



PLANNING COMMISSION

TUESDAY, JUNE 11, 2019

Sycamore Room - 1st Floor - 6:30 P.M.

201 West Ash Street, Mason MI

AGENDA

1. CALL TO ORDER

2. ROLL CALL

3. PUBLIC COMMENT

4. APPROVAL OF MINUTES

A. Approve Minutes of Regular Planning Commission Meeting May 14, 2019

5. UNFINISHED BUSINESS

6. NEW BUSINESS

A. Resolution 2019-07: Doberman Technologies, has requested joint preliminary and final site plan approval to demolish structures at 202 and 206 Mason Street, and 332 Center Street, and construct a 4,200 square foot commercial building along with a 24-space asphalt parking lot.

7. LIAISON REPORT

A. City Manager's Report

B. Training Workshop: Tuesday, June 18, 5-9:30 p.m. Planning and Zoning Essentials (Basic Training)

8. ADJOURN

**CITY OF MASON
PLANNING COMMISSION MEETING
MINUTES OF May 14, 2019
DRAFT**

Waxman called the meeting to order at 6:31 p.m. in the Sycamore Room 1st floor at 201 West Ash Street, Mason MI.

Present: Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren
Absent: Sabbadin (gave notice)
Also present: Elizabeth A. Hude, AICP, Community Development Director

AGENDA

MOTION by Barna second by Howe, to amend the agenda to include oath of office for Maggie Wren.

Yes (7) Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren
No (0)
Absent (1) Sabbadin

PUBLIC COMMENT

Name:	Ian Richardson
Address:	205 Mason St, Mason, MI 48854
Topic:	Richardson wanted to introduce himself and his upcoming proposed project because he will not be able to attend the June 11 th planning commission meeting. Richardson gave the commission a packet that included the address of the project, description of the new building, a site plan, and renderings of the future building. He is proposing to demolish structures at 202 and 206 Mason Street, and 332 Center Street, and construct a 4,200 square foot commercial building along with a 24-space asphalt parking lot.

APPROVAL OF MINUTES

MOTION by Howe second by Shattuck, to approve the Planning Commission meeting minutes from April 9, 2019.

Yes (7) Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren
No (0)
Absent (1) Sabbadin

MOTION by Howe second by Droscha, to approve the Planning Commission Training Workshop minutes from April 9, 2019.

Yes (7) Yes (7) Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren
No (0)
Absent (1) Sabaddin

UNFINISHED BUSINESS

None.

NEW BUSINESS

- A. Resolution 2019-04: City Limits has requested final site plan approval to construct a 4,828 square foot addition to expand an indoor recreation use, and to expand parking at property located at 801 N. Cedar St.

MOTION by Droscha, second by Howe to approve Resolution 2019-04. Discussion followed.

Public Comments/Discussion:

Howe asked about the sprinkler system on site and if it is in compliance with the building code.

Hude stated the project will be in compliance with the building code.

Barna asked about the removal/movement of handicap parking spaces.

City Limits Representative stated that no handicap parking spaces will be removed. The spaces are just being moved to ensure the parking lot meets requirements.

Perrault asked about the current vehicle entrances on site and if there would be the same or less entrances.

City Limits Representative stated they will have two entrances, one entrance directly into property from M-36 and a shared entrance with Taco Bell. The shared entrance is supported by a recorded access easement.

Vote:

MOTION by Waxman, second by Howe to approve Resolution 2019-04.

Yes (7) Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren

No (0)

Absent (1) Sabbadin

MOTION APPROVED

- B. Resolution 2019-05: David Meredith, has requested final site plan approval for a change of use to allow an indoor arcade and escape room on the first floor of property located at 118 W. Oak St.

MOTION by Droscha, second by Shattuck to approve Resolution 2019-05. Discussion followed.

Public Comments/Discussion

Hude stated that the food bank will stay there, an arcade will be added to the first floor, and office space remains upstairs. No requirement for Historic District review at this point but will be required for any signs or façade changes. The applicant is proposing 10 of 62 required parking spaces on-site, asking for the Planning Commission

to set the requirement at 10 spaces. There are several on-street and public parking spaces located nearby.

Howe asked about private parking in the adjacent lot as that cannot be counted as public parking for this use. Staff confirmed that the adjacent lot to the east was private and did not necessarily count. Patrons of the arcade may park there as part of a joint trip to other businesses downtown like Bad Brew.

Waxman stated that he believes a problem with parking is a good problem for a city to have. In this case, he does not believe it will be an issue.

Perrault commented that the most recent study was done in the 2009 Master Plan, and asked if there is any new information. Hude stated that the calculation was made based on square footage, and the square footage has not changed significantly since then except for Dart which added more private parking, so the number is still relevant.

Vote:

Yes (7) Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren

No (0)

Absent (1) Sabbadin

MOTION APPROVED

- C. Resolution 2019-06: Travis Cherry, Timeless Treasures, has requested final site plan approval for change of use of an existing 8,100 square foot building to an antique mall with a new parking reserve area.

MOTION by Droscha, second by Howe to approve Resolution 2019-06. Discussion followed.

Public Comments/Discussion

Hude provided an overview of the project and where it met requirements and where waivers were requested for landscaping and parking. Discussion took place regarding the findings in the staff report to support the requests.

Howe asked about the number of employees on site during the day. Cherry informed Howe that he will have three employees per shift.

Cherry says they have already hired someone to repaint the building and that he has several leases signed for vendor spaces.

Vote:

Yes (7) Barna, Droscha, Howe, Perrault, Shattuck, Waxman, Wren

No (0)

Absent (1) Sabbadin

MOTION APPROVED

- D. Kipp Rd corridor – Future Land Use discussion

Hude is working with a potential developer interested in using a portion of property at Kipp and Temple for commercial. It is currently zoned agriculture, the master plan and future land use map suggest mixed-use, but the primary intent is for manufacturing. She wanted to consult with the planning commission to get a sense of whether or not they supported commercial uses that far down Kipp Rd so it was agreed to bring it to discussion with the planning commission.

Shattuck asked if the project is adjacent to the water treatment plant. Waxman stated that this is an adequate space for a commercial use because it fits the character of the area.

Hude stated that the city needs to be careful of sprawl but this use remains in line with the future goals of Mason.

Barna commented that she feels that the mixed use seems appropriate in that area, it's not really a place for housing.

Shattuck agreed with Waxman and Barna. He also thinks that commercial and retail uses on Temple should not go further east beyond Temple. Thinks this project is in the right area and fits the character of Mason.

Hude explained that the intent for the area was to direct manufacturing toward Kipp Rd for better access to the highway and would transition to office and residential closer to Ash/M-36.

E. Sign Ordinance Update

Hude explained that staff looked in depth at the difference between art and advertisement. But without a clear definition this could be a 1st amendment/content issue.

Barna commented that she thinks that legislating could be difficult when trying to decide if it is art or advertising.

Perrault stated that he believes this could be a content issue when trying to regulate art/signs.

Barna suggested that maybe there would be a committee that approves murals. Maybe in the Historic District Commission.

Droscha stated that he thinks that the market could regulate murals, if people do not like the content then they most likely will not conduct business at that establishment.

Waxman agrees with Droscha.

LIAISON REPORT

A. Development Update: City Manager's Report 3/29/2019

Staff shared information on the Temple Street project. There will be 2 new crosswalks, one at Columbia/Temple, the other at Maple/Temple, and will include flashers. This project is funded by a safety grant through MDOT. She shared engineering drawings that provided more detail.

Barna thinks the Safe Routes to School Program is not only ensuring safety but also encouraging healthy transportation options for kids like walking and biking.

Shattuck likes the project but suggests adding a safe crossing at the M-36 Intersection. He sees over 100 kids using that intersection during their commute to the high school for football and track practice.

ADJOURN

The meeting adjourned at approximately 7:38 p.m.



City of Mason
Planning Commission
Staff Report

TO: Planning Commission
FROM: Elizabeth A. Hude, AICP, Community Development Director
SUBJECT: 202 Mason St., 206 Mason St., 332 Center St. – Doberman Technologies
DATE: June 7, 2019

Ian Richardson, Doberman Technologies, is requesting joint Preliminary and Final Site Plan Approval to demolish structures on three lots located at 202 and 206 Mason Street, and 332 Center Street, and construct a 4,200 square foot commercial building that will house professional offices for Doberman Tech employees and space available for lease for general office or general retail. The proposal is shown on the following plans and documents:

- Zoning Permit Application, received May 16, 2019
- Plan set dated May 14, 2019

The applicant paid a fee of \$520 (\$300 Preliminary/Final Site Plan Review, \$220 Engineering Review), and together with the plans and documents listed above, the application appears to satisfy the submittal requirements of Sec. 94-226(c).

CONSTRUCTION SCHEDULE

The project is expected to begin as soon as possible for completion in October 2019.

LAND USE/ZONING/MASTER PLAN

The development is proposed on parcels zoned C-1 Central Business District. The applicant seeks to demolish structures at 202 and 206 Mason Street, and 332 Center Street, and construct a 4,200 sq. ft. commercial building for Doberman Tech employees with additional room for future leasing space. The project will also include the construction of a 24-space asphalt parking lot. As the site plan documents do not delineate the range of uses intended to fill the leasable area of the proposed building, it is unclear as to whether the use of the building will comply with the authorized uses in the C-1 District Sec. 94-141.

The existing surrounding land uses, zoning, and planned future use are as follows:

	Current Land Use	Current Zoning	Future Land Use (Master Plan)
North	Parking Lot/Antiques Mall	C-1 Central Business District	Commercial
West	Offices/Doberman	C-1 Central Business District	Commercial
South	Auto Repair directly south,	R2F Two Family Residential District	Commercial

	Two Family Residential to the south east		
East	Single-family Residential	C-1 Central Business District	Residential

The use and redevelopment of this property is generally consistent with the Master Plan's Future Land Use Strategy (Chapter Three) as described on page 3-2, most particularly the "Downtown Center" component that is most proximate to the subject property, including the proposal's apparent orientation to providing local day-to-day commercial services to the local population and visitors and the overall scale of the proposal.

COMMENTS – DEPARTMENTS AND AGENCIES

Staff circulated the application and plans to city staff and agencies with jurisdiction over the project on May 22, 2019. A meeting was held with Fire, Police, City Engineer and DPW on May 29, 2019 to discuss the project. The following comments were received:

BUILDING OFFICIAL	<ul style="list-style-type: none"> Utilities disconnect confirmation and soil erosion permit will need to accompany the demolition permit. Stamped/Signed plans and Statement of Special Inspections will need to accompany the building permit application.
CITY ENGINEER	<ul style="list-style-type: none"> Prior to exposing the existing water services the City of Mason must be notified to determine the type of service. If the services are determined to be lead, the Contractor should be prepared to remove these services to the extent directed by the City or the City Engineer. All sidewalks that are damaged as a result of construction shall be replaced. It is recommended that the Contractor video the area prior to commencing work and provide a copy of said pre-construction documentation to the City. Any ADA ramps shall be constructed in accordance with the MDOT Standard Plans for Sidewalk Ramp and Detectable Warning Details, current version. Please note, tactile warning plates for the City of Mason shall be as manufactured by TufTile.
FIRE	No concerns.
POLICE	No concerns, lighting appears to be sufficient.

STAFF REVIEW

Staff finds that the site plan is deficient in conformance to the site development standards of the Zoning Ordinance to an extent that denial of final site plan approval is recommended, but preliminary approval, with conditions, may be appropriate. Comments are presented below regarding the proposal's compliance with review standards and is intended to serve as findings of fact.

§94-227. Standards for site plan review and approval. In reviewing an application for site plan review and approval the following standards shall apply:

STATUS/ NOTE	REQUIREMENT
M = Appears to meet requirement; D = Does not appear to meet requirement; I = Information Needed; R = Recommendation; W = Waiver Requested; <i>Italics = Staff comments</i>	

M/R	(1) The site shall be developed so that all elements shall be harmoniously and efficiently organized in relation to the size, shape, type and topography of the site and surrounding property.
<p><i>The new building is appropriately scaled and fits the character of the surrounding neighborhood. The parking lot is delineated in a manner that provides for adequate circulation of vehicles and a clear path toward the entrance on Center Street. There is currently a fence adjacent to the dwelling to the east of the fence. The applicant is proposing an additional fence to support the buffer and protection from possible evening headlight glare into the residence in the event the private residential fence should be removed.</i></p> <p><i>Staff recommends that the applicant consider additional architectural enhancements to the building and to lighting fixtures in the parking lot that are more reflective of the surrounding historic properties and existing structures. Guidance for historic elements can be found on the Historic District Commission page of the City's website which include the Mason Main Street Façade Study and the U.S. Secretary of Interior - Standards for the Treatment of Historic Properties. Additional advice can be sought through the Michigan State Historic Preservation Office.</i></p>	
M	(2) The site shall be developed so as not to impede the normal and orderly development, improvement, and use of surrounding property for uses permitted in this chapter.
<p><i>The new structure and 24-space asphalt parking lot will not impede future developments and improvements on surrounding properties. All surrounding properties are commercial in character except for the dwelling to the east and the proposed 6' fence along the east lot line offers reasonable screening of the parking lot and any loading/unloading activities. Proposed parking lot lighting is to be directed downward and be of an overall low profile. It is anticipated that traffic levels will not be excessive or that the use of the property would generate excessive noise or other nuisance conditions.</i></p>	
M	(3) All buildings or groups of buildings shall be arranged to permit emergency vehicle access by some practical means to all sites.
<p><i>The building will include a 24-space parking lot located behind the structure with a driveway along the north side of Center Street to allow access for emergency vehicles. Emergency access is also available directly from Mason and Center Streets, with the proposed building no more than 15' to 30' from the drivable surface of the streets.</i></p>	
M	(4) Every structure or dwelling unit shall have direct access to a public street or indirect access to a public street via an approved dedicated private street.
<p><i>The site is located on the intersection of two public streets known as Mason Street and Center Street. Both streets are under the jurisdiction of the City of Mason. The proposed parking lot gains direct access from Center Street.</i></p>	
M	(5) Appropriate measures shall be taken to ensure that the addition or removal of surface waters will not adversely affect neighboring properties, that controls are in place to minimize sedimentation and erosion, and that topographic alterations are minimized to accommodate storm water management.
<p><i>NOTE: See (6) below.</i></p>	
M	(6) Provisions shall be made for the construction of storm sewer facilities including grading, gutters, piping, on-site storage, and treatment of turf as required to handle stormwater and prevent erosion.
<p><i>Existing storm sewer pipe is located on both Mason Street (42-inch diameter) and Center Street (12-inch). The potential exists for lead/copper service lines to the existing properties which will need to be addressed. See City Engineer comments.</i></p> <p><i>The proposed site storm sewer will be detained in an underground detention system with a storage capacity equal to the required 100-year storm capacity of 4,770 cubic feet. An outlet control structure</i></p>	

<i>has been designed on the downstream side of an underground detention system. From this outlet control structure, the storm sewer pipe will connect to the existing 12-inch diameter storm sewer pipe with Center Street.</i>	
I	(7) Secondary containment for above ground areas where hazardous substances are stored or used shall be provided as required by the city fire chief.
<i>No specific information has been provided regarding the use of the tenant spaces. Assuming the uses are to be limited to retail sales, office and/or personal service, it is reasonable to assume there will be no hazardous substances stored or used on the site other than common office/household cleaning supplies. It is recommended that the applicant provide information regarding the extent to which hazardous substances will be present and if so, the type of substances.</i>	
M/R	(8) Exterior lighting shall be designed and located so that the source of illumination is directed away from adjacent properties, the intensity of lighting is the minimum necessary, and the direction of lighting is downward as much as is possible and appropriate for the project.
<i>There will be two architectural wall lights attached to the structure facing the parking lot and four area lights in each corner of the parking lot. Site plan specifications for the light fixtures suggest that parking lot lighting will be directed downward only and the photometric plan documents comparatively low light levels along the periphery of the parking lot. The proposed 15' height of the fixtures is in scale with the proposed building and those buildings in the immediate area.</i>	
M	(9) All loading and unloading areas, outside storage areas, and refuse receptacles shall be screened from casual view from the public rights-of-way and adjoining land uses.
<i>The fence serves as sufficient to meet the required screening of the loading/unloading area. There will not be a dumpster on site, trash will be handled internally by each tenant.</i>	
See a-c below	(10) Site plans shall meet the driveway, traffic safety, and parking standards of the city in such manner as necessary to address the following:
M	a. Safe and efficient vehicular and non-vehicular circulation, including parking areas, non-motorized linkages to abutting parcels, uses, sidewalks, and trails.
<i>There is an existing sidewalk in the Mason Street and Center Street right of way. The proposed plan appears to meet the requirements for safe and efficient vehicular access and Sec. 94-176 Supplemental Access Regulations. See also comments in (12) below, Sec. 94 Art. X – Parking and Loading Areas.</i>	
M	b. Shared driveways and service drives.
<i>The site has one access point – a new MDOT M-type opening is proposed along the north side of Center Street in the general area of an existing driveway. Per Sec. 94-292(j)5, Adequate ingress and egress to the parking area by means of clearly limited and defined drives shall be provided. Except for parking space provided for single-family and two-family residential lots, drives for ingress and egress to the parking area shall be not less than 20-feet wide.</i>	
M	c. Adequate and properly located utilities.
<i>The site is currently served by water and sanitary sewer. Water to serve the new building will be located along Mason Street with an existing water main. Existing sanitary sewer pipe is located in Mason Street.</i>	
M	(11) Provisions shall be made for proposed common areas and public features to be reasonably maintained.
<i>The site plan provides for no outdoor common area or public features.</i>	
See below	(12) The site plan submittal shall demonstrate compliance with all applicable requirements of this chapter, chapters 58 and 74, the building code, and county, state, and federal law.
M	Chapter 94 – Zoning and Chapter 100 – Dimensional Requirements
<i>The plan appears to meet the building height, setbacks and lot coverage site development</i>	

<i>standards listed in Section 94-121(c) and Tables 100-1 and 100-2 as noted on the plan sheets and in the zoning</i>	
D	Sec. 94-172(d)(3)(a) Vision clearance
<i>The southwest corner of the building violates the required clear vision zone for corner lots. About 100 sq. ft. of building area encroaches into the required clear vision triangle. In addition, the proposed east lot line fence extends 2' into the required clear vision zone along Center Street.</i>	
M	Sec. 94 – Art. X Off-street Parking and Circulation
<i>The proposed plan appears to meet the requirements for the number and size of parking spaces and circulation is clear and logical.</i>	
D	Sec. 94-241 Landscape, screening and buffer requirements
<i>With the combined lots equaling about 19,471 sq. ft., the approximately 800 sq. ft. of general area landscaping (excluding the four required parking lot trees) falls substantially short of the required 1,947 sq. ft. (10% of area) of general landscaping found in Sec. 94-241(c)(3). Staff is aware of no special features about the site or surrounding conditions that suggest a waiver of the general area landscaping requirement.</i>	
<i>Table 100-4 sets forth the required landscape buffers for the C-1 Zoning District, which requires no buffer where the adjacent lots are zoned C-1 or R2F as in the case of the subject property.</i>	
M	Chapter 58 - Signs
<i>No sign information has been submitted at this time. The application indicates that a plan for building signage will be submitted at a later date and staff will review such plan at that time. Staff was unable to locate the general site sign referenced as being on the site layout.</i>	
D	Chapter 74 – Subdivisions
<i>The applicant will need to combine the three individual lots into a single lot that meets the lot dimension regulations in accordance with Chapters 74, 94, and 100. The combination will be required prior to the issuance of a Building Permit.</i>	
I	Building Code
<i>Approval of a Final Site Plan is required prior to a submittal for a building permit. The applicant may choose to submit for a Commercial Plan Review now to obtain more specific feedback from the Building Official while the site plan review is in progress. See Building Official comments.</i>	
I	County, State and Federal Law
<i>The applicant is responsible for seeking and complying with additional permit requirements. Staff has forwarded the preliminary plans to the Ingham County Drain Commissioner for review. Comments will be provided during Final Site Plan Review.</i>	

ACTION

§94-226. Final site plan review and approval.

