

**MARSHALL CITY PLANNING COMMISSION**  
**SPECIAL MEETING**  
Thursday, February 18, 2021 at 7:00 p.m.  
Electronic Meeting Format

**ZOOM LINK:**

<https://us02web.zoom.us/j/84553392343>

You may participate in the virtual meeting by using the link listed above or join by phone at **1-312-626-6799 Meeting ID: 845 5339 2343**

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**Call to Order**

**Roll Call**

**Approval of Agenda**

Special Meeting of the Planning Commission, February 18, 2021

**Public Comments on Agenda Items**

**New Business**

1. Receive and consider Site Plan amendment #SPA17.06 for Delta-One, 1120 Industrial Road

**Adjournment**



**STOREY ENGINEERING GROUP, LLC**

CIVIL ENGINEERS / LAND SURVEYORS  
48264 Manchester, Macomb, MI 48044  
(586) 216-1043  
www.storeyengineering.com

*Tim S. Storey, PE  
President*

Planning & Zoning Department  
City of Marshall  
323 W Michigan Avenue  
Marshall, MI 49068

February 5, 2021  
SEG Project No. 2017-024

**RE: REVISED SITE PLAN SUBMITTAL  
1120 INDUSTRIAL ROAD CULTIVATION FACILITY  
CITY OF MARSHALL, CALHOUN COUNTY, MICHIGAN**

This letter briefly describes the changes made to the plans since they were submitted and approved in 2017. Attached herewith are the revised plans.

1. The developer has decided to proceed in Phases instead of building the entire site at one time. The following sheets have been added to clarify what will be constructed in Phase I: PSP-2.1 – PHASE I SITE PLAN, PSP-3.1 – PHASE I GRADING PLAN, PSP-6.1.1 PHASE I NOTES & DETAILS, LS-1.1 PHASE I LANDSCAPE PLAN. Please note due to site constraints the western side of the Phase I Site Plan will require some demolition of paving and fencing prior to or as a part of the next Phase. This is necessary in order to provide full Phase I site paving as was requested by the City. This is one of the reasons the previous Phase I site plan had been showing some areas to be left as gravel. However, all the gravel has now been eliminated. The entire set of the original site plans are being included in the submission and the drawing index on the cover sheet has been updated accordingly to show the additional sheets that have been added.
2. Phase I Building Area, Lot Coverage and parking Calculations are provided in the site information box on sheet PSP-2.1. Please note, the required parking is 20 spaces (5 plus one per employee in the largest shift. 15 employees plus 5 = 20 required). However, to improve driveway circulation and in order to ensure adequate parking for visitors, etc. the Phase Site Plan is now showing 31 spaces. (see sheet PSP-2.1).
3. The developer found that additional mechanical equipment was needed at the Phase I building. Initially it was thought they would need one or two outdoor containers, this evolved into 7 containers. The Phase I Site Plan is now showing the 7 containers but that they will be enclosed under a building addition. The developer will submit details of the enclosure separately.
4. It was found in order to accommodate the Phase I Landscape Plan some plant material had to be moved around from the originally approved landscape plan. Therefore, the original landscape plan has also been revised accordingly so that it is consistent with the Phase I Landscape Plan, this mainly applies to landscaping that is located along the Dobbins Court street frontage.
5. A trash enclosure was added to the east side of the Phase I building since the other trash enclosures are part of the next phase and will not be built at this time.
6. Additional A/C units have been added at several locations around the Phase I building as was found to be necessary for the facility and are now shown on the Phase I Site Plan.
7. The previously proposed automatic sliding gate with card reader has been eliminated in Phase I. The gates are now proposed as manual sliding gates only and will be open only during business hours (8am-6pm) 7 days/week. The gates will be closed after hours and a Knox Box will be provided for emergency access.

We trust that the accompanying revised plans and the above description of plan changes satisfactorily address the review comments received. However, should there be any additional comments, concerns or questions, please do not hesitate to contact me directly at 586-216-1043.

Thank you!

Sincerely,

**STOREY ENGINEERING GROUP, LLC**



Tim S. Storey, PE, LEED AP  
President

CC: Michael Esshaki – Delta One  
Mike Johnson – Delta One  
Doug Stewart – Delta One

PROPOSED SITE PLAN DRAWINGS

**DELTA ONE - MARSHALL**

1120 INDUSTRIAL ROAD  
MARSHALL, MICHIGAN

LEGAL DESCRIPTION: (TITLE COMMITMENT # 285110)

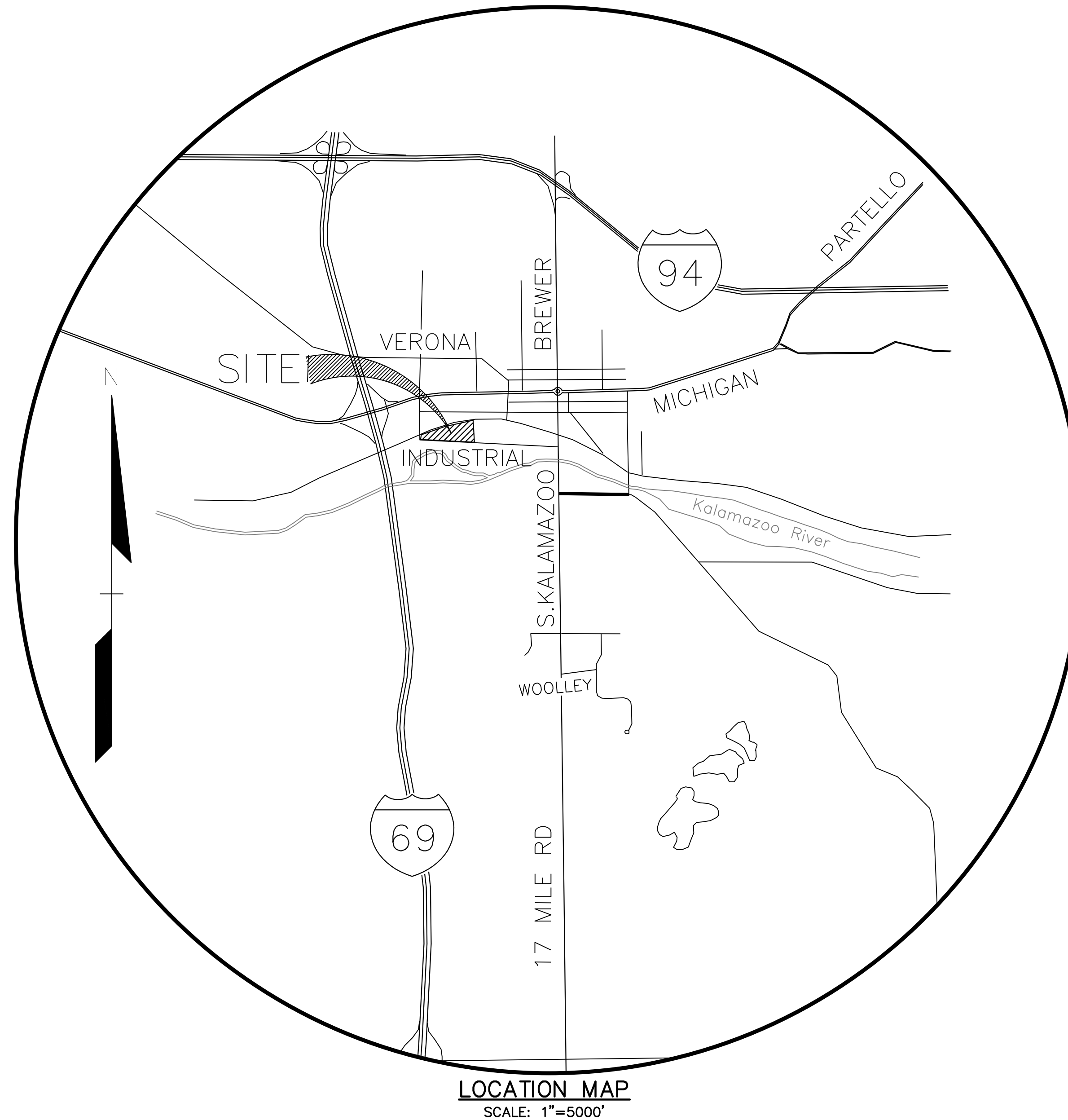
THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF CALHOUN, CITY OF MARSHALL, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PART OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, BEGINNING ON WEST SECTION LINE AT ITS INTERSECTION WITH SOUTH LINE, NEW YORK CENTRAL RAIL ROAD, SOUTH ON SECTION LINE 110 FEET, SOUTH 86°32' EAST ALONG NORTH LINE INDUSTRIAL ROAD 1362 FEET, NORTH 03°28' EAST TO EAST AND WEST 1/4 LINE, WEST TO NEW YORK CENTRAL RAIL ROAD, SOUTHWESTERLY TO BEGINNING, ALSO THAT PART OF LOTS 27 AND 32 "FARMER'S LOAN & TRUST COMPANY SUBDIVISION", ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 30 OF DEEDS, ON PAGE 454, LYING NORTH OF FIRST DESCRIBED PARCEL AND SOUTH OF RAIL ROAD RIGHT-OF-WAY, CITY OF MARSHALL, TOWN 2 SOUTH, RANGE 6 WEST, SECTION 26.

SUBJECT PARCEL ALSO DESCRIBED IN GRANT OF EASEMENT, LIBER 1643, PAGE 465 AS: A PARCEL OF LAND IN THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, SITUATED IN THE CITY OF MARSHALL, COUNTY OF CALHOUN AND STATE OF MICHIGAN, DESCRIBED AS:

BEGINNING ON THE WEST LINE OF SAID SECTION AT ITS INTERSECTION WITH THE SOUTHEAST LINE OF NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY; RUNNING THENCE SOUTHERLY ALONG THE WEST LINE OF SAID SECTION 110 FEET TO THE NORTHERLY LINE OF INDUSTRIAL ROAD; THENCE S86°32'00"E, ALONG THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD 1362 FEET; THENCE N03°28'00"E TO THE EAST AND WEST 1/4 LINE OF SAID SECTION; THENCE WEST ALONG THE EAST AND WEST 1/4 LINE OF SAID SECTION TO THE SOUTHEASTERLY LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY; THENCE SOUTHWESTERLY ALONG THE SOUTHEASTERLY LINE OF SAID RAILROAD RIGHT-OF-WAY TO THE PLACE OF BEGINNING; ALSO ALL THAT PART OF LOTS 27 AND 32 OF "FARMER'S LOAN & TRUST COMPANY SUBDIVISION" OF THE CITY OF MARSHALL, ACCORDING TO THE RECORDED PLAT THEREOF, LYING SOUTHEASTERLY OF THE SOUTHEASTERLY LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY AND NORTHERLY OF THE NORTHERLY LINE OF SAID FIRST ABOVE DESCRIBED PARCEL OF LAND.

INTENDING HEREBY TO DESCRIBE ALL THAT PORTION OF THE NORTHWEST 1/4 OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, AND OF THE SOUTHWEST 1/4 OF SAID SECTION LYING SOUTHEASTERLY OF THE SOUTHEASTERLY LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY; NORTHERLY OF THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD AND WESTERLY OF A LINE EXTENDING FROM THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD TO THE SOUTHEASTERLY LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY AND BEARING N03°28'00"E FROM A POINT ON THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD WHICH IS S86°32'00"E, 1362 FEET FROM A POINT ON THE WEST LINE OF SAID SECTION WHICH IS 110 FEET DISTANT SOUTHERLY OF THE PLACE OF INTERSECTION OF THE SOUTHEASTERLY LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY WITH THE WEST LINE OF SAID SECTION, SAID DISTANCE BEING MEASURED ALONG THE WEST LINE OF SAID SECTION. SUBJECT TO EASEMENTS, RESTRICTIONS, AND RESERVATIONS AND RIGHTS-OF-WAY OF RECORD.



LANDSCAPE ARCHITECT:

FELINO A. PASCUAL + ASSOCIATES, RLA  
24333 ORCHARD LAKE ROAD, STE G  
FARMINGTON HILLS, MI 48336  
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ARCHITECT:

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29114 WILDBROOK  
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PHONE: (248) 352-0461  
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ENGINEER:

STOREY ENGINEERING GROUP, LLC  
48264 MANCHESTER  
MACOMB, MI 48044  
PHONE: (586) 216-1043  
CONTACT: TIM S. STOREY, PE

DEVELOPER:

DELTA ONE  
150 W 2ND STREET, SUITE 250  
ROYAL OAK, MI 48067  
PHONE: (248) 830-1547  
CONTACT: DAVE CURTIS

INDEX OF DRAWINGS:

## PROPOSED SITE PLAN

- PSP-0.0 COVER SHEET
- PSP-1.0 TOPOGRAPHIC + BOUNDARY SURVEY
- PSP-2.0 PRELIMINARY SITE PLAN
- \* PSP-2.1 PHASE ONE SITE PLAN
- PSP-3.0 PRELIMINARY GRADING PLAN
- \* PSP-3.1 PHASE ONE GRADING PLAN
- PSP-4.0 PRELIMINARY UTILITY PLAN
- PSP-5.0 PRELIMINARY DRAINAGE PLAN
- PSP-6.1 NOTES + DETAILS
- \* PSP-6.1.1 PHASE I - NOTES + DETAILS
- PSP-6.2 DETAILS

- 1 OF 1    PHOTOMETRIC SITE PLAN

- |      |                             |
|------|-----------------------------|
| LS-1 | LANDSCAPE PLAN              |
| LS-2 | LANDSCAPE NOTES AND DETAILS |

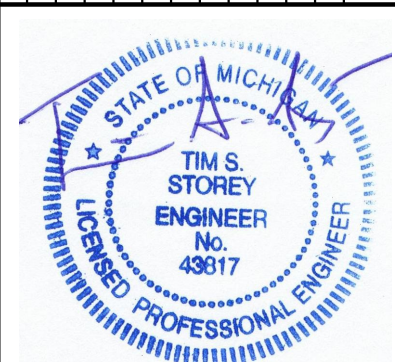
- \* LS-1.1 PHASE I – LANDSCAPE PLAN

- |    |                                   |
|----|-----------------------------------|
| A1 | GREENHOUSE FLOOR PLANS AND DETAIL |
| A2 | GREENHOUSE ELEVATIONS             |
| A3 | EXISTING BUILDING FLOOR PLAN      |

- \* A1 BUILDING ADDITION FLOOR PLAN/ELEVATIONS

\* INDICATES PHASE I DRAWING

No.	DATE	BY	DESCRIPTION
1	8-13-21	TSS	REVISED TO ADDRESS CITY REVIEW COMMENTS
2	8-13-21	TSS	REVISED TO ADDRESS PHASED SITE PLAN
3	8-13-21	TSS	REVISED TO ADDRESS PHASED SITE PLAN
4	11-22-21	TSS	EXPANDED CONC. SLAB
5	2-17-21	TSS	PROVIDE PAVING PER CITY COMMENTS
6	2-24-21	TSS	INCORPORATE ORIGINAL SITE PLAN
7	2-24-21	TSS	UPDATE ORIGINAL SITE PLAN & ADJUST PHASE I



**CAUTION!!**  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

**3 FULL WORKING DAYS  
BEFORE YOU DIG CALL**



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**DELTA ONE**  
 150 WIND STREET, SUITE 250  
 ROYAL OAK, MI 48067

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**COVER SHEET**

**DELTA ONE - MARSHALL**

T2S, R6W, SECTION 26, CITY OF MARSHALL, CALHOUN COUNTY, MI

DEED		T2S	R6W	SECTION	CITY	COUNTY	P.M.	TSS
DEED	T2S	R6W	SECTION	CITY	COUNTY	P.M.	TSS	TSS
DEED	T2S	R6W	SECTION	CITY	COUNTY	P.M.	TSS	TSS

NOTARY PUBLIC STATE OF MICHIGAN, COMMISSION EXPIRES 01-01-2010

ORIGINAL ISSUE DATE:  
9/14/2017

Project No. 2017-024

DRAWING NUMBER:

PSP-0.0



BENCHMARKS

DATUM: NAVD88

BM A:  
APIKE IN WEST SIDE UTILITY POLE, WEST SIDE OF DOBBIN COURT  
ELEV = 908.35

BM B:  
RIM OF STORM CATCH BASIN ALONG NORTH SIDE OF INDUSTRIAL ROAD, APPROXIMATELY  
800 FEET WEST OF DOBBIN COURT.  
ELEV = 901.51

DESCRIPTION: (TITLE COMMITMENT # 285110)

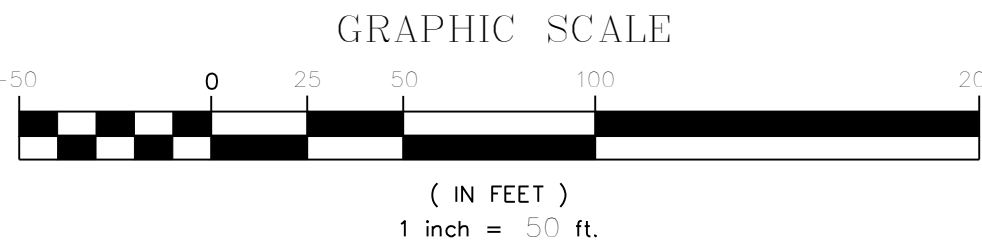
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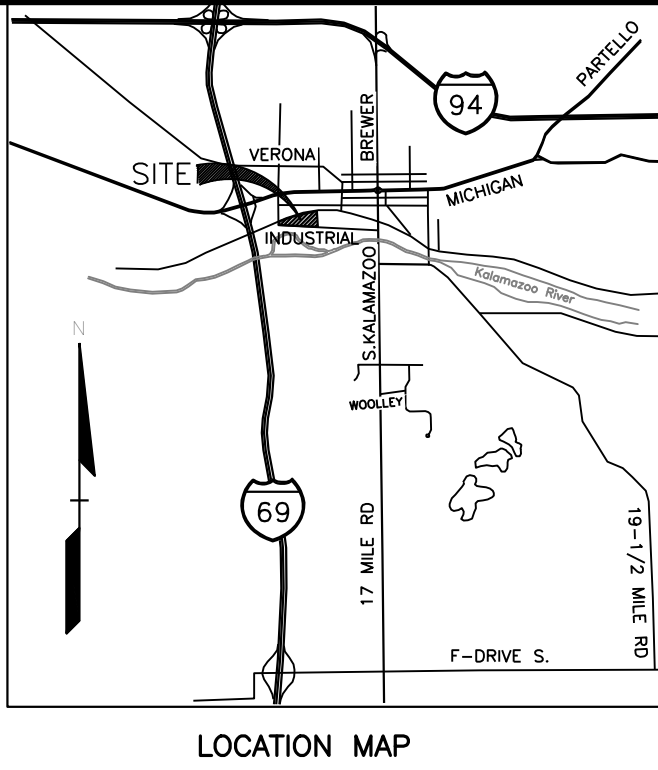
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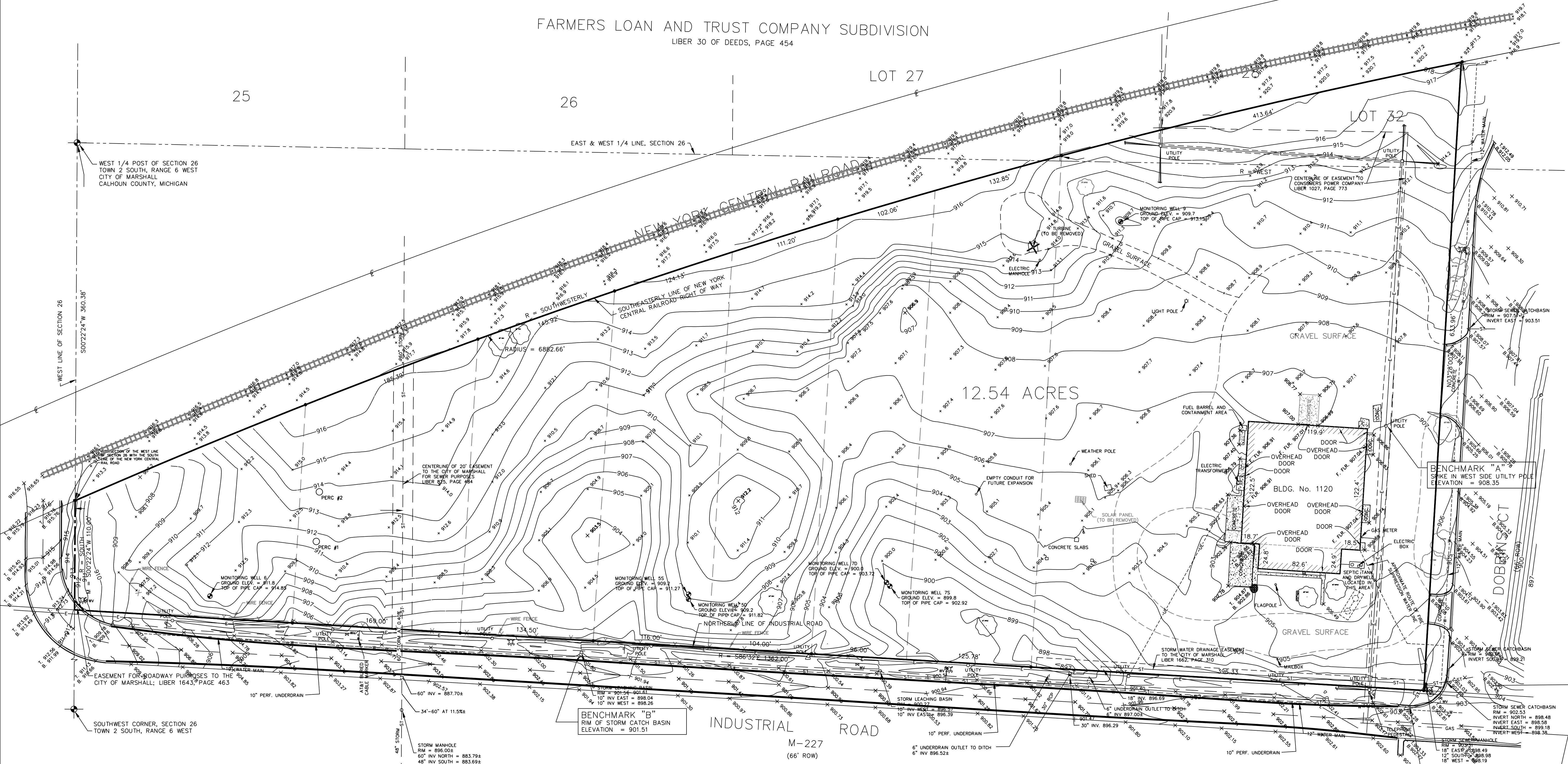
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- LEGEND
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  - ▲ = SET MAG NAIL
  - = SET WOOD STAKE
  - = CONCRETE MONUMENT
  - M = MEASURED DATA
  - R = RECORDED DATA
  - ⊕ = FIRE HYDRANT
  - ⊕ = WATER VALVE
  - ⊕ = FENCE
  - ⊕ = NOT TO SCALE
  - W— = WATER MAIN
  - E— = OVERHEAD ELECTRIC LINE
  - UE— = UNDERGROUND ELECTRIC LINE
  - C— = OVERHEAD COMMUNICATIONS LINE
  - ST— = STORM SEWER

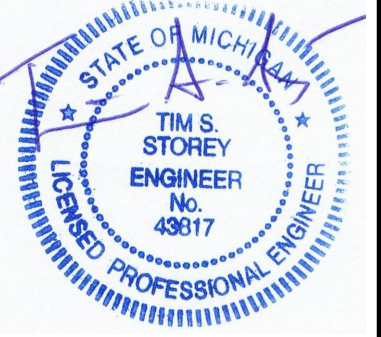


FARMERS LOAN AND TRUST COMPANY SUBDIVISION  
LIBER 30 OF DEEDS, PAGE 454



NOTE:  
TOPOGRAPHIC + BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282

REVISIONS	
NO.	DATE
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3 FULL WORKING DAYS BEFORE YOU DIG CALL

811  
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1-800-482-7171 www.missdig.net



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48264 MANCHESTER  
MACOMB, MI 48044  
(586) 216-1043  
www.storeyengineering.com

TOPOGRAPHIC + BOUNDARY SURVEY	
DELTA ONE - MARSHALL	
DES.	TSS
DN.	TSS
SUR.	CARR
CARR.	TSS
P.M.	TSS
ORIGINAL ISSUE DATE: 9/14/2017	
Project No. 2017-024	
SCALE: 1" = 50'	
DRAWING NUMBER: PSP-1.0	



SITE INFORMATION:

- The zoning classification of the property is I-1 (RESEARCH & MANUFACTURING). The proposed use is a Greenhouse with on-site processing & packaging. The use is an allowable use.
- All exterior lighting shall be pole mounted and shielded from adjacent properties. Pole will be 25' maximum height. Exterior lighting shall be shielded down and shall be directed away from off-site areas (1.0 foot candle maximum at property line).
- Any signs shall meet the requirements of the zoning Ordinance for the City of Marshall. Separate permits are required for sign installation and shall be applied for separately.
- All roof and ground mounted mechanical equipment shall be screened from adjacent roads and properties.
- The building shall be designed & constructed in accordance with all applicable fire codes. REFER TO ARCHITECTURAL FOR FIRE SAFETY/CODE REQUIREMENTS. A KNOX BOX WILL BE PROVIDED AT GATE FOR USE BY THE FIRE DEPARTMENT IN CASE OF EMERGENCY TO ACCESS THE SITE AND BUILDINGS.
- Fire lanes shall be designated by the Fire Code Official, and shall be conspicuously posted on both sides of the fire lane, with fire lane signs spaced not more than 100 feet apart, and in conformance with the MMUTCD.
- Hours of operation will be continuous, 7 days a week. However, processing & packaging will only occur Monday thru Friday 8am to 6pm. For security reasons there will be no access allowed by the general public, only employees, delivery and security personnel will be allowed on the property.
- THERE WILL BE NO COMPOSTING ON SITE. COMPOSTABLE MATERIALS WILL BE PICKED UP BY A WASTE RECYCLING COMPANY.
- Maximum allowable Building height is 45'. Existing Building height is 30'. Proposed Green House Building Height is 20'.
- PROPOSED BUILDING AREA:  
10 PROPOSED GREEN HOUSE BUILDINGS AT 12,450 SF EACH = 124,500 SF  
1 EXISTING BUILDING W/14,440 SF WAREHOUSE & 1,900 SF OFFICE  
PROPOSED MECHANICAL EQUIPMENT ADDITION = 4,614 SF  
TOTAL PHASE ONE BUILDING AREA = 20,954 SF  
TOTAL BUILDING AREA = 145,454 SF
- REFER TO SHEET PSP-2.1 FOR PHASE I BUILDING & SITE INFORMATION
- Proposed % lot coverage by all buildings is 145,454 / 546,242 = 26.63%
- REFER TO SHEET PSP-2.1 FOR PHASE I LOT COVERAGE
- All pedestrian walkways and required egress doors shall comply with Michigan Barrier Free Design criteria.
- Parking Required (per City of Marshall Ordinance) = 5 plus 1 space/employee in largest shift = 5 + 55 Employees = 60 (60 spaces required).
- Parking Provided:  
117 - 9' x 20' Spaces  
10 - 8' x 20' Barrier Free Spaces  
127 Total Parking Spaces provided
- REFER TO SHEET PSP-2.1 FOR PHASE I PARKING CALCULATIONS
- Max Number of Employees in any one shift = 55
- REFER TO SHEET PSP-2.1 FOR PHASE I EMPLOYEE INFORMATION
- Storm water detention is proposed onsite in a detention basin.
- REFER TO PSP-2.1 & PSP-3.1 FOR PHASE I DRAINAGE INFORMATION
- Required setbacks (per City of Marshall Ordinance):  
Front Building Setback = 50 feet  
Side Yard Building Setback = 20 feet (50 feet total of two)  
Rear Building Setback = 25 feet
- Locations of all ground signs are indicated on sheet PSP-2.0 (none are proposed).
- Open burning is not permitted including the burning of trash, debris or land clearing materials.
- Gross Parcel area = 546,242 sf = 12.54 ac.
- SITE SHALL BE PROVIDED WITH SECURITY CAMERAS MONITORED 24 HOURS A DAY CONTINUOUSLY.
- Artificial lighting will supplement natural hours of daylight with minimal overlap of night time hours. Hours of lighting are as follows but may vary depending on stage of growth: Vegetative Rooms (18hr on - 6hr off); Flower Rooms (12hr on - 12hr off). For the period of time which artificial lighting is used during night time hours, complete black out shades will be drawn above light fixtures to minimize any light bleed outside of greenhouse.

SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE A'

SIDEWALK RAMP 'TYPE B'

REFER TO SHEET PSP-6.2 FOR SIDEWALK RAMP DETAILS

SIGN LEGEND:

'BARRIER FREE PARKING' SIGN (10 EA.)

'STOP' SIGN (4 EA.)

'NO PARKING FIRE LANE' SIGN (51 EA.)

CROSS-WALK SIGN (4 EA.)

REFER TO SHEET PSP-6.1 FOR SIGN DETAILS. ALL TRAFFIC SIGNAGE SHALL COMPLY WITH THE CURRENT MMUTCD STANDARDS.

BENCHMARKS

DATUM: NAVD88

BM A:  
APIKE IN WEST SIDE UTILITY POLE, WEST SIDE OF DOBBIN COURT  
ELEV = 908.35

BM B:  
RIM OF STORM CATCH BASIN ALONG NORTH SIDE OF INDUSTRIAL ROAD, APPROXIMATELY 800 FEET WEST OF DOBBIN COURT.  
ELEV = 901.51

DESCRIPTION: (TITLE COMMITMENT # 285110)

THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF CALHOUN, CITY OF MARSHALL, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PART OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, BEGINNING ON WEST SECTION LINE AT ITS INTERSECTION WITH SOUTH LINE, NEW YORK CENTRAL RAIL ROAD, SOUTH ON SECTION LINE 110 FEET, SOUTH 80°32' EAST ALONG NORTH LINE INDUSTRIAL ROAD 1362 FEET, NORTH 0°28' EAST TO EAST AND WEST 1/4 LINE, WEST TO NEW YORK CENTRAL RAIL ROAD, SOUTHWESTERLY TO BEGINNING, ALSO THAT PART OF LOTS 27 AND 32 "FARMER'S LOAN & TRUST COMPANY SUBDIVISION", ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 30 OF DEEDS, ON PAGE 454, LYING NORTH OF FIRST DESCRIBED PARCEL AND SOUTH OF RAIL ROAD RIGHT-OF-WAY, CITY OF MARSHALL, TOWN 2 SOUTH, RANGE 6 WEST, SECTION 26.

SUBJECT PARCEL ALSO DESCRIBED IN GRANT OF EASEMENT, LIBER 1643, PAGE 465 AS: A PARCEL OF LAND IN THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, SITUATED IN THE CITY OF MARSHALL, COUNTY OF CALHOUN AND STATE OF MICHIGAN, DESCRIBED AS: BEGINNING ON THE WEST LINE OF SAID SECTION AT ITS INTERSECTION WITH THE SOUTHEAST LINE OF NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY, RUNNING THENCE SOUTHERLY ALONG THE WEST LINE OF SAID SECTION 110 FEET TO THE NORTHERLY LINE OF INDUSTRIAL ROAD; THENCE S86°32'00"E ALONG THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD 1362 FEET; THENCE N0°28'00"E TO THE EAST AND WEST 1/4 LINE OF SAID SECTION; THENCE WEST ALONG THE EAST AND WEST 1/4 LINE OF SAID SECTION TO THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY; THENCE SOUTHWESTERLY ALONG THE SOUTHEAST LINE OF SAID RAILROAD RIGHT-OF-WAY TO THE PLACE OF BEGINNING, ALSO ALL THAT PART OF LOTS 27 AND 32 OF "FARMER'S LOAN & TRUST COMPANY SUBDIVISION" OF THE CITY OF MARSHALL, ACCORDING TO THE RECORDED 1/4 OF SAID SECTION LYING SOUTHEASTERLY OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY; NORTHERLY OF THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD AND WESTERLY OF A LINE EXTENDING FROM THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD TO THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY AND BEARING N0°28'00"E FROM A POINT ON THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD WHICH IS S86°32'00"E, 1362 FEET FROM A POINT ON THE WEST LINE OF SAID SECTION WHICH IS 110 FEET DISTANT SOUTHERLY OF THE PLACE OF INTERSECTION OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY WITH THE WEST LINE OF SAID SECTION, SAID DISTANCE BEING MEASURED ALONG THE WEST LINE OF SAID SECTION, SUBJECT TO EASEMENTS, RESTRICTIONS, AND RESERVATIONS AND RIGHTS-OF-WAY OF RECORD.

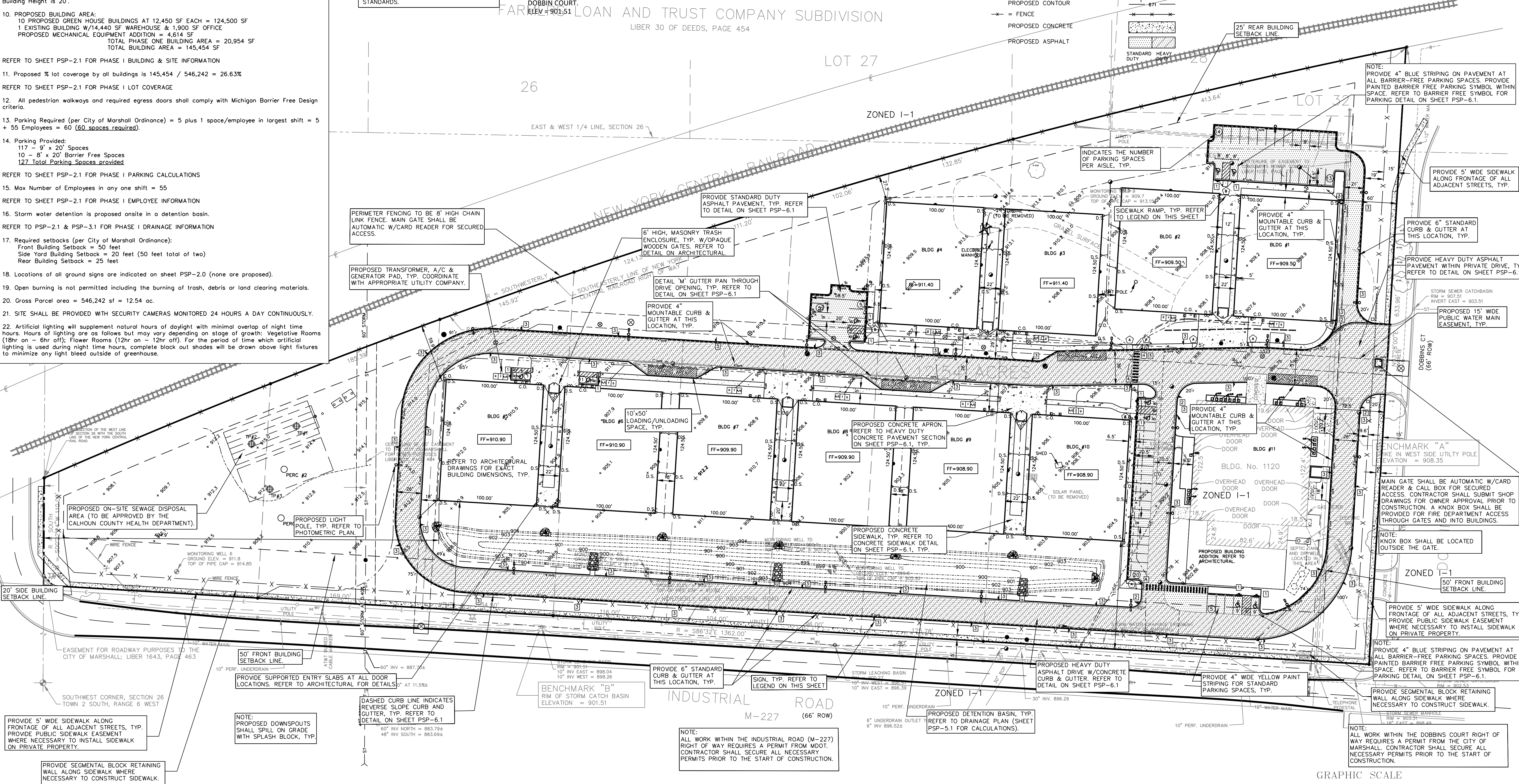
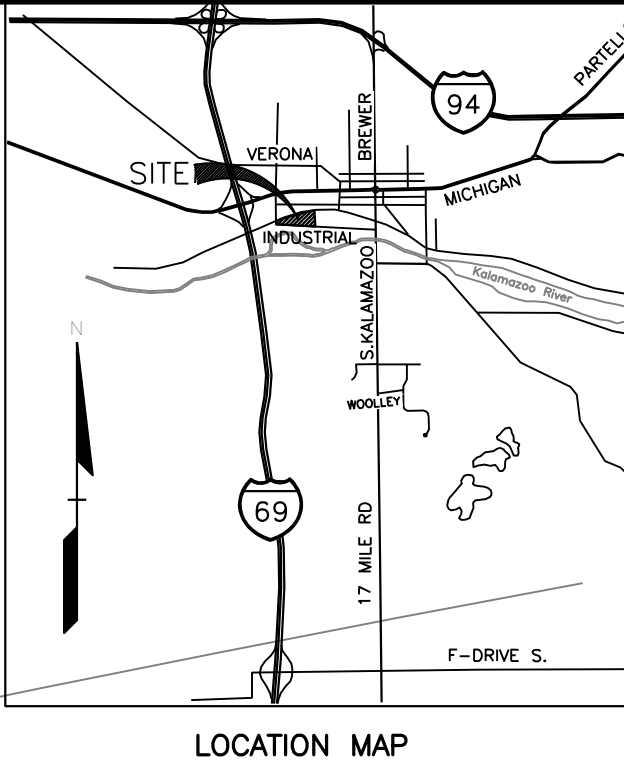
INTENDING HEREBY TO DESCRIBE ALL THAT PORTION OF THE NORTHWEST 1/4 OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, AND OF THE SOUTHWEST 1/4 OF SAID SECTION LYING SOUTHEASTERLY OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY, NORTHERLY OF THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD AND WESTERLY OF A LINE EXTENDING FROM THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD TO THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY AND BEARING N0°28'00"E FROM A POINT ON THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD WHICH IS S86°32'00"E, 1362 FEET FROM A POINT ON THE WEST LINE OF SAID SECTION WHICH IS 110 FEET DISTANT SOUTHERLY OF THE PLACE OF INTERSECTION OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY WITH THE WEST LINE OF SAID SECTION, SAID DISTANCE BEING MEASURED ALONG THE WEST LINE OF SAID SECTION, SUBJECT TO EASEMENTS, RESTRICTIONS, AND RESERVATIONS AND RIGHTS-OF-WAY OF RECORD.

LEGEND

EXISTING

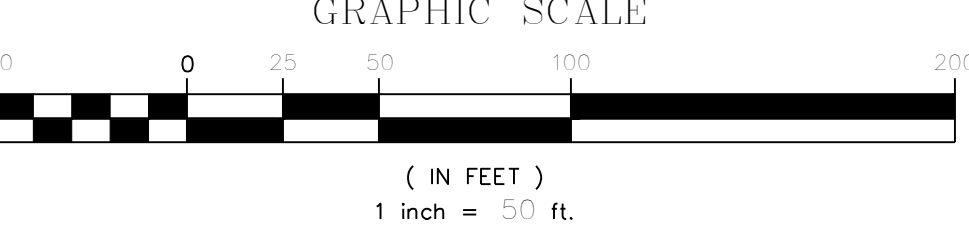
PROPOSED

- = SET IRON STAKE
- = FOUND IRON STAKE
- ▲ = SET MAG NAIL
- = SET WOOD STAKE
- = CONCRETE MONUMENT
- M = MEASURED DATA
- R = RECORDED DATA
- = NOT TO SCALE
- = FIRE HYDRANT
- = WATER VALVE
- = WATER MAIN
- = OVERHEAD ELECTRIC LINE
- = UNDERGROUND ELECTRIC LINE
- = OVERHEAD COMMUNICATIONS LINE
- = STORM SEWER
- = SANITARY SEWER
- = LIGHT POLE
- = SIGN
- = PROPOSED GRADE
- = PROPOSED CONTOUR
- = FENCE
- = PROPOSED CONCRETE
- = PROPOSED ASPHALT



ON-SITE PAVING QUANTITIES:

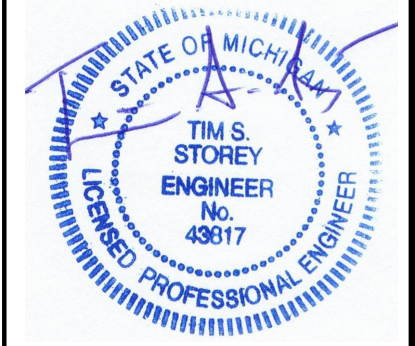
4" CONCRETE SIDEWALK	13,191 SF
6" HEAVY DUTY CONCRETE	9,893 SF
4" STANDARD ASPHALT ON 6" MDOT 21AA AGG.	14,343 SF (PARKING LOT)
4" HEAVY DUTY ASPHALT ON 8" MDOT 21AA AGG.	66,725 SF (ACCESS DRIVES)
18" WIDE CONC CURB & GUTTER	6,327 LF
TRASH ENCLOSURE	5 EA.



NOTE:  
TOPOGRAPHIC + BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	11-21-20	TSS	UPDATE ORIGINAL SITE PLAN & ADJUST PHASE I
2	11-21-20	TSS	INCORPORATE ORIGINAL SITE PLAN COMMENTS
3	11-21-20	TSS	REVISED EXISTING CONC. SLAB
4	11-21-20	TSS	REVISED EXISTING CONC. SLAB
5	11-21-20	TSS	REVISED EXISTING CONC. SLAB
6	11-21-20	TSS	REVISED EXISTING CONC. SLAB
7	11-21-20	TSS	REVISED EXISTING CONC. SLAB
8	11-21-20	TSS	REVISED EXISTING CONC. SLAB
9	11-21-20	TSS	REVISED EXISTING CONC. SLAB
10	11-21-20	TSS	REVISED EXISTING CONC. SLAB



CAUTION!!  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE FOR THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, AND THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

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PRELIMINARY SITE PLAN  
DELTA ONE - MARSHALL  
120 INDUSTRIAL ROAD  
SECTION 26, CITY OF MARSHALL, CALHOUN COUNTY, MI

TSS DN. TSS SUR. CARR P.M. TSS

DES. TSS DN. TSS SUR. CARR P.M. TSS

8-150007 PROJECTS 2017-024 DELTA ONE - MARSHALL VARIOUS SITE PLAN PSP-2.0 PM JMW

ORIGINAL ISSUE DATE:  
9/14/2017

Project No. 2017-024

SCALE: 1" = 50'

DRAWING NUMBER:  
PSP-2.0



BENCHMARKS

DATUM: NAVD88

BM A:  
APIKE IN WEST SIDE UTILITY POLE, WEST SIDE OF DOBBIN COURT  
ELEV = 908.35

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RIM OF STORM CATCH BASIN ALOMNG NORTH SIDE OF INDUSTRIAL  
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— = FENCE	
— = PROPOSED CONCRETE	
— = PROPOSED ASPHALT	
	STANDARD DUTY
	HEAVY DUTY

SITE INFORMATION (PHASE ONE):

- The zoning classification of the property is I-1 (RESEARCH & MANUFACTURING). The proposed use is a Greenhouse with on-site processing & packaging. The use is an allowable use.
- All exterior lighting shall be pole mounted and shielded from adjacent properties. Pole will be 25' maximum height. Exterior lighting shall be shielded down and shall be directed away from off-site areas (1.0 foot candle maximum at property line).
- Any signs shall meet the requirements of the zoning Ordinance for the City of Marshall. Separate permits are required for sign installation and shall be applied for separately.
- All roof and ground mounted mechanical equipment shall be screened from adjacent roads and properties.
- The building shall be designed & constructed in accordance with all applicable fire codes. REFER TO ARCHITECTURAL FOR FIRE SAFETY/CODE REQUIREMENTS. A KNOX BOX WILL BE PROVIDED AT GATE FOR USE BY THE FIRE DEPARTMENT IN CASE OF EMERGENCY TO ACCESS THE SITE AND BUILDINGS.
- Fire lanes shall be designated by the Fire Code Official, and shall be conspicuously posted on both sides of the fire lane, with fire lane signs spaced not more than 100 feet apart, and in conformance with the MMUTCD.
- Hours of operation will be continuous, 7 days a week. However, processing & packaging will only occur Monday thru Friday 8am to 6pm. For security reasons there will be no access allowed by the general public, only employees, delivery and security personnel will be allowed on the property.
- THERE WILL BE NO COMPOSTING ON SITE. COMPOSTABLE MATERIALS WILL BE PICKED UP BY A WASTE RECYCLING COMPANY.
- Maximum allowable Building height is 45'. Existing Building height is 30'. Future Green House Building Height is 20'.
- PROPOSED BUILDING AREA (Phase One):  
1 EXISTING BUILDING W/14,440 SF WAREHOUSE & 1,900 SF OFFICE  
PROPOSED MECHANICAL EQUIPMENT ADDITION = 4,614 SF  
TOTAL PHASE ONE BUILDING AREA = 20,954 SF
- Proposed Phase I - % lot coverage by all buildings is 20,954 / 546,242 = 3.84%
- All pedestrian walkways and required egress doors shall comply with Michigan Barrier Free Design criteria.
- Phase I Parking Required (per City of Marshall Ordinance) = 5 plus 1 space/employee in largest shift = 5 + 15 Employees = 20 (20 spaces required).
- Parking Provided:  
29 - 9' x 20' Spaces  
2 - 9' x 20' Barrier Free Spaces  
31 Total Parking Spaces provided
- Max Number of Employees in any one shift = 15
- Storm water detention is not proposed for Phase One. Existing drainage pattern is to be maintained.
- Required setbacks (per City of Marshall Ordinance):  
Front Building Setback = 50 feet  
Side Yard Building Setback = 20 feet (50 feet total of two)  
Rear Building Setback = 25 feet
- Locations of all ground signs are indicated on this sheet (none are proposed).
- Open burning is not permitted including the burning of trash, debris or land clearing materials.
- Gross Parcel area = 546,242 sf = 12.54 ac.
- SITE SHALL BE PROVIDED WITH SECURITY CAMERAS MONITORED 24 HOURS A DAY CONTINUOUSLY.

NOTE:  
TOPOGRAPHIC + BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282

GRAPHIC SCALE



( IN FEET )  
1 inch = 30 ft.

N

DESCRIPTION: (TITLE COMMITMENT # 285110)

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FUTURE SAWCUT LINE (PHASE II)

PROVIDE STANDARD DUTY ASPHALT PAVEMENT, TYP. REFER TO DETAIL ON SHEET PSP-6.1

SHED

SOLAR PANEL (TO BE REMOVED)

PROVIDE 8" HIGH CHAIN LINK FENCE, TYP.

DARK LINE INDICATES BUILDING ADDITION, TYP. REFER TO ARCHITECTURAL

STORM WATER DRAINAGE EASEMENT

LARGE ACCESS GATE

STORM LEACHING BASIN

10" INV WEST = 896.57

10" INV EAST = 896.39

10" DEEP UNDERDRAIN

18" INV. 896.69

6" UNDERDRAIN OUTLET TO DITCH

6" INV 897.00±

30" INV. 896.29

INDUSTRIAL ROAD (M-227) (66' ROW)

30' FRONT BUILDING SETBACK LINE

FUTURE SAWCUT LINE (PHASE II)

PROVIDE 4" WIDE YELLOW PAINT STRIPING FOR STANDARD PARKING SPACES, TYP.

STORM SEWER CATCHBASIN

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30' FRONT BUILDING SETBACK LINE

FUTURE SAWCUT LINE (PHASE II)

PROVIDE 4" WIDE YELLOW PAINT STRIPING FOR STANDARD PARKING SPACES, TYP.

STORM SEWER CATCHBASIN

RIM = 900.27

10" INV WEST = 896.57

10" INV EAST = 896.39

10" DEEP UNDERDRAIN

18" INV. 896.69

6" UNDERDRAIN OUTLET TO DITCH

6" INV 897.00±

30" INV. 896.29

INDUSTRIAL ROAD (M-227) (66' ROW)

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RIM = 900.27

10" INV WEST = 896.57



THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

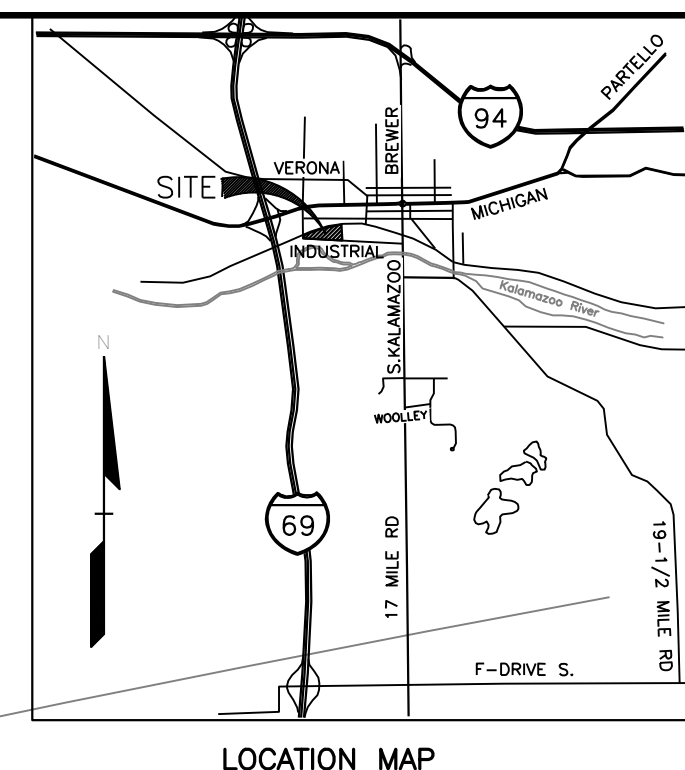
1. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
2. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
3. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF CALHOUN COUNTY AND THE CITY OF MARSHALL. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE COUNTY PRIOR TO CONSTRUCTION.
4. ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT NOT YET COMPLETED AS OF THIS WRITING.
5. SEE ADDITIONAL GRADING AND EARTHWORK NOTES ON DETAIL SHEET PSP-6.1
6. ALL SLOPES EXCEEDING 1:4 MUST BE STABILIZED BY SODDING OR BY PLACING A MULCH BLANKET PEGGED IN PLACE OVER SEED.
7. ALL DISTURBED AREAS SHALL BE SEEDDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AN ADJACENT TO THE SITE BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE LOCATED WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

\* 73.20 PROPOSED SPOT GRADE ELEVATION  
ALL GRADES INDICATED ARE TOP OF  
PAVEMENT UNLESS OTHERWISE NOTED.  
ADD 900 TO ALL 4-DIGIT ELEVATIONS  
TO OBTAIN ACTUAL ELEVATION.

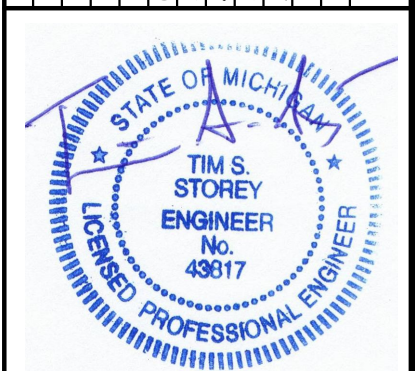
— 974 — PROPOSED CONTOUR LINE

1. THIS IS NOT A BALANCED GRADING PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

EXISTING	PROPOSED
○ = SET IRON STAKE	
● = FOUND IRON STAKE	
△ = SET MAG NAIL	
□ = SET WOOD STAKE	
■ = CONCRETE MONUMENT	
M = MEASURED DATA	
R = RECORDED DATA	
—/— = NOT TO SCALE	
⋈ = FIRE HYDRANT	
⋈ = WATER VALVE	
—/— = WATER MAIN	
—E— = OVERHEAD ELECTRIC LINE	
—U— = UNDERGROUND ELECTRIC LINE	
—C— = OVERHEAD COMMUNICATIONS LINE	
—ST— = SEWER	
SANITARY SEWER	
LIGHT POLE	
SIGN	
PROPOSED GRADE	
PROPOSED CONTOUR	
—X— = FENCE	
PROPOSED CONCRETE	
PROPOSED ASPHALT	



No.	Date	By	Description
7	2-24-21	TSS	UPDATE ORIGINAL SITE PLAN & ADJUST PHASE I
6	2-24-21	TSS	INCORPORATE ORIGINAL SITE PLAN
5	2-21-21	TSS	EXPANDED PAVING PER CITY COMMENTS
4	1-19-21	TSS	EXPANDED CONC. SLAB
3	11-20-20	TSS	REVISED FENCED AREA
2	11-20-20	TSS	REVISED SITE PLAN
1	10-31-20	TSS	REVISED TO ADDRESS CITY REVIEW COMMENTS



**CAUTION!!**  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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 ROYAL OAK, MI 48067

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**PRELIMINARY GRADING PLAN**  
**DELTA ONE - MARSHALL**  
 1120 INDUSTRIAL ROAD  
 T2S, R6W, SECTION 26, CITY OF MARSHALL, CALHOUN COUNTY, MI

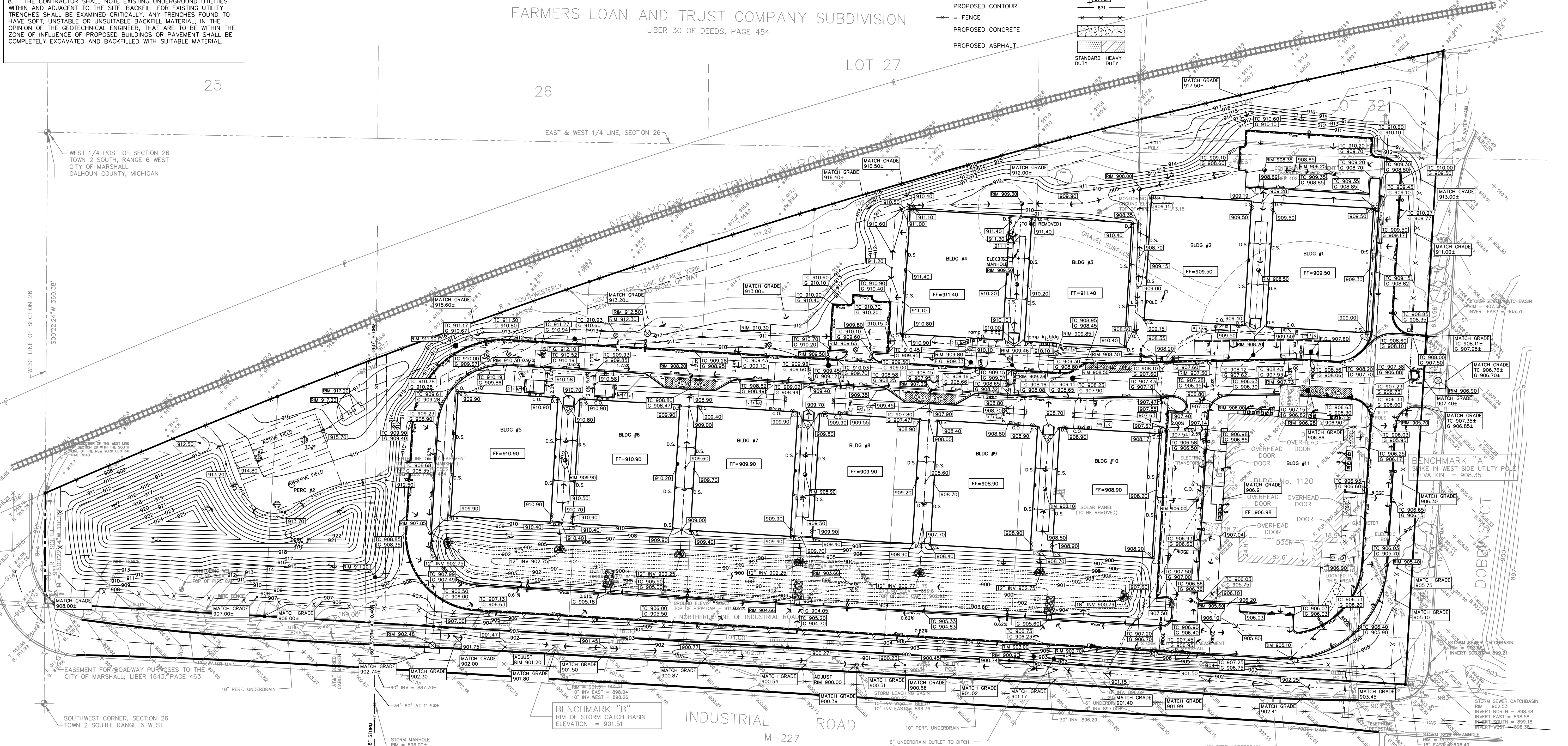
DES.	TSS	DN.	TSS	SUN.	CARR	P.M.	TSS
W/2ND STREET PROJECTS 2017-2024 DELTA ONE - MARSHALL V/2ND STREET PLAN V/2P-3.0.0, GRADE 1/WS							

ORIGINAL ISSUE DATE:  
9/14/2017

Project No. 2017-024

SCALE: 1" = 50'

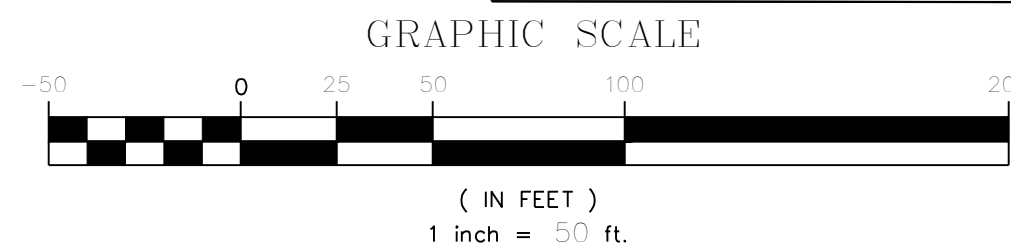
DRAWING NUMBER:  
**PSP-3.0**



NOTE:  
ALL WORK WITHIN THE INDUSTRIAL ROAD (M-227)  
RIGHT OF WAY REQUIRES A PERMIT FROM MDOT.  
CONTRACTOR SHALL SECURE ALL NECESSARY  
PERMITS PRIOR TO THE START OF CONSTRUCTION.

