

**MARSHALL CITY PLANNING COMMISSION**  
**Wednesday, November 10, 2021 at 7:00 p.m.**  
**City Hall, Council Chambers, 323 W. Michigan Ave., Marshall, MI**

**Call to Order**

**Roll Call**

**Approval of Agenda**

Regular Meeting of the Planning Commission, November 10, 2021

**Approval of Minutes**

Minutes from October 13, 2021

**Public Comments on Agenda Items**

**Public Hearings**

1. Public Hearing on Zoning Ordinance Amendment to repeal "Hoop Houses" and to prohibit such use

**New Business**

1. Recommendation on Zoning Ordinance Amendment to repeal "Hoop Houses" and to prohibit such use
2. Receive and consider approval of Site Plan Application #SP21.03 for 11301 Old US 27 S from the City of Marshall for the Brooks Substation
3. Approve Planning Commission Meeting Dates and Submission Deadlines for 2022.
4. Election of Officers for 2022
5. Joint Planning Commission Membership

**Old Business**

**Public Comment on Non-Agenda Items**

**Reports**

**Adjournment**

**MINUTES  
MARSHALL CITY PLANNING COMMISSION  
WEDNESDAY, OCTOBER 13, 2021**

In a regular session, Wednesday, October 13, 2021 at 7:00 p.m. at City Hall, Council Chambers, 323 West Michigan Avenue, Marshall, Michigan, the Marshall Planning Commission was called to order by Chair Banfield.

**ROLL CALL**

Members Present: Chair Banfield, Commissioners Burke Smith, McNiff, Reed, Zuck, and C. Zuzga and Council Liaison Wolfersberger

Members Absent: Commissioner Hall

Staff Present: Trisha Nelson, City Clerk & Planner

**AGENDA**

**MOTION** by Zuck, supported by Burke Smith, to accept the agenda for the Wednesday, October 13, 2021 as submitted. On voice vote; **MOTION CARRIED.**

**MINUTES**

**MOTION** by C Zuzga, supported by McNiff, to accept the minutes from the September 8, 2021 Meeting. On voice vote; **MOTION CARRIED.**

**PUBLIC COMMENTS ON AGENDA ITEMS**

None

**PUBLIC HEARINGS**

None.

**NEW BUSINESS**

**MOTION** by Zuck, supported by Burke-Smith, to schedule a public hearing for November 10, 2021 for a Zoning Ordinance Amendment to repeal "Hoop Houses" and to prohibit such use. On voice vote; **MOTION CARRIED.**

Staff commented that Attorney Revore will be present at the next meeting to answer any questions regarding the ordinance change.

**OLD BUSINESS**

None

**PUBLIC COMMENTS NOT ON AGENDA**

None

**REPORTS**

None

**ADJOURN**

Planning Commission adjourned at 7:25 p.m.

Submitted by,

Trisha Nelson

**MARSHALL PLANNING COMMISSION**  
Staff report for November 10, 2021

**To:** Planning Commissioners  
**From:** Trisha Nelson, Planning and Zoning Administrator  
**Subject:** Zoning Ordinance Text Amendment to repeal Hoop Houses

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Planning Commission is being presented with the attached ordinance from Attorney Revore to repeal "Hoop Houses" and to prohibit such use.

The ordinance introducing the use of hoop houses in the city was brought to Planning Commission on October 14, 2020 and a public hearing was held on November 11, 2020.

After receiving further complaints regarding marihuana odors and review of the Hoop House building and structural materials being temporary, thinly constructed, and translucent, such may likely exacerbate an unreasonable marihuana odor situation. Also, given the fact that Hoop Houses may occupy significant land acreage that will result in reduced land use development and reduced taxable values. City Staff recommend the amendment to the Zoning Ordinance to repeal of "Hoop Houses" and such uses."

Planning Commission is being asked to formulate a recommendation for City Council to consider at their meeting on December 6, 2021.

CITY OF MARSHALL, MICHIGAN

ORDINANCE #2021-\_\_\_

AN ORDINANCE TO AMEND THE CITY OF MARSHALL ZONING CODE, TO REPEAL CERTAIN SECTIONS OF ORDINANCE NO. 2020-14; TO AMEND CHAPTER 2.0, DEFINITIONS, SECTION 2.2, AND CHAPTER 4.0 USE STANDARDS, SECTION 4.16, COMMERCIAL GREENHOUSES, NURSERIES AND GARDEN CENTERS. REPEAL ANY ORDINANCES IN CONFLICT THEREOF; AND TO PROVIDE AN EFFECTIVE DATE HEREOF.

THE CITY OF MARSHALL, CALHOUN COUNTY, HEREBY ORDAINS:

**Section 1. Purpose.** The purpose of this Ordinance is to amend the City Zoning Ordinance and Ordinance No. 2020-14 to repeal “Hoop Houses” and delete all such use reference thereto, and to prohibit such “Hoop House” use within the City limits of the City of Marshall and on property that the City controls under an interlocal governmental agreement.

It is the intent of this Ordinance to provide for the health, safety and welfare of the citizens of Marshall so that quality of life is not impaired, neighborhood character is preserved, and positive planned land use developed.

**Section 2. “Hoop House” and Hoop House Use Repealed; Hoop Houses Prohibited.** The City Zoning Ordinance and its amending ordinances are hereby and shall be amended to repeal “Hoop Houses” and to prohibit such “Hoop House” use within the City limits of the City of Marshall and on property that the City controls under an interlocal governmental agreement.

**Section 3.** That Chapter 2.0, Definitions of the Marshall City Zoning Code, Section 2.2 “Definitions”, is hereby and shall be amended as follows:

**Hoop House.** A temporary structure used exclusively for the production and storage of live plants, with no permanent anchoring system or foundation; no storage, temporary or otherwise, of solvents, fertilizers, gases or other chemicals or flammable materials; built according to manufacturer recommendations; no more than 18 feet maximum height. **Notwithstanding this definition, Hoop Houses and such use are prohibited within the City limits of the City of Marshall and prohibited on property that the City controls under an interlocal governmental agreement.**

**Section 4.** That Chapter 3.0, Zoning Districts of the Marshall City Zoning Code, Section 3.1.12 “I-1 Research and Technical District”, is hereby and shall be amended to delete “hoop houses” from Chapter 3.0, Zoning Districts of the Marshall City Zoning Code, Section 3.1.12 “I-1 Research and Technical District” as follows:

- v. Commercial greenhouses, ~~hoop houses~~, nurseries, and garden centers.

**Section 5. That Chapter 4.0 Use Standards of the Marshall City Zoning Code, Section 4.16 “Commercial Greenhouses, Nurseries and Garden Centers”, is hereby and shall be amended to delete “Hoop Houses” and such use and reference from Chapter 4.0 Use Standards of the Marshall City Zoning Code, Section 4.16 as follows:**

~~Hoop Houses and Commercial Greenhouses for marihuana cultivation are permitted as special land uses in the I-1 district with no limits on square footage.~~

~~1. Hoop House. The following shall apply:~~

~~A. Setbacks shall be 1500 feet from any residential structure, 250 feet from the road right of way centerline, and 50 feet from any rear or side property line.~~

~~B. Limited duration not to exceed three (3) years.~~

~~C. If a Hoop House contains any device subject to the electrical code or any mechanical equipment subject to the mechanical code, a permit shall be required for the device, system or fixture only. If the hoop house is connected to a potable water system, a permit shall be required for the backflow prevention devices only.~~

2. Commercial Greenhouse. The following shall apply:

A. Setbacks shall be required under Section 3.1.12(D).

3. ~~Hoop House and~~ Commercial Greenhouse cultivation of marihuana. The following shall apply:

A. Comply with applicable LARA/MRA rules and regulations, City ordinances and City Zoning Ordinance.

B. Subject to a Special Land Use permit under Section 6.2, permit and for special conditions as may be necessary based upon the uniqueness of the property, subject to a public hearing, review and recommendation by the Planning Commission, and approval by the City Council in accordance with the procedures and conditions specified in Section 6.2. of the Zoning Ordinance. A Special land Use permit may be revoked or rescinded by the City Council for violation of the SUP, City ordinance, Zoning Ordinance, or state law and regulations, after notice to the SUP holder and hearing.

C. As permitted in this section, the area containing the cultivation of marihuana plants must be completely confined and enclosed in a ~~Hoop House or~~ Commercial Greenhouse made of durable construction to

include metal framing materials and durable ~~translucent material on all sides and top of a Hoop House, or glass,~~ **building materials that may include** glass-like or translucent material on all sides and top of a Commercial Greenhouse. ~~Hoop Houses and~~ Commercial Greenhouses may not exceed 18 feet maximum height.

- D. ~~Hoop Houses and~~ Commercial Greenhouses must be located on the parcel of the grower establishment or facility, fully enclosed by property security fencing. Security fencing must be at a minimum of eight (8) feet in height.
- E. Site Plan approval. ~~Hoop Houses and~~ Commercial Greenhouses are subject to site plan review and must receive approval.
- F. Screening shall comply with Section 5.15.8, and also include the means, including walls and plantings, to accomplish complete visual screening from the road right-of-way and adjacent property. ~~Hoop Houses and~~ Commercial Greenhouses must have greenbelt barriers that block outside visibility of the marihuana plants from the public view, with no marihuana plants growing outside the top of the ~~Hoop House or~~ Commercial Greenhouse nor above the fence and barrier that is visible to the public eye and the fences must be secured and comply with the applicable security measures in City ordinances and LARA/MRA rules and regulations, including but not limited to, locked entries only accessible to authorized persons or emergency personnel.
- G. After the marihuana is harvested, all drying, trimming, curing, or packaging of marihuana must occur inside a permanent building meeting all the requirements of City ordinance, state statute, codes and LARA/MRA rules and regulations.
- H. ~~Hoop Houses and~~ Commercial Greenhouses must meet the security requirements and pass inspections required under City ordinance and LARA/MRA rules and regulations and any necessary building permit pursuant to City ordinance, state statute, code and LARA/MRA rules and regulations.
- I. Odor Control. A grower or a processor shall install and maintain in operable condition a system which precludes the emission of unreasonable marihuana odor from the property.

**Section 6. Severability.** It is the legislative intent of the City adopting this Ordinance that all provisions hereof shall be liberally construed to protect the public health, safety and general welfare of the inhabitants of the City and all other persons affected by this Ordinance. Consequently, should any provision of this Ordinance be held to be unconstitutional, invalid or of no effect, such holding shall not be construed as affecting the validity of any of the remaining

provisions of this Ordinance or Zoning Code, it being the intent of the City Council that this Ordinance shall stand and remain in effect, notwithstanding the invalidity of any provision thereof.

**Section 7. Conflicting Ordinance and Code Provisions Repealed.** Any City of Marshall Ordinance, parts of Ordinances, or any Marshall Code provision in conflict or inconsistent with any of the provisions of this Ordinance shall be and is hereby repealed, and all other provisions of the Marshall Zoning Ordinance shall remain in full force and effect.

**Section 8. Savings.** All proceedings pending and all rights and liabilities existing, acquired or incurred at the time this Ordinance takes effect are saved and may be consummated according to the law in force when they were commenced.

**Section 9. Publication.** This Ordinance [or a summary thereof as permitted by MCL 125.3401] shall be published in the *Marshall Advisor*, a newspaper of general circulation in the City of Marshall qualified under state law to publish legal notices. This Ordinance shall be recorded in the Ordinance Book and such recording shall be authenticated by the signatures of the Mayor and the City Clerk.

**Section 10. Code Edits.** That the editors of the Marshall Zoning Code are hereby authorized to update and revise the Marshall Zoning Code to effectuate the provisions of this Ordinance.

**Section 11. Effective Date.** This Ordinance is declared to be effective seven (7) days after publication or as provided by law.

Adopted and signed this \_\_\_\_\_ day of \_\_\_\_\_, 2021.

\_\_\_\_\_  
Joe Caron, MAYOR

\_\_\_\_\_  
Trisha Nelson, CITY CLERK

I, Trisha Nelson, being duly sworn as the City Clerk for the City of Marshall, hereby certify that the foregoing is a true and complete copy of an ordinance approved by the City Council, City of Marshall, County of Calhoun, State of Michigan, at a regular meeting held on \_\_\_\_\_, 2021, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act, being Act 267, Public Acts of Michigan, 1976, and that the minutes of said meeting were kept and will be or have been made available by said Act.

\_\_\_\_\_  
Trisha Nelson, CITY CLERK



## MARSHALL PLANNING COMMISSION

Staff report for November 10, 2021

**To:** Planning Commissioners  
**From:** Trisha Nelson, Planning and Zoning Administrator  
**Subject:** Site Plan #SP21.03 for Brooks Industrial Substation at 11301 Old US 27 N

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**Case #:** Site Plan #SP21.03  
**Zoning District:** I-1 Research and Technology  
**Adjacent Zoning:** Surrounded by I-1, except B-2 to the North  
**Parcel:** 53-003-150-01

City Staff has been working with GRP Engineering of Grand Rapids and Petoskey on the planning and preliminary development of the Brooks Industrial Substation. The substation will be located on Old US 27/M 227/ South Kalamazoo Avenue, south of the Sand Hill Restaurant.

This new substation is needed to supply electrical power to the new industries in the Brooks Industrial Park. This substation will also supply power to the current industrial customers and the Lyon Lake area. The International Transmission Company will be building a 3.5-mile 138,000-volt line to supply the substation. The new substation will add reliability to the area electric needs. It is planned for this new substation to be complete by October of 2022. City crews will then install twelve new distribution feeds for the area.

Staff received the site plan application on October 18, 2021. In the I-1 Zoning District, substations are a principal permitted use. Planning Commission is being asked to receive and consider recommendation of the submitted plan at the same meeting.





CITY OF MARSHALL

SITE PLAN  
APPLICATION

**City of Marshall**  
**Application for Site Plan Review**

Attn: Planning and Zoning Administrator  
323 W Michigan Ave.  
Marshall, Michigan, 49068

The following application is made to the City of Marshall Planning Commission in accordance with the provisions of the Planning and Zoning Department.

**1. Applicant Information**

Address of property being developed:

11301 OLD US-27 SOUTH aka 11301 M227

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Owner of property being developed:

CITY OF MARSHALL

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Owner's Address:

323 W. MICHIGAN AVE, MARSHALL, MI 49068

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City

State

Zip

Owner's Phone Number:

269-781-5183

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**2. Owner's Agent if working for property owner.**

Name and Title:

TRACY HUTCHINSON, CIVIL PROJECT MANAGER, @ DRIESENKA & ASSOCIATES &  
MICHAEL MCGEEHAN FOR GRP ENGINEERING INC.

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Address:

DRIESENKA & ASSOCIATES: 4398 ROGER B. CHAFFE BLVD, GRAND RAPIDS, MI 49548  
GRP ENGINEERING: 459 BAY STREET, PETOSKY, MI 49770

City

State

Zip

Phone Number:

DRIESENKA & ASSOCIATES: 616-249-3800

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**City of Marshall**  
**Application for Site Plan Review**

**3. Brief description of proposed project**

- CONSTRUCT BROOKS SUBSTATION INCLUDING: SITE ACCESS DRIVES AND GRAVEL SURFACES FOR ELECTRICAL SUBSTATION EQUIPMENT, FENCING, AND INFRASTRUCTURE FOR STORM WATER MANAGEMENT.

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**4. Property Information**

Is this property located in a floodplain?	<u>NO</u>
Is this property located in a wetland?	<u>NO</u>
Land area in square feet?	<u>799,269 SFT</u>
Proposed building area in square feet?	<u>NONE</u>
Proposed paved area in square feet?	<u>270,0072 SFT</u>
Existing paved area in square feet?	<u>NONE</u>
Lake or stream within 500 feet?	<u>NONE</u>

Any other agencies contacted for approvals?

If so, please list:

- MDOT ; access drive, pending preliminary review, submitted 10/07/2021

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**City of Marshall**  
**Application for Site Plan Review**

**5. Authorization (Must be signed by the owner of the property)**

I am the owner of record for this property for which this application is being filed and as such, I am familiar with the development being proposed to be carried out on my property.

I hereby, give permission for this application to be filed with the full understanding that certain restriction may be placed on the property relative to the approval of the proposed work.

I further certify that under penalties of perjury, I am to sign this application.

Name (Please Print) Thomas Tankiewicz

Title: City Manager Date: 10/18/21

Signature: 

**Note:** If there are multiple owners of the property or you are representing a group, corporation, or other organization attach a copy of a certified letter authorizing you to sign this application for the proposed development.

LAND USE AND DEVELOPMENT FEES	
<b>PLATS</b>	
Up to 30 Lots	\$450.00
Over 30 Lots	\$650.00
<b>SITE CONDOMINIUMS</b>	
Up to 30 Lots	\$350.00
Over 30 Lots	\$550.00
<b>SITE PLANS</b>	
Commercial and Institutional	\$250.00 < 30 acres
Special Land Use	\$250.00
Planned Unit Development	\$350.00
Amend a PUD	\$150.00
Multiple Family Developments (Apartment & Additions to existing Site Plans if Planning Commission Review is required	\$50 plus \$5.00 per unit or lot \$100.00
Extending Site Plan with Planning Commission	\$150.00

# CITY OF MARSHALL

## Site Plan Review Checklist for General Development

Date: 10-18-2021

Zoning District I-1 RESEARCH & TECHNICAL

Proposed Use: ELECTRICAL SUBSTATION

Is this a Permitted Use?  Yes  No  
If yes list section number: 3.1.12.B.IX

Is the property in the Well Head Protection Area?  Yes  No  NA

Property Address: \_\_\_\_\_

### Information of Responsible Party that prepared plans

Name: TRACY HUTCHINSON, P.E.

Company Name: DRIESENKA & ASSOCIATES, INC

Company Address: 4398 ROGER B. CHAFFE BLVD,  
GRAND RAPIDS, MI 49548

\_\_\_\_\_

\_\_\_\_\_

# CITY OF MARSHALL

Zoning Ordinance, Article 6: Development Procedures: Section 6:3 - Site Plan Review is needed when:

(A) - Any use or development stipulated elsewhere in the ordinance.

(B) - All uses subject to land approval.

(C) - Any areas for which off-street parking is required except for single- and two-family dwellings on a single lot.

(D) - All permitted use, new construction, or any change of use lying contiguous to or across the street from a residential district.

(E) - All residentially related uses permitted in a one-family district such as, but not limited to, institutional uses, churches, or public facilities.

(F) - Any new use, addition or accessory structure that requires additional off-street parking to that already provided.

(G) - Site plans for subdivisions and site condo developments.

(H) - All uses not otherwise included within a specific use district.

(I) - Any use for which the zoning administrator determines that PC review is necessary to determine compliance with the zoning ordinance.

(J) - Amendments to approve site plans, except that the City Manager may approve minor modifications.

**Note: Staff will review all plans prior to submitting them to Planning Commission.**

**Development Procedures: 6.3 – Site Plan Review: The following information should be included in your site plan:**

Plans submitted for site plan review shall be stamped by a design professional licensed by the State of Michigan such as a landscape architect, architect, or civil engineer.

Site plans shall be drawn to an engineer's scale appropriate for a sheet size of at least 24 by 36 inches, not to exceed one (1) inch equals 50 feet. If a large development must be depicted in sections on multiple sheets, then an overall composite sheet shall be provided.

Date, north arrow scale, existing zoning, zoning of adjacent properties, legal description of the property, easements, and the names and addresses of the

## CITY OF MARSHALL

architect, planner, designer, or civil engineer responsible for the preparation of the site plan.



The dimensions of all lot and property lines, showing the relationship of the subject property to abutting properties and a boundary survey of the parcel.



The location, height and dimensions of all existing and proposed structures on the subject property and all existing structures within 100 feet of the subject property.



A finished floor elevation and exterior building elevation drawing shall be submitted with the site plan.



The location of all existing and proposed drives, walks and parking areas.



The location and right-of-way widths of all abutting streets and alleys.



The location and size of all existing and proposed sanitary sewer lines, water lines, and storm drainage facilities must be shown.



The location and size of all existing and proposed electric, natural gas, telephone, cable TV and solid waste disposal facilities must be shown.



The location, height area of illumination and fixture details of all existing and proposed lighting shall be provided. All lighting shall be located and oriented to have a minimal impact on adjacent properties.



The size, height, location and illumination of all existing and proposed signs shall be provided to insure ordinance compliance.



The location of existing natural features such as wooded areas, floodplains, wetlands, drainage courses, and a topographic survey of spot elevations of the site.



Other information as requested by the Zoning Administrator or Planning Commission to verify that the site and use follow the Ordinance.



The Planning Commission may waive any of the foregoing requirements determined unnecessary for site plan review purposes.

