTING CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING FLARED END SECTION
- EXISTING SANITARY SEWER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATERMAIN
- EXISTING FIRE HYDRANT
- EXISTING WATERMAIN VALVE
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC BOX
- EXISTING CABLE T.V. PEDESTAL
- EXISTING GASMAIN
- EXISTING GASMAIN VALVE
- EXISTING DECIDUOUS TREE
- PROPOSED TRAFFIC FLOW ARROWS
- PROPOSED EXIT SIGN
- PROPOSED STORM SEWER
- PROPOSED PORTLAND CEMENT CONCRETE SIDEWALK
- PROPOSED CHAINLINK FENCE (8' HIGH, BLACK VINYL COATED)
- PROPOSED BOLLARD
- PROPOSED ADA PARKING SIGN
- PROPOSED AUTO-OPEN ACCUATOR (SEE ARCH. DRAWINGS)
- PROPOSED PORTLAND CEMENT CONCRETE DRIVEWAY/PARKING (6"THICK PAVING W/ 6" CRUSHED STONE BASE)

PREPARED BY

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VMCE 13293 - C1.03

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Eldridge, Iowa, USA 52748

Scott County, Iowa
600 West Fourth Street,
Davenport, Iowa

WOLD architects engineers
www.woldae.com

Description	Date	Num
ADDENDUM #1	FEBRUARY 22, 2016	1
ADDENDUM #2	FEBRUARY 29, 2016	2

Comm: .
Date: 02/08/2016
Drawn: SPK
Check: JDW

North

SITE PLAN

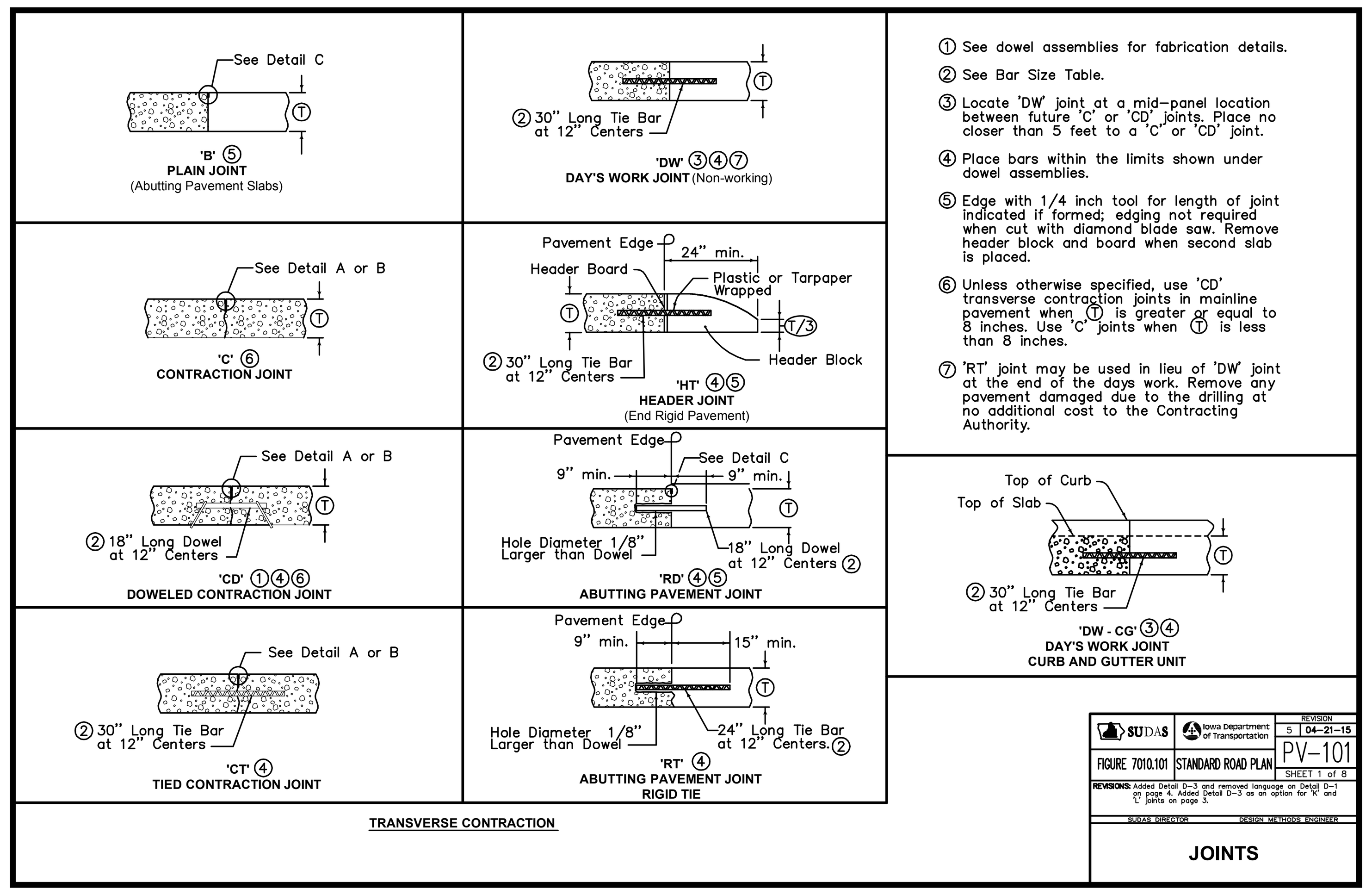
Scale: 1" = 20'

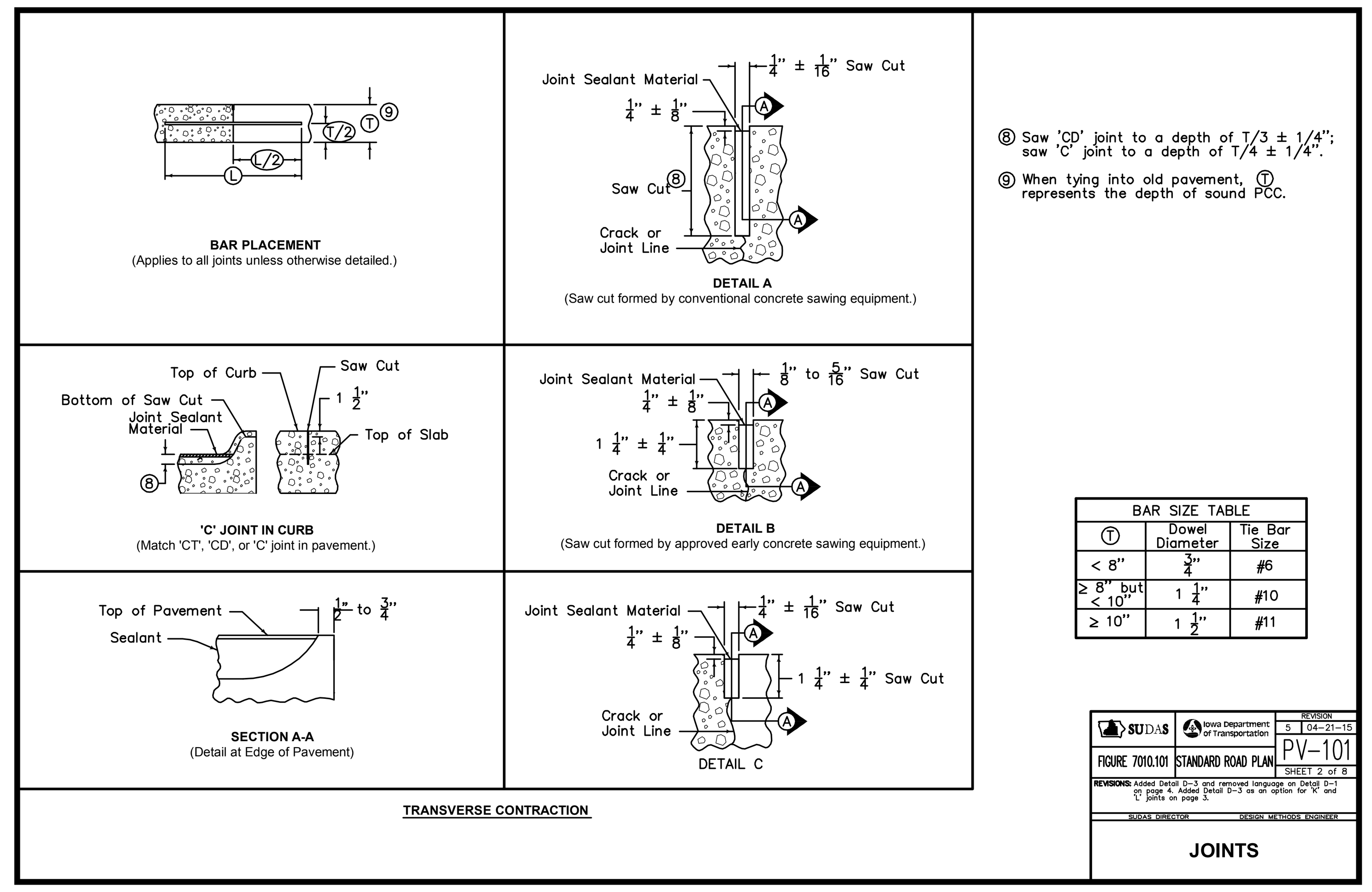
C1.03

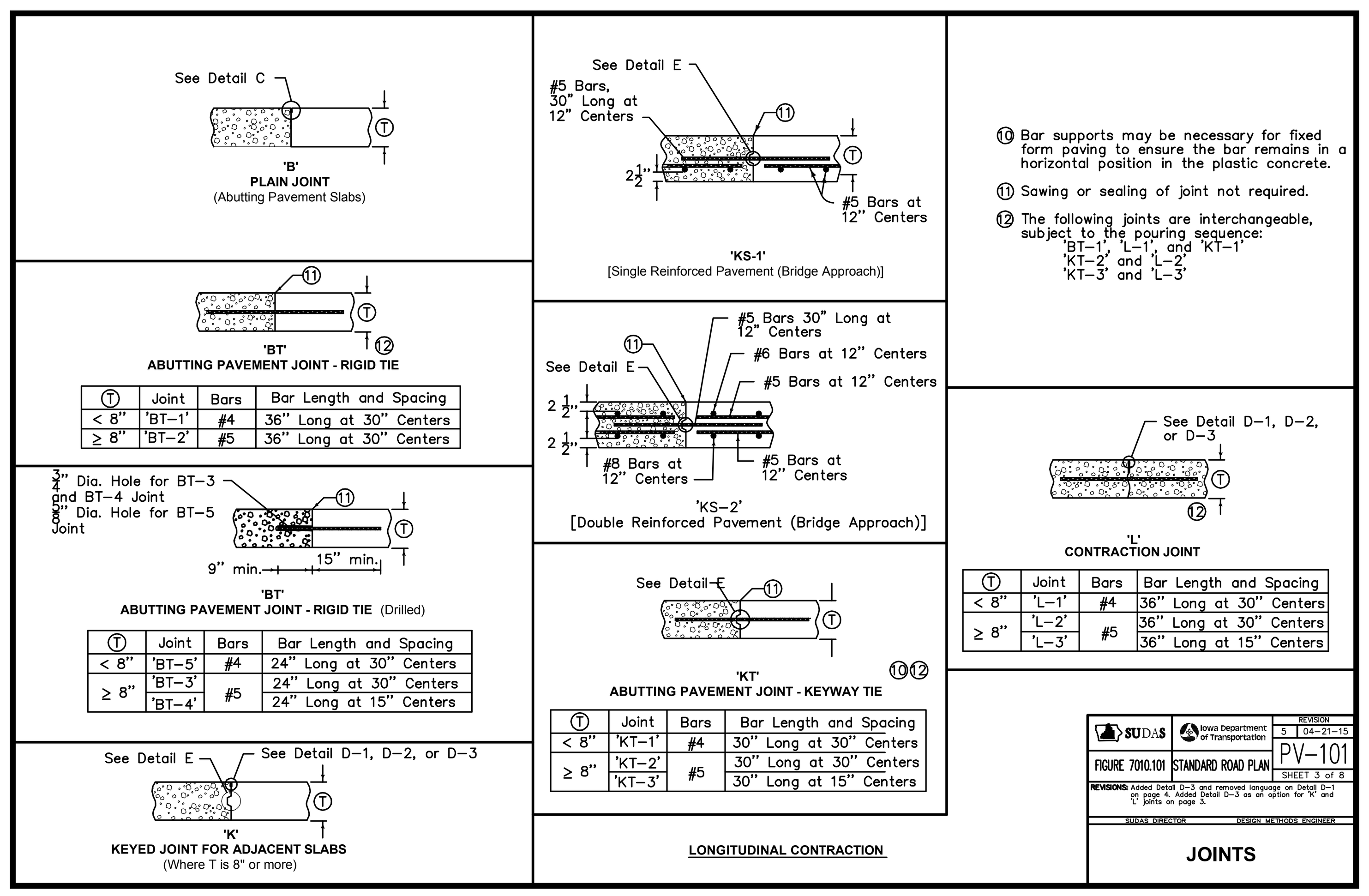
SITE PLAN & DETAIL NOTES

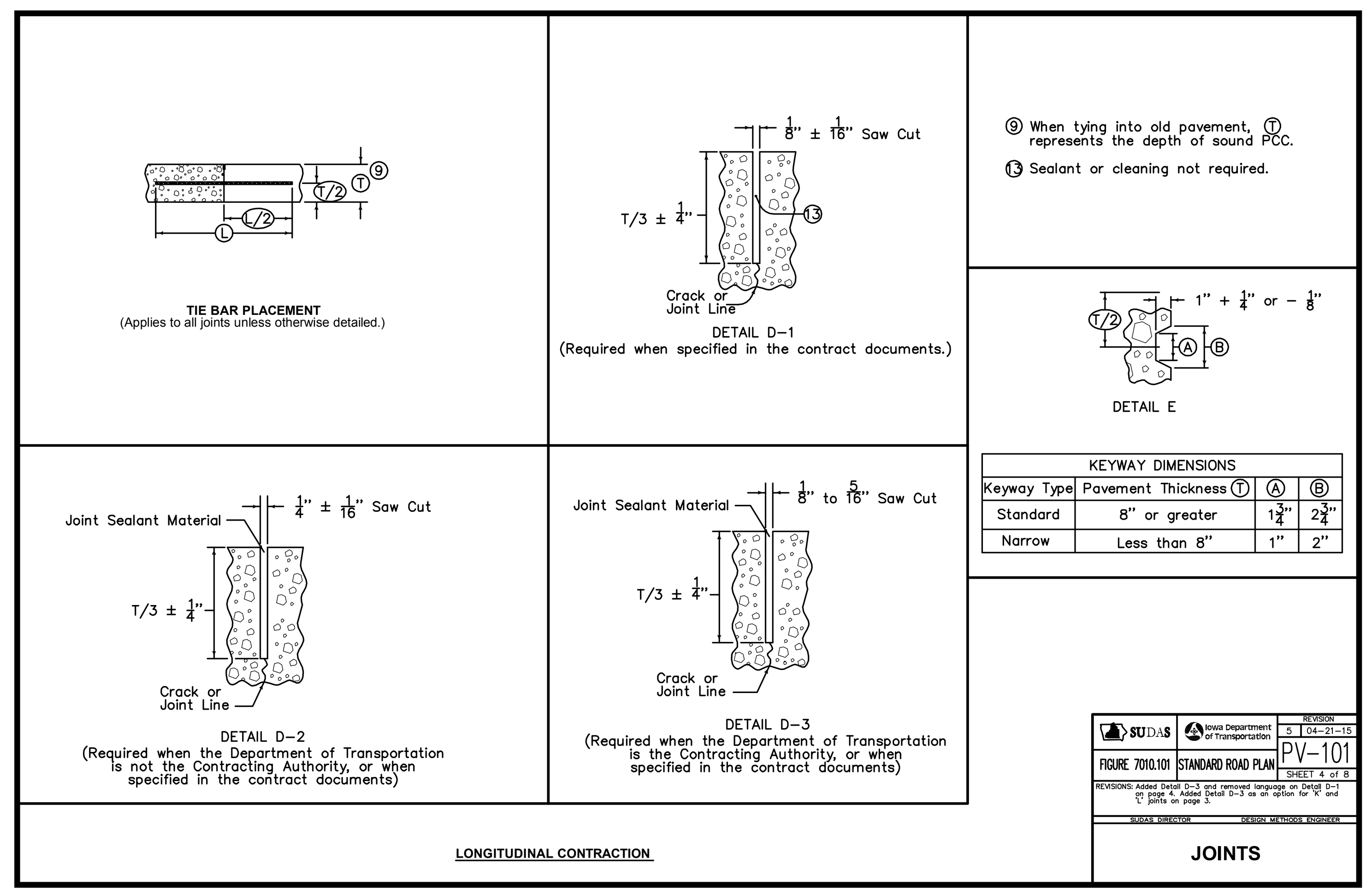
SHERIFF'S PATROL HEADQUARTERS

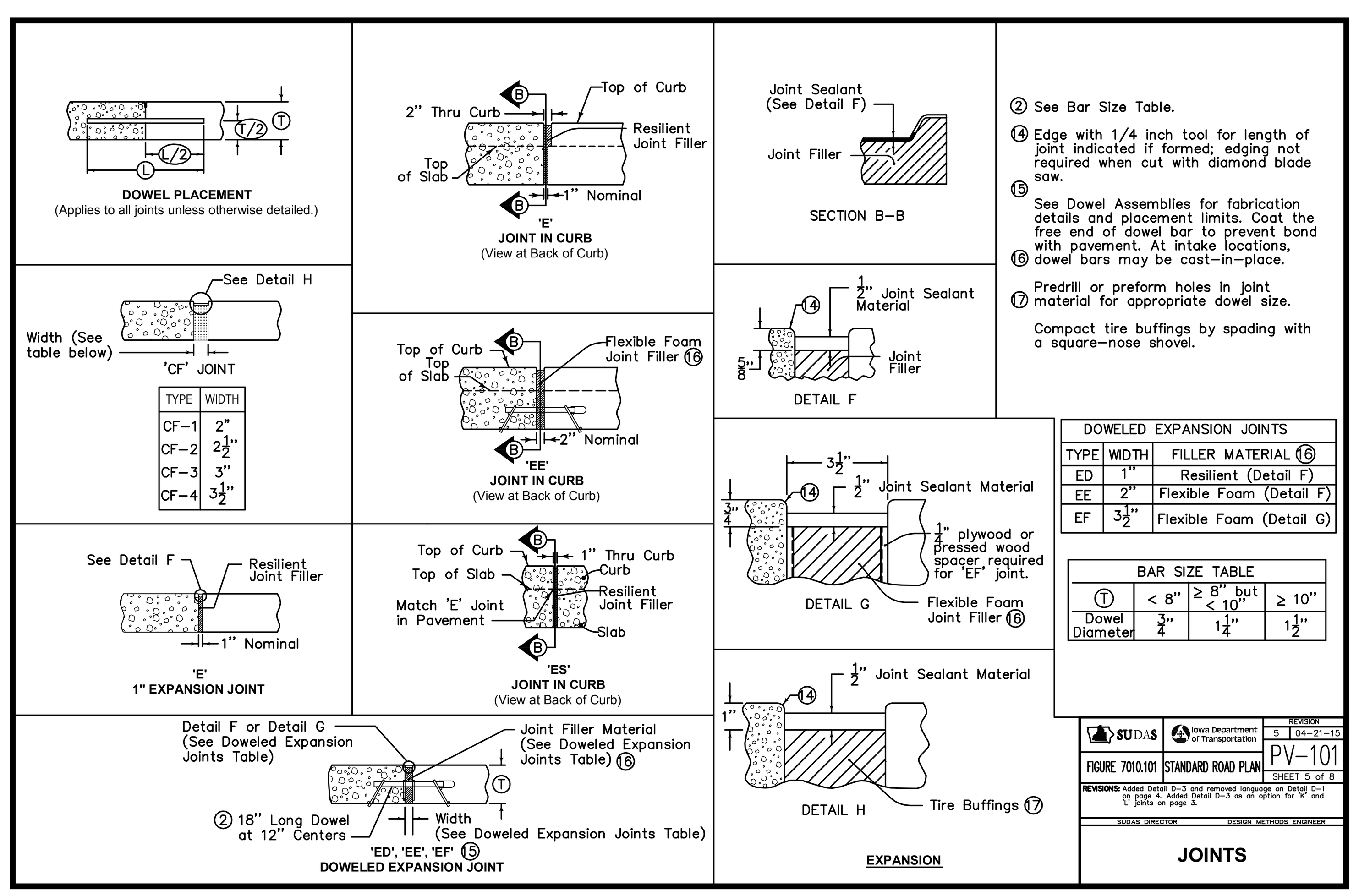
ELDRIDGE, IOWA

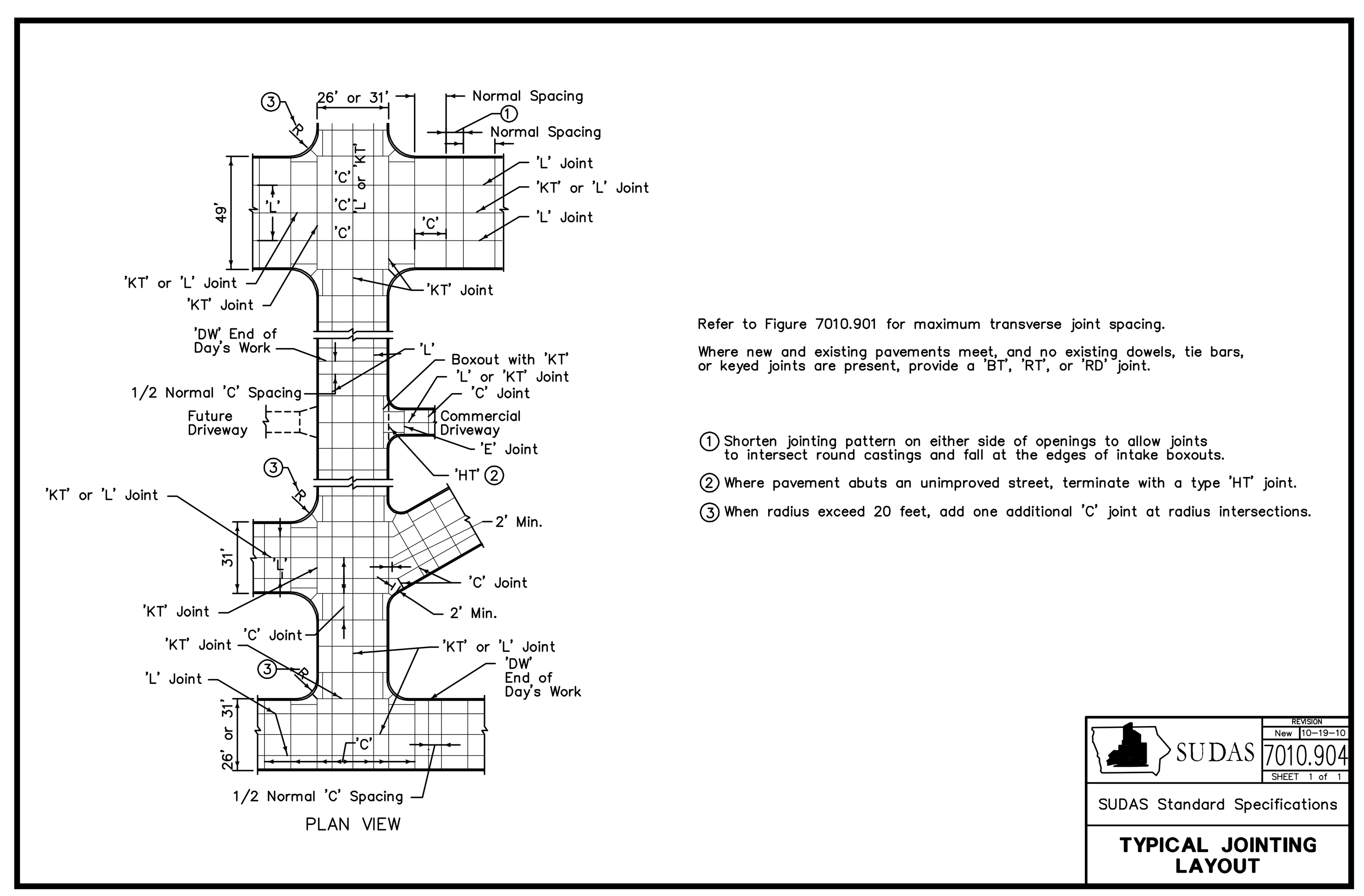












SITE PAVING NOTES

1) THE PARKING LOT PAVEMENT SHALL BE AS SHOWN ON THE PLANS.
2) THE CONTRACTOR SHALL PROVIDE A DEPRESSED CURB AT ALL PROPOSED PEDESTRIAN RAMP LOCATIONS.
3) CONCRETE REMOVED FROM THE SITE SHALL BE PROPERLY DISPOSED OF AT AN APPROVED OFF SITE LOCATION.
4) ALL SIDEWALKS ON SITE SHALL BE 4 INCHES THICK P.C.C. WITH 6x6 W1.4xW1.4 WELDED WIRE FABRIC.
5) CONCRETE CURING COMPOUND SHALL BE APPLIED IMMEDIATELY AFTER SURFACE MOISTURE HAS DISAPPEARED BUT NO LATER THAN 30 MINUTES AFTER FINISHING. APPLY THE WHITE PIGMENT LIQUID COMPOUND IN A FINE SPRAY TO FORM A CONTINUOUS, UNIFORM FILM ON ALL SURFACES, EDGES, CURBS AND BACKS OF CURBS.
6) PAINTED PAVEMENT MARKINGS SHALL BE AS SHOWN ON THE PLANS. PARKING STRIPES SHALL BE YELLOW OR WHITE AND 4 INCHES WIDE USING PAINT AS SPECIFIED IN THE DETAILS.

GENERAL NOTES

ALL IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH ALL CURRENT CODES AND ORDINANCES OF THE CITY OF ELDRIDGE, IOWA.

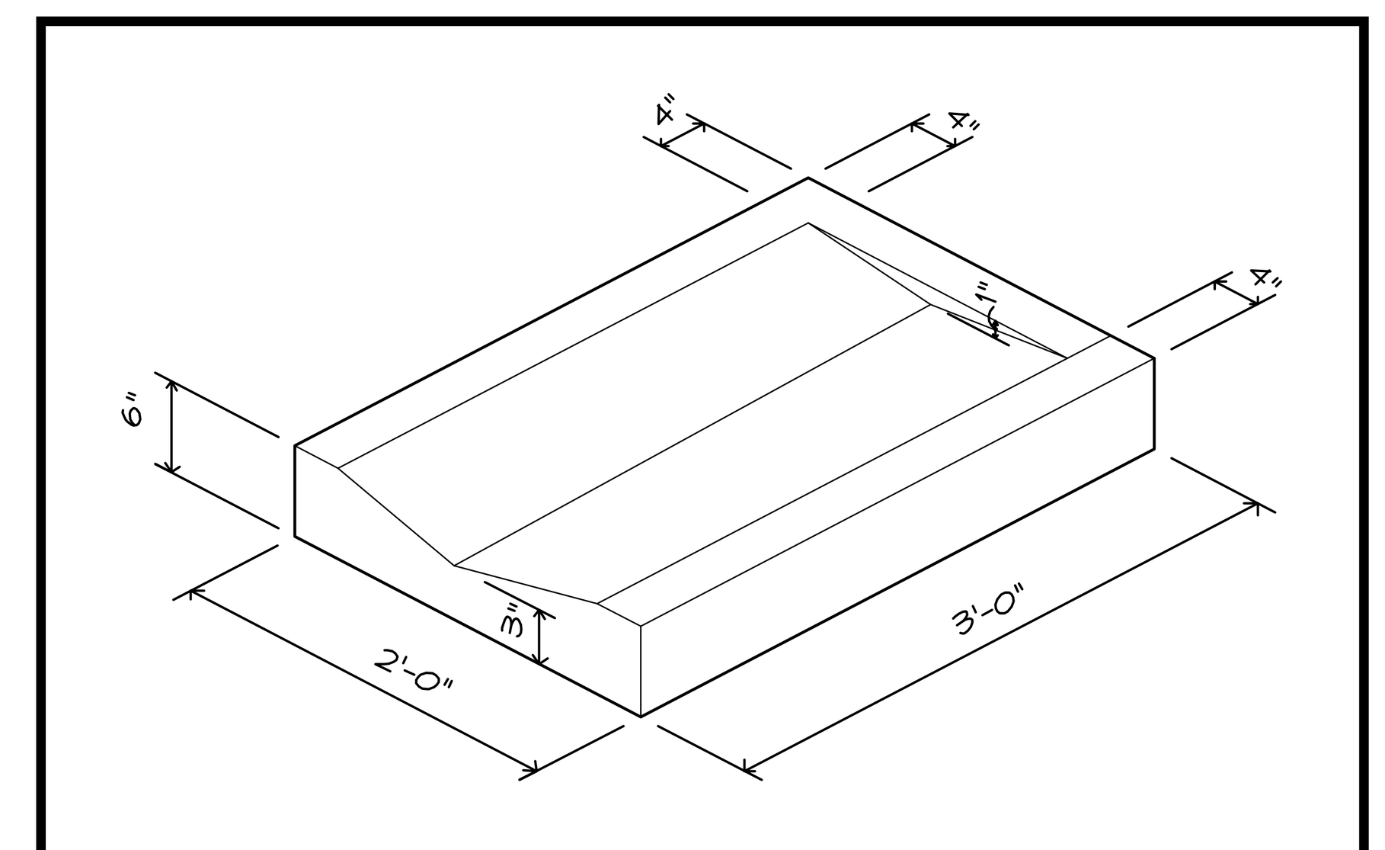
THE SITE IS TO BE SERVED BY CITY SANITARY SEWER SYSTEM, WATERMAINS, ELECTRIC SERVICES. MID AMERICAN ENERGY COMPANY GAS AND CENTRAL SCOTT TELEPHONE LINES.