NOTE:  
A SOIL EROSION + SEDIMENTATION CONTROL PERMIT IS REQUIRED FROM CALHOUN COUNTY DRAIN COMMISSION FOR THIS PROJECT. AN SECC PLAN WILL BE PROVIDED AS PART OF THE FINAL CONSTRUCTION PLAN + PERMITTING PACKAGE. ADDITIONALLY, AN NPDES PERMIT IN ACCORDANCE WITH PART 91 IS REQUIRED FOR THIS SITE SINCE IT IS LARGER THAN 5 ACRES IN DISTURBANCE AND IT IS CLOSER THAN 500 FEET TO THE KALAMAZOO RIVER.

NOTE:  
ALL WORK WITHIN THE DOBBINS COURT RIGHT OF  
WAY REQUIRES A PERMIT FROM THE CITY OF  
MARSHALL. CONTRACTOR SHALL SECURE ALL  
NECESSARY PERMITS PRIOR TO THE START OF  
CONSTRUCTION.



**NOTE:**  
TOPOGRAPHIC + BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282



BENCHMARKS

DATUM: NAVD88

BM A:  
APIKE IN WEST SIDE UTILITY POLE, WEST SIDE OF DOBBIN COURT  
ELEV = 908.35

BM B:  
RIM OF STORM CATCH BASIN ALOMNG NORTH SIDE OF INDUSTRIAL ROAD, APPROXIMATELY 800 FEET WEST OF DOBBIN COURT.  
ELEV = 901.51

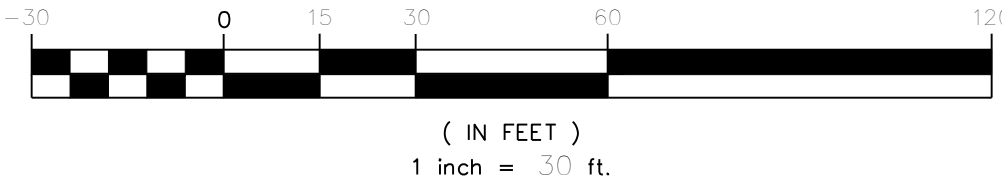
LEGEND

EXISTING	PROPOSED
○ = SET IRON STAKE	
● = FOUND IRON STAKE	
△ = SET MAG NAIL	
□ = SET WOOD STAKE	
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LIGHT POLE	
SIGN	
PROPOSED GRADE	
PROPOSED CONTOUR	
— = FENCE	
PROPOSED CONCRETE	
PROPOSED ASPHALT	

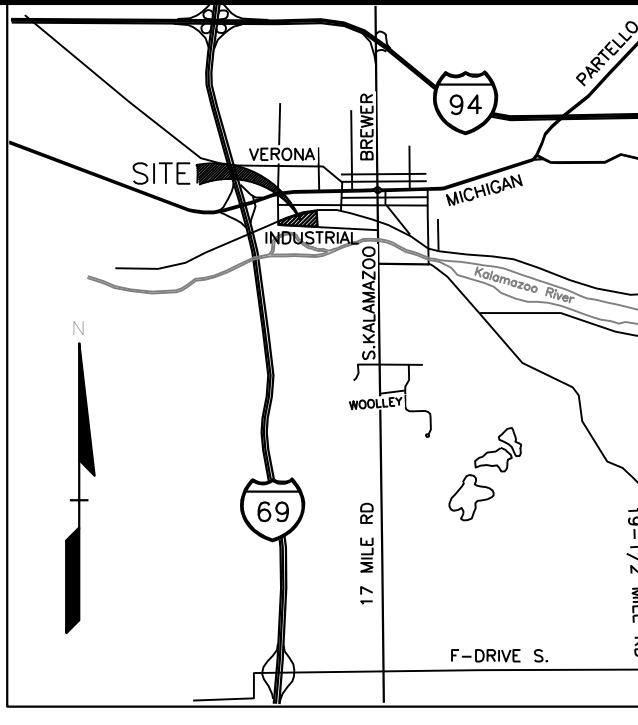
PROPOSED STORM STRUCTURE TABLE

ES 3A	12" DIA END SECTION W/RIIP-RAP, BAR GRATE & FOOTING INV. 901.00
CB 12	4" DIA W/2" SUMP EJW #5105 WITH TYPE M1 FLAT GRATE RIM 905.10 12" W 901.83 12" NE 901.93
CB 13	4" DIA W/2" SUMP EJW #5105 WITH TYPE M1 FLAT GRATE RIM 905.40 12" SW 902.34 12" N 902.34
IN 14	2" DIA. INLET EJW #105 W/TYPER M1 FLAT GRATE RIM 905.70 12" S 902.75

GRAPHIC SCALE



LOCATION MAP



DESCRIPTION: (TITLE COMMITMENT # 285110)

THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF CALHOUN, CITY OF MARSHALL, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PART OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, BEGINNING ON WEST SECTION LINE AT ITS INTERSECTION WITH SOUTH LINE, NEW YORK CENTRAL RAIL ROAD, SOUTH ON SECTION LINE 110 FEET, SOUTH 86°32' EAST ALONG NORTH LINE INDUSTRIAL ROAD 1362 FEET, NORTH 03°28' EAST TO EAST AND WEST 1/4 LINE, WEST TO NEW YORK CENTRAL RAIL ROAD, SOUTHWESTERLY TO BEGINNING, ALSO THAT PART OF LOTS 27 AND 32 "FARMER'S LOAN & TRUST COMPANY SUBDIVISION", ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 30 OF DEEDS, ON PAGE 454, LYING NORTH OF FIRST DESCRIBED PARCEL AND SOUTH OF RAIL ROAD RIGHT-OF-WAY, CITY OF MARSHALL, TOWN 2 SOUTH, RANGE 6 WEST, SECTION 26.

SUBJECT PARCEL ALSO DESCRIBED IN GRANT OF EASEMENT, LIBER 1643, PAGE 465 AS: A PARCEL OF LAND IN THE SOUTHWEST 1/4 OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, SITUATED IN THE CITY OF MARSHALL, COUNTY OF CALHOUN AND STATE OF MICHIGAN, DESCRIBED AS:

BEGINNING ON THE WEST LINE OF SAID SECTION AT ITS INTERSECTION WITH THE SOUTHEAST LINE OF NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY, RUNNING THENCE SOUTHERLY ALONG THE WEST LINE OF SAID SECTION 110 FEET TO THE NORTHERLY LINE OF INDUSTRIAL ROAD, THENCE S86°32'00"E ALONG THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD 1362 FEET; THENCE N03°28'00"E TO THE EAST AND WEST 1/4 LINE OF SAID SECTION; THENCE WEST ALONG THE EAST AND WEST 1/4 LINE OF SAID SECTION TO THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY, THENCE SOUTHWESTERLY ALONG THE SOUTHEAST LINE OF SAID RAILROAD RIGHT-OF-WAY TO THE PLACE OF BEGINNING, ALSO ALL THAT PART OF LOTS 27 AND 32 OF "FARMER'S LOAN & TRUST COMPANY SUBDIVISION" OF THE CITY OF MARSHALL, ACCORDING TO THE RECORDED PLAT THEREOF, LYING SOUTHEASTERLY OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY AND NORTHERLY OF THE NORTHERLY LINE OF SAID FIRST ABOVE DESCRIBED PARCEL OF LAND.

INTENDING HEREBY TO DESCRIBE ALL THAT PORTION OF THE NORTHWEST 1/4 OF SECTION 26, TOWN 2 SOUTH, RANGE 6 WEST, AND OF THE SOUTHWEST 1/4 OF SAID SECTION LYING SOUTHEASTERLY OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY, NORTHERLY OF THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD AND WESTERLY OF A LINE EXTENDING FROM THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD TO THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY AND BEARING N03°28'00"E FROM A POINT ON THE NORTHERLY LINE OF SAID INDUSTRIAL ROAD WHICH IS S86°32'00"E, 1362 FEET FROM A POINT ON THE WEST LINE OF SAID SECTION WHICH IS 110 FEET DISTANT SOUTHERLY OF THE PLACE OF INTERSECTION OF THE SOUTHEAST LINE OF SAID NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY WITH THE WEST LINE OF SAID SECTION, SAID DISTANCE BEING MEASURED ALONG THE WEST LINE OF SAID SECTION, SUBJECT TO EASEMENTS, RESTRICTIONS, AND RESERVATIONS AND RIGHTS-OF-WAY OF RECORD.

TAX ID# 53-002-551-00

NOTE:  
TOPOGRAPHIC + BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282

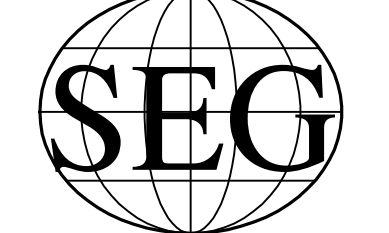


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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURNISHES AND HOLDS DESIGN PROFESSIONAL LIABILITY INSURANCE AND SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES AND LOSSES, INCLUDING BUT NOT LIMITED TO, ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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DELTA ONE 150 W 2ND STREET, SUITE 250 ROYAL OAK, MI 48067	DES.	TSS	DN.	TSS	SUR.	CARR.	P.M.	TSS
PHASE I - GRADING PLAN DELTA ONE - MARSHALL 1120 INDUSTRIAL ROAD CITY OF MARSHALL, CALHOUN COUNTY, MI	TSS	DN.	TSS	SUR.	CARR.	P.M.	TSS	
8-15-2017 PROJECTS 2017-09-14 DELTA 1 - MARSHALL LUMBER CO'S PHASE 31 PHASE ONE GRADING PLAN.DWG								

ORIGINAL ISSUE DATE:  
9/14/2017

Project No. 2017-024

SCALE: 1" = 30'

DRAWING NUMBER:

PSP-3.1



- SEPTIC TANK NOTES:**
1. TWO (2) 2000 GALLON WATER TIGHT TWO-COMPARTMENT CONCRETE TANKS SHALL BE PROVIDED.
  2. THE TANKS SHALL BE CONSTRUCTED OF CONCRETE, 4000 PSI AT 28 DAYS, WITH BUTYL MASTIC WATERPROOFING AT ALL JOINTS, THE TANK SHALL HAVE THE CAPACITY AS INDICATED ON THE DRAWING. CONTRACTOR SHALL PROVIDE SHOP DRAWING FOR REVIEW PRIOR TO CONSTRUCTION.
  3. THE TANKS SHALL BE CERTIFIED BY THE MANUFACTURER AS LEAK PROOF.
  4. INSTALLATION OF THE TANKS SHALL BE IN ACCORDANCE WITH COUNTY HEALTH DEPARTMENT STANDARDS AND MANUFACTURERS RECOMMENDATIONS.
  5. TANKS SHALL BE PLACED ON A MINIMUM 4" BED OF SAND AND LEVELED.
  6. TANK EXCAVATION SHALL BE BACKFILLED WITH SAND IN 12" LIFTS AND COMPACTED, OR BACKFILLED WITH PEA GRAVEL.
  7. THE 2000 GALLON TANKS SHALL HAVE TWO 24" DIAMETER ACCESS RISERS. THE RISERS SHALL BE ADJUSTED TO FINISH GRADE, WITH WATERTIGHT TANK CONNECTIONS AND BE COVERED WITH AN OVERLAPPING FIBERGLASS LID, FINISH GRADES SHALL DRAIN AWAY FROM LIDS.
  8. WATERTIGHT RUBBER GROMMETS SHALL BE USED FOR ANY PIPING PASSING THROUGH THE RISERS.
  9. WATERTIGHT RUBBER BOOT SEALS SHALL BE USED FOR ALL PIPING PASSING THROUGH THE TANK WALLS.
  10. PROVIDE BIOFILTER TUBE ON FIRST TANK TO REDUCE SOLIDS.

- PIPING NOTES:**
1. PIPING BETWEEN TANKS AND BUILDINGS SHALL BE PVC SCHEDULE 40.
  2. FIELD TILE SHALL BE 4" PERFORATED TRI-WALL DRAIN PIPE.
  3. CONTRACTOR SHALL INCLUDE ALL NECESSARY FITTINGS, TEES, BENDS, ETC. IN THE BID.

**SEPTIC FIELD DESIGN:**

10 PROPOSED GREENHOUSES = 1000 GPD PER GREENHOUSE BLDG  
10 BLDGS x 1000 GAL/10 DAYS/BLDG = 10,000 GALLONS PER TEN DAYS  
10,000 GALLONS/10 DAYS = 1,000 GPD

DOMESTIC SEWAGE: ASSUME 55 MAX EMPLOYEES AT 35 GPD/EMPLOYEE = 1,925 GPD

TOTAL SEWAGE GENERATION = 1,000 GPD + 1,925 GPD = 2,925 GPD

USE 0.50 GALLONS PER SQ.FT. APPLICATION RATE BASED ON USDA SOIL SURVEY FOR SANDY SOILS

LOAMY SAND ABSORPTION RATE ESTIMATED AT 0.50 GALLONS/SQ.FT.

PROVIDE TWO 2,000 GALLON TWO-COMPARTMENT SEPTIC TANKS W/BIOFILTER TO SETTLE OUT SOLIDS AND REDUCE PHOSPHATE CONTENT.

PROVIDE ORENCO X100 TEXTILE FILTERS WITHIN TWO TANKS TO PRE-TREAT FOR NITRATES.

PROVIDE MONITORED RECIRCULATION TANK & PUMP WITH DISCHARGE TO FIELD.

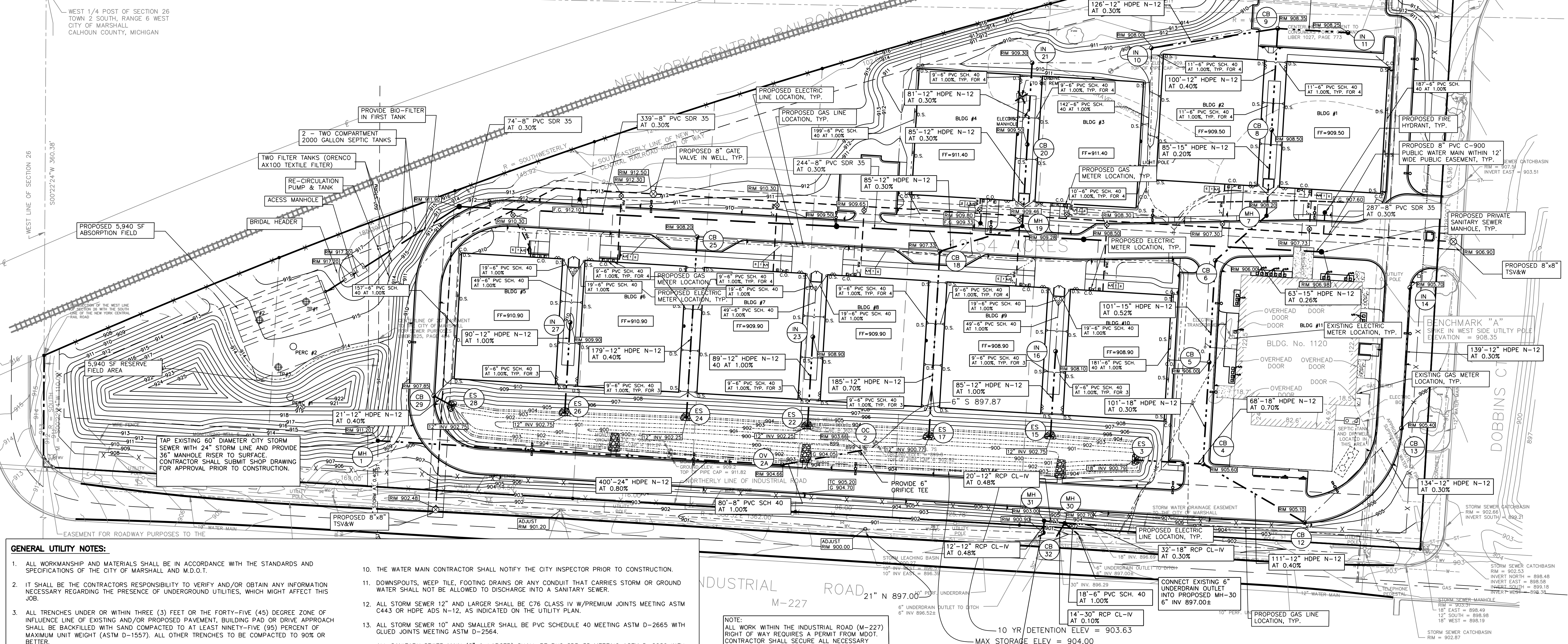
REQUIRED FIELD SIZE = 2,925 G.P.D./0.50 G.P.D./SQ.FT. = 5,850 SQ.FT.  
(BED SYSTEM DESIGNED AT 54" WIDTH X 110' LENGTH = 5,940 SQ.FT.)  
APPLICATION RATE IS TO BE ACHIEVED BY PLACEMENT OF 2NS SAND OVER EXISTING SANDY SUBSOILS WITH ABSORPTION FIELD TO BE CONSTRUCTED ABOVE THE SAND FILL. EXISTING VEGETATED TOPSOIL SHALL BE REMOVED PRIOR TO SAND PLACEMENT. ANY STUMPS SHALL BE REMOVED. (REFER TO CROSS-SECTIONS ON FINAL CONSTRUCTION PLANS)

ABSORPTION FIELD IS PROPOSED AS A SAND MOUND "BED" TYPE FIELD WITH NO DEFINED TRENCHES. 4" DIA. PERFORATED DRAIN TILE (TRI-WALL PIPE) IS TO BE PLACED ON A MINIMUM 6" OF 6A WASHED STONE. FIELD IS DESIGNED WITH 4" OF 6A WASHED STONE TO BE PLACED OVER TOP OF DRAIN PIPE. AN ABSOLUTE MINIMUM OF 2" OF STONE MUST BE PROVIDED OVER THE DRAIN PIPE. ABSOLUTE MINIMUM COVER OVER DRAIN TILE TO GROUND SURFACE IS 8".

LATERAL DRAIN TILE SPACING IS 72" CENTER TO CENTER, LATERALS ARE PROPOSED AT 110' LENGTH. 10 LATERALS ARE PROPOSED. A BRIDLE HEADER IS PROPOSED TO EQUALLY DISTRIBUTE FLOW THROUGHOUT THE ABSORPTION FIELD. HEADER AND FOOTER PIPES ARE TO BE INSTALLED ON A LEVEL SURFACE. LATERAL DRAIN PIPES ARE TO BE INSTALLED AT 0.08% SLOPE.

2NS SAND BACKFILL SHALL BE PROVIDED BENEATH THE STONE BED.

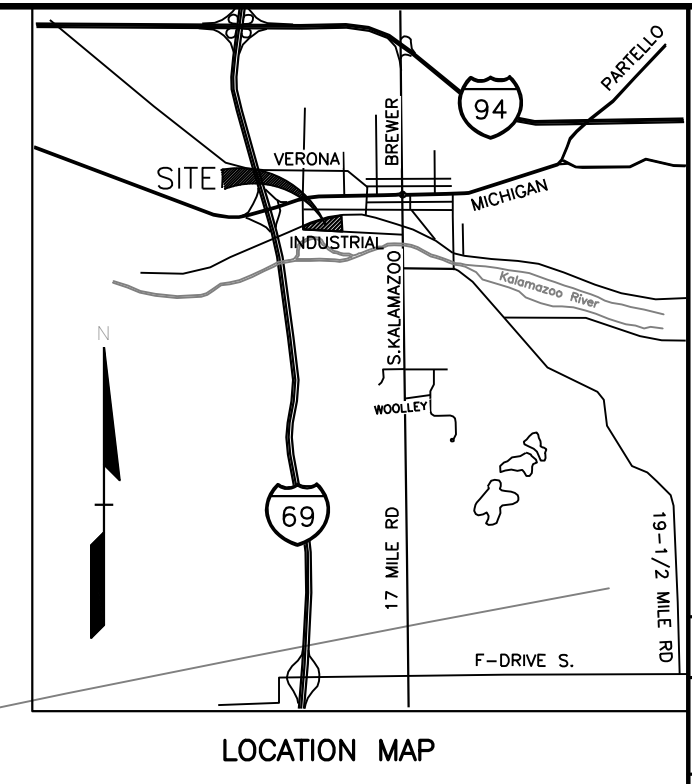
OVERALL AVERAGE EXISTING GRADE BELOW FIELD = ±914.0  
FIELD INVERT AT HEADER PIPE = 914.91  
TILE FIELD INVERT AT FOOTER PIPE = 914.83



- GENERAL UTILITY NOTES:**
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND M.D.O.T.
  2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES, WHICH MIGHT AFFECT THIS JOB.
  3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
  4. WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BREAKING SECTION OUT.
  5. EXACT GRADES AND DEPTHS OF UTILITIES ARE TO BE CHECKED CLOSELY WITH THE FIELD ENGINEER PRIOR TO INSTALLATION.
  6. REFER TO NOTES + DETAILS SHEETS PSP-6.1 & PSP-6.2 AND CITY OF MARSHALL STANDARD DETAILS FOR ADDITIONAL NOTES AND DETAILS.
  7. ALL WATER MAIN AND FITTINGS (3" DIAMETER AND LARGER) SHALL BE PVC C-900.
  8. ALL WATER MAIN SHALL BE PROVIDED WITH 6" OF COVER UNLESS OTHERWISE NOTED.
  9. ALL NECESSARY FITTINGS, THRUST BLOCKS, RESTRAINING GLANDS, BLOW OFFS, ETC. FOR WATER MAIN ARE CONSIDERED INCIDENTAL TO THIS PROJECT. THE CONTRACTOR SHALL INSTALL THESE ITEMS AS NECESSARY AND AS REQUIRED BY THE CITY OF MARSHALL.
  10. THE WATER MAIN CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR PRIOR TO CONSTRUCTION.
  11. DOWNSPOUTS, WEEP TILE, FOOTING DRAINS OR ANY CONDUIT THAT CARRIES STORM OR GROUND WATER SHALL NOT BE ALLOWED TO DISCHARGE INTO A SANITARY SEWER.
  12. ALL STORM SEWER 12" AND LARGER SHALL BE C76 CLASS IV W/PREMIUM JOINTS MEETING ASTM C443 OR HDPE ADS N-12, AS INDICATED ON THE UTILITY PLAN.
  13. ALL STORM SEWER 10" AND SMALLER SHALL BE PVC SCHEDULE 40 MEETING ASTM D-2665 WITH GULF JOINTS MEETING ASTM D-2564.
  14. ALL SANITARY SEWER MAIN (8" & LARGER) SHALL BE PVC SDR 35 MEETING ASTM D-2680 WITH ELASTOMERIC GASKET JOINTS PER ASTM D-3212. REFER TO CITY OF MARSHALL STANDARDS FOR ADDITIONAL INFORMATION.
  15. ALL SANITARY SEWER LEADS SHALL BE CONSTRUCTED OF 6" DIAMETER PVC SDR 35 AT 1.0% MINIMUM SLOPE. JOINTS FOR PIPE SHALL BE SOLVENT WELD IN ACCORDANCE WITH ASTM D-3034.
  16. SANITARY LEADS SHALL BE BURIED AT LEAST 5 FEET DEEP WHERE UNDER THE INFLUENCE OF PAVEMENT. INSTALL ALL LEADS ON CLASS B BEDDING OR APPROVED EQUAL.
  17. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE UNLESS NOTED OTHERWISE.
  18. ALL CLEANOUTS SHALL BE INSTALLED IN METAL BOXES (EJWB #1565 OR APPROVED EQUAL).
  19. PERFORATED UNDERDRAIN SHALL BE 6" PERFORATED HDPE W/FILTER SOCK.

NOTE:  
ALL WORK WITHIN THE INDUSTRIAL ROAD (M-227) RIGHT OF WAY REQUIRES A PERMIT FROM MDOT. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS PRIOR TO THE START OF CONSTRUCTION.

- LEGEND**
- EXISTING
- = SET IRON STAKE
  - = FOUND IRON STAKE
  - △ = SET MAG NAIL
  - = SET WOOD STAKE
  - ▣ = CONCRETE MONUMENT
  - M = MEASURED DATA
  - R = RECORDED DATA
  - = NOT TO SCALE
- PROPOSED
- = FIRE HYDRANT
  - = WATER VALVE
  - = WATER MAIN
  - = OVERHEAD ELECTRIC LINE
  - = UNDERGROUND ELECTRIC LINE
  - = OVERHEAD COMMUNICATIONS LINE
  - = STORM SEWER
  - = SANITARY SEWER
  - = LIGHT POLE
  - = SIGN
  - = PROPOSED GRADE
  - = PROPOSED CONTOUR
  - = FENCE
  - = PROPOSED CONCRETE
  - = PROPOSED ASPHALT



NO.	DATE	BY	DESCRIPTION
1	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
2	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
3	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
4	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
5	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
6	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
7	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
8	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
9	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS
10	11-20-20	TSS	REVISION TO ADDRESS CITY REVIEW COMMENTS



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**DELTA ONE**  
150 WIND STREET SUITE 250  
ROYAL OAK, MI 48067  
**PRELIMINARY UTILITY PLAN**  
**DELTA ONE - MARSHALL**  
T2S R2W SECTION 26, CITY OF MARSHALL, CALHOUN COUNTY, MI  
DES. TSS DN. TSS SUR. CARR. P.M. TSS  
8-15-2017 PROJECT: 2017-024 DELTA ONE - MARSHALL VBA SITE PLAN/PS-4.0 UTILITY.DWG

ORIGINAL ISSUE DATE:  
9/14/2017  
Project No. 2017-024  
SCALE: 1" = 50'  
DRAWING NUMBER:  
**PSP-4.0**

NOTE:  
TOPOGRAPHIC + BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282



# DRAINAGE CALCULATIONS

Oakland County Method  
Calculate Weighted Runoff Coefficient (C)

A	C	Qa	Qo	(Orifice)	T 1 yr	T 25 yr	T 50 yr	T 100 yr
11.03	0.64	2,206	0.31	T 10 yr	68	136	147	157
				Vs 10 yr	Vs 1 yr	Vs 25 yr	Vs 50 yr	Vs 100 yr
				7202.00	2316	9211	10741	12287
				Vt 10 yr	Vt 1 yr	Vt 25 yr	Vt 50 yr	Vt 100 yr
				50840.00	16346	65019	75820	86734

COMPARISON DETENTION VOLUME: 1" OVER SITE AREA = 480,467 SF x 1/12" = 40,039 CF. (THIS IS ABOUT 20% LESS THAN A 10 YEAR STORM VOLUME).