The planning commission shall have the authority to approve, approve with conditions, or deny an application for final site plan review and approval. *The Planning Commission may also choose to amend the proposed resolution, or continue the review to a future time and date certain to allow for plans to be revised and/or for the applicant to provide additional information.*

§94-229. Extension of site plan approval.

Approvals of a final site plan are valid for a period of 12 months. Only one extension of a final site plan may be granted for an additional 12 months at the sole discretion of the approving authority. A final site plan is deemed to have expired if a building permit has not been obtained for the development within 12 months of approval of the final site plan. A request to extend preliminary or final site plan validity shall be submitted prior to the expiration of the preliminary or final site plan.

§94-230. Conformance to approved site plan.

A development project shall conform to the approved final site plan. Failure to conform to the approved final site plan shall constitute a violation of this chapter.

However, amendments to an approved site plan can be made subject to the provisions of §94-228 Amendments to an approved site plan.

§94-231. Review standards for planning commission decision.

(a) A decision rejecting, approving, or conditionally approving a site plan shall be based upon requirements and standards contained in the zoning ordinance, other statutorily authorized and properly adopted local unit of government planning documents, other applicable ordinances, and state and federal statutes.

(b) A site plan shall be approved if it contains the information required by the zoning ordinance and is in compliance with the conditions imposed under the zoning ordinance, other statutorily authorized and properly adopted local unit of government planning documents, other applicable ordinances, and state and federal statutes.

The applicant has submitted a joint Preliminary and Final Site Plan. Staff finds that the proposal is deficient in conformance to the standards of review and/or lacks important information to confirm conformance. Staff recommends denial of the proposed final site plan but recommends preliminary approval with conditions.

Therefore, the following motion is offered for consideration:

MOTION

Motion to approve Resolution 2019-07.

Attachments:

1. Resolution 2019-07
2. Application
3. Zoning Permit Application, received May 16, 2019
4. Plan set dated May 14, 2019

**CITY OF MASON
PLANNING COMMISSION
RESOLUTION No. 2019-07**

A RESOLUTION GRANTING PRELIMINARY SITE PLAN APPROVAL TO DEMOLISH STRUCTURES AT 202 AND 206 MASON STREET, AND 332 CENTER STREET, AND CONSTRUCT A NEW 4,200 SQUARE FOOT COMMERCIAL BUILDING ALONG WITH A 24-SPACE ASPHALT PARKING LOT.

JUNE 11, 2019

WHEREAS, a request has been received from Ian Richardson, Doberman Technologies, for joint Preliminary and Final Site Plan Approval to demolish structures at 202 and 206 Mason Street, and 332 Center Street, and construct a new 4,200 square foot commercial building along with a 24-space asphalt parking lot.

WHEREAS, the proposal was shown on plans dated May 14, 2019; and

WHEREAS, the parcel is zoned C-1, Local Commercial District; and

WHEREAS, Section 94-222 states that any use within the C-1 zoning district requires site plan review; and

WHEREAS, the Planning Commission accepts the staff report dated June 7, 2019 as findings of fact; and

WHEREAS, the Planning Commission finds that the proposed final site plan exhibits sufficient deficiencies to delay approval of a final site plan according to the finding of facts and overall comments in the Staff Report, but that the Planning Commission generally supports the overall concept for the redevelopment of the subject property.

NOW THEREFORE BE IT RESOLVED, that the City of Mason Planning Commission does hereby grant preliminary site plan approval to demolish structures at 202 and 206 Mason Street, and 332 Center Street, and construct a new commercial building along with a 24-space asphalt parking lot, subject to the following conditions:

1. A revised site plan, properly dated, shall be submitted with the following changes:
 - a) The proposed building shall not encroach into the clear vision zone at the intersection of Mason and Center Streets, the clear vision zone will be indicated on the plan, and
 - b) Site landscaping shall be increased so as to comply with the 10% rule of Sec. 94-241(c)(8), and
 - c) The site plan shall clarify that the proposed east lot line fence shall be constructed with its finished side facing the adjacent residential lot, and
 - d) Increase the fence set back to at least four feet from the edge of curb.

Yes ()

No ()

Absent ()

Vacant ()



PERMIT APPLICATION

ZONING

Applicant– Please check one of the following:

X	Preliminary Site Plan Review
X	Final Site Plan Review
	Special Use Permit*
	Administrative Review
* includes Preliminary Site Plan Review	

DEPARTMENT USE ONLY

Application Received: _____

Tax ID: _____

Fee: _____

Receipt #: _____

Applicant Information:Name: Ian RichardsonOrganization: Doberman TechnologiesAddress: 205 N. Mason Street, Mason, MI 48854Telephone Number: 517-455-7526 Facsimile Number: _____Interest in Property (owner, tenant, option, etc.): Owner

Note: If applicant is anyone other than owner, request must be accompanied by a signed letter of authorization from the owner.

Property Information:Owner: Doberman Building Co, LLC Telephone Number: 517-455-7526Property Address: 206 Mason Street, 202 Mason Street, and 332 Center StreetLegal Description: If in a subdivision: Subdivision Name: _____ Lot Number: 6, 7 and part of 8

If Metes and Bounds (can be provided on separate sheet): _____

See Attached Sheet - C002 EX ISTING CONDITIONS**APPLICANT CERTIFICATION**

By execution of this application, the person signing represents that the information provided and the accompanying documentation is, to the best of his/her knowledge, true and accurate. In addition, the person signing represents that he or she is authorized and does hereby grant a right of entry to City officials for the purpose of inspecting the premises and uses thereon to verify compliance with the terms and conditions of any Special Use Permit and/or Site Plan approval issued as a result of this application.

Signature: [Signature] Date: 5/13/2019

Requested Description:

Written Description: Please use this section to describe the use or uses proposed. Attach additional pages, if necessary.

The project consists of construction of a 24-space surface level, asphalt parking lot and 4,200 gross square foot commercial building. The commercial building will have lounge space for Doberman Technology employees and leased space. The leased space could contain a Yoga-studio, cross-fit gym, or other general office or retail space dependent on the tenant selected. The parking lot will serve as parking for Doberman Technologies employees and tentants.

Available Services

Public Water ☒ Yes ☐ No

Paved Road (Asphalt or Concrete) ☒ Yes ☐ No

Public Sanitary Sewer ☒ Yes ☐ No

Public Storm Sewer ☒ Yes ☐ No

Estimate the Following

Traffic Generated 10-12 Doberman Employees for long-term daily parking
+ 5-10 hourly dependent on tenant Total Employees 2-6, dependent on tenant

Population Increase No residential use as part of project Employees in Peak Shift 3-5, dependent on tenant

House of Operation 8 AM to 5 PM Total Bldg. Area Proposed 4,200 gross sf

M Day through Fri or Sat. day
 depending on tenant Parking Spaces Provided 24, including 1 barrier free space

Project Phasing

This project will be completed in: ☒ One Phase ☐ Multiple Phases – Total No. of Phases: _____

Note: The phases of construction for multi-phase projects must be shown on the site plan

Application Materials

The following are checklists of items that generally must be submitted with applications for Preliminary Site Plan Review, Final Site Plan Review, and Special Use Permits. Applicants should review Articles VI and VII of Chapter 94 of the Mason Code for a complete listing of application requirements. All site plan drawings must comply with the requirements of Section 94-226(d) of the Zoning Ordinance. Incomplete applications will not be processed.

- ☐ Completed application form
- ☐ 2 copies of full scale site plan drawings
- ☐ Plans submitted on CD or PDF (email is acceptable)
- ☐ Legal description
- ☐ Proof of ownership/owner authorization
- ☐ Construction schedule for proposed project
- ☐ Construction calculations for utilities
- ☐ Fee (see below)
- ☐ Any other information deemed necessary

Application Fee

All requests must be accompanied by a fee, as established by the City Council. The fee schedule for Preliminary Site Plan Reviews, Final Site Plan Reviews, and Special Use Permits is as follows (As of October 16, 2006):

Administrative Reviews	\$70.00
Preliminary Site Plan Reviews	\$200.00
Final Site Plan Review	\$100.00
Special Use Permits (includes preliminary site plan review)	\$275.00

Engineering Review

\$220.00*

*Two—hour minimum fee for projects increasing demand on public utilities. Actual fees incurred are billed to applicant upon completion of review.

Application Deadlines

Preliminary Site Plan/Special Use Permit Review

Applications for Preliminary Site Plan Review may be submitted at any time. Complete applications must be received a minimum four (4) weeks prior to a Planning Commission meeting to be placed on the agenda. Upon receipt of a complete application, a public hearing will be scheduled for the next regularly scheduled meeting (for Special Use Permits only). The Planning Commission has the final authority to approve, approve with conditions or deny an application for Preliminary Site Plan/Special Use Permit Review. The Planning Department staff will issue a letter to the applicant advising of any changes or revisions that may be necessary prior to making application for Final Site Plan Review.

Final Site Plan Review

Complete applications must be received a minimum of four (4) weeks prior to a Planning Commission meeting to be placed on an agenda. The Planning Commission has the final authority to approve, approve with conditions or deny an application for Final Site Plan Review. Planning Commission meetings are held on the second Tuesday after the first Monday of every month, unless the Tuesday is a Township recognized holiday, in which case the meeting is held on the following day (Wednesday).

Staff Report

The Planning Department Staff will prepare a report to the Planning Commission regarding an application for Preliminary Site Plan Review, Final Site Plan Review or Special Use Permit. The report will explain the request and review whether it complies with the zoning standards of the Mason Code. Staff will present the findings of that report during the Planning Commission meeting. An applicant who wishes to obtain one (1) copy of that report, at no cost, prior to the meeting must provide a written request to the Planning Department. The report is generally complete on the Friday before the meeting and can be mailed to the applicant or picked up by the applicant in the Planning Department.

Resources: More questions? Please contact our Customer Service Desk at 517.676.9155.

Revised 7.2.2018 (Community Development)

Exhibit A

Parcel 1:

Commencing on the West line of Lot 6, Block 2, Lot 6, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, Michigan, at a point 48.25 feet Northwesterly from the Southwest corner of said lot; thence Northerly along the East line of Mason Street to within 26 feet of the Northwest corner of Lot 8, Block 2; thence Easterly on the North line of Lot 8, Block 2, at a point 48 feet West of the Northeast corner of said Lot; thence South to within 75.3 feet of the North line of Center Street; thence Southwesterly to beginning.

Parcel 2:

Commencing at the Southwest corner of Lot 6, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, Michigan, thence East 69.6 feet; thence North 75.3 feet; thence Southwesterly to the West line of said Lot at a point 48.25 feet; thence Northwesterly from beginning; thence Southeasterly 48.25 feet to beginning.

Parcel 3:

The East 48 feet of Lots 6, 7 and 8, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, Michigan,

Non-Foreign Certification — Transferee and Transferor-Entity

This form is provided so that the buyer and/or seller in this transaction can certify compliance with the Foreign Investment in Real Property Tax Act to the escrow agent and/or buyer. Transferee/Buyer must retain a copy of this document until after the fifth taxable year following the transfer.

Section 1445 of the Internal Revenue Code provides that a transferee of a U.S. real property interest must withhold tax if the transferor is a foreign person. For U.S. tax purposes (including section 1445), the owner of a disregarded entity (which has legal title to a U.S. real property interest under local law) will be the transferor of the property and not the disregarded entity. To inform the transferee that withholding of tax is not required upon the disposition of a U.S. real property interest, the undersigned hereby certifies the following on behalf of the transferor/seller:

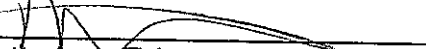
1. **Estate of David Feintuch, deceased** is not a foreign corporation, foreign partnership, foreign trust, or foreign estate (as those terms are defined in the Internal Revenue Code and Income Tax Regulations);
2. **Estate of David Feintuch, deceased** is not a disregarded entity as defined in §1.1445-2(b)(2)(iii)?
3. **Estate of David Feintuch, deceased** U.S. employer identification number is **35-6766636**
4. The office address is: **604 South Barnes Street, Mason, MI 48854**

The transferor/seller understands that this certification may be disclosed to the Internal Revenue Service by transferee and that any false statement contained herein could be punished by fine, imprisonment, or both.

Under penalties of perjury I declare that I have examined this certification and to the best of my knowledge and belief is true, correct, and complete, and I further declare that I have authority to sign this document on behalf of seller.

Date: 12/27/18

Estate of David Feintuch, deceased

By: 
Jeanette Anna Feintuch, Personal Representative

Accepted by Buyer

I have examined this certification and to the best of my knowledge and belief it is true, correct and complete.

Date: 12/27/18

Doberman Building Company, LLC, a Michigan Limited Liability Company

By: 
Ian Richardson, Member

FIRPTA

Page 1

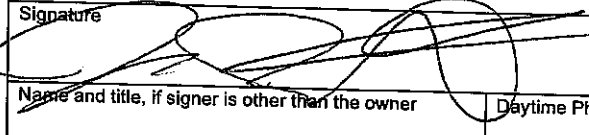
Rev. 10/31/03

Seller, Buyer and Escrow Holder to maintain a copy for five (5) years

Property Transfer Affidavit

This form is issued under authority of P.A. 415 of 1994. Filing is mandatory.

This form must be filed whenever real estate or some types of personal property are transferred (even if you are not recording a deed). The **completed Affidavit must be filed by the new owner with the assessor for the city or township where the property is located within 45 days of the transfer.** The information on this form is NOT CONFIDENTIAL.

1. Street Address of Property 202, 206 North Mason Street, 332 Center Street		2. County Ingham	3. Date of Transfer (or land contract signed) 12/27/18
4. Location of Real Estate (Check appropriate field and enter name in the space below.) <input checked="" type="checkbox"/> City <input type="checkbox"/> Township <input type="checkbox"/> Village Mason		5. Purchase Price of Real Estate 210,000.00	
7. Property Identification Number (PIN). If you don't have a PIN, attach legal description. PIN. This number ranges from 10 to 25 digits. It usually includes hyphens and sometimes includes letters. It is on the property tax bill and on the assessment notice. 33-19-10-05-478-005, 33-19-10-05-478-004, 33-19-10-05-478-006		6. Seller's (Transferor) Name Estate of David Feintuch, deceased	
		8. Buyer's (Transferee) Name and Mailing Address Doberman Building Company, LLC 205 North Mason Street, Mason, MI 48854	
		9. Buyer's (Transferee) Telephone Number	
Items 10 - 15 are optional. However, by completing them you may avoid further correspondence.			
10. Type of Transfer. <u>Transfers</u> include, but are not limited to, deeds, land contracts, transfers involving trusts or wills, certain long-term leases and business interest. See page 2 for list. <input type="checkbox"/> Land Contract <input type="checkbox"/> Lease <input checked="" type="checkbox"/> Deed <input type="checkbox"/> Other (specify) _____			
11. Was property purchased from a financial institution? <input type="checkbox"/> Yes <input type="checkbox"/> No		12. Is the transfer between related persons? <input type="checkbox"/> Yes <input type="checkbox"/> No	
13. Amount of Down Payment			
14. If you financed the purchase, did you pay market rate of interest? <input type="checkbox"/> Yes <input type="checkbox"/> No		15. Amount Financed (Borrowed)	
EXEMPTIONS			
Certain types of transfers are exempt from uncapping. If you believe this transfer is exempt, indicate below the type of exemption you are claiming. If you claim an exemption, your assessor may request more information to support your claim.			
<input type="checkbox"/> Transfer from one spouse to the other spouse			
<input type="checkbox"/> Change in ownership solely to exclude or include a spouse			
<input type="checkbox"/> Transfer between certain family members *(see page 2)			
<input type="checkbox"/> Transfer of that portion of a property subject to a life lease or life estate (until the life lease or life estate expires)			
<input type="checkbox"/> Transfer between certain family members of that portion of a property after the expiration or termination of a life estate or life lease retained by transferor ** (see page 2)			
<input type="checkbox"/> Transfer to effect the foreclosure or forfeiture of real property			
<input type="checkbox"/> Transfer by redemption from a tax sale			
<input type="checkbox"/> Transfer into a trust where the settlor or the settlor's spouse conveys property to the trust and is also the sole beneficiary of the trust			
<input type="checkbox"/> Transfer resulting from a court order unless the order specifies a monetary payment			
<input type="checkbox"/> Transfer creating or ending a joint tenancy if at least one person is an original owner of the property (or his/her spouse)			
<input type="checkbox"/> Transfer to establish or release a security interest (collateral)			
<input type="checkbox"/> Transfer of real estate through normal public trading of stock			
<input type="checkbox"/> Transfer between entities under common control or among members of an affiliated group			
<input type="checkbox"/> Transfer resulting from transactions that qualify as a tax-free reorganization under Section 368 of the Internal Revenue Code.			
<input type="checkbox"/> Transfer of qualified agricultural property when the property remains qualified agricultural property and affidavit has been filed.			
<input type="checkbox"/> Transfer of qualified forest property when the property remains qualified forest property and affidavit has been filed.			
<input type="checkbox"/> Transfer of land with qualified conservation easement (land only - not improvements)			
<input type="checkbox"/> Other, specify: _____			
CERTIFICATION			
I certify that the information above is true and complete to the best of my knowledge.			
Printed Name Ian Richardson, Member			
Signature 		Date	
Name and title, if signer is other than the owner		Daytime Phone Number	
		E-mail Address	

WARRANTY DEED

File No.: 18-4064

Drafted by: Jeanette Anna Feintuch, 604 South Barnes Street, Mason, MI 48854; Assisted by T. Zimmerman, DNTA, 500 E Michigan Ave, Suite 203, Lansing MI 48912

When recorded return to: Ian Richardson, 205 North Mason Street, Mason, MI 48854

THE GRANTOR, Estate of David Feintuch, deceased
whose address is: 604 South Barnes Street, Mason, MI 48854

conveys and Warrants to Doberman Building Company, LLC, a Michigan limited liability company
whose address is: 205 North Mason Street, Mason, MI 48854

the following described premises situated in the County of Ingham, and State of MI, and particularly described as follows:

Parcel 1:

Commencing on the West line of Lot 6, Block 2, Lot 6, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, Michigan, at a point 48.25 feet Northwesterly from the Southwest corner of said lot; thence Northerly along the East line of Mason Street to within 26 feet of the Northwest corner of Lot 8, Block 2; thence Easterly on the North line of Lot 8, Block 2, at a point 48 feet West of the Northeast corner of said Lot; thence South to within 75.3 feet of the North line of Center Street; thence Southwesterly to beginning.

Parcel 2:

Commencing at the Southwest corner of Lot 6, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, Michigan, thence East 69.6 feet; thence North 75.3 feet; thence Southwesterly to the West line of said Lot at a point 48.25 feet; thence Northwesterly from beginning; thence Southeasterly 48.25 feet to beginning.