ALL EXISTING UTILITIES SHOWN WERE LOCATED PARTIALLY IN THE FIELD AND PARTIALLY FROM REVIEW OF EXISTING PUBLIC RECORDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL EXISTING UNDERGROUND LINES PRIOR TO BEGINNING ANY CONSTRUCTION IN THE AREA. ANY DAMAGE DONE TO UTILITIES DUE TO CONSTRUCTION WILL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.

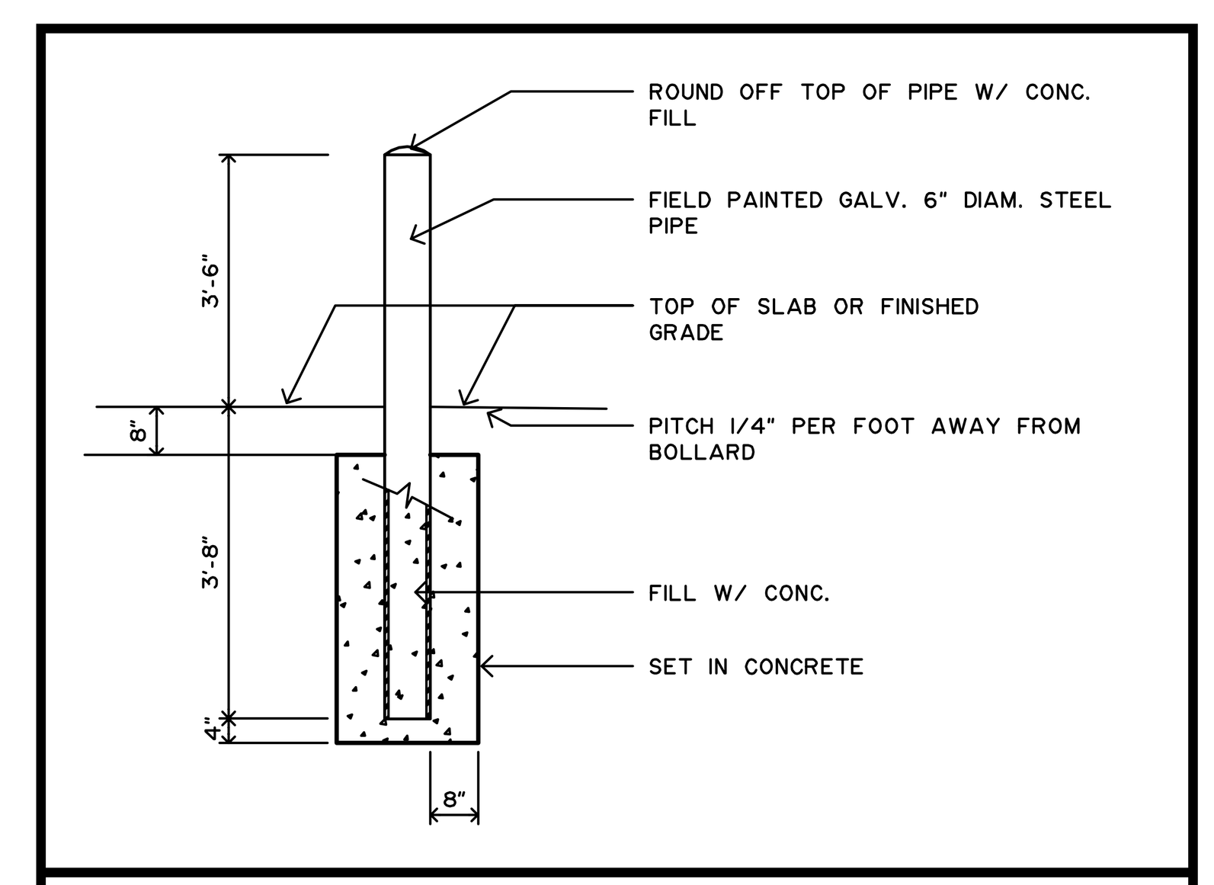
ALL DIMENSIONS SHOWN ARE IN FEET AND DECIMAL PARTS THEREOF. ALL PAVEMENT DIMENSIONS ARE TO BACK OF CURB OR EDGE OF SLAB.

ALL SIDEWALKS ARE TO BE PORTLAND CEMENT CONCRETE AND SHALL BE ADA ACCESSIBLE.

ALL INTERIOR DRIVEWAYS AND SIDEWALKS ARE PRIVATELY OWNED AND ARE TO BE MAINTAINED BY THE PROPERTY OWNER.



DETAIL CONCRETE SPLASHBLOCK



DETAIL BOLLARD

PREPARED BY

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VMCE 13293 - C1.04

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Davenport, Iowa

WOLD architects engineers
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Revisions		
Description	Date	Num
ADDENDUM #2	FEBRUARY 29, 2016	2

Comm: .
Date: 02/08/2016
Drawn: SPK
Check: JDW
North

SITE PLAN DETAILS AND NOTES

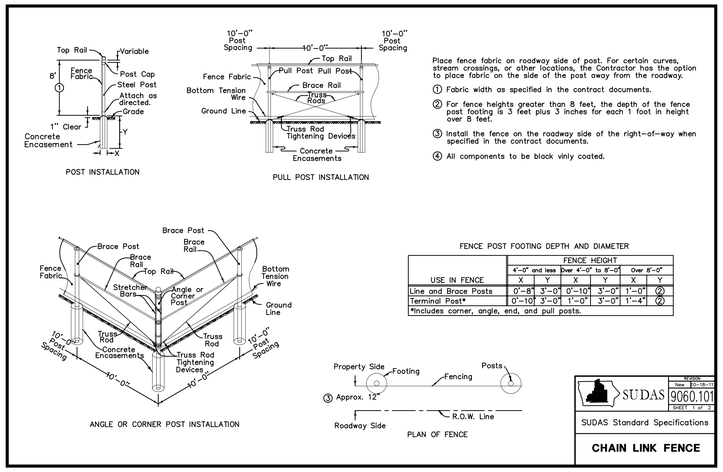
Scale: 1" = 20'

C1.04

SITE PLAN DETAILS

SHERIFF'S PATROL HEADQUARTERS

ELDRIDGE, IOWA



Place fence fabric on roadway side of post. For certain curves, stream crossings, or other locations, the Contractor has the option to place fabric on the side of the post away from the roadway.

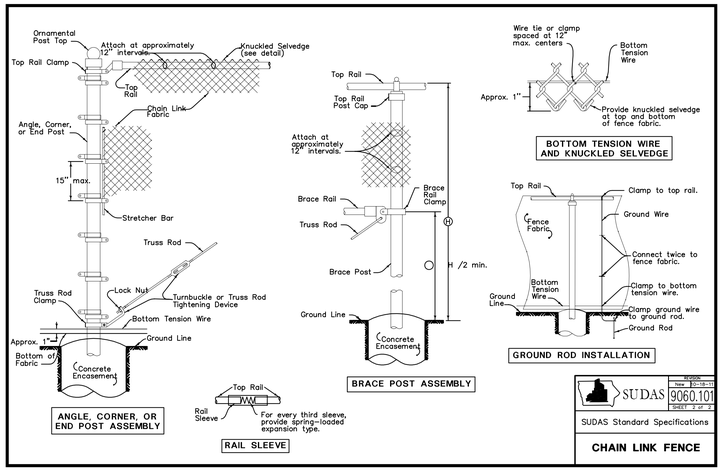
1. Fabric width as specified in the contract documents.
2. For fence heights greater than 8 feet, the depth of the fence post footing is 3 feet plus 3 inches for each 1 foot in height over 8 feet.
3. Install the fence on the roadway side of the right-of-way when specified in the contract documents.
4. All components to be black vinly coated.

FENCE POST FOOTING DEPTH AND DIAMETER

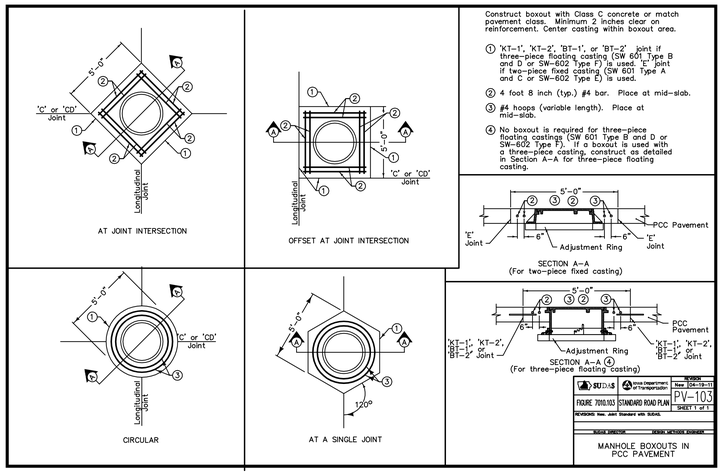
USE IN FENCE	FENCE HEIGHT 4'-0" and less X	Y	Over 4'-0" to 8'-0" X	Y	Over 8'-0" X	Y	
Line and Brace Posts	0'-8"	3'-0"	0'-10"	3'-0"	1'-0"		②
Terminal Post*	0'-10"	3'-0"	1'-0"	3'-0"	1'-4"		②

*Includes corner, angle, end, and pull posts.

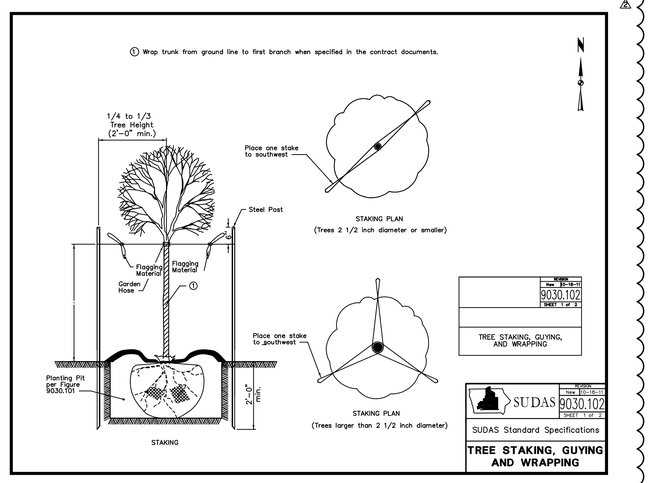
SUDAS 9060.101 — SUDAS Standard Specifications — **CHAIN LINK FENCE**



SUDAS 9060.101 — SUDAS Standard Specifications — **CHAIN LINK FENCE**

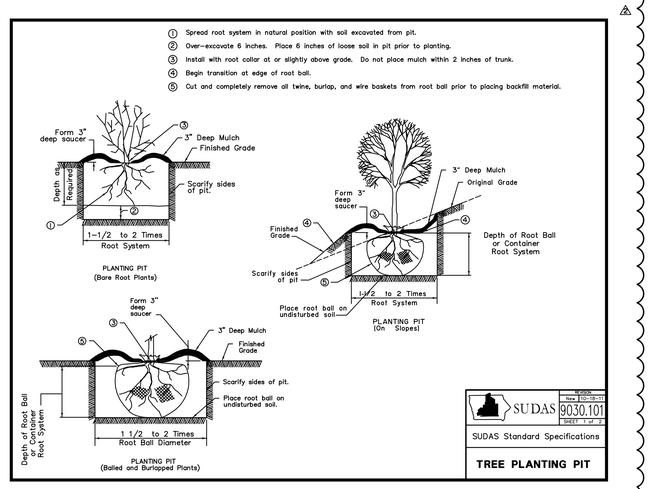


SUDAS — Iowa Department of Transportation — FIGURE 7010.103 STANDARD ROAD PLAN — PV-103 — REVISIONS Nov. Joint Standard with SUDAS. — MANHOLE BOXOUTS IN PCC PAVEMENT

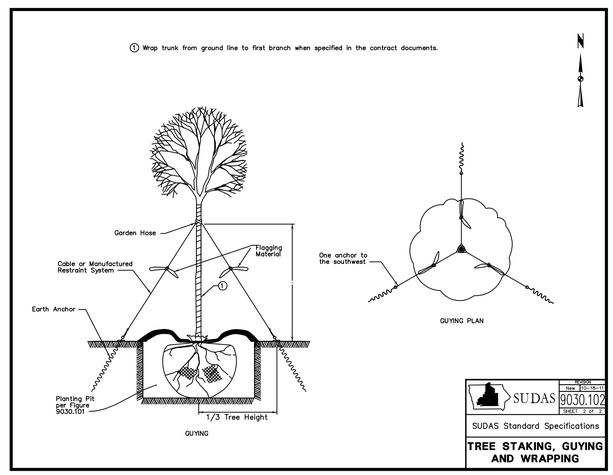


SUDAS 9030.102 SHEET 1 of 2 — SUDAS Standard Specifications — **TREE STAKING, GUYING AND WRAPPING**

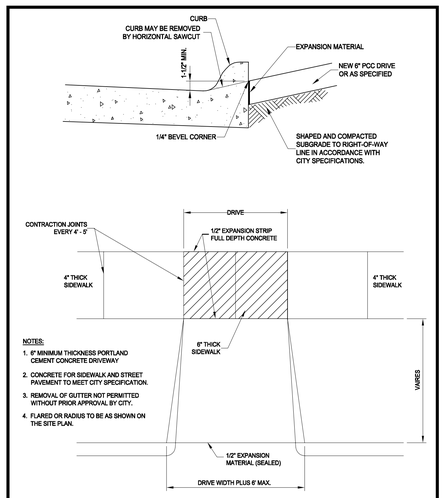
TREE STAKING, GUYING, AND WRAPPING — SUDAS 9030.102 SHEET 1 of 2



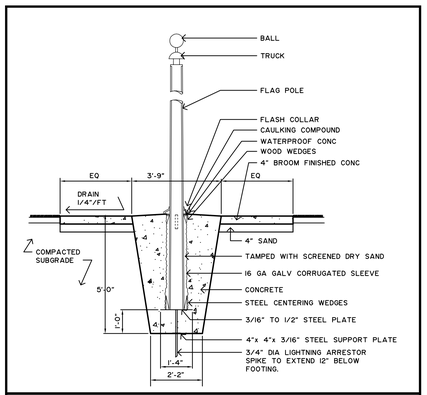
SUDAS 9030.101 — SUDAS Standard Specifications — **TREE PLANTING PIT**



SUDAS 9030.102 SHEET 2 of 2 — SUDAS Standard Specifications — **TREE STAKING, GUYING AND WRAPPING**



CITY OF ELDRIDGE — Detail Description: RESIDENTIAL AND COMMERCIAL (FLARED) DRIVEWAY — Date: 1/22/15 — Detail Number: SD-35



DETAIL FLAGPOLE

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Revisions		
Description	Date	Num
ADDENDUM #1	FEBRUARY 22, 2016	1
ADDENDUM #2	FEBRUARY 29, 2016	2

Comm:
Date: 02/08/2016
Drawn: SPK
Check: JDW

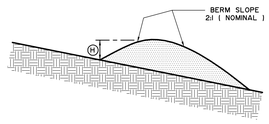
North

SITE PLAN DETAILS

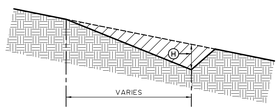
Scale: 1" = 20'

C1.05

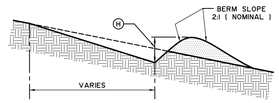
GRADING & EROSION CONTROL PLAN
DETAILS & NOTES
SHERIFF'S PATROL HEADQUARTERS
ELDRIDGE, IOWA



TYPE 1: BERM DIVERSION



TYPE 2: "V" DITCH DIVERSION



TYPE 3: DITCH/BERM DIVERSION

GENERAL NOTES

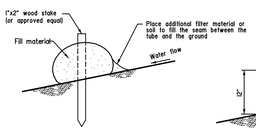
CONSTRUCT DIVERSION AT LOCATIONS INDICATED IN CONTRACT DOCUMENTS.

DIVERSION TYPES 1, 2 AND 3 MAY BE USED INTERCHANABLY UNLESS OTHERWISE SPECIFIED.

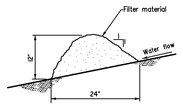
ALTERNATE CONFIGURATIONS MAY BE USED UPON APPROVAL FROM THE ENGINEER.

(H) TOTAL HEIGHT OF DIVERSION (SWALE AND BERM). 18 INCHES MINIMUM OR AS REQUIRED.

DETAIL TEMPORARY EARTH DIVERSION STRUCTURES



FILTER SOCK



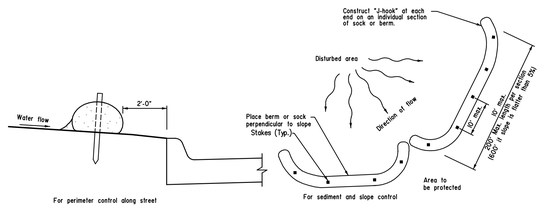
FILTER BERM

GENERAL NOTES:

Berm shown is typical for slopes flatter than 3:1. For steeper slopes, increase berm size as directed by the Jurisdictional Engineer.

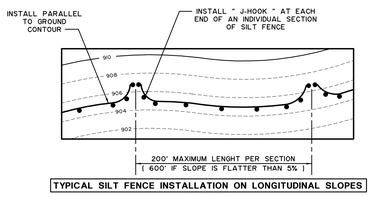
Place berm in uncompacted windrow perpendicular to the slope at locations specified in the contract documents.

Filter sock diameter as specified in the contract documents.



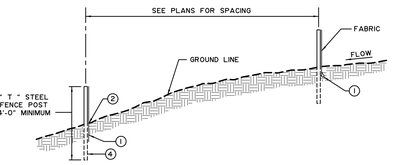
TYPICAL PLACEMENT OF BERM OR SOCK

DETAIL FILTER BERM & FILTER SOCK



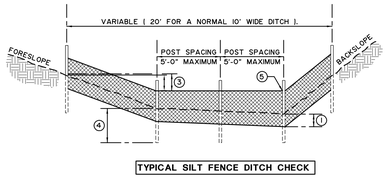
TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES

(PLAN VIEW)

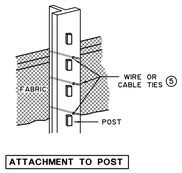


TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES

(PROFILE VIEW)



TYPICAL SILT FENCE DITCH CHECK

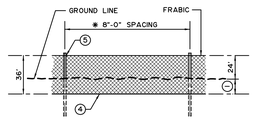


ATTACHMENT TO POST

GENERAL NOTES

INSTALL SILT FENCE ACCORDING TO THE REQUIREMENTS OF SUDAS SECTION 9040, 3.07 AND AT LOCATIONS SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE JURISDICTIONAL ENGINEER.

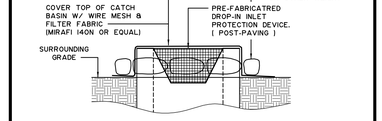
1. INSERT 12 INCHES OF FABRIC A MINIMUM OF 6 INCHES DEEP (FABRIC MAY BE FOLDED BELOW THE GROUND LINE)
2. COMPACT GROUND BY DRIVING ALONG EACH SIDE OF THE SILT FENCE AS REQUIRED TO SUFFICIENTLY SECURE THE FABRIC IN THE TRENCH TO PREVENT PULLOUT AND FLOW UNDER THE FENCE.
3. IN DITCHES, EXTEND SILT FENCE UP SIDE SLOPE SO THE BOTTOM ELEVATION AT THE END OF THE FENCE IS A MINIMUM OF 2 INCHES HIGHER THAN THE TOP OF THE FENCE IN THE LOW POINT OF THE DITCH.
4. STEEL POSTS TO BE EMBEDDED 20 INCH UNLESS OTHERWISE ALLOWED BY THE JURISDICTIONAL ENGINEER.
5. SECURE TOP OF ENGINEERING FABRIC TO STEEL POSTS USING WIRE OR PLASTIC TIES (50 POUNDS MINIMUM). SEE DETAILS OF " ATTACHMENT TO POST. "



DETAILS OF SILT FENCE ON LONGITUDINAL SLOPES

* REDUCE POST SPACING TO 5'-0" AT WATER CONCENTRATION AREAS, OR AS REQUIRED TO ADEQUATELY SUPPORT FENCE

DETAIL SILT FENCE



DETAIL INLET PROTECTION-PRE-PAVING

SITE GRADING & EROSION CONTROL NOTES

1) ALL PERIMETER EROSION CONTROL MEASURES MUST BE INSTALLED (WHERE POSSIBLE) PRIOR TO THE COMMENCEMENT OF ANY EARTH DISTURBING OPERATIONS. THE REMAINING EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS REASONABLY POSSIBLE AFTER GRADING OPERATIONS BEGIN. WHERE THE PRESENCE OF SILT FENCE WILL INTERFERE WITH ACTIVITIES, DIVERSION DITCHES AND SMALL TEMPORARY SEDIMENT TRAPS SHALL BE UTILIZED UNTIL SILT FENCE OR OTHER MEASURES MAY BE INSTALLED AND SEEDING COMPLETED.

2) ALL EROSION CONTROL MEASURES SHALL BE EXAMINED BY THE CONTRACTOR EACH WEEK AND AFTER EACH RAINFALL. EACH MEASURE SHALL BE MAINTAINED OR IF NEEDED, REPLACED, SO IT WILL FUNCTION AS ORIGINALLY DESIGNED. A WRITTEN LOG OF ALL INSPECTIONS AND MODIFICATIONS SHALL BE PREPARED AND KEPT ON THE SITE BY THE CONTRACTOR.

3) DIVERSION DITCHES, BERMS, SILT FENCE, AND OTHER SEDIMENT CONTROL MEASURES ARE RECOMMENDED AND ALLOWED TO BE USED INTERCHANGEABLY OR IN COMBINATION WITH EACH OTHER DEPENDING ON FUNCTIONALITY, CONTRACTOR PREFERENCE, SITE CONDITIONS, CONSTRUCTION PHASING AND OTHER PROJECT CONSTRAINTS.

4) PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ON THE PLAN ARE FINISH GRADE ELEVATIONS.

5) REFER TO THE ARCHITECTURAL PLANS FOR FLOOR SLAB THICKNESS AND BUILDING SUBGRADE ELEVATIONS.

6) THE SITE SHALL BE PREPARED BY STRIPPING ALL TOPSOIL CONTAINING VEGETATION FROM THE AREAS TO BE GRADED AND STOCKPILING IT. THIS MATERIAL SHALL NOT BE USED AS FILL EXCEPT FOR IN NON-CRITICAL YARD AREAS THAT ARE REQUIRED TO BE COMPACTED BUT NOT REQUIRED TO HAVE THE FILL CONTROLLED. SILT FENCE IS REQUIRED TO OUTLINE THE PLACEMENT AREAS AT ALL LOCATIONS. REFER TO THE SOILS REPORT FOR APPROXIMATE TOP SOIL DEPTHS.

7) ANY TREES, BRUSH, STUMPS AND FENCING MATERIALS REMOVED IN THE CLEARING OPERATIONS SHALL BE DISPOSED OF IN THE PROPER MANNER AT AN APPROVED OFFSITE LOCATION. THE CONTRACTOR SHALL SAVE AND PROTECT ALL TREES NOT SHOWN TO BE REMOVED ON THE PLANS.

8) THE CONTRACTOR SHALL EXERCISE PROPER CAUTION TO PROTECT THE EXISTING IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.

9) THE CONTRACTOR SHALL BE AWARE THAT FIELD DRAINAGE TILE MAY EXIST IN THE AREA AND THAT EXTREME CARE SHALL BE TAKEN TO PREVENT ANY DAMAGE TO THESE SYSTEMS. ANY TILE ENCOUNTERED SHALL BE LOCATED AND A COPY PROVIDED TO THE ENGINEER.

10) PRIOR TO PLACEMENT OF ANY FILL, THE STRIPPED SITE SHALL BE SCARIFIED TO A DEPTH OF 9 INCHES AND RE-COMPACTED TO DENSITIES SPECIFIED IN THE SOILS REPORT. ANY UNSUITABLE SOILS FOUND AT THIS TIME SHALL BE DRIED AND RECOMPACTED OR REMOVED IF REQUIRED COMPACTION CANNOT BE OBTAINED. REFER TO RECOMMENDATIONS OF THE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.

11) ALL FILL MATERIAL SHALL CONSIST OF APPROVED, SUITABLE SOILS PLACED IN LOOSE LIFTS OF 9 INCHES OR LESS AND COMPACTED AS REQUIRED IN THE SOILS REPORT. THE COMPACTION WILL BE FIELD TESTED BY A SOILS ENGINEERING CONSULTANT REPRESENTING THE OWNER.

12) SUBGRADES IN CUT AREAS AND IN AREAS RECEIVING LESS THAN 9 INCHES OF NEW FILL SHALL ALSO BE SCARIFIED TO A DEPTH OF ABOUT 9 INCHES, ADJUSTED IN MOISTURE CONTENT AS NEEDED AND RECOMPACTED AS SPECIFIED ABOVE.

13) TOLERANCES FOR GRADING SHALL BE TO WITHIN ±0.10 FEET OF PROPOSED SUBGRADE ELEVATIONS. TOLERANCES FOR PAVEMENT SUBGRADES REQUIRED JUST PRIOR TO PAVING SHALL BE ±0.02 FEET. TOLERANCES FOR FINISH GRADING SHALL BE TO THE REQUIREMENTS OF THE LANDSCAPE SPECIFICATIONS.

14) RESPREAD OR PROVIDE 4 TO 6 INCHES OF TOPSOIL ON ALL AREAS NOT INTENDED FOR BUILDINGS, PAVEMENT, PARKING, SIDEWALKS OR DRIVEWAYS. TOPSOIL SHALL BE UNIFORMLY PLACED AND SPREAD BY THE GRADING CONTRACTOR. FINAL AND DETAIL SPREADING AND SMOOTHING SHALL BE PERFORMED BY THE LANDSCAPE CONTRACTOR.

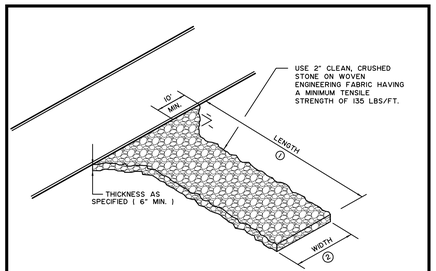
15) ROLLED EROSION CONTROL PRODUCT (RECP) SHALL HAVE NETTING AND CONSIST OF FLEXIBLE, DEGRADABLE INTERLOCKING FIBERS AND SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. USE FUTERRA MAT BY PROFILE PRODUCTS.

16) THE NPDES GENERAL PERMIT NO.2 REQUIRES THAT ALL DISTURBED AREAS WHERE NO CONSTRUCTION ACTIVITIES ARE SCHEDULED FOR A PERIOD OF 21 CALENDAR DAYS OR MORE, BE STABILIZED WITHIN 14 DAYS OF THE FINAL CONSTRUCTION ACTIVITY. TEMPORARY SEEDING IS ONE WAY TO MEET THIS REQUIREMENT. TEMPORARY SEED MIX SHALL BE ACCORDING TO SUDAS SPECIFICATION SECTION 9010 TYPE 4. STEEP SLOPES THAT DO NOT HAVE AN EROSION CONTROL MATTING SHALL BE TREATED WITH A SPRAY-ON FLEXIBLE GROWTH MEDIUM (FGM)

17) FGM (FLEXIBLE GROWTH MEDIUM) SHALL BE FLEXTERRA BY PROFILE PRODUCTS, LLC OR EQUAL PRODUCT. THE PRODUCT SHALL BE APPLIED AT A RATE OF 3500 POUNDS PER ACRE AND IN ACCORDANCE WITH THE MANUFACTURER'S APPLICATION REQUIREMENTS. THE PRODUCT SHALL BE APPLIED TO ALL PUBLIC RIGHT OF WAYS AND TO ALL STEEP SLOPES.

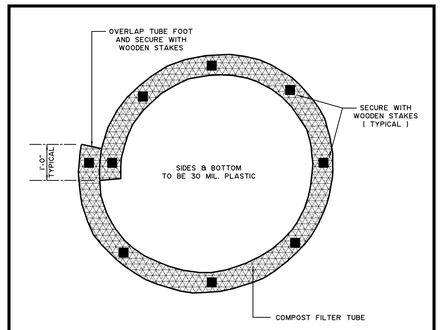
18) A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED FOR THIS PROJECT AND ADDRESSES THE REQUIREMENTS OF GOOD ENGINEERING PRACTICE AND OF PART IV OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO.2. A COPY OF THIS SWPPP MUST BE RETAINED ON THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION. THE RETAINED COPY MUST BE AMENDED, REVISED AND UPDATED AS NEEDED THROUGHOUT THE PROJECT'S PROGRESSION. ALL PROVISIONS, AMENDMENTS, REVISIONS AND UPDATES ON THE SWPPP MUST BE IMPLEMENTED BY THE CONTRACTOR AS A CONDITION OF THE GENERAL PERMIT.