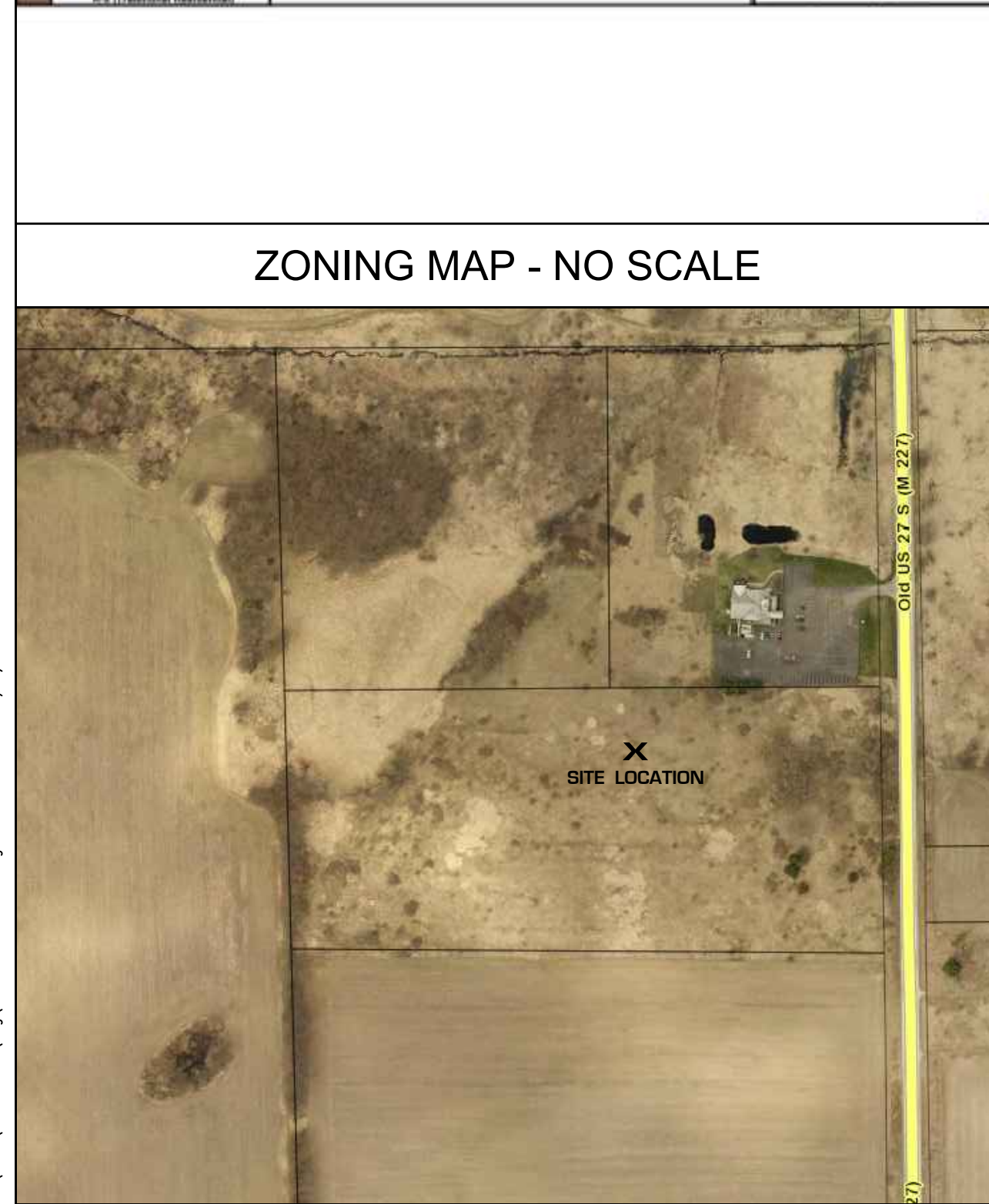
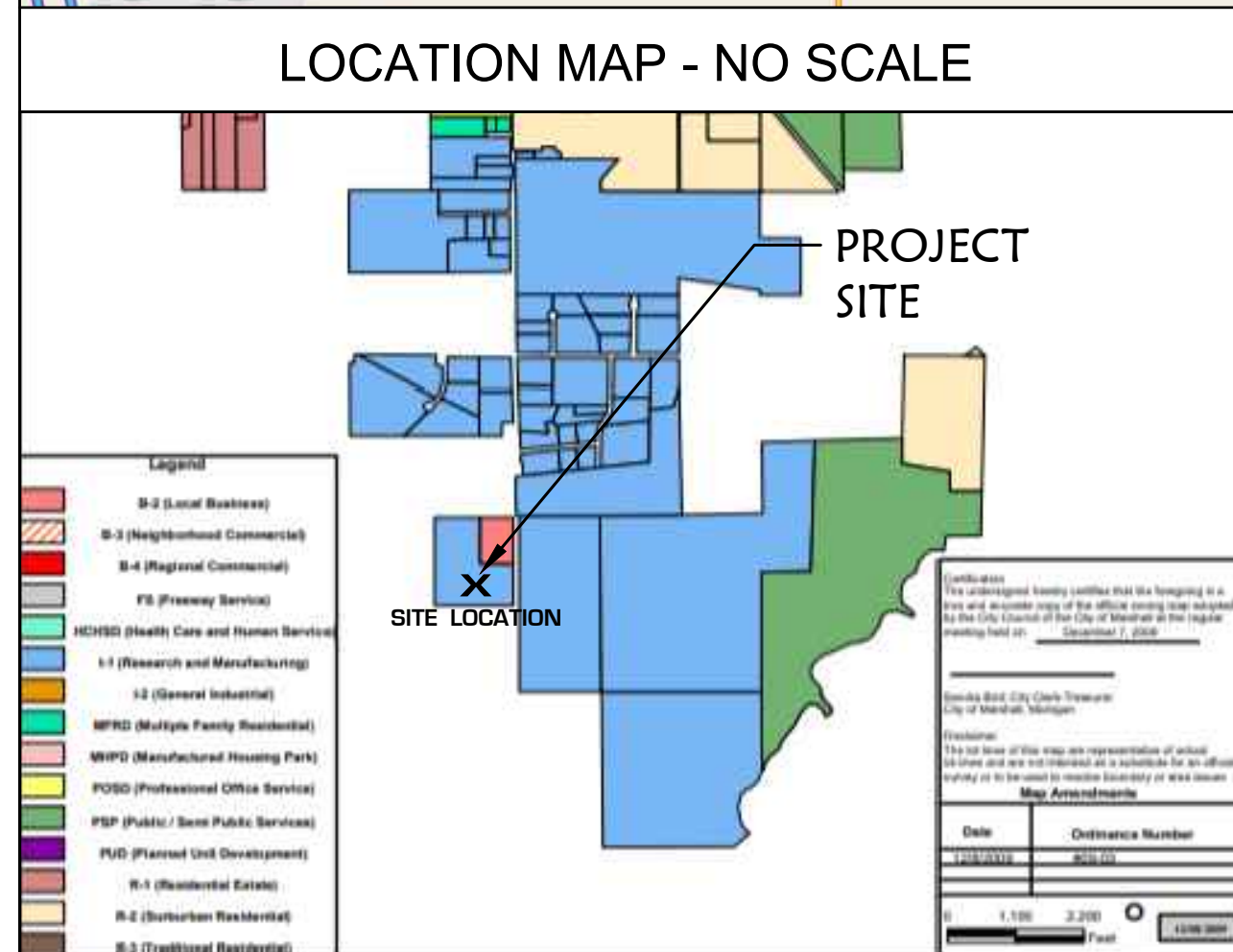
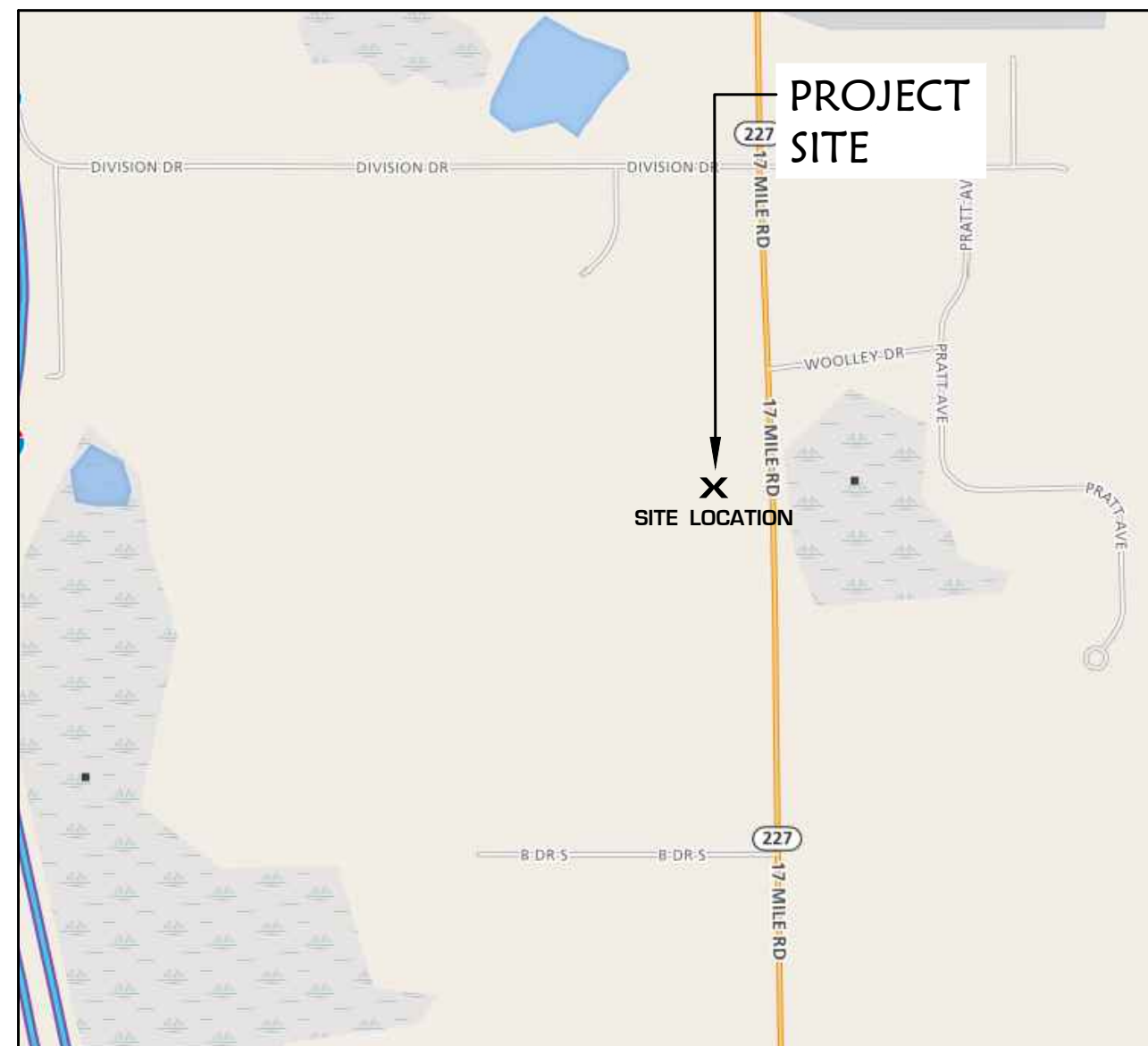


# CITY OF MARSHALL

## PLANNING COMMISSION CONSIDERATIONS

The Planning Commission shall consider the following standards in the process of reviewing any site plan for approval:

1. **Adequacy of information.** The site plan information is complete, accurate, and in an understandable form that accurately depicts and describes the proposed development.
2. **Site appearance and preservation.** The site layout promotes the normal and orderly development of surrounding lots, and the development layout preserves, to the extent feasible, the site's natural, cultural, and historical features, such as but not limited to significant buildings, wetlands, topography, and woodlands.
3. **Pedestrian access.** Existing and proposed sidewalks or pedestrian pathways connect to existing and planned public sidewalks and pathways in the area, and comply with applicable barrier-free access standards.
4. **Vehicular circulation.** Drives, streets, parking, site access and other vehicle-related elements are designed to minimize traffic conflicts on adjacent streets, and to promote safe and efficient traffic circulation.
5. **Parking and loading.** Off-street parking lots and loading areas are arranged and located to accommodate the intensity of proposed uses, minimize conflicts with adjacent uses, and promote shared-use of common facilities where feasible.
6. **Building composition.** Building design and architecture are harmonious with the surrounding neighborhood with regard to scale, mass, proportion, and materials.
7. **Screening.** Adequate screening elements have been provided to buffer or separate unlike or conflicting land uses, and to screen off-street parking, mechanical appurtenances, loading and unloading areas and storage areas from abutting residential districts and street rights-of-way.
8. **Exterior lighting.** All exterior lighting fixtures are designed and arranged to minimize glare and light trespass, prevent vision impairments, and maximize security.
9. **Impact upon public services.** The impact upon public services (including utilities, streets, police and fire protection, emergency access, and public sidewalks and pathways) will not exceed the existing or planned capacity of such services.



# CITY OF MARSHALL BROOKS SUBSTATION

## 11301 OLD US-27 S SECTION 23, T03S, R11W MARSHALL, MICHIGAN 49068

### SHEET INDEX

- G-001 TITLE SHEET
- V-101 EXISTING TOPOGRAPHIC PLAN
- CD-101 CIVIL DEMOLITION PLAN
- C-101 SITE PLAN
- C-102 STORM SEWER PLAN
- C-103 GRADING AND SESC PLAN
- C-400 DRIVE DETAIL
- EX-1 EXHIBIT SHEET

<b>SITE ADDRESS</b>
BROOKS SUBSTATION 11301 OLD US-27 SOUTH MARSHALL, MI 49068
<b>OWNER</b>
CITY OF MARSHALL 323 W. MICHIGAN AVE. MARSHALL, MI 49068 (269) 781-3985 CONTACT erice@cityofmarshall.com
<b>CIVIL ENGINEER</b>
DRIESENGA & ASSOCIATES, INC. 4398 ROGER B CHAFFEE, SUITE 200 GRAND RAPIDS, MICHIGAN 49548 (616) 249-3800 TRACY HUTCHINSON, P.E. tracyh@driesenga.com
<b>GENERAL CONTRACTOR</b>
GRP ENGINEERING INC. 459 BAY STREET PETOSKEY, MI 49770 (231) 439-9683 CONTACT MMcGeehan@grp-engineering.com

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**BROOKS SUBSTATION**  
 11301 OLD US-27 SOUTH  
 SECTION 23, T03S, R11W, CITY OF MARSHALL, CALHOUN CO.  
**CITY OF MARSHALL**  
 323 W. MICHIGAN AVE., MARSHALL, MI 49068

<b>ISSUED FOR:</b>	
1	OWNER REVIEW 11-19-2020 D. TNJ C:TH
2	OWNER REVIEW 04-21-2021 D. TNJ C:TH
3	OWNER REVIEW 10-05-2021 D. TNJ C:TH
4	CITY SITE PLAN REVIEW 10-15-2021 D. TNJ C:TH

Project Manager:  
**TRACY HUTCHINSON**

Project #  
2050065.1A

Sheet Title:  
**TITLE SHEET**

Sheet #  
**G-001**  
1 of 8

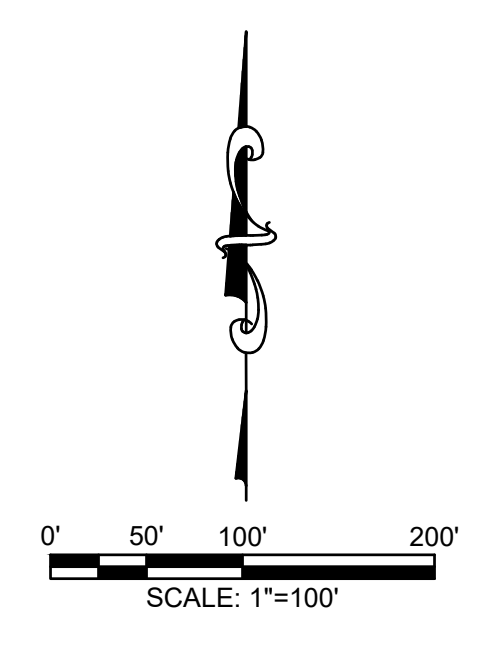
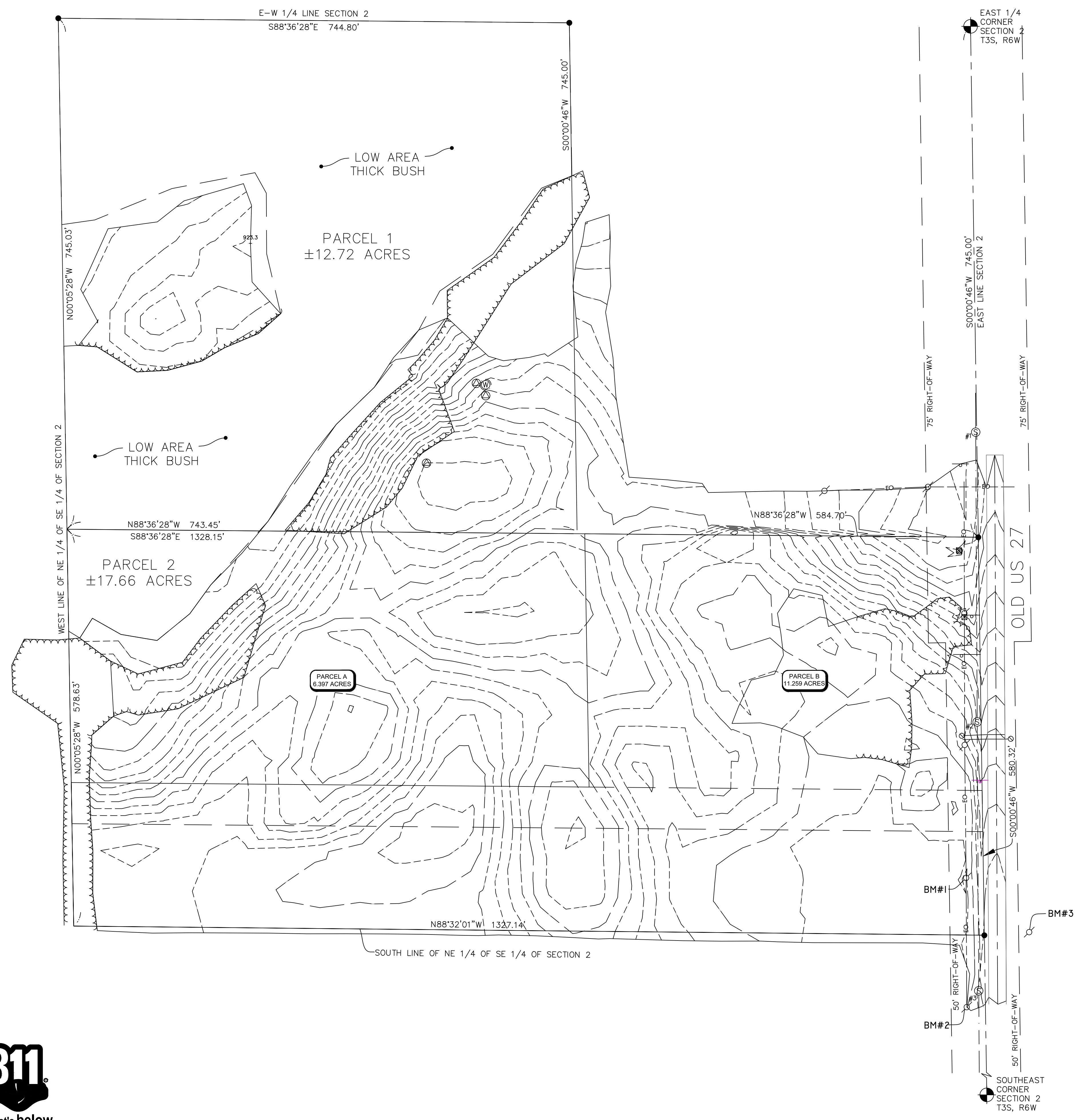


**PRELIMINARY  
FOR APPROVAL**



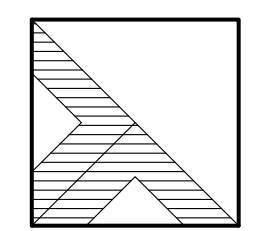
**Know what's below.  
Call before you dig.**

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 Date: 10/14/2021  
 Time: 4:27:50 PM



\* SURVEY WAS NOT PERFORMED BY DRIESENKA & ASSOCIATES

**PRELIMINARY**  
FOR APPROVAL



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Ypsilanti, MI  
734-368-9483

**BROOKS SUBSTATION**  
11301 OLD US-27 SOUTH  
SECTION 23, T03S, R11W, CITY OF MARSHALL, CALHOUN CO.  
**CITY OF MARSHALL**  
FOR  
323 W. MICHIGAN AVE., MARSHALL, MI 49068

ISSUED FOR:

1	OWNER REVIEW	11-19-2020 D. TNJ C:TH
2	OWNER REVIEW	04-21-2021 D. TNJ C:TH
3	OWNER REVIEW	10-05-2021 D. TNJ C:TH
4	CITY SITE PLAN REVIEW	10-15-2021 D. TNJ C:TH

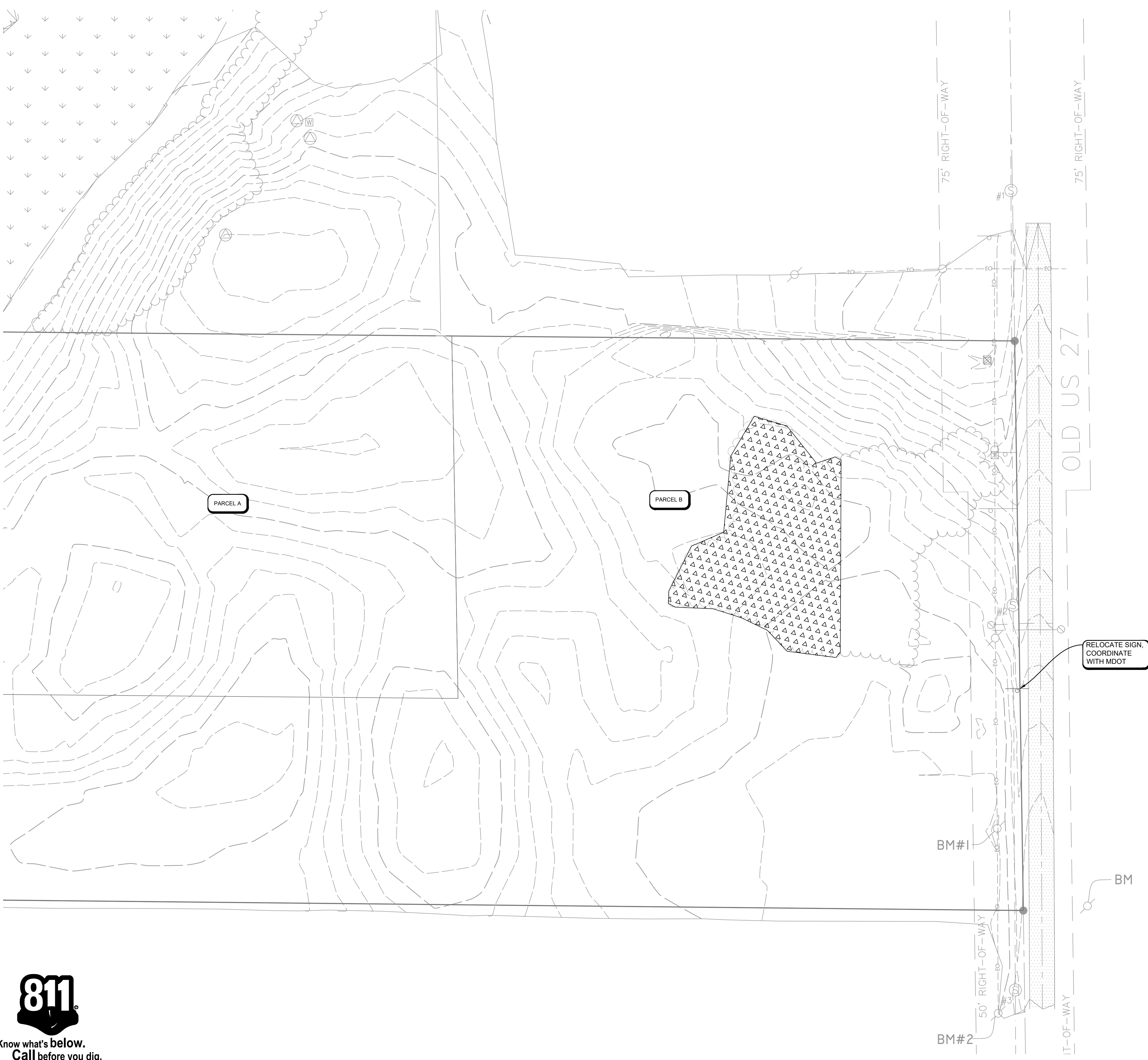
Project Manager:  
**TRACY HUTCHINSON**  
Project #  
2050065.1A  
Sheet Title:

**EXISTING TOPOGRAPHIC PLAN**

Sheet #

**V-101**  
2 of 8

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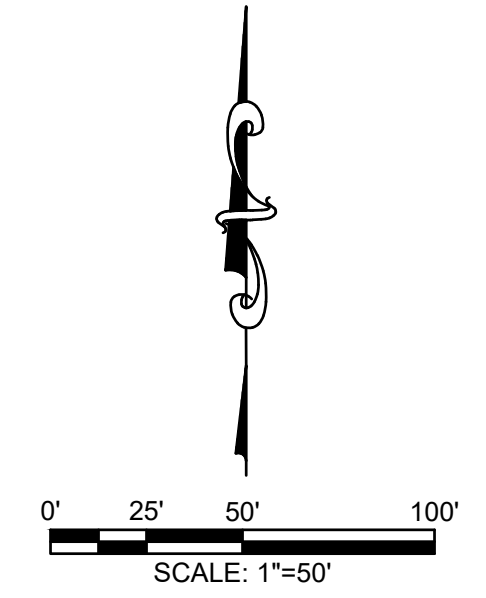
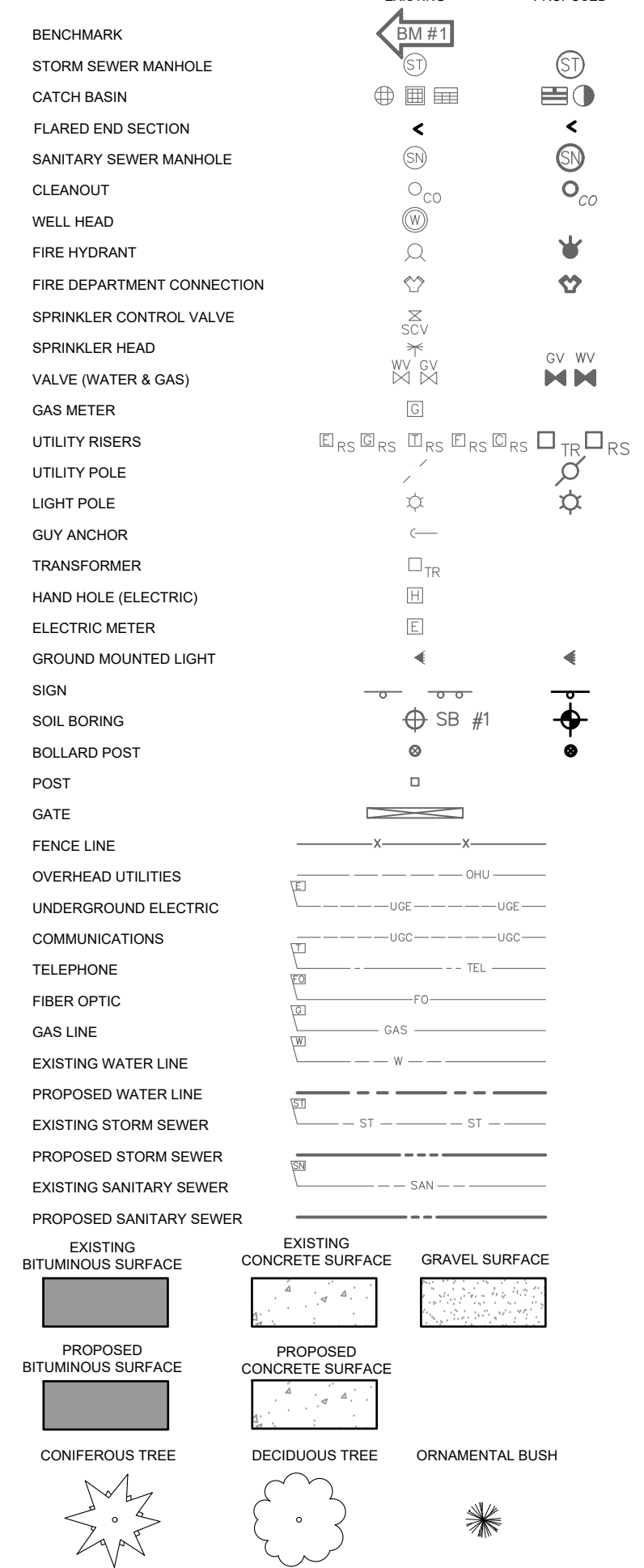
**CLEARING & DEMOLITION NOTES:**

1. REMOVE ALL STRUCTURES, SUPPORT COLUMNS, FOOTINGS, ASPHALT PAVING, CONCRETE CURB, SIDEWALKS, CONCRETE PADS, TREES, STUMPS, HEDGES, UTILITIES, AND OTHER EXISTING SITE FEATURES WITHIN LIMITS OF DEMOLITION. ALL DEMOLITION MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE INDICATED AND DISPOSED OF IN A MANNER ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
2. MOVEMENT OF CLEARED WOOD IS RESTRICTED; REFER TO EMERALD ASH BORER QUARANTINE INFORMATION AT WWW.MICHIGAN.GOV. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL QUARANTINE REQUIREMENTS.
3. CONSTRUCTION FENCE SHALL BE PLACED AT THE DRIP LINE OF ALL TREES WITHIN THE PROJECT AREA THAT ARE INDICATED TO BE PROTECTED. DO NOT OPERATE EQUIPMENT OR STORE MATERIALS OR VEHICLES WITHIN THIS AREA.
4. UNLESS INDICATED TO BE ABANDONED IN PLACE, ALL UTILITIES TO BE DEMOLISHED SHALL BE REMOVED IN THEIR ENTIRETY. UTILITIES TO BE ABANDONED IN PLACE SHALL BE FILLED WITH FLOWABLE FILL AND SECURELY CAPPED.
5. EXCEPT FOR THOSE UTILITIES INDICATED TO BE ABANDONED OR REMOVED, RECONNECT ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION.
6. ALL CATCHBASIN AND MANHOLE FRAMES AND COVERS SPECIFIED TO BE REMOVED SHALL BE SALVAGED, CLEANED AND INSPECTED, AND MAY BE REUSED WITH APPROVAL BY ENGINEER.
7. ANY REMOVAL OF PAVEMENT, SIDEWALK, CURB AND GUTTER OR OTHER HARD SURFACES SHALL BE TO A SAWCUT LINE AT THE NEXT JOINT BEYOND REMOVAL LIMITS SHOWN.
8. DEMOLITION WORK IS INDICATED BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL INSPECT THE SITE AND BE FAMILIAR WITH THE EXTENT OF DEMOLITION WORK REQUIRED.

**REMOVAL LEGEND:**



**LEGEND**



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**BROOKS SUBSTATION**  
 11301 OLD US-27 SOUTH  
 SECTION 23, T03S, R11W, CITY OF MARSHALL, CALHOUN CO.  
**CITY OF MARSHALL**  
 FOR  
 323 W. MICHIGAN AVE., MARSHALL, MI 49068

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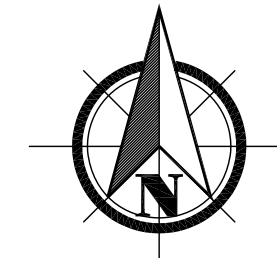
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3	OWNER REVIEW	10-05-2021 D. TNJ C:TH
4	CITY SITE PLAN REVIEW	10-15-2021 D. TNJ C:TH

Project Manager:  
**TRACY HUTCHINSON**  
 Project #  
 2050065.1A  
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**CIVIL DEMOLITION PLAN**

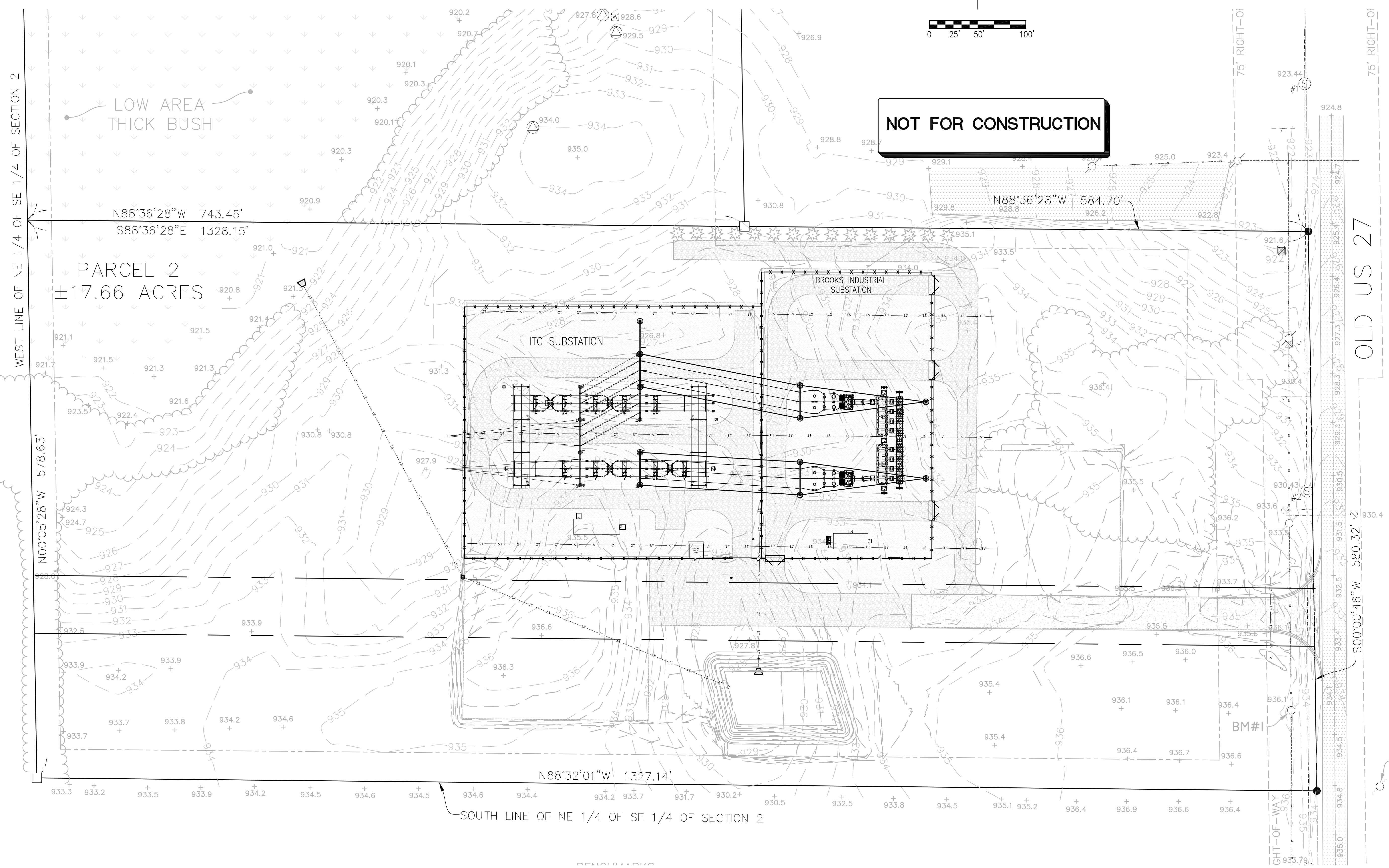
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 3 of 8



Know what's below.  
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**NOT FOR CONSTRUCTION**



P:\21-1194.01 MARSHALL BROOKS SUBSTATION\BROOKS SUBSTATION\BRO-C1.DWG KGREBE 11/2/2021 12:52:40 PM



ENG.	NMA		
DR	KHG		
CK	NMA		
APP	MFM		
		10-18-2021	SITE PLAN APPROVAL
		DATE	ISSUED FOR

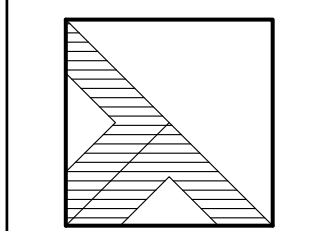
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**CITY OF MARSHALL**  
BROOKS INDUSTRIAL SUBSTATION  
SUBSTATION SITE PLAN

MARSHALL, MICHIGAN

PROJECT NUMBER	DRAWING NUMBER
21-1194.01	C1

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Project Manager:  
TRACY HUTCHINSON

Project #  
2050065.1A

Sheet Title:

**SITE PLAN**

Sheet #

**C-101**  
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- PARCEL INFORMATION**  
CURRENT ZONING: I-1 RESEARCH AND MANUFACTURING  
SITE ADDRESS: 11301 OLD US 27 SOUTH  
PARCEL NUMBER: 53-003-150-01  

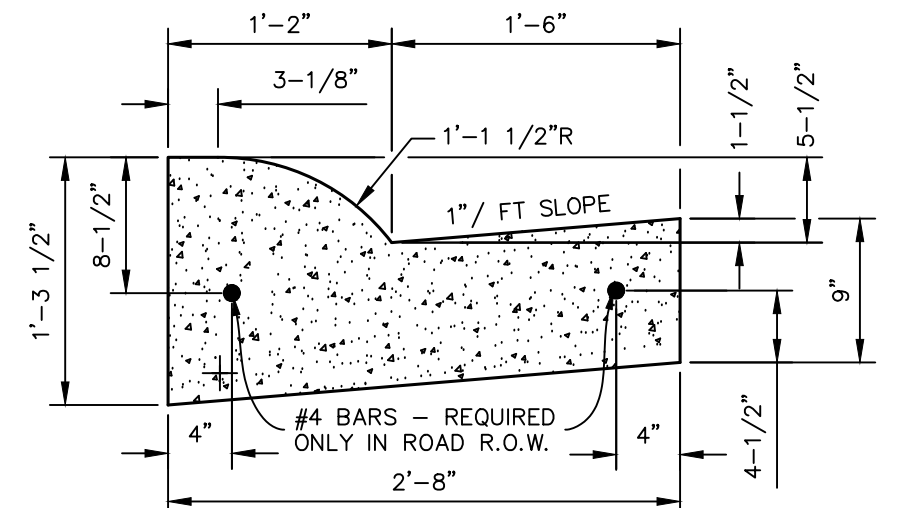
	REQUIRED	PROVIDED
MIN. LAND AREA:	N/A	6.397 & 11.259 ACRE
MIN. LOT WIDTH:	100	580
- BUILDING**  

	REQUIRED	PROVIDED
MAX. BUILDING HEIGHT:	25 FT	N/A (NO STRUCTURE)
MAX. BUILDING SIZE:	N/A	N/A (NO STRUCTURE)
MAX. LOT COVERAGE:	N/A	N/A (NO STRUCTURE)
- SETBACKS**  

	REQUIRED	PROVIDED
FRONT (MIN.)	50 FT	N/A NO STRUCTURES
SIDE (MIN.)	20 FT	N/A
REAR (MIN.)	25 FT	N/A
PARKING S/B	N/A	N/A
- REGULATORY APPROVALS**  
THE PROJECT WILL REQUIRE THE FOLLOWING APPROVALS, AT A MINIMUM (OTHER PERMITS/APPROVAL MAY ALSO BE REQUIRED)  
• CITY OF MARSHALL SITE PLAN  
• MARSHALL CITY FIRE DEPARTMENT  
• CITY OF MARSHALL STORM WATER MANAGEMENT  
• MARSHALL/CALHOUN COUNTY SOIL EROSION & SEDIMENTATION CONTROL PERMIT  
• MDOT ACCESS DRIVE PERMIT
- IMPACT ON PUBLIC SERVICES**  
PROJECT WILL NOT RESULT IN ADVERSE IMPACT TO PUBLIC SERVICES, INCLUDING POLICE & FIRE PROTECTION, UTILITIES, TRAFFIC OR ROADWAYS.
- IMPACT TO SURROUNDING PROPERTIES**  
USE OF PROPERTY WILL BE CONSISTENT WITH EXISTING USES IN THIS ZONING DISTRICT AND IN THE SURROUNDING AREA. USE OF PROPERTY WILL NOT GENERATE ADVERSE LEVELS OF NOISE, VIBRATION, SMOKE, LIGHT, GLARE, OR OTHER PROBLEMATIC CONDITIONS.
- PARKING**  

	REQUIRED	PROVIDED
DIMENSIONS	9'x20'	N/A
SPACES REQUIRED		

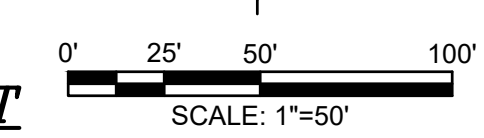
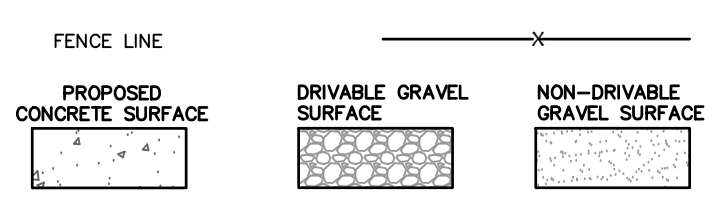
  
SITE IS NOT OCCUPIED ON A REGULAR BASIS, PARKING ONLY REQUIRED DURING MAINTENANCE VISITS
- SIGNAGE**  
ITC SIGN WILL BE INSTALLED ON THE FENCE ON THE PERIMETER OF THE SUBSTATION. IT WILL INCLUDE WARNING SIGNS, SUBSTATION NAME, ADDRESS AND CONTACT INFORMATION. ALSO ADDRESS MAKER TO BE LOCATED AT ACCESS DRIVE.
- STORM WATER MANAGEMENT**  
STORM WATER WILL BE SHEET FLOW ROUTED TO EXISTING SURFACE POND OR INFILTRATED INTO THE GROUND PER CITY OF MARSHALL'S REQUIREMENTS.
- WATER/SEWER SERVICE**  
SITE WILL NOT BE SERVED BY WATER AND SEWER UTILITIES.
- WETLANDS**  
THERE ARE IDENTIFIED REGULATED WETLANDS ON THE SUBJECT PROPERTY. ALL EFFORTS HAVE BEEN MADE TO AVOID IMPACT TO IDENTIFIED WETLANDS.
- FLOODPLAINS**  
KNOWN FLOODPLAINS ARE LOCATED ON THE ADJACENT PROPERTY WITH NO IMPACT PLANNED, PER FEMA FIRM MAP ON: 2602500380C, EFF 04/04/2011
- LANDSCAPING**  
BUFFER PROVIDED TO NORTHERN ADJACENT PROPERTY. OTHERWISE NO LANDSCAPE ADDED TO AVOID INTERFERENCE WITH ELECTRIC EQUIPMENT
- SITE LIGHTING**  
PROPOSED YARD LIGHTING WILL BE LIT DURING ALL NIGHT TIME HOURS.
- LOADING/UNLOADING OPERATIONS**  
DELIVERY OF MATERIALS/EQUIPMENT/MERCHANDISE IS NOT EXPECTED AT THE SITE. ANY DELIVERIES/SHIPMENTS WILL TRAVEL ALONG THE ROAD RIGHT OF WAY TO THE SUBSTATION WORKING PAD.
- REFUSE MANAGEMENT**  
DUMPSTER IS NOT PROPOSED.
- CONSTRUCTION SCHEDULE**  
CONSTRUCTION IS ANTICIPATED TO BE COMPLETE WITHIN ONE YEAR OF SITE PLAN APPROVAL.



