

-COORDINATION NOTES-

1. REFER TO CIVIL FOR ALL BUILDING LOCATION, GRADING, PAVING, UTILITY LOCATIONS, TYPES & SIZES AS WELL AS ALL UNDER GROUND STORMWATER.
2. SEE & COORDINATE WITH ALL PEMB DOCUMENTS.
3. REFER TO STRUCTURAL DOCUMENTS FOR FOOTINGS, FOUNDATIONS, FLOOR SLABS & ALL POURED-IN PLACE CONCRETE WALLS.
4. REFER TO DESIGN-BUILD MEP DESIGN DOCUMENTS.

-NOTE-
REFER TO SEPARATE CODE SUMMARY
PREPARED BY "RTM CONSULTANTS"

GENERAL NOTES:

1. ALL WORK SHALL CONFORM WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR THE EXECUTION OF WORK OF THIS CONTRACT.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE BARRIER FREE REQUIREMENTS OF THE INDIANA STATE BUILDING CODE, LATEST EDITION, AND THE AMERICANS WITH DISABILITIES ACT (ADA).
3. DO NOT SCALE DRAWINGS - USE FIELD DIMENSIONS ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD.
4. IF A DISCREPENCY OCCURS, THE CONTRACTOR IS TO CONTACT THE ARCHITECT FOR A CLARIFICATION IMMEDIATELY.
5. GENERAL CONTRACTOR, SUBCONTRACTORS AND TRADES SHALL BE RESPONSIBLE TO REVIEW ALL CONTRACT DOCUMENTS TO BECOME AWARE OF ALL ITEMS OF WORK AFFECTING THEIR RESPECTIVE WORK.
6. COORDINATE SCHEDULE OF ALL PROJECT RELATED WORK ACTIVITIES WITH OWNER REPRESENTATIVE TO MINIMIZE DISRUPTIONS OF OWNER'S ACTIVITIES.
7. COORDINATE WITH OWNER'S EQUIPMENT INSTALLATION, INCLUDING EQUIPMENT ANCHORAGES, AFTER BUILDING IS "DRIED -IN" WITH CURED SLABS, ETC.
8. CONTRACTOR SHALL CONSOLIDATE SITE LOCATIONS OF SPACE PARKING, EQUIPMENT AND MATERIALS.
9. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO SECURE ALL CONTRACTOR MATERIALS, TOOLS AND EQUIPMENT.
10. CLEAN ALL AREAS UPON COMPLETION OF WORK BY TRADES IN RESPECTIVVE AREAS .

SPECIAL NOTE-
OWNER HAS ENGAGED CWC, INC. TO SERVE
AS OWNER REPRESENTATIVE
FOR THE ENTIRE CONSTRUCTION. ALL OWNER
QUESTIONS SHALL BE DIRECTED TO CWC, INC
SUBMITTALS AND RFI'S TO ARCHITECT.

DRAWING LIST:

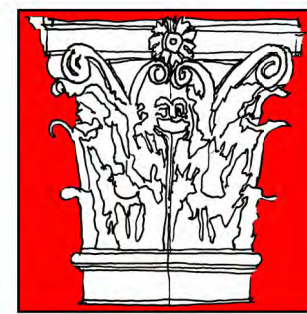
-ARCHITECTURAL - CWRA, LLC
A-001 SITE PLAN & TITLE SHEET
A-100 FLOOR PLAN
A-101 ENLARGED OFFICE PLAN
A-200 EXTERIOR ELEVATIONS
A-201 ENLARGED ENTRY ELEVATION
A-300 TYPICAL WALL SECTION
A-301 TYPICAL LOADING DOCK
A-302 ENTRY SECTION & DETAILS
A-400 DETAILS & OFFICE SECTION
A-401 DOOR & WINDOW DETAILS

-STRUCTURAL - LHB, INC.
S-001 -STRUCTURAL NOTES
S-201 -FOUNDATION PLAN
S-202- OFFICE/ CANOPY FRAMING PLAN
S-401 -FOUNDATION SECTIONS
S-402 -FOUNDATION SECTIONS & DETAILS
S-403 -FOUNDATION DETAILS

-MECHANICAL, PLUMBING & ELECTRICAL-
REFER TO GNA ENGINEERING SHEET INDEX.

PRE-ENGINEERED METAL BUILDING -(PEMB)
SEE SEPARATE SET FOR PEMB FOR STEEL FRAME,
EXTERIOR SIDING, WALL & ROOF INSULATION, ETC.

-CIVIL-
SEE SEPARATE SET OF CIVIL DOCUMENTS AS
PREPARED BY "CIVIL & ENVIRONMENTAL
CONSULTANTS"

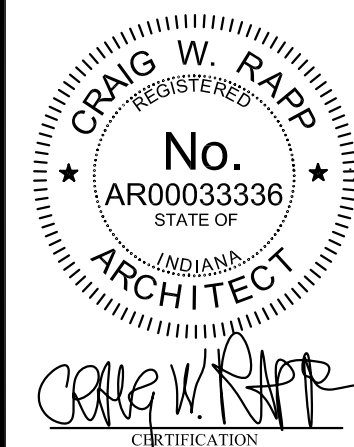


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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

THESE DRAWINGS AND SPECIFICATIONS, AND ALL COPIES THEREOF, ARE AND SHALL REMAIN THE PROPERTY AND INTELLECTUAL PROPERTY OF THE ARCHITECT. THEY SHALL BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT OR WORK WITHOUT PRIOR WRITTEN PERMISSION FROM THE ARCHITECT, CRAIG W. RAPP ASSOCIATES, LLC.



SHEET DESCRIPTION:
TITLE AND
COVER SHEET

REVISIONS
2-28-2022 PERMIT SET

BUILDING S

SCALE:

DATE: 2-28-2022

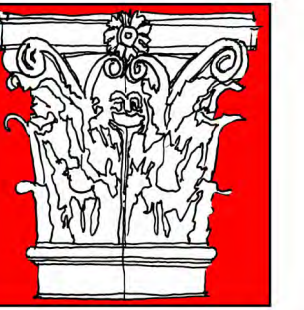
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CHECKED BY:

OWNER APPROVAL:

FILE:

A-001



ARCHITECT

CWRA

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PROJECT NUMBER
11007100

TRINITY ALLOYS, L.L.C.
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SHELBYVILLE, INDIANA 46176

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Craig W. Rapp
ARCHITECT

SHEET DESCRIPTION:
FLOOR PLAN

REVISIONS
2-28-2022 PERMIT SET

BUILDING #
SCALE:
DATE: **2-28-2022**
DRAWN BY:
CHECKED BY:
OWNER APPROVAL:
FILE:

A-100

REFER TO CIVIL FOR GRADING, LOCATIONS, STORMWATER & UTILITIES

389'-10" 1/16"
CENTER COL TO COL
(VERIFY WITH BLDG MFR)

SEE ENLARGED PLAN
ON SHEET A-101

TYPICAL
WALL
SECTION
A3302

TYPICAL CONCRETE WALK &
CURB, COORDINATE WITH CIVIL

SEE STRUCT FOR
RETAINING WALLS,
TYPICAL & ALL
LOADING DOCKS

TYPICAL CONCRETE WALK &
CURB, COORDINATE WITH CIVIL

SEE ENLARGED PLANS
ON SHEET A-301

RISER ELEC
TYPICAL

10' CONCRETE WALL,
SEE STRUCTURAL

SEE ENLARGED OFFICE
PLAN ON SHEET A-101

SEE STRUCTURAL FOR FOOTINGS,
FOUNDATIONS, SLAB, EXP. JT., ETC

FINISH FLOOR = T1325

FINISH

PRODUCTION

WIP / STORAGE

SHRED

SEE ENLARGED PLANS
ON SHEET A-301

SEE STRUCT FOR
RETAINING WALLS,
TYPICAL

TRINITY FLOOR PLAN

SCALE: 1/16" = 1'-0"

FINISH FLOOR = T1325

NOTE:

REFER TO CIVIL FOR
REQUIRED SITE WORK



PLAN KEYNOTES - SHEET 001 ONLY:

1. EXTERIOR POURED-IN PLACE CONCRETE WALL, FOUNDATIONS & FOOTINGS SEE STRUCTURAL WALLS ABOVE SHALL BE INSULATED, PRE-MANUFACTURED METAL PANEL SYSTEM, REFER TO SECTION SHEETS.
2. INTERIOR PARTITIONS SHALL BE 3 5/8" STANDARD METAL STUDS @ 16" ON CENTER WITH 1/2" GYP. BD. EACH SIDE. PROVIDE FULL BATT FIBERGLAS INSULATION IN ALL WALLS. REFER TO SECTIONS.
3. TYPICAL 8'-0" WIDE (8'-4" R.O.) X 10'-0" TALL OVERHEAD DOORS @ EACH 8' X 8' LOADING DOCK, REFER TO A-301 FOR TYPICAL SECTION & PLAN.
4. SEE & FRAMING & STRUCTURAL FOR END WALL STRUCTURE.
5. CANOPY ABOVE ENTRY. SEE SECTION ON A-302 & S-400.
6. SIGNAGE PYLON, SEE SECTION & DETAILS ON SHEET A-302 & S-400.
7. SEE ENLARGED PLAN FOR ALUMINUM FRAME WINDOWS & ALUMINUM ENTRY DOOR.
8. TYPICAL 3'-0" X 1'-0" INSULATED EXTERIOR STEEL DOOR & DOOR FRAME.
9. INTERIOR CONCRETE WALL TO 12'-0" HIGH @ SHRED ROOM, REFER TO STRUCTURAL.
10. 10'-4" X 10'-0" OPENING FROM SHRED ROOM INTO ADJACENT SPACE.
11. 8" CMU WALL BETWEEN ELECTRICAL & RISER ROOM.
12. SEE CIVIL FOR GRADING AROUND ALL LOADING DOCKS.



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TRINITY ALLOYS, L.L.C.
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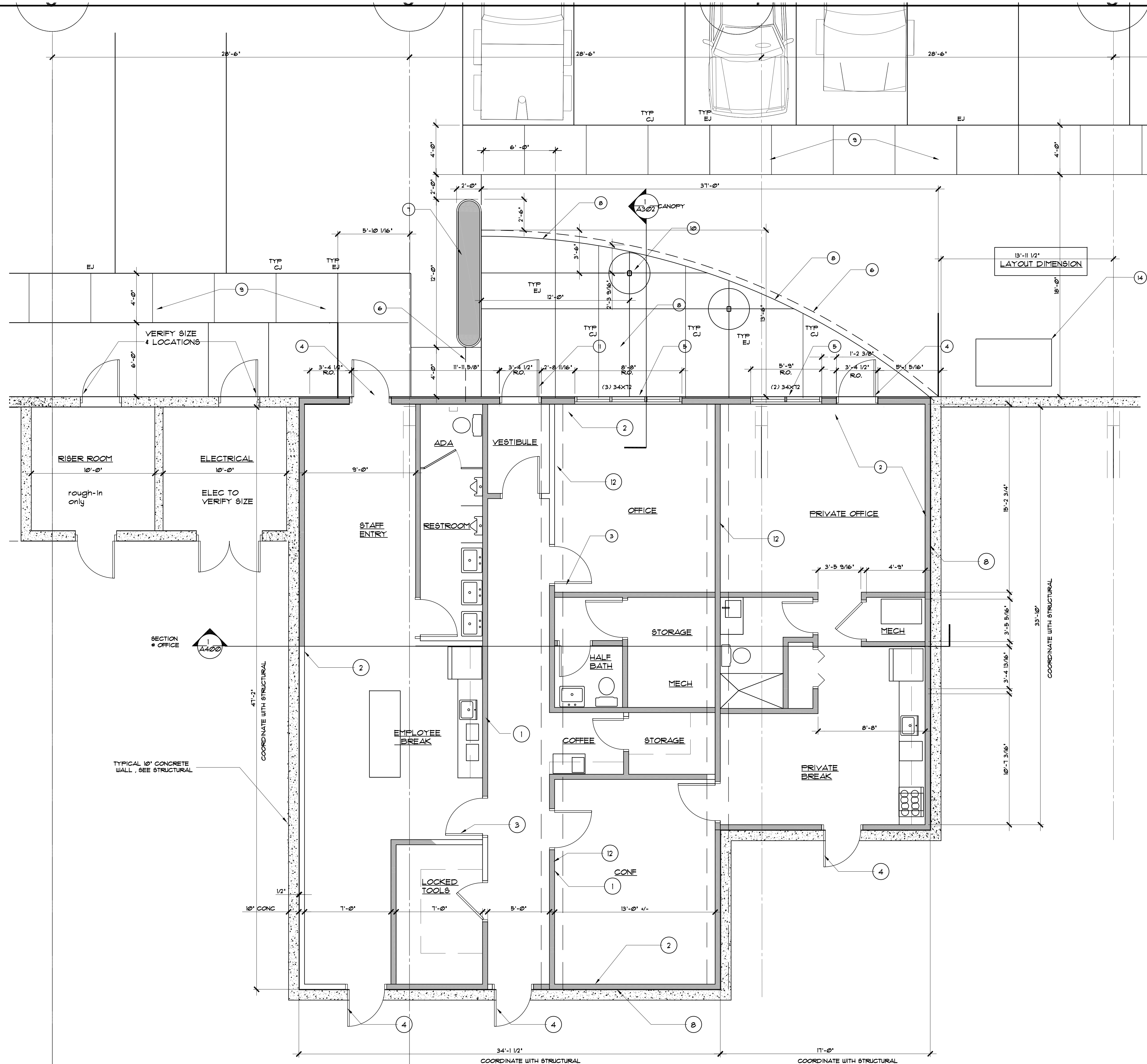


SHEET DESCRIPTION:
ENLARGED OFFICE PLAN

REVISIONS
2-28-2022 PERMIT SET

BUILDING #
SCALE:
DATE: 2-28-2022
DRAWN BY:
CHECKED BY:
OWNER APPROVAL:
FILE:

A-101



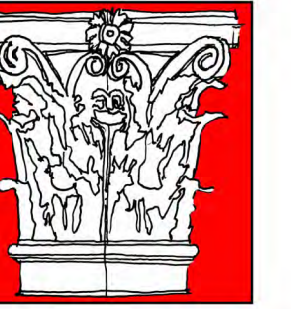
OFFICE PLAN KEYNOTES - SHEET A-101 ONLY

- INTERIOR PARTITIONS ARE 3 5/8" METAL STUDS @ 16" O.C. WITH 1/2" GYP. BD. EACH SIDE. ALL METAL STUD PARTITIONS SHALL RECEIVE FULL BATT SOUND INSULATION.
- ALL WALLS ADJACENT TO CONCRETE WALLS BE SPACED 1/2" FROM CONC. WALLS & RECEIVE FULL THERMAL BATT INSULATION.
- INTERIOR OFFICE DOORS SHALL BE 3'-0" X 7'-0" HOLLOW METAL WITH 16 GA. METAL KNOCK-DOWN H.M. FRAMES. INTERIOR DOOR HARDWARE SHALL BE LEVER HANDLE AS SELECTED BY OWNER, 1 1/2" PR. BALL BEARING HINGES. COORDINATE LOCK VS. LATCH & LOCATIONS OF CLOSERS.
- 3'-0" X 7'-0" INSULATED EXTERIOR 16 GA. H.M. DOOR WITH 14 GA. FRAME & 1/4" BACKER ROD & SEALANT. PROVIDE ALUMINUM THRESHOLD & PERIMETER LEATHER-STRIPPING WITH A HEAVY DUTY CLOSER.
- WINDOWS SHALL BE FIXED COMMERCIAL THERMALLY BROKEN ALUMINUM FRAMES WITH 1" INSULATED GLASS WITH LOW 'E' COATING. SEE PLAN FOR SIZES.
- ENTRY CANOPY, SEE SECTIONS, DETAILS ON A-302 AND REFER TO STRUCTURAL.
- VERTICAL PYLON ELEMENT, SEE SECTIONS ON A-302, DETAILS & REFER TO STRUCTURAL.
- 4" FIBER REINF. CONCRETE WALK ON CRUSHED COMPACTED STONE & ENTRY PATIO. PROVIDE EXP. JTS. @ 20'-0" O.C. & C/J'S @ 5'-0" O.C.
- 4'-0" WIDE X 4" THICK FIBER REINF. CONCRETE SIDEWALK ON COMPACTED CRUSHED STONE. PROVIDE EXP. JTS. @ 20'-0" O.C. & C/J'S @ 5'-0" O.C.
- ALUMINUM CLADED STEEL COLUMN, SEE A-302 AND STRUCTURAL.
- FULL LITE ALUMINUM ENTRY DOOR WITH 1 1/2" PAIR S.S. BALL BEARING HINGES, PUSH / PULLS WITH DEADBOLT LOCK (PER OWNER) ALUM THRESHOLD, W/STRIP & LCN CLOSER.
- 3 5/8" METAL STUDS @ 16" O.C. WITH 1/2" GYP. BD. EA. SIDE. BEARING WALL ON THICKENED SLAB, SEE DETAILS 1/A-400 & 2/A-400. ALL GYP. BD. TO BE PRIMED WITH 2 COATS OF FINISH AND PAINT AS SELECTED BY OWNER.
- 6" EXTERIOR METAL STUDS @ 16" O.C. WITH FULL BATT & 1/2" INTERIOR G.B. AND 3/8" EXT SHEATHING (SEALED) WITH 'RESERBE CLASSIC' METAL PANEL BY PEMB.
- 6" THICK CONC. PAD FOR HVAC EQUIPMENT. VERIFY SIZE W/MEP.

GENERAL PLAN NOTES:

- REFER TO CIVIL & STRUCTURAL FOR RESPECTIVE WORK REQUIRED.
- COORDINATE WITH DESIGN / BUILD PLUMBING, ELECTRICAL & MECHANICAL.
- LANDSCAPE BY OTHERS.
- ALL FLOORING & CASEWORK SHALL BE AS SELECTED BY OWNER. PRIME & 2 COATS.
- INTERIOR OFFICE PAINT AND TRIM AS SELECTED BY OWNER.
- SEE SECTIONS FOR ENTRY CANOPY, PYLON SIGN AND OFFICE SECTION.
- ALL FLOORS SHALL RECEIVE LUXURY VINYL TILE (LVT) AS SELECTED BY OWNER.
- ALL INTERIOR WALLS SHALL RECEIVE 4" VINYL. 060 GAGE COVE BASE AS MANUFACTURED BY VPI, JOHNSONITE OR EQUAL.

ENLARGED OFFICE PLAN
SCALE: 1/4" = 1'-0"



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TRINITY ALLOYS, L.L.C.
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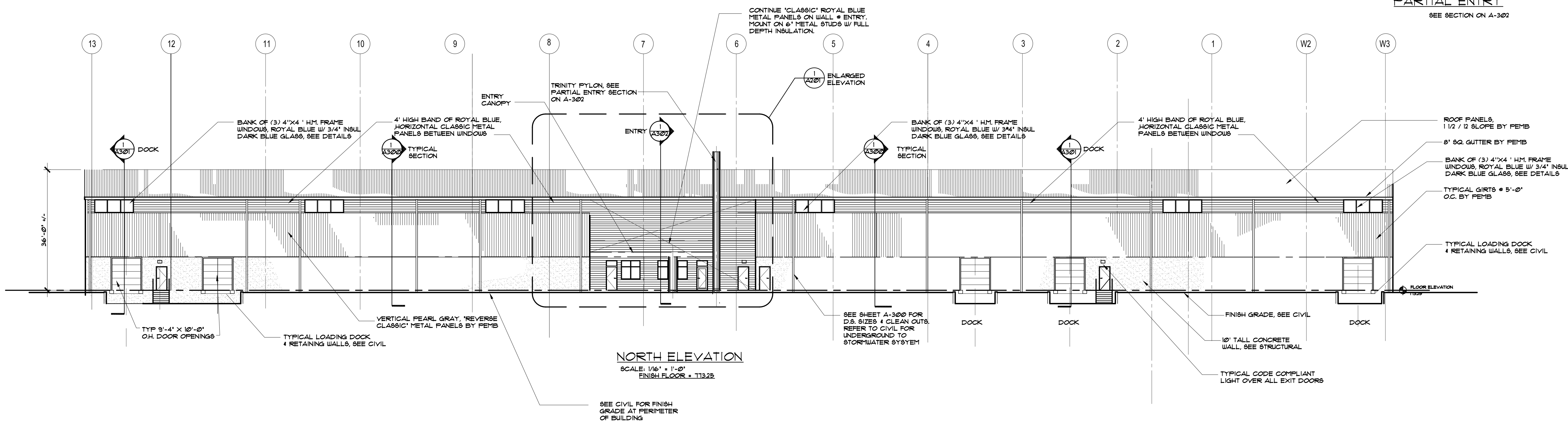
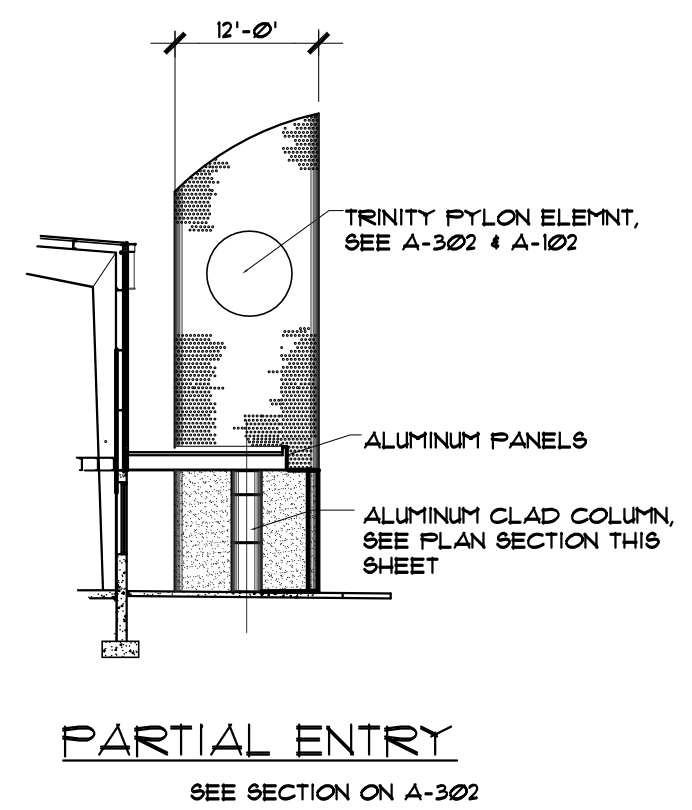
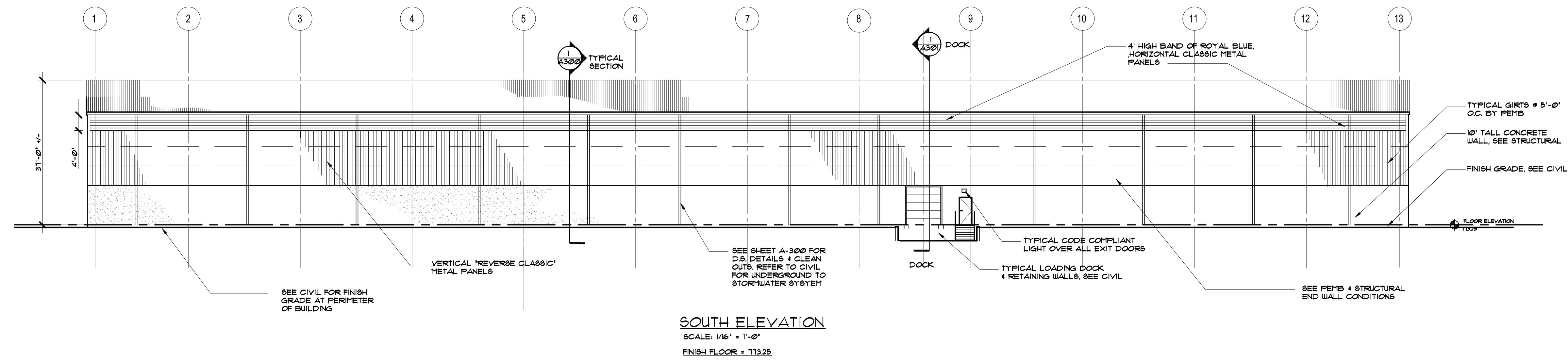
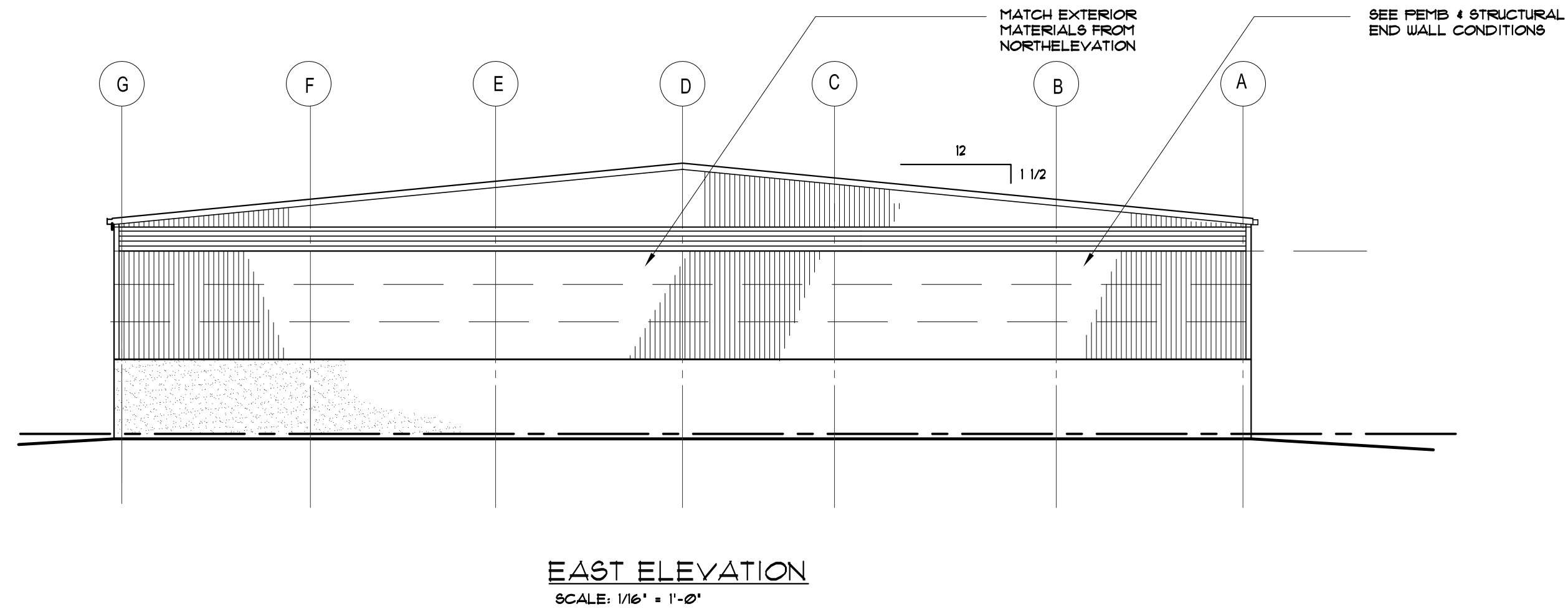
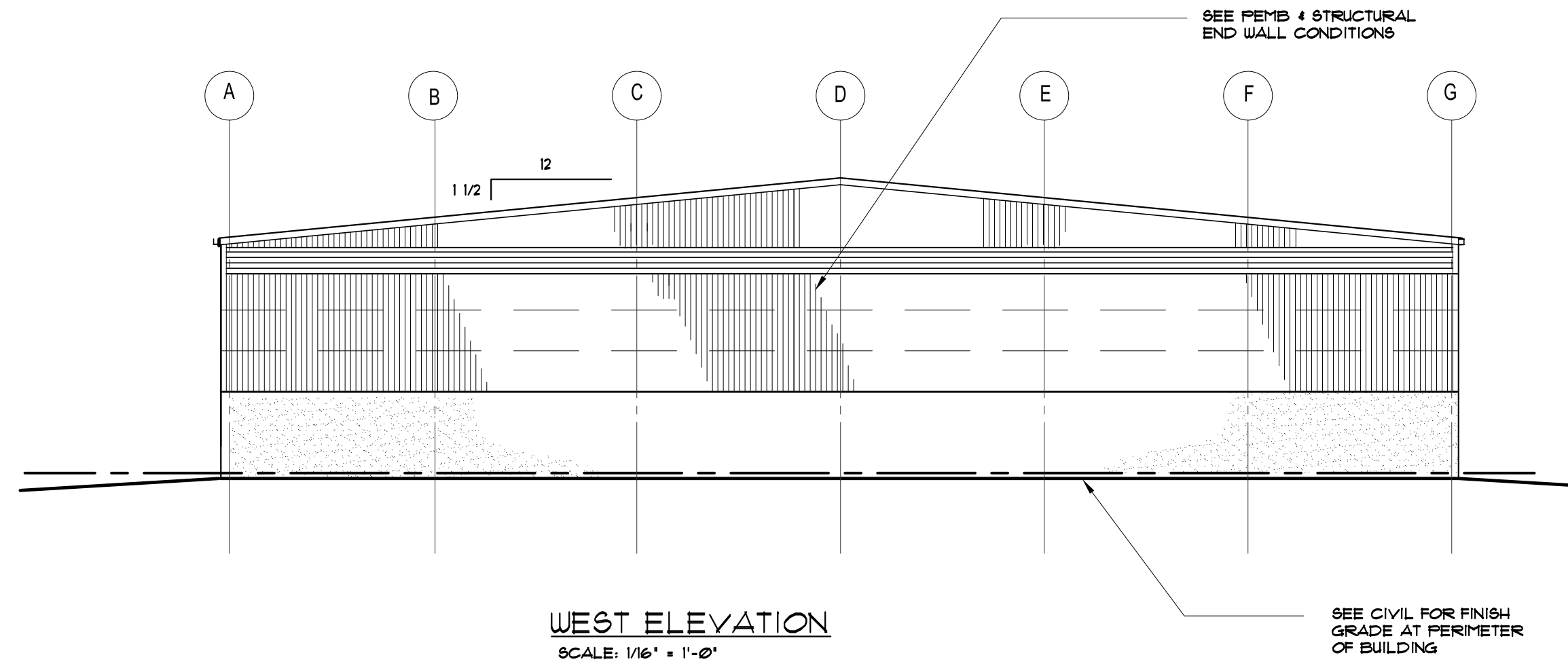
Craig W. Rapp
CERTIFICATION

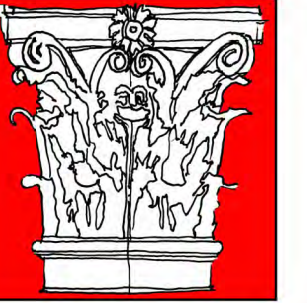
SHEET DESCRIPTION:
EXTERIOR ELEVATIONS

REVISIONS
2-28-2022 PERMIT SET

BUILDING #
SCALE:
DATE: **2-28-2022**
DRAWN BY:
CHECKED BY:
OWNER APPROVAL:
FILE:

A-200





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100100

TRINITY ALLOYS, L.L.C.
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SHELBYVILLE, INDIANA 46176

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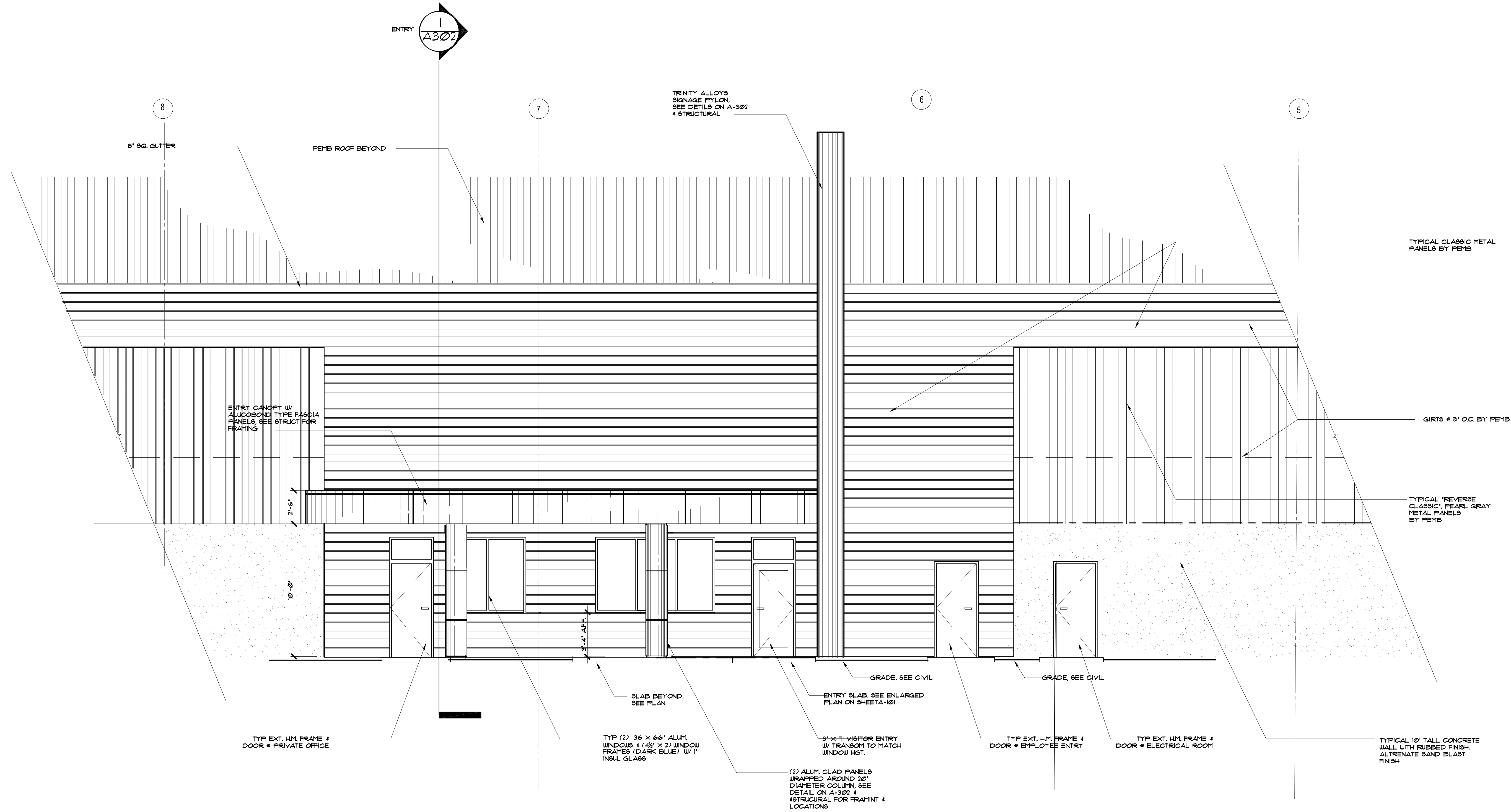
Craig W. Rapp
CERTIFICATION

SHEET DESCRIPTION:
ENLARGED FRONT ENTRY ELEVATION

REVISIONS:
2-28-2022 PERMIT SET

BUILDING NO.
SCALE:
DATE: **2-28-2022**
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CHECKED BY:
OWNER APPROVAL:
FILE:

A-201



ENLARGED ENTRY ELEVATION

1/4" = 1'-0"



TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

HEET DESCRIPTION:
TYPICAL
WALL SECTION

28-2022 PERMIT SET

FIGURE 1

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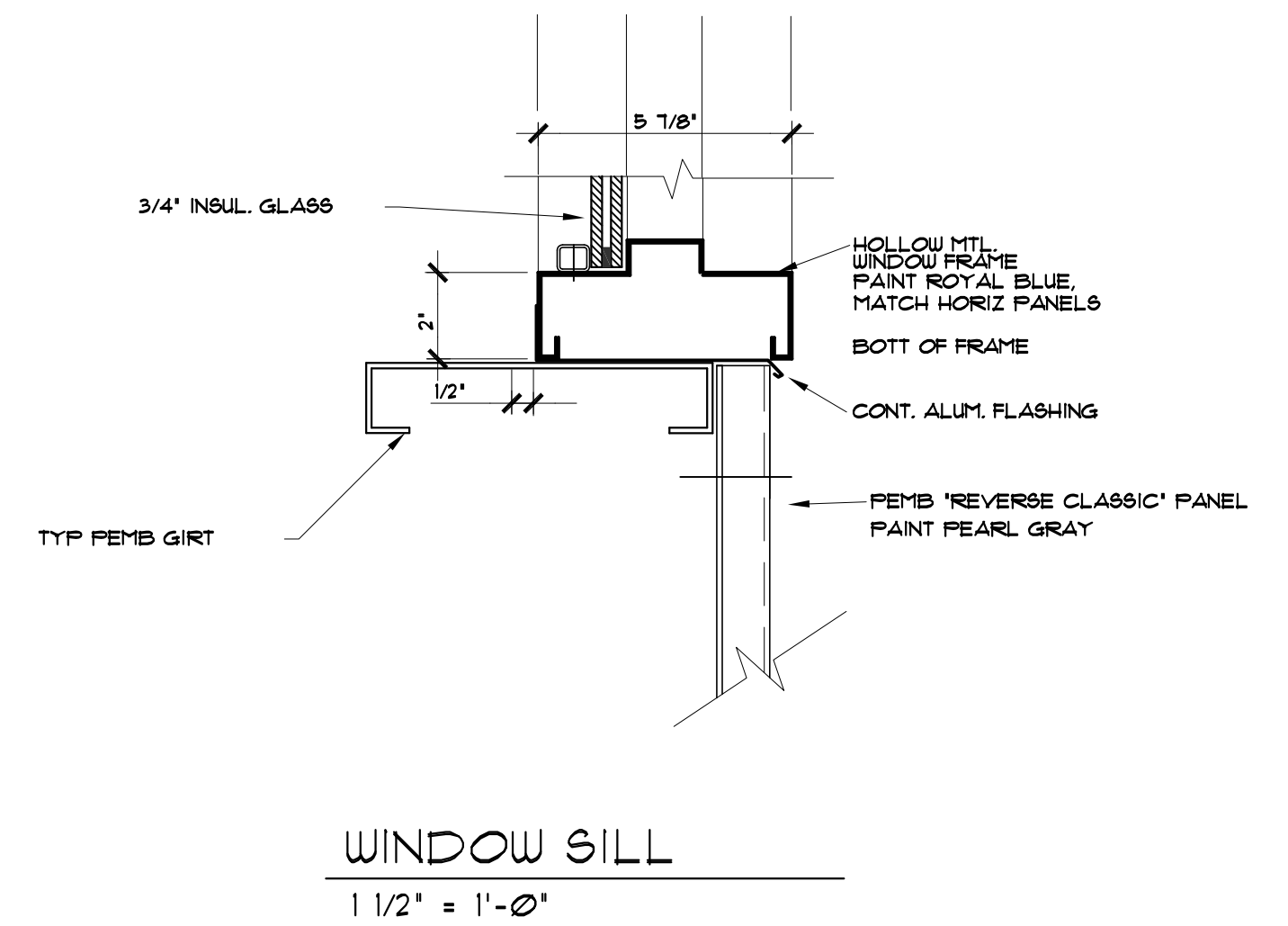
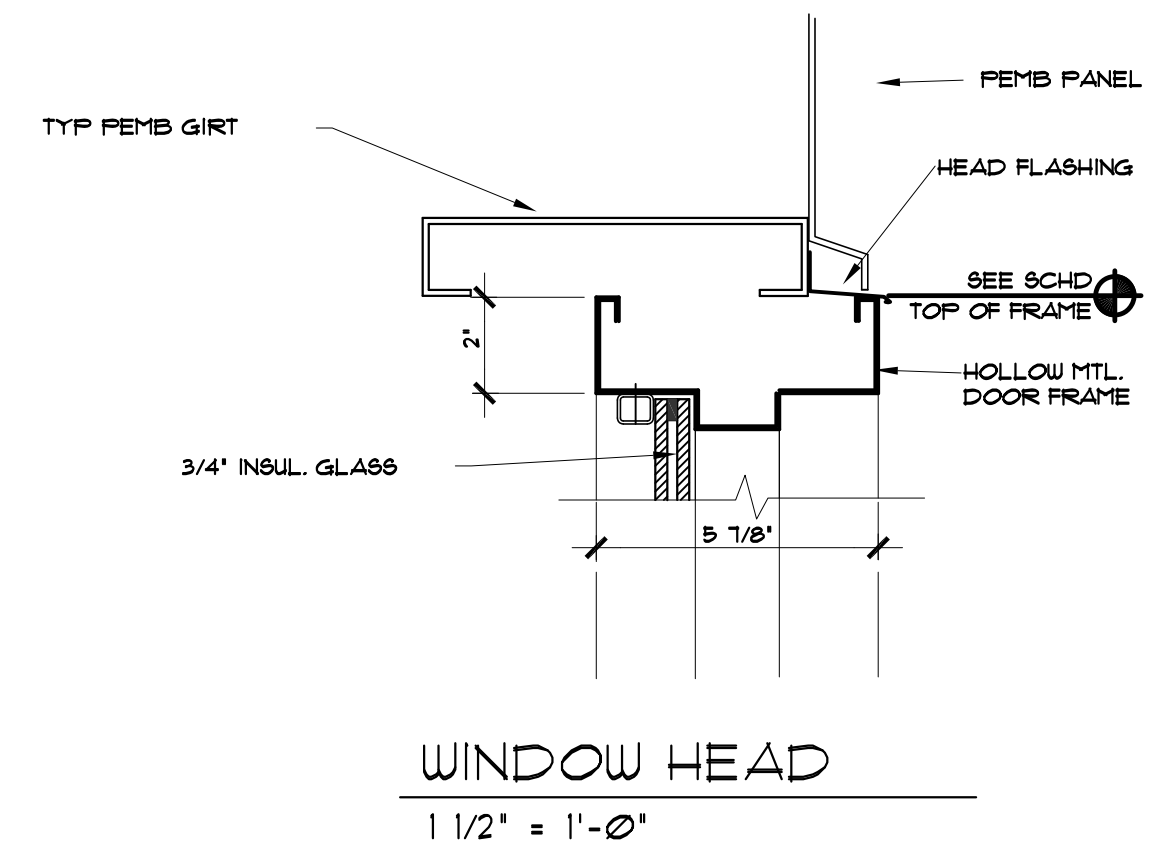
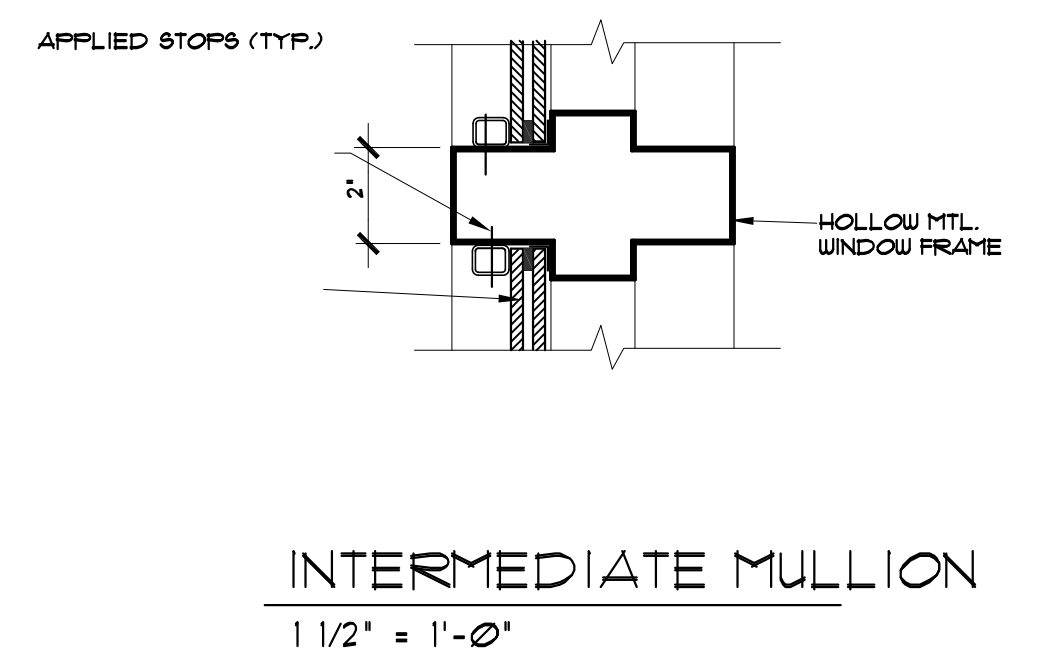
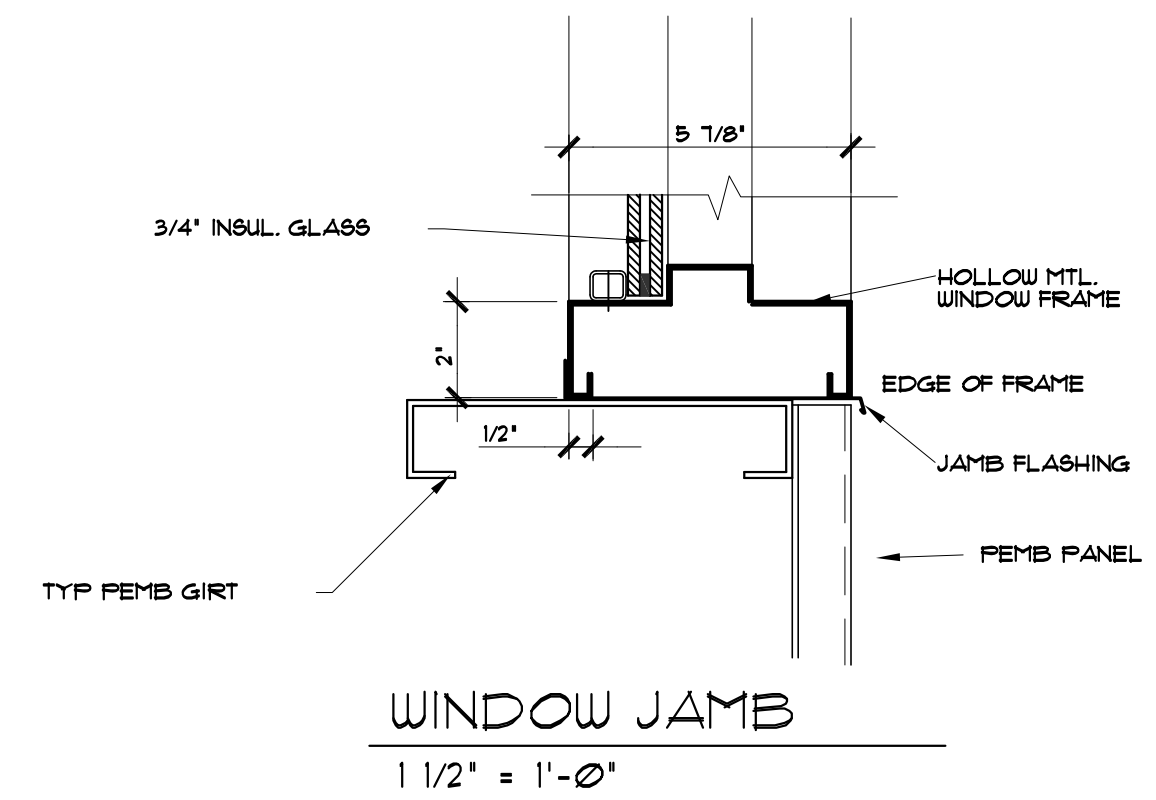
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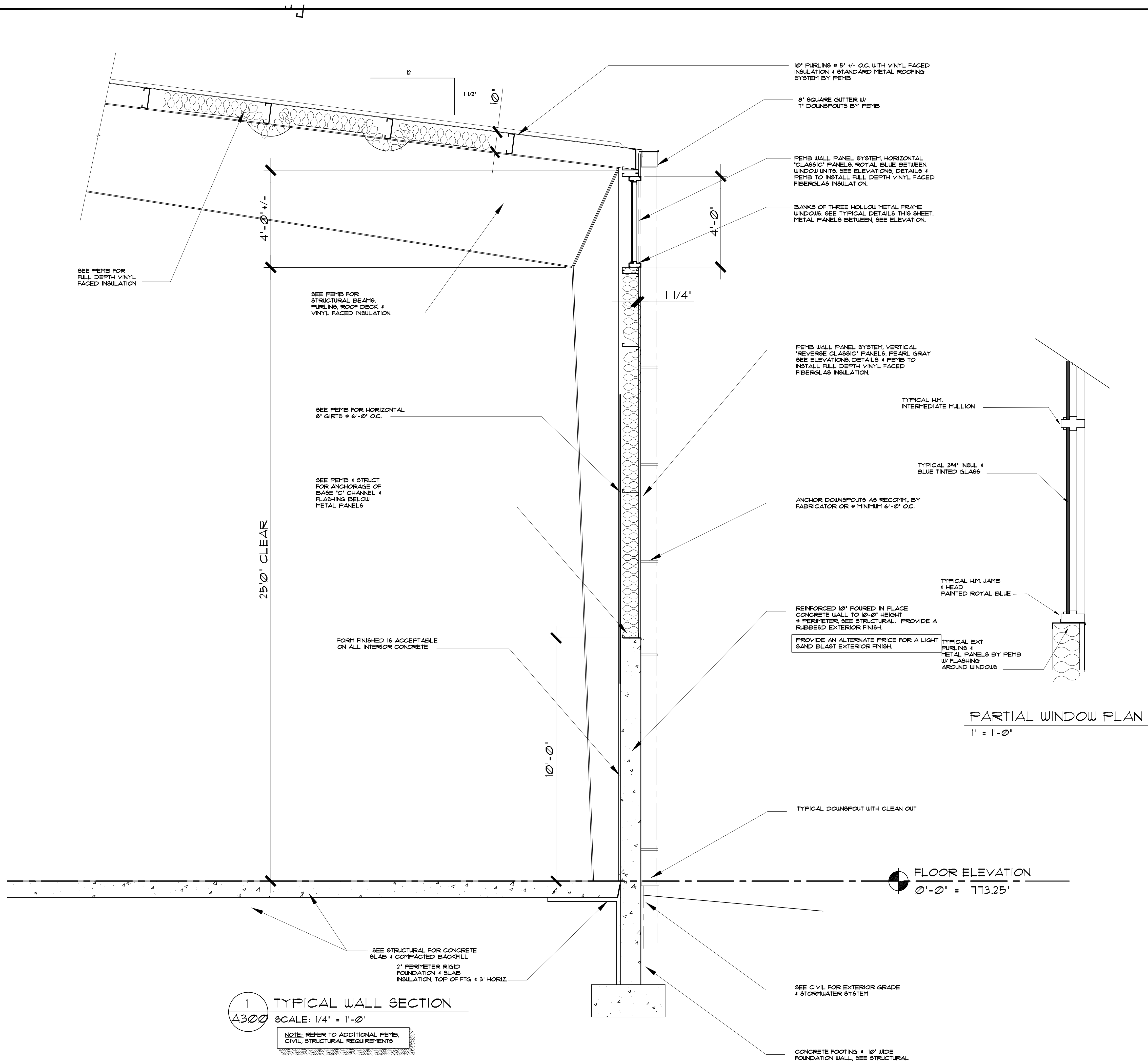
OWNER APPROVAL:

— 2 —

Λ - 3000



HIGH EXTERIOR WINDOW DETAILS



1 TYPICAL WALL SECTION
A300 SCALE: 1/4" = 1'-0"
NOTE, REFER TO ADDITIONAL PEMB,
CIVIL, STRUCTURAL REQUIREMENTS



TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

The seal is circular with a double-lined border. The outer ring contains the text "CRAIG W. RAPP" at the top and "ARCHITECT" at the bottom, separated by two stars. The inner circle contains the text "REGISTERED" at the top, "No. AR00033336" in the center, "STATE OF INDIANA" below the number, and "ARCHITECT" at the bottom. A signature "Craig W. Rapp" is written across the bottom of the seal.

LOADING DOCK
PLAN & SECTION

3-2022 PERMIT SET

FIG. 9

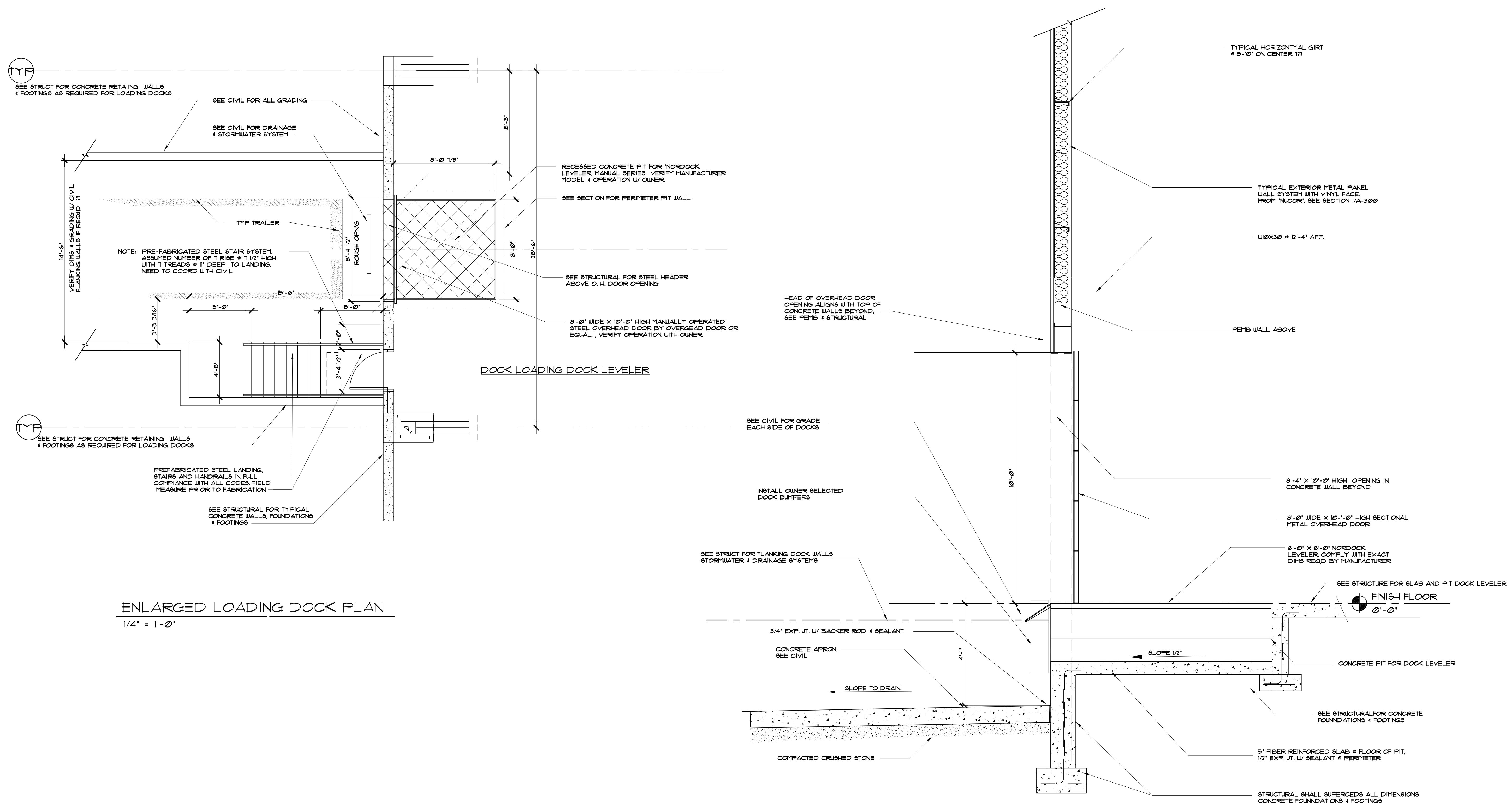
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BY: _____

 PREPARED BY:

APPROVAL: _____

~~Δ-301~~



SECTION - NEW SOUTH LOADING DOCK
1/2" = 1'-0"

NOTE:
CONTRACTOR SHALL COORDINATE EXACT DIMENSIONS
W/ DOCK LEVELER MFR & STRUCTURAL DIMENSIONS



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PROJECT NUMBER
210021.00

TRINITY ALLOYS, L.L.C.
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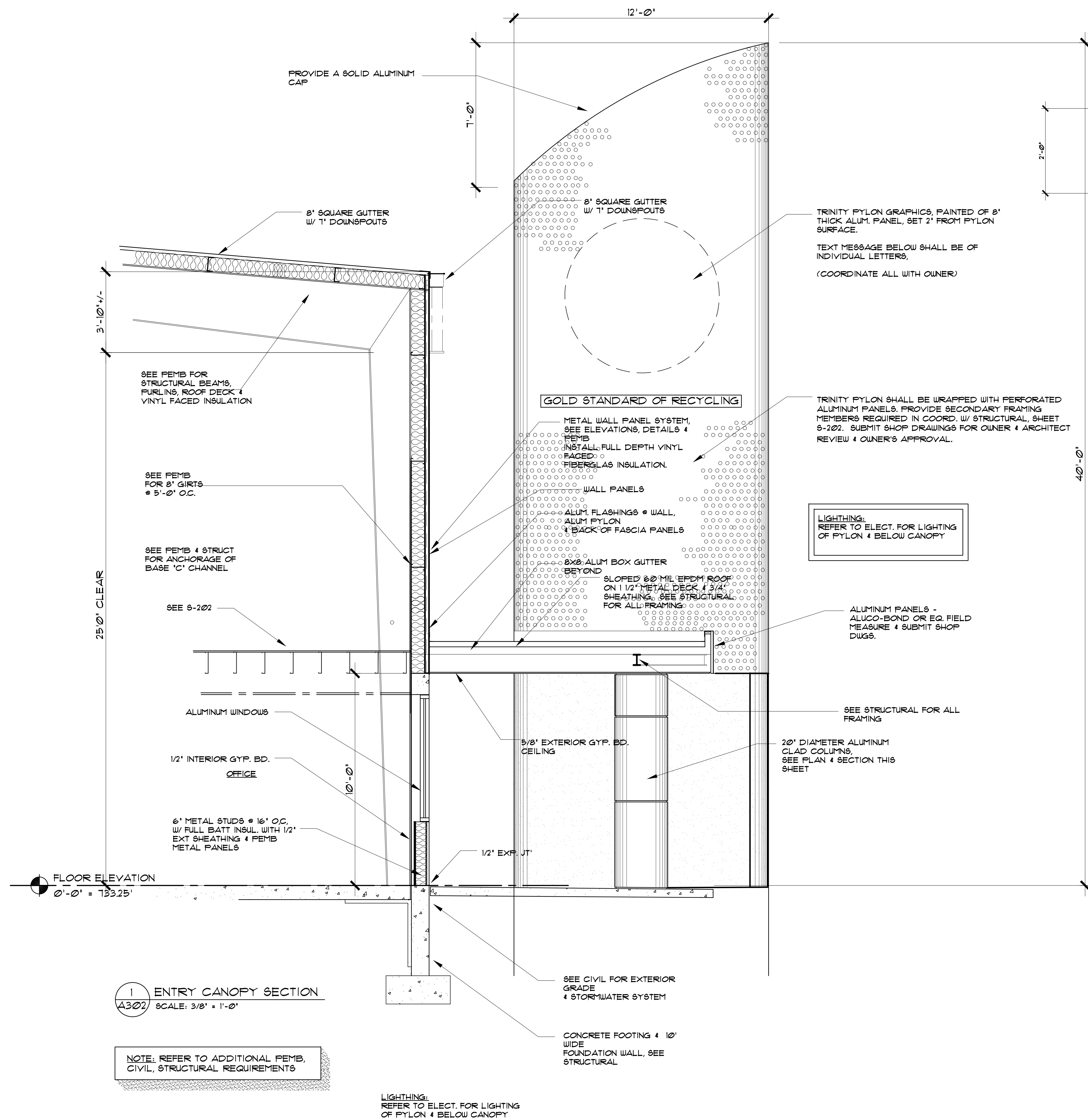


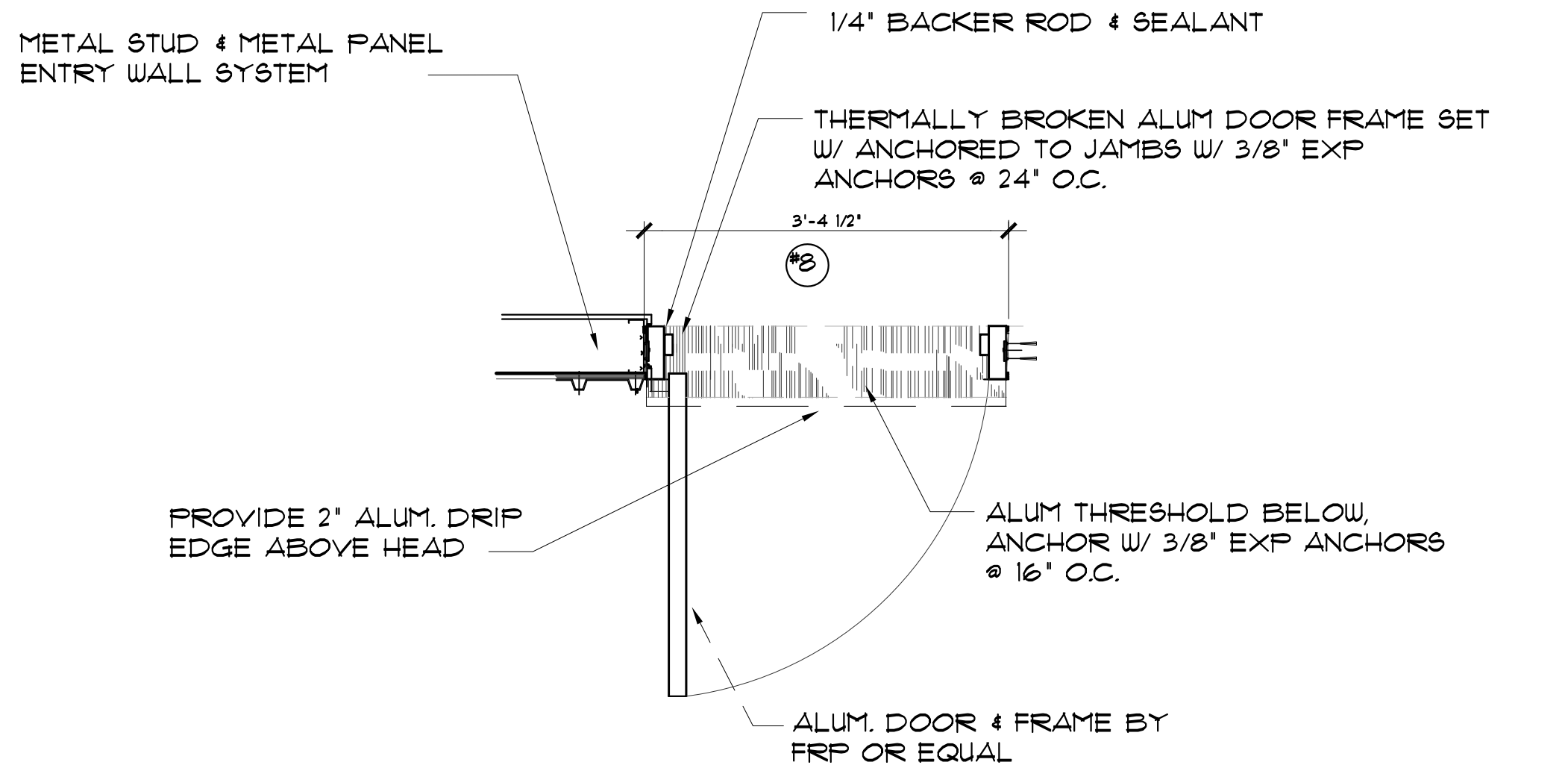
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ENTRY SECTION & DETAILS

REVISIONS
2-28-2022 PERMIT SET

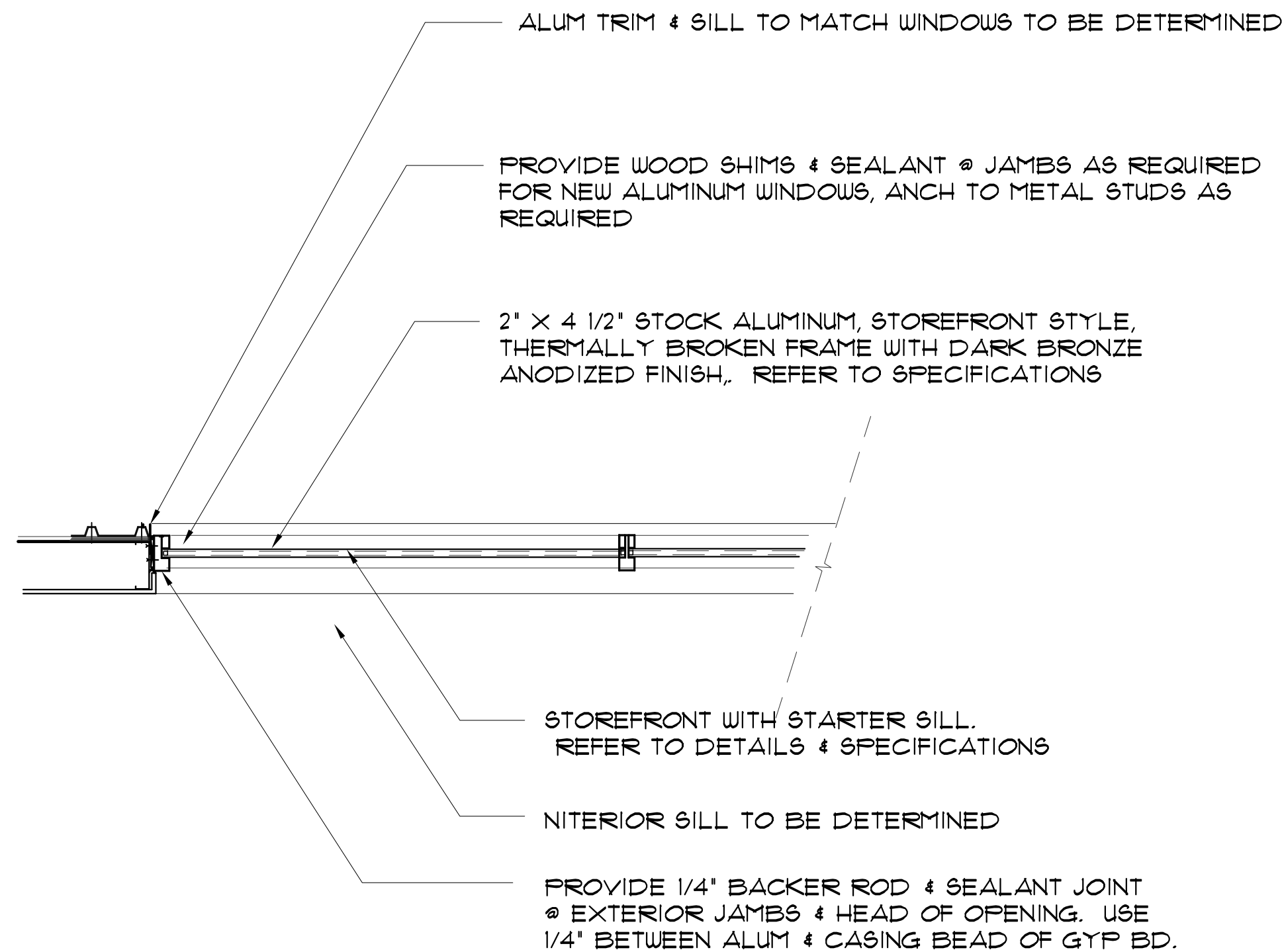
BUILDING #
SCALE
DATE: 2-28-2022
DRAWN BY:
CHECKED BY:
OWNER APPROVAL:
FILE:

A-302

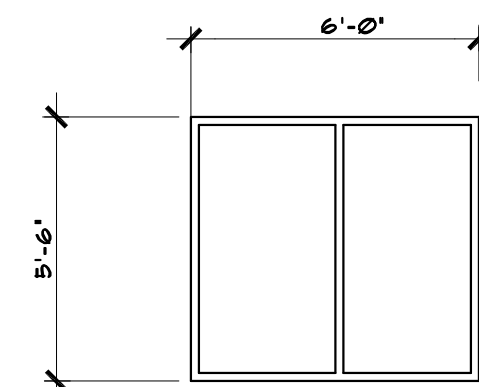




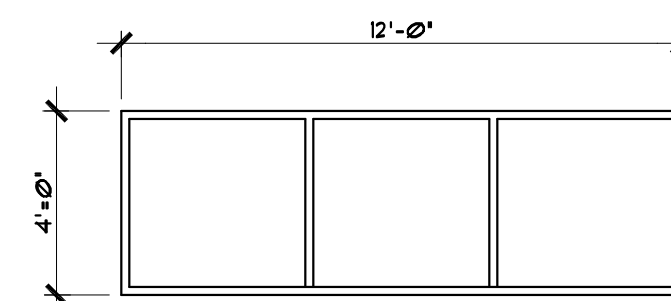
JAMB @ MAIN ENTRY DOOR
3/4" = 1'-0"



JAMB @ LARGE WINDOWS / HEAD SIMILAR
3/4" = 1'-0"



WINDOW TYPE "B"
2' X 4 1/2' THERMALLY BROKEN ALUMINUM FRAMES
WITH 1" INSULATED GLASS



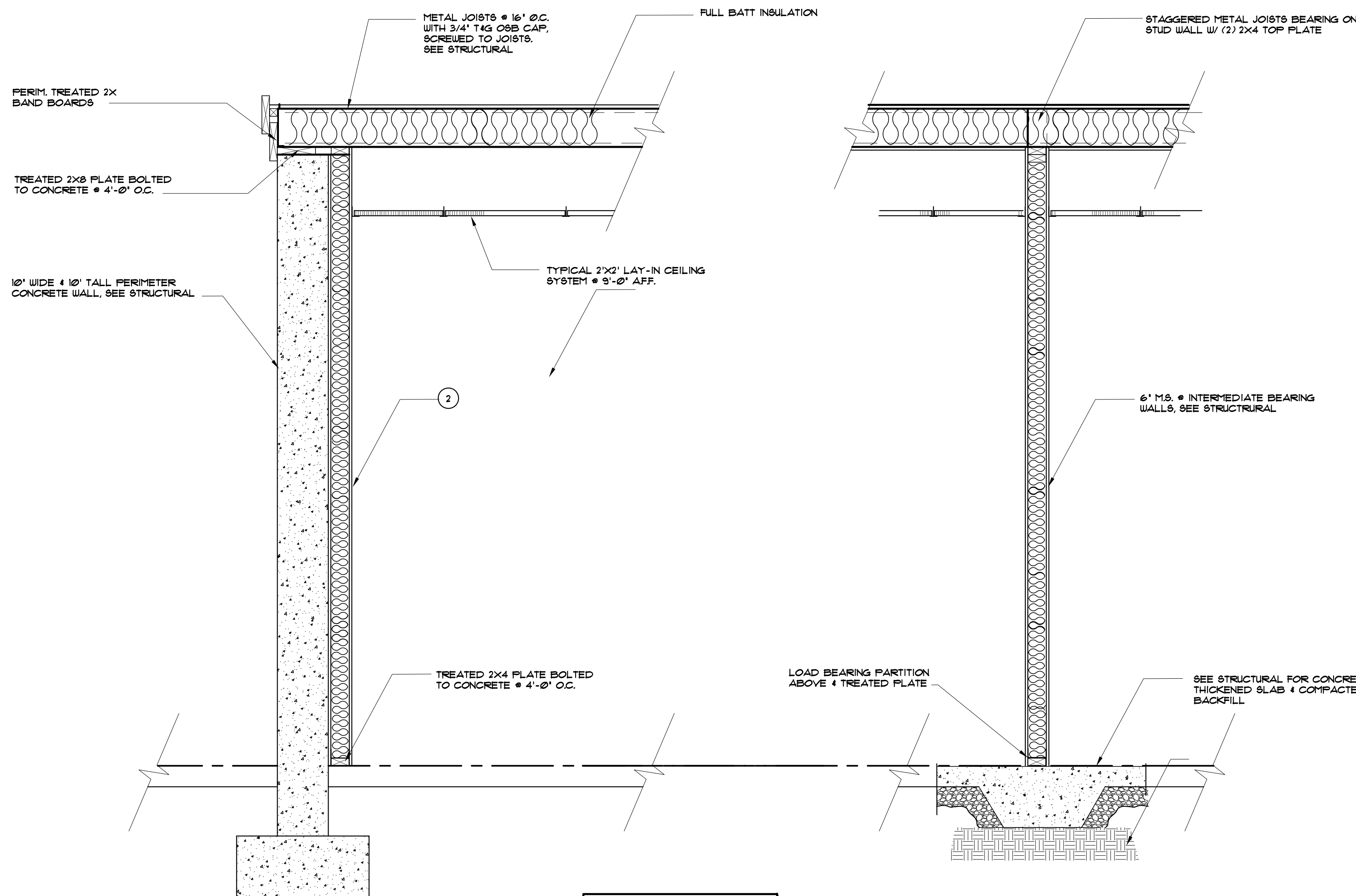
WINDOW TYPE "A"
HOLLOW METAL FRAMES
WITH 3/4" INSULATED GLASS

WINDOW TYPES

1/4" = 1'-0"

NOTES:

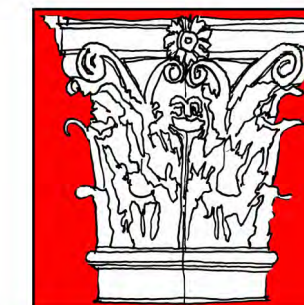
- SEE EXTERIOR ELEVATIONS FOR NUMBER OF UNITS & LOCATIONS
- ALL HOLLOW METAL WINDOW FRAMES ARE TO BE PAINTED TO MATCH ROYAL BLUE, SEE DETAILS ON SHEET A-300
- ALUMINUM FRAMES SHALL BE THERMALLY BROKEN, SIMILAR TO KAWNEER & BE KYNAR PAINTED TO MATCH ROYAL BLUE



1 PERIMETER OFFICE WALL
3/4" = 1'-0"

NOTE:
REFER TO PLAN KEYNOTES
ON SHEET A-102

2 BEARING PARTITION & THICKENED SLAB
3/4" = 1'-0"



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TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
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CERTIFICATION
CRAIG W. RAPP

SHEET DESCRIPTION:
DETAILS & OFFICE SECTION

REVISIONS
2-28-2022 PERMIT SET

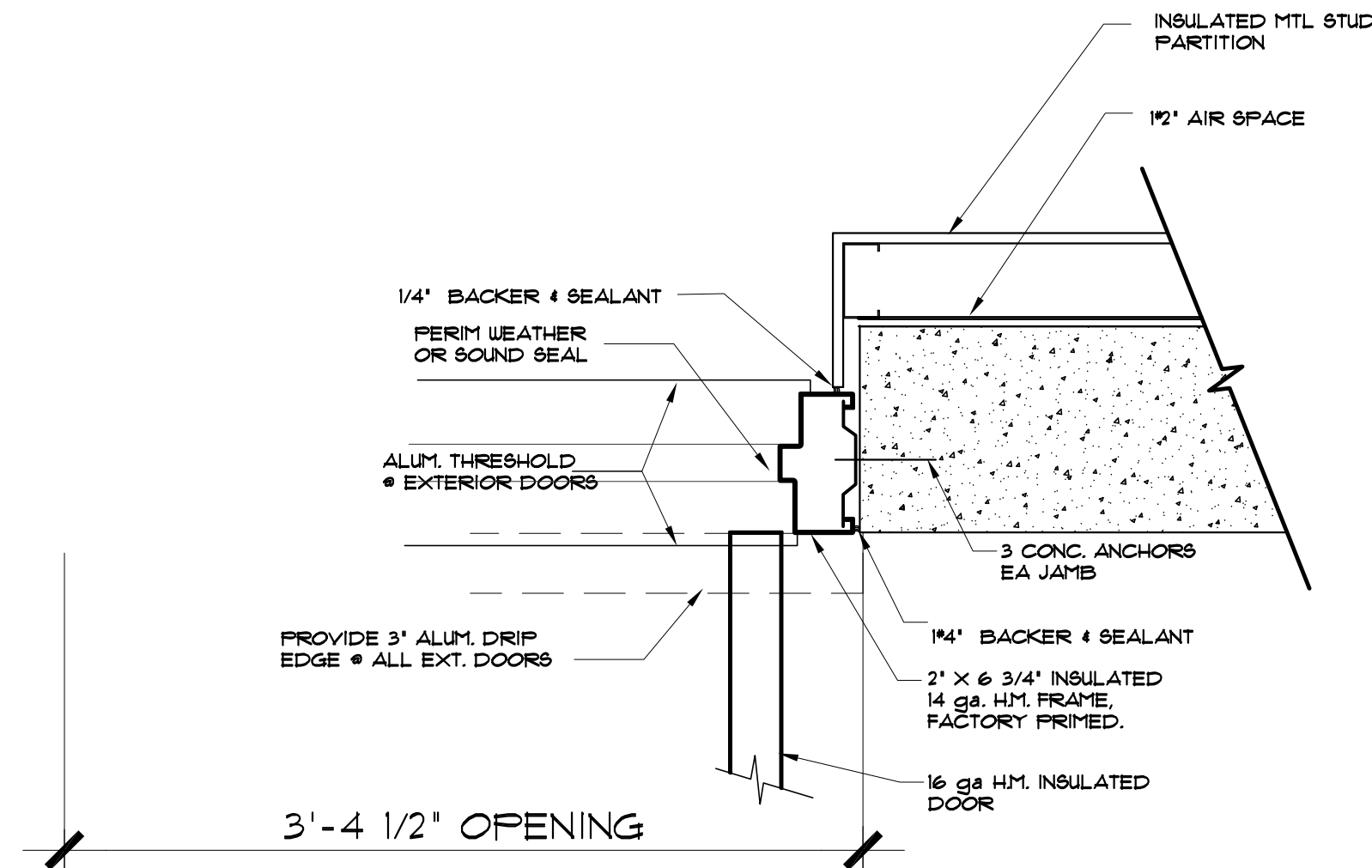
BUILDING #
SCALE:
DATE: 2-28-2022
DRAWN BY:
CHECKED BY:
OWNER APPROVAL:
FILE:

A-400



ARCHITECT
CWRA
CRAIG W. RAPP Associates, LLC
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PROJECT NUMBER
21001.00

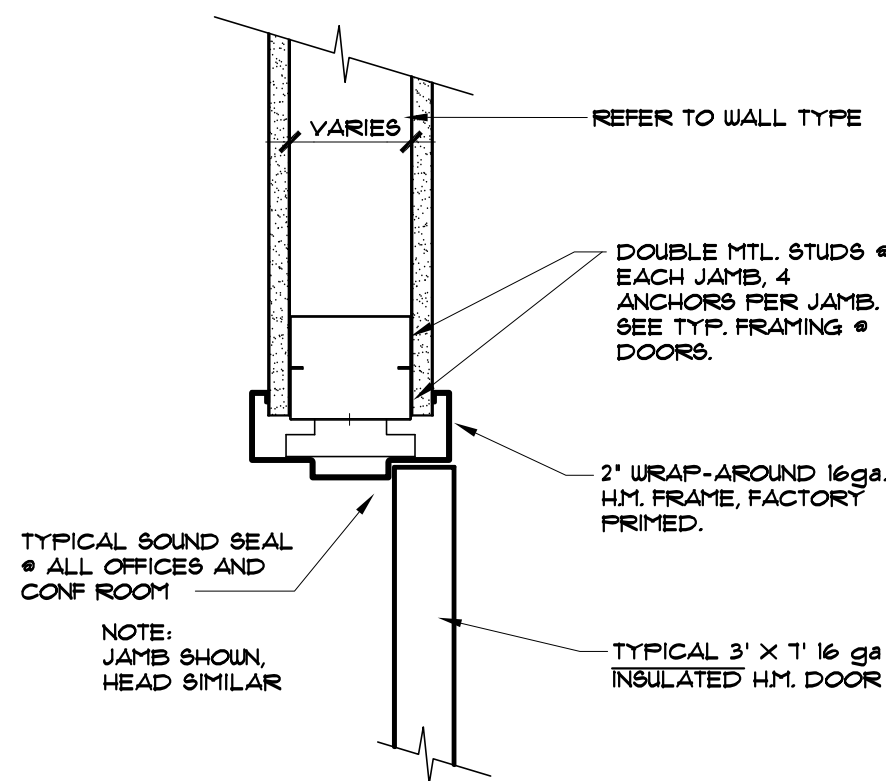
TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176



1
A401 **DOORS FROM EXTERIOR TO PLANT- JAMB DETAIL**
1 1/2" = 1'-0"

NOTES:

1. DOUBLE MTL. STUDS •
EACH JAMB, 4
ANCHORS PER JAMB.
SEE TYP. FRAMING •
DOORS.
2. 2' WRAP-AROUND 16ga.
H.M. FRAME, FACTORY
PRIMED.



2
A401 **INTERIOR DOOR HEAD/JAMB DETAIL**
1 1/2" = 1'-0"

THESE DRAWINGS AND SPECIFICATIONS AND ALL COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY AND INTELLECTUAL PROPERTY OF THE ARCHITECT. THEY SHALL BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT OR WORK WITHOUT PRIOR WRITTEN PERMISSION FROM THE ARCHITECT. CRAIG W. RAPP ASSOCIATES, L.L.C.



Craig W. Rapp
CERTIFICATION

SHEET DESCRIPTION:
DOOR DETAILS

REVISIONS
2-20-2022 PERMIT SET

BUILDING #

SCALE

DATE: **2-20-2022**

DRAWN BY:

CHECKED BY:

OWNER APPROVAL:

FILE:

A-401

STEEL DECK NOTES

- All steel deck material, fabrication and installation shall conform to the Steel Deck Institute "SDI SHORT FORM SPECIFICATIONS" and "SDI CODE OF STANDARD PRACTICE," current edition, unless noted.
- All deck shall be provided in a minimum of 3-span lengths where possible.
- All welding of steel deck shall be in conformance with AWS Specification D1.3. Provide welding washers for all floor decks less than 22 gauge in thickness.
- Mechanical fasteners used in lieu of welding, providing fasteners meet, or exceed the strength of specified welds. Submit fastener design data to the Structural Engineer of Record for review.
- Do not suspend any items, such as ductwork, mechanical and electrical fixtures, ceilings, etc. from steel deck.
- Roof deck seldaps shall be attached at ends of cantilevers and at a maximum spacing 12" o.c. from cantilevered roof deck ends. The roof deck must be completely fastened to the supports and at the seldaps before any load is applied to the cantilever.
- Submit shop drawings for review of general conformance to design concept in accordance with Specifications in the Project Manual. Erection drawings shall show type of deck, shop finish, accessories, method of attachment, edge details, deck openings and reinforcement, and sequence of installation.

STRUCTURAL STEEL NOTES

- Structural steel construction shall conform to the American Institute of Steel Construction "Specification for Structural Steel Buildings".
- All structural wide flange members shall be ASTM A992, Fy=50 ksi
- All plates, channels, bars, angles, and rods shall be ASTM A36, unless noted.
- All rectangular structural tube members shall be ASTM A500, Grade C, Fy = 50 ksi unless noted.
- All structural pipe members shall be ASTM A53, Grade B, Fy=30 ksi unless noted.
- Details for design, fabrication and erection of all structural steel shall be in accordance with the latest AISC Standards, unless otherwise noted or specified.
- Provide temporary erection guying and bracing as required.
- Steel columns below grade shall be encased in a minimum of 4" concrete or painted with 2 coats of asphaltum paint, unless otherwise shown.
- Fabricate simple span beams not specifically noted to receive camber so that after erection, any minor camber due to rolling or shop assembly be upward.
- The Erector shall shim between parallel roof beams and joists with differential mill and induced cambers for level deck bearing.
- Provide cap plates/end plates to close off exposed, open ends of all tubular members, unless noted. Seal weld with partial penetration groove grooves welds for watertight condition.
- All structural steel to receive two coats of standard shop primer.

DESIGN CRITERIA

- DESIGN STANDARDS: The intended design standards and/or criteria are as follows:
General The 2014 Indiana Building Code (2012 International Building Code (IBC) with Indiana Amendments)
Concrete ACI 318
Steel AISC Manual, Allowable Stress Design (ASD)
Steel Deck Steel Deck Institute
Cold-Formed Metal AISI-ASD
Pre-Engineered Metal Buildings Metal Building Manufacturers Association (MBMA)
All referenced standards and codes, as well as ASTM numbers, are for the editions of these publications referenced in the Building Code listed above, unless otherwise noted.
DEAD LOADS: Gravity Dead Loads used in the design of the structure are as computed for the materials of construction incorporated into the building, including but not limited to walls, floors, ceilings, stairways, fixed partitions, finishes, cladding and other similar architectural and structural items, as well as mechanical, electrical and plumbing equipment and fixtures, and material handling and fixed service equipment, including the weight of cranes.
COLLATERAL LOAD: Unless otherwise noted, a minimum uniform collateral load of 10 PSF has been used to account for ductwork, ceilings, sprinklers, lighting, etc. The collateral load is in addition to the weight of mechanical units, larger piping (greater than 4" diameter) and suspended fixtures or equipment that have been specifically accounted for in the design.
HANDRAILS AND GUARDS
A. Handrail Assemblies and Guards 50 PLF applied in any direction 200 LB concentrated load applied in any direction (non-concurrent with 50 PLF load)
50 LBS horizontally applied normal load on an area not to exceed 1 square foot not superimposed with those of handrail assemblies.
B. Components, Intermediate Rails, Balusters, Fillers, Etc.
5. ROOF LIVE/SNOW LOADS: Gravity Live Loads used in the design of the roof structure meet or exceed the following table:
A. Snow Load
Ground Snow Load, Pg 20 PSF
Flat Roof Snow Load, Pf 14 PSF
Low Slope Minimum Snow Load, Pm 20 PSF
Exposure Factor, Ce 1.0
Risk Category (IBC Table 1604.5) II
Snow Importance Factor, Is 1.0
Thermal Factor, Ct 1.0
B. Minimum Roof Live Load 20 PSF
C. Overhang Eaves & Projections 28 PSF
1. Sloped roof snow loads calculated in accordance with Section 7.4, ASCE 7.
2. Unbalanced roof snow loads calculated in accordance with Section 7.6, ASCE 7. Specialty Structural Engineers must consider unbalanced snow loads in the design of pre-engineered trusses, frames, skylights, curtain walls, cold-formed metal framing, canopies, etc.
3. Drift loads calculated in accordance with Section 7.7, ASCE 7.
4. Roofs used for roof gardens or assembly purposes have been designed for a minimum live load of 100 PSF.
6. LATERAL LOADS: Lateral loads were computed using the following criteria:
A. Wind Load
Ultimate Design Wind Speed, Vult 120 MPH
Nominal Design Wind Speed, Vasd 94 MPH
Wind Exposure Category C
Risk Category (IBC Table 1604.5) II
Internal Pressure Coefficient, GCp1 ± 0.18
B. Seismic Load
Site Classification C
Risk Category (IBC Table 1604.5) II
Seismic Importance Factor, Is 1.0
Mapped Spectral Response Acceleration, Ss 0.155g
Hazard Mapped Spectral Response Acceleration, Sh 0.085g
Design Spectral Response Acceleration, Sds 0.124g
Design Spectral Response Acceleration, Sdt 0.097g
Seismic Design Category, SDC B
Response Modification Coefficient, R 3
Analysis Procedure Equivalent Lateral Force
Base Seismic Force-Resisting System Ref. PEMB Engineered Drawings
(ASCE 7-10, Table 12.2-1)

CAST IN PLACE CONCRETE

- Details of fabrication of reinforcement, handling and placing of the concrete, construction of forms and placement of reinforcement not otherwise covered by the Plans and Specifications, shall comply with the ACI Code requirements of the latest revised date.
- Cold weather concreting shall be in accordance with ACI 306. Cold weather is defined as a period when for more than 3 successive days the average daily air temperature drops below 40°F and stays below 50°F. The Contractor shall maintain a copy of this publication on site.
- Hot weather concreting shall be in accordance with ACI 305. Hot weather is defined as any combination of the following conditions that tends to impair the quality of the freshly mixed or hardened concrete: high ambient temperature, high concrete temperature, low relative humidity, wind speed, or solar radiation. The Contractor shall maintain a copy of this publication on site.
- A certified Testing Agency shall be retained to perform industry standard testing including measurement of slump, air temperature, concrete cylinder testing, etc. to ensure conformance with the Contract Documents. Submit reports to Architect/Engineer.
- Finishing of Forms: After screeding, blading and floating operations have been completed, apply final finish as indicated below, and as described in the Division 3 Cast In Place Concrete Specification of the Project Manual.
A. Floor Slabs Hard Trowel Finish
B. Ramps, Stairs, & Sidewalks Broom Finish
C. Driving Surfaces Rough Swirl Finish
Sample Finishes: See Specifications for sample and mockup requirements, if any.
Floor Tolerances: See the Specifications for specified F and FI tolerances. F and FI testing shall be performed by the Testing Agency in accordance with ASTM E-1155. Results, including acceptance or rejection of the work will be provided to the Contractor and the Architect/Engineer within 48 hours after data collection. Remedies for out-of-tolerance work shall be in accordance with the Specifications.
When approved by the Structural Engineer of Record, measurement of the gages beneath a 10-foot straight edge may be used in lieu of F and FI testing. Approval must be obtained in writing prior to the beginning of concrete operations.
6. Finishing of Formed Surfaces: Finish formed surfaces as indicated below, and as described in the Division 3 Cast In Place Concrete Specification of the Project Manual.
A. Sides of Footings Rough Form Finish
B. Sides of Grade Beams Rough Form Finish
C. Surfaces not exposed to public view Rough Form Finish
D. Surfaces exposed to public view Rubbed (Alternate: Light Sand Blast Finish)
7. The Contractor shall consult with the Structural Engineer of Record before starting concrete work to establish a satisfactory placing schedule and to determine the location of construction joints so as to minimize the effects of shrinkage in the floor system.
8. Sawn or toled control/construction joints shall be provided in all slabs on grade. For a framed structure, joints shall be located on all column lines. If the column spacing exceeds 20'-0", provide intermediate joints. Exterior slabs, and interior slabs without columns shall have joints spaced a maximum of 15'-0" apart. Layout joints so that maximum aspect ratio (ratio of long side to short side) does not exceed 1.5.
9. Where vinyl composition tile, vinyl sheets goods, thin-set epoxy terrazzo, or other similar material is the specified finish floor material, the Contractor shall coordinate the locations of control/construction and construction joints with the Finish Flooring Contractor. Submit a dimensioned plan showing joint locations and proposed sequence of floor pours.
10. Joints in slabs to receive a finished floor may remain unfilled, unless required by the finish flooring contractor. All exposed slabs shall be filled with sealant specified in Division 7, or as follows: All slabs in industrial, manufacturing, or warehouse applications subject to wheeled traffic shall be filled with specified epoxy resin sealant, all other joints shall be filled with specified elastomeric sealant. Defor filling of joints as soon as possible, preferably a minimum of 4 to 6 weeks after the slab has been cured. Prior to filling, remove all debris from the slab joints, the fill in accordance with the manufacturer's recommendations.

- Refer to the Architectural Drawings for locations and details of reveals (1" maximum depth) in exposed walls.
- Refer to the Architectural Drawings for chamber requirements for corners of concrete. Where not indicated, provide 3/4" chamfers on exposed corners of concrete, except those abutting machinery.
- Refer to the Architectural Drawings for exact locations and dimensions of recessed slabs, ramps, stairs, thickened slabs, etc. Slope slabs to drains where shown on the Architectural and Plumbing Drawings.
- Sidewalks, drives, exterior retaining walls, and other site concrete are not indicated on the Structural Drawings. Refer to the Site/Civil and Architectural Drawings for locations, dimensions, elevations, jointing, and finish details.

CONCRETE MIX CLASSES

FOOTINGS, FOUNDATION WALLS, PIERS, & GRADE BEAMS		
COMPRESSIVE STRENGTH	4000 PSI	
MAXIMUM WATER/CEMENT RATIO	0.45	
AIR CONTENT	0 - 3 PERCENT	
WATER-REDUCING ADMIXTURE	REQUIRED	
SLUMP	5" TO 6 1/2"	
INTERIOR CONCRETE SLABS		
COMPRESSIVE STRENGTH	4000 PSI	
MINIMUM CEMENTITIOUS MATERIAL CONTENT	517 LB/CU YD	
AIR CONTENT	0 - 3 PERCENT	
WATER-REDUCING ADMIXTURE	REQUIRED	
SLUMP	5" TO 6 1/2"	
EXTERIOR CONCRETE SUBJECT TO FREEZE-THAW		
COMPRESSIVE STRENGTH	4000 PSI	
MINIMUM CEMENTITIOUS MATERIAL CONTENT	564 LB/CU YD	
AIR CONTENT	6 ± 1 PERCENT	
WATER-REDUCING ADMIXTURE	REQUIRED	
SLUMP	5" TO 6 1/2"	
COARSE AGGREGATE	CRUSHED STONE	
LEAN CONCRETE FILL		
COMPRESSIVE STRENGTH	2000 PSI	
MAXIMUM WATER/CEMENT RATIO	0.65	
AIR CONTENT	OPTIONAL	
WATER-REDUCING ADMIXTURE	NOT REQUIRED	
SLUMP	4" TO 7"	

- SLUMP: MIXES CONTAINING TYPE A WRDA 5" MAXIMUM
MIXES CONTAINING MID-RANGE WRDA 5 - 6 1/2"
MIXES CONTAINING HIGH-RANGE WRDA 5 - 8"
2. SPECIFIED MINIMUM CEMENTITIOUS MATERIAL CONTENTS ARE BASED ON THE USE OF WATER-REDUCING ADMIXTURES.
3. INCLUDE AN AIR-ENTRAINING ADMIXTURE FOR ALL CONCRETE EXPOSED TO FREEZING AND THAWING IN SERVICE AND FOR ALL CONCRETE EXPOSED TO COLD WEATHER DURING CONSTRUCTION. BEFORE ATTAINING ITS SPECIFIED DESIGN COMPRESSIVE STRENGTH. REF. ACI 306 FOR DEFINITION OF COLD WEATHER.
4. CLASS C FLY ASH MAY BE USED AS A CEMENT SUBSTITUTE WITH A MAXIMUM 20% SUBSTITUTION RATE ON A POUND-PER-POUND BASIS WITH THE EXCEPTION OF CLASS E CONCRETE, WHICH SHALL BE LIMITED TO 30%.
5. SLAG CEMENT MAY BE USED AS A SUBSTITUTE FOR PORTLAND CEMENT WITH A MAXIMUM 50% SUBSTITUTION RATE ON A POUND-PER-POUND BASIS WITH THE EXCEPTION OF CLASS E CONCRETE, WHICH SHALL BE LIMITED TO 30%.
6. WHEN SLAB CEMENT AND FLY ASH ARE USED IN THE SAME CONCRETE MIX, THE MAXIMUM SUBSTITUTION RATES SHALL COMPLY WITH THE FOLLOWING:
PORTLAND CEMENT/SLAG/FLY ASH RATIO: 70% / 20% / 10%
CLASS E EXTERIOR CONCRETE 50% / 30% / 20%
ALL OTHER CLASSES
7. FOR CONCRETE TO BE CAST DURING COLD WEATHER, THE MAXIMUM SUBSTITUTION RATE FOR SLAG CEMENT SHALL BE 30%. IF SLAG CEMENT AND FLY ASH ARE USED IN THE SAME MIX, THE MAXIMUM SUBSTITUTION RATES SHALL COMPLY WITH A RATIO OF PORTLAND CEMENT/SLAG/FLY ASH OF 70% / 20% / 10%.
8. PROPORTION CONCRETE MIXES TO PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO THE CORNERS AND ANGLES OF THE FORMS AND AROUND REINFORCEMENT BY THE METHODS OF PLACEMENT AND CONSOLIDATION TO BE EMPLOYED. WITHOUT SEGREGATION AND EXCESSIVE BLEEDING.
9. ADJUSTMENTS TO THE APPROVED MIX DESIGNS MAY BE REQUESTED BY THE CONTRACTOR WHEN JOB CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT. THESE REVISED MIX DESIGNS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO USE.

FOUNDATIONS

- Proctrol soil on grade areas with a medium-weight roller or other suitable equipment to check for pockets of soft material hidden beneath a thin crust of better soil. Any unsuitable materials thus exposed should be removed and replaced with compacted, engineered fill as outlined in the specifications. Proctrolling operations shall be monitored by the Geotechnical Testing Agency.
- All engineered fill beneath slabs and over footings should be compacted to a dry density of at least 93% of the Modified Proctor maximum dry density (ASTM D-1557). All fill which shall be stressed by foundation loads shall be approved granular materials compacted to a dry density of at least 95% (ASTM D-1557). Coordinate all fill and compactation operations with the Specifications and the Subsurface Investigation.
- Compaction shall be accomplished by placing fill in approximate 8" lifts and mechanically compacting each lift to at least the specified minimum dry density. For large areas of fill, field density tests shall be performed for each 3,000 square feet of building area for each lift as necessary to insure adequate compaction is being achieved.
- Column footings and wall footings to bear on firm natural soils or well-compact engineered fill with allowable bearing pressures of 2,000 PSF and 1,600 PSF for column and wall footings respectively, as outlined in the Subsurface Investigation Report.
- It is essential that the foundations be inspected to insure that all loose, soft, or otherwise undesirable material (such as organics, existing foundation fill, etc.) is removed and that the foundations will bear on satisfactory material. The Geotechnical Testing Agency shall inspect the subgrade and perform any necessary tests to insure that the actual bearing capacities meet or exceed the design capacities. The Geotechnical Testing Agency shall verify the bearing capacity at each spread column footing and every 10 feet on center for strip footings prior to placement of concrete.
- Place footings the same day the excavation is performed. If this is not possible, the footings shall be adequately protected against any detrimental change in condition, such as from disturbance, rain, or freezing.
- It is the responsibility of the Contractor and each Sub-Contractor to verify the location of all utilities and services shown, or not shown, and establish safe working conditions before commencing work.
- The Contractor shall layout the entire building and field verify all dimensions prior to excavation.
- For information regarding subsurface conditions, refer to the Subsurface Investigation & Foundation Recommendation Report prepared by Aik & Witig Engineering, Inc., A&W Project No. 21N0268, dated April 28, 2021.