19) THE CONTRACTOR SHALL SEED AND FERTILIZE ALL DISTURBED AREAS NOT INTENDED FOR BUILDINGS, PAVEMENT, PARKING, SIDEWALKS OR DRIVEWAYS. PRODUCTS SHALL INCLUDE SEED, FERTILIZER AND FGM MULCH/TACKIFIER AGENT. THE SEED MIXTURE SHALL BE A PERMANENT LAWN MIX USED FOR RESIDENTIAL AND COMMERCIAL TURF SITES. FERTILIZED AND TYPICALLY MOWED. SEED DATES SHALL BE BETWEEN MARCH 1 AND MAY 31 OR AUGUST 10 AND SEPTEMBER 30. THE SEED MIX SHALL CONSIST OF THE FOLLOWING: CREEPING RED FESCUE 25 LB/AC, PERENNIAL RYEGRASS 40 LB/AC, KENTUCKY BLUE 195 LB/AC. FERTILIZER SHALL BE 6-24-24 COMMERCIAL FERTILIZER OR THE EQUIVALENT UNITS OF NITROGEN, PHOSPHATE, AND POTASH APPLIED AT THE RATE OF 300 LB/AC. MULCH MAY BE DRY CEREAL STRAW, PRAIRIE HAY, OR WOOD EXCELCIOR. WATER SHALL BE FREE OF ANY SUBSTANCE HARMFUL TO SEED GERMINATION AND PLANT GROWTH. WATERING SHALL BE PERFORMED UNTIL A HEALTHY, SELF-SUSTAINING PLANT GROWTH IS ACHIEVED. HYDRAULIC OR PNEUMATIC SEEDING IS ALLOWED WITH THE SEED, FERTILIZER AND MULCH MIX HAVING TO BE SUBMITTED TO THE ENGINEER FOR PRIOR APPROVAL.

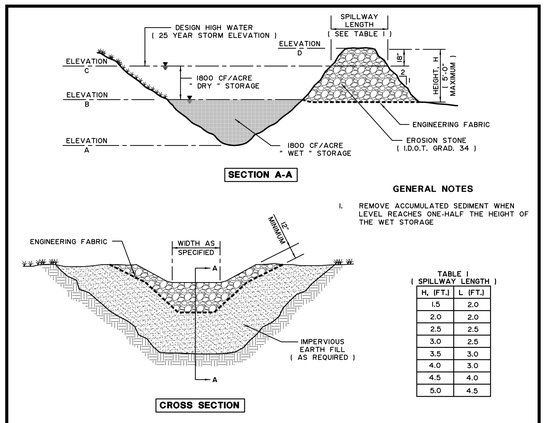


1. REMOVE VEGETATION AND EXCAVATE SOFT SOIL FROM ENTRANCE AREA. THOROUGHLY COMPACT SUBGRADE PRIOR TO PLACING STONE.
2. INSTALL CULVERT UNDER ENTRANCE IF NECESSARY TO MAINTAIN DRAINAGE.
3. GRADE ENTRANCE TO PREVENT RUNOFF FROM FLOWING ONTO STREET. DIRECT ALL RUNOFF FROM ENTRANCE TO A SEDIMENT RETENTION DEVICE.
4. WHEN SPECIFIED, INSTALL SUBGRADE STABILIZATION FABRIC PRIOR TO PLACING CRUSHED STONE.
5. INSTALL LAYER OF CRUSHED STONE TO THE THICKNESS (6 INCH MINIMUM) AND DIMENSIONS SPECIFIED
   - (1) ENTRANCE LENGTH: 50 FEET MINIMUM OR AS SPECIFIED. LENGTH OF ENTRANCE MAY BE INCREASED IF SEDIMENT TRACKING OCCURS.
   - (2) ENTRANCE WIDTH: 20 FEET MINIMUM

DETAIL STABILIZED CONSTRUCTION EXIT



DETAIL CONCRETE WASHOUT ENCLOSURE



SECTION A-A

GENERAL NOTES

1. REMOVE ACCUMULATED SEDIMENT WHEN LEVEL REACHES ONE-HALF THE HEIGHT OF THE WET STORAGE

CROSS SECTION

TABLE 1
(SPILLWAY LENGTH)

H, (FT.)	L (FT.)
1.5	2.0
2.0	2.0
2.5	2.5
3.0	2.5
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5

DETAIL SEDIMENT TRAP

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Revisions		
Description	Date	Num
ADDENDUM #2	FEBRUARY 29, 2016	2

Comm·
Date· 02/08/2016
Drawn· SPK
Check· JDW

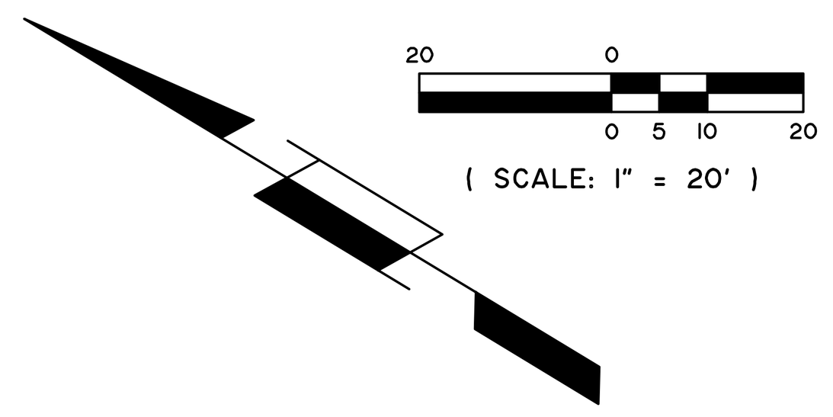
North

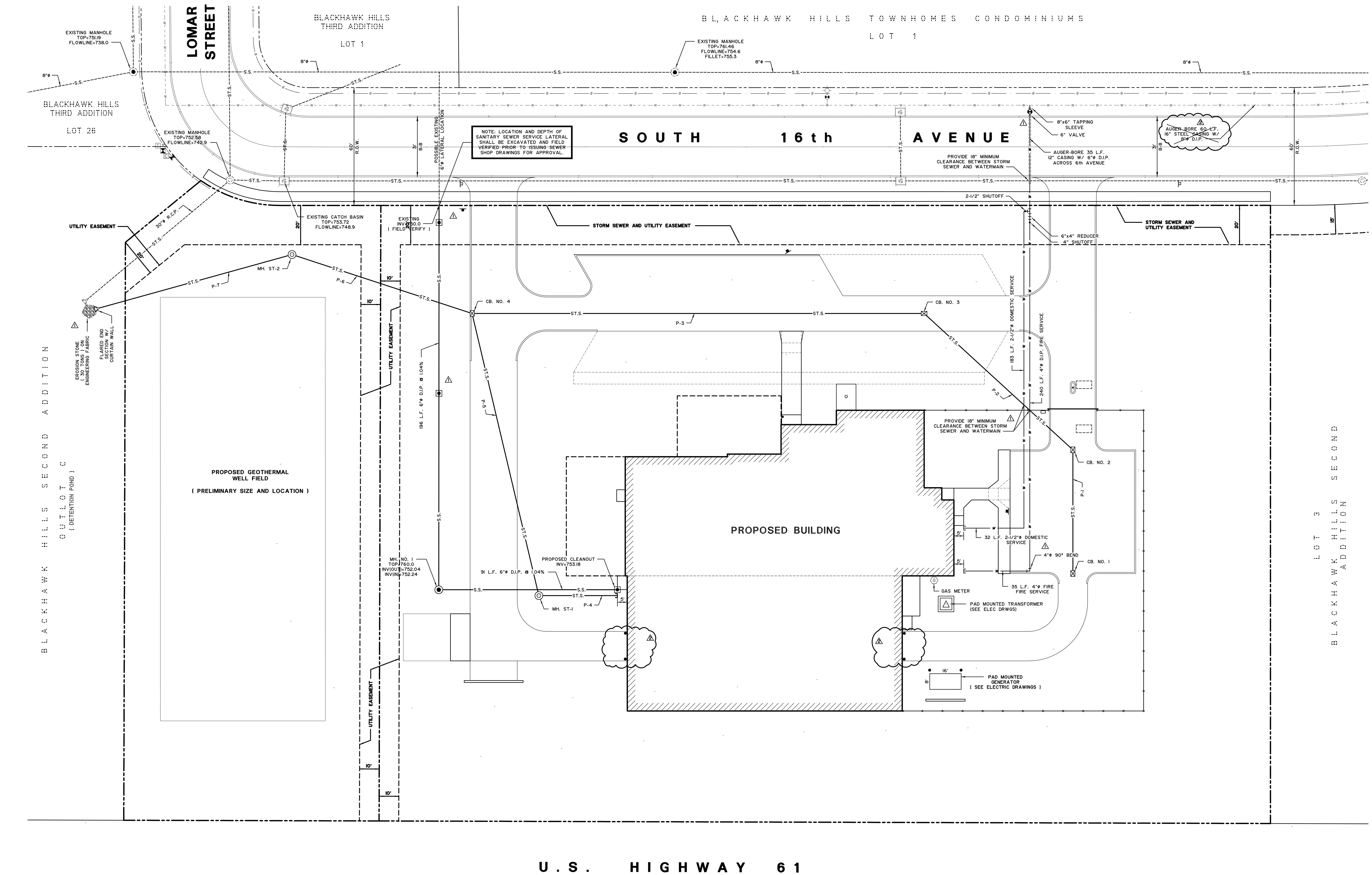
GRADING AND EROSION CONTROL PLAN DETAILS AND NOTES

Scale· 1" = 20'

C1.07

UTILITY PLAN
SHERIFF'S PATROL HEADQUARTERS
ELDRIDGE, IOWA





PIPE INFORMATION					
PIPE NUMBER	PIPE SIZE	LENGTH	% SLOPE	UPPER ELEVATION	LOWER ELEVATION
P-1	12	63	1.00	757.35	756.72
P-2	12	103	1.00	756.62	755.59
P-3	18	230	1.00	755.09	752.79
P-4	10	40	2.00	756.56	755.56
P-5	12	148	1.40	755.36	753.29
P-6	18	96.5	1.20	752.59	751.43
P-7	18	104	5.10	749.30	744.00

STRUCTURE INFORMATION				
STRUCTURE	SIZE/TYPE	CENTERLINE STATION	TOP ELEVATION	INVERT
CB. NO. 1	SW-511	-	759.85	757.35
CB. NO. 2	SW-511	-	760.05	756.62
CB. NO. 3	SW-511	-	759.50	755.09
CB. NO. 4	SW-501	-	TC-758.50	752.59
MH. ST-1	SW-401	-	RIM=760.9	755.36
MH. ST-2	SW-401	-	RIM=756.7	749.30

LEGEND

- EXISTING CONTOUR (INDEX)
- EXISTING CONTOUR (INTERMEDIATE)
- EXISTING STORM SEWER
- EXISTING CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING FLARED END SECTION
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATERMAIN
- EXISTING FIRE HYDRANT
- EXISTING WATERMAIN VALVE
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC BOX
- EXISTING CABLE T.V. PEDESTAL
- EXISTING GASMAIN
- EXISTING GASMAIN VALVE
- PROPOSED STORM SEWER
- PROPOSED STORM SEWER MANHOLE
- PROPOSED STORM SEWER CATCH BASIN
- PROPOSED CHAINLINK FENCE (8' HIGH, BLACK VINYL COATED)
- PROPOSED BOLLARD
- PROPOSED WATERMAIN SERVICE
- PROPOSED AUTO-OPEN ACCUATOR ((SEE ELCTRIC DRAWINGS)
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SEWER MANHOLE

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Revisions		
Description	Date	Num
ADDENDUM #1	FEBRUARY 22, 2016	1
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Comm: .
Date: 02/08/2016
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Check: JDW

North

UTILITY PLAN

Scale: 1" = 20'

C1.08

CODE LEGEND

MAIN PATH OF EGRESS

— EXIT LOAD

— OCCUPANT LOAD

— OCCUPANT FACTOR

NEW 1 HOUR FIRE BARRIER
(SHAFT ENCLOSURES: 707.4, INCIDENTAL USE AREAS: 508.2, OCCUPANCY SEPARATIONS: 508.3.3, STAIR/ VERTICAL EXIT ENCLOSURES: 1020.1)

OPENINGS:	60 MIN. (SHAFT ENCLOSURES)
	45 MIN. (INCIDENTAL USE AREAS, OCCUPANCY SEPARATIONS)
GLAZING:	60 MIN. OPENINGS: 100 SQ IN MAX, 33" MAX HT, 10" MAX WIDTH
	45 MIN. OPENINGS: 1296 SQ IN MAX, 54" MAX HT, 54" MAX WIDTH
DUCTWORK:	90 MIN. FIRE DAMPER (NOT REQUIRED WITH DUCTED HVAC)
	90 MIN FIRE/ SMOKE DAMPER (AT SHAFT ENCLOSURES)

CONSTRUCTION CAPABLE OF RESISTING THE PASSAGE OF SMOKE (NOT A CODE REQUIRED SEPARATION - USED TO NOTATE LOCATIONS WHERE OWNER WISHES TO LIMIT PASSAGE OF ODORS DUE TO EVIDENCE STORAGE AND PROCESSING. CONSTRUCT THESE WALLS WITH SEALS AS CALLED OUT ON DRAWINGS/DETAILS AT TOP OF WALL AND AT OPENINGS)

1 NOTE: ALL RATED CONSTRUCTION TO BE LABELED PER IBC 2009.703.6. SEE ALSO SPECIFICATION SECTION 09 91 00.

BUILDING # 1

CODE ANALYSIS (IBC 2009)

1. OCCUPANCY CLASSIFICATIONS — SECTION 302

A.	SECTION 304, BUSINESS:	GROUP B
B.	SECTION 311, STORAGE:	GROUPS S-2

2. INCIDENTAL USE AREAS — TABLE 508.2

FURNACE ROOM (400,000 BTU)	1 HR OR PROVIDE AUTOMATIC FIRE-EXTINGUISHING SYSTEM
BOILER ROOM (10 PSI OR 10 HP)	1 HR OR PROVIDE AUTOMATIC FIRE-EXTINGUISHING SYSTEM
REFRIGERANT MACHINERY ROOMS	1 HR OR PROVIDE AUTOMATIC FIRE-EXTINGUISHING SYSTEM
STATIONARY STORAGE BATTERY SYSTEM LOCATION	1 HR IN GROUP B, F, M, S

NOTE: AUTOMATIC FIRE-EXTINGUISHING SYSTEM PROVIDED THRU-OUT BUILDING AS AUTOMATIC SPRINKLER SYSTEM

3. MIXED OCCUPANCIES — SECTION 508

A. SEPARATIONS — TABLE 508.4

1. GROUP B TO S-2 — 1 HR

4. CONSTRUCTION TYPE / FIRE RESISTANCE — TABLE 601 / 602

A. TYPE II-B

BUILDING ELEMENT	FIRE RESISTANCE
STRUCTURAL FRAME	0 HR
EXT. BEARING WALLS	0 HR
INT. BEARING WALLS	0 HR
EXT. NON-BEARING WALLS	0 => 30 FT.
INT. NON-BEARING WALLS	0 HR
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR
VERTICAL SHAFTS AND ELEVATOR SHAFTS (707.4)	N/A
CORRIDORS (1018 / 708)	0 HR W/ SPRINKLER SYSTEM
VERTICAL EXIT ENCLOSURES (1022)	N/A

5. GENERAL BUILDING HEIGHT AND AREA — SECTION 503 / 504

A. ALLOWABLE HEIGHT AND AREAS

GROUP	ALLOWABLE HEIGHT TABLE 503	ALLOWABLE HEIGHT WITH SPRINKLER TABLE 503 / 504.2	ALLOWABLE AREA TABLE 503	MOST RESTRICTIVE NON-SEPARATED OCCUPANCY 508.3.2
B	3 STORIES / 55 FT.	4 STORIES / 75 FT.	23,000 S.F.	X
S-2	3 STORIES / 55 FT.	4 STORIES / 75 FT.	26,000 S.F.	

6. ALLOWABLE AREA MODIFICATIONS — SECTION 506

A. GROUP B

1. EQUATION 5-1

A.
A = {A(T) + [A(T) * I(F)] + [A(T) * I(S)]}
A = {23,000 + (23,000 * .75) + (23,000 * 3)
A = 23,000 + 17,250 + 69,000
A = 109,250 SF

B. GROUP S-2

1. EQUATION 5-1

A.
A = {A(T) + [A(T) * I(F)] + [A(T) * I(S)]}
A = {26,000 + (26,000 * .75) + (26,000 * 3)
A = 26,000 + 19,500 + 78,000
A = 123,500 SF

C. ACTUAL AREA

GROUP	MAIN LEVEL
B	11,258 SF
S-2	9,800 SF
TOTALS:	21,058 SF

D. MIXED OCCUPANCY RATIO — 508.3.3.2

GROUP B		GROUP S-2	
ACTUAL AREA / ALLOWABLE AREA	+	ACTUAL AREA / ALLOWABLE AREA	<1
11,258 / 23,000	+	9,800 / 26,000	
.489	+	.377	=.866 = <1
WITH AREA MODIFICATIONS			
11,258 / 109,250	+	9,800 / 123,500	
.103	+	.079	=.182 = <1

7. MEANS OF EGRESS — CHAPTER 10

A. BUILDING OCCUPANT LOAD — TABLE 1004.1.1

1. MAIN LEVEL

FUNCTION	S.F./ OCCUPANT	S.F./ SPACE	OCCUPANCY/ SPACE
BUSINESS	100 GROSS	11,258	113
PARKING GARAGES	200 GROSS	9,800	49
TOTAL MAIN LEVEL		21,058	162

7. MEANS OF EGRESS — CHAPTER 10

B. EGRESS WIDTH — TABLE 1005.1

1. MAIN LEVEL OCCUPANCY 166

STAIRS

FACTOR	REQUIRED WIDTH	# STAIRS	WIDTH PER STAIR **
.3	49"	0	N/A

OTHER

FACTOR	REQUIRED WIDTH	DR WIDTH	# DOORS REQUIRED
.2	33"	/ 32" *	1 (4 EGRESS DOORS AT 36" MIN PROVIDED AT B OCCUPANCY; 2 EGRESS DOORS AT 36" MIN PROVIDED AT S-2 OCCUPANCY)

* MINIMUM DOOR WIDTH TO BE 36" TO ACHIEVE 32" CLEAR WIDTH PER 1008.1.1.

** MINIMUM STAIRWAY WIDTH TO BE 44" (INCLUDING LANDING WIDTH) UNLESS SERVING LESS THAN 50 OCCUPANTS PER 1009.1. FOR ACCESS TO UNOCCUPIED ROOFS- 1209.3

C. TRAVEL DISTANCES/ EXIT SYSTEMS

1. COMMON PATH OF TRAVEL 1014.3 = 75 FT. (TO A POINT WHERE OCCUPANT HAS TWO MEANS OF EGRESS.)

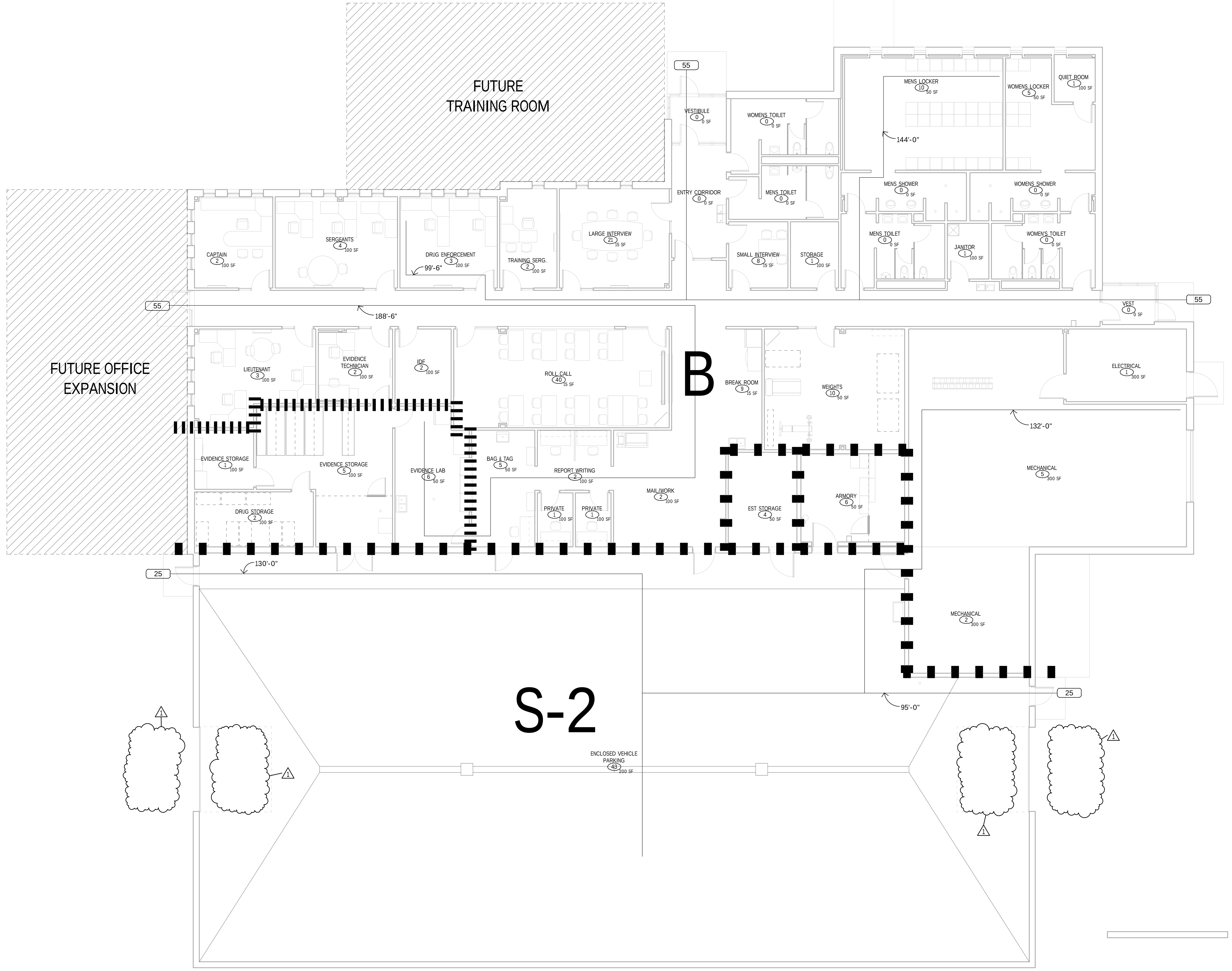
2. EXIT ACCESS TRAVEL DISTANCE — TABLE 1016.1 (TRAVEL DISTANCE TO A RATED EXIT SYSTEM.)

OCCUPANCY	W/O SPRINKLER	W/ SPRINKLER
B	200	300
S-2	300	400

3. CORRIDORS — 1018

A. MINIMUM WIDTH (1017.2) = 44" OR 36" FOR LESS THAN 50 OCCUPANTS

B. DEAD ENDS (1017.3):
IN SPRINKLERED GROUP B AND S = 50'
OR
LENGTH = 2.5 TIMES THE LEAST WIDTH OF CORRIDOR



1 CODE PLAN
1/8" = 1'-0"
0 6' 12'

8. WALL AND CEILING FINISHES — TABLE 803.9

SPRINKLERED

GROUP	EXIT ENCLOSURES AND EXIT PASSAGEWAYS	CORRIDORS	ROOMS AND ENCLOSED SPACES
B	B	C	C
S	C	C	C

10. PLUMBING FIXTURE COUNT — UNIFORM PLUMBING CODE 2012

A. "B" OCCUPANCY

		MEN			WOMEN		TOTAL	
1.	OCCUPANTS	81			81		162	
2.	FIXTURE RATIO	WC	URINAL	LAV	WC	LAV	DRINKING FOUNTAINS	SERVICE SINK
		1:50 1ST 100 THEN 1:100	1:100 1ST 200	1:75 1ST 150 THEN 1:100	4 1ST 100	1:50 1ST 200 THEN 1:100	1:150	1
3.	FIXTURES REQUIRED	2	1	2	4	2	2	1
4.	ACTUAL FIXTURES	3	2	3	5	3	2	1

* 0 URINALS ARE BEING SUBSTITUTED FOR MEN'S WATER CLOSETS.

NOTE: FUTURE OFFICE SPACE AND TRAINING ROOM WILL ADD APPROXIMATELY 68 OCCUPANTS TO BUILDING. PLUMBING FIXTURE COUNT SIZED TO ACCOMMODATE ADDITIONAL OCCUPANTS.

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed ARCHITECT under the laws of the State of IOWA

Roger Schroepfer
Registration Number 06278 Date 2/8/2016

Revisions		
Description	Date	Num
ADDENDUM #2	2/29/2016	1

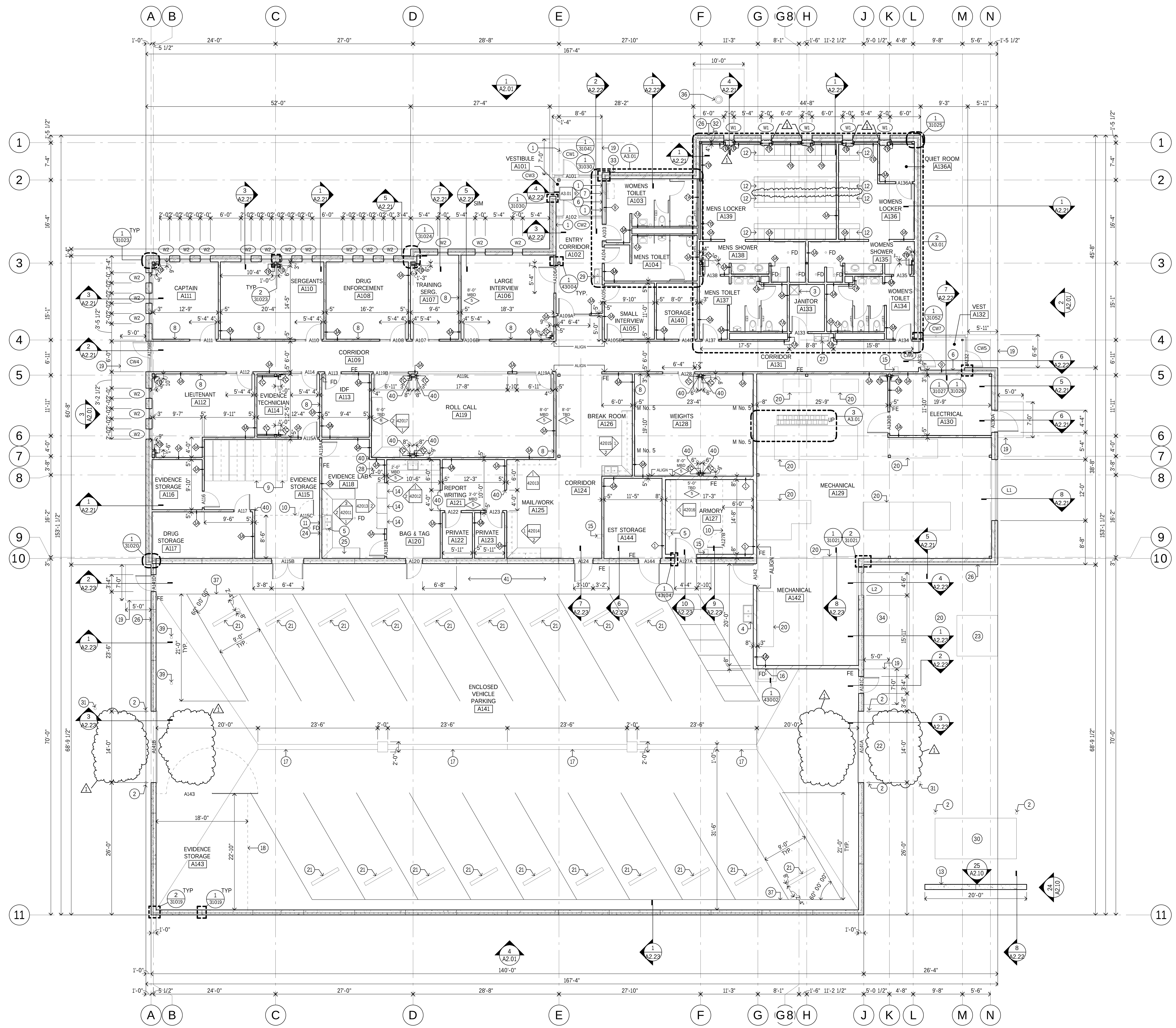
Comm: 133030
Date: 2/8/2016
Drawn: AA
Check: KE

North

CODE PLAN

Scale: As indicated

A1.00



1 MAIN LEVEL FLOOR PLAN
1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. REFER TO DETAILS OF CONSTRUCTION FOR:
   A. ABBREVIATIONS, MATERIAL SYMBOLS
   B. MOUNTING HEIGHTS
   C. LINTEL SCHEDULE
   D. WALL TYPES
   E. MARKER BD TYPES AND MOUNTING HTS
   THE ABOVE SECTIONS ARE LISTED FOR REFERENCE ONLY, AND ARE NOT EXCLUSIVE TO AREAS OF WORK. ALL DETAILS SHALL BE REVIEWED FOR SCOPE OF WORK.
2. ALL PLAN DIMENSIONS ARE NOMINAL TO FACE OF WALL. WALL THICKNESSES ARE SHOWN NOMINAL, SEE WALL TYPES FOR ACTUAL THICKNESS.
3. ALL GYP. WALLS ARE TO BE 5 INCHES THICK UNLESS OTHERWISE NOTED.
4. ALL CONCRETE BLOCK WALLS ARE TO BE 8 INCHES THICK UNLESS OTHERWISE NOTED.
5. COORDINATE SIZE AND LOCATION OF ALL DUCT AND SHAFT OPENINGS IN WALLS AND FLOORS W/ MECH. AND ELEC. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS. SEE LINTEL SCHEDULE.
6. FIELD VERIFY ALL MILLWORK OPENINGS.
7. SET FLOOR DRAINS 3/4" BELOW FINISHED CONCRETE FLOORS UNLESS OTHERWISE NOTED. PROVIDE CONSISTENT SLOPE FROM WALL TO DRAIN BY SLOPING CONCRETE, MIN. 1/4" PER FOOT.
8. VERIFY LOCATION, SIZE AND QUANTITY OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT PADS.
9. ALL DOOR/SIDELITE OPENINGS TO BEGIN 4" FROM ADJACENT WALL UNLESS OTHERWISE NOTED.
10. FIRE RATED WALLS ARE INDICATED ON CODE PLANS.