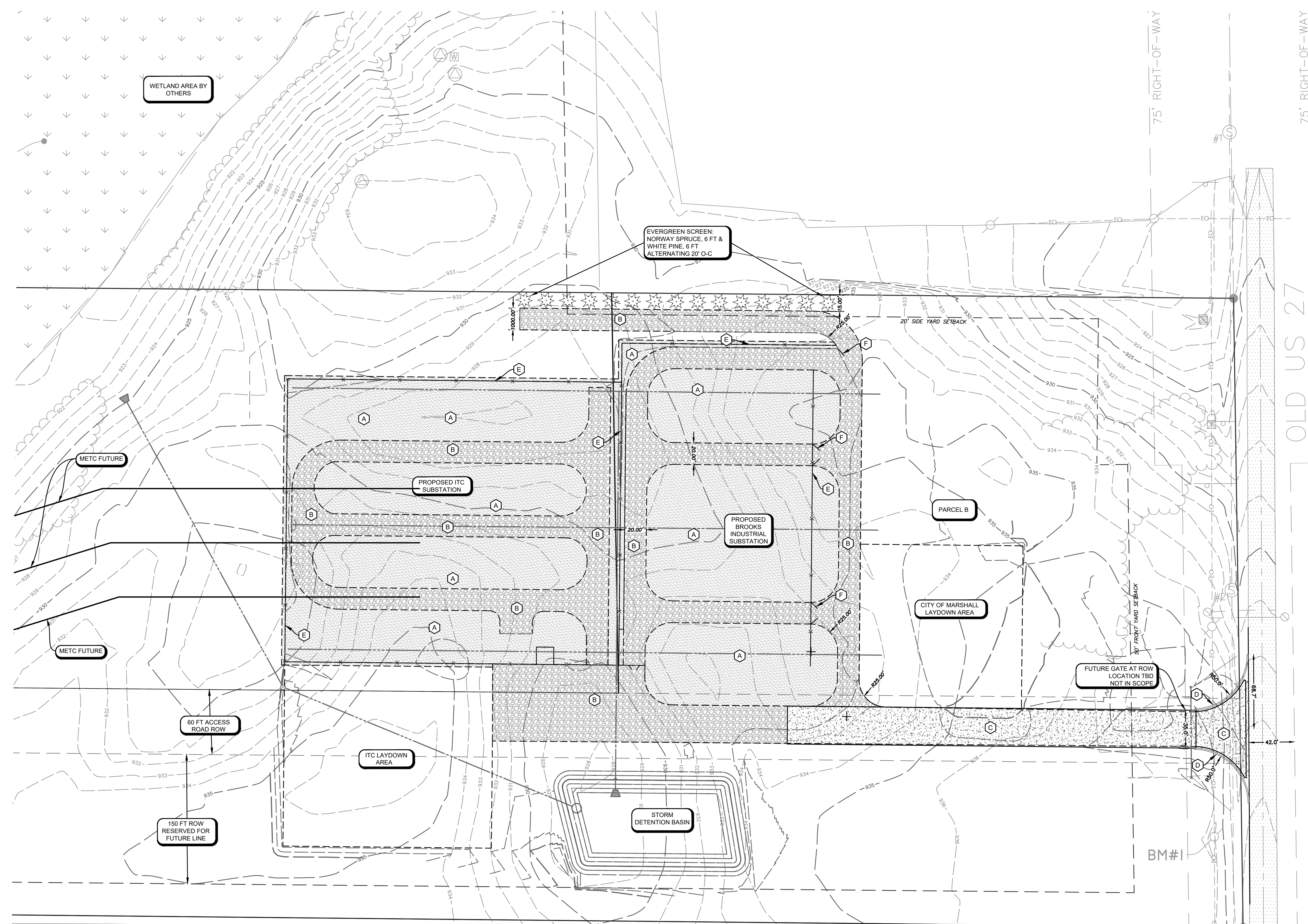
NOTES:  
1. CONTRACTION JOINTS SHALL BE PLACED EVERY 10'.  
2. PLACE EXPANSION JOINTS AT 350' MIN. AND ALL RADIUS POINTS.  
3. CONCRETE SHALL CONFORM TO MDOT SPEC. 802.

**CURB & GUTTER - MDOT DETAIL B2**  
NO SCALE

**LEGEND**



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**GENERAL NOTES:**

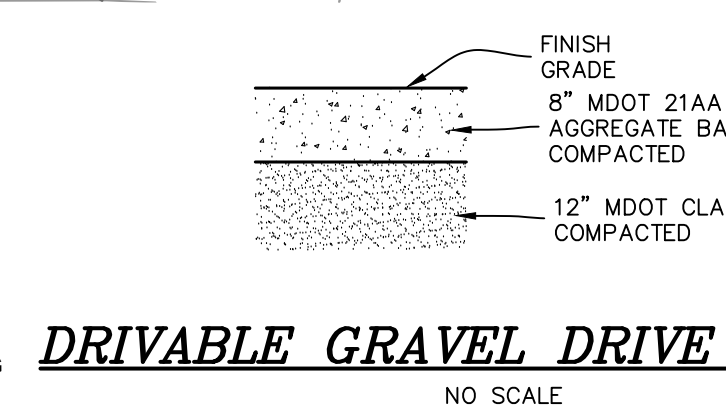
- CONTRACTOR SHALL OBTAIN ALL NECESSARY LOCAL, STATE AND FEDERAL PERMITS REQUIRED.
- ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF AUTHORITIES HAVING JURISDICTION.
- CALL "MISS DIG", 811, 72 HOURS PRIOR TO THE START OF ANY EXCAVATION.
- EXISTING UNDERGROUND UTILITIES ARE SHOWN BASED ON AVAILABLE RECORDS AND/OR TOPOGRAPHIC SURVEY DATA. THIS PLAN MAY NOT SHOW UTILITIES IN THEIR EXACT LOCATION AND MAY NOT SHOW ALL UTILITIES IN THE AREA.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES AT ALL TIMES. ANY INTERRUPTION IN SERVICES TO THIS SITE OR ADJACENT SITES MUST BE SCHEDULED WITH THE OWNER, UTILITY PROVIDER, AND AFFECTED PROPERTIES 48 HOURS PRIOR TO THE INTERRUPTION.
- CONTRACTOR SHALL PROTECT ALL EXISTING AND NEW CONSTRUCTION FROM DAMAGE. SHOULD ANY DAMAGE OCCUR, CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS AT NO COST TO THE OWNER.
- IF ANY DISCREPANCIES OR CONFLICTS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY PRIOR TO CONSTRUCTION OF AFFECTED WORK TO DETERMINE COURSE OF ACTION.
- CONTRACTOR SHALL COORDINATE THEIR WORK WITH OTHER CONTRACTORS ON OR ADJACENT TO THE PROJECT SITE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING AND COORDINATING THEIR WORK WITH ALL UTILITY PROVIDERS PRIOR TO CONSTRUCTION.
- PROVIDE BARRIERS OR OTHER PROTECTION TO KEEP VEHICULAR AND PEDESTRIAN TRAFFIC AWAY FROM CONSTRUCTION AREA AND OFF NEWLY PAVED AREAS.

**LAYOUT NOTES:**

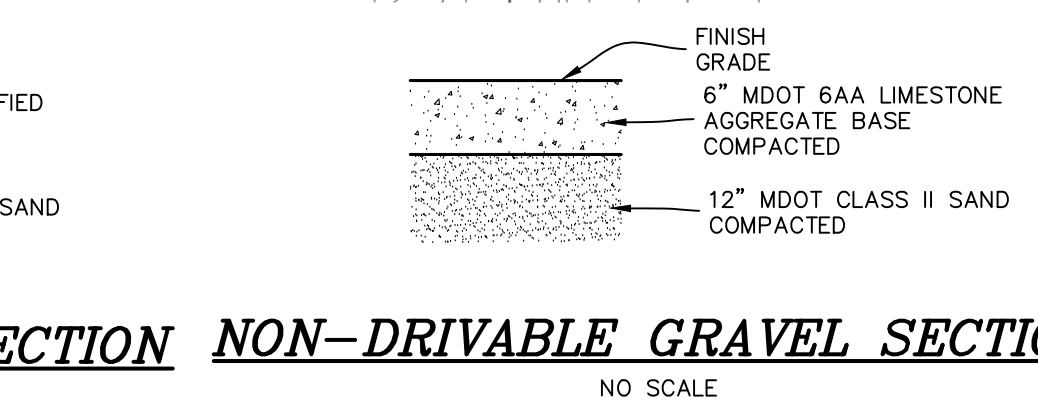
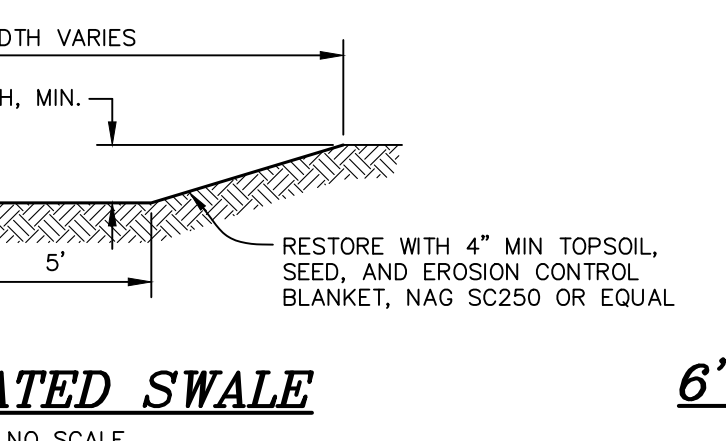
- CONTRACTOR SHALL REVIEW AND VERIFY SITE LAYOUT PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL ENGAGE A LICENSED SURVEYOR TO PERFORM ALL CONSTRUCTION LAYOUT AND STAKING AS NECESSARY.
- ALL COORDINATE POINTS AND DIMENSIONS GIVEN, UNLESS OTHERWISE NOTED, ARE TO BACK OF CURB AND FACE OF BUILDING WALL.
- REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING DIMENSIONS.
- INSTALL EXPANSION JOINTS AT ALL LOCATIONS WHERE NEW CONCRETE MEETS EXISTING CONCRETE OR BITUMINOUS PAVEMENT.

**KEY NOTES:**

- (A) NON-DRIVABLE GRAVEL (SEE DETAIL)
- (B) DRIVABLE GRAVEL DRIVE (SEE DETAIL)
- (C) 6-INCH REINFORCED CONCRETE PAVEMENT
- (D) B2 CONCRETE CURB (SEE DETAIL)
- (E) PERIMETER FENCING (SEE DETAIL BY OTHERS)
- (F) GATE (SEE DETAIL BY OTHERS)