COORDINATION WITH OTHER TRADES

- The Contractor shall coordinate and check all dimensions relating to Architectural finishes, mechanical equipment and openings, elevator shafts and overruns, etc. and notify the Architect/Engineer of any discrepancies before proceeding with any work in the area under question.
- The Structural Drawings shall be used in conjunction with the Drawings of all other disciplines and the Specifications. The Contractor shall verify the requirements of other trades as to sleeves, chases, hangers, inserts, anchors, holes, and other items to be placed or set in the Structural Work.
- There shall be no vertical or horizontal sleeves set, or holes cut or drilled in any beam or column unless it is shown on the Structural Drawings or approved in writing by the Structural Engineer of Record.
- Mechanical and electrical openings through supported slabs and walls, 6" diameter or larger, not shown on the Structural Drawings must be approved by the Structural Engineer of Record (SER). Openings less than 6" in diameter shall have at least 1"-0" clear between openings, unless approved in writing by the SER.
- Verify locations and dimensions of mechanical and electrical openings through supported slabs and walls shown on the Structural Drawings with the Mechanical and Electrical Contractors.
- Do not install conduit in supported slabs, slabs on grade, or concrete walls unless explicitly shown or noted on the Structural Drawings.
- Do not suspend any items, such as ductwork, mechanical or electrical fixtures, ceilings, etc. from steel roof deck or wood roof sheathing.
- The Mechanical Contractor shall verify that mechanical units supported by the steel framing are capable of spanning the distance between the supporting members indicated on the Structural Drawings. The Mechanical Contractor shall supply additional support framing as required.
- If drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern.

CONCRETE REINFORCING

- Reinforcement, other than cold drawn wire for spirals and welded wire fabric, shall have deformed surfaces in accordance with ASTM A305.
- Reinforcing steel shall conform to ASTM A615, Grade 60, unless noted.
- Welded wire fabric shall conform to ASTM A1064, unless noted.
- Where hooks are indicated, provide standard hooks per ACI and CRSI for all bars unless other hook dimensions are shown on the plans or details.
- Reinforcement in footings, walls and beams shall be continuous. Lap bars a minimum of 40 diameters, unless noted otherwise.
- Reinforcement shall be supported and secured against displacement in accordance with the CRSI "Manual of Standard Practice".
- Details of reinforcing steel fabrication and placement shall conform to ACI 315 Details and Detailing of Concrete Reinforcement" and ACI 315R "Manual of Engineering and Placing Drawings for Reinforced Concrete Structures", unless otherwise indicated.
- Spread reinforcing steel around small openings and sleeves in slabs and walls, where possible, and where bar spacing will not exceed 1.5 times the nominal bar spacing. Discontinue bars at large openings where necessary, and provide an area of reinforcement, equal to the interrupted reinforcement, in full length bars, distributing one-half each side of the opening. Where shrinkage and temperature reinforcement is interrupted, add (2) #5 x opening dimension + 4'-0" on each side of the opening. Provide #5 x 4'-0" longitudinal bars in both faces, at each corner of openings larger than 12" in any direction.
- Provide standees for the support of top reinforcement for footings, pile caps, and mats.
- Provide individual high chairs with support bars, as required for the support of top reinforcement for supported slabs. Do not provide standees.
- Provide snap-on plastic space wafers to maintain required concrete cover for vertical wall reinforcement.
- Where walls sit on column footings, provide dowels for the wall. Dowels shall be the same size and spacing as the vertical wall reinforcement, unless noted otherwise, with lap splices as shown on the application sections. Install dowels in the footing forms before concrete is placed. Do NOT stick dowels into footings after concrete is placed.
- Field bending of reinforcing steel is prohibited, unless noted on drawings.
- Minimum concrete cover over reinforcing steel shall be as follows, unless noted otherwise on plan, section or note:
1. Wall Framing: Horizontal deflection of 1/240 of the wall height for walls with flexible finishes, e.g. metal siding, wood siding, EIFS, etc.
2. Wall Framing: Horizontal deflection of 1/360 of the wall height for walls with cementitious finishes, e.g. cement plaster.
3. Wall Framing: Horizontal deflection of 1/600 of the wall height for walls with masonry veneer finishes.
4. Floor Joist Framing: Vertical deflection of 1/480 of the span under live load. Limit deflection under total load (dead + live) to 1/360 of the span.

MINIMUM COVER FOR REINFORCEMENT

	MINIMUM COVER
BEAMS & COLUMNS, FORMED	
FOR DRY CONDITIONS:	
STIRRUPS, SPIRALS & TIES	1 1/2"
PRINCIPAL REINFORCEMENT	2"
EXPOSED TO EARTH, WATER, SEWAGE, OR WEATHER:	
STIRRUPS & TIES	2"
PRINCIPAL REINFORCEMENT	2 1/2"
WALLS	
FOR DRY CONDITIONS:	
#11 BARS & SMALLER	3/4"
#14 & #18 BARS	1 1/2"
FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER, SEWAGE, WEATHER, OR IN CONTACT WITH GROUND	2"
FOOTINGS & BASE SLABS	
AT FORMED SURFACES & BOTTOMS BEARING ON CONCRETE WORK MAT	2"
AT UNFORMED SURFACES & BOTTOMS IN CONTACT WITH EARTH	3"
TOP OF FOOTINGS	SAME AS SLABS
OVER TOP OF PILES	2"

GENERAL NOTES

- The Contractor shall be responsible for complying with all safety precautions and regulations during the work. The Structural Engineer of Record will not advise on, nor issue direction as to safety precautions and programs.
- The Structural Drawings herein represent the finished structure. The Contractor shall provide all temporary guying and bracing required to erect and hold the structure in proper alignment until all Structural Work and connections have been completed. The investigation, design, safety, adequacy and inspection of erection bracing, shoring, temporary supports, etc. is the sole responsibility of the Contractor.
- The Structural Engineer of Record (SER) shall not be responsible for the methods, techniques and procedures not specifically and secondary steel detail construction shall be used, subject to approval of the SER. Drawings indicate general and typical details of construction. Where conditions are not specifically shown, similar details of construction shall be used, subject to approval of the Structural Engineer of Record.
- All structural systems which are to be composed of components to be field erected shall be supervised by the Supplier during manufacturing, delivery, handling, storage, and erection in accordance with the Supplier's instructions and requirements.
- Loading applied to the structure during the process of construction shall not exceed the safe load-carrying capacity of the structural members. The live loading used in the design of this structure are indicated in the "Design Criteria Notes." Do not apply any construction loads until structural framing is properly connected together and until all temporary bracing is in place.
- All ASTM and other referenced standards and codes are for the latest editions of these publications, unless otherwise noted.
- Shop drawings and other items shall be submitted to the Structural Engineer of Record (SER) for review prior to fabrication. All Shop Drawings shall be reviewed by the Contractor before submitted. The SER's review is to be for conformance with the design concept and general compliance with the relevant Contract Documents. The SER's review does not relieve the Contractor of the sole responsibility to review, check, and coordinate the Shop Drawings prior to submission. The Contractor remains solely responsible for errors and omissions associated with the preparation of Shop Drawings as they pertain to member sizes, details, dimensions, etc.
- Submit Shop Drawings in electronic (PDF) format. In no case shall reproductions of the Contract Documents be used as shop drawings. As a minimum, submit the following items for review:
A. Concrete Mix Design(s).
B. Reinforcing Steel Shop Drawings.
C. Pre-Engineered Metal Building Systems.
- Resubmitted Shop Drawings: Resubmitted shop drawings are reviewed only for responses to comments made in the previous submittal.
- When calculations are included in the submittals for components of work designed and certified by a Specialty Structural Engineer (SSE), the review by the Structural Engineer of Record (SER) shall be for conformance with the relevant Contract Documents. The SER's review does not relieve the SSE from responsibility for the design of the system(s) and the coordination with the elements of the structure under the certification of the SER, or other SSE's. The SER's review does not constitute a warranty of the accuracy or completeness of the SSE's design.
- Contractors shall visit the site prior to bid to ascertain conditions which may adversely affect the work or cost thereof.
- No structural member may be cut, notched, or otherwise reduced in strength without written direction from the Structural Engineer of Record.
- When modifications are proposed to structural elements under the design and certification of a Specialty Structural Engineer (SSE), written authorization by the SSE must be obtained and submitted to the Structural Engineer of Record for review, prior to performing the proposed modification.

COLD-FORMED (LIGHT GAUGE) METAL FRAMING NOTES

- All cold-formed steel framing members, their design, fabrication, and erection shall conform to the "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" of the latest edition of the AISI.
- All framing members shall be formed from steel conforming to ASTM A653, with a minimum yield strength as follows:
A) 12, 14 & 16 gauge members: Fy=50ksi
B) 18, 20 gauge members: Fy=33ksi
- All framing members shall be galvanized with a G60 coating meeting the requirements of ASTM A653, unless otherwise indicated.
- Members shall be the Manufacturer's standard "C"-Shaped studs/posts of the size, flange width, and gauge indicated. All members shall have a minimum flange lip return of 1/2" and satisfy the minimum properties in accordance with the Steel Stud Manufacturers Association (SSMA).
- The gauge of all tracks shall match the gauge of the associated stud or joist, unless otherwise noted.
- All welding shall be in accordance with Specification D1.3. No welding of members less than 14 gauge in thickness is permitted without the approval of the SER. All welding shall be performed by certified welders. All welds shall be touched up with zinc rich paint in accordance with ASTM A780.
- Provide bridging for all load-bearing studs at a maximum spacing of 48" on center.
- Provide bridging for all non-load-bearing curtain wall panels at a maximum spacing of 54" o.c. Locate one row of bridging within 18" of the top track when a single deep-leg deflection track is utilized.
- Provide bridging for joists and rafters at midspan and at a maximum spacing of 6'-0" o.c., unless noted otherwise. All bridging shall be installed prior to the application of any loading. Connect bridging to each member by clip angles, or other approved method per the Manufacturer's requirements.
- Provide web stiffeners at joist and rafter bearings in accordance with the Manufacturer's requirements.
- All axially-loaded studs shall have full bearing against the track web, prior to stud and track alignment. Splices in axially loaded studs are not permitted.
- Provide the Manufacturer's standard track, clip angles, bracing, reinforcement, fasteners, and accessories as recommended by the Manufacturer for the application indicated and as needed to provide a complete framing system. Unless otherwise indicated, install the metal framing system in accordance with the Manufacturer's shop drawings, written instructions and recommendations.
- Install supplementary framing, blocking, and bracing in metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishings, and similar work requiring attachment to the wall or partition. Where type of supplementary support is not otherwise indicated, comply with the stud manufacturer's recommendations and industry standards in each case, considering weight or loading resulting from the item supported.
- All field-cutting of studs must be done by sawing or shearing. Torch-cutting of cold-formed members is not allowed.
- No notching or coping of studs is allowed, unless explicitly shown on the design or shop drawings. All field-cut holes must be reinforced.
- The Framing Contractor is to ensure punch out alignment when assembling lateral bracing/bridging and field-cutting studs to length. Lateral bracing/bridging must be installed at the time the wall is erected. Temporary bracing shall be provided and remain in place until work is completely stabilized.
- Use a minimum of three studs at the corners of all exterior walls.
- Use a minimum of three studs at the intersections and corners of all load-bearing walls.
- All headers and built-up beams must be constructed of UNPAUNCHED material only. Install insulation in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
- Shop drawings: Show layout, spacing, sizes, thicknesses, types of cold-formed metal framing, and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
- For cold-formed metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer (SSE) responsible for their preparation.
- Design Loads: Reference the Design Criteria Notes.
B) Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
1. Wall Framing: Horizontal deflection of 1/240 of the wall height for walls with flexible finishes, e.g. metal siding, wood siding, EIFS, etc.
2. Wall Framing: Horizontal deflection of 1/360 of the wall height for walls with cementitious finishes, e.g. cement plaster.
3. Wall Framing: Horizontal deflection of 1/600 of the wall height for walls with masonry veneer finishes.
4. Floor Joist Framing: Vertical deflection of 1/480 of the span under live load. Limit deflection under total load (dead + live) to 1/360 of the span.

- Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, undue strain on fasteners and anchors, or other detrimental effects when subject to an ambient temperature change of not less than 120 degrees F.
- Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows: Upward and downward movement of 3/4" each.
- Design exterior non-load-bearing curtain wall framing to accommodate horizontal deflection without regard for contribution or sheathing materials.

POST-INSTALLED DOWELS & ANCHOR BOLTS/RODS

- All reinforcing steel and threaded rod anchors to be installed in a 2-part chemical anchoring system shall be treated as follows:
A. Drill holes larger than bar or rod to be embedded. Coordinate hole diameter with Manufacturer's recommendations.
B. Holes must be cleaned and prepared in accordance with Manufacturer's recommendations.
C. When reinforcing steel is encased during drilling for installation of anchors, stop drilling, use a sensor to locate the reinforcing in the surrounding area and install anchor(s) as close as possible to the original location. Contact the Structural Engineer of Record (SER) for direction when the revised location is more than 2" from the original location, or when the original function of the anchorage is significantly altered. When in doubt, contact the SER for direction.
D. Drill the hole a minimum of 15 bar diameters or as shown on the plans.
E. Use a 2-part adhesive anchoring system, Hilti HY-200, or approved equal.
F. For anchorage into hollow substrate, use Hilti HV-270, or approved equal.
G. Reinforcing steel dowels shall be ASTM A615, Grade 60, unless noted.
H. Anchor rods shall be Hilti HAS-V-35, unless noted. Provide Hilti as noted on the Drawings. If not noted, provide hot-dip galvanized finish for interior applications. Provide stainless steel finish for all exterior applications, unless noted.
- When column anchor bolts have been omitted, or damaged by construction operations, the Contractor must obtain the written approval of the Structural Engineer of Record prior to repair or replacement.
A. As a precaution, the affected column must be guyed and braced after repair for the balance of the erection period.
B. As an alternate to guying and bracing, the Contractor may at his option, employ a testing agency to perform a tensile pull test to confirm the strength for the repaired or replaced anchor bolt. The tensile proof load must exceed 1.35 x the design load of the original anchor without causing distress of the anchor bolt or the surrounding concrete. Reference the following table for the minimum proof loads:
3/4" diameter: 12.8 kips
7/8" diameter: 17.4 kips
1" diameter: 22.7 kips
1 1/8" diameter: 28.8 kips
1 1/4" diameter: 35.6 kips
Note: Values listed above are for ASTM F-1554, Grade 36 material. When higher grade or strength materials are specified, refer to the AISI Steel Design Guide 1, Table 3.1 for minimum allowable loads to be multiplied by 1.33.
C. When affected anchor bolts are part of a fixed moment resisting column base, such as those in moment-resisting space frames, canopies, or food-base installations, the repaired anchor bolts must be proof loaded to the affected column footing and/or pier replaced in its entirety.
D. When affected anchor bolts are part of a braced frame the affected column footing and/or pier must be replaced in its entirety.
E. Prior to erection, the controlling Contractor must provide written notification to the Steel Erector if there has been a repair, replacement or modification of the anchor bolts for that column.

PRE-ENGINEERED METAL BUILDING (PEMB) NOTES

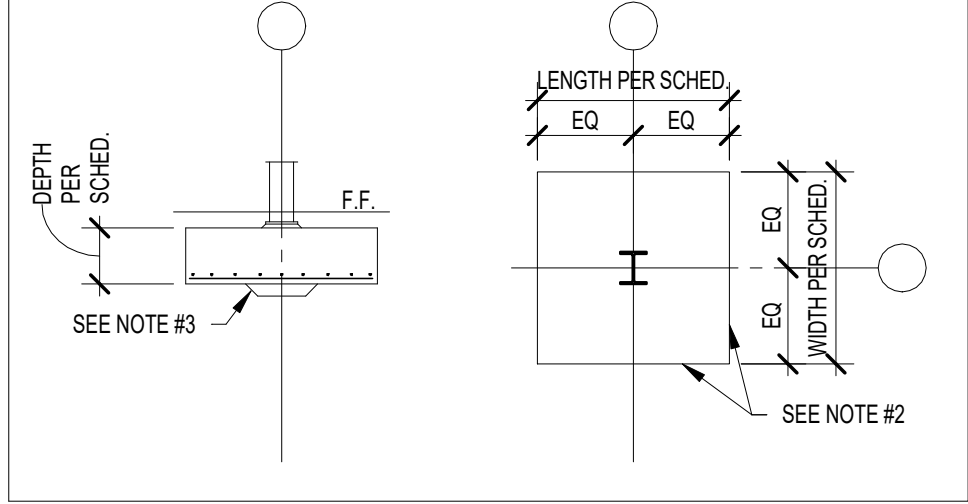
- The entire PEMB system shall be designed by the PEMB Manufacturer in conformance with the provisions of the 2014 Indiana Building Code and the Low Rise Building Systems Manual as published by the Metal Building Manufacturers' Association. Where these criteria conflict, the more stringent criteria shall apply. It is the responsibility of the PEMB Manufacturer to design the complete building system, including main frame members, anchor rods, purins, girts, lateral force resisting system(s), connections, roofing, wall panel, flashing, components, attachments, etc. The Manufacturer shall submit certification in the form of a letter bearing the seal of a Professional Engineer registered in the state of Indiana stating that the building system design meets the indicated code, performance and loading requirements.
- The PEMB Manufacturer shall be certified by the American Institute of Steel Construction (AISC), Category MB.
- The foundation design is based upon the Nucor Building System. The Contractor shall coordinate for coordination of any revisions required as a result of a change in the PEMB Manufacturer, including the redesign of foundations.
- The size, number and pattern of all anchor bolts shall be determined by the PEMB Manufacturer. Anchor rod embedments are indicated on the foundation drawings.
- The PEMB Manufacturer shall submit the anchor bolt requirement and foundation reactions prior to submittal of the balance of the building shop drawings so as not to delay the work. Should the PEMB Manufacturer make any changes in the anchor rod configuration, base plate sizing, foundation reactions, etc. after submittal and review of anchor rod submittal, they must be communicated to all parties and explicitly noted on future submittals. The PEMB Manufacturer shall bear the cost for any changes necessary to the foundations based on changes made to the anchor rods sizes or patterns, base plate sizing, foundation reactions, etc. during preparation of the balance of the building design.
- The Contractor shall submit shop drawings of the entire PEMB system for review. The Contractor shall also submit a complete structural design analysis of the building (for recording purposes only). All shop drawing and calculation submittals shall bear the seal of a Professional Engineer registered in state of Indiana.
- The PEMB Manufacturer must use the same gird identification as those used on the Contract Documents.
- Design criteria and loading to be used in the design of the PEMB shall match those listed in the "Design Load Criteria" section of the structural notes with the exception that the uniform collateral load of 10 PSF may be reduced to 5 PSF. Coordinate the location and magnitude of loads for mechanical equipment and electrical fixtures with the Mechanical Contractor. Coordinate the loads of suspended equipment, fixtures, bulkheads, operable partitions, etc. with the Architectural Drawings. Coordinate the location and magnitude of loads for suspended athletic equipment, including basketball goals with the Athletic Equipment Supplier. Reductions based on engineering judgement shall be performed using the Bare Frame Method. Calculations for frame deflections (drift) shall be performed using the assumed composite stiffness of the building envelope are not permitted.
A. Maximum lateral deflection/drift due to 10-year wind load shall not exceed H/120 for buildings with flexible cladding, such as metal wall panel, EIFS, wood siding, etc.
B. Maximum lateral deflection/drift due to 10-year wind load shall not exceed H/180 for buildings clad with partial height masonry walls (fixed base), or full height curtain wall systems.
C. Maximum lateral deflection/drift due to 10-year wind load shall not exceed H/240 for buildings with brittle cladding (pinned base) such as brick veneer with steel stud backup, full height masonry walls, etc.
D. Denotes the eave height of the building.
- The PEMB Manufacturer shall provide all girts, purins, eave struts, and other components required for a complete system. All wall systems, such as steel siding, curtain walls, storefronts, etc. shall be properly supported by the PEMB system. Allowable deflections of components shall not exceed the following:
A) Primary Framing - no ceilings* L/150 for Roof Snow Load + Collateral Load
B) Primary Framing with suspended Acoustical Ceilings L/240 for Roof Snow Load + Collateral Load
C) Secondary Framing - no ceilings* L/150 for Dead Load + Roof Snow Load + Collateral Load
D) Secondary Framing with suspended Acoustical Ceilings L/240 for Roof Snow Load + Collateral Load
E) Wall Girts w/ Flexible Cladding L/150
F) Wall Girts w/ Brittle Cladding L/600
G) Wind Beams - Flexible Cladding L/240
H) Wind Beams - Brittle Cladding L/400
I) Wind Columns - Flexible Cladding L/240
J) Wind Columns - Brittle Cladding L/400
* L denotes the span of the element between supports
For 10-year wind values, use 75% of the 50-year wind pressure
* The PEMB Manufacturer must check ponding for low-slope applications.
- The PEMB shall be designed to resist lateral loads as follows:
A. Interior Frame Lines Rigid Frames with Pinned Bases
B. Endwall Frame Lines Bearing Endwalls with Diagonal Rod or Cable Bracing
C. Expandable Endwall Frame Lines Full-Load Rigid Frame w/ Pinned Bases & Removable Wind Columns
D. Sidewalls Parallel to Eaves Diagonal Rod or Cable Bracing
Where endwall bracing is not feasible, provide horizontal bracing in plane of roof to distribute lateral load to first interior rigid frame line. Fixed base columns and portal frames are not permitted, unless shown otherwise on the Contract Documents.
- The PEMB Erector shall provide all temporary guying and bracing as required.
- Unless otherwise specified or noted, all steel members shall be cleaned and painted in accordance with Manufacturer's standard procedures. Paint color for both primary and secondary steel shall match.
- Where purlin spans exceed the capacity of the PEMB Manufacturer's standard cold-rolled zees and channels, or where specifically shown or noted on the plans, provide open web joists. Open web joist purlins may be the PEMB Mfr's proprietary system, or standard open-web joists designed, manufactured and erected in accordance with the Steel Joist Institute (SJI). PEMB Manufacturer shall design open web joist purlins as a complete system including, meeting all specified design criteria, with connections, extensions, bracing and bridging (including uplift bridging as required. For open web joists conforming to SJI criteria, furnish size and number of rows of bridging conforming to the latest edition of the Steel Joist Institute Specification.
- Design columns to support hotted beams and/or open web joists to be supplied by others. Design for the reactions listed on the plans. The PEMB Manufacturer shall coordinate with the Steel Fabricator for type of connection (i.e. welded vs. bolted, sealed vs. double angle connection, etc.) prior to proceeding with preparation of shop drawings.
- When modifications are proposed to PEMB members or elements under the design and certification of the PEMB Manufacturer, written authorization by the PEMB's Specialty Structural Engineer must be obtained and submitted to the Structural Engineer of Record for review prior to performing the proposed modification.

SPECIALTY STRUCTURAL ENGINEERING (SSE)

- A Specialty Structural Engineer is defined as a Professional Engineer licensed in the State of Indiana, not the Structural Engineer of Record, who performs Structural Engineering functions necessary for the structure to be completed and who has shown experience and/or training in the specific specialty.
- It is the Specialty Structural Engineer's responsibility to review the Construction Drawings and Specifications to determine the appropriate scope of engineering.
It is the intent of the Drawings and Specifications to provide sufficient information for the Specialty Structural Engineer (SSE) to perform his design and analysis. If the SSE determines there are details, features, or unanticipated project limits or conditions which require engineering requirements as described in the project documents, the SSE shall in a timely manner, contact the Structural Engineer of Record for resolution of conflicts.
- The Specialty Structural Engineer (SSE) shall forward documents to the Structural Engineer of Record for review. Such documents shall bear the stamp of the SSE and include:
A) Drawings introducing engineering input, such as defining the configuration or structural capacity of structural components and/or their assembly into structural systems.
B) Calculations
C) Computer printouts which are an acceptable substitute for manual calculations provided they are accompanied by sufficient design assumptions and identified input and output information to permit their proper evaluation. Such information shall bear the stamp of the Specialty Engineer as an indication that said engineer has accepted responsibility for the results.
- Contractors are referred to the specific technical specification sections and the structural drawings for those elements requiring Specialty Structural Engineering. Examples of components requiring Specialty Structural Engineering include, but are not limited to the following:
A) Pre-Engineering Metal Building Systems.
- When modifications are proposed to elements under the design and certification of the Specialty Structural Engineer (SSE), written authorization by the SSE must be obtained and submitted to the Engineer of Record for review, prior to performing the proposed modification.

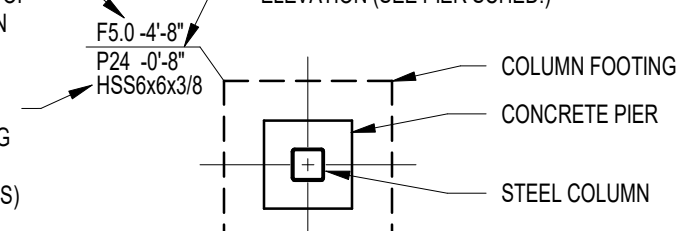


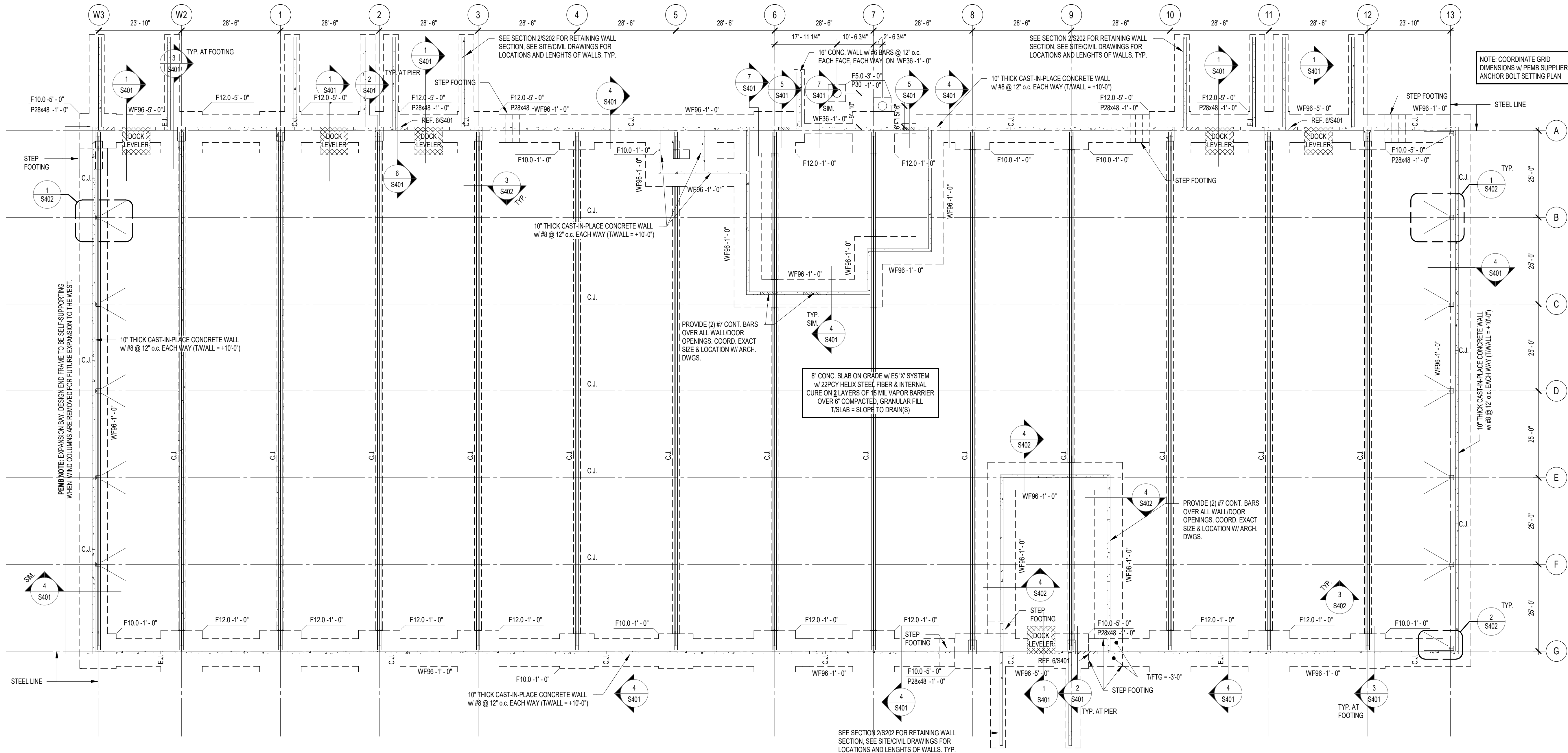
ARCHITECT

COLUMN FOOTING SCHEDULE			
FOOTING MARK	FOOTING SIZE		
	WIDTH	LENGTH	DEPTH
F5.0	5'-0"	5'-0"	1'-2"
F10.0	10'-0"	10'-0"	2'-6"
F12.0	12'-0"	12'-0"	3'-0"
REINFORCING (EACH WAY)			
(5) #5 x 4'-6"			
(8) #7 x 9'-6" [TOP AND BOTTOM]			
(11) #7 x 11'-6" [TOP AND BOTTOM]			
NOTES:			
1. CENTER FOOTINGS BENEATH COLUMNS, U.N.O.			
2. ALL FOOTINGS MUST BE BOARD-FORMED, UNLESS APPROVED.			
3. INCREASE FOOTING DEPTH WHERE REQ'D TO ENCASE COLUMN ANCHOR RODS			
NOTE: WF STEEL COLUMN SHOWN, TUBES, PIPES, C.I.P. CONCRETE, PRECAST & MASONRY COLUMNS SIM.			
			

WALL FOOTING SCHEDULE			
FTG. MARK	FOOTING SIZE		FOOTING REINFORCING (TOP AND BOTTOM)
	WIDTH	DEPTH	LONGITUDINAL TRANSVERSE
WF36	3'-0"	2'-0"	(3) #5 x CONTINUOUS #4 x 2'-6" @ 96" O.C.
WF96	8'-0"	2'-0"	(9) #6 x CONTINUOUS #6 x 7'-6" @ 10' O.C.
1. CENTER FOOTINGS BENEATH WALLS, U.N.O.			
2. USE (2) LAYERS OF FOOTING REINFORCING, ONE TOP LAYER, ONE BOTTOM LAYER.			

CONCRETE PIER SCHEDULE				
PIER MARK	PIER SIZE	PIER REINFORCING		
		VERTICALS	TIES-SIZE & SPA. ²	DETAIL
P30	2' - 6" DIA.	(8) #7	#4 @ 12" O.C.	A
P28x48	2' - 4" x 4' - 0"	(12) #8	#4 @ 12" O.C.	B
1. PROVIDE MIN. 1 1/2" CLEAR TO PIER TIES.				
2. REF. "TYPICAL CONCRETE PIER REINFORCING" ON FOUNDATION DETAIL SHEET FOR FURTHER INFORMATION ON THE SPACING.				
3. VERTICAL DOWELS ARE TO FUNCTION AS PIER VERTICALS FOR PIERS LESS THAN OR EQUAL TO 5' - 0" HIGH. PROVIDE SEPARATE DOWELS & VERTICALS FOR PIERS GREATER THAN OR EQUAL TO 5' - 0" HIGH, UNLESS APPROVED.				
4. CONTACT THE STRUCTURAL ENGINEER FOR DIRECTION IF COLUMN ANCHOR RODS FOUL WITH PIER TIES OR VERTICALS.				
DETAIL "A" DETAIL "B"				
(1) SET (3) SETS				

FOUNDATION PLAN NOTES	
1. REF. S001 FOR STRUCTURAL NOTES, DESIGN DATA & SCHEDULES.	11. PLAN LEGEND:
2. ALL CONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH ALL DISCIPLINES TO AVOID CONFLICTS. THE MECHANICAL, ELECTRICAL, AND PLUMBING ASPECTS ARE NOT IN THE SCOPE OF THESE DRAWINGS. THEREFORE, ALL REQUIRED MATERIALS AND WORK MAY NOT BE INDICATED.	F.F. DENOTES FINISH FLOOR
3. COORDINATE EXACT SIZE & LOCATION OF ALL MECHANICAL OPENINGS IN FOUNDATION WALLS WITH THE MECHANICAL, ELECTRICAL & PLUMBING CONTRACTORS.	T/X' DENOTES TOP OF FTG., GRADE BEAM, SLAB, PIER, ETC.
4. ALL ELEVATIONS ARE REFERENCED FROM THE FIRST FLOOR FINISH FLOOR ELEVATION 0'-0" REF. CIVIL DWGS FOR USGS ELEVATION.	B/X' DENOTES BOTTOM OF FTG., GRADE BEAM, ETC.
5. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.	C.J. DENOTES SLAB ON GRADE CONTROL/CONTRACTION JOINT
6. REF. S402 & S403 FOR TYPICAL FOUNDATION DETAILS.	WF30 -20'-0" DENOTES WALL FOOTING MARK & TOP OF FOOTING ELEVATION (SEE WALL FOOTING SCHEDULE)
7. NOTE: PERIMETER WALL AND COLUMN FOOTINGS SHALL BE LOWERED AND/OR SLEEVED TO PASS BELOW PLUMBING LINES (I.E. SANITARY & STORM SEWERS, WATER LINES, ETC.) SHOWN ON THE PLUMBING DRAWINGS. PROVIDE FOOTING STEPS AS REQUIRED PER THE TYPICAL DETAILS ON S403.	DENOTES COLUMN FOOTING MARK & TOP OF PIER ELEVATION (SEE PIER SCHED.)
8. ALL SLAB RECESSES SHALL BE LOCATED PER THE ARCHITECTURAL DRAWINGS. COORDINATE DEPTHS OF ALL SLAB RECESSES WITH THE ARCHITECTURAL DRAWINGS AND/OR THE FLOORING SUPPLIER.	DENOTES COLUMN SIZE (REF. FRAMING PLANS FOR STUB COL'S NOT ON FDNS)
9. COLUMN FOOTINGS, TRENCH FOOTINGS AND WALL FOOTINGS SHALL BEAR ON APPROVED SOIL. UNDERCUT AS REQ'D TO SUITABLE BEARING MATERIAL AS DETERMINED BY THE GEOTECHNICAL TESTING AGENCY. REF. TYPICAL FOOTING UNDERCUT DETAILS ON S402.	
10. PROVIDE CONTROL/CONTRACTION JOINTS IN SLABS ON GRADE (REF. THE TYPICAL DETAILS ON SHEET S402). ALL JOINTS IN SLABS TO RECEIVE THIN OR THICK-SET TERRAZZO, CERAMIC OR PORCELAIN TILE, VINYL-COMPOSITION TILE (VCT) OR VINYL SHEET GOODS. EPOXY OR SIMILAR THIN-FILM FINISH FLOORING SHALL BE CAREFULLY COORDINATED WITH THE FLOORING CONTRACTOR. THE CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACING SLABS.	



1 FOUNDATION PLAN
1/16" = 1'-0"



ARCHITECT
CRWA
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Email: cwrapp@crwa.com

TRINITY METALS, LLC
NEW SHELBYVILLE INDIANA FACILITY
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

STRUCTURAL ENGINEER
H.B. Lynch, Harrison & Bourneville, Inc.
650 Virginia Avenue
Indianapolis, IN 46202
P 317.423.1029
F 317.423.1028
STRUCTURAL ENGINEERING

PROJECT NUMBER
21064

Wesley B. Harrison
REGISTERED
PE08080410
STATE OF INDIANA
PROFESSIONAL ENGINEER
Wesley B. Harrison
CERTIFICATION

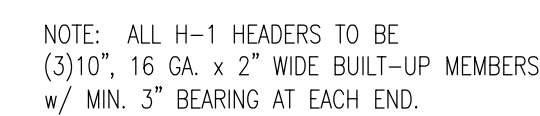
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CRAIG W. RAPP ASSOCIATES, L.L.C.

SHEET DESCRIPTION:
FOUNDATION PLAN

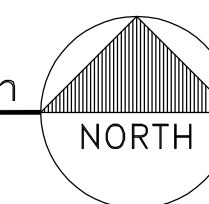
REVISIONS

BUILDING #
SCALE:
DATE: 03/15/2022
DRAWN BY: JNB
CHECKED BY: WBH
OWNER APPROVAL:
FILE:

S201

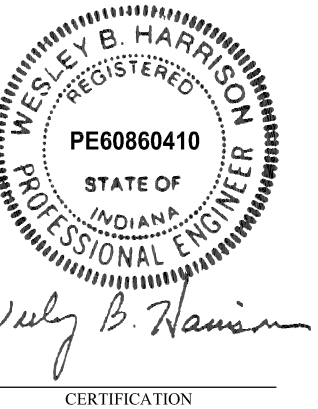


1 Ceiling/Canopy Framing Plan
1/4" = 1'-0"



TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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SHEET DESCRIPTION:
CEILING/CANOPY
FRAMING PLAN

REVISIONS

BUILDING •

SCALE: _____

05/15/2022
DRAIN BY: WRH

CHECKED BY: WBH

FILE:

S202



ARCHITECT

CRWA

CRAIG W. RAPP Associates, LLC
Architecture - Planning - Interiors
111 W. W. 3rd St. Suite 1000, Indianapolis, IN 46204
Ph: 317-423-4999 Fax: 317-423-4996
Email: cwrapp@crwaindiana.com

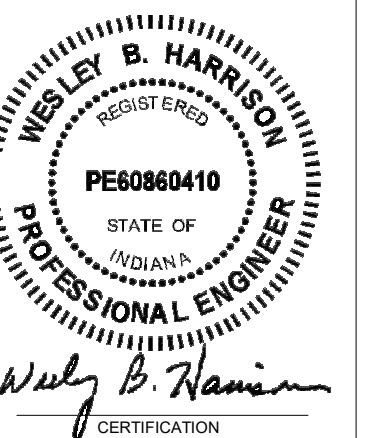
TRINITY METALS, LLC
NEW SHELBYVILLE INDIANA FACILITY

ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

STRUCTURAL ENGINEER



PROJECT NUMBER
21064



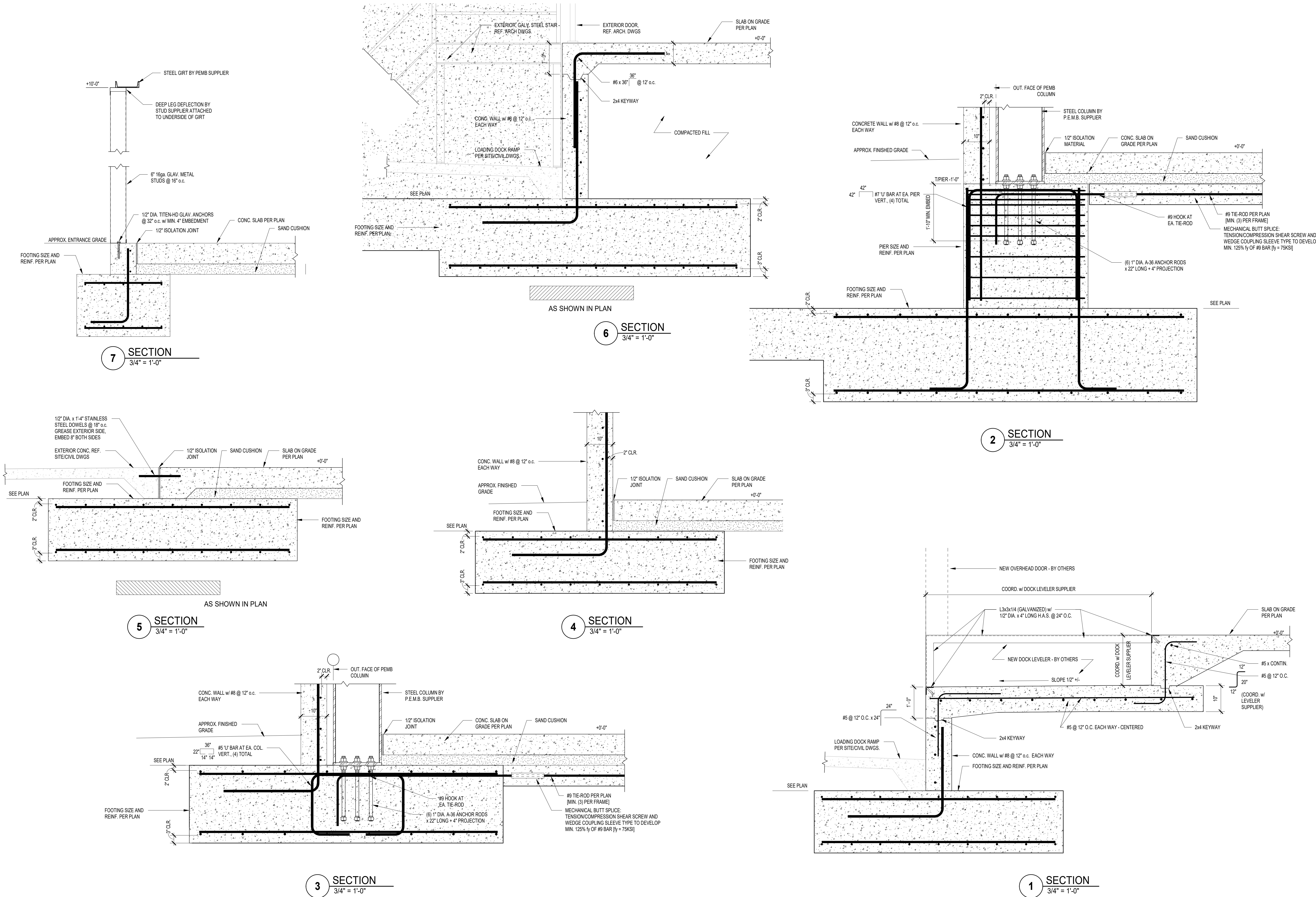
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CRAIG W. RAPP ASSOCIATES, L.L.C.

SHEET DESCRIPTION:
FOUNDATION
SECTIONS

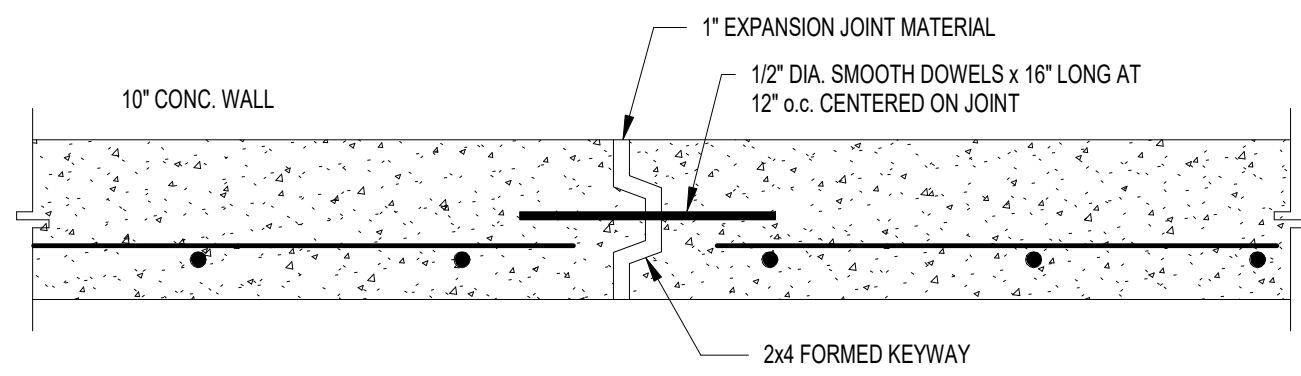
REVISIONS

BUILDING #
SCALE:
DATE: 03/15/2022
DRAWN BY: JNB
CHECKED BY: WBH
OWNER APPROVAL:
FILE:

S401



1 HAIRPIN BAR DETAIL

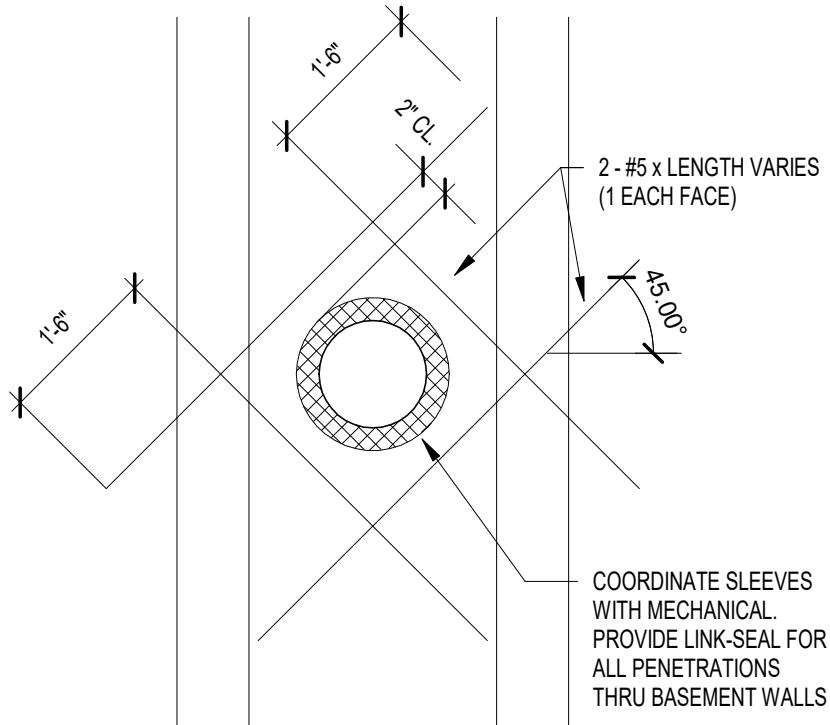


NOTE: SEE SHEET S201 FOR LOCATIONS OF EXPANSION JOINTS (E.J.)

12 C.I.P. WALL EXPANSION JOINT DETAIL

1" = 1'-0"

NOTE: WHERE VERTICAL REINFORCING IS INTERRUPTED BY THE OPENING, HALF OF THE INTERRUPTED STEEL SHALL BE ADDED EACH SIDE OF THE OPENING. USE FULL LENGTH BARS. IF BARS CANNOT BE PLACED AS DETAILED, REPLACE THE 1'-6" EXTENSION WITH 6" AND A STANDARD HOOK.



NOTE: COORDINATE FINAL LOCATION OF PIPE PENETRATIONS WITH MECHANICAL CONTRACTOR BEFORE INSTALLATION OF THE REINFORCING.

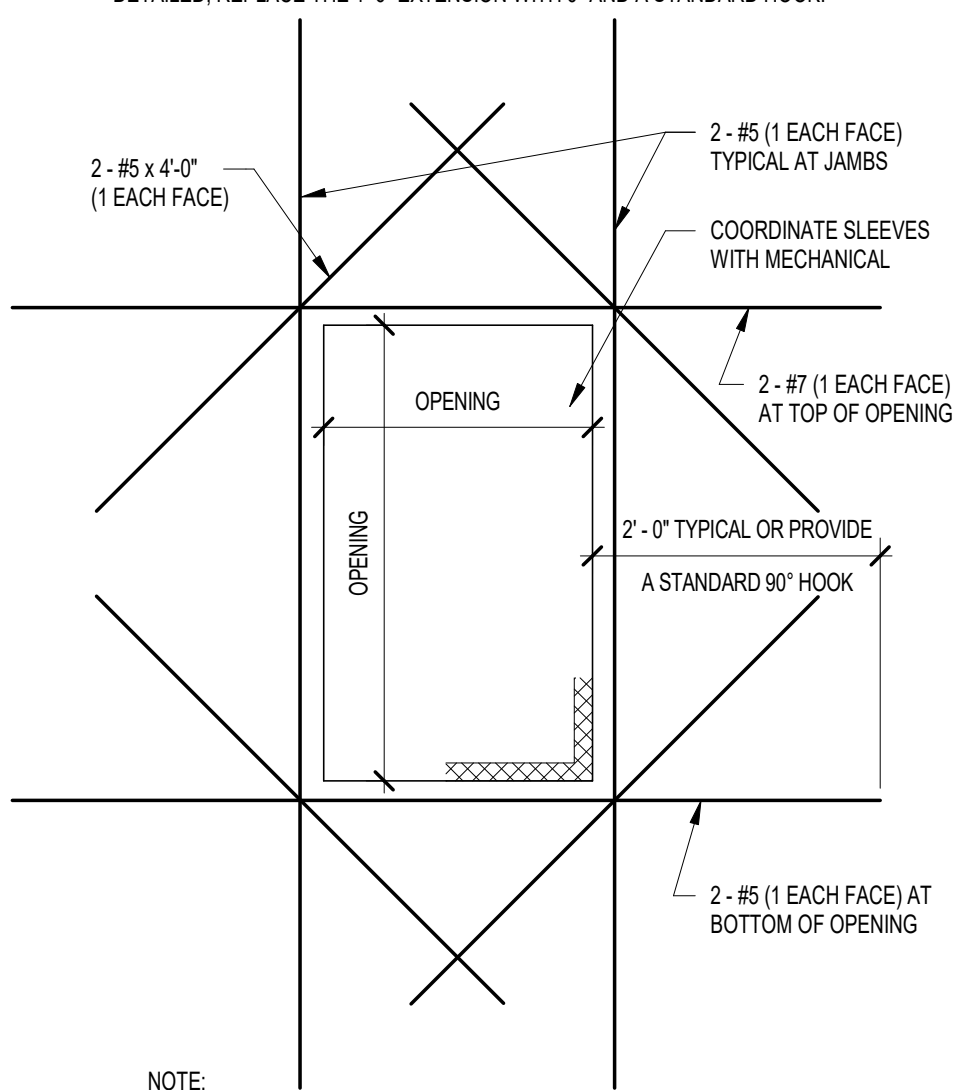
THIS DETAIL APPLIES TO ALL ROUND AND ELLIPTICAL OPENINGS IN CONCRETE WALLS, UNLESS OTHERWISE NOTED ON THE PLANS.

11 C.I.P. WALL ROUND OPENING

3/4" = 1'-0"

NOTE:

WHERE VERTICAL REINFORCING IS INTERRUPTED BY THE OPENING, HALF OF THE INTERRUPTED STEEL SHALL BE ADDED EACH SIDE OF THE OPENING. USE FULL LENGTH BARS. IF BARS CANNOT BE PLACED AS DETAILED, REPLACE THE 1'-6" EXTENSION WITH 6" AND A STANDARD HOOK.



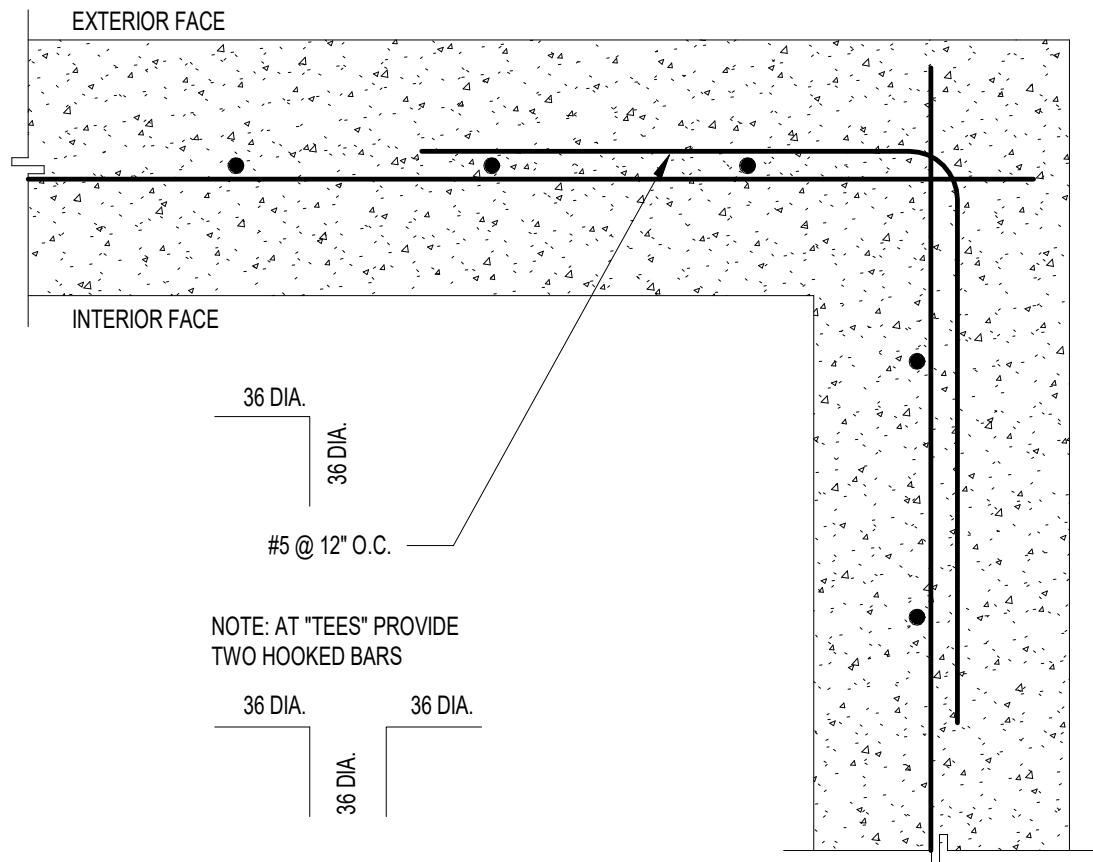
NOTE:

COORDINATE FINAL LOCATION OF MECHANICAL PENETRATIONS WITH MECHANICAL CONTRACTOR BEFORE INSTALLATION OF THE REINFORCING.

THIS DETAIL APPLIES TO ALL SQUARE AND RECTANGULAR OPENINGS IN CONCRETE WALLS UNLESS OTHERWISE NOTED ON THE PLANS.

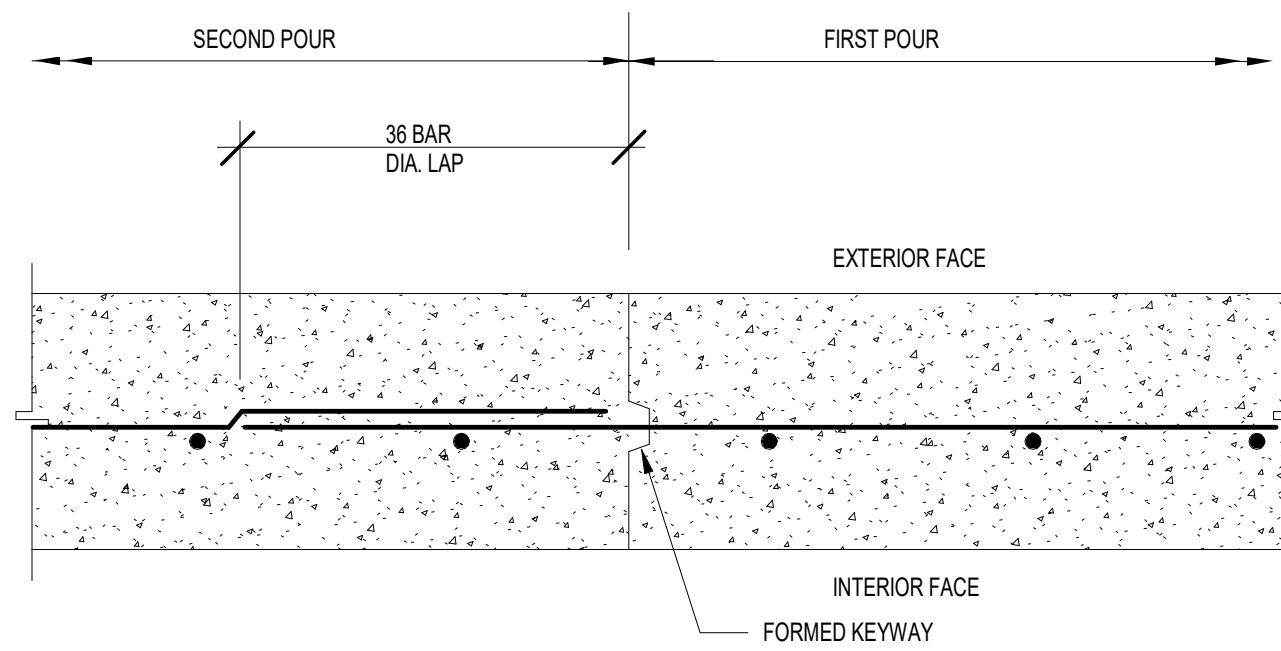
10 C.I.P. WALL RECTANGULAR OPENING

3/4" = 1'-0"



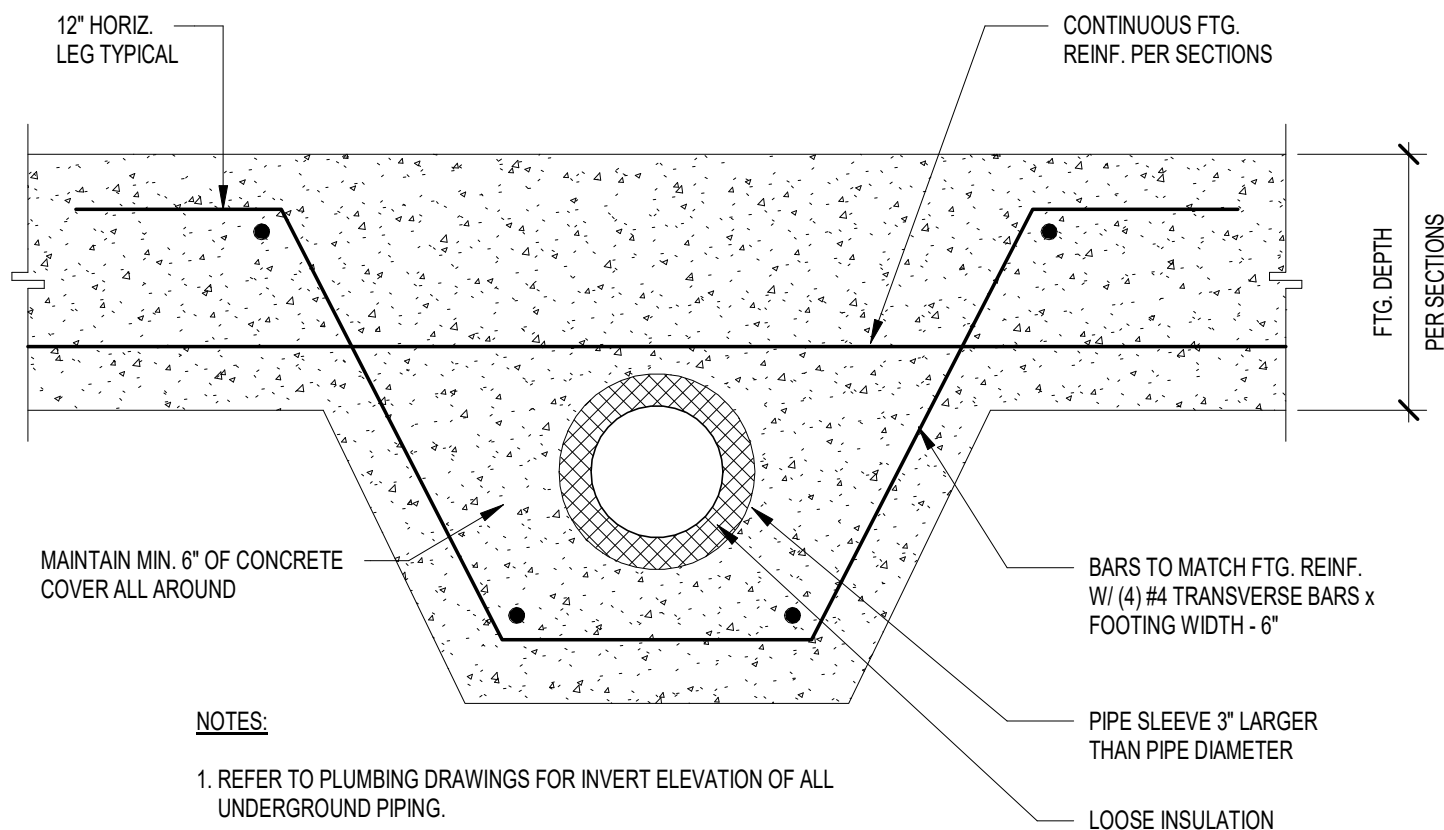
9 C.I.P. WALL CORNER REINFORCING

1" = 1'-0"



8 C.I.P. WALL CONSTRUCTION JOINTS

1" = 1'-0"

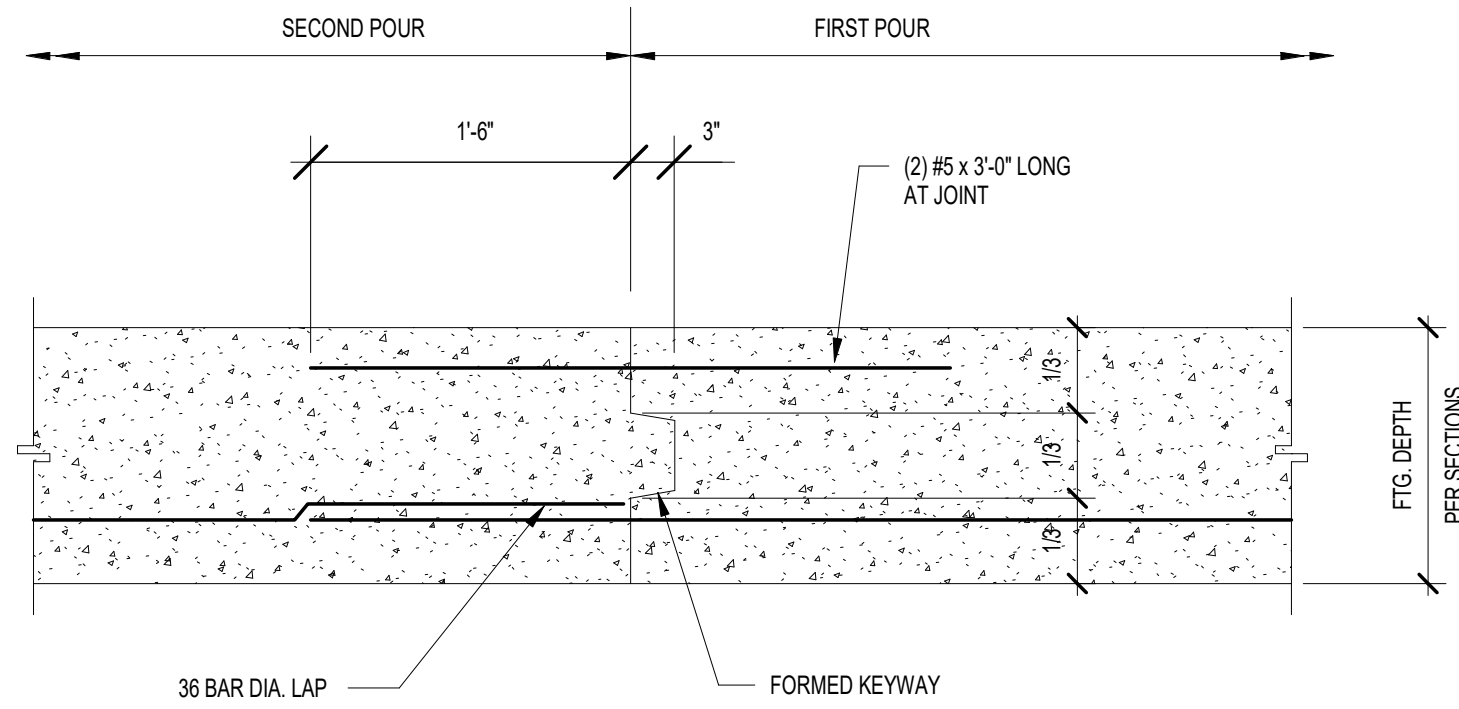


NOTES:

1. REFER TO PLUMBING DRAWINGS FOR INVERT ELEVATION OF ALL UNDERGROUND PIPING.
2. PROVIDE THIS DETAIL WHERE A PENETRATION THROUGH A WALL FOOTING IS UNAVOIDABLE.
3. NO SLEEVES IN COLUMN FOOTINGS ARE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

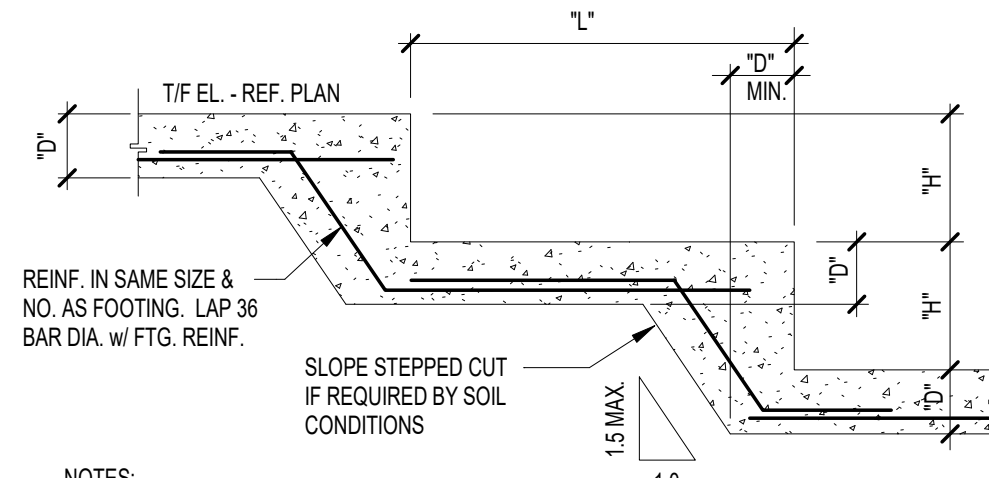
7 WALL FOOTING SLEEVE DETAIL

1" = 1'-0"



6 WALL FOOTING CONSTRUCTION JOINT

1" = 1'-0"

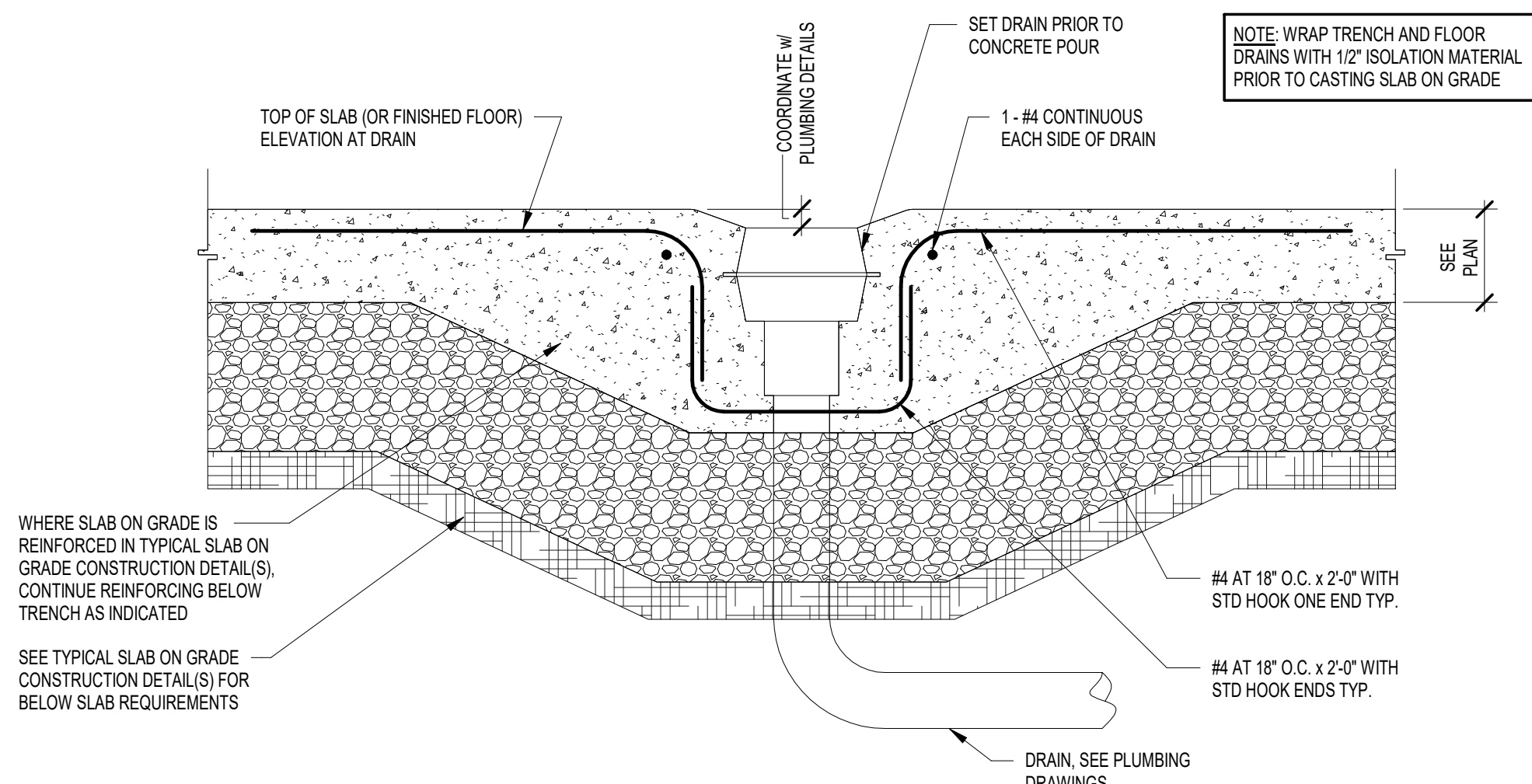


NOTES:

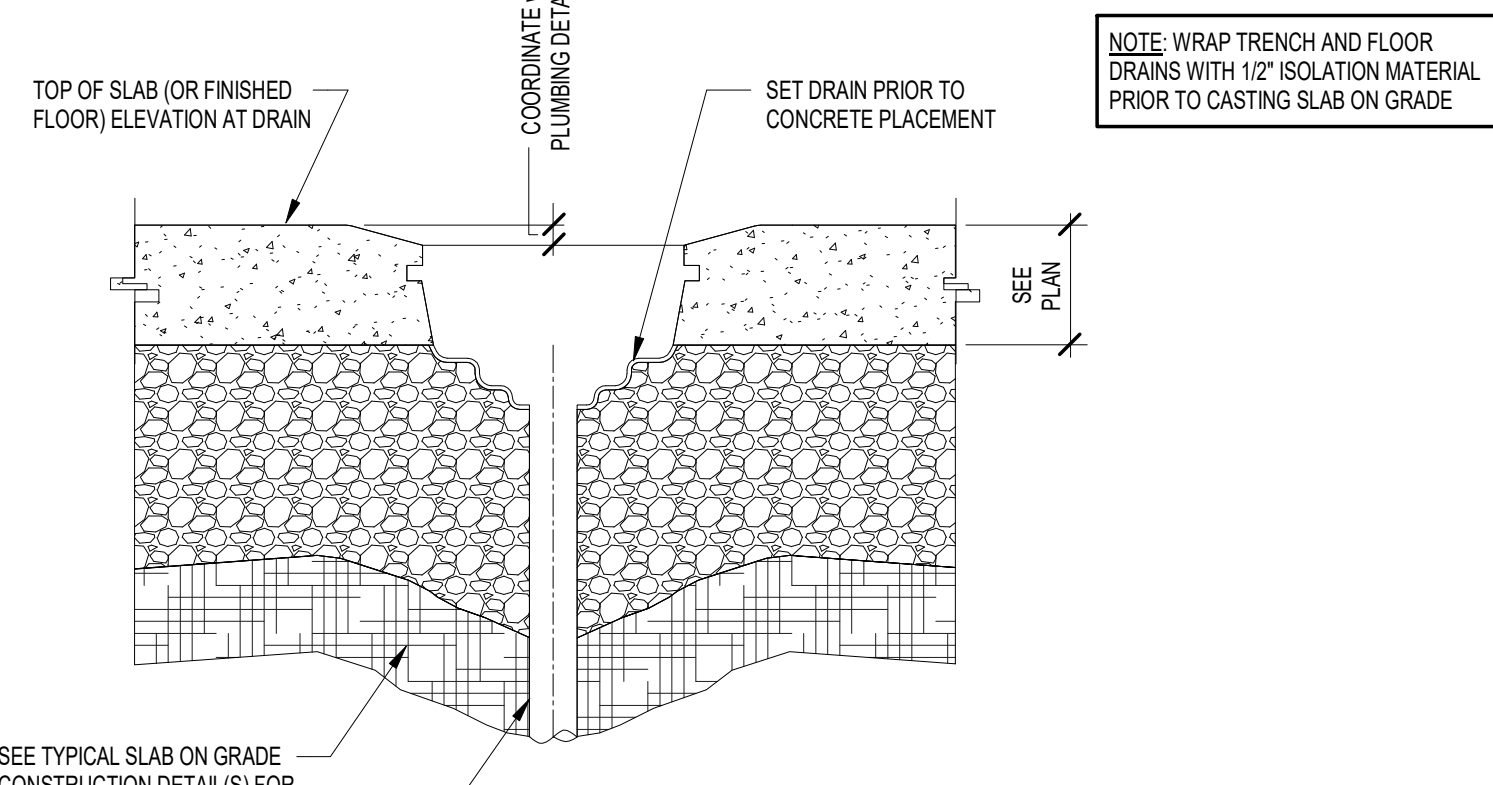
1. "H" DENOTES HEIGHT OF STEP AS SHOWN ON PLAN.
2. "L" DENOTES LENGTH BETWEEN STEPS. LAYOUT TO MAINTAIN SLOPE OF 1 VERTICAL TO 2 HORIZONTAL UNLESS NOTED OTHERWISE.
3. "D" DENOTES FOOTING DEPTH, REFER TO PLANS, SECTIONS & SCHEDULES.

5 STEPPED FOOTING DETAIL

1/2" = 1'-0"



TYPICAL FLOOR TRENCH DRAIN

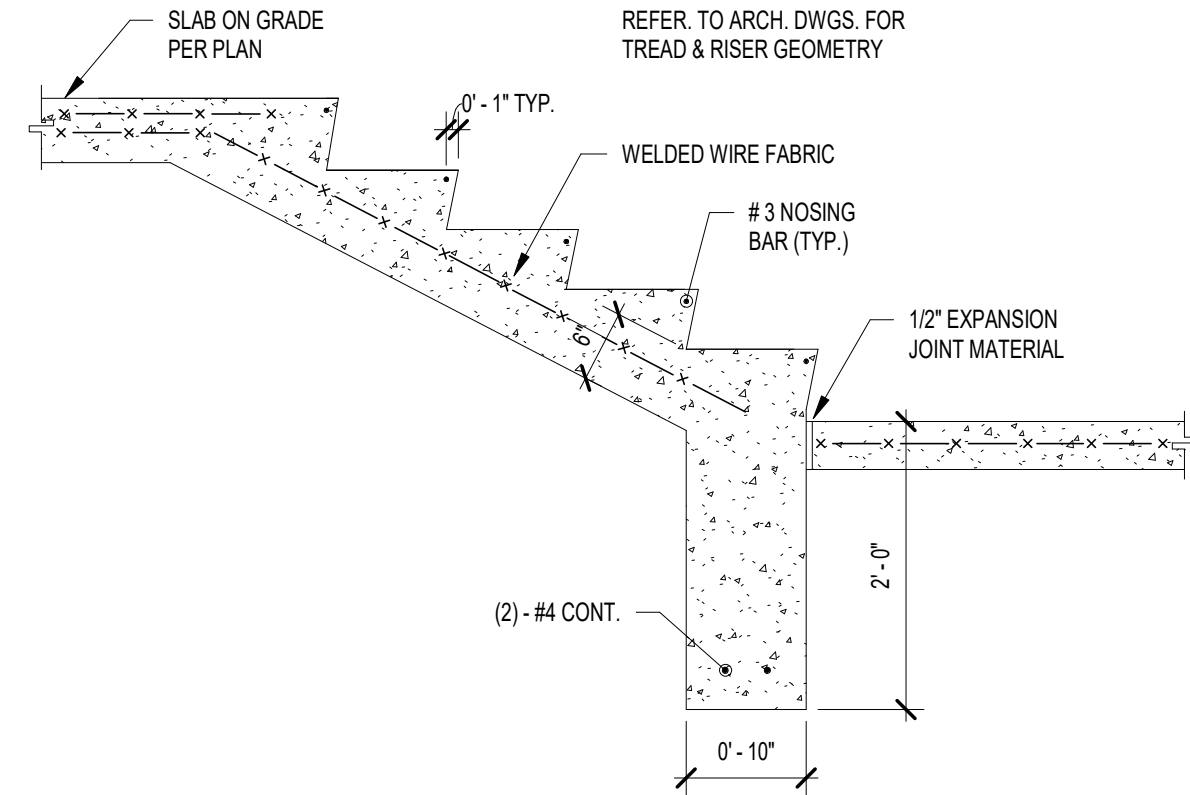


TYPICAL FLOOR DRAIN

NOTE: COORDINATE TRENCH AND DRAIN LOCATIONS WITH ARCHITECTURAL PLAN

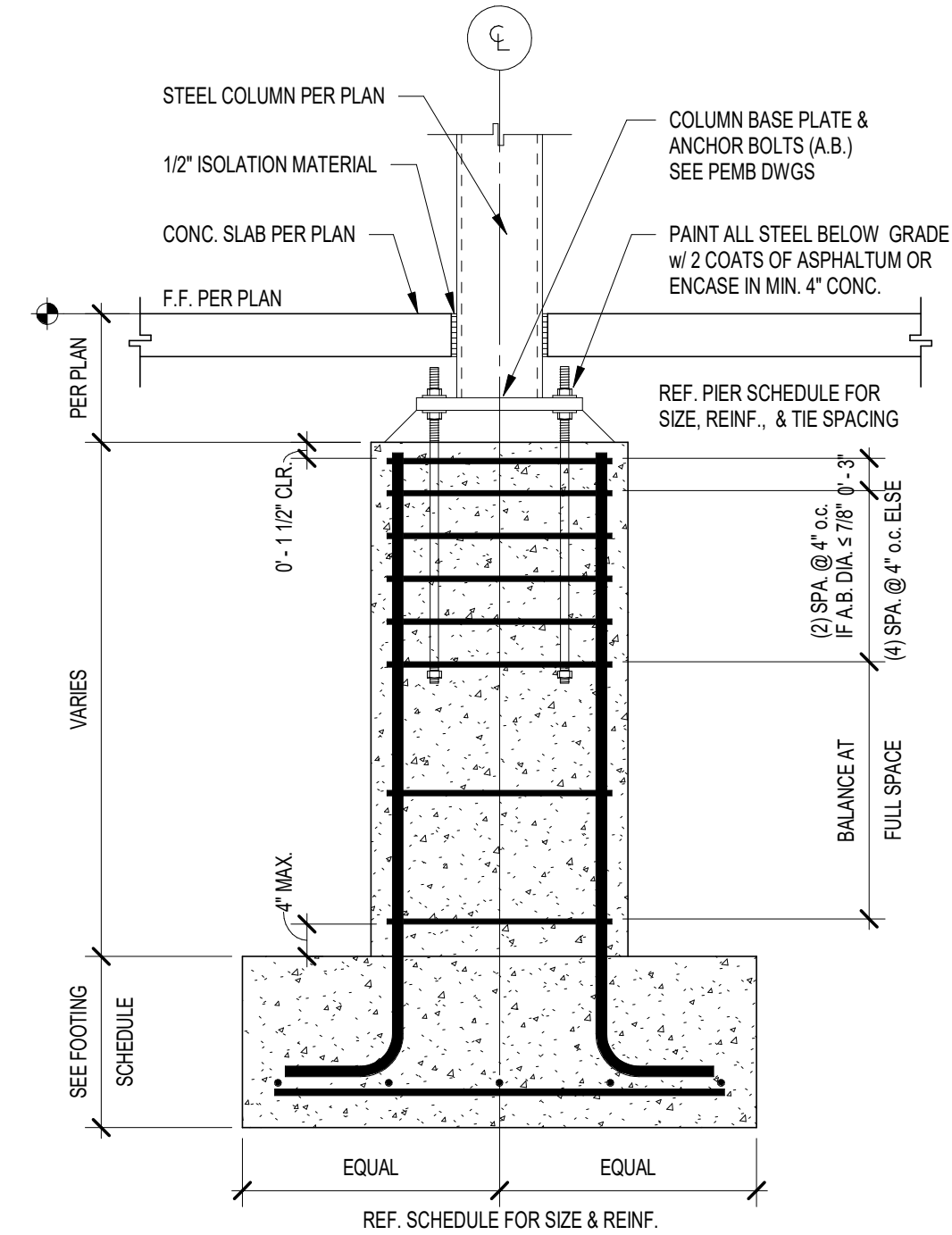
4 TYPICAL FLOOR AND TRENCH DRAIN

3/4" = 1'-0"



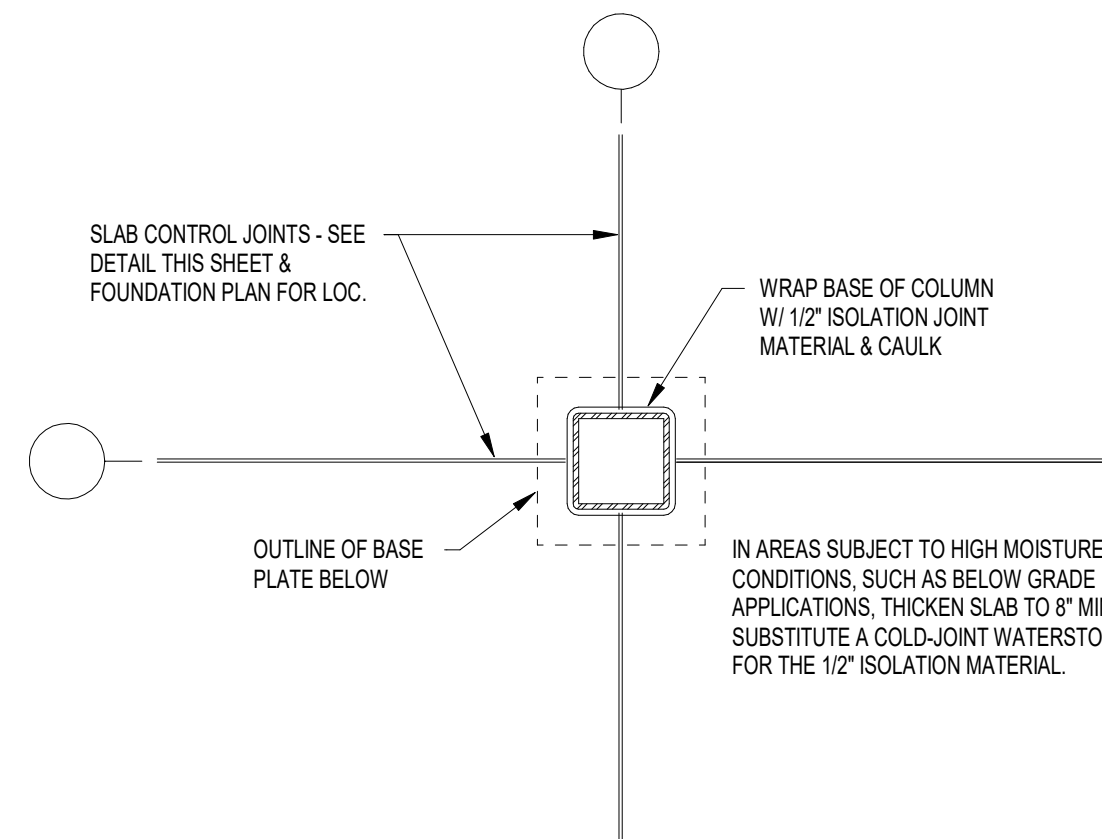
3 TYPICAL CONCRETE STAIR DETAIL

3/4" = 1'-0"



2 TYPICAL CONCRETE PIER REINFORCING

3/4" = 1'-0"



NOTE: THIS DETAIL SHOULD BE USED IN LIEU OF A DIAMOND OR ROUND ISOLATION JOINT TO PREVENT TELEGRAPHING THROUGH FINISH FLOOR MATERIALS SUCH AS THIN-SET TERRAZZO, CERAMIC TILE, VINYL TILE, ETC. SOME MINOR RANDOM SHRINKAGE CRACKS SHOULD BE ANTICIPATED.

1 COLUMN ISOLATION JOINT DETAIL

3/4" = 1'-0"



ARCHITECT

CRWA

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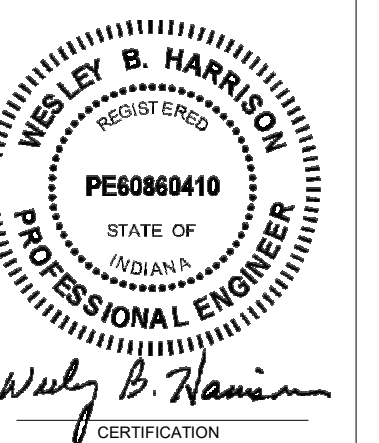
TRINITY METALS, LLC
NEW SHELBYVILLE INDIANA FACILITY

ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

STRUCTURAL ENGINEER



PROJECT NUMBER
21064



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CRAIG W. RAPP ASSOCIATES, L.L.C.