FLOOR PLAN KEY NOTES:

(1) DOOR ACTUATORS & BOLLARD AS OCCURS BY DOOR HARDWARE - SEE DETAIL 1/12005
(2) BOLLARD - SEE CIVIL DETAIL
(3) MOP SINK - SEE MECH
(4) UTILITY SINK - SEE MECH
(5) EMERGENCY EYE WASH - SEE MECH
(6) RECESSED WALL MOUNTED CABINET UNIT HEATER - SEE MECH FOR SPECIFICATIONS, COORDINATE LOCATION WITH ARCH
(7) AIPHONE LOCATION - SEE ELEC
(8) PROVIDE WOOD BLOCKING FOR OWNER INSTALLED TV MONITOR, COORDINATE LOCATION WITH OWNER
(9) HIGH DENSITY FILING SYSTEM WITH EMBEDDED TRACK - SEE STRUCT FOR SLAB REQUIREMENTS. COORDINATE TRACK INSTALLATION W/ FILING INSTALLER - SEE DETAILS 43007 AND 43008
(10) 8'-0" TALL CHAIN LINK FENCE W/ LOCKABLE GATE. GATE TO HAVE CARD ACCESS, COORDINATE WITH ELEC
(11) EQUIPMENT WASH - SEE MECH
(12) 24" X 24" WELDED METAL LOCKERS (WML)
(13) PRECAST SCREEN WALL AT GENERATOR - REFER TO SITE PLAN FOR TWO (2) LOCATIONS - DIM & ELEVATIONS SHOWN ON SHEET A2.10
(14) METAL EVIDENCE LOCKERS
(15) WALL MOUNTED WEAPON CLEARING SYSTEM
(16) WALL MOUNTED HOSE BIB - SEE MECH
(17) TRENCH DRAIN - SEE MECH. SLOPE CONCRETE TO DRAIN 1/4" PER 12" MIN. - SEE STRUCT FOR SLAB REQUIREMENTS
(18) 8'-0" TALL CHAIN LINK FENCE W/ LOCKABLE GATE
(19) CONCRETE STOOP - SEE STRUCT - REFER TO CIVIL FOR CONCRETE SIDEWALKS
(20) HOUSEKEEPING PAD/CURB - SEE MECH AND ELEC FOR SIZE & LOCATIONS - SEE DETAIL 2/43002
(21) RUBBER PARKING CURB LOCATION. PROVIDE 6'-0" HEAVY DUTY, SOLID RECYCLED PLASTIC PARKING BLOCK IN YELLOW - ANCHOR TO SLAB PER MANF. RECOMMENDATIONS
(22) SEE CIVIL FOR GROUND LOOP LOCATION AT EXTERIOR FENCING - COORDINATE W/ ELEC
(23) TRANSFORMER LOCATION - SEE MECH/ELEC FOR LOCATION - SEE ELEC FOR SLAB DETAILS
(24) DRYING CABINET LOCATION - PROVIDED BY OWNER, INSTALLED BY CONTRACTOR, COORDINATE WITH MECH/ELEC
(25) DUSTING HOOD LOCATION - PROVIDED BY OWNER, INSTALLED BY CONTRACTOR, COORDINATE WITH MECH/ELEC
(26) WALL MOUNTED HYDRANT - SEE MECH
(27) DUAL HEIGHT WATER COOLER W/ BOTTLE FILLER - SEE MECH
(28) FUME HOOD LOCATION - PROVIDED BY OWNER, INSTALLED BY CONTRACTOR, COORDINATE WITH MECH/ELEC
(29) DUAL HEIGHT WATER COOLER - SEE MECH
(30) GENERATOR LOCATION - SEE MECH/ELEC FOR LOCATION - SEE ELEC FOR SLAB DETAILS
(31) BOLLARD W/ CARD ACCESS - COORDINATE W/ ELEC - SEE CIVIL FOR THIRD LOCATION AT CHAIN LINK FENCE SLIDING GATE - SEE DETAIL 1/21001
(32) WALL MOUNTED FIRE DEPARTMENT CONNECTION - SEE MECH
(33) KNOX BOX LOCATION - PROVIDED BY OWNER, INSTALLED BY CONTRACTOR
(34) TRIPLE BASIN LOCATION - SEE MECH FOR LOCATION - SEE CIVIL FOR SLAB DETAILS
(35) FIRE ANUNCIATOR PANEL LOCATION - SEE ELEC
(36) FLAGPOLE LOCATION - SEE CIVIL FOR LOCATION AND SLAB DETAILS - SEE ELEC FOR LIGHTING
(37) PARKING GARAGE STRIPING - SEE CIVIL FOR DETAILS AND SPECIFICATIONS
(38) NOT USED
(39) BOLLARD LOCATION - COORDINATE LOCATION W/ MECH - SEE CIVIL DETAIL
(40) LOCATION OF CORNER GUARD
(41) LEVEL WALKWAY - SEE STRUCT

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06278
IOWA

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed ARCHITECT under the laws of the State of IOWA

Roger Schroepfer
Registration Number 06278 Date 2/8/2016

Revisions		
Description	Date	Num
ADDENDUM #2	2/29/2016	1

Comm: 133030
Date: 2/8/2016
Drawn: AA
Check: KE

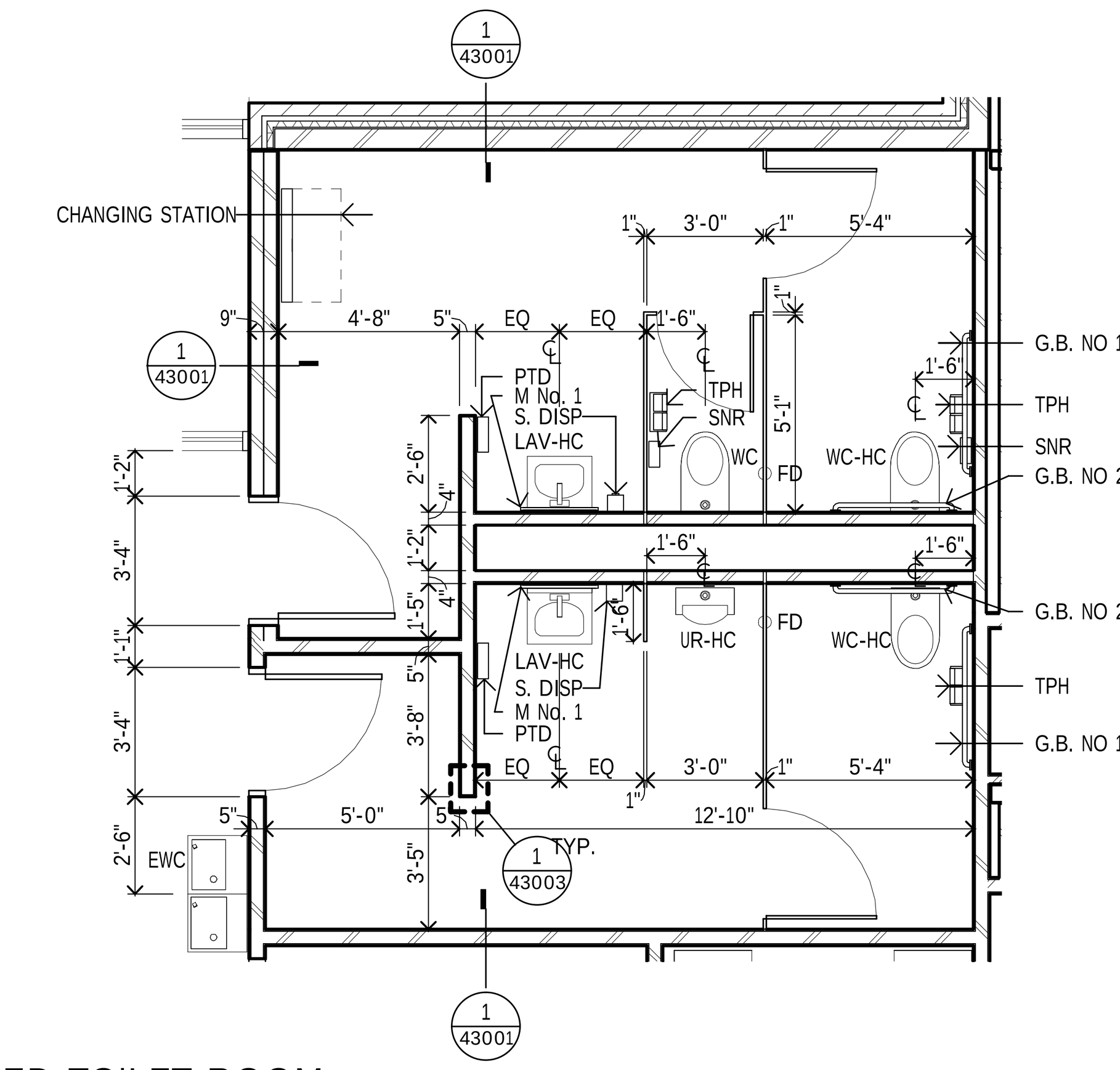
North

MAIN LEVEL FLOOR PLAN

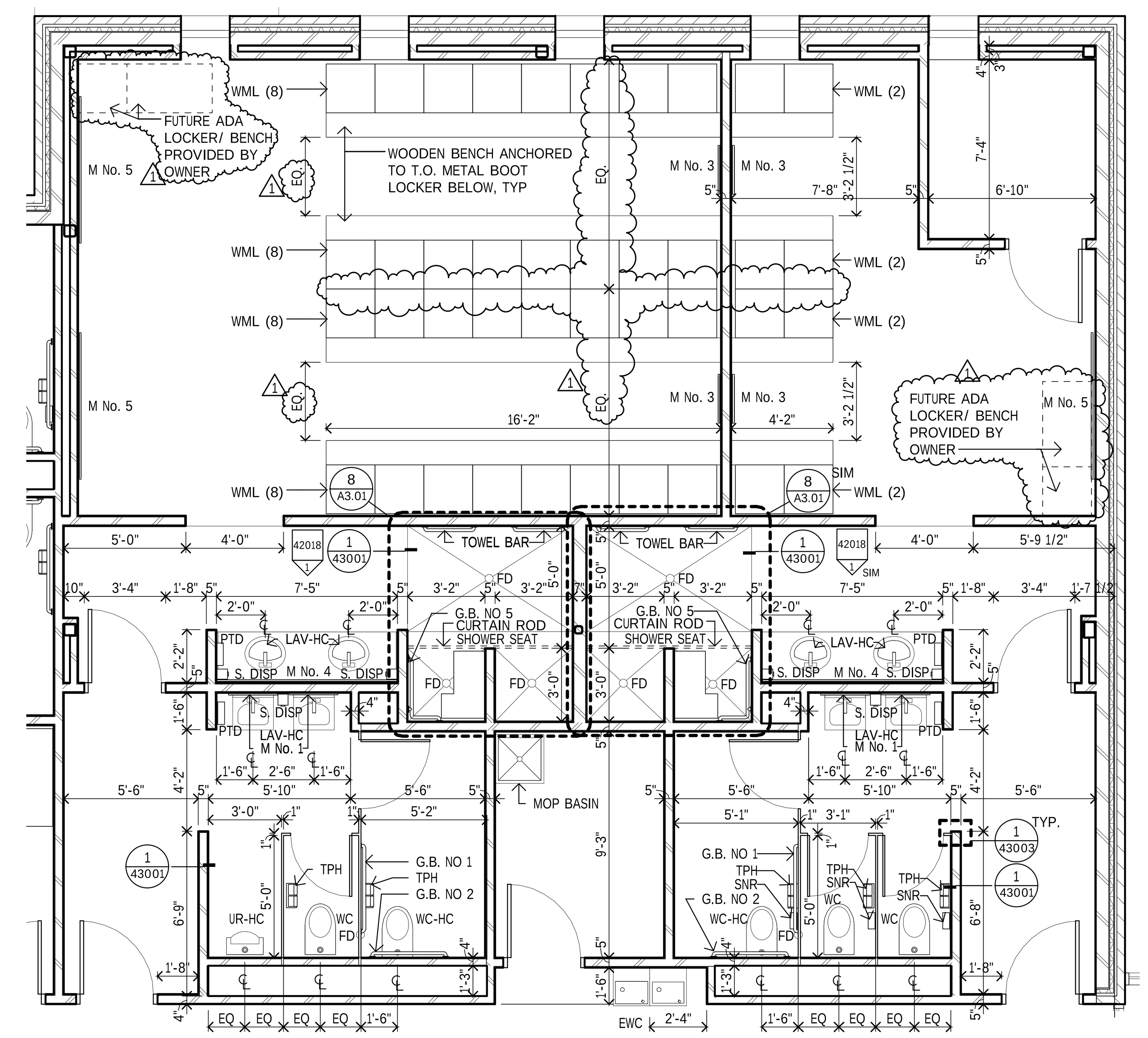
Scale: 1/8" = 1'-0"

A1.11

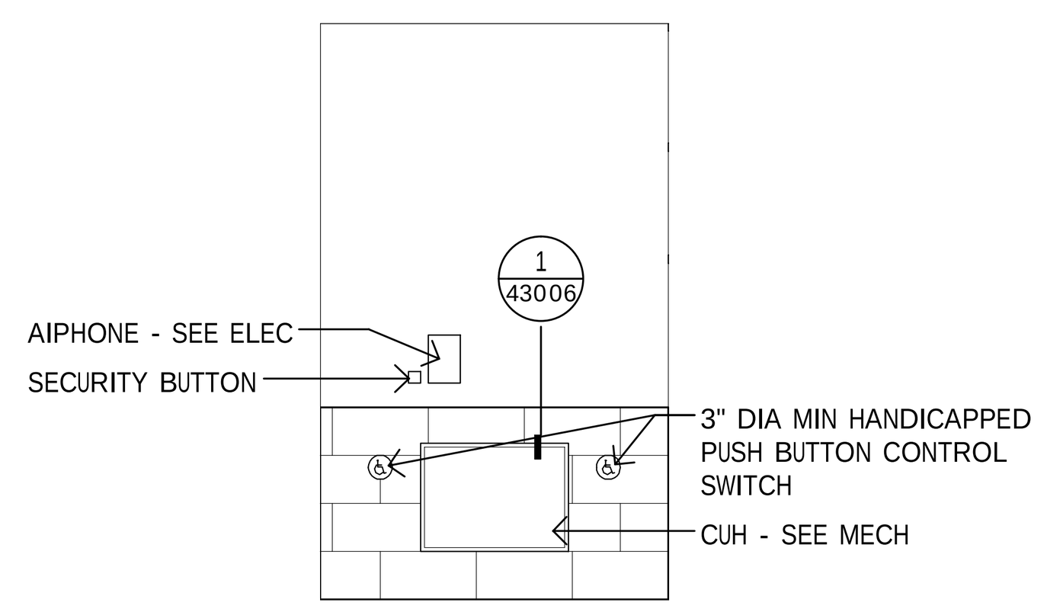
IL



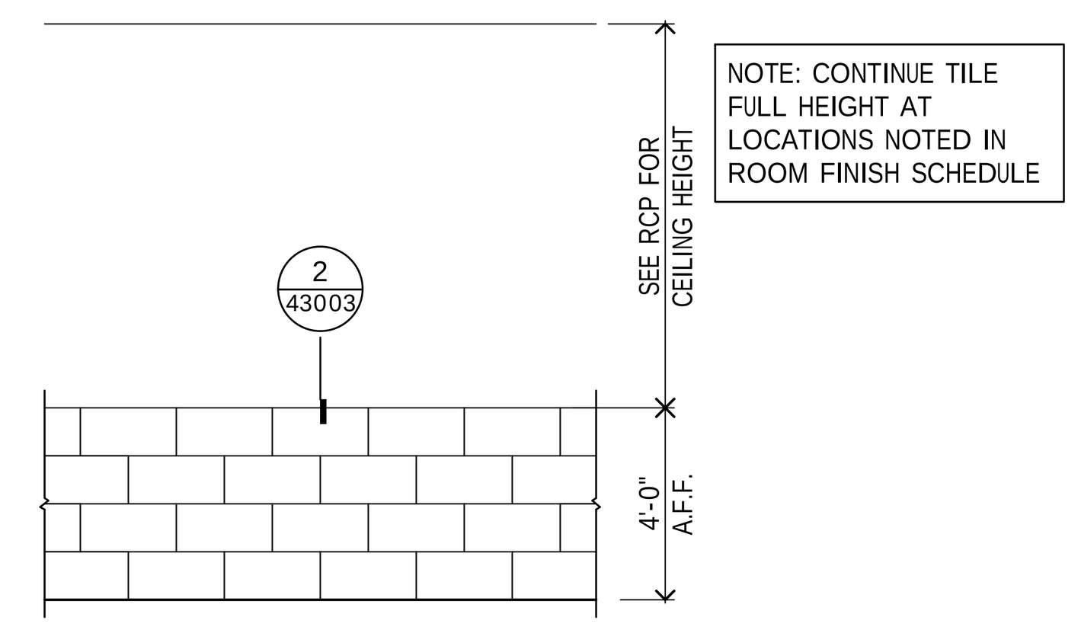
1 ENLARGED TOILET ROOM
1/4" = 1'-0"



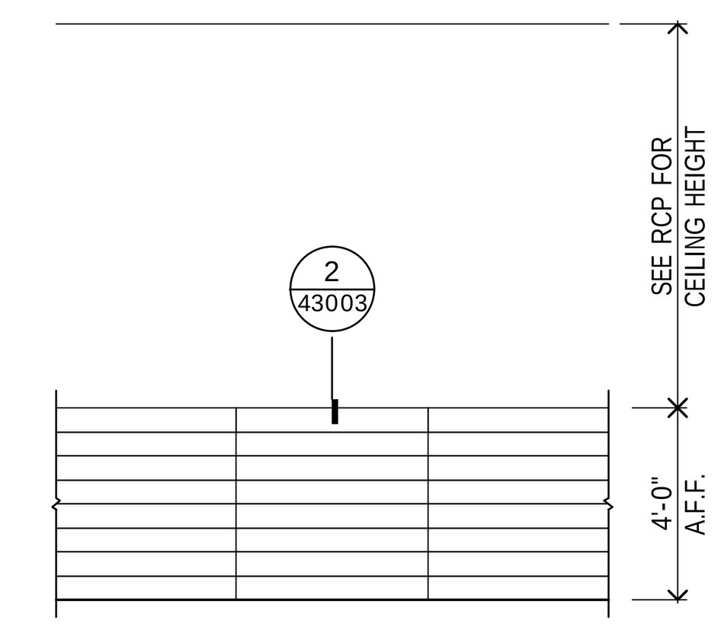
2 ENLARGED LOCKER ROOM
1/4" = 1'-0"



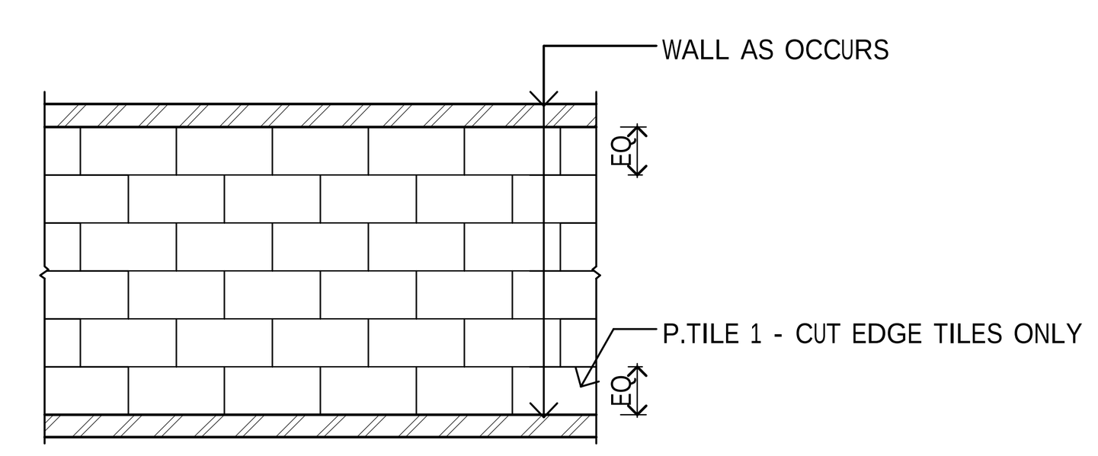
9 ELEVATION @ VEST A101
1/4" = 1'-0"



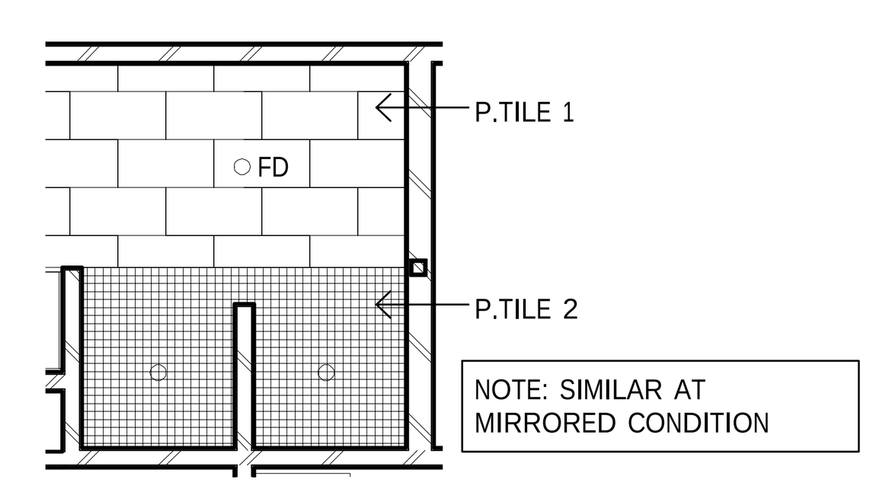
6 P.TILE 3 WALL PATTERN
1/4" = 1'-0"



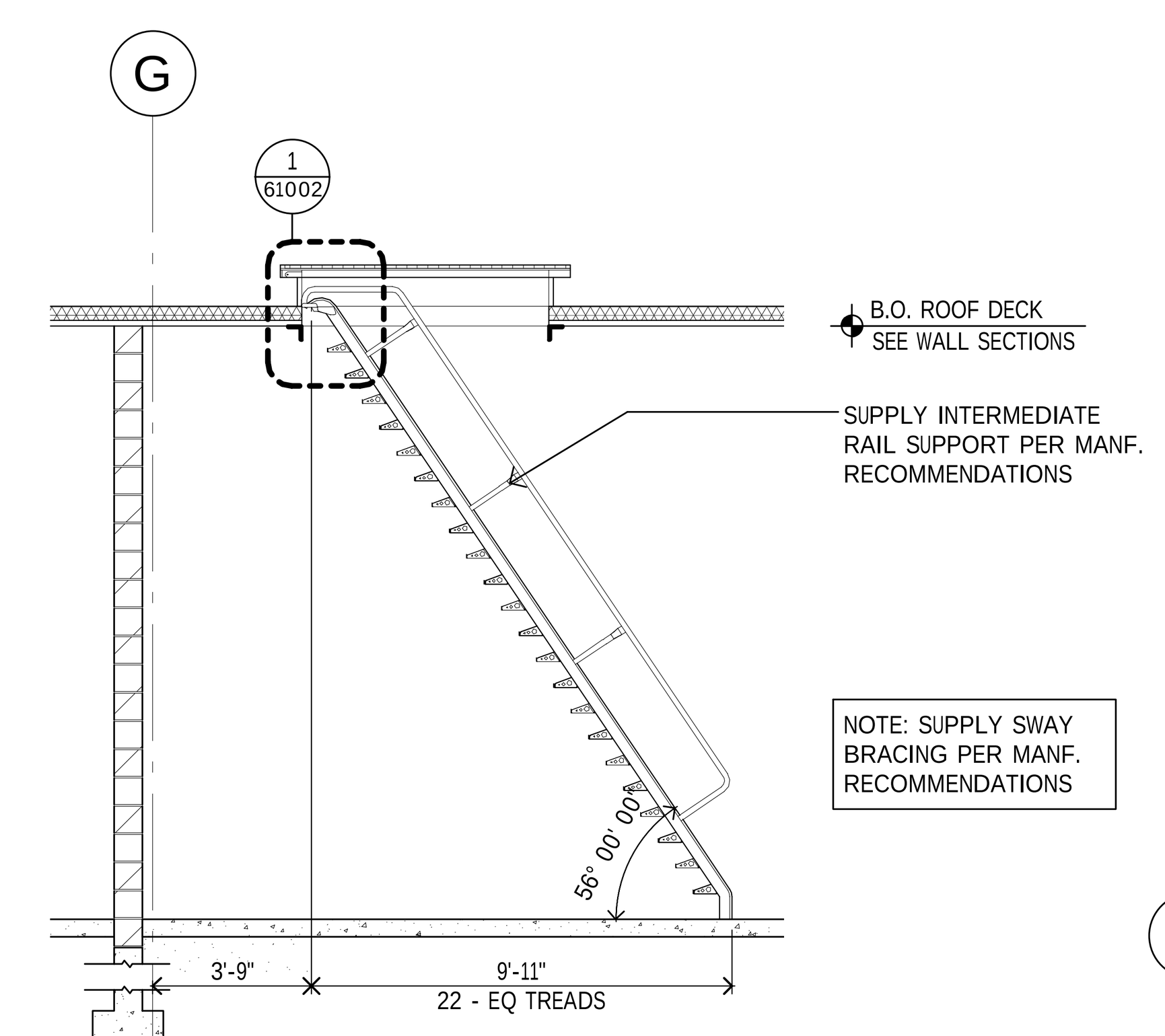
5 P.TILE 5 WALL PATTERN
1/4" = 1'-0"



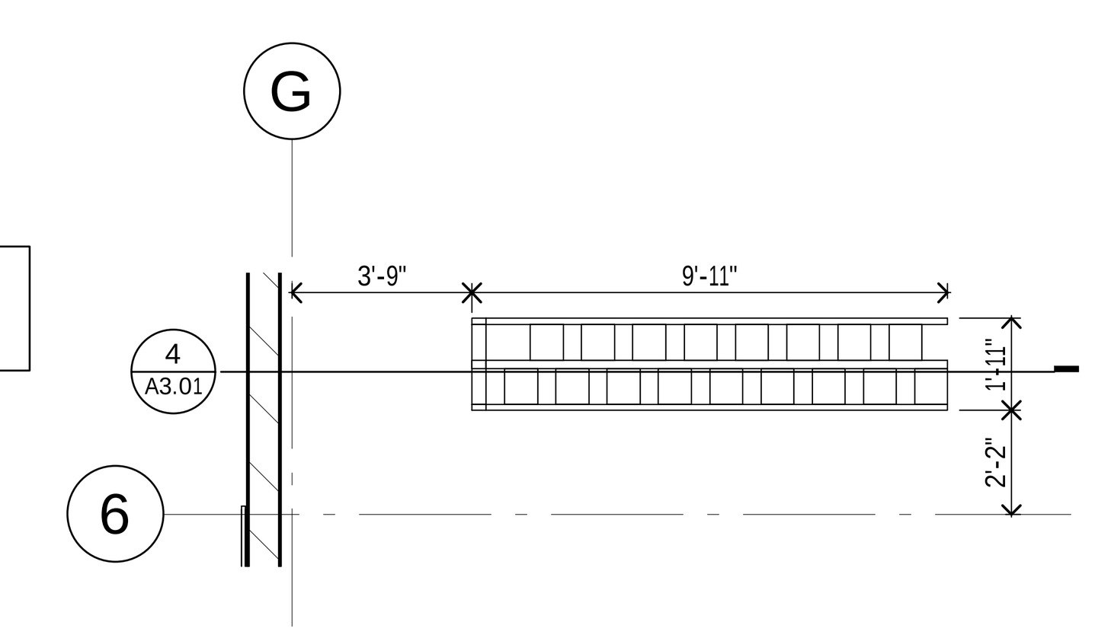
7 P.TILE 1 FLOOR PATTERN
1/4" = 1'-0"



8 SHOWER ROOM FLOOR PATTERN
1/4" = 1'-0"



4 SECTION @ ALTERNATING TREAD STAIR
1/4" = 1'-0"



3 ENLARGED ALTERNATING STAIR PLAN
1/4" = 1'-0"

A

Sheriff's Patrol Headquarters
3206 South 16th Street
Eldridge, Iowa, USA 52748

Scott County
600 West Fourth Street
Davenport, Iowa

WOLD architects engineers
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tel 847 241 6100
fax 847 241 6105
mail@woldae.com

REGISTERED PROFESSIONAL ARCHITECT
ROGER J. SCHROEPFER
06278
IOWA

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed ARCHITECT under the laws of the State of IOWA

Roger Schroepfer
Registration Number 06278 Date 2/8/2016

Revisions		
Description	Date	Num
ADDENDUM #2	2/29/2016	1

Comm: 133030
Date: 2/8/2016
Drawn: AA
Check: KE

North

ENLARGED TOILET PLANS / INTERIOR ELEVATIONS

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

A3.01

DRAWING S1.11 GENERAL NOTES:

- INDICATES TOP OF FOUNDATION WALL TO BE DEPRESSED, SEE SECTIONS ON S2.21

C? / P?
F?
x'-x"

- INDICATES COLUMN MARK / PIER MARK; SEE 1 & 2/S0.11
- INDICATES FOOTING MARK; SEE 3/S0.11
- INDICATES TOP OF FOOTING ELEVATION BELOW TOP OF SLAB ELEVATION.