AGRICULTURAL RATE IS CONSIDERED TO BE AN OUTFLOW OF 0.20 CFS/ACRE (0.2)(11.03) = 2.21 CFS

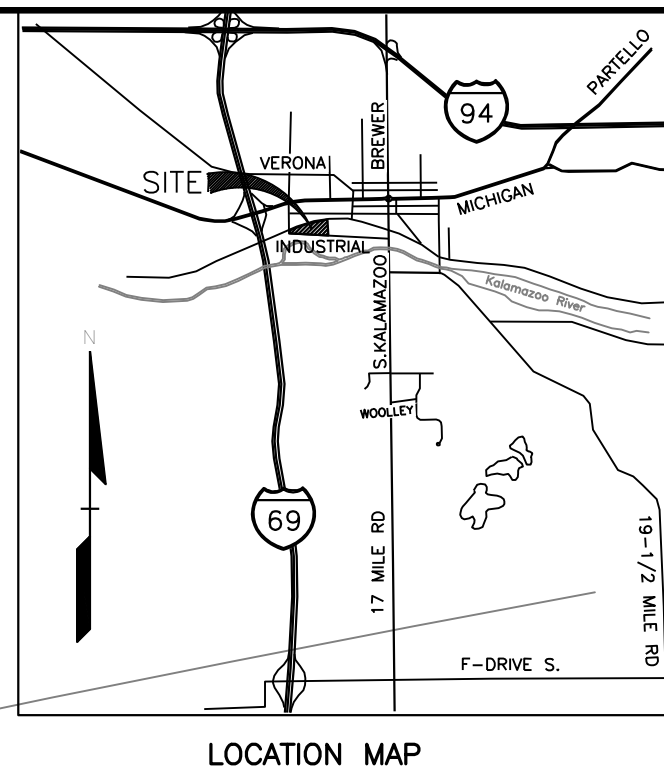
Contour	Area (sf)	volume calc	cumulative volume (cf)
899	157	0	0
900	3550	1853.5	1853.5
901	8772	6161	8014.5
902	14280	11526	19540.5
903	19770	17025	36565.5
904	25380	22575	59140.5

Qa= 2.21 cfs  
Site Area  
C-value  
11.03 ac  
0.64  
10 yr storage vol= 50840 cf  
10 yr storage Elev = 903.63  
(This volume is provided between elevations 899 and 903.63)  
Vt=1815xAreaxC-value= 12812.4 cf  
If Elev = 901.42  
Vt=5160xAreaxC-value= 36425.5 cf  
If Elev = 902.89

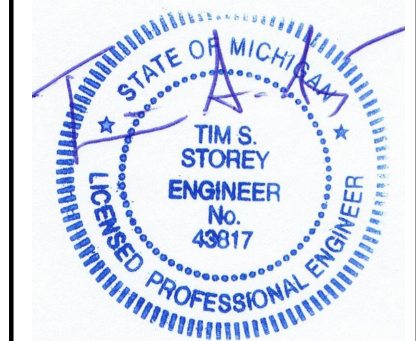
ORIFICE  
Qa HEAD (FT) AREA (S.F.) AREA (S.I.) DIA (IN.)  
2,206 5.13 0.167547 38.186771 5.90607

USE 6" PVC ORIFICE GROUTED INTO 21" OUTLET  
PIPE AT INVERT = 897.87  
HEAD = 5.13 FEET, OUTFLOW = 2.21 CFS

FARMERS LOAN AND TRUST COMPANY SUBDIVISION  
LIBER 30 OF DEEDS, PAGE 454



NO.	DATE	BY	REVISIONS
1	11-20-20	TSS	UPDATE ORIGINAL SITE PLAN & ADJUST PHASE I
2	11-20-20	TSS	INCORPORATE ORIGINAL SITE PLAN COMMENTS
3	11-20-20	TSS	EXPANDED CONC. SLAB
4	11-20-20	TSS	EXPANDED FENCED AREA
5	11-20-20	TSS	REVISED TO ADD PHASE II SITE PLAN
6	11-20-20	TSS	REVISED TO ADD ADDRESS CITY REVIEW COMMENTS
7	11-20-20	TSS	REVISIONS



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120 INDUSTRIAL ROAD  
T2S RW, SECTION 26, CITY OF MARSHALL, CALHOUN COUNTY, MI  
DES. TSS DN. TSS SUR. CARR P.M. TSS  
8-SECT-2017-001-001 DELTA ONE - MARSHALL V.D. DRAINAGE.DWG

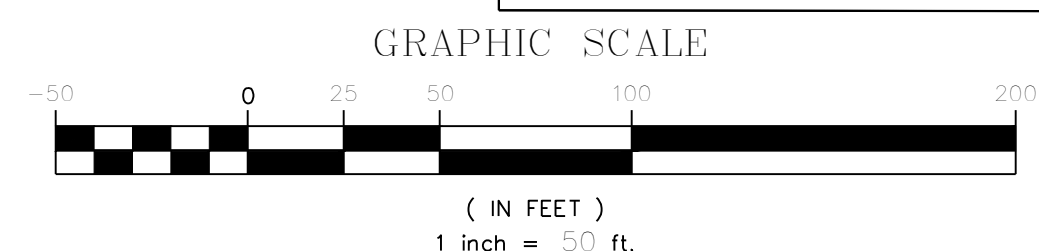
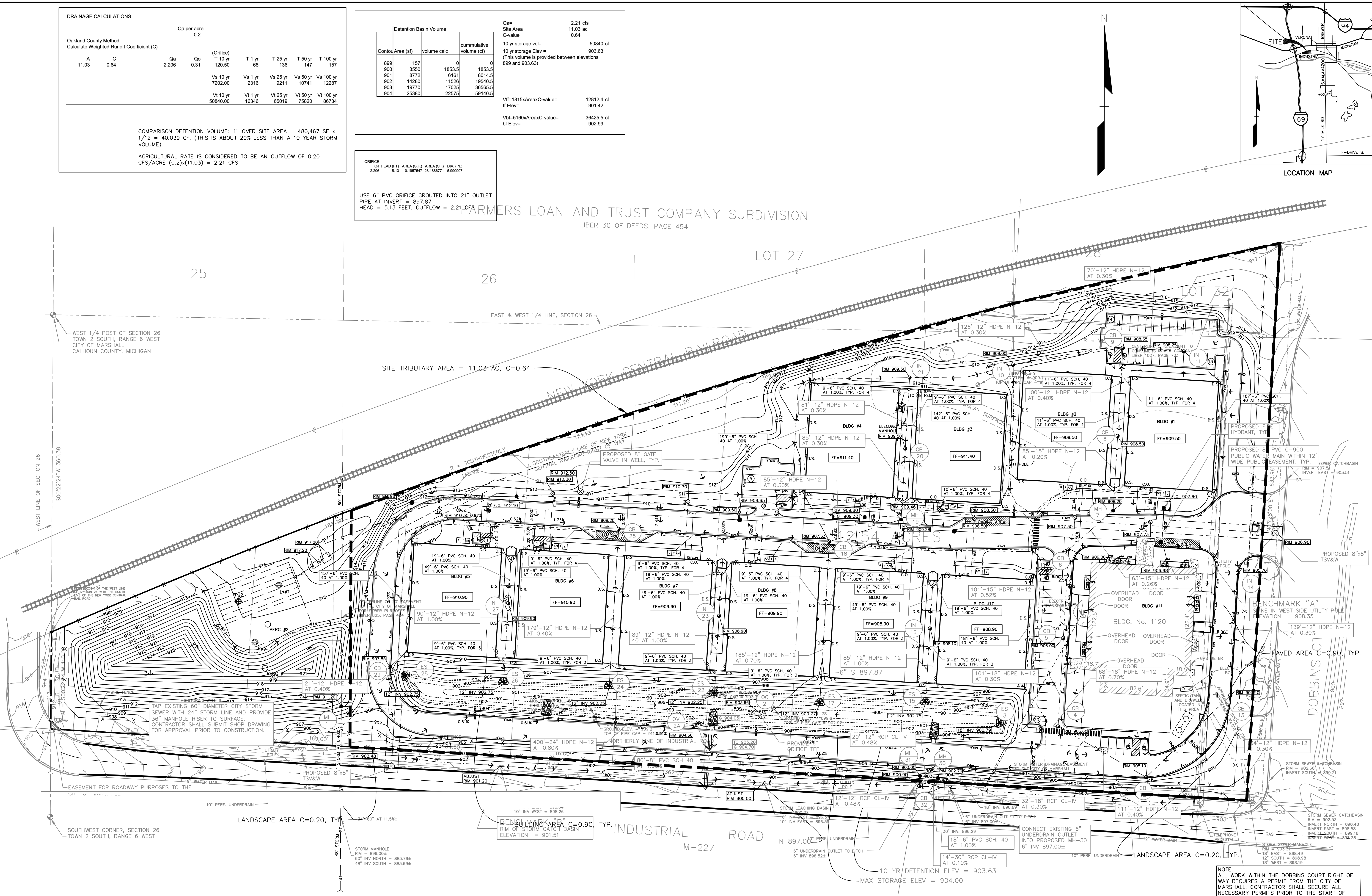
ORIGINAL ISSUE DATE:  
9/14/2017

Project No. 2017-024

SCALE: 1" = 50'

DRAWING NUMBER:

PSP-5.0



NOTE:  
TOPOGRAPHIC & BOUNDARY SURVEY PROVIDED BY CARR & ASSOCIATES.  
JOB# 17-9282



- GENERAL NOTES:
1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL & CALHOUN COUNTY WATER RESOURCE COMMISSIONER.
  2. ALL NECESSARY PERMITS, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL MUNICIPAL INSPECTION FEES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING THE PERIODS OF CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO THE JOB.
  4. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG (1-800-482-7171) TO VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND SHALL NOTIFY OTHER REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK.
  5. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
  6. MANHOLE, CATCH BASIN, GATE VALVES AND HYDRANT FINISH GRADES MUST BE CLOSELY CHECKED AND APPROVED BY THE ENGINEER BEFORE THE CONTRACTOR'S WORK IS CONSIDERED COMPLETE.
  7. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ANY TREES, BRUSH, STUMPS, TRASH OR OTHER UNWANTED DEBRIS AT THE OWNER'S DIRECTION, INCLUDING OLD BUILDING FOUNDATIONS AND FLOORS. BURNING OF TRASH, STUMPS OR OTHER DEBRIS SHALL NOT BE PERMITTED.
  8. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY CONTAIN TRAFFIC IN ACCORDANCE WITH "MMUTCD".
  9. ALL EXCAVATIONS SHALL BE SLOPED, SHORED OR BRACED IN ACCORDANCE WITH MI-OSHA REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE AN ADEQUATELY CONSTRUCTED AND BRACED SHORING SYSTEM FOR EMPLOYEES WORKING IN AN EXCAVATION THAT MAY EXPOSE EMPLOYEES TO THE DANGER OF MOVING GROUND.
  10. ALL REFERENCES TO M.D.O.T. SPECIFICATIONS ARE TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

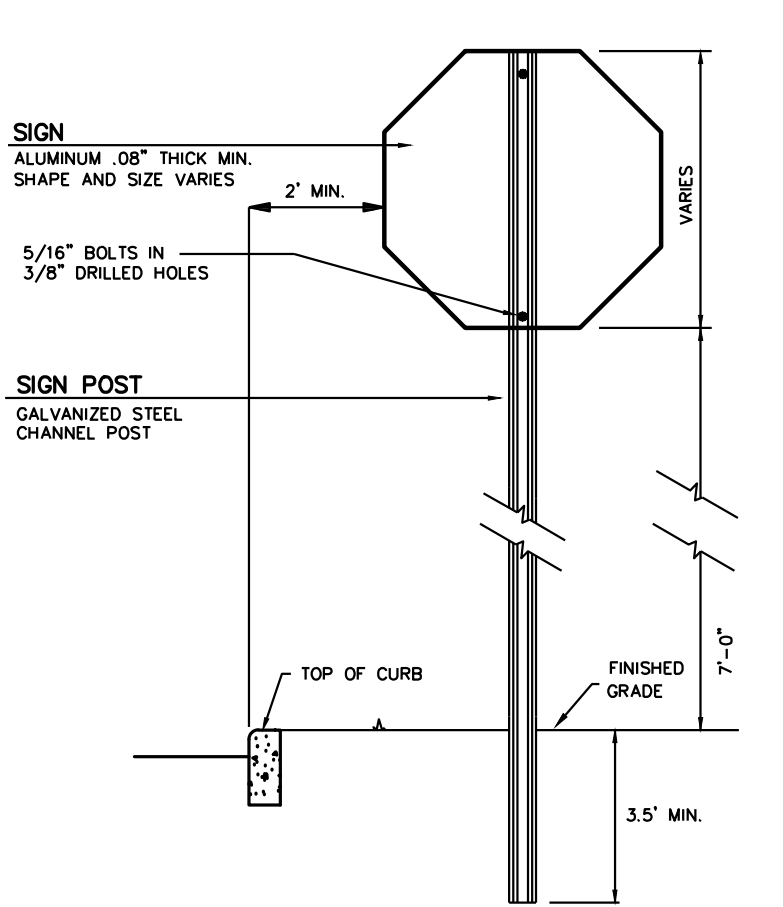
- PAVING NOTES:
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND MDOT, WHERE APPLICABLE.
  2. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
  3. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL SECTIONS OR BELOW SUBGRADE IN CUT SECTIONS, WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
  4. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED WITH SAND OR OTHER SIMILAR APPROVED MATERIAL. BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM UNIT WEIGHT (PER ASTM D-1557) UNLESS OTHERWISE SPECIFIED.
  5. BACKFILL UNDER PAVED AREAS SHALL BE AS SPECIFIED ON DETAILS.
  6. ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.

- GENERAL UTILITY NOTES:
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND MDOT.
  2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES, WHICH MIGHT AFFECT THIS JOB.
  3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
  4. WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BRACKING SECTION OUT.
  5. EXACT GRADES AND DEPTHS OF UTILITIES ARE TO BE CHECKED CLOSELY WITH THE FIELD ENGINEER PRIOR TO INSTALLATION.

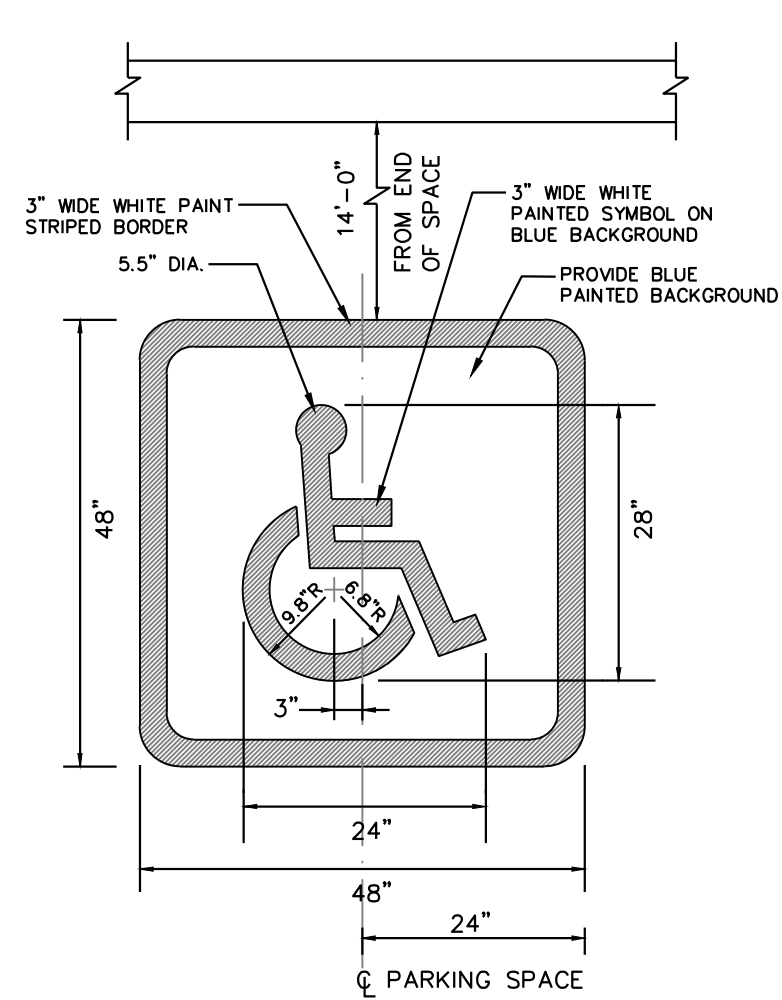
- STORM SEWER NOTES:
1. ALL STORM SEWER SHALL BE INSTALLED ON STANDARD BEDDING OR BETTER.
  2. JOINTS FOR ALL STORM SEWER 12" AND LARGER SHALL BE PREMIUM JOINT TONGUE AND GROOVE WITH RUBBER GASKETS, UNLESS SPECIFIED OTHERWISE.
  3. ALL STORM SEWER 12" AND LARGER SHALL BE RCP CLASS IV OR HDPE ADS N-12 OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.
  4. CULVERTS SHALL BE ALUMINIZED TYPE II CSP (OR HDPE ADS N-12) WITH BANDED JOINTS MEETING MANUFACTURERS SPECS
  5. STORM LEADS SHALL BE PVC SCH 40 WITH GLUED JOINTS BEDDED ON SAND OR STONE AGGREGATE.

- WATER MAIN NOTES:
1. ALL WATER MAIN SHALL BE INSTALLED WITH A MINIMUM COVER OF 6'0" BELOW FINISH GRADE. WHEN WATER MAINS MUST DIP TO PASS UNDER A STORM SEWER OR SANITARY SEWER, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM LENGTH BY THE USE OF VERTICAL TWENTY TWO AND A HALF (22.5') DEGREE BENDS, PROPERLY ANCHORED, MAINTAIN MIN. 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES.
  2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL.
  3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
  4. ALL TEE'S, BENDS, CONNECTIONS, ETC. ARE CONSIDERED INCIDENTAL TO THE JOB.
  5. PHYSICAL CONNECTIONS SHALL NOT BE MADE BETWEEN EXISTING AND NEW WATER MAINS UNTIL TESTING IS SATISFACTORILY COMPLETED.
  6. MAINTAIN 10' HORIZONTAL CLEARANCE BETWEEN OUTER EDGE OF WATER MAIN AND ANY SANITARY SEWER OR STRUCTURE.
  7. ALL WATER MAIN SHALL BE DUCTILE IRON CLASS 52.
  8. REFER TO THE CITY OF MARSHALL STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAIN CONSTRUCTION FOR ADDITIONAL INFORMATION.

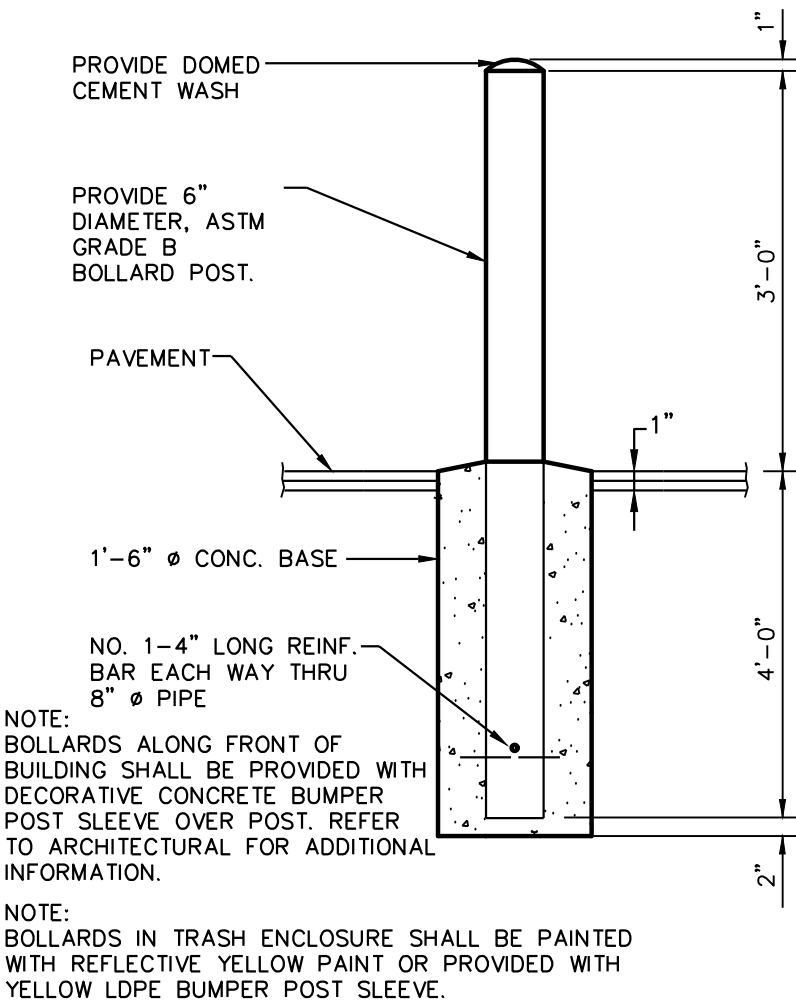
- SANITARY SEWER NOTES:
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND CALHOUN COUNTY.
  2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.
  3. ALL TRENCHES UNDER OR WITHIN THE 45° ZONE OF INFLUENCE LINE OR 5 FEET OF EXISTING AND/OR PROPOSED PAVEMENT SHALL BE BACKFILLED WITH SAND AND COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D-1557.
  4. ALL SEWERS SHALL BE PLACED ON MIN. 4" SAND OR GRAVEL BEDDING WHICH SHALL EXTEND TO MIN. 12" OVER TOP OF THE PIPE AND SHALL BE COMPACTED IN MIN. 6" LAYERS.
  5. A MINIMUM OF 18" OF CLEARANCE MUST BE MAINTAINED AT ALL CROSSINGS BETWEEN SANITARY, WATER MAIN AND STORM SEWER, UNLESS PROVIDED WITH A CONCRETE CRADLE.
  6. NO SANITARY SEWER INSTALLATION OR PORTION THEREOF SHALL HAVE INFILTRATION EXCEEDING 200 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOUR PERIOD. JOINTS FOR P.V.C. SOLID WALL OR TRUSS PIPE SHALL BE ELASTOMETRIC (RUBBER GASKET) MEETING A.S.T.M. D-3212.
  7. SANITARY SEWER MAIN 8" AND LARGER SHALL BE CONSTRUCTED OF P.V.C. TRUSS PIPE AND SHALL CONFORM TO ASTM D-3034. ALL LEADS 6" DIAMETER & SMALLER SHALL BE CONSTRUCTED OF P.V.C. SOLID WALL PIPE CONFORMING TO ASTM D-3034, SDR 23.5.
  8. SEE CITY OF MARSHALL STANDARD SPECIFICATIONS & DETAILS FOR ADDITIONAL INFORMATION.



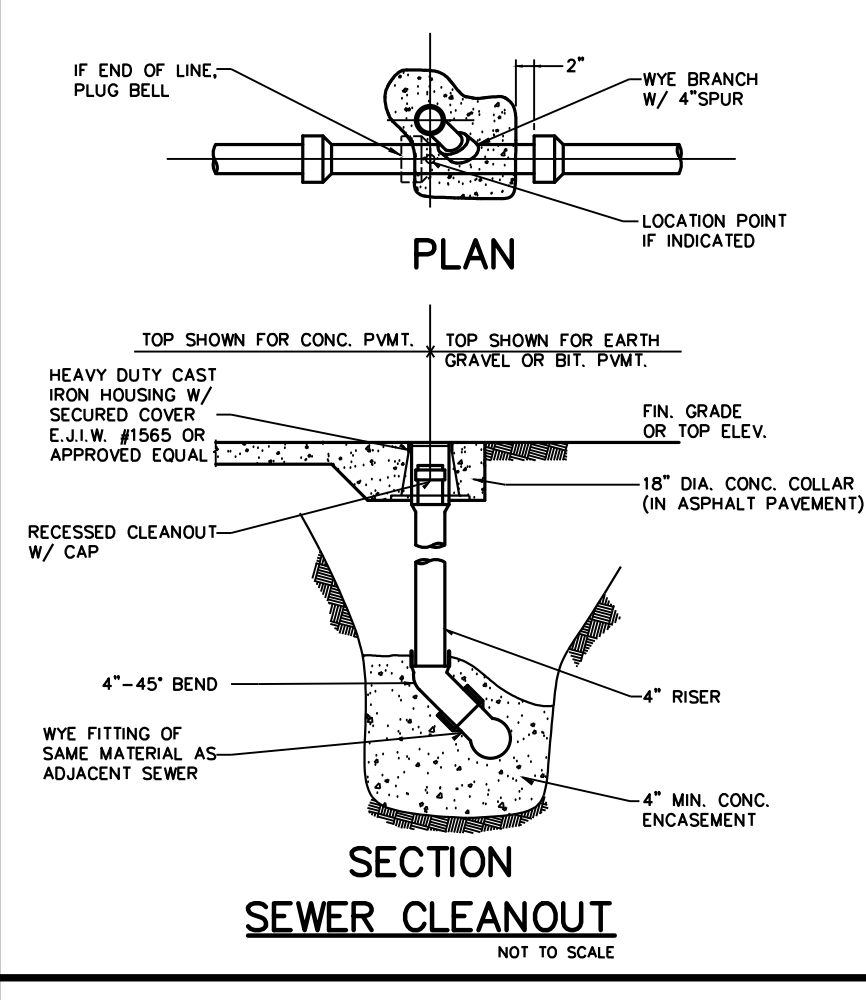
**SIGN AND POST INSTALLATION IN LANDSCAPED AREAS**  
NOT TO SCALE



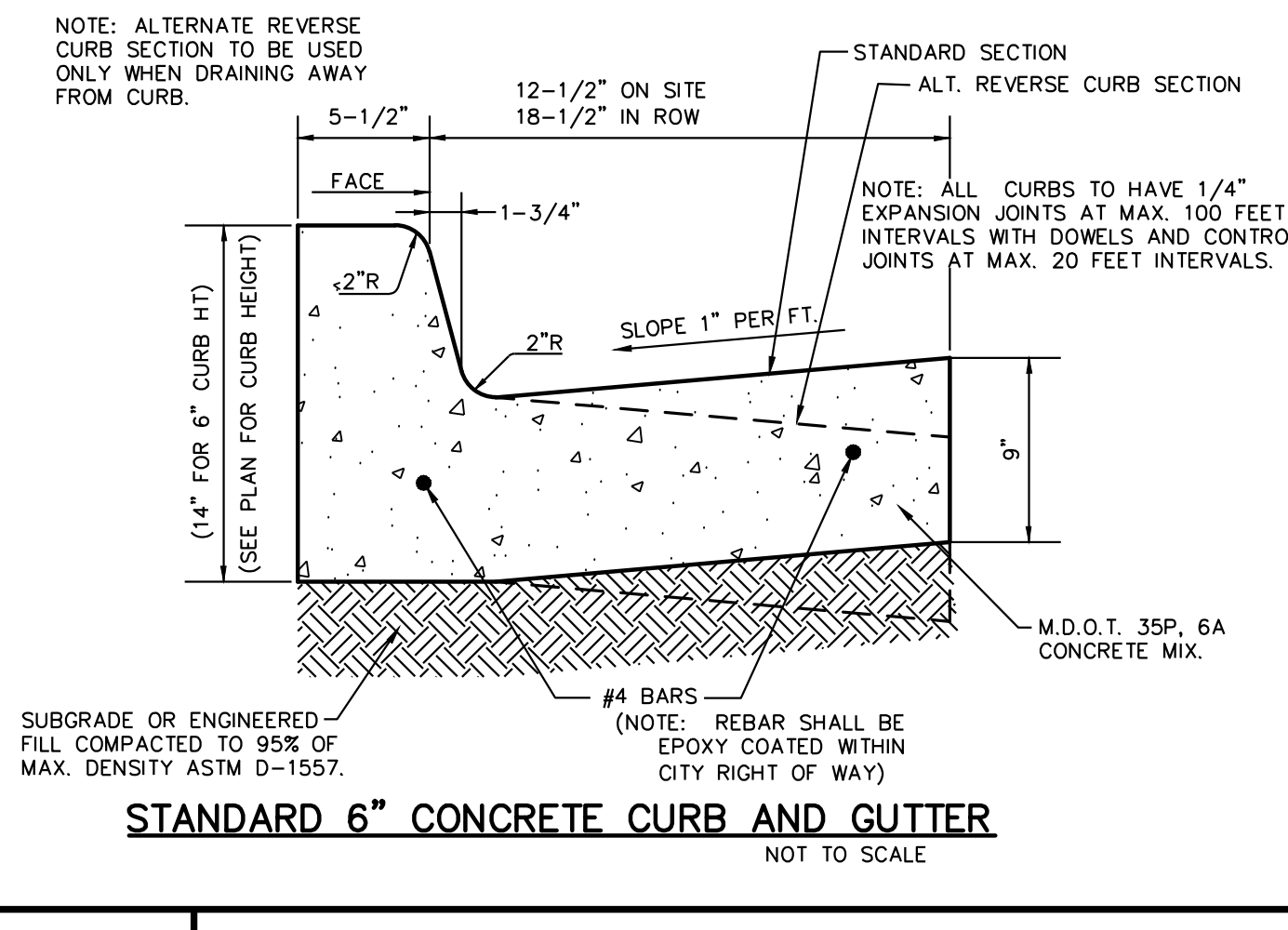
**STANDARD BARRIER FREE SYMBOL FOR PARKING SPACE**  
NOT TO SCALE