SHEET DESCRIPTION:
FOUNDATION
DETAILS

REVISIONS

BUILDING #

SCALE

DATE: 03/15/2022


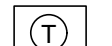




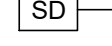

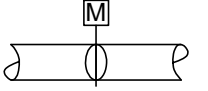
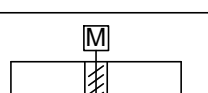
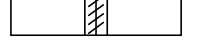
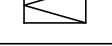
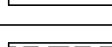
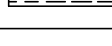



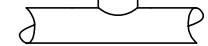
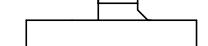
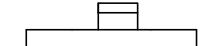
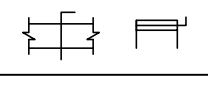

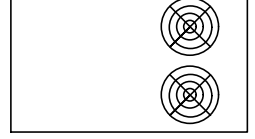

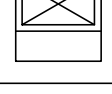
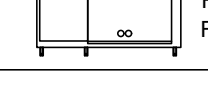










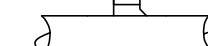
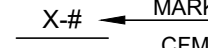





DRAWN BY: JNB

CHECKED BY: WBH

OWNER APPROVAL

FILE

S403

SYMBOLS		
THERMOSTAT		
THERMOSTAT IN LOCK BOX		
SENSORS, TEMPERATURE, HUMIDITY		
CARBON MONOXIDE SENSOR		
CARBON DIOXIDE SENSOR		
NITROGEN OXIDE SENSOR		
DUCT SMOKE DETECTOR		
MOTOR CONTROL CENTER		
ROUND MOTORIZED DAMPER		
		
RECTANGULAR MOTORIZED DAMPER		
ACCESS DOOR		
SHEET METAL DUCT WIDTH BY DEPTH		
LINED SHEET METAL DUCT FREE AREA WIDTH BY DEPTH		
SQUARE SHEET METAL 90 PROVIDE WITH DOUBLE THICKNESS TURNING VANES.		
RADIUS SHEET METAL 90, R=1.5"D		
TURNING VANES DOUBLE THICKNESS		
ROUND BRANCH DUCT SADDLE ON ROUND DUCT.		
45 DEG BRANCH DUCT TAKE OFF ON RECTANGULAR.		
STRAIGHT ROUND TAP BRANCH DUCT TAKE OFF.		
MANUAL VOLUME DAMPER LOCKING WITH SHAFT		
SQUARE TO ROUND TRANSITION		
ROOF TOP UNIT		
AIR COOLED CONDENSING UNIT OR AIR COOLED HEAT PUMP		ACCU HP
VERTICAL FURNACE OR FC		FC
HORIZONTAL FURNACE OR FC WITH SECONDARY DRAIN PAN		FC
HORIZONTAL AIR COOLED CONDENSING UNIT		AC
ROOF EXHAUST FAN		
CEILING MOUNTED EXHAUST FAN		EF
WALL MOUNTED EXHAUST FAN		
ELECTRIC WALL HEATER		EWH
EXHAUST GRILLE		
SUPPLY AIR DIFFUSER		
RETURN AIR REGISTER OR GRILLE		
ROUND DIFFUSER		
LINEAR OR SLOT DIFFUSER		
DIRECT DUCT MOUNTED REGISTER		
BOOT MOUNTED REGISTER		
DIFFUSER TAG		
FIRE DAMPER		FD
COMBINATION FIRE/SMOKE DAMPER		FD SD
RADIANT FIRE DAMPER		RFD
ACCESS DOOR		

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
ACCU	AIR COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
AWH	ARCHITECTURAL WALL HEATER
BDD	BACK DRAFT DAMPER
BOD	BOTTOM OF DUCT
BOB	BOTTOM OF BEAM
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CWH	COMMERCIAL WALL HEATER
DEG F	DEGREES FARENHEIT
DHU	DEHUMIDIFICATION UNIT
DB	DRY BULB
Ø	DIAMETER
EA	EACH OR EXHAUST AIR
EG	EXHAUST GRILLE
EADB	ENTERING AIR DRY BULB
EAWB	ENTERING AIR WET BULB
EC	ELECTRICAL CONTRACTOR
ECH	ELECTRIC CEILING HEATER
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE "W.C.
EUH	ELECTRIC UNIT HEATER
EWB	ELECTRIC WALL HEATER
F	FURNACE
FC	FAN COIL
FD	FIRE DAMPER
FD/SD	FIRE AND SMOKE DAMPER
FBM	FEET PER MINUTE
FPAV	FAN POWERED VAV
FT	FEET
FSK	FOIL SCRIM VAPOR BARRIER
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GUH	GAS UNIT HEATER
HD	HOOD
HP	HEAT PUMP OR HORSE POWER
IN	INCHES
IR	INFRA RED
LAT	LEAVING AIR TEMPERATURE
LS	LINEAR SLOT DIFFUSER
MAN	MANUAL
MBH	1000 BTUH
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MS	MOTOR STARTER
MUA	MAKE UP AIR
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PRV	PRESSURE RELIEF VALVE
PSI	POUNDS PER SQUARE INCH
PTAC	PACKAGED TERMINAL AIR CONDITIONER
RA	RETURN AIR
RJ	ROOF JACK
RTM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
TCC	TEMPERATURE CONTROL CONTRACTOR
TM	INTERMATIC TIMER
TSP	TOTAL STATIC PRESSURE
UON	UNLESS OTHERWISE NOTED
VAV	VARIABLE AIR VOLUME
VS	VARIABLE SPEED
WC	WALL CAP
WIC	WALK IN COOLER
WIF	WALK IN FREEZER


MECHANICAL SPECIFICATIONS	
GENERAL	DUCTWORK
1. BID INSTRUCTIONS: CONTRACTORS SHALL PROVIDE BASE BID IN STRICT ACCORDANCE WITH DESIGN BASIS EQUIPMENT AND MATERIALS. PROJECT DOES ENCOURAGE COMPETITIVE PRICING AND ALLOWS FOR SUBSTITUTIONS OF EQUAL EQUIPMENT AND MATERIALS AGAINST THE BASIS OF DESIGN. SUBSTITUTE ITEMS WILL BE COMPARED AGAINST DESIGN BASIS DURING SUBMITTAL PROCESS. ENGINEER RESERVES THE RIGHT TO REJECT SUBSTITUTIONS FOUND NOT TO BE EQUAL TO ITEMS LISTED IN DESIGN BASIS.	1. CONCEALED ROUND DUCTWORK SHALL BE CONSTRUCTED PER SMACNA LOW PRESSURE STANDARDS 1" PRESSURE CLASS. 5" MAXIMUM JOINT LENGTHS. SEAL CLASS B LONGITUDINAL SEAM SNAP LOCK PIPE AND ADJUSTABLE FITTINGS.
2. PRIOR TO PROCUREMENT CONTRACTOR SHALL SUBMIT TO ARCHITECT FULL SUBMITTALS FOR ALL ENERGY CONSUMING OR PRODUCING ITEMS AND FOR ALL DUCT ACCESSORIES, INSULATION, VAV BOXES, REGISTERS, GRILLES, DIFFUSERS AND LOUVERS. SUBMITTALS SHALL BE DELINEATED WITH TAGS INDICATED ON FRONTS, CONTRACTORS NAME, PROJECT NAME, CLEARLY INDICATE ALL MODEL NUMBERS AND ALL ACCESSORIES AND OPTIONS BEING PROVIDED. SUBMISSIONS SHALL BE IN PDF FORMAT. ALL EQUIPMENT AND ITEMS SHALL BE PER DESIGN BASIS OR APPROVED EQUAL. ENGINEER RESERVES THE RIGHT TO REJECT ANY SUBSTITUTE ITEM.	2. EXPOSED ROUND DUCTWORK (OR WHERE SPIRAL IS INDICATED ON THE PLANS) SHALL BE LINDAB OR EQUAL GALVANIZED STEEL CONFORMING TO ASTM STANDARDS A653 AND A924 GASKETED SPIRAL DUCTING WITH NO SEALER. EDPM RUBBER GASKET SHALL BE U.L. CLASSIFIED RATING OF FLAME SPREAD 0 AND SMOKE DEVELOPED 5 IN ACCORDANCE WITH ASTM STANDARD E84-91A SMACNA LEAKAGE CLASS 3. FITTINGS SHALL BE MANUFACTURED USING ONE OR MORE OF THE FOLLOWING CONSTRUCTION METHODS: OVERLAPPED EDGES STITCH WELDED ALONG THE ENTIRE LENGTH OF THE FITTING, STANDING SEAM GORE LOCKED AND INTERNALLY SEALED, BUTTON PUNCHED AND INTERNALLY SEALED. ELBOWS 3-INCH THROUGH 12-INCH DIAMETER WILL BE DIE STAMPED AND CONTINUOUSLY STITCH WELDED.
3. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL REQUIRED ELECTRICAL SUPPORT NEEDED FROM THE ELECTRICAL CONTRACTOR. ENSURE ALL SUBMITTALS FOR POWERED COMPONENTS AND CONTROLS ARE PROVIDED AND FULLY COORDINATED WITH ELECTRICAL CONTRACTORS.	3. PROVIDE SHEET METAL 90 FOR ALL TURNS GREATER THAN 45 DEGREES. DO NOT USE FLEXIBLE DUCT FOR CHANGES IN DIRECTION GREATER THAN 45 DEGREES.
4. CONTRACTOR SHALL BE RESPONSIBLE TO VISIT THE SITE TO EXAMINE ALL CONDITIONS THAT MAY IN ANY WAY AFFECT THE EXECUTION OF HIS WORK. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS FOR OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF EXISTING BUILDING CONDITIONS. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO INCLUDE ALL REQUIRED WORK IN THE BID. CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS ENTERING INTO CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.	4. PROVIDE MANUAL BALANCING DAMPERS FOR ALL SUPPLY AIR RUNS. ROUND DAMPERS SHALL BE SECURED ON BOTH SIDES OF DUCT AND SHALL CONTAIN LOCKING HANDLE. SPIRAL DUCTS SHALL USE SPIRAL STYLE DAMPERS WITH FULL WIDTH SHAFTS AND NYLON BEARINGS AT EACH END. RECTANGULAR DUCTS SHALL USE MULTI OR SINGLE BLADE WELDED FRAMED DAMPERS WITH JACK SHAFTS AND LOCKING HANDLE. INSTALL NYLON RIBBON ON ALL DAMPER HANDLES LOCATED IN INSULATED DUCTING. DO NOT INSTALL DAMPERS IN NON ACCESSIBLE LOCATIONS. PROVIDE INTEGRAL DAMPERS WITH DIFFUSER IN NECK IF NO ACCESSIBLE LOCATION IS POSSIBLE. ALL SUPPLY AIR RUNS SHALL HAVE MEANS OF BALANCING. RETURN AND EXHAUST AIR RUNS SHALL CONTAIN DAMPERS WHERE SHOWN ON PLANS.
5. THE DRAWINGS IN THIS SECTION ARE DIAGRAMMATIC AND ARE NOT INTENDED TO DEFINE EXACT QUANTITIES, LOCATIONS OR CODIFIED REQUIREMENTS. DRAWINGS SHOW GENERAL INTENT OF SYSTEMS. M.C. SHALL PROVIDE AND PAY FOR ALL REQUIRED PERMITS.	5. INSULATED FLEXIBLE DUCTING SHALL NOT EXCEED 25 FEET. ALL FLEX SHALL BE LISTED FLEXIBLE DUCT. FLEXIBLE CONNECTORS ARE NOT ALLOWED. FLEXIBLE DUCT EQUAL TO FLEXIBLE DUCT CLASS 1 AIR DUCT. DOUBLE LAMINATED POLYESTER FILM ON STEEL WIRE REINFORCING, INSULATED WITH SCRIM REINFORCED METALIZED POLYESTER OUTER FIRE RETARDANT JACKET. R-4.2 FOR CONDITIONED SPACES AND R-6.0 FOR ANY SPACES OUTSIDE BUILDING THERMAL ENVELOPE. FLEX DUCTS SHALL NOT BE RUN THROUGH WALLS OR FLOORS. PROVIDE HARD DUCTED SLEEVES AS NEEDED.
6. PRIOR TO WORK COORDINATE ALL OPENINGS AND INSTALLATIONS OF DUCT, PIPING, EQUIPMENT, CONTROLS, DIFFUSERS AND GRILLES WITH G.C. AND OTHER TRADES. PROVIDE INSTALLATIONS WITH PROPER MANUFACTURERS RECOMMENDED CLEARANCES.	6. RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARDS. 1/4" 10" W.C. FROM ASTM A 653/A 653M G-90 COATED GALVANIZED SHEET STEEL. SEAMS SHALL BE PITTSBURGH CONSTRUCTION. NO BUTTON PUNCH OR SNAP LOCK SEAMS ARE ACCEPTABLE. SEAL ALL TRANSVERSE AND LONGITUDINAL SEAMS WITH WATER BASED DUCT SEALER. SEAL CLASS B. GAUGE AND JOINT CLASSIFICATIONS ACCEPTABLE ARE AS FOLLOWS. ALL SECTION LENGTHS ARE 48" MAXIMUM. REFER TO SMACNA RIGIDITY TABLES FOR GAUGES ON LONGER SECTIONS IF REQUIRED:
7. UPON COMPLETION OF THE MECHANICAL INSTALLATION, DEMONSTRATE TO THE ENGINEER AND THE OWNER'S SATISFACTION THAT THE SYSTEMS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE CODES. DEMONSTRATE THE DYNAMIC OPERATION OF EACH SYSTEM. VERIFY PROPER OPERATION OF EQUIPMENT. FILTERS ARE CLEAN AND COMPONENTS OF THE SYSTEM ARE INSTALLED AND ADJUSTED IN FULL ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.	< 12" 26 GAUGE, FLAT S AND DRIVE 12"-24" 24 GAUGE, FLAT S AND DRIVE 25"-34" 22 GAUGE, STANDING S AND FLAT DRIVE 34"-40" 22 GAUGE, STANDING S AND STANDING DRIVE >40" REFER TO SMACNA FOR STANDARDS.
8. ALL WORK SHALL BE IN FULL ACCORDANCE WITH 2014 INDIANA MECHANICAL CODE (2012 INTERNATIONAL MECHANICAL CODE), INDIANA ENERGY CODE (ASHRAE 90.1-2007) PERTINENT STATE, COUNTY, CITY CODES AND ORDINANCES AND INDIANA AMENDMENTS.	2. DUCT HANGERS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS." PROVIDE GALVANIZED MINIMUM 22 GAUGE 1" WIDE STRAP TO HANG RECTANGULAR DUCTWORK SMALLER THAN 30" WIDE. DUCT HANGERS FOR RECTANGULAR SHEET METAL DUCTS 30" AND LARGER SHALL BE TRAPEZE STYLE USING UNI-STRUT AND 3/8" OR 1/2" ROD. PROVIDE GRIPPLE, DURODYNE OR EQUAL CABLE HANGERS FOR HANGING ROUND DUCTWORK. SUPPORT ALL HANGERS FROM STRUCTURE PER SHOWN STANDARDS. HANGERS FOR SPIRAL DUCTS GREATER THAN 28" IN DIAMETER SHALL BE HUNG WITH ROD AND DUCT CLAMP. FLEXIBLE DUCTING SHALL BE SUPPORTED USING MINIMUM 2" WIDE NYLON STRAP. ALL INTERVALS ARE PER SMACNA.
9. MECHANICAL CONTRACTOR SHALL ENSURE EMPLOYEES ARE MEETING AND DOCUMENTING ALL OSHA AND JOB SPECIFIC SAFETY REQUIREMENTS AS REQUIRED BY LAW AND BY CONTRACT. PERSONAL PROTECTIVE EQUIPMENT SHALL BE PROVIDED AND UTILIZED AS REQUIRED. MECHANICAL CONTRACTOR SHALL PAY ALL FINES LEVIED BY OSHA FOR FAILURE TO COMPLY WITH OSHA REQUIREMENTS.	3. FOR ALL RETURN AIR, PROVIDE OPENINGS, PATHWAYS, TRANSFERS, COORDINATE UNDERCUTS, ETC. AS REQUIRED TO RETURN AIR SUPPLIED TO SPACES BACK TO AIR HANDLING UNIT.
10. INSTALL ALL EQUIPMENT, DUCTWORK AND PIPING AS HIGH AS POSSIBLE. PRIOR TO ROUGH-IN COORDINATE ELEVATIONS WITH OTHER TRADES. WHERE VISIBLE, ORIENT PERPENDICULAR AND/OR PARALLEL TO STRUCTURE.	DUCT ACCESSORIES 1. COORDINATE WITH ARCHITECTURAL DRAWINGS AND PROVIDE FIRE AND FIRE AND SMOKE DAMPERS AT FIRE RATED ASSEMBLY PENETRATIONS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE AND WHERE SHOWN ON PLANS. 2. PROVIDE FLASHING MATERIALS AND OR SLEEVES AS REQUIRED FOR ALL DUCT PENETRATIONS OF NON RATED ELEMENTS. EXPOSED PENETRATIONS SHALL BE FLASHED WITH SHEET METAL TIGHT TO WALLS. 3. PROVIDE FACTORY FABRICATED TAKE OFFS, PEAL AND STICK, SPIN IN OR TAB IN AND ATTACHED TO RECTANGULAR DUCTING WITH SHEET METAL SCREWS ON ALL ROUND ON RECTANGULAR TAKE OFFS. PROVIDE FACTORY FABRICATED SADDLES ON ALL ROUND TO ROUND DIFFUSER/REGISTER TAKE OFFS. PROVIDE SHOP FABRICATED OUTSIDE OR INSIDE COLLAR LOCK TAKE OFF FITTINGS ON ALL RECTANGULAR SUPPLY AIR TAKE OFFS. 4. REGISTERS, GRILLES AND DIFFUSERS SHALL BE EQUIVALENT TO SCHEDULED PRODUCTS. SUBSTITUTION OF RESIDENTIAL STAMPED STYLE
EQUIPMENT	CONDENSATE PIPING
1. PROVIDE EQUIPMENT AS SHOWN ON EQUIPMENT SCHEDULES AND PLAN NOTES. SUBSTITUTIONS TO LISTED EQUIPMENT SHALL BE AT RISK OF CONTRACTOR. SUBSTITUTIONS SHALL ONLY BE ALLOWED IF ITEMS ARE EQUAL IN ALL ASPECTS.	1. PROVIDE TRAPS BUILT FROM INDIVIDUAL FITTINGS ON ALL EVAPORATOR DRAIN PANS MINIMUM DEPTH 1.5 TIMES BLOWER BLOCKED TIGHT STATIC PRESSURE. ALL TRAPS SHALL BE CONSTRUCTED WITH PVC 90S (MANUFACTURED RUNNING TRAP FITTINGS ARE NOT ACCEPTABLE). PROVIDE ALL TRAPS WITH CLEAN OUTS AND REMOVABLE CAPS AS NEEDED FOR MAINTAINING LINES.
2. PROVIDE SUBMITTALS TO ELECTRICIAN AS REQUIRED FOR COORDINATION OF ALL ELECTRICAL POWER WIRING. INCLUDE WIRING DIAGRAMS AND CABLING REQUIREMENTS FOR REFERENCE. COORDINATE ALL INTERLOCKS AS NEEDED. PROVIDE SINGLE POINT CONNECTION KITS AS NEEDED.	2. HVAC CONTRACTOR SHALL COORDINATE CONDENSATE DISPOSAL POINTS WITH P.C. HVAC CONTRACTOR IS RESPONSIBLE FOR PIPING FROM EVAPORATOR COILS TO DISPOSAL POINT. P.C. IS RESPONSIBLE FOR STAND PIPES, FLOOR AND HUB DRAINS AS NEEDED.
3. INSTALL ALL EQUIPMENT IN FULL ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND CLEARANCE REQUIREMENTS. PROVIDE ALL REQUIRED MOUNTING OR HOUSEKEEPING PADS. G.C. SHALL PROVIDE LEVEL GRADE FOR EXTERIOR MOUNTED EQUIPMENT. M.C. SHALL PROVIDE ALL HOISTING AND RIGGING NEEDED TO SET ALL HVAC EQUIPMENT.	3. MATERIALS: POLYVINYL CHLORIDE DRAIN, WASTE AND VENT PIPE (PVC) SCHEDULE 40 MINIMUM SIZE 3/4" WRAPPED IN RETURN AIR PLENUMS WITH RA RATED MATERIAL. 4. PITCH ALL PIPING MINIMUM 1/8" PER FOOT. SUPPORT PIPING AT MINIMUM 5'-0" INTERVALS. SECURE FINAL CONNECTION AT SEWER WITH MINIMUM 1-1/2" AIR GAP CONNECTION.
4. ALL EQUIPMENT SHALL BE INSTALLED AS NEEDED TO PREVENT OBJECTIONABLE NOISE AND/OR VIBRATION. M.C. SHALL PROVIDE VIBRATION PADS, SPRING ISOLATORS, ATTENUATORS AND ACCESSORIES AS NEEDED.	FIRE STOPPING
5. UNLESS APPROVED BY OWNER, EQUIPMENT SHALL NOT BE USED DURING CONSTRUCTION. IF USED, PRIOR TO TURN OVER M.C. SHALL BE RESPONSIBLE FOR CLEANING ALL UNIT COILS, CASINGS, DUCTING, CONDENSATE PIPING, DRAIN PANS, BLOWERS, ETC. EQUIPMENT SHALL BE TURNED OVER TO OWNER IN LIKE NEW CONDITION.	1. FIRE STOPPING SYSTEMS SHALL BE IN FULL COMPLIANCE WITH SECTIONS 714 AND 717 OF THE IBC AND SECTION 607 OF THE IMC. 2. CONTRACTOR SHALL MAKE REFERENCE TO ARCHITECTURAL PLANS AND PROVIDE ALL REQUIRED FIRE STOPPING. 3. CONTRACTOR SHALL PROVIDE AHJ WITH FULL SUBMITTAL INDICATING METHODS OF CONSTRUCTION AND UL LISTINGS FOR EACH

PRODUCTS FOR COMMERCIAL PRODUCTS WILL NOT BE ACCEPTED.	PENETRATION SYSTEM USED.
DUCT INSULATION	4. DUCTS AND AIR TRANSFER OPENING PENETRATIONS OF ASSEMBLIES REQUIRED TO BE PROTECTED AND IN NON FIRE-RESISTANCE-RATED FLOORS SHALL COMPLY WITH SECTIONS 717.
1. ALL DUCT INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS (ON THE FLAME SPREAD TEST SCALE) AND SMOKE DEVELOPMENT OF 50 OR LESS (ON THE SMOKE TEST SCALE) OR AS DEFINED BY NFPA 255 STANDARD METHOD OF TESTING OF SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS, LOCAL CODES AND LOCAL AUTHORITIES HAVING JURISDICTION. DUCT WRAP SHALL BE FIBERGLASS MATERIAL PER ASTM C-411 ASTM C-1104 ASTM C265, ASTM C-1338, ASTM E-84, UL723, NFPA 90A,CAN/ULC S102-1188,ASTM C1290, ASTM C553, ASTM C1136.	5. FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS AND CEILING RADIATION DAMPERS LOCATED WITHIN AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 607 OF THE IMC, AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND LISTING.
2. INSULATION: INSTALL ALL INSULATION IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS IN A TIGHT AND NEAT MANOR. NO SAGGING, FRAYED OR TORN INSULATION WILL BE EXCEPTED, UNLESS OTHERWISE NOTED ON PLANS DUCTWORK SHALL BE INSULATED AS FOLLOWS.	6. ACCESS DOORS SHALL BE PERMITTED IN CEILINGS OF FIRE-RESISTANCE-RATED FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES PROVIDED SUCH DOORS ARE TESTED IN ACCORDANCE WITH ASTM E 119 OR UL 263 AS HORIZONTAL ASSEMBLIES AND LABELED BY AN APPROVED AGENCY FOR SUCH PURPOSE. ALL ACCESS DOORS SHALL BE PROVIDED BY TRADE MAKING PENETRATIONS.
SA/RA 1-1/2" FIBERGLASS DUCT WRAP WITH FSK FACING. 75 #FT3 MINIMUM APPLIED R-3.5.	CHECK TEST AND START UP REQUIREMENTS
LINERS: FURNACE PLENUMS, REGISTER BOXES, AND RTU DROPS SHALL BE MINIMUM 1" THICK 1-1/2 # DENSITY PER CU. FT., HAVING MAT FACED OR MONOLITHIC CONSTRUCTION WITH SKIN SMOOTH MICROBIAL SURFACE TO WITHSTAND VELOCITIES TO 4000 FPM. INSULATION SHALL FIT SNUGLY AGAINST THE INTERIOR DUCT SURFACES, AND BE FASTENED TO THE DUCT WITH A 50% HEAVY COAT OF RECOMMENDED ADHESIVE AND METAL FASTENERS WHICH DO NOT PIERCE THE DUCT. SPACED AT 12" CENTERS. ALL EXPOSED EDGES OF THE INSULATION SHALL BE COATED WITH MANUFACTURED RECOMMENDED ADHESIVE. SIZES ON PLANS INDICATE FREE AREA.	1. ALL HVAC EQUIPMENT INSTALLATIONS SHALL BE VERIFIED AND STARTED UP PER MANUFACTURERS RECOMMENDATIONS. VERIFY ALL MODES OF OPERATION. CONFIGURE ALL CONTROLS AND PROGRAM OCCUPANCIES PER OWNER PROVIDED SCHEDULES.
OA- EXPOSED OR IN MECHANICAL ROOMS, 1-1/2 FIBERGLASS RIGID BOARD INSULATION WITH FOIL SCRIM LAGGED WITH 0.024 AI JACKET.	2. EQUIPMENT COILS, DRAIN PANS, DRAIN LINES ETC. SHALL BE FREE AND CLEAR OF CONSTRUCTION DEBRIS. M.C SHALL PROVIDE AND INSTALL CLEAN SET OF PLEATED FILTERS AT TURN OVER TO TENANTS OR OWNER FOR OCCUPANCY.
REFRIGERATION PIPING:	3. LABEL ALL MAJOR PIECES OF EQUIPMENT WITH LAMACOID PLASTIC, BLACK WITH WHITE LETTERS. SIZE TO BE CONSISTENT WITH EQUIPMENT BEING LABELED. LENGTH AND WIDTH VARY FOR REQUIRED LABEL CONTENT. THERMOSTAT AND SENSOR LABELS SHALL BE ADJUSTED TO PROVIDE ESTHETIC APPEARANCE.
1. SYSTEMS 5 TONS OR LESS; MANUFACTURED REFRIGERANT LINE SETS: ANNEALED-COPPER SUCTION AND LIQUID LINE FACTORY LINED, DRIED, PRESSURIZED WITH NITROGEN. SEALED, AND WITH SUCTION LINE INSULATED. PROVIDE IN STANDARD LENGTHS FOR INSTALLATION WITHOUT JOINTS. EXCEPT AT EQUIPMENT CONNECTIONS OR ACCESSIBLE LOCATIONS. CONNECTIONS AND WROUGHT-COPPER FITTINGS WHERE REQUIRED SHALL BE BRAZED WITH MINIMUM 8% SIL-FLOS.	4. PROVIDE AIR BALANCE BY CONTRACTOR. CONTRACTOR SHALL BALANCE SUPPLY, RETURN, OUTSIDE, RELIEF AND EXHAUST AIR SYSTEM IN ACCORDANCE WITH CURRENT SMACNA, NEEB OR AABC STANDARDS TO DESIGN VALUES AND PROVIDE WRITTEN REPORT TO ARCHITECT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL DEVICES, DRIVES, SHEAVES, MOTOR CHANGES AND REWORK AS REQUIRED TO MEET DESIGN REQUIREMENTS.
2. ALL INSULATION EXPOSED TO OUTDOORS SHALL BE EITHER PVC LAGGED OR SHALL BE PAINTED WITH ARMA-FINISH FR UV PROTECTING PAINT.	4. TEMPERATURE CONTROL WORK SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR. PROVIDE ALL COMPONENTS INCLUDING T/S, LV WIRE (PLENUM RATED IN RA PLENUMS), SWITCHES, RELAYS, CONTROLLERS, ACTUATORS, MOTOR STARTERS, DAMPER MOTORS ETC. AS REQUIRED FOR A COMPLETE SYSTEM. PRIOR TO ROUGH-IN COORDINATE FINAL LOCATION FOR ALL CONTROLS WITH OWNERS REPRESENTATIVE. INCLUDE MINIMUM OF 4 HRS TRAINING AND PROVIDE OPERATIONS MANUALS WITH SEQUENCES OF OPERATIONS, WIRING DIAGRAMS AND SPARE PARTS LISTS FOR ALL CONTROL COMPONENTS.
3. LINES SHALL BE RUN KINK FREE AND GENERALLY CONTINUOUS AND AT 90 DEGREE ANGLES TO STRUCTURE. AVOID JOINTS WHEN POSSIBLE. ALL REQUIRED JOINTS SHALL BE MADE IN ACCESSIBLE LOCATIONS OR M.C. SHALL PROVIDE ACCESS PANELS AS NEEDED. ALL BENDS SHALL BE MADE WITH LONG RADIUS FITTINGS OR WITH MECHANICAL BENDING TOOL TO PROVIDE SMOOTH LONG RADIUS TURNS. SUPPORT ALL PIPING WITHOUT CRUSHING OR DEPRESSING INSULATION. USE REFRIGERATION STYLE CUSH CLAMPS MOUNTED TO STRUT, DO NOT LAY PIPING ON STRUCTURAL BUILDING MEMBERS. SLEEVE ALL PENETRATIONS AND SEAL WATER TIGHT.	5. CLOSE OUT: PROVIDE MANUFACTURERS OPERATION AND MAINTENANCE MANUALS. AIR BALANCE REPORT AND AS BUILT DRAWINGS. PROVIDE (1) TRAINING SESSION TO OWNER SELECTED PERSONNEL AS REQUESTED AND PROVIDE WARRANTY INFORMATION FOR ALL MANUFACTURERS WARRANTED EQUIPMENT.
4. PRESSURE TEST, TRIPLE EVACUATE AND PREPARE ALL PIPING IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.	
CONDENSATE PIPING	
1. PROVIDE TRAPS BUILT FROM INDIVIDUAL FITTINGS ON ALL EVAPORATOR DRAIN PANS MINIMUM DEPTH 1.5 TIMES BLOWER BLOCKED TIGHT STATIC PRESSURE. ALL TRAPS SHALL BE CONSTRUCTED WITH PVC 90S (MANUFACTURED RUNNING TRAP FITTINGS ARE NOT ACCEPTABLE). PROVIDE ALL TRAPS WITH CLEAN OUTS AND REMOVABLE CAPS AS NEEDED FOR MAINTAINING LINES.	
2. HVAC CONTRACTOR SHALL COORDINATE CONDENSATE DISPOSAL POINTS WITH P.C. HVAC CONTRACTOR IS RESPONSIBLE FOR PIPING FROM EVAPORATOR COILS TO DISPOSAL POINT. P.C. IS RESPONSIBLE FOR STAND PIPES, FLOOR AND HUB DRAINS AS NEEDED.	
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4. PITCH ALL PIPING MINIMUM 1/8" PER FOOT. SUPPORT PIPING AT MINIMUM 5'-0" INTERVALS. SECURE FINAL CONNECTION AT SEWER WITH MINIMUM 1-1/2" AIR GAP CONNECTION.	
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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
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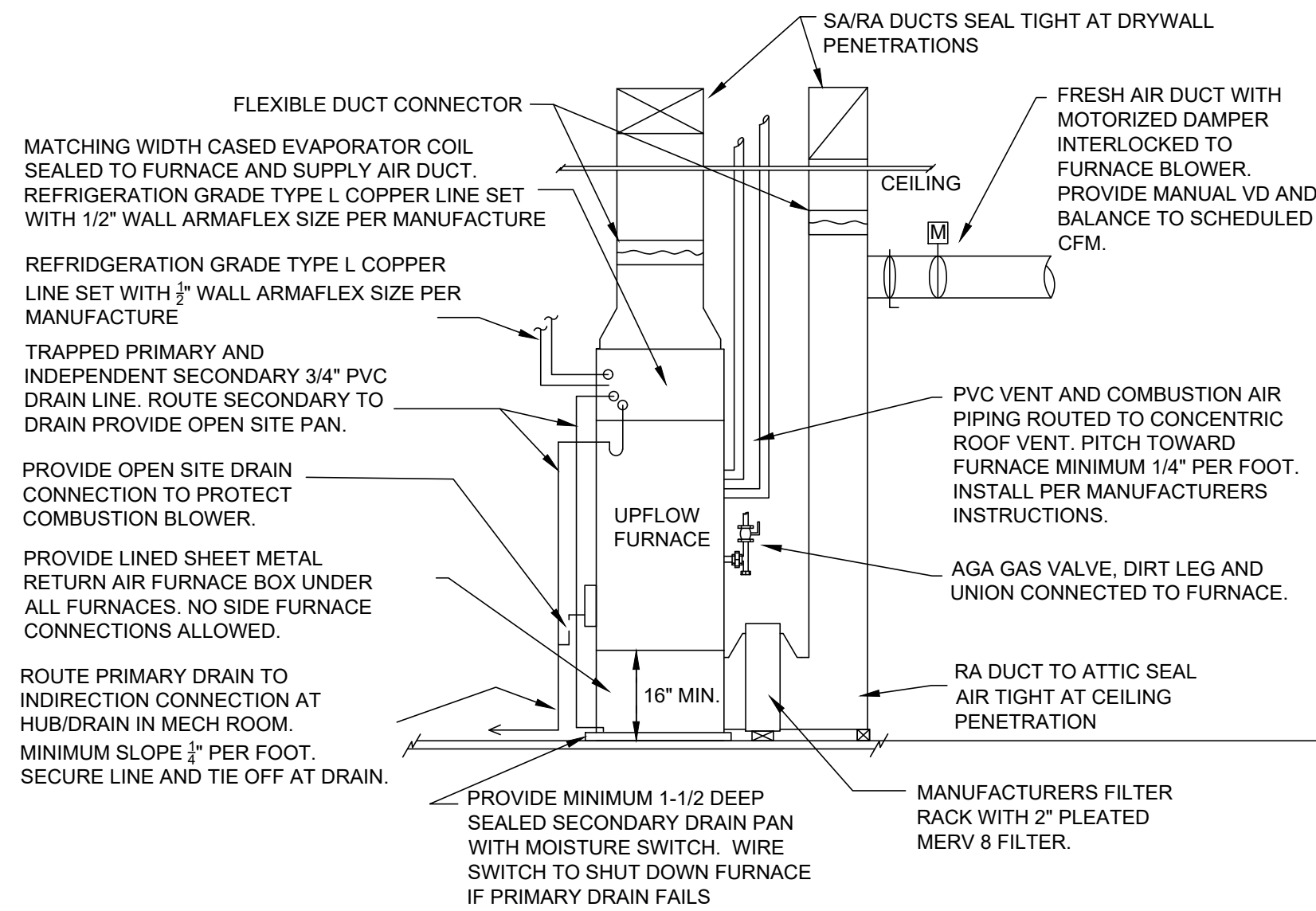

Jeffrey M. Penick
Professional Engineer

SHEET DESCRIPTION:
HVAC ABBREVIATIONS,
SYMBOLS, &
SPECIFICATIONS

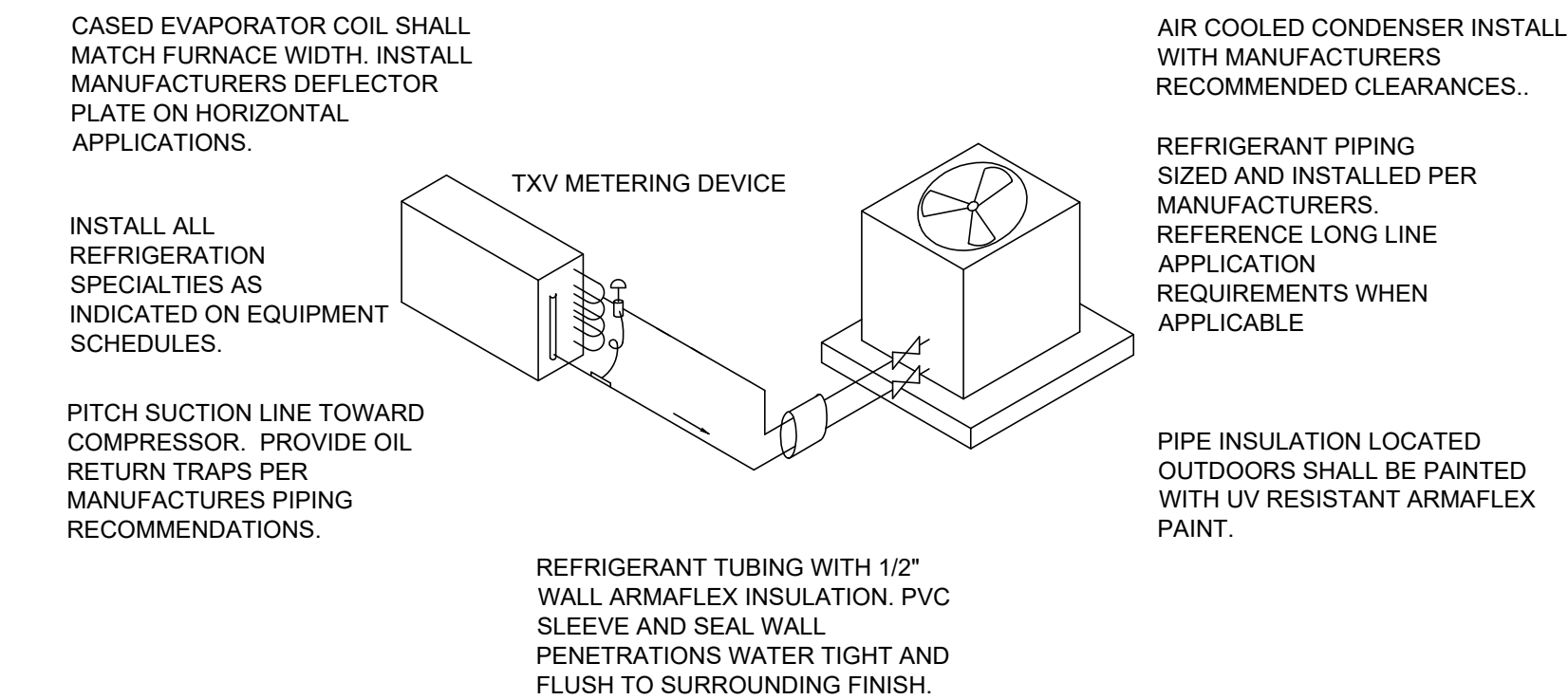
REVISIONS

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SCALE	SEE PLAN
DATE	3/21/2022
DRAWN BY	
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OWNER APPROVAL	
FILE	

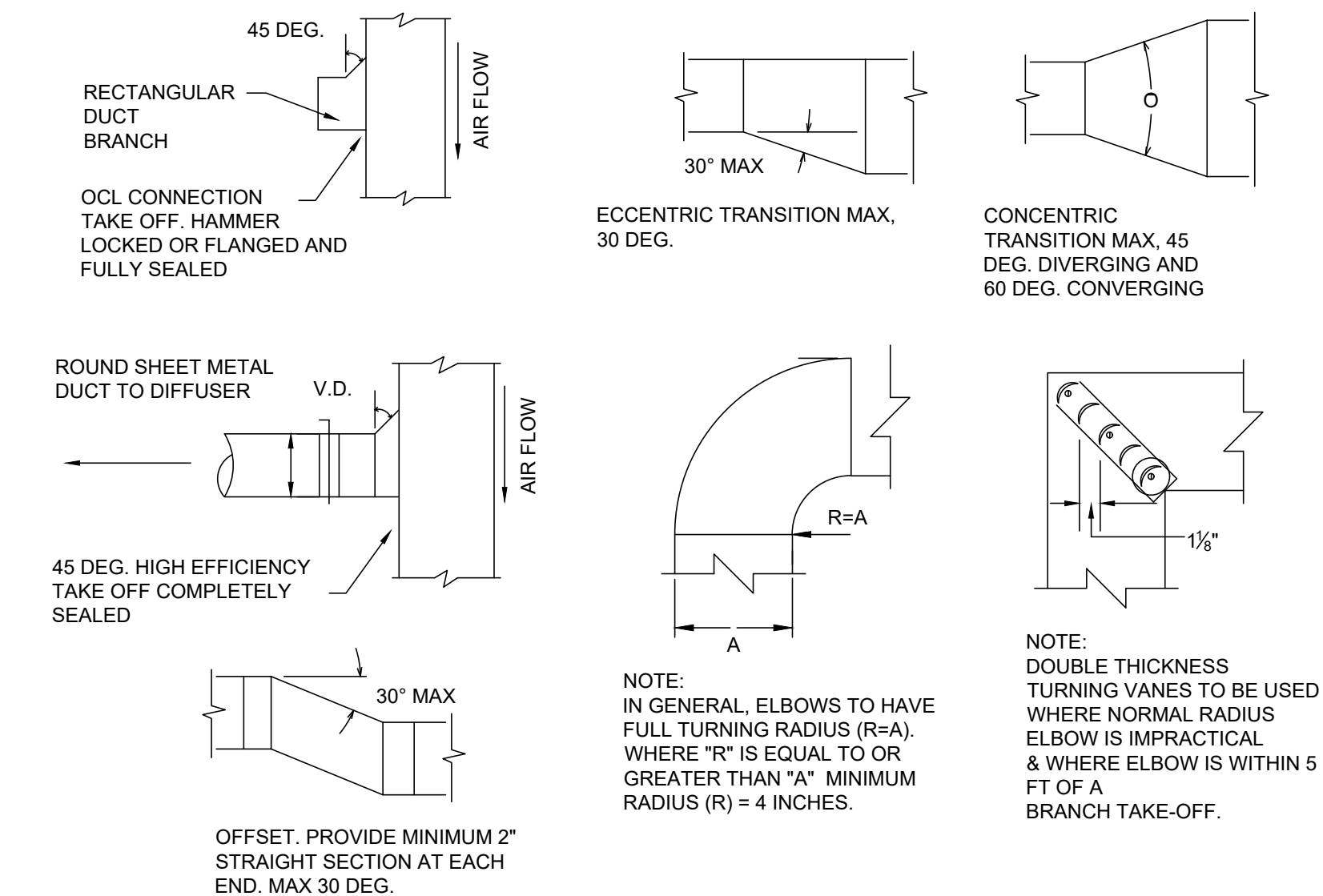
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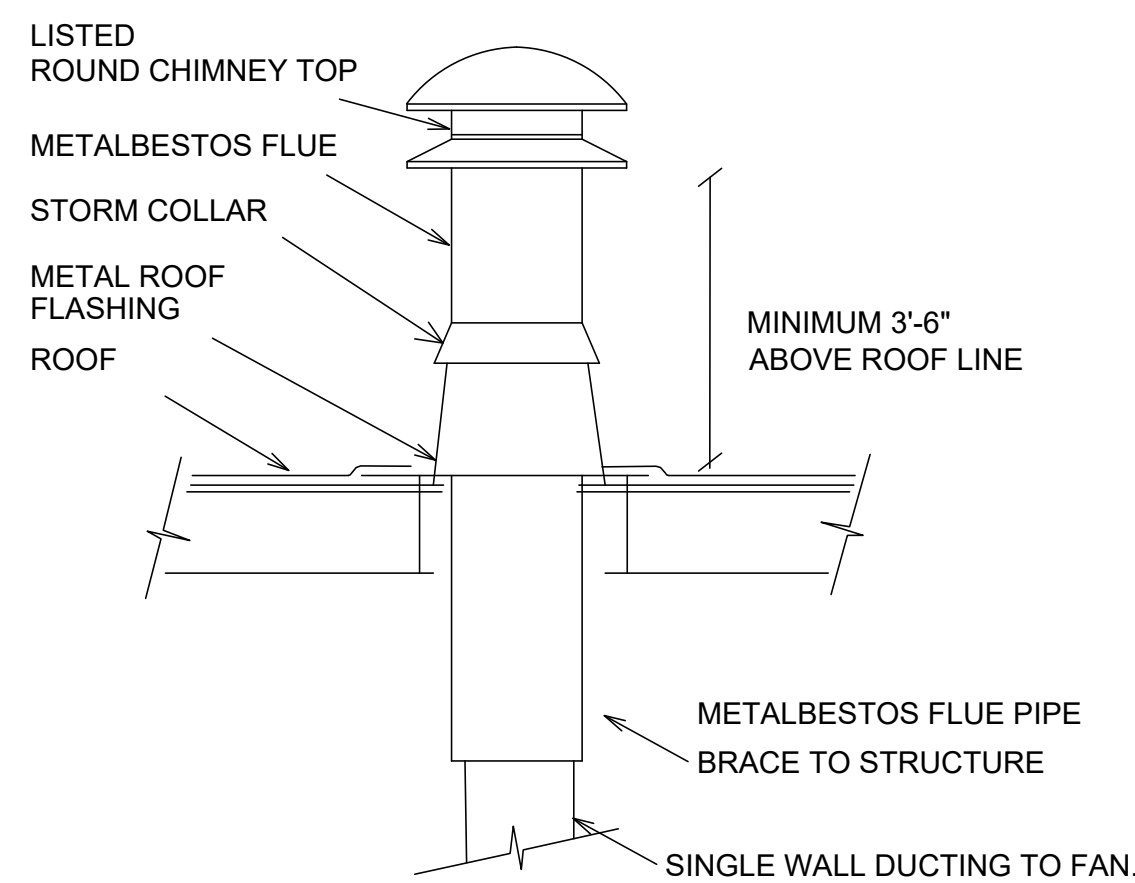
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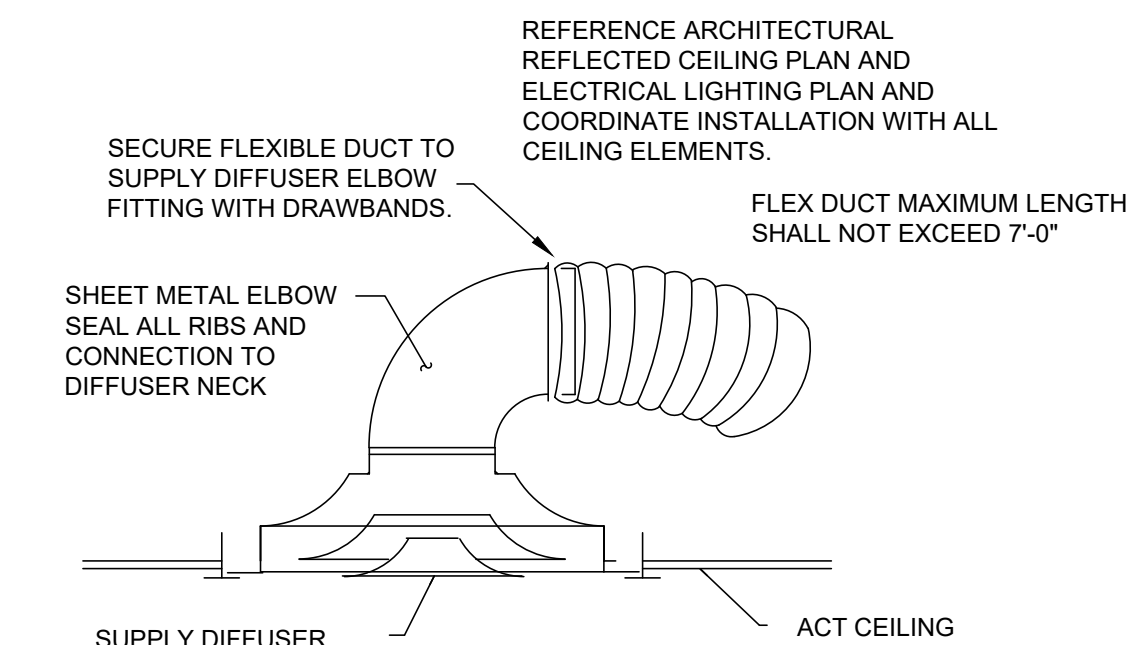
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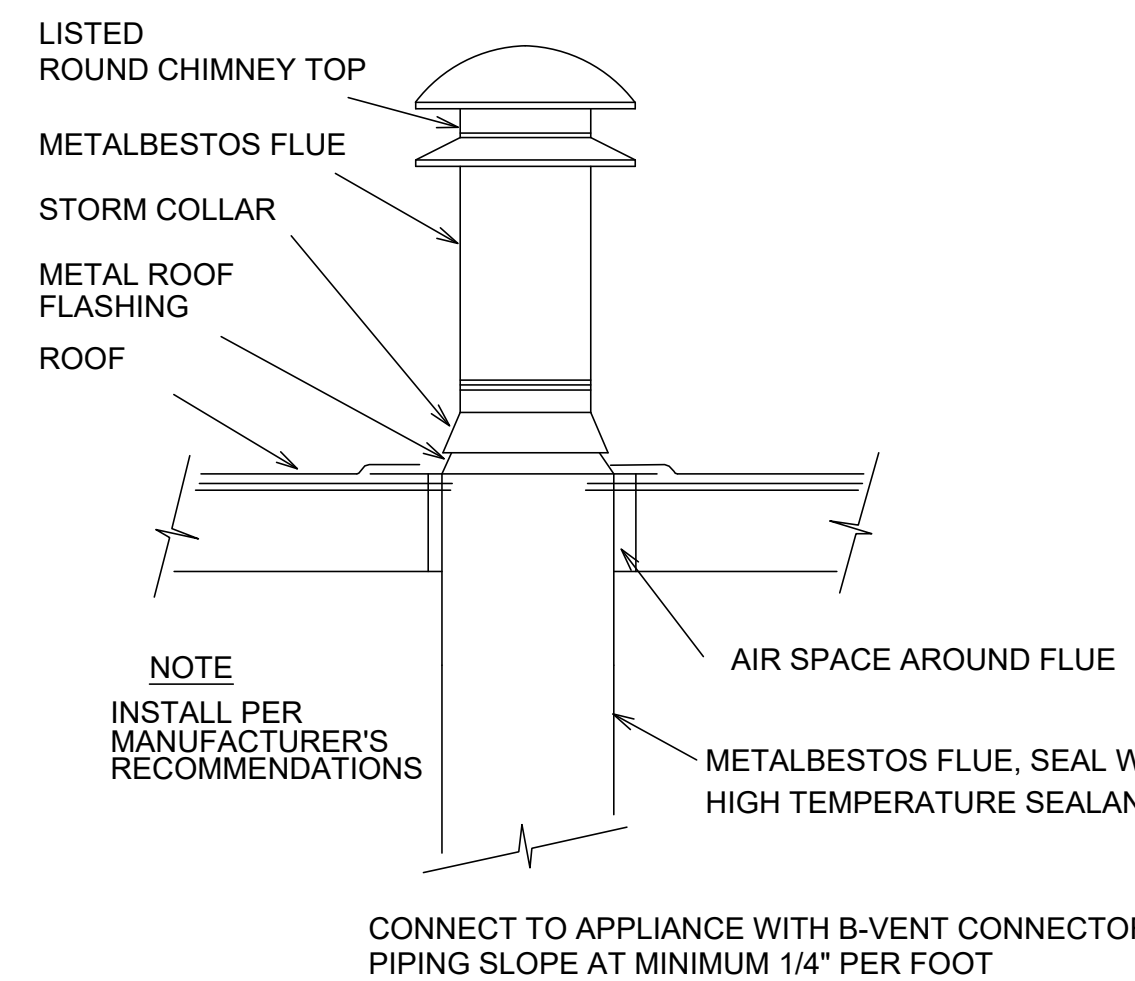
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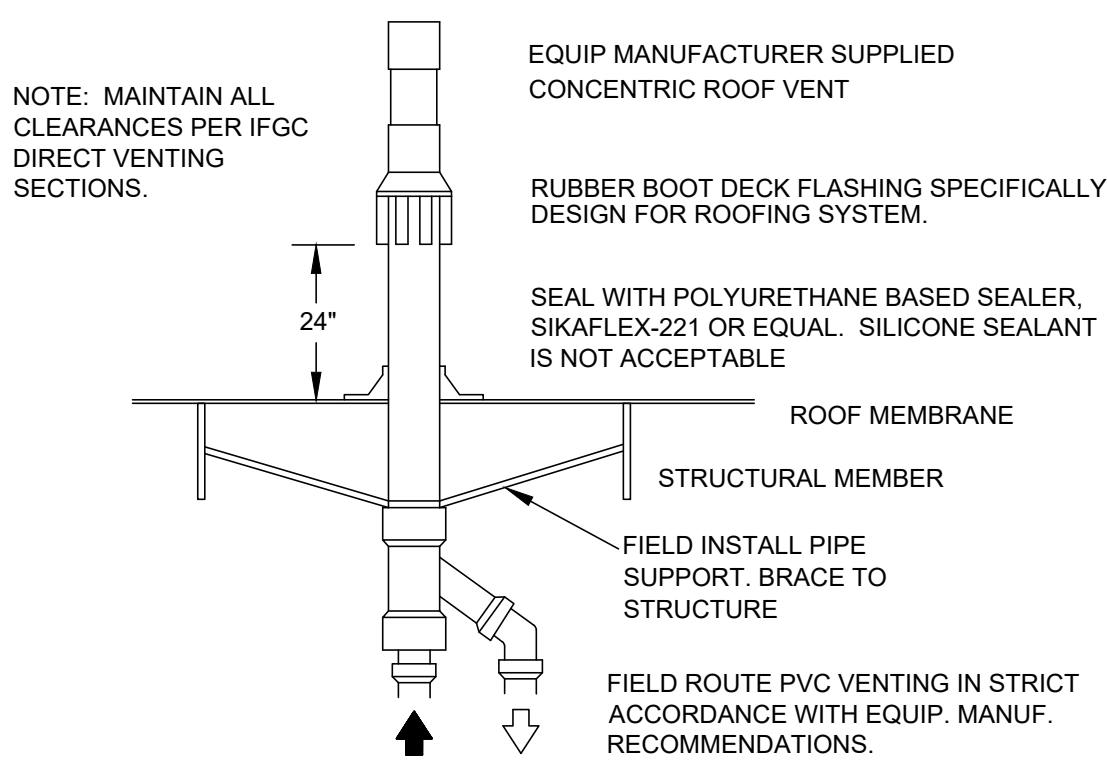
D EXHAUST FAN TERMINAL DETAIL
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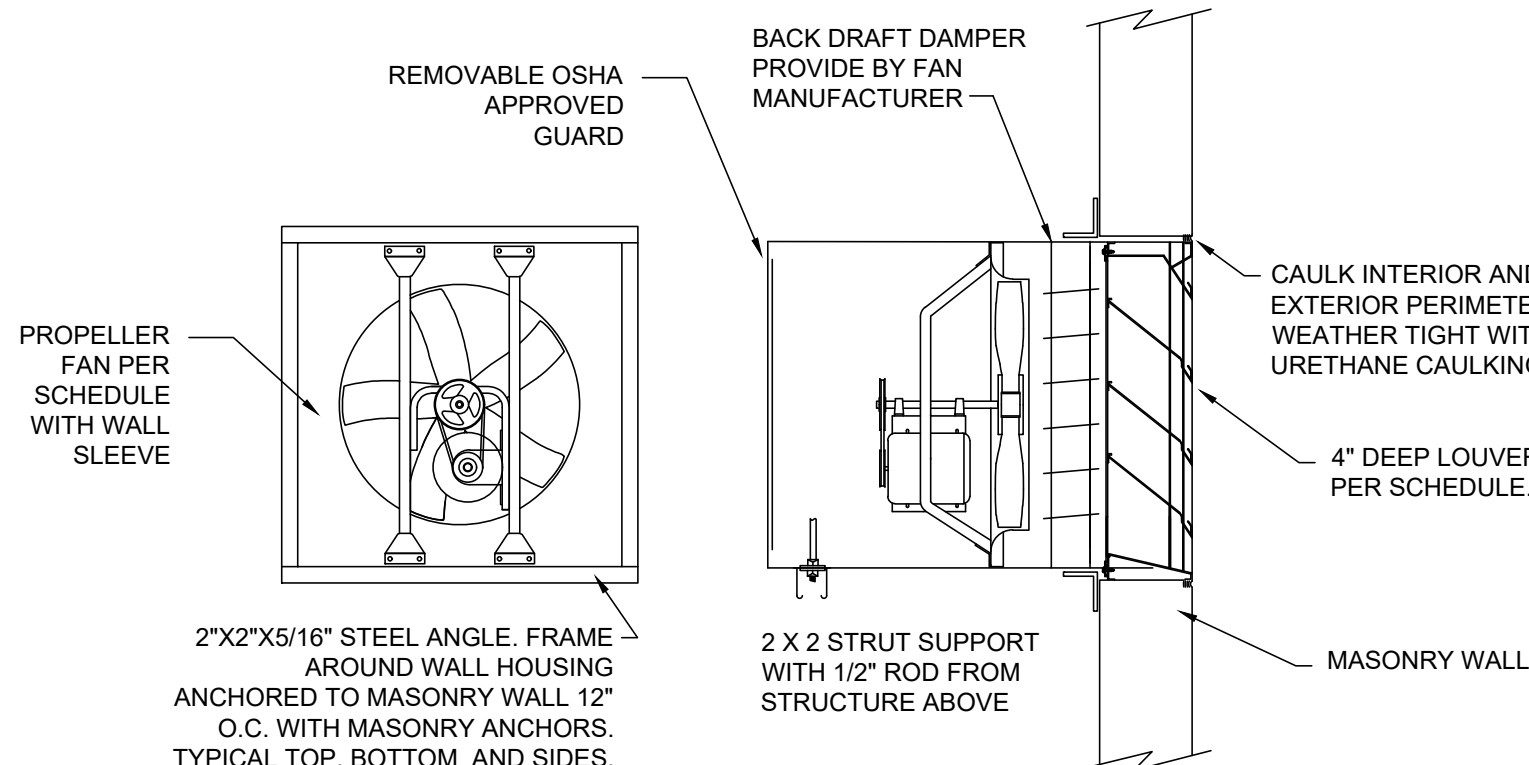
E LAY-IN DIFFUSER DETAIL
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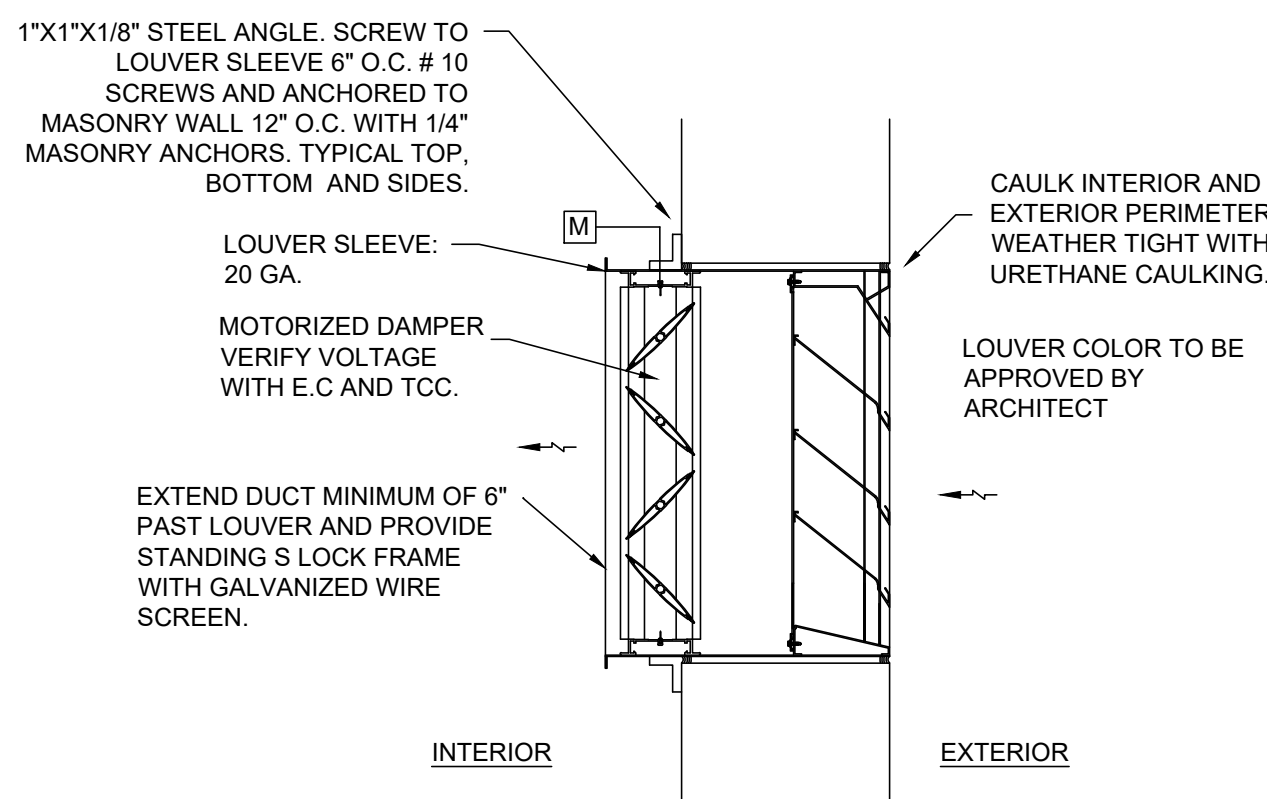
F VENT DETAIL
SCALE: NONE



G EXHAUST FAN TERMINAL DETAIL
SCALE: NONE



H LOUVER WITH FAN DETAIL
SCALE: NONE



J WALL LOUVER DETAIL
SCALE: NONE

FURNACE SCHEDULE													
TAG	MANUFACTURER	MODEL	HEATING			EVAP COIL		ELECTRICAL DATA		TOTAL CFM	STATIC PRESS.	O.A. CFM	NOTES
			MBH IN	MBH OUT	AFUE	NOMINAL TONS	REFG.	VOLTS/ PH/HZ	MOC				
F-1	BRYANT	912SD66100E21	100	93	92	5	R410A	115/1/60	20	1,600	0.5		1,2,3,4

- NOTES:
- 1 PROVIDE MATCHING CASED DX COIL
 - 2 PROVIDE FACTORY CONCENTRIC VENT KIT
 - 3 PROVIDE MANUFACTURES FILTER RACK AND 2" MERV 8 FILTER.
 - 4 PROVIDE PROGRAMMABLE HONEYWELL DIGITAL DISPLAY THERMOSTAT

CONDENSER SCHEDULES										
TAG	MANUFACTURER OR EQUAL	MODEL	COOLING				ELECTRICAL DATA			NOTES
			NOMINAL TONS	REFG.	KBTU	SEER	VOLTS/ PH/HZ	MCA	MOCp	
AC-1	BRYANT	113AEA0600N0	5.0	410A	60	14	460/3/60	10.5	15	1,2,3,4,5,6

- NOTES:
- 1 ALL HVAC EQUIPMENT TO BE FIELD LABELED TO IDENTIFY WHICH UNIT OF THE BUILDING THEY SERVICE.
 - 2 PROVIDE LOW AMBIENT CONTROL, CYCLE PROTECTOR, LOW AND HIGH PRESSURE SWITCHES.
 - 3 PROVIDE LIQUID LINE FILER DRIER AND SIGHT GLASS
 - 4 PROVIDE FIBER MOUNTING PAD.
 - 5 PROVIDE LIQUID LINE SOLENOIDS AT ALL FAN COIL UNITS LOCATED ABOVE HEAT PUMP CONDENSERS. PROVIDE LONG LINE SET
 - 6 ACCESSORIES PER MANUFACTURERS RECOMMENDATIONS AS REQUIRED.

EXHAUST FAN SCHEDULE										
TAG	GREENHECK MODEL #	LOCATION	TYPE FAN AND DESCRIPTION	FAN DATA			MOTOR DATA			NOTES
				CFM	ESP	SONES	HP WATTS	VOLT	FLA	
EF-1	SP-A90	RESTROOM	CABINET	75	0.25	0.4	15	115	0.34	1
EF-2	SP-A290	RESTROOM	CABINET	225	0.3	3.0	15	115	0.83	1
EF-3	SP-B200	ELECTIRCAL	CABINET	200	0.25	4.5	15	115	2.7	2
EF-4	AER-E20C-422-A	WAREHOUSE	SIDEWALL	4100	0.5	27	1	460/60/3	2.1	

- NOTES:
- 1 FAN SHALL RUN WITH LIGHTS, COORDINATE WITH E.C
 - 2 FAN SHALL RUN LINE VOLTAGE THERMOSTAT, COORDINATE WITH E.C
 - 3 FAN SHALL RUN WITH CARBON DIOXIDE SENSOR INTERLOCKED WITH LOUVER, COORDINATE WITH E.C

UNIT HEATER SCHEDULE									
TAG	MANUFACTURER	MODEL	HEATING		ELECTRICAL DATA				
			MBH IN	MBH OUT	AFUE	FLUE SIZE	VOLTS/ PH/HZ	MOC	NOTES
UH-1	REZNOR	UDX-30	30	24.6	82	5	115/1/60	15	1,2
UH-2	REZNOR	UDX-150	150	124.5	83	5	115/1/60	15	1,2

- NOTES:
- 1 PROVIDE WITH MANUFACTURER HANGING BRACKETS
 - 2 PROVIDE WITH LOW VOLTAGE THERMOSTAT

DIFFUSERS, REGISTERS AND GRILLES									
TAG	DESCRIPTION	MFR	MODEL	MAT'L	CFM	MOUNTING STYLE	NOTES		
S-1	24"X24" LAY-IN DIFFUSER - 6" NECK	PRICE	SCD	STEEL	0-120	LAY-IN	1		
S-2	24"X24" LAY-IN DIFFUSER - 8" NECK	PRICE	SCD	STEEL	130-220	LAY-IN	1		
S-3	24"X24" LAY-IN DIFFUSER - 10" NECK	PRICE	SCD	STEEL	230-400	LAY-IN	1		
R-1	24X24 FIXED BLADE GRILLE	PRICE	530	ALUM	0-2000	LAY-IN	1		

- NOTES:
- 1 COLOR, WHITE UNLESS OTHERWISE NOTED

ELECTRIC HEATER SCHEDULE							
MARK	MANUFCTR	MODEL NO.	HEATING KW	VOLTAGE	PHASE	AMPS	NOTES
EWB	QMARK	AWH4407	4	277	1	15	1

- NOTES:
- 1 RECESSED WALL HEATER, PROVIDE WITH INTEGRAL THERMOSTAT.

LOUVERS, INTAKES, RELIEFS									
TAG	MAKE AND MODEL #	LOCATION	SERVICE	SIZE	CFM	MIN FREE AREA (FT2)	PSI DROP (IN.W.G.)	FREE AREA VEL. FPM/MAX	NOTES
LV-1	GREENHECK ESD-635	WAREHOUSE	INTAKE	32/36	4100	4.4	0.13	937	1,2,4
LV-2	GREENHECK ESD-635	WAREHOUSE	EXHAUST	32/36	4100	4.4	0.05	535	1,2,3,4

- NOTES:
- 1 PROVIDE PROVIDE WITH MANUFACTURE COLOR MATCH BY ARCHITECT
 - 2 PROVIDE WITH INTERNAL ALUMINUM BIRD SCREEN
 - 3 PROVIDE WITH LOW LEAKAGE MOTORIZED DAMPER.
 - 4 ADJUST LOUVER SIZES TO MEET FIELD CONDITIONS, MAINTAINING LISTED FREE AREA.

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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
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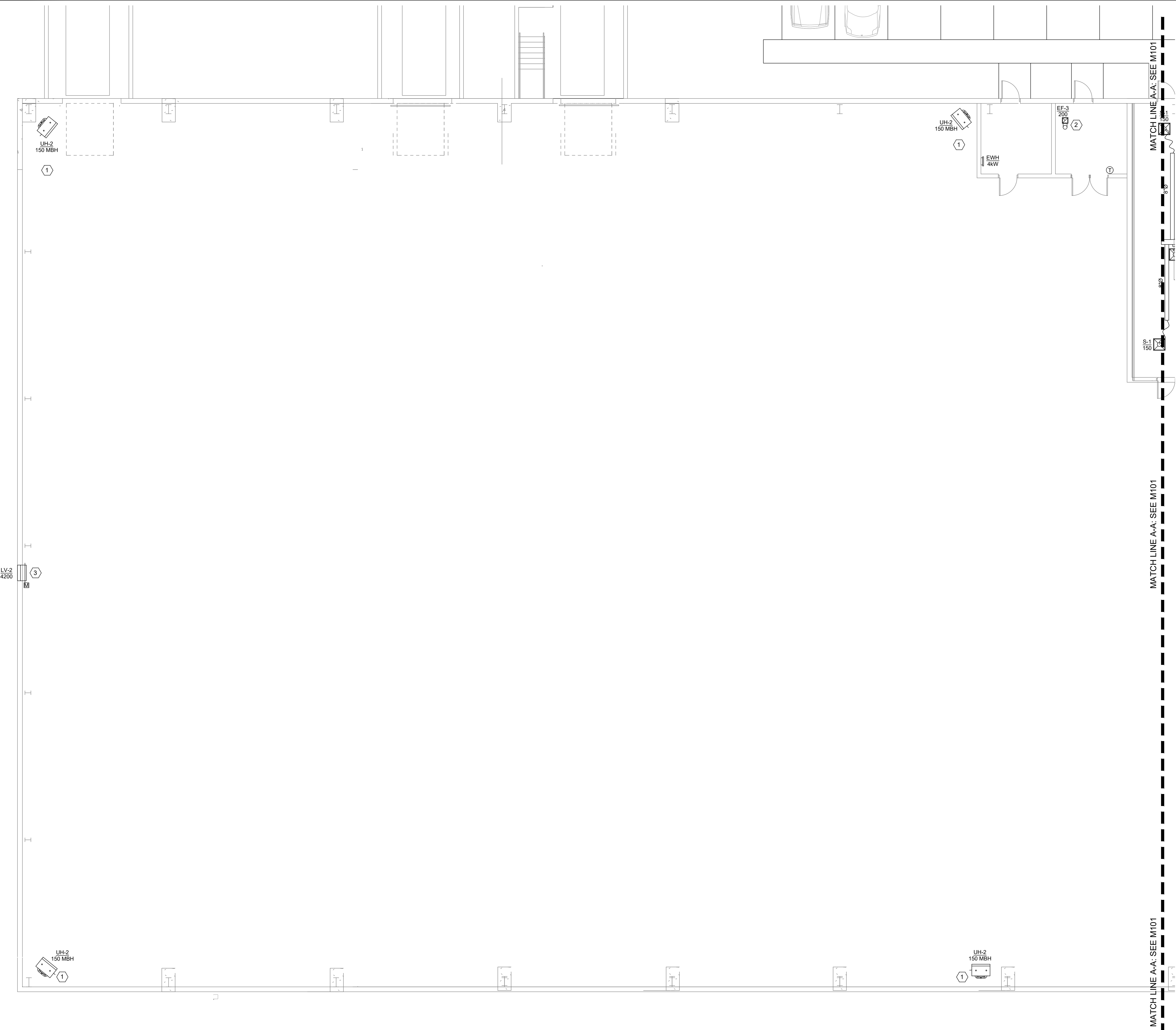
REGISTERED PROFESSIONAL ENGINEER
No. 119008283
STATE OF INDIANA
Jeffrey M. Pedrey
CERTIFICATION

SHEET DESCRIPTION:
HVAC SCHEDULES & DETAILS

REVISIONS

BUILDING #
220131
SCALE
SEE PLAN
DATE
3/21/2022
DRAWN BY
ZB
CHECKED BY
JP
OWNER APPROVAL
FILE

M002

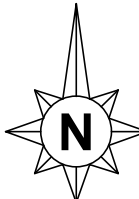
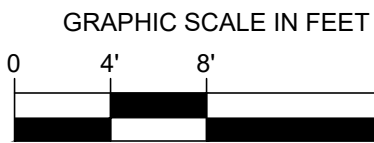


GENERAL NOTES:

- REFERENCE SHEET M001 FOR LEGENDS, ABBREVIATIONS, SPECIFICATIONS AND NOTES.

KEY NOTES: #

- PROVIDE AND INSTALL VENT THRU ROOF AS REQUIRED PER MANUFACTURERS RECOMMENDATION.
- PROVIDE AND INSTALL EXHAUST VENT THRU ROOF PER DETAIL ON M002.
- PROVIDE AND INSTALL MOTORIZED DAMPER WITH LOUVER INTERLOCKED WITH EXHAUST FAN AND LIGHTING, COORDINATE WITH E.C.



1 HVAC PLAN - WEST
SCALE: 1/8" = 1'-0"

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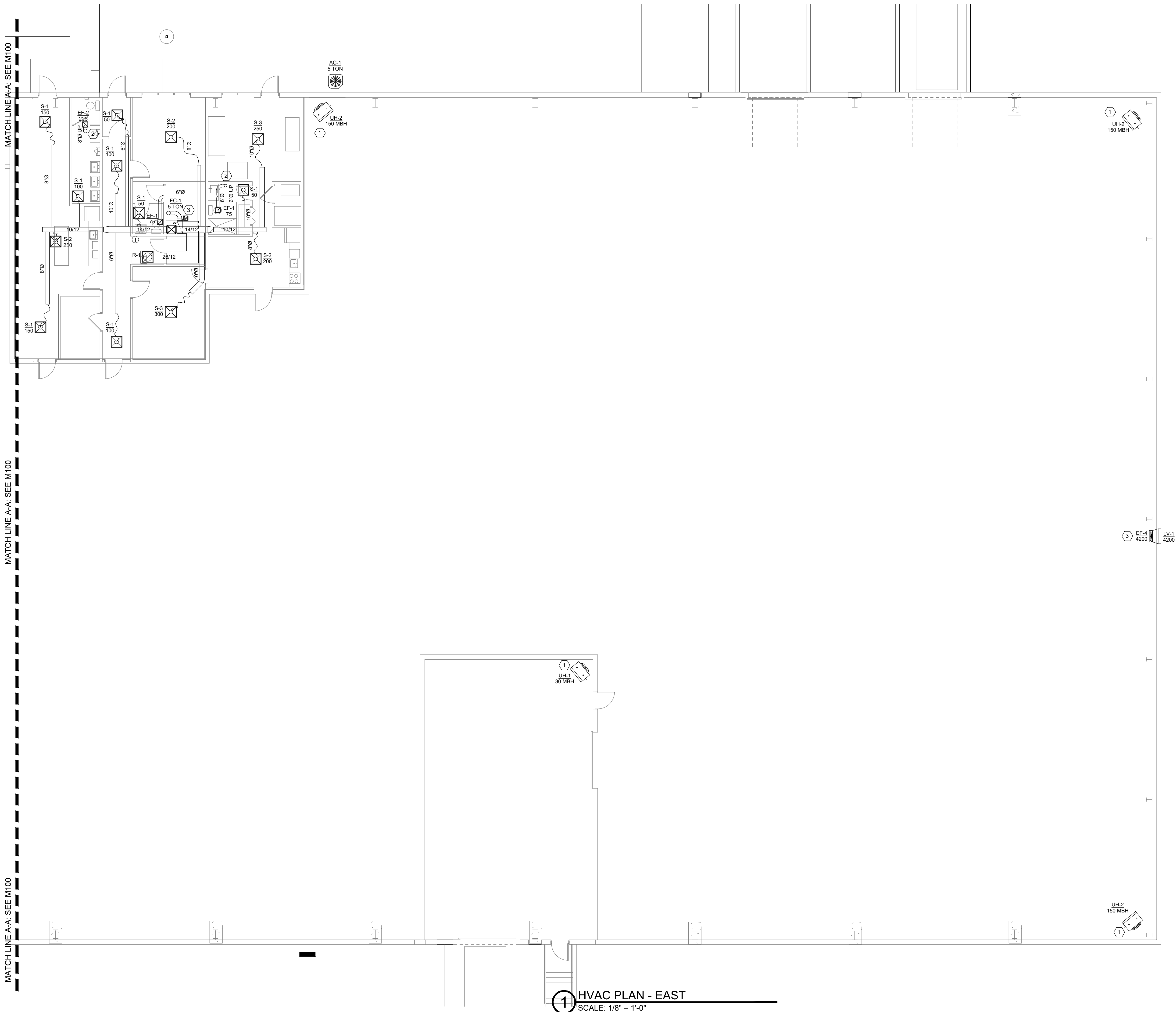
JEFFREY M. PERKINS
REGISTERED
No. 11900828
STATE OF INDIANA
PROFESSIONAL ENGINEER
Jeffrey M. Perkins
CERTIFICATION

SHEET DESCRIPTION:
HVAC PLAN - WEST

REVISIONS

BUILDING # 220131
SCALE SEE PLAN
DATE 3/21/2022
DRAWN BY ZB
CHECKED BY JP
OWNER APPROVAL
FILE

M100

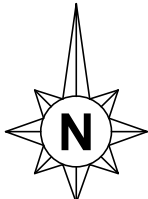
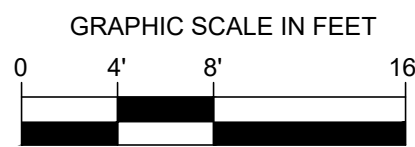


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2. PROVIDE AND INSTALL EXHAUST VENT THRU ROOF PER DETAIL ON M002.
3. PROVIDE AND INSTALL OUT SIDE AIR VENT THRU VENT PER DETAIL ON M002.
4. PROVIDE AND INSTALL MOTORIZED DAMPER WITH LOUVER INTERLOCKED WITH EXHAUST FAN AND LIGHTING, COORDINATE WITH E.C.



1 HVAC PLAN - EAST
SCALE: 1/8" = 1'-0"

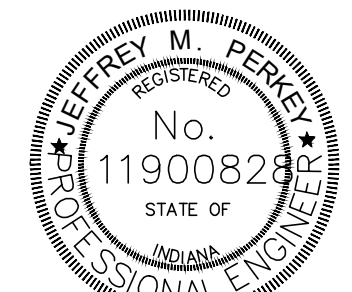
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Jeffrey M. Penkov
CERTIFICATION

SHEET DESCRIPTION:
HVAC PLAN - EAST

REVISIONS

BUILDING #
220131
SCALE
SEE PLAN
DATE
3/21/2022
DRAWN BY
ZB
CHECKED BY
JP
OWNER APPROVAL
FILE

M101

SYMBOLS

PIPING LINETYPES		
CONDENSATE DRAIN	— CND —	
COLD WATER DOMESTIC	— CW —	
COMPRESSED AIR	— CA —	
GREASE LINE	— GL —	
GAS NATURAL OR PROPANE	— GAS —	
HEATING WATER RETURN DOMESTIC	— HWR —	
HEATING WATER SUPPLY DOMESTIC	— HW —	
OIL/SAND/DIRT DRAIN LINE	— OL —	
ROOF DRAIN	— RD —	
SANITARY SEWER	— SAN —	
STORM DRAIN	— SD —	
PIPING SYMBOLS		
ANCHOR / HANGER		
BALL VALVE		
DROP		
FLANGED CONNECTION		
FLEXIBLE PUMP CONNECTION		
GAS METER		
"P" TRAP		
PITCH DOWN IN DIRECTION OF ARROW		
PLUG VALVE		
PRESSURE GAUGE		
RISER		
RUN OUT OFF BOTTOM OF MAIN		
RUN OUT OFF TOP OF MAIN		
TEE OFF SIDE OF MAIN		
TEST PLUG		
THERMOMETER		
UNION		
WATER METER		
"Y" STRAINER		

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMBUSTION AIR
CO	CLEAN OUT
CW	COLD WATER
EC	ELECTRICAL CONTRACTOR
FD	FLOOR DRAIN
FT	FEET
FS	FLOOR SINK
GC	GENERAL CONTRACTOR
GM	GAS METER
GPM	GALLONS PER MINUTE
GL	GREASE LINE
HW	HOT WATER
HWR	HOT WATER RETURN
IN	INCH
LAV	LAVATORY
MAN	MANUAL
MFR	MANUFACTURER
MC	MECHANICAL CONTRACTOR
MS	MOP SINK
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PRV	PRESSURE RELIEF VALVE
PSI	POUNDS PER SQUARE INCH
RPM	REVOLUTIONS PER MINUTE
RPZB	REDUCED PRESSURE ZONED BACKFLOW
SAN	SANITARY SEWER
SK	SINK
TMV	THERMAL MIXING VALVE
UON	UNLESS OTHERWISE NOTED
UR	URINAL
VIF	VERIFY IN FIELD
VTR	VENT THOROUGH ROOF
WC	WATER CLOSET
WH	WATER HEATER

PLUMBING SPECIFICATIONS

GENERAL

- BID INSTRUCTIONS: CONTRACTORS SHALL PROVIDE BASE BID IN STRICT ACCORDANCE WITH DESIGN BASIS EQUIPMENT AND MATERIALS. PROJECT DOES ENCOURAGE COMPETITIVE PRICING AND ALLOWS FOR SUBSTITUTIONS OF EQUAL EQUIPMENT AND MATERIALS AGAINST THE BASIS OF DESIGN. SUBSTITUTE ITEMS WILL BE COMPARED AGAINST DESIGN BASIS DURING SUBMITTAL PROCESS. ENGINEER RESERVES THE RIGHT TO REJECT SUBSTITUTIONS FOUND NOT TO BE EQUAL TO ITEMS LISTED IN DESIGN BASIS.
- PRIOR TO PROCUREMENT CONTRACTOR SHALL SUBMIT TO ARCHITECT FULL SUBMITTALS FOR ALL ENERGY CONSUMING OR PRODUCING ITEMS AND FOR ALL PLUMBING FIXTURES, VALVES, DRAINS, CLEAN OUTS, PIPING, PIPING ACCESSORIES, INSULATION AND PIPING HANGERS. SUBMITTALS SHALL BE DELINEATED WITH TAGS INDICATED ON PRINTS. CONTRACTORS NAME, PROJECT NAME, CLEARLY INDICATE ALL MODEL NUMBERS AND ALL ACCESSORIES AND OPTIONS BEING PROVIDED. SUBMISSIONS SHALL BE IN PDF FORMAT. ENGINEER RESERVES THE RIGHT TO REJECT ANY SUBSTITUTE ITEM.
- CONTRACTOR SHALL BE RESPONSIBLE TO VISIT THE SITE TO EXAMINE ALL CONDITIONS THAT MAY IN ANY WAY AFFECT THE EXECUTION OF HIS WORK. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS FOR OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF EXISTING BUILDING CONDITIONS. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO INCLUDE ALL REQUIRED WORK IN THE BID. CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS ENTERING INTO CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- THE DRAWINGS IN THIS SECTION ARE DIAGRAMMATIC AND ARE NOT INTENDED TO DEFINE EXACT QUANTITIES, LOCATIONS OR CODIFIED REQUIREMENTS. DRAWINGS SHOW GENERAL INTENT OF SYSTEMS. P.C. SHALL PROVIDE AND PAY FOR ALL REQUIRED PERMITS.
- UPON COMPLETION OF THE PLUMBING INSTALLATION, DEMONSTRATE TO THE ENGINEER AND/OR THE OWNER'S SATISFACTION THAT THE SYSTEMS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND ALL APPLICABLE CODES. DEMONSTRATE THE DYNAMIC OPERATION OF EACH SYSTEM. VERIFY PROPER OPERATION OF EQUIPMENT, FILTERS ARE CLEAN AND COMPONENTS OF THE SYSTEM ARE INSTALLED AND ADJUSTED IN FULL ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- PLUMBING WORK SHALL BE COMPLETE IN EVERY DETAIL AND ALL MISCELLANEOUS ITEMS OF MATERIAL AND LABOR NECESSARY TO COMPLETE THE WORK DESCRIBED, SHOWN OR REASONABLY IMPLIED ON DRAWINGS OR SPECIFICATIONS SHALL BE INCLUDED IN THE CONTRACT. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO THE WORK WHERE REQUIRED, WHEN SUCH ADJUSTMENTS ARE NECESSARY FOR PROPER OPERATION AND WITHIN THE INTENT OF THE CONTRACT. CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS ENTERING INTO CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- ALL WORK SHALL BE IN FULL ACCORDANCE WITH 2012 INDIANA PLUMBING CODE (INTERNATIONAL PLUMBING CODE 2008), 2010 INDIANA ENERGY CODE (2007 ASHRAE 90.1), 2014 INDIANA FUEL GAS CODE (2012 INTERNATIONAL FUEL GAS CODE) AND ALL PERTINENT STATE, COUNTY, CITY CODES AND ORDINANCES WITH INDIANA AMENDMENTS.
- PLUMBING CONTRACTOR SHALL ACCEPT SOLE AND COMPLETE RESPONSIBILITY FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.
- DURING CONSTRUCTION ALL PLUMBING FIXTURES, TRIM AND OTHER EQUIPMENT SHALL BE PROTECTED AGAINST DAMAGE OR INJURY. ANY FIXTURES OR EQUIPMENT DAMAGED OR DESTROYED WITH MARRED OR SCRATCHED FINISH SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- PLUMBING CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL WATER, GAS, STORM AND SEWER UTILITY ROUGH-INS AND SHALL CONSULT WITH THE CIVIL PLANS AND WITH LOCAL UTILITY COMPANY(S) PROVIDING ALL MATERIALS AND LABOR AND PAYING ALL COSTS NOT BORNE BY THE LOCAL UTILITY COMPANY(S) FOR INSTALLATION OF SERVICES INCLUDING SECURING AND PAYING FOR ALL REQUIRED PERMITS.
- PLUMBING CONTRACTOR SHALL ENSURE EMPLOYEES ARE MEETING AND DOCUMENTING ALL OSHA AND JOB SPECIFIC SAFETY REQUIREMENTS AS REQUIRED BY LAW AND BY CONTRACT. PERSONAL PROTECTIVE EQUIPMENT SHALL BE PROVIDED AND UTILIZED AS REQUIRED. MECHANICAL CONTRACTOR SHALL PAY ALL FINES LEVIED BY OSHA FOR FAILURE TO COMPLY WITH OSHA REQUIREMENTS.
- ALL PLUMBING MATERIALS INSTALLED IN RETURN AIR PLENUMS SHALL BE INSTALLED OR COVERED WITH MATERIALS AS REQUIRED TO PROVIDE FLAME RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50. PRIOR TO ROUGH-IN CONSULT WITH M.C. TO VERIFY ALL LOCATIONS OF RETURN AIR PLENUMS.
- FURNISH AND INSTALL ACCESS PANELS FOR ALL CONCEALED EQUIPMENT, PIPING VALVES, CLEANOUTS, ETC. ACCESS PANELS SHALL BE OF SUFFICIENT SIZE TO PROVIDE ADEQUATE WORKING CLEARANCE AND ACCESS.
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CUTTING AND PATCHING INCLUDING SAW CUTTING AND PATCHING OF EXISTING FLOORS AS REQUIRED TO ACCEPT NEW FLOORING.
- UNLESS OTHERWISE NOTED, ROUTE ALL PIPING AS HIGH AS POSSIBLE AND ROUTE PERPENDICULAR AND/OR PARALLEL TO BUILDING STRUCTURE.
- WHERE WATER PRESSURE WITHIN A BUILDING EXCEEDS 80 PSI STATIC, AN APPROVED WATER PRESSURE REDUCING VALVE, CONFORMING TO ASSE 1003, WITH STRAINER SHALL BE INSTALLED TO REDUCE THE PRESSURE IN THE BUILDING WATER DISTRIBUTION PIPING TO 80 PSI STATIC OR LESS.

EQUIPMENT

- PROVIDE EQUIPMENT AS SHOWN ON EQUIPMENT SCHEDULES AND PLAN NOTES. SUBSTITUTIONS TO LISTED EQUIPMENT SHALL BE AT RISK OF CONTRACTOR. SUBSTITUTIONS SHALL ONLY BE ALLOWED IF

ITEMS ARE EQUAL IN ALL ASPECTS.

- PROVIDE SUBMITTALS TO ELECTRICIAN AS REQUIRED FOR COORDINATION OF ALL REQUIRED ELECTRICAL POWER WIRING. INCLUDE WIRING DIAGRAMS AND CABLING REQUIREMENTS FOR REFERENCE. COORDINATE ALL INTERLOCKS AS NEEDED. PROVIDE SINGLE POINT CONNECTION KITS AS NEEDED.
- INSTALL ALL EQUIPMENT IN FULL ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND CLEARANCE REQUIREMENTS. PROVIDE ALL REQUIRED MOUNTING OR HOUSEKEEPING PADS. G.C. SHALL PROVIDE LEVEL GRADE FOR EXTERIOR MOUNTED EQUIPMENT. P.C. SHALL PROVIDE ALL HOISTING AND RIGGING NEEDED TO SET ALL PLUMBING EQUIPMENT.
- ALL EQUIPMENT SHALL BE INSTALLED AS NEEDED TO PREVENT OBJECTIONABLE NOISE AND/OR VIBRATION. P.C. SHALL PROVIDE VIBRATION PADS, SPRINGS ISOLATORS, ATTENUATORS AND ACCESSORIES AS NEEDED.
- PROVIDE ALL BLOCKING, HANGERS, SHELVES, BRACKETS ETC. AS REQUIRED TO INSTALL ALL PLUMBING EQUIPMENT.
- INSTALL WATER HEATERS IN ACCORDANCE WITH NFPA-70, AND THE NATIONAL ELECTRICAL CODE. PROVIDE BRASS DRAIN VALVE, 3/4" RELIEF VALVE AND COLD WATER DIP TUBE. INSTALL HEATERS PER MANUFACTURERS INSTALLATION INSTRUCTIONS. PROVIDE SHUT-OFF VALVES FOR SERVICE WORK.
- THERMOSTATS ON WATER HEATER SHALL NOT BE USED FOR LIMITING HOT WATER TEMPERATURES.
- P.C. SHALL PROVIDE MIXING VALVES FOR HOT WATER TO ALL HANDS-FREE FAUCETS ACCESSIBLE TO OCCUPANTS. MIXING VALVE SYSTEMS SHALL LIMIT WATER TEMPERATURE AT FAUCETS TO 110 DEG F. OR LESS.
- UNLESS APPROVED BY OWNER, FIXTURES AND EQUIPMENT SHALL NOT BE USED DURING CONSTRUCTION. IF USED, PRIOR TO TURN OVER P.C. SHALL BE RESPONSIBLE FOR CLEANING ALL FIXTURES AND EQUIPMENT. ALL ELEMENTS SHALL BE TURNED OVER TO OWNER IN LIKE NEW CONDITION.

FIXTURES

- REFERENCE FIXTURE SCHEDULES ON PLANS AND PROVIDE ALL REQUIRED CARRIERS, BLOCKING, HANGERS, TAIL PIECES, TRAPS, RISERS, ESCUTCHEONS, GRIDS, PUTTY, GASKETS, CAULKING, ETC. AS REQUIRED TO INSTALL ALL PLUMBING FIXTURES.
- REVIEW SUBMITTALS FOR ALL OWNER PROVIDED EQUIPMENT AND PROVIDE ANY REQUIRED ACCESSORIES AS NEEDED FOR A COMPLETE INSTALLATION. P.C. SHALL BE RESPONSIBLE TO RECEIVE AND INSTALL ALL OWNER PROVIDED FIXTURES.
- FIXTURES DESIGNATED FOR HANDICAP ACCESSIBILITY SHALL COMPLY WITH ANSI A 117.1, LATEST EDITION, INCLUDING ADOPTED INDIANA AMENDMENTS.
- PROVIDE ALL CODE REQUIRED BACKFLOW DEVICES FOR PROCESS HVAC EQUIPMENT AND FOR WATER SERVING ANY DRINKING OR FOOD PREPARATION FIXTURES.
- PROVIDE BELLOWS TYPE WATER HAMMER ARRESTERS, STAINLESS STEEL CASHING AND BELLOWS, 250 PSI, INSTALL PER PDI STANDARD WH201.

PIPING

- ALL EXPOSED SUPPLY PIPES AND METAL TRIM IN CONNECTION WITH THE FIXTURES SHALL BE CHROME PLATED RED BRASS OR BRONZE, PROVIDE CHROME PLATED STOP VALVES IN ALL SUPPLIES TO ALL FIXTURES. PLASTIC STOPS OR TRIM SHALL NOT BE ACCEPTABLE. CAULK ALL FIXTURES WITH WATERPROOF SILICONE CAULK. TRAPS SHALL HAVE CLEANOUT PLUGS. INSTALL ONE PIECE CHROME ESCUTCHEON PLATE WITH SET SCREW AT WALL PENETRATIONS.
- THE MINIMUM SLOPE OF A HORIZONTAL DRAINAGE PIPE SHALL BE:
 - 1/4" PER FOOT FOR PIPES UP TO 2-1/2".
 - 1/8" PER FOOT FOR PIPES 3" TO 6".
 - 1/16" PER FOOT FOR PIPES 8" OR LARGER.

MAINS AND LATERAL BRANCHES SHALL BE SLOPED TOWARD THE BUILDING DRAIN. ALL PIPING SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE AND PER THE AUTHORITY HAVING JURISDICTION.

- A WYE CLEAN OUT WITH METAL TOP SHALL BE INSTALLED WITHIN 5' OF THE FOUNDATIONS IN THE BUILDING SEWER. CLEAN OUT SHALL BE INSTALLED AT THE BASE OF EACH STORM AND WASTE STACK, AND AT NOT MORE THAN 75 FOOT INTERVALS ON ALL HORIZONTAL RUNS, AT THE HIGH POINT OF THE BUILDING DRAIN AND PER THE CURRENT PLUMBING CODE.
- VERIFY LOCATION, DEPTH AND SIZE OF SANITARY SEWER CONNECTION POINTS. CONNECT AS REQUIRED. OUTSIDE SEWER SHALL BE INSTALLED WITH MINIMUM OF 3'-0" COVER. COORDINATE CONNECTIONS WITH SITE CONTRACTOR AND LOCAL UTILITY

- ALL OUTSIDE WATER PIPING SHALL BE COVERED PER LOCAL REQUIREMENTS OR WITH A MINIMUM BELOW PREDICTED FROST LINE WHICH EVER IS GREATER.
- ANY TRAP SUBJECT TO FREEZING SHALL BE HEAT TRACED. COORDINATE SHH WITH E.C.

- ALL INTERIOR PIPING PENETRATIONS THROUGH WALLS, CEILINGS, ROOFS AND FLOORS SHALL BE SLEEVED AND SEALED. PROVIDE UL LISTED FIRE STOPPING WHERE REQUIRED.

- ALL EXTERIOR UNDERGROUND PENETRATIONS OF BUILDING FOUNDATIONS OR SLAB FLOORS SHALL BE SLEEVED AND SEALED. PENETRATIONS BELOW GRADE INTO THE BUILDING SHALL BE DONE WITH MECHANICAL SEALS LIKE "LINK SEAL" OR EQUAL.

- ALL PIPING PASSING THROUGH CONCRETE OR CINDER WALLS OR SUBJECT TO EXPOSURE TO CONCRETE SHALL BE TAPED, SLEEVED OR INSULATED TO PREVENT DIRECT CONTACT WITH CONCRETE.

- NO PLUMBING PIPING SHALL PASS DIRECTLY OVER ELECTRICAL PANELS OR DISTRIBUTION CABINETS. PRIOR TO ROUGH IN COORDINATE WITH E.C.

- DIELECTRIC UNIONS SHALL BE USED TO CONNECT DISSIMILAR METALS OR METAL PIPING SHALL HAVE METAL CONNECTIONS ON EACH END THREADED TO MATCH THE ADJACENT PIPING. METAL COMPONENTS SHALL BE SEPARATED BY A NYLON INSULATOR TO PREVENT CURRENT FLOW BETWEEN DISSIMILAR METALS. UNIONS SHALL BE SUITABLE FOR THE SYSTEM OPERATING PRESSURES AND TEMPERATURE WELD TYPE: ASTM A-234.

- PIPING SLEEVES: INTERIOR OR EXTERIOR ABOVE GRADE: GALVANIZED-STEEL-PIPE SLEEVES OR PVC-PIPE SLEEVES. VERIFY, WITH FIRE AUTHORITIES HAVING JURISDICTION, THAT PVC MATERIALS ARE ALLOWED FOR SLEEVES. BELOW GRADE: ALL: MECHANICAL GALVANIZED-STEEL PIPE SLEEVE SYSTEM LIKE LINK-SEAL. ALL SLEEVES SHALL BE FIRE STOPPED OR CAULKED. EXTERIOR SLEEVES SHALL PROVIDE WATER/AIR TIGHT PENETRATION SYSTEM.

- PROVIDE HANGERS PER MSS AND IPC STANDARDS BASED ON PIPING TYPES AND SIZES. WHERE EXPOSED TO VIEW IN PUBLIC SPACES, RODS SHALL BE GALVANIZED.

- VALVES: 2" AND SMALLER SHALL BE LIKE CRANE (3) PIECE 3800 SERIES BALL OR 438 SERIES GATE VALVES. 2-1/2" OR LARGER SHALL BE LIKE CRANE SERIES G-3500 BALL OR 465 GATE VALVES.

- UNIONS: PROVIDE AND INSTALL UNIONS AS REQUIRED FOR THE INSTALLATION AND REMOVAL OF ALL EQUIPMENT.

- STOPS: ALL FIXTURES SHALL BE INSTALLED WITH METAL 1/2 TURN CHROME PLATED PLUMBING STOPS COMPATIBLE WITH PIPING MATERIAL SERVING FIXTURES.

- ALL EXTERIOR BLACK IRON GAS PIPING SHALL BE PAINTED WITH (2) COATS OF YELLOW RUST RESISTANT PAINT. PRIOR TO PAINTING PRIME ALL PIPING WITH ACIDIC METAL ETCHING SPRAY.

- PIPING MATERIALS UNLESS OTHERWISE NOTED ON THE PLANS SHALL BE AS FOLLOWS:

GAS 2-1/2" AND LARGER: BLACK STEEL SCHEDULE 40 TYPE E OR S PIPE GRADE B, ASTM A53 / A53M, A105 OR A120 WITH PLAIN ENDS. FITTINGS: WROUGHT STEEL WELDING FITTINGS TO ASTM A 234/A 234M FOR BUTT AND SOCKET WELDING.
P.C. OPTION: IF AVAILABLE COORDINATE 2 PSIG SERVICE WITH PUBLIC UTILITY AND RESIZE PIPING BASED ON 2 PSIG WITH 1 PSIG MAXIMUM PRESSURE LOSS AND PROVIDE AND INSTALL VENTLESS GAS REGULATORS LIKE MAXITROL 325 SERIES TO REGULATE 2 PSIG DISTRIBUTION PRESSURE TO APPLIANCE REQUIRED PRESSURE AND FLOWS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE AND INSTALL BRASS VALVE TAGS ON ALL REGULATORS STAMPED WITH THE SET PRESSURE AS DICTATED BY THE APPLIANCE MANUFACTURER.

WATER COPPER TUBING (INSIDE BUILDING): ASTM B 88, TYPE "L" HARD WATER TUBE DRAWN TEMPERED. FITTINGS SHALL CONFORM TO ASTM B16.18, ASTM B16.22, ASTM OR ASME B16.26, 200 PSIG, 250 °F. PRESS FIT FITTINGS
PERFORMANCE TO ASTM B16.51 AND LAPMO PS 117 WITH EPDM SEALING ELEMENTS.

WATER WHERE INDICATED ON THE PLANS, WATER TUBING SHALL BE TYPE A PEX WIRSBO, VIEGA, ZURN, NIBCO, OR UPONOR CONFORMING TO ASTM F876, F877, E84, E814, ANSI/UL 263 AND NSF1461, 100 PSIG AT 180 DEG. BLUE FOR COLD AND RED FOR HOT AND RE-CIRCULATION WHITE FOR GENERIC. FITTINGS SHALL BE PER ASTM F1960 LIKE UPONOR ProPEX COLD EXPANSION, PRESS FIT MECHANICAL JOINTS PER ASTM F2854 OR COPPER CRIMP WITH BRASS OR ENGINEERED PLASTIC FITTINGS. MANIFOLDS WHERE USED SHALL BE LIKE UPONOR ProPEX TYPE L TO ASTM F877 WITH BRASS OR EP BALL VALVES.

SEWER/VENT POLYVINYL CHLORIDE SEWER PIPE (PVC): ASTM D2685, ASTM F 1868 SCHEDULE 40 SOLID CORE DRAIN WASTE AND VENT WITH PVC SOCKET WELDED FITTINGS DESIGNED TO FIT PIPING DIAMETERS. ALL PIPING IN RETURN AIR PLENUMS SHALL CONFORM TO REQUIREMENTS FOR PLENUM MATERIALS.

PLUMBING INSULATION

- ALL PIPING INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS (ON THE FLAME SPREAD TEST SCALE) AND SMOKE DEVELOPMENT OF 50 OR LESS (ON THE SMOKE TEST SCALE) OR AS DEFINED BY NFPA 255 STANDARD METHOD OF TESTING OF SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS, LOCAL CODES AND LOCAL AUTHORITIES HAVING JURISDICTION. ALL PVC PIPING LOCATED IN RETURN AIR PLENUM SPACES OR EXPOSED SHALL BE INSULATED.
- INSTALL ALL INSULATION IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS IN A TIGHT AND NEAT MANNER. NO SAGGING, FRAYED OR TORN INSULATION WILL BE EXCEPTED.
- ALL INSULATION R-VALUES SHALL MEET THE CURRENT ENERGY CODE REQUIREMENTS. UNLESS OTHERWISE NOTED ON PLANS PIPING SYSTEMS SHALL BE INSULATED AS FOLLOWS:
 - COPPER WATER PIPING: ALL PIPING HOT OR COLD SHALL BE INSULATED.

EXCEPTIONS: THE TUBING FROM THE CONNECTION AT THE TERMINATION OF THE FIXTURE SUPPLY PIPING TO A PLUMBING

FIXTURE OR PLUMBING APPLIANCE. PIPING FROM USER-CONTROLLED SHOWER AND BATH MIXING VALVES TO THE WATER OUTLETS.

- STORM WATER PIPING EXPOSED IN BUILDING SHALL BE INSULATED FOR SOUND WITH MINIMUM 1/2" THICK ELECTROMETRIC CLOSED CELL INSULATION.

- INSULATION MATERIALS:

a. PRE-FORMED TYPE I, 850 DEG F MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN AND HINGED WITH SELF SEALING LAP. COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY-APPLIED ASJ.

b. FLEXIBLE ELASTOMERIC CLOSED CELL OR EXPANDED RUBBER PIPE INSULATION WITH PRESSURE SENSITIVE ADHESIVE SYSTEM, ASTM C534, ASTM E84 CLASS A 300 DEG F.

c. EXTERIOR/EXPOSED JACKETS: UV RESISTANT PVC PIPE JACKETS AND PREFORMED FITTING COVERS COMPLIANT WITH ASTM D257, D638, D790, D792, D1784, D3879, E84 AND E136.

FIRE STOPPING.

- FIRE STOPPING SYSTEMS SHALL BE IN FULL COMPLIANCE WITH SECTIONS 714 OF THE IBC AND SECTION 315 OF THE IPC.
- CONTRACTOR SHALL MAKE REFERENCE TO ARCHITECTURAL PLANS AND PROVIDE ALL REQUIRED FIRE STOPPING SYSTEMS.
- CONTRACTOR SHALL PROVIDE AHJ WITH FULL SUBMITTAL INDICATING METHODS OF CONSTRUCTION AND UL LISTINGS FOR EACH REQUIRED FIRE STOP SYSTEM.
- ACCESS DOORS REQUIRED IN CEILINGS OF FIRE-RESISTANCE-RATED FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES SHALL BE TESTED IN ACCORDANCE WITH ASTM E 119 OR UL 263 AS HORIZONTAL ASSEMBLIES AND LABELED BY AN APPROVED AGENCY FOR SUCH PURPOSE.

CHECK TEST AND START UP REQUIREMENTS

- LABEL ALL MAJOR PIECES OF EQUIPMENT WITH LAMACOID PLASTIC, BLACK WITH WHITE LETTERS. SIZE TO BE CONSISTENT WITH EQUIPMENT BEING LABELED. LENGTH AND WIDTH VARY FOR REQUIRED LABEL CONTENT.
- PLUMBING CONTRACTOR SHALL FURNISH ALL TOOLS, INSTRUMENTS AND EQUIPMENT REQUIRED FOR TESTING PIPING. ALL TESTING SHALL BE DONE PRIOR TO CONCEALMENT. ALL PARTS OF THE SANITARY DRAINAGE SYSTEM SHALL BE TESTED AS REQUIRED BY LOCAL PLUMBING INSPECTORS. ALL WATER PIPING SHALL BE HYDROSTATICALLY TESTED TO MINIMUM 125 PSIG.
- CLOSE OUT: PROVIDE MANUFACTURERS OPERATION AND MAINTENANCE MANUALS AND AS BUILT DRAWINGS. PROVIDE (1) TRAINING SESSION TO OWNER SELECTED PERSONNEL AS REQUESTED AND PROVIDE WARRANTY INFORMATION FOR ALL MANUFACTURERS WARRANTED EQUIPMENT
- FILL SYSTEMS WITH FRESH WATER AND INSPECT ALL CONNECTIONS FOR LEAKAGE. REMOVE ALL PACKING AND PROTECTIVE SHIPPING MATERIALS. CLEAN ALL FIXTURES AND START-UP ALL WATER HEATERS, PUMPS, AND EQUIPMENT. VERIFY PROPER OPERATION. OPERATE ALL FAUCETS AND INSPECT STOPS, RISERS, TRAPS AND DRAINS. CORRECT ALL LEAKS, WATER HAMMER AND VIBRATIONS AS REQUIRED.