Parcel 3:

The East 48 feet of Lots 6, 7 and 8, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, Michigan,

Tax Parcel No.: 33-19-10-05-478-005, 33-19-10-05-478-004, 33-19-10-05-478-006
Commonly known as: 202 and 206 North Mason Street, 332 Center Street, Mason, MI 48854

for the sum of **TWO HUNDRED TEN THOUSAND AND 00/100 (\$210,000.00)**

The Grantor grants to the Grantee the right to make (ALL) divisions under section 108 of the land division act, Act 288 of the Public Act of 1967.

If the land being conveyed is unplatted, the following is deemed to be included: "This property may be located within the vicinity of farmland or farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act."

Subject to easements, reservations and restrictions of record, and further subject to NONE.

Dated: 12/27/18


Signed and Sealed:

~~Estate of David Feintuch, deceased~~

By: Jeanette Anna Feintuch, Personal Representative

STATE OF Michigan }
COUNTY OF Ingham } ss

On this 27 day of December, 2018, before me personally appeared **Jeanette Anna Feintuch, Personal Representative of Estate of David Feintuch, deceased** to me known to be the person(s) described in and who executed the foregoing instrument on behalf of the estate.

Notary Public: 
Printed Name: _____
County, _____

AMY GRASSO
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF INGHAM
My Commission Expires September 2, 2023
Acting in the County of Ingham

My Commission Expires: _____
Acting in _____ County

NORTH STREET

(66' WIDE)
N 89°42'48" E

-BEARINGS IN RELATION TO PLAT
OF RECORD.
-NO TITLE WORK HAS BEEN SUPPLIED
BY THE CLIENT FOR PURPOSES OF
THIS SURVEY. THEREFORE NO GUARANTEE
IS MADE THAT ANY OR ALL EASEMENTS,
BOTH RECORDED AND UNRECORDED ARE
SHOWN ON THIS SURVEY.

LOT 16

NOTES

Part of Lot 8 and all of Lots 6 and 7, Block 2, Smith and Pease Addition to the City of Mason, Ingham County, State of Michigan is described as: Beginning at the Southwest Corner of said Lot 6, Block 2 as monumented; thence along the East line of Mason Street as monumented, N.18°53'54"W., 128.17 feet to a point 28.37 feet (26 feet record) southeasterly of the Northwest Corner of Lot 8 of said Block 2; thence N.76°03'08"E., 113.12 feet to a point on the North line of said Lot 8 and 48.00 feet West of the Northeast Corner of said Lot 8; thence along said North line, N.89°47'43"E., 48.00 feet; thence along the East line of said lots 6, 7 and 8, S.00°22'17"E., 148.49 feet to a point on the North line of Center Street; thence along said North line, S.89°53'45"W., 117.23 feet to the Point of Beginning and containing 0.447 acres. Subject to all easements, restrictions, and right of ways of record.

LOT 2

AFC

QUIT CLAIM DEED
L.2837 P.51

EAST 48' OF
LOTS 6, 7 & 8

CENTER STREET
(66' WIDE)

I hereby certify that I have surveyed and mapped the land above platted and/or described on March 14, 2019 and that the relative positional precision of each corner is within the limits accepted by the practice of professional surveying and complies with P.A. 132 of 1970 as amended.

SHEET 1 OF 1

SET IRON BAR
1.96' SW. AND
ON LINE TO
FOUND BENT PIPE

CONCRETE
MASON STRIP
(66' WIDE)

F. SQ. BOLT
0.63'S. &
0.40'E.
BAR
BACK OF CURB
48.25
128.17

0.447 Acres

PARCEL 1
33-19-10-
05-478-004

PARCEL 2
33-19-10-
05-478-005

EX. HSE
#202

SW. CORNER
LOT 6, BLK. 2

RICHARD A. DUTHLER
PROFESSIONAL LAND SURVEYOR
No. 47200

LEGEND

● - FOUND IRON BAR
 ○ - SET IRON BAR
 (M) - MEASURED
 (R) - RECORDED

R.A. DUTHLER
LAND SURVEYOR LLC

PH. (810) 724-6532
LANDSURVEYOR@47200.ORG
158 EAST THIRD STREET
IMLAY CITY, MI. 48444




















PREPARED FOR:
DOBERMAN TECHNOLOGIES
MARCH 15, 2019
JOB# 190306LS

Preliminary Construction Schedule - Doberman Strip Mall

ID	<div><div></div><div>i</div></div>	Task Mode	Task Name	Duration	Start	Finish	Jul 7, '19							Jul 14, '19							Jul 21, '19							Jul 28, '19							Aug 4, '19							Aug 11, '19																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Project: Doberman Strip Mall

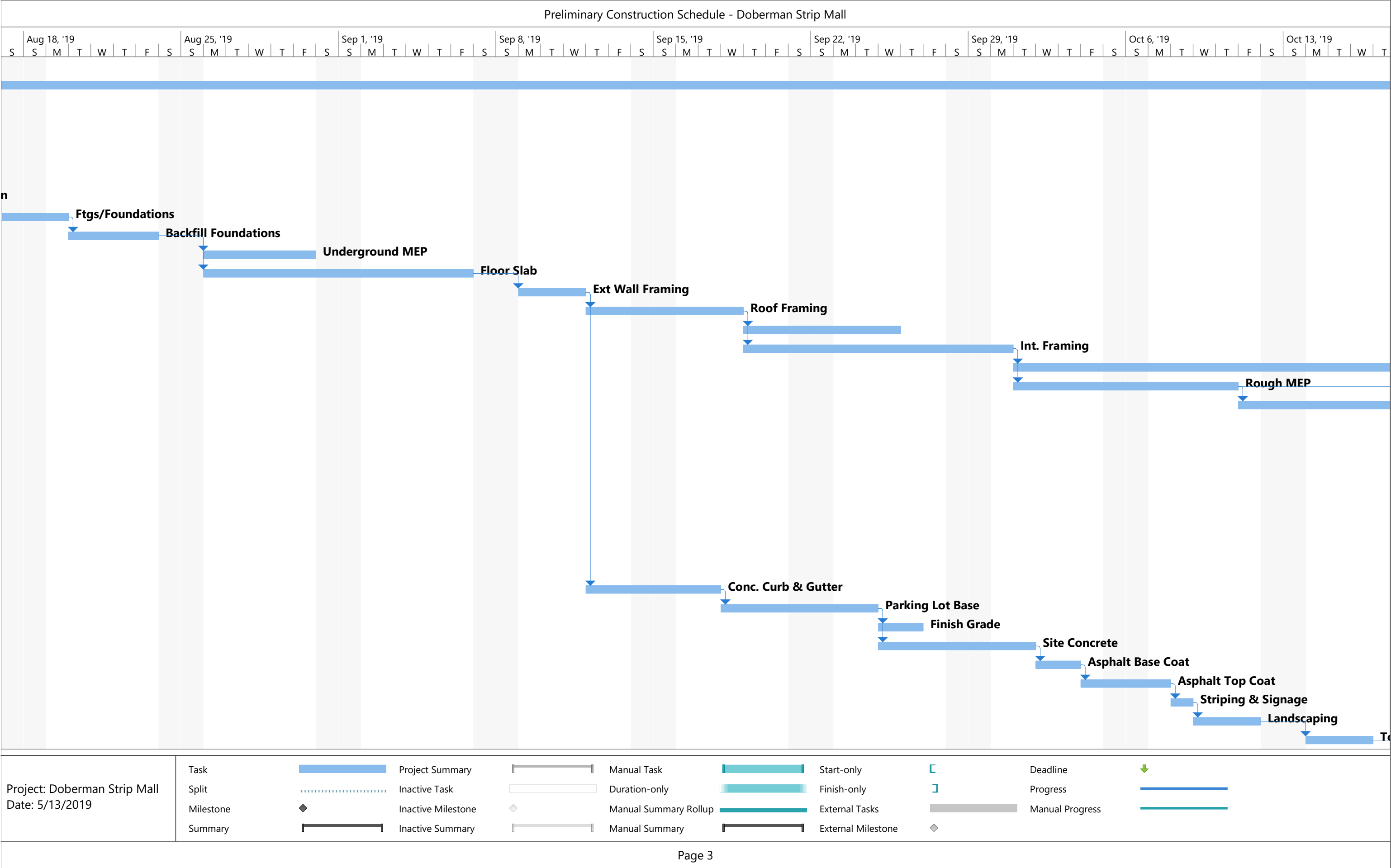
Date: 5/13/2019

Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			

Preliminary Construction Schedule - Doberman Strip Mall

[illegible]

Project: Doberman Strip Mall Date: 5/13/2019	Task		Project Summary		Manual Task		Start-only		Deadline	
	Split		Inactive Task		Duration-only		Finish-only		Progress	
	Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
	Summary		Inactive Summary		Manual Summary		External Milestone			



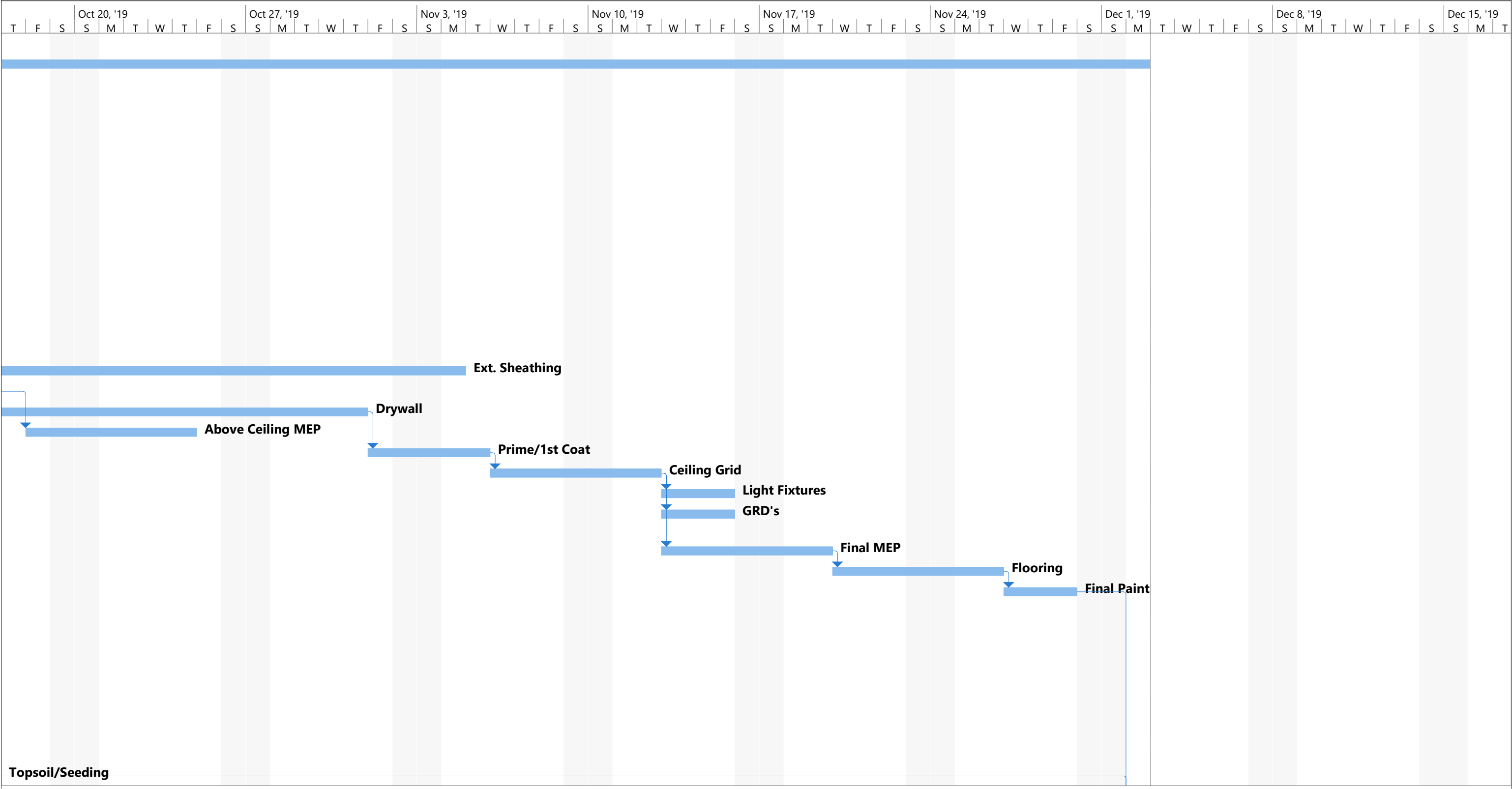
Preliminary Construction Schedule - Doberman Strip Mall




















[illegible]

Project: Doberman Strip Mall
Date: 5/13/2019

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	

Preliminary Construction Schedule - Doberman Strip Mall



Project: Doberman Strip Mall Date: 5/13/2019	Task		Project Summary		Manual Task		Start-only		Deadline	
	Split		Inactive Task		Duration-only		Finish-only		Progress	
	Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
	Summary		Inactive Summary		Manual Summary		External Milestone			

Preliminary Construction Schedule - Doberman Strip Mall

[illegible]

Project: Doberman Strip Mall
Date: 5/13/2019

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	

SITE PLAN REVIEW ZONING SUMMARY

Land Use and Zoning

The site is located at the northwest intersection of Mason and Center Street. The property is currently zoned C-1, Central Business District. The surrounding land uses and zoning are as follows:

	Current Land Use	Current Zoning
North	Commercial	C-1
South	Two Family Residential	R2F
East	Commercial	C-1
West	Commercial	O-1

Height, Bulk, Density and Area Requirements

Lot Dimensional Regulations							
<i>Zoning District</i>	<i>Min. Lot Size (SF)</i>	<i>Min. Lot Width (Ft)</i>	<i>Min. Lot Area</i>	<i>Min. Front Yard Setback (ft)</i>	<i>Min. Side Yard Setback (ft)</i>	<i>Min. Rear Yard Setback (ft)</i>	<i>Max. % Lot Coverage</i>
C-1	-	20	-	-	-	-	-

See drawing sheet C002 and the attached Certificate of Survey for lot dimensions and existing conditions.

Building Dimensional Regulations					
<i>Zoning District</i>	<i>Max. Height Principal Structure (ft)</i>	<i>Max. Height Accessory Structure (ft)</i>	<i>Min. Floor Area per dwelling unit (sf)</i>	<i>Min. Width Principal Structure (ft)</i>	<i>Min. Internal Height Principal Structure (ft)</i>
C-1	45	15	-	-	-
Proposed Building Information: 120-feet x 35-feet, 4,200 gross square feet, height, 1-story					

Parking Space Requirements and Location	
<i>Requirement</i>	<i>Proposed Standard</i>
Only in rear or side yard	In rear yard
Dimensions: 20' long by 10' wide	20' long x 10' wide
Required Buffer: None between C-1 and C-1	Provided 5.5' wide with 6' wood fence

Section 94-292 (h) (1) – Uses in the C-1 District. There shall be no off-street parking space requirements in the C-1 district for those uses which require 20 or less off-street parking spaces. Uses requiring more than 20 off-street parking spaces shall have their parking requirement determined by the Planning Commission. In making such a decision, the planning commission shall consider the availability of both public and private parking spaces.

Off-Street Parking Space Requirements for C-1 Determined by Planning Commission when more than 20 spaces are required	
<i>Land Use</i>	<i>Required Parking Spaces</i>
Gross Square Feet: 4,200, UFA: 2,752 SF	
Owner Occupied General Office: 682 SF	1 per 200 sf: $682/200 = 4$ spaces
Tenant Occupied General Office: 2070 SF	1 per 200 sf: $2070/200 = 11$ spaces
Tenant Occupied General Retail/General Services	1 per 150 sf; $2070/150 = 14$ spaces
If all UFA is General Retail/General Services	1 per 150 sf; $2,752/150 = 19$ spaces
24 parking spaces are proposed, which exceeds the worst-case UFA calculation of 19 spaces	

Loading and Unloading Space Requirements		
<i>Use</i>	<i>Floor Area (sf)</i>	<i>Required Spaces</i>
Commercial Uses	First 1,500 or fraction thereof	None
	Next 20,000 or fraction thereof	1
	Each additional 20,000 or fraction thereof	1
Dimensions	12' wide x 25' long (300 sf)	Clear height 14'
One Loading/Unloading Space is proposed: 412 SF, 14.9' x 26' along the northwest edge of the parking lot.		

Landscaping

Table 100-4. No buffer requirements exist for properties zoned C-1 between any other property type adjacent to the project location. A 5.5-foot wide buffer with a 6-foot high wood fence is proposed along the east property line. This will buffer the residential use existing on a C-1 zoned property from the proposed development.

PARKING LOT LANDSCAPE REQUIREMENTS
For lots with 6-50 spaces: 1 large deciduous tree and 50 sf of landscape area per 6 parking spaces
24 proposed parking spaces = $24/6$ or 4 required parking lot trees
5 English Oak Trees are proposed as parking lot trees. See Sheet C210 for details.

Signs

To be determined by Project Architect at a later date.

Site Lighting

Photometric Site Layout Plan is provided on sheet E100 along with the selected lighting fixtures and a standard pole base detail.

Site Dumpster

No site dumpster is being proposed. Trash will be handled internally by each tenant.

Public Services and Facilities

Water

Water to serve the new building will be located along Mason Street. The existing water main within Mason Street is noted as 4-inch in diameter. The proposed development will live tap this 4-inch main with a new 1" diameter service lead and install a corporation stop behind the curb for water service.

Sanitary Sewer

Existing sanitary sewer is located in Mason Street and is noted on the provided maps from the City of Mason to be a 10-inch diameter pipe. Minimum sanitary sewer lead size according to City of Mason Standards is 6-inch dia. A proposed 6-inch SDR 26 PVC sewer lead wye will be cut in to the existing 10-inch clay sewer with Fernco connections at each connection point to provide sewer service to the development.

Storm Water

Existing storm sewer pipe is located on both Mason Street (42-inch diameter) and Center Street (12-inch). The proposed site storm sewer will be detained in an underground detention system with a storage capacity equal to the required 100-year storm capacity of 4,770 cubic feet. An outlet control structure has been designed on the downstream side of the underground detention system with a weir wall with small diameter holes to control the release rate out of the system for both the first flush storm sewer volume and the flood control (FC), 100-year volume. From this outlet control structure, the storm sewer pipe will connect to the existing 12-inch diameter storm sewer pipe within Center Street.

General Considerations

Geotechnical Soil Borings are in the process of being performed for both the parking lot and the building foundation design. The design team will forward this information to the City of Mason once it is available.

According to the USGS Soil Map Survey the entire property has soil consisting of Urban Land, Capac-Colwood Complex with 0 to 4 percent slopes. This soil can typically support commercial development.

Construction Schedule

The Construction Manager, Laux Construction has assembled a preliminary construction schedule for the project as detailed below.