**DRIVABLE GRAVEL DRIVE SECTION NON-DRIVABLE GRAVEL SECTION**



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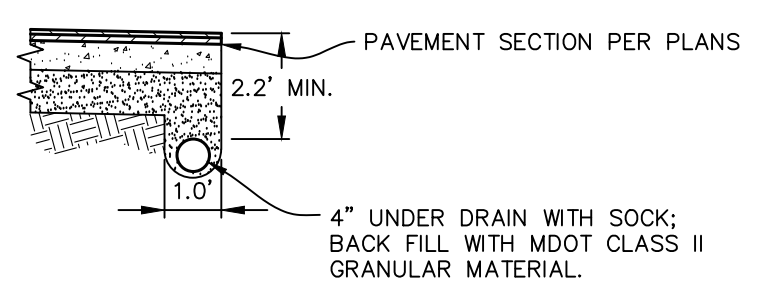
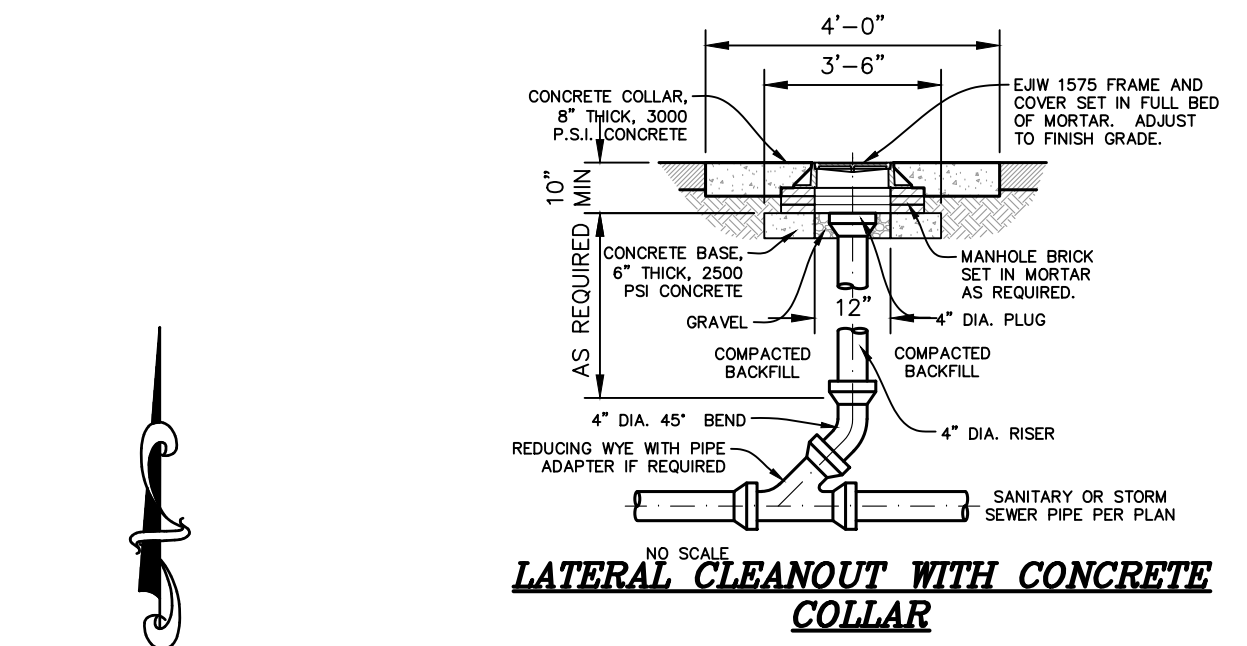
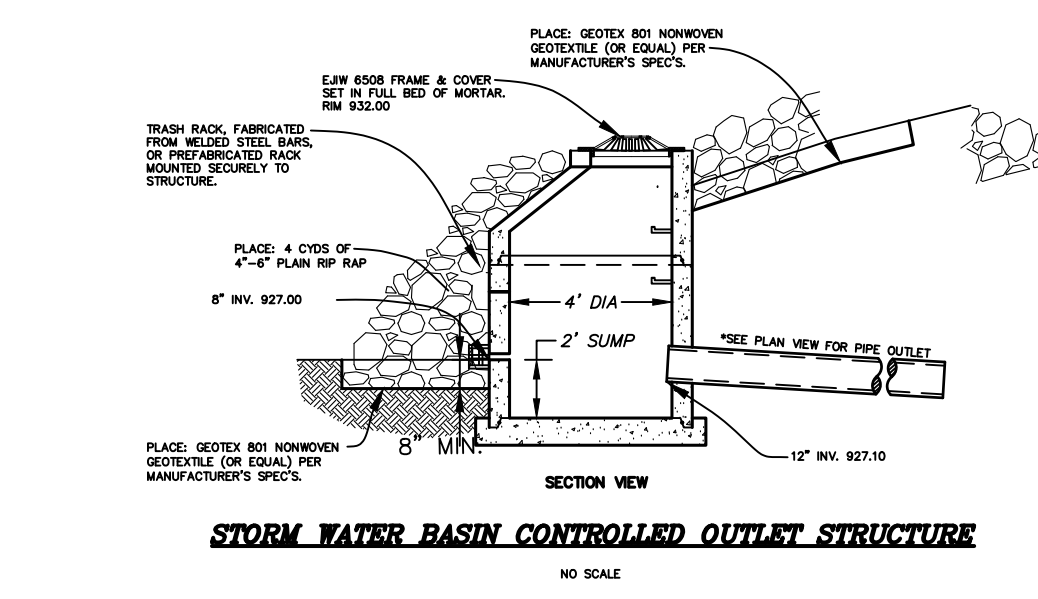
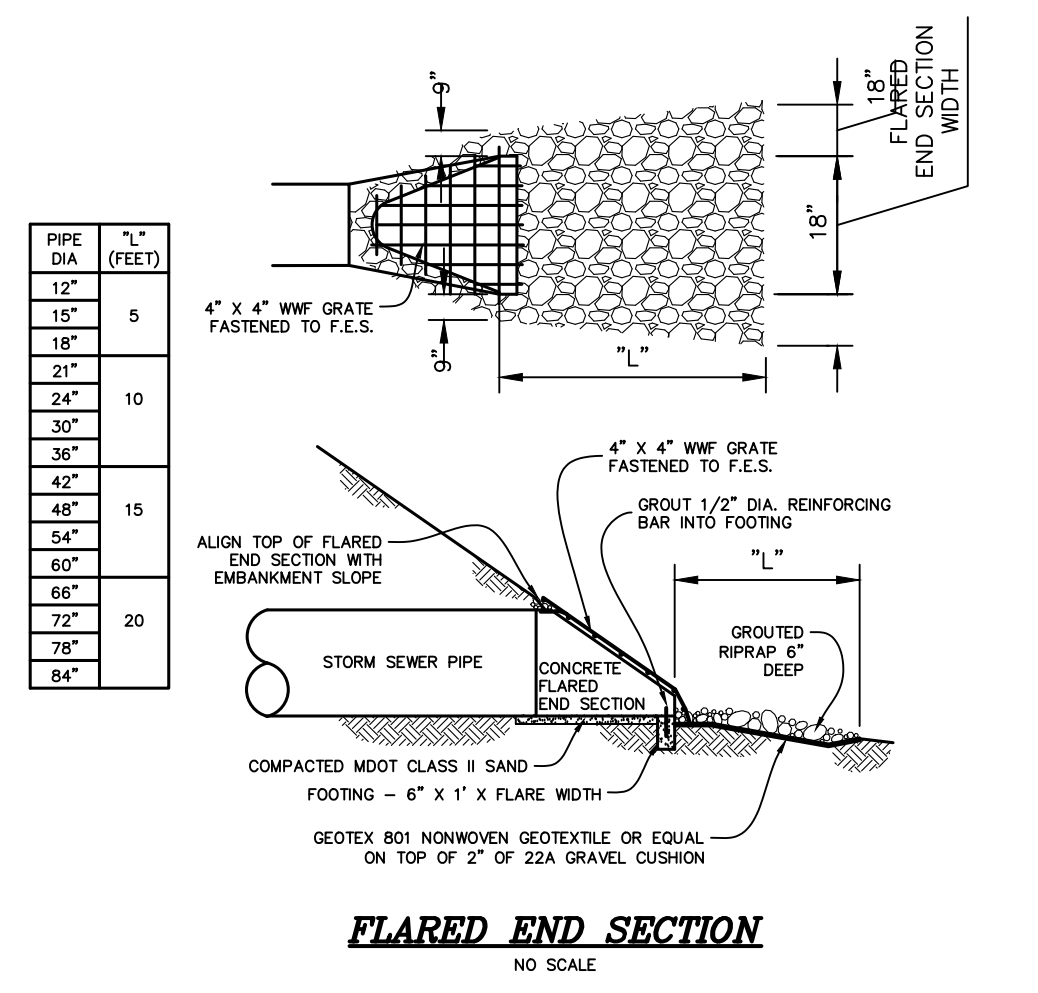
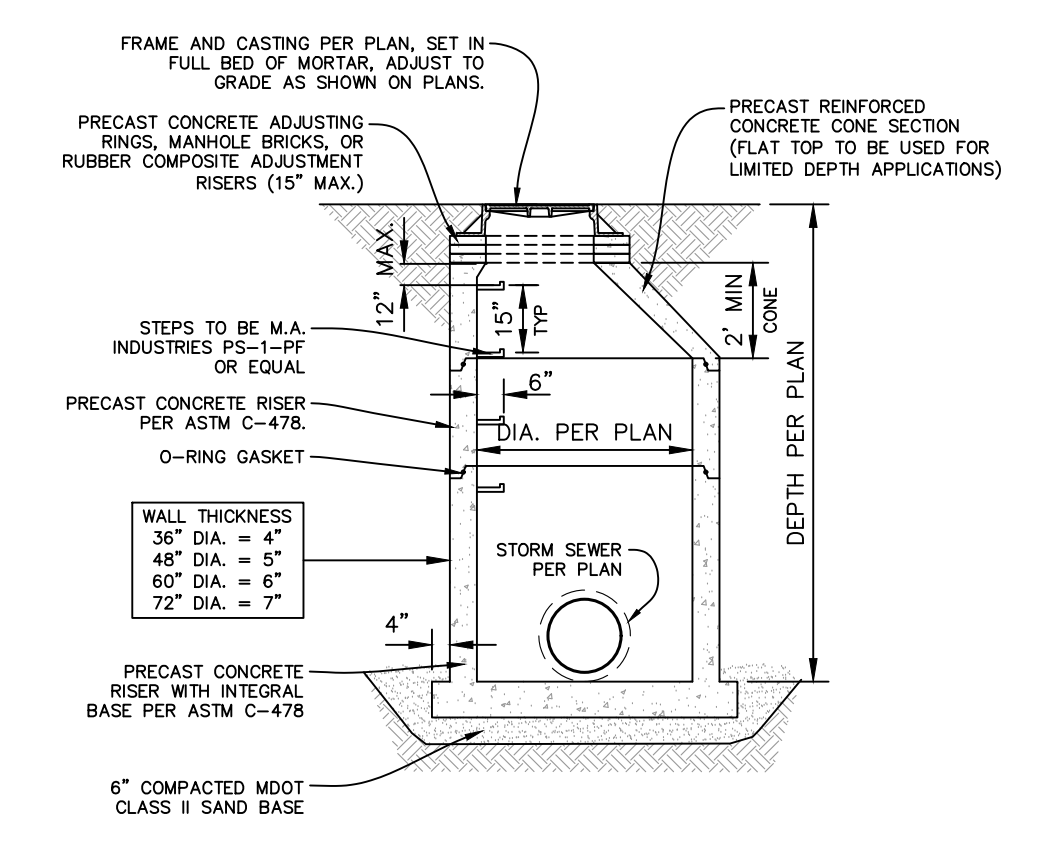
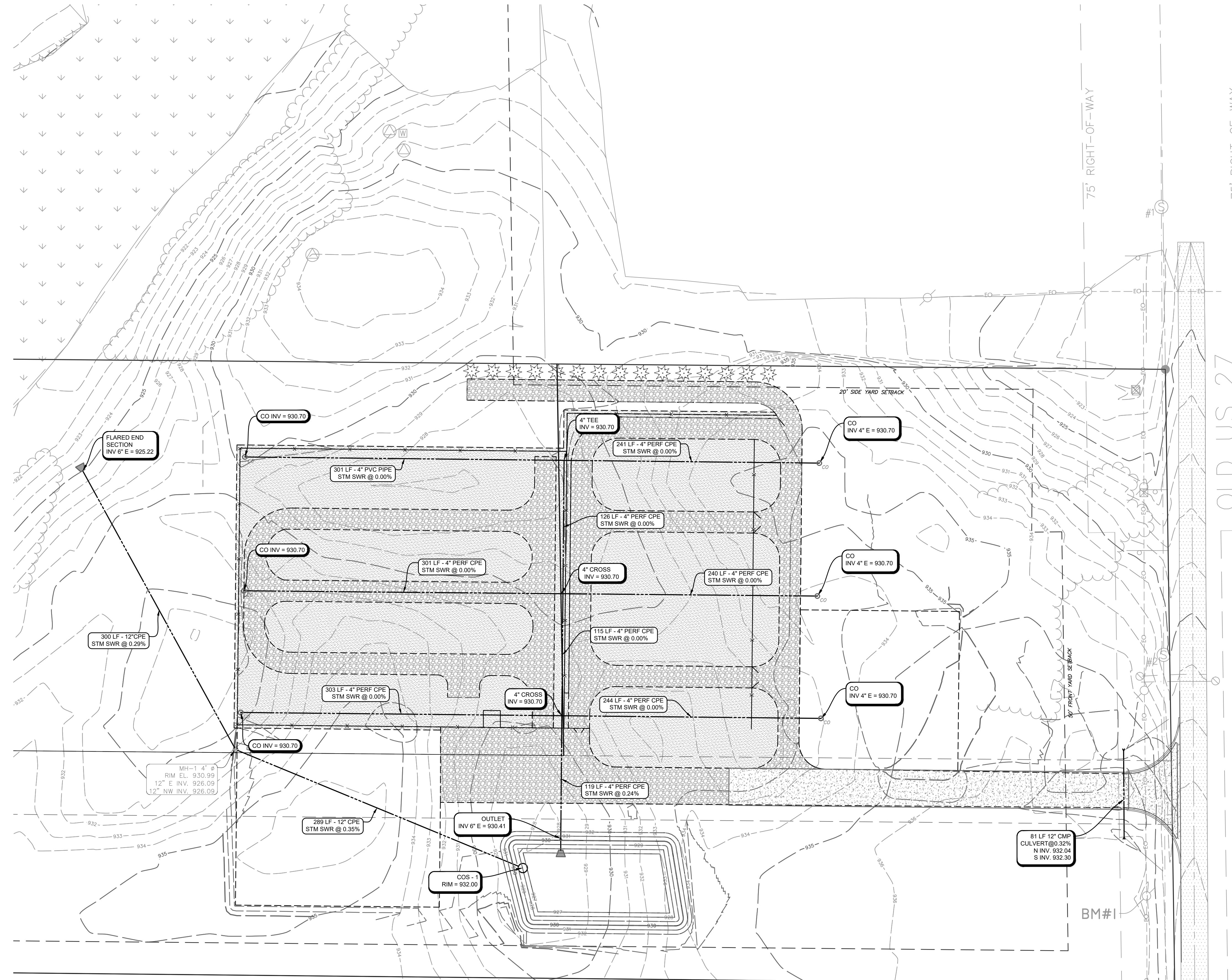
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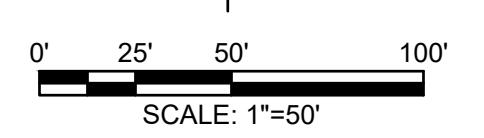
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**STORM SEWER PLAN**

Sheet #  
**C-102**  
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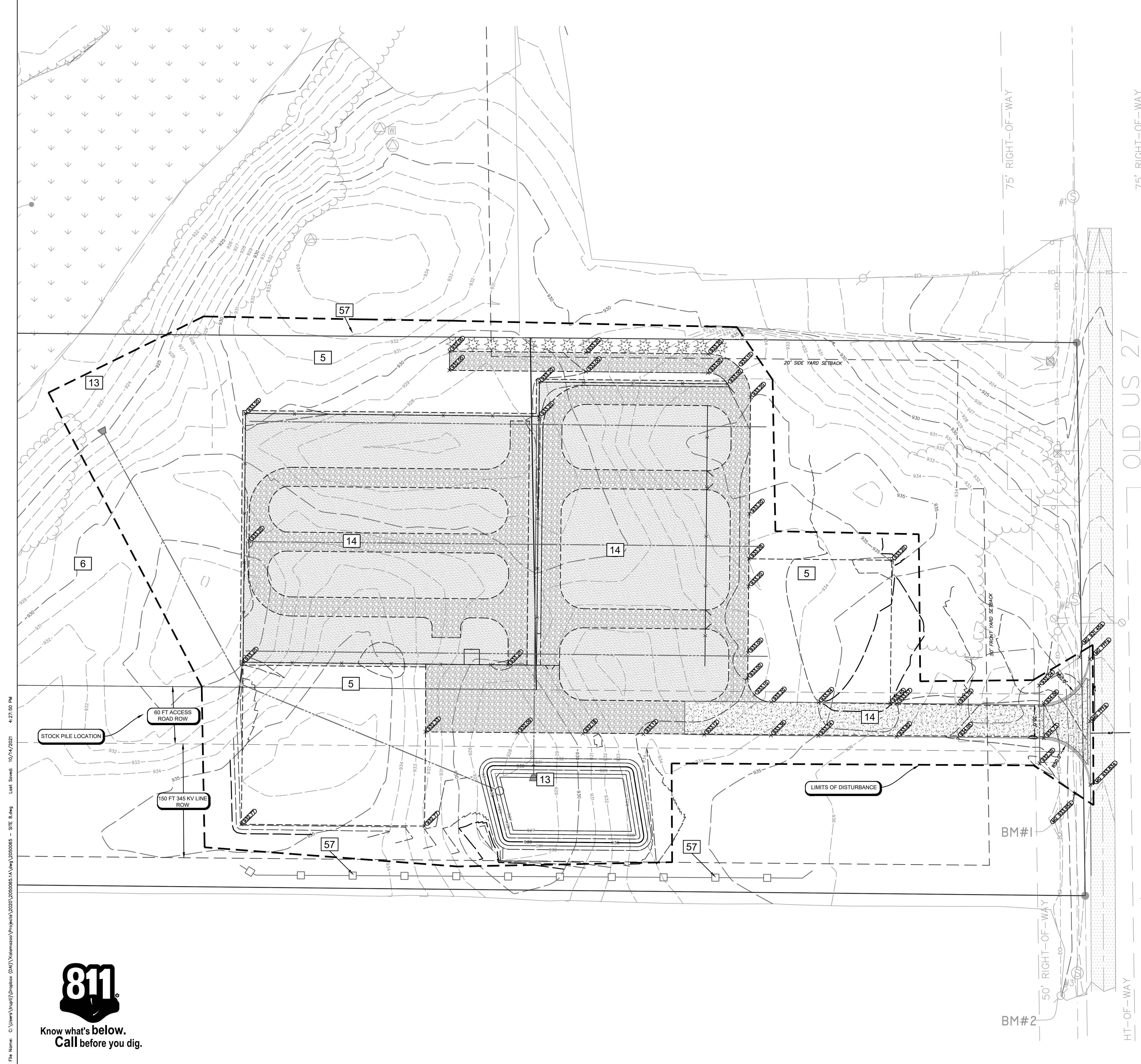
- UTILITY NOTES:**
- CONTRACTOR SHALL OBTAIN CONNECTION PERMIT PRIOR TO INSTALLATION OF ANY PRIVATE WATER, SANITARY, OR STORM CONNECTIONS TO PUBLIC MAIN.
  - CONTRACTOR SHALL ENSURE ALL NECESSARY PERMITS ARE OBTAINED FOR ANY PROPOSED PUBLIC WATER MAIN, SANITARY SEWER, OR STORM SEWER. CONTRACTOR SHALL COORDINATE WITH MUNICIPALITY PRIOR TO CONSTRUCTION TO SCHEDULE PRE-CONSTRUCTION MEETING AND TO ENSURE COMPLIANCE WITH INSPECTION/TESTING REQUIREMENTS.
  - REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
  - ALL SITE UTILITIES SHALL BE STUBBED AND PLUGGED TO WITHIN FIVE FEET OF THE OUTSIDE BUILDING FOUNDATION WALL UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL DOCUMENT, AND FURNISH TO OWNER AND ENGINEER, WITNESS DIMENSIONS FOR ALL UTILITY STUBS AND CONDUITS INSTALLED.
  - ALL UTILITY WORK SHALL BE COMPLETED, INCLUDING TRENCH BACKFILL AND COMPACTION, PRIOR TO PLACEMENT OF AGGREGATE BASE.

**STORM SUMMARY:**  
RATIONAL METHOD  
DETENTION REQUIRED: 20,999.90 CFT  
DETENTION PROVIDED: 26,934.39 CFT  
(INCLUDING FUTURE EXPANSION AREA)  
HWL ELEVATION: 928.50 FT



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5	SEEDING	INEXPENSIVE AND VERY EFFECTIVE STABILIZES SOIL, THUS MINIMIZING EROSION PERMITS RUNOFF TO INFILTRATE SOIL, REDUCING RUNOFF VOLUME SHOULD INCLUDE PREPARED TOPSOIL BED
6	SEEDING WITH MULCH AND/OR MATTING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INEXPERIENCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED
13	RIPRAP, RUBBLE, GABIONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS PERMITS RUNOFF TO INFILTRATE SOIL DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THUS MINIMIZING EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS
57	SILT FENCE	USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.

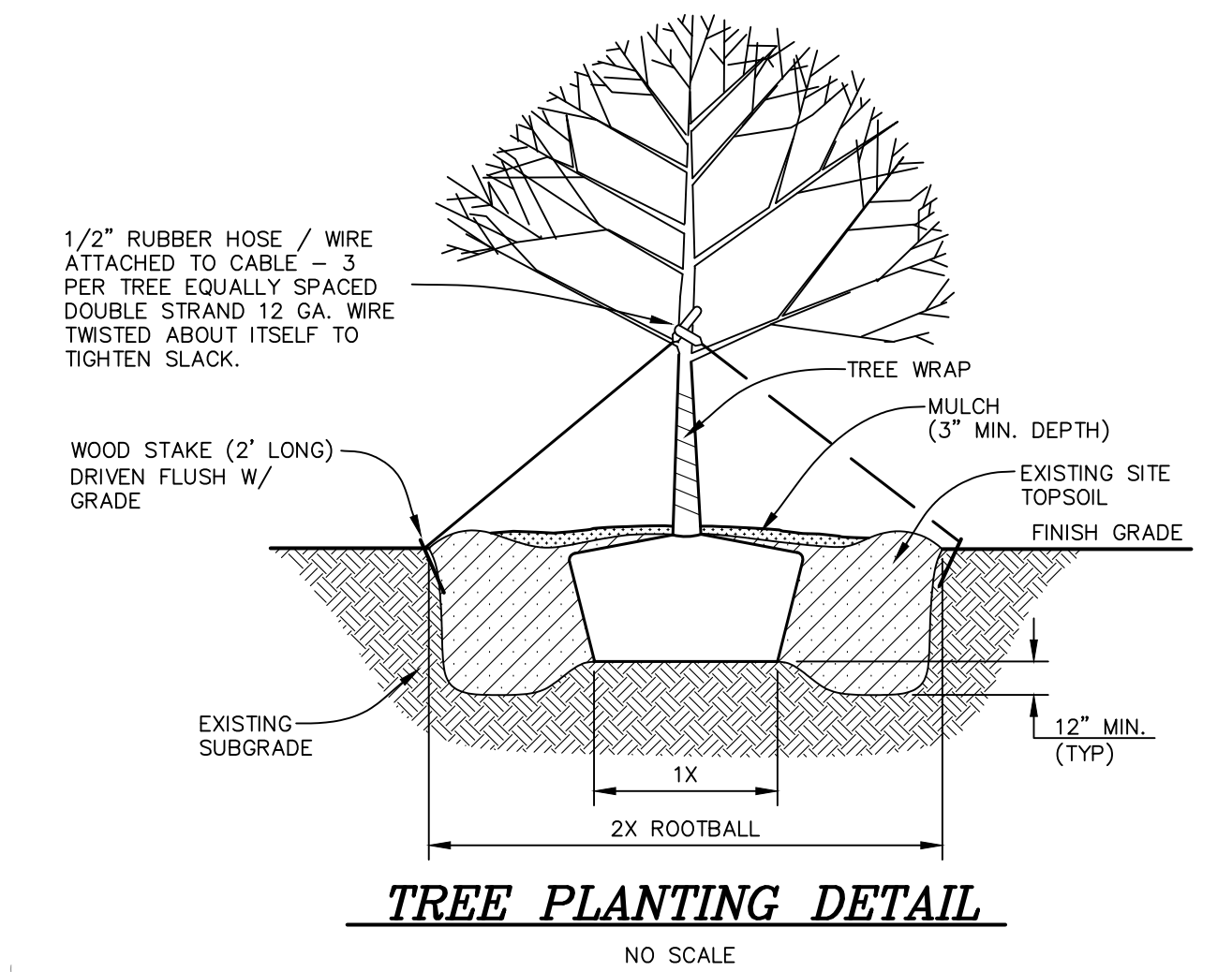
CONSTRUCTION SEQUENCE	OPERATION TIME SCHEDULE - 2021											
	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
SITE CLEARING AND INSTALL CONTROLS												
ROUGH GRADE SITE												
INSTALL UTILITIES												
FINAL GRADING												
SEEDING & STABILIZATION												

**SESC SITE SUMMARY:**

1. NATIVE SITE SOIL IS CLASSIFIED AS CLAYEY SAND PER SOIL BORINGS.
2. WETLANDS POTENTIAL WETLANDS IDENTIFIED IN NORTHWEST PORTION OF SITE. NO IMPACT OR DISTURBANCE PLANNED.
3. FLOODPLAINS THERE ARE NO KNOWN REGULATORY FLOODPLAINS ON THE SUBJECT PROPERTY, PER FEMA FIRM MAP CN: 26025C0380C.
4. AREA OF DISTURBANCE: 9.50 ACRES

**DRIVEWAY APPROACH NOTES:**

1. PROPOSED APPROACH DRIVE GRADES TO MATCH EXISTING EDGE OF PAVEMENT.
2. PROPOSED APPROACH DRIVE DRAINAGE TO REMAIN ON SITE PROPERTY EXCEPT ROW MAY DRAIN TO ROAD.