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MEP Consulting Engineers

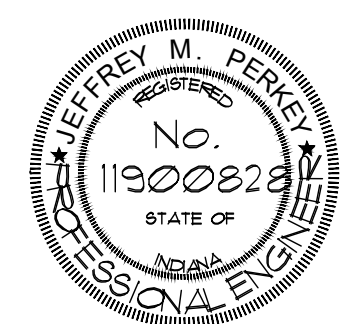
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PROJECT NUMBER
21001.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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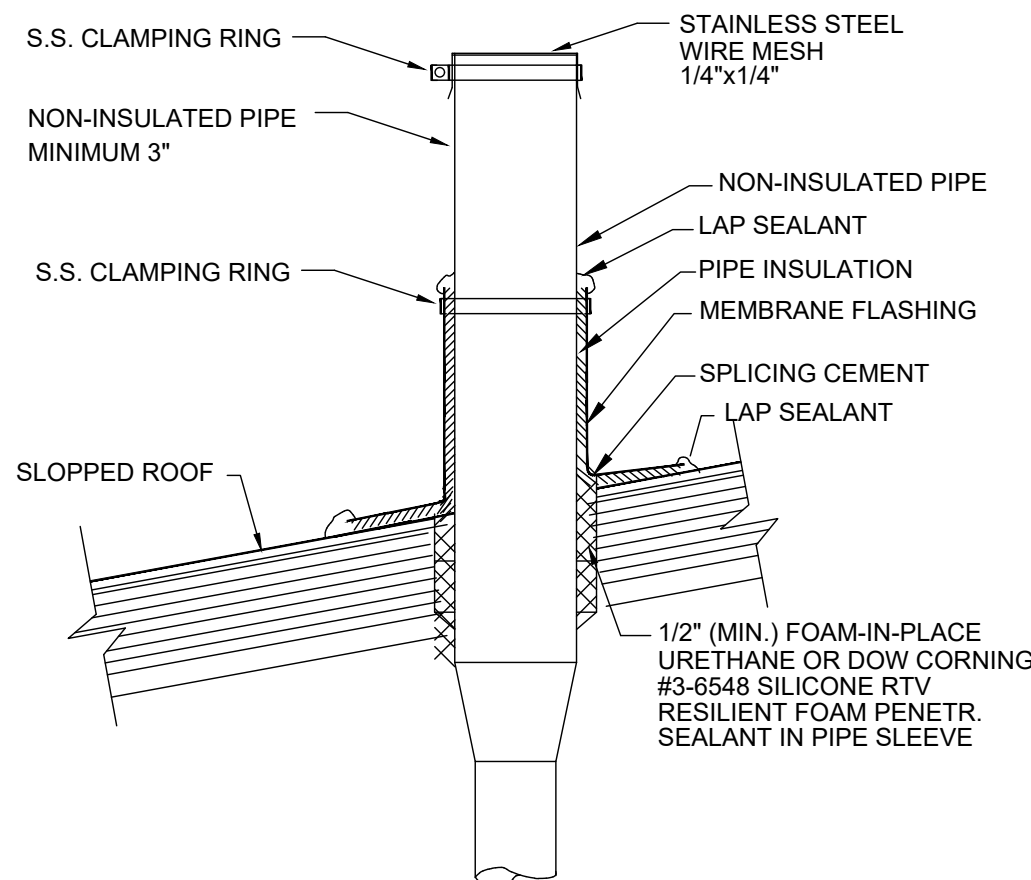
Jeffrey M. Redkey
CERTIFICATION

SHEET DESCRIPTION:
PLUMBING ABBREVIATIONS, SYMBOLS, & SPECIFICATIONS

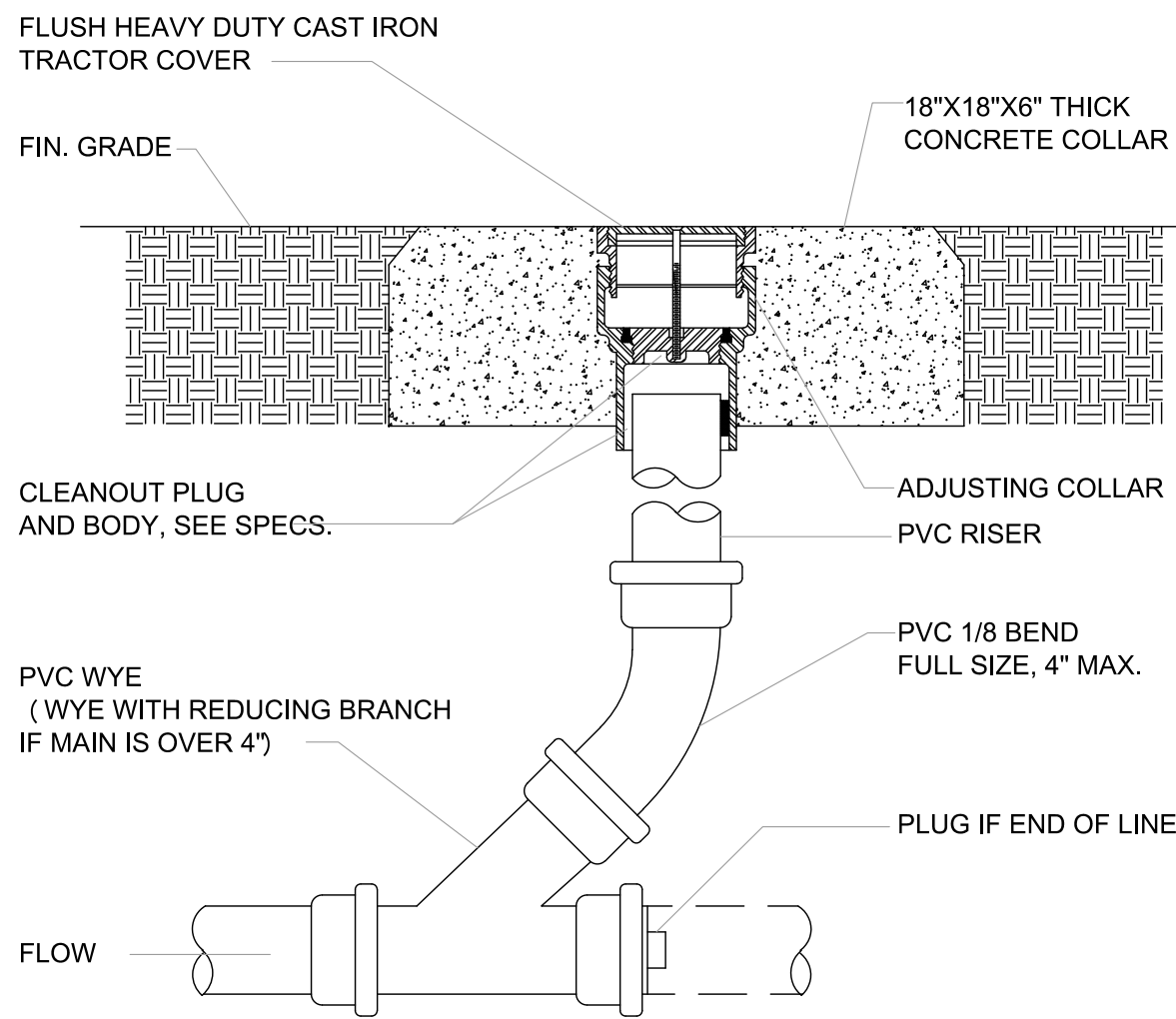
REVISIONS

BUILDING #	220131
SCALE	SEE PLAN
DATE	3/21/2022
DRAWN BY	JD
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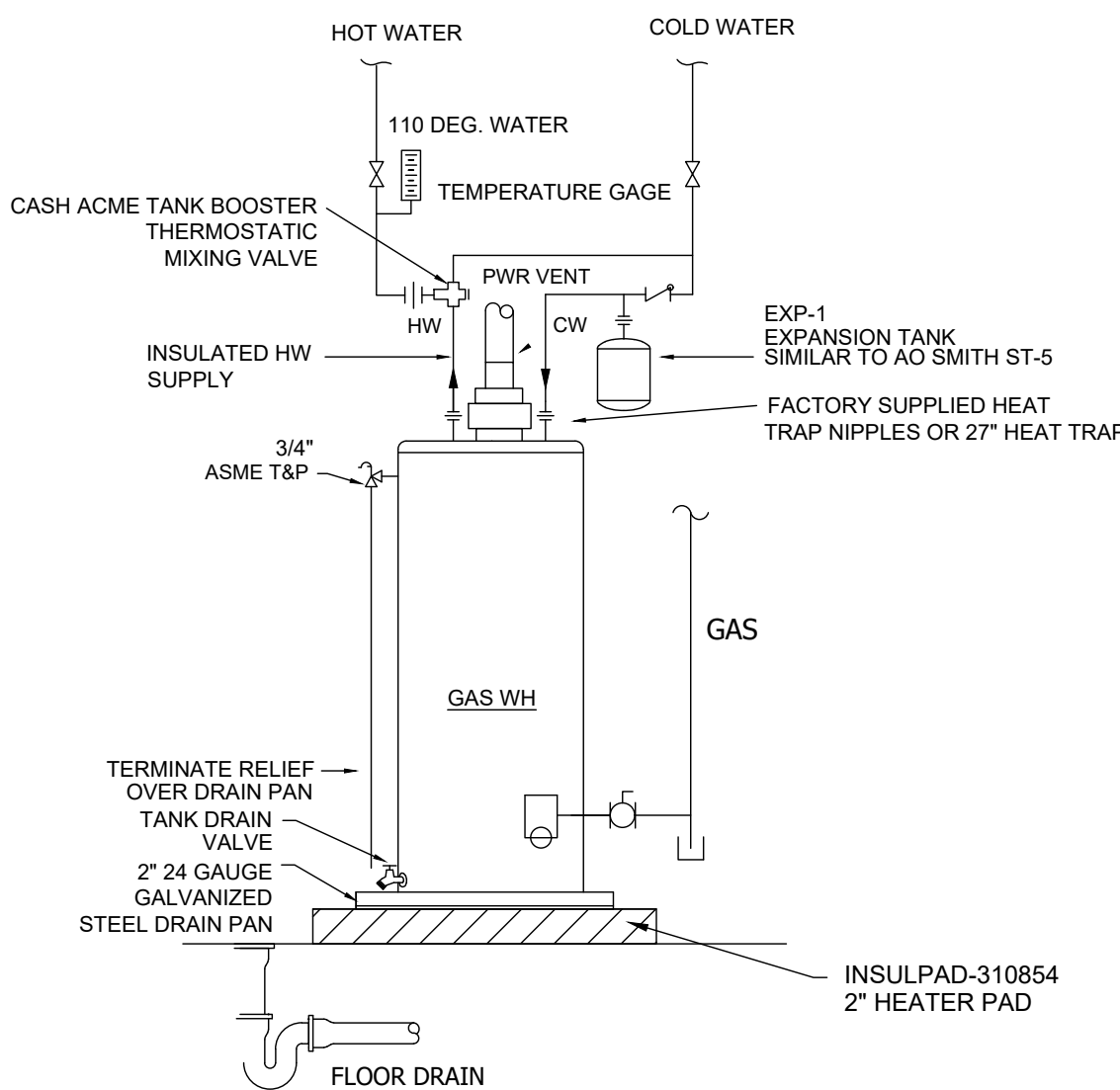
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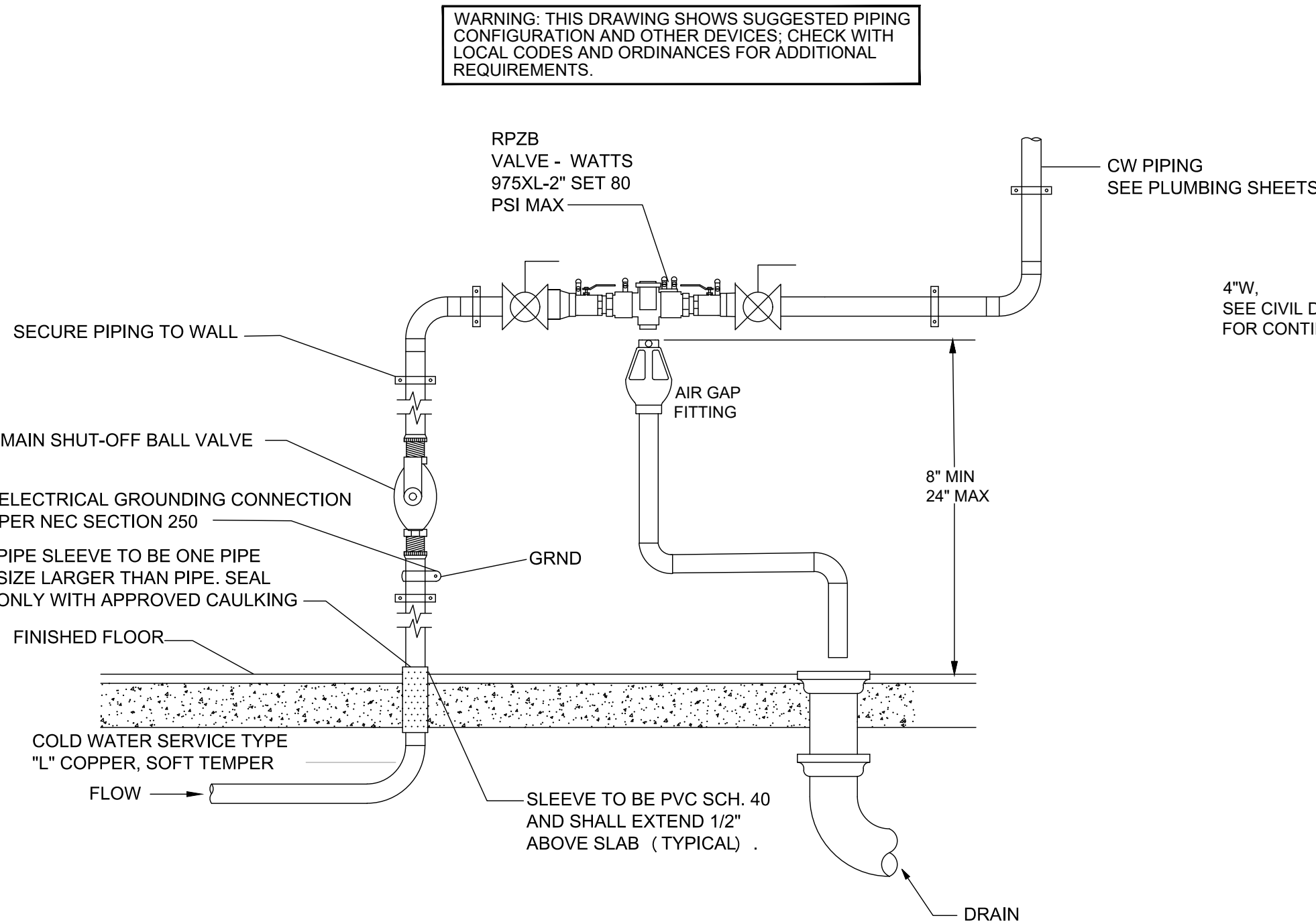
A VENT THRU SLOPED ROOF DETAIL
SCALE: NONE



B CLEANOUT DETAIL
SCALE: NONE



C GAS WATER HEATER DETAIL
SCALE: N/A CLUBHOUSE

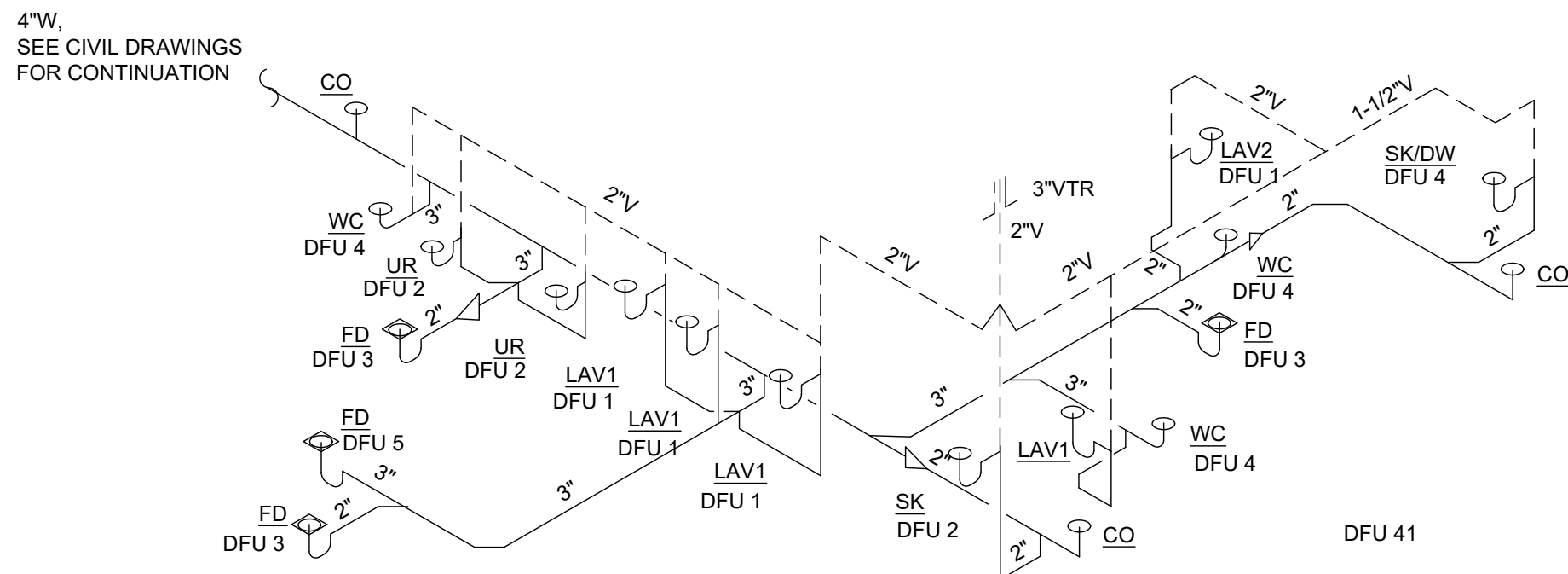


D INCOMING WATER DETAIL
SCALE: NONE

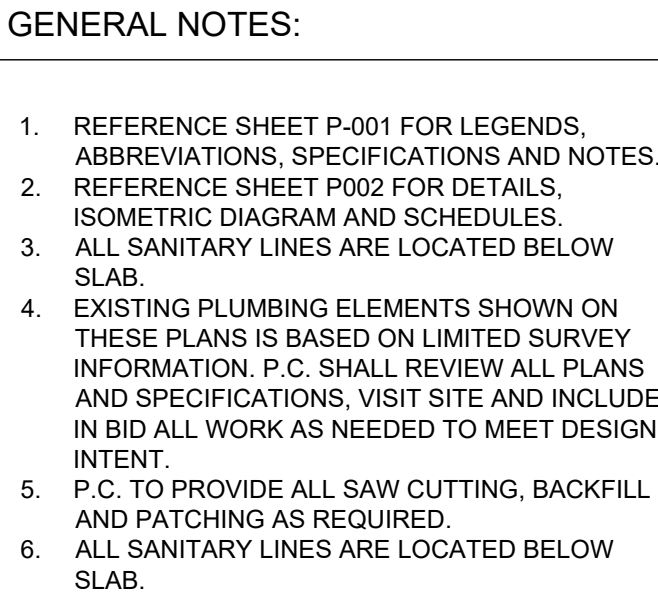
PLUMBING FIXTURE SCHEDULE (BID PURPOSE ONLY. PRIOR TO ORDER, APPROVED SUBMITTAL IS REQUIRED.)

TAG	DESCRIPTION	COMPLIANCE	CW (INCH)	HW (INCH)	WASTE (INCH)
CO	CLEANOUT: SIOUX CHIEF 852-PMR PVC ADJUSTABLE ROUND NICKEL BRONZE TOP OR EQUAL	-	-	-	SEE PLANS
ESEW	EMERGENCY SHOWER & EYE WASH: SPEAKMAN SE-697 MODEL, PROVIDE MIXING VALVE STW-362 MODEL, 24.9 GPM	ADA	1-1/4"	1-1/4"	-
WH	WATER HEATER: AO SMITH PROLINE GDVT-50, 50 GALLON GAS WATER HEATER, 47MBH	-	3/4"	3/4"	-
FD	PVC FLOOR DRAIN: SIOUX CHIEF 832-5PNO/SR PVC ADJUSTABLE SQUARE FOR TILE AND ROUND FOR BARE CONCRETE NICKEL BRONZE TOP OR EQUAL.	-	-	-	SEE PLANS
GD	GARBAGE DISPOSER: IN-SINK-ERATOR #BADGER 5, 1/2 HP. PROVIDE WITH A FACTORY INSTALL POWER CORD	-	-	-	SEE PLANS
HB	HOSE BIBB: WOODFORD MODEL Y24 ANTI-SIPHON WALL FAUCETS, CHROME, PROVIDE VACUUM BREAKER 34HF MODEL WITH SL-24 STEMLOCK	-	3/4"	-	-
IMB	ICE MAKER BOX: OATEY ICE MAKER OUTLET BOX W/ 1/4 TURN BALL VALVE, HAMMER ARRESTORS AND COVER PLATE, FIRE RATED WHERE SHOWN ON PLANS LOCATED ON FIREWALLS.	-	1/2"	12"	-
LAV-1	WALL-HUNG ADA LAVATORY AND HANGER. AMERICAN STANDARD LUCERNE 0355.012.020 MODEL, 3 HOLES, 4" ON CENTER. COLOR: WHITE, N, FAUCET: AMERICAN STANDARD MONTERRY TWO HANDLES FAUCET, McGUIRE 155A DRAIN MODEL, LFH170BV FAUCET SUPPLIES AND LAV-GUARD PIPE COVERS AT ADA LOCATIONS. CARRIER: WATTS CA-462 FIXTURE CARREIR MODEL	ADA	1/2"	1/2"	1-1/2"
LAV-2	UNDERMOUNT LAVATORY: EDGEMERE 0545.000 FAUCET: AMERICAN STANDARD MONTERRY TWO HANDLES FAUCET	ADA	1/2"	1/2"	1-1/4"
MS-1	MOP SINK. AMERICAN STANDARD MODEL MSB2424100 MOLDED STONE. COLOR: WHITE. FAUCET: ZURN Z843M1 WITH VACUUM BREAKER, CHROME FINISH. PROVIDE 3 STATION MOP HANGER AND STAINLESS STEEL BASIN GAURDS.	-	1/2"	1/2"	3"
RPZB	REDUCED PRESSURE ZONED BACKFLOW: WATTS 975XL - 2". BRONZE "Y" TYPE STRAINER WITH AIR GAP FITTING AND INTEGRAL QUARTER TURN SHUT OFF VALVES. WORKING MAXIMUM WATER PRESSURE 80 PSI	-	2"	-	-
SK-1	SINK; ELKAY CELEBRITY STAINLESS STEEL 15X15X6-1/8 SINGLE BOWL DROP-IN SINK BCR15 MODEL, DRAIN; ELKAY DRAIN FITTING 2" NICKEL PLATED BRASS BODY WITH DEEP STAINLESS STEEL STRAINER BASKET. FAUCET; DELTA SINK FAUCETS 2171 MODEL, TWO HANDLE, 4" ON CENTERSET, GOOSENECK, HIGH SPOUT SWINGS.	ADA	1/2"	1/2"	1-1/2"
UR	URINAL: AMERICAN STANDARD WALL HUNG URINAL FLUSH VALVE, 6530.001.020 MODEL, SLOAN ROYAL 186.1.0-CP TOP SPUD URINAL W/ 1 GPF CARRIER: AMERICAN STANDARD CA-321 FIXTURE CARRIER	ADA	3/4"	-	2"
WC	TANK WATER CLOSET. AMERICAN STANDARD CADET PRO RIGHT HEIGHT MODEL 215AA.104 ELONGATED TOILET. 1.28 GPF. SEAT: OPEN FRONT PLASTIC SEAT AND COVER BEMIS 1055SSC MODEL. TRIP LEVER ON ACCESSIBLE SIDE OF TOILET. PROVIDE WITH	ADA	1/2"	-	3"

PROVIDE STRAINERS, DRAINS, TAIL PIPES, TRAPS, CHROME WATER STOPS, AND STAINLESS STEEL FLEXIBLE RISER FOR ALL FIXTURES. PROVIDE SHUT OFF VALVES AND UNIONS FOR ALL EQUIPMENT.



1 BUILDING SANITARY ISOMETRIC
SCALE: NONE



ARCHITECT

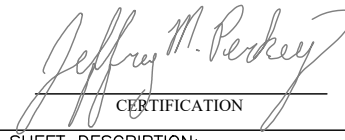
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PROJECT NUMBER
21002.00

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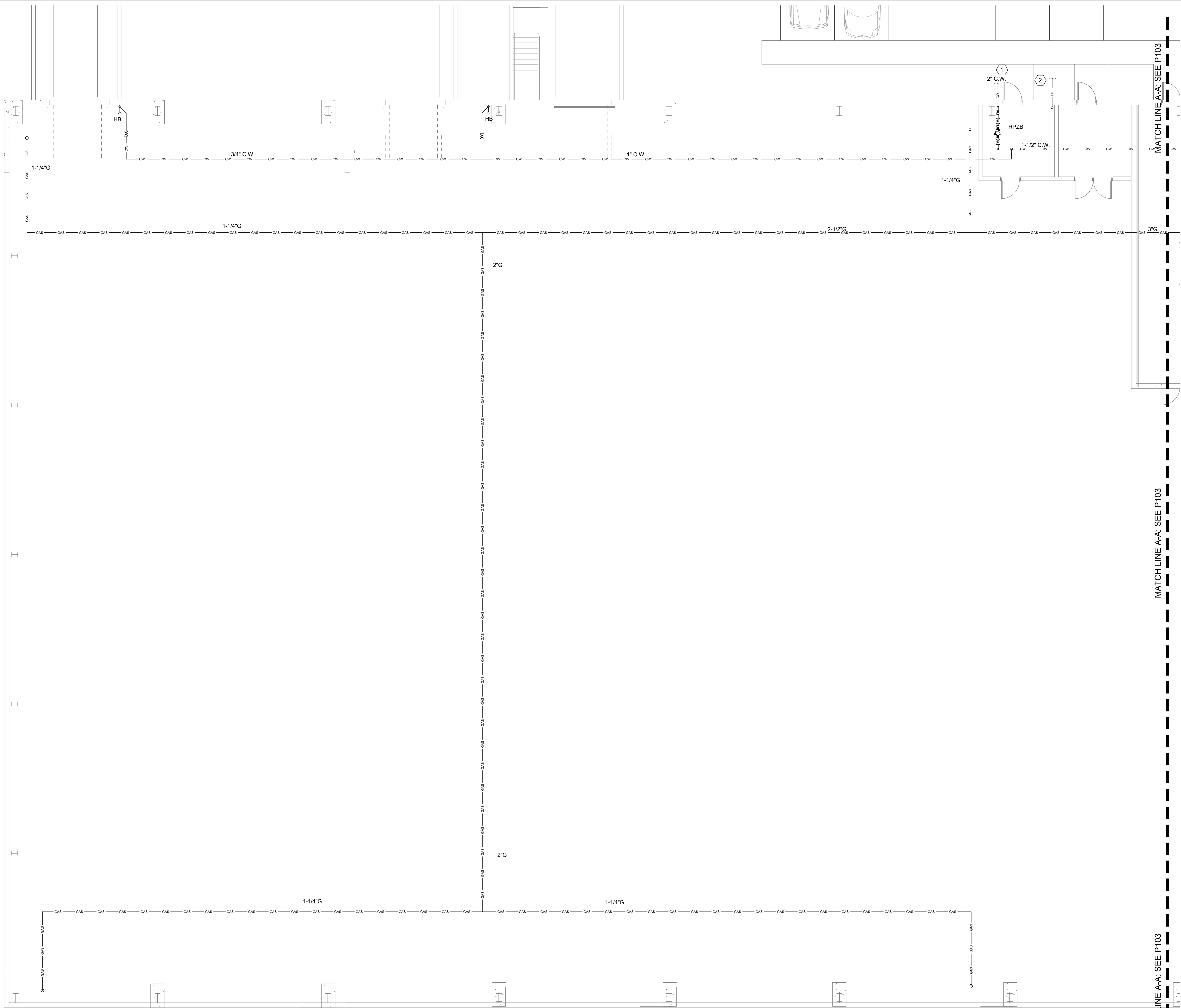
SANITARY PLAN - WEST

REVISIONS

BUILDING #	220131
SCALE:	SEE PLAN
DATE:	3/21/2022
DRAWN BY:	ZB
CHECKED BY:	JP
OWNER APPROVAL:	
FILE:	

P100

1 **SANITARY PLAN - WEST**
SCALE: 1/8" = 1'-0"



GENERAL NOTES:

- REFERENCE SHEET P-001 FOR LEGENDS, ABBREVIATIONS, SPECIFICATIONS AND NOTES.
- REFERENCE SHEET P002 FOR DETAILS, ISOMETRIC DIAGRAM AND SCHEDULES.
- ALL SANITARY LINES ARE LOCATED BELOW SLAB.
- EXISTING PLUMBING ELEMENTS SHOWN ON THESE PLANS IS BASED ON LIMITED SURVEY INFORMATION. P.C. SHALL REVIEW ALL PLANS AND SPECIFICATIONS, VISIT SITE AND INCLUDE IN BID ALL WORK AS NEEDED TO MEET DESIGN INTENT.
- ALL DOMESTIC PIPING AND GAS LINES ARE MOUNTED AS HIGH AS POSSIBLE.

KEY NOTES: (#)

- 2" DOMESTIC WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION TO METER PIT.
- 6" FIRE PROTECTION SERVICE. SEE CIVIL PLANS FOR CONTINUATION

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PROJECT NUMBER
21001.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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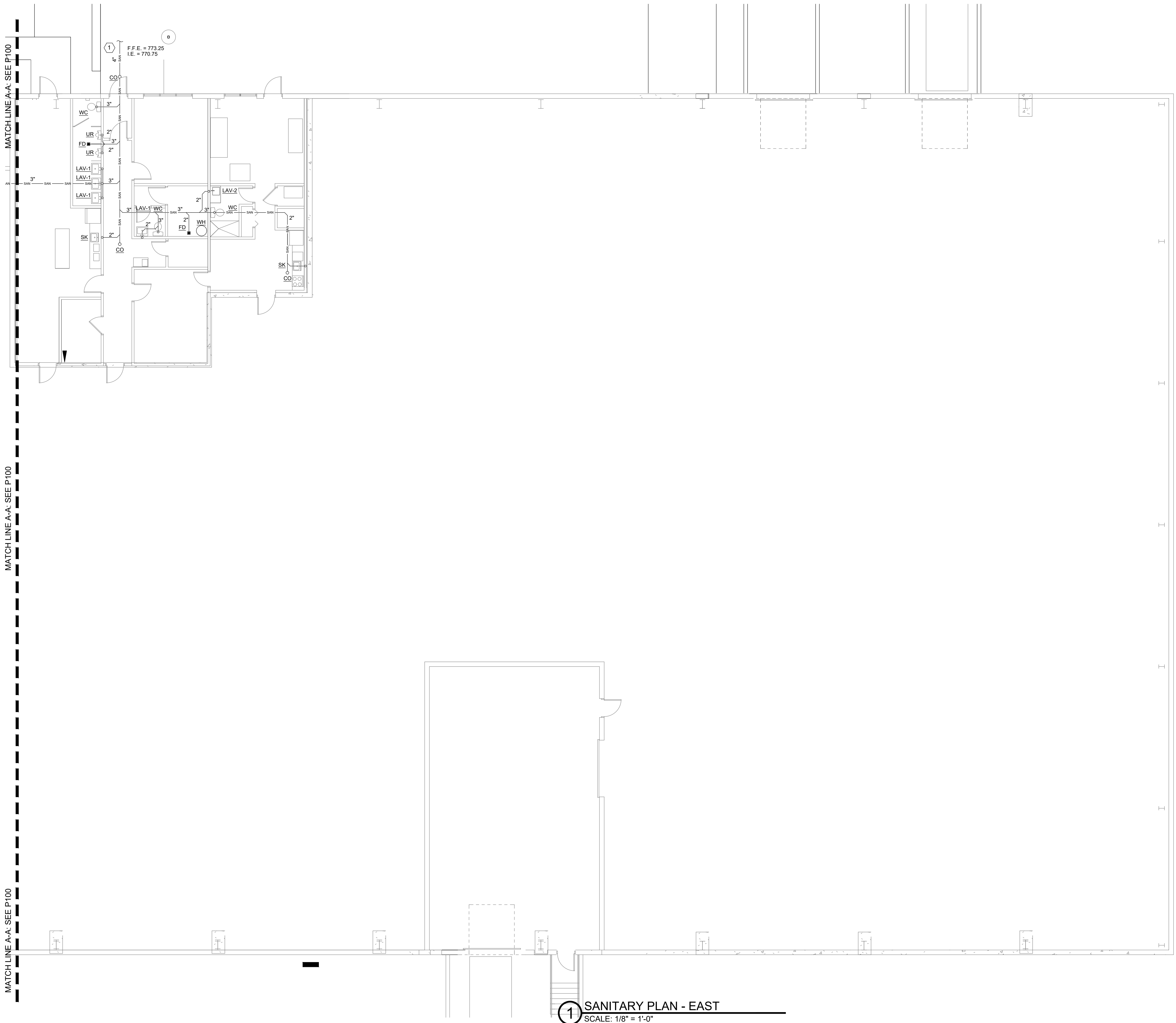
SHEET DESCRIPTION:
PIPING PLAN - WEST

REVISIONS

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FILE

P101

1 PIPING PLAN - WEST
SCALE: 1/8" = 1'-0"



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5. P.C. TO PROVIDE ALL SAW CUTTING, BACKFILL AND PATCHING AS REQUIRED.
6. ALL SANITARY LINES ARE LOCATED BELOW SLAB.

KEY NOTES: (#)

1. SEE CIVIL FOR CONTINUATION OF 4" SANITARY LINE.

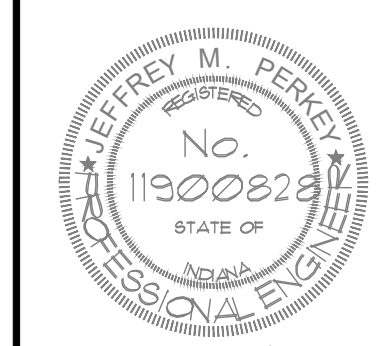
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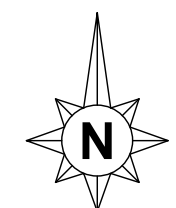


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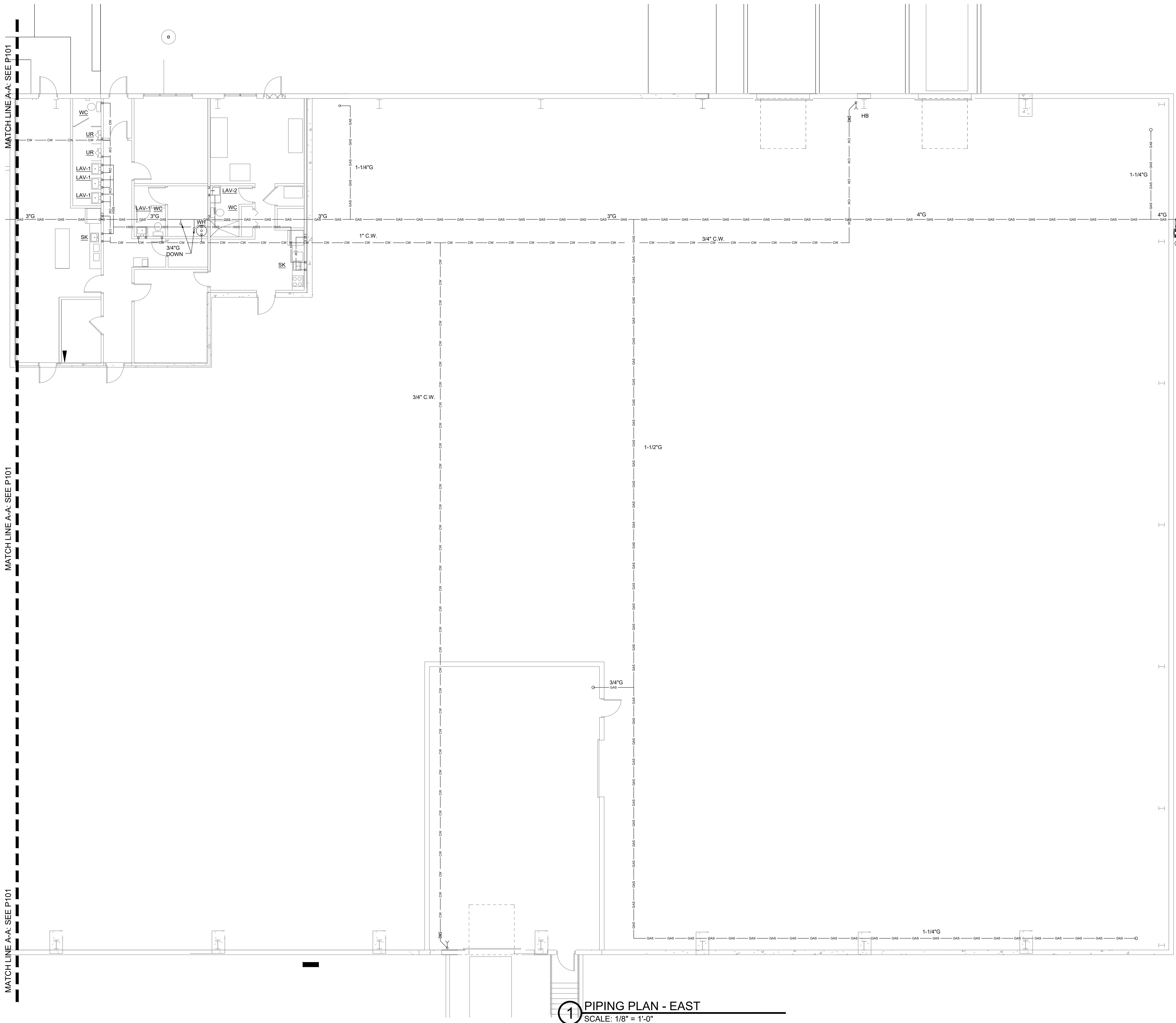
SHEET DESCRIPTION:
SANITARY PLAN - EAST

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JP
OWNER APPROVAL
FILE



1 **SANITARY PLAN - EAST**
SCALE: 1/8" = 1'-0"



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- ALL DOMESTIC PIPING AND GAS LINES ARE MOUNTED AS HIGH AS POSSIBLE.

KEY NOTES: #

- PROVIDE NEW 1200 MBH, 6" W.C. GAS SERVICE AND METER WITH 4" SERVICE LINE FROM GAS METER TO SERVE BUILDING EQUIPMENT.
 - (1) WATER HEATER 50MBH
 - (1) FURNACE 47MBH
 - (7) UNIT HEATERS 1080MBH
- TOTAL 1177MBH

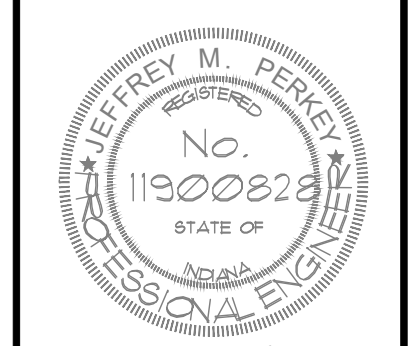
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PROJECT NUMBER
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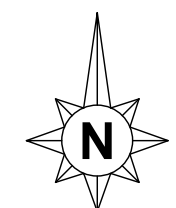


Jeffrey M. Penkov
CERTIFICATION

SHEET DESCRIPTION:
PIPING PLAN - EAST

REVISIONS

BUILDING #
220131
SCALE: SEE PLAN
DATE: 3/21/2022
DRAWN BY: ZD
CHECKED BY: JPD
OWNER APPROVAL:
FILE:



1

PIPING PLAN - EAST
SCALE: 1/8" = 1'-0"

P103

ELECTRICAL ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISHED FLOOR
CO	COMPANY
CONTR	CONTRACTOR
DN	DOWN
DWG(S)	DRAWING(S)
EC	ELECTRIC CONTRACTOR
EDC	ELECTRICAL DISTRIBUTION CENTER
EM	EMERGENCY
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EX	EXISTING
FLA	FULL LOAD AMPS
FS	FLOW SWITCH
GC	GENERAL CONTRACTOR
HP	HORSE POWER
LV	LOW VOLTAGE DIMMING SYSTEM
MAX	MAXIMUM
MB	MAIN BREAKER
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTURER
MH	MOUNTING HEIGHT
MIN	MINIMUM
MLO	MAIN LUG ONLY
MOCp	MAXIMUM OVER CURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
MTD	MOUNTED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
PC	PLUMBING CONTRACTOR
PSI	POUNDS PER SQUARE INCH
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
V	VOLTS
UON	UNLESS OTHERWISE NOTED

PANELBOARD SCHEDULE ABBREVIATIONS

L	LIGHTING
R	RECEPTACLE
PN	POWER NON-SEASONAL
PW	POWER WINTER
MN	MOTOR NON-SEASONAL
MNI	MOTOR NON-SEASONAL INTERMITTENT
MS	MOTOR SUMMER
MW	MOTOR WINTER
KT	KITCHEN

FIRE PROTECTION SYMBOLS

FIRE ALARM CONTROL PANEL	FACP
FIRE PULL BOX	F
HORN/STROBE ALARM COMBO	HS
HORN/STROBE ALARM COMBO WEATHER PROOF	HS WP
FLOW SWITCH	FS
PIV TAMPER SWITCH	TS
STROBE	S
HOOD ANSUL SYSTEM CONNECTION	A
SMOKE DETECTOR	S
DUCT SMOKE DETECTOR	SD
HEAT DETECTOR	H
CARBON MONOXIDE DETECTOR	CO

FIRE ALARM SPECIFICATIONS

- A MANUAL FIRE ALARM SYSTEM THAT ACTIVATES THE OCCUPANT NOTIFICATION SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SECTION 907 OF THE IBC, NFPA 72 AND THE LOCAL FIRE DEPARTMENT.
- THE FINAL DESIGN FOR THE FIRE ALARM SYSTEM SHALL BE BY A LICENSED FIRE PROTECTION CONTRACTOR WITH A MINIMUM OF 5 YEARS EXPERIENCE. THE SYSTEM SHALL BE FULLY ADDRESSABLE. FIRE ALARM DEVICES ON THE PLANS ARE FOR INTENT ONLY. FINAL DESIGN SHALL BE BY MINIMUM NICET LEVEL III OR IV LICENSED DESIGNER AND SHALL BE SUBMITTED AND APPROVED BY ALL AUTHORITIES HAVING JURISDICTION. REGARDLESS OF WHAT IS INDICATED ON THESE INTENT PLANS CONTRACTOR SHALL PROVIDE ALL REQUIRED DEVICES NEEDED FOR THE APPROVED SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
- FIRE ALARM CONTRACTOR SHALL SUBMIT THEIR PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL BY AUTHORITY(S) HAVING JURISDICTION AND SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED APPROVALS AND PERMITS AND FOR PASSING ALL REQUIRED INSPECTIONS.
- GENERAL SPECIFICATIONS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
 - SYSTEM SHALL BE EQUIPPED WITH AUTOMATIC EMERGENCY POWER WITH A MINIMUM 4 HOUR SUPPLY IN NORMAL MODE AND 15 MINUTES.
 - ACTIVATION OF THE GENERAL ALARM MUST SOUND AN ALARM AND/OR VOICE EVACUATION THROUGH OUT THE BUILDING IN ALL OCCUPIED AREAS.
 - CABLING SHALL BE FPLP/PLP PLENUM RATED WITH A MINIMUM 60 MINUTE FIRE RESISTANCE RATING. ALL WIRING SHALL BE COPPER SIZED PER MANUFACTURERS RECOMMENDATIONS JACKETED WITH RED FIRE RETARDANT PVC.
 - VISUAL STROBE DEVICES ARE REQUIRED AT ALL HORNS AND IN ALL PUBLIC AREAS.
 - DETECTORS SHALL INCLUDE SMOKE DETECTORS (AREA AND DUCT) AND HEAT DETECTORS AS REQUIRED.
 - ALL ELECTRONIC DOOR LOCKS AND HOLD OPEN DEVICES SHALL BE INTERLOCKED TO RELEASE DOORS IN FIRE ALARM CONDITION.
 - POWER TO FIRE ALARM CONTROL PANEL SHALL BE PROVIDED WITH CIRCUIT BREAKER LOCK PER NFPA 72-13, SECTION 10.6.5.4.

ELECTRICAL SYMBOLS

DISCONNECT	
EXIT SIGNAGE	
EXIT SIGNAGE WITH EMERGENCY HEADS	
EMERGENCY LIGHTING UNIT	
EMERGENCY EXIT EGRESS LIGHT	
SUSPENDEd STRIP LIGHT	
SURFACE MOUNTED STRIP LIGHT	
RECESSED DOWN LIGHT	
MOTOR	
LIGHT FIXTURE - ON NIGHT LIGHT CIRCUIT	
LAYIN TROFFER FIXTURE	
SUSPENDEd LAYIN	
SURFACE MOUNTED LAYIN	
LIGHT FIXTURE - UNDER COUNTER	
LIGHT FIXTURE - WALL SCONCE	
LIGHT FIXTURE - PENDANT	
LIGHT FIXTURE - TRACK	
LIGHT FIXTURE - RECESSED DOWN LIGHT	
LIGHT FIXTURE - VANITY LIGHT	
OUTLET - 4 WAY	
OUTLET - DUPLEX	
OUTLET - DUPLEX 1/2 SWITCHED	
OUTLET - GROUND FAULT INTERRUPT	
OUTLET - GROUND FAULT INTERRUPT WEATHERPROOF	WFP
OUTLET - DUPLEX WITH USB	
OUTLET - 220V	220
JUNCTION BOX	J
SPECIAL EQUIPMENT COORDINATE W/SUPPLIER	
FLOOR OUTLET WITH POWER, DATA AND PHONE	FLR
LOW VOLTAGE ONE LINE	
LOW VOLTAGE TWO LINE	
LOW VOLTAGE # LINES	#
ANALOG PHONE LINE	
WIRELESS ACCESS POINT	WAP
PUSH BUTTON	
BUZZER	B
PHOTO CELL	P
POWER POLE	PP
TIME CLOCK	TC
SWITCH	
SWITCH - 3 WAY	3
SWITCH - 4 WAY	4
SWITCH WITH DIMMER	D
SWITCH WITH OCCUPANCY SENSOR	OS
CEILING MOUNTED OCCUPANCY SENSOR	OS
PANEL DESIGATION	CIRCUIT BREAKER NUMBERS
	X: XX,XX,XX
DOOR ALARM CONTROL PANEL	DACP
HINGE SIDE PLUNGER SWITCH	DC
MAGNETIC LOCK WITH KEY PAD	KP
MAGNETIC LOCK WITH CARD READER	CR

ELECTRICAL SPECIFICATIONS

- BID INSTRUCTIONS: CONTRACTORS SHALL PROVIDE BASE BID IN STRICT ACCORDANCE WITH DESIGN BASIS EQUIPMENT AND MATERIALS. PROJECT DOES ENCOURAGE COMPETITIVE PRICING AND ALLOWS FOR SUBSTITUTIONS OF EQUAL EQUIPMENT AND MATERIALS AGAINST THE BASIS OF DESIGN. SUBSTITUTE ITEMS WILL BE COMPARED AGAINST DESIGN BASIS DURING SUBMITTAL PROCESS. ENGINEER RESERVES THE RIGHT TO REJECT SUBSTITUTIONS FOUND NOT TO BE EQUAL TO ITEMS LISTED IN DESIGN BASIS..
- PRIOR TO PROCUREMENT CONTRACTOR SHALL SUBMIT TO ARCHITECT FULL SUBMITTALS FOR ALL ENERGY CONSUMING OR PRODUCING ITEMS AND FOR ALL SWITCH GEAR, LOAD CENTERS AND PANEL BOARDS. SUBMITTALS SHALL BE DELINEATED WITH TAGS INDICATED ON PRINTS. CONTRACTORS NAME AND PROJECT NAME. CLEARLY INDICATE ALL MODEL NUMBERS AND ALL ACCESSORIES AND OPTIONS BEING PROVIDED. SUBMISSIONS SHALL BE IN PDF FORMAT. ALL EQUIPMENT AND ITEMS SHALL BE PER DESIGN BASIS OR APPROVED EQUAL. ENGINEER RESERVES THE RIGHT TO REJECT ANY SUBSTITUTE ITEM FOUND NOT EQUAL TO THE SPECIFIED ITEM AS DESIGNED.
- CONTRACTOR SHALL FURNISH A TEMPORARY SERVICE FOR THE USE OF ALL TRADES DURING CONSTRUCTION AS REQUIRED BY THE GENERAL CONTRACTOR. REMOVE ALL TEMPORARY EQUIPMENT AS PERMANENT SERVICES BECOME AVAILABLE.
- THE DRAWINGS IN THIS SECTION ARE DIAGRAMMATIC AND ARE NOT INTENDED TO DEFINE EXACT QUANTITIES, LOCATIONS OR CODIFIED REQUIREMENTS. DRAWINGS SHOW GENERAL INTENT OF SYSTEMS. MODIFICATIONS IN ELECTRICAL SYSTEM ROUTING AND LOCATIONS AS REQUIRED TO MEET THE INTENT SHALL BE PERMITTED WITHOUT ADDITIONAL COST TO OWNER. SECURE AND PAY FOR ALL REQUIRED PERMITS.
- THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, AND CONTRACTOR'S SERVICES NECESSARY TO COMPLETE THE INSTALLATION OF SYSTEMS REQUIRED IN FULL CONFORMITY WITH APPLICABLE CODES AND ORDINANCES. THE FINISHED JOB SHALL BE FUNCTIONAL AND COMPLETE IN EVERY DETAIL INCLUDING ANY AND ALL SUCH ITEMS FOR A COMPLETE SYSTEM. CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS ENTERING INTO CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- ALL WORK SHALL IN BE IN FULL ACCORDANCE WITH 2009 INDIANA ELECTRICAL CODE (2008 NFPA 70), 2010 INDIANA ENERGY CODE (ASHRAE 90.1-2007), PERTINENT STATE, COUNTY, CODES AND ORDINANCE AND INDIANA AMENDMENTS. COORDINATE WORK WITH OTHER TRADES. ELECTRICAL CONTRACTOR SHALL BEAR ALL COSTS RESULTING FROM ANY NON COMPLIANCE WITH CODE REQUIREMENTS
- MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS INDICATED OTHERWISE. MATERIAL SHALL BEAR U.L. LABEL WHERE SUCH STANDARDS HAVE BEEN ESTABLISHED AND LISTED BY U.L. MATERIALS AND EQUIPMENT SHALL CONFORM WITH THE LATEST ISSUES OF APPLICABLE TECHNICAL STANDARDS.
- THE ELECTRICAL CONTRACTOR IS TO PROVIDE A COMPLETE SYSTEM OF LIGHTING, RECEPTACLES, AND POWER AS REQUIRED. VERIFY ALL VOLTAGES AND PHASE REQUIREMENTS WITH MECHANICAL CONTRACTOR'S EQUIPMENT PRIOR TO PERFORMING ANY WORK.
- ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS BEFORE SUBMITTING A BID. NO EXTRAS WILL BE ENTERTAINED FOR CONTRACTORS FAILURE TO IDENTIFY EXISTING CONDITIONS AND ADJUST AS REQUIRED TO MEET DESIGN INTENT.

WIRING AND RACEWAYS

- ALL CONDUIT COUPLINGS AND CONNECTIONS SHALL BE COMPRESSION TYPE AND MADE TO ENSURE POSITIVE GROUNDING CONTINUITY. MAKE CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION WITH 18 INCHES OF FLEXIBLE WATERTIGHT CONDUIT WITH WATERTIGHT FITTINGS. PROVIDE FOR SUPPORT AND SECURING OF ALL CONDUIT AND EQUIPMENT. CONNECTIONS TO LIGHTING FIXTURES SHALL BE MADE WITH SIX (6) FEET OF FLEXIBLE CONDUIT FROM A BOX WITHIN TWO (2) FEET OF THE FIXTURE. SPLICE ALL WIRES ONLY IN ACCESSIBLE BOXES. ALL FIXTURE WHIPS TO BE FLEXIBLE METAL CONDUIT USING COMPRESSION CONNECTORS WITH INSULATED THROATS. WHIPS SHALL NOT EXCEED 6'. FIXTURE WHIPS TO BE SUPPORTED FROM BUILDING STRUCTURE.
- ALL LIGHTING AND BRANCH CIRCUIT WIRING SHALL BE SOLID COPPER MINIMUM SIZE #12 AWG. 600V INSULATION, 75 DEG. C. TYPE THW OR THWN, NOT LESS THAN #12 AWG. ALL WIRE SERVING AS FEEDS TO DISTRIBUTION PANEL BOARDS OR INTEGRAL HORSEPOWER MOTORS SHALL BE EITHER STRANDED COPPER CONDUCTOR OR ASTM B800 ALUMINUM AA-8000 SERIES. THESE SHALL BE SIZED NOT LESS THAN #10 AWG FOR COPPER AND NOT LESS THAN #8 AWG FOR ALUMINUM. EACH WITH MINIMUM 600V THW OR THWN INSULATION, 75 DEG. C. ALL FEEDER SHALL BE SIZED IN ACCORDANCE WITH NEC 310.15.
- ALL EXPOSED POWER WIRING SHALL BE IN EMT RACEWAY OR MC CABLE (WHERE ALLOWED BY AHJ). EXTERIOR WIRING SHALL BE IN EMT, PVC OR RIGID CONDUIT. CONCEALED WIRING SHALL BE IN EMT OR METAL CLAD CABLE WHERE ALLOWED BY CODE.
- ALL LOW VOLTAGE CABLE SHALL BE PLENUM RATED, ICEA STRANDED OR SOLID SOFT DRAWN COPPER MEETING ASTM B3. ALL LOW VOLTAGE CABLE SHALL BE NEW WIRE OF RECENT MANUFACTURE, UL LISTED AND INSTALLED IN ACCORDANCE WITH THE LATEST STANDARDS OF ANSI, EIA/TIA, ICEA, NEC AND NEMA. WIRE SHALL BE PROPERLY SUPPORTED USING J HOOKS, CABLE TRAYS, ZIP TIES OR MANUFACTURED SYSTEM. MAXIMUM SUPPORT SPACING SHALL NOT EXCEED 5 FEET.
- ALL DEVICES AND EQUIPMENT SHALL BE SOLIDLY GROUNDED IN ACCORDANCE WITH NEC REQUIREMENTS.
- ALL SOLID CONDUCTOR WIRES MAY BE TERMINATED UNDER SCREW HEADS. STRANDED WIRES MAY BE TERMINATED BY USING PUSH-IN CLAMP TYPE CONNECTORS FURNISHED WITH DEVICES OR TERMINATED WITH COMPRESSION TYPE TERMINAL LUGS. SET SCREW TYPE TERMINATIONS ARE NOT PERMITTED.
- NO MOTORS ARE TO BE SUPPLIED UNDER THIS CONTRACT UNLESS ITEMS REQUIRING A MOTOR ARE FURNISHED BY THIS CONTRACTOR. THE CONTRACTOR SHALL FURNISH

ELECTRICAL SPECIFICATIONS

- BID INSTRUCTIONS: CONTRACTORS SHALL PROVIDE BASE BID IN STRICT ACCORDANCE WITH DESIGN BASIS EQUIPMENT AND MATERIALS. PROJECT DOES ENCOURAGE COMPETITIVE PRICING AND ALLOWS FOR SUBSTITUTIONS OF EQUAL EQUIPMENT AND MATERIALS AGAINST THE BASIS OF DESIGN. SUBSTITUTE ITEMS WILL BE COMPARED AGAINST DESIGN BASIS DURING SUBMITTAL PROCESS. ENGINEER RESERVES THE RIGHT TO REJECT SUBSTITUTIONS FOUND NOT TO BE EQUAL TO ITEMS LISTED IN DESIGN BASIS..
- E.C. SHALL PROVIDE ALL COMPONENTS NEEDED TO MEET MEANS OF DISCONNECT PER N.E.C. FOR ALL HARD WIRED EQUIPMENT.

PANELS AND DISCONNECTS

- PANELBOARDS SHALL BE A DEAD-LOCK SAFETY TYPE, SURFACE OR RECESSED MOUNTED AS SHOWN, EQUIPPED WITH THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS WITH FRAME AND TRIP RATINGS AS REQUIRED. TERMINALS FOR FEEDER CONDUCTORS TO THE PANELBOARD MAINS AND NEUTRAL SHALL BE U.L. LISTED AS SUITABLE FOR THE TYPE OF CONDUCTOR SPECIFIED. TERMINALS FOR BRANCH CIRCUIT WIRING, BOTH BREAKER AND NEUTRAL, SHALL BE U.L. LISTED AND CONNECTORS SHALL BE OF THE FULL COMPRESSION TYPE.THE PANELBOARD BUS ASSEMBLY SHALL BE ENCLOSED IN A STEEL CABINET. THE SIZE OF THE WIRING GUTTERS AND GAUGE OF STEEL SHALL BE IN ACCORDANCE WITH NEMA STANDARD PUBLICATION NO. PB-1971 AND U.L. STANDARDS NO. 67 FOR PANELBOARDS. CABINET SHALL BE FABRICATED FROM GALVANIZED STEEL OR EQUIVALENT RUST-RESISTANT STEEL. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, BRUSHED STAINLESS STEEL, OY UNDER TUMBLER-TYPE LOCKS WITH CATCHES AND SPRING LOADED DOOR PULLS. THE FLUSH LOCK SHALL NOT PROTRUDE BEYOND THE FRONT DOOR. ALL PANELBOARD LOCKS SHALL BE KEYPD ALIKE. FRONTS SHALL HAVE ADJUSTABLE INDICATING TRIP CLAMPS WHICH SHALL BE CONCEALED WHEN THE DOORS ARE CLOSED. DOORS SHALL BE MOUNTED BY COMPLETELY CONCEALED HINGES. FRONTS SHALL NOT BE REMOVABLE WITH DOOR IN THE LOCATED POSITION. A CIRCUIT DIRECTORY FRAME AND TYPE WRITTEN CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. THE DIRECTORY CARDS SHALL PROTECT A SPACE AT LEAST 1/4" HIGH X 3" LONG OR EQUIVALENT FOR EACH CIRCUIT. FRONTS SHALL BE OF CODE GAUGE, FULL FINISHED STEEL WITH RUST-INHIBITING PRIMER FACTORY FINISHED ENAMEL PAINT.
- LOAD CENTERS SHALL BE UL LISTED AND MANUFACTURED IN ACCORDANCE WITH THE LATEST NEMA STANDARDS. CABINETS SHALL USE HINGED STYLE DOORS. MOUNT AT 6'-6" TO TOP OF CABINET.
- CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL-MAGNETIC, TRIP INDICATING AND HAVE COMMON TRIP ON ALL MULTIPOLE BREAKERS. BRANCH CIRCUIT BREAKERS FEEDING CONVENIENCE OUTLETS SHALL HAVE SENSITIVE INSTANTANEOUS TRIP SETTINGS OF NOT MORE THAN 10 TIMES THE TRIP RATING OF BREAKER TO PREVENT REPEATED ARCING SHORTS RESULTING FROM FRAYED APPLIANCE CORDS. CONNECTION TO BUS SHALL BE BOLT ON.
- CONTRACTOR TO OBTAIN MAXIMUM FAULT CURRENT AVAILABLE FROM THE UTILITY. CALCULATE THE FAULT CURRENT AVAILABLE AT THE PANELS. ALL PANELS/BREAKERS/SWITCHES ARE TO BE BRACED TO EXCEED MAXIMUM AVAILABLE FAULT CURRENT AND CIRCUIT BREAKERS ARE TO BE CAPABLE OF INTERRUPTING FAULT CURRENT. MANUFACTURER SHALL PROVIDE ALL REQUIRED FAULT CURRENT AND ARC-FLASH LABELING PER 110.16 AND 110.24.
- MAXIMUM LOADING OF 20 AMP CIRCUITS SHALL NOT EXCEED 1750 WATTS. VOLTAGE DROP OF BRANCH CIRCUITS SHALL NOT EXCEED 3% AND FEEDER CIRCUITS SHALL NOT EXCEED 2%. SEAL ALL PENETRATIONS THROUGH WALLS, CEILINGS AND FLOORS AIR AND WATER TIGHT. FIRE STOP WHERE REQUIRED.
- CONTRACTOR SHALL PROVIDE ENGRAVED BAKELITE NAMEPLATES FOR ALL ELECTRICAL PANELS AS REQUIRED BY NEC 408.4(B) AND SHALL LABEL ALL DISCONNECTS, TRANSFORMERS AND MOTORS OVER 1 HP. FURNISH TYPEWRITTEN PANEL DIRECTORIES TO IDENTIFY ALL ELECTRICAL CIRCUITS BOTH NEW AND EXISTING.
- DISCONNECT SWITCHES SHALL BE GENERAL DUTY, NEMA TYPE 1 FOR INDOOR SERVICE AND NEMA TYPE 3R FOR OUTDOOR SERVICE, SUITABLE FOR PADLOCKING, NUMBER OF POLES, RATINGS, FUSES (IF REQUIRED) SHALL BE AS INDICATED ON THE DRAWINGS.

DEVICES

- VERIFY EXACT LOCATION, COLOR AND HEIGHTS OF ALL OUTLETS, RECEPTACLES, LIGHT FIXTURES AND EQUIPMENT WITH OWNER'S REPRESENTATIVE PRIOR TO START OF WORK. FURNISH GENERAL SERVICE DUPLEX'S, 15 AMP SWITCHES, 15/20 AMP GFIC'S, HEAVY DUTY DISCONNECTS, HVAC SSU SWITCHES, PANEL BOARDS, LOAD CENTERS, DISTRIBUTION PANELS ETC. AS REQUIRED.
- CONVENIENCE RECEPTACLES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR (A.F.F.) TO BOTTOM UNLESS NOTED OTHERWISE. SWITCHES AND PLUGS SHALL BE 42" A.F.F. TO BOTTOM UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.
- PRIOR TO ROUGH-IN E.C. SHALL VERIFY FINAL LOCATIONS AND COLORS OF ALL DEVICES WITH OWNER.
- INSTALL ALL DEVICES PARALLEL AND PERPENDICULAR TO ADJACENT WALL AND CEILING, FLUSH WITH SURROUNDING SURFACES AND FREE FROM ALL OBSTRUCTIONS. REWORKING OF EQUIPMENT INSTALLED IMPROPERLY SHALL BE AT THE CONTRACTOR'S EXPENSE.
- SWITCHES, BOXES, ETC. SHALL BE NEMA TYPE 1 CONSTRUCTION FOR INDOOR APPLICATIONS AND NEMA TYPE 3R CONSTRUCTION FOR OUTDOOR APPLICATIONS.
- SWITCHES SHALL MEET NEMA STANDARDS, COLOR SHALL BE BY ARCHITECT. SWITCHES SHALL BE EQUAL TO HUBBELL COMMERCIAL SPECIFICATION GRADE 2015 AMPERES, SINGLE POLE, 125/277V, MULTI-POLE OR SPECIAL SWITCHING SHALL BE AS NOTED ON THE DRAWINGS.
- RECEPTACLES SHALL BE 125 VOLT, 15/20 AMPERES, DUPLEX, GROUNDED HUBBELL COMMERCIAL SPECIFICATION GRADE. SPECIAL RECEPTACLES SHALL BE AS NOTED ON THE DRAWINGS.
- MATCHING COVER PLATES SHALL BE PROVIDED FOR ALL RECEPTACLES AND SWITCHES.

LIGHTING FIXTURES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING

ELECTRICAL SPECIFICATIONS

- FIXTURES- MODEL NUMBERS, QUANTITY AND DISTANCE BETWEEN LIGHTING FIXTURE PER FLOOR PLANS. ALL LIGHTING SHALL BE U.L. LISTED.
- PRIOR TO ROUGH-IN E.C. SHALL VERIFY FIXTURE QUANTITY, MODELS, STYLE, TRIM, LENS, ETC. WITH OWNER FOR ALL FIXTURES.
- PRIOR TO ROUGH-IN LOCATION AND TYPE OF LIGHTING CONTROLS SHALL BE APPROVED BY OWNER OR ARCHITECT. GENERALLY, SWITCHES SHALL BE INSTALLED IN READILY ACCESSIBLE AREAS AT ENTRIES TO AREA. ALL DIMMERS SHALL COMPATIBLE AND AS RECOMMENDED BY LAMP/DRIVER MANUFACTURER.
- PROVIDE LIGHTING FIXTURES COMPLETE WITH, BUT NOT NECESSARILY LIMITED TO, HOUSINGS, LAMPS, LAMP HOLDERS, REFLECTORS, BALLASTS, STARTERS AND WIRING.
- INSTALL LIGHTING FIXTURES AT LOCATIONS AND HEIGHTS AS INDICATED, IN ACCORDANCE WITH FIXTURE MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLICABLE REQUIREMENTS OF NEC, NECAS "STANDARD OF INSTALLATION", NEMA STANDARDS, AND WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT LIGHTING FIXTURES FULFILL REQUIREMENTS.
- COORDINATE WITH OTHER ELECTRICAL WORK AS APPROPRIATE TO PROPERLY INTERFACE INSTALLATION OF INTERIOR LIGHTING FIXTURES WITH OTHER WORK.
- E.C. TO FASTEN FIXTURES SECURELY DIRECTLY TO BUILDING STRUCTURAL SYSTEM. LIGHT TROFFERS SHALL BE SUPPORTED AT EACH CORNER OF FIXTURE BY WIRES OF SAME GAUGE AS HANGER WIRE FOR CEILING GRID. ATTACH EARTHQUAKE CLIPS TO GRID AS RECOMMENDED BY LIGHT MANUFACTURER. USE SCREWS IF REQUIRED BY MANUFACTURER. ATTACH THE WIRE TO THE STRUCTURE ABOVE. LIGHTS SHALL NOT BE SUPPORTED IN ANYWAY BY LAY-IN CEILING.
- FIXTURE LOCATIONS SHALL BE AT APPROXIMATE LOCATIONS AS SHOWN ON THE DRAWINGS FREE FROM ALL OBSTRUCTIONS. CLEAN ALL LIGHTING EQUIPMENT AFTER LIGHTING INSTALLATION AND GENERAL CONSTRUCTION IS COMPLETE. REPAIR ANY FIXTURES DAMAGED DURING CONSTRUCTIONS.
- PROVIDE LAMPS FOR ALL FIXTURES. GENERALLY LAMPS IN SIMILAR AREAS SHALL BE SELECTED AT SAME COLOR TEMPERATURE. E.C. SHALL BE RESPONSIBLE TO CHANGE OUT ANY MISMATCHED LAMPS.
- FIXTURES SHALL BE INSTALLED AS NEEDED FOR FULL FUNCTIONALITY. PROVIDE NECESSARY MOUNTING FRAMES, SUPPORTS, TRACKS, CHAINS, CORDS AND ALL RELATED ITEMS REQUIRED TO FULLY INSTALL FIXTURES. SUPPORT FIXTURES INDEPENDENTLY OF PIPING AND DUCTWORK. MAKE MODIFICATIONS TO THE STRUCTURE AS REQUIRED TO INSTALL FIXTURES. ANY MODIFICATIONS TO THE STRUCTURE SHALL NOT IMPAIR THE STRUCTURAL INTEGRITY OF THE BUILDING.

LOW VOLTAGE

- ALL LOW VOLT ROUGH INS, RACEWAYS, CABLING, HANGERS, JACKS, PLUGS TESTING AND LABELING IS BY E.C.
- ALL LOW VOLTAGE CABLE WHERE CONCEALED IN CONSTRUCTION OR IN EXPOSED OPEN AREAS SHALL BE RUN IN MINIMUM 3/4" EMT CONDUIT. CONTRACTOR SHALL INSTALL 3/4" CONDUIT (MINIMUM) FROM EACH LOW VOLTAGE ROUGH-IN LOCATION TO ACCESSIBLE CEILING SPACE. LOW VOLTAGE WIRE TRAY OR HANGERS AND THEN TO MDF, HEAD-IN, PBX PUNCH DOWN, CONTROLLER ETC.
- ALL CABLE SHALL BE NEW PLENUM RATED WIRE OF RECENT MANUFACTURE AND IN ACCORDANCE WITH THE LATEST STANDARDS OF IPCEA AND NEMA AS A MINIMUM.
- ALL DATA CABLE SHALL BE CAT 6 UNLESS OTHER WISE NOTED. TERMINATE, LABEL AND TEST ALL WIRING.
- ALL TV CABLE SHALL BE HIGH DEFINITION COAX RG6 OR AS REQUIRED BY PROVIDER. VOLTAGE PRIOR TO ROUGH-IN. TERMINATE, LABEL AND TEST ALL WIRING.

FIRE STOPPING.

- FIRE STOPPING SYSTEMS SHALL BE IN FULL COMPLIANCE WITH SECTIONS 714 OF THE IBC AND NFPA 221.
- CONTRACTOR SHALL MAKE REFERENCE TO ARCHITECTURAL PLANS AND PROVIDE ALL REQUIRED FIRE STOPPING.
- CONTRACTOR SHALL PROVIDE AHJ WITH FULL SUBMITTAL INDICATING METHODS OF CONSTRUCTION AND UL LISTINGS FOR EACH PENETRATION SYSTEM USED.
- PENETRATIONS OF FIRE-RESISTANCE-RATED WALLS OR FLOOR CEILING ASSEMBLIES BY ELECTRICAL DEVICES, RACEWAYS OR PANELS, ETC. SHALL COMPLY WITH SECTIONS 713.2 THROUGH 713.3.3 OF THE IBC.
- ACCESS DOORS REQUIRED IN CEILINGS OF FIRE-RESISTANCE-RATED FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES SHALL BE TESTED IN ACCORDANCE WITH ASTM E 119 OR UL 263 AS HORIZONTAL ASSEMBLIES AND LABELED BY AN APPROVED AGENCY FOR SUCH PURPOSE.

CLOSE OUT

- PROVIDE MANUFACTURERS OPERATION AND MAINTENANCE MANUALS AND PROVIDE AS BUILT DRAWINGS. PROVIDE (1) TRAINING SESSION TO OWNER SELECTED PERSONNEL AS REQUESTED AND PROVIDE WARRANTY INFORMATION FOR ALL MANUFACTURERS WARRANTED EQUIPMENT

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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
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ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

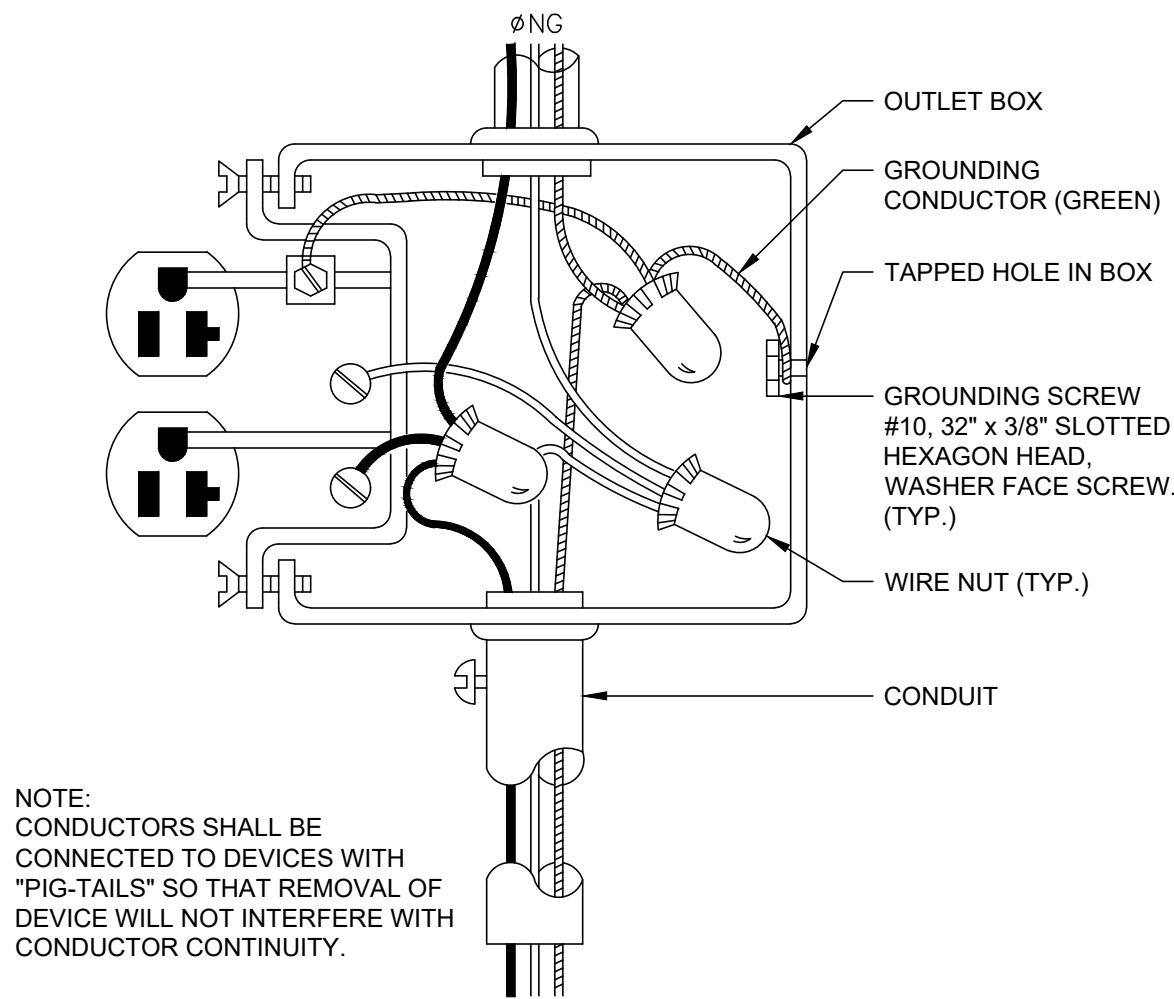
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REGISTERED PROFESSIONAL ENGINEER
Jeffrey M. Penick
No. 119008239
STATE OF INDIANA
SHEET DESCRIPTION: ELECTRICAL ABBREVIATIONS, SYMBOLS, & SPECIFICATIONS

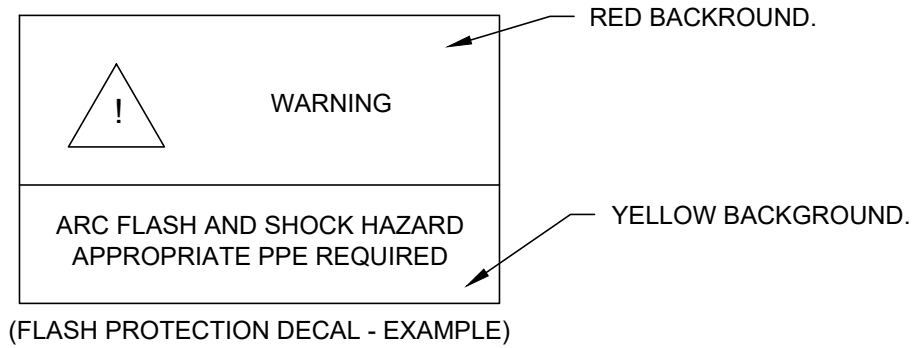
REVISIONS

BUILDING # 220131
SCALE: SEE PLAN
DATE: 3/21/2022
DRAWN BY: JUP
CHECKED BY: JUP
OWNER APPROVAL: JUP
FILE:

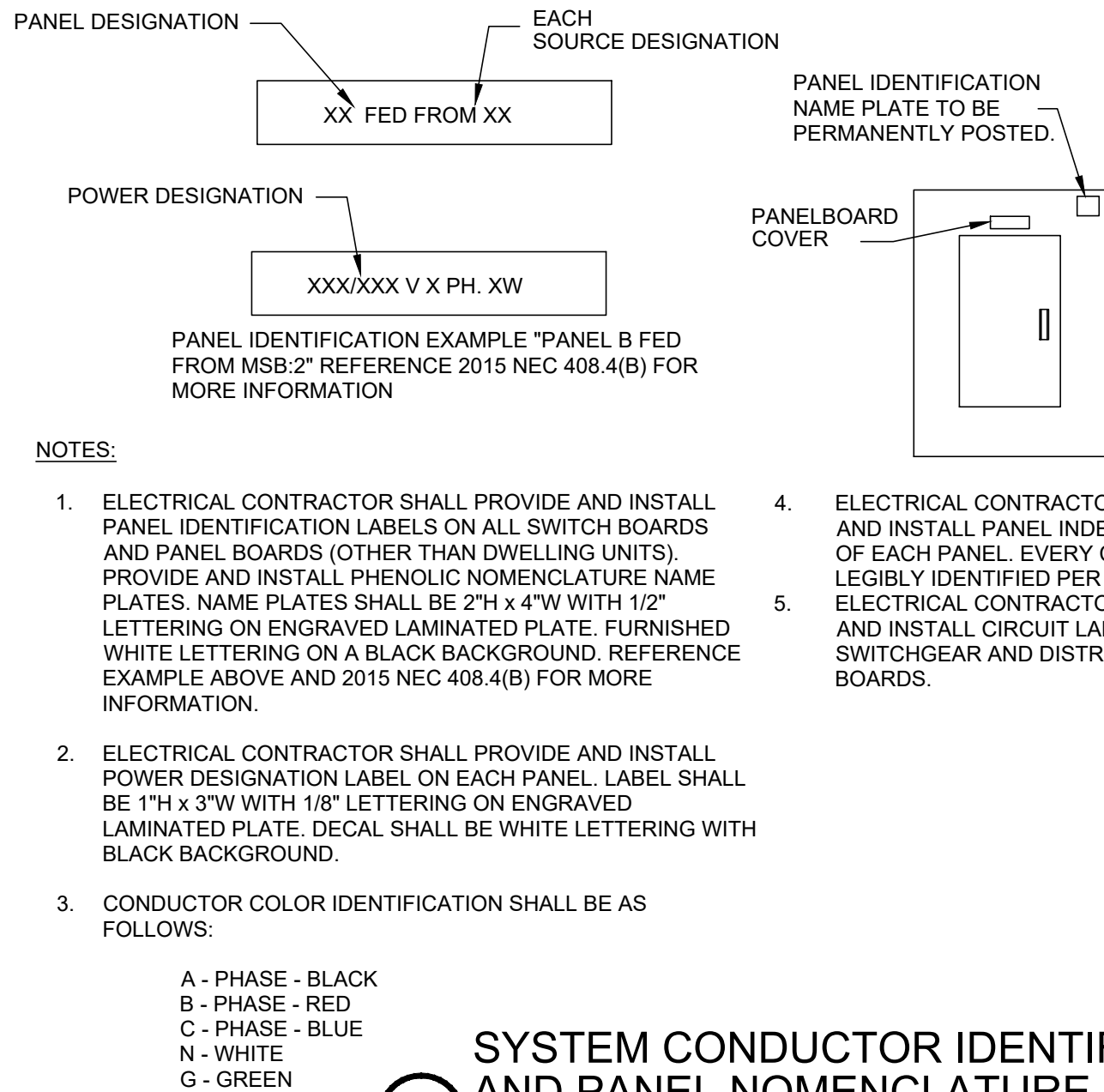
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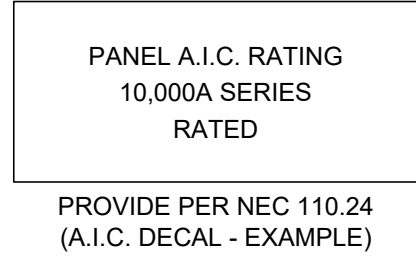
A RECEPTACLE DETAIL
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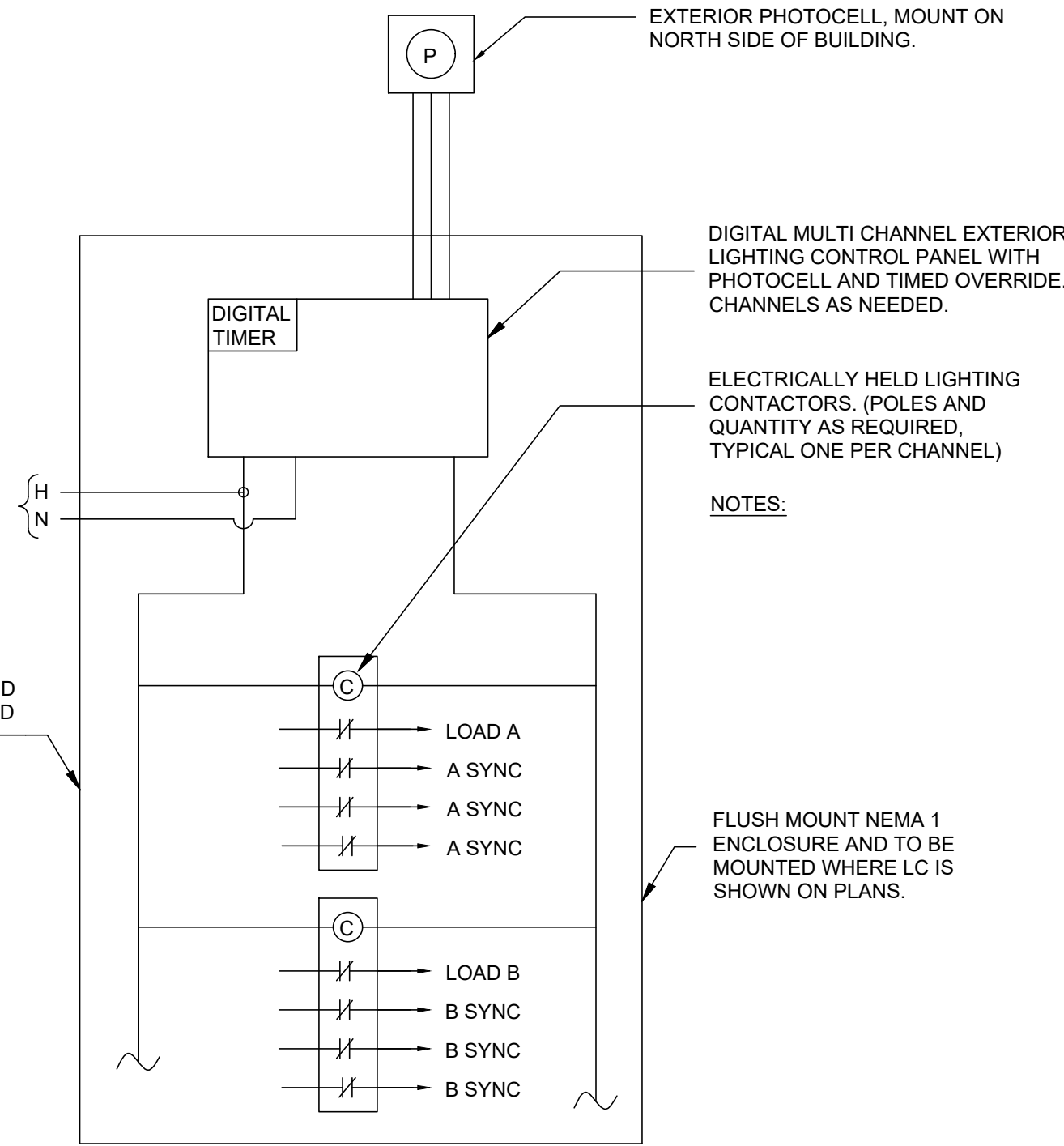
D FLASH PROTECTION DECAL
SCALE: NO SCALE



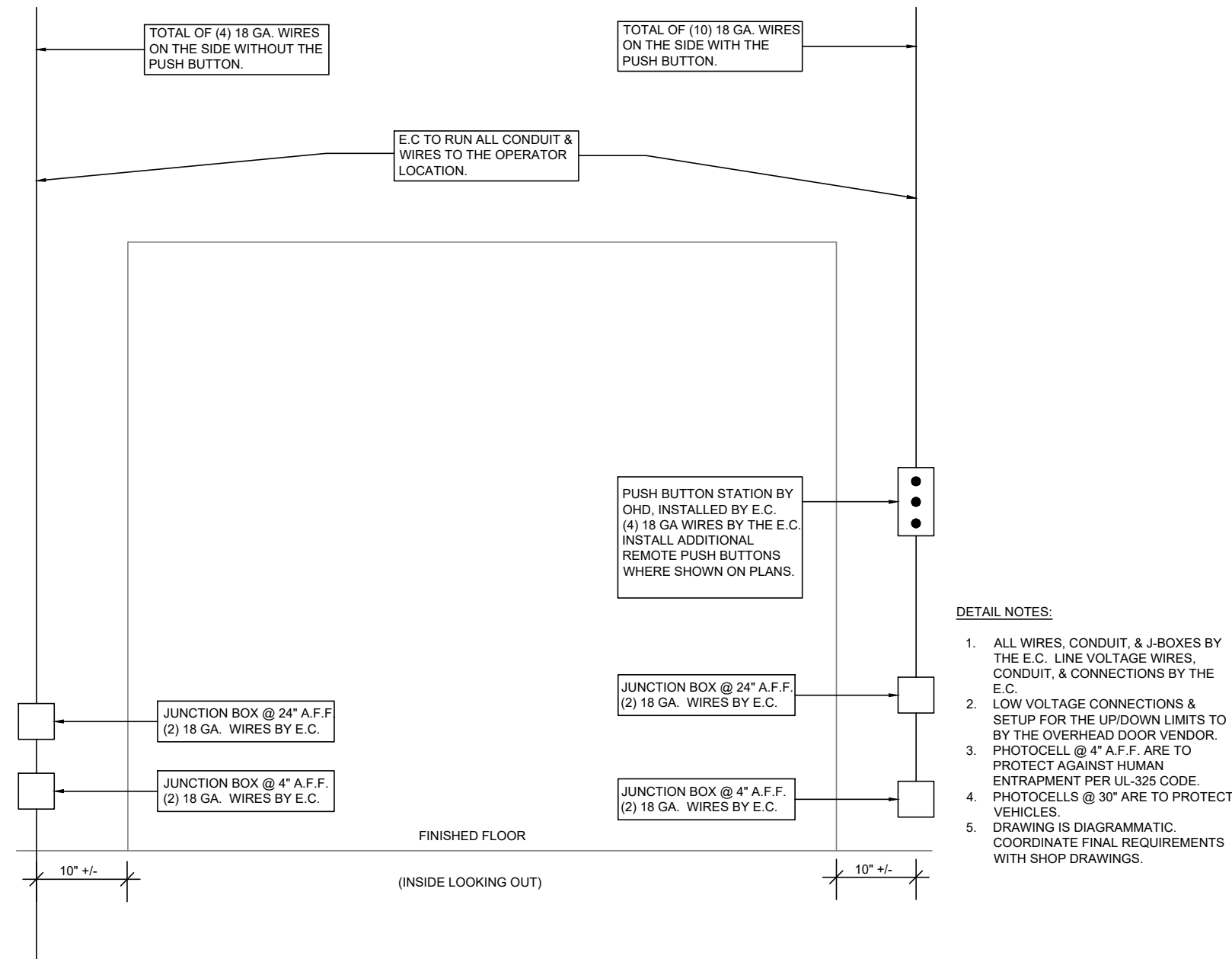
B SYSTEM CONDUCTOR IDENTIFICATION AND PANEL NOMENCLATURE
SCALE: NO SCALE



E A.I.C. IDENTIFICATION DECAL
SCALE: NO SCALE



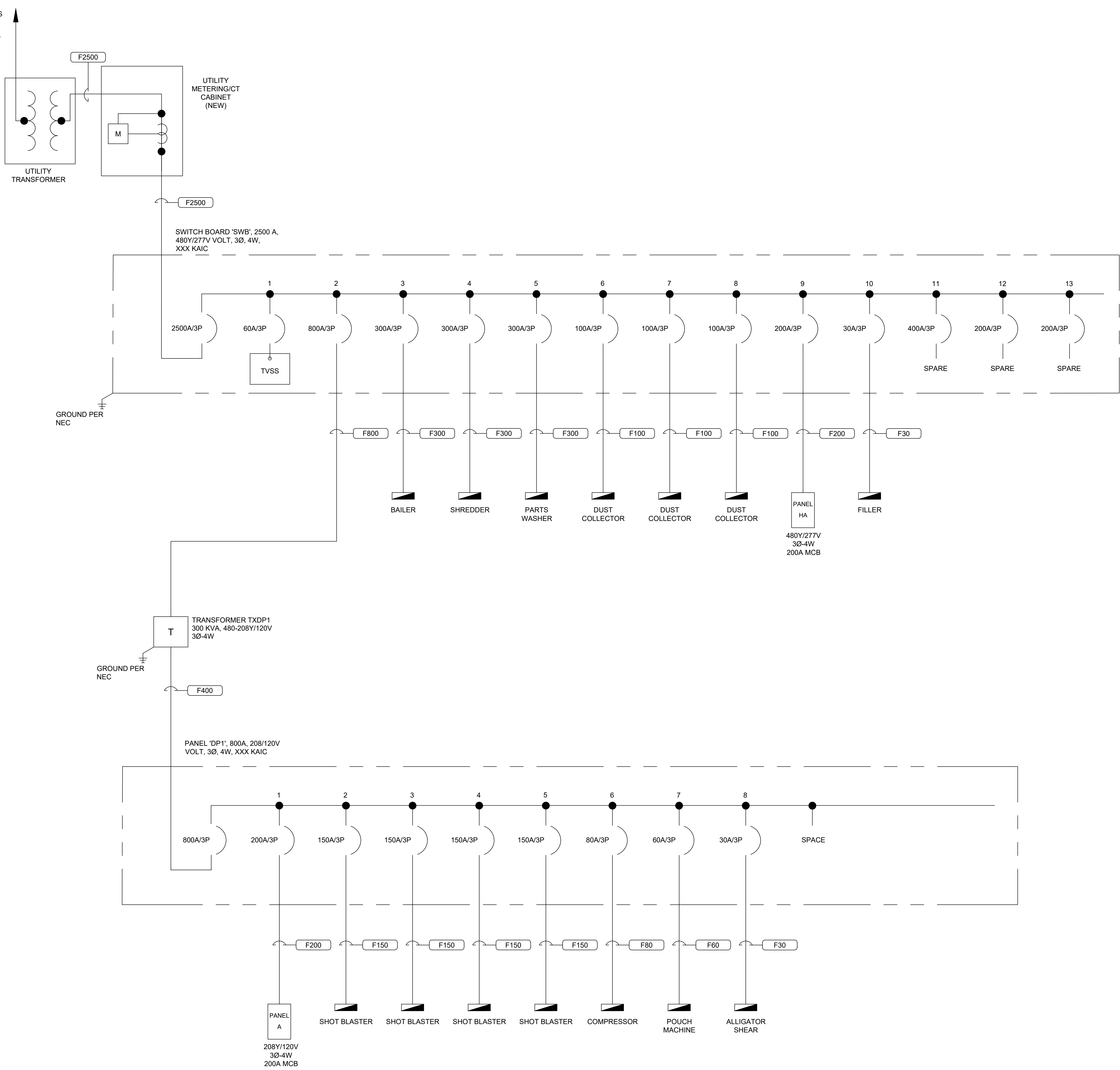
C EXTERIOR LIGHTING CONTROL
SCALE: NO SCALE



F MOTORIZED OVERHEAD DOOR DETAIL
SCALE: NO SCALE

LIGHT FIXTURE SCHEDULE (FOR BIDDING ONLY, FINAL SELECTIONS TO BE APPROVED BY OWNER)							
TYPE	FIXTURE TYPE	MOUNTING	LAMPS	WATTS	VOLTAGE	MFG	CATALOG NUMBER
H1	HIGHBAY LED LIGHT FIXTURE, WIRE GUARD	SUSPENDED	LED, 24000 LUMENS, 4000K	180	MVOLT	LITHONIA	IBH 24000LM SD080 MD 40K 80CRI WG1HB4
H1E	SAME AS H1 EXCEPT INCLUDE EMERGENCY BATTERY INVERTER						
L1	2X4 FLAT PANEL LED	SURFACE	LED, 6800 LUMENS, 4000K	48	MVOLT	LITHONIA	EPANL 2X4 6800 LUMENS 80 CRI 40K MVOLT, INCLUDE SURFACE MOUNT KIT
L2	4" STRIP FIXTURE	SURFACE	LED, 4000 LUMENS, 4000K	53	MVOLT	LITHONIA	CSS L48 4000LM MVOLT 40K 80 CRI
L3	VANITY LIGHT	SURFACE	LED, 4000K	27	MVOLT	LITHONIA	FMVCSLS 24IN MVOLT 40K 90 CRI BN M6
S1	EXTERIOR WALL SCONCE	SURFACE	LED, 1849 LUMENS, 4000K	154	MVOLT	SOLAIS	SOLAIS GL2-16-4S-740-STD-0-10-0-BZ-WP
S2	PARKING LOT POLE LIGHT	POLE MTD.	LED, 22680 LUMENS, 4000K	174	MVOLT	US ARCH LIGHTING	USA VLL LED-PLD-IV-FT-80LED-700mA-NW-VOLT-1-FINISH
S3	PARKING LOT POLE LIGHT	POLE MTD.	LED, 30124 LUMENS, 4000K	258	MVOLT	US ARCH LIGHTING	USA VLL LED-PLD-III-W-80LED-1050mA-NW-MVOLT-1-FINISH
E1	EMERGENCY LIGHTING UNIT	SURFACE	LED	6.6	MVOLT	LITHONIA	ELM6L
E2	EMERGENCY EXTERIOR EGRESS LIGHTING UNIT, WET RATED	SURFACE	LED	10	277	LITHONIA	ERE GY SGL WP SQ M12
X1	EMERGENCY/EXIT SIGN COMBO	SURFACE	LED	3	277	LITHONIA	LHQM LED R HO M6

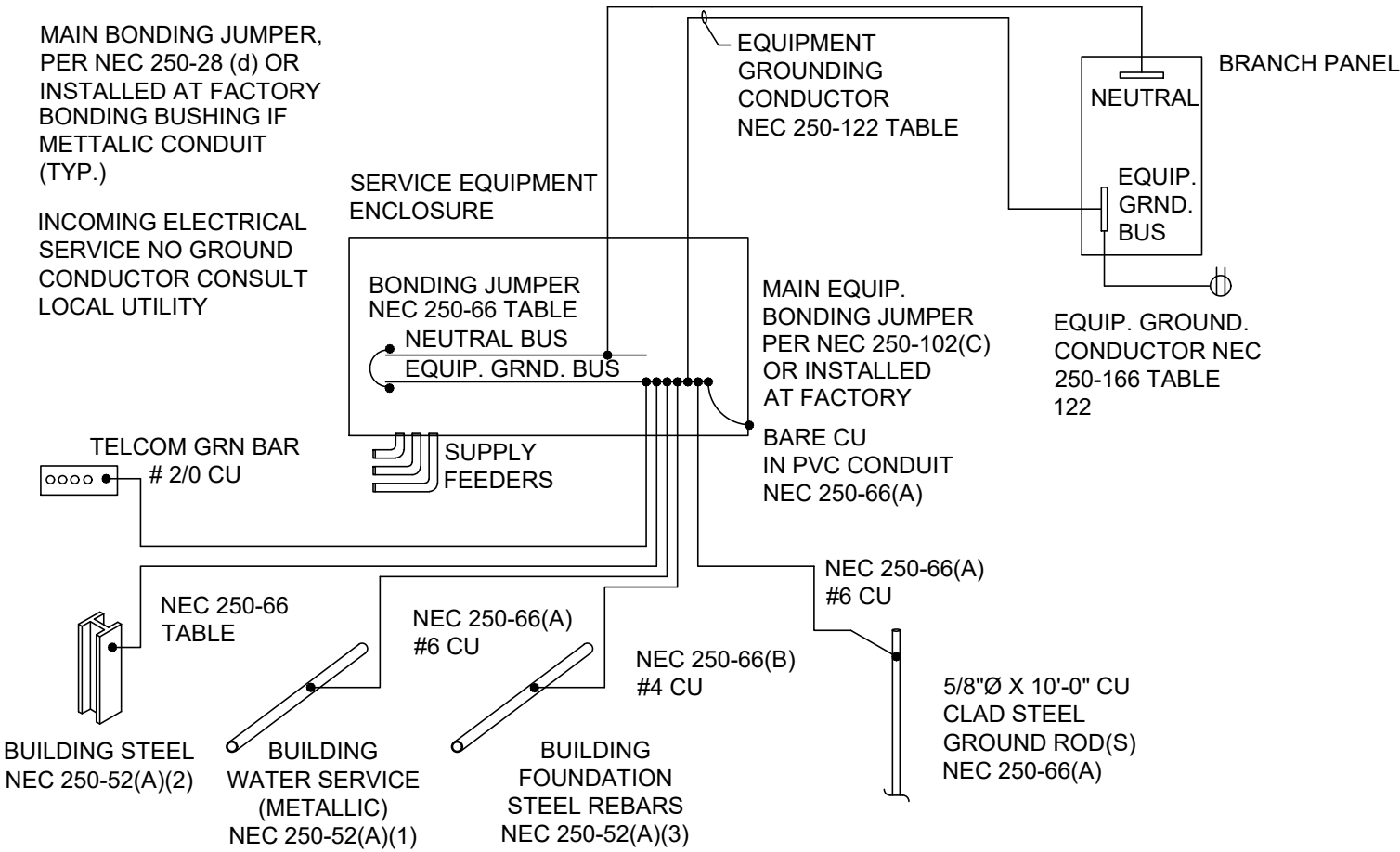
E.C. TO PROVIDE
PRIMARY RACEWAYS
AS REQUIRED BY
UTILITY.
COORDINATE EXACT
REQUIREMENTS
WITH UTILITY
COMPANY



1 ELECTRICAL RISER DIAGRAM
SCALE: NO SCALE

FEEDER SCHEDULE (ALUMINUM)				
FEEDER/BRANCH CIRCUIT LABEL	CONDUCTOR SIZE PER CONDUIT		CONDUIT SIZE & QUANTITY	
	PHASE & NEUTRAL	EQUIP/SERV GROUND	2P, 1N, 1G, 3P, 1G	3P, 1N, 1G
F60	4	8	1"	1-1/4"
F70	3	6	1-1/4"	1-1/4"
F80	2	6	1-1/4"	1-1/4"
F90	2	6	1-1/4"	1-1/2"
F100	1	6	1-1/4"	1-1/2"
F110	1/0	4	1-1/2"	2"
F125	1/0	4	1-1/2"	2"
F150	3/0	4	2"	2"
F175	4/0	4	2"	2-1/2"
F200	250 MCM	4	2-1/2"	2-1/2"
F225	300 MCM	2	2-1/2"	2-1/2"
F250	350 MCM	2	2-1/2"	3"
F300	500 MCM	2	3"	3"
F350	4/0	1	3"	3"
F400	750 MCM	1	3"	3-1/2"
F450	250 MCM 2 SETS	1 EA.	3"	3-1/2"
F460	300 MCM 2 SETS	1/0 EA.	3"	3-1/2"
F500	350 MCM 2 SETS	1/0 EA.	3-1/2"	4"
F600	500 MCM 2 SETS	2/0 EA.	4"	(2) 3-1/2"
F800	400 MCM 3 SETS	3/0 EA.	(3) 2-1/2"	(3) 3"
F800	750 MCM 2 SETS	3/0 EA.	(2) 3-1/2"	(2) 4"
F1000	350 MCM 4 SETS	4/0 EA.	(4) 2-1/2"	(4) 3-1/2"
F1000	600 MCM 3 SETS	4/0 EA.	(3) 3-1/2"	(3) 4"
F1200	500 MCM 4 SETS	250 MCM EA.	(4) 3"	(4) 3-1/2"
F1600	600 MCM 5 SETS	350 MCM EA.	(5) 3-1/2"	(5) 4"
F2000	600 MCM 8 SETS	450 MCM EA.	(6) 3-1/2"	(6) 4"
F2500	600 MCM 8 SETS	800 MCM EA.	(8) 3-1/2"	(8) 4"
F2500	750 MCM 9 SETS	700 MCM EA.	(7) 4"	(7) 6" PVC (7) 6" EMT
F3000	600 MCM 9 SETS	700 MCM EA.	(9) 4"	(9) 4"
F3000	750 MCM 8 SETS	750 MCM EA.	(8) 4"	(8) 6" PVC (8) 4" EMT

NOTE: FEEDER SCHEDULE CONDUIT SIZING SHOWN IS BASED UPON THIN, THWN, THWN-2 INSULATED CONDUCTOR IN EMT CONDUIT PER N.E.C. TABLE C.1. E.C. SHALL MAKE FINAL DETERMINATION OF CONDUIT SIZING PER N.E.C. BASED UPON TYPE OF INSULATED CONDUCTOR INSTALLED. ADJUST SIZE AND COUNTS AS REQUIRED TO COMPLY WITH N.E.C.