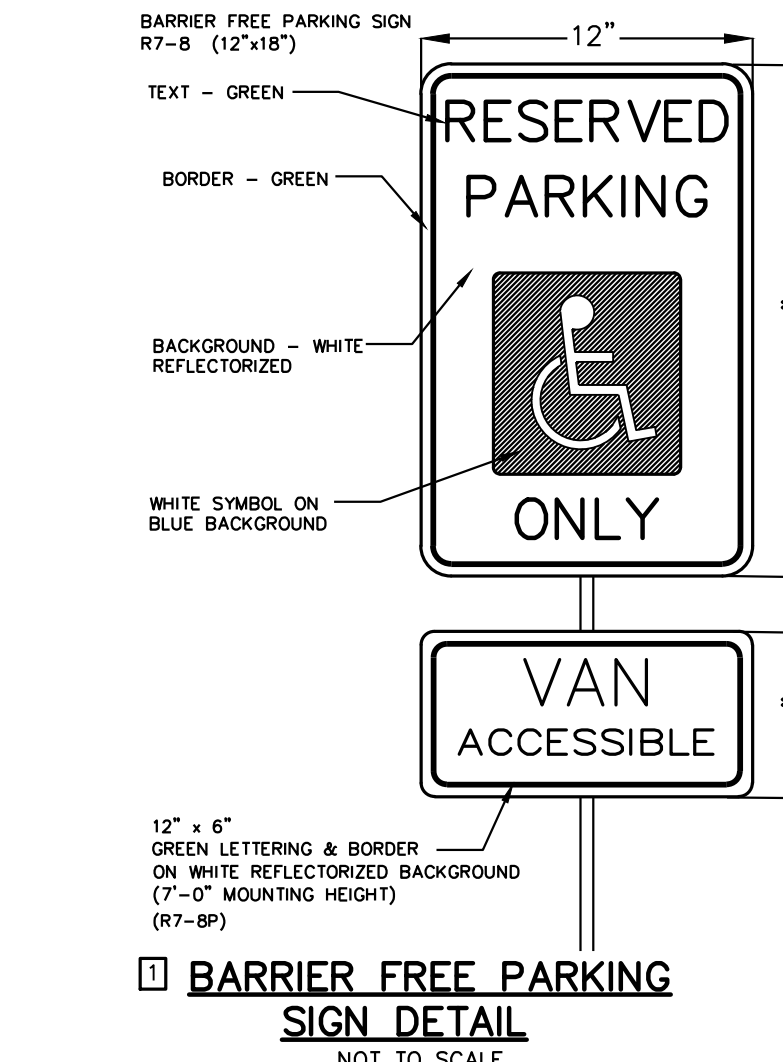
**6" DIA. BOLLARD DETAIL**  
NOT TO SCALE



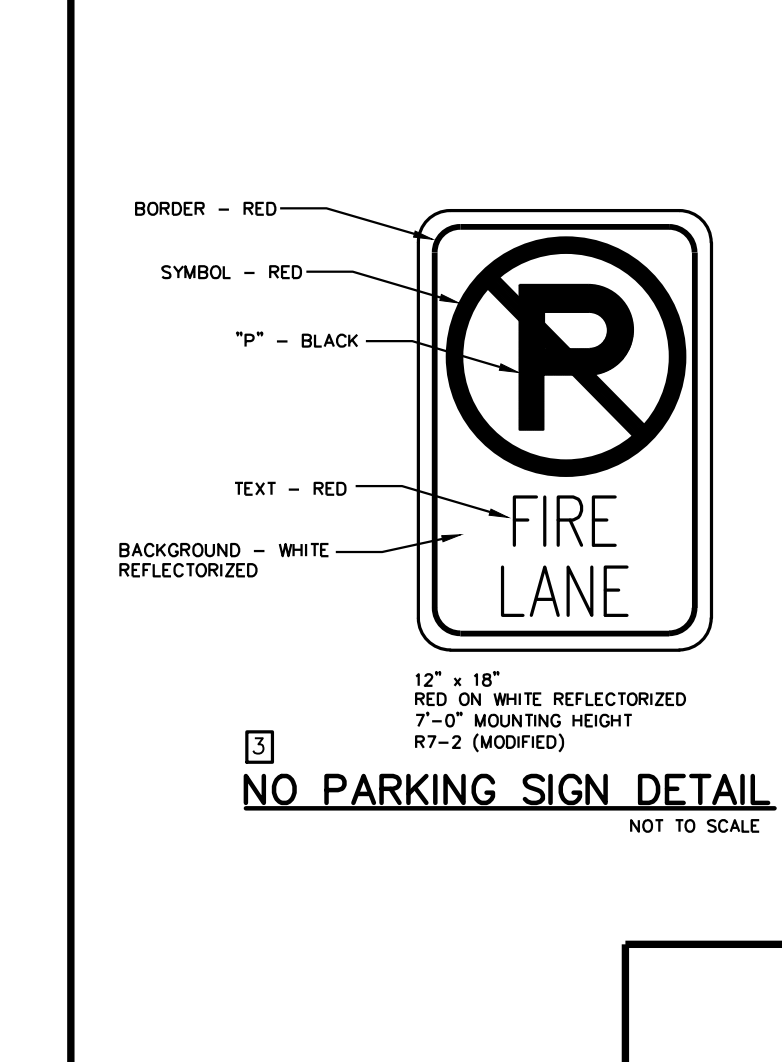
**STANDARD 6" CONCRETE CURB AND GUTTER**  
NOT TO SCALE



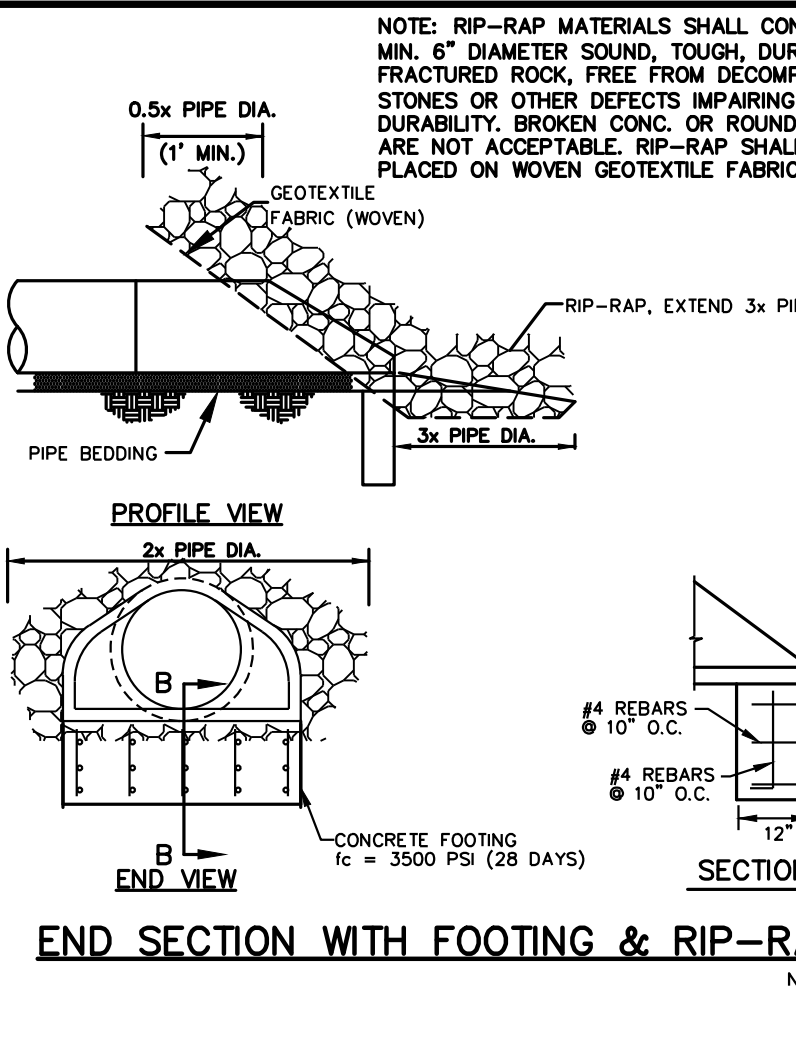
**STANDARD DUTY ASPHALT PAVEMENT SECTION**  
NOT TO SCALE



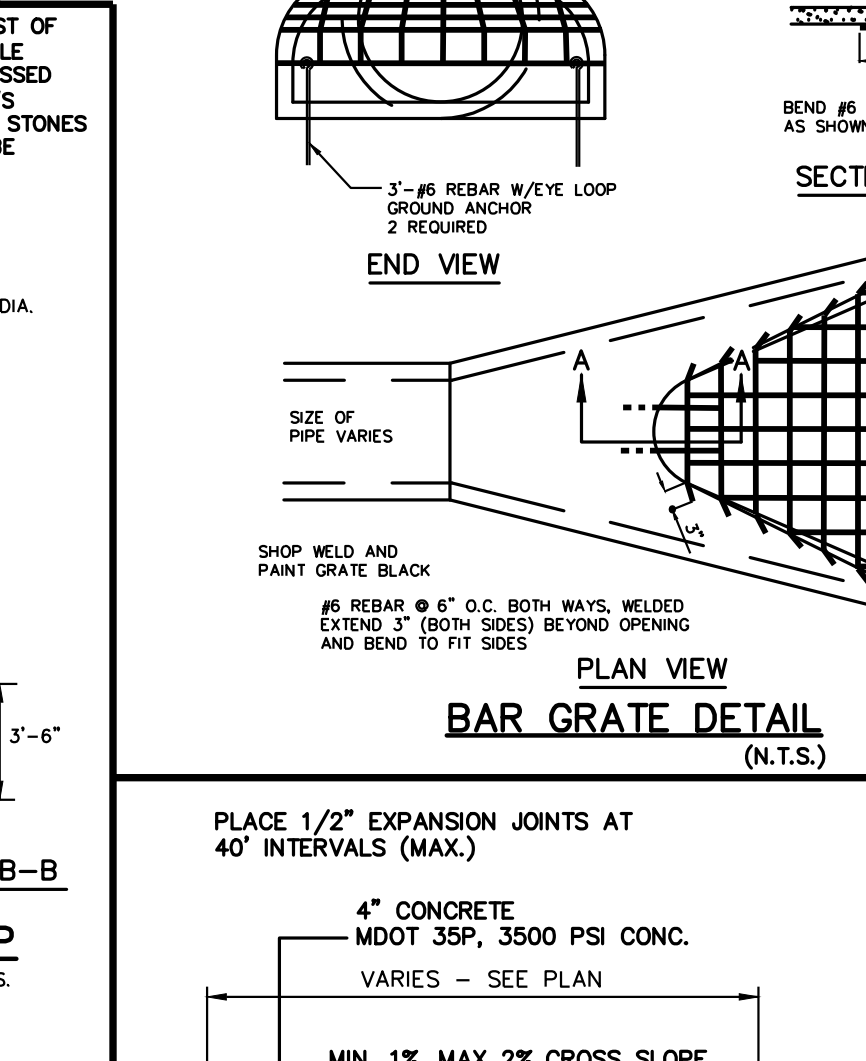
**BARRIER FREE PARKING SIGN DETAIL**  
NOT TO SCALE



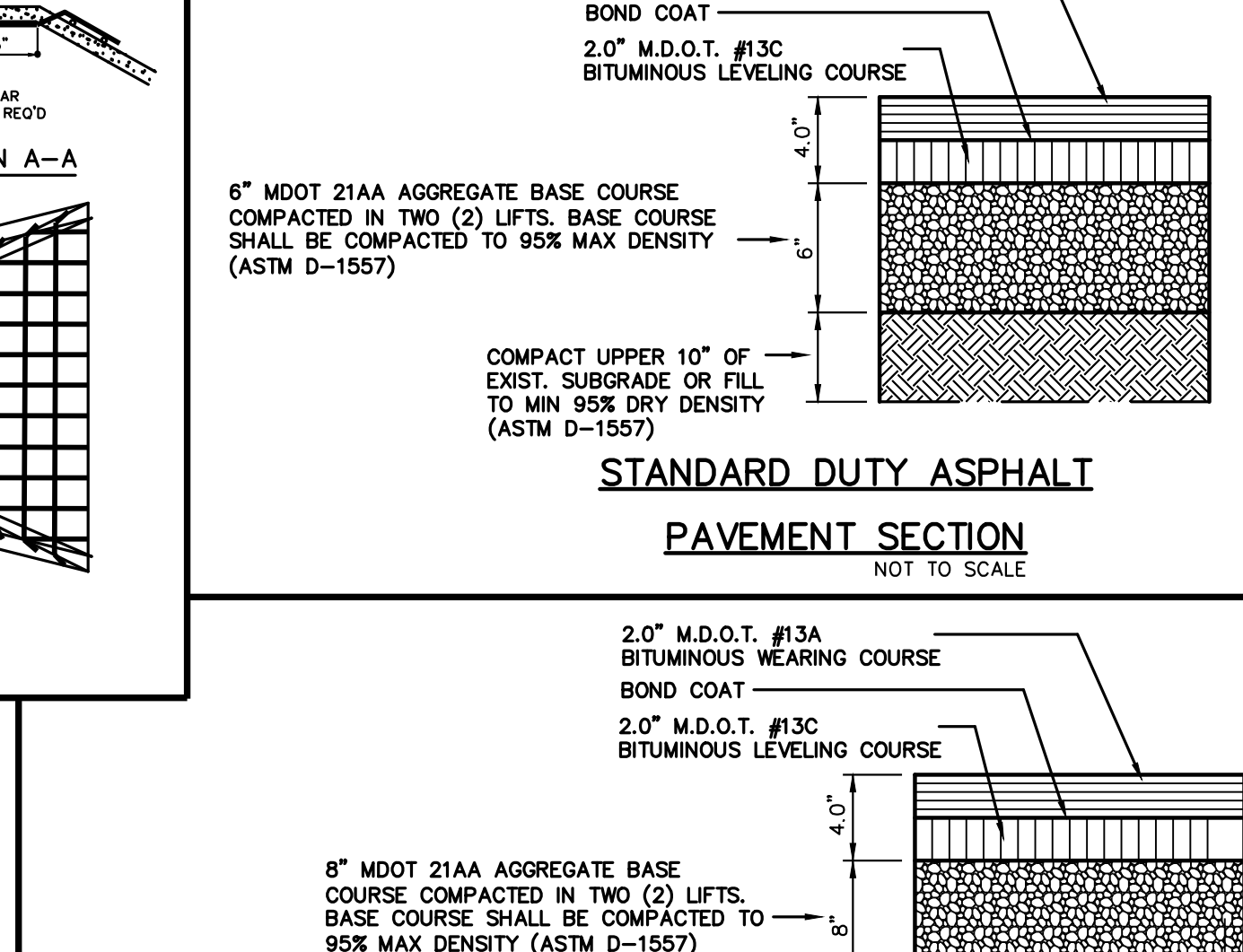
**NO PARKING SIGN DETAIL**  
NOT TO SCALE



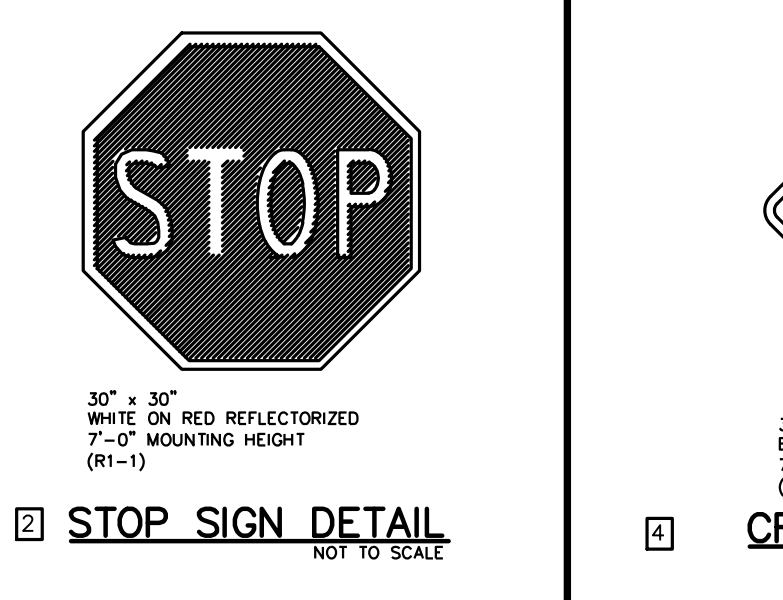
**END SECTION WITH FOOTING & RIP-RAP**  
N.T.S.



**BAR GRATE DETAIL (N.T.S.)**



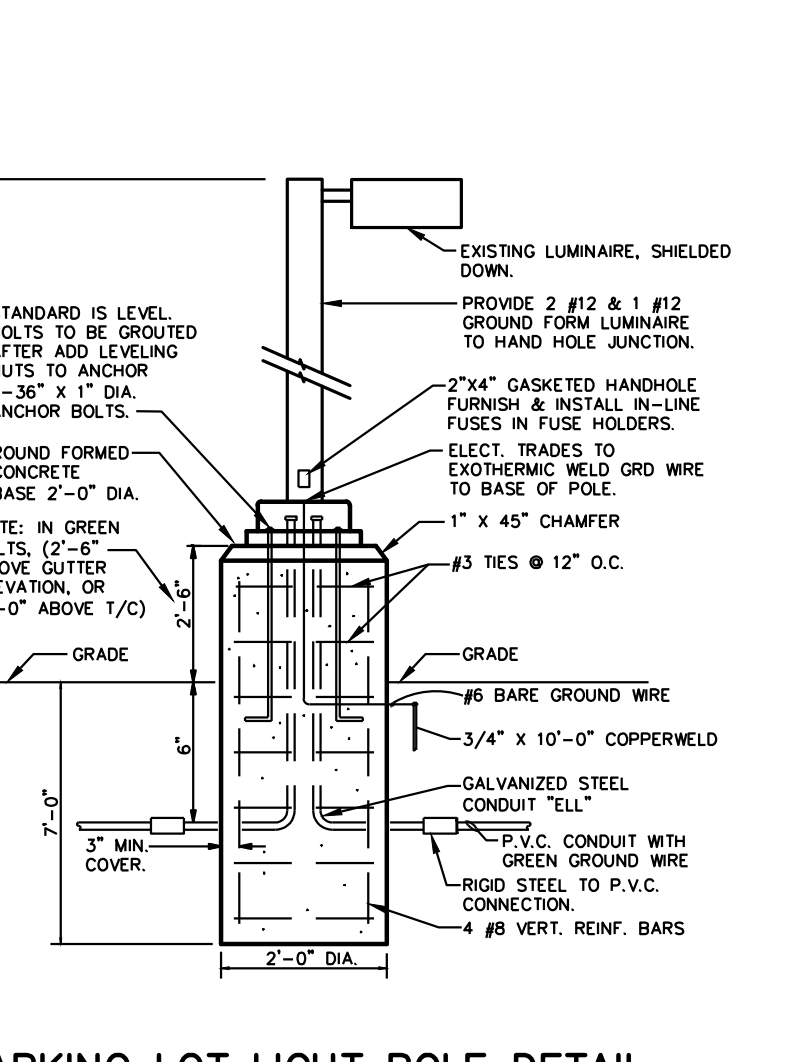
**HEAVY DUTY ASPHALT PAVEMENT SECTION**  
NOT TO SCALE



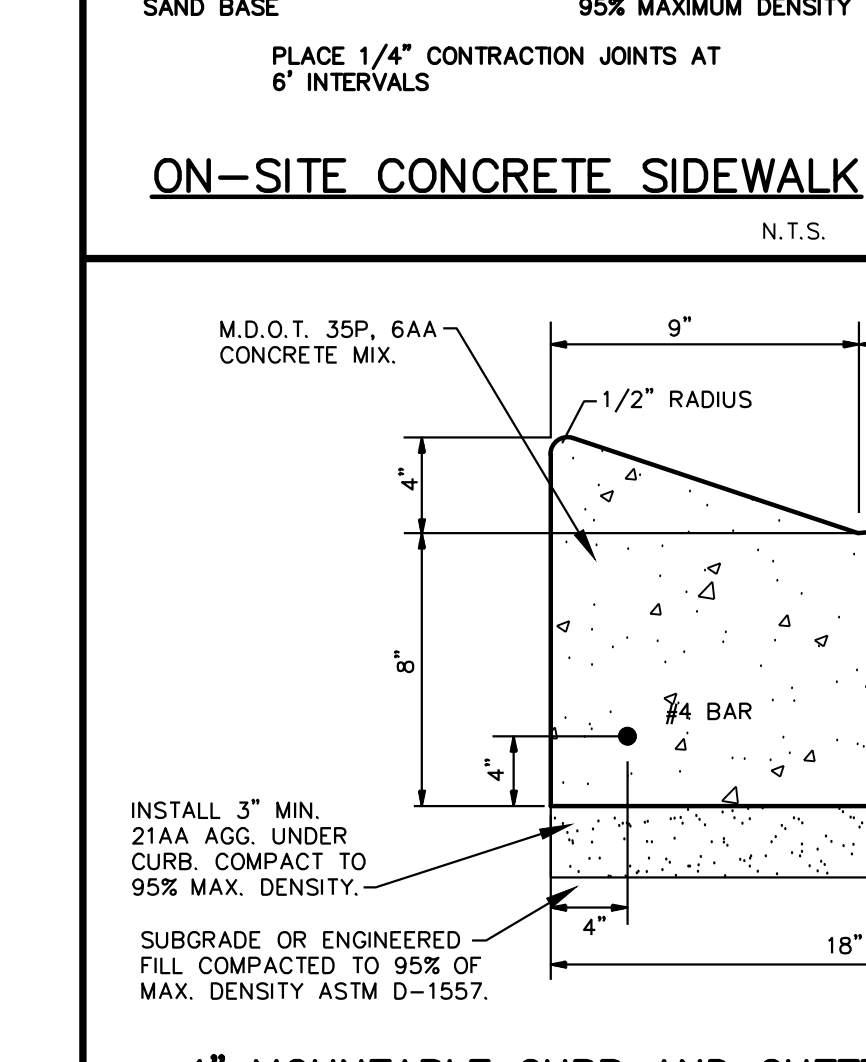
**STOP SIGN DETAIL**  
NOT TO SCALE



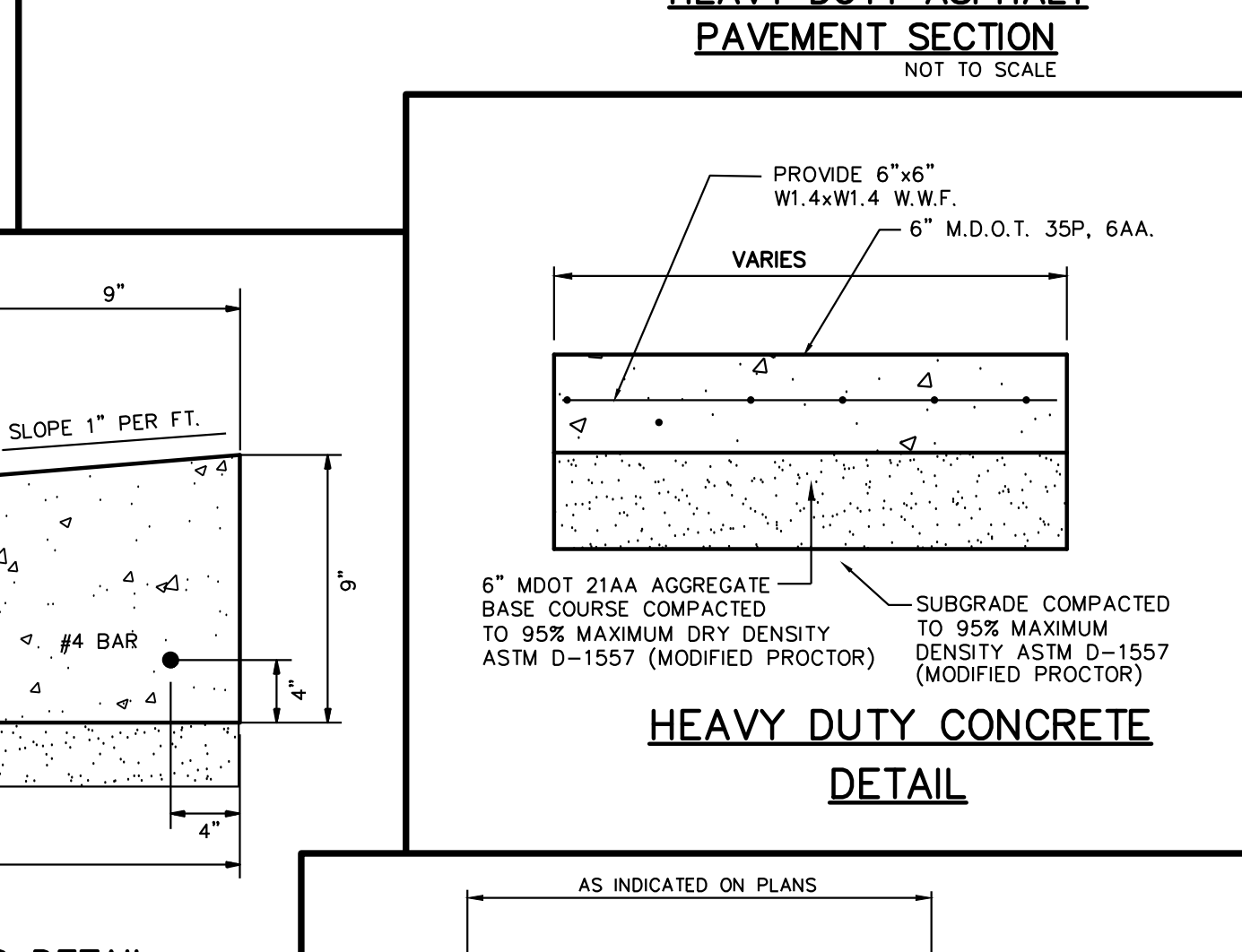
**CROSSWALK SIGN DETAIL**  
NOT TO SCALE



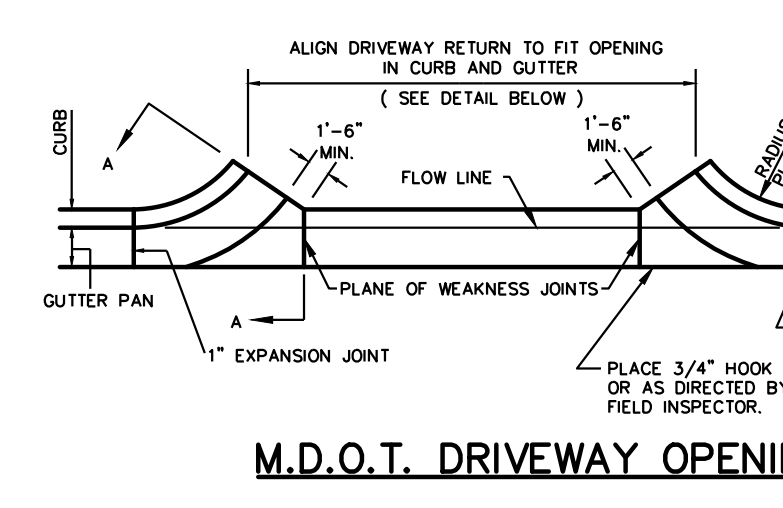
**PARKING LOT LIGHT POLE DETAIL**  
NOT TO SCALE



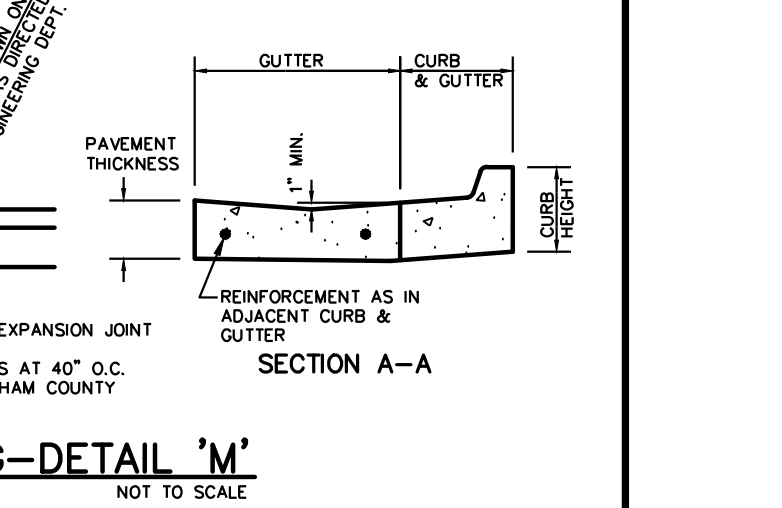
**ON-SITE CONCRETE SIDEWALK**  
N.T.S.