**LEGEND**

FENCE LINE

PROPOSED CONCRETE SURFACE

DRIVABLE GRAVEL SURFACE

NON-DRIVABLE GRAVEL SURFACE

NO SCALE

0' 25' 50' 100'

SCALE: 1"=50'

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Project Manager:  
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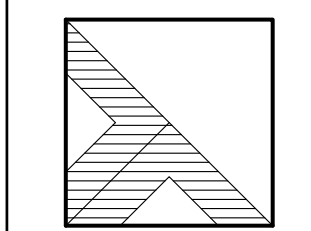
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**GRADING AND SESC PLAN**

Sheet #  
**C-103**  
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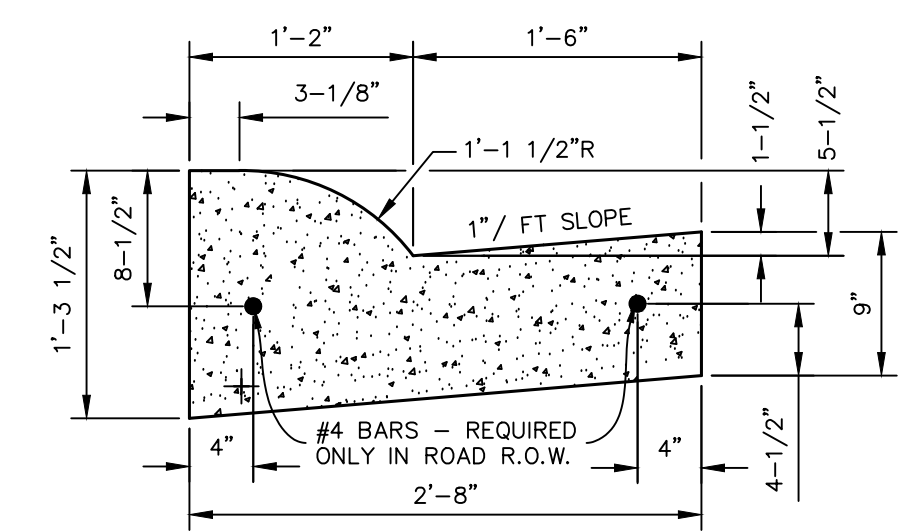
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**DRIVE DETAIL**

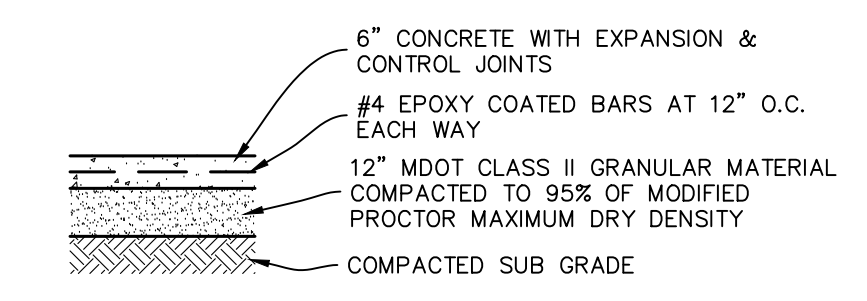
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**C-400**  
7 of 8

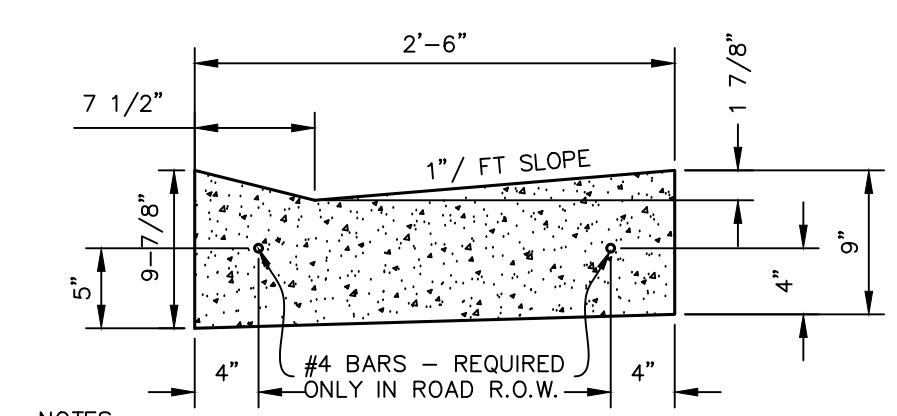
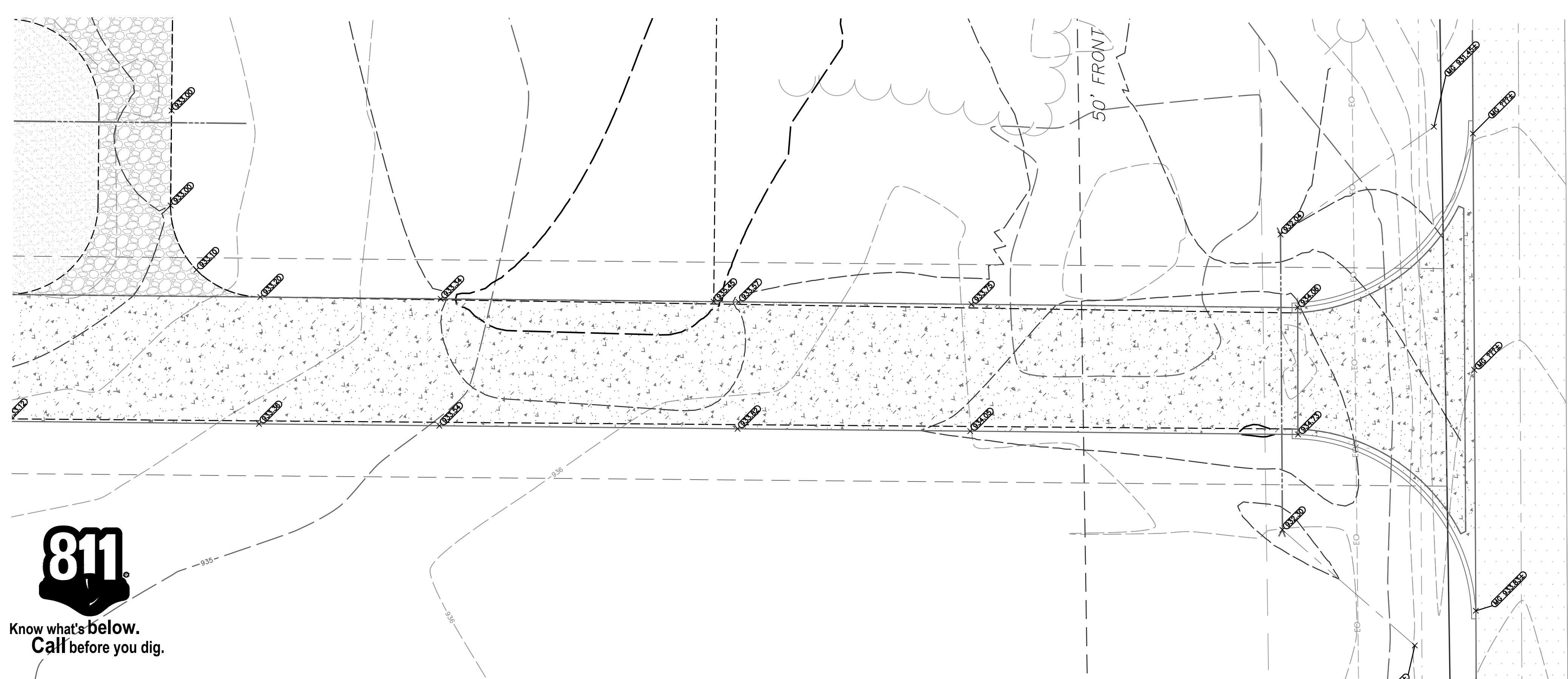


NOTES:  
1. CONTRACTION JOINTS SHALL BE PLACED EVERY 10'.  
2. PLACE EXPANSION JOINTS AT 350' MIN. AND ALL RADIUS POINTS.  
3. CONCRETE SHALL CONFORM TO MDOT SPEC. 802.

**CURB & GUTTER - MDOT DETAIL B2**  
NO SCALE

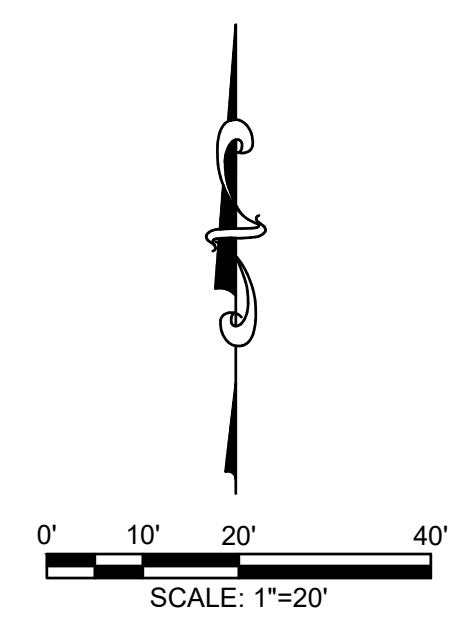


**6" REINFORCED CONCRETE PAVEMENT**  
NO SCALE



NOTES:  
1. CONTRACTION JOINTS SHALL BE PLACED EVERY 10'.  
2. PLACE EXPANSION JOINTS AT 350' MIN. AND ALL RADIUS POINTS.  
3. CONCRETE SHALL CONFORM TO MDOT SPEC. 802.

**30" CONCRETE GUTTER**  
NO SCALE



**PRELIMINARY**  
FOR APPROVAL



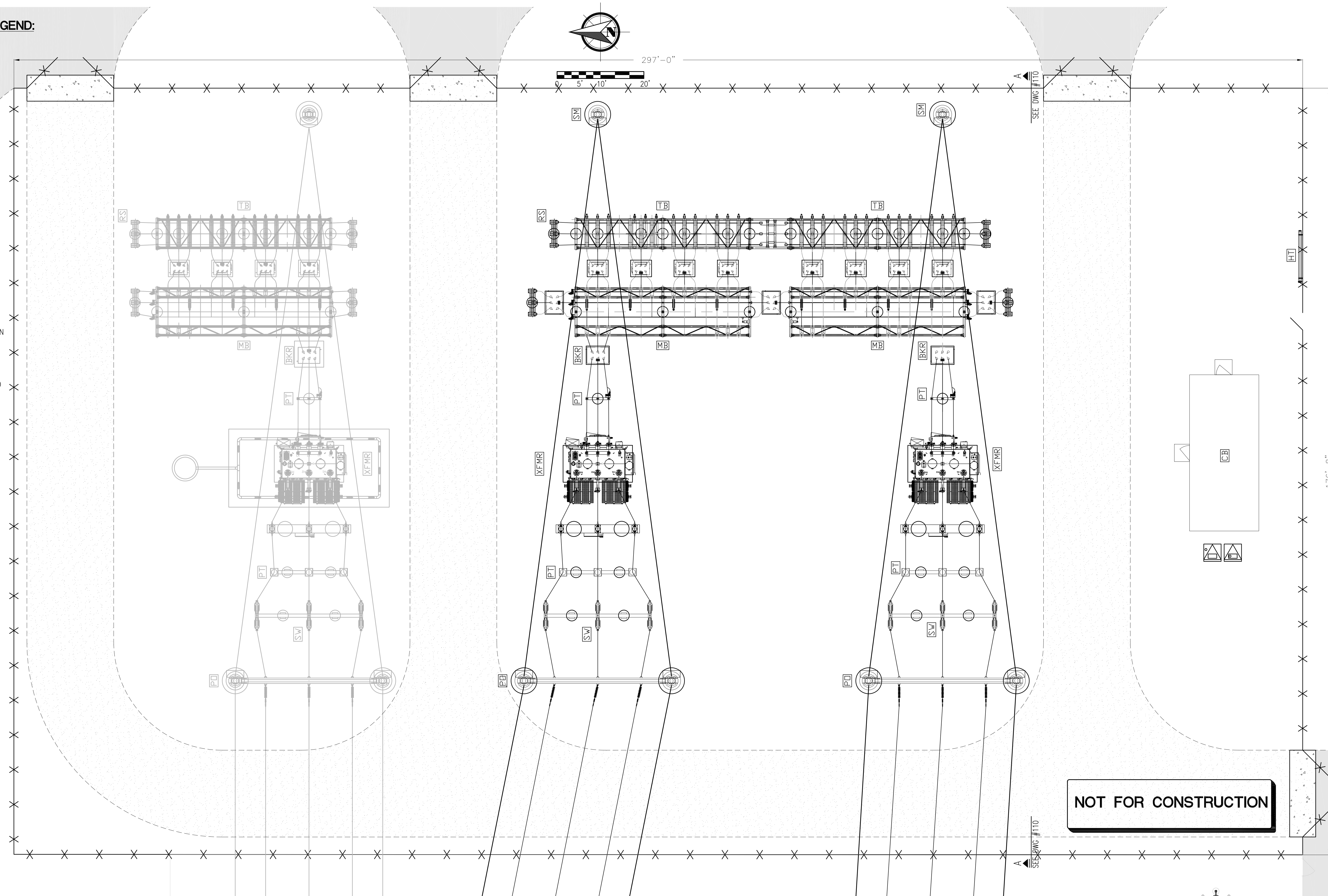
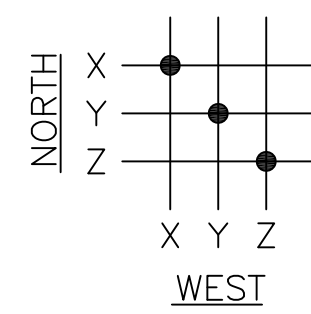
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Call before you dig.

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**EQUIPMENT PLAN LEGEND:**

- 1ØPT SINGLE PHASE PT STAND
- 3ØPT THREE PHASE PT STAND
- BKR BREAKER
- CB CONTROL BUILDING
- DS DISCONNECT SWITCH
- DE DEAD END
- HB HIGH BUS
- HT HOTSTICK TUBE
- LB LOW BUS
- MB MAIN BUS
- PO PULL OFF
- PT POTENTIAL TRANSFORMER
- RS RISER STAND
- SM STATIC MAST
- SW SWITCH
- TB TRANSFER BUS
- XFMR TRANSFORMER
- B SECTION/ELEVATION DENOTATION
- SEE DWG #XXX INDEXED DRAWING DENOTATION
- SINGLE PHASE PADMOUNT TRANSFORMER WITH BOXPAD

**BUS PHASING**



P:\21-1194.01 MARSHALL BROOKS SUBSTATION\ PDS\ BR-101.DWG KGREBE 10/18/2021 11:59:51 AM

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ENR	NMA		
DR	KHG		
CK	NMA		
APP	MFM		
		10-18-2021	SITE PLAN APPROVAL
		DATE	ISSUED FOR

**GRP**  
Engineering, Inc.  
PETOSKEY, MICHIGAN, 231-439-9683  
GRAND RAPIDS, MICHIGAN, 616-942-7183

**CITY OF MARSHALL**  
BROOKS INDUSTRIAL SUBSTATION  
SUBSTATION - STRUCTURAL EQUIPMENT PLAN VIEW

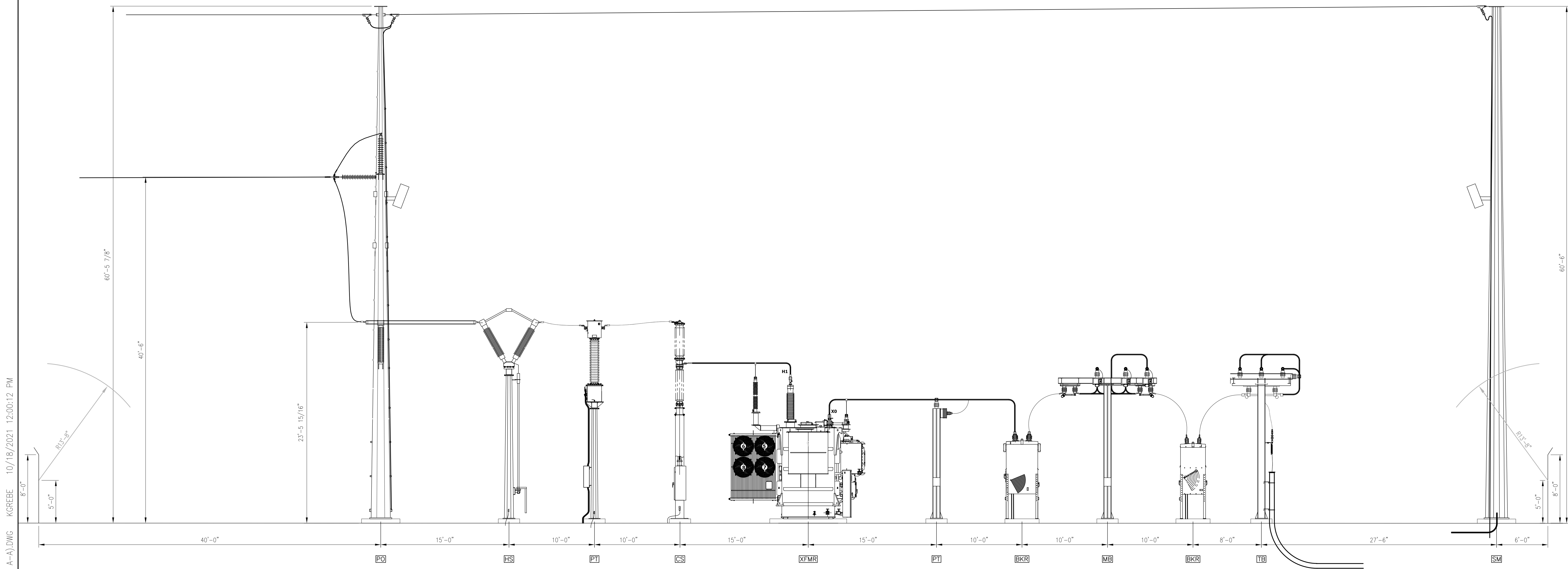
MARSHALL, MICHIGAN

PROJECT NUMBER	DRAWING NUMBER
21-1194.01	101

138KV MINIMUM ELECTRICAL CLEARANCES			
RIGID PARTS PHASE TO PHASE	RIGID PARTS PHASE TO GROUND	BUS C'S	LIVE PARTS TO GRADE
63"	52.5"	96"	13'-0"

12.47KV MINIMUM ELECTRICAL CLEARANCES			
RIGID PARTS PHASE TO PHASE	RIGID PARTS PHASE TO GROUND	BUS C'S	LIVE PARTS TO GRADE
12"	10"	24"	9'-0"

- NOTES:
1. PHASE SIGNS SHALL BE LOCATED ON ALL EQUIPMENT, SWITCHES AND ADJACENT TO ALL END BUS SUPPORTS. DEVICE NAME SIGNS SHALL BE LOCATED ON CIRCUIT SWITCHES CIRCUIT BREAKERS, AND SWITCHES.
  2. CONNECTORS USED ON WIRE OR BUS SHALL BE WELDED TYPE, UNLESS SHOWN OTHERWISE.
  3. ALL BUS SUPPORT FITTINGS WITH A SUBSCRIPT "S" MUST BE INSTALLED AS A "SLIP FREE" CONNECTION, AND SUBSCRIPT "F" INSTALLED AS A "FIXED" CONNECTION.
  4. IF BUS COUPLERS ARE REQUIRED, ALL TYPES AND LOCATIONS MUST BE APPROVED BY THE ENGINEER.
  5. USE NO-OXIDE COMPOUND ON ALL ALUMINUM CONNECTIONS.
  6. USE TEFLON TAPE ON ALL VERTICAL CONDUIT CONNECTIONS.
  7. ALL OPEN BUS ENDS MUST BE CAPPED.
  8. #336.4 ACSR DAMPING CABLE SHALL BE INSTALLED IN ALL BUS.
  9. WEEP HOLES SHALL BE DRILLED IN ALL BUS.
    - 9.1. (3) WEEPHOLES, 1/8" DIAMETER AT MIDSPAN OF SUPPORTS, 3" TO 6" SPACING.
  10. REFER TO DWG #410, #151, #152 FOR CONDUIT LAYOUT AND ROUTING DETAILS.
  11. 138KV DISCONNECT SWITCHES LINE SIDE TERMINAL SHALL BE OWNERSHIP DEMARCATION BETWEEN CITY OF MARSHALL & ITC.
  12. CONTRACTOR TO COORDINATE INSTALLATION OF 138KV JUMPER BETWEEN STATIONS WITH ITC CONTRACTORS.