<u>Site Event</u>	<u>Preliminary Date Range</u>
Mobilization	July 8, 2019
Demolition	July 8 – July 22, 2019
Underground Utilities	July 23 – July 29, 2019
Storm Sewer Utilities	July 23 – August 5, 2019
Site Earth Balance	August 5 – August 8, 2019
Footings/Foundations	August 9 – August 23, 2019
Mechanical/Electrical Underground Utilities	August 26 – August 30, 2019
Curb & Gutter	September 12 – September 17, 2019
Parking Lot Aggregate Base	September 18 – September 24, 2019
Site Grading	September 25 – September 26, 2019
Site Concrete	September 25 – October 1, 2019
Parking Lot Asphalt Base	October 2 – October 3, 2019
Parking Lot Asphalt Top	October 4 – October 7, 2019
Stripe Parking Lot	October 4 - October 8, 2019
Landscaping	October 9 – October 11, 2019
Topsoil/Seed & Site Stabilization	October 4 – October 16, 2019



City Manager's Report: May 31, 2019

ACTIVE PROJECTS STATUS UPDATES (PROJECTS NOT COORDINATED BY THE CITY)

Project Name	Status
202 & 206 Mason Street, 332 Center Street	A request has been received from Ian Richardson, Doberman Technologies, for Final Site Plan Approval to demolish structures at 202 and 206 Mason Street, and 332 Center Street, and construct a new 4,200 sq ft commercial building along with a 24-space asphalt parking lot.
318 W. Kipp - Klavon's 228 W. Kipp - Klavon's	A Temporary Certificate of Occupancy has been issued. Staff anticipates a Special Use/Site Plan Application for the development of the overflow parking lot in the near future.
322 S. Jefferson Commercial Bank	Three building permits are active for interior and exterior renovations.
402 S. Jefferson (former Baja Grill)	The building permit is active for interior and exterior renovations.
201 W. Ash City Hall	Anticipate installation of T-Mobile equipment to begin when time permits for company.
154 W. Maple (former shoe store)	Building permit has been issued. A Letter of Intent is being issued for support of the project at a lower amount than requested. Developer is evaluating the feasibility of the project.
600 Buhl St. Ingham Animal Shelter	Building permit active for new construction. Staff anticipates a demolition permit in the near future for the old existing structure. Ribbon cutting planned on June 14.
652 Hull Rd New Goodwill	Staff has received a building permit application and is waiting for supplemental information confirming permits from the State and County have been obtained.
400 S. Cedar St Harvey Education Center	State building permit active for construction of new addition as part of the Phase 1 Bond Project. More information available at: http://bondprojects.masonk12.net/ .
801 N. Cedar St. (City Limits)	On May 14, the Planning Commission approved the Final Site Plan to construct a 4,828 sq ft addition along with additional parking. A demolition permit application is anticipated in the near future to begin initial staging and site work; followed by a building permit application.
525 N. Cedar	On May 14, the Planning Commission approved the Final Site Plan for Timeless Treasures, for the renovation of an existing building to be used as an antique mall with vendor spaces.
118 W. Oak St. (former school administration building)	On May 14, the Planning Commission approved the Final Site Plan for Dave Meredith, WCH LLC, for the change of use and renovation on the first floor to an arcade and escape room. Staff anticipates a building permit application in the near future.
Ash/Cedar (M-36) - MDOT	The lights are installed, waiting for Consumers to connect power to the new signals to become operational. Connection date is pending.
SUBDIVISIONS	<i>Subdivisions require three stages of approval before site plan approval and building permits can be issued: (1) Tentative Preliminary Plat, (2) Final Preliminary Plat, (3) Final Plat.</i>
Enclave at Rayner Ponds Subdivision (19 lots, 1 park)	The City has approved a Tentative Preliminary Plat (Stage 1) and is waiting to receive an application for Final Preliminary Plat (Stage 2).
Rayner Ponds – Phase 4 Subdivision (16 lots)	The City approved a Tentative Preliminary Plat in January of 2018 (Stage 1). City Council approved the Final Preliminary Plat (Stage 2) on January 21, 2019. The applicant will submit a Final Plat for approval (Stage 3) next.

OPERATIONS AND COMMUNITY RELATIONS

- Tentative day for Rayner Playground Assessment is June 20th. Anticipate receiving results by August.
- Off. Bradley is now a state certified a Salvage Vehicle Inspector. Making him one of only two currently in Ingham Co.
- A grant application was submitted to the DOJ for approval for the purchase of (3) new pieces soft body armor (vests) for officers. A preapproval in the amount of \$989.75 was made. Soft body armor is on an approximate 5-year replacement cycle and are individually fitted to each officer.
- A tuition grant was awarded to the City of Mason from MMRMA in the amount \$650 for 50% tuition of a First Line Supervisor Course completed by Sgt. Budd on May 10, 2019.

- I.T. Right has replaced the City's firewall, web and email filtering system. This upgrade replaces old equipment with equipment I.T. Right utilizes in their operations. You will see a change in the quarantined email reports as part of this upgrade.
- The City received a second payment of \$50,603.74 for Personal Property Tax loss reimbursements. With recent changes to the PPT, the first distribution occurs in October and covers 100% of eligible losses. Any funds remaining after the 100% distribution were then available to address error corrections/appeals to be distributed annually the following May. Following the disbursement of those error corrections, any remaining funds are distributed on a pro-rata basis to communities based upon their proportion of eligible qualified loss.
- Mason was featured in Michigan Trails Magazine. See attached article.
- **Councilmember Invitations, Events and Trainings:**
 - **Friday, June 14 at 2pm:** The Ingham County Animal Control & Shelter is hosting their Ribbon Cutting & Grand Opening at 600 Buhl Street, Mason.
 - **Tuesday, June 18 at 5pm:** The Michigan chapter of the American Planning Association is hosting a Basic Training on Planning and Zoning Essentials at City Hall in the Maple Room. This is an opportunity to learn about how the Master Plan, CIP, Zoning ordinances, and development review fits together to achieve our Community Vision. The cost is approximately \$78 per person and travel is local. Please contact Dana Martin by **Tuesday, June 11, 2019** to RSVP.
 - **September 25-27:** The Michigan Municipal League has announced that their annual convention will be at the COBO Center in Detroit. Please let Dana Martin know if you have an interest in attending by **Tuesday, June 11, 2019**. Selection of representatives will be at the next City Council Meeting on June 17 to ensure we can meet early bird registration for attendees.

Staffing Updates:

- New Hires/Promotions: Jacob Rector started June 3 as a Seasonal-Temporary Laborer and Max Barton will be starting June 4 as a Seasonal-Temporary Laborer.
- Open Positions: Seasonal-Temporary Laborer, Part-time Custodian - has been offered and pre-employment background checks are being completed, Part-time Administrative Assistant-Community Development - interviews have been completed and a decision will be made soon. Full-time Police Officer – has closed and applications are under review.

LARGE CITY PROJECTS

FY 2018-2019			
Project	Project Name/Description	Status	Completed
STREETS, SIDEWALKS, BRIDGES (S)			
2017-S6	South St - Northbrook to City Limits	Complete	Sep
2017-S7	Avon Street - All	Complete	Sep
2017-S8	Northbrook - South to Carom Circle	Complete	Sep
2017-S9	S. Jefferson - Oak Street to Kipp Road	Anticipated start date June 10, 2019. Work to begin at the north end and work to the south.	
2017-S10	Sidewalk Program – Downtown and Summerwood	Work downtown completed. Working in Summerwood, progress has been delayed by rain.	
2018-S1	MDOT- Temple Street Safety Grant	MDOT Grade Inspection completed. Awaiting MDOT comments and authorization to bid.	
2018-S32	Columbia - Cedar to US 127	Complete	Sep
UTILITIES: SANITARY SEWER, STORM WATER, AND WATER DISTRIBUTION (U)			
2018-U1	Utilities for Properties on Kipp Road	Complete	Sep
2017-U3.2	Waste Water Treatment Plant Upgrades Study	Complete	Oct
2017-U3.3	Design of the New DPW Facility	Delayed until future FY (2019-2020)	N/A
2017-U6	Abandon Wells by Airport	Delayed until future FY (2021-2022)	N/A
2017-U9	Northbrook - South to Carom Circle	Complete	Sep
2017-U10	S. Jefferson - Oak St to Kipp Road	See 2017-S9 above	
2017-U12	300,000 G Storage Tank Top Sealing	Removed, included with WWTP Upgrade Project	N/A
2017-U13	Well No. 7 Rebuild	Complete	May
2017-U15	Replace Two Fire Hydrants Behind Mason Plaza	Delayed until future FY (2019-2020)	N/A

2017-U16	Cathodic Protection for Ground Storage Tank	Delayed until future FY (2020-2021)	N/A
2017-U17	High Service Pump No. 1 Rebuild	Complete	Mar
2017-U18	Replace Chlorine Analyzer	Complete	Aug
2018-U35	BS&A Work Order Application	Awarded May 20, 2019; Installation anticipated first quarter of FY 2019-2020	May
2018-U36	Sewer Push Camera Replacement	Complete	Nov
2018-U37	Log Jam Removal Sycamore Creek	Complete	Nov
PARKS/ CEMETERY/ FORESTRY/ NONMOTORIZED (P)			
2017-P8	Laylin Park Improvements	Staff is evaluating final work priorities for the spring.	
2018-P1	Howell Road - (Dart Trailhead)	Complete	Nov
2018-P2	Howell Road - Hayhoe Riverwalk	Complete	Nov
2018-P3	Planning: 5-year Parks/Recreation Plan; Bond Park Improvements	Technical work is underway and will continue, along with public engagement, through the summer.	
2018-P5	City Tree Evaluation	Evaluation is completed and reports delivered.	
MOTOR VEHICLE POOL (MVP)			
2017-MVP6	1/2 Ton 2x4 Pickup Truck	Complete	Sep
2017-MVP7	Mower	Complete	Jul
2017-MVP8	Police Cars	Complete	Jan
2017-MVP9	Large Items (Leaf Vacuum)	Complete	Nov
2017-MVP10	5-yard Dump/Plow Truck	Complete (Build Out with Equipment Next Year)	May
2017-MVP18	Command Vehicle	Complete	Oct
2017-MVP30	Front End Material Loader	Complete	Nov
BUILDING, PROPERTY, EQUIPMENT (B)			
2017-B1	Library- Facility Evaluation	The concept design is being finalized. The project will move forward to the final design and construction phases next as funding is confirmed.	
2017-B3.1	Police: Portable Radios	Complete	Oct
2017-B4	City Hall Landscaping and Lighting	Phase 1 completed. Phase 2/3 scheduled for the spring as time and budget allows.	
2017-B6	Fire: Fire Engine 809/Tower 808	Truck is on order; completion anticipated 2020	
2018-B4	IT: BS&A Timesheet Program	Not started, connection issues with offsite facilities; purchase will be pushed to another year	
2018-B4	IT: BS&A Cemetery and HR Upgrade	Complete	Nov
2018-B6	IT: AV Room Technology Patch	Equipment on order with installation expected in June.	
2018-B7	Planning: Cedar/127 Corridor (Transportation and Land Use)	Moved to 2019-2021 – integrate with master plan	N/A
2018-B24	City Hall Rental Space Furniture Replacement	Old rectangle tables have been replaced with plastic ones. New chairs are currently being evaluated.	

FY 2019-2020			
Project	Project Name/Description	Status	Completed
	2019 Local Streets	Start date has been delayed due to rain. Anticipated pulverizing beginning June 7, 2019.	

MICHIGAN

TRAILS

2019

MAGAZINE

WWW.MITRAILS.ORG



YOUR GUIDE TO OVER 130 OF
MICHIGAN'S BEST NONMOTORIZED BIKING,
HIKING AND WATER TRAILS.



WEST MICHIGAN
TRAILS & GREENWAYS
COALITION

Ride your bike or hike to this scenic cliff overlooking Lake Superior and the North Lighthouse on Grand Island near Pictured Rocks National Lakeshore. See page 37.

\$7.95US \$9.95CAN



95>

7 25274 26637 1

Nestled in the heart of mid-Michigan,
you'll find *Hometown USA!*

Mason



The Hayhoe Riverwalk takes you through the picturesque city of Mason, Michigan.

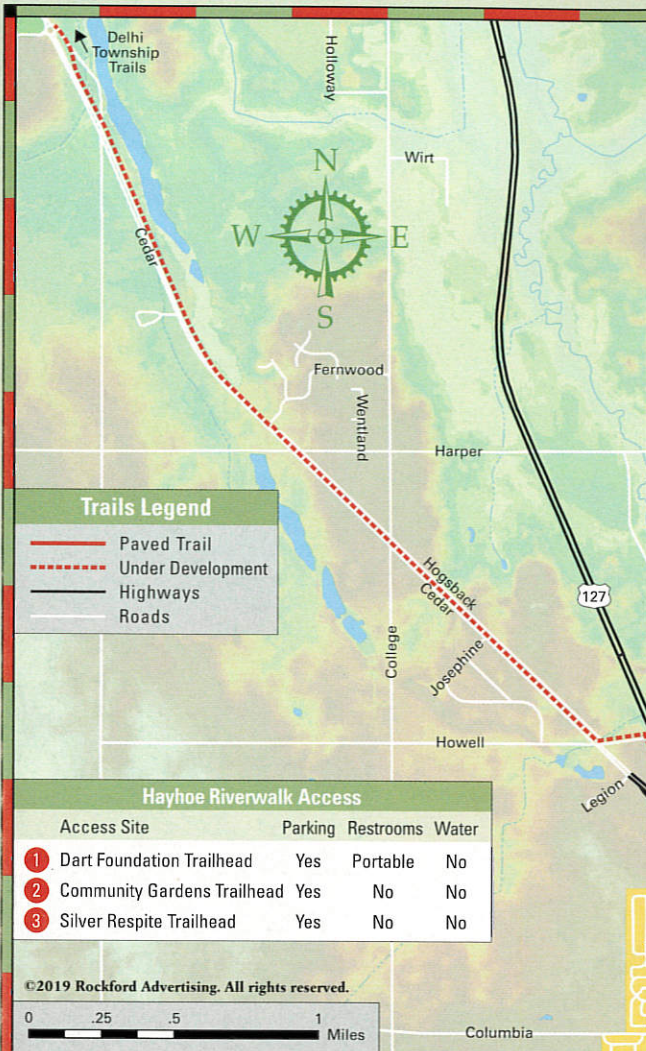
Mason is the seat of Ingham County government. The clock tower of the historic Ingham County Courthouse is a beacon in the heart of the community and is the centerpiece of our downtown area.

Mason is only minutes south of Lansing, the state capital. The small

town lifestyle and agricultural setting of the Mason area attracts residents and employers who enjoy a buffer from nearby suburban areas.

Quiet and attractive, Mason has quaint shops, an antiques district, brewpub, coffee shop, ice cream parlor, deli, hometown services, many city parks, and convenient, quick access to the Lansing metropolitan area and Michigan State University.

www.MasonChamber.org



Hayhoe Riverwalk

Part of the Hayhoe Riverwalk was built on the bed of an abandoned interurban railway. The original rail depot was located just south of Ash Street.



Hayhoe Riverwalk

The 3-mile Hayhoe Riverwalk takes you on a scenic tour through the historic city of Mason following the edge of Sycamore Creek.

Popular with runners, walkers and cyclists alike, this non-motorized paved pathway was built by the Hayhoe family and donated to the Mason community in honor of their father, the late Richard Hayhoe. Founder and owner of Capital Excavating & Paving, Richard Hayhoe spent much of his life paving the streets and roads in and around Mason. It only seemed fitting to build an asphalt path in memory of Mason's preeminent road builder.

Listen to the gurgling waters of Sycamore Creek as you pass by the seasonal wildflowers, shady trees and natural surroundings of the Hayhoe Riverwalk. This quiet pathway crosses several bridges over the creek, including two former railway bridges.

The section of trail between Jefferson and Maple streets was built on the original rail bed of the former Michigan United Railway, an electrified interurban railway that ran through Mason from Jackson to St. Johns from 1909 to 1929. The original rail depot, located just south of Ash Street, was demolished long ago.

The Hayhoe Riverwalk continues to grow. This year, the paved path will be extended along Kerns Road to Cedar Street. In the next few years, another extension of the trail will be built going west along Howell Road and north along Cedar Street, connecting with the Delhi Township Trails at a new trailhead being built near Holbrook Circle in Holt. The new trailhead is part of a project called Esker Landing that will include a fishing pier and non-motorized access to Cedar Lake.

DOBERMAN BUILDING CO., LLC SITE DEVELOPMENT

CITY OF MASON, INGHAM COUNTY, MI

206 N. Mason Street
Mason, Michigan 48854
Project No.2019-012



AREA OF
CONSTRUCTION

05-14-2019 Site Plan Review

DRAWING INDEX

CIVIL	
C001	CIVIL LEGEND AND NOTES
C002	EXISTING CONDITIONS
C003	SITE DEMOLITION PLAN
C100	SITE LAYOUT PLAN
C200	SITE UTILITY PLAN
C201	UNDERGROUND DETENTION SYSTEM DRAWINGS
C202	SITE GRADING PLAN
C203	STORM WATER DESIGN CALCULATIONS
C210	LANDSCAPE PLAN
C300	SITE DETAILS

ELECTRICAL	
E100	ELECTRICAL SITE PLAN - PHOTOMETRICS

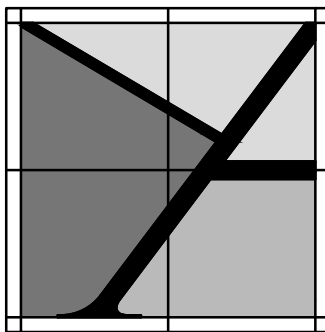
ARCHITECTURAL	
A100	FLOOR PLAN

PROPERTY INFORMATION

LEGAL DESCRIPTION

PART OF LOT 8 AND ALL OF LOTS 6 AND 7, BLOCK 2, SMITH AND PEASE ADDITION TO THE CITY OF MASON, INGHAM COUNTY, STATE OF MICHIGAN IS DESCRIBED AS: BEGINNING AT THE SOUTHWEST CORNER OF SAID LOT 6, BLOCK 2 AS MONUMENTED; THENCE ALONG THE EAST LINE OF MASON STREET AS MONUMENTED, N18°53'54"W, 128.17 FEET TO A POINT 28.37 FEET (26 FEET RECORD) SOUTHEASTERLY OF THE NORTHWEST CORNER OF LOT 8 OF SAID BLOCK 2; THENCE N76°03'08"E, 113.12 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 8 AND 48.00 FEET WEST OF THE NORTHEAST CORNER OF SAID LOT 8; THENCE ALONG SAID NORTH LINE N89°47'43"E, 48.00 FEET; THENCE ALONG THE EAST LINE OF SAID LOTS 6, 7 AND 8, S00°22'17"E, 148.49 FEET TO A POINT ON THE NORTH LINE OF CENTER STREET; THENCE ALONG SAID NORTH LINE S89°53'45"W, 117.23 FEET TO THE POINT OF BEGINNING AND CONTAINING 0.447 ACRES. SUBJECT TO ALL EASEMENTS, RESTRICTIONS, AND RIGHT OF WAYS OF RECORD.