2 ELECTRICAL GROUNDING DETAIL
SCALE: NO SCALE

GROUNDING ELECTRODE SIZING (NEC 250.66)			
SERVICE ENTRANCE*		GND CONDUCTOR	
COPPER	ALUMINUM	COPPER	ALUMINUM
<2	<1/0	#8	#6
1 - 1/0	2/0 - 3/0	#6	#4
2/0 - 3/0	4/0 - 250	#4	#2
> 3/0 - 350	> 250 - 500	#2	1/0
> 350 - 600	> 500 - 900	1/0	3/0
> 600 - 1100	> 900 - 1750	2/0	4/0
> 1100	> 1750	3/0	250

* TOTAL OF LARGEST OR SUM OF ALL PARALLEL INCOMING UNGROUNDED PHASE CONDUCTORS.

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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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Jeffrey M. Penick
Professional Engineer

SHEET DESCRIPTION:
ELECTRICAL RISER
DIAGRAM, SCHEDULES &
DETAILS

REVISIONS

BUILDING #
220131
SCALE
SEE PLAN
DATE
3/21/2022
DRAWN BY
ZB
CHECKED BY
JP
OWNER APPROVAL
FILE

E003

HA

ELECTRICAL ROOM
SURFACE MOUNT
BOTTOM FEED

480/277 VOLT, 3 PHASE, 4 WIRE, WITH GROUND BUS
400 A BUS
400 MB
PROVIDE FEED-THRU LUGS

DESCRIPTION	KVA	LOAD QTY	LOAD TYPE	BREAKER AMP/POLE	#	#	BREAKER AMP/POLE	LOAD TYPE	LOAD QTY	KVA	DESCRIPTION
WALL HEATER (RISER ROOM)	4		PW	20/1	1	A	2	15/3	MS	2.9	AC-1
SPARE			SR	20/1	3	B	4		MS	2.9	
LIGHTING	3.8		L	20/2	5	C	6		MS	2.9	
					7	A	8	20/3	MN	0.6	EF-4
LIGHTING	3.3		L	20/2	9	B	10		MN	0.6	
			L		11	C	12		MN	0.6	
SITE LIGHTING	1.7		L	20/2	13	A	14	20/1	SR		SPARE
			L		15	B	16	20/1	SR		SPARE
OFFICE LIGHTING	1.7		L	20/1	17	C	18	20/1	SR		SPARE
	2										
SPARE			SR	20/1	19	A	20	20/1	SR		SPARE
SPARE			SR	20/1	21	B	22	20/1	SR		SPARE
SPARE			SR	20/1	23	C	24	20/1	SR		SPARE
SPARE			SR	20/1	25	A	26	20/1	SR		SPARE
SPARE			SR	20/1	27	B	28	20/1	SR		SPARE
SPARE			SR	20/1	29	C	30	20/1	SR		SPARE
SPARE			SR	20/1	31	A	32	20/1	SR		SPARE
SPARE			SR	20/1	33	B	34	20/1	SR		SPARE
SPARE			SR	20/1	35	C	36	20/1	SR		SPARE
SPARE			SR	20/1	37	A	38	20/1	SR		SPARE
SPARE			SR	20/1	39	B	40	20/1	SR		SPARE
SPARE			SR	20/1	41	C	42	20/1	SR		SPARE

Connected Load	KVA	AMPS	Type	KVA	Factor	KVA
✓	13.0	46.9	L	19.6	1.25	24.5
✓	8.5	30.7	R	0.0	0.5	0.0
✓	12.6	45.5	PN	0.0	1	0.0
✓	34.1		PW	4.0	1	4.0
✓		41.0	MN	1.8	1	1.8
			MNI	0.0	0.8	0.0
			MS	8.7	1	8.7
			MW	0.0	1	0.0
			KT	0.0	0.65	0.0
			Total	34.1		39.0
						46.9
						34.1
						41.0
						39.0
						46.9

Total Connected KVA
Total Connected Amps
Total Demand KVA
Total Demand Amps

A (TUB 1)

ELECTRICAL ROOM
SURFACE MOUNT

120/208 VOLT, 3 PHASE, 4 WIRE, WITH GROUND BUS
225A BUS
MLO
SUPPLIED FROM DP1

DESCRIPTION	KVA	LOAD QTY	LOAD TYPE	BREAKER AMP/POLE	#	#	BREAKER AMP/POLE	LOAD TYPE	LOAD QTY	KVA	DESCRIPTION
UNIT HEATERS	0.4		MW	20/1	1	A	2	15/1	PW	1.2	FURNACE F-1
UNIT HEATERS	0.4		MW	20/1	3	B	4	20/1	R	0.4	EF/RECEPTACLES
UNIT HEATERS	0.4		MW	20/1	5	C	6	20/1	R	1.1	OFFICE RECEPTACLES
UNIT HEATERS	0.6		MW	20/1	7	A	8	20/1	SR		SPARE
BREAKROOM RECEPTS	1.1		R	20/1	9	B	10	20/1	SR		SPARE
REFRIGERATOR	0.6		KT	20/1	11	C	12	20/1	SR		SPARE
FACP	0.2		PN	20/1	13	A	14	20/1	SR		SPARE
TIME CLOCK	0.2		PN	20/1	15	B	16	20/1	SR		SPARE
TELEPHONE SYSTEM	0.4		R	20/1	17	C	18	20/1	SR		SPARE
KITCHEN RECEPTACLES	0.4		R	20/1	19	A	20	20/1	SR		SPARE
COFFEE MACHINE	1		KT	20/1	21	B	22	20/1	SR		SPARE
MICROWAVE	1		KT	20/1	23	C	24	20/1	SR		SPARE
OFFICE RECEPTACLES	0.7		R	20/1	25	A	26	20/1	SR		SPARE
EF/RECEPTACLES	0.5		R	20/1	27	B	28	20/1	SR		SPARE
OFFICE RECEPTACLES	0.7		R	20/1	29	C	30	20/1	SR		SPARE
COPY MACHINE	0.6		R	20/1	31	A	32	20/1	SR		SPARE
REFRIGERATOR	0.6		KT	20/1	33	B	34	20/1	SR		SPARE
DISHWASHER	1.2		KT	20/1	35	C	36	20/1	SR		SPARE
COFFEE MACHINE	1		KT	20/1	37	A	38	20/1	SR		SPARE
RANGE	4		KT	50/2	39	B	40	20/1	SR		SPARE
	4		KT		41	C	42	20/1	SR		SPARE

Connected Load	KVA	AMPS	Type	KVA	Factor	KVA
✓	5.1	42.5	L	0.0	1.25	0.0
✓	8.2	68.3	R	5.9	0.5	5.9
✓	9.4	78.3	PN	0.4	1	0.4
✓	22.7		PW	1.2	1	1.2
✓		63.1	MN	0.0	1	0.0
			MNI	0.0	0.8	0.0
			MS	0.0	1	0.0
			MW	1.8	1	1.8
			KT	13.4	0.65	8.7
			Total	22.7		18.0
						50.0
						22.7
						63.1
						18.0
						50.0

Total Connected KVA
Total Connected Amps
Total Demand KVA
Total Demand Amps

A(TUB 2)

ELECTRICAL ROOM
SURFACE MOUNT
TOP FEED

120/208 VOLT, 3 PHASE, 4 WIRE, WITH GROUND BUS
225A BUS
MLO
SUPPLIED FROM A (TUB 1)

DESCRIPTION	KVA	LOAD QTY	LOAD TYPE	BREAKER AMP/POLE	#	#	BREAKER AMP/POLE	LOAD TYPE	LOAD QTY	KVA	DESCRIPTION
OVERHEAD DOOR	1		MNI	20/2	43	A	44	20/1	SR		SPARE
	1		MNI		45	B	46	20/1	SR		SPARE
OVERHEAD DOOR	1		MNI	20/2	47	C	48	20/1	SR		SPARE
	1		MNI		49	A	50	20/1	SR		SPARE
OVERHEAD DOOR	1		MNI	20/2	51	B	52	20/1	SR		SPARE
	1		MNI		53	C	54	20/1	SR		SPARE
OVERHEAD DOOR	1		MNI	20/2	55	A	56	20/1	SR		SPARE
	1		MNI		57	B	58	20/1	SR		SPARE
OVERHEAD DOOR	1		MNI	20/2	59	C	60	20/1	SR		SPARE
	1		MNI		61	A	62	20/1	SR		SPARE
OVERHEAD DOOR	1		MNI	20/2	63	B	64	20/1	SR		SPARE
	1		MNI		65	C	66	20/1	SR		SPARE
OVERHEAD DOOR	1		MNI	20/2	67	A	68	20/1	SR		SPARE
	1		MNI		69	B	70	20/1	SR		SPARE
SPARE	0		SR	20/1	71	C	72	20/1	SR		SPARE
SPARE	0		SR	20/1	73	A	74	20/1	SR		SPARE
SPARE	0		SR	20/1	75	B	76	20/1	SR		SPARE
SPARE	0		SR	20/1	77	C	78	20/1	SR		SPARE
SPARE	0		SR	20/1	79	A	80	20/1	SR		SPARE
SPARE	0		SR	20/1	81	B	82	20/1	SR		SPARE
SPARE	0		SR	20/1	83	C	84	20/1	SR		SPARE

Connected Load	KVA	AMPS	Type	KVA	Factor	KVA
✓	5.0	41.7	L	0.0	1.25	0.0
✓	5.0	41.7	R	0.0	0.5	0.0
✓	4.0	33.3	PN	0.0	1	0.0
✓	14.0		PW	0.0	1	0.0
		38.9	MN	0.0	1	0.0
			MNI	14.0	0.8	11.2
			MS	0.0	1	0.0
			MW	0.0	1	0.0
			KT	0.0	0.65	0.0
			Total	14.0		11.2
						31.1
						38.9
						11.2
						31.1
						38.9

Total Connected KVA
Total Connected Amps
Total Demand KVA
Total Demand Amps

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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

THESE DRAWINGS AND SPECIFICATIONS, AND ALL COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY AND INTELLECTUAL PROPERTY OF THE ARCHITECT. THEY SHALL BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT OR WORK WITHOUT PRIOR WRITTEN PERMISSION FROM THE ARCHITECT, CRAIG W. RAPP ASSOCIATES, L.L.C.

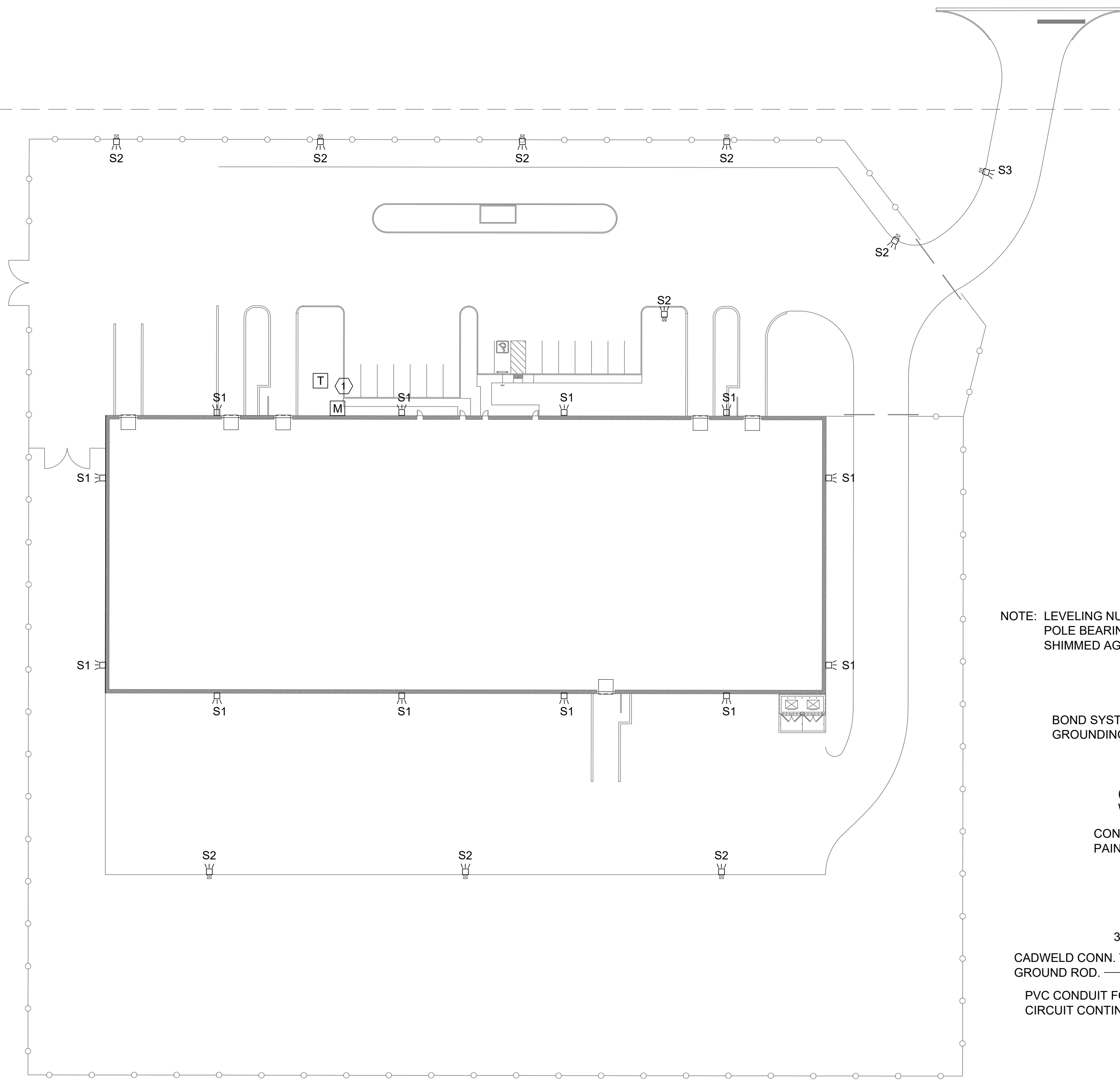
JEFFREY M. PERKINS
REGISTERED
No. 11900828
STATE OF INDIANA
PROFESSIONAL ENGINEER
Jeffrey M. Perkins
CERTIFICATION

SHEET DESCRIPTION:
ELECTRICAL SCHEDULES

REVISIONS

BUILDING #
220131
SCALE
SEE PLAN
DATE
3/21/2022
DRAWN BY
ZB
CHECKED BY
JP
OWNER APPROVAL
FILE

E004



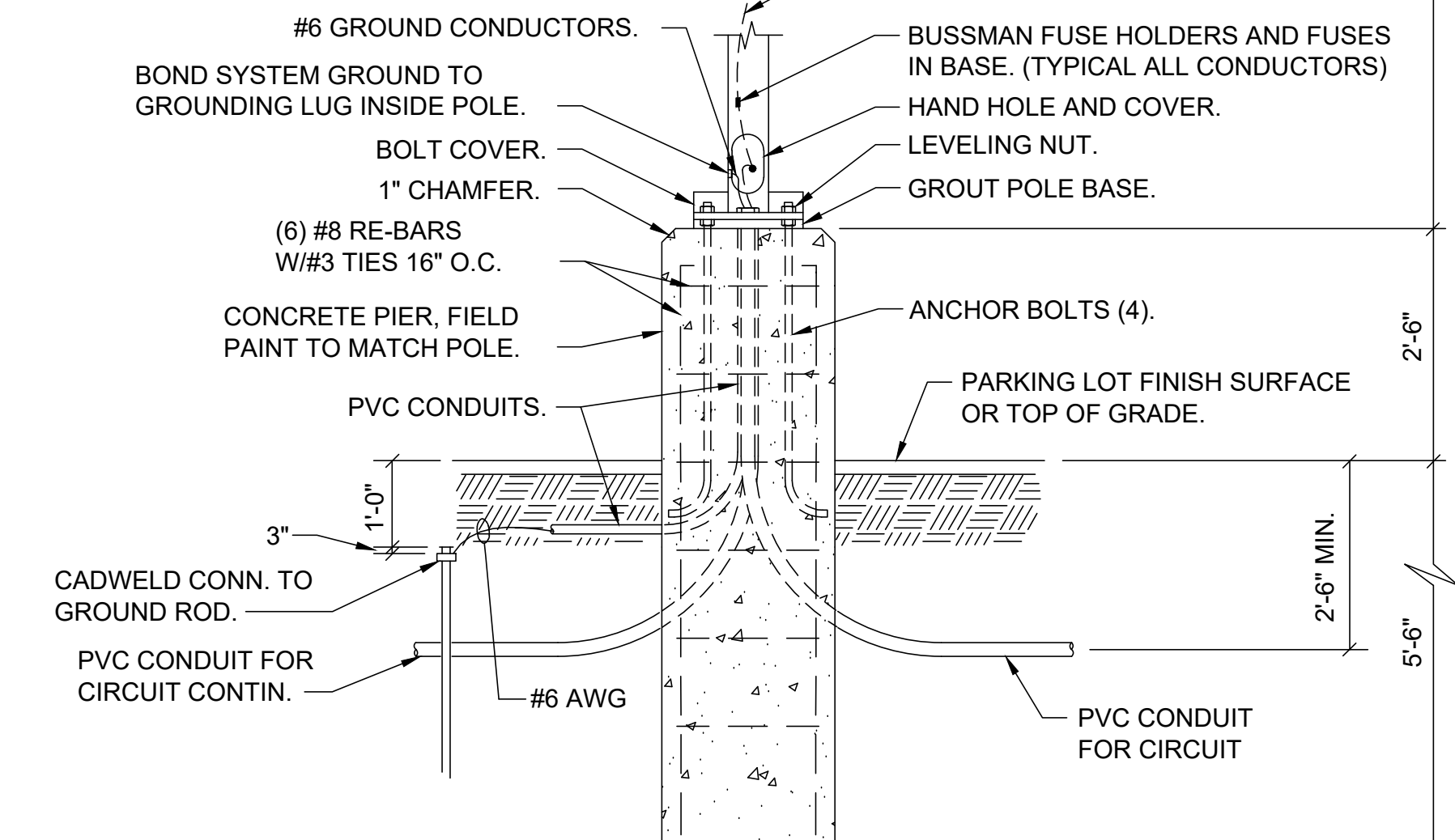
GENERAL NOTES:

1. REFERENCE SHEET E001 FOR LEGENDS, ABBREVIATIONS, SPECIFICATIONS AND NOTES.
2. ALL EXTERIOR LIGHT FIXTURES SHALL BE PHOTOCELL CONTROLLED WITH TIME CLOCK OVERRIDE.
3. COINNECT EXTERIOR LIGHT FIXTURES TO BRANCH CIRCUIT HA-13,15. SIZE CONDUCTORS FOR VOLTAGE DROP.
4. MOUNT TYPE S1 LIGHT FIXTURES AT +20'-0" A.F.F.

KEY NOTES: (#)

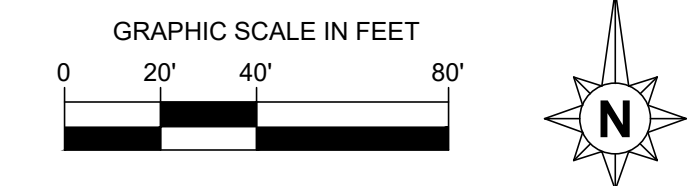
1. PROPOSED LOCATION FOR UTILITY TRANSFORMER AND UTILITY METER. REFERENCE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION. FIELD COORDINATE ALL WORK WITH THE UTILITY COMPANY.

NOTE: LEVELING NUTS SHALL BE USED. POLE BEARING PLATE SHALL NOT BE SHIMMED AGAINST PIER CONCRETE.



1 LIGHT POLE BASE DETAIL
SCALE: NO SCALE

1 ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"



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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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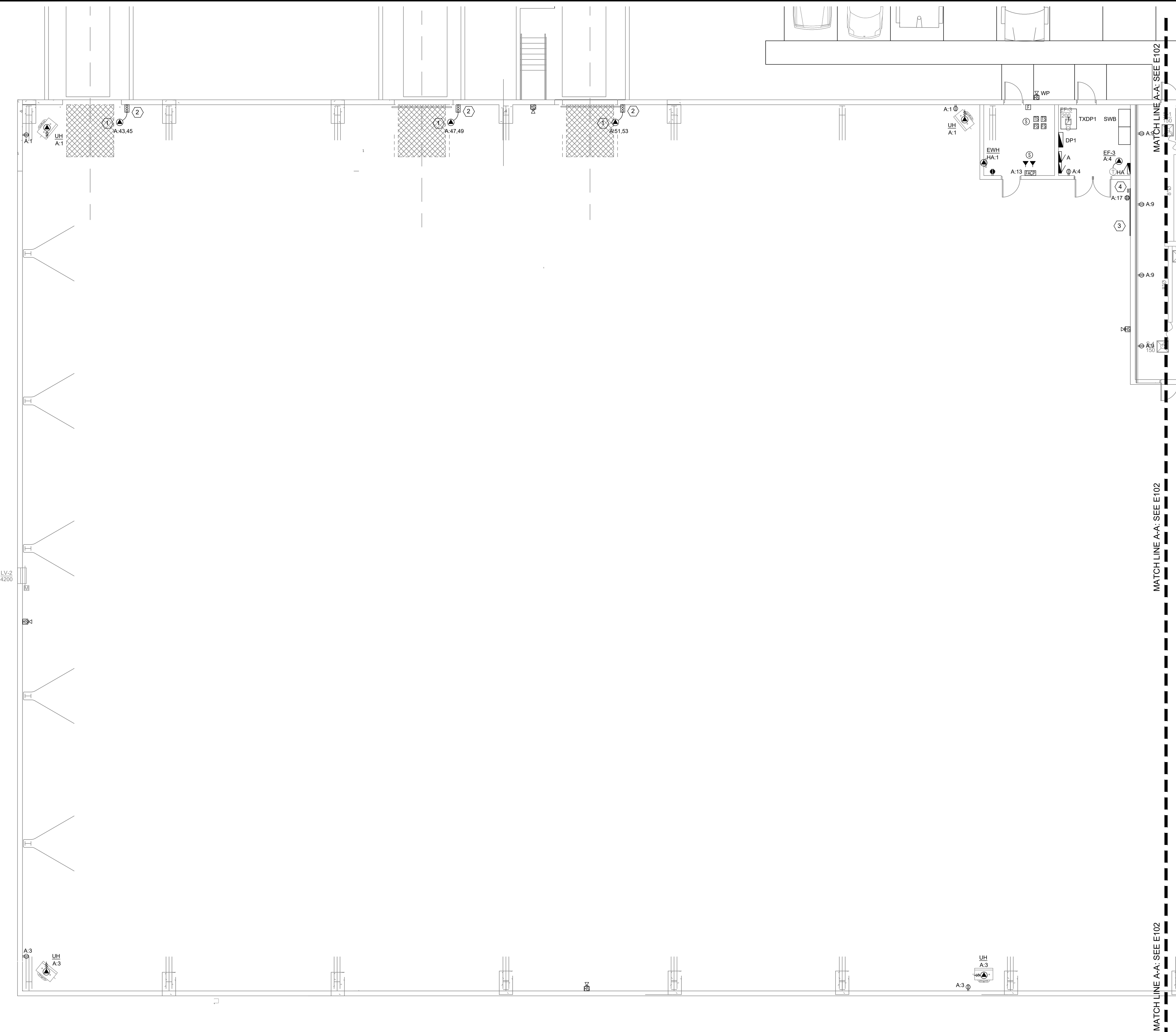
JEFFREY M. PERKINS
REGISTERED
No. 11900828
STATE OF INDIANA
PROFESSIONAL ENGINEER
Jeffrey M. Perkins
CERTIFICATION

SHEET DESCRIPTION:
ELECTRICAL SITE PLAN

REVISIONS

BUILDING #
220131
SCALE
SEE PLAN
DATE
3/21/2022
DRAWN BY
ZB
CHECKED BY
JP
OWNER APPROVAL
FILE

E050



LV-2
4200

MATCH LINE A-A: SEE E102

MATCH LINE A-A: SEE E102

GENERAL NOTES:

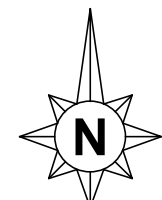
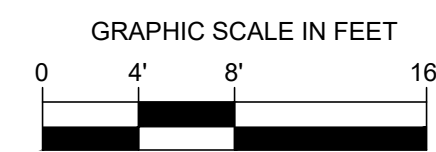
- REFERENCE SHEET E001 FOR LEGENDS, ABBREVIATIONS, SPECIFICATIONS AND NOTES.
- E.C. SHALL PROVIDE ALL RACEWAYS AND CONDUCTORS FOR HVAC INTERLOCKS AND THERMOSTATS. PRIOR TO ROUGH-IN COORDINATE EXACT REQUIREMENTS WITH M.C.
- PRIOR TO ROUGH-IN VERIFY ALL LOCATIONS AND MOUNTING HEIGHTS OF DEVICES WITH OWNER AND ADJUST AS DIRECTED.
- BRANCH CIRCUIT NUMBERS SHOWN ARE FOR GROUPING PURPOSE ONLY. FIELD VERIFY EXACT CIRCUIT NUMBERS.
- SIZE ALL BRANCH CONDUCTORS FOR VOLTAGE DROP.

KEY NOTES:

- GARAGE DOOR WITH SIDE MOUNTED MOTOR. SEE DETAIL # ON SHEET E002 FOR MORE INFORMATION.
- GARAGE DOOR OPERATOR. COORDINATE FINAL LOCATION WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- INSTALL 3/4" CDX PLYWOOD FOR TELEPHONE BOARD.
- PROVIDE (2) 3" CONDUITS W/ PULLSTRING FROM TELECOMMUNICATIONS TIE-IN LOCATION TO TELEPHONE BOARD. FIELD VERIFY EXACT REQUIREMENTS WITH UTILITY COMPANY. STUB UP CONDUITS 6" A.F.F. BUSH CONDUIT ENDS.

1 POWER & SYSTEMS PLAN - WEST

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



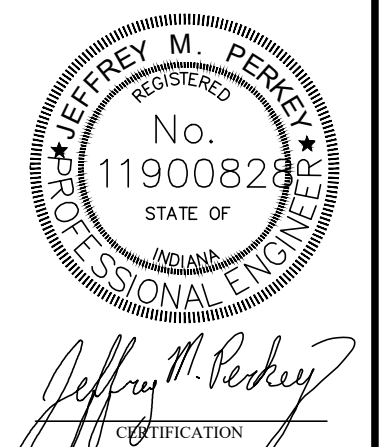
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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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SHEET DESCRIPTION:
POWER & SYSTEMS PLAN - WEST

REVISIONS

BUILDING #
220131
SCALE: SEE PLAN
DATE: 3/21/2022
DRAWN BY: ZB
CHECKED BY: JP
OWNER APPROVAL:
FILE:

E100

GRAPHIC SCALE IN FEET



A graphic scale bar is shown with markings at 0, 4', 8', and 16'. The bar is divided into alternating black and white segments. To the right of the scale is a north arrow pointing upwards, with the letter 'N' inside a circle.



GENERAL NOTES:

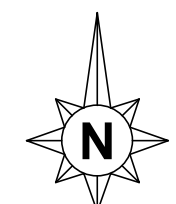
1. REFERENCE SHEET E001 FOR LEGENDS, ABBREVIATIONS, SPECIFICATIONS AND NOTES.
2. ALL EXIT SIGNS, EMERGENCY LIGHTING UNITS, AND NIGHT LIGHTS SHALL HAVE UNSWITCHED CONDUCTOR. CONNECT LIGHT FIXTURE TO NEAREST BRANCH LIGHTING CIRCUIT.
3. SIZE ALL BRANCH CONDUCTORS FOR VOLTAGE DROP.
4. MOUNT TYPE H11H1E LIGHT FIXTURES AT 25'-0" A.F.F. LIGHT FIXTURES SHALL BE CONTROLLED WITH A LIGHTING CONTACTOR/KEYED SWITCH.
5. CONNECT OFFICE AREA LIGHT FIXTURES TO BRANCH CIRCUIT HA-17.
6. CONNECT E2 LIGHT FIXTURE TO NEAREST REMOTE OUTPUT OF TYPE X1 LIGHT FIXTURE.

KEY NOTES:

1. ALL HIGH BAY LIGHT BRANCH CIRCUITRY SHALL BE ROUTED THRU A 20 AMP MULTI-POLE ELECTRICALLY HELD LIGHTING CONTACTOR. CONTROL CONTRACTOR WITH A KEYPED LIGHT SWITCH. FIELD COORDINATE LIGHT SWITCH LOCATION WITH OWNER.

GRAPHIC SCALE IN FEET

A horizontal line with vertical tick marks at 0, 4, 8, and 16 feet. The segments between 0 and 4, 4 and 8, and 8 and 16 are filled with black and white alternating patterns.



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ARCHITECT

CWRA

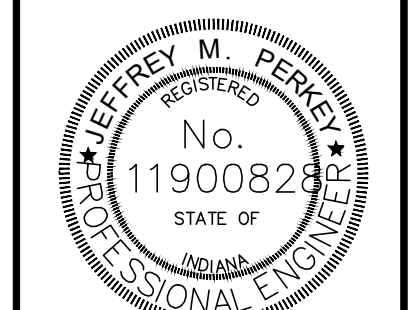
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PROJECT NUMBER
21002.00

TRINITY ALLOYS, L.L.C.
GOLD STANDARD IN RECYCLING
ENTERPRISE DRIVE
SHELBYVILLE, INDIANA 46176

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Jeffrey M. Perkey
CERTIFICATION

SHEET DESCRIPTION:

LIGHTING PLAN - EAST

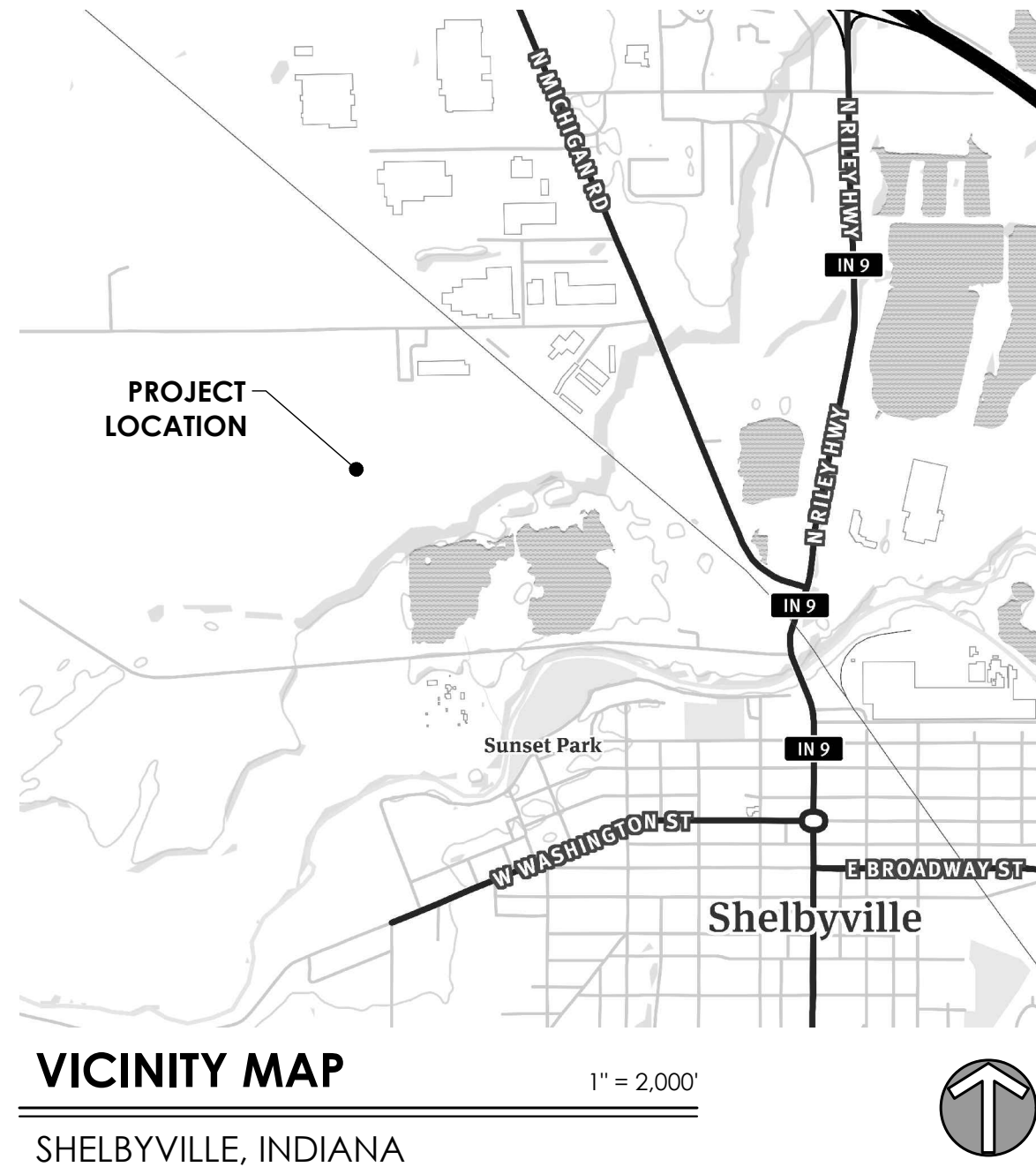
REVISIONS

BUILDING #:	220131
SCALE:	SEE PLAN
DATE:	3/21/2022
DRAWN BY:	ZB
CHECKED BY:	JP
OWNER APPROVAL:	
FILE:	

E103

CIVIL CONSTRUCTION PLANS
FOR
TRINITY ALLOYS

Enterprise Drive
Shelbyville, Indiana 46176



SHEET INDEX

C-001	COVER SHEET
C-002	GENERAL NOTES
1 of 4	ALTA/NSPS LAND TITLE SURVEY
1 of 1	TOPOGRAPHIC SURVEY
CD-101	DEMOLITION PLAN
CS-101	SITE PLAN
CS-501	SITE DETAILS
CS-502	SITE DETAILS
CS-503	SITE DETAILS
CG-101	GRADING PLAN
CG-301	STORMWATER PLAN & PROFILE
CG-302	STORMWATER PLAN & PROFILE
CG-303	STORMWATER PLAN & PROFILE
CG-304	STORMWATER PLAN & PROFILE
CG-501	GRADING DETAILS
CG-502	GRADING DETAILS
CU-101	UTILITY PLAN
CU-102	UTILITY PLAN
CU-301	WATER PLAN & PROFILE
CU-302	WATER PLAN & PROFILE
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CE-502	STORMWATER POLLUTION PREVENTION NOTES
LP-101	LANDSCAPE PLAN
LP-501	LANDSCAPE DETAILS
1 of 3	CITY OF SHELBYVILLE CONSTRUCTION STANDARDS



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<div><div>X</div><div>KEVIN KREDIT WRBF SUPERINTENDENT 775 West Boggs town Rd. Shelbyville, IN 46176 TEL: 317.392.5131 EMAIL: kkredit@cityofshelbyvillein.com Released via TRC Form</div></div>	<div><div>X</div><div>DERRICK BYERS MS4 OPERATOR 44 W Washington St. Shelbyville, IN 46176 TEL: 317.392.5102 EMAIL: dbyers@cityofshelbyvillein.com Released via TRC Form</div></div>	<div><div>X</div><div>SCOTT TEMPLETON COMCAST 1600 West Fountain Drive Bloomington, IN 47404 TEL: 317.516.2356 EMAIL: scott.templeton@comcast.com Released via TRC Form</div></div>	<div><div>X</div><div>CHRIS CHASTAIN RUSH/SHELBY ENERGY 2777 S 840 W PO Box 55 Monticello, IN 46150 TEL: 765.544.2600 EMAIL: cchastain@rse.coop Released via TRC Form</div></div>
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CONTACT: WADE CONNER

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REVISION BLOCK

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CONSTRUCTION

DATE
02/15/2022

DRAWN BY
TLP

CHECKED BY
MAT

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CONSTRUCTION PLANS FOR:
TRINITY ALLOYS

Enterprise Drive
Shelbyville, Indiana 46176

TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.
2021-0091

DATE
02/15/2022

SCALE

SHEET NAME
COVER SHEET

SHEET NO.

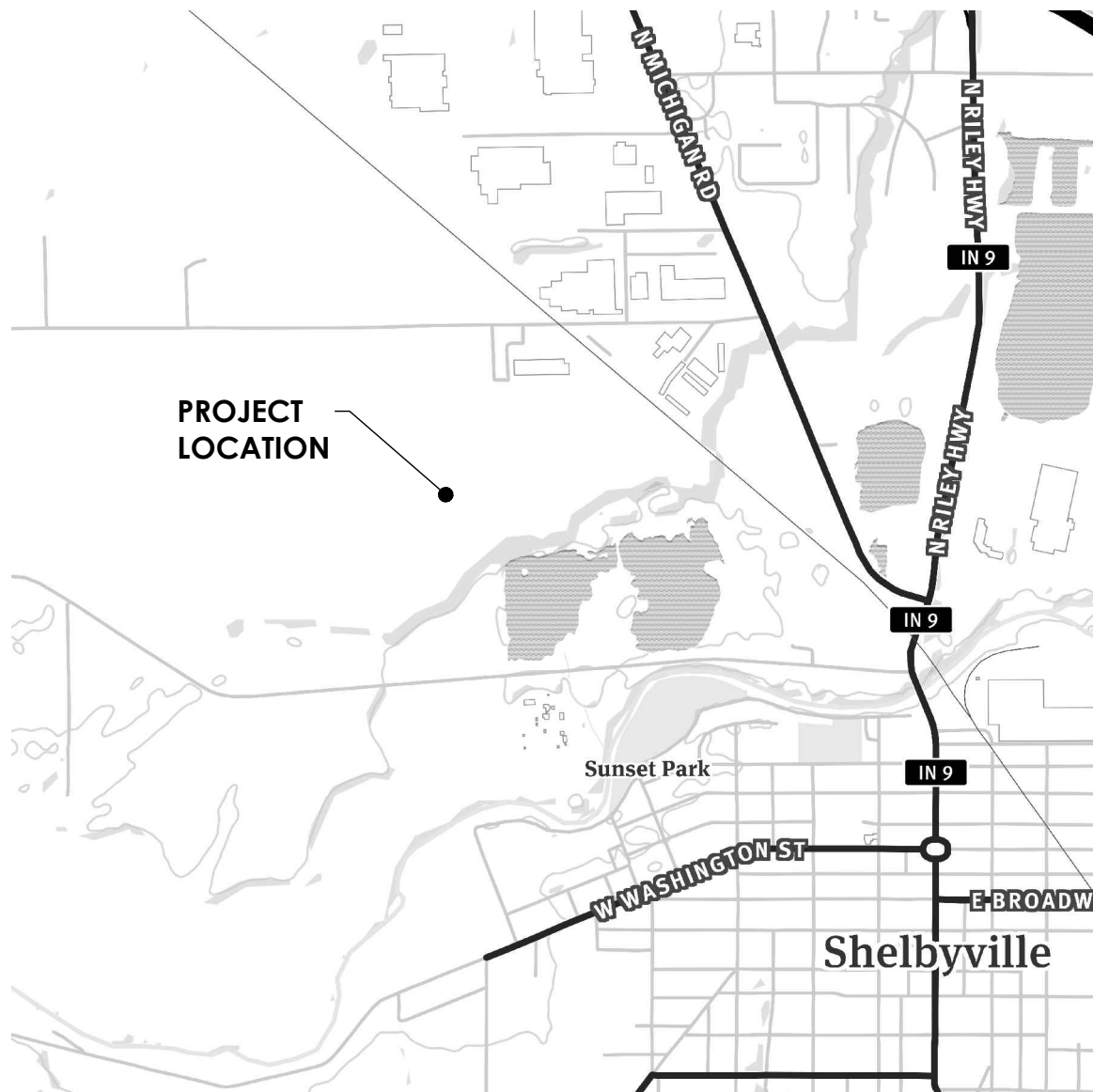
C-001



Know what's below.
Call before you dig.

DEMOLITION NOTES

- NO ATTEMPT IS MADE TO STIPULATE EVERY REQUIRED ITEM OF REMOVAL AND DEMOLITION EITHER ON DRAWINGS OR IN SPECIFICATIONS. THE CONTRACTOR MUST VISIT THE SITE AND STUDY EXISTING PHYSICAL CONDITIONS, REVIEW DRAWINGS, AND REACH THEIR OWN CONCLUSIONS ON WORK NECESSARY TO ACCOMPLISH INTENDED RESULTS DESCRIBED BY THE PROJECT DOCUMENTS.
- CONTRACTOR SHALL REQUEST UTILITY LOCATIONS PRIOR TO THE COMMENCEMENT OF WORK. IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PRIOR TO ANY EXCAVATION AT LEAST 72 HOURS PRIOR TO THEIR PHASE OF WORK. CONTRACTOR SHALL NOTIFY IN WRITING TO THE OWNER OR THE ENGINEER OF ANY CHANGES, OMISSIONS OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
- ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL LOCAL ORDINANCES, CITY OR STATE.
- THE CONTRACTOR SHALL COORDINATE WORK ASSOCIATED WITH THE REMOVAL, RELOCATION OR ABANDONMENT OF UTILITIES WITH THE UTILITY COMPANY OR ENTITY HAVING OWNERSHIP OF EACH RESPECTIVE UTILITY. COSTS FOR DISCONNECTION, REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES AS SHOWN ON THE DRAWINGS OR AS NECESSARY TO ALLOW FOR EXECUTION OF THE WORK SHALL BE PAID BY THE CONTRACTOR.
- NO OPEN BURNING SHALL BE PERMITTED ON THE SITE.
- THE OWNER HAS FIRST SALVAGE RIGHTS ON ALL ITEMS REMOVED. IF OWNER FORFEITS RIGHTS THEN ALL DEMOLISHED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OFF-SITE UNLESS OTHERWISE SHOWN.
- WITHIN THE CONSTRUCTION LIMITS, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
- A CLEAN, STRAIGHT EDGE SHALL BE SAWCUT BETWEEN ALL CONCRETE AND ASPHALT SURFACES SCHEDULED FOR DEMOLITION AND CONCRETE AND ASPHALT SURFACES TO REMAIN IN-PLACE.
- FOR ALL ITEMS NOTED TO BE REMOVED - REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL INCLUDING BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPE, ETC.
- BACKFILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR THE PROPOSED USE, FOR ALL UTILITY LINES AND STRUCTURES DESIGNATED TO BE REMOVED, PLACE AND COMPACT STRUCTURAL BACKFILL WITHIN TRENCH.
- GENERAL CONTRACTOR IS RESPONSIBLE TO VERIFY, PRIOR TO THE FINAL CONTRACT EXECUTION, IF ANY BUILDING STRUCTURE THAT IS NOTED TO BE REMOVED HAS A BASEMENT. IF SO THE BUILDING STRUCTURE, BOTH FLOOR STRUCTURES, BASEMENT, FOUNDATION, ETC. ARE TO BE REMOVED AND BACKFILLED TO EXISTING GRADE ELEVATIONS SURROUNDING THE EXISTING STRUCTURE.
- ALL NECESSARY APPROVALS FROM AGENCIES GOVERNING THIS WORK SHALL BE SECURED BY THE CONTRACTOR IF THEY HAVE NOT BEEN PREVIOUSLY OBTAINED BY THE OWNER PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF VEHICULAR AND PEDESTRIAN TRAFFIC MEASURES PRIOR TO THE COMMENCEMENT OF DEMOLITION. ALL MEASURES SHALL BE APPROVED BY THE OWNER AND WILL REMAIN IN PLACE UNTIL COMPLETION OF PROJECT. CONTRACTOR SHALL ADJUST AS NEEDED DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BENCHMARKS AND RELOCATING BENCHMARKS IF NECESSARY. BENCHMARKS SHALL BE RELOCATED TO ORIGINAL ELEVATION. ALL BENCHMARKS SHALL BE RELOCATED OR REPLACED BY A INDIANA LICENSED SURVEYOR.
- ALL DEMOLITION AND CONSTRUCTION ACTIVITY ON THIS SITE IS TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY EXISTING CONDITIONS DAMAGED DURING DEMOLITION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE PATTERNS, UTILITIES, LIGHTING, PAVEMENT, SIDEWALKS, CURBS, ETC.. REPAIRS SHALL BE EQUAL TO EXISTING CONDITIONS.
- EROSION CONTROL SHALL BE IN PLACE PRIOR TO ANY SOIL DISTURBANCE, INCLUDING PAVEMENT REMOVAL.
- MANHOLES, CATCH BASINS, CLEANOUTS, VALVE BOXES, FRAMES COVERS AND GRATES REMAINING IN USE SHALL BE PROTECTED AND ADJUSTED TO FINAL GRADES.



VICINITY MAP

SHELBYVILLE, INDIANA

SITE NOTES

- ALL RADII AND OTHER DIMENSIONS FOR 6" STANDING CURB AND CONCRETE CURB AND WALK ARE TO THE FACE OF CURB AND/OR EDGE OF WALK.
- ALL DIMENSIONS ARE TO OUTSIDE FACE OF BRICK OR FACING MATERIAL, WHERE APPLICABLE.
- BEARINGS, DIMENSIONS AND EASEMENTS ARE SHOWN FOR REFERENCE. REFER TO RECORDED PLATS AND SURVEYS FOR ADDITIONAL PROPERTY INFORMATION.
- SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.
- IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATIONS FOR EACH UTILITY BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER OR THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
- ALL SIDEWALK CURB AND GUTTER STREET PAVING, CURB CUTS, DRIVEWAY APPROACHES, HANDICAP RAMP, ETC. CONSTRUCTED OUTSIDE THE PROPERTY LINE IN THE RIGHT-OF-WAY SHALL CONFORM TO ALL MUNICIPAL AND/OR STATE SPECIFICATIONS AND REQUIREMENTS.
- FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC.) AS REQUIRED BY OWNER AND/OR GOVERNING AUTHORITY.
- PROOF ROLL BUILDING AND ALL PARKING AREAS. NOTIFY THE ENGINEER OF ANY UNACCEPTABLE AREAS.
- EDGE OF NEW PAVEMENT TO BE FLUSH WITH EXISTING PAVEMENT.
- SIDEWALK EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTIONS AND BETWEEN WALKS AND PLATFORMS, SIDEWALK SCORES AND CONTROL JOINTS ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS AND PERPENDICULAR TO SIDEWALKS AT 5' INTERVALS OR LESS WITH AN EXPANSION JOINT EVERY 30' OR LESS.
- PARKING SPACE STRIPES SHALL BE 4 INCHES WIDE. YELLOW OR WHITE STRIPES SHALL BE PROVIDED AT OWNER'S PREFERENCE UNLESS OTHERWISE SHOWN.
- UNLESS OTHERWISE SHOWN, PERMANENT SIGNS SHALL BE MOUNTED ON A SINGLE U-CHANNEL DRIVE POST DRIVEN 42 INCHES BELOW GRADE. THE BOTTOM EDGE OF THE SIGN SHALL BE 6 FEET ABOVE THE NEAREST PAVEMENT EDGE ELEVATION.
- ALL EXCAVATED AREAS TO BE SEEDED AND/OR SODDED AFTER FINISH GRADING UNLESS OTHERWISE NOTED. ALL NEWLY SODDED/SEEDED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL. HOLD SOIL DOWN 1" FROM PAVEMENT ELEVATION. CONTRACTOR TO SUPPLY STRAW MULCH WHERE GRASS SEED HAS BEEN PLANTED.
- RESURFACE OR RECONSTRUCT AT LEAST TO ORIGINAL CONDITIONS ALL AREAS WHERE TRAFFIC BY CONTRACTORS, SUBCONTRACTORS OR SUPPLIERS HAVE DAMAGED EXISTING PAVEMENT, LAWNS OR OTHER IMPROVEMENTS DURING CONSTRUCTION. AFTER CONSTRUCTION WORK IS COMPLETE.
- ALL UTILITY TRENCHES WITHIN 5 FEET OF PAVEMENT SHALL BE COMPLETELY BACKFILLED WITH GRANULAR BACKFILL.
- FOR PROPOSED UTILITY LOCATIONS, SEE THE UTILITY PLAN.
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
- ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY, OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
- ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.

EROSION CONTROL NOTES

- EARTH MOVING MAY NOT COMMENCE UNTIL ITEMS 1-4 OF "PRE-CONSTRUCTION ACTIVITIES" (CE-101) HAVE BEEN COMPLETED IN ADDITION TO ITEMS DEPICTED ON PLAN.
- ALL DISTURBED AREAS THAT WILL POTENTIALLY BE IDLE FOR 14 DAYS OR MORE SHALL BE STABILIZED (SEEDED, MULCHED, ETC.) IMMEDIATELY.
- ADDITIONAL STORMWATER POLLUTION PREVENTION MAY BE REQUIRED IN THE FIELD BY CITY OF SHELBYVILLE OR REVIEW AUTHORITY.
- ALL EROSION CONTROL MATERIALS MUST BE APPROVED BY THE CITY OF SHELBYVILLE INSPECTOR PRIOR TO INSTALLATION.
- THERE SHALL BE NO DIRT, DEBRIS OR STORAGE OF MATERIALS IN THE STREETS.
- APPROXIMATE CONSTRUCTION SCHEDULE:
START DATE: MAY 2022
COMPLETION DATE: MAY 2023
- RECEIVING WATER: BIG BLUE RIVER
- LATITUDE: 39°2'20" N
LONGITUDE: 85°47'43" W
- CONTACT PERSON:
TRINITY METALS, LLC
6400 ENGLISH AVENUE
INDIANAPOLIS, INDIANA 46219
PH: (317) 338-8265
CONTACT: BUZZ WEISGER
EMAIL: CWBUIZZ@AOL.COM
- WARNING: THIS SHEET TO BE USED FOR STORMWATER POLLUTION PREVENTION PURPOSES ONLY. FOR ANY OTHER INFORMATION SEE SHEET CS-101.
- SEE SHEETS CE-501 FOR ALL STORMWATER POLLUTION PREVENTION PLAN DETAILS & NOTES.
- ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH INDIANA STORMWATER QUALITY MANUAL AND SHELBY COUNTY EROSION AND SEDIMENT CONTROL/STORMWATER MANAGEMENT DESIGN MANUAL.
- ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
- EXISTING EROSION CONTROL MEASURES: ANY PART DAMAGED, DESTROYED OR DISTURBED DURING CONSTRUCTION IS TO BE REPLACED IMMEDIATELY.

GRADING NOTES

- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS BEFORE CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATING IS AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.
- THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS NOT TO CAUSE DAMAGE.
- ALL GRADES AT PROJECT LIMITS SHALL MEET EXISTING GRADES.
- THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
- ANY PART OF THE UTILITY PIPE TRENCHES RUNNING WITHIN 5 FEET OF PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
- REMOVE AND BACKFILL ALL AREAS WHERE ANY FIELD TILE CROSSES PROPOSED BUILDING PAD. ALL FIELD TILES INTERCEPTED TO BE PERPETUATED INTO THE STORM SEWER SYSTEM. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER IN ANY CIRCUMSTANCES WHERE THIS CANNOT BE ACCOMPLISHED.
- ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0% (1:50) AND A MAXIMUM RUNNING SLOPE OF 5.0% (1:20).
- CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS/SIDEWALK. GRASS SHALL NOT CREATE BARRIER FOR DRAINAGE FROM SIDEWALK TO LAWN. BUILDING PERIMETER SIDEWALKS SHALL DRAIN 2% MAXIMUM AWAY FROM STRUCTURE.
- TOPSOIL SHALL BE STRIPPED FROM ALL AREAS TO RECEIVE PAVING AND FROM WITHIN THE LIMITS OF PROPOSED BUILDINGS AND STRUCTURES. TOPSOIL SHALL BE STRIPPED TO THE DEPTH SHOWN IN THE GEOTECHNICAL REPORT, OR TO A DEPTH OF 6 INCHES, WHICHEVER IS GREATER.
- AFTER STRIPPING TOPSOIL MATERIAL, PROOFROLL WITH A MEDIUM WEIGHT ROLLER TO DETERMINE LOCATIONS OF ANY POCKETS OF UNSUITABLE MATERIAL. THE NECESSITY FOR SUBDRAINS AND/OR REMOVAL OF ANY UNSUITABLE MATERIAL WITHIN THE PROPOSED PARKING AREAS WILL BE DETERMINED AT THE TIME OF CONSTRUCTION.
- TOPSOIL SHALL BE PLACED TO A DEPTH OF 4 TO 6 INCHES IN ALL AREAS TO BE SEEDED OR SODDED PER THE SPECIFICATIONS.
- EXCESS TOPSOIL MAY BE PLACED IN MOUNDING AREAS AND NONSTRUCTURAL FILL AREAS AS AVAILABLE.
- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED OR SODDED UNLESS OTHERWISE SHOWN.
- FINAL GRADES AT THE PROJECT BOUNDARY SHALL MATCH EXISTING ELEVATIONS UNLESS OTHERWISE SHOWN.
- PROVIDE POSITIVE DRAINAGE WITHOUT PONDING. IN ALL AREAS, AFTER INSTALLATION, CONTRACTOR TO TEST FOR, AND CORRECT, IF ANY, THIRD BATHING CONDITIONS.
- ALL PROPOSED SPOT ELEVATIONS ARE THE FINAL PAVEMENT AND FINAL GRADE ELEVATIONS.
- SEE APPROPRIATE DETAILS TO DETERMINE SUBGRADE ELEVATIONS BELOW FINISH GRADE ELEVATIONS INDICATED.
- ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM THE ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- CONTRACTOR TO PROVIDE CLEAN PLANTING SOIL IN ALL LANDSCAPE AREAS TO A DEPTH AS INDICATED ON THE LANDSCAPE INSTALLATION DETAILS, INCLUDING ADJACENT TO THE BUILDING. SOIL SHALL BE FREE OF GRAVEL AND ANY COMPACTED HARD PAN. COORDINATE WITH LANDSCAPE INSTALLER FOR APPROPRIATE BACKFILL IN ALL LANDSCAPE AREAS.

LANDSCAPING NOTES

- IN CASE OF DISCREPANCIES BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.
- ALL SHRUB PLANTING AREAS TO BE COVERED WITH A 3" LAYER OF ROCK MULCH. ROCK MULCH TO BE APPROVED BY OWNER.
- AN APPROVED PRE-EMERGENT HERBICIDE SHALL BE APPLIED IN ALL PLANTING BEDS AT A RATE SPECIFIED BY MANUFACTURER FOR EACH PLANT VARIETY.
- FINAL PLACEMENT OF PLANT MATERIALS, ETC. SHALL BE APPROVED BY LANDSCAPE ARCHITECT BEFORE PLANTING OPERATIONS ARE TO PROCEED. ALL TREE LOCATIONS SHALL BE MARKED WITH A WOOD STAKE INDICATING VARIETY AND SIZE OF TREE. ALL GROUND COVER AND PLANTING BED LINES SHALL BE MARKED WITH HIGHLY VISIBLE PAINT LINES WITH OCCASIONAL WOOD STAKES FOR REFERENCE. ALL STAKES SHALL BE REMOVED FOLLOWING PLANTING OPERATIONS. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANT LOCATIONS ON THE SITE.
- NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE ALLOWED. IF PLANTS ARE NOT AVAILABLE, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO THE BID IN WRITING. ALL PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT I.D. AT NURSERY OR CONTRACTOR'S OPERATIONS PRIOR TO MOVING TO THE JOB SITE. PLANTS MAY BE INSPECTED, APPROVED OR REJECTED ON THE JOB SITE BY LANDSCAPE ARCHITECT.
- ALL PLANTS SHALL MEET OR EXCEED AMERICAN STANDARDS FOR NURSERY STOCK, 2004 EDITION, AS SET FORTH BY AMERICAN ASSOCIATION OF NURSERYMEN.
- PLANTS AND ALL OTHER MATERIALS TO BE STORED ON SITE WILL BE PLACED WHERE THEY WILL NOT CONFLICT WITH CONSTRUCTION OPERATIONS AND AS DIRECTED BY LANDSCAPE ARCHITECT.
- ALL LANDSCAPE PLANTINGS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT. AT THE END OF THIS PERIOD, PLANT MATERIAL TERMED DEAD OR UNSATISFACTORY BY LANDSCAPE ARCHITECT SHALL BE REPLACED AT NO ADDITIONAL CHARGE BY THE CONTRACTOR.
- LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IN WRITING PRIOR TO BID DATE OF ANY PLANTS HE/SHE FEELS MAY NOT SURVIVE IN LOCATIONS NOTED ON PLANS.
- ALL LANDSCAPE PLANTINGS TO BE MAINTAINED BY CONTRACTOR FOR 60 DAYS FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT. MAINTENANCE TO INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, MOWING, AND ALL OTHER NECESSARY OPERATIONS REQUIRED FOR PROPER ESTABLISHMENT PLANTINGS.

UTILITY NOTES

- CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING & APPLYING FOR UTILITY SERVICE WITH EACH UTILITY COMPANY PRIOR TO STARTING CONSTRUCTION.
- THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ARE PER INFORMATION PROVIDED BY THE SURVEY AND RESPECTIVE UTILITY COMPANIES. ALL UTILITY COMPANIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION FOR FIELD LOCATION OF SERVICES.
- IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO THEIR PHASE OF WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATION FOR EACH UTILITY BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
- ANY PART OF THE UTILITY PIPE TRENCHES RUNNING WITHIN 5 FEET OF PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
- CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.
- REMOVE AND BACKFILL ALL AREAS WHERE ANY FIELD TILE CROSSES PROPOSED BUILDING PAD. ALL FIELD TILES INTERCEPTED TO BE PERPETUATED INTO THE STORM SEWER SYSTEM. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER IN ANY CIRCUMSTANCES WHERE THIS CANNOT BE ACCOMPLISHED.
- CONTRACTOR TO SUPPLY ALL TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
- ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
- REFER TO MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR CONTINUATION OF UTILITIES WITHIN 5 FEET OF STRUCTURES.
- PRESSURE UTILITY SERVICE LINES MAY NEED TO BE INSTALLED AT A DEPTH GREATER THAN THAT SPECIFIED OR SHOWN ON THE DRAWINGS TO CLEAR EXISTING AND PROPOSED CROSSING UTILITIES. IN SUCH CASES, THE CONTRACTOR SHALL INSTALL VERTICAL BENDS AS REQUIRED TO ACHIEVE APPROPRIATE CLEARANCE BETWEEN THE CROSSING UTILITIES.
- A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN WATER LINES AND SEWERS SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM VERTICAL SEPARATION OF 18 INCHES BETWEEN WATER LINES AND SEWERS SHALL BE MAINTAINED AT CROSSINGS.
- PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF STRUCTURES ROUNDED TO THE NEAREST FOOT.
- WHERE GRADE MODIFICATIONS (CUT OR FILL) ARE SHOWN ADJACENT TO EXISTING VALVE BOX COVERS AND MANHOLE CASTINGS, THE VALVE BOX COVERS AND MANHOLE CASTINGS SHALL BE ADJUSTED FLUSH WITH THE PROPOSED GRADE.
- ADJUSTMENTS OF EXISTING MANHOLE CASTINGS TO GRADE TO A MAXIMUM OF 12 INCHES SHALL BE MADE USING PRECAST CONCRETE ADJUSTING RINGS PROVIDED THE TOTAL HEIGHT OF EXISTING AND NEW ADJUSTING RINGS DOES NOT EXCEED 12 INCHES.
- ADJUSTMENTS OF CASTINGS WHERE THE TOTAL HEIGHT OF ADJUSTING RINGS WOULD EXCEED 12 INCHES SHALL BE MADE BY REPLACING THE CONE AND/OR BARREL SECTION OF THE STRUCTURE.
- PAVEMENTS, WALKS, CURBS AND OTHER SURFACE IMPROVEMENTS REQUIRING REMOVAL FOR INSTALLATION OF UNDERGROUND UTILITIES SHALL BE RESTORED TO THEIR PRESENT CONDITION UNLESS OTHERWISE SHOWN.
- MANHOLE CASTINGS LOCATED WITHIN ASPHALT PAVEMENT AREAS SHALL INCLUDE A CONCRETE PAVED COLLAR EXTENDING A MINIMUM OF 12 INCHES IN ALL DIRECTIONS FROM THE EDGE OF THE CASTING PER THE DETAILS.
- CONTRACTOR TO PROVIDE THE NECESSARY CONDUIT TO PROPERLY RUN AND FEED THE PROPOSED SITE LIGHTING PRIOR TO PAVING.

LEGAL DESCRIPTION

THIS SURVEY WAS COMMISSIONED BY THE CLIENT TO PERFORM A RETRACEMENT ALTA/NSPS LAND TITLE SURVEY WITH TOPOGRAPHY OF PARCELS CREATED BY SCOTT T. SUMERFORD ON NOVEMBER 15, 2019. SAID REAL ESTATE IS PART OF THE LANDS CONVEYED TO BLUERIVER LIVESTOCK FARM COMPANY IN DEED BOOK 310, PAGES 67-71 AS RECORDED IN THE OFFICE OF THE RECORDER OF SHELBY COUNTY, INDIANA. SAID REAL ESTATE IS PART OF THE WEST HALF OF SECTION 31, TOWNSHIP 13 NORTH, RANGE 7 EAST OF THE SECOND PRINCIPAL MERIDIAN, ADDISON TOWNSHIP OF SHELBY COUNTY, INDIANA.

FLOOD NOTE

THE ACCURACY OF ANY FLOOD HAZARD DATA SHOWN ON THIS REPORT IS SUBJECT TO MAP SCALE, UNCERTAINTY AND TO ANY OTHER UNCERTAINTY IN LOCATION OR ELEVATION ON THE REFERENCED FLOOD INSURANCE RATE MAP. THE WITHIN DESCRIBED TRACT OF LAND LIES WITHIN FLOOD HAZARD ZONE X (UNSHADED) AS SAID TRACT PLOTS BY SCALE ON COMMUNITY PANEL NUMBER 18145 C 0116 C THE FLOOD INSURANCE RATE MAPS FOR SHELBY COUNTY, INDIANA (MAPS DATED NOVEMBER 5, 2014).

SURVEY AND UTILITY DISCLAIMER

HORIZONTAL AND VERTICAL SURVEY INFORMATION WAS PROVIDED BY CEC CONSULTANTS, DRAWING LABELED; ALTA/NSPS LAND TITLE SURVEY, BOOMER WAY PARCEL, PROJECT NO. 307-177 AND DATED 01/08/2021.

PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER AND SANITARY SEWER. ANY CONFLICTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND THE APPROPRIATE AUTHORITIES.

BENCHMARK

TEMPORARY BENCH MARK #1 ELEV=748.23
A MAG SPIKE SET 1 FOOT ABOVE GRADE IN THE NORTHWEST FACE OF POWER POLE #18188 LOCATED 125± SOUTH OF THE SOUTHWEST CORNER OF THE SURVEYED PARCEL. (NAVD 88)

NOTES

- SEE SHEET C-002 FOR GENERAL NOTES
- CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION DOCUMENT SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.

REVISION BLOCK

NOT FOR
CONSTRUCTION

DATE
02/15/2022

DRAWN BY
TLP

CHECKED BY
MAR

HAMILTON
DESIGNS
A LIMITED LIABILITY COMPANY

11 Municipal Drive, Suite 300
Fishers, Indiana 46038
P. (317) 570-9800
www.hamilton-designs.com

CONSTRUCTION PLANS FOR:

TRINITY ALLOYS

Enterprise Drive
Shelbyville, Indiana 46176

TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.

2021-0091

DATE

02/15/2022

SCALE

SHEET NAME

GENERAL
NOTES

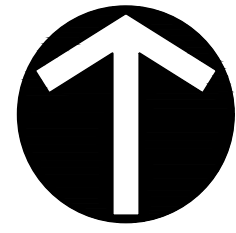
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C-002



Know what's below.
Call before you dig.

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NORTH

INDIANA STATE PLANE
EAST ZONE BEARINGS

NW CORNER
SEC. 31, T.13N., R.7E.
FD. STONE W/ CUT "X"
NE CORNER
SEC. 36, T.13N., R.6E.
FD. 5/8" REBAR

N 0°30'43" W

123.62'

17.9' OFFSET

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

FARM FIELD

MAUSOLEUM ROAD
(PUBLIC RIGHT-OF-WAY)

NORTH LINE, W 1/2, NW 1/4 - SECTION 31, T.13N., R.7E.
N 89°31'09" E 1252.06'

ADJOINER
SOBEL REAL PROPERTIES, LLC
INSTR. #2010002940

WEST 41 RODS (676.5')(D)

S 89°43'29" E 662.86'(M&D)

FARM FENCE LIES GENERALLY
ALONG THE BOUNDARY LINE

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

FARM FENCE LIES GENERALLY
ALONG THE BOUNDARY LINE

N 01°45'10" E

239.22'(M&D)

NORTH
16 RODS (267.86')(D)

ADJOINER
SOBEL REAL PROPERTIES, LLC
INSTR. #2010002940

FARM FIELD

WEST 37-1/2 RODS (618.75')(D)

S 89°55'31" E 591.70'(M&D)

FARM FENCE LIES GENERALLY
ALONG THE BOUNDARY LINE

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

FARM FIELD

TRACT 1
BLUERIVER LIVESTOCK FARM COMPANY
PART OF
D.R. 310, PG. 67-71
42.727± ACRES

NO BUILDINGS OBSERVED ON SUBJECT PARCEL

ADDITIONAL OCCUPATION
0.674± ACRES

BOUNDARY LINE LIES
GENERALLY ALONG
THE TOP OF BANK

AIRPARK DEVELOPMENT, LLC
INSTR. #2009005301

N 00°46'56" E

850.18'(M&D)

N 00°46'56" W

850.18'(M&D)

S 01°45'09" E

816.41'(M&D)

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S 01°45'09" E

816.41'(M&D)

SE CORNER, W 1/2, SW 1/4
SEC. 31, T.13N., R.7E.
NO MONUMENT FOUND
CALCULATED PER
SUMERFORD SURVEY

S 89°56'38" W 1280.31'

TOE OF SLOPE

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

ADJOINER
BLUERIVER LIVESTOCK FARM COMPANY
D.B. 310, PG. 67-71

TOP OF BANK

N 01°16'54" W

216.32'(M&D)

FLOOD NOTE:

THE PARCEL DESCRIBED AND SHOWN HEREIN LIES WITHIN ZONE "X" (UN-SHADED) AS SAID PARCEL PLOTS ON MAP NUMBER 18145C0116C (DATED NOVEMBER 5, 2014) OF THE FLOOD INSURANCE RATE MAPS FOR SHELBY COUNTY, INDIANA. THE ACCURACY OF THIS FLOOD HAZARD STATEMENT IS SUBJECT TO MAP SCALE UNCERTAINTY AND TO ANY OTHER UNCERTAINTY IN LOCATION OR ELEVATION ON THE REFERENCED FLOOD INSURANCE RATE MAP.

SE CORNER, W 1/2, SW 1/4
SEC. 31, T.13N., R.7E.
NO MONUMENT FOUND
CALCULATED PER
SUMERFORD SURVEY

S 89°56'38" W 1280.31'

TOE OF SLOPE

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

ADJOINER
BLUERIVER LIVESTOCK FARM COMPANY
D.B. 310, PG. 67-71

TOP OF BANK

N 01°16'54" W

216.32'(M&D)

SW CORNER, SW 1/4, NW 1/4
SEC. 31, T.13N., R.7E.
NO MONUMENT FOUND

SOUTH LINE, W 1/2, NW 1/4 - SECTION 31, T.13N., R.7E.
N 89°26'25" E 1264.69'(M&D)

S 42°18'25" W 195.91'(M&D)

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

TOP OF BANK

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

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SUMERFORD CAP
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SUMERFORD CAP
0.2' ABOVE GRADE

FD. REBAR W/
SUMERFORD CAP
0.2' ABOVE GRADE

SE CORNER, SE 1/4, NE 1/4
SEC. 36, T.13N., R.6E.
NO MONUMENT FOUND

9.0' OFFSET

SECTION 36, T.13N., R.6E.

SECTION 31, T.13N., R.7E.

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

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N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

ADJOINER
REMAINDER
BLUERIVER LIVESTOCK FARM COMPANY
D.B. 310, PG. 67-71

SE CORNER, SE 1/4, NE 1/4
SEC. 36, T.13N., R.6E.
NO MONUMENT FOUND

9.0' OFFSET

SECTION 36, T.13N., R.6E.

SECTION 31, T.13N., R.7E.

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

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1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

ADJOINER
REMAINDER
BLUERIVER LIVESTOCK FARM COMPANY
D.B. 310, PG. 67-71

SE CORNER, SE 1/4, NE 1/4
SEC. 36, T.13N., R.6E.
NO MONUMENT FOUND

9.0' OFFSET

SECTION 36, T.13N., R.6E.

SECTION 31, T.13N., R.7E.

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

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1746.74'(M&D)

N 00°30'43" W

1746.74'(M&D)

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PARENT PARCEL LEGAL DESCRIPTION (COMMITMENT NO. NCS-1042359-INDY)

NOTE: THIS LEGAL DESCRIPTION IS INCOMPLETE AND IS FOR INFORMATIONAL PURPOSES ONLY. THIS LEGAL DESCRIPTION SHOULD NOT BE USED TO PREPARE LEGAL DOCUMENTS.

TRACT ONE:

THE SOUTH WEST QUARTER OF THE NORTH EAST QUARTER OF SECTION 36 TOWNSHIP 13, NORTH AND RANGE 6 EAST, CONTAINING 40 ACRES, MORE OR LESS.

ALSO, BEGINNING AT THE NORTH EAST CORNER OF THE WEST HALF OF THE SOUTH EAST QUARTER OF SECTION 36, IN TOWNSHIP 13 NORTH AND RANGE 6 EAST, AND RUNNING THENCE SOUTH TO THE CENTER OF THE SHELBYVILLE AND BRANDYWINE TURNPIKE ROAD; THENCE IN A WESTERLY AND NORTHWESTERLY COURSE ALONG THE CENTER WITH MEANDERINGS OF SAID TURNPIKE TO THE WEST LINE OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 36 THENCE NORTH TO THE NORTH WEST CORNER OF THE WEST HALF OF THE SOUTH EAST QUARTER OF SAID SECTION 36, THENCE EAST TO THE PLACE OF BEGINNING, CONTAINING 35-92/100 ACRES, MORE OR LESS. CONTAINING IN ALL THE LAND HEREBY CONVEYED, 75.72/100 ACES, MORE OR LESS.

THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 36, IN TOWNSHIP 13 NORTH IN RANGE 6 EAST, CONTAINING 40 ACRES, MORE OR LESS.

ALSO, THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 36 IN TOWNSHIP 13 NORTH AND RANGE 6 EAST. EXCEPT 43 ACRES, MORE OR LESS, LYING SOUTH OF THE SHELBYVILLE AND BRANDYWINE TURNPIKE ROAD, LEAVING 37 ACRES MORE OR LESS NORTH OF SAID ROAD, MORE DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTH WEST CORNER OF THE EAST HALF OF THE SOUTH EAST QUARTER OF SECTION 36 IN TOWNSHIP 13 NORTH, AND RANGE 6 AND RUNNING THENCE EAST 20 CHAINS AND 45 LINKS TO THE SOUTH EAST CORNER OF SAID TRACT, THENCE NORTH 22 CHAINS AND 13 LINKS TO THE SUPPOSED MIDDLE OF THE SHELBYVILLE AND BRANDYWINE GRAVEL ROAD, THENCE SOUTH 65 DEGREES WEST IN THE MIDDLE OF SAID GRAVEL ROAD 20 CHAINS AND 52 LINKS TO THE WEST LINE OF SAID TRACT THENCE SOUTH 20 CHAINS AND 52 LINKS TO THE PLACE OF BEGINNING, CONTAINING 43.70 ACRES, MORE OR LESS.

TRACT TWO:

BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE NORTH WEST QUARTER OF SECTION 31, TOWNSHIP 13 NORTH, RANGE 7 EAST AND RUNNING THENCE EAST 19 CHAINS AND 73 LINKS TO THE SOUTH EAST CORNER OF SAID TRACT, THENCE NORTH 16 CHAINS AND 32-1/2 LINKS, THENCE WEST 9 CHAINS AND 50 LINKS, THENCE NORTH 4 CHAINS AND 63-1/4 LINKS, THENCE WEST 10 CHAINS TO THE NORTHWEST CORNER OF SAID TRACT AND THENCE SOUTH 20 CHAINS AND 6 LINK TO THE PLACE OF BEGINNING, CONTAINING 36 ACRES, MORE OR LESS.

ALSO, COMMENCING AT THE SOUTHWEST CORNER OF SECTION 31, TOWNSHIP 13 NORTH, RANGE 7 EAST AND RUNNING THENCE NORTH ALONG THE SECTION LINE 162-2/3 RODS TO THE HALF MILE STAKE, THENCE EAST 74-3/4 RODS, MORE OR LESS, TO THE WEST LINE OF A TRACT OF LAND NOW OWNED BY HARRY TEAL, THENCE SOUTH 1125 FEET AND 9 INCHES TO THE CENTER OF THE SHELBYVILLE AND BRANDYWINE TURNPIKE ROAD, THENCE EAST 763 FEET, MORE OR LESS, TO THE CENTER OF A CERTAIN BAYOU, THENCE SOUTH 24-1/2 DEGREES EAST 5.7 RODS, THENCE SOUTH 10 DEGREES EAST 5.7 RODS, THENCE SOUTH 10 DEGREES EAST 18.65 RODS, THENCE SOUTH 36-1/2 DEGREES EAST 33 RODS TO THE CENTER OF BLUE RIVER, THENCE SOUTH 26 DEGREES EAST ALONG THE CHANNEL OF BLUE RIVER 11-1/2 RODS, THENCE SOUTH 4-1/2 DEGREES EAST 14 RODS, THENCE SOUTH 20-1/2 DEGREES WEST 7-1/2 RODS, THENCE SOUTH 44-1/2 DEGREES WEST 6.65 RODS, THENCE SOUTH 14 RODS, THENCE WEST 142 RODS TO THE PLACE OF BEGINNING, CONTAINING 114.59 ACRES, MORE OR LESS.

EXCEPT THE FOLLOWING TRACT CONVEYED BY WILLIAM F. GREEN ET UX, TO JOHN ELLIOTT; BEGINNING AT A STAKE ON THE SOUTH LINE OF SECTION 31, TOWNSHIP 13 NORTH, RANGE 7 EAST AND 142 RODS EAST OF THE SOUTHWEST CORNER OF SAID SECTION AND RUNNING THENCE NORTH 6 RODS, THENCE WEST AND PARALLEL WITH SAID SOUTH LINE 80 RODS, THENCE SOUTH 8 RODS TO THE SOUTH LINE OF SAID TRACT, THENCE EAST 80 RODS TO THE PLACE OF BEGINNING, CONTAINING 3 ACRES. ALSO EXCEPT WHATEVER WAS INTENDED TO BE CONVEYED BY LOTTA G. TATMAN AND HUSBAND TO WILLIAM C. MAHAN BY A DEED DATED APRIL 20, 1902, AND RECORDED IN DEED RECORD 122, PAGE 350 WHICH TRACT IS THEREIN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 63-1/3 RODS EAST OF THE SOUTHWEST CORNER OF SAID SECTION 31 AND RUNNING THENCE EAST 79.7 RODS, THENCE NORTH 4-1/2 RODS TO THE CENTER OF BIG BLUE RIVER, THENCE ALONG THE CENTER OF THE CHANNEL OF SAID RIVER TO A POINT 166 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 31, THENCE SOUTH TO THE PLACE OF BEGINNING, CONTAINING 2 ACRES, MORE OR LESS.

EXCEPT THEREFORE THE FOLLOWING:

BEGINNING AT A POINT IN THE CENTER OF THE BOGGSTOWN ROAD 1302.2 FEET EAST AND 1125.75 FEET SOUTH OF THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF SECTION 31, TOWNSHIP 13 NORTH, RANGE 7 EAST AND RUNNING THENCE NORTH 87 DEGREES 27 MINUTES EAST ALONG THE CENTER OF THE SAID ROAD 763 FEET TO A POINT PREVIOUSLY DESCRIBED AS "THE CENTER OF A CERTAIN BAYOU"; THENCE SOUTH 20 DEGREES 13 MINUTES EAST, 84.05 FEET, (PREVIOUSLY DESCRIBED AS SOUTH 24-1/2 DEGREES EAST); THENCE SOUTH 6 DEGREES 55 MINUTES EAST, 311.03 FEET, (PREVIOUSLY DESCRIBED AS SOUTH 10 DEGREES EAST); THENCE SOUTH 30 DEGREES 12 MINUTES EAST, 544.50 FEET, (PREVIOUSLY DESCRIBED AS SOUTH 36-1/2 DEGREES EAST, 33 RODS TO THE CENTER OF BLUE RIVER); THENCE SOUTH 11 DEGREES 24 MINUTES EAST, 189.75 FEET (PREVIOUSLY DESCRIBED SOUTH 26 DEGREES EAST ALONG THE CHANNEL OF BLUE RIVER, 114/2 RODS) TO THE CENTER OF BLUE RIVER; THENCE SOUTH 10 DEGREES 14 MINUTES EAST, 231 FEET ALONG THE CHANNEL OF BLUE RIVER, PREVIOUSLY DESCRIBED AS SOUTH 4-1/2 DEGREES EAST, 14 RODS); THENCE SOUTH 28 DEGREES 25 MINUTES WEST, 123.75 FEET ALONG THE CHANNEL OF BLUE RIVER, (PREVIOUSLY DESCRIBED AS SOUTH 20,1/2 DEGREES WEST, 7-1/2 RODS), THENCE SOUTH 32 DEGREES 14 MINUTES WEST, 113.03 FEET ALONG THE CHANNEL OF BLUE RIVER, (PREVIOUSLY DESCRIBED AS SOUTH 44-1/2 DEGREES WEST, 6.65 RODS) TO THE NORTH LINE OF A CERTAIN EXCEPTION DESCRIBED IN THE SINDLINGER DEED, AS A TRACT HAVING BEEN, "CONVEYED BY WILLIAM F. GREEN, ET UX TO JOHN ELLIOT" BEING DESCRIBED AS 6 RODS OFF OF THE SOUTH SIDE OF THAT PART OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER INCLUDED IN THE HEREIN DESCRIBED TRACT; THENCE NORTH 89 DEGREES 16 MINUTES WEST 585 FEET, ALONG THE SAID NORTH LINE OF THE ELLIOTT EXCEPTION, TO THE CENTER OF THE CHANNEL OF BLUE RIVER THENCE NORTH 81 DEGREES 50 MINUTES WEST, 408.3 FEET; ALONG THE CENTER OF THE CHANNEL OF BLUE RIVER; THENCE NORTH 1389.0 FEET TO THE PLACE OF BEGINNING, CONTAINING IN ALL 32.04 ACRES, MORE OR LESS.

TRACT 1 LEGAL DESCRIPTION (AREA OF CLEAR TITLE PER SUMERFORD SURVEY)

PART OF THE WEST HALF OF THE NORTHWEST QUARTER AND PART OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION THIRTY-ONE (31), TOWNSHIP THIRTEEN (13) NORTH, RANGE SEVEN (7) EAST, ADDISON TOWNSHIP, SHELBY COUNTY, INDIANA, BEING PART OF SURVEY JOB #13N7E31-19-048 BY SCOTT T. SUMERFORD, RLS#29800017, CERTIFIED NOVEMBER 15, 2019 AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 31-13-7, SAID POINT BEING MARKED BY A SHELBY COUNTY SURVEYOR MONUMENT; THENCE ALONG THE WEST LINE OF SAID SECTION, NORTH 00° 30' 43" WEST (BASIS OF BEARINGS BEING INDIANA STATE PLANE EAST ZONE) 2257.20 FEET TO A CAPPED REBAR STAMPED "S. SUMERFORD 29800017", SAID MONUMENT BEING HEREINAFTER REFERRED TO AS A CAPPED REBAR AND BEING THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT;

THENCE CONTINUING ALONG THE WEST LINE OF SAID SECTION, NORTH 00° 30' 43" WEST 1746.74 FEET TO A CAPPED REBAR IN AN EXISTING FENCE LINE; THENCE ALONG SAID FENCE LINE, SOUTH 89° 43' 29" EAST 662.66 FEET TO A CAPPED REBAR AT AN EXISTING FENCE CORNER; THENCE ALONG AN EXISTING FENCE LINE, SOUTH 01° 45' 10" EAST 239.22 FEET TO A CAPPED REBAR; THENCE ALONG AN EXISTING FENCE LINE, SOUTH 89° 55' 31" EAST 591.70 FEET TO THE EAST LINE OF THE WEST HALF OF THE NORTHWEST QUARTER OF SAID SECTION; THENCE ALONG SAID HALF QUARTER LINE, SOUTH 00° 46' 56" EAST 850.18 FEET TO AN APPROXIMATE RIDGE LINE; THENCE ALONG SAID APPROXIMATE RIDGE, THE FOLLOWING FOUR (4) COURSES:

- (1) SOUTH 50° 40' 45" WEST 208.29 FEET TO A CAPPED REBAR;
- (2) SOUTH 42° 18' 25" WEST 195.91 FEET TO A CAPPED REBAR;
- (3) SOUTH 35° 46' 09" WEST 293.84 FEET TO A CAPPED REBAR;
- (4) SOUTH 63° 49' 14" WEST 554.16 FEET TO A CAPPED REBAR;

THENCE NORTH 60° 16' 54" WEST 216.32 FEET TO A CAPPED REBAR; THENCE SOUTH 89° 29' 10" WEST 107.93 FEET TO THE POINT OF BEGINNING, CONTAINING 42.727 ACRES.

SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND RIGHT-OF-WAYS OF RECORD.

ADDITIONAL OCCUPATION LEGAL DESCRIPTION (PER SUMERFORD SURVEY)

PART OF THE NORTHWEST QUARTER OF SECTION THIRTY-ONE (31), TOWNSHIP THIRTEEN (13) NORTH, RANGE SEVEN (7) EAST, ADDISON TOWNSHIP, SHELBY COUNTY, INDIANA, BEING PART OF SURVEY JOB #13N7E31-19-048 BY SCOTT T. SUMERFORD, RLS#29800017, CERTIFIED NOVEMBER 15, 2019 AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 31-13-7, SAID POINT BEING MARKED BY A SHELBY COUNTY SURVEYOR MONUMENT; THENCE ALONG THE WEST LINE OF SAID SECTION, NORTH 00° 30' 43" WEST (BASIS OF BEARINGS BEING INDIANA STATE PLANE EAST ZONE) 2676.80 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 31; THENCE ALONG THE SOUTH LINE OF SAID NORTHWEST QUARTER, NORTH 89° 28' 29" EAST 1284.69 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF SAID NORTHWEST QUARTER; THENCE ALONG THE EAST LINE OF SAID WEST HALF, NORTH 00° 46' 56" WEST 219.59 FEET TO THE APPROXIMATE RIDGE LINE AND BEING THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT; THENCE CONTINUING ALONG THE EAST LINE OF SAID WEST HALF, NORTH 00° 46' 56" WEST 850.18 FEET TO AN EXISTING FENCE LINE; THENCE ALONG SAID FENCE LINE, SOUTH 89° 55' 31" EAST 28.19 FEET TO THE WEST LINE OF THE FORMER SHELBY INDUSTRIAL DEVELOPMENT, INC. PROPERTY AS DESCRIBED IN DEED BOOK 307 PAGES 812-814 AS RECORDED IN THE OFFICE OF THE SHELBY COUNTY RECORDER, SAID POINT BEING MARKED BY A CAPPED REBAR STAMPED "S. SUMERFORD 29800017"; THENCE ALONG THE WEST LINE OF SAID FORMER PROPERTY, SOUTH 01° 45' 09" EAST 816.41 FEET TO A CAPPED REBAR STAMPED "S. SUMERFORD 29800017" ON THE APPROXIMATE RIDGE LINE; THENCE ALONG SAID APPROXIMATE LINE, SOUTH 50° 40' 45" WEST 53.71 FEET TO THE POINT OF BEGINNING, CONTAINING 0.674 ACRES.

SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND RIGHT-OF-WAYS OF RECORD.



Civil & Environmental Consultants, Inc.
530 E. Ohio Street - Suite G - Indianapolis, IN 46204
317-655-7777 - 877-746-0749
www.cecinc.com

TRINITY METALS, LLC
BOOMER WAY PARCEL
SHELBYVILLE, INDIANA

ALTA/NSPS LAND TITLE SURVEY

DATE:	JANUARY 6, 2021	DRAWN BY:	TJT
DWG SCALE:		CHECKED BY:	ABS
PROJECT NO:	307-177		
APPROVED BY:			ABS

DRAWING NO:
SV-2

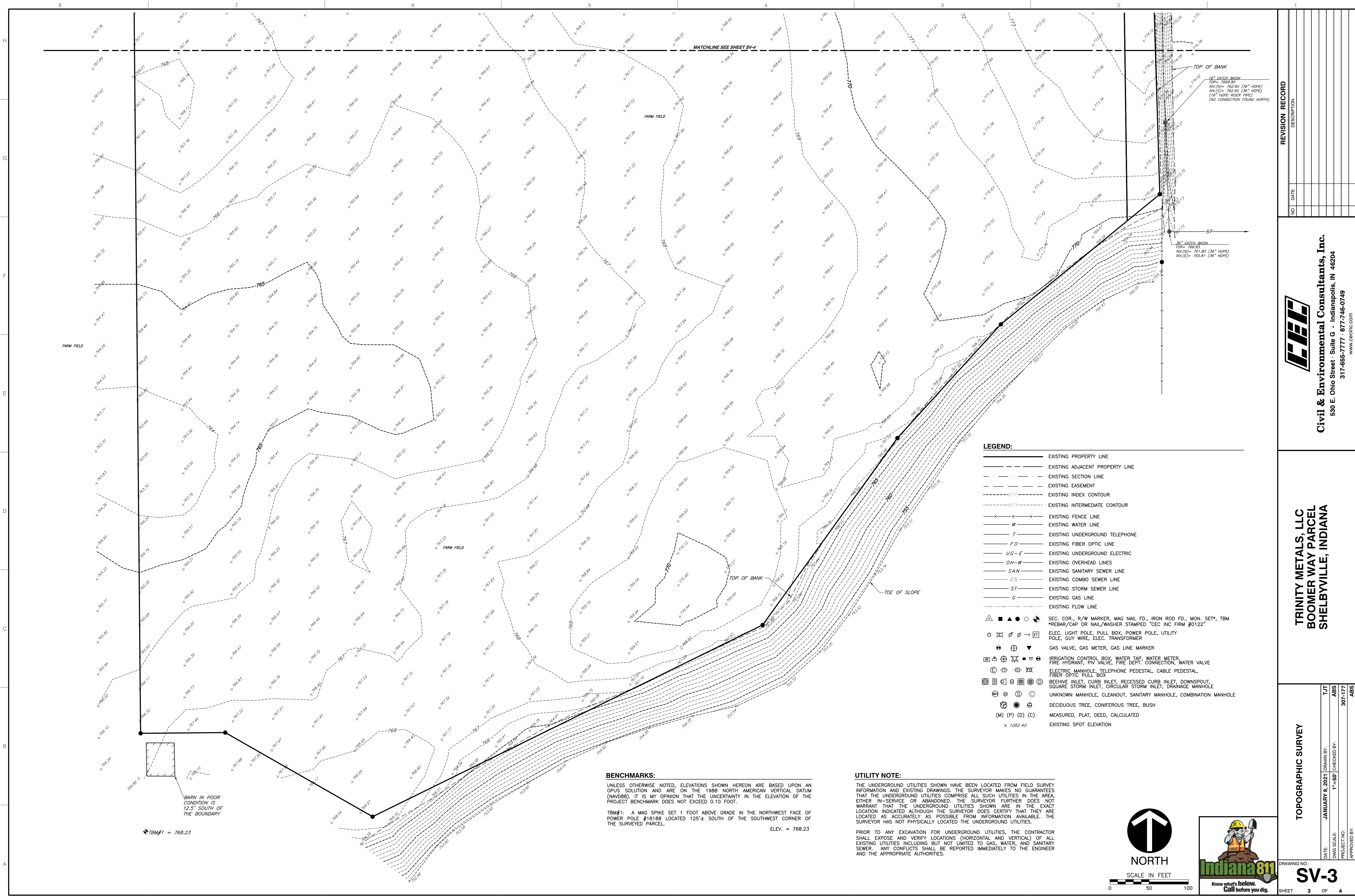
SHEET 2 OF 4

REVISION RECORD

DESCRIPTION

NO. DATE

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Trinity Metals, LLC
BOOMER WAY PARCEL
SHELBYVILLE, INDIANA

Civil & Environmental Consultants, Inc.
530 E. Ohio Street - Suite G - Indianapolis, IN 46204
317-655-7777 - 877-746-0749
www.ceinc.com

REVISION RECORD	
NO.	DATE

TOPOGRAPHIC SURVEY

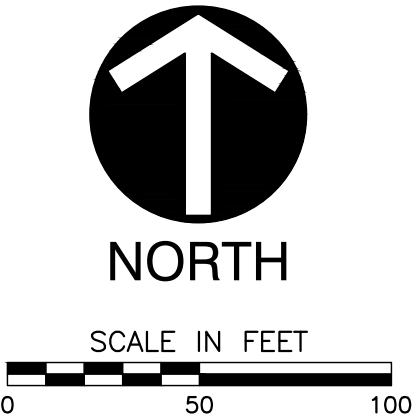
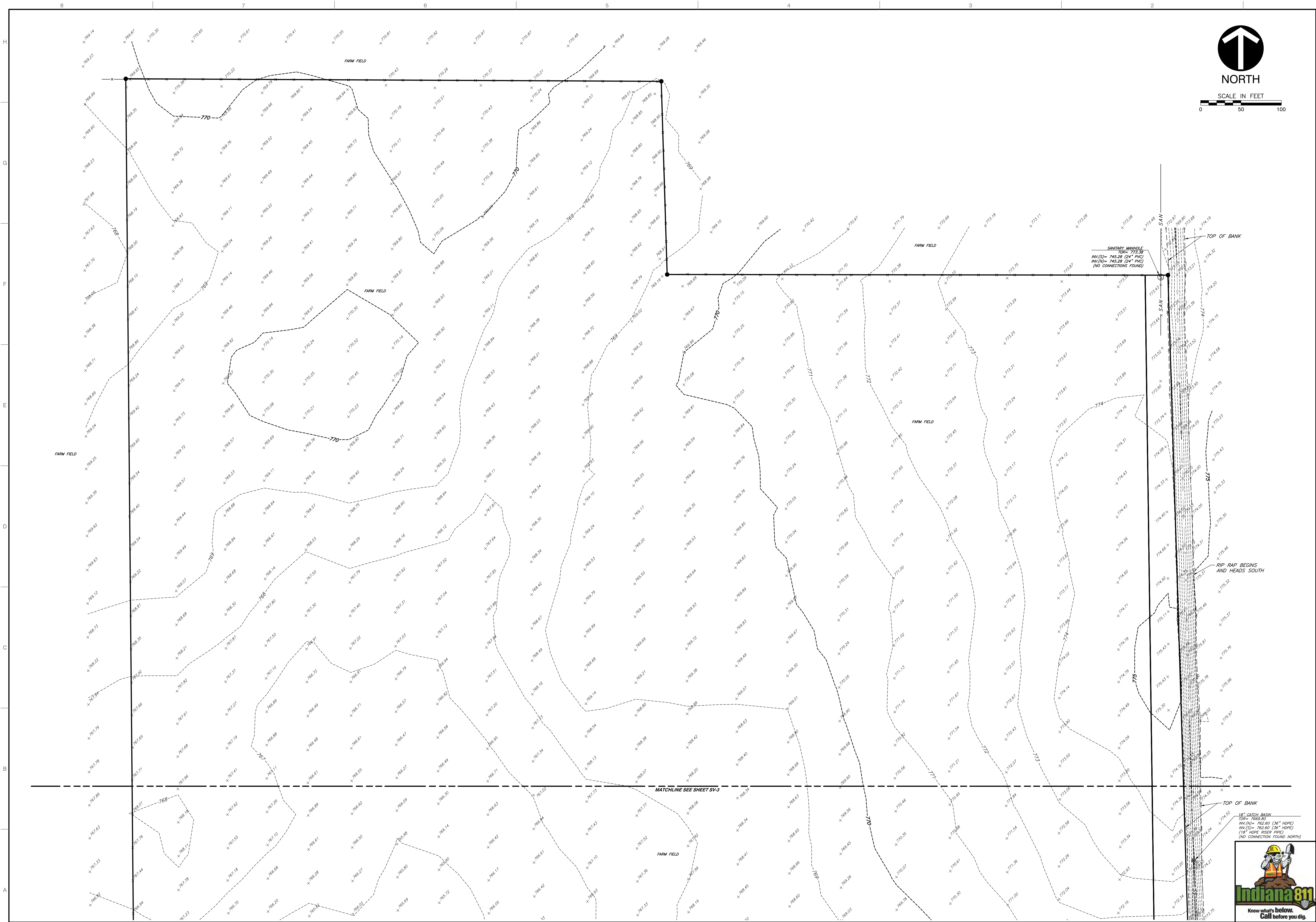
DATE: JANUARY 6, 2021 | DRAWN BY: TJT
DWG SCALE: 1"=50' | CHECKED BY: ABS
PROJECT NO: 307-177
APPROVED BY: ABS

DRAWING NO.: **SV-3**

SHEET 3 OF 4



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REVISION RECORD	
NO.	DATE



Civil & Environmental Consultants, Inc.
530 E. Ohio Street - Suite G - Indianapolis, IN 46204
317-655-7777 - 877-746-0749
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TRINITY METALS, LLC
BOOMER WAY PARCEL
SHELBYVILLE, INDIANA

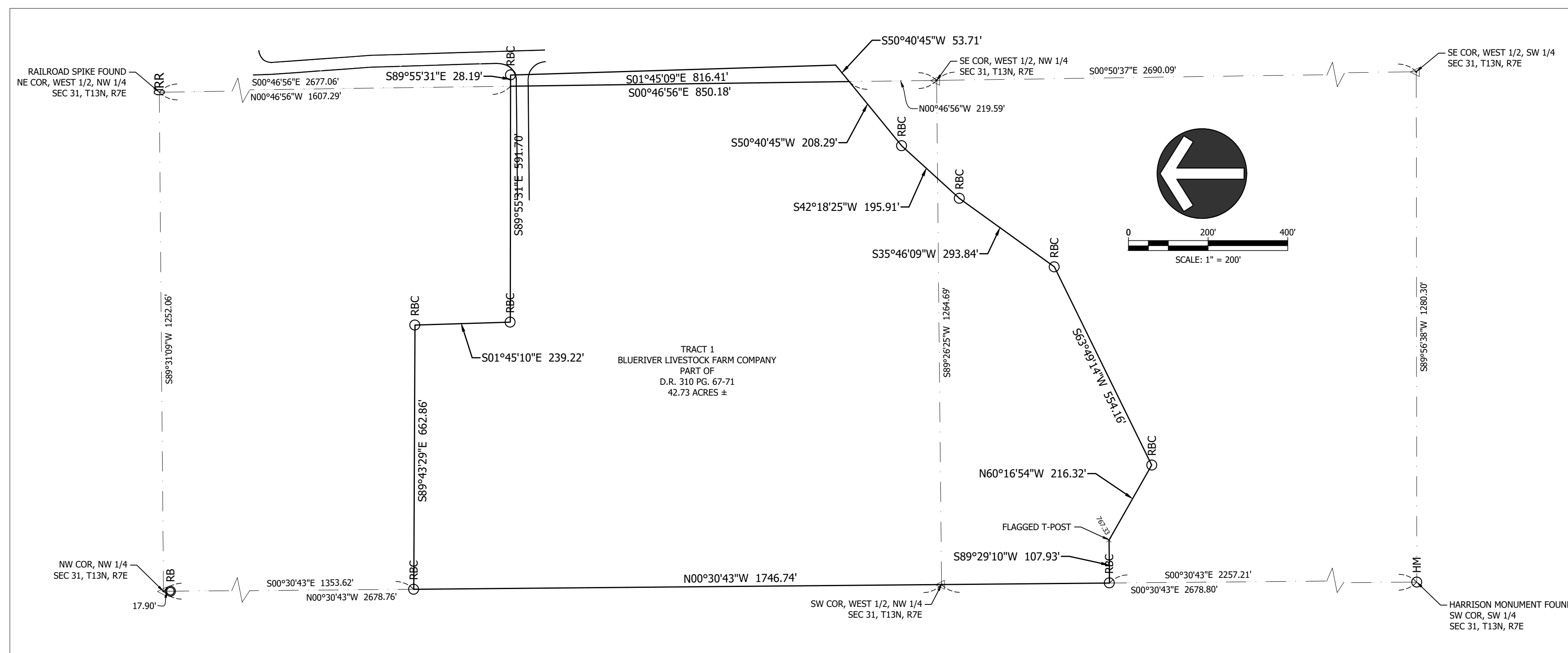
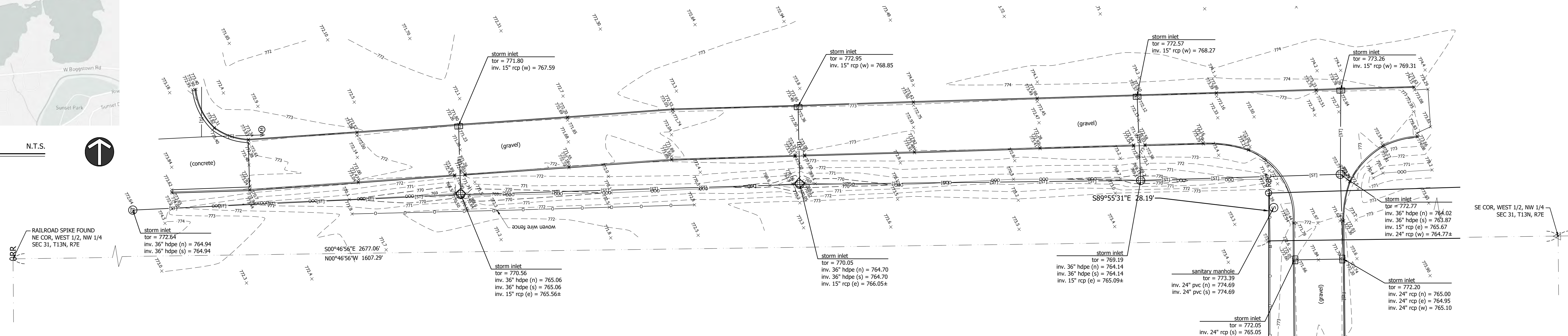
TOPOGRAPHIC SURVEY


DRAWING NO. **SV-4**

SHEET 4 OF 4

DATE: JANUARY 6, 2021 | DRAWN BY: TJT | ABS
DWG SCALE: 1"=50' | CHECKED BY: 307-177 | ABS
PROJECT NO.:
APPROVED BY:

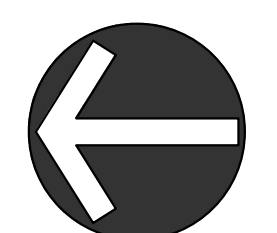


[illegible]


TERRY D. WRIGHT
INDIANA REGISTRATION # LS9700013



LAND AREA:



0 30' 60'

SCALE: 1" = 30'

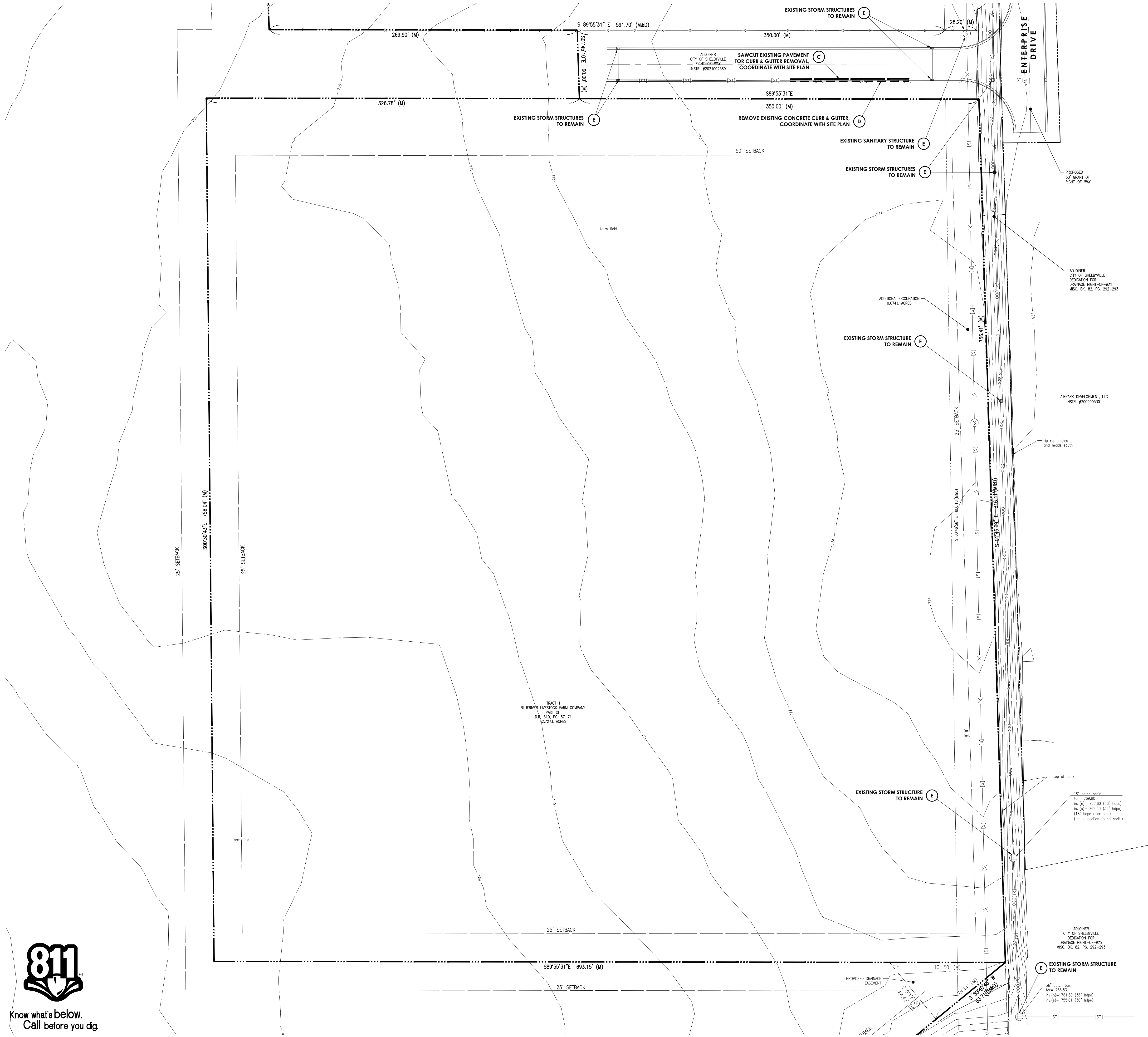


Know what's below.
Call before you dig.