ELEVATION "A-A"  
SCALE: 3/16" = 1'

NOT FOR CONSTRUCTION

P:\21-1194.01 MARSHALL BROOKS SUBSTATION\BROOKS SUBSTATION\PD\BR-110 (ELEVATION A-A).DWG KGREBE 10/18/2021 12:00:12 PM

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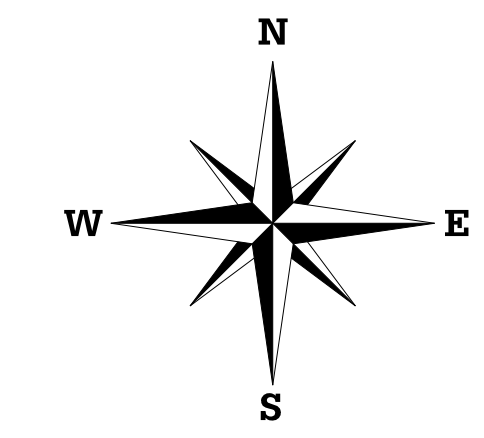
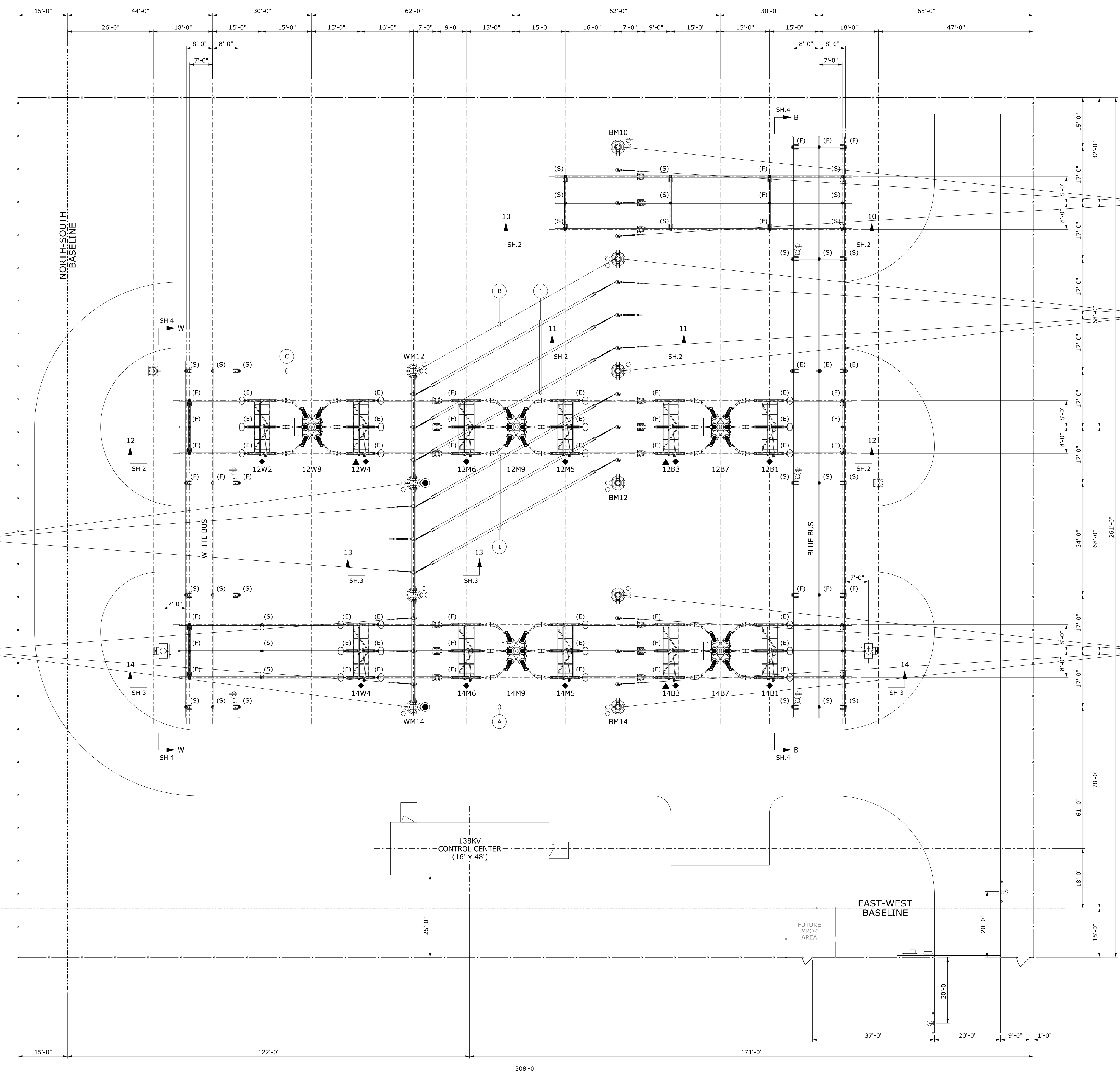
ENG.	NMA		
DR	KHG		
CK	NMA		
APP	MFM		
		10-18-2021	SITE PLAN APPROVAL
		DATE	ISSUED FOR

**GRP**  
Engineering, Inc.  
PETOSKEY, MICHIGAN, 231-439-9683  
GRAND RAPIDS, MICHIGAN, 616-942-7183

**CITY OF MARSHALL**  
BROOKS INDUSTRIAL SUBSTATION  
SUBSTATION - ELEVATION "A-A"

MARSHALL, MICHIGAN

PROJECT NUMBER	DRAWING NUMBER
21-1194.01	110



SHIELD WIRE STRINGING CHART				
SECTION	WIRE INFORMATION	TEMP (F)	TENSION (LBS)	SAG (FT-INIAL)
A	1-159 KCMIL ACSR, 'GUINEA' DESIGN TENSION: 500 LB @ NESC HEAVY 62' SPAN	-20	163	1.17
		0	146	1.31
		30	128	1.49
		60	119	1.60
		90	113	1.69
B	1-159 KCMIL ACSR, 'GUINEA' DESIGN TENSION: 500 LB @ NESC HEAVY 70' SPAN	-20	155	1.57
		0	143	1.71
		30	129	1.88
		60	122	2.00
		90	117	2.09
C	1-159 KCMIL ACSR, 'GUINEA' DESIGN TENSION: 500 LB @ NESC HEAVY 79' SPAN	-20	150	2.07
		0	141	2.21
		30	130	2.39
		60	124	2.50
		90	120	2.59
120	116	2.68		

CONDUCTOR WIRE STRINGING CHART				
SECTION	WIRE INFORMATION	TEMP (F)	TENSION (LBS)*	SAG (FT-INIAL)
1	2-1590 AAC, 'COREOPSIS' DESIGN TENSION: 1500 LBS @ NESC HVY (PER PHASE) 70' SPAN	-20	374	2.46
		0	360	2.55
		30	342	2.69
		60	327	2.82
		90	313	2.94
120	301	3.06		

\* - TENSION FOR (1) CONDUCTOR

138KV LINE TO VERONA SUBSTATION POS. 388

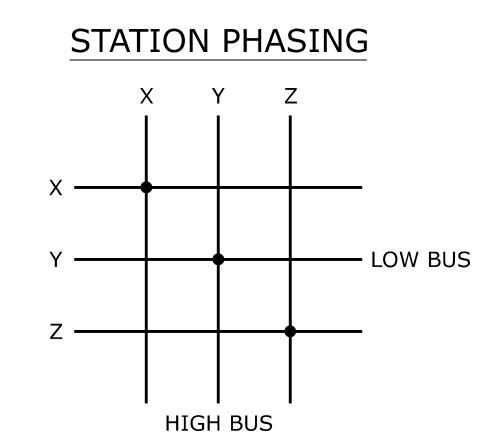
138KV LINE TO MARSHALL SUBSTATION SECTION 20

TO MARSHALL ELECTRIC TRANSFORMER #3 (FUTURE) 138/12.5KV

TO MARSHALL ELECTRIC TRANSFORMER #2 138/12.5KV

TO MARSHALL ELECTRIC TRANSFORMER #1 138/12.5KV

- LEGEND:**
- ⊗ LAMP LED 120-277 VOLTS
  - ◆ DISC SWITCH MANUAL OPERATOR MECHANISM
  - ▲ RELAY TEST CABINET
  - OPGW SPLICE CANISTER
  - (F) FIXED FITTING
  - (S) SLIP FITTING
  - (E) EXPANSION FITTING
  - ⊞ CARD READER
  - ⊕ RECEPTACLE
  - ⊕ BOLLARD
  - BASELINE



- REFERENCES:**
- PROPERTY PLAN (04, SH.1)
  - 138KV SECTION VIEWS; SECTIONS 10-10, 11-11, 12-12 (27, SH.2)
  - 138KV SECTION VIEWS; SECTIONS 13-13, 14-14 (27, SH.3)
  - 138KV SECTION VIEWS; WHITE BUS & BLUE BUS (27, SH.4)
  - 138KV MATERIAL LIST (27, SH.5)

REV	DATE	REV	DATE	REV	DATE	REV	DATE	REV	DATE



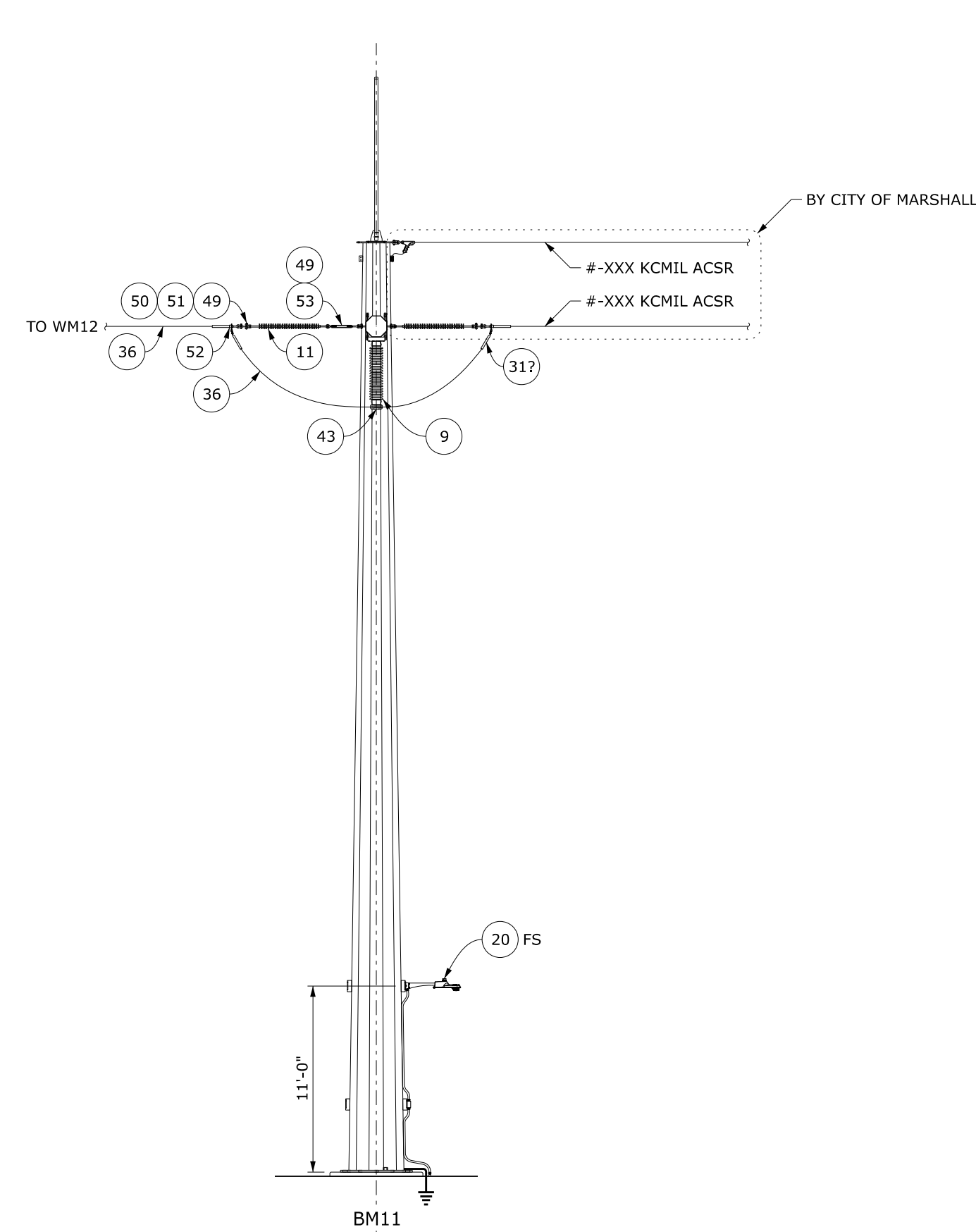
**NOTICE:**  
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**138KV PLAN VIEW**

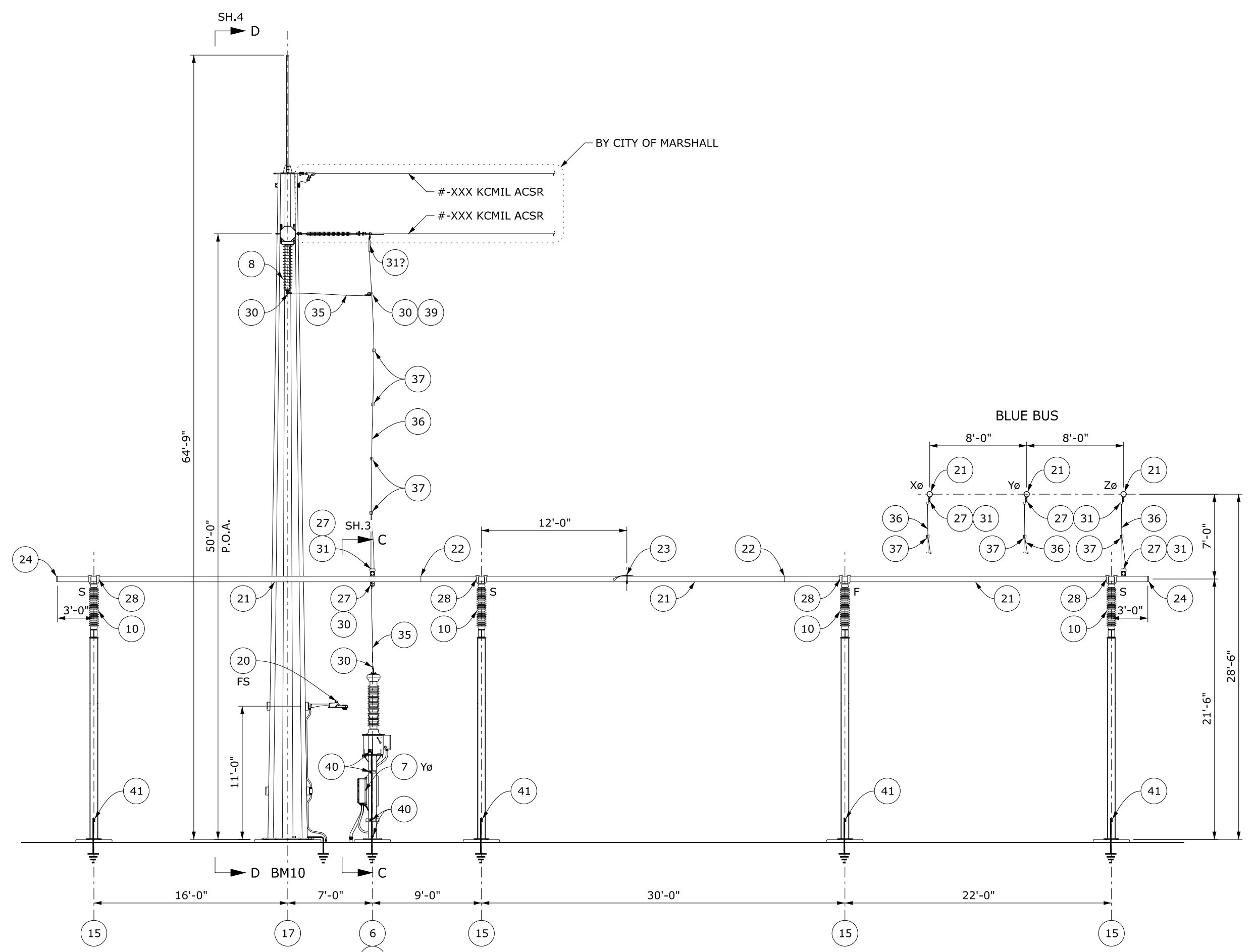
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SCALE: 1/16"=1'-0" DWG #: 9175-D27-1

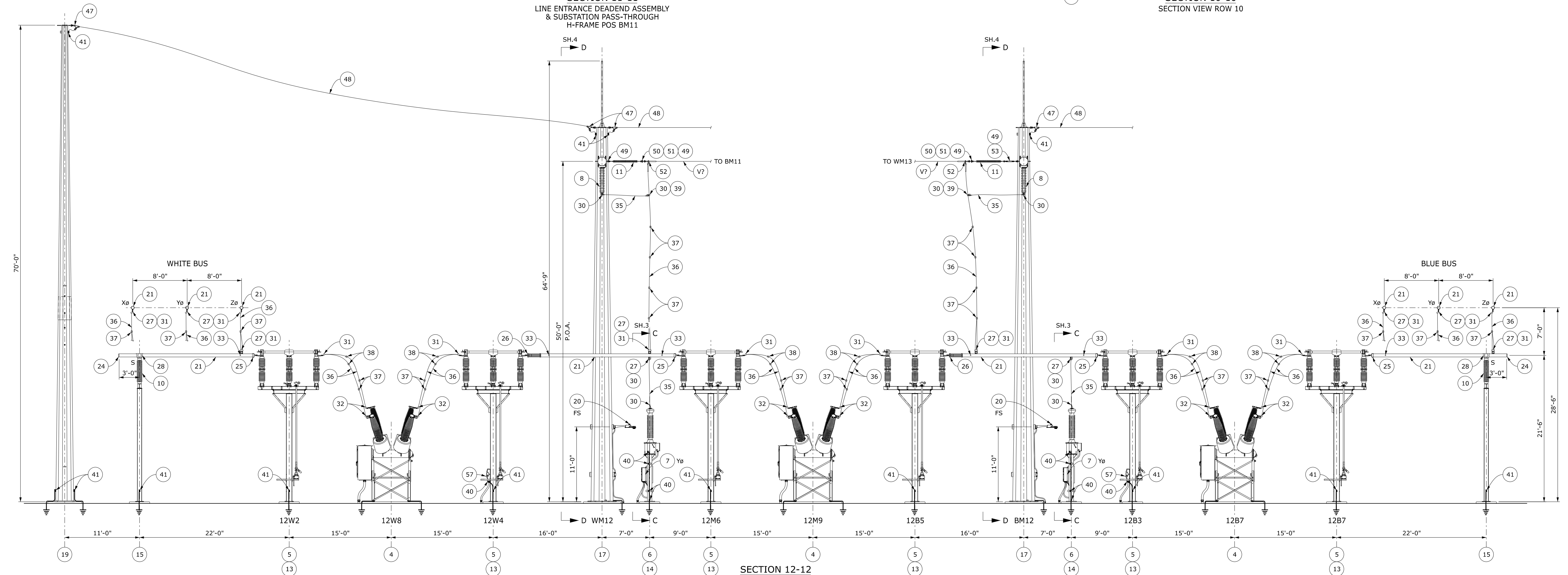
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SECTION 11-11  
LINE ENTRANCE DEADEND ASSEMBLY  
& SUBSTATION PASS-THROUGH  
H-FRAME POS BM11



SECTION 10-10  
SECTION VIEW ROW 10



SECTION 12-12  
SECTION VIEW ROW 12

REFERENCE DRAWINGS:  
138KV PLAN VIEW (27, SH.1)  
138KV MATERIAL LIST (27, SH.5)