DRAWING S1.11 KEYNOTES:

A-S1.11: PROVIDE 6" SLAB ON GRADE, REINFORCED WITH 6x6-W2.9xW2.9 WELDED WIRE FABRIC. PLACE SLAB ON VAPOR BARRIER OVER 6" OF COMPACTED GRANULAR FILL. SLOPE SLAB TO FLOOR DRAINS. SEE ARCHITECTURAL AND PLUMBING SHTS. FOR EXTENT.

B-S1.11: PROVIDE 5" SLAB ON GRADE, REINFORCED WITH 6x6-W2.0xW2.0 WELDED WIRE FABRIC. PLACE SLAB ON VAPOR BARRIER OVER 6" OF COMPACTED GRANULAR FILL. SLOPE SLAB TO FLOOR DRAINS. SEE ARCHITECTURAL AND PLUMBING SHTS.

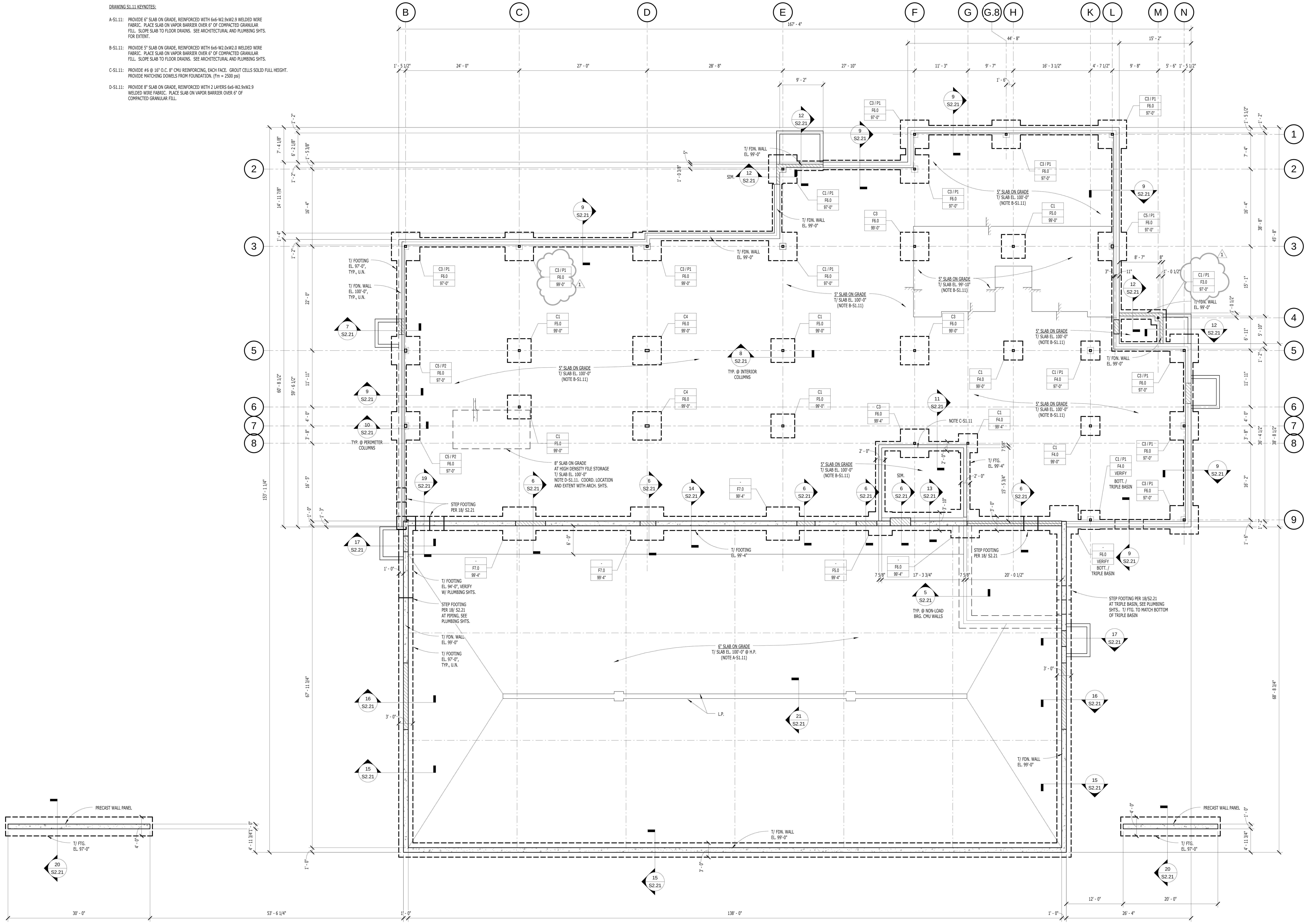
C-S1.11: PROVIDE #6 @ 16" O.C. 8" CMU REINFORCING, EACH FACE. GROUT CELLS SOLID FULL HEIGHT. PROVIDE MATCHING DOWELS FROM FOUNDATION. (f'm = 2500 psi)

D-S1.11: PROVIDE 8" SLAB ON GRADE, REINFORCED WITH 2 LAYERS 6x6-W2.9xW2.9 WELDED WIRE FABRIC. PLACE SLAB ON VAPOR BARRIER OVER 6" OF COMPACTED GRANULAR FILL.

ALTERNATE No. 1- ADDITIONAL CONCRETE PAD:

PROVIDE 5" SLAB ON GRADE (24'-0" x 24'-0"). REINFORCED WITH 6x6-W2.0xW2.0 WELDED WIRE FABRIC. PLACE SLAB OVER 6" OF COMPACTED GRANULAR FILL. PROVIDE 8" x 4'-0" DEEP GRADE BEAM REINFORCED WITH 2-#5, TOP & BOTTOM AT PERIMETER OF SLAB. PROVIDE #4@12" O.C. (24"x24") DOWELS FROM SLAB INTO GRADE BEAM. PROVIDE 5" SLAB ON GRADE (10 FT. x24 FT.) APRON REINFORCED WITH 6x6-W2.0xW2.0 WELDED WIRE FABRIC.

IL



A

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

Sheriff's Patrol Headquarters
3206 South 16th Street
Eldridge, Iowa, USA 52748

Scott County
600 WEST FOURTH STREET
DAVENPORT, IOWA

WOLD
architects engineers
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tel 847 241 6100
fax 847 241 6105
mail@woldae.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed

under the laws of the State of Iowa

Registration Number Date

Revisions		
Description	Date	Num
ADDDENDUM No. 2	2.29.16	1

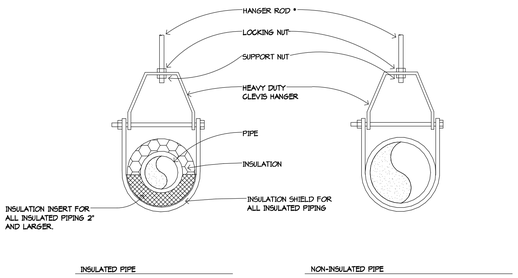
Comm: 133030
Date: 2/8/2016
Drawn: Author
Check: Checker

North

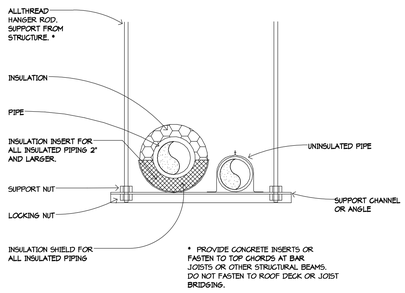
FOUNDATION PLAN

Scale: 1/8" = 1'-0"

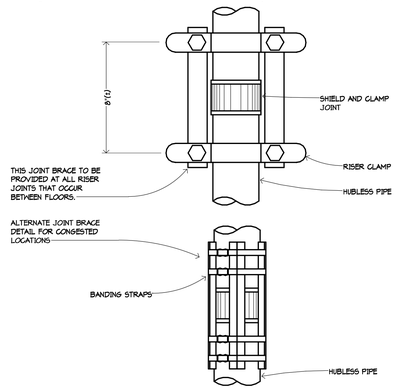
S1.11



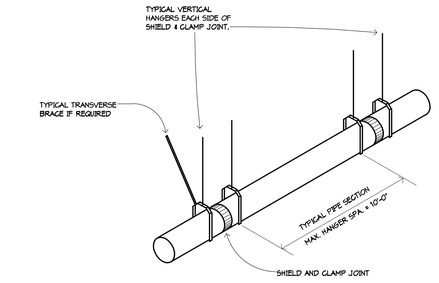
1 CLEVIS PIPE HANGER DETAIL
NOT TO SCALE



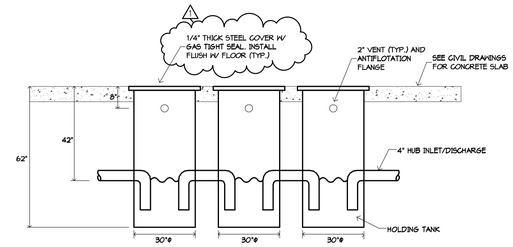
2 TRAPEZE PIPE HANGER DETAIL
NOT TO SCALE



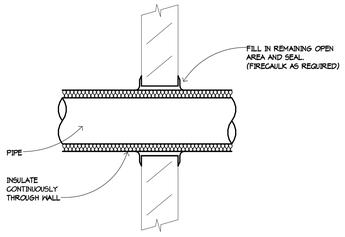
4 HUBLESS PIPE RISER DETAIL
NOT TO SCALE



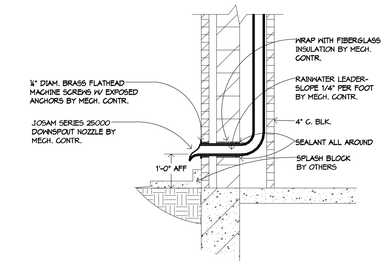
3 HUBLESS PIPE INSTALLATION DETAIL
NOT TO SCALE



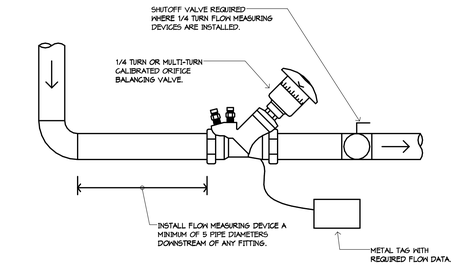
5 TRIPLE BASIN INTERCEPTOR DETAIL
NOT TO SCALE



6 PIPE WALL PENETRATION DETAIL
NOT TO SCALE

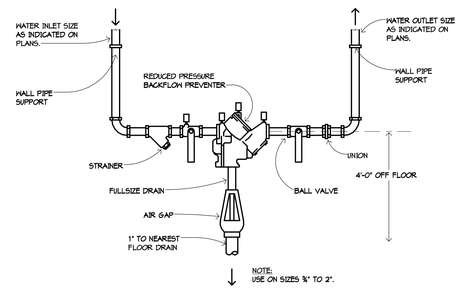


7 RAINWATER LEADER NOZZLE OUTLET DETAIL
NOT TO SCALE

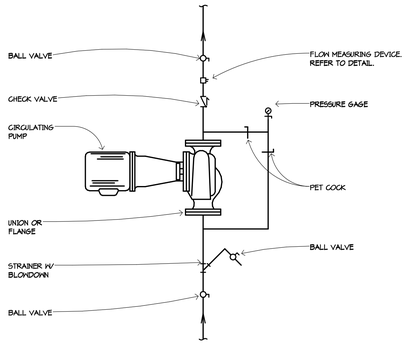


NOTES:
1. MULTI-TURN CALIBRATED ORIFICE BALANCING VALVES MAY BE USED AS A SHUTOFF VALVE.

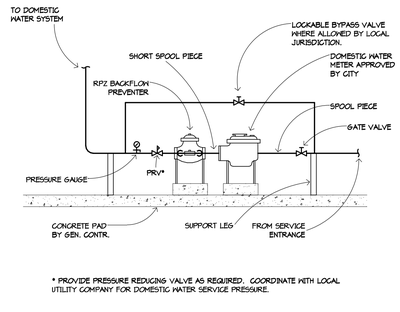
8 FLOW MEASURING DEVICE DETAIL
NOT TO SCALE



9 REDUCED PRESSURE BACKFLOW PREVENTER DETAIL
NOT TO SCALE

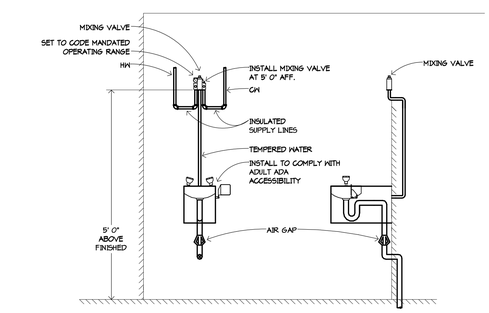


10 INLINE CIRCULATING PUMP DETAIL
NOT TO SCALE



* PROVIDE PRESSURE REDUCING VALVE AS REQUIRED. COORDINATE WITH LOCAL UTILITY COMPANY FOR DOMESTIC WATER SERVICE PRESSURE.

11 DOMESTIC WATER METER PIPING DETAIL
NOT TO SCALE



12 EMERGENCY EYEWASH DETAIL
NOT TO SCALE

DOMESTIC WATER HEATER SCHEDULE (WH)

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	MBH INPUT	STORAGE CAP. (GAL)	GPH RECOVERY @100° RISE	WATER TEMP	VENT SIZE	VOLTS	PHASE	REMARKS
WH-1	DOMESTIC HOT WATER	A.O. SMITH	BTH-400	GAS	399	119	460	140° F	4"	120	1	1,2,3
WH-2	DOMESTIC HOT WATER	A.O. SMITH	BTH-400	GAS	399	119	460	140° F	4"	120	1	1,2,3

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE WITH ASME RATED PRESSURE/TEMPERATURE RELIEF VALVE.
3. PROVIDE WITH CONTROLS COMPATIBLE WITH BUILDING AUTOMATION SYSTEM.

PUMP SCHEDULE (P)

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	DESIGN GPM	DESIGN HEAD	50% FLOW HEAD	SHUTOFF HEAD	IMP. SIZE	EFF.	SUC. SIZE	DISCH. SIZE	MOTOR DATA				REMARKS
													RPM	HP	VOLTS	PHASE	
P-8	CIRC. HOT WATER	BELL & GOSSETT	NRF-36	INLINE	9.0	13.9	32.0'	33.0'	3.0"	-	1.0"	1.0"	3,300	0.36	120	1	1,2

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE AND INSTALL A STRAP-ON LINE VOLTAGE AQUASTAT TO CYCLE PUMP. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR FOR WIRING.

EXPANSION TANK SCHEDULE (ET)

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	TANK TYPE	AVERAGE WATER TEMP.	MINIMUM PRECHARGE PRESS. (PSIG)	MAXIMUM OPER. PRESSURE (PSIG)	ACCEPTANCE VOLUME (GALLONS)	TANK HEIGHT	TANK DIAMETER	REMARKS
ET-4	DOMESTIC HOT WATER	BELL & GOSSETT	PT-25V	DIAPHRAGM	140°F	40.0	150.0	10.3	14"	15"	1,2

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE AUTOMATIC AIR VENT PIPED TO NEAREST FLOOR DRAIN.

PLUMBING FIXTURE SCHEDULE

FIX. NO.	FIXTURE TYPE	WASTE	VENT	CW	HW	VACUUM	LAB GASES			REMARKS
							AIR	NAT. GAS	OTHER	
P-1	WATER CLOSET	4"	2"	1 1/4"	-	-	-	-	-	-
P-1H	ADA WATER CLOSET	4"	2"	1 1/4"	-	-	-	-	-	ADA COMPLIANT
P-2H	ADA URINAL	2"	1 1/2"	3/4"	-	-	-	-	-	ADA COMPLIANT
P-3H	ADA LAVATORY (UNDERCOUNTER)	1 1/2"	1 1/4"	1/2"	1/2"	-	-	-	-	ADA COMPLIANT
P-4H	ADA LAVATORY (WALL MOUNT)	1 1/2"	1 1/4"	1/2"	1/2"	-	-	-	-	ADA COMPLIANT
P-5	SHOWER	-	-	1/2"	1/2"	-	-	-	-	-
P-5H	ADA SHOWER	-	-	1/2"	1/2"	-	-	-	-	ADA COMPLIANT
P-6H	ADA SINGLE-COMPARTMENT SINK (W/ SOLIDS INTERCEPTOR)	1 1/2"	1 1/4"	1/2"	1/2"	-	-	-	-	ADA COMPLIANT
P-7H	ADA DOUBLE-COMPARTMENT SINK	1 1/2"	1 1/4"	1/2"	1/2"	-	-	-	-	ADA COMPLIANT
P-8H	ADA DOUBLE-COMPARTMENT SINK (W/ SOLIDS INTERCEPTOR)	1 1/2"	1 1/4"	1/2"	1/2"	-	-	-	-	ADA COMPLIANT
P-9H	ADA DUAL-HEIGHT ELECTRIC WATER COOLER	1 1/2"	1 1/4"	1/2"	-	-	-	-	-	SURFACE MOUNTED, DUAL HEIGHT ADA COMPLIANT
P-10H	ADA DUAL-HEIGHT ELECTRIC WATER COOLER (W/ BOTTLE FILLER)	1 1/2"	1 1/4"	1/2"	-	-	-	-	-	SURFACE MOUNTED, DUAL HEIGHT ADA COMPLIANT
P-11	MOP BASIN	3"	1 1/2"	3/4"	3/4"	-	-	-	-	-
P-12H	ADA EMERGENCY EYEWASH STATION (COUNTERTOP MOUNT)	-	-	1/2"	1/2"	-	-	-	-	COUNTERTOP MOUNTED ADA COMPLIANT
P-13H	ADA EMERGENCY EYEWASH STATION (WALL MOUNT)	1 1/2"	1 1/4"	1/2"	1/2"	-	-	-	-	WALL MOUNTED ADA COMPLIANT
P-14	UTILITY SINK	2"	1 1/4"	3/4"	3/4"	-	-	-	-	-
P-15	BOOT/EQUIPMENT WASH	-	-	3/4"	3/4"	-	-	-	-	-

Sheriff's Patrol Headquarters
3206 South 16th Street
Eldridge, Iowa, USA 52748

Scott County
600 West Fourth Street,
Davenport, Iowa

WOLD
architects
engineers
www.woldae.com
110 North Brockway St
Two Hundred Twenty
Palatine, IL 60067
tel 847 241 6100
fax 847 241 6105
mail@woldae.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of IOWA

MATTHEW T. VERDUN
Registration Number 18848 Date 02/08/2016

Revisions		
Description	Date	Num
Addendum #2	2/29/16	1

Comm: 139030
Date: 02/08/2016
Drawn: BMO
Check: MTV

PLUMBING DETAILS AND SCHEDULES

Scale: 1/8" = 1'-0"

P3.03

AIR HANDLING UNIT SCHEDULE (AHU 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	CFM	OUTDOOR AIR: CO_2 CONTROL RANGE FOR MIN		OUTDOOR AIR: MAX	SUPPLY FAN DATA: FAN SIZE	CFM	EXT. S.P.	TOTAL S.P.	RPM	BHP	HP	VOLTS	PHASE	RETURN FAN DATA: FAN SIZE	CFM	EXT. S.P.	TOTAL S.P.	RPM	BHP	HP	VOLTS	PHASE	COOLING COIL DATA: COIL TYPE	PIPING TYPE	COIL ROWS	ENT. AIR (DB/WB)	LVG. AIR (DB/WB)	SENS. MBH	TOTAL MBH	TOTAL GPM	CONTROL VALVE	HEATING COIL DATA: COIL TYPE	ENT. AIR	LVG. AIR	TOTAL MBH	TOTAL GPM	CONTROL VALVE	FILTERS: PRE TYPE	FINAL TYPE	VARIABLE FREQUENCY DRIVE	REMARKS
AHU-1	OFFICE AREA	TRANE	CSAA017UA	DRAW-THRU	8,735	565	1,500	8,735	24.50"	8,735	2.34"	4.48"	1,715	8.93	10.0	208	3	22.25"	8,735	1.48"	2.21"	2,152	6.41	7.5	208	3	CHW	E	4	76.8°F/64.5°F	55.0°F/54.0°F	205.3	256.9	44.6	2-WAY	HW	57.9°F	75.0°F	161.1	16.8	2-WAY	-	MERV 13	YES	1,2,3,4,5,6,7,8,9,10
AHU-2	EVIDENCE STORAGE AND LAB AREA	TRANE	CSAA003UA	DRAW-THRU	1,510	1,510	1,510	1,510	10.50"	1,510	1.85"	4.91"	3,600	2.00	3.0	208	3	-	-	-	-	-	-	-	-	-	CHW	E	8	90.1°F/76.1°F	55.0°F/54.0°F	57.2	114.3	19.8	3-WAY	HW	-10.0°F	90.0°F	163.1	17.0	3-WAY	-	MERV 13	YES	1,2,3,4,5,6,7,8,9,10

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. SMOKE DETECTORS ARE PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR IN BOTH SUPPLY AND RETURN DUCTS. FOR SYSTEMS WITH A RETURN/EXHAUST FAN A TOTAL OF TWO SMOKE DETECTORS WILL BE PROVIDED.
3. REFER TO DETAIL SHEETS FOR COIL PIPING CONNECTIONS.
4. REFER TO SECTIONS OF UNITS ON MECHANICAL ROOM SHEETS FOR UNIT COMPONENTS.
5. ENTERING HOT WATER TEMPERATURE IS 140° F, LEAVING TEMPERATURE IS 120° F. HEATING WATER CONTAINS 30% PROPYLENE GLYCOL.
6. ENTERING CHILLED WATER TEMPERATURE IS 42° F, LEAVING TEMPERATURE IS 54° F. CHILLED WATER CONTAINS 30% PROPYLENE GYLCOL.
7. PROVIDE A SEPARATE CONTROL VALVE FOR EACH COIL SECTION OF AIR HANDLING UNITS WITH MULTIPLE COILS.
8. SUPPLY AND RETURN FANS INDICATED ARE CONTROLLED BY VARIABLE FREQUENCY DRIVES PROVIDED BY THE MECHANICAL CONTRACTOR. ALL VARIABLE FREQUENCY DRIVES FOR THE ENTIRE PROJECT SHALL BE BY THE SAME MANUFACTURER.
9. PROVIDE COOLING COIL DRAIN TRAP PER DETAIL 16/M3.03. SIZE PER MANUFACTURER'S RECOMMENDATIONS. ROUTE TO NEARBY FLOOR DRAIN.
10. PROVIDE AIRFLOW MEASURING DEVICES AT THE INLET TO EACH FAN.

HEAT PUMP SCHEDULE (HP 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	COMPRESSOR TYPE	REFRIG. TYPE	NO. OF CKTS.	COOLING LOAD SIDE: EWT (°F)	LWT (°F)	GPM	FLUID TYPE	COOLING SOURCE SIDE: EWT (°F)	LWT (°F)	GPM	FLUID TYPE	NOM. TONS	EER	HEATING LOAD SIDE: EWT (°F)	LWT (°F)	GPM	FLUID TYPE	HEATING SOURCE SIDE: EWT (°F)	LWT (°F)	GPM	FLUID TYPE	MBH	COP	ELECTRICAL: VOLTS	PHASE	MCA	REMARKS
HP-1	BUILDING HEATING/COOLING SYSTEM	MULTISTACK	MS010X	WATER-TO-WATER	SCROLL	R-410A	2	54.0°F	42.0°F	21.0	30% PROP. GLYCOL	90.0°F	100.0°F	30.8	30% PROP. GLYCOL	10.0	13.0	120.0°F	140.0°F	10.5	30% PROP. GLYCOL	30.0°F	25.0°F	23.4	30% PROP. GLYCOL	98.7	2.2	208	3	48.5	1,2,3,4,5,6,7
HP-2	BUILDING HEATING/COOLING SYSTEM	MULTISTACK	MS010X	WATER-TO-WATER	SCROLL	R-410A	2	54.0°F	42.0°F	21.0	30% PROP. GLYCOL	90.0°F	100.0°F	30.8	30% PROP. GLYCOL	10.0	13.0	120.0°F	140.0°F	10.5	30% PROP. GLYCOL	30.0°F	25.0°F	23.4	30% PROP. GLYCOL	98.7	2.2	208	3	48.5	1,2,3,4,5,6,7
HP-3	BUILDING HEATING/COOLING SYSTEM	MULTISTACK	MS010X	WATER-TO-WATER	SCROLL	R-410A	2	54.0°F	42.0°F	21.0	30% PROP. GLYCOL	90.0°F	100.0°F	30.8	30% PROP. GLYCOL	10.0	13.0	120.0°F	140.0°F	10.5	30% PROP. GLYCOL	30.0°F	25.0°F	23.4	30% PROP. GLYCOL	98.7	2.2	208	3	48.5	1,2,3,4,5,6,7
HP-4	BUILDING HEATING/COOLING SYSTEM	MULTISTACK	MS010X	WATER-TO-WATER	SCROLL	R-410A	2	54.0°F	42.0°F	21.0	30% PROP. GLYCOL	90.0°F	100.0°F	30.8	30% PROP. GLYCOL	10.0	13.0	120.0°F	140.0°F	10.5	30% PROP. GLYCOL	30.0°F	25.0°F	23.4	30% PROP. GLYCOL	98.7	2.2	208	3	48.5	1,2,3,4,5,6,7

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE FACTORY OPTIONAL HEAT PUMP ISOLATION ASSEMBLY BETWEEN EACH HEAT PUMP.
3. HEAT PUMPS AND ISOLATION ASSEMBLIES SHALL BE POWERED FROM TWO SINGLE POINT CONNECTIONS (102.0 MCA & 97.0 MCA). FIELD INSTALL FACTORY OPTIONAL BUSBAR TO POWER EACH UNIT.
4. PROVIDE FACTORY OPTIONAL HEAT PUMP AND ISOLATION ASSEMBLY CONTROL PANEL WITH BACNET INTERFACE.
5. PROVIDE FACTORY OPTIONAL EXTENDED HEADERS ON BOTH THE LOAD SIDE AND THE SOURCE SIDE. EXTENDED HEADERS SHALL INCLUDE MANUAL ISOLATION VALVES AND AUTOMATIC FLOW CONTROL VALVES.
6. PROVIDE FACTORY OPTIONAL STRAINERS FOR EACH LOOP AT THE HEAT PUMP ASSEMBLY.
7. PROVIDE FACTORY OPTIONAL ACOUSTICAL PANELS.

MAKE-UP AIR UNIT WITH HEAT RECOVERY SCHEDULE (MAU 'X')

UNIT NO.	SERVING	MANUFACTURER	MODEL NUMBER	SUPPLY FAN DATA: FAN SIZE	CFM	TOTAL S.P.	RPM	BHP	HP	VOLTS	PHASE	RETURN FAN DATA: FAN SIZE	CFM	TOTAL S.P.	RPM	BHP	HP	VOLTS	PHASE	COOLING DATA: COIL TYPE	PIPING TYPE	COIL ROWS	ENT. AIR (DB/WB)	LVG. AIR (DB/WB)	SENS MBH	TOTAL MBH	TOTAL GPM	CONTROL VALVE	HEATING COIL: COIL TYPE	ENT. AIR	LVG. AIR	OUTPUT MBH	INPUT MBH	TURNDOWN RATIO	HEAT RECOVERY - COOLING SEASON: EXH. ENT. AIR (DB/RH)	EXH. LVG. AIR (DB/WB)	OA. ENT. AIR (DB/WB)	OA. LVG. AIR (DB/WB)	HEAT RECOVERY - HEATING SEASON: EXH. ENT. AIR (DB/WB)	EXH. LVG. AIR (DB/WB)	OA. ENT. AIR (DB/WB)	OA. LVG. AIR (DB/WB)	FILTERS: EXH. AIR STREAM	OUTSIDE AIR STREAM	REMARKS
MAU-1	VEHICLE STORAGE GARAGE	TRANE	CSAA017UA	18.0"	7,400	4.11"	1,800	7.92	10.0	208	3	25.0"	7,400	3.31"	1,334	6.69	7.5	208	3	-	-	-	-	-	-	-	-	-	GAS	-10.0	90.0	799.2	850.0	10:1	75.0°F/50.0%	85.5°F/67.7°F	90.1°F/76.1°F	79.6°F/70.8°F	70.0°F/45.0°F	16.6°F/12.9°F	-10.0°F/-11.0°F	45.4°F/30.5°F	MERV 8	MERV 8	1,2,3,4,5

NOTES:
1. SMOKE DETECTORS ARE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR.
2. REFER TO SECTIONS OF UNITS ON PLANS FOR UNIT COMPONENTS.
3. SUPPLY AND RETURN FANS INDICATED ARE CONTROLLED BY VARIABLE FREQUENCY DRIVES PROVIDED BY THE MECHANICAL CONTRACTOR. ALL VARIABLE FREQUENCY DRIVES FOR THE ENTIRE PROJECT SHALL BE BY THE SAME MANUFACTURER.
4. PROVIDE AIRFLOW MEASURING DEVICES AT THE INLET TO EACH FAN.
5. PROVIDE AIR-TO-AIR PLATE FRAME HEAT EXCHANGER WITH BYPASS DAMPERS FOR FROST CONTROL AND RECIRCULATION DAMPERS.