**HEAVY DUTY CONCRETE DETAIL**



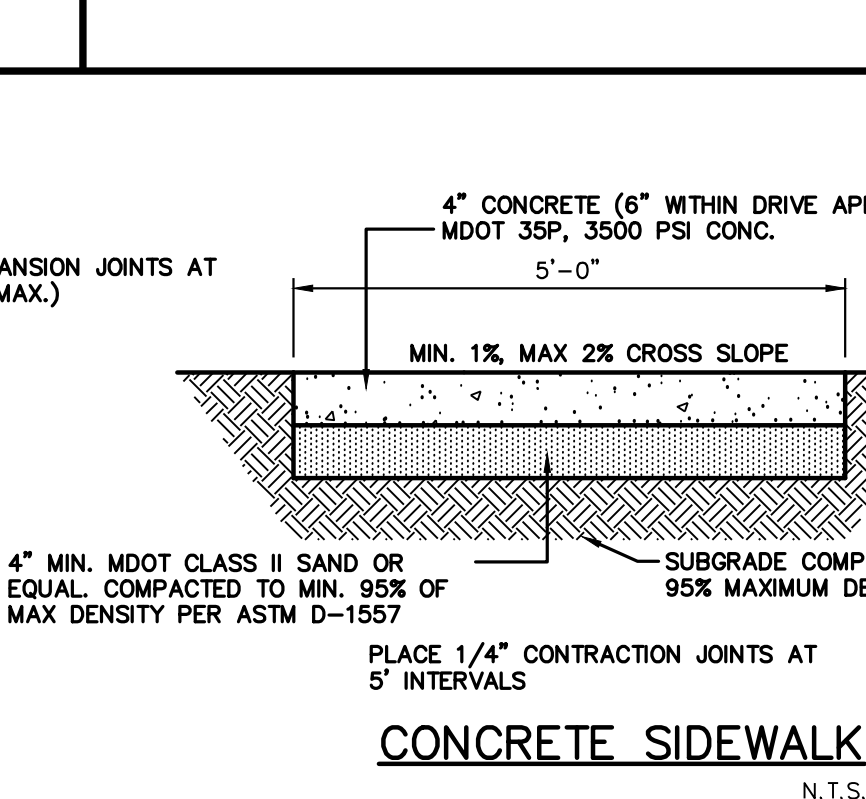
**M.D.O.T. DRIVEWAY OPENING-DETAIL 'M'**  
NOT TO SCALE



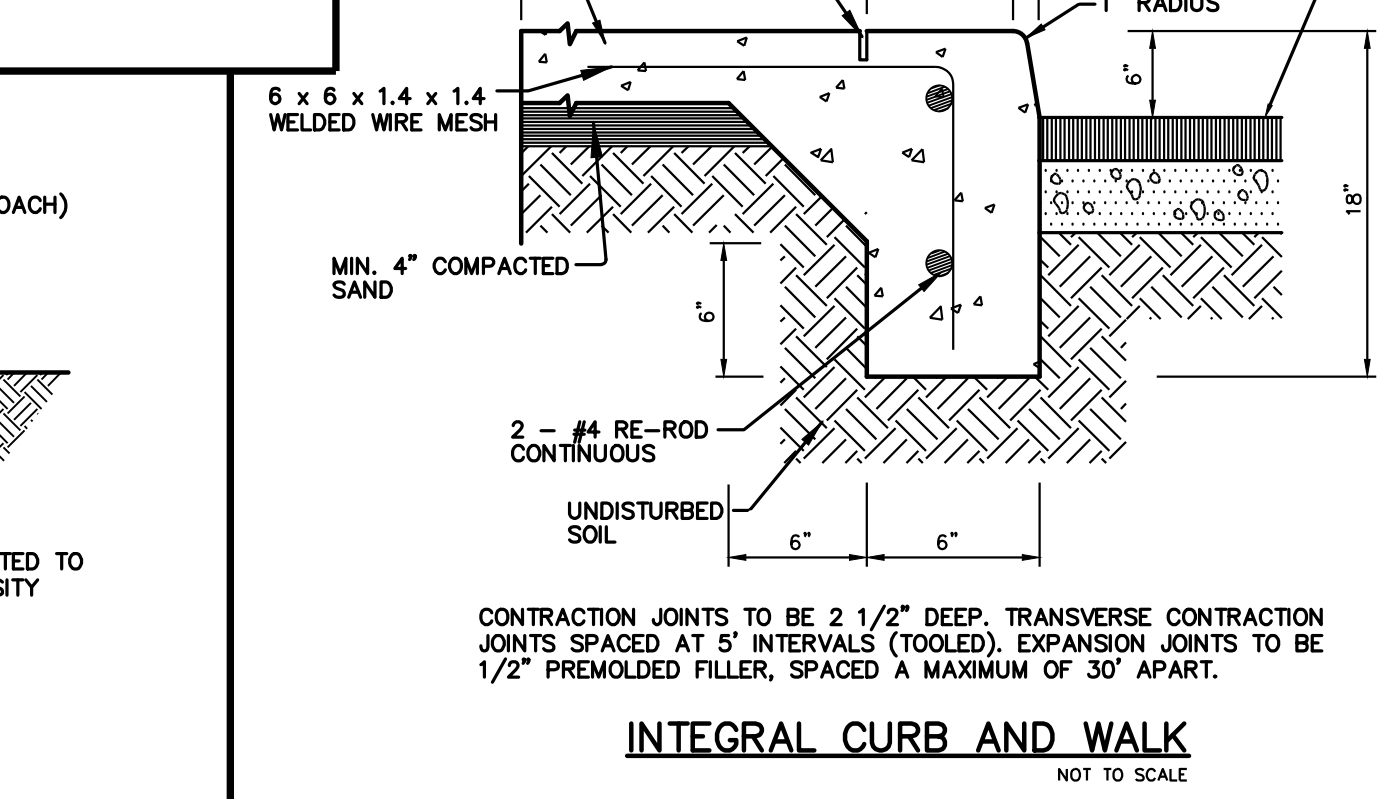
**4" MOUNTABLE CURB AND GUTTER DETAIL**  
NOT TO SCALE



**CONCRETE SIDEWALK**  
N.T.S.



**INTEGRAL CURB AND WALK**  
NOT TO SCALE



**INTEGRAL CURB AND WALK**  
NOT TO SCALE

REVISIONS									
NO.	DATE	BY	REVISION						
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www.storeyengineering.com

DES.	TSS	DN.	TSS	SUR.	CARR.	P.M.	TSS

ORIGINAL ISSUE DATE: 9/14/2017  
Project No: 2017-024  
SCALE: 1" = 30'  
DRAWING NUMBER: **PSP-6.1**



1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL & CALHOUN COUNTY WATER RESOURCE COMMISSIONER.
2. ALL NECESSARY PERMITS, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL MUNICIPAL INSPECTION FEES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING THE PERIODS OF CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO THE JOB.
4. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG (1-800-482-7171) TO VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND SHALL NOTIFY OTHER REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK.
5. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
6. MANHOLE, CATCH BASIN, GATE VALVES AND HYDRANT FINISH GRADES MUST BE CLOSELY CHECKED AND APPROVED BY THE ENGINEER BEFORE THE CONTRACTOR'S WORK IS CONSIDERED COMPLETE.
7. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ANY TREES, BRUSH, STUMPS, TRASH OR OTHER UNWANTED DEBRIS AT THE OWNER'S DIRECTION, INCLUDING OLD BUILDING FOUNDATIONS AND FLOORS. BURNING OF TRASH, STUMPS OR OTHER DEBRIS SHALL NOT BE PERMITTED.
8. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADING, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY CONTROL TRAFFIC IN ACCORDANCE WITH "MUTCD".
9. ALL EXCAVATIONS SHALL BE SLOPED, SHORED OR BRACED IN ACCORDANCE WITH MI-OSHA REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE AN ADEQUATELY CONSTRUCTED AND BRACED SHORING SYSTEM FOR EMPLOYEES WORKING IN AN EXCAVATION THAT MAY EXPOSE EMPLOYEES TO THE DANGER OF MOVING GROUND.
10. ALL REFERENCES TO M.D.O.T. SPECIFICATIONS ARE TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND MDOT, WHERE APPLICABLE.
2. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
3. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS, ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL SECTIONS OR BELOW SUBGRADE IN CUT SECTIONS, WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
4. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR, ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED WITH SAND OR OTHER SIMILAR APPROVED MATERIAL. BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM UNIT WEIGHT (PER ASTM D-1557) UNLESS OTHERWISE SPECIFIED.
5. BACKFILL UNDER PAVED AREAS SHALL BE AS SPECIFIED ON DETAILS.
6. ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.

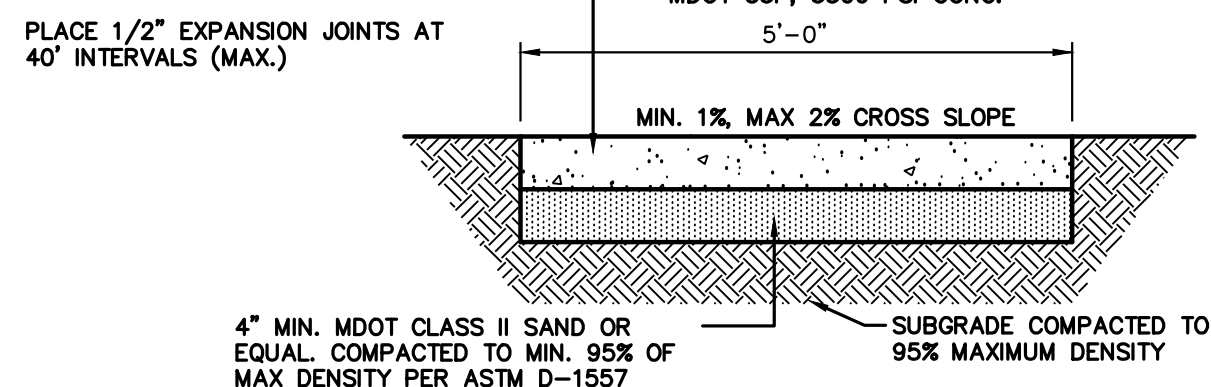
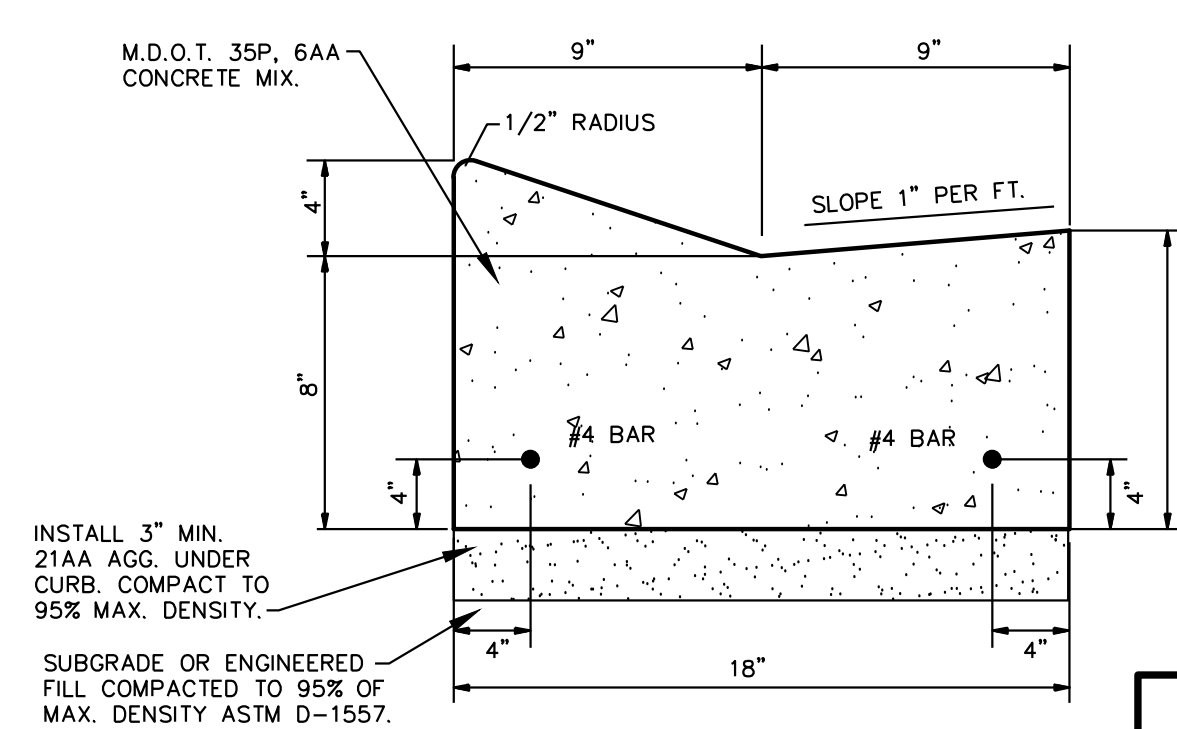
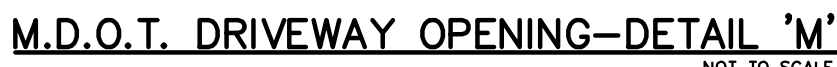
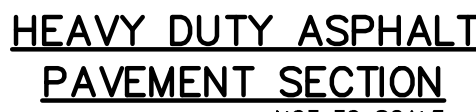
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND M.D.O.T.
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES, WHICH MIGHT AFFECT THIS JOB.
3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROX SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
4. WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOIN BEFORE BREAKING SECTION OUT.
5. EXACT GRADES AND DEPTHS OF UTILITIES ARE TO BE CHECKED CLOSELY WITH THE FIELD ENGINEER PRIOR TO INSTALLATION.

1. ALL STORM SEWER SHALL BE INSTALLED ON STANDARD BEDDING OR BETTER.
2. JOINTS FOR ALL STORM SEWER 12" AND LARGER SHALL BE PREMIUM JOINT TONGUE AND GROOVE WITH RUBBER GASKETS, UNLESS SPECIFIED OTHERWISE.
3. ALL STORM SEWER 12" AND LARGER SHALL BE RCP CLASS IV OR HDPE ADS N-12 OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.
4. CULVERTS SHALL BE ALUMINIZED TYPE II CSP (OR HDPE ADS N-12) WITH BANDED JOINTS MEETING MANUFACTURERS SPECS
5. STORM LEADS SHALL BE PVC SCH 40 WITH GLUED JOINTS BEDDED ON SAND OR STONE AGGREGATE.

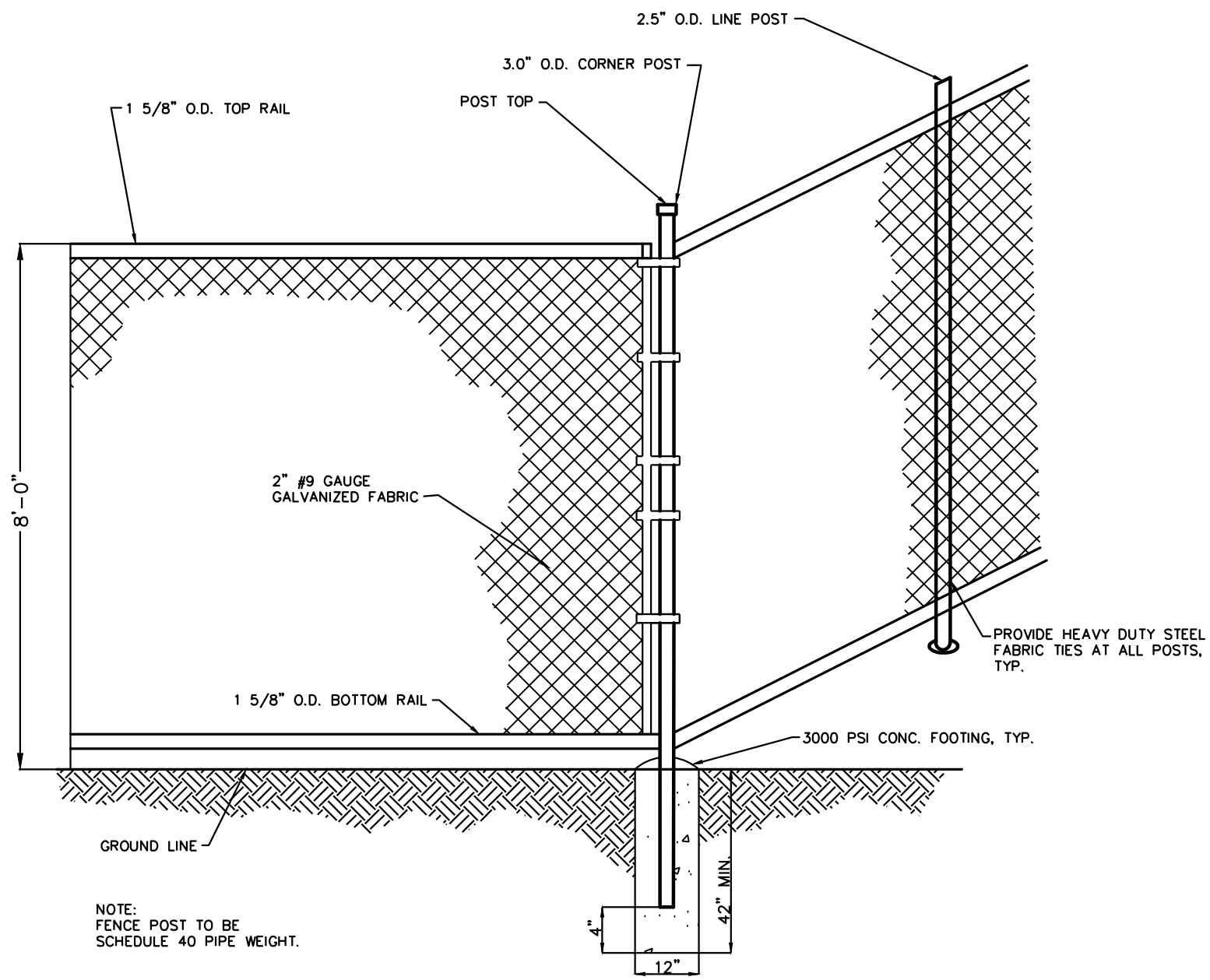
1. ALL WATER MAIN SHALL BE INSTALLED WITH A MINIMUM COVER OF 6.0' BELOW FINISH GRADE. WHEN WATER MAINS MUST DIP TO PASS UNDER A STORM SEWER OR SANITARY SEWER, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM LENGTH OF 10' OF VERTICAL TRENCH TIGHT AND A HALF (22.5') DEGREE BENDS, PROPERLY ANCHORED, MAINTAIN MIN. 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL.
3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVEWAY APPROXIMATELY SHALL BE SAGGING AND BE SLOPED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.

4. ALL TEE'S, BENDS, CONNECTIONS, ETC. ARE CONSIDERED INCIDENTAL TO THE JOB.
5. PHYSICAL CONNECTIONS SHALL NOT BE MADE BETWEEN EXISTING AND NEW WATER MAINS UNTIL TESTING IS SATISFACTORILY COMPLETED.
6. MAINTAIN 10' HORIZONTAL CLEARANCE BETWEEN OUTER EDGE OF WATER MAIN AND ANY SANITARY SEWER OR STRUCTURE.
7. ALL WATER MAIN SHALL BE DUCTILE IRON CLASS 52.
8. REFER TO THE CITY OF MARSHALL STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAIN CONSTRUCTION FOR ADDITIONAL INFORMATION.

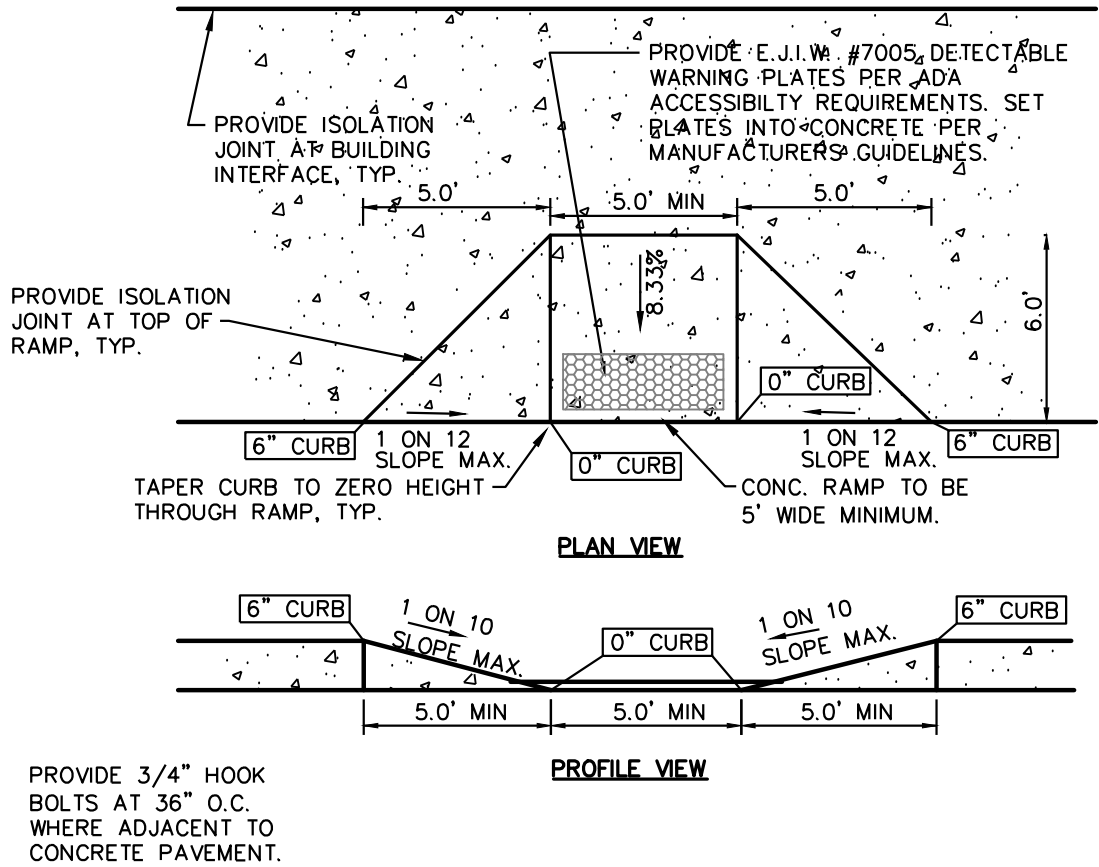
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF MARSHALL AND CALHOUN COUNTY.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.
3. ALL TRENCHES UNDER OR WITHIN THE 45' ZONE OF INFLUENCE LINE OR 5 FEET OF EXISTING AND/OR PROPOSED PAVEMENT SHALL BE BACKFILLED WITH SAND AND COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D-1557.
4. ALL SEWERS SHALL BE PLACED ON MIN. 4" SAND OR GRAVEL BEDDING WHICH SHALL EXTEND TO MIN. 12" OVER TOP OF THE PIPE AND SHALL BE COMPACTED IN MIN. 6" LAYERS.
5. A MINIMUM OF 18" OF CLEARANCE MUST BE MAINTAINED AT ALL CROSSINGS BETWEEN SANITARY WATER MAIN AND STORM SEWER, UNLESS PROVIDED WITH A CONCRETE CRADLE.
6. NO SANITARY SEWER INSTALLATION OR PORTION THEREOF SHALL HAVE INFILTRATION EXCEEDING 200 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOUR PERIOD. JOINTS FOR P.V.C. SOLID WALL OR TRUSS PIPE SHALL BE ELASTOMETRIC (RUBBER GASKET) MEETING A.S.T.M. D-3212.
7. SANITARY SEWER MAIN 8" AND LARGER SHALL BE CONSTRUCTED OF PVC TRUSS PIPE AND SHALL CONFORM TO A.S.T.M. D-3034. ALL LEADS 6" DIAMETER & SMALLER SHALL BE CONSTRUCTED OF P.V.C. SOLID WALL PIPE CONFORMING TO ASTM D-3034, SDR 23.5.
8. SEE CITY OF MARSHALL STANDARD SPECIFICATIONS & DETAILS FOR ADDITIONAL INFORMATION.