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Know what's below.
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LEGEND OF EXISTING FEATURES

	PROPERTY LINE		BENCHMARK
	RIGHT-OF-WAY LINE		MONUMENT
	SETBACK LINE		SECTION CORNER
	EASEMENT		TRANSFORMER
	SECTION LINE		ELECTRIC METER
	CENTERLINE		ELECTRIC MANHOLE
	799 INTERMEDIATE CONTOUR		POWER POLE GUY WIRE
	800 INDEX CONTOUR		LIGHT POLE
	TELEPHONE UNDER GR.		TELEPHONE PEDESTAL
	TELEPHONE OVERHEAD		TELEPHONE MANHOLE
	FIBER OPTIC SERVICE		GAS MARKER
	GAS SERVICE		ELECTRIC MARKER
	POWER UNDERGROUND		TRAFFIC POLE
	POWER OVERHEAD		TRAFFIC MANHOLE
	WATER SERVICE		GAS METER
	SANITARY SEWER		GAS VALVE
	STORM SEWER		STORM MANHOLE
	POND NORMAL POOL		SANITARY MANHOLE
	EX. FLOWLINE		STORM INLETS
	CHAIN LINK FENCE		CLEAN-OUT
	FARM FENCE		DOWNSPOUT
	WOOD FENCE		FIRE HYDRANTS
	IRON FENCE RAILING		WATER METER
	BUILDING STRUCTURE		WATER VALVES
	EX. BUILDING OVERHEAD		POST INDICATOR VALVE
	RIM ELEVATION		FIRE DEPARTMENT CONN.
	INVERT ELEVATION		SIGNS
	FINISHED FLOOR ELEVATION		MAILBOX
			ADA PARKING
			PARKING COUNT
			TREES
			SHRUB
			SPOT GRADE

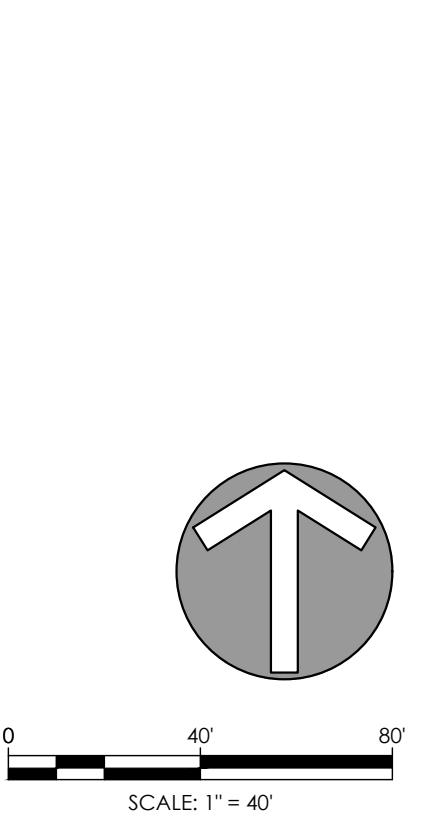
DEMOLITION LEGEND

	ASPHALT TO BE REMOVED
	CONCRETE TO BE REMOVED
	BUILDING STRUCTURE TO BE REMOVED
	TREES, SHRUBS, AND GROUND COVER TO BE REMOVED

	ABANDON IN PLACE
	SAWCUT, CLEAN EDGE
	DEMOLISH OR REMOVE
	EXISTING TO REMAIN
	RELOCATE

	CURB TO BE REMOVED
	WALL TO BE REMOVED
	SAWCUT, CLEAN EDGE
	UTILITY TO BE REMOVED
	PROJECT LIMITS
	CONSTRUCTION BARRELS

	15' catch basin
	36' catch basin



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CONSTRUCTION PLANS FOR:
TRINITY ALLOYS

Enterprise Drive
Shelbyville, Indiana 46176

TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.
2021-0091

DATE
02/15/2022

SCALE
1" = 40'

SHEET NAME
**DEMOLITION
PLAN**

SHEET NO.

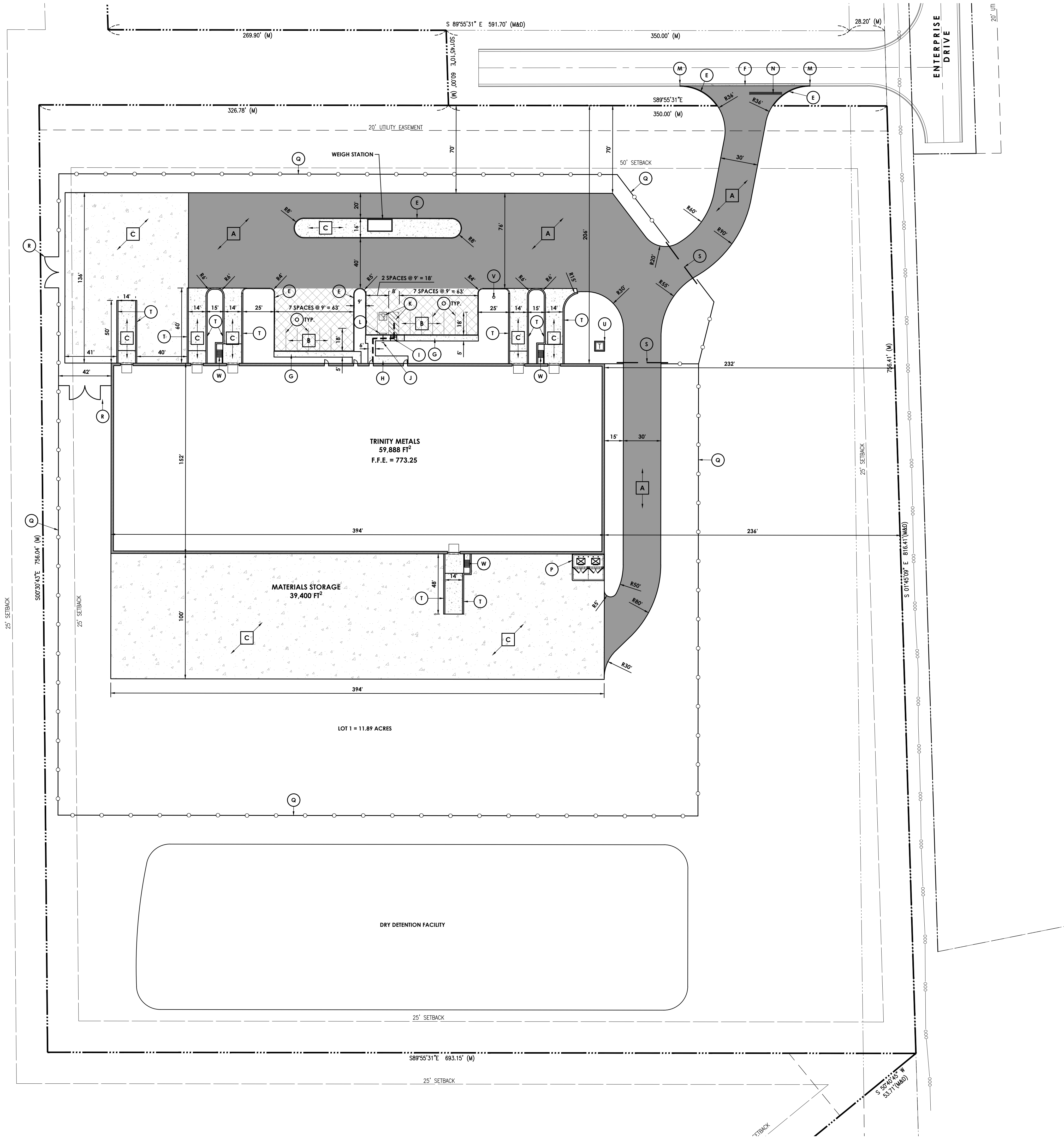
CD-101

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BLOCK A = 31.03 ACRES



LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET HC	TRANSFORMER
---	SECTION LINE	E M E	HVAC
---	CENTERLINE	⊗ C	ELECTRIC METER
---	799	⊗ C	ELECTRIC MANHOLE
---	INTERMEDIATE CONTOUR	⊗ C	POWER POLE GUY WIRE
---	INDEX CONTOUR	⊗ C	LIGHT POLE
---	800	⊗ C	TELEPHONE PEDESTAL
---	TELEPHONE UNDER GR.	⊗ C	TELEPHONE MANHOLE
---	TELEPHONE OVERHEAD	TR ⊗	GAS MARKER
---	FIBER OPTIC SERVICE	⊗ C	ELECTRIC MARKER
---	GAS SERVICE	⊗ C	TRAFFIC POLE
---	POWER UNDERGROUND	⊗ C	TRAFFIC MANHOLE
---	POWER OVERHEAD	⊗ C	GAS METER
---	WATER SERVICE	⊗ C	GAS VALVE
---	SANITARY SEWER	⊗ C	STORM MANHOLE
---	STORM SEWER	⊗ C	SANITARY MANHOLE
---	POND NORMAL POOL	⊗ C	STORM INLETS
---	EX. FLOWLINE	⊗ C	CLEAN-OUT
---	CHAIN LINK FENCE	⊗ C	DOWNSPOUT
---	FARM FENCE	⊗ C	FIRE HYDRANTS
---	WOOD FENCE	⊗ C	WATER METER
---	IRON FENCE RAILING	⊗ C	WATER VALVES
---	BUILDING STRUCTURE	⊗ C	POST INDICATOR VALVE
---	EX. BUILDING OVERHEAD	⊗ C	FIRE DEPARTMENT CONN.
---	RIM	⊗ C	SIGNS
---	INV.	⊗ C	MAILBOX
---	FFE	⊗ C	ADA PARKING
---		⊗ C	PARKING COUNT
---		⊗ C	TREES
---		⊗ C	SHRUB
---		⊗ C	SPOT GRADE

SITE PLAN LEGEND - PROPOSED

A	HEAVY DUTY ASPHALT PAVEMENT	CS-501
B	STANDARD DUTY ASPHALT PAVEMENT	CS-501
C	8" REINFORCED CONCRETE PAVEMENT	CS-501
D	NOT USED	
E	6" CONCRETE CURB	CS-501
F	DEPRESSED CONCRETE CURB & GUTTER	CS-501
G	CONCRETE CURB AND WALK	CS-501
H	CONCRETE SIDEWALK	CS-502
I	ACCESSIBLE CURB RAMP	CS-502
J	ACCESSIBLE PARKING SIGNAGE	CS-501
K	ACCESSIBLE PARKING PAVEMENT MARKINGS	CS-501
L	PRECAST CONCRETE WHEELSTOP	CS-501
M	SAWCUT / LAP JOINT	CS-501
N	PAVEMENT STRIPING, 24" STOP BAR	CS-501
O	PAVEMENT STRIPING, 4" SOLID	CS-501
P	TRASH ENCLOSURE	CS-503
Q	CHAIN LINK SECURITY FENCE	CS-502
R	FENCE GATE, MANUAL (COORDINATE WITH OWNER)	
S	FENCE GATE, POWERED (COORDINATE WITH OWNER)	
T	RETAINING WALL (SEE ARCHITECTURAL PLANS FOR DETAILS)	
U	TRANSFORMER PAD (COORDINATE WITH UTILITY PROVIDER)	
V	FLAG POLE (COORDINATE WITH OWNER)	
W	CONCRETE STEPS (SEE ARCHITECTURAL PLANS FOR DETAILS)	
---	ACCESSIBLE ROUTE	



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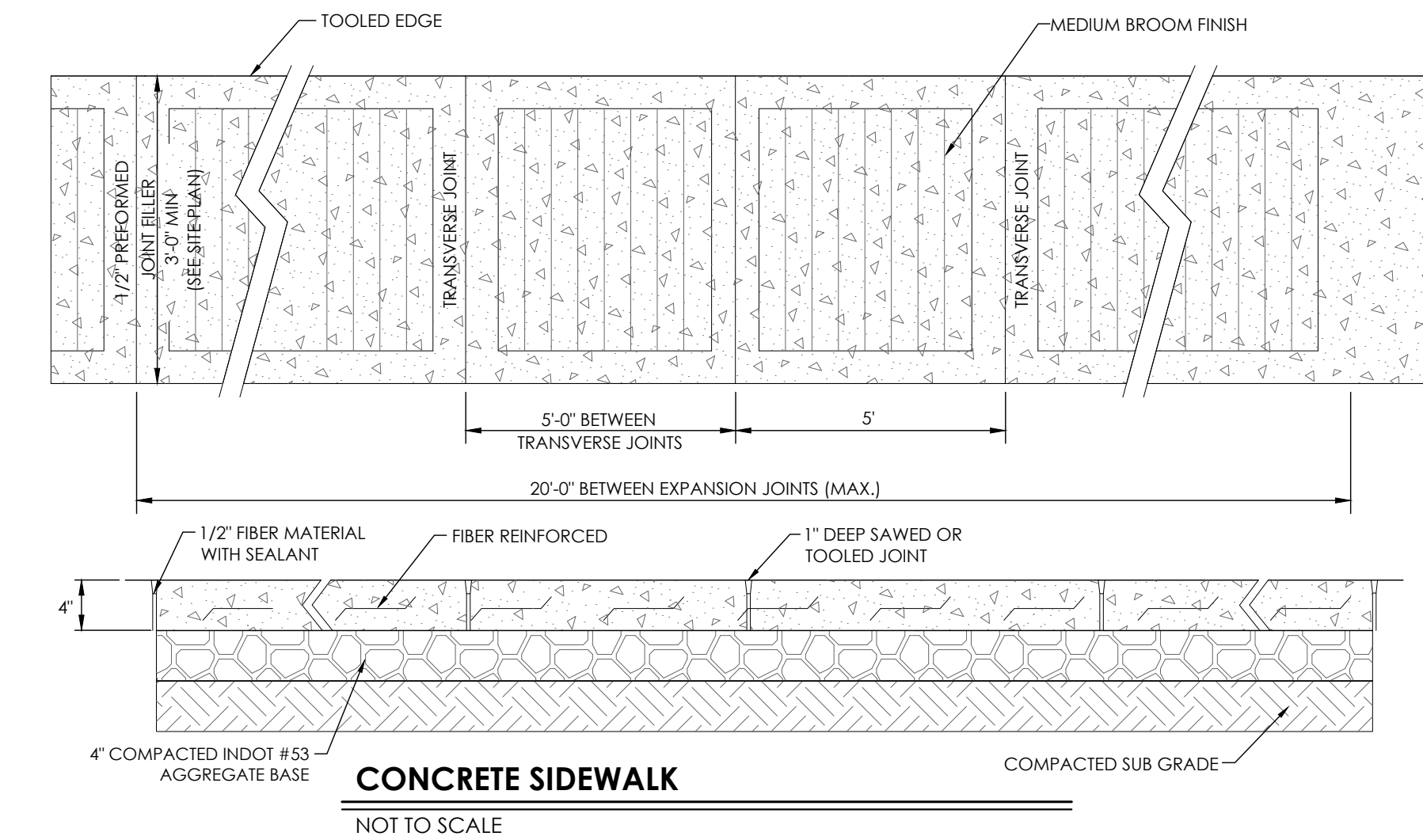
SCALE
1" = 40'

SHEET NAME
SITE PLAN

SHEET NO.

CS-101

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NOTES:

- The bottom edge of the turning space and top of curb shall be flush with the edge of adjacent pavement and gutter line.
- The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.
- Curb ramp surface shall be coarse broomed transverse to the running slope.
- Where there is no buffer between the sidewalk and curb, the preferred minimum sidewalk width is 6 ft. Where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SDWK for sidewalk details.
- See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
- See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
- See Standard Drawing E 604-CCSJ-01 for sidewalk expansion joint details.

LEGEND:

- Ramp
- Detectable Warning Surface
- Turning Space

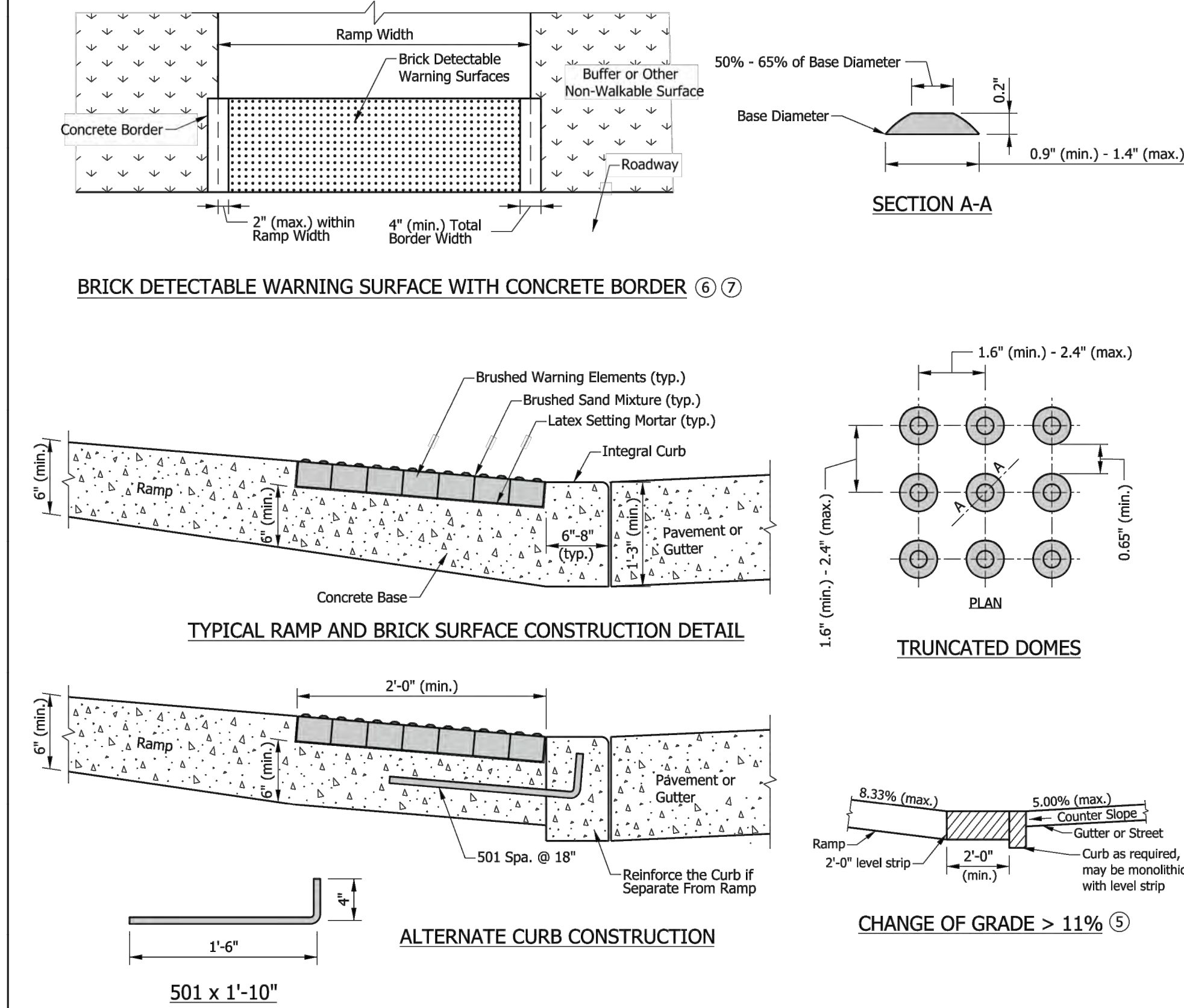
INDIANA DEPARTMENT OF TRANSPORTATION

PARALLEL CURB RAMP
COMPONENT DETAILS

SEPTEMBER 2018

STANDARD DRAWING NO. E 604-SWCR-08

	<i>/s/ Elizabeth W. Phillips</i> DESIGN STANDARDS ENGINEER DATE 03/29/18
	<i>/s/ John Leckie</i> CHIEF ENGINEER DATE 04/25/18



NOTES:

- Detectable warning surface shall consist of truncated domes. Domes shall be aligned in a square or radial grid pattern with diameter and center-to-center spacing within the ranges specified.
- The detectable warning surface may be field cut. Truncated dome spacing between adjacent panels shall be within the ranges specified.
- The detectable warning surface shall contrast visually with adjacent surfaces, either light-on-dark or dark-on-light.
- The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break.
- The maximum counter slope of the gutter or street at the bottom of the ramp shall be 5.00%. Where the algebraic difference between the running slope and the counter slope exceeds 11%, a 2-ft minimum level strip should be provided at the bottom of the ramp.
- Where a concrete border is used for forming, the border shall be cast monolithically with the curb ramp concrete. The concrete border shall not reduce the ramp width by more than 2 in. on each side.
- Where forming other than a concrete border is used, the edge restraint shall not encroach upon the ramp width.

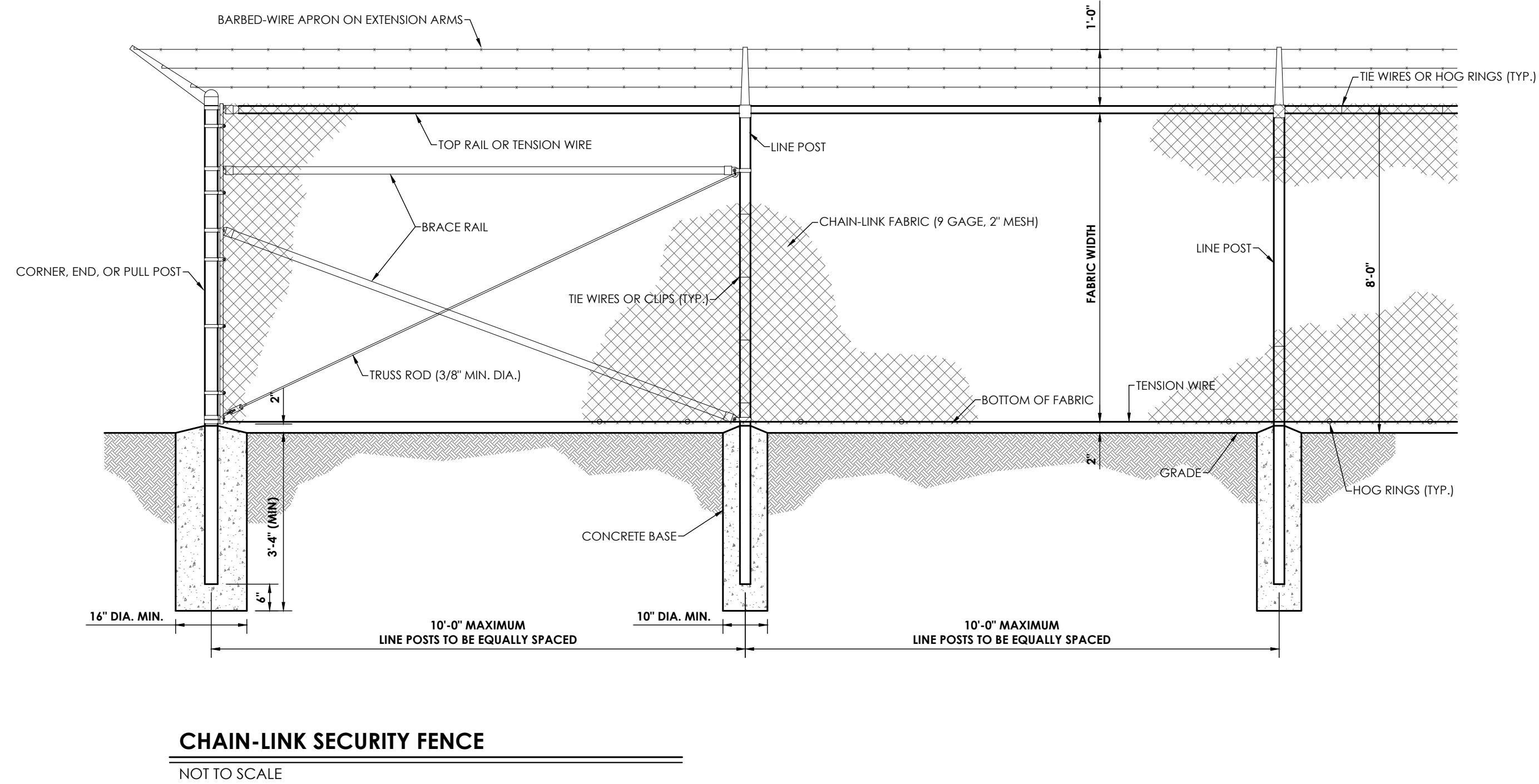
INDIANA DEPARTMENT OF TRANSPORTATION

DETECTABLE WARNING SURFACE DETAILS

SEPTEMBER 2018

STANDARD DRAWING NO. E 604-SWCR-14

	<i>/s/ Elizabeth W. Phillips</i> DESIGN STANDARDS ENGINEER DATE 03/29/18
	<i>/s/ John Leckie</i> CHIEF ENGINEER DATE 04/25/18



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SHEET NAME
**SITE
DETAILS**

SHEET NO.

CS-502



8. BOLLARD

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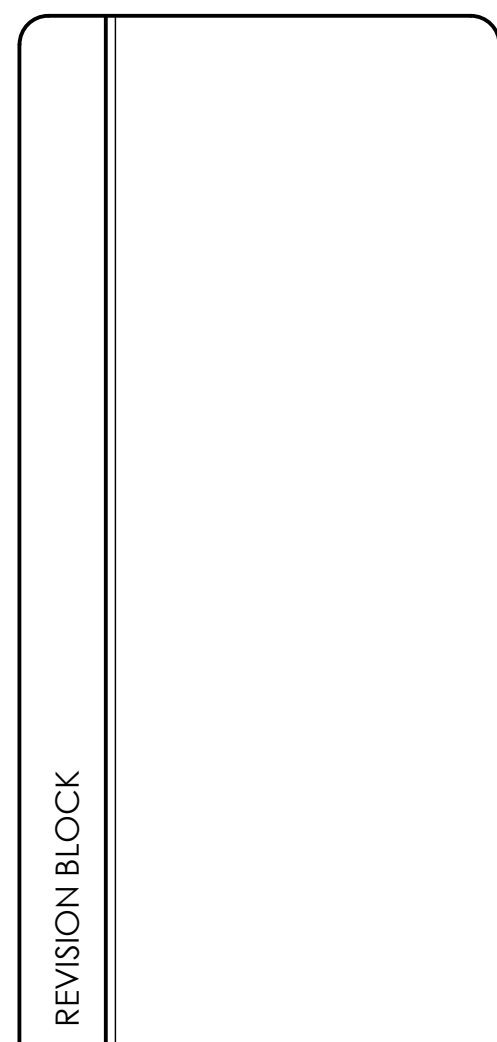
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SCALE

SHEET NAME

SITE DETAILS

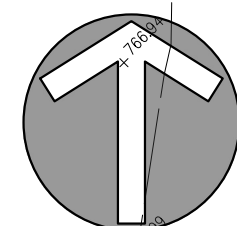
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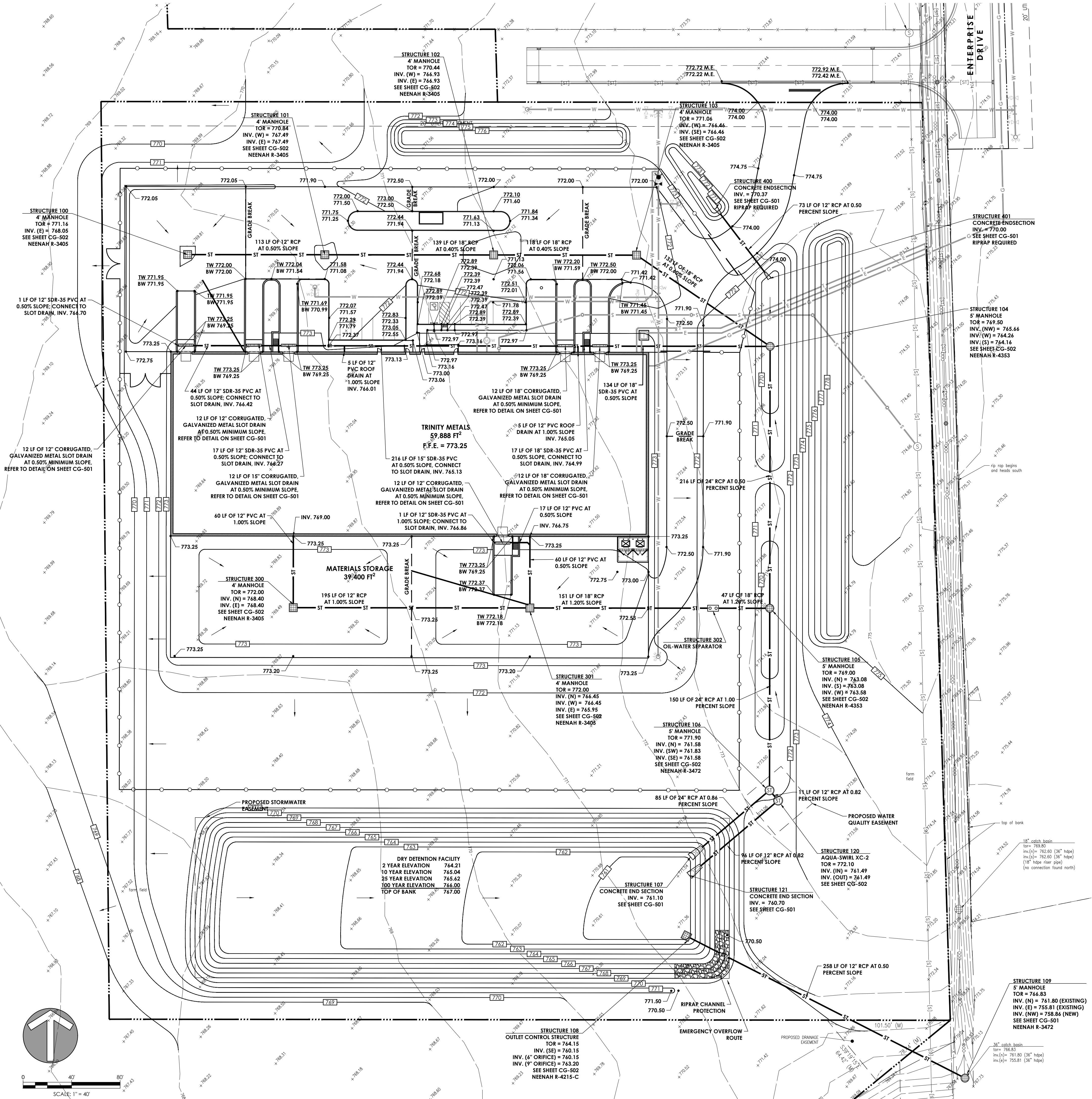
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SCALE: 1" = 40'

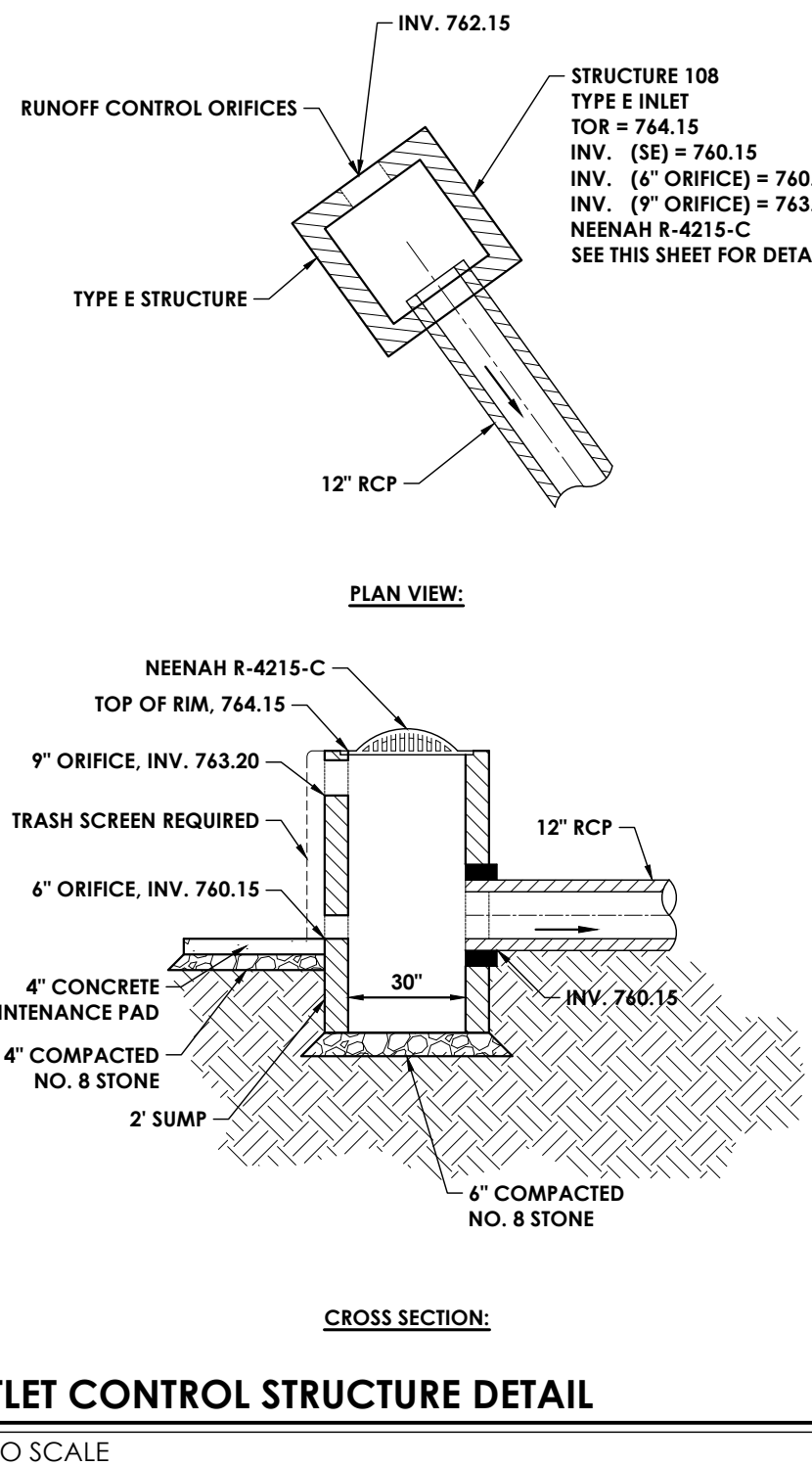


LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	+	BENCHMARK
---	RIGHT-OF-WAY LINE	○	RBC
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	⊠	TRANSFORMER
---	SECTION LINE	⊠	HVAC
---	CENTERLINE	⊠	ELECTRIC METER
---	INTERMEDIATE CONTOUR	⊠	ELECTRIC MANHOLE
---	INDEX CONTOUR	⊠	POWER POLE GUY WIRE
---	TELEPHONE UNDER GR.	⊠	LIGHT POLE
---	TELEPHONE OVERHEAD	⊠	TELEPHONE PEDESTAL
---	FIBER OPTIC SERVICE	⊠	TELEPHONE MANHOLE
---	GAS SERVICE	⊠	GAS MARKER
---	POWER UNDERGROUND	⊠	ELECTRIC MARKER
---	POWER OVERHEAD	⊠	TRAFFIC POLE
---	WATER SERVICE	⊠	TRAFFIC MANHOLE
---	SANITARY SEWER	⊠	GAS METER
---	STORM SEWER	⊠	GAS VALVE
---	POND NORMAL POOL	⊠	STORM MANHOLE
---	EX. FLOWLINE	⊠	SANITARY MANHOLE
---	CHAIN LINK FENCE	⊠	STORM INLETS
---	FARM FENCE	⊠	CLEAN-OUT
---	WOOD FENCE	⊠	DOWNSPOUT
---	IRON FENCE RAILING	⊠	FIRE HYDRANTS
---	BUILDING STRUCTURE	⊠	WATER METER
---	EX. BUILDING OVERHEAD	⊠	WATER VALVES
---	RIM	⊠	POST INDICATOR VALVE
---	INV.	⊠	FIRE DEPARTMENT CONN.
---	FFE	⊠	SIGNS
---		⊠	MAILBOX
---		⊠	ADA PARKING
---		⊠	PARKING COUNT
---		⊠	TREES
---		⊠	SHRUB
---		⊠	SPOT GRADE

GRADING PLAN LEGEND

---	ST	STORM SEWER	RIM	RIM ELEVATION
---	SSD	SUBSURFACE DRAIN	INV.	INVERT ELEVATION
---	---	SWALE FLOWLINE	FFE	FINISHED FLOOR ELEVATION
---	NP	POND (NORMAL POOL)	---	FLOW ARROW
---	---	INTERMEDIATE CONTOUR	⊠	STORM MANHOLE
---	---	INDEX CONTOUR	⊠	STORM INLETS
---	---	MATCH EXISTING	⊠	STORM ENDSECTION
---	---	PAVEMENT SPOT GRADE	⊠	CLEAN-OUT
---	---	GROUND SPOT GRADE	⊠	DOWNSPOUT
---	---	TOP OF CURB	⊠	
---	---	BOTTOM OF CURB	⊠	
---	---	TOP OF WALL	⊠	
---	---	BOTTOM OF WALL	⊠	



OUTLET CONTROL STRUCTURE DETAIL
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SCALE
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SHEET NAME

GRADING
PLAN

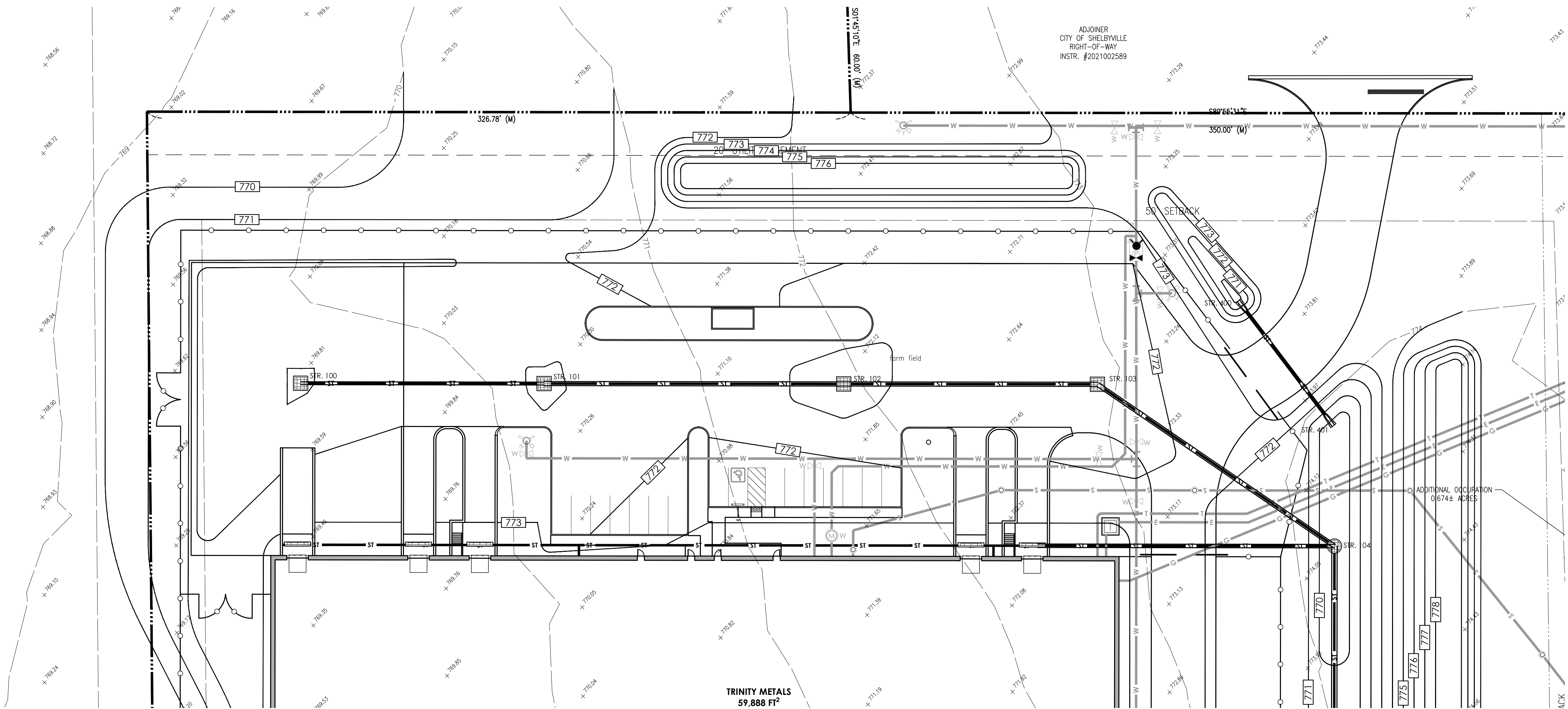
SHEET NO.

CG-101

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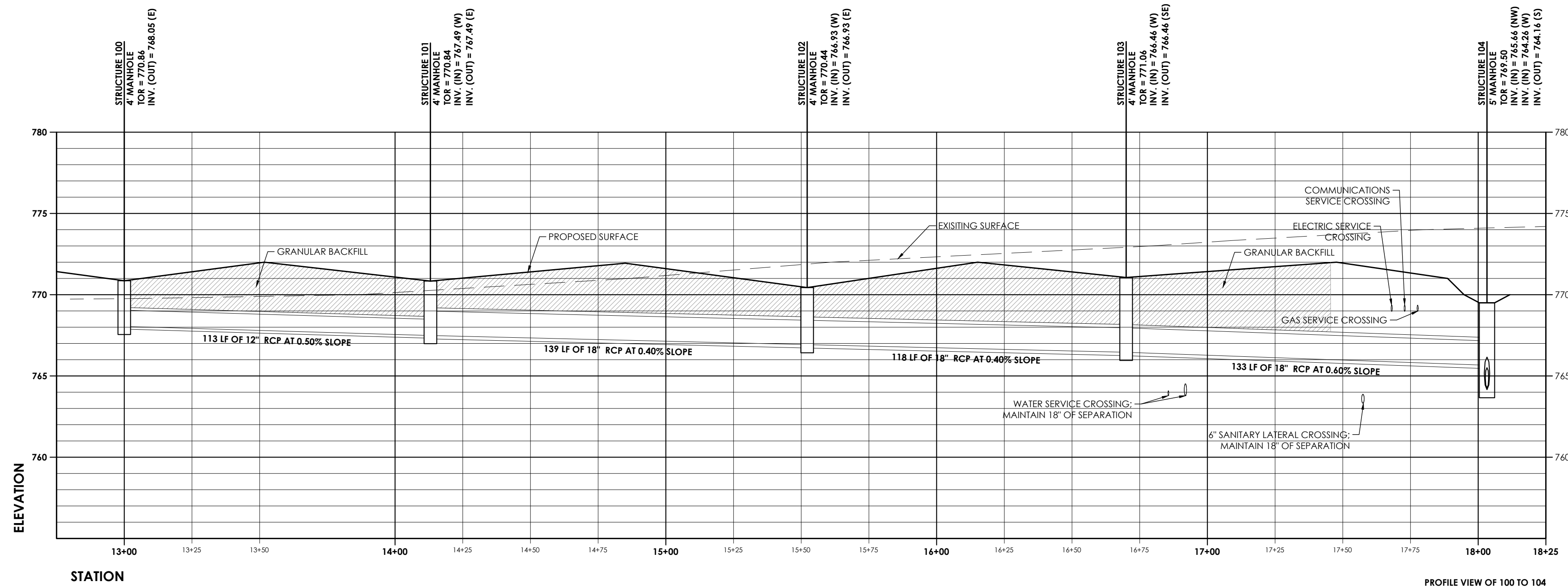


LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET	TRANSFORMER
---	SECTION LINE	ET	HVAC
---	CENTERLINE	ET	ELECTRIC METER
---	INTERMEDIATE CONTOUR	ET	ELECTRIC MANHOLE
---	INDEX CONTOUR	ET	POWER POLE GUY WIRE
[T]	TELEPHONE UNDER GR.	ET	LIGHT POLE
[OH-T]	TELEPHONE OVERHEAD	ET	TELEPHONE PEDESTAL
[FO]	FIBER OPTIC SERVICE	ET	TELEPHONE MANHOLE
[G]	GAS SERVICE	ET	GAS MARKER
[E]	POWER UNDERGROUND	ET	ELECTRIC MARKER
[OH-E]	POWER OVERHEAD	ET	TRAFFIC POLE
[W]	WATER SERVICE	ET	TRAFFIC MANHOLE
[S]	SANITARY SEWER	ET	GAS METER
[ST]	STORM SEWER	ET	GAS VALVE
[NP]	POND NORMAL POOL	ET	STORM MANHOLE
---	EX. FLOWLINE	ET	SANITARY MANHOLE
---	CHAIN LINK FENCE	ET	STORM INLETS
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---	WOOD FENCE	ET	DOWNSPOUT
---	IRON FENCE RAILING	ET	FIRE HYDRANTS
---	BUILDING STRUCTURE	ET	WATER METER
---	EX. BUILDING OVERHEAD	ET	WATER VALVES
RIM	RIM ELEVATION	ET	POST INDICATOR VALVE
INV.	INVERT ELEVATION	ET	FIRE DEPARTMENT CONN.
FFE	FINISHED FLOOR ELEVATION	ET	SIGNS

GRADING PLAN LEGEND

ST	STORM SEWER	RIM	RIM ELEVATION
SSD	SUBSURFACE DRAIN	INV.	INVERT ELEVATION
SW	SWALE FLOWLINE	FFE	FINISHED FLOOR ELEVATION
NP	POND (NORMAL POOL)	---	FLOW ARROW
799	INTERMEDIATE CONTOUR	ST	STORM MANHOLE
800	INDEX CONTOUR	ST	STORM INLETS
800.00 ME	MATCH EXISTING	ST	STORM ENDSECTION
800.00	PAVEMENT SPOT GRADE	ST	CLEAN-OUT
800.4	GROUND SPOT GRADE	ST	DOWNSPOUT
800.00	TOP OF CURB	ST	
800.50	BOTTOM OF CURB	ST	
800.00 TW	TOP OF WALL	ST	
800.50 BW	BOTTOM OF WALL	ST	



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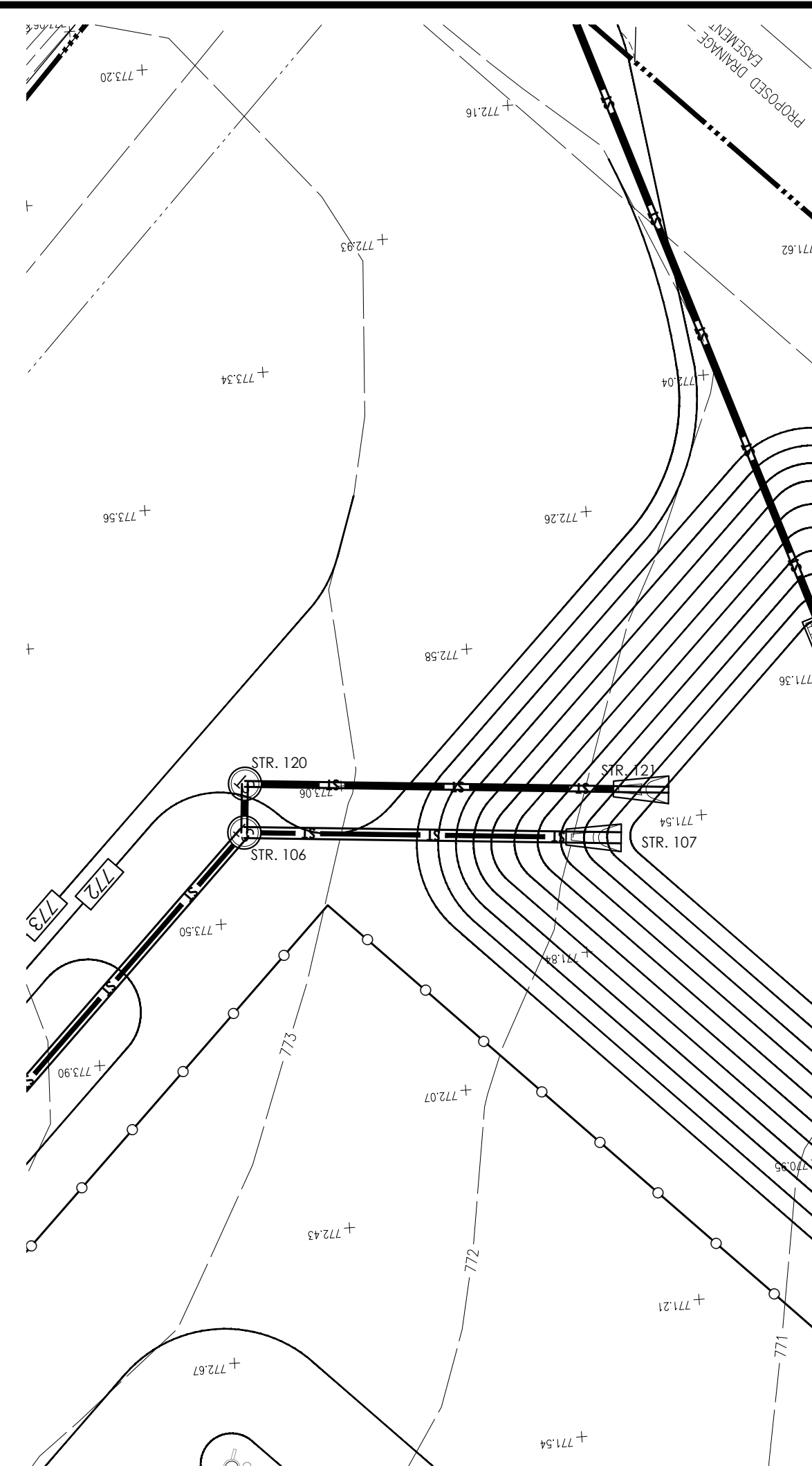
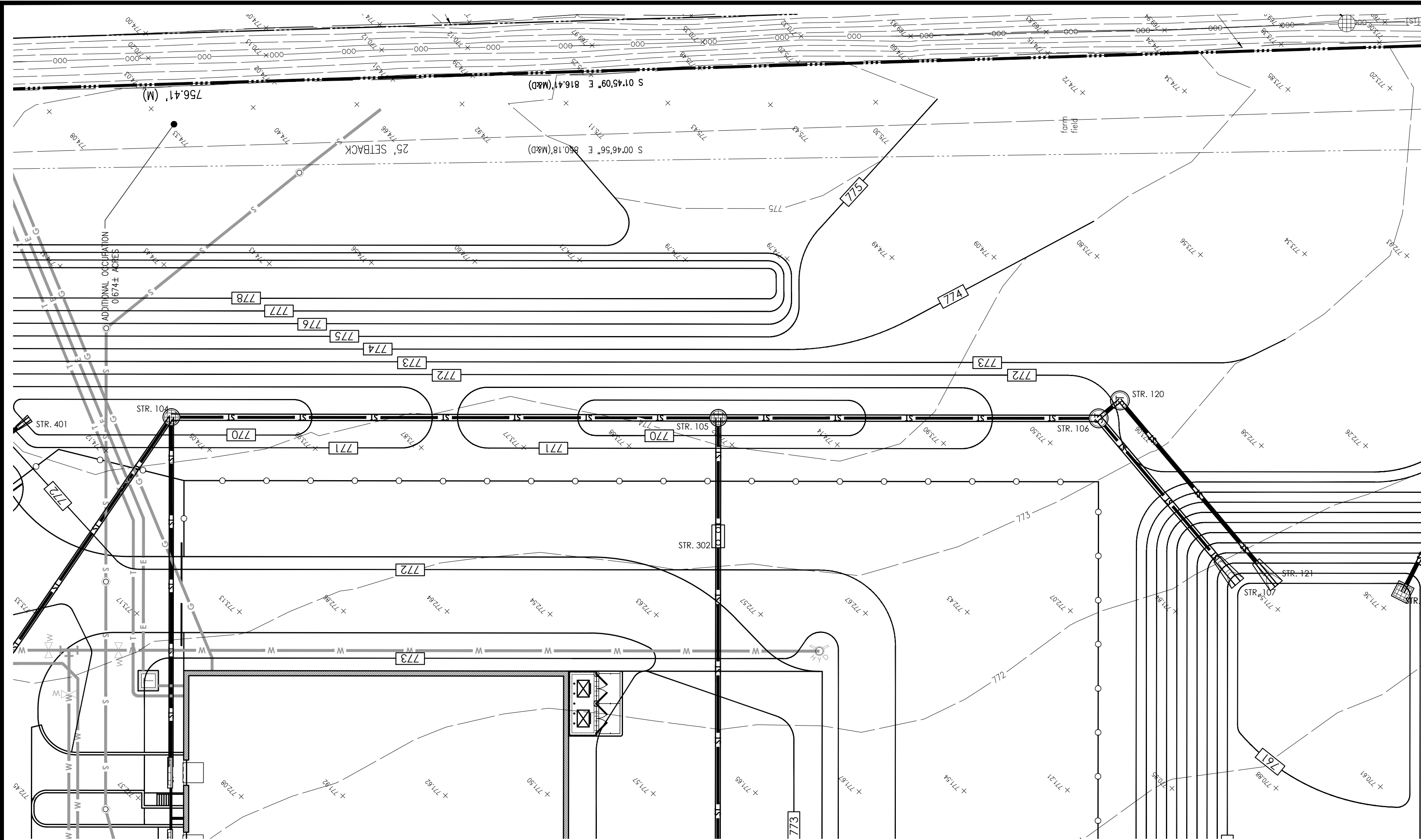
SCALE
1" = 30'

SHEET NAME
**STORMWATER
PLAN & PROFILE**

SHEET NO.

CG-301

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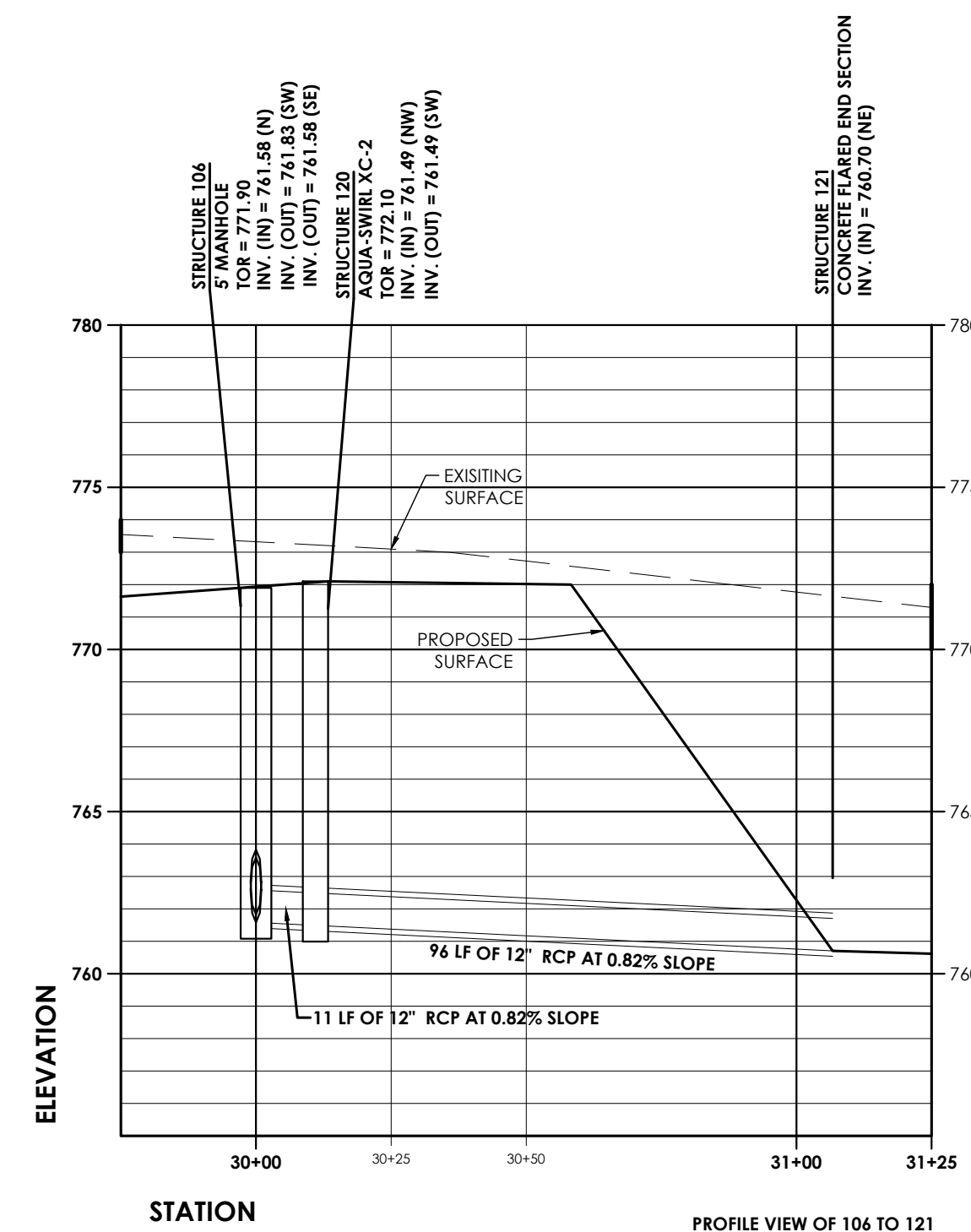
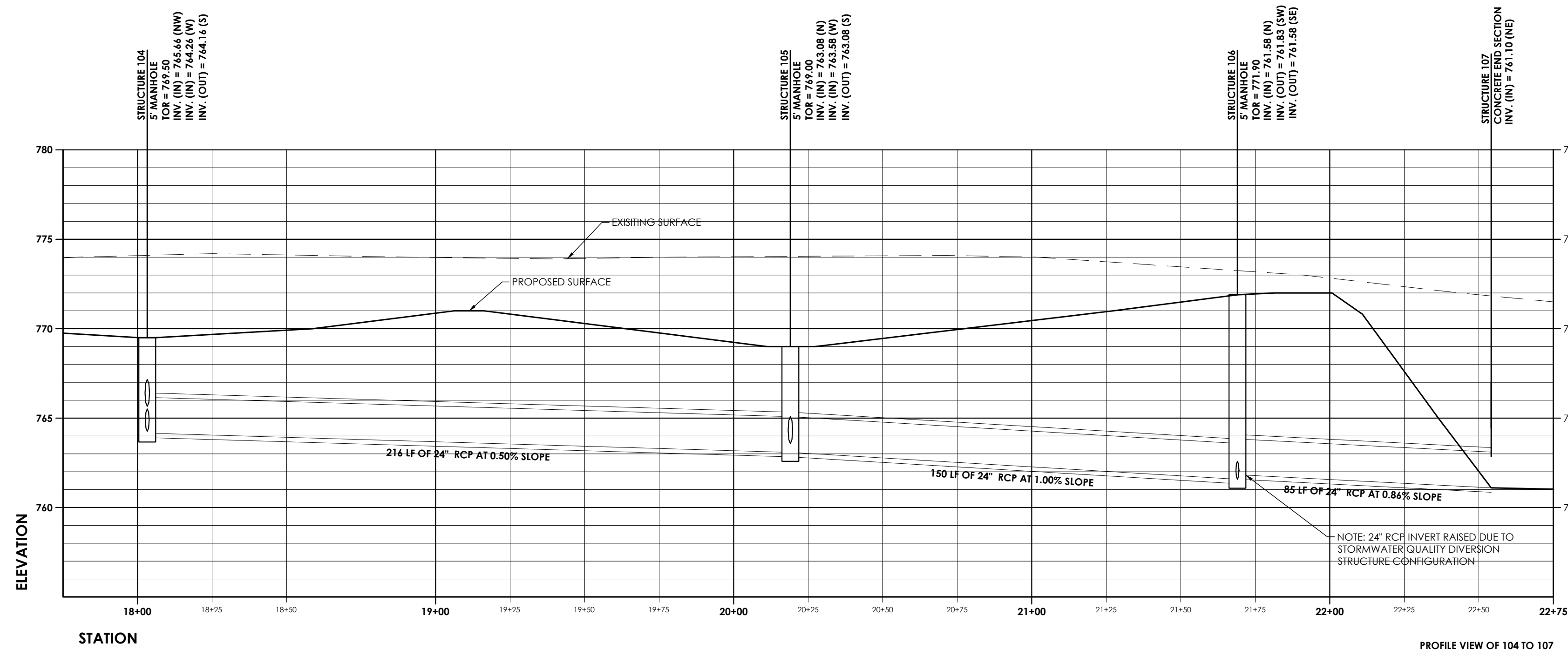


LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET	TRANSFORMER
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[OH-T]	TELEPHONE OVERHEAD	⊕	TELEPHONE PEDESTAL
[FO]	FIBER OPTIC SERVICE	⊕	TELEPHONE MANHOLE
[G]	GAS SERVICE	⊕	GAS MARKER
[E]	POWER UNDERGROUND	⊕	ELECTRIC MARKER
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[W]	WATER SERVICE	⊕	TRAFFIC MANHOLE
[S]	SANITARY SEWER	⊕	GAS METER
[ST]	STORM SEWER	⊕	GAS VALVE
[NP]	POND NORMAL POOL	⊕	STORM MANHOLE
---	EX. FLOWLINE	⊕	SANITARY MANHOLE
---	CHAIN LINK FENCE	⊕	STORM INLETS
X	FARM FENCE	⊕	CLEAN-OUT
/	WOOD FENCE	⊕	DOWNSPOUT
---	BUILDING STRUCTURE	⊕	FIRE HYDRANTS
---	EX. BUILDING OVERHEAD	⊕	WATER METER
RIM	RIM ELEVATION	⊕	WATER VALVES
INV.	INVERT ELEVATION	⊕	POST INDICATOR VALVE
FFE	FINISHED FLOOR ELEVATION	⊕	FIRE DEPARTMENT CONN.
		⊕	SIGNS
		⊕	MAILBOX
		⊕	ADA PARKING
		⊕	PARKING COUNT
		⊕	TREES
		⊕	SHRUB
		⊕	SPOT GRADE

GRADING PLAN LEGEND

---	ST	STORM SEWER	RIM	RIM ELEVATION
---	SSD	SUBSURFACE DRAIN	INV.	INVERT ELEVATION
---	SWALE	SWALE FLOWLINE	FFE	FINISHED FLOOR ELEVATION
---	NP	POND (NORMAL POOL)	---	FLOW ARROW
---	799	INTERMEDIATE CONTOUR	⊕	STORM MANHOLE
---	800	INDEX CONTOUR	⊕	STORM INLETS
800.00 ME		MATCH EXISTING	⊕	STORM ENDSECTION
800.00		PAVEMENT SPOT GRADE	⊕	CLEAN-OUT
800.4		GROUND SPOT GRADE	⊕	DOWNSPOUT
800.00		TOP OF CURB		
800.50		BOTTOM OF CURB		
800.00 TW		TOP OF WALL		
800.50 BW		BOTTOM OF WALL		



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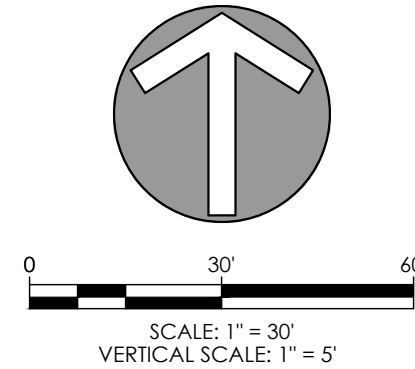
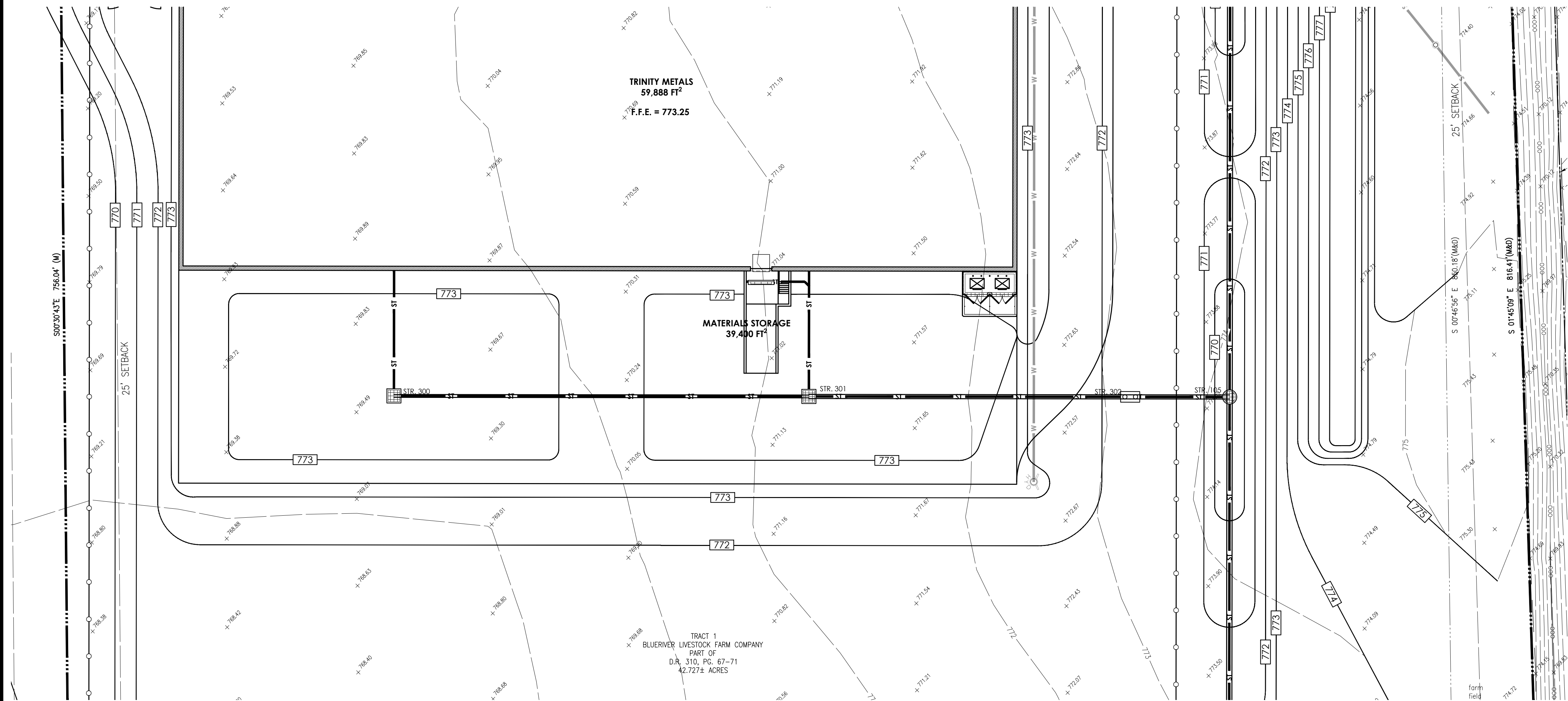
SHEET NAME
**STORMWATER
PLAN & PROFILE**

SHEET NO.

CG-302


















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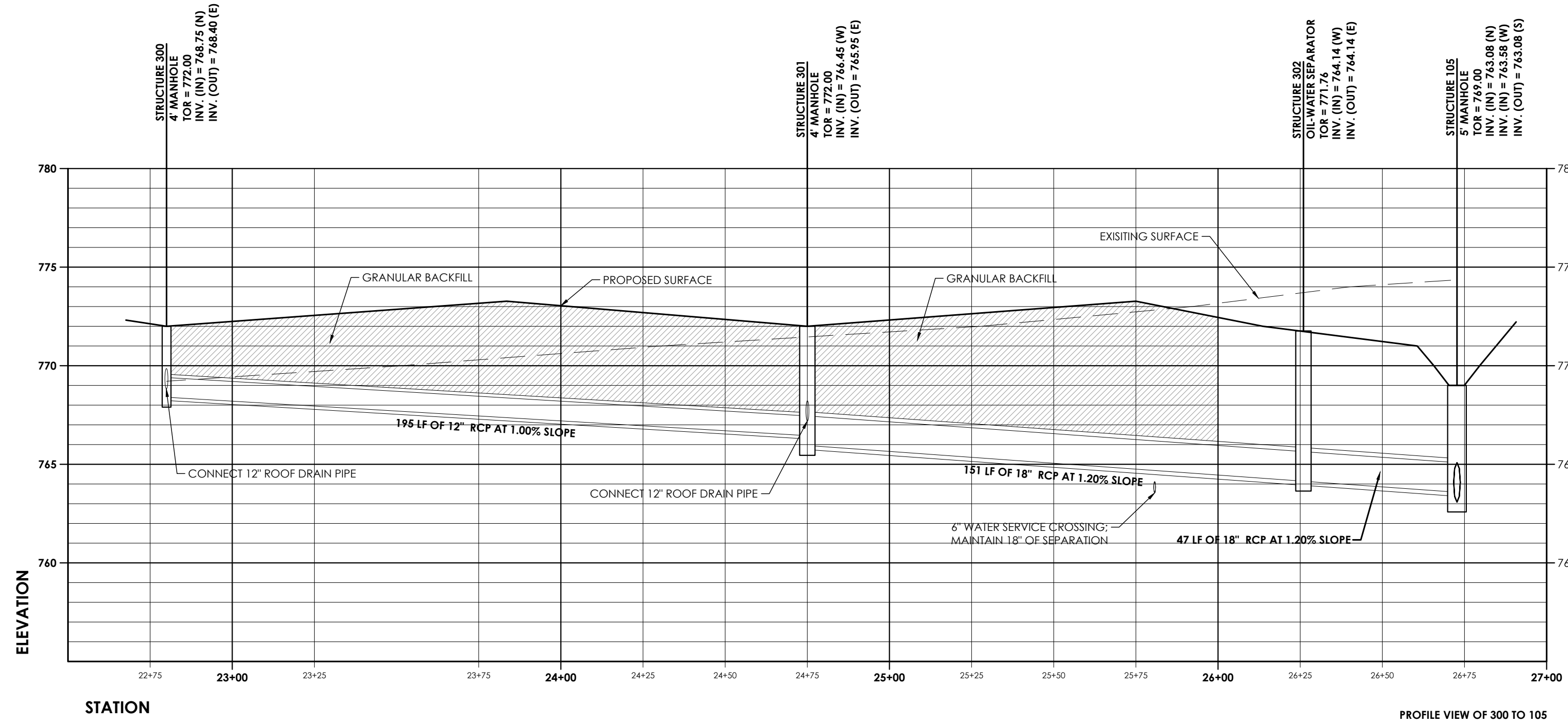


LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET	TRANSFORMER
---	SECTION LINE	⊕	HVAC
---	CENTERLINE	⊕	ELECTRIC METER
---	INTERMEDIATE CONTOUR	⊕	ELECTRIC MANHOLE
---	INDEX CONTOUR	⊕	POWER POLE GUY WIRE
[T]	TELEPHONE UNDER GR.	⊕	LIGHT POLE
[OH-T]	TELEPHONE OVERHEAD	⊕	TELEPHONE PEDESTAL
[FO]	FIBER OPTIC SERVICE	⊕	TELEPHONE MANHOLE
[G]	GAS SERVICE	⊕	GAS MARKER
[E]	POWER UNDERGROUND	⊕	ELECTRIC MARKER
[OH-E]	POWER OVERHEAD	⊕	TRAFFIC POLE
[W]	WATER SERVICE	⊕	TRAFFIC MANHOLE
[S]	SANITARY SEWER	⊕	GAS METER
[ST]	STORM SEWER	⊕	GAS VALVE
[NP]	POND NORMAL POOL	⊕	STORM MANHOLE
---	EX. FLOWLINE	⊕	SANITARY MANHOLE
---	CHAIN LINK FENCE	⊕	STORM INLETS
---	FARM FENCE	⊕	CLEAN-OUT
---	WOOD FENCE	⊕	DOWNSPOUT
---	IRON FENCE RAILING	⊕	FIRE HYDRANTS
---	BUILDING STRUCTURE	⊕	WATER METER
---	EX. BUILDING OVERHEAD	⊕	WATER VALVES
RIM	RIM ELEVATION	⊕	POST INDICATOR VALVE
INV.	INVERT ELEVATION	⊕	FIRE DEPARTMENT CONN.
FFE	FINISHED FLOOR ELEVATION	⊕	SIGNS

GRADING PLAN LEGEND

	STORM SEWER		RIM	RIM ELEVATION
	SUBSURFACE DRAIN		INV.	INVERT ELEVATION
	SWALE FLOWLINE		FFE	FINISHED FLOOR ELEVATION
	POND (NORMAL POOL)			FLOW ARROW
	INTERMEDIATE CONTOUR			STORM MANHOLE
	INDEX CONTOUR			STORM INLETS
800.00 ME	MATCH EXISTING			STORM ENDSECTION
800.00	PAVEMENT SPOT GRADE	C.O. 		CLEAN-OUT
800.4	GROUND SPOT GRADE	D.S. 		DOWNSPOUT
800.00	TOP OF CURB			
800.50	BOTTOM OF CURB			
800.00 TW	TOP OF WALL			
800.50 BW	BOTTOM OF WALL			



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CONSTRUCTION PLANS FOR:

TRINITY ALLOYS

Enterprise Drive
Shelbyville, Indiana 46176

TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.
2021-0091

DATE
02/15/2022

SCALE
1" = 30'

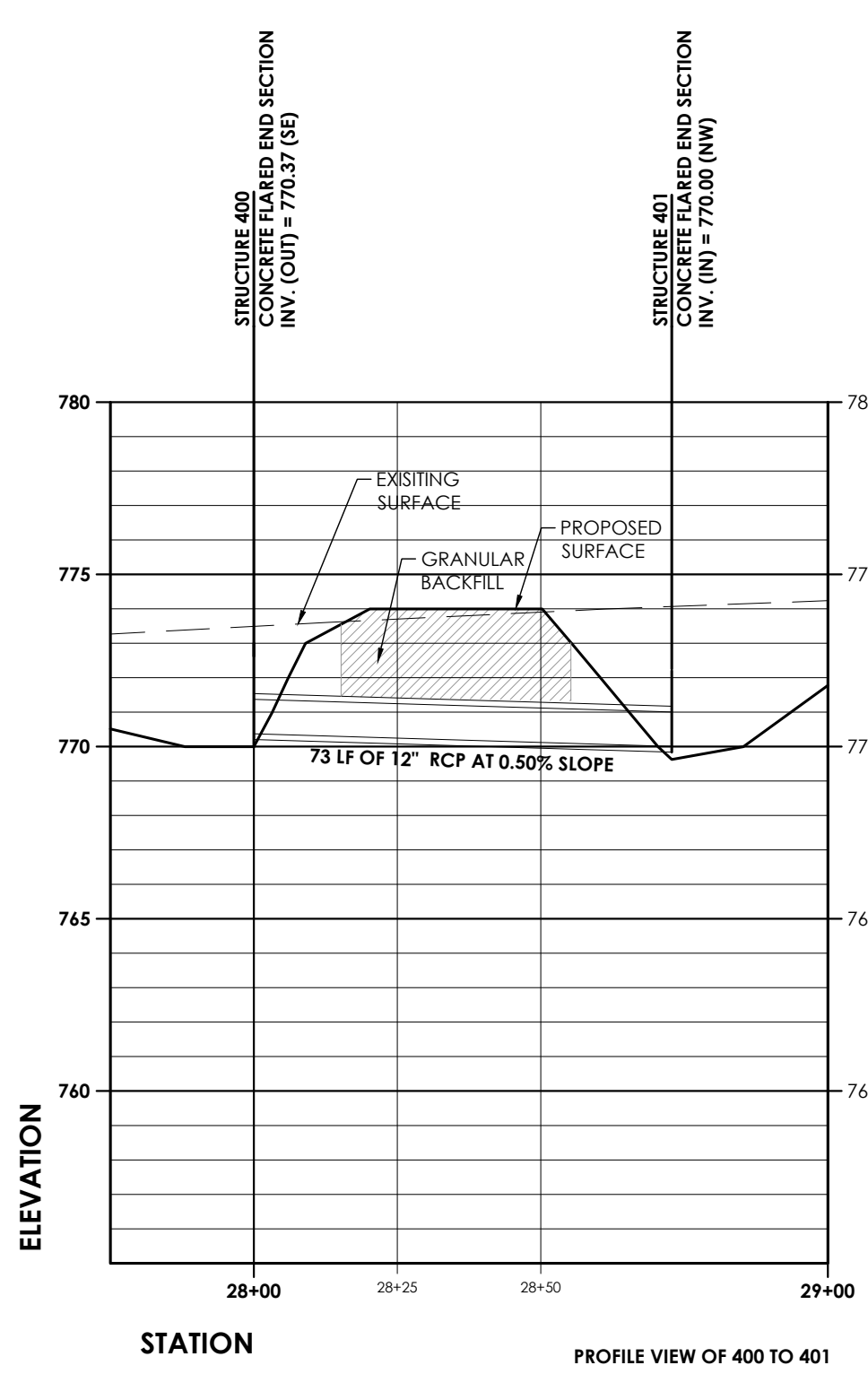
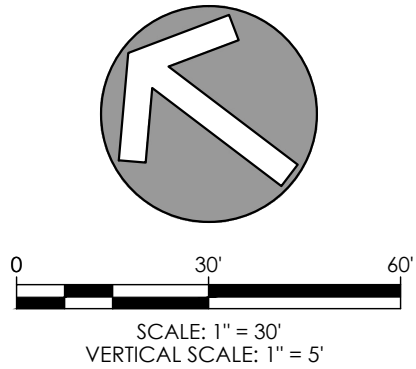
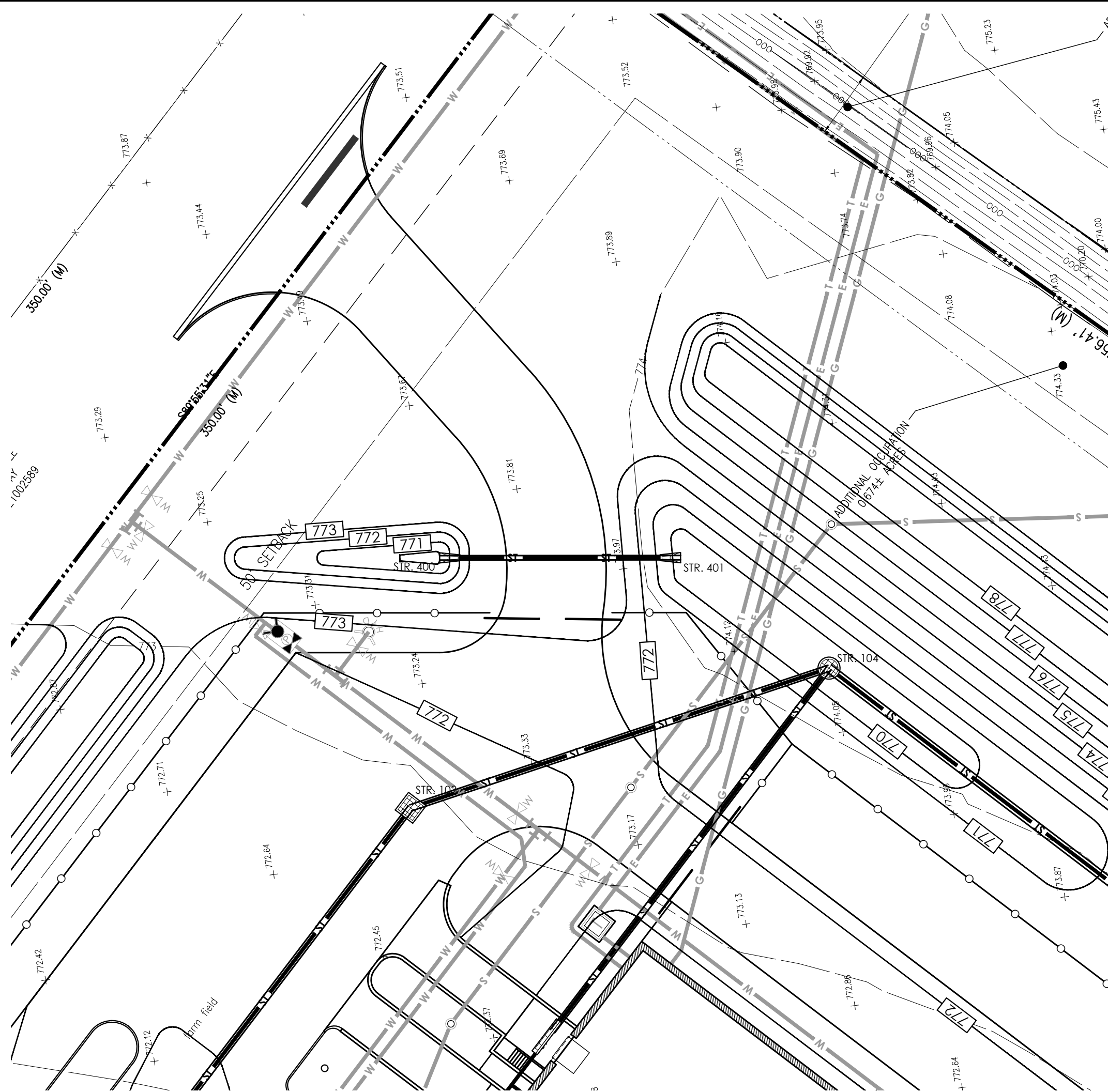
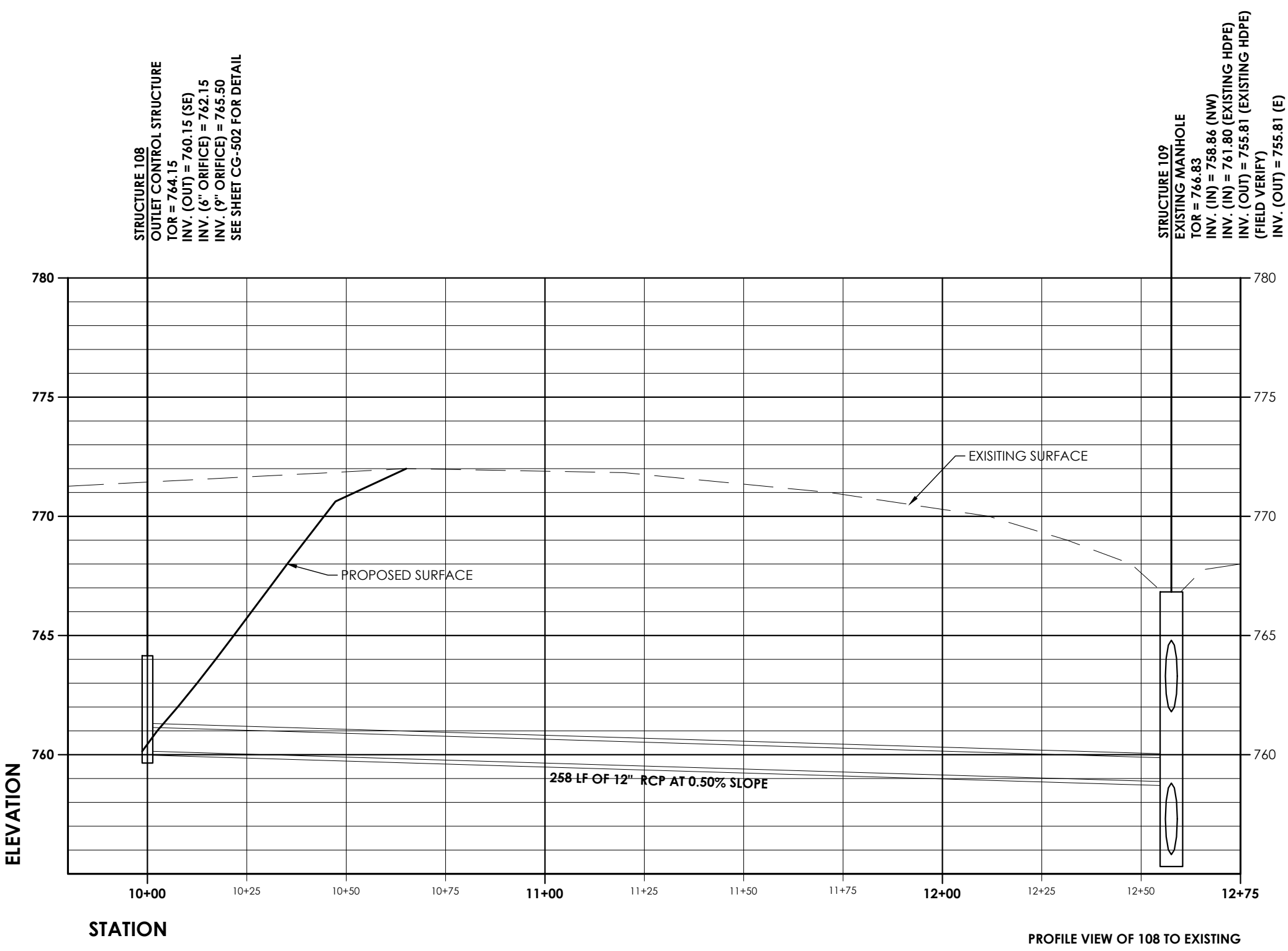
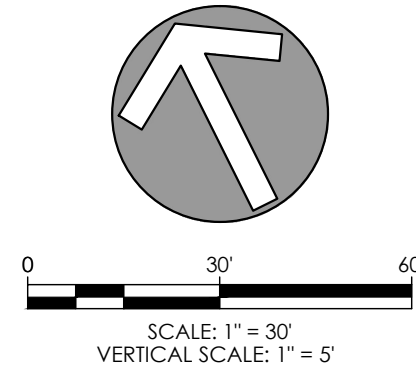
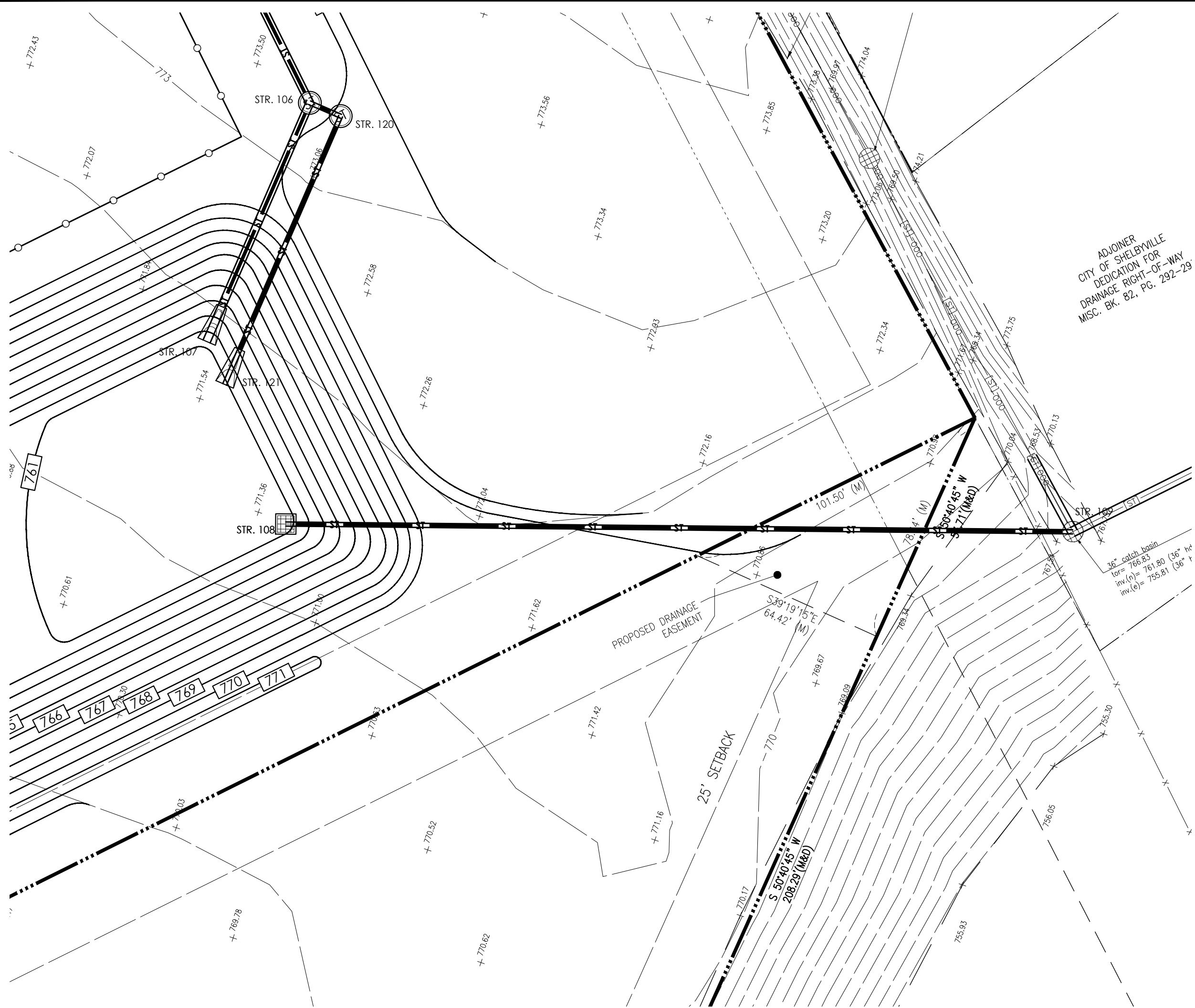
SHEET NAME
**STORMWATER
PLAN & PROFILE**

SHEET NO.

CG-303



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LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET	TRANSFORMER
---	SECTION LINE	HC	HVAC
---	CENTERLINE	⊕	ELECTRIC METER
---	INTERMEDIATE CONTOUR	⊕	ELECTRIC MANHOLE
---	INDEX CONTOUR	⊕	POWER POLE GUY WIRE
[T]	TELEPHONE UNDER GR.	⊕	LIGHT POLE
[OH-T]	TELEPHONE OVERHEAD	⊕	TELEPHONE PEDESTAL
[FO]	FIBER OPTIC SERVICE	⊕	TELEPHONE MANHOLE
[G]	GAS SERVICE	⊕	GAS MARKER
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[S]	SANITARY SEWER	⊕	GAS METER
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[NP]	POND NORMAL POOL	⊕	STORM MANHOLE
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---	CHAIN LINK FENCE	⊕	STORM INLETS
---	FARM FENCE	⊕	CLEAN-OUT
---	WOOD FENCE	⊕	DOWNSPOUT
---	IRON FENCE RAILING	⊕	FIRE HYDRANTS
---	BUILDING STRUCTURE	⊕	WATER METER
---	EX. BUILDING OVERHEAD	⊕	WATER VALVES
RIM	RIM ELEVATION	⊕	POST INDICATOR VALVE
INV.	INVERT ELEVATION	⊕	FIRE DEPARTMENT CONN.
FFE	FINISHED FLOOR ELEVATION	⊕	SIGNS

GRADING PLAN LEGEND

ST	STORM SEWER	RIM	RIM ELEVATION
SSD	SUBSURFACE DRAIN	INV.	INVERT ELEVATION
SWALE	SWALE FLOWLINE	FFE	FINISHED FLOOR ELEVATION
NP	POND (NORMAL POOL)	---	FLOW ARROW
799	INTERMEDIATE CONTOUR	⊕	STORM MANHOLE
800	INDEX CONTOUR	⊕	STORM INLETS
800.00 ME	MATCH EXISTING	⊕	STORM ENDSECTION
800.00	PAVEMENT SPOT GRADE	⊕	CLEAN-OUT
800.4	GROUND SPOT GRADE	⊕	DOWNSPOUT
800.00	TOP OF CURB	⊕	
800.50	BOTTOM OF CURB	⊕	
800.00 TW	TOP OF WALL	⊕	
800.50 BW	BOTTOM OF WALL	⊕	

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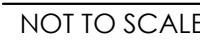
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SCALE
1" = 30'

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STORMWATER
PLAN & PROFILE

SHEET NO.