V A V TERMINAL UNIT SCHEDULE (VAV 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	COOLING: MAX CFM	COOLING: MIN CFM	HEATING: MAX CFM	HEATING: MIN CFM	MAX PRESS. DROP W/COIL (IN W.G.)	INLET SIZE	REHEAT COIL DATA: EAT	LAT	MBH	GPM	EWT	LWT	P.D. (FT)	CONTROL VALVE	REMARKS
VAV 1-01	LARGE INTERVIEW (A106)	TRANE	VCWF	370	120	370	190	0.45	6"	55°F	77°F	8.7	1.0	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-02	TRAINING SERGEANT (A107)	TRANE	VCWF	175	60	175	90	0.45	6"	55°F	77°F	4.2	0.5	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-03	DRUG ENFORCEMENT (A108)	TRANE	VCWF	290	90	290	150	0.45	6"	55°F	78°F	7.2	0.8	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-04	SERGEANTS (A110)	TRANE	VCWF	400	120	400	200	0.45	8"	55°F	77°F	9.7	1.1	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-05	CAPTAIN (A111)	TRANE	VCWF	290	90	290	150	0.45	6"	55°F	81°F	8.1	0.9	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-06	LIEUTENANT (A112)	TRANE	VCWF	340	110	340	170	0.45	6"	55°F	77°F	8.2	0.9	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-07	EVIDENCE TECH (A114), CORRIDOR (A109)	TRANE	VCWF	270	90	270	140	0.45	6"	55°F	76°F	6.2	0.7	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-08	ROLL CALL (A119), CORRIDOR (A109)	TRANE	VCWF	945	290	945	480	0.45	10"	55°F	75°F	20.5	2.2	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-09	BAG & TAG (A120), REPORT WRITING (A121), PRIVATE (A122), PRIVATE (A123)	TRANE	VCWF	405	130	405	210	0.45	8"	55°F	74°F	8.5	0.9	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-10	MAIL (A125), BREAK ROOM (A126), CORRIDOR (A124)	TRANE	VCWF	1,050	320	1,050	530	0.45	10"	55°F	73°F	20.8	2.2	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-11	ARMORY (A127), EST DRESSOUT (A144)	TRANE	VCWF	315	100	315	160	0.45	6"	55°F	75°F	6.8	0.8	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-12	WEIGHTS (A128)	TRANE	VCWF	600	180	600	300	0.45	8"	55°F	74°F	12.1	1.3	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-13	ENTRY (A102), TOILET (A103), TOILET (A104), SMALL INTERVIEW (A105), STORAGE (A140), CORRIDOR (A131)	TRANE	VCWF	510	160	605	310	0.45	8"	55°F	78°F	12.5	1.5	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-14	TOILET (A137), SHOWER (A138), LOCKER (A139), STORAGE (A133), CORRIDOR (A131)	TRANE	VCWF	765	230	765	390	0.45	10"	55°F	77°F	18.2	1.9	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-15	TOILET (A134), SHOWER (A135), LOCKER (A136), QUIET ROOM (A136A)	TRANE	VCWF	490	150	490	250	0.45	8"	55°F	79°F	12.8	1.4	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7
VAV 1-16	MECHANICAL (A129), MECHANICAL (A142), ELECTRICAL (A130)	TRANE	VCWF	1,425	430	1,425	720	0.45	16"	55°F	78°F	36.3	3.8	140°F	120°F	5.0 MAX	2-WAY	1,2,3,4,5,6,7

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. ALL COILS SELECTED AT 140 ENTERING WATER TEMPERATURE AND 120 LEAVING WATER TEMPERATURE. HEATING WATER CONTAINS 30% PROPYLENE GLYCOL.
3. ALL COILS SHALL HAVE TYPE B COIL CONNECTIONS.
4. HEATING COIL CAPACITIES ARE SELECTED AT THE MAXIMUM CFM.
5. PROVIDE FOR MULTIPLE ROW COILS AS REQUIRED TO MEET COIL DATA. UPSIZE BOX SIZE IF REQUIRED TO NOT EXCEED THE MAXIMUM PRESSURE DROP AS SCHEDULED.
6. COIL CONNECTIONS AND CONTROL BOX FOR EACH VAV TERMINAL SHALL BE PROVIDED IN LOCATION INDICATED ON THE HVAC FLOOR PLAN DRAWINGS.
7. PROVIDE EQUIVALENT OVAL SIZE CONNECTIONS TO ACCOMMODATE SPECIFIC MANUFACTURERS BOX SIZES.

EXHAUST FAN SCHEDULE (EF 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	CFM	TOTAL S.P. (IN W.C.)	RPM	HP	VOLTS	PHASE	DAMPER SIZE	DRIVE	SPEED SWITCH	MOT. DAMPER	GRAVITY DAMPER	DISCON. SWITCH	REMARKS
EF-1	TOILETS (A103,A104,A134,A137), LOCKER RMS (A136,A139), SHOWER RMS (A135,A138), JANITOR (A133)	GREENHECK	G-123-A	PRV	1,360	1.16"	1,668	1/2	120	1	12"x12"	DIRECT	YES	NO	YES	YES	1,2,3,4
EF-2	BREAK ROOM (A126)	GREENHECK	G-097-A	PRV	200	0.81"	1,613	1/4	120	1	12"x12"	DIRECT	YES	NO	YES	YES	1,2,3,4
EF-3	WEIGHTS (A128)	GREENHECK	G-098-A	PRV	600	0.84"	1,725	1/4	120	1	12"x12"	DIRECT	YES	NO	YES	YES	1,2,3,4
EF-4	ELECTRICAL (A130)	GREENHECK	G-123-A	PRV	1,425	0.81"	1,554	1/2	120	1	12"x12"	DIRECT	YES	NO	YES	YES	1,2,3,4
EF-5	EVIDENCE STORAGE (A115,A116), DRUG STORAGE (A117), EVIDENCE LAB (A118)	GREENHECK	G-123-A	PRV	1,650	0.84"	1,706	1/2	120	1	12"x12"	DIRECT	YES	NO	YES	YES	1,2,3,4
EF-6	FUME HOOD (A118)	GREENHECK	G-098-A	PRV	745	0.48"	1,725	1/4	120	1	12"x12"	DIRECT	YES	NO	YES	YES	1,2,3,4

(Speed switch, mot. damper, gravity damper and discon. switch are under COMPONENTS AND ACCESSORIES.)

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE WITH FACTORY MOUNTED SPEED SWITCH IN MOTOR COMPARTMENT FOR BALANCING.
3. PROVIDE WITH GRAVITY DAMPER WHERE INDICATED AND BIRDSCREEN. THE TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL MOTORIZED DAMPERS.
4. PROVIDE FACTORY OPTIONAL 18" H CURB.

PUMP SCHEDULE (P 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	DESIGN GPM	DESIGN HEAD	50% FLOW HEAD	SHUTOFF HEAD	IMP. SIZE	EFF.	SUC. SIZE	DISCH. SIZE	MOTOR DATA: RPM	HP	VOLTS	PHASE	REMARKS
P-1	GEOTHERMAL WELL FIELD LOOP	BELL & GOSSETT	1510 2G	BASE MOUNTED	124.0	114.4'	121.0'	123.0'	10.75"	75.1%	3.0"	2.0"	1,750	15.0	208	3	1,2,3
P-1	GEOTHERMAL WELL FIELD LOOP	BELL & GOSSETT	1510 2G	BASE MOUNTED	124.0	114.4'	121.0'	123.0'	10.75"	75.1%	3.0"	2.0"	1,750	15.0	208	3	1,2,3
P-3	CHILLED WATER LOOP	BELL & GOSSETT	SERIES 90 2AA	INLINE	84.0	63.3'	71.0'	73.0'	4.25"	52.8%	2.0"	2.0"	3,450	5.0	208	3	1,2
P-4	CHILLED WATER LOOP	BELL & GOSSETT	SERIES 90 2AA	INLINE	84.0	63.3'	71.0'	73.0'	4.25"	52.8%	2.0"	2.0"	3,450	5.0	208	3	1,2
P-5	HEATING WATER LOOP	BELL & GOSSETT	SERIES 90 1-1/2AA	INLINE	68.6	65.4'	77.0'	82.0'	4.5"	57.4%	1.5"	1.5"	3,450	3.0	208	3	1,2
P-6	HEATING WATER LOOP	BELL & GOSSETT	SERIES 90 1-1/2AA	INLINE	68.6	65.4'	77.0'	82.0'	4.5"	57.4%	1.5"	1.5"	3,450	3.0	208	3	1,2
P-7	BOILER CIRC.	BELL & GOSSETT	SERIES 90 1-1/4AA	INLINE	35.0	15.0'	22.0'	24.0'	5.125"	47.9%	1.25"	1.25"	1,725	1/3	208	3	1

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. TEMP CONTROL CONTRACTOR TO PROVIDE VARIABLE FREQUENCY DRIVE, INSTALLATION BY ELECTRICAL CONTRACTOR. ALL VARIABLE FREQUENCY DRIVES FOR THE ENTIRE PROJECT SHALL BE BY THE SAME MANUFACTURER.
3. PROVIDE WITH SUCTION DIFFUSER WITH START-UP STRAINER.

BOILER SCHEDULE (B 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	INLET & OUTLET SIZE	MIN. WATER FLOW	MAX. WATER FLOW	TURNDOWN RATIO	INPUT RATING (MBH)	OUTPUT RATING (MBH)	MIN. GAS INLET PRESSURE	VOLTS	PHASE	FLA	REMARKS
B-1	BUILDING HEATING WATER	AERCO	MLX-454	GAS	4"	17 GPM	42 GPM	10:1	454	418	4.0" W.C.	120	1	1.8	1,2,3,4,5

NOTES:
1. PROVIDE FACTORY PIPED, PRESSURE TESTED, AND WIRED CODE COMPLIANT GAS TRAIN FOR NATURAL GAS AT 2.0 PSI INLET PRESSURE. PROVIDE PRESSURE REGULATOR AS REQUIRED.
2. PROVIDE 6" DIA. SEALED COMBUSTION AIR INTAKE CONNECTION.
3. OUTPUT RATING LISTED IS THE MINIMUM. ACTUAL RATING IS DEPENDENT ON RETURN WATER TEMPERATURE AND FIRING RATE.
4. PROVIDE INTERNAL LOW WATER CUTOFF WITH MANUAL RESET.
5. PROVIDE WITH MANUFACTURER RECOMMENDED PRESSURE RELIEF VALVE.

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

TYPE	SERVICE	MANUFACTURER & MODEL NUMBER	DESCRIPTION	REMARKS
A	SUPPLY AIR DIFFUSER (LAY-IN CEILING MOUNT)	TITUS OMNI (BORDER TYPE 3)	24"x24" STEEL SUPPLY AIR DIFFUSER WITH ROUND INLET NECK, STEEL SQUARE PLAQUE FACE PANEL, FLUSH FACE, HEAVY GAUGE STEEL BACK PAN, AND FACTORY BAKED WHITE ENAMEL FINISH. PATTERN ADJUSTERS SHALL BE LOCATED IN THE DIFFUSER NECK, NOT ATTACHED TO SQUARE PLAQUE FACE.	-
B	RETURN AIR GRILLE (LAY-IN CEILING MOUNT)	TITUS MODEL 50F (BORDER TYPE 3)	ALUMINUM ½"x½"x½" EGG CRATE GRILLE OF THE SIZE INDICATED ON THE PLANS. PROVIDE WITH FACTORY BAKED WHITE ENAMEL FINISH.	-
C	SUPPLY REGISTER (SURFACE MOUNT)	TITUS MODEL 272RS (BORDER TYPE 1)	ALL STEEL SUPPLY REGISTER OF THE SIZE INDICATED ON THE PLANS. PROVIDE WITH DOUBLE DEFLECTION VERTICAL AIRFOIL BLADES AT A FIXED 45° PATTERN AT ¾" SPACING, OPPOSED BLADE DAMPER, AND FACTORY BAKED WHITE ENAMEL FINISH.	-
D	EXHAUST GRILLE (SURFACE MOUNT)	TITUS MODEL 350RL (BORDER TYPE 1)	ALL STEEL EXHAUST GRILLE OF THE SIZE INDICATED ON THE PLANS. PROVIDE WITH SINGLE DEFLECTION HORIZONTAL BLADES AT A FIXED 35° PATTERN AT ¾" SPACING, OPPOSED BLADE DAMPER, AND FACTORY BAKED WHITE ENAMEL FINISH.	-
E	TRANSFER GRILLE (SURFACE MOUNT)	TITUS MODEL 350RL (BORDER TYPE 1)	SAME AS TYPE 'D' EXCEPT WITHOUT OPPOSED BLADE DAMPER.	-
F	LINEAR SUPPLY AIR DIFFUSER (SURFACE MOUNT)	TITUS MODEL ML-38 (BORDER TYPE 1A)	EXTRUDED ALUMINUM ¾" SLOT WITH LENGTH AND NUMBER OF SLOTS AS INDICATED ON THE PLANS. PROVIDE WITH END PLATES, INSULATED PLENUM WITH INLET SIZE AS INDICATED ON THE PLANS, STEEL PATTERN CONTROLLERS (PAINTED BLACK) CAPABLE OF 180° AIR FLOW ADJUSTMENT, AND FACTORY BAKED WHITE ENAMEL FINISH.	-
G	EXHAUST GRILLE (SURFACE MOUNT)	TITUS MODEL 350RL (BORDER TYPE 1)	SAME AS TYPE 'D' EXCEPT ALL ALUMINUM.	-
H	EXHAUST GRILLE (LAY-IN CEILING MOUNT)	TITUS MODEL 350RL (BORDER TYPE 3)	SAME AS TYPE 'D' EXCEPT BORDER TYPE 3.	-

UNIT HEATER/CABINET UNIT HEATER SCHEDULE (UH 'X') (CUH 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	CABINET MOUNTING	CFM	RPM	HP	VOLTS	PHASE	MBH	GPM	REMARKS
UH-1	VEHICLE STORAGE (A141)	TRANE	UHSB0601	HW	HORIZONTAL	900	1,000	1/20	120	1	28.1	2.9	1,2,5
UH-2	VEHICLE STORAGE (A141)	TRANE	UHSB0601	HW	HORIZONTAL	900	1,000	1/20	120	1	28.1	2.9	1,2,5
UH-3	VEHICLE STORAGE (A141)	TRANE	UHSB0601	HW	HORIZONTAL	900	1,000	1/20	120	1	28.1	2.9	1,2,5
UH-4	VEHICLE STORAGE (A141)	TRANE	UHSB0601	HW	HORIZONTAL	900	1,000	1/20	120	1	28.1	2.9	1,2,5
CUH-1	PUBLIC VESTIBULE (A101)	STERLING	RW-1120-02	HW	RECESSED WALL	185	875	1/15	120	1	6.3	0.7	1,3,4,5
CUH-2	STAFF VESTIBULE (A132)	STERLING	RW-1120-02	HW	RECESSED WALL	185	875	1/15	120	1	5.8	0.6	1,3,4,5

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. UNITS ARE SELECTED WITH 140 DEGREE ENTERING WATER AND 120 DEGREE LEAVING WATER WITH A 50 DEGREE ENTERING AIR TEMPERATURE. HEATING WATER CONTAINS 30% PROPYLENE GLYCOL.
3. UNITS ARE SELECTED WITH 140 DEGREE ENTERING WATER AND 120 DEGREE LEAVING WATER WITH A 60 DEGREE ENTERING AIR TEMPERATURE. HEATING WATER CONTAINS 30% PROPYLENE GLYCOL.
4. UNITS SHALL BE RECESSED WALL MOUNTED WITH BOTTOM INLET AND TOP OUTLET.
5. PROVIDE FACTORY OPTIONAL TOGGLE DISCONNECT SWITCH AT UNIT.

INTAKE AND RELIEF HOOD SCHEDULE (IH 'X') (RH 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	TYPE	CFM	MAX. SP IN W.C.	THROAT SIZE	MOTORIZED DAMPER	REMARKS
RH-1	AHU-1	GREENHECK	FGR	RELIEF	8,735	0.11"	38"x38"	YES	1,2,3,4

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. ALL INTAKE AND RELIEF HOODS ARE SHALL HAVE LOCKABLE HINGED OPENINGS.
3. PROVIDE WITH GRAVITY DAMPER WHERE INDICATED AND BIRDSCREEN. THE TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL MOTORIZED DAMPERS.
4. PROVIDE FACTORY OPTIONAL 18" H CURB.

EXPANSION TANK SCHEDULE (ET 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	TANK TYPE	AVERAGE WATER TEMP.	MINIMUM PRECHARGE PRESS. (PSIG)	MAXIMUM OPER. PRESSURE (PSIG)	TANK VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	TANK HEIGHT	TANK DIAMETER	REMARKS
ET-1	GEOTHERMAL WELL FIELD LOOP	BELL & GOSSETT	D-240V	DIAPHRAGM	55°F	12.0	125.0	132.0	46.0	53"	30"	1,2
ET-2	COOLING WATER LOOP	BELL & GOSSETT	D-40V	DIAPHRAGM	48°F	12.0	125.0	21.7	11.3	30"	16"	1,2
ET-3	HEATING WATER LOOP	BELL & GOSSETT	D-60V	DIAPHRAGM	130°F	12.0	125.0	33.6	11.3	45"	16"	1,2

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE AUTOMATIC AIR VENT PIPED TO NEAREST FLOOR DRAIN.

BUFFER TANK SCHEDULE (BT 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	TANK TYPE	TANK ACCEPTANCE VOLUME (GAL.)	TANK HEIGHT	TANK DIAMETER	CONN. SIZE	REMARKS
BT-1	HEATING WATER LOOP	TACO	BTH-0350F	VERTICAL	350	94"	36"	3"	1,2
BT-2	CHILLED WATER LOOP	TACO	BTH-0250F	VERTICAL	250	69"	36"	3"	1,2

NOTES:
1. PROVIDE AUTOMATIC AIR VENT PIPED TO NEAREST FLOOR DRAIN.
2. PROVIDE SOLID INTERNAL BAFFLE.

COMPUTER ROOM UNIT SCHEDULE (CRU 'X')

UNIT NO.	SERVES	MANUFACTURER	COOLING CAPACITY (BTU/H)	HEATING CAPACITY (BTU/H)	INDOOR UNIT DATA: MODEL NUMBER	CFM (MED.)	MCA	VOLTS	PHASE	OUTDOOR UNIT DATA: MODEL NUMBER	REFRIG. TYPE	MCA	VOLTS	PHASE	REMARKS
CRU-1	IDF (A114)	MITSUBISHI	24,000	-	PKA-A24KA4	705	1.0	-	-	PUY-A24NHA4	R410A	18.0	208	1	1,2,3

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE WITH FACTORY OPTIONAL LOW AMBIENT WIND BAFFLE KIT.
3. SECURE CONDENSING UNIT TO 18" H RAILS (BY OTHERS).

AIR SEPARATOR SCHEDULE (AS 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	MAX. GPM	INLET/OUTLET SIZE	BLOWDOWN SIZE	REMARKS
AS-1	GEOTHERMAL WELL FIELD LOOP	BELL & GOSSETT	R-3F	190	3"	1"	1,2
AS-2	COOLING WATER LOOP	BELL & GOSSETT	R-3F	190	3"	1"	1,2
AS-3	HEATING WATER LOOP	BELL & GOSSETT	R-2-1/2N	170	2.5"	1"	1,2

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE AUTOMATIC AIR VENT PIPED TO NEAREST FLOOR DRAIN.

HUMIDIFIER SCHEDULE (HU 'X')

UNIT NO.	SERVES	MANUFACTURER	MODEL NUMBER	UNIT TYPE	CAPACITY #/HR	STEAM PRESSURE	MANIFOLD LENGTH	NO. OF MANIFOLDS	VOLTS	PHASE	KW	REMARKS
HU-1	AHU-2	NORTEC	NH-EL050	ELEC	50.0	-	-	-	208	3	18.7	1,2

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. PROVIDE CONDENSATE HOSE PIPED TO NEAREST FLOOR DRAIN.

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MATTHEW T. VERDUN
Registration Number 18893 Date 02/08/2016

Revisions: Description	Date	Num
Addendum #2	2/29/16	1

Comm: 133030
Date: 02/08/2016
Drawn: BMO
Check: MTV

MECHANICAL SCHEDULES

Scale: 1/8" = 1'-0"

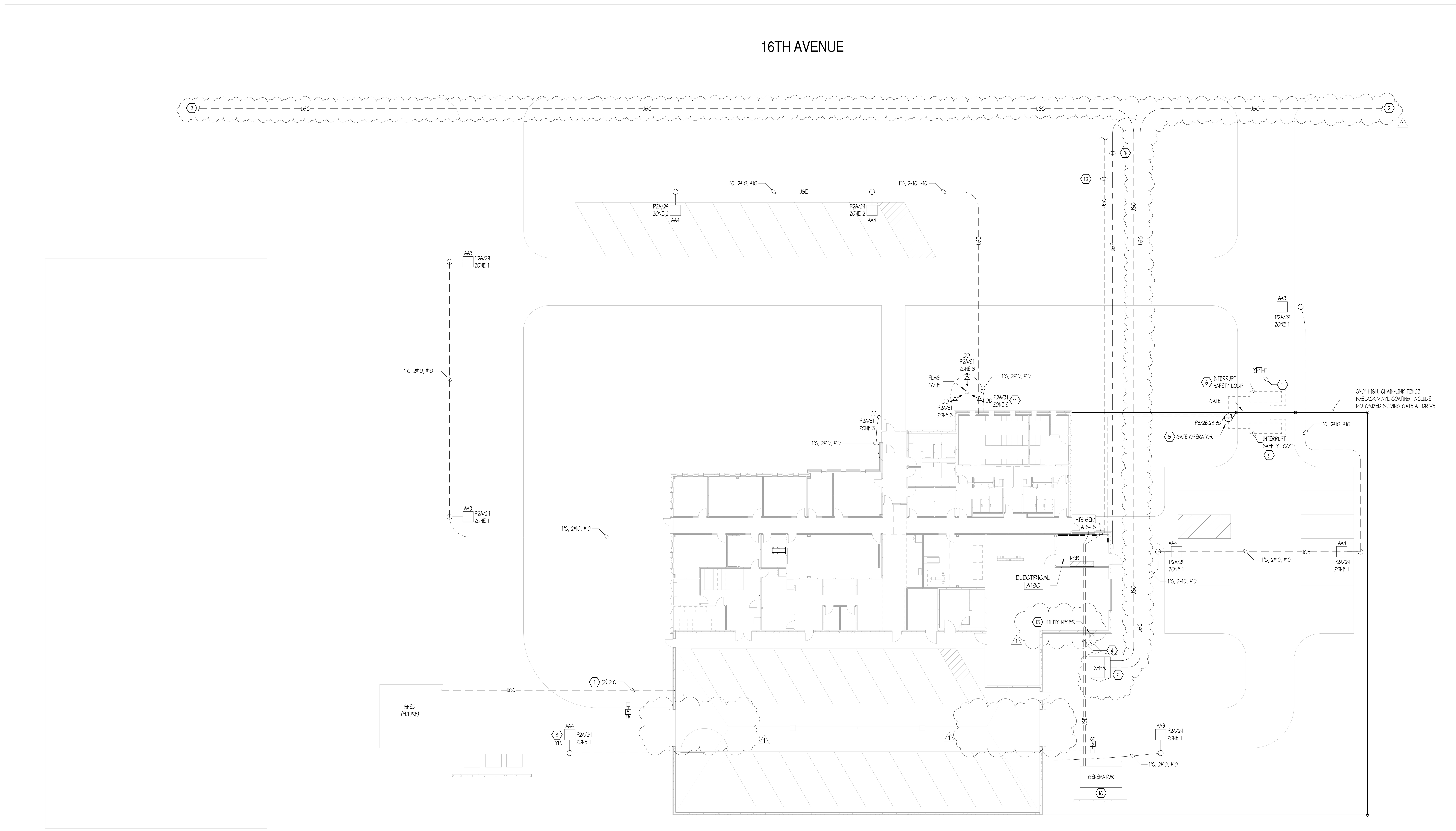
M3.05

GENERAL SHEET NOTES

A. ALL LIGHTING AND POWER CONDUCTORS SHALL BE INSTALLED BETWEEN 24" (MINIMUM) AND 36" (MAXIMUM) BELOW FINISHED GRADE.
B. ALL COMMUNICATIONS CONDUIT AND CABLES SHALL BE INSTALLED 36" (MINIMUM) BELOW FINISHED GRADE.
C. ALL CONDUCTORS FOR EXTERIOR LIGHTING AND POWER CIRCUITS SHALL BE #10 AWG MINIMUM.
D. REFER TO E1.0 FOR BUILDING MOUNTED LIGHTS.
E. REFER TO E4.0 FOR BUILDING MOUNTED SECURITY CAMERAS.

KEYED SHEET NOTES

1. PROVIDE (2) 2" UNDERGROUND CONDUIT STUBBED UP FOR FUTURE SHED. ROUTE CONDUIT BACK TO 'A130' ELECTRICAL.
2. PROVIDE 4" SCHEDULE 40 PVC UNDERGROUND CONDUIT FOR PRIMARY UTILITY CABLING. PRIMARY CONDUCTORS BY UTILITY. ROUTE AS SHOWN. COORDINATE WITH UTILITY.
3. SEE SHEET E0.2 FOR FIBER LAY-OUT.
4. SEE SHEET E6.0 FOR CONDUCTOR AND CONDUIT SIZING.
5. PROVIDE UNDERGROUND 3/4" CONDUIT AND 3#10,#10G CABLING TO POWER GATE OPERATOR PROVIDED BY OTHERS.
6. INTERRUPT SERVICE LOOP PROVIDED BY OTHERS. COORDINATE WITH OTHER TRADES.
7. PROVIDE 3/4" UNDERGROUND CONDUIT AND CABLING FROM BUILDING TO GATE OPERATOR AND TO CARD READER FOR CONTROLS PROVIDED BY OTHERS. BUTTON TO BE LOCATED ON ISLAND ON ROADWAY. COORDINATE LOCATION WITH CIVIL.
8. EXTERIOR LUMINAIRE ZONE CONTROL BY RELAY PANEL SHOWN ON SHEET E1.0. TYPICAL.
9. PROVIDE CONCRETE PAD FOR UTILITY TRANSFORMER. SEE DETAIL 'C1' ON SHEET E8.1 FOR MORE DETAIL. COORDINATE INSTALLATION WITH UTILITY.
10. PROVIDE 150KVA NATURAL GAS GENERATOR AND CONCRETE PAD. MINIMUM CONCRETE PAD SIZE TO BE 48.8" (W) X 127.2" (L) AND 6" (D). COORDINATE PAD REQUIREMENTS WITH GENERATOR MANUFACTURER.
11. PROVIDE FLOOD LIGHTS AND POINT AT 20' FLAG PROVIDED BY OTHERS. FLOOD LIGHTS SHALL BE 7' AWAY FROM POLE.
12. PROVIDE (2) 4"C STUBBED UP AT CURB FOR FUTURE CONNECTIONS. COORDINATE PLACEMENT WITH OWNER.
13. PROVIDE UTILITY METER BASE ON SIDE OF BUILDING. COORDINATE REQUIREMENTS WITH UTILITY.



H1 ELECTRICAL SITE PLAN
1/16" = 1'-0"

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BRADLEY R. JOHANNSEN
Registration Number 18475 Date 2/8/16

Revisions		
Description	Date	Num
ADDENDUM #2	2/29/16	1

Comm: 133030
Date: 2/8/16
Drawn: A. NILSON
Check: B. JOHANNSEN

North

ELECTRICAL SITE PLAN

Scale: As indicated

E0.1

G2 MAIN LEVEL LIGHTING PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THIS DRAWING.
B. ALL RECESSED LIGHTING FIXTURES IN LAY-IN CEILINGS SHALL BE INSTALLED WITH 6' LONG FLEXIBLE METAL CONDUIT.
C. ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURES UNLESS INDICATED OTHERWISE.
D. SEE ARCHITECTURAL EXTERIOR ELEVATIONS FOR MOUNTING HEIGHTS OF EXTERIOR LIGHTING FIXTURES.
E. CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR SWITCHING INTENT OF FIXTURES AND CONTROL OF DEVICES.
F. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.
G. CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.
H. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS LONGER THAN 75 FEET, UNLESS SPECIFICALLY INDICATED OTHERWISE. THIS SHALL BE REQUIRED FOR THE ENTIRE LENGTH OF THE CIRCUIT.