REV	DATE	REV	DATE	REV	DATE	REV	DATE	REV	DATE

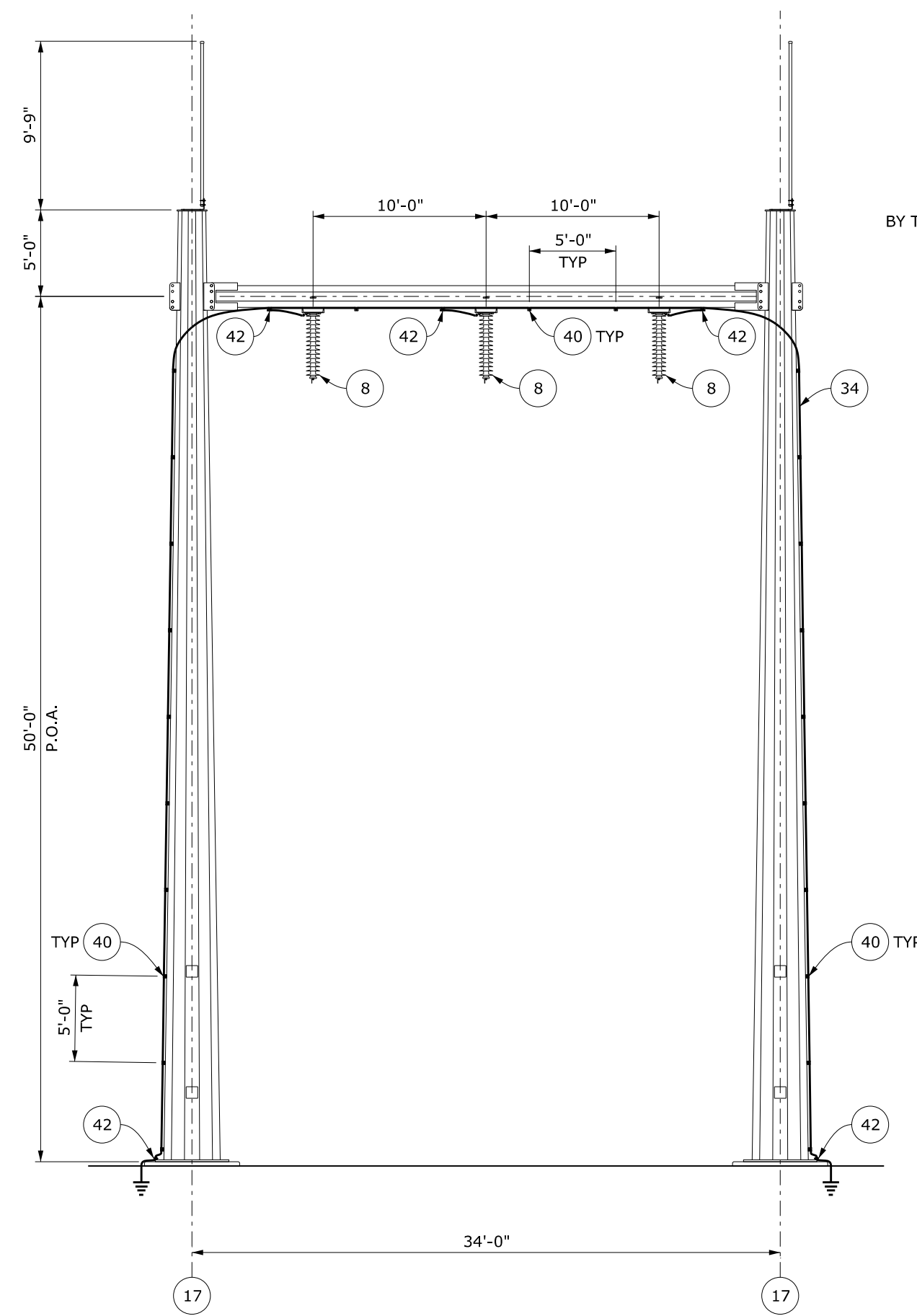


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MICHIGAN ELECTRIC TRANSMISSION COMPANY, LLC

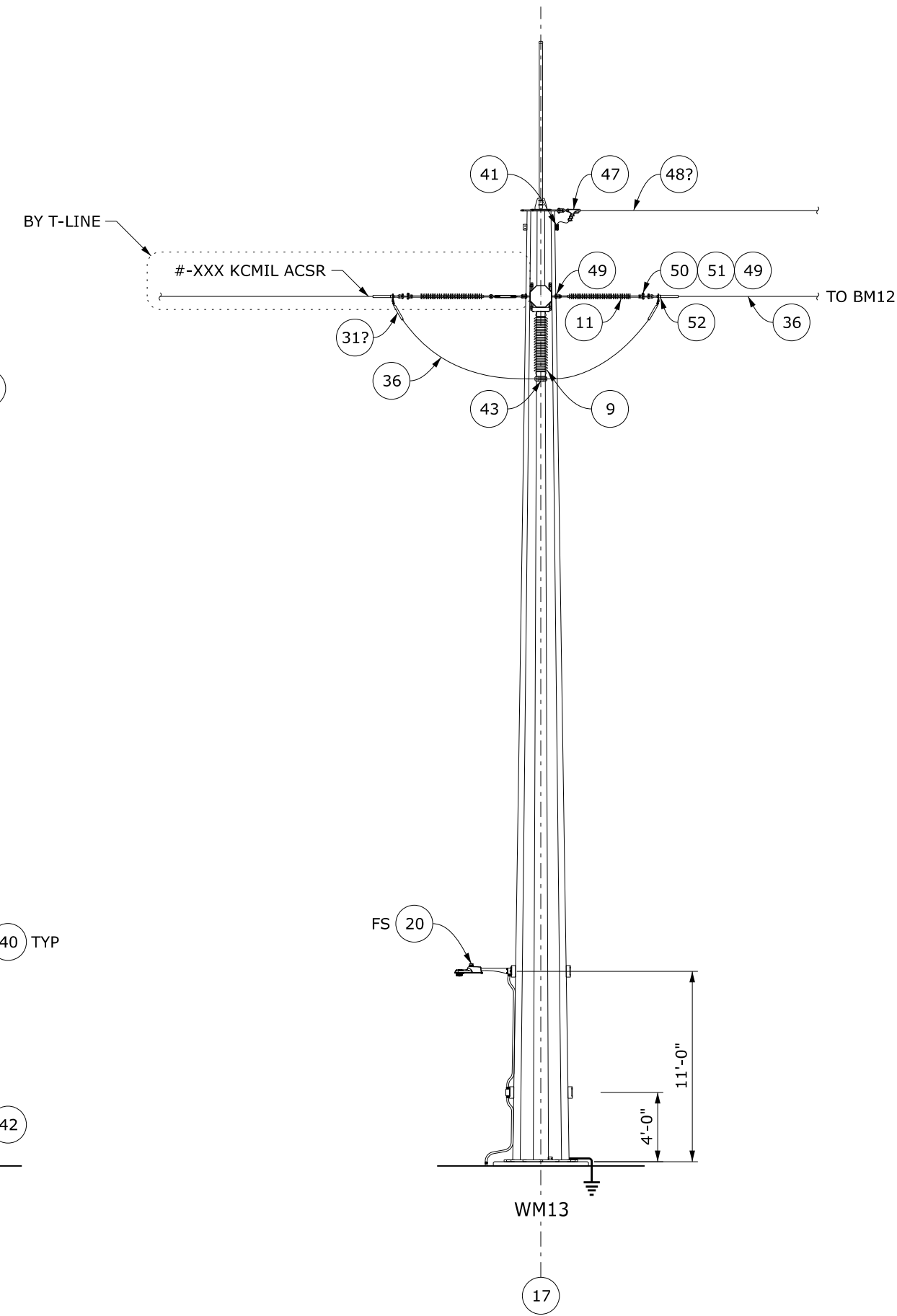
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138KV SECTION VIEWS  
SECTIONS 10-10, 11-11, 12-12  
LOCATION: BROOKS INDUSTRIAL SUBSTATION  
SCALE: 1/8"=1'-0"  
DWG #: 9175-D27-2

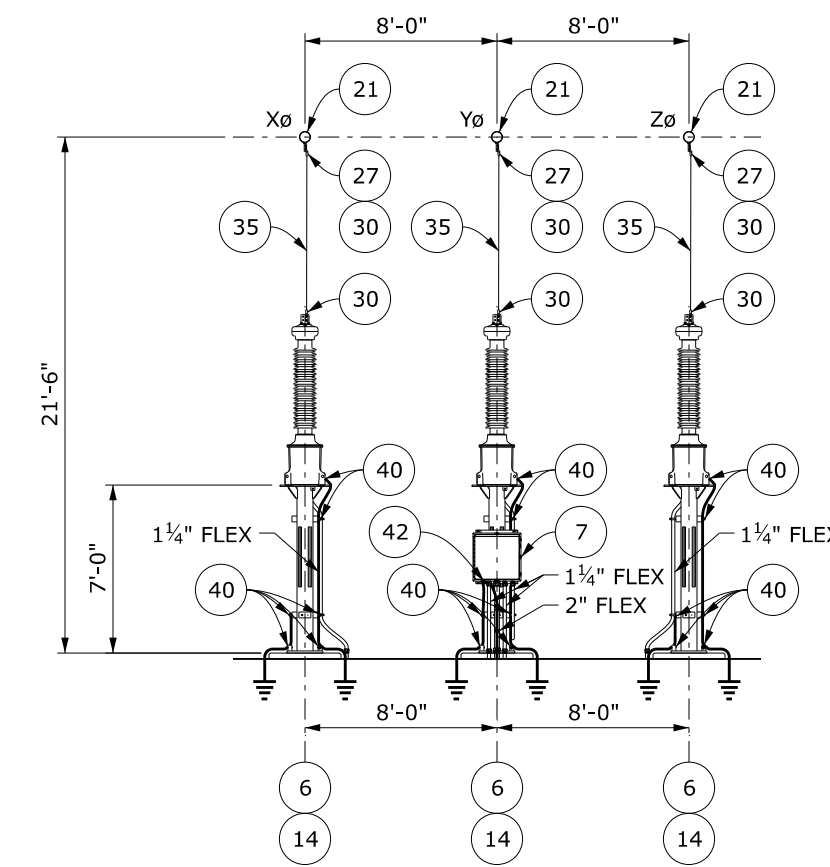
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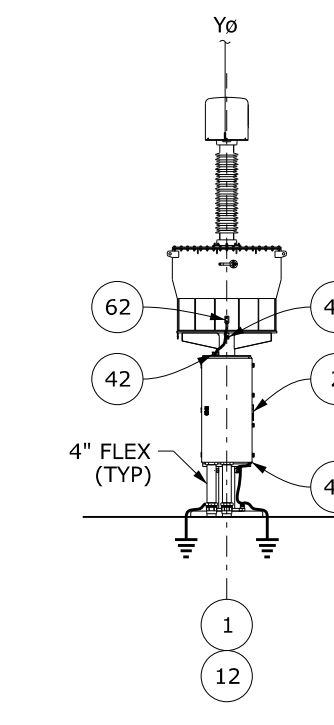
SECTION D-D  
SURGE ARRESTER GROUNDING  
H-FRAME POS BM10, BM12, WM12, BM14, WM14



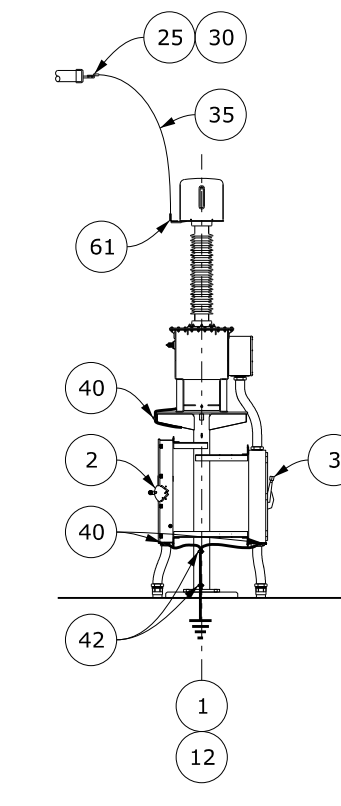
SECTION 13-13  
LINE ENTRANCE DEADEND ASSEMBLY  
& SUBSTATION PASS-THROUGH  
H-FRAME POS WM13



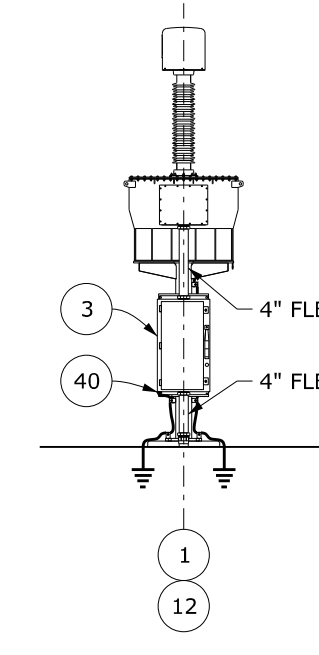
SECTION C-C  
BACK ELEVATION  
LINE CVT'S POS BM10, BM12, WM12, BM14, WM14



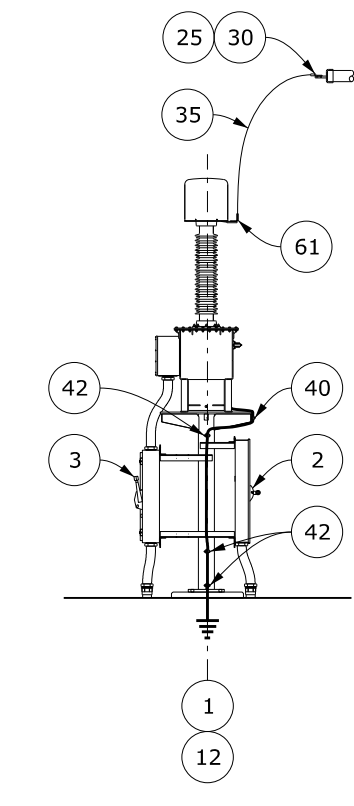
REAR ELEVATION



LEFT ELEVATION

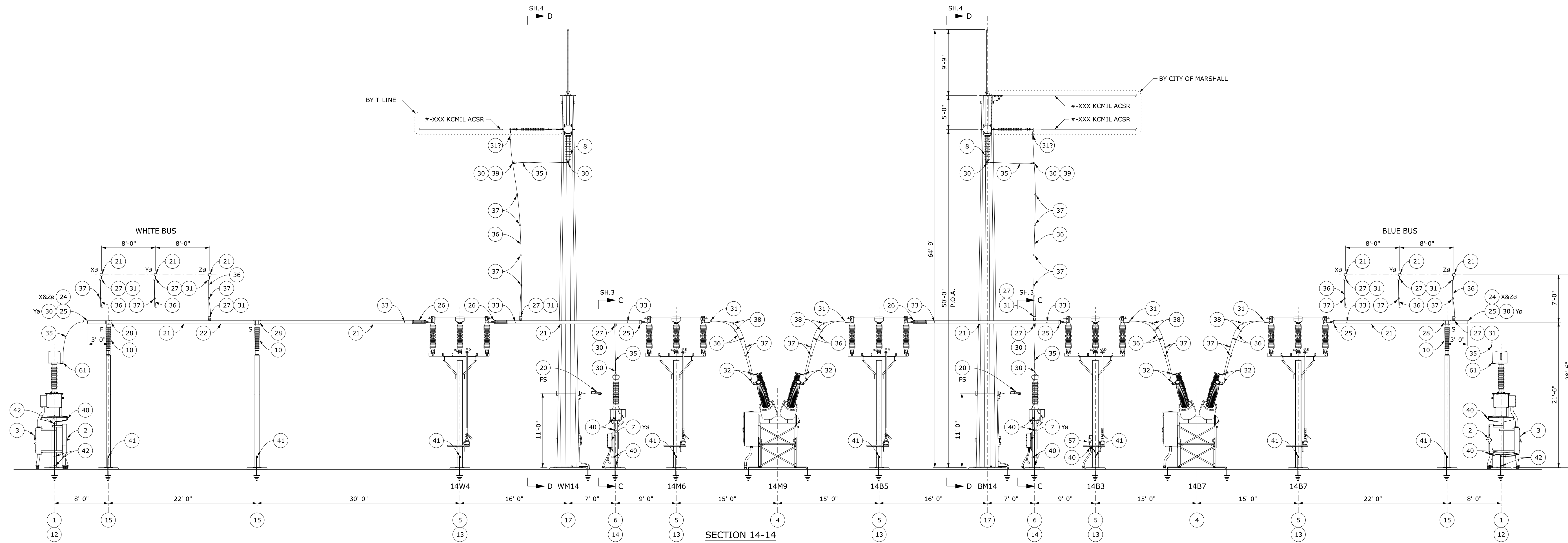


FRONT ELEVATION



RIGHT ELEVATION

DETAIL XX  
BLUE & WHITE BUS  
SSVT SECTION VIEWS



SECTION 14-14  
SECTION VIEW ROW 14

REFERENCE DRAWINGS:  
138KV PLAN VIEW (27, SH.1)  
138KV MATERIAL LIST (27, SH.5)

REV	DATE	REV	DATE	REV	DATE	REV	DATE	REV	DATE

09-15-2020  
FOR CONST (80004333)  
NEW 138KV SUBSTATION.

MADE	APPROVED	ISSUED	MADE	APPROVED	ISSUED	MADE	APPROVED	ISSUED	MADE	APPROVED	ISSUED



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MICHIGAN ELECTRIC TRANSMISSION COMPANY, LLC

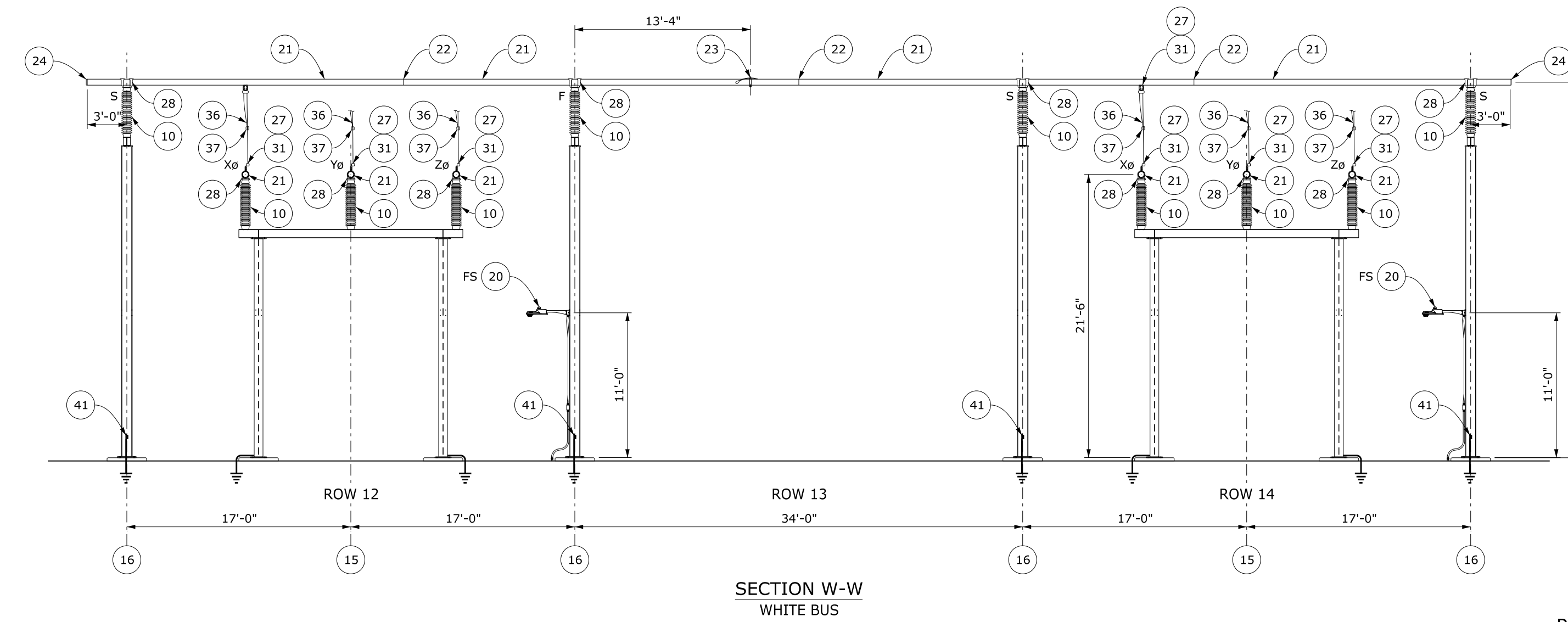
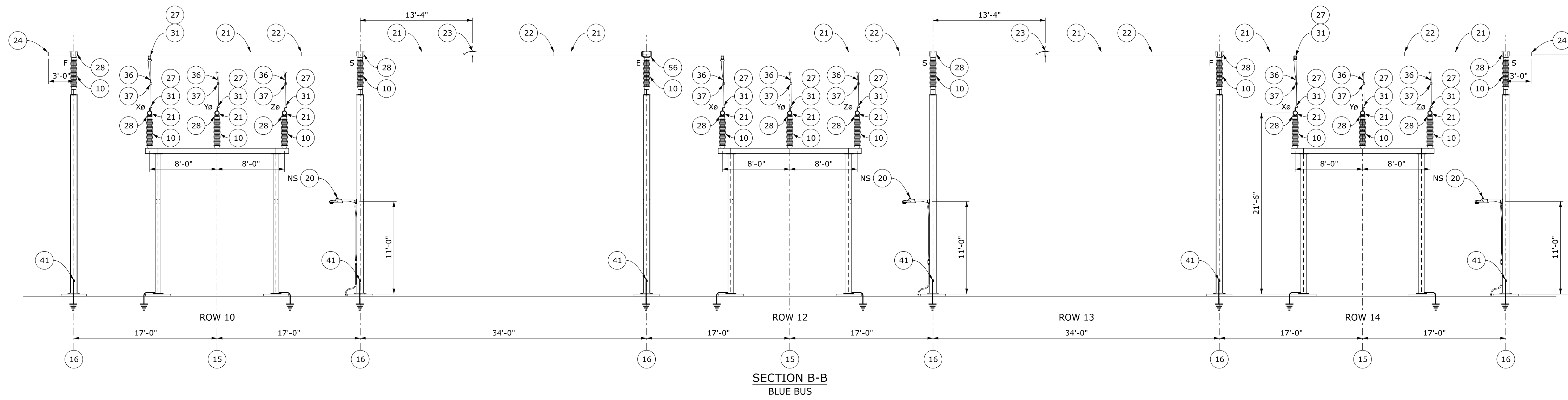
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138KV SECTION VIEWS  
SECTIONS 13-13, 14-14

LOCATION: BROOKS INDUSTRIAL SUBSTATION

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

REV: -  
9175-D27-3



REFERENCE DRAWINGS:  
 138KV PLAN VIEW (27, SH.1)  
 138KV MATERIAL LIST (27, SH.5)

REV	DATE	REV	DATE	REV	DATE	REV	DATE



MICHIGAN ELECTRIC TRANSMISSION COMPANY, LLC

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**138KV SECTION VIEWS**  
**SECTIONS B-B, W-W**  
 LOCATION: BROOKS INDUSTRIAL SUBSTATION  
 SCALE: 1/8"=1'-0"  
 DWG #: 9175-D27-4

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### 2022 Planning Commission Submission Deadlines

The Marshall City Planning Commission shall meet on the 2<sup>nd</sup> Wednesday of the month at 7:00 pm in City Hall Council Chambers at 323 W. Michigan Avenue, Marshall, MI 49068. In the event of no business, the Planning Commission will move to their next regularly scheduled meeting.

<b>Submission Deadline</b>	<b>Meeting Date</b>
December 20, 2021	January 12, 2022
January 17, 2022	February 9, 2022
February 14, 2022	March 9, 2022
March 21, 2022	April 13, 2022
April 18, 2022	May 11, 2022
May 16, 2022	June 8, 2022
June 20, 2022	July 13, 2022
July 18, 2022	August 10, 2022
August 22, 2022	September 14, 2022
September 19, 2022	October 12, 2022
October 17, 2022	November 9, 2022
November 21, 2022	December 14, 2022