ARCHITECT



MAYOTTE**group**
ARCHITECTS

6240 W. Mt. Hope
Lansing, MI 48917
t. 517-323-0577
www.mayottearchitects.com

CIVIL ENGINEER

Ziemnick Foster Engineering, LLC
426 S. Clinton Street
Grand Ledge, MI 48837
T: 517-627-8068

zfe
ZIEMNICK FOSTER
ENGINEERING, LLC

MECHANICAL AND ELECTRICAL ENGINEER

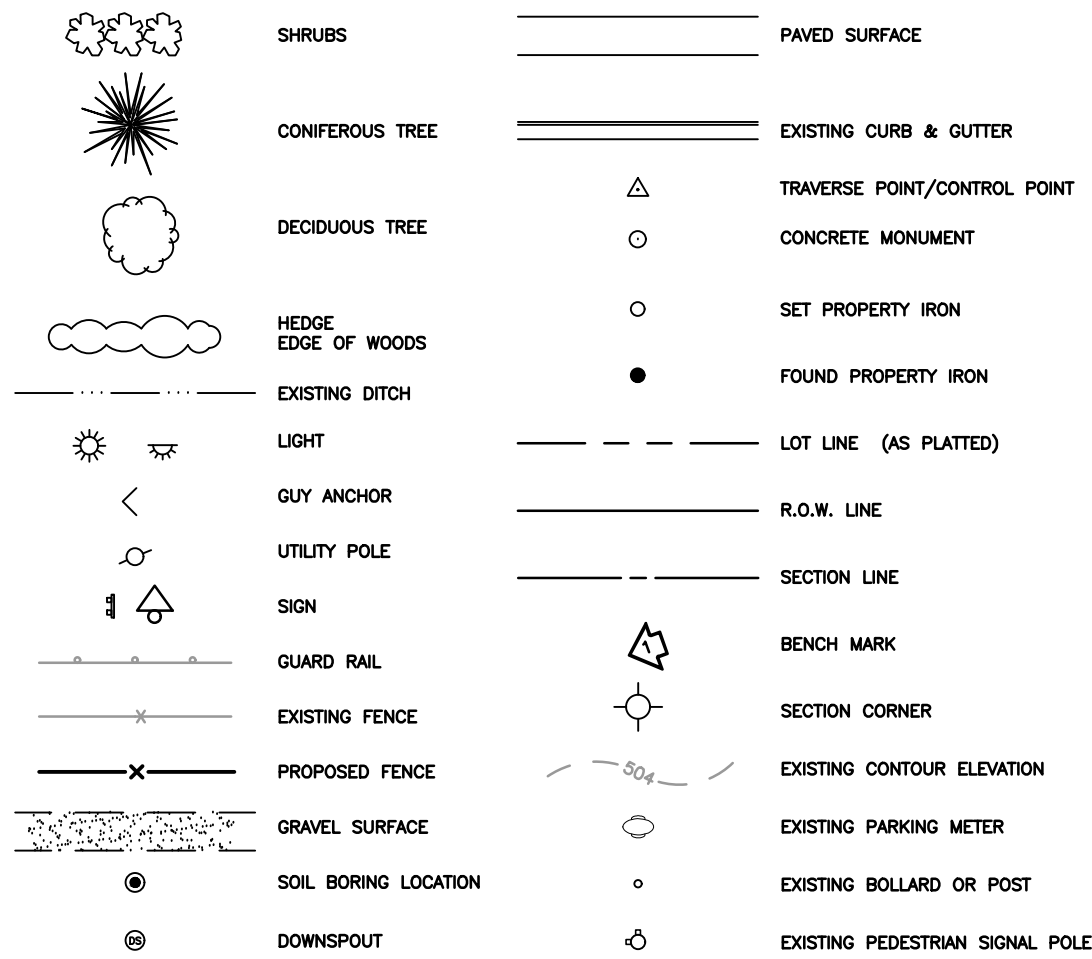
Clark Trombley Randers
504 S. Creyts Rd.
Suite B
Lansing, MI 48917
T: 517-886-0550

CONSTRUCTION MANAGER

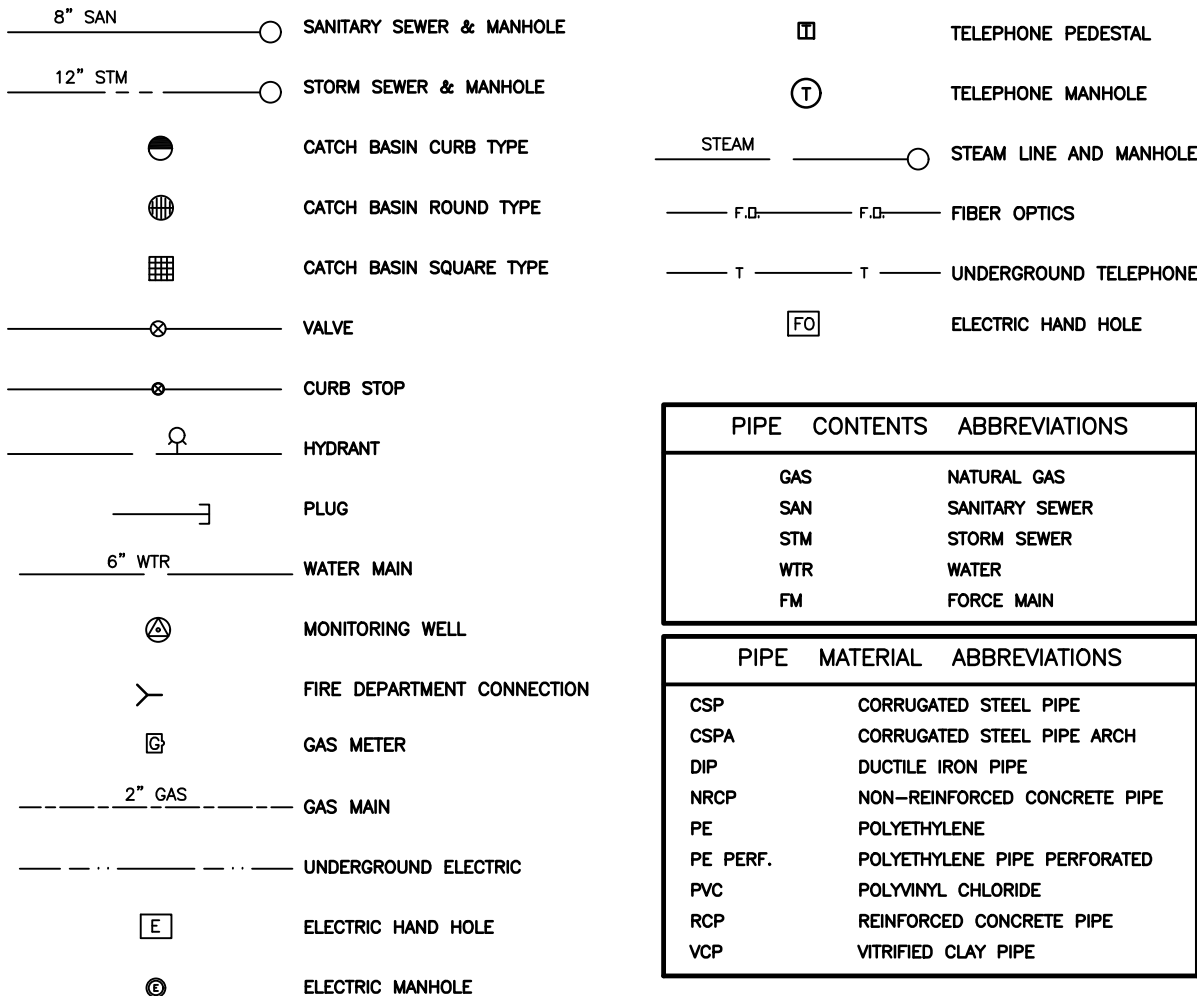
Laux Construction
4218 Charlar Drive
Holt, MI 48842
T: 517-694-0117

CIVIL SYMBOL LEGEND

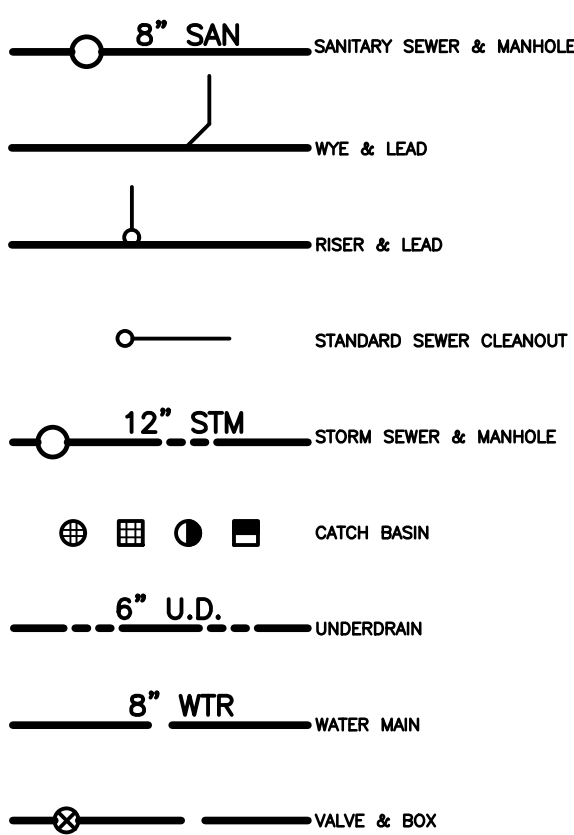
EXISTING TOPOGRAPHY – PLAN



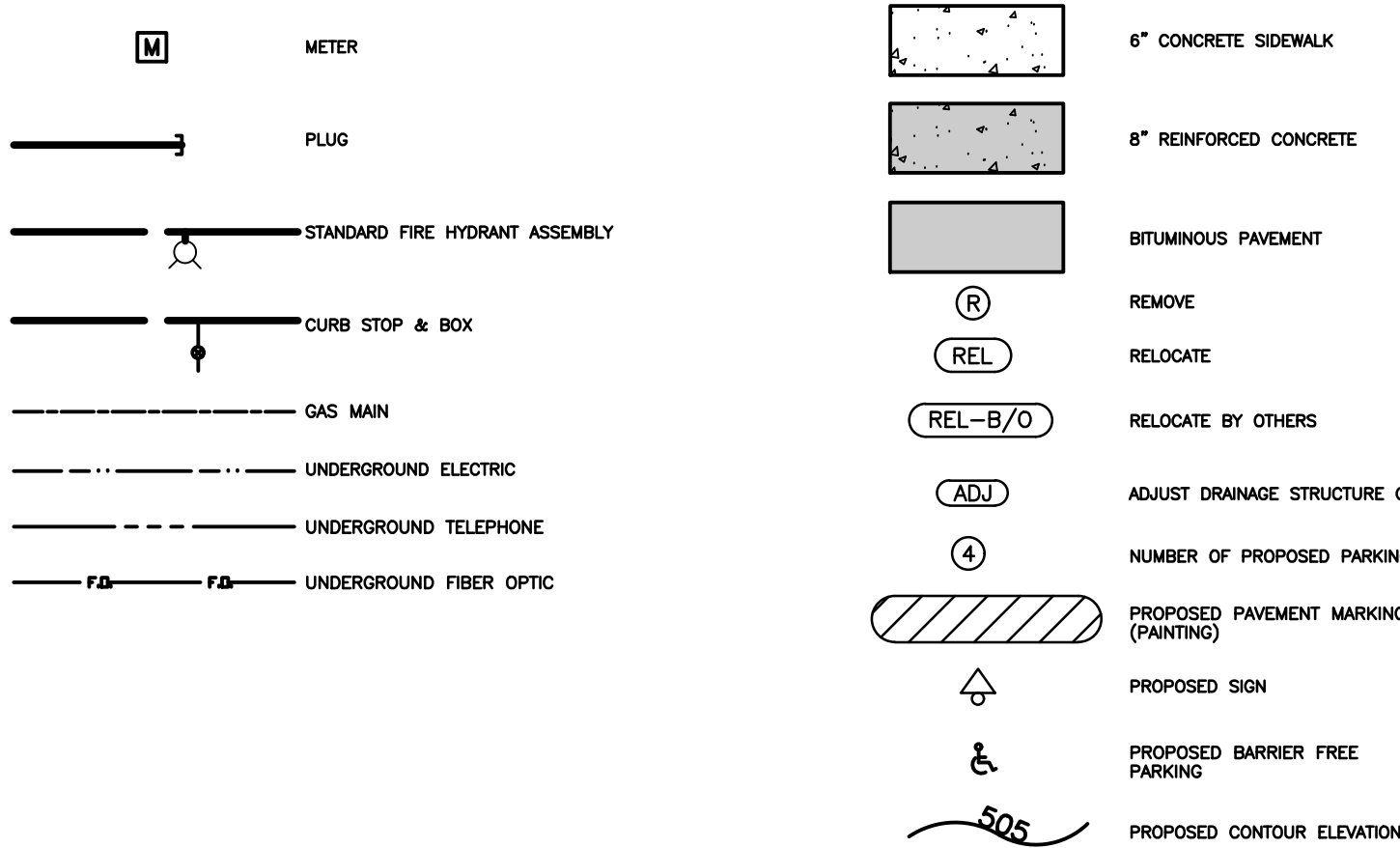
EXISTING UTILITIES



PROPOSED UTILITIES



PROPOSED TOPOGRAPHY FEATURES



PIPE	CONTENTS	ABBREVIATIONS
GAS	NATURAL GAS	
SAN	SANITARY SEWER	
STM	STORM SEWER	
WTR	WATER	
FM	FORCE MAIN	

PIPE	MATERIAL	ABBREVIATIONS
CSP	CORRUGATED STEEL PIPE	
CSPA	CORRUGATED STEEL PIPE ARCH	
DIP	DUCTILE IRON PIPE	
NRCP	NON-REINFORCED CONCRETE PIPE	
PE	POLYETHYLENE	
PE PERF.	POLYETHYLENE PIPE PERFORATED	
PVC	POLYVINYL CHLORIDE	
RCP	REINFORCED CONCRETE PIPE	
VCP	VITRIFIED CLAY PIPE	

BENCHMARKS

BM NO.: 114 ELEVATION: 888.06
MAG NAIL IN THE SOUTHEAST FACE OF A UTILITY POLE
LOCATED ON THE EAST SIDE OF MASON STREET
NORTH OF THE EXISTING SITE ENTRANCE

BM NO.: 126 ELEVATION: 887.47
VERTICAL MAG NAIL IN THE SOUTHWEST ROOT OF A 14" MAPLE
LOCATED 38' NORTH OF THE NORTH PROPERTY LINE
29 +/- NE OF SE CORNER OF ANTIQUE STORE

BM NO.: 567 ELEVATION: 886.84
RIM ELEVATION OF STORM MANHOLE LOCATED ON THE
CENTERLINE OF CENTER STREET 8 +/- WEST
OF THE CENTERLINE OF MASON STREET

GENERAL DEMOLITION NOTES

- ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL CITY, COUNTY AND STATE REGULATIONS.
- WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
- REMOVE AND DISPOSE OF ANY PAVEMENT, FENCING, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFFSITE LANDFILL.
- THE CONTRACTOR SHALL SECURE ALL PERMITS FOR THE DEMOLITION AND DISPOSAL OF THE DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED.
- THE DETAILED PLANS MAY NOT REFLECT ALL UTILITIES ON THE SITE OR SURROUNDING STREETS AND PROPERTIES. THE CONTRACTOR SHALL VERIFY LOCATIONS AND EXISTENCE OF UTILITY SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL "MISS DIG" AT 1-800-482-7171 OR 811, 72 HOURS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL REMOVE ALL UTILITIES TO EXISTING STRUCTURES WHETHER SHOWN OR NOT OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND CAP SERVICE PIPING AT THE PROPERTY LINE OR MAIN (AS REQUIRED). ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
- FOR ALL ITEMS NOTED TO BE REMOVED, REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL, INCLUDING BUT NOT LIMITED TO: FOUNDATIONS, GRAVEL FILLS, ROOTS, OLD PIPES, ETC.
- BACKFILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL OUTLINED IN THE GEOTECHNICAL REPORT OR PROJECT SPECIFICATIONS. ALL UTILITY TRENCH BACKFILL SHALL CONSIST OF MDOT CL 11 SAND COMPACTED TO 95% MAXIMUM DRY DENSITY PER ASTM SPECIFICATIONS, IN ACCORDANCE WITH THESE PLANS AND CITY OF MASON REQUIREMENTS.
- THE CONTRACTOR SHALL PROTECT ALL SURVEYING IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING CONSTRUCTION. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPES, PAVEMENT, CURBS, SIDEWALKS OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
- ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
- STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
- SPECIFIC DEMOLITIONS ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
- REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, LANDSCAPING, PIPES, ETC.
- THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15' OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH LOCAL CODES.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE MICHIGAN MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION, OR AS DIRECTED BY THE GOVERNING AUTHORITY.
- THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO CONFIRM THAT UTILITY LEADS HAVE BEEN TAKEN OUT OF SERVICE PRIOR TO DEMOLITION.

GENERAL EARTH BALANCE NOTES:

- THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES OR EASEMENTS AS SHOWN. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SCOPE OF THESE DRAWINGS SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE INGHAM COUNTY DRAIN COMMISSION. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE INGHAM COUNTY DRAIN COMMISSION PRIOR TO CONSTRUCTION. REFER TO THE SOIL EROSION AND SEDIMENTATION CONTROL PLAN, IF APPLICABLE.
- IF APPLICABLE, THE CONTRACTOR SHALL PERFORM ALL EARTHWORK AND GRADING OPERATIONS IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT OR PROJECT SPECIFICATIONS.
- ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND 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 TO BE WITHIN THE ZONE OF INFLUENCE OF THE PROPOSED BUILDINGS OR PAVEMENT AREAS SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH MDOT CLASS II SAND.
- IF SUITABLE, TOPSOIL MAY BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING.
- ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS SHALL CONFORM TO THE PROJECT SPECIFICATIONS, DETAILS AND APPLICABLE SECTIONS OF CITY OF MASON, INGHAM COUNTY AND THE STATE OF MICHIGAN DEPT. OF TRANSPORTATION (MDOT) STANDARDS. ALL FILL MATERIAL UNDER STRUCTURES AND PAVED AREAS SHALL MEET THE REQUIREMENTS OF THE GEOTECHNICAL INVESTIGATION AND SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF MDOT UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. COMPACTION SHALL BE 95% MAXIMUM MODIFIED PROCTOR DENSITY PER ASTM D1557 WITHIN 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND 3" OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON THE SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE ENGINEER AS NEEDED. THE AREA SHALL BE FERTILIZED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS (SEE LANDSCAPE PLAN IF AVAILABLE). ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NOT ADDITIONAL COST TO THE OWNER.
- ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL BE PROVIDED A COPY OF THESE PLAN AND STRICTLY ADHERE TO THEIR REQUIREMENTS.
- THE TEMPORARY PARKING AND STORAGE AREA SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AREA, EQUIPMENT CLEANING AREA, EMPLOYEE BREAK AREA AND AREA FOR LOCATING PORTABLE FACILITIES AND OFFICE TRAILERS. THE EXACT LOCATIONS SHALL BE COORDINATED WITH THE OWNER AND ENGINEER PRIOR TO ESTABLISHMENT.
- ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC) SHALL BE DISPOSED OF IN A MANNER THAT PREVENTS CONTACT BETWEEN THESE MATERIALS AND STORM WATER THAT IS DISCHARGED FROM THE SITE.
- MAINTAIN ON THE SITE OR HAVE READILY AVAILABLE SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLotation BOOMS TO CONTAIN AND CLEANUP FUEL OR CHEMICAL SPILLS OR LEAKS.
- NO RUBBISH, TRASH, GARBAGE, OR OTHER SUCH MATERIALS SHALL BE DISCHARGED INTO DRAINAGE DITCHES OR WATER OF THE STATE.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY WILL CEASE FOR AT LEAST 21 DAYS SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLAN (IF APPLICABLE). THESE AREAS SHALL BE RESTORED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
- ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- PRIOR TO CONSTRUCTION OF NEW PAVEMENT, THE SITE SHALL BE GRADED SO AS TO PROVIDE SETTLING AREAS AROUND CATCH BASINS. CATCH BASIN RIMS SHALL BE SET AT FINISH GRADE. AREAS IMMEDIATELY ADJACENT TO BASINS SHALL BE SEVERAL INCHES BELOW FINISH GRADE UNTIL PAVEMENT IS CONSTRUCTED.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS. SHALL BE MAINTAINED DURING CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND PERMANENT GROUND COVER IS ESTABLISHED.
- TOPS OF STOCKPILES SHALL BE COVERED IN SUCH A MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE MATERIALS UNSUITABLE FOR THEIR INTENDED USE.
- DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE TAKEN OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPAL GUIDELINES.