CG-304



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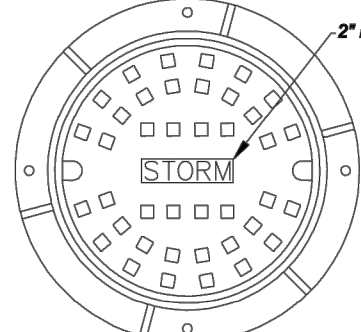
GENERAL NOTES

- 1.) Type J, K, L, M, and N Manholes As Detailed Herein Require A Certain Minimum Depth. In Cases Where The Depth Of The Storm Sewer Is Not Sufficient To Meet The Minimum Depth As Required By The Detail, "D" Diameter Manhole Section May Be Used Throughout The Depth Of The Manhole.
- 2.) Manholes Shall Conform To ASTM C-478. Joints Shall Conform To ASTM C-443. The Use Of Cast-In-Place Concrete Structures Shall Require The Prior Written Approval Of The City Engineer. Regardless Of Type Of Casting Used, The Casting Shall Be Centered Over The Manhole Steps.
- 3.) Manhole Steps Shall Be Neenah R-1061-J, M.A. Industries PS 1-PP, Or Equivalent As Approved By The City Engineer.
- 4.) All Structures And Castings Shall Be Specified Based On Surface Conditions In Accordance With Table 14 On This Sheet.
- 5.) Castings For All Storm Structures Shall Be Stamped With Lettering As Shown In The Structure And Castings Specifications Detail On This Sheet.
- 6.) Castings Shall Not Be Buried And Shall Be Flush With The Adjacent Finished Grade. Castings Which Are Surrounded By Asphalt Or Concrete Shall Be Constructed Within A Tolerance Of $\pm 0.1'$ Of The Designed Elevation. All Other Castings Shall Be Constructed Within A Tolerance Of $\pm 0.2'$ Of The Designed Elevation.
- 7.) The Contractor Shall Remove Soils Under A Precast Bottom And Replace With 6 Inches Of Compacted INDOT #8 Stone.
- 8.) For Type C Manholes, The Base And First Riser Section Of The Precast Concrete Manhole Shall Be Integrally Cast As One Complete Unit.
- 9.) Final Adjustment In Elevation Of The Frame, Cover, Or Casting Shall Be Accomplished By The Use Of A 4 Inch Minimum And 12 Inch Maximum Thickness Adjusting Ring Or Collar. Block Or Block Shall Not Be Used In The Construction Of A Structure Or To Adjust The Elevation Of Frame Or Casting.
- 10.) All Structures Shall Have A Minimum Of 4" Allowed For Riser Rings Or Adjustment.
- 11.) The Minimum Pipe Diameter For Storm Sewer In Public Right-Of-Way Is 12".
- 12.) Manholes Shall Be Installed At Distances Not Greater Than 400 Feet. For Pipes 36 Inches Or Larger, Greater Distances Between Manholes May Be Used With Written Approval Of The City Engineer.
- 13.) All Structure Castings Shall Be Surrounded By A 1" Expansion Joint When Placed In Asphalt Or Concrete. When Placed In Asphalt, Joint Shall Be Sealed In Accordance With INDOT Standard Specifications, Section 408. When Placed In Concrete, Joint Shall Be Sealed In Accordance With INDOT Standard Specifications, Sections 503 and 505.
- 14.) For A Series Of More Than One Inlets Connecting To A Trunkline, A Catch Basin With A 2 Feet Sump Shall Be Installed At The Structure Closest To The Trunkline.
- 15.) Maximum Pipe Intrusion In A Structure Shall Be 3 Inches.
- 16.) Each Pipe Section Shall Be Marked With Date of Manufacture, Size, And Class Of Pipe, Specification Designation, Manufacturer, And Plant Identification.

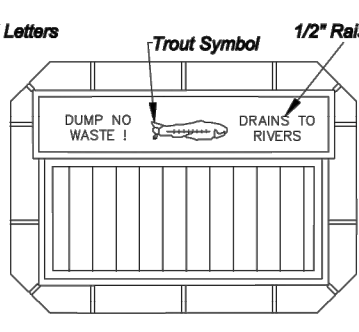
TABLE 14: STORM SEWER STRUCTURE & CASTING REQUIREMENTS

SURFACE DRAINAGE TYPE	COMPATIBLE STRUCTURE TYPES	NEENAH CASTING #	YULIN CASTING #
Type I Roll Curb & Gutter	Inlet & Catch Basin Type A	R-3501-T (R or L)	7485 (M1 or M2)
	Inlet & Catch Basin Type B	R-3501-TB	7485
	Manhole Type C, H, J, K, L, M, N	R-3501-L2	7485
Type II Combined Curb & Gutter	Inlet & Catch Basin Type A	R-3286-BV	7320 T1
Type V Curb	Inlet & Catch Basin Type B	R-3287-10V	7505 (M1 or M2)
	Inlet & Catch Basin Type C	R-3287-15V	7505 T1
	Manhole Type C, H, J, K, L, M, N	R-3286-BV	7320 T1
Type III Gutter	Inlet & Catch Basin Type A	R-3210-L	5344
Type IV Gutter	Inlet & Catch Basin Type B	R-3067-L	7034
	Inlet & Catch Basin Type C	R-3361	
	Manhole Type C, H, J, K, L, M, N	R-3238	5100
Open Pavement (No Curb)	Inlet & Catch Basin Type A	R-3405-L	
	Manhole Type C, H, J, K, L, M, N	R-3502-D	1022 M1
Swales/Grass/Unpaved Areas	Manhole Type C, H, J, K, L, M, N	R-4342	6480
No Surface Drainage	Manhole Type C, H, J, K, L, M, N	R-1772	1022-2 TYPE A

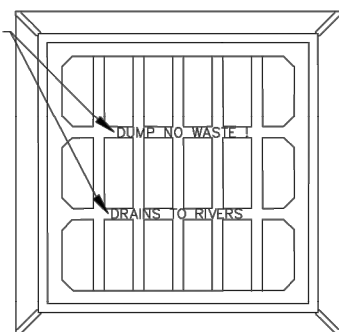
* Castings Other Than Neenah Or East Jordan Shall Be As Approved By The City Engineer.



LETTERING FIGURE 1
Applies To Solid Manhole Castings



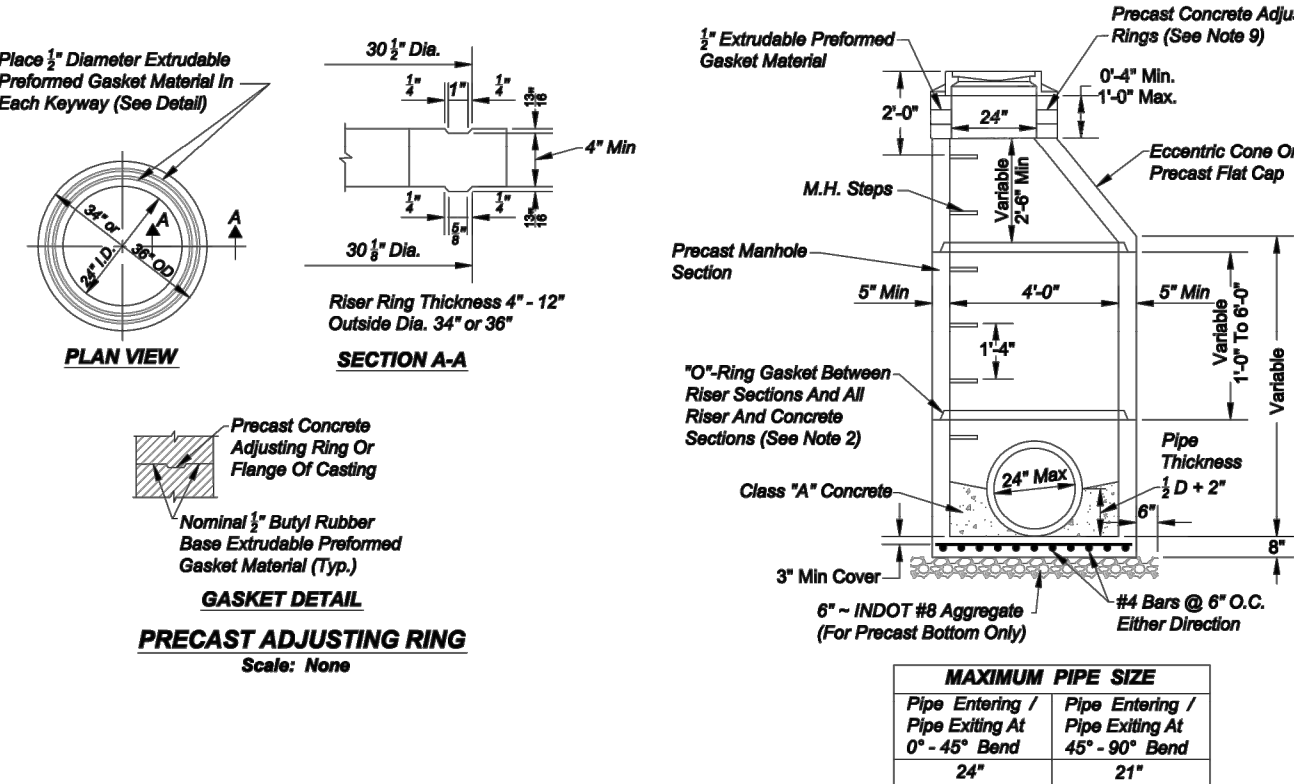
LETTERING FIGURE 2
Applies To Curb & Gutter Castings



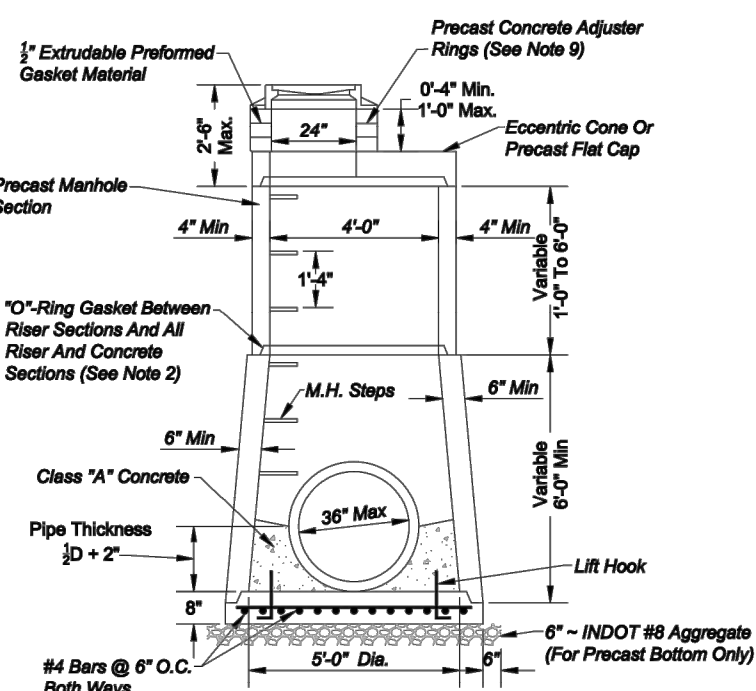
LETTERING FIGURE 3
Applies To Open Pavement And Unpaved Open Areas Castings

STORM STRUCTURE AND CASTING SPECIFICATIONS

Scale: None



MANHOLE TYPE C
Scale: None



MANHOLE TYPE H
Scale: None

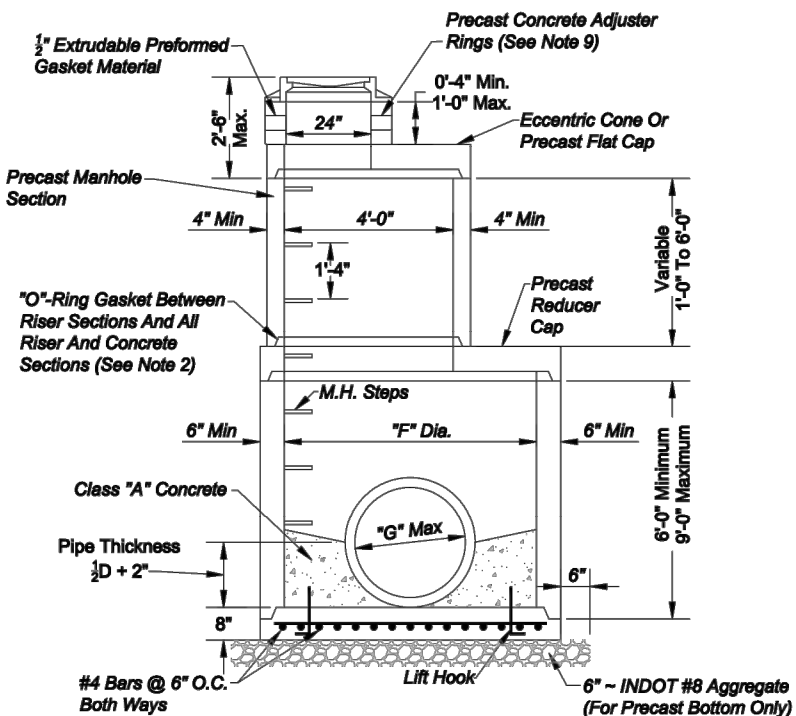


TABLE 15: DIMENSIONS FOR MANHOLE TYPES J, K, L, M, & N

Manhole Type	Manhole Diameter (in)	MAXIMUM PIPE SIZE (in)
J	60"	36"
K	72"	48"
L	96"	54"
M	102"	72"
N	108"	84"

MANHOLE TYPES J, K, L, M, & N
Scale: None

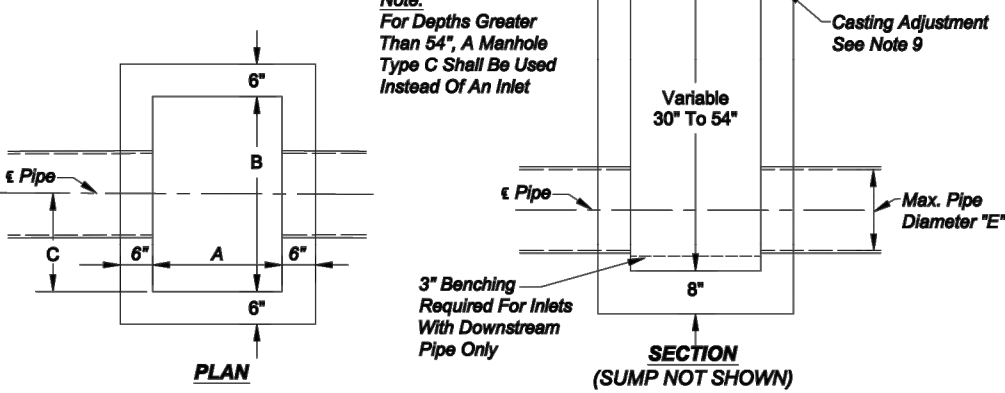


TABLE 16: INLET AND CATCH BASIN DIMENSIONS

STRUCTURE TYPE	A (in)	B (in)	C (in)	D (in)	E (in)	Sump (in)
Inlet Type A	24	24	12	24	18	None
Catch Basin Type A	24	24	12	24	18	24
Inlet Type B	24	36	18	24	24	None
Catch Basin Type B	24	36	18	24	24	24
Inlet Type C	30	48	24	30	30	None
Catch Basin Type C	30	48	24	30	30	24

INLETS AND CATCH BASINS - TYPES A, B, AND C
Scale: None

Rev. No.	Description	Date
1	Entire Set	07/28/2011
2	Updated Entire Set	02/11/2020



CITY OF SHELBYVILLE

STORM SEWER

STRUCTURES

DETAILS AND NOTES

SHEET

10

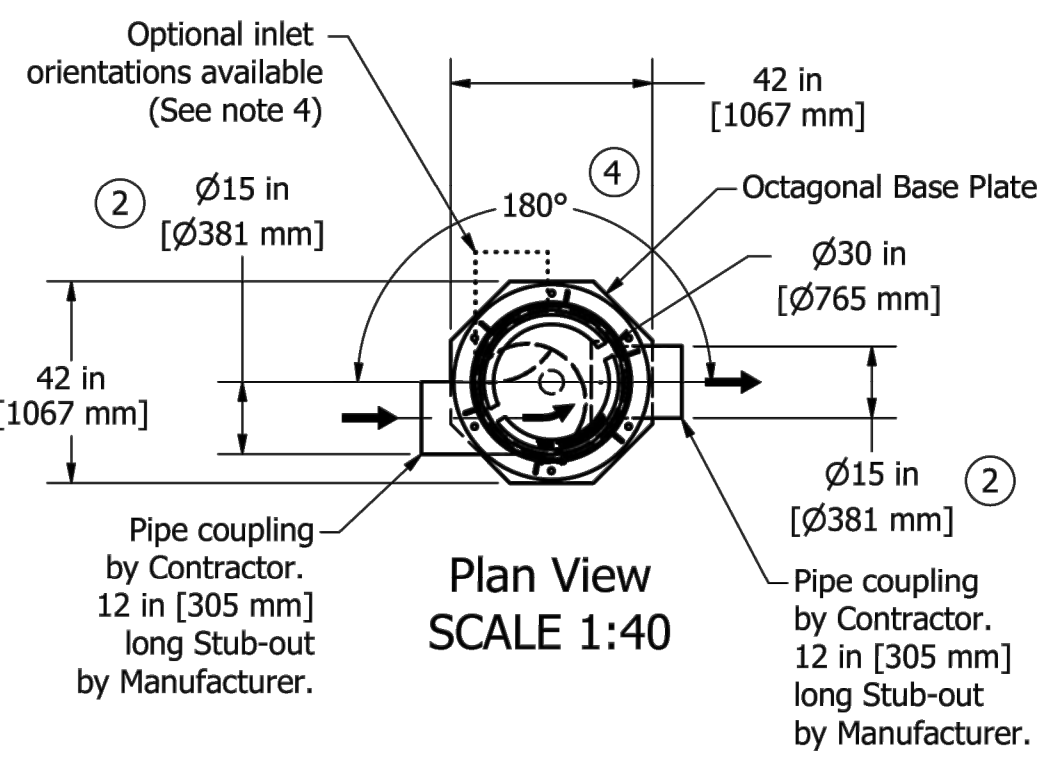
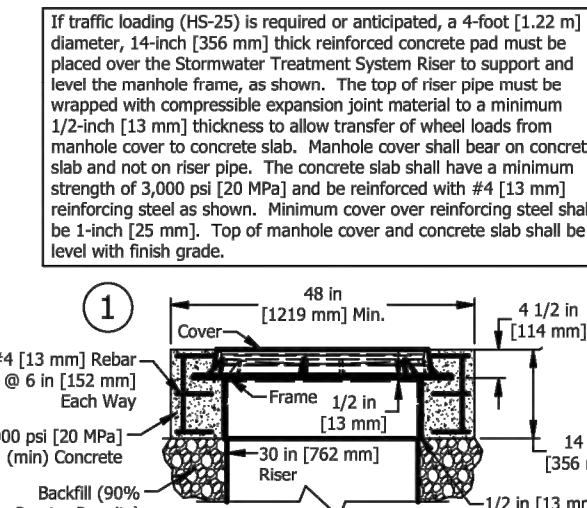
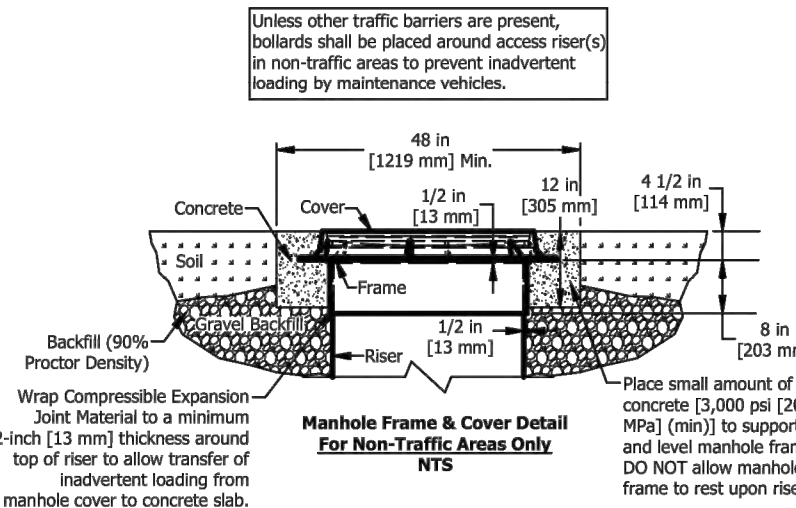
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18

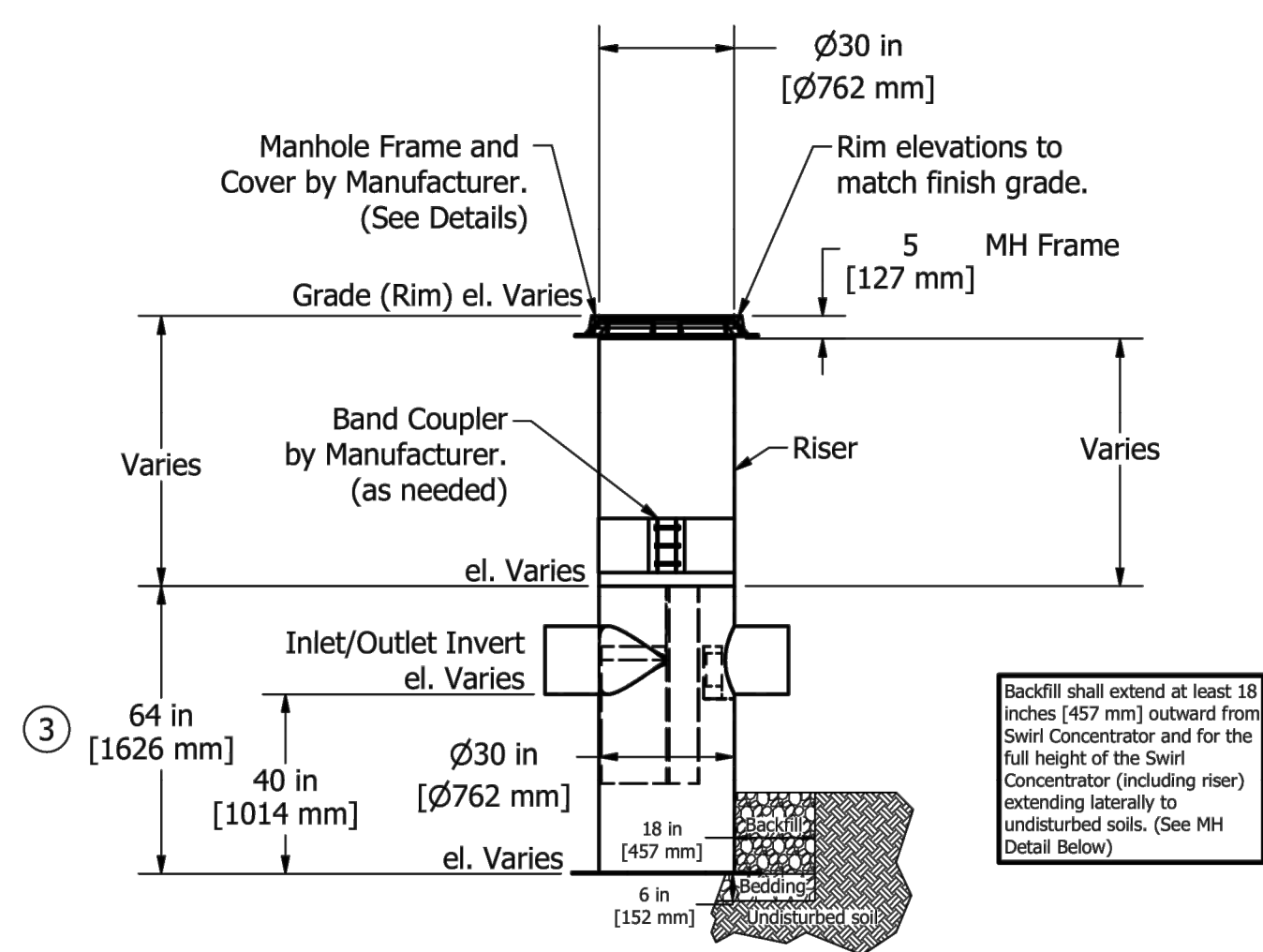
Aqua-Swirl Polymer Coated Steel (PCS) Stormwater Treatment System



Projected View
SCALE 1:70



Plan View
SCALE 1:40



Elevation View
SCALE 1:40

AquaShield	Aqua-Swirl Xcelerator XC-2 CCW STD Aqua-Swirl Stormwater Treatment System Standard Detail	Structure #: XC-2 STD Drawn By: OFGres Scale: As Shown Date: 1/30/2020 U.S. Patent No. 6524473 and other Patent Pending	Revised Rvw. Date
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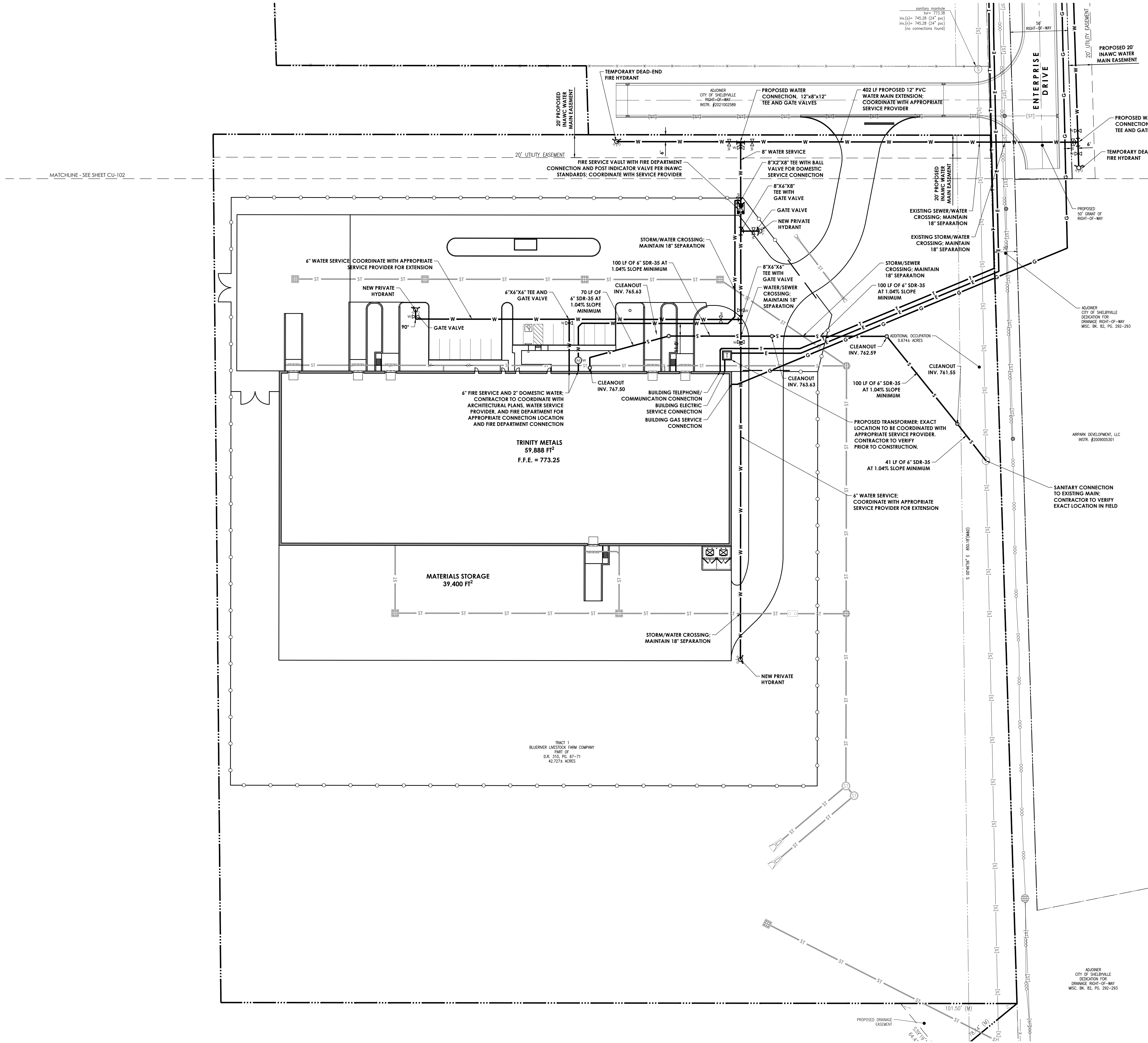
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DETAILS

SHEET NO.




























CG-502



LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	⬮	MONUMENT
---	SETBACK LINE	⬮	SECTION CORNER
---	EASEMENT	⬮	TRANSFORMER
---	SECTION LINE	⬮	HVAC
---	CENTERLINE	⬮	ELECTRIC METER
---	799	⬮	ELECTRIC MANHOLE
---	800	⬮	POWER POLE GUY WIRE
---	INTERMEDIATE CONTOUR	⬮	LIGHT POLE
---	INDEX CONTOUR	⬮	TELEPHONE PEDESTAL
---	TELEPHONE UNDER GR.	⬮	TELEPHONE MANHOLE
---	TELEPHONE OVERHEAD	⬮	GAS MARKER
---	FIBER OPTIC SERVICE	⬮	ELECTRIC MARKER
---	GAS SERVICE	⬮	TRAFFIC POLE
---	POWER UNDERGROUND	⬮	TRAFFIC MANHOLE
---	POWER OVERHEAD	⬮	GAS METER
---	WATER SERVICE	⬮	GAS VALVE
---	SANITARY SEWER	⬮	STORM MANHOLE
---	STORM SEWER	⬮	SANITARY MANHOLE
---	POND NORMAL POOL	⬮	STORM INLETS
---	EX. FLOWLINE	⬮	CLEAN-OUT
---	CHAIN LINK FENCE	⬮	D.S.P.
---	FARM FENCE	⬮	FIRE HYDRANTS
---	WOOD FENCE	⬮	WATER METER
---	IRON FENCE RAILING	⬮	WATER VALVES
---	BUILDING STRUCTURE	⬮	POST INDICATOR VALVE
---	EX. BUILDING OVERHEAD	⬮	FIRE DEPARTMENT CONN.
---	RIM	⬮	SIGNS
---	INV.	⬮	MAILBOX
---	FFE	⬮	ADA PARKING
---		⬮	PARKING COUNT
---		⬮	TREES
---		⬮	SHRUB
---		⬮	SPOT GRADE

UTILITY PLAN LEGEND - PROPOSED

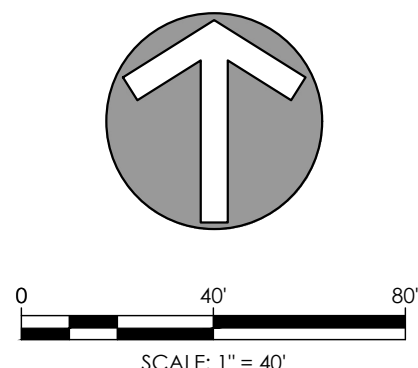
	STORM SEWER		SANITARY MANHOLE
	SANITARY SEWER		SANITARY SEWER CLEANOUT
	WATER SERVICE		FIRE HYDRANT
	FIRE SERVICE		WATER METER
	GAS SERVICE		WATER VALVE
	TELEPHONE / COMMUNICATION		POST INDICATOR VALVE
	OVERHEAD TELEPHONE / COMMUNICATION		FIRE DEPARTMENT CONN.
	ELECTRIC SERVICE		RIM ELEVATION
	OVERHEAD ELECTRIC SERVICE		INVERT ELEVATION
	TRANSFORMER		FINISHED FLOOR ELEVATION
	POWER POLE		STORM MANHOLE
	LIGHT POLE		STORM INLETS
			STORM ENDSECTION
			STORM SEWER CLEANOUT
			DOWNSPOUT

UTILITY CONTACTS

ELECTRIC SERVICE DUKE ENERGY 2910 IN-44 SHELBYVILLE, IN 46174 CONTACT: APRIL EDWARDS P: (317) 838-1564 E: april.edwards@duke-energy.com	WATER SERVICE INDIANA AMERICAN WATER 153 NORTH EMERSON AVENUE GREENWOOD, IN 46143 CONTACT: RYAN MOORE P: (317) 885-2404 E: inutilitycoordination@amwater.com
PHONE SERVICE AT&T 240 N. MERIDIAN STREET, ROOM 1791 INDIANAPOLIS, IN 46204 CONTACT: MATT SPINDLER P: (317) 421-0888 E: g09871@att.com	SEWER DISTRICT INDIANA AMERICAN WATER / SHELBYVILLE WATER RESOURCE RECOVERY FACILITY 775 WEST BOGGSTOWN ROAD SHELBYVILLE, IN 46176 CONTACT: KEVIN KREDIT P: (317) 392-5131 E: kkredit@cityofshelbyvillein.com
GAS SERVICE CENTERPOINT ENERGY 1800 W 26TH STREET MUNCIE, IN 47302 CONTACT: JON EASTHAM P: (765) 287-2119	

GENERAL NOTES

- (1) 4" SLEEVE AND (1) SPARE TO BE PROVIDED FOR ALL UTILITY LINES UNDER PAVEMENT.
- CONCRETE THRUST BLOCKS TO BE UTILIZED AT HORIZONTAL BENDS AND TEES OF PROPOSED WATER MAIN.



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2021-0091

DATE
02/15/2022

SCALE
1" = 40'

SHEET NAME
UTILITY PLAN

SHEET NO.

CU-101

WATER UTILITY INSTALLATION NOTES

1. INSTALLATION OF WATER MAIN, FITTINGS, VALVES, FIRE HYDRANTS, AND APPURTENANCES SHALL BE IN ACCORDANCE WITH INDIANA AMERICAN WATER STANDARDS AND SPECIFICATIONS, LATEST REVISION.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION, SIZE AND MATERIAL OF THE EXISTING WATER MAIN PRIOR TO CONSTRUCTION.
3. AT THE POINT OF CONNECTION TO EXISTING WATER MAINS, A TAPPING SLEEVE AND VALVE MAY BE REQUIRED TO BE INSTALLED IF THE EXISTING WATER MAIN CANNOT BE SHUT DOWN WITHOUT IMPACTING CUSTOMERS, TO BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.
4. FOR PVC C900 PIPE INSTALLATION: DR14 PIPE IS REQUIRED. DEFLECTION OF PIPE JOINTS AND BENDING OF PIPES ARE NOT PERMITTED. ALL ANGLES SHALL BE MADE WITH PROPER FITTINGS. WHEN RESTRAINT OF PIPE-TO-PIPE JOINTS ARE REQUIRED, ALL JOINTS SHALL BE RESTRAINED WITH EXTERNAL SPLIT SERIATED RESTRAINT HARNESSES. SELECT FILL MATERIAL REQUIRED FOR BEDDING AND EMBEDMENT REGARDLESS OF PIPES PROXIMITY TO PAVEMENT. PVC C900 PIPE IS NOT ALLOWED FOR PIPES LARGER THAN 12-INCH.
5. ENCASE ALL DUCTILE IRON PIPING, DUCTILE IRON FITTINGS, VALVES, HYDRANTS, AND ALL OTHER METALLIC APPURTENANCES IN 1.0X14 BLUE POLYETHYLENE.
6. ALL FIRE HYDRANT LATERALS SHALL BE DUCTILE IRON PIPE.
7. ALL MJ T-BOLTS AND FLANGE BOLTS SHALL HAVE XTLAN OR FLUOROKOTE #1 CORROSION RESISTANT COATING.
8. ALL FITTINGS SHALL BE RESTRAINED USING MJ RETAINER GLANDS.
9. THRUST RESTRAINT TO BE ACHIEVED THROUGH THE RESTRAINT OF PIPE JOINTS AND FITTINGS. THRUST BLOCKS ARE NOT AN ACCEPTABLE MEANS OF THRUST RESTRAINT, EXCEPT WHEN REQUIRED IN CONNECTING TO EXISTING WATER MAIN AND FOR INSTALLATION OF FIRE HYDRANTS. SEE SPECIFICATION SECTIONS 15105 AND 15120 FOR PIPE JOINT RESTRAINT REQUIREMENTS FOR DUCTILE IRON AND PVC PIPE.
10. COPPER-CLAD STEEL TRACER WIRE REQUIRED ON INSTALLATION OF ALL PIPE. TRACER WIRE SHALL BE TAPED TO PIPE OR POLYETHYLENE ENCASEMENT AT A MINIMUM SPACING OF 10 FEET. SPLICES SHALL BE ENCASED IN WATERPROOF CONNECTORS. WIRE AND CONNECTORS TO BE COMPATIBLE AND FROM THE SAME MANUFACTURER. DETECTABLE TAPE IS REQUIRED ONE FOOT ABOVE PIPE. CONTINUITY SHALL BE TESTED AFTER COMPLETION OF BACKFILL.
11. SELECT FILL MATERIAL REQUIRED FOR FINAL BACKFILL WHEN WITHIN 5-FEET OF PAVEMENT PER SPECIFICATION SECTION 02210.
12. MAINTAIN THE REQUIRED 10-FEET OF HORIZONTAL SEPARATION AND 18-INCHES OF VERTICAL SEPARATION FROM SANITARY AND STORM SEWERS. MAINTAIN 8-FEET OF HORIZONTAL SEPARATION FROM SANITARY AND STORM STRUCTURES. SEE 327 IAC 8-3.2.9 OF THE INDIANA ADMINISTRATIVE CODE FOR MORE INFORMATION.
13. MAINTAIN MINIMUM COVER DEPTH OF 54" AND A MAXIMUM OF 54"+24".

LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⬮	BENCHMARK
---	RIGHT-OF-WAY LINE	⬮	MONUMENT
---	SETBACK LINE	⬮	SECTION CORNER
---	EASEMENT	ET HC	TRANSFORMER
---	SECTION LINE	E0 E	ELECTRIC METER
---	CENTERLINE	⬮	ELECTRIC MANHOLE
---	799	⬮	POWER POLE GUY WIRE
---	800	⬮	LIGHT POLE
---	INDEX CONTOUR	⬮	TELEPHONE PEDESTAL
---	TELEPHONE UNDER GR.	G E	TELEPHONE MANHOLE
---	TELEPHONE OVERHEAD	TR	GAS MARKER
---	FIBER OPTIC SERVICE	G	ELECTRIC MARKER
---	GAS SERVICE	ST S	TRAFFIC POLE
---	POWER UNDERGROUND	⬮	TRAFFIC MANHOLE
---	POWER OVERHEAD	C.O.O D.S.P	GAS METER
---	WATER SERVICE	⬮	GAS VALVE
---	SANITARY SEWER	W	STORM MANHOLE
---	STORM SEWER	⬮	SANITARY MANHOLE
---	POND NORMAL POOL	⬮	STORM INLETS
---	EX. FLOWLINE	⬮	CLEAN-OUT
---	CHAIN LINK FENCE	⬮	DOWNSPOUT
---	FARM FENCE	⬮	FIRE HYDRANTS
---	WOOD FENCE	⬮	WATER METER
---	IRON FENCE RAILING	⬮	WATER VALVE
---	BUILDING STRUCTURE	⬮	POST INDICATOR VALVE
---	EX. BUILDING OVERHEAD	⬮	FIRE DEPARTMENT CONN.
---	RIM	⬮	SIGNS
---	INV.	⬮	MAILBOX
---	FFE	⬮	ADA PARKING
---		⬮	PARKING COUNT
---		⬮	TREES
---		⬮	SHRUB
---		⬮	SPOT GRADE

UTILITY PLAN LEGEND - PROPOSED

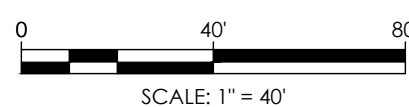
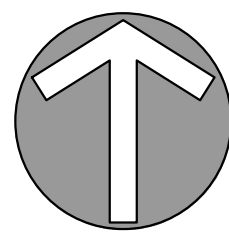
ST	STORM SEWER	⬮	SANITARY MANHOLE
S	SANITARY SEWER	⬮	SANITARY SEWER CLEANOUT
W	WATER SERVICE	⬮	FIRE HYDRANT
F	FIRE SERVICE	⬮	WATER METER
G	GAS SERVICE	⬮	WATER VALVE
T	TELEPHONE / COMMUNICATION	⬮	POST INDICATOR VALVE
OH-T	OVERHEAD TELEPHONE / COMMUNICATION	⬮	FIRE DEPARTMENT CONN.
E	ELECTRIC SERVICE	⬮	RIM
OH-E	OVERHEAD ELECTRIC SERVICE	⬮	INV.
⬮	TRANSFORMER	⬮	FFE
⬮	POWER POLE	⬮	STORM MANHOLE
⬮	LIGHT POLE	⬮	STORM INLETS
⬮		⬮	STORM ENDSECTION
⬮		⬮	STORM SEWER CLEANOUT
⬮		⬮	DOWNSPOUT

UTILITY CONTACTS

ELECTRIC SERVICE DUKE ENERGY 2910 IN-44 SHELBYVILLE, IN 46174 CONTACT: APRIL EDWARDS P. (317) 838-1564 E. april.edwards@duke-energy.com	WATER SERVICE INDIANA AMERICAN WATER 153 NORTH EMERSON AVENUE GREENWOOD, IN 46143 CONTACT: RYAN MOORE P. (317) 885-2404 E. inutilitycoordination@amwater.com
PHONE SERVICE AT&T 240 N. MERIDIAN STREET, ROOM 1791 INDIANAPOLIS, IN 46204 CONTACT: MATT SPINDLER P. (317) 421-0888 E. g09871@att.com	SEWER DISTRICT INDIANA AMERICAN WATER / SHELBYVILLE WATER RESOURCE RECOVERY FACILITY 775 WEST BOGGSTOWN ROAD SHELBYVILLE, IN 46176 CONTACT: KEVIN KREDIT P. (317) 392-5131 E. kkredit@cityofshelbyvillein.com
GAS SERVICE CENTERPOINT ENERGY 1800 W 26TH STREET MUNCIE, IN 47302 CONTACT: JON EASTHAM P. (765) 287-2119	

GENERAL NOTES

1. (1) 4" SLEEVE AND (1) SPARE TO BE PROVIDED FOR ALL UTILITY LINES UNDER PAVEMENT.



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CONSTRUCTION PLANS FOR:

TRINITY ALLOYS

Enterprise Drive
Shelbyville, Indiana 46176

TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.
2021-0091

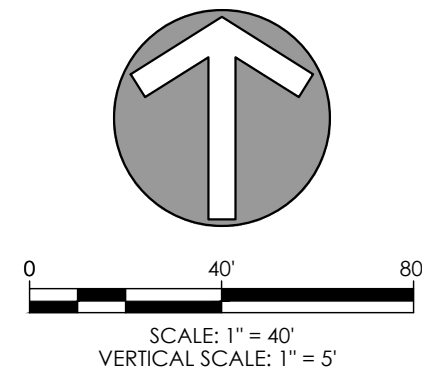
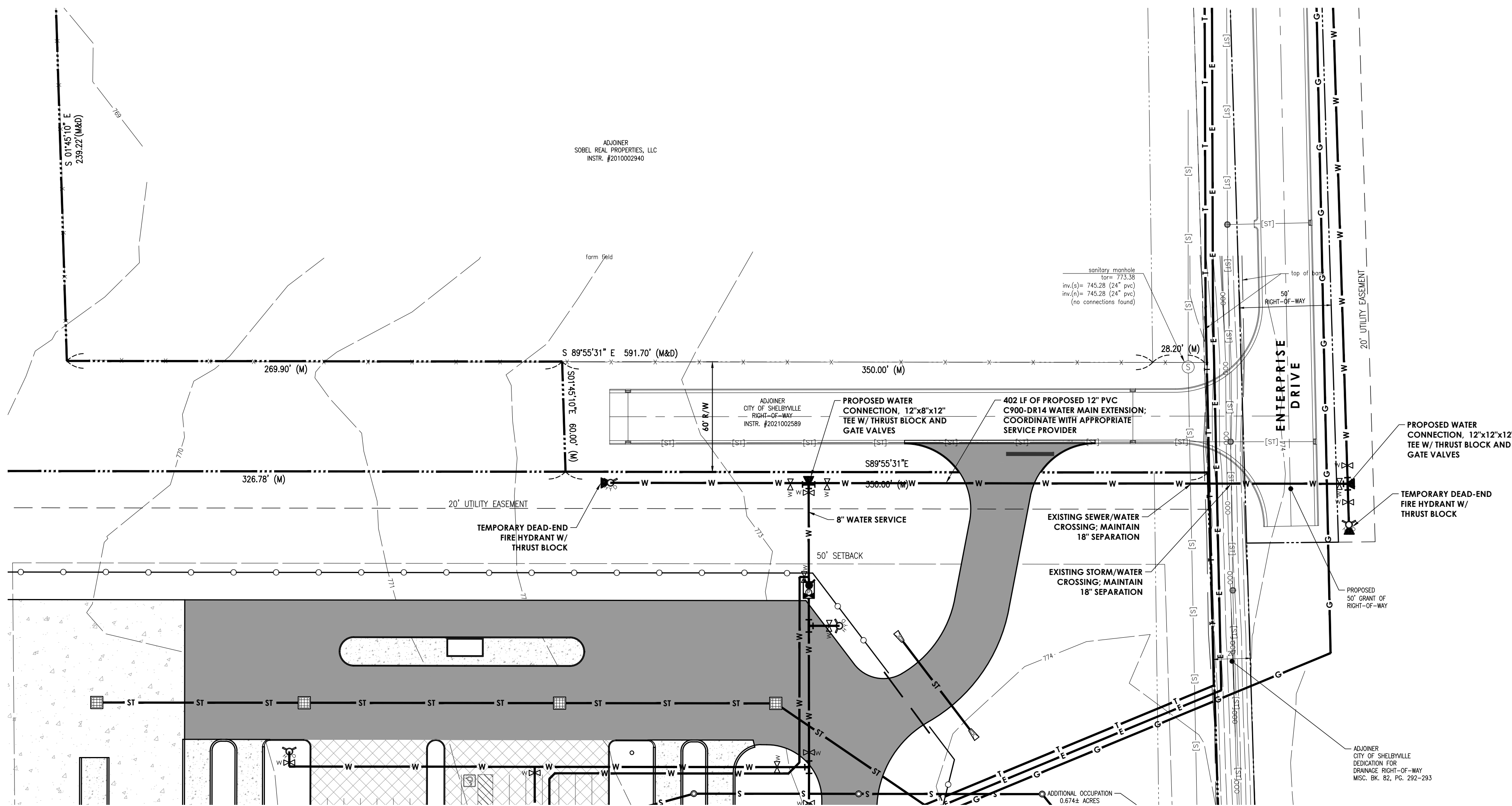
DATE
02/15/2022

SCALE
1" = 40'

SHEET NAME
UTILITY PLAN

SHEET NO.

CU-102



LEGEND OF EXISTING FEATURES

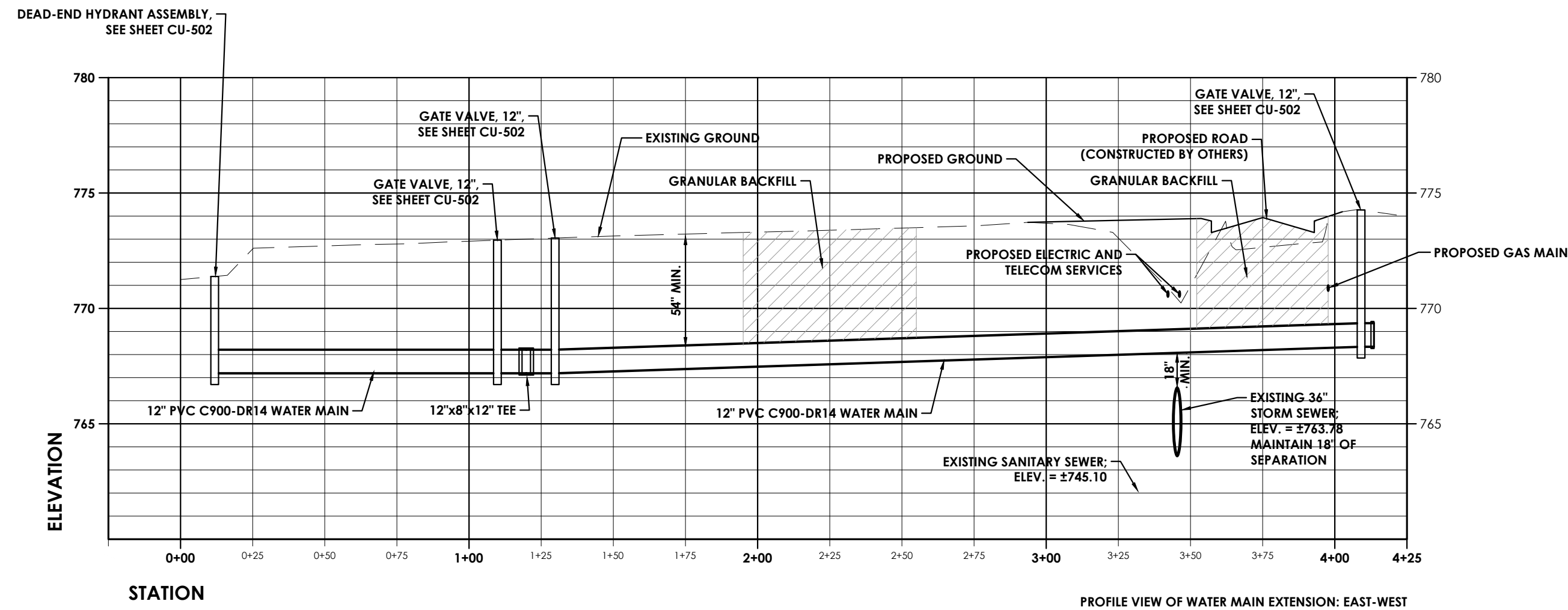
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---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET HC	TRANSFORMER
---	SECTION LINE	E@ E	HVAC
---	CENTERLINE	⊗	ELECTRIC METER
---	INTERMEDIATE CONTOUR	⊗	ELECTRIC MANHOLE
---	INDEX CONTOUR	⊗	POWER POLE GUY WIRE
---	TELEPHONE UNDER GR.	⊗	LIGHT POLE
---	TELEPHONE OVERHEAD	⊗	TELEPHONE PEDESTAL
---	FIBER OPTIC SERVICE	⊗	TELEPHONE MANHOLE
---	GAS SERVICE	⊗	GAS MARKER
---	POWER UNDERGROUND	⊗	ELECTRIC MANHOLE
---	POWER OVERHEAD	⊗	TRAFFIC POLE
---	WATER SERVICE	⊗	TRAFFIC MANHOLE
---	SANITARY SEWER	⊗	GAS METER
---	STORM SEWER	⊗	GAS VALVE
---	POND NORMAL POOL	⊗	STORM MANHOLE
---	EX. FLOWLINE	⊗	SANITARY MANHOLE
---	CHAIN LINK FENCE	⊗	STORM INLETS
---	FARM FENCE	⊗	CLEAN-OUT
---	WOOD FENCE	⊗	DOWNSPOUT
---	IRON FENCE RAILING	⊗	FIRE HYDRANTS
---	BUILDING STRUCTURE	⊗	WATER METER
---	EX. BUILDING OVERHEAD	⊗	WATER VALVES
---	RIM	⊗	POST INDICATOR VALVE
---	INV.	⊗	FIRE DEPARTMENT CONN.
---	FFE	⊗	SIGNS

UTILITY PLAN LEGEND - PROPOSED

ST	STORM SEWER	⊗	SANITARY MANHOLE
S	SANITARY SEWER	⊗	SANITARY SEWER CLEANOUT
W	WATER SERVICE	⊗	FIRE HYDRANT
F	FIRE SERVICE	⊗	WATER METER
G	GAS SERVICE	⊗	WATER VALVE
T	TELEPHONE / COMMUNICATION	⊗	POST INDICATOR VALVE
OH-T	OVERHEAD TELEPHONE / COMMUNICATION	⊗	FIRE DEPARTMENT CONN.
E	ELECTRIC SERVICE	⊗	RIM ELEVATION
OH-E	OVERHEAD ELECTRIC SERVICE	⊗	INV.
T	TRANSFORMER	⊗	FFE
⊗	POWER POLE	⊗	STORM MANHOLE
⊗	LIGHT POLE	⊗	STORM INLETS
⊗	THRUST BLOCK	⊗	STORM ENDSECTION
		⊗	STORM SEWER CLEANOUT
		⊗	DOWNSPOUT

WATER UTILITY INSTALLATION NOTES

1. INSTALLATION OF WATER MAIN, FITTINGS, VALVES, FIRE HYDRANTS, AND APPURTENANCES SHALL BE IN ACCORDANCE WITH INDIANA AMERICAN WATER STANDARDS AND SPECIFICATIONS, LATEST REVISION.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION, SIZE AND MATERIAL OF THE EXISTING WATER MAIN PRIOR TO CONSTRUCTION.
3. AT THE POINT OF CONNECTION TO EXISTING WATER MAINS, A TAPPING SLEEVE AND VALVE MAY BE REQUIRED TO BE INSTALLED IF THE EXISTING WATER MAIN CANNOT BE SHUT DOWN WITHOUT IMPACTING CUSTOMERS. TO BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.
4. FOR PVC C900 PIPE INSTALLATION, DR14 PIPE IS REQUIRED. DEFLECTION OF PIPE JOINTS AND BENDING OF PIPES ARE NOT PERMITTED. ALL ANGLES SHALL BE MADE WITH PROPER FITTINGS. WHEN RESTRAINT OF PIPE-TO-PIPE JOINTS ARE REQUIRED, ALL JOINTS SHALL BE RESTRAINED WITH EXTERNAL SPLIT SERVATED RESTRAINT HANDESSES. SELECT FILL MATERIAL REQUIRED FOR BEDDING AND EMBEDMENT REGARDLESS OF PIPES PROXIMITY TO PAVEMENT. PVC C900 PIPE IS NOT ALLOWED FOR PIPES LARGER THAN 12 INCH.
5. ENCASE ALL DUCTILE IRON PIPING, DUCTILE IRON FITTINGS, VALVES, HYDRANTS, AND ALL OTHER METALLIC APPURTENANCES IN 12MM BLUE POLYETHYLENE.
6. ALL FIRE HYDRANT LATERALS SHALL BE DUCTILE IRON PIPE.
7. ALL MJ T-BOLTS AND FLANGE BOLTS SHALL HAVE XLYAN OR FLUOROKOTE #1 CORROSION RESISTANT COATING.
8. ALL FITTINGS SHALL BE RESTRAINED USING MJ RETAINER GLANDS.
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13. MAINTAIN MINIMUM COVER DEPTH OF 54" AND A MAXIMUM OF 54"x24".



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CONSTRUCTION PLANS FOR:

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Enterprise Drive
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TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.
2021-0091

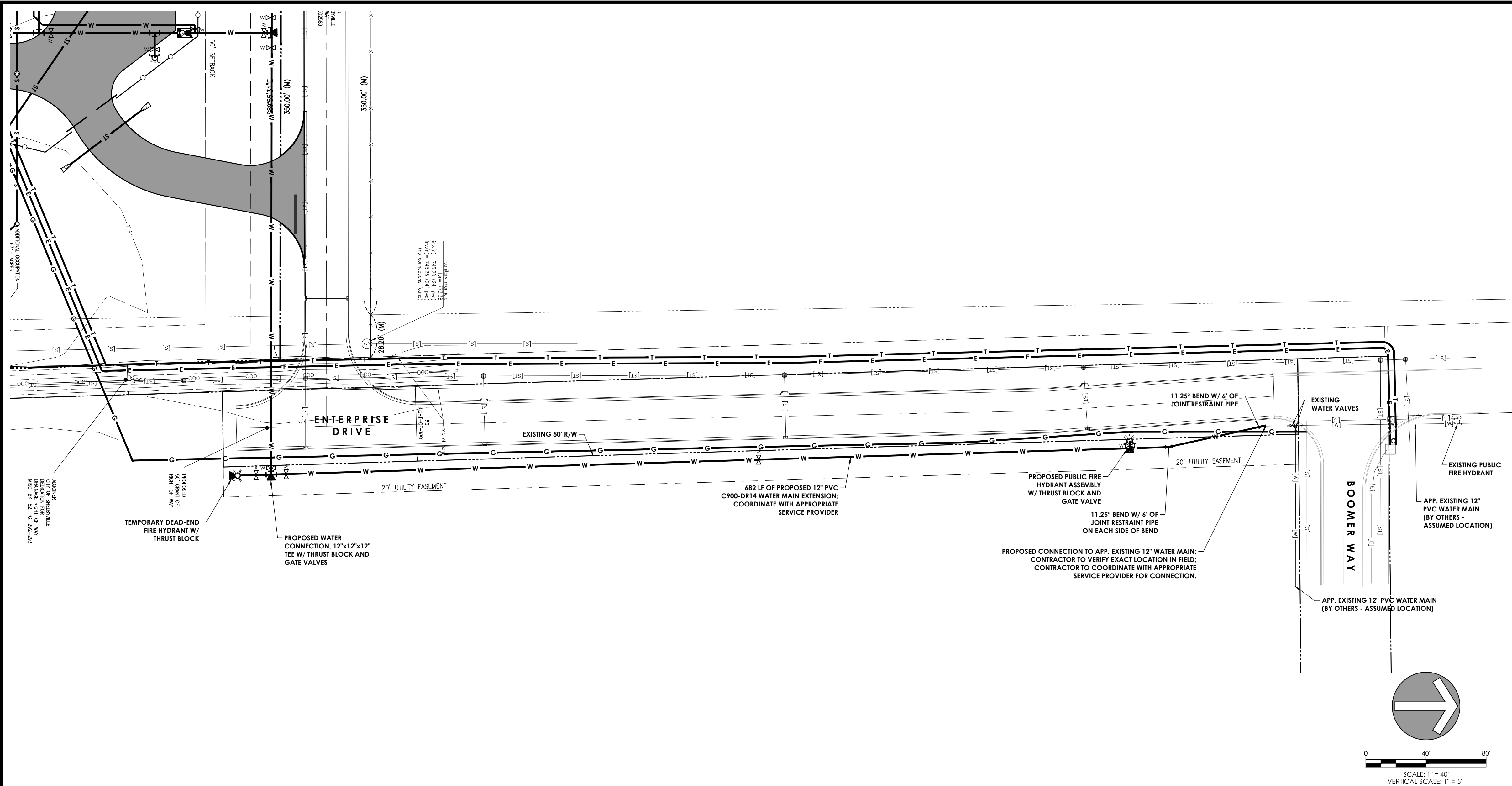
DATE
02/15/2022

SCALE
1" = 40'

SHEET NAME
**WATER PLAN
& PROFILES**

SHEET NO.

CU-301



LEGEND OF EXISTING FEATURES

---	PROPERTY LINE	⊕	BENCHMARK
---	RIGHT-OF-WAY LINE	○ RBC	MONUMENT
---	SETBACK LINE	△	SECTION CORNER
---	EASEMENT	ET HC	TRANSFORMER
---	SECTION LINE	E@ E	ELECTRIC METER
---	CENTERLINE	⊗	ELECTRIC MANHOLE
---	799	⊗	POWER POLE GUY WIRE
---	800	☆	LIGHT POLE
---	INDEX CONTOUR	⊕	TELEPHONE PEDESTAL
---	[T]	⊕	TELEPHONE UNDER GR.
---	[OH-T]	TR ⊗	TRAFFIC POLE
---	[FO]	⊕	GAS MARKER
---	[G]	⊕	ELECTRIC MANHOLE
---	[S]	⊕	TRAFFIC POLE
---	[ST]	⊕	GAS METER
---	[E]	⊕	GAS VALVE
---	[OH-E]	⊕	STORM MANHOLE
---	[W]	⊕	STORM INLETS
---	[S]	⊕	CLEAN-OUT
---	[ST]	⊕	DOWNSPOUT
---	[NP]	⊕	FIRE HYDRANTS
---	000	⊕	WATER METER
---	CHAIN LINK FENCE	⊕	WATER VALVES
---	X X	⊕	POST INDICATOR VALVE
---	/ /	⊕	FIRE DEPARTMENT CONN.
---	IRON FENCE RAILING	⊕	SIGNS
---	BUILDING STRUCTURE	⊕	MAILBOX
---	EX. BUILDING OVERHEAD	⊕	ADA PARKING
---	RIM	⊕	PARKING COUNT
---	INV.	⊕	TREES
---	FFE	⊕	SHRUB
---		⊕	SPOT GRADE

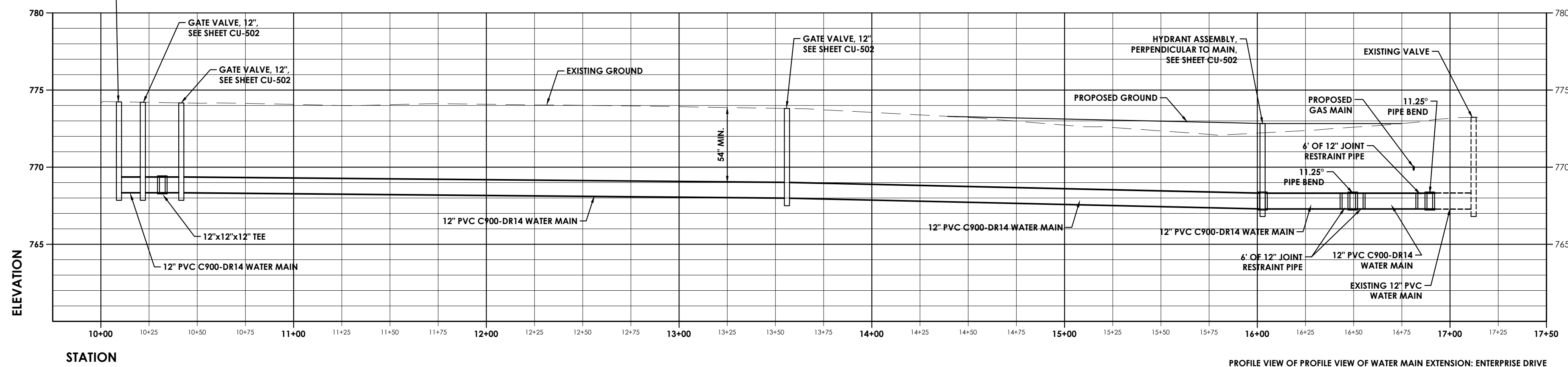
UTILITY PLAN LEGEND - PROPOSED

ST	STORM SEWER	⊕	SANITARY MANHOLE
S	SANITARY SEWER	⊕	SANITARY SEWER CLEANOUT
W	WATER SERVICE	⊕	FIRE HYDRANT
F	FIRE SERVICE	⊕	WATER METER
G	GAS SERVICE	⊕	WATER VALVE
T	TELEPHONE / COMMUNICATION	⊕	POST INDICATOR VALVE
OH-T	OVERHEAD TELEPHONE / COMMUNICATION	⊕	FIRE DEPARTMENT CONN.
E	ELECTRIC SERVICE	⊕	RIM ELEVATION
OH-E	OVERHEAD ELECTRIC SERVICE	⊕	INV.
⊕	TRANSFORMER	⊕	FFE
⊕	POWER POLE	⊕	STORM MANHOLE
⊕	LIGHT POLE	⊕	STORM INLETS
⊕	THRUST BLOCK	⊕	STORM ENDSECTION
		⊕	STORM SEWER CLEANOUT
		⊕	DOWNSPOUT

WATER UTILITY INSTALLATION NOTES

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2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION, SIZE AND MATERIAL OF THE EXISTING WATER MAIN PRIOR TO CONSTRUCTION.
3. AT THE POINT OF CONNECTION TO EXISTING WATER MAINS, A TAPPING SLEEVE AND VALVE MAY BE REQUIRED TO BE INSTALLED IF THE EXISTING WATER MAIN CANNOT BE SHUT DOWN WITHOUT IMPACTING CUSTOMERS, TO BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.
4. FOR PVC C900 PIPE INSTALLATION: DR14 PIPE IS REQUIRED. DEFLECTION OF PIPE JOINTS AND BENDING OF PIPES ARE NOT PERMITTED. ALL ANGLES SHALL BE MADE WITH PROPER FITTINGS. WHEN RESTRAINT OF PIPE-TO-PIPE JOINTS ARE REQUIRED, ALL JOINTS SHALL BE RESTRAINED WITH EXTERNAL SPIRIT SEPARATED RESTRAINT HARNESSES. SELECT FILL MATERIAL REQUIRED FOR BEDDING AND EMBEDMENT REGARDLESS OF PIPES PROXIMITY TO PAVEMENT. PVC C900 PIPE IS NOT ALLOWED FOR PIPES LARGER THAN 12-INCH.
5. ENCASE ALL DUCTILE IRON PIPING, DUCTILE IRON FITTINGS, VALVES, HYDRANTS, AND ALL OTHER METALLIC APPURTENANCES IN 12MIL BLUE POLYETHYLENE.
6. ALL FIRE HYDRANT LATERALS SHALL BE DUCTILE IRON PIPE.
7. ALL WIT-BOLTS AND FLANGE BOLTS SHALL HAVE KYLAN OR FLUOROKOTE #1 CORROSION RESISTANT COATING.
8. ALL FITTINGS SHALL BE RESTRAINED USING MJ RETAINER GLANDS.
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13. MAINTAIN MINIMUM COVER DEPTH OF 54" AND A MAXIMUM OF 54"+24".

DEAD-END HYDRANT ASSEMBLY, SEE SHEET CU-502



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CONSTRUCTION PLANS FOR:

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TRINITY ALLOYS, LLC

6400 English Avenue
Indianapolis, IN 46219

PROJECT NO.
2021-0091

DATE
02/15/2022

SCALE
1" = 40'

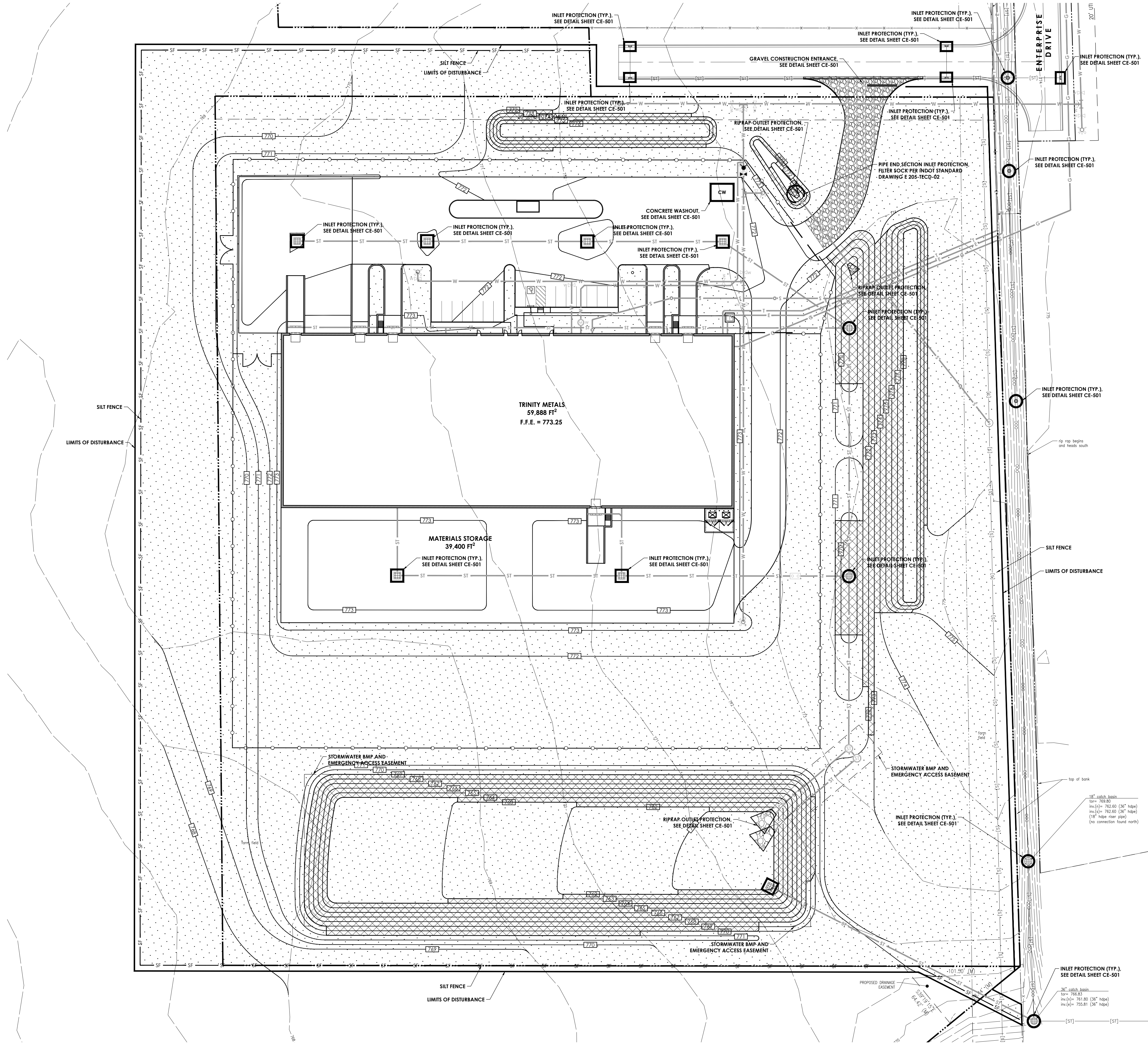
SHEET NAME

**WATER PLAN
& PROFILES**

SHEET NO.

CU-302

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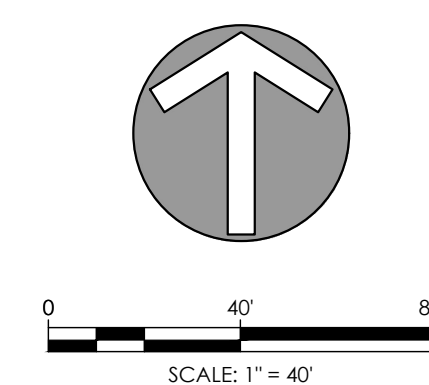


LEGEND OF EXISTING FEATURES			
	PROPERTY LINE		BENCHMARK
	RIGHT-OF-WAY LINE		MONUMENT
	SETBACK LINE		SECTION CORNER
	EASEMENT		TRANSFORMER
	SECTION LINE		ELECTRIC METER
	CENTERLINE		ELECTRIC MANHOLE
	799 INTERMEDIATE CONTOUR		POWER POLE GUY WIRE
	800 INDEX CONTOUR		LIGHT POLE
	[T] TELEPHONE UNDER GR.		TELEPHONE PEDESTAL
	[OH-T] TELEPHONE OVERHEAD		GAS MARKER
	[FO] FIBER OPTIC SERVICE		ELECTRIC MARKER
	[G] GAS SERVICE		TRAFFIC POLE
	[E] POWER UNDERGROUND		TRAFFIC MANHOLE
	[OH-E] POWER OVERHEAD		GAS METER
	[W] WATER SERVICE		GAS VALVE
	[S] SANITARY SEWER		STORM MANHOLE
	[ST] STORM SEWER		SANITARY MANHOLE
	[NP] POND NORMAL POOL		STORM INLETS
	000 EX. FLOWLINE		CLEAN-OUT
	CHAIN LINK FENCE		DOWNSPOUT
	FARM FENCE		FIRE HYDRANTS
	WOOD FENCE		WATER METER
	IRON FENCE RAILING		WATER VALVES
	BUILDING STRUCTURE		POST INDICATOR VALVE
	EX. BUILDING OVERHEAD		FIRE DEPARTMENT CONN.
	RIM		SIGNS
	INV.		MAILBOX
	FFE		ADA PARKING
			PARKING COUNT
			TREES
			SHRUB
			SPOT GRADE

STORMWATER POLLUTION PREVENTION PLAN LEGEND		
	PROPOSED SEEDING	CE-501
	EROSION CONTROL MATTING	CE-501
	RIPRAP OUTLET PROTECTION	CE-501
	GRAVEL CONSTRUCTION ENTRANCE	CE-501

	CONSTRUCTION LIMITS		CONCRETE WASHOUT
	SILT FENCE		INLET PROTECTION
	STORM SEWER		STORM MANHOLE
	SSD		STORM INLETS
	000 SWALE FLOWLINE		INVERT ELEVATION
	799 INTERMEDIATE CONTOUR		CLEAN-OUT
	800 INDEX CONTOUR		DOWNSPOUT
	FLOW ARROW		

- ### CONSTRUCTION SEQUENCE
- PRE-CONSTRUCTION ACTIVITIES:
1. CALL 811 SERVICE AT 811 TO CHECK THE LOCATION OF ANY EXISTING UTILITIES. THEY SHOULD BE NOTIFIED TWO WORKING DAYS BEFORE CONSTRUCTION TAKES PLACE.
 2. A SILT FENCE SHALL BE INSTALLED AT THE EDGES OF THE PROJECT SITE WHERE THERE IS POTENTIAL FOR ANY STORMWATER RUNOFF. POTENTIAL AREAS ARE IDENTIFIED BASED ON EXISTING TOPOGRAPHY AND SHOWN ON SHEET CE-101. THE INSTALLED SILT FENCE SHOULD BE INSPECTED AND ANY ACCUMULATING SEDIMENT REMOVED.
 3. EVALUATE EXISTING VEGETATION SUITABLE FOR USE AS FILTER STRIPS ALONG THE PROPERTY BOUNDARIES.
 4. A CONSTRUCTION ENTRANCE SHALL BE PLACED AS SHOWN ON SHEET CE-101.
 5. ESTABLISH CONSTRUCTION STAGING AREA FOR EQUIPMENT AND VEHICLES AS FAR FROM INLETS AND SWALES AS POSSIBLE.
 6. ESTABLISH ONSITE LOCATION FOR OWNER/OPERATOR/CONTRACTOR PLACEMENT OF APPROVED PLANS AND INSPECTION DOCUMENTATION.
- CONSTRUCTION ACTIVITIES:
1. ONCE EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE, BEGIN LAND CLEARING FOLLOWED IMMEDIATELY BY ROUGH GRADING. DO NOT LEAVE LARGE AREAS UNPROTECTED FOR MORE THAN 14 DAYS. ALL DISTURBED AREAS THAT POTENTIALLY WILL BE IDLE FOR 14 DAYS OR MORE WILL BE STABILIZED (SEEDED, MULCHED, ETC.) IMMEDIATELY.
 2. AFTER COMPLETION OF MASS GRADING, FINAL GRADE AND SEED LANDSCAPE BERMS, AND SWALES IMMEDIATELY AFTER GRADING IS COMPLETED.
 3. UPON COMPLETION OF MASS GRADING, INSTALL SANITARY AND STORM SEWERS. AS STORM SEWERS ARE CONSTRUCTED, INSTALL INLET PROTECTION MEASURES. INSTALL RIPRAP UPON COMPLETION OF END SECTION INSTALLATION.
 4. UPON COMPLETION OF SEWER INSTALLATION AND INLET PROTECTION, PROCEED WITH ASPHALT PAVEMENT CONSTRUCTION.
 5. AS NECESSARY, LIVING OF ASPHALT PARKING SHOULD BE DONE PRIOR TO THE INSTALLATION OF STORM SEWERS TO PREVENT THE TRANSMISSION OF LIME DUST TO PONDS OR RECEIVING WATERS.
 6. CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES AND DEVICES DURING THE CONSTRUCTION PHASE AND UNTIL SILTATION OF THE STREETS AND STORM SEWERS WILL NO LONGER OCCUR.
 7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT FROM INSTALLED EROSION CONTROL FEATURES.
 8. WHEN 70% OF VEGETATIVE COVER IS OBTAINED THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.



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1" = 40'

SHEET NAME

STORMWATER POLL. PREVENTION PLAN

SHEET NO.

CE-101

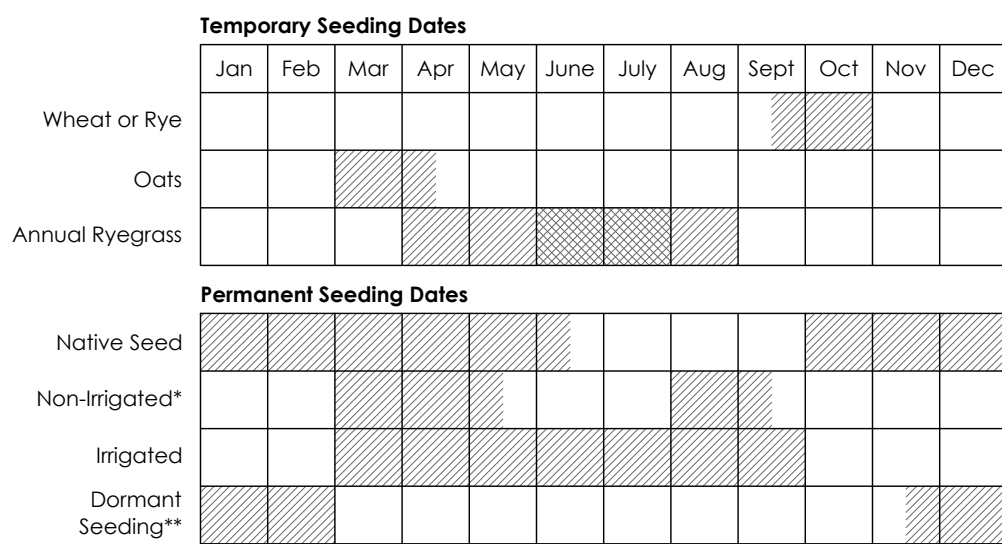
Apply lime to raise the pH to the level needed for species being seeded. Apply 23 pounds of 12-12-12 analysis fertilizer (or equivalent) per 1000 sq. ft. (approximately 1000 pounds per acre) or fertilize according to test. Application of 150 lbs. of ammonium nitrate on areas low in organic matter and fertility will greatly enhance vegetative growth.

Work the fertilizer and lime into the soil to a depth of 2-3 inches with a harrow, disk or rake operated across the slope as much as possible.

Select a seed mixture based on projected use of the area (Figure 5-2), while considering best seeding dates. See Figure 5-3 this sheet. If tolerances are a problem, such as salt tolerance of seedlings adjacent to streets and highways, see Figure 5-4 this sheet before final selection.

Species	Seeding Rate lbs./acre	Suitable pH lbs./1000 sq. ft.	Site Suitability* Droughty	Well Drained	Wet
Level and Sloping, Open Areas					
Tall Fescue	35 0.8	5.5 - 8.3	2	1	2
Tall Fescue	25 0.6	5.5 - 8.3			
Red Clover**	5 0.12				
Kentucky Bluegrass	15 0.4	5.5 - 7.5	2	1	
Creeping Red Fescue	15 0.4				
Sleep Banks and Cuts					
Tall Fescue	15 0.4	5.8 - 7.5	2	1	2
Kentucky Bluegrass	25 0.6				
Tall Fescue	35 0.8	5.5 - 8.3	2	1	
Emerald Crownvetch**	10 0.25				
Lawns and High Maintenance Areas					
Kentucky Bluegrass	40 0.9	5.8 - 7.5	2	1	
Creeping Red Fescue	40 0.9				
Perennial Ryegrass	170 4.0	5.0 - 7.5		1	
(Turf Type)					
Tall Fescue	170 4.0	5.5 - 8.3	2	1	2

* 1 - Preferred 2 - Will Tolerate
** Inoculate with specific Inoculant.

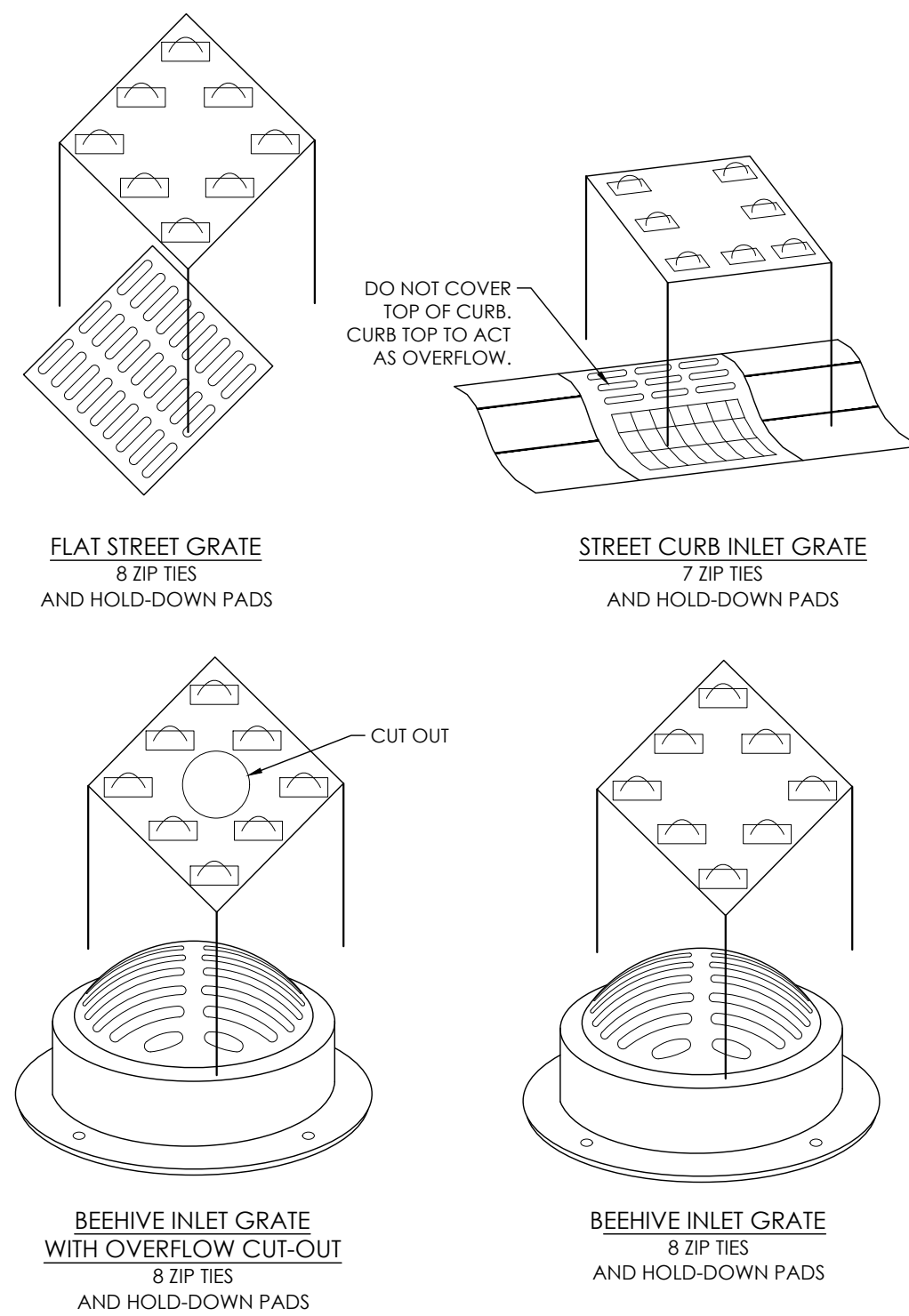


- * Late summer seeding dates may be extended 5 days if mulch is applied.
- ** Note: If temporary stabilization must occur during the winter straw mulch applied at a rate of 2 tones per acre and crimped in will be an acceptable cover.

Kind of Seed	1000 Sq. Ft.	Acre	Remarks
Wheat or Rye	3.5 lbs.	150 lbs.	Cover seed 1" to 1 1/2" deep
Spring Oats	2.3 lbs.	100 lbs.	Cover seed 1" deep
Annual ryegrass	1.0 lb.	40 lbs.	Cover seed 1/4" deep*

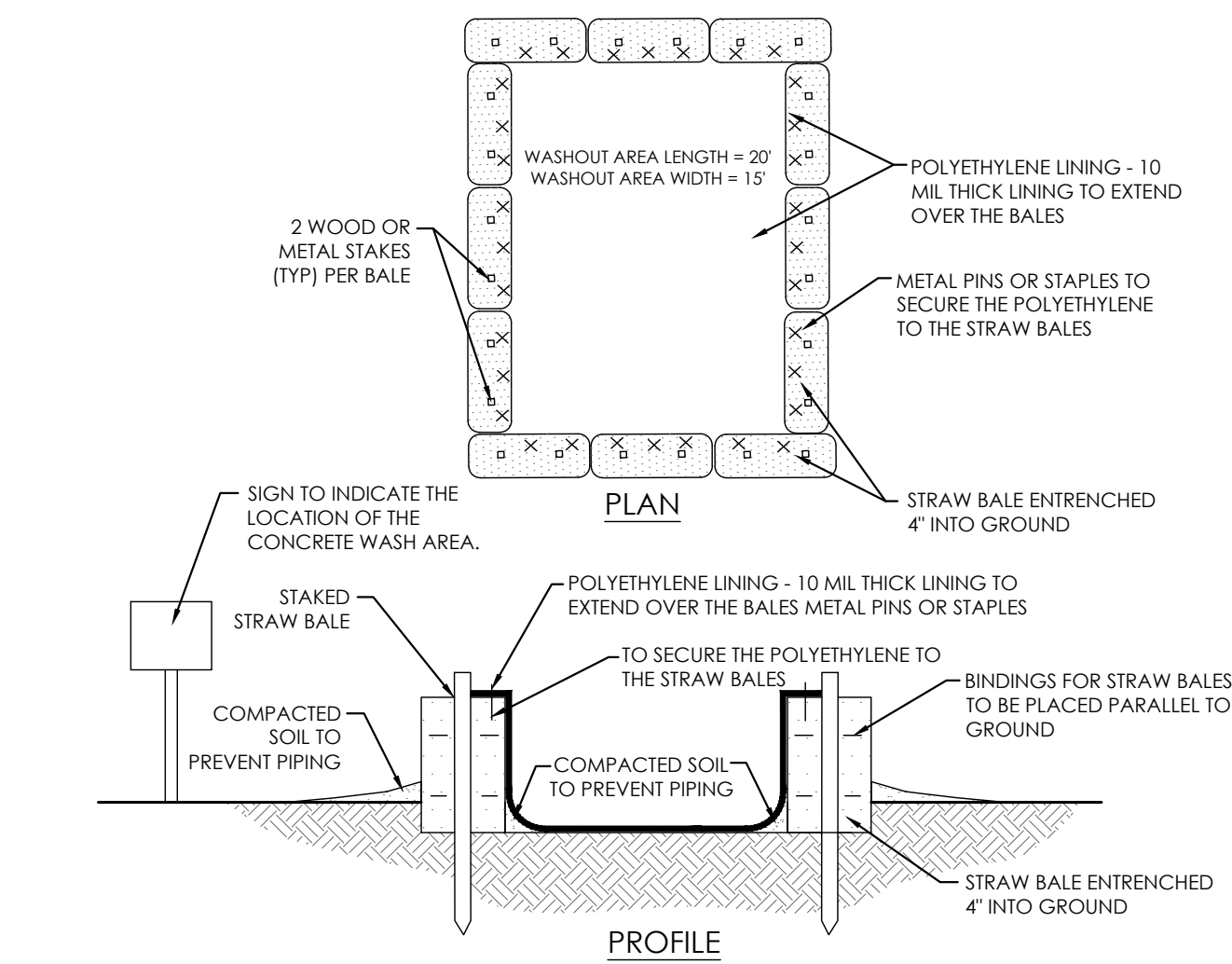
* Not necessary where mulch is applied.

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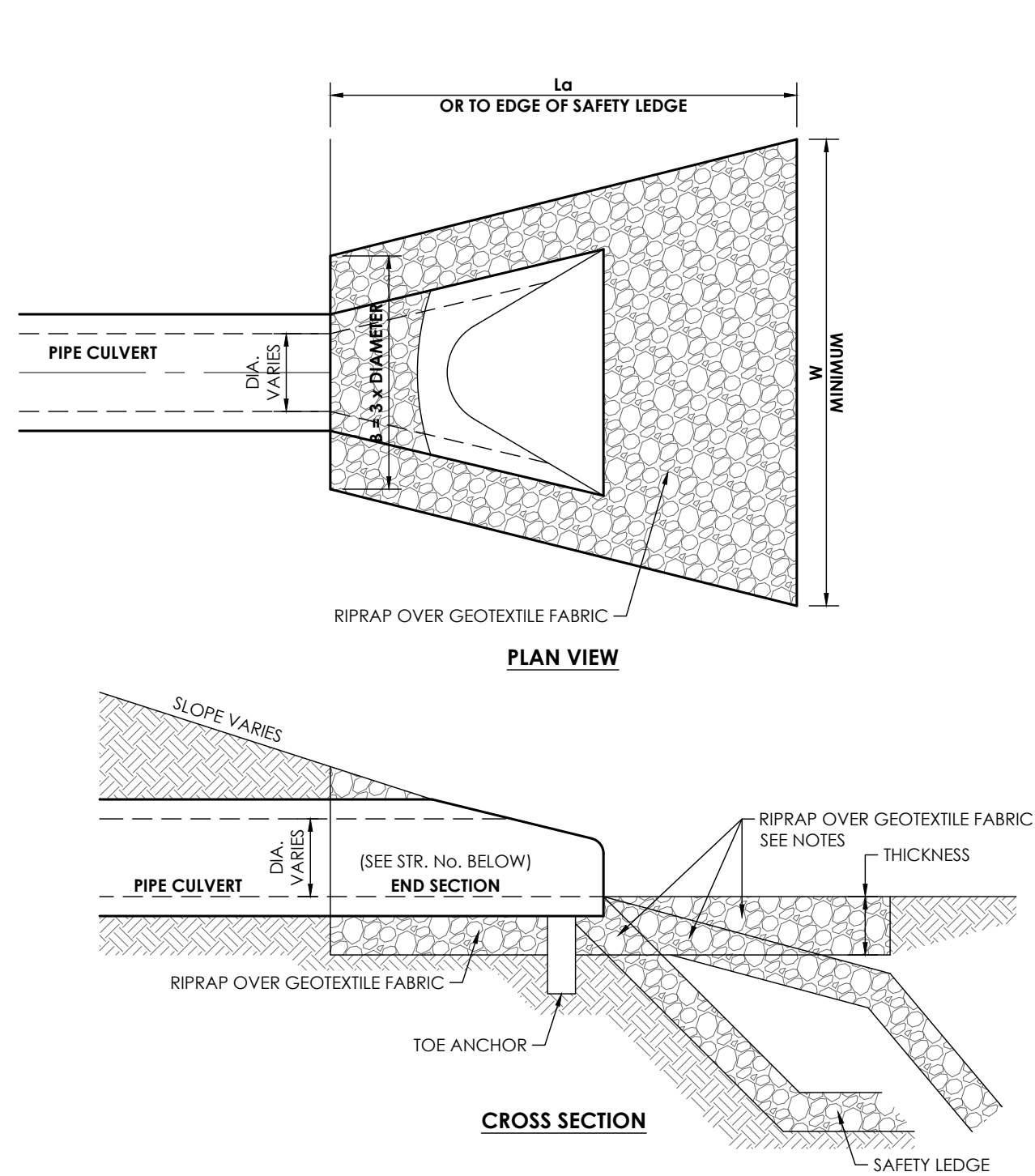
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Map Unit: Br - Brookston silty clay loam, 0 to 2 percent slopes



1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. SIGNAGE SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRIGS.
3. WASHOUT AREA SHALL BE MAINTAINED CLEAN AND FREE OF DEBRIS OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
4. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED AT AN APPROVED LOCATION.
5. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE INSPECTOR.
6. CONTRACTOR SHALL PROVIDE ADDITIONAL WASHOUT STRUCTURES OR LARGER STRUCTURES IF REQUIRED.