[illegible]

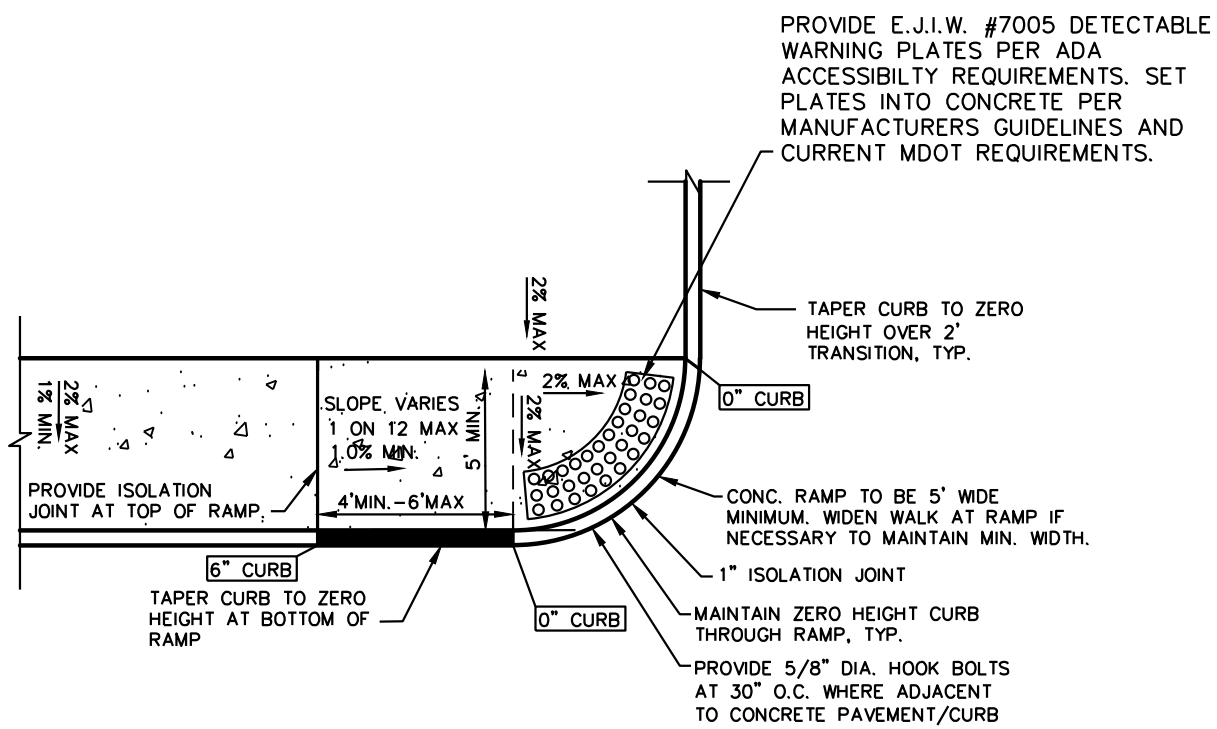




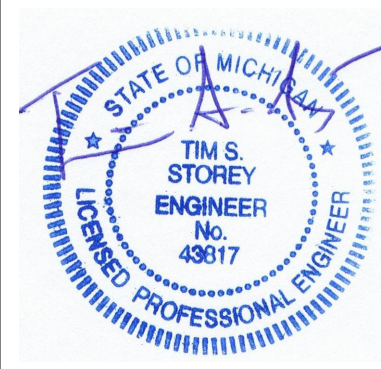
CHAIN LINK FENCE DETAIL  
NOT TO SCALE



B SIDEWALK RAMP TYPE "B"  
NOT TO SCALE



A SIDEWALK RAMP 'TYPE A'  
NOT TO SCALE



CAUTION!!  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

3 FULL WORKING DAYS  
BEFORE YOU DIG CALL

811  
Know what's below  
Call before you dig  
Miss Dig System, Inc.  
1-800-482-7171 www.missdig.net  
(TOLL FREE)

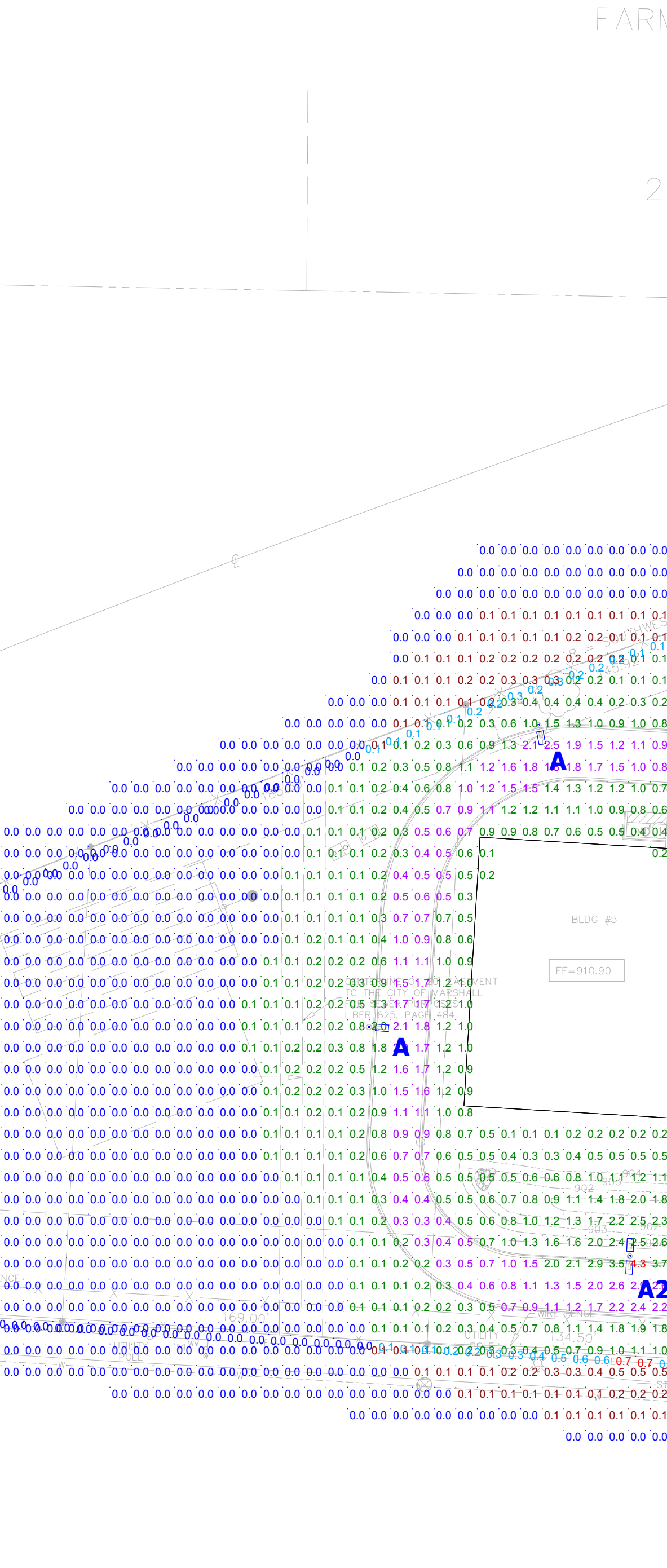
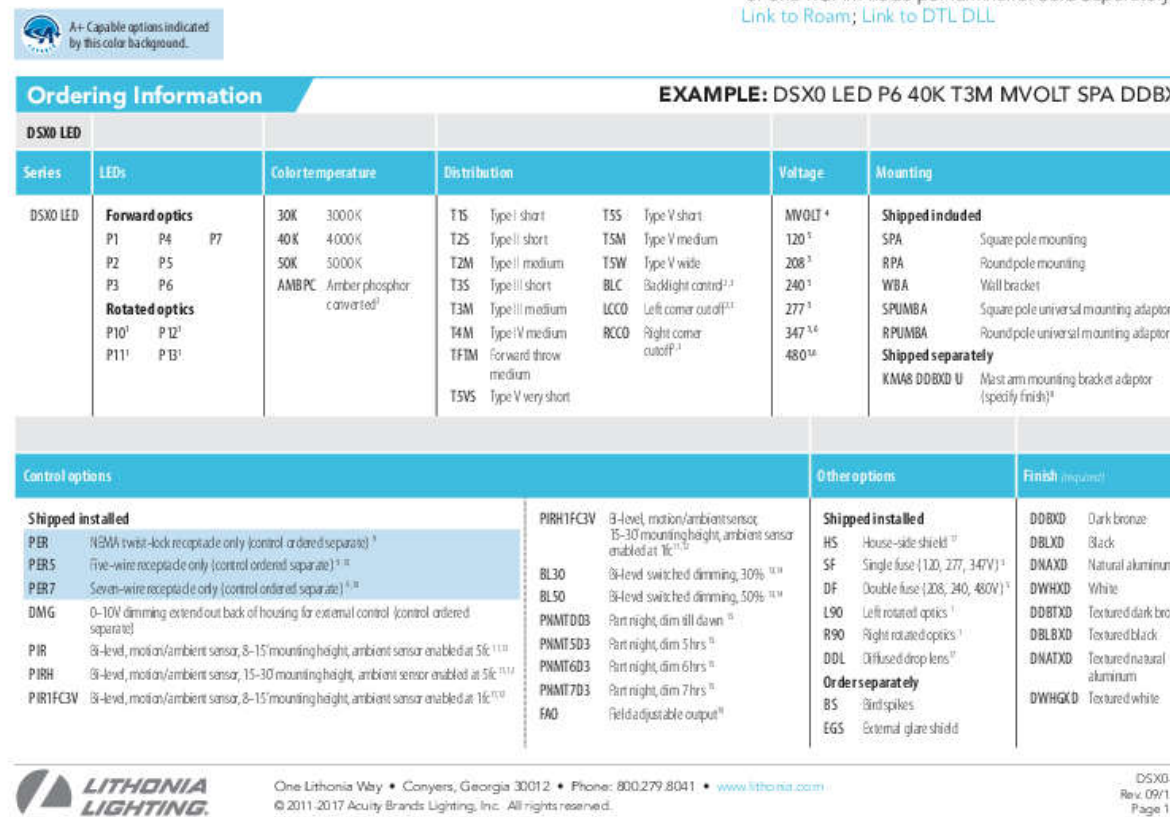


STOREY  
ENGINEERING  
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48264 MANCHESTER  
MACOMB, MI 48044  
(586) 216-1043  
www.storeyengineering.com

DELTA ONE 150 W 2ND STREET, SUITE 250 ROYAL OAK, MI 48067		DETAILS DELTA ONE - MARSHALL 120 INDUSTRIAL ROAD T2S ROW, SECTION 28, CITY OF MARSHALL, CALHOUN COUNTY, MI		TSS
DES.	TSS	DN.	TSS	P.M.
8/15/2017 PROJECTS 2017-024 DELTA 1 - MARSHALL WMA SITE PLAN PSP-6.2 DETAILS.DWG				
ORIGINAL ISSUE DATE: 9/14/2017				
Project No. 2017-024				
SCALE: 1" = 30'				
DRAWING NUMBER: PSP-6.2				

REVISIONS







landscape plan for:  
**Proposed Farm Facility**  
**Marshall, Michigan**

**landscape requirements:**

greenbelt landscape

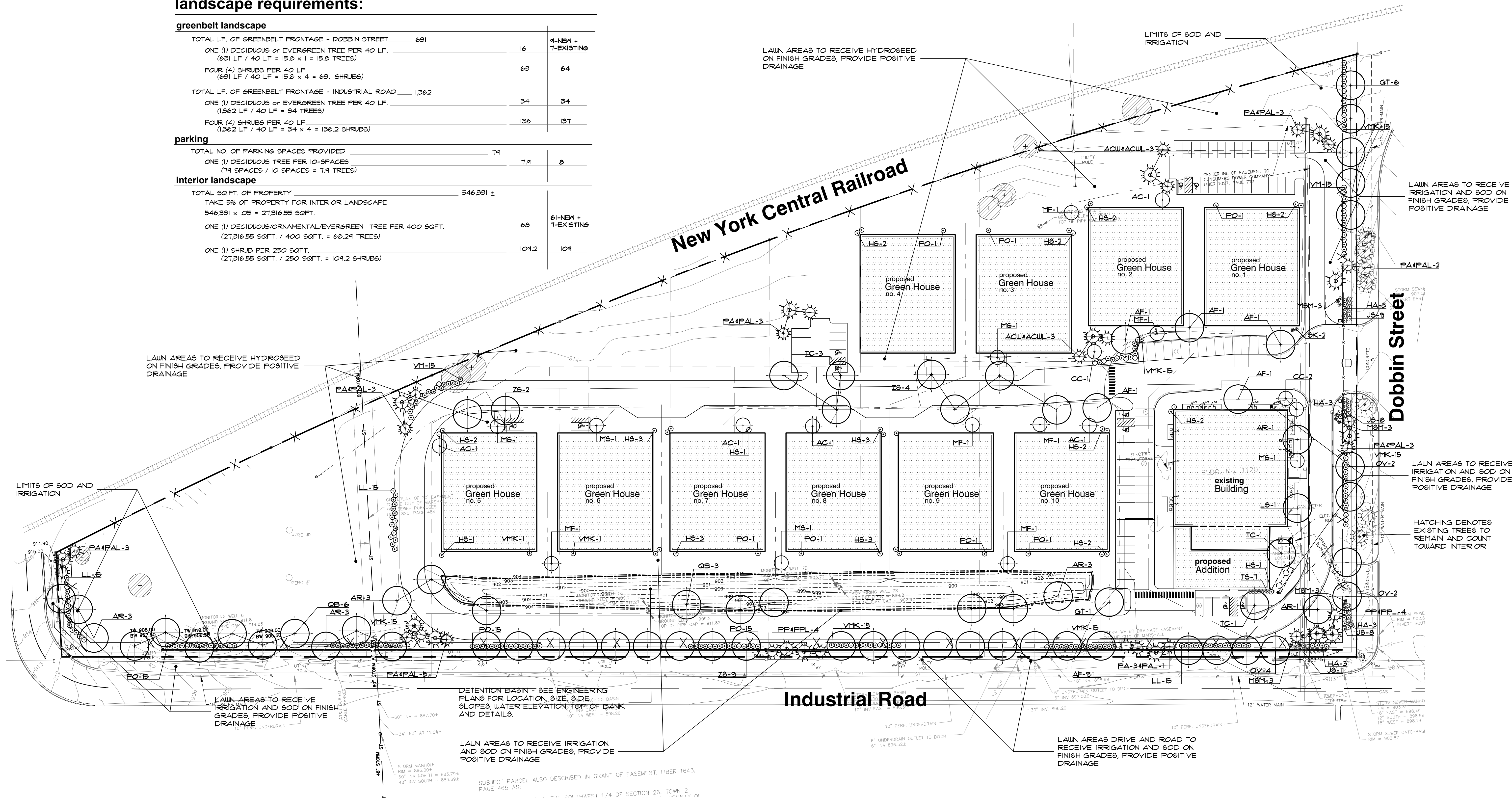
TOTAL LF. OF GREENBELT FRONTAGE - DOBBIN STREET	631		
ONE (1) DECIDUOUS or EVERGREEN TREE PER 40 LF. (631 LF / 40 LF = 15.8 x 1 = 15.8 TREES)		16	9-NEW + 2-EXISTING
FOUR (4) SHRUBS PER 40 LF. (631 LF / 40 LF = 15.8 x 4 = 63.1 SHRUBS)		63	64
TOTAL LF. OF GREENBELT FRONTAGE - INDUSTRIAL ROAD	1362		
ONE (1) DECIDUOUS or EVERGREEN TREE PER 40 LF. (1362 LF / 40 LF = 34 TREES)		34	34
FOUR (4) SHRUBS PER 40 LF. (1362 LF / 40 LF = 34 x 4 = 136.2 SHRUBS)		136	137

parking

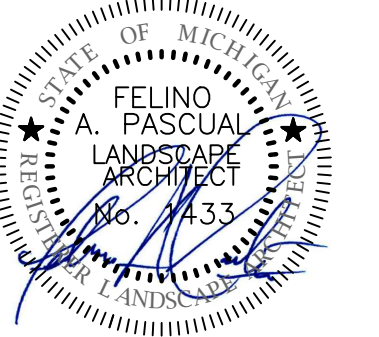
TOTAL NO. OF PARKING SPACES PROVIDED	79	
ONE (1) DECIDUOUS TREE PER 10-SPACES (79 SPACES / 10 SPACES = 7.9 TREES)	7.9	8

interior landscape

TOTAL SQFT. OF PROPERTY	546,331 ±	
TAKE 5% OF PROPERTY FOR INTERIOR LANDSCAPE		
546,331 x .05 = 27,316.55 SQFT.		
ONE (1) DECIDUOUS/ORNAMENTAL/EVERGREEN TREE PER 400 SQFT. (27,316.55 SQFT. / 400 SQFT. = 68.29 TREES)	68	61-NEW + 7-EXISTING
ONE (1) SHRUB PER 250 SQFT. (27,316.55 SQFT. / 250 SQFT. = 109.2 SHRUBS)	109.2	109



seal:



lient:

**DELTA ONE**  
9800 Telegraph Rd.  
Southfield Michigan  
48034

project:

DELTA ONE  
MARSHALL

project location:

Marshall , Michigan  
Industrial Road

Sheet title:

## landscape planting detail

job no./issue/revision date:

S17.103.09	SPA	9-14-2017
S17.103.10	SPA	10-4-2017
S21.025.02	SPA	2-1-2021
S21.025.02	SPA	2-5-2021
		2-9-2021

Drawn by:  
JP, CS, CZ, DK

checked by:

ate:

notice:

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the written permission of Felino Pascual  
and Associates

Do Not scale drawings. Use  
figured dimensions only



the location and elevations of existing underground utilities as shown on this drawing are only approximate; no guarantee is either expressed or implied as to the completeness of accuracy; contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction.

project no:

**S21.025.01**

Sheet no:

LS-1 of 2

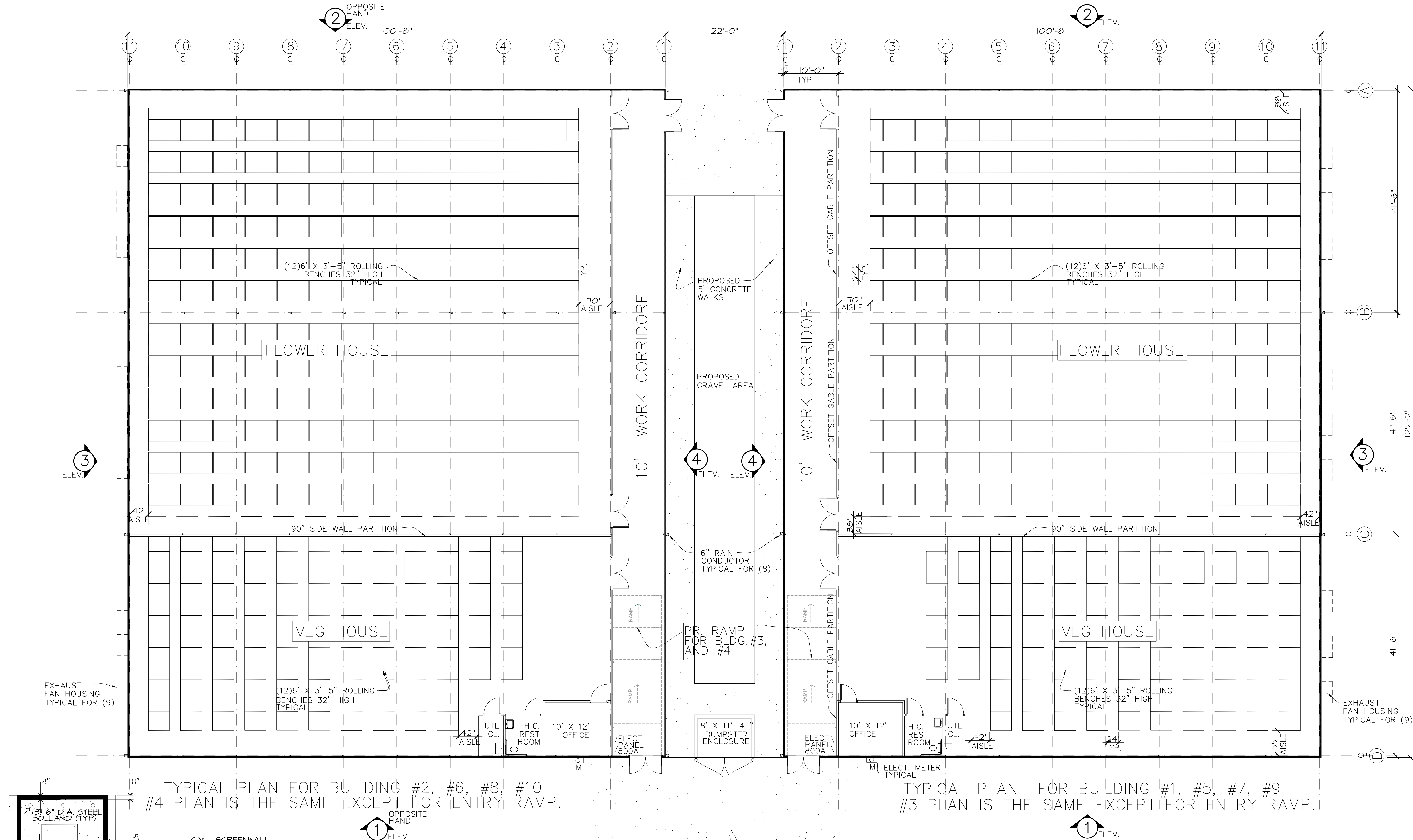






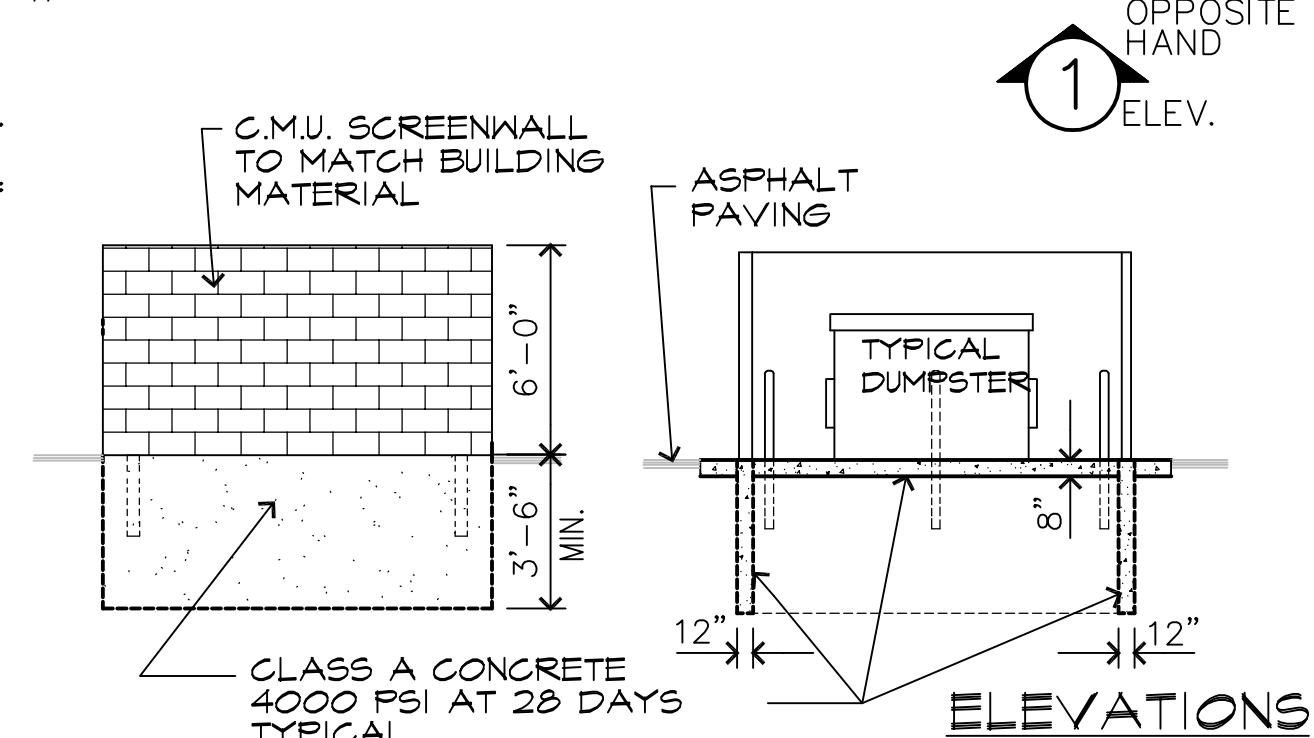
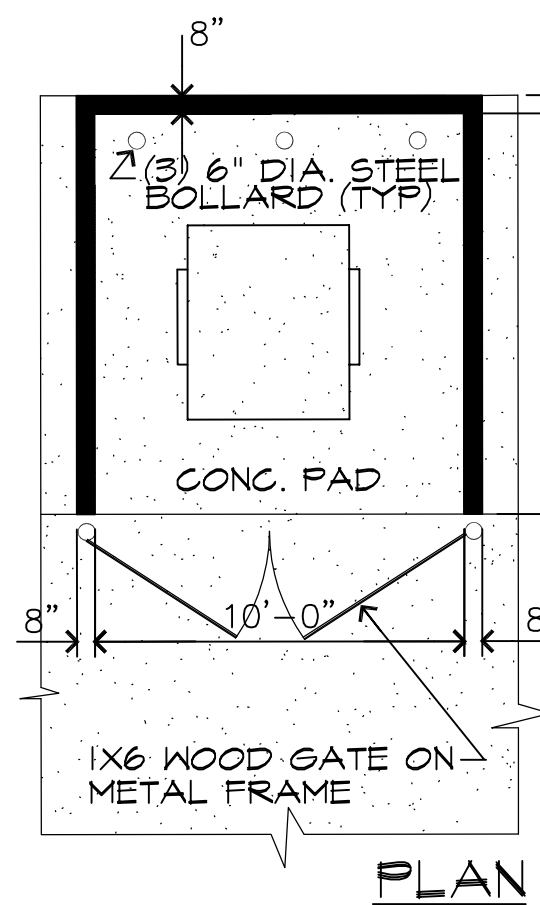






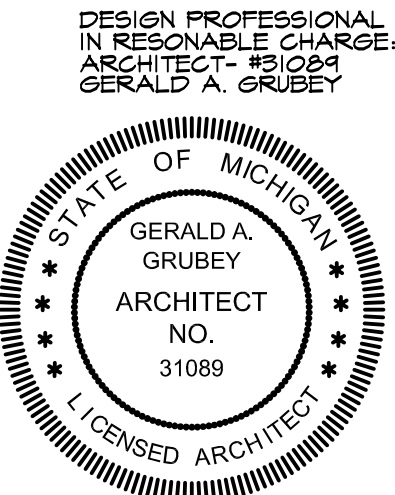
TYPICAL PLAN FOR BUILDING #2, #6, #8, #10  
#4 PLAN IS THE SAME EXCEPT FOR ENTRY RAMP.