GENERAL LAYOUT NOTES:


- ALL DIMENSIONS SHOWN ARE TO EDGE OF PAVEMENT, BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCHBASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- ALL DISTURBANCES INCURRED TO ANY ADJOINING PROPERTY DUE TO CONSTRUCTION OR DEMOLITION SHALL BE RESTORED TO THE PREVIOUS CONDITION OR BETTER, AND TO THE SATISFACTION OF THE OWNER, MUNICIPALITY OR STATE AUTHORITY.
- PROPERTY LINE AND RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET BY A LICENSED PROFESSIONAL SURVEYOR TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE.
- PROOF ROLL BUILDING PAD, ROAD AND ALL PARKING AREAS. NOTIFY ENGINEER OF ANY UNACCEPTABLE AREAS.
- THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF ALL CONSTRUCTION TO THE ENGINEER OR OWNER AT THE END OF CONSTRUCTION.
- IF REQUIRED BY THE FIRE OFFICIAL "NO PARKING-FIRE LANE" SIGNS SHALL BE POSTED ALONG ALL FIRE LANES AT 100-FOOT INTERVALS OR AS DIRECTED.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF MASON, INGHAM COUNTY AND MDOT CURRENT STANDARDS AND REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

GENERAL UTILITY NOTES:

- ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE MICHIGAN DEPT. OF TRANSPORTATION, CITY OF MASON AND THE CONTRACT DOCUMENTS.
- ALL WATER MAIN AND SANITARY SEWER IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MASON REQUIREMENTS.
- 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, ETC. SHALL BE BACKFILLED WITH MDOT CLASS II SAND COMPACTED TO A T LEAST 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DRY DENSITY IN ACCORDANCE WITH ASTM D1557. ALL OTHER TRENCHES TO BE COMPACTED PER CITY OF MASON REQUIREMENTS.
- PHYSICAL CONNECTIONS SHALL NOT BE MADE TO WATER OR SANITARY LINES WITHOUT MEETING THE REQUIREMENTS OF THE GOVERNING AUTHORITY FOR TESTING, OBSERVATION, ETC. CONTRACTOR MUST COORDINATE WITH AUTHORITY DURING CONSTRUCTION.
- WATER SERVICE LEADS SHALL BE TYPE "K" ANNEALED SEAMLESS COPPER PER CITY OF CITY OF MASON REQUIREMENTS. PROVIDE SAND BEDDING AND COMPACTED SAND BACKFILL PER CITY REQUIREMENT AND PROJECT SPECIFICATIONS.
- ALL SANITARY SEWER LEADS SHALL BE PER CITY OF MASON REQUIREMENTS AND FITTINGS INSTALLED AT A MINIMUM 1X PER CITY REQUIREMENTS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3034 UNLESS OTHERWISE NOTED.
- DOWNSPOUTS, WEEP TILE, FOOTING DRAINS OR ANY CONDUIT THAT CARRIES STORM OR GROUND WATER SHALL NOT BE ALLOWED TO DISCHARGE INTO A SANITARY SEWER.
- BACKFILL AND BEDDING FOR ALL SEWERS LEADS SHALL BE IN ACCORDANCE WITH CITY STANDARDS.
- SANITARY LEADS SHALL BE PROVIDED WITH CLEANOUTS AT EVERY BEND AND ALONG PIPE RUNS ASH SHOWN. ALL CLEANOUTS TO BE PROVIDED WITH ELJW #1565 BOX OR APPROVED EQUAL.
- ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS ONLY AND HAVE BEEN COMPILED FROM THE LATEST AVAILABLE MAPPING. THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
- GENERAL CONTRACTOR TO COORDINATE WITH THE LOCAL UTILITY COMPANIES FOR ALL LOCATIONS AND CONNECTIONS. A PRE-CONSTRUCTION MEETING WITH THE VARIOUS UTILITY PROVIDERS IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE SEWERS CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT OF ANY UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
- THE CONTRACTOR SHALL ENSURE THAT ALL UTILITY COMPANIES AND MUNICIPALITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY COMPANY. THE CONTRACTOR SHALL TO CONDUCT WORK TO BE PERFORMED BY THE VARIOUS UTILITY COMPANIES AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION.
- ALL VALVE BOXES AND CURB BOXES SHALL BE ADJUSTED TO THE FINAL GRADES. ALL CURB BOXES SHALL BE LOCATED IN GRASSED AREAS UNLESS OTHERWISE NOTED ON THE PLANS.
- MAINTAIN ADEQUATE SEPARATION BETWEEN SANITARY AND WATER SERVICES IN ACCORDANCE WITH CITY REQUIREMENTS.
- THE PLAN DETAILS PIPES UP TO 5' FROM THE BUILDING FACE. REFER TO THE BUILDING DRAWINGS FOR BUILDING CONNECTIONS. SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY.
- ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT AND REPLACED IN ACCORDANCE WITH THE PAVEMENT REPAIR REQUIREMENTS OF THE GOVERNING AUTHORITY.
- RESTORE ALL DISTURBED GREENBELT AREAS TO PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITY. UNLESS OTHERWISE INDICATED BY THE GOVERNING AUTHORITY, DISTURBED GREENBELTS AREAS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND A MINIMUM OF 3" TOPSOIL, SEED AND MULCH APPLIED.

CONSTRUCTION SCHEDULE

MOBILIZATION	JULY 8, 2019
DEMOLITION	JULY 8 – JULY 22, 2019
UNDERGROUND UTILITIES	JULY 23 – JULY 29, 2019
STORM SEWER UTILITIES	JULY 23 – AUGUST 5, 2019
SITE EARTH BALANCE	AUGUST 5 – AUGUST 8, 2019
FOOTINGS/FOUNDATIONS	AUGUST 9 – AUGUST 23, 2019
MECHANICAL/ELECTRICAL UNDERGROUND	AUGUST 26 – AUGUST 30, 2019
CURB & GUTTER	SEPT. 12 – SEPT. 17, 2019
PARKING LOT AGGREGATE BASE	SEPT. 18 – SEPT. 24, 2019
SITE GRADING	SEPT. 25 – SEPT. 26, 2019
SITE CONCRETE	SEPT. 25 – OCT. 1, 2019
PARKING LOT ASPHALT BASE	OCT. 2 – OCT. 3, 2019
PARKING LOT ASPHALT TOP	OCT. 4 – OCT. 7, 2019
STRIPE PARKING LOT & SIGNAGE	OCT. 4 – OCT. 8, 2019
LANDSCAPING	OCT. 9 – OCT. 11, 2019
TOPSOIL/SEED & SITE STABILIZATION	OCT. 4 – OCT. 16, 2019



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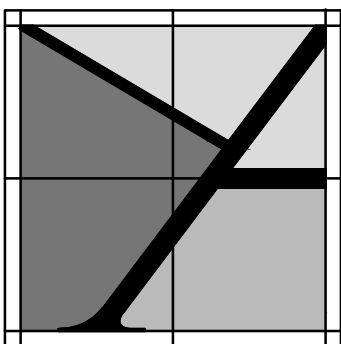
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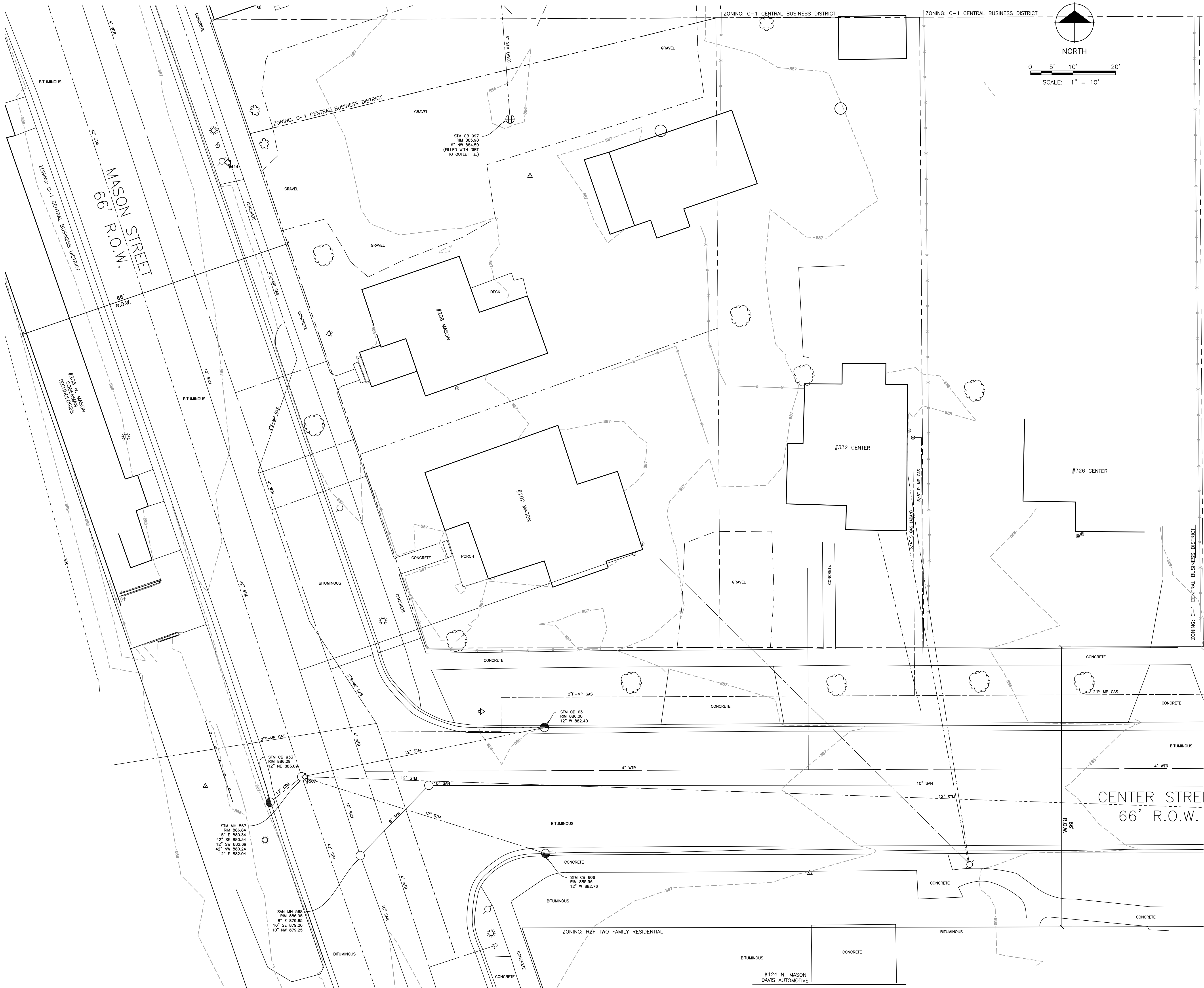
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MASON, MI

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CIVIL LEGEND AND NOTES

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BENCHMARKS

BM NO.: 114. ELEVATION: 888.06
MAG NAIL IN THE SOUTHEAST FACE OF A UTILITY POLE
LOCATED ON THE EAST SIDE OF MASON STREET
NORTH OF THE EXISTING SITE ENTRANCE

BM NO.: 126. ELEVATION: 887.47
VERTICAL MAG NAIL IN THE SOUTHWEST ROOT OF A 14" MAPLE
LOCATED 36' NORTH OF THE NORTH PROPERTY LINE
29'+/- NE OF SE CORNER OF ANTIQUE STORE

BM NO.: 567. ELEVATION: 886.84
RIM ELEVATION OF STORM MANHOLE LOCATED ON THE
CENTERLINE OF CENTER STREET 9'+/- WEST
OF THE CENTERLINE OF MASON STREET

LEGAL DESCRIPTION

PART OF LOT 8 AND ALL OF LOTS 6 AND 7, BLOCK 2,
SMITH AND PEASE ADDITION TO THE CITY OF MASON,
INGHAM COUNTY, STATE OF MICHIGAN IS DESCRIBED AS:
BEGINNING AT THE SOUTHWEST CORNER OF SAID LOT 6,
BLOCK 2 AS MONUMENTED; THENCE ALONG THE EAST LINE
OF MASON STREET AS MONUMENTED, N18°53'54"W, 128.17
FEET TO A POINT 28.37 FEET (26 FEET RECORD)
SOUTHEASTERLY OF THE NORTHWEST CORNER OF LOT 8 OF
SAID BLOCK 2; THENCE N76°03'08"E, 113.12 FEET TO A
POINT ON THE NORTH LINE OF SAID LOT 8 AND 48.00
FEET WEST OF THE NORTHEAST CORNER OF SAID LOT 8;
THENCE ALONG SAID NORTH LINE N89°47'43"E, 48.00 FEET;
THENCE ALONG THE EAST LINE OF SAID LOTS 6, 7 AND 8,
S00°22'17"E, 148.49 FEET TO A POINT ON THE NORTH
LINE OF CENTER STREET; THENCE ALONG SAID NORTH LINE
S89°53'45"W, 117.23 FEET TO THE POINT OF BEGINNING
AND CONTAINING 0.447 ACRES, SUBJECT TO ALL
EASEMENTS, RESTRICTIONS, AND RIGHT OF WAYS OF
RECORD.

date

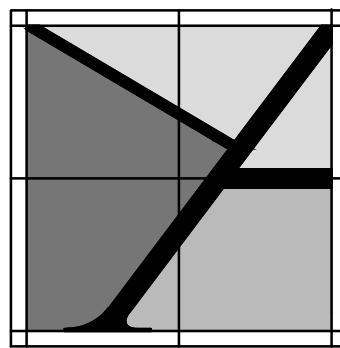
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civil engineer

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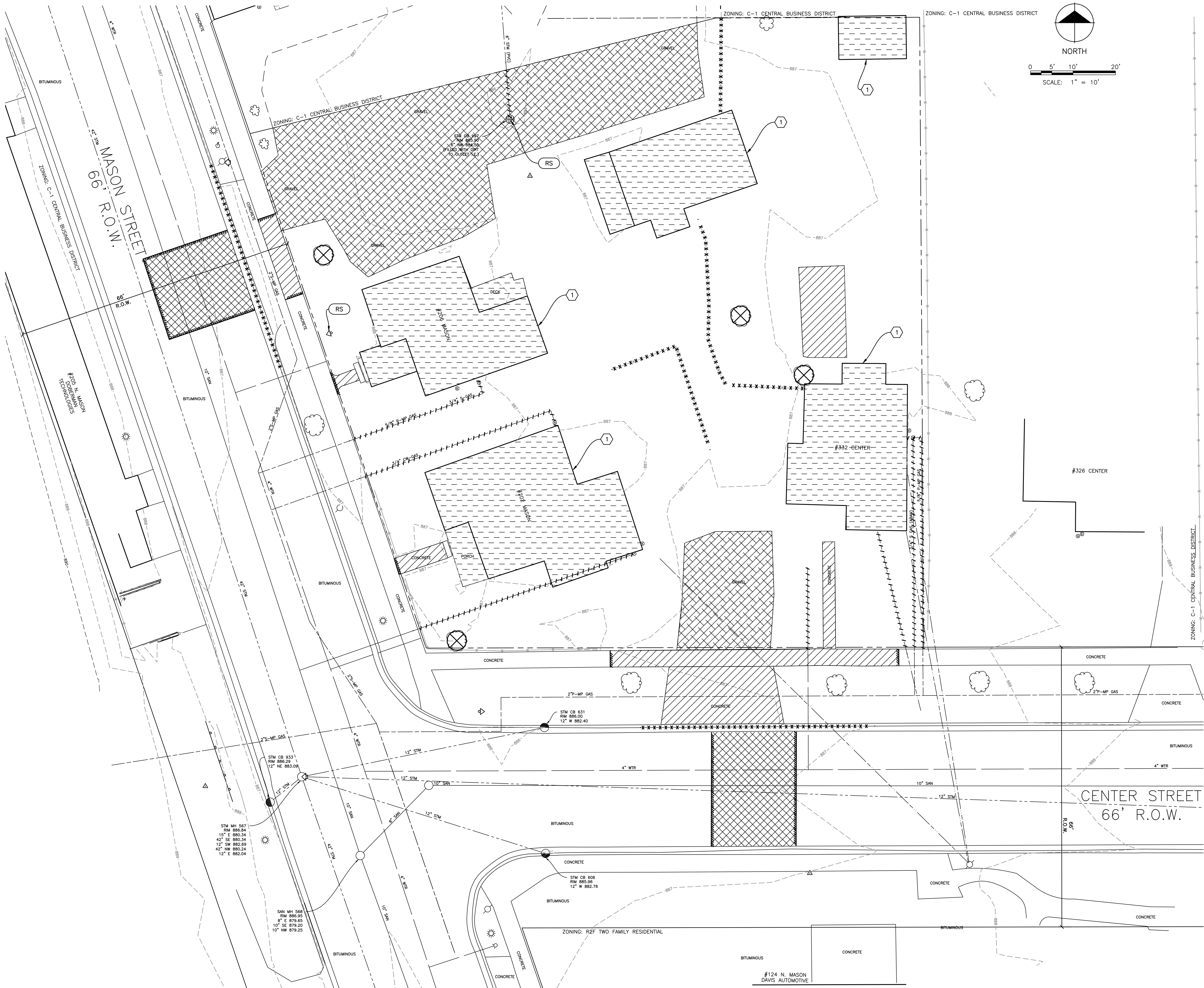
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EXISTING CONDITIONS





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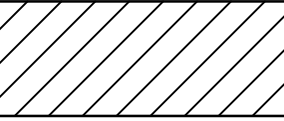
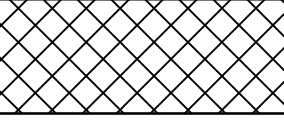

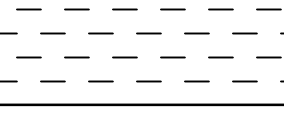
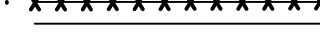
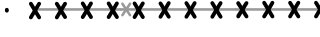
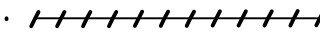



BENCHMARKS

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LEGEND

	SAWCUT AND REMOVE CONCRETE SURFACE
	SAWCUT AND REMOVE ASPHALT SURFACE
	REMOVE GRAVEL SURFACE
	REMOVE STRUCTURE
	REMOVE CONCRETE CURB & GUTTER
	REMOVE FENCE
	ABANDON EXISTING UTILITY SERVICE
	REMOVE EXISTING TREE
	REMOVE EXISTING UTILITY MANHOLE OR CATCH BASIN
	REMOVE EXISTING SIGN

GENERAL DEMOLITION NOTES

1. REMOVAL ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDE FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, LANDSCAPING, PIPES, ETC.
2. SAWCUT ALL CONCRETE AND BITUMINOUS SURFACES PRIOR TO STRUCTURE DEMOLITION TO ELIMINATE EXTENDED DAMAGE TO PAVEMENT OR BUILDINGS.
3. THE CONTRACTOR SHALL SECURE ALL PERMITS FOR THE DEMOLITION AND DISPOSAL OF THE DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED.
4. THE CONTRACT SHALL REMOVE ALL UTILITIES TO EXISTING STRUCTURES WHETHER SHOWN OR NOT AND ARRANGE FOR THE APPROPRIATE UTILITY SERVICE PROVIDER TO CUT AND CAP SERVICE PIPING AT THE PROPERTY LINE OR MAIN (AS REQUIRED). ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
5. BACKFILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL OUTLINED IN THE PROJECT SPECIFICATIONS. ALL UTILITY TRENCH BACKFILL SHALL CONSIST OF MDOT CL II SAND COMPACTED TO 95% MAXIMUM DRY DENSITY PER ASTM SPECIFICATIONS, IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.