EMERGENCY LIGHTING NOTES

NORMAL OPERATING LIGHT FIXTURE. FEED FIXTURE USING EXISTING LIGHTING CIRCUITRY FROM NORMAL PANEL. FEED POWER FROM PANEL 'P2A'.

SWITCHED EMERGENCY LIGHT. FEED FIXTURE FROM EMERGENCY PANEL 'EM-LS' VIA EMERGENCY RELAY AS INDICATED ON PLAN DURING EMERGENCY OPERATION.

UNSWITCHED EMERGENCY LIGHT (NIGHT LIGHT). FEED FIXTURE FROM UNSWITCHED CIRCUIT IN EMERGENCY PANEL 'EM-LS'.

EXIT LIGHT. FEED FROM UNSWITCHED CIRCUIT IN EMERGENCY PANEL 'EM-LS'.

EMERGENCY SHUNT RELAY. LOCATE ABOVE CEILING DIRECTLY ABOVE SWITCHES. FEED EMERGENCY CIRCUIT FROM 'EM-LS#'.

FIXTURE TYPE
FIXTURE NOTES
RELAY #/ PANEL CIRCUIT #
SWITCHING SCHEME

A. REFER TO SHEET E1.1 FOR LIGHTING CONTROL DETAILS AND INFORMATION.

KEYED SHEET NOTES

1. PROVIDE EMERGENCY RELAYS TO BE CONNECTED TO CORRESPONDING SWITCHED EMERGENCY LUMINAIRES IN CORRIDORS: A101 (a), A124-A126 (b), A131 (c), A102 (d). CONNECT TO PANEL EM-LS/4.
2. PROVIDE EMERGENCY RELAY FOR EXTERIOR LUMINAIRES AS SHOWN. CONNECT TO PANEL EM-LS/2.
3. PROVIDE POWER TO EXTERIOR SIGNAGE. COORDINATE HEIGHT AND LOCATION WITH DIV. 10. CONNECT LIGHTING CONTROL THROUGH RELAY PANEL RP-LTG.
4. CONNECT MULTIPLE CEILING MOUNTED OCCUPANCY SENSORS TOGETHER AS SHOWN SO THAT ONE SENSOR WILL TRIGGER ASSOCIATED LIGHTS AS SHOWN. TYPICAL.
5. COORDINATE PLACEMENT OF LUMINAIRES WITH MECHANICAL DUCTWORK IN THIS ROOM.
6. PROVIDE RELAY PANEL FOR EXTERIOR LUMINAIRES. PANEL TO HAVE (6) 120V/20A RELAYS FOR LIGHTING CONTROL. PROVIDE WEATHER-PROOF PHOTOCELL AND COORDINATE EXTERIOR INSTALLATION WITH OWNER. SEE SHEET E0.1 FOR ZONE CONTROL OF POLE MOUNTED LUMINARES. PREPARE FOR CONNECTION TO THE BAS. TIME CONTROL AND SCHEDULING BY BAS.
7. CONNECT EXTERIOR WALL PAK LIGHTING CONTROL TO ZONE 3 IN RELAY PANEL RP-LTG.

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BRADLEY R. JOHANNSEN
Registration Number 18475 Date 2/8/16

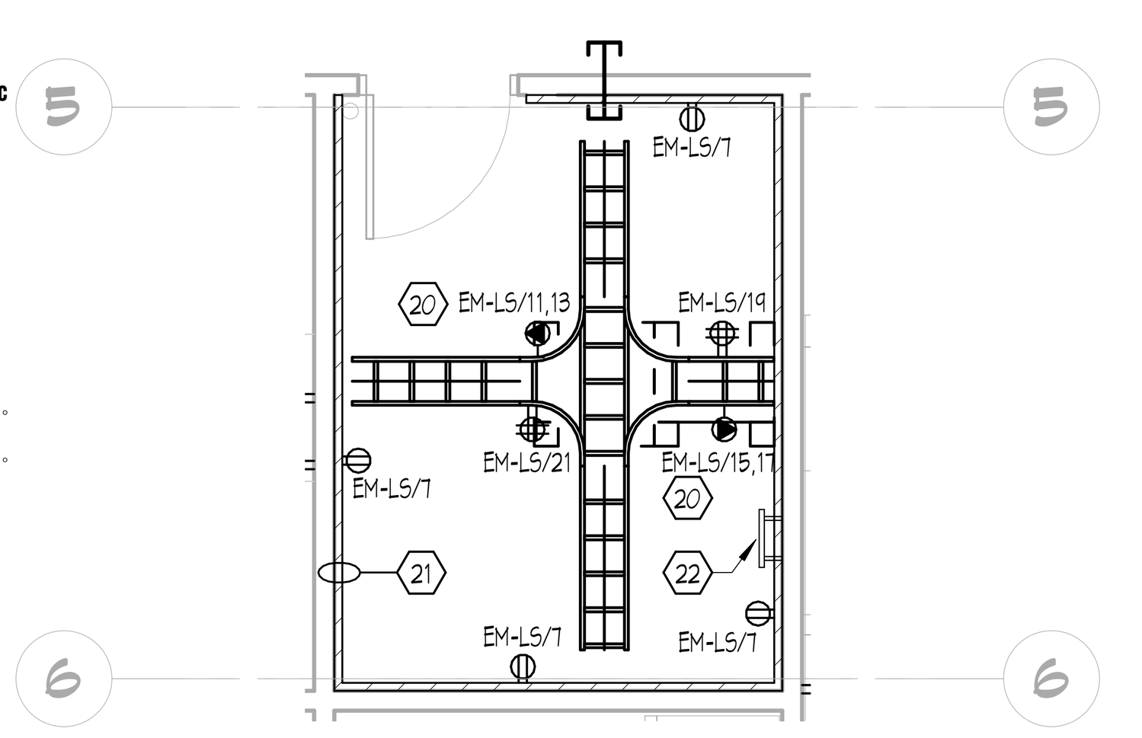
Revisions		
Description	Date	Num
ADDENDUM #1	2/22/16	1
ADDENDUM #2	2/29/16	2

Comm: 138080
Date: 2/8/16
Drawn: A. NILSON
Check: B. JOHANNSEN
North

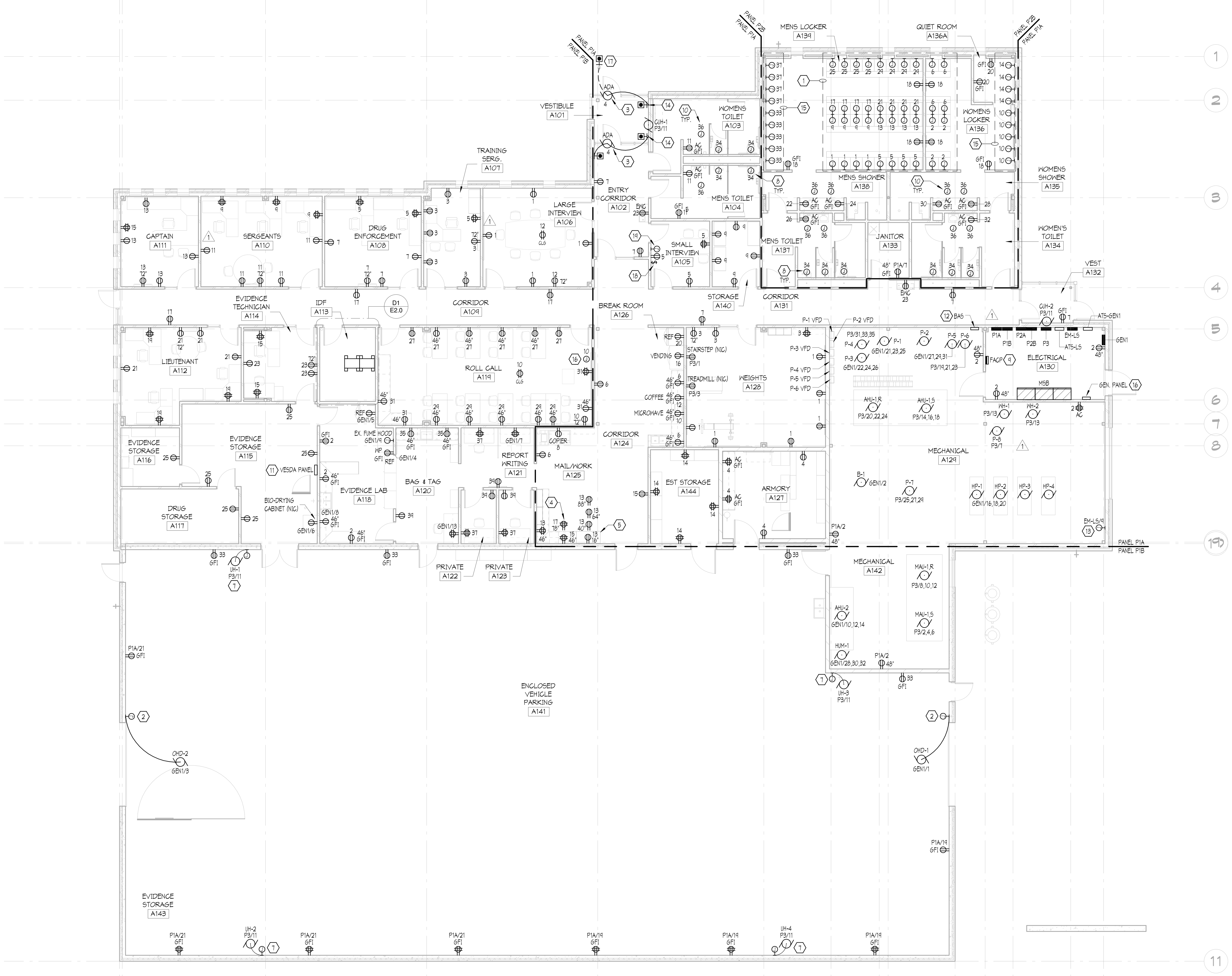
MAIN LEVEL LIGHTING PLAN

Scale: 1/8" = 1'-0"

E1.0



D1 MAIN LEVEL POWER PLAN - IDF
1/4" = 1'-0"



G2 MAIN LEVEL POWER PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

A. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.
B. CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR SWITCHING INTENT OF FIXTURES AND CONTROL OF DEVICES.
C. ALL WALLS AND FLOOR MOUNTED BACK BOXES AND JUNCTION BOXES SHALL BE MOUNTED RECESSED.
D. GFCI RECEPTACLES SHALL BE WIRED TO PROTECT ONLY THE DEVICES IN THAT OUTLET BOX. DOWNSTREAM DEVICES SHALL NOT BE PROTECTED BY GFCI.
E. CIRCUIT NUMBERS SHOWN ARE FOR SCHEMATIC PURPOSES AND ARE FOR DISTINGUISHING CIRCUITS. RECORD AS-BUILT CIRCUITING IN A TYPED AND DATED PANELBOARD SCHEDULE.

KEYED SHEET NOTES

1. PROVIDE 120V POWER ABOVE NEW LOCKERS PROVIDED BY OTHERS. LOCKERS TO HAVE WHIPS TO CONNECT TO 'PLUG AND PLAY' OUTLETS WITHIN THE LOCKER. COORDINATE PLACEMENT WITH ARCHITECT AND HEIGHT REQUIREMENTS WITH LOCKER SUPPLIER. LOCKERS TO BE POWERED FROM PANEL 'P2' VIA GFCI BREAKERS.
2. PROVIDE J-BOX AND 3/4"C TO GARAGE DOOR MOTOR FOR DOOR CONTROLS.
3. PROVIDE 120V POWER TO ADA DOOR MOTOR AND ASSOCIATED ACTUATOR. PROVIDE RACEWAY AND JUNCTION BOX FOR BUTTON PROVIDED BY DIV. 8. SEE DETAIL 'B7' ON SHEET E7.1 FOR MORE INFORMATION.
4. PROVIDE POWER OUTLET FOR TASER BOX LOCATED IN LOCKABLE UPPER CABINET. COORDINATE WITH ARCHITECT.
5. PROVIDE (4) DUPLEX POWER OUTLETS AT SHOWN HEIGHTS IN 9' TALL CABINET. COORDINATE WITH ARCHITECT.
6. PROVIDE 120V POWER TO CEILING MOUNTED PROJECTOR SCREEN MOTOR.
7. PROVIDE 120V DIRECT CONNECT TO WALL MOUNTED UNIT HEATER. COORDINATE HEIGHT WITH MECHANICAL.
8. PROVIDE 120V POWER TO AUTOMATIC FLUSH VALVES. PROVIDE JUNCTION BOX IN ACCESSIBLE CEILING SPACE FOR FLUSH VALVE TRANSFORMERS. COORDINATE WITH MECHANICAL. TYPICAL.
9. PROVIDE POWER TO FIRE ALARM CONTROL PANEL FROM PANEL 'EM-LS'.
10. PROVIDE 120V POWER TO AUTOMATIC FAUCET. PROVIDE JUNCTION BOX IN ACCESSIBLE CEILING SPACE FOR FAUCET TRANSFORMERS. COORDINATE WITH MECHANICAL. TYPICAL.
11. PROVIDE 120V POWER FROM PANEL 'EM-LS' FOR VESDA PANEL PROVIDED BY MECHANICAL. COORDINATE HEIGHT AND PLACEMENT WITH MECHANICAL.
12. PROVIDE 120V POWER FROM PANEL 'EM-LS' FOR BUILDING AUTOMATION SYSTEMS PANEL PROVIDED BY MECHANICAL. COORDINATE HEIGHT AND PLACEMENT WITH MECHANICAL.
13. PROVIDE 120V POWER FROM PANEL 'EM-LS' FOR DRY ASSEMBLY SYSTEM PROVIDED BY MECHANICAL. COORDINATE LOCATION OF ASSEMBLY WITH MECHANICAL.
14. PROVIDE SURFACE RACEWAY AND BOX FOR DOOR ACTUATOR BUTTON PROVIDED BY DIVISION 8.
15. PROVIDE 120V POWER AT TOP OF FUTURE LOCKERS PROVIDED BY OTHERS. PROVIDE COVER PLATES. COORDINATE PLACEMENT WITH ARCHITECT. MATCH INSTALLATION HEIGHT OF OTHER LOCKERS PROVIDED. LOCKERS TO BE POWERED FROM PANEL 'P2' VIA GFCI BREAKERS.
16. PROVIDE 120V POWER TO GENERATOR REMOTE CONTROL AND MONITORING PANEL FROM PANEL 'EM-LS'. PROVIDE CONDUIT AND CABLING AS REQUIRED FOR LOW VOLTAGE CONTROL AND AUXILLARY EQUIPMENT AS PART OF THE GENERATOR. COORDINATE REQUIREMENTS WITH GENERATOR MANUFACTURER. 2
17. PROVIDE UNDERGROUND CONDUIT TO MOUNT DOOR ACTUATOR BUTTON ON BOLLARD.
18. PROVIDE POWER SWITCH WITH LED INDICATOR TO TURN ON AND OFF HIDDEN CAMERAS IN ROOM. CAMERAS AND ASSOCIATED CABLING PROVIDED BY OWNER.
19. PROVIDE SINGLE GANG BOX MOUNTED AT 60" AFF WITH 3/4" CONDUIT TO ACCESS CEILING. PINHOLE/THERMOSTAT CAMERA AND ASSOCIATED CABLING BY OWNER.
20. CONFIRM OUTLET REQUIREMENTS WITH OWNER. DATA RACKS PROVIDED BY OWNER.
21. PROVIDE 8' TALL X 3/4" AC GRADE PLYWOOD. PAINT ALL SIDES WITH FIRE RETARDANT PAINT.
22. SEE DETAIL 'E8.1' ON SHEET E8.00 FOR GROUND BAR DETAIL.

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BRADLEY R. JOHANNSEN
Registration Number 18475 Date 2/8/16

Revisions		
Description	Date	Num
ADDENDUM #1	2/22/16	1
ADDENDUM #2	2/29/16	2

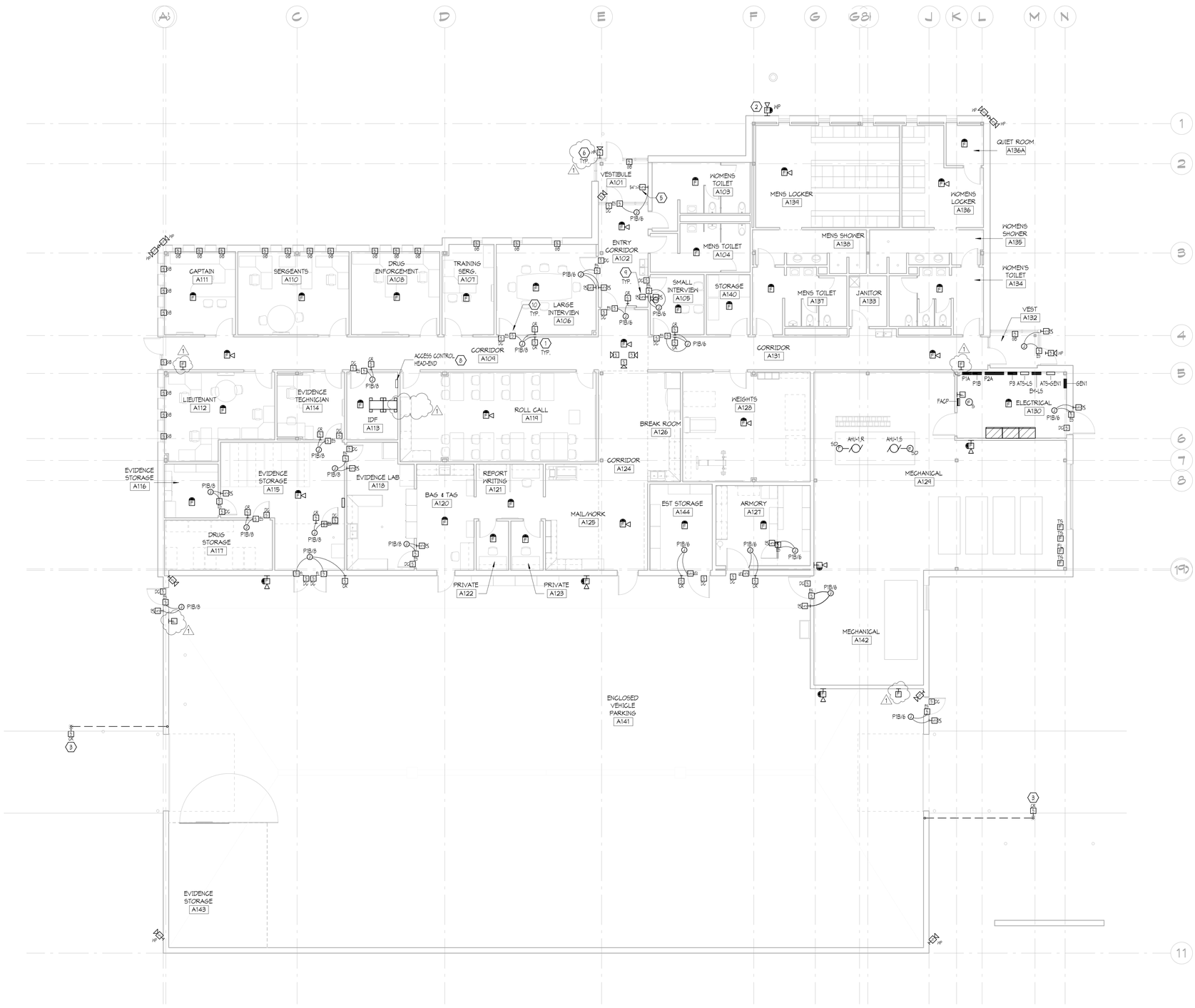
Comm: 133030
Date: 2/8/16
Drawn: A. NILSON
Check: B. JOHANNSEN

North

MAIN LEVEL POWER PLAN

Scale: As indicated

E2.0



G2 MAIN LEVEL SAFETY AND SECURITY PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

A. INTERIOR CAMERAS SHALL BE AXIS M3005-V.
B. EXTERIOR CAMERAS SHALL BE AXIS P3367-VE

KEYED SHEET NOTES

1. PROVIDE 120V CIRCUIT SHOWN FOR DOOR SECURITY HARDWARE. PROVIDE RACEWAY AND JUNCTION BOXES TO DEVICES PROVIDED BY DIV. 8. SEE DETAIL B7/ ON SHEET E1.1. FOR MORE INFORMATION. TYPICAL.
2. PROVIDE WEATHERPROOF FIRE ALARM HORN STROBE ABOVE FIRE ALARM SIAMESE CONNECTION.
3. PROVIDE CARD READERS AND ASSOCIATED 3/4" UNDERGROUND CONDUIT AND CABLING. INSTALL ON EXTERIOR BOLLARDS PROVIDED BY OTHERS.
4. NOT USED.
5. PROVIDE INTRUSE AND DUE-IP INTERCOM.
6. PROVIDE WEATHERPROOF SECURITY CAMERA, CABLING, CONNECTIONS, AND PROGRAMMING BY OWNER.
7. NOT USED.
8. PROVIDE ACCESS CONTROL HEAD-END. PROVIDE 120V POWER TO HEAD-END FROM PANEL EM-L5.
9. PROVIDE CARD READERS AND CONNECT BACK TO ACCESS CONTROL HEAD-END. TYPICAL.
10. ELECTRIC STRIKES PROVIDED BY DIVISION 8. TYPICAL.

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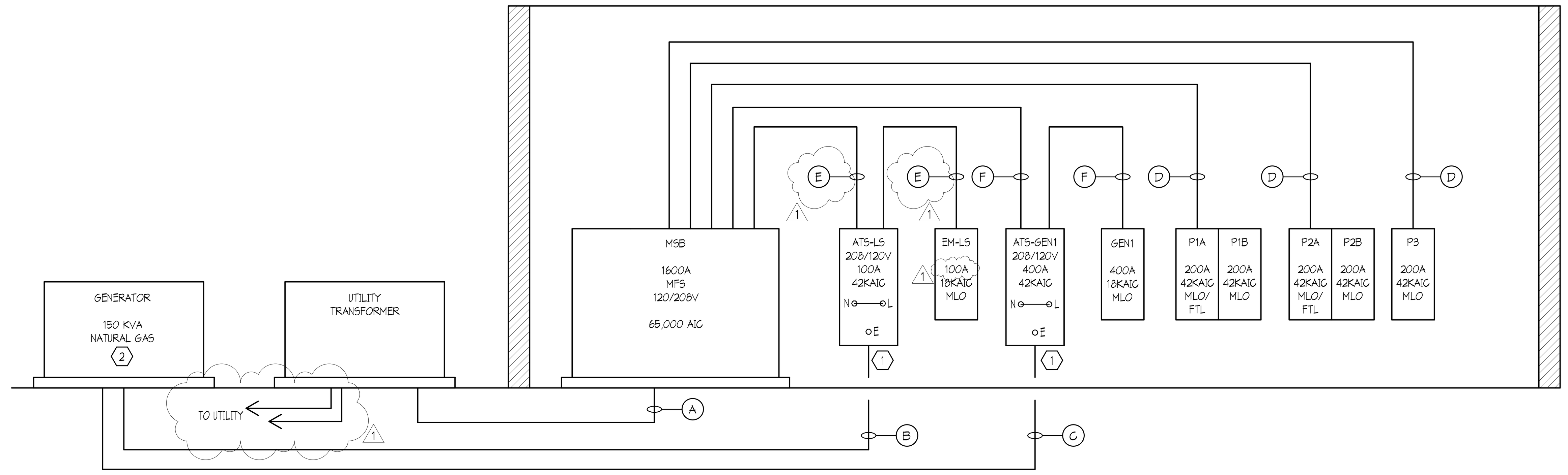
MAIN LEVEL SAFETY AND SECURITY PLAN

Scale: 1/8" = 1'-0"

E4.0



C4 **POWER RISER DIAGRAM**
NOT TO SCALE

KEYED SHEET NOTES

1. PROVIDE 100A AUTOMATIC TRANSFER SWITCH AND CONNECT EMERGENCY LINE TO GENERATOR.
2. PROVIDE 150KVA NATURAL GAS GENERATOR. COORDINATE WITH MECHANICAL ON INSTALLATION OF GAS LINES.

FEEDER SCHEDULE

FEEDER INFORMATION		CONDUIT INFORMATION				PHASE, NEUTRAL, AND GND WIRE INFO					WIRE INFORMATION		
FEEDER NUMBER	LOAD DESCRIPTION	SETS OF CONDUIT	CONDUIT(S) SIZE	CONDUIT(S) TYPE	P+N QUANTITY	PHASE WIRE SIZE	NEUTRAL WIRE SIZE	NEUTRAL S OR D	GND WIRE SIZE	SERVICE ENTRANCE	WIRE TYPE	WIRE INSUL	CALCULATED VOLTAGE DROP
A	1600A	5	3 1/2"	EXTG	4	400	400	S		X	CU	THHN	
B	100A GEN	1	2 1/2"	EXTG	4	1	1	S	8		CU	THHN	
C	400A GEN	2	2 1/2"	EXTG	4	3/0	3/0	S	2		CU	THHN	
D	200A	1	2"	EMT	4	3/0	3/0	S	6		CU	THHN	
E	100A	1	1 1/2"	EMT	4	1	1	S	8		CU	THHN	
F	400A	2	2"	EMT	4	3/0	3/0	S	2		CU	THHN	

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Drawn: A. NILSON
Check: B. JOHANNSEN