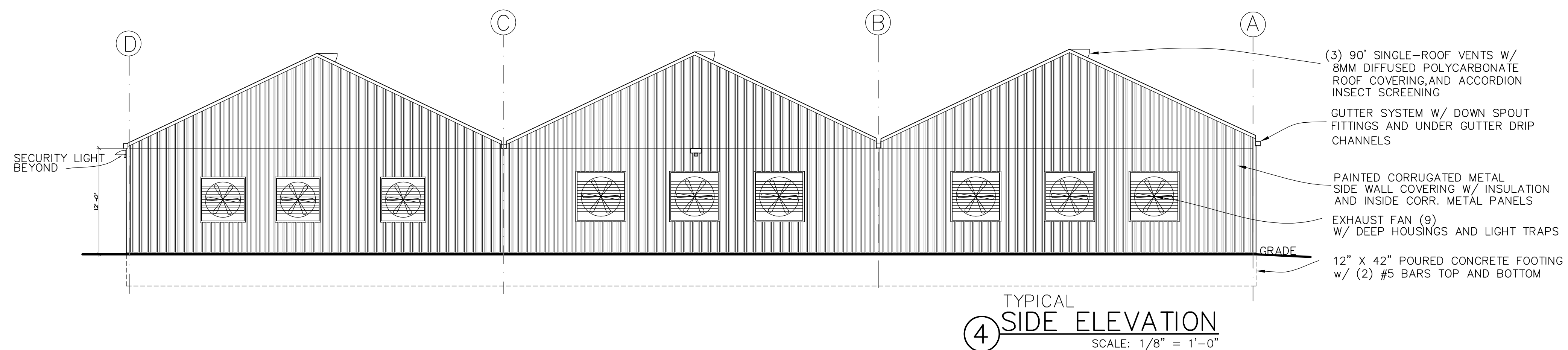
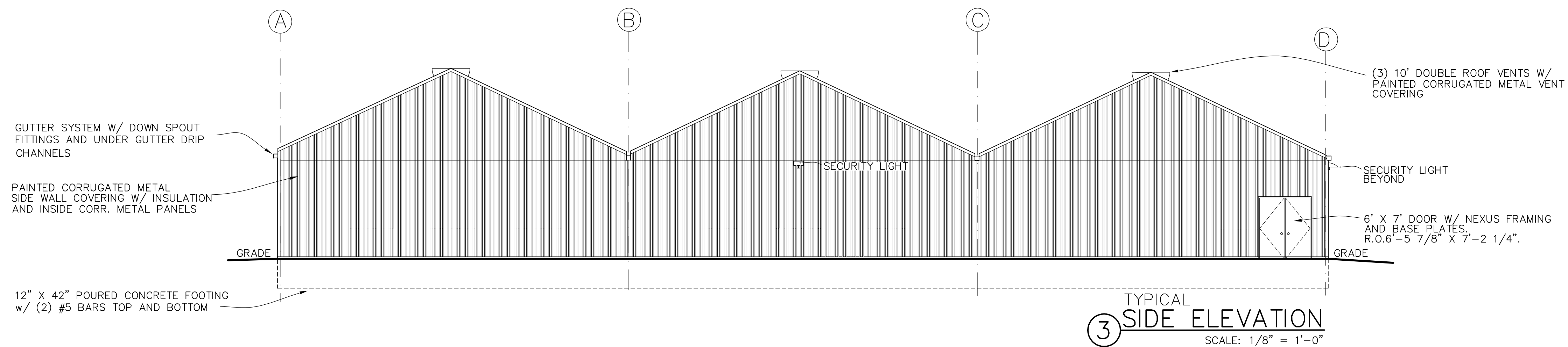
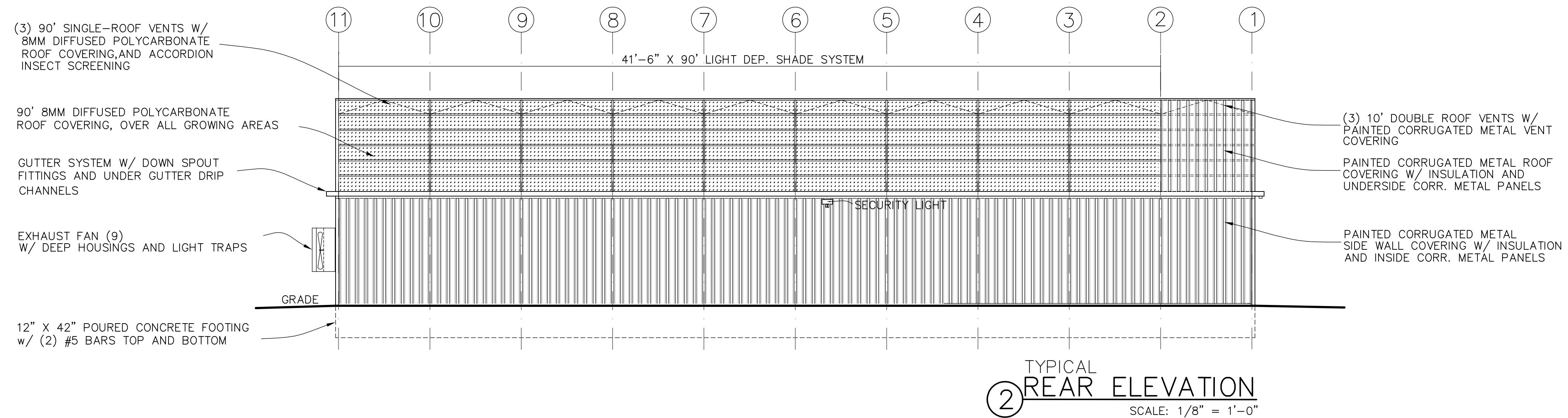
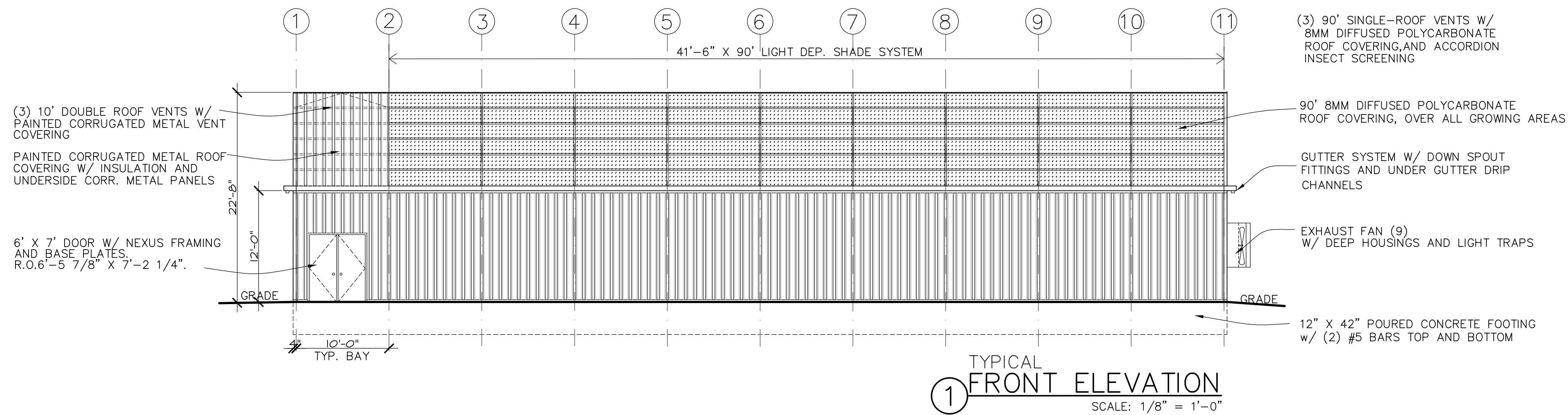
TYPICAL PLAN FOR BUILDING #1, #5, #7, #9  
#3 PLAN IS THE SAME EXCEPT FOR ENTRY RAMP.



DUMPSTER ENCLOSURE DETAIL  
SCALE: NONE

PRELIMINARY  
FLOOR PLANS  
SCALE: 1/8" = 1'-0"





**DELTA 1 - MARSHALL**  
1120 INDUSTRIAL ROAD, MARSHALL, MICHIGAN

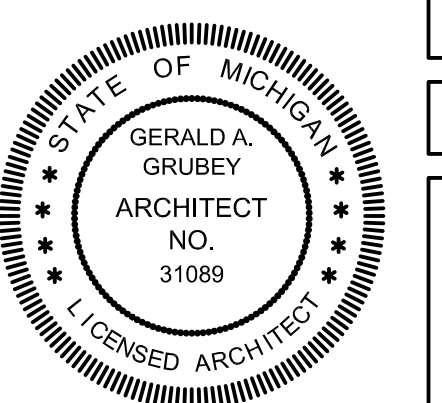
**GRUBEY ASSOCIATES**  
ARCHITECTS  
2011 WILDERSON - SOUTHFIELD, MI 48034  
Telephone (248) 332-0461 email: ggrubey@sbcglobal.net

DATE: 15 SEPT. '17 SUBMIT FOR REVIEW  
4 OCT. '17 RESUBMIT FOR REVIEW

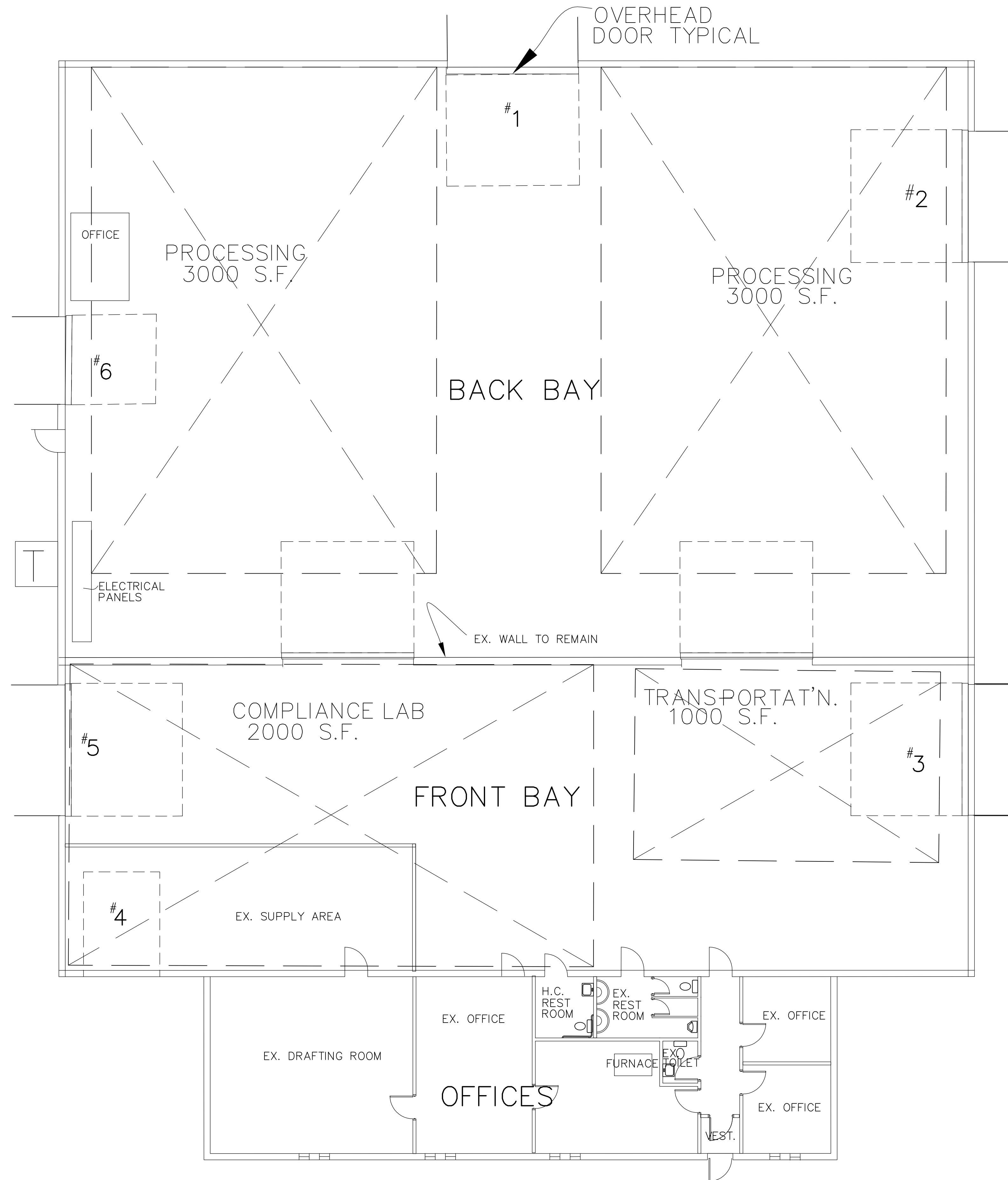
06017

**A2**

DESIGN PROFESSIONAL  
IN REASONABLE CHARGE  
ARCHITECT- #51024  
GERALD A. GRUBEY

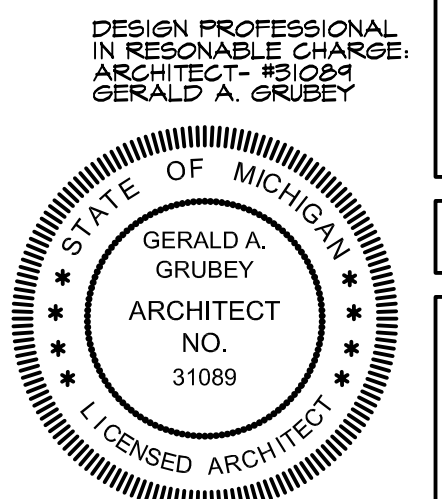






EX. BLDG. FLOOR PLAN  
SCALE: 1/8" = 1'-0"

NOTE:  
DOORS #1 AND #3 WILL BE ACTIVE O.H. DOORS.  
FOR USE BY LARGE BOX TRUCKS.  
DOORS #2, #4, #5, #6 WILL BE INACTIVE O.H. DOORS.



**DELTA 1 - MARSHALL**  
1120 INDUSTRIAL ROAD, MARSHALL, MICHIGAN

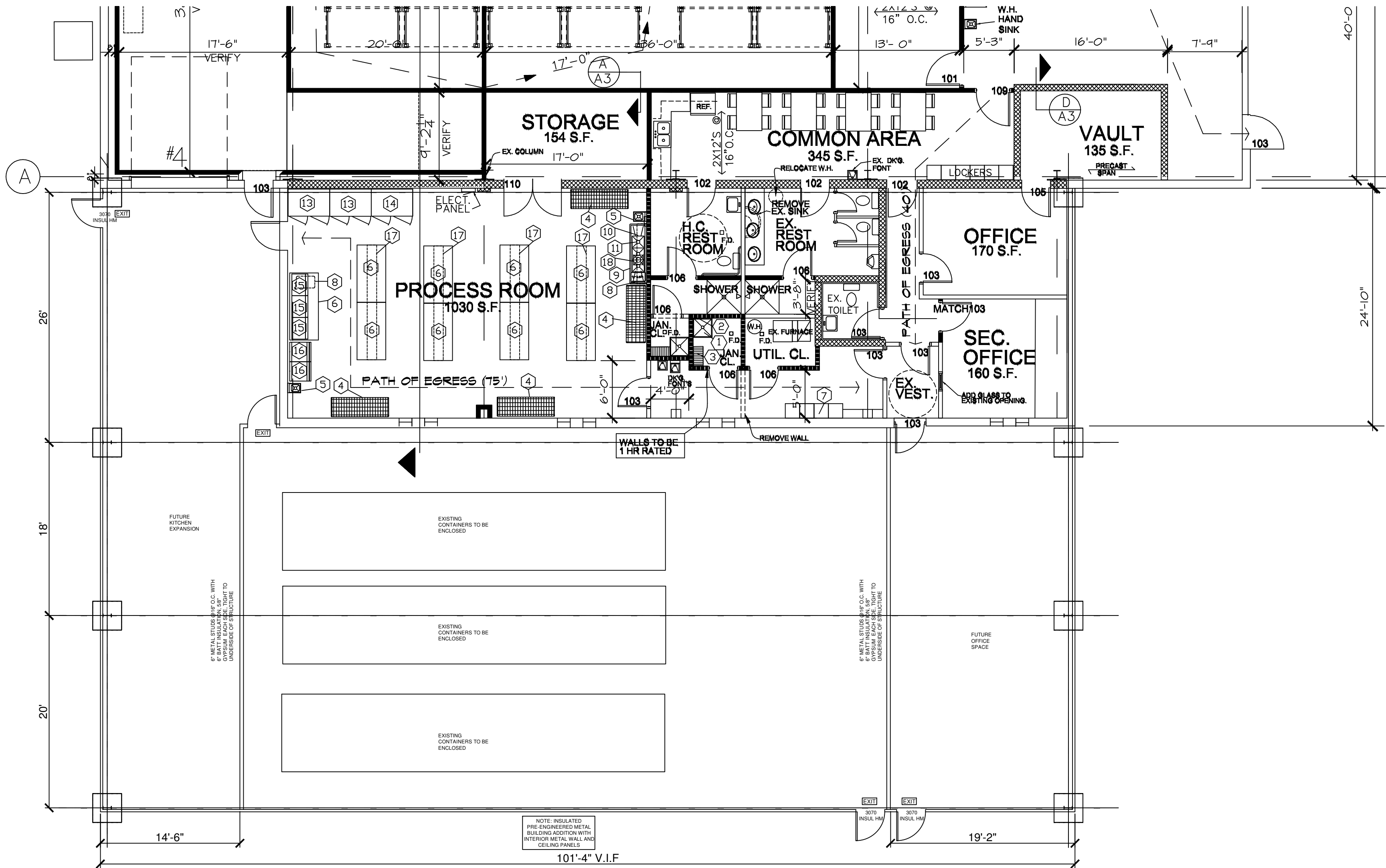
**GRUBEY ASSOCIATES**  
ARCHITECTS  
22411 VILLAGE LANE - SOUTHFIELD, MI 48034  
Telephone (248) 352-0461 eMAIL: ggrubey@sbcglobal.net

DATE: 15 SEPT. '17 SUBMIT FOR REVIEW  
4 OCT. '17 RESUBMIT FOR REVIEW

06017

**A3**





Foundation/ Floor Plan

1/8"=1'-0"

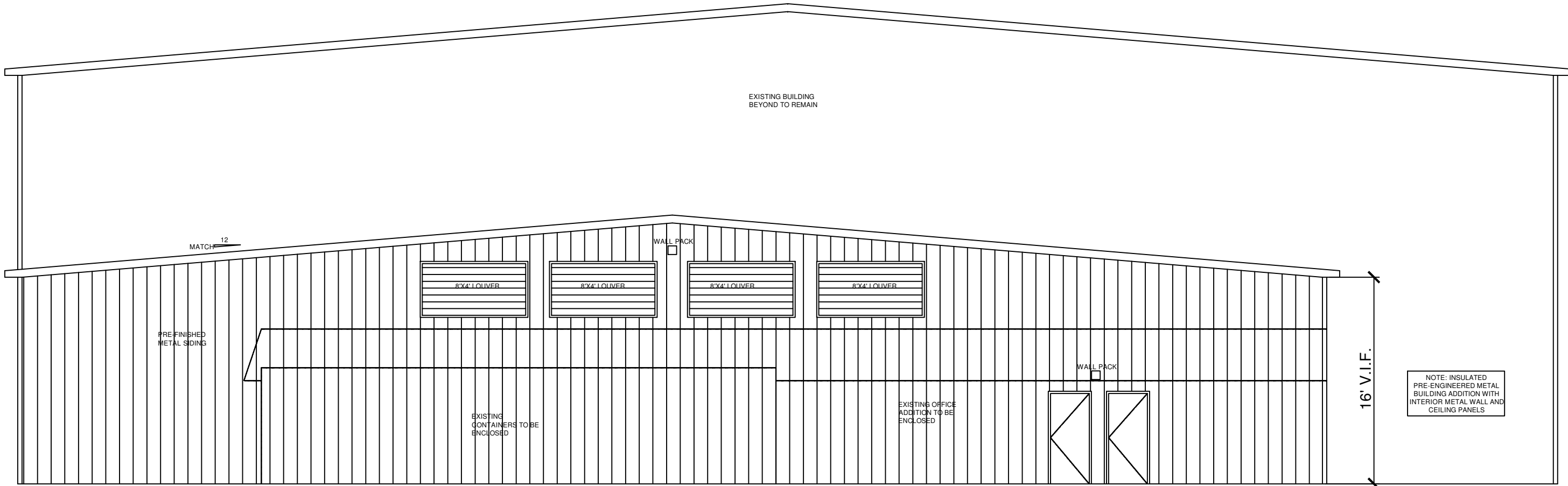
NOTES:  
1. Soil bearing capacity assumed @ 2500#/s.f.--verify during construction  
2. Design based on 2015 MBC  
Use group Factory  
Roof load 35#/s.f.  
Floor load 60#/s.f.  
Wind load 15#/s.f.

Code Analysis

Marshall Zoning  
Building Use Group: F-2  
Construction Type: IIIB  
Building Area: 16,680 + 4,514 Sq. Ft. Addition  
Added occupancy @100 Sq. Ft./person: 54 People  
Required Exit Width: 54'0.2= 11.2"  
Allowable area: 18,000 Sq. Ft. + Frontage  
Maximum Travel (rooms with one exit): 75'  
Actual Distance: <70'  
Maximum Exit Distance: <300'  
Actual Distance: <180'

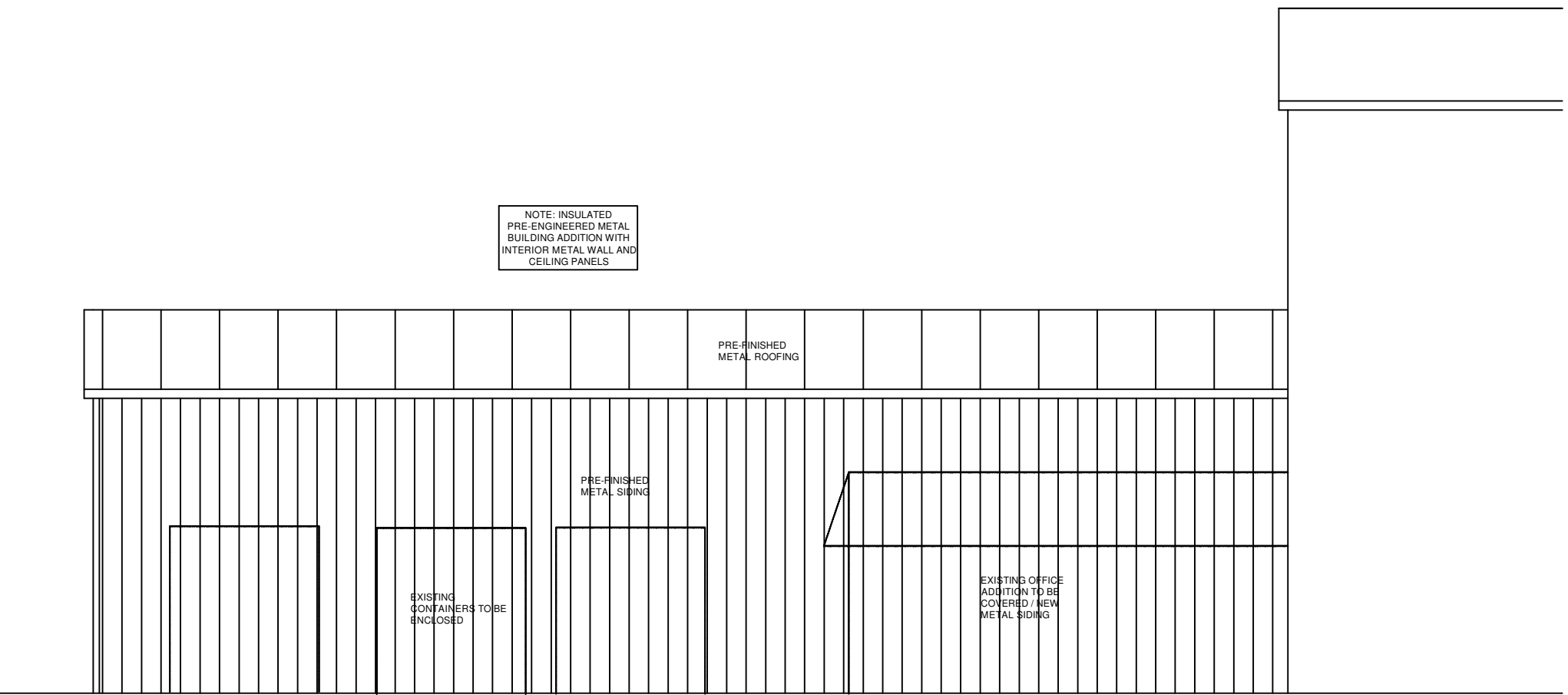
MBC TABLE 803.11 INTERIOR WALL AND CEILING FINISHES  
Interior exit stairways and ramps and exit passageways Class C  
Corridors and enclosure for exitaccess stairways and ramps Class C  
Rooms and enclosed spaces Class C

Deferred Drawings  
Defer final electrical drawings to electrical contractor  
Defer final mechanical drawings to mechanical contractor



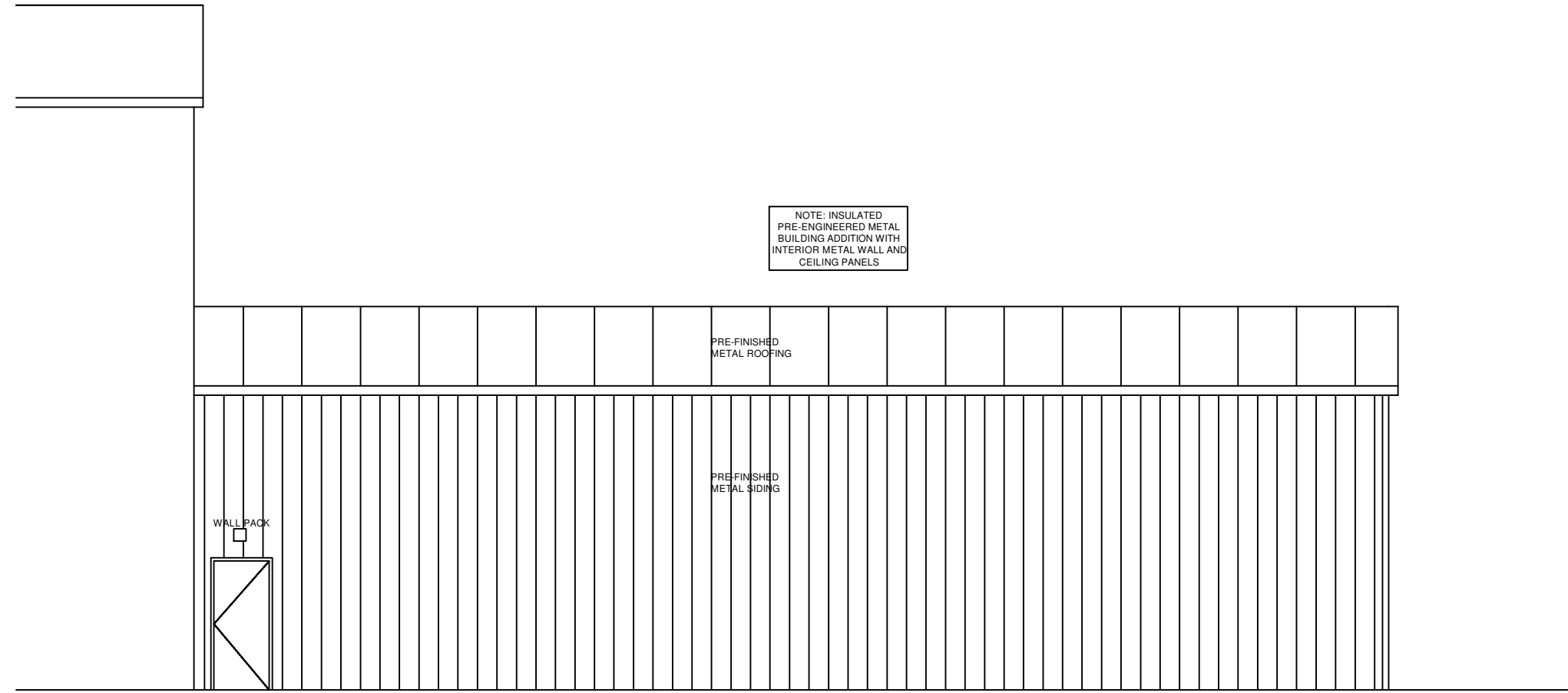
South Elevation

1/8"=1'-0"



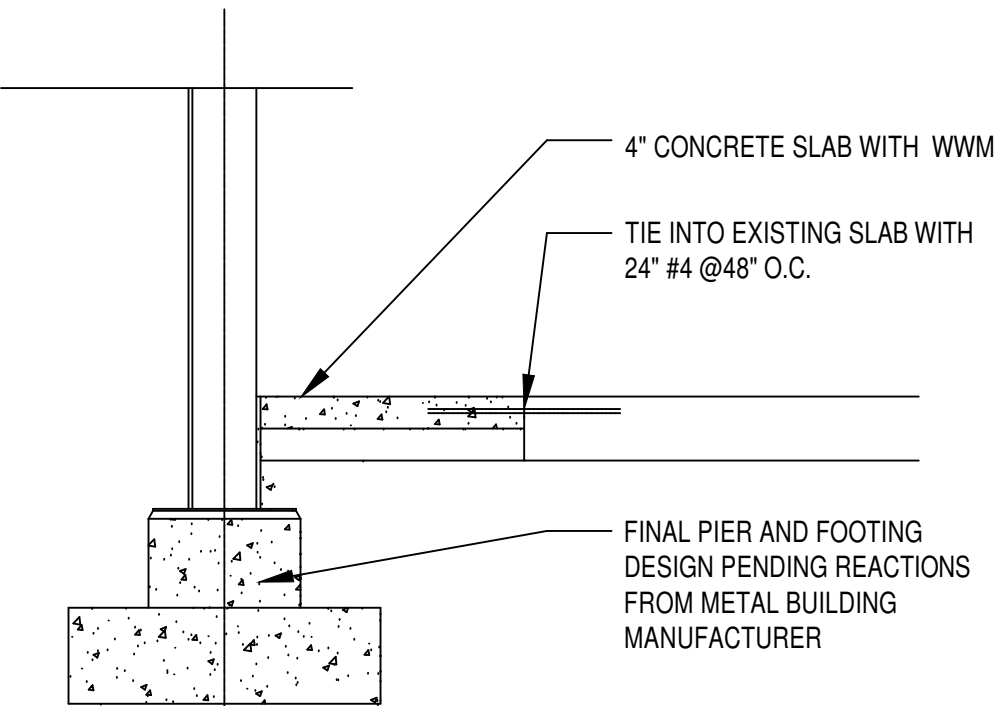
East Elevation

1/8"=1'-0"



West Elevation

1/8"=1'-0"



Foundation Detail

1/2"=1'-0"

Jeff Peltier  
Architect  
1888 Ketegawn  
Owosso, Mi 48867  
989-413-7916

Project  
Delta One  
1120 Industrial Rd.  
City of Marshall  
Michigan

Drawing  
Floor Plan  
Elevations

Scale  
VARIES  
Date  
02/07/2021  
Sheet  
A1  
1 of 4