KEY DEMOLITION NOTES

1. BUILDING AND STRUCTURE DEMOLITION IS TO INCLUDE ALL DEMOLITION PERMITTING, UTILITY ABANDONMENT, METER REMOVAL, MECHANICAL, PLUMBING AND ELECTRICAL SYSTEMS. REMOVAL PER LOCAL AND STATE REGULATIONS. COORDINATE WITH UTILITY SERVICE PROVIDERS PRIOR TO DISCONNECTION OF SERVICES PRIOR TO DEMOLITION.

TRAFFIC CONTROL MEASURE NOTES

1. PROVIDE ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MICHIGAN MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES, CITY OF MASON REQUIREMENTS AND MDOT MAINTAINING TRAFFIC TYPICAL DETAILS.
2. DETOUR ROUTING ON LOCAL CITY STREETS TO BE PERFORMED AND UPDATED BY CONTRACTOR AS NEEDED AND AS WORK PHASING PROCEEDS. NOTIFY CITY OF MASON FIRE DEPARTMENT A MINIMUM OF 48-HOURS PRIOR TO ANY POTENTIAL ROAD CLOSURES. PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
3. CLOSE SIDEWALKS AT LOCATIONS WHERE PUBLIC CAN ACCESS SECONDARY ACCESSIBLE SIDEWALK ROUTES.

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SITE DEMOLITION PLAN

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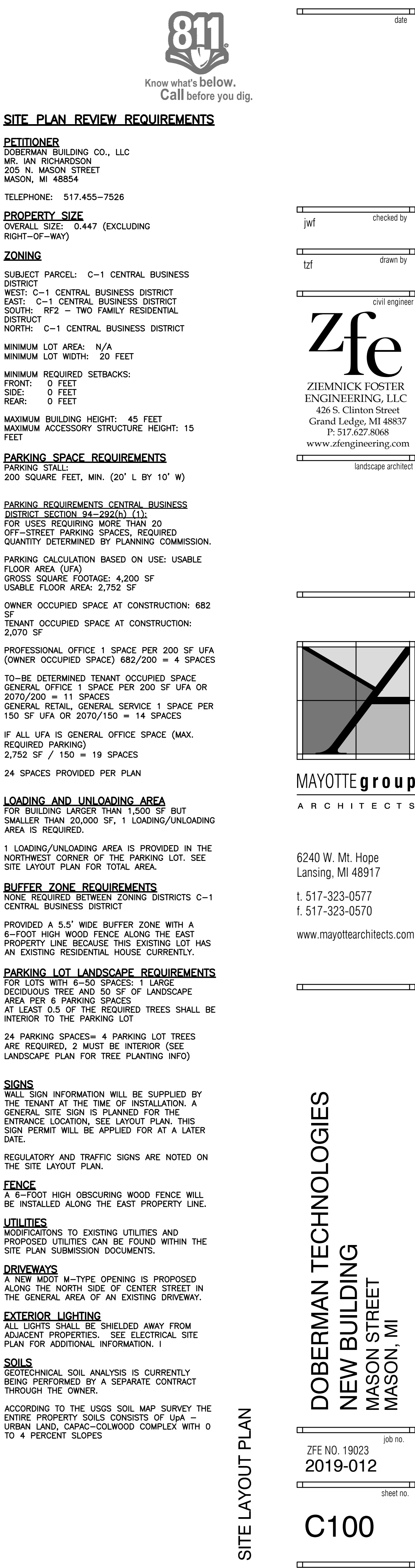
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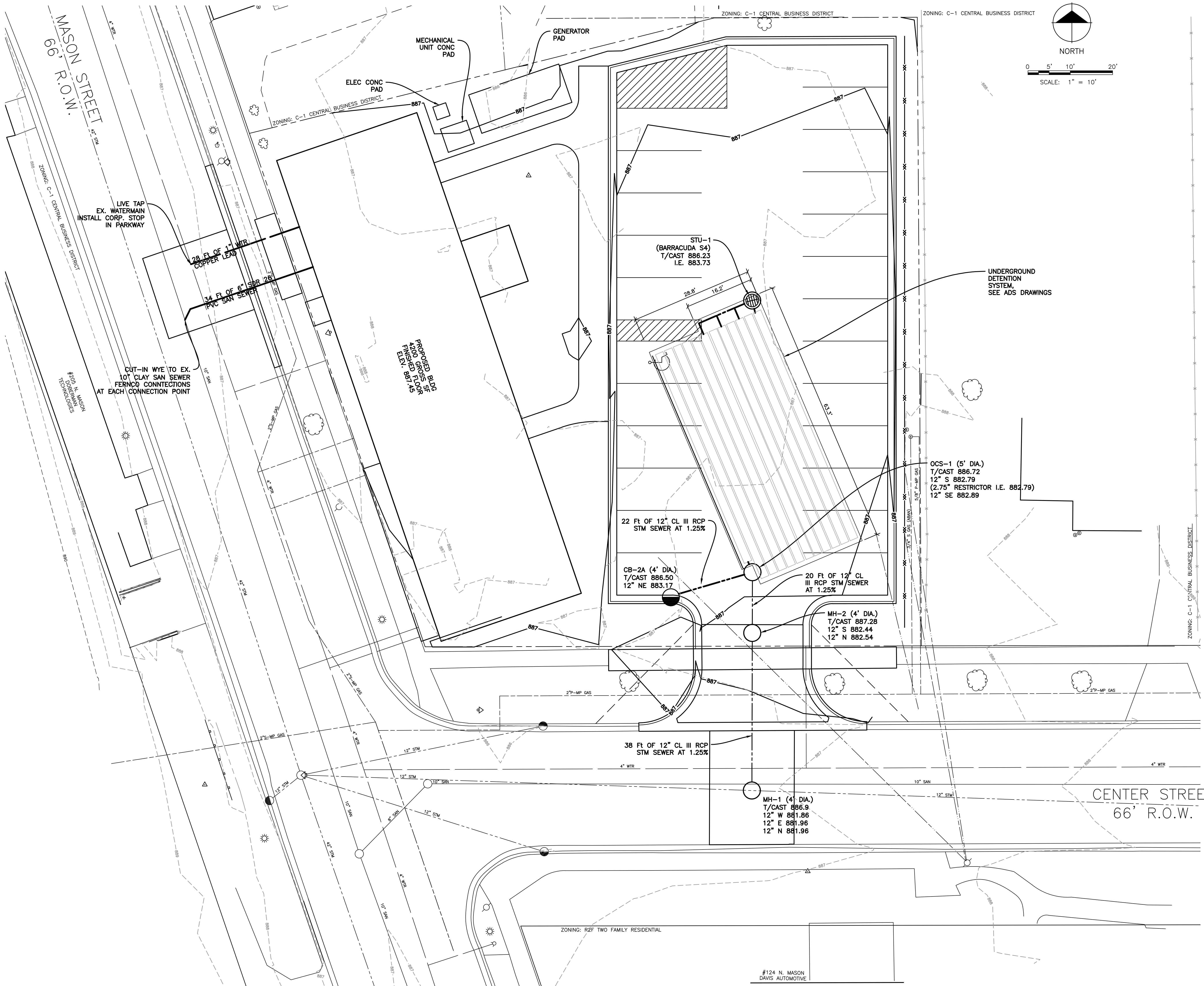
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- LEGEND**
- 8" SAN SANITARY SEWER & MANHOLE
 - WYE AND LEAD
 - 12" STM STORM SEWER & MANHOLE
 - CATCH BASIN
 - 8" WTR WATER MAIN
 - VALVE & BOX

PIPE	CONTENTS	ABBREVIATIONS
GAS	NATURAL GAS	
SAN	SANITARY SEWER	
STM	STORM SEWER	
WTR	WATER	
FM	FORCE MAIN	

PIPE	MATERIAL	ABBREVIATIONS
CSP	CORRUGATED STEEL PIPE	
CSPA	CORRUGATED STEEL PIPE ARCH	
DIP	DUCTILE IRON PIPE	
NRCP	NON-REINFORCED CONCRETE PIPE	
PE	POLYETHYLENE	
PE PERF.	POLYETHYLENE PIPE PERFORATED	
PVC	POLYVINYL CHLORIDE	
RCP	REINFORCED CONCRETE PIPE	
VCP	VITRIFIED CLAY PIPE	

date _____

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SITE UTILITY PLAN

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS								
MATERIAL LOCATION	DESCRIPTION	ASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT					
D FINAL FILL MATERIAL FOR LAYER 'A' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEURBALE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF 'C' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEERS PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	NA	PREPARE PER SITE DESIGN ENGINEERS PLANS. PAVED INSTALLATIONS MAY HAVE STRONGER MATERIAL AND PREPARATION REQUIREMENTS.					
C INITIAL FILL FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBANKMENT STONE (B) LAYERS UP TO 4500 mm ABOVE THE TOP OF THE CHAMBERS. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MATERIALS, <30% FINES OR PROCESSED AGGREGATE.	ASHTO M45 ¹ A-1, A-2, A-3	BEGIN COMPACTIONS AFTER 1" (25 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. CORRECT ADDITIONAL LAYERS IN 8" (200 mm) MAX LIFTS TO 4500 mm. PROCTOR DENSITY FOR 100 mm (4 IN) LIFTS TO 95% RELATIVE DENSITY FOR WELLS-GRADED MATERIAL. ROLLER GRADED VEHICLE WEIGHT NOT TO EXCEED 12,000 LB (5,500 KG). DYNAMIC FORCE NOT TO EXCEED 30,000 LB (13,600 KG).					
B EMBANKMENT STONE FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A) LAYER TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	ASHTO M47 ¹ 3, 302, 4, 467, 5, 50, 52, 5, 57, 58, 7, 78, 8, 80, 9, 10	NO COMPACTION REQUIRED.					
A FOUNDATION STONE FILL BELOW CHAMBER FROM THE SUBGRADE UP TO THE FOOT BOTTOM/TOON OF THE CHAMBERS.	CLEAN, CRUSHED, ANGULAR STONE	ASHTO M47 ¹ 3, 302, 4, 467, 5, 58, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{1,2}					
PLEASE NOTE:								
1. THE LISTED ASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (ASHTO M45) STONE".								
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR A LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 8" (200 mm) MAX LIFTS USING TWO SLIP COVERAGES WITH A 100 LB (45 KG) WEIGHT. THE STONE MUST BE COMPROMISED BY COMPACTION. FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR CRUSHING WITHOUT COMPACTION. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.								
3. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL. REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEERS DISCRETION.								
NOTES: <ul style="list-style-type: none"> CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2822 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". SC-310 CHAMBERS ARE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL PROFILE CONDITIONS. PERMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. REQUIREMENTS FOR HANDLING AND INSTALLATION: <ul style="list-style-type: none"> TO MAINTAIN THE INTEGRITY OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTERNAL, INTERLOCKING STAKING LUGS. TO ENSURE A SECURE JUNT DURING INSTALLATION AND BACKFILL, THE WEIGHT OF THE CHAMBER JUNT SHALL NOT BE LESS THAN 2" OF. TO ENSURE THE INTEGRITY OF THE CHAMBER DURING SHIPMENT, INSTALLATION, AND THE ANCH STIFFNESS CONDITION AS DEFINED IN SECTION 4.2.2 OF ASTM F2822 SHALL BE GREATER THAN OR EQUAL TO 400 LB/INCH, AND TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES ABOVE 77 °F (25 °C). CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS. 								
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SC-310 ISOLATOR ROW DETAIL
NTE

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

A. ALL ISOLATOR ROWS

- REMOVE/OPEN LID ON UP/LOAFST IN-LINE DRAIN
- REMOVE AND CLEAN FLEXITORM FILTER IF INSTALLED
- USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)

A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

B. ALL ISOLATOR ROWS

- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
- IF THERE IS A BLOCKING OR PLUG, A CAMERA MAY BE USED TO VISUAL A COMPLETED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
- IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS

- A FIXED CULVERT CLEANING HOZZIE WITH REAR FACING SPREAD OF 40" (1 m) OR MORE IS PREPARED
- APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLOSH WATER IS CLEAN
- VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REFILL ALL COVERS, GRATES, FILTERS AND LIDS, RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTREAT SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACUATING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

PLAN VIEW
NTS

48" HP MANHOLE
* OUTLET PIPE
30" FRAME & COVER
* INLET PIPE
FIN ARRAY (TYP 4 PLACES)
INTEGRATED INTERNAL WEIR
VARIABLE INLET LOCATIONS
VARIABLE OUTLET LOCATIONS


SECTION VIEW A-A
NTS

30" FRAME & COVER
ASPHALT INSTALLATION
INTEGRATED INTERNAL WEIR
BOWL
FIN ARRAY (TYP 4 PLACES)
0.00 OUTLET
0.00 INLET
4.92 SURF

SECTION VIEW B-B
NTS

INTEGRATED INTERNAL WEIR
* INLET PIPE
(* OUTLET PIPE NOT SHOWN FOR CLARITY)
BOWL
FIN ARRAY (TYP 4 PLACES)
12" (MN)
30" (30 MN)
8'-4" (113.0")
80"
6'-9" (107.0")

UNIT ID	EMFPI
PEAK FLOW RATE (GFS)	
TREATMENT FLOW RATE (GFS)	1.25 GFS



Know what's below.
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date

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civil engineer

Zfe

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landscape architect



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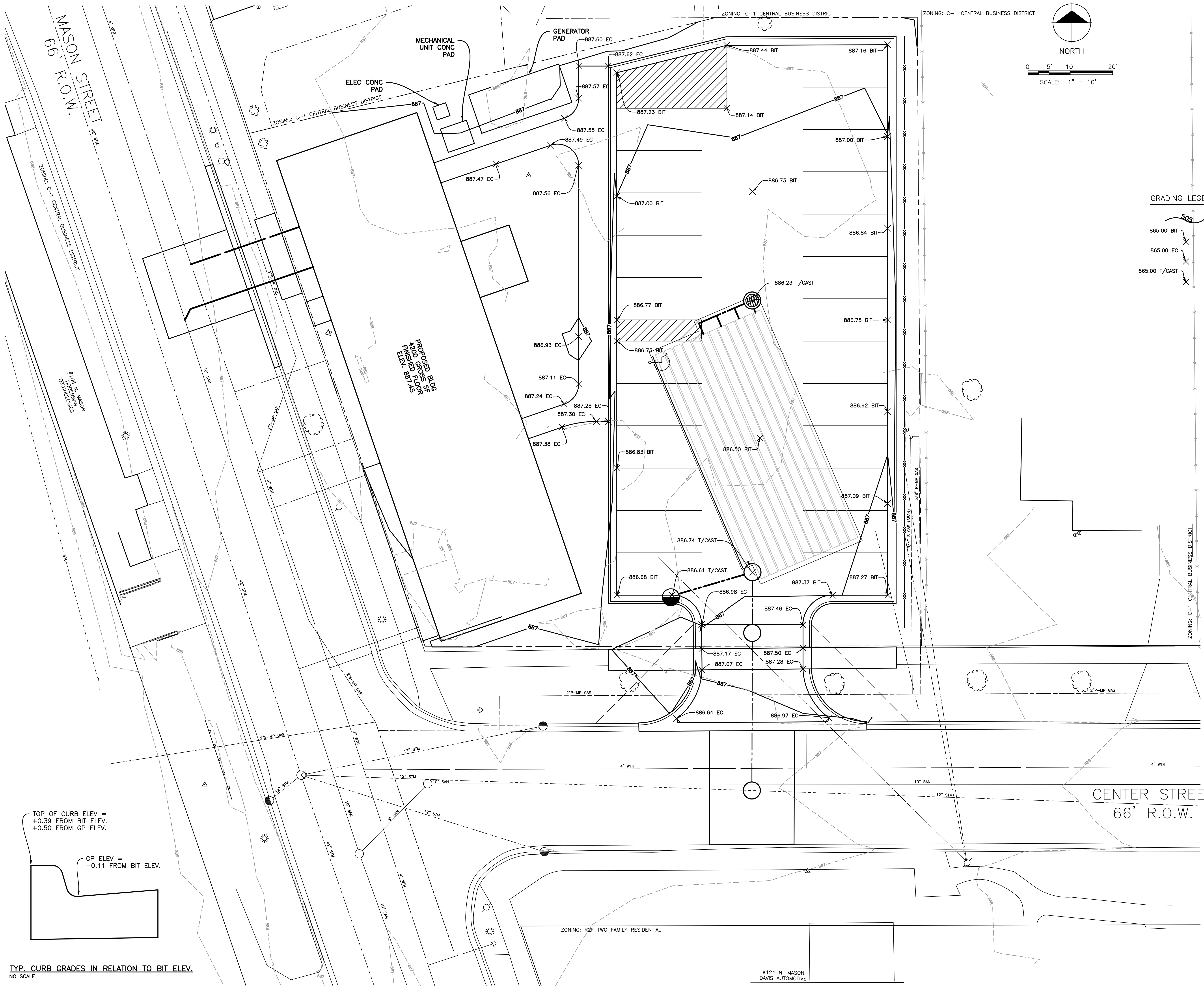
DOBERMAN TECHNOLOGIES
NEW BUILDING
MASON STREET
MASON, MI

job no.

ZFE NO. 19023
2019-012

sheet no.