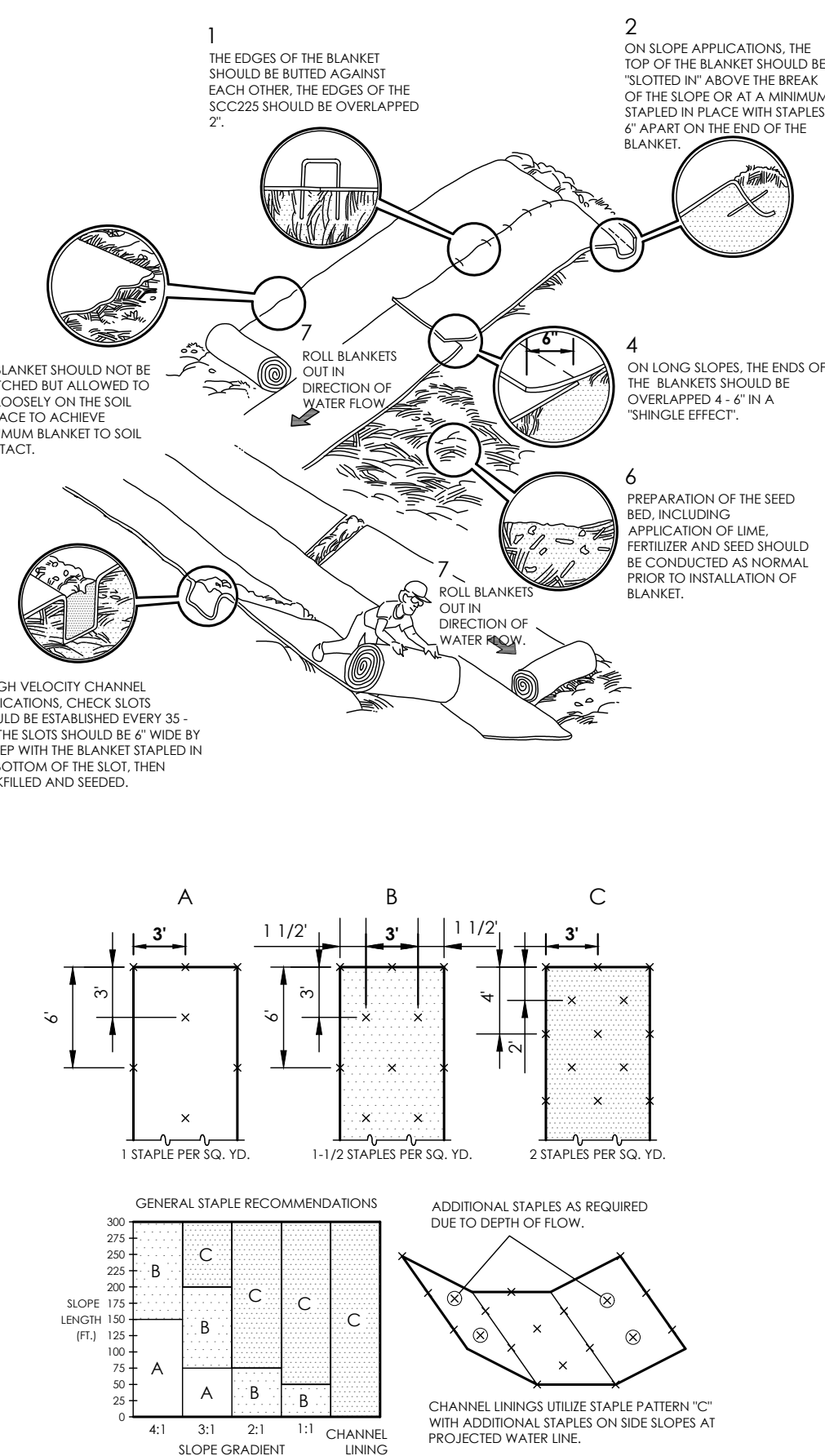
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Structure No.	B	Lo	W	Thickness	d ₅₀	Size of Stone	Percent of Total Weight Larger than Given Size
100	3'	6'	6'	18"	6"	3 x d ₅₀	0%
-	0'	0'	0'	0"	0"	2 x d ₅₀	20%
-	0'	0'	0'	0"	0"	1 x d ₅₀	50%
-	0'	0'	0'	0"	0"	0.1 x d ₅₀	90%

Depth of riprap shall not be less than $3 \times d_{50}$

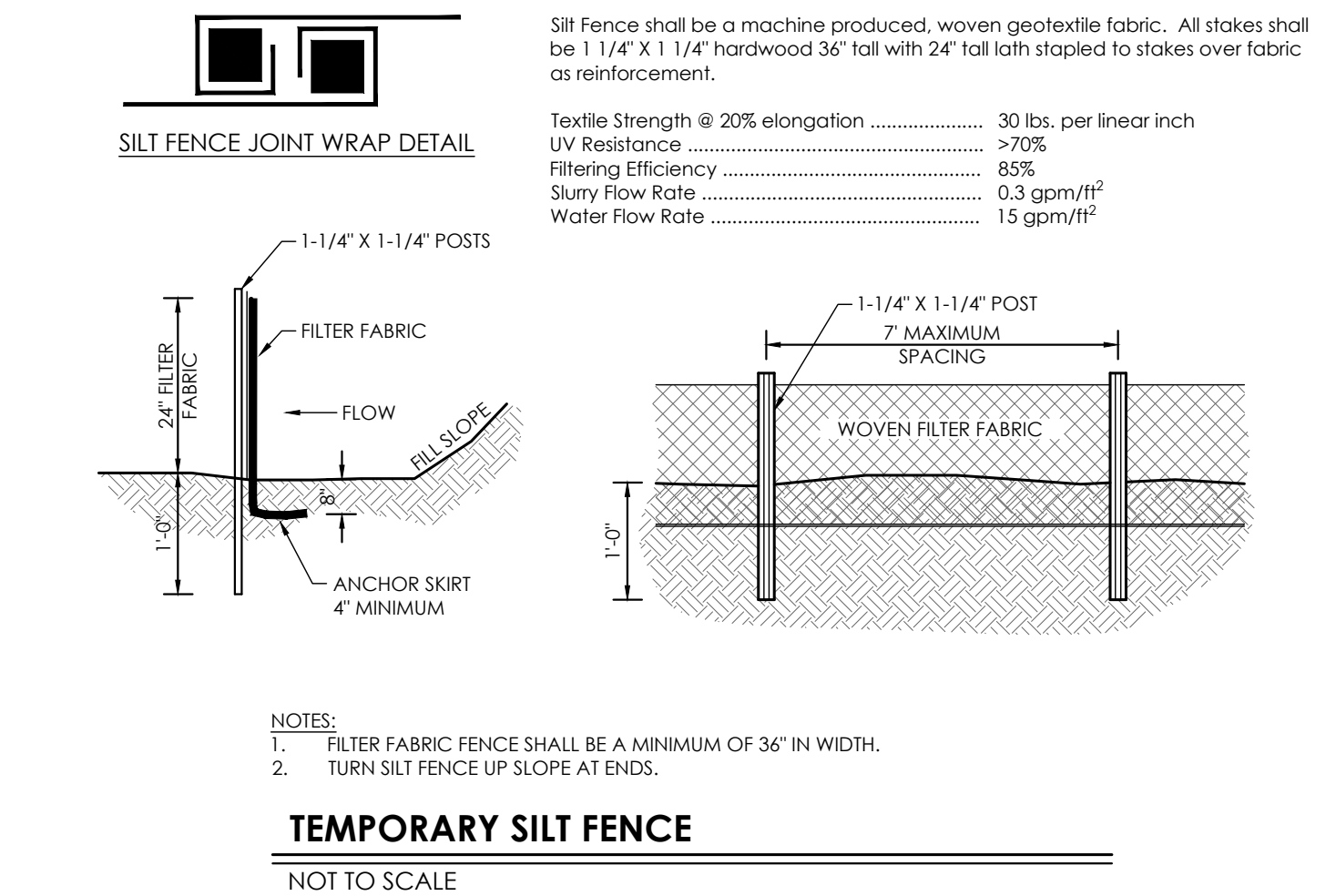
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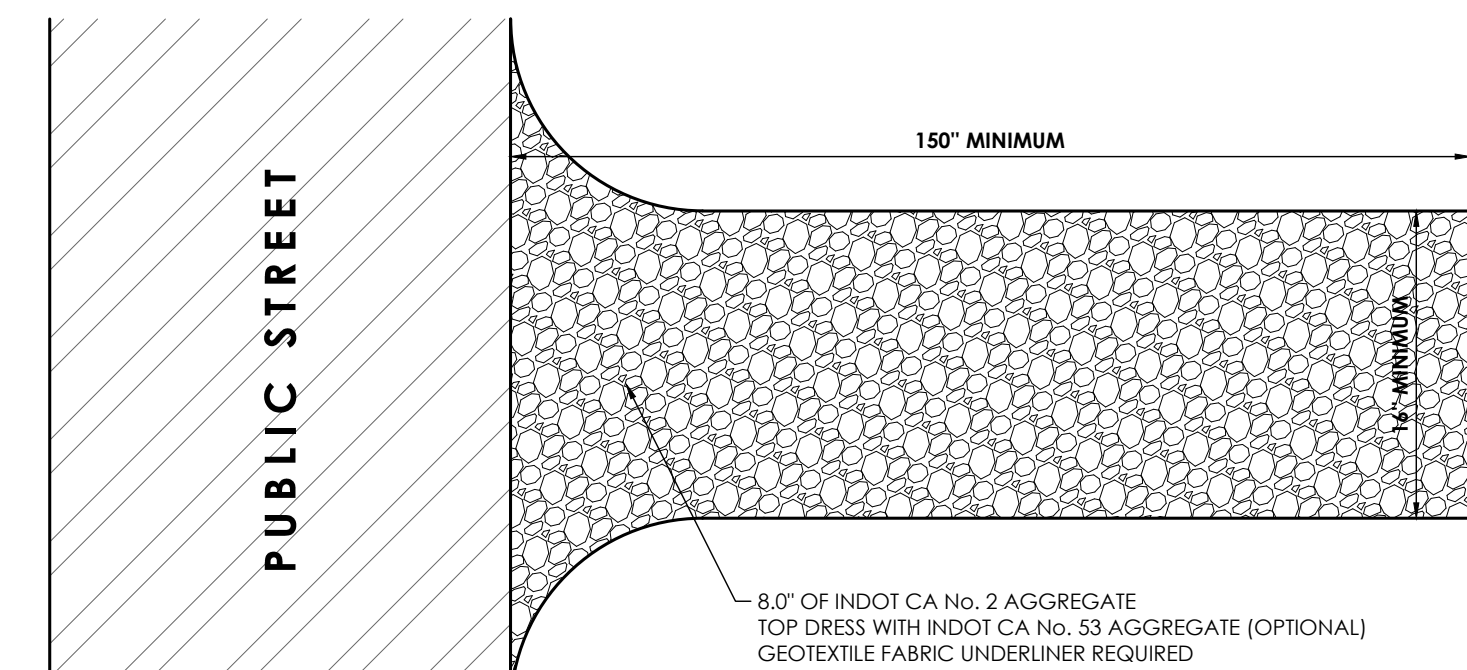
STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE ANNUAL RAINFALL.

AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.

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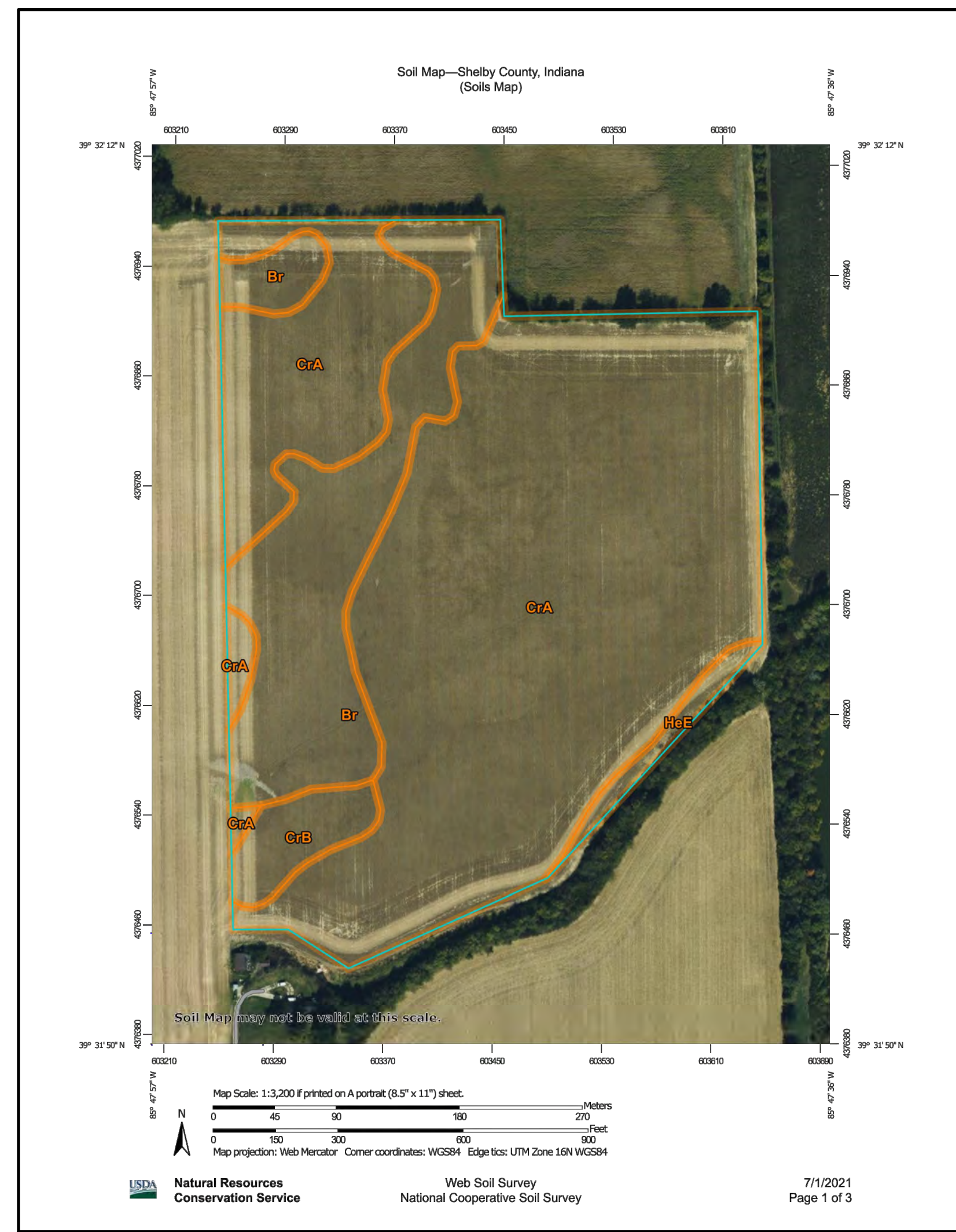


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1. ADAPTED FROM THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - INDIANA STORMWATER QUALITY MANUAL, 2007

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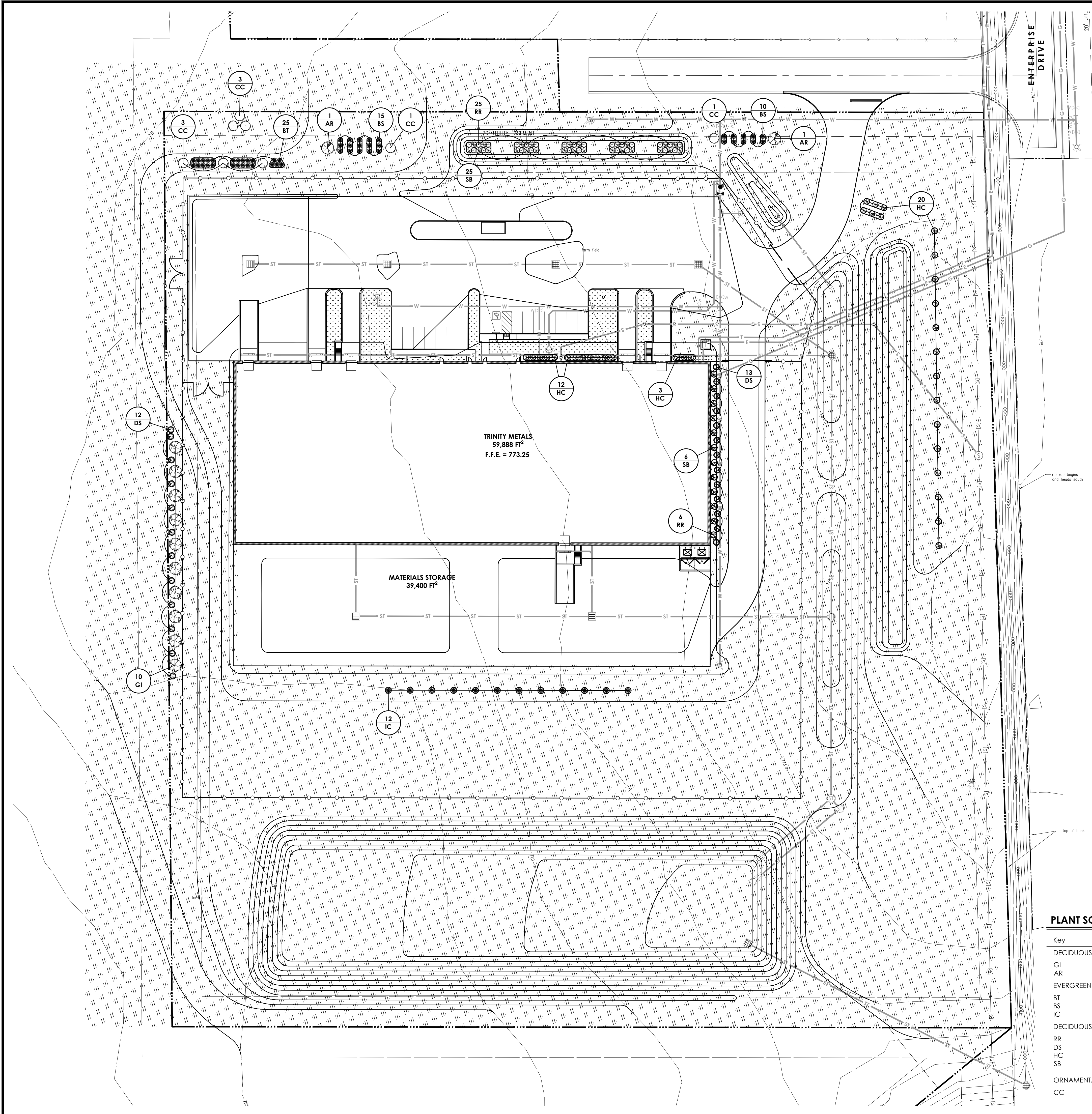
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**STORMWATER POLL.
PREV. DETAILS**

SHEET NO

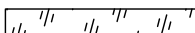

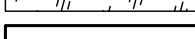

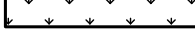















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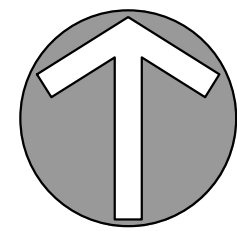


LEGEND OF EXISTING FEATURES

	PROPERTY LINE		BENCHMARK
	RIGHT-OF-WAY LINE		MONUMENT
	SETBACK LINE		SECTION CORNER
	EASEMENT		TRANSFORMER
	SECTION LINE		HVAC
	CENTERLINE		ELECTRIC METER
	INTERMEDIATE CONTOUR		ELECTRIC MANHOLE
	INDEX CONTOUR		POWER POLE GUY WIRE
	TELEPHONE UNDER GR.		LIGHT POLE
	TELEPHONE OVERHEAD		TELEPHONE PEDESTAL
	FIBER OPTIC SERVICE		GAS MARKER
	GAS SERVICE		TRAFFIC POLE
	POWER UNDERGROUND		TRAFFIC MANHOLE
	POWER OVERHEAD		GAS METER
	WATER SERVICE		GAS VALVE
	SANITARY SEWER		STORM MANHOLE
	STORM SEWER		SANITARY MANHOLE
	POND NORMAL POOL		STORM INLETS
	EX. FLOWLINE		CLEAN-OUT
	CHAIN LINK FENCE		DOWNSPOUT
	FARM FENCE		FIRE HYDRANTS
	WOOD FENCE		WATER METER
	IRON FENCE RAILING		WATER VALVES
	BUILDING STRUCTURE		POST INDICATOR VALVE
	EX. BUILDING OVERHEAD		FIRE DEPARTMENT CONN.
RIM	RIM ELEVATION		SIGNS
INV.	INVERT ELEVATION		MAILBOX
FFE	FINISHED FLOOR ELEVATION		ADA PARKING
			PARKING COUNT
			TREES
			SHRUB
			SPOT GRADE

LANDSCAPE LEGEND - PROPOSED

	HARDWOOD MULCH		EVERGREEN TREE
	PERMANENT SEEDING		DECIDUOUS TREE
	SOD		DECIDUOUS TREE
	PERENNIAL PLANTINGS		DECIDUOUS TREE
	LANDSCAPE EDGING		ORNAMENTAL TREE
			ORNAMENTAL TREE
	DECIDUOUS SHRUB		ORNAMENTAL TREE
	DECIDUOUS SHRUB		ORNAMENTAL TREE
	EVERGREEN SHRUB		
	EVERGREEN SHRUB		MULTI-STEM TREE
	ORNAMENTAL GRASS		
	PLANT TAG		



PLANT SCHEDULE

Key	Botanical Name	Common Name	Quantity	Size	Condition	Remarks
DECIDUOUS TREES						
GI	GLIEDITZIA TRIACANTHOS INERMIS	MAJESTIC HONEYLOCUST	10	3 IN	B&B	MULTI-STEM
AR	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2	3 IN	B&B	MULTI-STEM
EVERGREEN SHRUBS						
BT	BERBERIS THUNNBERGII	CRIMSON BARBERRY	25	12 IN	#3 CONT.	42" ON CENTER
BS	AMUS SEMPERVIRENS	AMERICAN BOXWOOD	25	12 IN	#5 CONT.	42" ON CENTER
IC	ILEX CRENATA 'HELLER'	HELLER'S JAPANESE HOLLY	12	12 IN	#3 CONT.	42" ON CENTER
DECIDUOUS SHRUBS						
RR	ROSA 'RADRAZZ'	RADRAZZ KNOCKOUT ROSE	31	24 IN	#3 CONT.	42" ON CENTER
DS	DEUTZIA SCABRA 'NIKKO'	NIKKO SLENDER DEUTZIA	25	12 IN	#3 CONT.	42" ON CENTER
HC	HEMEROCALLIS	DAYLILY	29	24 IN	#3 CONT.	42" ON CENTER
SB	SYRINGA PUBESCENCE SUBSP	MISS KIM LILAC	31	24 IN	#3 CONT.	42" ON CENTER
ORNAMENTAL TREES						
CC	CERCIS CANADENSIS	EASTERN REDBUD	8	12 IN	#1 CONT.	24" ON CENTER

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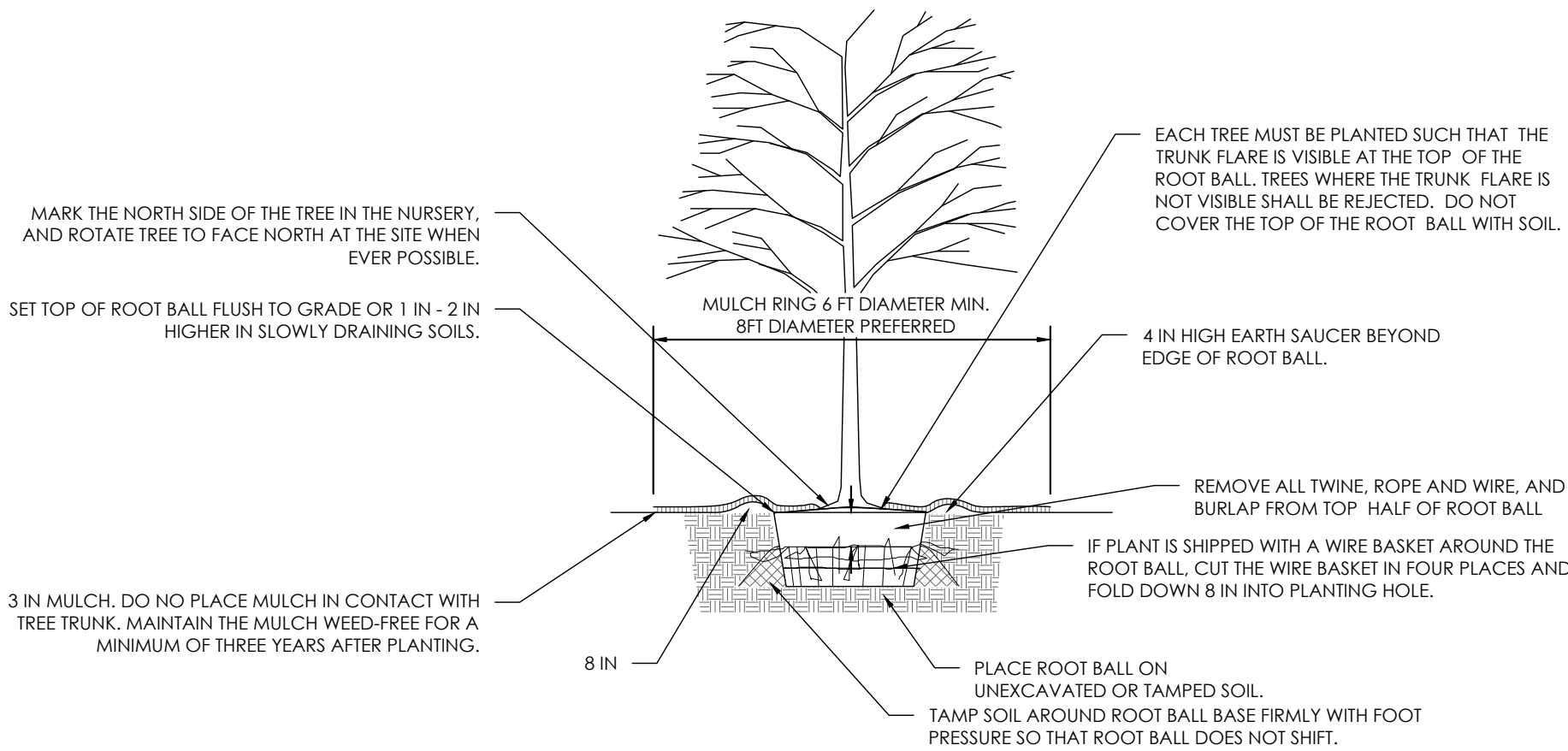
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LANDSCAPE PLAN

SHEET NO

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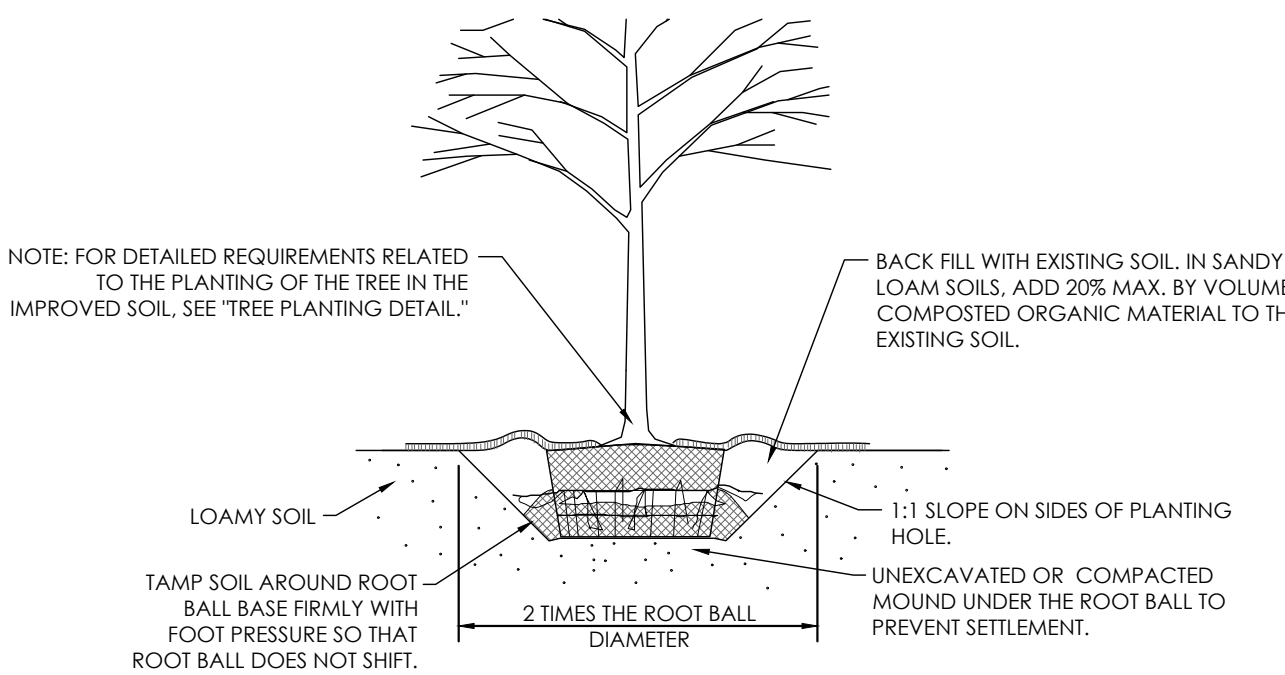
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- NOTE:
- THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN AN 8' SQUARE OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.
 - STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT
 - WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.
 - DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
 - FOR DIMENSIONS OF PLANTING AREAS, TYPES OF SOIL AMENDMENTS, OR SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS"

TREE PLANTING DETAIL, FOR B&B ALL SOIL TYPES

NOT TO SCALE



LOAMY SOILS INCLUDE THE FOLLOWING USDA TEXTURAL CLASSIFICATIONS AND HAVE A CLAY CONTENT OF BETWEEN 15 TO 27%: LOAM, SANDY LOAM AND SILT LOAM. NOTE THAT SOILS AT THE OUTER LIMITS OF THE LOAM CLASSIFICATIONS MAY PRESENT SPECIAL PLANTING PROBLEMS NOT ANTICIPATED BY THIS DETAIL.

LOAMY SOILS ARE DEFINED AS GRANULAR OR BLOCKY FRABLE SOILS, A MIXTURE OF SAND, SILT AND CLAY PARTICLES WITH A MINIMUM OF 1.5% BY DRY WEIGHT ORGANIC MATTER. THE SOIL MUST NOT BE SO COMPACTED AS TO IMPEDE ROOT GROWTH OR DRAINAGE. THE SOIL STRUCTURE SHALL NOT BE PLATY OR MASSIVE. THE SOIL MUST BE TESTED FOR TEXTURE, DRAINAGE CAPABILITY, PH, AND NUTRIENT VALUES PRIOR TO DETERMINING ANY ADDITIONAL SOIL IMPROVEMENTS. CONTRACTOR SHALL CONSULT LANDSCAPE ARCHITECT IN POOR SOIL CONDITIONS.

- TREES PLANTED IN NON RESTRICTED SOIL CONDITIONS. THIS DETAIL ASSUMES THAT THE AREA OF LOAMY SOIL AVAILABLE TO EACH TREE IS A MINIMUM OF 500 SQUARE FEET.

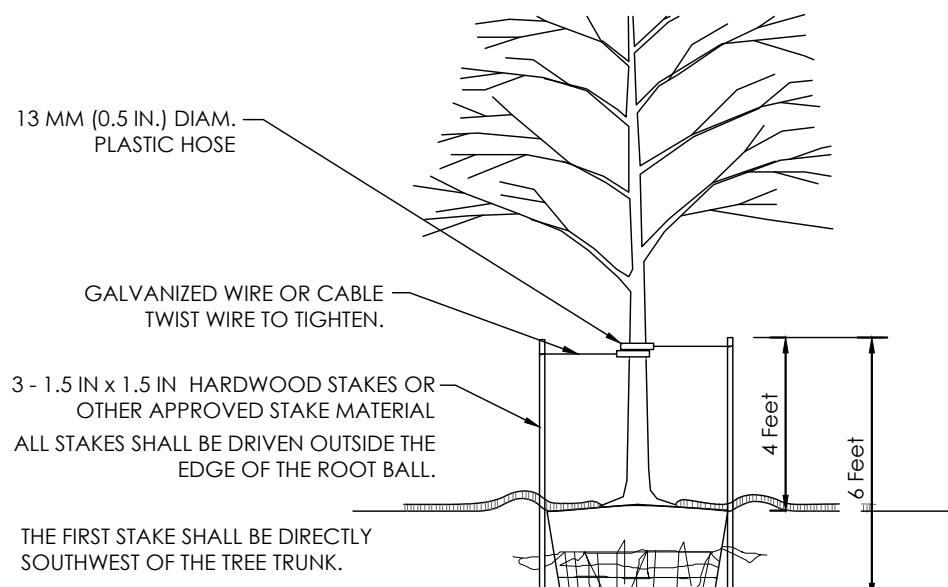
SOIL IMPROVEMENT DETAIL

NOT TO SCALE

WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 2.5 IN CALIPER - 14 GAUGE
TREES 2.5 IN TO 75 MM 3 IN CALIPER - 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.

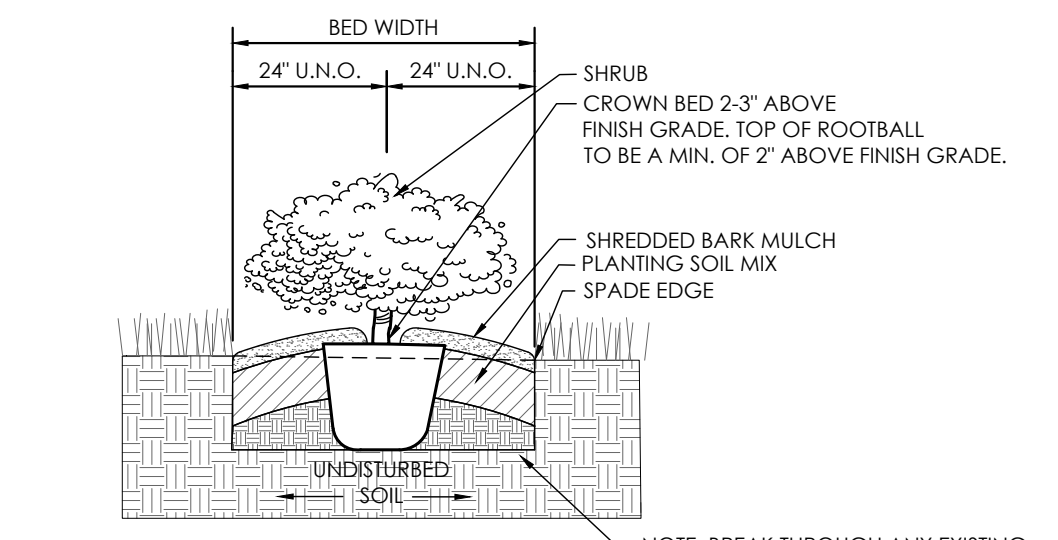


ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5 IN.

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST FULL GROWING SEASON AFTER PLANTING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE STAKING MATERIALS.

TREE STAKING DETAIL, 3" CALIPER OR LESS

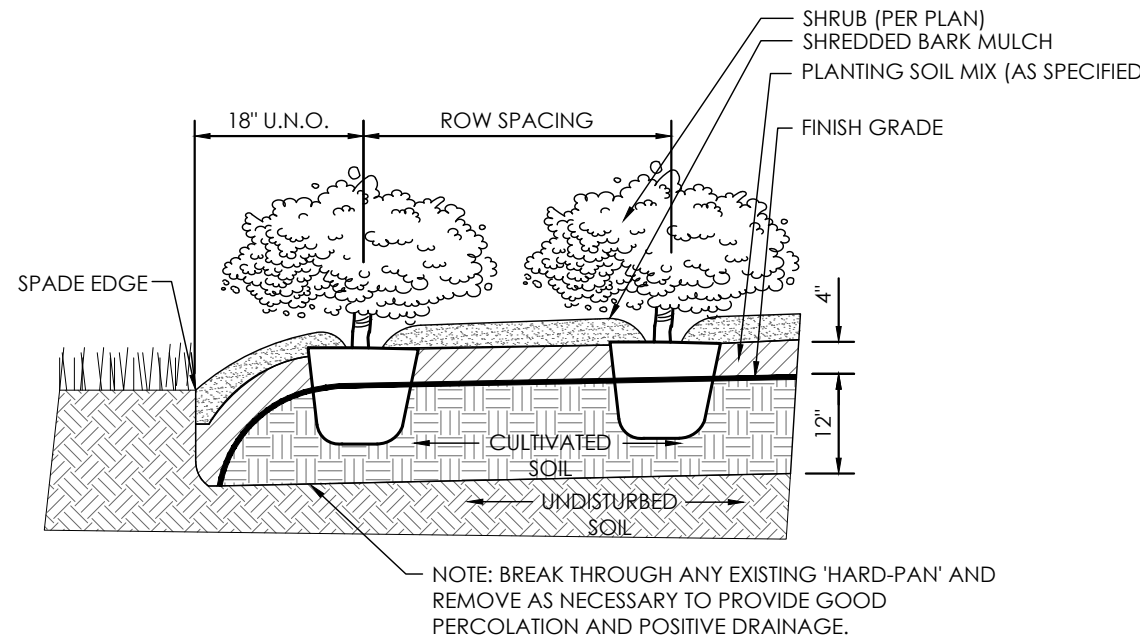
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- PLANTING PROCEDURE
- LAYOUT BED AND OUTLINE WITH SPADE EDGE.
 - ROTOILL BED TO 12" DEPTH.
 - SPREAD 4" MIN. LAYER OF PLANTING SOIL MIX OVER BED.
 - ROTOILL PLANTING SOIL MIX INTO TOP OF BED.
 - INSTALL PLANTS, MULCH, AND WATER THOROUGHLY.

HEDGE PLANTING

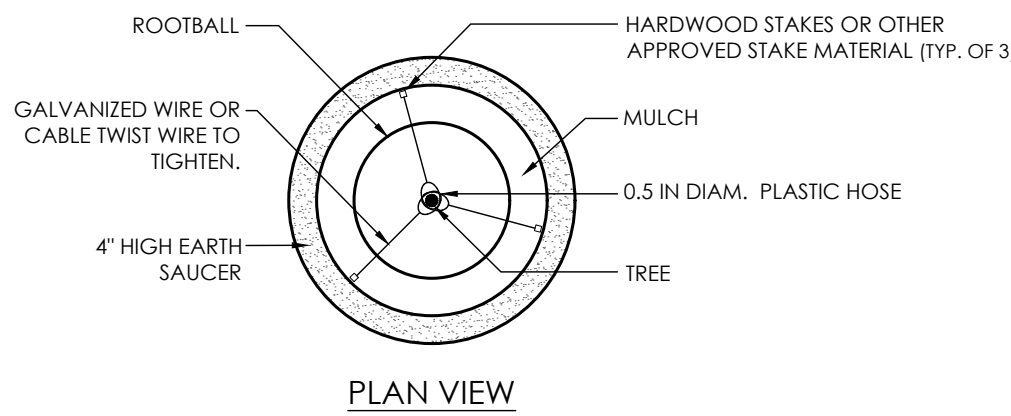
NOT TO SCALE



- PLANTING PROCEDURE
- LAYOUT BED AND OUTLINE WITH SPADE EDGE.
 - ROTOILL BED TO 12" DEPTH.
 - SPREAD 4" MIN. LAYER OF PLANTING SOIL MIX OVER BED.
 - ROTOILL PLANTING SOIL MIX INTO TOP OF BED.
 - INSTALL PLANTS, MULCH, AND WATER THOROUGHLY.

SHRUB MASS PLANTING

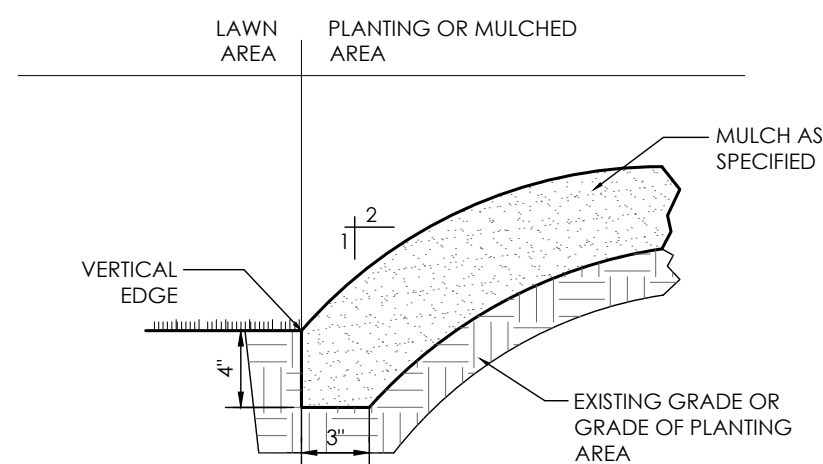
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- LOCATE (1) STAKE DIRECTLY SOUTHWEST OF TREE TRUNK

TREE STAKING DETAIL

NOT TO SCALE



NOTE: TRENCH EDGE SHALL CREATE A CLEAN SEPARATION BETWEEN AREAS; AND SHALL CREATE SMOOTH AND EVEN LINES (AS INDICATED ON THE PLANS).

SPADE EDGE

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**LANDSCAPE
DETAILS**

SHEET NO.

LP-501

**SUBSURFACE INVESTIGATION &
GEOTECHNICAL RECOMMENDATIONS**

**TRINITY METALS FACILITY
SHELBYVILLE, INDIANA
A&W PROJECT No.: 21IN0268**

**PREPARED FOR:
CWC, INC.
INDIANAPOLIS, INDIANA**

**PREPARED BY:
ALT & WITZIG ENGINEERING, INC.
GEOTECHNICAL DIVISION**

APRIL 26, 2021



Alt & Witzig Engineering, Inc.

4105 West 99th Street • Carmel • Indiana • 46032

Ph (317) 875-7000 • Fax (317) 876-3705

April 26, 2021

CWC, Inc.
350 Massachusetts Avenue, Suite 400
Indianapolis, Indiana 46204
Attn: Mr. Buzz Weisiger

Report of Subsurface Investigation and Geotechnical Recommendations

RE: Trinity Metals Facility
Enterprise Drive
Shelbyville, Indiana
Alt & Witzig File: 21IN0268

Dear Mr. Weisiger:

In compliance with your request, we have conducted a subsurface investigation and geotechnical evaluation for the above referenced project. It is our pleasure to transmit an electronic copy of the report.

The purpose of this subsurface investigation was to determine the various soils profile components, the engineering characteristics of the subsurface materials, and to provide criteria for use in assessing the site for construction and evaluating subsurface conditions.

We appreciated the opportunity to work with you on this project. Often, because of design and construction details that occur on a project, questions arise concerning the soil conditions. If we can give further service in these matters, please contact us at your convenience.



Sincerely,
Alt & Witzig Engineering, Inc.

Nicholas Hayes

Nicholas K. Hayes, E.I.

Brian A. Wirt

Brian A. Wirt, P.E.

Offices:

Cincinnati • Columbus • Dayton, Ohio
Evansville • Ft. Wayne • Indianapolis • Lafayette • Merrillville/South Bend, Indiana

***Subsurface Investigation and Foundation Engineering
Construction Materials Testing and Inspection
Environmental Services***

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APPENDIX A

- Recommended Specifications for Compacted Fills and Backfills
- Undercut Detail for Footing Excavation in Unstable Materials
- Site Location Map
- Boring Location Plan
- Boring Logs
- General Notes

APPENDIX B

- Seismic Design Parameters
- Custom Soil Resource Report for Shelby County, Indiana

INTRODUCTION

This report presents the results of a subsurface investigation performed for the proposed Trinity Metals Facility development to be constructed south of the intersection of Enterprise Drive and West Mausoleum Road in Shelbyville, Indiana. Our investigation was conducted for CWC, Inc. of Indianapolis, Indiana. Authorization to perform this investigation was in the form of a proposal prepared by Alt & Witzig Engineering, Inc. (Alt & Witzig Proposal: 2103G077) that was accepted by the client.

The scope of this investigation included a review of geological maps of the area and a review of geologic and related literature; a reconnaissance of the immediate site; a subsurface exploration; field and laboratory testing; and an engineering analysis and evaluation of the materials.

The purpose of this subsurface investigation was to determine the various soils profile components, the engineering characteristics of the subsurface materials, and to provide criteria for use in assessing the site for construction and evaluating subsurface conditions.

The scope or purpose of this investigation did not either specifically or by implication provide an environmental assessment of the site.

DESCRIPTION OF SITE

The site is located south of the intersection of Enterprise Drive and West Mausoleum Road in Shelbyville, Indiana. The site may be located using the Shelbyville, Indiana 7½ Minute Topographic Map in Section 31, Township 13 North, Range 7 East. The general vicinity of the site is shown on the enclosed *Site Location Map*. An aerial photograph of the site taken in 2020 is provided in *Exhibit 1* and 2, below and on the following page.

Exhibit 1 – 2020 Aerial Photograph of Site; Google Earth



Exhibit 2 – 2020 Aerial Photograph of Site; Google Earth



Site Description

The site is generally sloping down from east to west, with an estimated elevation difference of six (6) feet. The approximate elevation of the site ranges between 769 feet to 775 feet, per the provided topographic map. Ground cover across the site during drilling operations consisted of crop remnants. The surrounding areas are developed with commercial structures, paved roadways, underground/overhead utilities, and agricultural fields.

FIELD INVESTIGATION

General

Field investigations to determine the engineering characteristics of the subsurface materials included a reconnaissance of the project site and performing seven (7) soil borings, at locations selected by the client, located approximately as shown on the *Boring Location Plan*, performing standard penetration tests, and obtaining soil samples retained in the standard split-spoon sampler for further laboratory testing. The apparent groundwater level at each boring location was also determined.

Drilling and Sampling Procedures

The soil borings were drilled using a track-mounted drilling rig equipped with a rotary head. Hollow-stem augers were used to advance the holes. The advancement of the borings was temporarily stopped at regular intervals in order to perform standard penetration tests in accordance with ASTM Procedure D-1586 to obtain the standard penetration value of the soil.

The standard penetration test involves driving a split spoon soil sampler into the ground by dropping a 140-pound hammer, thirty (30) inches. The number of hammer drops required to advance the split-spoon sampler one (1) foot into the soil is defined as the standard penetration value. The soil samples retained in the split-spoon sampling device as a result of the penetration tests were obtained, classified, and labeled for further laboratory investigation.

Water Level Measurements

The apparent groundwater level at each boring location was measured during and upon completion of the drilling operations.

These water level measurements consisted of observing the depth at which water was encountered on the drilling rods during the soil sampling procedure and measuring the depth to the top of any water following removal of the hollow stem augers. It should be noted that the groundwater level measurements recorded on the individual *Boring Logs* in Appendix A of this report are accurate only for the specific dates on which the measurements were performed. It must be understood that the groundwater levels will fluctuate throughout the year and the *Boring Logs* do not indicate these fluctuations.

Ground Surface Elevation

Ground surface elevations were interpolated by a one-foot interval topographic map produced by Civil & Environment Consultants, Inc. that was dated 1/8/21. All depths and elevations reported on the *Boring Logs* are assumed to be accurate to within +/- one (1) foot.

LABORATORY INVESTIGATION

In addition to field investigations, a supplemental laboratory investigation was conducted to ascertain additional pertinent engineering characteristics of the subsurface materials. The laboratory-testing program included:

- Classification of soils in general accordance with ASTM D-2488
- Moisture content tests in general accordance with ASTM D-2216
- Samples of the cohesive soil were frequently tested in unconfined compression by use of a calibrated spring testing machine.
- A soil Penetrometer was used as an aid in determining the strength of the soil.

The values of the unconfined compressive strength as determined on soil samples from the split-spoon sampling must be considered, recognizing the manner in which they were obtained since the split-spoon sampling techniques provide a representative but somewhat disturbed soil sample.

SUBSURFACE CONDITIONS

General

The types of foundation materials encountered have been visually classified and are described in detail on the *Boring Logs*. The results of the field penetration tests, strength tests, water level observations and laboratory water contents are presented on the *Boring Logs* in numerical form. Representative samples of the soils encountered in the field were placed in sample jars and are now stored in our laboratory for further analysis if desired. Unless notified to the contrary, all samples will be disposed of after two (2) months.

Soil Conditions

The borings encountered approximately six (6) to eight (8) inches of topsoil at the ground surface. Beneath the topsoil, the borings generally encountered medium stiff to very stiff cohesive soil to the termination depths of the borings. Borings B-1 and B-3 encountered soft cohesive soils within the upper five (5) feet. The softer layer of shallow soils within the upper five (5) feet were characterized by materials with elevated moisture contents in the range of approximately 24 to 26 percent.

Detailed soil descriptions at each boring location have been included on the *Boring Logs* in Appendix A of this report.

According to the *Soil Survey of Shelby County, Indiana* published by the United States Department of Agriculture Soil Conservation Service, the majority soil covering this site is classified as Crosby silt loam (CrA) and Hennepin loam (HeE). The *Custom Soil Resource Report for Shelby County, Indiana* has been included in Appendix B.

Bedrock Geology

Geologic maps published by the Indiana Geological Survey indicate the bedrock at this site consists of the Muscatatuck Group, which is characterized by dolomite, limestone, sandstone, and gypsum of the Devonian age. The approximate elevation of this bedrock ranges between 650 and 700 feet, which is greater than 75 feet below the existing ground surface.

Seismic Consideration

Based on the field and laboratory tests performed on the subsurface materials and an assumption that the bedrock surface is greater than 75 feet below the existing ground surface, this site should be considered a Site Class C in accordance with the 2012/15 International Building Code.

Maximum spectral response acceleration values of $S_s=0.155$ g and $S_1=0.085$ g are recommended for seismic design.

Groundwater

Groundwater levels taken during and upon completion of the boring operations yielded measurements as shallow as six (6) feet below the ground surface, although the majority of the borings yielded dry boreholes. The exact location of the water table may fluctuate somewhat depending upon normal seasonal variations in precipitation and surface runoff.

The *Soil Survey of Shelby County, Indiana* indicates a seasonal high groundwater table as shallow as six (6) inches below the ground surface. Again, it should be noted that the groundwater level measurements recorded on the individual *Boring Logs* included in Appendix B of this report, are accurate **only** for the dates on which the measurements were performed.

GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

Project Description

Provided plans indicate the proposed buildings will be an approximately 12,600 square foot and 60,000 square foot, with a 20,000 square future expansion, respectively. It is anticipated that the buildings will be single-story, slab-on-grade structures, with associated truck docks, paved parking and driving lanes. A proposed pond is also to be constructed on the south side of the site. The location of the soil borings in relation to the layout of the site is shown on the enclosed *Boring Location Plan*.

Grading plans were not available at the time of this report. Based on the existing topography of the site, approximately one (1) foot of relief exists across the proposed 12,600 square foot building footprint, while approximately four (4) feet of relief exists across the proposed 60,000 square foot building footprint. Based on the existing relief across the proposed building footprints, it is anticipated that minor to moderate cuts/fills will be necessary to establish final floor elevations.

Structural loads were not available at the time of this report; however, it was assumed for analysis purposes that the structure will be constructed with maximum column and wall loads not exceeding 150 kips and 4 klf, respectively. It is expected that these structural loads will be transferred to the soils by conventional spread footings or continuous wall footings, if possible. Once final design loads and grading plans are available, they should be submitted to Alt & Witzig Engineering, Inc. for review. After a review of this information, it will be determined if changes to these recommendations are warranted.

Foundation Recommendations

Considering the encountered soil conditions at the boring locations, the estimated loads of the structure, and the relative economics of the available foundation types, conventional spread and continuous wall footings founded at a shallow depth appear to represent a feasible foundation solution for this project.

These borings generally encountered medium stiff to stiff cohesive soils near the anticipated footing depth. Net allowable bearing pressures of **2,000** and **1,600 psf** are recommended for dimensioning spread footings and continuous wall footings, respectively, provided they are founded on firm natural

soil or structural fill. Undercuts may be necessary in the areas of B-1 and B-3 due to the soft cohesive soil encountered within the upper five (5) feet of the borings. However, if foundations are extended to a depth of six (6) feet below the ground surface, net allowable bearing pressures of **3,000** and **2,400 psf** is recommended for design.

It is recommended that a representative of Alt & Witzig Engineering, Inc. inspect all foundation excavations prior to the placement of concrete. At the time of this inspection, Housel penetrometer or other approved tests may be performed in order to confirm that unanticipated soil materials, soft soils, or debris are not present.

Wherever soft materials are encountered, these footing areas should be undercut to firm natural soils to minimize potential settlement. If it is not desired to extend the footings to this depth, the original bottom of footing elevation may be reestablished using lean concrete or properly compacted fill material. All fill placed with the intent of supporting structural loads from the footings should be compacted to a minimum of 95 percent of the maximum dry density as determined by ASTM D-1557. Care must be taken to undercut and re-establish the footing elevation in accordance with the *Undercut Detail for Footing Excavation in Unstable Material* diagram in Appendix A of the report.

The above recommended bearing pressures will help reduce differential settlements associated with footings founded on soil with varying stiffness across the building pad. Using the above-mentioned bearing pressure and recommendations for limiting settlements, total settlements of less than one (1) inch and differential settlements of one half (½) inch or less can be anticipated. In utilizing the above-mentioned net allowable pressures for dimensioning footings, it is necessary to consider only those loads applied above the finished floor elevation.

In order to alleviate the effects of seasonal variation in moisture content on the behavior of the footings and eliminate the effects of frost action, all exterior foundations should be founded a minimum of three (3) feet below the final grade.

Some modifications to the recommendations provided in this report may be necessary based on potential complications or modifications to the design plan. The modifications may influence the overall cost of the project and construction sequence. If complications become apparent to the design team or owner, this information should be provided to Alt & Witzig Engineering, Inc. at the earliest possible date.

Floor Slab Recommendations

It is typically desirable to place the floor slab as a slab-on-grade supported by the soil. In the areas where the existing grade is above the final floor elevation, the building area should be undercut, and a free draining granular material placed beneath the slab.

In those areas where the existing grade is below the final floor elevation, a well-compacted structural fill will be necessary to raise the site to the desired grade. All fill materials may consist of approved materials if proper moisture content and compaction procedures are maintained. After the building area has been raised to the proper elevation, a granular fill should be placed immediately beneath all floor slabs.

Prior to elevating the site, the existing subgrade soils must be proofrolled with approved equipment. Areas that pass the proofroll inspection may be raised to design subgrade elevation as outlined in Appendix A of this report. Areas that fail the proofroll inspection may have to be treated further. It is recommended that a representative of Alt & Witzig Engineering, Inc. be present to determine remediation, dictated by the field conditions during construction. Areas of shallow unstable materials should be anticipated in most areas due to elevated moisture contents exhibited in the shallow cohesive soils. The exact stabilization method used will be dependent upon the size of the area and the types of materials encountered, as well as the project schedule. If weather conditions are favorable, the soils may be aerated, dried, and recompacted. However, if weather conditions or construction schedule dictate immediate improvement then chemical modification may be necessary.

It is recommended that the materials within the subgrade area, above footing elevation, be compacted to a minimum density of 93 percent of maximum density in accordance with ASTM D-1557.

Truck Docks

Plans indicate that truck docks will be constructed on the north and south sides of the proposed building. Conventional footings may be used to support the foundations for these facilities. The above-mentioned allowable bearing pressures are also recommended to dimension these foundations provided suitable bearing soils are encountered. It is recommended that deeper truck dock footings

be stepped up to the shallow footing elevation incrementally such that the footings will not bear on the backfill for the truck dock walls.

Lateral Earth Pressures on Subsurface Truck Dock Walls

The amount of pressure exerted by the backfill on the walls will depend on the height of the wall, drainage provisions, type of backfill, method of placing the backfill, and the proximity of nearby shallow foundations. The free draining material should be placed behind the wall and include an area on a 1:1 slope from the heel of the wall up to the ground surface.

It is recommended that the material used as backfill consist of clean sand and gravel containing less than five (5) percent fines by weight. A representative of Alt & Witzig Engineering, Inc. should inspect this material to determine its suitability. It is recommended that the granular backfill immediately adjacent to the wall be placed with a moderate amount of tamping and compacting.

The lateral earth pressure will be minimized if the backfill is a clean granular material, and if the backfill is placed with a minimum amount of tamping. For design purposes, it is recommended that coefficient of at rest earth pressure (k_o) of 0.5 be used for structurally designing subsurface walls where minimal compactive effort can be used on the backfill.

It is anticipated that the backfill will support shallow slabs and adjacent footings. As such, a coefficient of lateral earth pressure of 0.5 is recommended. The walls should also be designed to accept the additional load imparted by nearby footings and floor slabs. Assuming the unit weight of the backfill is 125 pcf, a $k_o = 0.5$ would correspond to an equivalent fluid pressure of 63 pcf per foot of wall height. This equivalent fluid pressure would increase linearly from 0 psf at ground surface to a maximum at the bottom of the truck dock footing. Please note that the above pressures are applicable during a fully drained condition.

Pavement Recommendations

The strength of the subgrade soils at this site depends upon several variables including compaction and drainage. It is, therefore, extremely important that all paved areas be designed to prevent water from collecting or ponding immediately beneath the pavement. This can be accomplished by sheet

draining the parking area and sloping the subgrade soils and outletting them to a drain or a ditch to allow for subgrade drainage, or by the installation of a subsurface drainage system. It is recommended that underdrains be installed at the transitions from concrete to asphalt as well.

For these soils to provide adequate support for pavement, it will also be necessary that the earthmoving contractor follow proper site work techniques. The exposed subgrade should be proofrolled with equipment approved by a representative of Alt & Witzig Engineering, Inc. This proofrolling will assist in identifying pockets of soft unstable materials beneath exposed subgrades. As mentioned before, elevated moisture contents were present within the upper layer of soils at this site, which may cause failure. The exact stabilization method used will be dependent upon the size of the area and the types of materials encountered, as well as the project schedule. However, options for remediation may include but not be limited to disking and drying, undercutting and replacement, installation of a geogrid, or chemical modification.

In areas where fill will be required to raise the site to proposed grade, the performance of the pavements will be greatly affected by the quality of compaction achieved in the subgrade soils. Thus, it is recommended that all pavement areas be compacted to 93 percent of the material's maximum dry density as determined by ASTM D-1557.

Pond Recommendations

Provided plans indicate one (1) pond will be constructed on the south side of the site. The depth of the pond was unknown at the time of this report. It is assumed that the excavation through the soils at the pond location will be performed using an open-cut with sloped excavation sides. It is recommended that the excavation be performed using slopes of 3H:1V or shallower.

Boring D-1, conducted in the area of the proposed pond, encountered medium stiff to hard cohesive to the termination depth of twenty-one (21) feet below the ground surface. Groundwater was not encountered within boring D-1 but was encountered as shallow as six (6) feet in other borings across the site. With the exception of topsoil, the soils excavated from the pond may be used as fill if proper moisture content and compaction procedures are maintained. The shallow cohesive soils are likely above optimum moisture content and will need dried prior to use as fill.

Due to the relatively low permeability of the cohesive soils, a conventional dewatering system consisting of sump pumps or other dewatering systems should be adequate to dewater the excavations if groundwater is encountered during excavations.

In order for the pond to sustain a constant water level, it is recommended that a clay liner be constructed around the pond sides and along the base.

CONSTRUCTION CONSIDERATIONS

Site Preparation

Excessively organic topsoil and loose dumped fill materials will generally undergo high volume changes that are detrimental to the behavior of pavements, floor slabs, structural fills, and foundations placed upon them. It is recommended that all topsoil and/or loose materials be stripped from the construction areas and wasted or stockpiled for later use.

It is estimated that stripping on the order of six (6) to eight (8) inches across the site may be required. The topsoil depths on our boring logs are not exact and may not represent variations between boring locations. Therefore, the topsoil thickness should be used for estimating purposes only. The amount of stripping will also be dependent on the condition of the subgrade during earthmoving operations.

The condition of the subgrade at the time of earthmoving operations and the methods used by the contractor will influence the depth of stripping. A representative of Alt & Witzig Engineering, Inc. in the field should determine the exact depth of stripping and undercutting at the time of stripping operations.

It is recommended that after the above-mentioned stripping procedures have been performed, the exposed subgrade should be proofrolled with approved equipment. This proofrolling will determine where areas of soft unsuitable materials are encountered. Due to the elevated moisture contents within the shallow cohesive soils, it is anticipated that some of the subgrade soils will not favorably pass a proofroll inspection. Remediation, such as undercuts, may be necessary, as determined by field conditions. It is recommended that a representative of Alt & Witzig Engineering, Inc. be present for this phase of this project.

After the existing subgrade soils are excavated to design grade, proper control of subgrade compaction and fill, and structural fill replacement should be maintained in accordance with the *Recommended Specifications for Compacted Fills and Backfills*, presented in Appendix A of this report; thus, minimizing volume changes and differential settlements which are detrimental to behavior of shallow foundations, floor slabs and pavements.

Chemical Drying and Modification

It may be advantageous to utilize chemical modification on the existing subgrade soils at this site if construction takes place during the wetter portions of the year. Also, if a stronger subgrade is required for heavy duty applications chemical modification may be advantageous. Lime or cement modification has been used on many projects to modify cohesive soils that are well over optimum moisture content for proper compaction. The workability of the soil increases shrink-swell characteristics decrease, and the strength of the treated cohesive soils is increased.

It should be noted that special equipment, such as bulk applicators and rotary mixers, and experienced operators are required for proper modification. The contractor selected for this process should be knowledgeable and experienced. A representative of the soils engineer should be present during modification operations.

Groundwater

Groundwater levels taken during and upon completion of the boring operations yielded measurements as shallow as six (6) feet below the ground surface, although the majority of the borings yielded dry boreholes. The exact location of the water table may fluctuate somewhat depending upon normal seasonal variations in precipitation and surface runoff.

The *Soil Survey of Shelby County, Indiana* indicates a seasonal high groundwater table as shallow as six (6) inches below the ground surface. Again, it should be noted that the groundwater level measurements recorded on the individual *Boring Logs* included in Appendix B of this report, are accurate **only** for the dates on which the measurements were performed.

Depending upon the time of the year and the weather conditions when the excavations are made, seepage from surface runoff may occur into shallow excavations or soften the subgrade soils. Since these foundation materials tend to loosen when exposed to free water, every effort should be made to keep the excavations dry should water be encountered. Sump pumps or other conventional dewatering procedures should be sufficient for this purpose within the cohesive soils. It is also recommended that all concrete for footings be poured the same day as the excavation is made.

STATEMENT OF LIMITATIONS

This report is solely for the use of CWC, Inc. and any reliance of this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties for other uses. This report shall only be presented in full and may not be used to support any other objectives than those set out in the scope of work, except where written approval and consent are provided by CWC, Inc. and Alt & Witzig Engineering, Inc.

An inherent limitation of any geotechnical engineering study is that conclusions must be drawn on the basis of data collected at a limited number of discrete locations. The geotechnical parameters provided in this report were developed from the information obtained from the test borings that depict subsurface conditions only at these specific locations and on the particular date indicated on the boring logs. Soil conditions at other locations may differ from conditions encountered at these boring locations and groundwater levels shall be expected to vary with time. The nature and extent of variations between the borings may not become evident until the course of construction.

The exploration and analysis reported herein is considered in sufficient detail and scope to form a reasonable basis for preliminary design. The recommendations submitted are based on the available soil information and assumed design details enumerated in this report. If actual design details differ from those specified in this report, this information should be brought to the attention of Alt & Witzig Engineering, Inc. so that it may be determined if changes in the foundation recommendations are required.

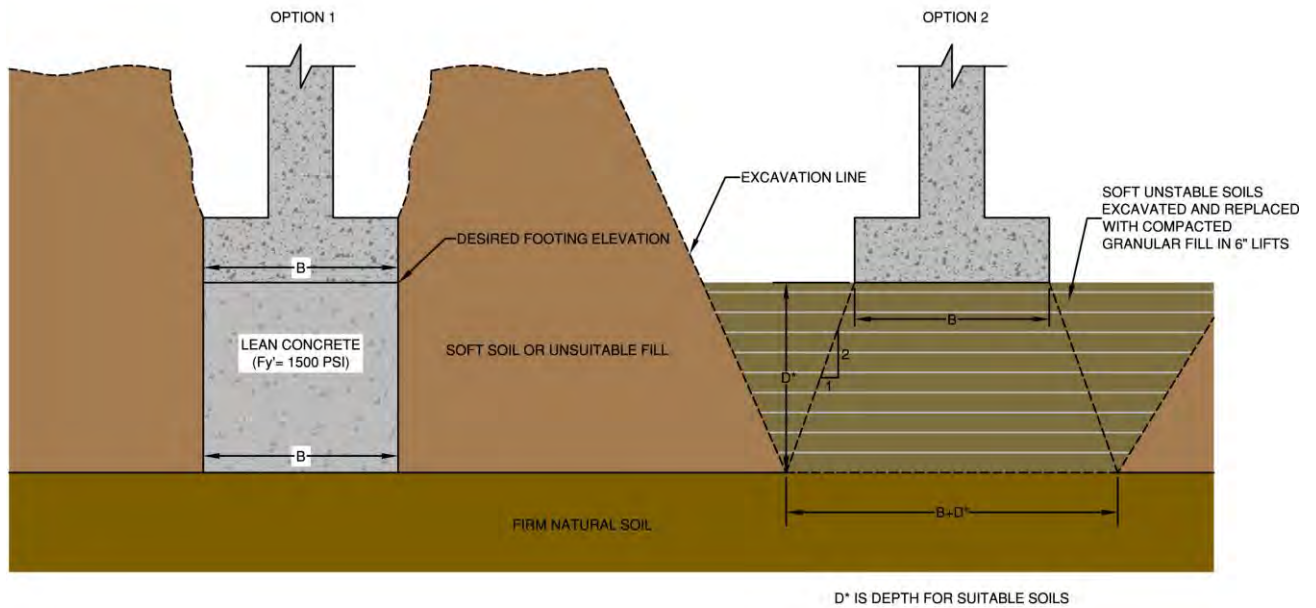
APPENDIX A

Recommended Specifications for Compacted Fills and Backfills
Undercut Detail for Footing Excavation in Unstable Materials
Site Location Map
Boring Location Plan
Boring Logs
General Notes

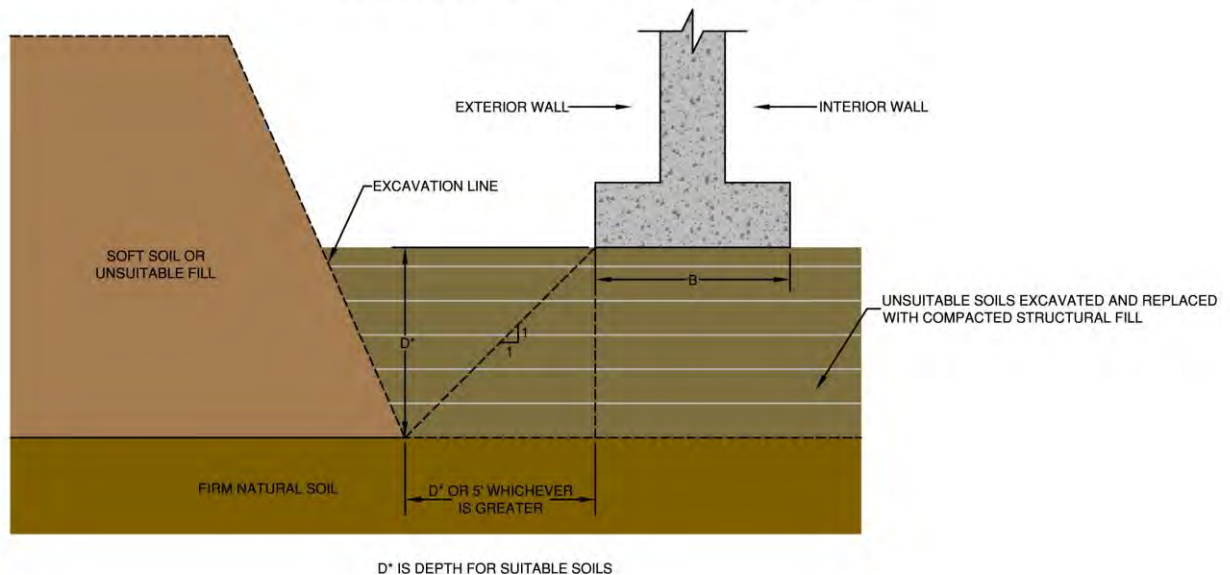
RECOMMENDED SPECIFICATIONS FOR COMPACTED FILLS AND BACKFILLS

All fill shall be formed from material free of vegetable matter, rubbish, large rock, and other deleterious material. Prior to placement of fill, a sample of the proposed fill material should be submitted to Alt & Witzig Engineering, Inc. for approval. The surface of each layer will be approximately horizontal but will be provided with sufficient longitudinal and transverse slope to provide for runoff of surface water from every point. The fill material should be placed in layers not to exceed eight (8) inches in loose thickness. Each layer should be uniformly compacted by means of suitable equipment of the type required by the materials composing the fill. Under no circumstances should a bulldozer or similar tracked vehicles be used as compacting equipment. Material containing an excess of water so the specified compaction limits cannot be attained should be spread and dried to a moisture content that will permit proper compaction. The addition of water may be required if the fill is below moisture content that will permit compaction. All fill should be compacted to the specified percent of the maximum density obtained in accordance with ASTM density Test D-1557 (95 percent of maximum dry density below the base of footing elevation, 93 percent of maximum dry density beneath floor slabs and pavements). Should the results of the in-place density tests indicate that the specified compaction limits are not obtained; the areas represented by such tests should be reworked and retested as required until the specified limits are reached.

UNDERCUT EXCAVATION FOR ISOLATED FOOTINGS IN UNSTABLE MATERIALS



MASS EXCAVATION FOR FOOTINGS IN UNSTABLE MATERIALS

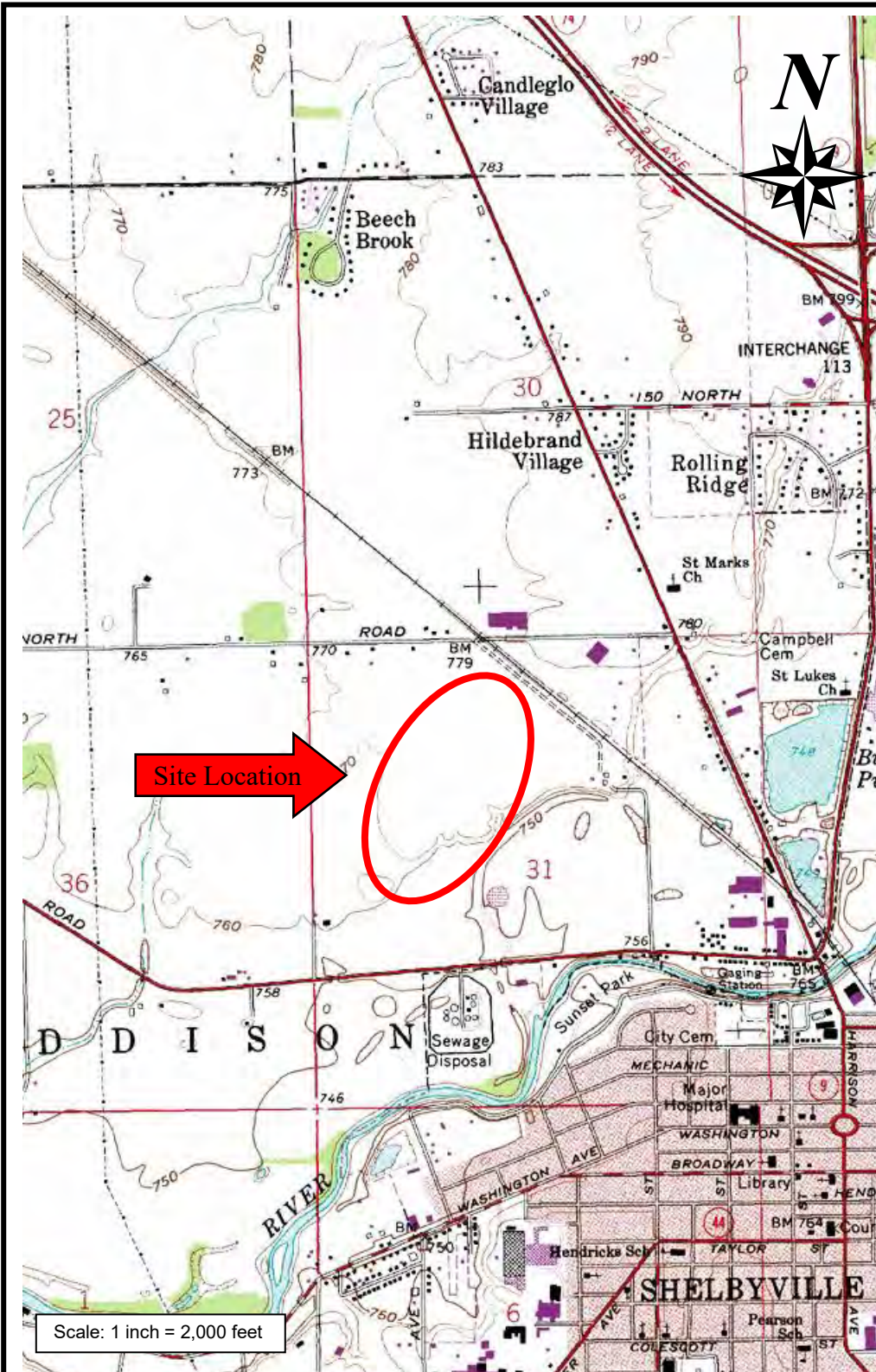


Undercut Detail for Footing Excavation in Unstable Material

PROJECT: Trinity Metals Facility
LOCATION: Shelbyville, Indiana
CLIENT: CWC, Inc.
A&W File No.: 21IN0268

A&W Alt & Witzig Engineering Inc.
 4105 W. 99th Street · Carmel, IN 46032
 TEL (317) 875-7000 · FAX (317) 876-3705
www.altwitzig.com

SITE LOCATION MAP



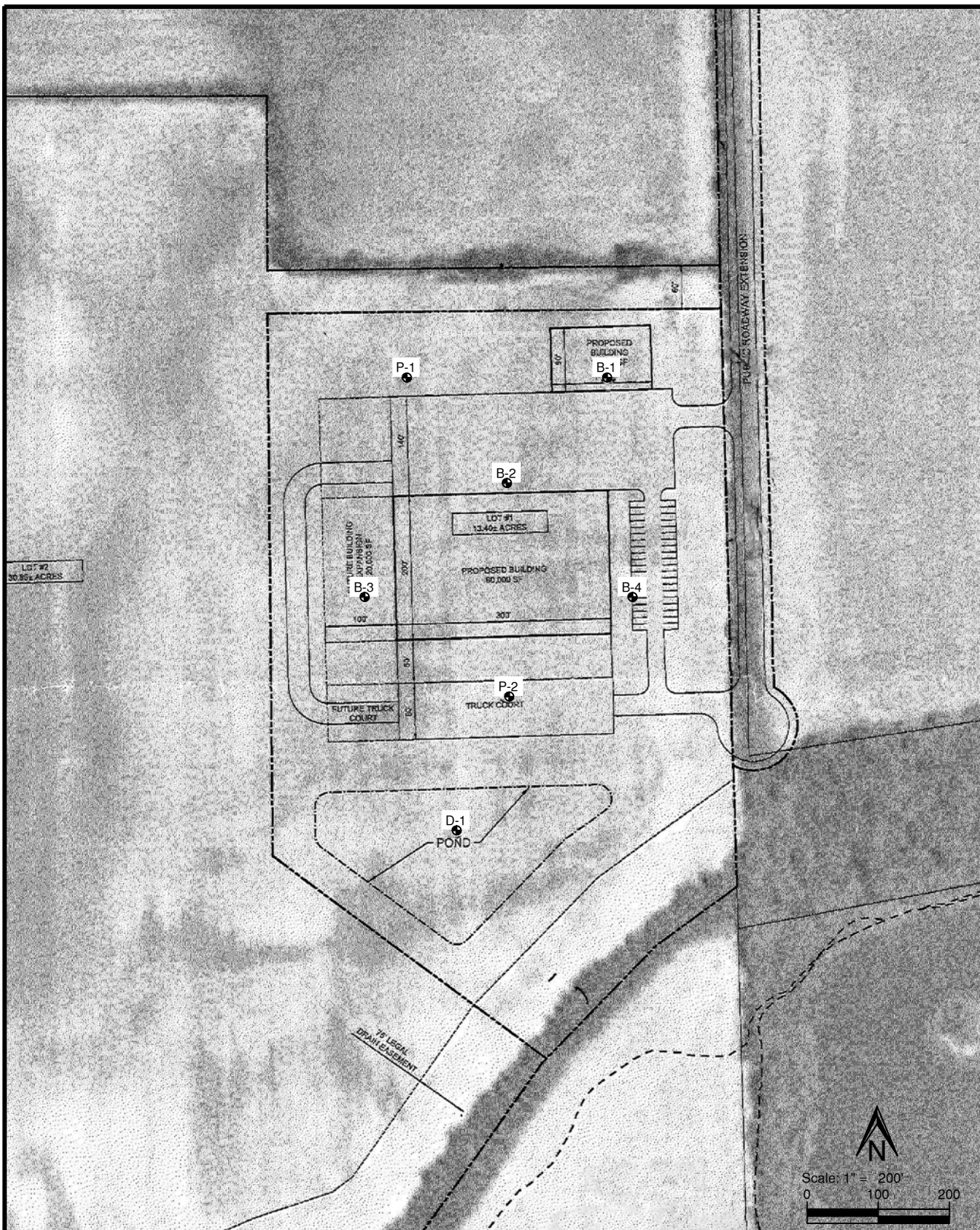
USGS Topographic Map:
Shelbyville Quadrangle

Township: T 13 N.
Range: R 7 E.
Section: 31

PROJECT: Trinity Metals Facility
LOCATION: Shelbyville, Indiana
CLIENT: CWC, Inc.
A&W File No.: 21IN0268

AW Alt & Witzig Engineering Inc.
4105 W. 99th Street · Carmel, IN 46032
TEL (317)875-7000 · FAX (317) 876-3705
www.altwitzig.com

Last Modified: 4/9/2021 10:10 AM



BORING LOCATION PLAN

PROJECT NAME: Trinity Metals Facility
 LOCATION: Shelbyville, Indiana
 PREPARED FOR: CWC, Inc.
 PROJECT NO: 21IN0268

Project Manager: NH
 Checked By: BW
 Drawn By: JT
 Date: 04/21

Alt & Witzig Engineering, Inc.
 4105 West 99th Street • Carmel, IN 46032
 Telephone: (317) 875-7000 • Fax (317) 876-3705



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # B-1
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
772.5	TOPSOIL	0.5									
	Brown Silty CLAY			1	SS		5	0.8	0.5	24.1	
768.0		5.0	5	2	SS		5		0.5	25.1	
	Brown Sandy CLAY										
765.5		7.5		3	SS		50/4"		4.5	6.4	
			10	4	SS		87		4.5	6.9	
	Gray Sandy Silty CLAY with Gravel										
		15		5	SS		63		4.5	7.3	
			20	6	SS		69		4.5	6.3	
752.0	End of Boring at 21 feet	21.0									

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling Dry ft.
▽ At Completion 6.0 ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # B-2
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
771.5	TOPSOIL	0.5									
	Brown Sandy Silty CLAY			1	SS		9	0.9	2.0	11.1	
767.0		5.0	5	2	SS		21		2.0	12.6	
	Brown Sandy Silty CLAY with Gravel			3	SS		43	5.4	4.5	10.1	
			10	4	SS		34		4.5	9.4	
757.5		14.5	15	5	SS		22	4.1	4.5	9.9	
	Gray Sandy Silty CLAY with Gravel										
751.0		21.0	20	6	SS		22	3.9	4.5	10.2	
	End of Boring at 21 feet										

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling Dry ft.
⚡ At Completion Dry ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # B-3
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
768.3	TOPSOIL	0.7									
	Brown and Gray Sandy Silty CLAY			1	SS		4		0.5	24.6	
764.0		5.0	5	2	SS		9	1.7	3.5	9.9	
	Brown Sandy Silty CLAY with Gravel			3	SS		33	1.6	2.5	11.8	
			10	4	SS		29	2.5	3.5	11.2	
754.5		14.5	15	5	SS		31	4.1	2.5	11.4	
	Gray Sandy Silty CLAY with Gravel										
748.0		21.0	20	6	SS		45	3.1	4.5	10.7	
	End of Boring at 21 feet										

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling 6.0 ft.
▽ At Completion 10.0 ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # B-4
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
769.5	TOPSOIL	0.5									
	Brown Sandy Silty CLAY			1	SS		8		1.5	14.9	
			5	2	SS		11	0.9	2.0	11.4	
762.5	Brown Sandy SILT	7.5		3	SS		56			13.8	
			10	4	SS		44			14.5	
759.0	Brown Silty CLAY	11.0									
			15	5	SS		43			16.1	Driving on a Rock
750.5	Gray Silty CLAY with Gravel	19.5		6	SS		33	3.9	4.5	10.6	
749.0	End of Boring at 21 feet	21.0									

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling 14.0 ft.
▽ At Completion 8.0 ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # D-1
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
769.5	TOPSOIL	0.5									
	Brown Sandy Silty CLAY			1	SS		7		0.5	23.6	
765.0		5.0	5	2	SS		10	1.6	2.0	9.6	
	Brown Sandy Silty CLAY with Gravel			3	SS		80		4.5	8.4	
			10	4	SS		64		4.5	7.7	
757.0		13.0									
	Gray Sandy Silty CLAY with Gravel			5	SS		88		3.5	6.5	
			20	6	SS		58			7.3	
749.0	End of Boring at 21 feet	21.0									

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling Dry ft.
▽ At Completion Dry ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # P-1
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
	SURFACE ELEVATION 771.0										
770.5	TOPSOIL	0.5									
	Brown Sandy Silty CLAY			1	SS		7	0.8	1.5	24.1	
			5	2	SS		12		1.5	13.4	
764.0	Brown Sandy Silty CLAY with Gravel	7.0		3	SS		50/4"		3.5	6.2	
			10	4	SS		50/4"		4.0	6.2	
760.0	End of Boring at 11 feet	11.0									

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling Dry ft.
▼ At Completion Dry ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT CWC, Inc.
PROJECT NAME Trinity Metals Facility
PROJECT LOCATION Shelbyville, IN

BORING # P-2
ALT & WITZIG FILE # 21IN0268

DRILLING and SAMPLING INFORMATION

Date Started 4/15/21 Hammer Wt. 140 lbs.
Date Completed 4/15/21 Hammer Drop 30 in.
Boring Method HSA Spoon Sampler OD 2 in.
Driller M. Loveday Rig Type D-50 Track ATV

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % Dry Unit Weight (pcf)	Remarks
	SURFACE ELEVATION 772.0											
771.3	TOPSOIL	0.7										
				1	SS			9		1.5	14.5	
			5	2	SS			9	1.6	1.5	14.9	
				3	SS			29			13.4	
			10	4	SS			26		4.5	8.2	
761.0	End of Boring at 11 feet	11.0										

Sample Type

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater

○ During Drilling Dry ft.
▼ At Completion Dry ft.

Boring Method

HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

MATERIAL GRAPHICS LEGEND



CL-ML: USCS Low Plasticity
Silty Clay



CL: USCS Low Plasticity
Sandy Clay



ML: USCS Sandy Silt



TOPSOIL

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration value. Blows per foot of a 140-lb hammer falling 30" on a 2" O.D. split-spoon.

Qu: Unconfined Compressive Strength, tsf

PP: Pocket Penetrometer, tsf

LL: Liquid Limit, %

PL: Plastic Limit, %

PI: Plasticity Index, %

DRILLING AND SAMPLING SYMBOLS

GROUNDWATER SYMBOLS

- Apparent water level noted while drilling.
- ▽ Apparent water level noted upon completion.
- ▼ Apparent water level noted upon delayed time.

SAMPLER SYMBOLS



SS: Split Spoon

RELATIVE DENSITY & CONSISTANCY CLASSIFICATION (NON-COHESIVE SOILS)

<u>TERM</u>	<u>BLOWS PER FOOT</u>
Very Loose	0 - 5
Loose	6 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	>51

RELATIVE DENSITY & CONSISTANCY CLASSIFICATION (COHESIVE SOILS)

<u>TERM</u>	<u>BLOWS PER FOOT</u>
Very Soft	0 - 3
Soft	4 - 5
Medium Stiff	6 - 10
Stiff	11 - 15
Very Stiff	16 - 30
Hard	>31



Alt & Witzig Engineering, Inc.
4105 West 99th St.
Carmel, IN 46032
Telephone: 317-875-7000
Fax:

GENERAL NOTES

Project: Trinity Metals Facility

Location: Shelbyville, IN

Number: 21IN0268

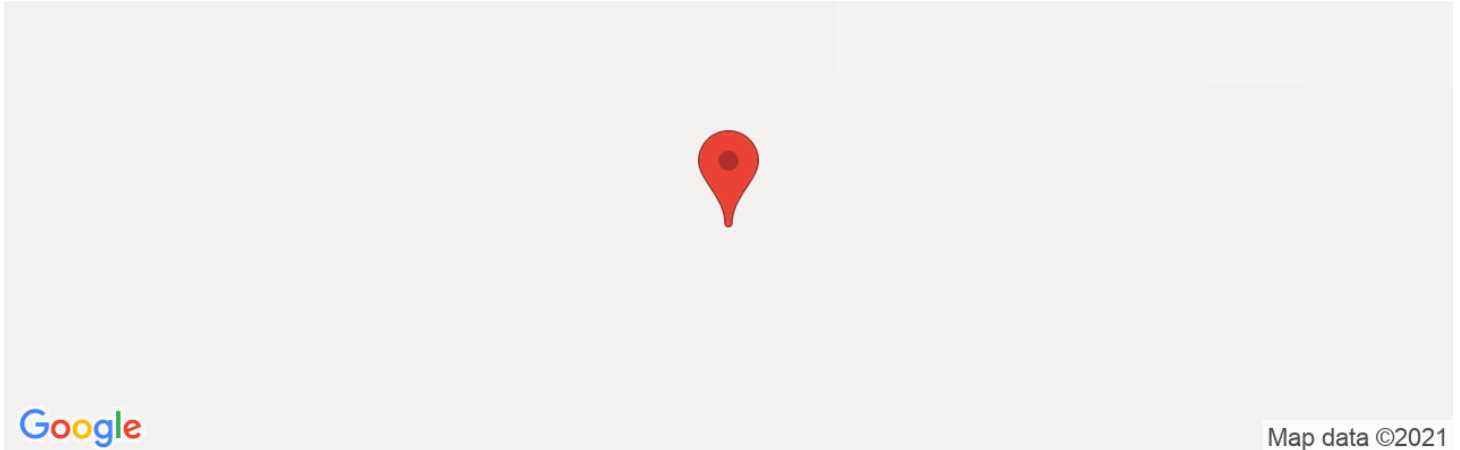
APPENDIX B

Seismic Design Parameters
Custom Soil Resource Report for Shelby County, Indiana



21IN0268

Latitude, Longitude: 39.53434665, -85.79527966



Date	4/21/2021, 3:57:54 PM
Design Code Reference Document	IBC-2015
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	0.155	MCE_R ground motion. (for 0.2 second period)
S_1	0.085	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.186	Site-modified spectral acceleration value
S_{M1}	0.145	Site-modified spectral acceleration value
S_{DS}	0.124	Numeric seismic design value at 0.2 second SA
S_{D1}	0.097	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	B	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.7	Site amplification factor at 1.0 second
PGA	0.071	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.085	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
$SsRT$	0.155	Probabilistic risk-targeted ground motion. (0.2 second)
$SsUH$	0.17	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
$S1RT$	0.085	Probabilistic risk-targeted ground motion. (1.0 second)
$S1UH$	0.099	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
$S1D$	0.6	Factored deterministic acceleration value. (1.0 second)
$PGAd$	0.6	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.909	Mapped value of the risk coefficient at short periods
C_{R1}	0.867	Mapped value of the risk coefficient at a period of 1 s

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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Shelby County, Indiana**

21IN0268



April 2, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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HeE—Hennepin loam, 18 to 25 percent slopes.....	14
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:2,020 if printed on A portrait (8.5" x 11") sheet.

0 25 50 100 150 Meters

0 50 100 200 300 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shelby County, Indiana
Survey Area Data: Version 24, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 17, 2019—Oct 20, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CrA	Crosby silt loam, New Castle Till Plain, 0 to 2 percent slopes	13.6	95.9%
HeE	Hennepin loam, 18 to 25 percent slopes	0.6	4.1%
Totals for Area of Interest		14.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Shelby County, Indiana

CrA—Crosby silt loam, New Castle Till Plain, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ygkl
Elevation: 640 to 1,190 feet
Mean annual precipitation: 37 to 46 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 145 to 180 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Crosby and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosby

Setting

Landform: Water-lain moraines, recessional moraines, ground moraines
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty material or loess over loamy till

Typical profile

Ap - 0 to 8 inches: silt loam
BE - 8 to 11 inches: silt loam
Bt - 11 to 14 inches: silt loam
2Bt - 14 to 28 inches: silty clay
2BCt - 28 to 36 inches: loam
2Cd - 36 to 79 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 24 to 40 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high
(0.01 to 0.20 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 46 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F111AY008IN - Wet Till Ridge
Hydric soil rating: No

Minor Components

Williamstown, eroded

Percent of map unit: 5 percent
Landform: Water-lain moraines, recessional moraines, ground moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Nose slope, head slope, crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Ecological site: F111AY009IN - Till Ridge
Hydric soil rating: No

Del rey

Percent of map unit: 5 percent
Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F111AY012IN - Lacustrine Forest
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Miamian, eroded

Percent of map unit: 5 percent
Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F111AY009IN - Till Ridge
Other vegetative classification: Trees/Timber (Woody Vegetation)
Hydric soil rating: No

Treaty, drained

Percent of map unit: 5 percent
Landform: Swales, water-lain moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F111AY007IN - Till Depression Flatwood
Hydric soil rating: Yes

HeE—Hennepin loam, 18 to 25 percent slopes

Map Unit Setting

National map unit symbol: 5d7l
Elevation: 680 to 1,250 feet
Mean annual precipitation: 36 to 42 inches
Mean annual air temperature: 49 to 53 degrees F
Frost-free period: 175 to 185 days

Custom Soil Resource Report

Farmland classification: Not prime farmland

Map Unit Composition

Hennepin and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hennepin

Setting

Landform: Till plains, moraines

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy till

Typical profile

A - 0 to 4 inches: loam

B - 4 to 10 inches: clay loam

C - 10 to 60 inches: loam

Properties and qualities

Slope: 18 to 25 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.02 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Available water capacity: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F111AY009IN - Till Ridge

Other vegetative classification: Trees/Timber (Woody Vegetation)

Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

March 4, 2022

Craig W. Rapp, AIA
Craig W. Rapp Associates, LLC
118 West Saint Clair Street
Indianapolis, IN 46204

Trinity Alloys, L.L.C.
Shelbyville, Indiana
Code Summary



BUILDING CODES



FIRE PROTECTION



JCAHO/CMS/HFAP

Dear Mr. Rapp,

The following is the suggested code summary for the drawings received February 24, 2022. The summary is primarily based on the 2014 edition of the Indiana Building Code (IBC). Our review comments and summary do not include functional design criteria such as pipe, duct, or electrical wire sizes, etc.; system capabilities, ADA requirements, structural design requirements or other systems or features not generally covered in chapters 3 through 10 of the IBC.

Applicable Code:	2014 Indiana Building Code (IBC)* 2014 Indiana Fire Code (IFC) 2009 Indiana Electrical Code (IEC) 2014 Indiana Mechanical Code (IMC) 2012 Indiana Plumbing Code (IPC) 2010 Indiana Energy Conservation Code (IECC) *Code referenced unless otherwise noted
Scope of Work:	The project involves a new 1-story metal recycling facility.
Occupancy Classifications:	Offices and rooms or spaces used for assembly purposes that are less than 750 square feet in area or have a calculated occupant load less than 50 - less than 10% accessory occupancy - B Occupancy [304.1, 303.1.2 1 & 2, 508.2] Processing of recyclable non-combustible materials - F-2 Occupancy [306.3] Storage of recyclable non-combustible materials - S-2 Occupancy [311.3]
Construction Type:	Any construction type permitted based upon complying with Section 507.2 for 1-story unlimited area buildings of Group F-2 and S-2 Occupancy. [507.2]
Allowable Area:	Unlimited area based upon having at least 60 feet of open space on all sides of the building measured to property lines or the opposite side of a public way. [507.2]
Allowable Height:	1-story and 40 feet based upon complying with Section 507.2
Building Elements - Fire-resistive Requirements:	Structural frame, interior walls, floor assemblies, and roof assemblies are permitted to be of any construction type. [507.2]
Occupancy Separations:	None required. Occupancy separations not required for accessory uses that do not occupy more than 10% of the building area. F-2 and S-2 Occupancies comply as non-separated mixed uses. [508.2, 507.2]
Occupant Load Factors:	Industrial Areas: 100 sq.ft./occ. Storage: 300 sq.ft./occ. Unconcentrated Assembly: 15 sq.ft./occ. Business Areas: 100 sq.ft./occ. [Table 1004.1.2]

Doors:	<p>A minimum net clear opening of 32 inches required, except for storage closets less than 10 sf in area. A single door leaf must not exceed 48 inches. [1008.1.1]</p> <p>Egress doors must swing in the direction of egress when serving 50 or more occupants. Egress doors are required to be side-hinged swinging type, except for office and storage areas with an occupant load of less than 10. Manually operated horizontal sliding doors permitted from rooms with an occupant load that does not exceed 10. [1008.1.2]</p> <p>Panic hardware is not required for F and S Occupancies. [1008.1.10]</p>
Means of Egress:	<p>2 means of egress are required from a room or space when the occupant load exceeds 49 for B and F Occupancies and 29 for S Occupancies or where the common path of travel exceeds 75 feet. [Table 1015.1, 1014.3]</p>
Minimum Number of Exits:	<p>2 exits are required from each story with an occupant load of 1-500 [1021.2]</p>
Arrangement of Exits:	<p>When two exits or exit access doorways are required, they must be separated by at least one-half of the overall diagonal dimension of the area served. [1015.2.2]</p>
Exit Travel Distance:	<p>Travel distance to an exit from any point must not exceed 200 feet for B Occupancies and 300 feet for F-2 and S-2 Occupancies. [Table 1016.2]</p>
Emergency and Egress Lighting:	<p>Exit signs required to indicate the direction of egress travel for rooms and areas that require more than one exit access. [1011.1]</p> <p>Emergency lighting is required in all rooms, and spaces that require more than one means of egress or exit. Also required at exterior landings at exits where a building is required to have two or more exits. [1006.3]</p>
Automatic Sprinklers:	<p>Automatic sprinklers are not required for F-2 and S-2 Occupancies.</p>
Fire Alarm System:	<p>A fire alarm system is not required based upon the building being 1-story. [907.2.4]</p>
Automatic Fire Detection:	<p>Required in the return-air systems delivering in excess of 2000 cfm. [606, IMC]</p>

If you have any additional questions, or need additional information, please call.

Very Truly Yours,

RTM Consultants, Inc.



Melissa M. Tupper, P.E.
Principal
Fire Protection Engineer



Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2007) Standard
Project Title: TRINITY ALLOYS, L.L.C.
Project Type: New Construction



Construction Site:
ENTERPRISE DRIVE
SHELBYVILLE, Indiana 46176

Owner/Agent:

Designer/Contractor:
Jeffrey Perkey
GOODERUM & ASSOCIATES
ENGINEERING
874 Cheltenham Way
Avon, Illinois 46123
574-527-4845
jeff@gnaengineering.com

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts
1-Warehouse	59000	0.80	47200
Total Allowed Watts =			47200

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Warehouse				
H1: Other:	1	69	180	12420
L1: Other:	1	18	48	864
L2: Other:	1	7	53	371
LED: Other:	1	2	27	54
Total Proposed Watts =				13709

Interior Lighting PASSES: Design 71% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2007) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jeffrey Perkey - Engineer

Name - Title

Signature

03-21-2022

Date



Exterior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2007) Standard
Project Title: TRINITY ALLOYS, L.L.C.
Project Type: New Construction



Construction Site:
ENTERPRISE DRIVE
SHELBYVILLE, Indiana 46176

Owner/Agent:

Designer/Contractor:
Jeffrey Perkey
GOODERUM & ASSOCIATES
ENGINEERING
874 Cheltenham Way
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jeff@gnaengineering.com

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Parking area(s)	319000 ft ²	0.15	Yes	47850
Total Tradable Watts (a) =				47850
Total Allowed Watts =				47850
Total Allowed Supplemental Watts (b) =				2392

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.

(b) A supplemental allowance equal to 2392 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
<u>Parking area(s) (319000 ft²): Tradable Wattage</u>				
S1: Other:	1	12	154	1848
S2: Other:	1	9	174	1566
S3: Other:	1	1	256	256
Total Tradable Proposed Watts =				3670

Exterior Lighting PASSES: Design 93% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 90.1 (2007) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jeffrey Perkey - Engineer
Name - Title

Signature

03-21-2022
Date



COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code: 90.1 (2007) Standard
Project Title: TRINITY ALLOYS, L.L.C.
Location: Shelbyville, Indiana
Climate Zone: 5a
Project Type: New Construction



Construction Site:
ENTERPRISE DRIVE
SHELBYVILLE, Indiana 46176

Owner/Agent:

Designer/Contractor:
Jeffrey Perkey
GOODERUM & ASSOCIATES
ENGINEERING
874 Cheltenham Way
Avon, Illinois 46123
574-527-4845
jeff@gnaengineering.com

Mechanical Systems List

Quantity System Type & Description

- 1 HVAC System (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 100 kBtu/h
Proposed Efficiency = 92.00% Et, Required Efficiency: 80.00 % Et (or 78% AFUE)
Cooling: 1 each - Split System, Capacity = 60 kBtu/h, Air-Cooled Condenser
Proposed Efficiency = 13.00 SEER, Required Efficiency: 13.00 SEER
- 1 HVAC System (Unknown w/ PerimeterSystem):
Heating: 1 each - Unit Heater, Gas, Capacity = 30 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
- 7 HVAC System (Unknown w/ PerimeterSystem):
Heating: 1 each - Unit Heater, Gas, Capacity = 150 kBtu/h
Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
- 1 Water Heater:
Gas Storage Water Heater, Capacity: 50 gallons, Input Rating: 47 kBtu/h
Proposed Efficiency: 0.58 EF, Required Efficiency: 0.58 EF

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2007) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jeffrey Perkey - Engineer
Name - Title

Signature

03-21-2022
Date



Inspection Checklist

Energy Code: 90.1 (2007) Standard

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 6.4.2 [PR2] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 7.4.1 [PR3] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2 [PR4] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.4 [PR5] ¹	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft ² .	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
8.4.1.1, 8.4.1.2 [PR6] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.8 [F09] ³	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
7.4.3 [PL1] ²	Service hot-water piping systems insulated. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.4.1 [PL2] ³	Temperature controls installed on service water heating systems (<=120°F to maximum temperature for intended use).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.6 [PL4] ³	Heat traps installed on non-circulating storage water tanks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

☐ 1 High Impact (Tier 1)
 ☒ 2 Medium Impact (Tier 2)
 ☐ 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4, 6.4.1.5 [ME1] ²	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency: _____	Efficiency: _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
6.4.3.4.1 [ME3] ³	Stair and elevator shaft vents have motorized dampers that automatically close.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.4.3.4.2, 6.4.3.4.3, 6.4.3.4.4 [ME4] ³	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.4.5 [ME5] ³	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.9 [ME6] ¹	Demand control ventilation provided for spaces >500 ft ² and >40 people/1000 ft ² occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.1 [ME7] ³	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8] ²	HVAC ducts and plenums insulated.	R- _____	R- _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9] ²	HVAC piping insulation thickness.	_____ in.	_____ in.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.2.1 [ME10] ²	Ducts and plenums sealed based on static pressure and location.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.2.2 [ME11] ³	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.4.4.2.2 [ME11] ³	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.4.4.2.2 [ME11] ³	Ductwork operating >3 in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

☐ 1 High Impact (Tier 1)
 ☐ 2 Medium Impact (Tier 2)
 ☐ 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.2.3 [ME19] ³	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.4.1 [ME25] ³	HVAC pumping systems >10 hp designed for variable fluid flow.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.6.1 [ME30] ¹	Exhaust air energy recovery on systems >=5,000 cfm and 70% of design supply air.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.7.1 [ME32] ²	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.7.2 [ME33] ¹	Fume hoods exhaust systems >=15,000 cfm have VAV hood exhaust and supply systems, direct make-up air or heat recovery.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.5.8.1 [ME34] ³	Unenclosed spaces that are heated use only radiant heat.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.9 [ME35] ¹	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.2 [ME36] ²	Service water heating equipment meets efficiency requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
9.4.1.1 [EL1] ²	Automatic controls to shut off all building lighting installed in buildings >5,000 ft ² .	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.2 [EL2] ²	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.3 [EL3] ²	Automatic lighting controls for exterior lighting installed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.4 [EL4] ¹	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.2 [EL5] ³	Ballasted one and three lamp fixtures with >30 W/lamp have two lamp tandem wired ballasts when >=2 fixtures in same space on same control.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.3 [EL6] ¹	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.4 [EL7] ¹	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion sensor or fixture is exempt from scope of code or from external LPD.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.6.2 [EL8] ¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
10.4.1 [EL9] ²	Electric motors meet requirements where applicable.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.1 [FI2] ²	Heating and cooling to each zone is controlled by a thermostat control.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.1.2, 6.4.3.2, 6.4.3.3, 6.4.3.3.1, 6.4.3.3.2 [FI3] ²	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.7 [FI6] ³	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.1 [FI7] ³	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.2 [FI8] ³	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.3 [FI9] ¹	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
6.7.2.4 [FI10] ¹	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.4.3 [FI11] ³	Public lavatory faucet water temperature ≤110°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
8.7.1 [FI16] ³	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
8.7.2 [FI17] ³	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.2.2.3 [FI18] ¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
9.4.5 [FI19] ¹	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.2 [FI20] ¹	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.1 [FI21] ¹	HVAC systems equipped with at least one automatic shutdown control.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.2 [FI22] ¹	Setback controls allow automatic restart and temporary operation as required for maintenance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

☐ 1 High Impact (Tier 1)
 ☒ 2 Medium Impact (Tier 2)
 ☐ 3 Low Impact (Tier 3)