North

RISER DIAGRAM

Scale: As indicated

E6.0

LUMINAIRE FIXTURE SCHEDULE

ID	FIXTURE TYPE	MOUNTING	VOLTS	LAMPS QTY	LAMPS WATTS	LAMPS TYPE	CONTROL MEDIA (LENS, LOUVERS, ETC.)	FIXTURE DESCRIPTION	MANUFACTURERS' PRODUCTS SERIES	NOTES
A	2X4 RECESSED LED TROFFER VOLUMETRIC LENS	RECESSED IN GRID CEILING	120	1	40	LED 4000K	VOLUMETRIC CENTER LENS FROSTED ACRYLIC CURVED SMOOTH LENS	POST-PAINTED MATTE WHITE STATIC TROFFER 0-10V LED DIMMING DRIVER DLC CERTIFIED	H.E. WILLIAMS LT-24-L43/840-AF-DIM-UNV LITHONIA 2BLT4-40L-ADSM-EZ1-LP840 METALUX 24CZ-LD4-40-S-UNV-L840-CD1 COLUMBIA LCAT-24-40MLG-ED-U DAYBRITE 2EVG43L840-4-D-UNV-DIM ** MERCURY LR14-24G-4200-40K-UNI **	
A1	2X4 RECESSED LED TROFFER VOLUMETRIC LENS	RECESSED IN GRID CEILING	120	1	30	LED 4000K	VOLUMETRIC CENTER LENS FROSTED ACRYLIC CURVED SMOOTH LENS	POST-PAINTED MATTE WHITE STATIC TROFFER 0-10V LED DIMMING DRIVER DLC CERTIFIED	H.E. WILLIAMS LT-24-L30/840-AF-DIM-UNV LITHONIA 2BLT4-30L-ADSM-EZ1-LP840 METALUX 24CZ-LD4-30-S-UNV-L840-CD1 COLUMBIA LCAT-24-40VWG-ED-U DAYBRITE 2EVG38L840-4-D-UNV-DIM ** MERCURY LR14-24G-4300-40K-UNI **	
B	2X4 LENSED RECESSED LED TROFFER	RECESSED IN GRID CEILING	120	1	40	LED 4000K	ACRYLIC PATTERN 12 0.125" MINIMUM LENS	POST-PAINTED MATTE WHITE STATIC TROFFER TWIST LOCK SOCKET, SPRING-LOADED LATCH 0-10V LED DIMMING DRIVER DLC CERTIFIED	H.E. WILLIAMS LPT-24-L42/840-S-A12125-DIM-UNV LITHONIA 2GLT-4-40L-RW-EZ1-LP840 METALUX 24GR-LD4-48-A125-UNV-L840-CD-1-PAF-U COLUMBIA LJT-24-40MLG-FA-A12125-ED-U DAYBRITE 2TG43L840-4-RA-12F-UNV-DIM ** MERCURY LR35-24G-4200-9A.125-UNI **	
C	1X4 LENSED RECESSED LED TROFFER OVERLAPPING FLANGE KIT	RECESSED	120	1	22	LED 4000K	ACRYLIC PATTERN 12 0.125" MINIMUM LENS	POST-PAINTED MATTE WHITE STATIC TROFFER 0-10V LED DIMMING DRIVER FLANGE KIT DLC CERTIFIED	H.E. WILLIAMS 50-F-S-1-4-L20/840-R-AF12125-DIM-UNV LITHONIA GTL-4-F-20L-RW-EZ1-LP840 COLUMBIA LJT-14-40-LW-G-FA12125-ED-U-FK14 METALUX 14GR-RA-LD4-20-A125-UNV-L840-CD-1-PAF-U DAYBRITE 1TG22L840-4-RA-02F-UNV-DIM-FMA14 ** MERCURY LR31-14G-2100-40K-9A.125-UNI **	1
D	LED 6" DOWNLIGHT WET LOCATION LISTED	RECESSED	120	1	28	LED 4000K	ACRYLIC PATTERN 12 0.125" MINIMUM LENS	HEAT SINK AND 50K RATED LIFE, WET LOCATION LISTED 1100 LUMEN OUTPUT MINIMUM 0-10V DIMMING WHITE TRIM FULL 5 YEAR WARRANTY	H.E. WILLIAMS L60-L15/840-CS-MWT-DIM-120 LITEFRAME LF6LED5G4-40K-WT HALO H750ICAT-ML5612840-6925C GOTHAM EVO-40/15-6WR-MD-LSS-MVOLT-EZ1 LIGHTOLIER P6R-D-15-N-Z10-U-VB ** INTENSE RP6-1100-408-IC632C-SF-SB **	
E1	EXIT SIGN SINGLE FACE	UNIVERSAL	120	1	5	LED	RED OPTICAL DIFFUSER	MATTE WHITE CAST ALUMINUM HOUSING INVISIBLE ARROW KNOCKOUTS	LITHONIA LE-S-1 SERIES DUAL-LITE SEMPRA SERIES SURE-LITES CX SERIES LIGHTOLIER LD SERIES LIGHT ALARMS GALAXY XD SERIES ** MULE MD-A-U-R-WW **	
E2	EXIT SIGN DOUBLE FACE	UNIVERSAL	120	1	5	LED	RED OPTICAL DIFFUSER	MATTE WHITE CAST ALUMINUM HOUSING INVISIBLE ARROW KNOCKOUTS	LITHONIA LE-S-1 SERIES DUAL-LITE SEMPRA SERIES SURE-LITES CX SERIES LIGHTOLIER LD SERIES LIGHT ALARMS GALAXY XD SERIES ** MULE MD-A-U-R-WW **	
F	LED SUSPENDED	SUSPENDED 3'	120	1	40	LED 4000K	SMOOTH ACRYLIC LENS	MATTE WHITE CAST ALUMINUM HOUSING 10-25% UPLIGHT 0-10V LED DIMMING DRIVER	PEERLESS BRM9L-HI-10/90-SSH-4FT-R4-120-SCT-EZB-LP840 AXIS SL2HLED-B3-2XSL-250-1000-80-40-VL-4-4-W-UNV-D-1-CA * ALERA LP7-OA-4-40-HL-80-CM-48-ED-U-MW * A LIGHT A6-4-LS-40-U-A-E-S-W-D ** LEDALITE 7406-L-A-C-Q-G-04-7-1-E-W ** METALUMEN RMEP-8-2L40K-4-25C-M-W-L1000-1-PA-4 **	
G	LED SUSPENDED INDUSTRIAL HIGH-BAY	CHAIN HUNG	120	1	80	LED 4000K	FROSTED ACRYLIC LENS	MATTE WHITE HOUSING WIDE DISTRIBUTION 9000 LUMENS MINIMUM DLC CERTIFIED	LITHONIA IBH-9000LM-SD080-MD-MVOLT-OZ10-40K-80CRI COLUMBIA LLHV-4-40-L-W-ST-ED-U-SFA METALUX 4ILED-LD4-9-W-UNV-L840-CD1-U-FL ORACLE CB4-LED-10000L-DIM10-MVOLT-W-40K-80-SFWLDF ** DAY-BRITE FBX-12L-L-40-UNV-W-LFA ** MERCURY LW25-4-9000-40K-HTA-UNI **	
AA3	POLE MOUNT AREA LIGHT	ARM	120	1	100	LED 4000K		LED ARM MOUNT FIXTURE, 700 mA DRIVE CURRENT DIE-CAST ALUMINUM HOUSING 20-FOOT SQUARE TAPERED ALUMINUM POLE BLACK FINISH TYPE III DISTRIBUTION INTERNAL VIBRATION DAMPENER DLC CERTIFIED	LITHONIA DSX1 LED-30C-700-40K-T3M-MVOLT-SPA-DBLXD BEACON VPS-30NB-90-4K-T3-UNV-BBT MCGRAW-EDISON GLEON-AE-2-LED-E1-T3-BK-700 H.E. WILLIAMS VA1-LED60/740-T3-F-S-BLK-EDD*PH-UNV GARDCO ECF-1-3-70LA-3270-NW-UNV-BLP ** VISIONAIRE VSX-1-T3-32-7-4K-UNV-AM-BK **	
AA4	POLE MOUNT AREA LIGHT	ARM	120	1	100	LED 4000K		LED ARM MOUNT FIXTURE, 700 mA DRIVE CURRENT DIE-CAST ALUMINUM HOUSING 20-FOOT SQUARE TAPERED ALUMINUM POLE BLACK FINISH TYPE IV DISTRIBUTION INTERNAL VIBRATION DAMPENER DLC CERTIFIED	LITHONIA DSX1 LED-30C-700-40K-T4M-MVOLT-SPA-DBLXD BEACON VPS-30NB-90-4K-T4-UNV-BBT MCGRAW-EDISON GLEON-AE-2-LED-E1-T4-BK-700 H.E. WILLIAMS VA1-LED60/740-T4-F-S-BLK-EDD*PH-UNV GARDCO ECF-1-4-70LA-3270-NW-UNV-BLP ** VISIONAIRE VSX-1-T4-32-7-4K-UNV-AM-BK **	
BB	EXTERIOR LED WALL PAK TRAPEZOIDAL SHAPE	WALL	120	1	50	LED 4000K		DIE-CAST ALUMINUM HOUSING BLACK FINISH TYPE III DISTRIBUTION 12' MOUNTING HEIGHT	LITHONIA WST-LED-1-10A700/40K-SR3-MVOLT-DBLXD SPAULDING TRP-30L-4K-053-3-U-BL MCGRAW-EDISON IST-E01-LED-E1-BL3-BK H.E. WILLIAMS VWP-H-LED32/740-T3-BLK-EDD*IN-277 ** GARDCO 111L-3-30LA-NW-UNIV-BLP ** VISIONAIRE VSX-1-T3-32-5-UNV-WM-BK **	
CC	LED BOLLARD	GROUND	120	1	22	LED 4000K		DIE-CAST ALUMINUM HOUSING BLACK FINISH SYMMETRICAL DISTRIBUTION CYLINDRICAL BOLLARD	LITHONIA KBR8-12C-530-40K-SYM-MVOLT-DMG-DBLXD H.E. WILLIAMS OSA8R-L20/840-AC-FT-BLK-AB-DIM-UNV SPAULDING FN2-12LU5K-Q-BL-CD * U.S. ARCHITECTURAL LIGHTING BRA8-LED-TR-18-LED-NW-120-GR-BL-DIM * ANP LIGHTING BL6021-CL-21W-N-T5-40K-41 ** VISIONAIRE OWK-1-BR42-PR-20LC-5-4K-UNV-AB-BK **	
DD	LED FLOOD LIGHTS	GROUND	120	1	30	LED 4000K		DIE-CAST ALUMINUM HOUSING BLACK FINISH NARROW BEAM KNUCKLE MOUNTING	SPAULDING ARF1-K-10L-4K-070-N-U-BL LITHONIA DSXF1 LED-2-A530/40K-NSP-MVOLT-THK-DBLXD H.E. WILLIAMS VF1-L35/740-NS-SR-BLK-DIM-UNV COOPER VFS-K-B40-LED-E1-T5-BK * STONCO LPF1-E-4K-FL-K-8-DGY ** VISIONAIRE VSF-T15-32LC-3-4K-UNV-KM-BK **	

GENERAL NOTES:

A. Locations on drawings of industrial-type fixtures are approximate to show general intent. Verify all locations and heights with other disciplines prior to clear all equipment and piping.
B. Fixture quantities are per cross section unless otherwise noted.

NOTES:

1. LUMINAIRES REQUIRE A FLANGE KIT FOR INSTALLATION INTO GYP CEILING.

* LUMINAIRES ADDED IN ADDENDUM #1
** LUMINAIRES ADDED IN ADDENDUM #2

MOTOR SCHEDULE

LOAD INFORMATION: MTR	DESCRIPTION	LOC	LOAD	UNIT	VOLTAGE	PANEL	CONDUIT: SET(S)	SIZE	TYPE	WIRE QUANTITY AND SIZE: P+N	PHASE	NEUT	GND	WIRE TYPE: TYPE	INSUL	STARTER: SUPPLIED	INSTALLED	SIZE	LOC	DISCONNECT: SUPPLIED	INSTALLED	TYPE	SIZE	LOC	CTRL'S BY	NOTES	MTR
AHU-1,S	AIR HANDLING UNIT,SUPPLY	A129	10	HP	208/3	P3	1	3/4"	EMT	3	8 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	MECH	ELEC	VFD		MTR	MECH		AHU-1,S
AHU-1,R	AIR HANDLING UNIT,RETURN	A129	7.5	HP	208/3	P3	1	3/4"	EMT	3	10 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	MECH	ELEC	VFD		MTR	MECH		AHU-1,R
AHU-2	AIR HANDLING UNIT	A129	3	HP	208/3	GEN1	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	ELEC	VFD	MTR	MECH	ELEC	VFD		MTR	MECH		AHU-2
B1	BOILER	A129	2.4	FLA	208/3	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	MECH	MECH		MTR	MECH	MECH			MTR	MECH		B1
CRU-1	COMPUTER ROOM UNIT	ROOF	18.0	MCA	208/1	GEN1	1	3/4"	EMT	2	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	MECH	MECH			MTR	MECH		CRU-1
CUH-1	CABINET UNIT HEATER	A101	1/15	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		CUH-1
CUH-2	CABINET UNIT HEATER	A132	1/15	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		CUH-2
EF-1	EXHAUST FAN	ROOF	1/2	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	MECH	MECH		MTR	MECH	MECH			MTR	MECH		EF-1
EF-2	EXHAUST FAN	ROOF	1/4	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	ELEC	ELEC	SIZE 00	MTR	ELEC	ELEC	FS	30A	MTR	MECH		EF-2
EF-3	EXHAUST FAN	ROOF	1/4	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	ELEC	ELEC	SIZE 00	MTR	ELEC	ELEC	FS	30A	MTR	MECH		EF-3
EF-4	EXHAUST FAN	ROOF	1/2	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	ELEC	ELEC	SIZE 00	MTR	ELEC	ELEC	FS	30A	MTR	MECH		EF-4
EF-5	EXHAUST FAN	ROOF	1/2	HP	120/1	GEN1	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	MECH	MECH		MTR	MECH	MECH			MTR	MECH		EF-5
EF-6	EXHAUST FAN	ROOF	1/4	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	MECH	MECH		MTR	MECH	MECH			MTR	MECH		EF-6
HUM-1	HUMIDIFIER	A129	18.7	KW	208/3	GEN1	1	1 1/4"	EMT	3	4 AWG		6 AWG	CU	THHN	MECH	MECH		MTR	MECH	MECH			MTR	MECH		HUM-1
HP-1,2	HEAT PUMP	A129	102	MCA	208/3	GEN1	1	1 1/2"	EMT	3	1/0 AWG		6 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	200A	MTR	MECH		HP-1,2
HP-3,4	HEAT PUMP	A129	97	MCA	208/3	MSB	1	1 1/2"	EMT	3	1/0 AWG		6 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	200A	MTR	MECH		HP-3,4
MAU-1,S	MAKE-UP AIR UNIT,SUPPLY	A129	10	HP	208/3	P3	1	3/4"	EMT	3	8 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	60A	MTR	MECH		MAU-1,S
MAU-1,R	MAKE-UP AIR UNIT,RETURN	A129	7.5	HP	208/3	P3	1	3/4"	EMT	3	10 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	60A	MTR	MECH		MAU-1,R
P1	PUMP	A129	15	HP	208/3	GEN1	1	3/4"	EMT	3	6 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	60A	MTR	MECH		P1
P2	PUMP	A129	15	HP	208/3	MSB	1	3/4"	EMT	3	6 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	60A	MTR	MECH		P2
P3	PUMP	A129	5	HP	208/3	GEN1	1	3/4"	EMT	3	10 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	30A	MTR	MECH		P3
P4	PUMP	A129	5	HP	208/3	P3	1	3/4"	EMT	3	10 AWG		10 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	30A	MTR	MECH		P4
P5	PUMP	A129	3	HP	208/3	GEN1	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	30A	MTR	MECH		P5
P6	PUMP	A129	3	HP	208/3	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	ELEC	VFD	MTR	ELEC	ELEC	FS	30A	MTR	MECH		P6
P7	PUMP	A129	1/3	HP	208/3	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	ELEC	SIZE 0	MTR	ELEC	ELEC	FS	30A	MTR	MECH		
P8	PUMP	A129	0.36	HP	120/1	P3	1	3/4"	EMT	2	12 AWG	12 AWG	12 AWG	CU	THHN	ELEC	ELEC	SIZE 00	MTR	ELEC	ELEC	FS	30A	MTR	MECH	1	P7
UH-1	UNIT HEATER	A129	1/20	HP	120/1	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		UH-1
UH-2	UNIT HEATER	A129	1/20	HP	120/1	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		UH-2
UH-3	UNIT HEATER	A129	1/20	HP	120/1	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		UH-3
UH-4	UNIT HEATER	A129	1/20	HP	120/1	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		UH-4
WH-1	WATER HEATER	A129	5	FLA	120/1	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		WH-1
WH-2	WATER HEATER	A129	5	FLA	120/1	P3	1	3/4"	EMT	3	12 AWG		12 AWG	CU	THHN	MECH	MECH		MTR	ELEC	ELEC	FS	30A	MTR	MECH		WH-2

GENERAL NOTES:

A. ALL FUSE SIZES/BREAKER TRIPS ARE ESTIMATED. CONTRACTOR TO FIELD VERIFY INSTALLED MOTOR REQUIREMENTS.

NOTES:

1. OVERLOAD INTEGRAL TO UNIT AND PROVIDED BY MECH.

OCCUPANCY SENSOR SCHEDULE

TYPE	MANUFACTURER MODEL NUMBER	TECHNOLOGY	MOUNTING	ON	OFF	DIMMING	TIME DELAY SETTING	LV RELAY	NOTES
OS1	WATTSTOPPER DT-305	DUAL TECH	CEILING	MANUAL	AUTO	NO	15 MINS	NO	
OS2	WATTSTOPPER PW-100	PIR	WALL	MANUAL	AUTO	NO	15 MINS	NO	
OS3	WATTSTOPPER DT-305	DUAL TECH	CEILING	AUTO	AUTO	NO	MAX - 30 MINS	NO	
OS4	WATTSTOPPER PW-100	PIR	WALL	AUTO	AUTO	NO	15 MINS	NO	
OS5	WATTSTOPPER DT-305	DUAL TECH	CEILING	AUTO	AUTO	NO	15 MINS	NO	

GENERAL NOTES:

A. PROVIDE POWER PACKS AS REQUIRED.

B. IF ROOM HAS MORE THAN ONE SENSOR, INTERCONNECT ALL SENSORS UNLESS OTHERWISE NOTED.

C. PROVIDE WATTSTOPPER MODEL SHOWN IN SCHEDULE OR APPROVED EQUAL.

SCHEDULE NOTES:

NOTES

Sheriff's Patrol Headquarters
3206 South 16th Street
Eldridge, Iowa, USA 52748

Scott County
600 West Fourth Street
Davenport, Iowa

WOLD architects engineers
www.woldae.com
110 North Brockway St
Two Hundred Twenty
Palatine, IL 60067
tel 847 241 6100
fax 847 241 6105
mail@woldae.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of IOWA

BRADLEY R. JOHANNSEN
Registration Number 18475 Date 2/8/16

Revisions		
Description	Date	Num
ADDENDUM #1	2/22/16	1
ADDENDUM #2	2/29/16	2

Comm: 133030
Date: 2/8/16
Drawn: A. NILSON
Check: B. JOHANNSEN

North

ELECTRICAL SCHEDULES

Scale: As indicated

E7.1

WOLD
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engineers
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Palatine, IL 60067

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1 / 31012 NOTES APPLY

GRID

PRE-FINISHED MTL COPING

EXTEND ROOFING TO COVER FRONT FACE OF TREATED WD BLKG

T.O. MASONRY
SEE WALL SECTIONS

CONTINUOUS KEEPER

MAINTAIN 3/8" GAP - PROVIDE SEALANT BETWEEN WOOD AND BRICK

WEEP VENT AT 24" O.C.

4" FACE BRICK W/ AIR SPACE

2" CAVITY WALL INSULATION ON 2" HORIZ Z-FURRING

WEATHER BARRIER - EXTEND TO TOP OF BLOCKING UNDER COPING

STL ANGLE, SEE STRUCT

1/2" GYP BD SHEATHING

6" STL STUD W/ 3" MIN SPRAY FOAM INSULATION - FILL PARAPET CAVITY FULL

5/8" GYP BD

STL BEAM, SEE STRUCT

STL ANGLE, SEE STRUCT

4"

2"

3" MIN

3/4"

ANCHOR COPING AT MIDSPAN ONLY

ROOF MEMBRANE, WRAP TO FRONT FACE OF BLOCKING

2" CONTINUOUS RIGID INSULATION

GYP ROOF BOARD

ROOFING SYSTEM

1

CUT AROUND ALL STRUCTURE & DECKING - RUN GYP BD. TIGHT TO DECK AND PROVIDE CONT. FIRE CAULKING

5/8" GYP BD AS OCCURS AT 7B WALLS - SEE FLOOR PLAN - EXTEND GYP BD PAST STRUCTURE AT WALL

1 PARAPET AT MASONRY

1 1/2" = 1'-0"

0 6" 1'

PROJECT: Sheriff's Patrol Headquarters

DATE: 2/8/2016

COMMISSION NO: 133030

REVISIONS: 1 ADDENDUM #2

REV. DATE: 2/29/2016

31010

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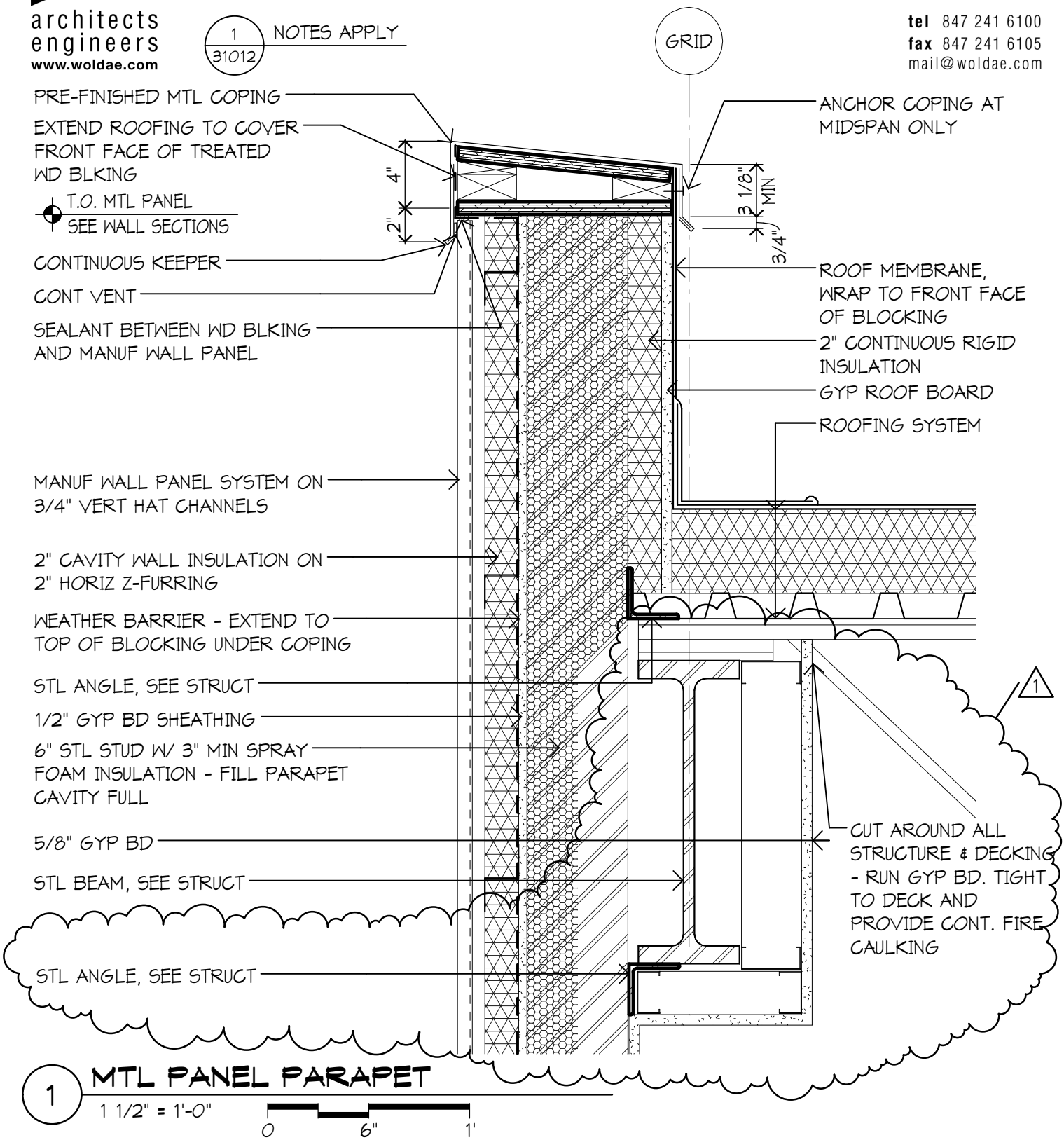

1 MTL PANEL PARAPET

1 1/2" = 1'-0"

0 6" 1'

PROJECT: Sheriff's Patrol Headquarters

DATE: 2/8/2016 **COMMISSION NO:** 133030

REVISIONS: 1 ADDENDUM #2 **REV. DATE:** 2/29/2016

31011

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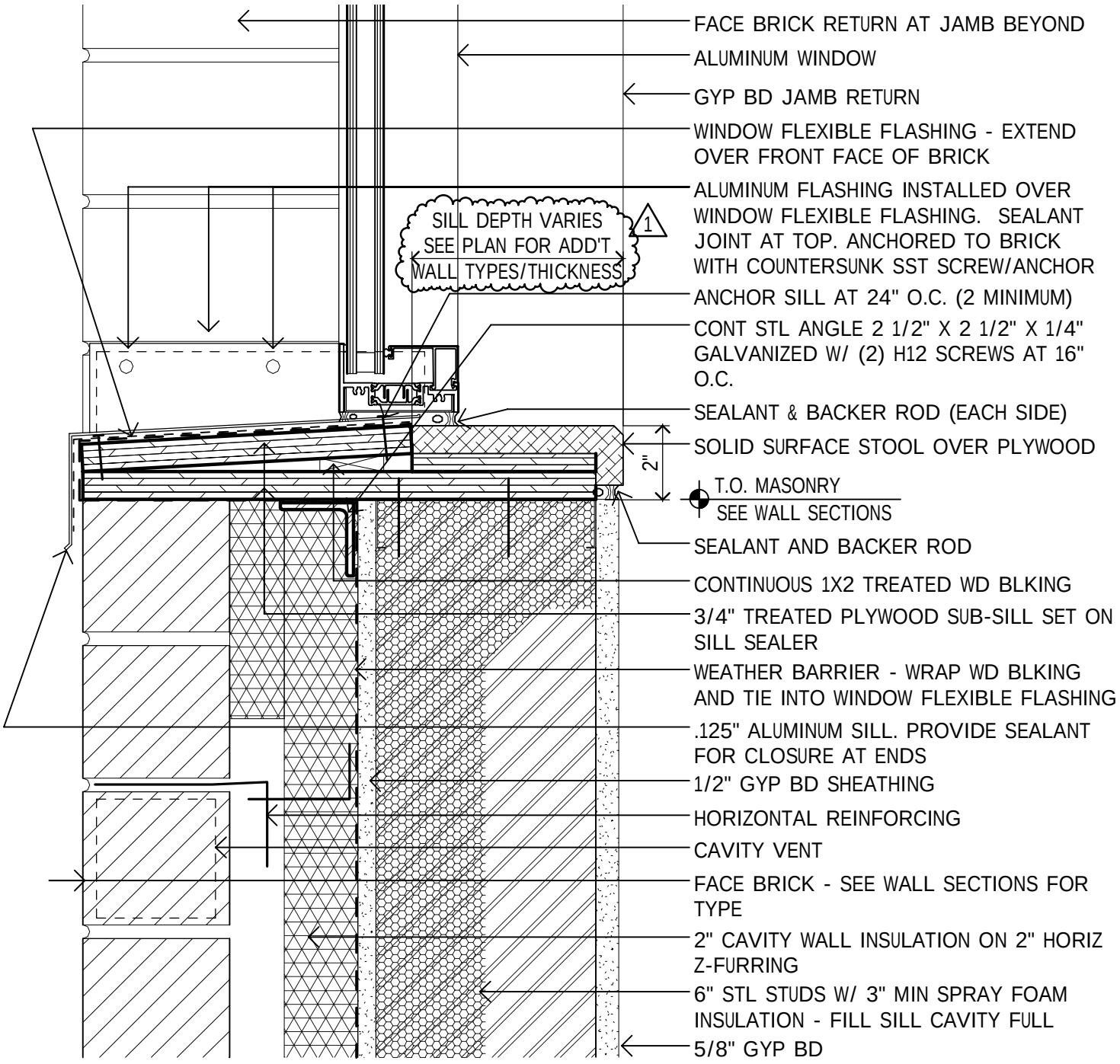

1 WINDOW SILL @ MASONRY

3" = 1'-0"

0 3" 6"

PROJECT: Sheriff's Patrol Headquarters

DATE: 2/8/2016

COMMISSION NO: 133030

REVISIONS: 1 ADDENDUM #2

REV. DATE: 2/29/2016

31033

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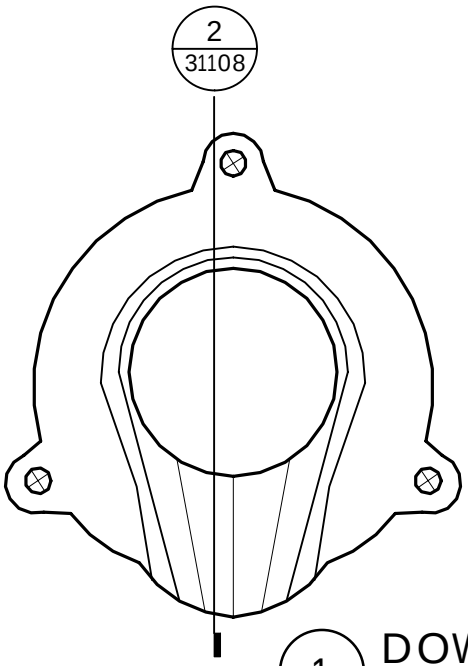
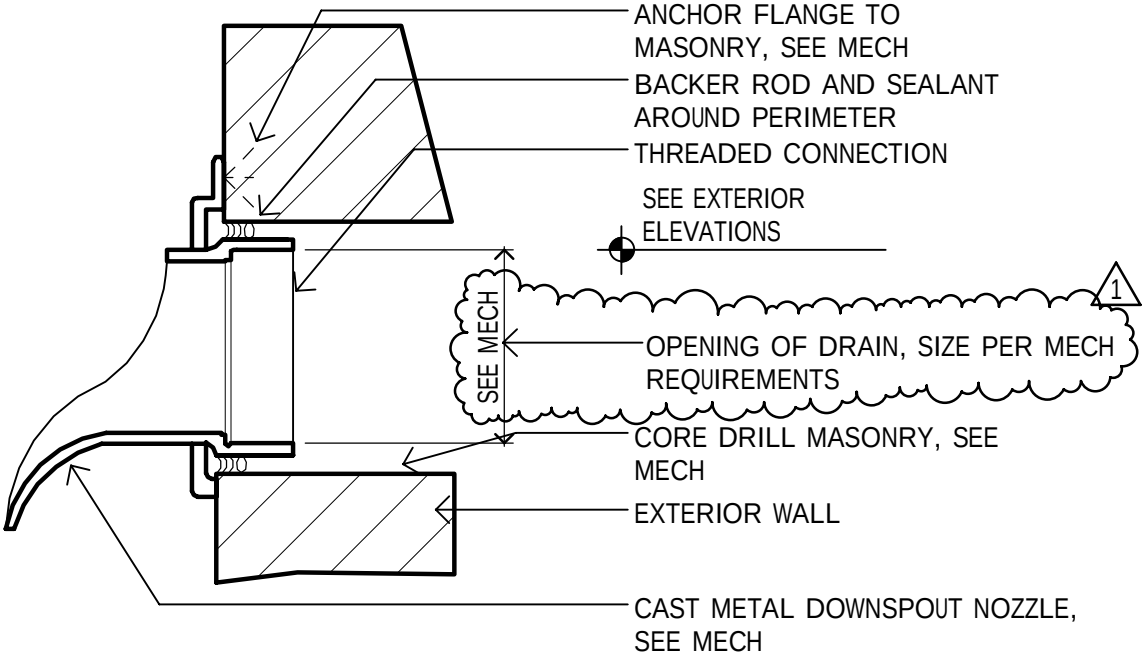


1 DOWNSPOUT NOZZLE ELEVATION

3" = 1'-0"

0 3" 6"



2 DOWNSPOUT NOZZLE SECTION

3" = 1'-0"

0 3" 6"

PROJECT: Sheriff's Patrol Headquarters

DATE: 2/8/2016

COMMISSION NO: 133030

REVISIONS: 1 ADDENDUM #2

REV. DATE: 2/29/2016

31108

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