C201



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BENCHMARKS

BM NO.: 114. ELEVATION: 888.06
MAG NAIL IN THE SOUTHEAST FACE OF A UTILITY POLE
LOCATED ON THE EAST SIDE OF MASON STREET
NORTH OF THE EXISTING SITE ENTRANCE

BM NO.: 126. ELEVATION: 887.47
VERTICAL MAG. NAIL IN THE SOUTHWEST ROOT OF A 14" MAPLE
LOCATED 36' NORTH OF THE NORTH PROPERTY LINE
29'+/- NE OF SE CORNER OF ANTIQUE STORE

BM NO.: 587. ELEVATION: 886.84
RIM ELEVATION OF STORM MANHOLE LOCATED ON THE
CENTERLINE OF CENTER STREET 9'+/- WEST
OF THE CENTERLINE OF MASON STREET

GRADING LEGEND

	PROPOSED CONTOUR ELEVATION
	PROPOSED EDGE OF BITUMINOUS PAVEMENT SPOT ELEVATION
	PROPOSED EDGE OF CONCRETE SURFACE SPOT ELEVATION
	PROPOSED TOP OF CASTING SPOT ELEVATION

DOBERMAN TECHNOLOGIES
NEW BUILDING
MASON STREET
MASON, MI

SITE GRADING PLAN

REVIEW DRAWING
NOT FOR
CONSTRUCTION
PLOT DATE: 05.14.19

C202

TYP. CURB GRADES IN RELATION TO BIT ELEV.
NO SCALE

DRAINAGE AREA SKETCH



EX. & PROP. CURVE NUMBER AND FIRST-FLUSH VOLUME CALCULATIONS

Mason and Center Street; northeast corner
City of Mason, Ingham County, MI

TOTAL SITE AREA

19,485 SF

0.45 ACRE

TOTAL WATERSHED AREA TO DETENTION

15,485 SF

0.45 ACRE

RAINFALL STORM EVENT (Per Bulletin 71 Section 9.1.6 Lower MI)

RAINFALL FLOOD TREATMENT	2 Yr	2.42 inches / 24 Hr
PIPE DESIGN STORM	5 Yr	2.98 inches / 24 Hr
	10 Yr	3.43 inches / 24 Hr
	50 Yr	4.63 inches / 24 Hr
DETENTION DESIGN STORM	100 Yr	5.33 inches / 24 Hr

EXISTING LAND USE

Land Use Description	Area (sq. ft.)	Area (acres)	RC	RCA
Pavement/Sidewalk	378	0.01	0.95	0.01
Buildings/Decks	3,945	0.09	0.95	0.09
Gravel	3,283	0.08	0.85	0.06
Lawn	11,879	0.27	0.25	0.07
Cultivated Land / Woods	0	0.00	0.30	0.00
	19,485	0.45		

Existing Avg CN

0.51

PROPOSED LAND USE

Land Use Description	Area (sq. ft.)	Area (acre)	RC	RCA
Pavement	9,944	0.23	0.95	0.22
Building	4,208	0.10	0.95	0.09
Gravel	0	0.00	0.85	0.00
Lawn	5,333	0.12	0.25	0.03
Cultivated Land / Woods	0	0.00	0.30	0.00
	19,485	0.45		

Proposed Avg CN

0.76

INTENSITY

I_{100}^*	5.20	in/day	I_{100}^*	3.43	in/day
I_{100}^*	0.22	in / hr	I_{100}^*	0.14	in / hr

Area Design: 100%
X:\PROJECTS\19023 - Doberman Tech\DESIGN\STORMWATER\Stormwater-ingham-county

Ziemnick Foster Engineering
Grand Ledge, MI

EX. DISCHARGE/ALLOWABLE

RELEASE	Ex 100-yr	Ex 10-year
Rational Method	$Q_{100} = CIA$	$Q_{10} = CIA$
	$Q = 0.51 \times 0.22 \times 0.45$	$Q = 0.51 \times 0.14 \times 0.45$
	$Q_{100} = 0.05$ CFS	$Q_{10} = 0.03$ CFS

Allowable Outflow $Q = Q_{100}$ 0.05 CFS
0.11 CFS/ACRE per email from Wolverine Engineers & Surveyors 04/24/19

Proposed Discharge Q_{100}	Prop. 100-yr	Prop. 10-year
	$0.76 \times 0.22 \times 0.45$	$0.76 \times 0.14 \times 0.45$
	0.07 CFS	0.05 CFS
	0.16 CFS/ACRE	0.11 CFS/ACRE

CHANGE IN DISCHARGE

$Q_{100} - Q_{10}$	0.024
Q_{100}	0.02 CFS for 100 year storm event

FIRST FLUSH VOLUME

1 inch over the drainage area
19,485 square feet
1,624 cubic feet (volume)

Area Design: 100%
X:\PROJECTS\19023 - Doberman Tech\DESIGN\STORMWATER\Stormwater-ingham-county

Ziemnick Foster Engineering
Grand Ledge, MI

DETENTION VOLUME CALCULATIONS

DETENTION POND DESIGN CALCULATION

Project Name: Doberman Technologies Development	Curt. Drainage Area (Acres): 0.45 (L)
Site Location: Northeast Corner of Mason & Center Street	Proposed Rainfall Coefficient "C": 0.76 (M)
Mason, Ingham County, MI	Allowable Release Rate per Acre (CFS/Acre): 0.11 (N)
	Maximum Allowable Release Rate (CFS): 0.05 (O)

A	B	C	D	E	F	G	H	I	J	K
Duration (Minutes)	Duration (Hours)	100-Year 24-Hour Rainfall (Inches)	100-Year 24-Hour Intensity (Inches/Hour)	100-Year 24-Hour Flood Volume (CFS)	100-Year 24-Hour Flood Volume (CFS)	100-Year 24-Hour Flood Volume (CFS)	100-Year 24-Hour Flood Volume (CFS)	100-Year 24-Hour Flood Volume (CFS)	100-Year 24-Hour Flood Volume (CFS)	100-Year 24-Hour Flood Volume (CFS)
5	0.08	0.62	7.44	2.52	757	0.05	750	2,980	0.16	2,980
10	0.17	1.00	11.40	3.87	2,520	0.05	2,508	2,980	0.16	2,980
15	0.25	1.40	15.00	5.00	1,710	0.05	1,698	2,980	0.16	2,980
20	0.33	1.57	16.72	5.58	1,422	0.05	1,410	2,980	0.16	2,980
30	0.50	1.92	23.04	7.36	1,146	0.05	1,134	2,980	0.16	2,980
40	0.67	2.09	25.08	8.07	1,077	0.05	1,065	2,980	0.16	2,980
60	1.00	2.52	30.24	9.84	906	0.05	894	2,980	0.16	2,980
80	1.33	2.84	34.08	10.93	786	0.05	774	2,980	0.16	2,980
100	1.67	3.16	37.44	12.00	707	0.05	695	2,980	0.16	2,980
120	2.00	3.48	40.80	13.00	638	0.05	626	2,980	0.16	2,980
140	2.33	3.80	44.16	14.00	580	0.05	568	2,980	0.16	2,980
160	2.67	4.12	47.52	15.00	531	0.05	519	2,980	0.16	2,980
180	3.00	4.44	50.88	16.00	489	0.05	477	2,980	0.16	2,980
200	3.33	4.76	54.24	17.00	453	0.05	441	2,980	0.16	2,980
240	4.00	5.36	61.44	19.00	386	0.05	374	2,980	0.16	2,980
300	5.00	6.16	70.08	22.00	317	0.05	310	2,980	0.16	2,980
360	6.00	6.96	78.72	25.00	267	0.05	260	2,980	0.16	2,980
480	8.00	8.40	95.04	30.00	198	0.05	191	2,980	0.16	2,980
600	10.00	9.60	108.00	36.00	150	0.05	143	2,980	0.16	2,980
720	12.00	10.80	121.44	42.00	119	0.05	112	2,980	0.16	2,980
840	14.00	12.00	134.88	48.00	96	0.05	89	2,980	0.16	2,980
960	16.00	13.20	148.32	54.00	78	0.05	72	2,980	0.16	2,980
1080	18.00	14.40	161.76	60.00	64	0.05	59	2,980	0.16	2,980
1200	20.00	15.60	175.20	66.00	54	0.05	49	2,980	0.16	2,980
1440	24.00	18.00	207.36	79.00	36	0.05	32	2,980	0.16	2,980
1680	28.00	20.40	239.52	92.00	24	0.05	21	2,980	0.16	2,980

Required 100-yr Detention Storage (CFT) 4,460 Required Storage (CFT) 4,460

PROVIDED UNDERGROUND DETENTION = 4,770 CFT

- A) Duration of the storm event in hours.
B) Duration of the storm event in hours.
C) Total amount of rainfall during a 100-year recurrence storm event for the given duration.
D) Column A & B used to determine the required detention storage (see Bulletin 71).
E) The uncontrolled 100-year recurrence storm discharge volume from the proposed site under fully developed conditions. Calculated by multiplying Intensity (inches/hour) by Duration (hours) and Drainage Area (acres).
F) The uncontrolled 100-year recurrence storm discharge volume from the proposed site for the given duration. Calculated by multiplying the Proposed Rainfall Intensity (inches/hour) by the Storm Duration (hours) and Drainage Area (acres).
G) The maximum allowable discharge from the site is determined by multiplying the drainage area by the allowed per acre release rate (inches/hour).
H) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
I) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
J) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
K) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
L) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
M) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
N) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.
O) The required detention storage is determined by multiplying the difference between (E) and (G) by the corresponding duration (inches) and by 4.356 (inches/hour) to convert to cubic feet.

Calculation By: ZFE of Ziemnick Foster Engineering, LLC
Date: 2019.04.26

PIPE DESIGN CALCULATIONS BASED ON DRAINAGE AREA

	LOCATION		AREA					CA			TIME			INTENSITY			DISCHARGE			PROFILE					DESIGN									
	STRUCTURE LABEL		GRASS	PAVEMENT	CONCRETE	ROOF	INCR.	TOTAL	WEIGHTED C	INCR. C*A	CUM. C*A	TO INLET	IN PIPE	TOTAL	2 YEAR	10 YEAR	100 YEAR	2 YEAR	10 YEAR	100 YEAR	PIPE LENGTH	"Upstream" INVERT OUT	"Downstream" INVERT IN	"Upstream" RIM	"Upstream" Cover Check	COMPUTED DIAMETER	PIPE DIAMETER	PIPE DIAMETER	n VALUE	SLOPE	SLOPE	V _{FULL}	PIPE CAPACITY	
	UPSTREAM	DOWNSTREAM	sq ft	sq ft	sq ft	sq ft	acres	acres				min	min	min	in/hr	in/hr	in/hr	cfs	cfs	cfs	ft	ft	ft	ft		in	in	ft		ft/ft	%	ft/s	cfs	
DRAINAGE																																		
AERA			0.30	0.95	0.95	0.95	A	A*	C _{AVG}	C*A		T _I	T _P	T _O =T _I +T _P	i ₂	i ₁₀	i ₁₀₀	Q ₂ =C* ² i ² *A	Q ₁₀ =C* ¹⁰ i ¹⁰ *A	Q ₁₀₀ =C* ¹⁰⁰ i ¹⁰⁰ *A	L					D _{COMP}	D	D	n	S				
LOT/BLDG	SITE	STU-1	3795.00	8941.00	1113.00	4364.00	0.42	0.42	0.81	0.34	0.34	15	0.00	15.00	2.60	3.72	5.60	0.89	1.27	1.91							D	D	D					
PARKWAY	CB-2A	OCS-1	212.00	374.00			0.01	0.01	0.71	0.01	0.01	15	0.00	15.00	2.60	3.72	5.60	0.03	0.04	0.05	22	883.17	882.89	886.50	OK	2.04	12	1.00	0.013	0.0127	1.27%	5.12	4.02	

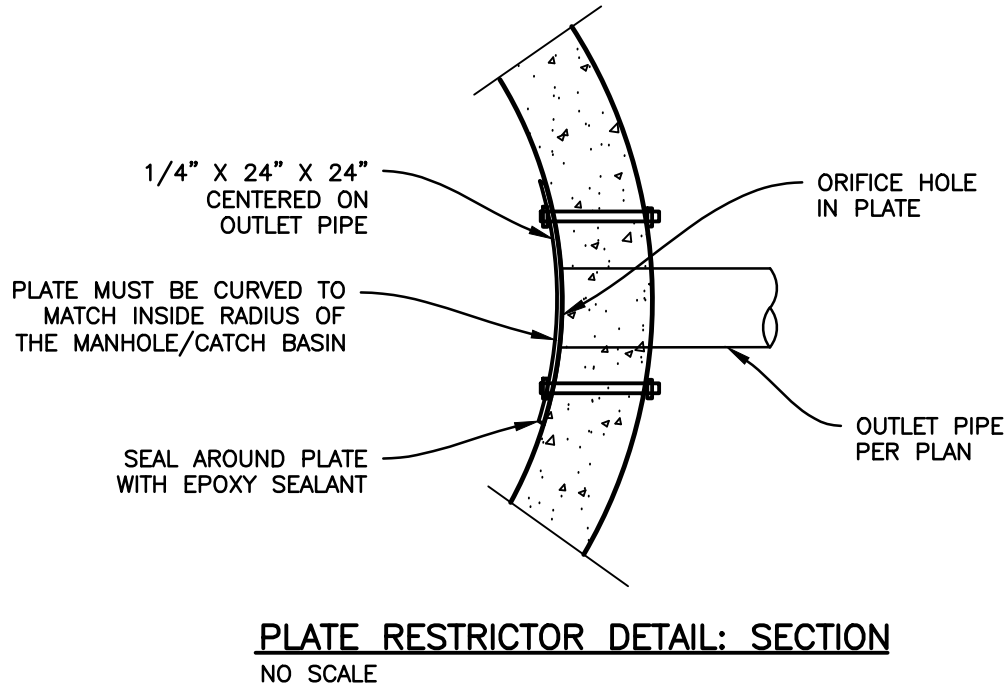
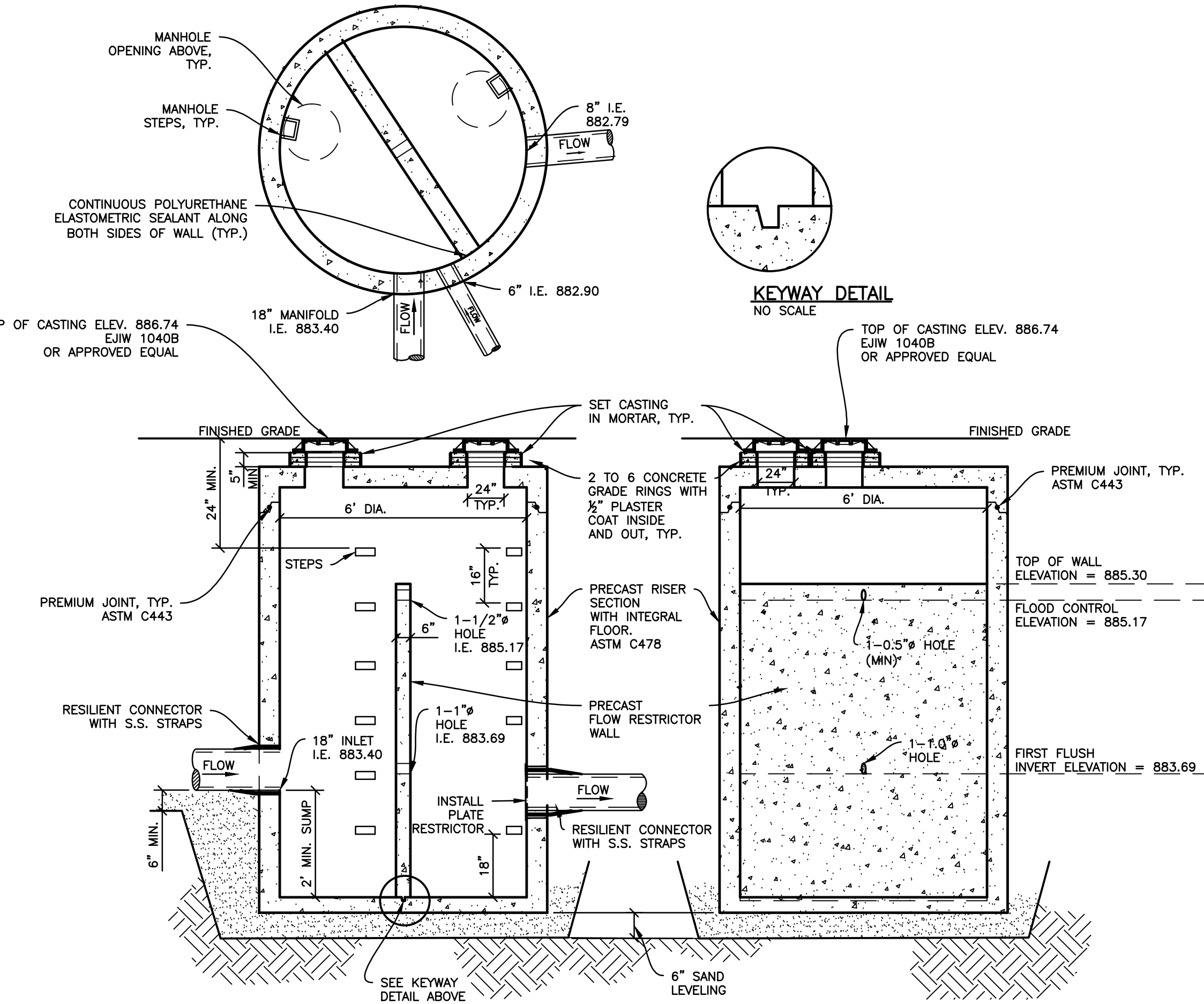


PLATE RESTRICTOR DETAIL: SECTION
NO SCALE

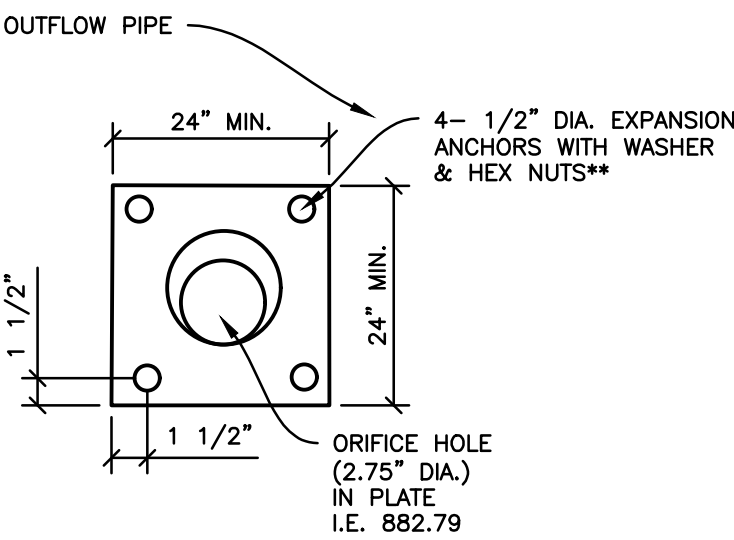


PLATE RESTRICTOR DETAIL: ELEVATION
NO SCALE

**ANCHORS SHALL BE TACK WELDED TO THE PLATE.
ANCHOR EMBEDMENT SHALL BE 3" MIN.

NOTE:
1. PRECAST REINFORCED STRUCTURE SHALL BE MANUFACTURED PER ASTM C478 SPECIFICATIONS AND MEETING HS20 LOADING REQUIREMENTS.

OUTLET CONTROL STRUCTURE
NO SCALE

OUTLET CONTROL STRUCTURE DESIGN CALCULATIONS

ZFE Project No. 19023
Date: May 13, 2019

Doberman Technologies Development
Stormwater System Calculations

ZFE Project No. 19023
Date: May 13, 2019

Doberman Technologies Development
Stormwater System Calculations

Control Outlet Structure Design

Sizing for First Flush Volume

First Flush discharge should be released within time period of 24 hours

$Q_{avg} = 0.0187963$ cfs $V_{ff}/(24 \times 3600)$

$h_{avg} = 0.505$ ft $0.5(Z_p - Z_{out})/(Z_p - Z_{out})$

$A = 0.0053161$ ft² $Q_{avg}/(C \times ((2 \times g \times h_{avg})^{0.5}))$

Hole Dia. 1 in $C = 0.62$ Sharp Crested Weir

$A_{total} = 0.0054542$ ft² $g = 32.2$

Hole # = 1 holes @ elevation 882.79 (Z_{out})

Use 1 holes $C \times A_{actual} \times ((2 \times g \times h)^{0.5})$

$Q_{actual} = 0.0192845$ cfs $V_{ff}/(Q_{actual} \times 3600)$

Actual Time = 23.39 hours

Q_{actual} is within 2.53% of 24 hours ☐ OK

Sizing for 100-year Flood

$Q_{allow} = 0.05$ cfs

$h_{max} = 2.47$ ft $(Z_{100} - Z_{out})/(Z_p - Z_{out})$

$Q_{avg} = 0.0426492$ cfs $C \times A_{actual} \times ((2 \times g \times h)^{0.5})$

$Q_{avg} = 0.0426492$ cfs $Q_{allow} (0.15)$ Extra holes are required

$Q_{avg} = 0.0073508$ cfs $Q_{allow} - Q_{avg} (ft)$

$h_{max} = 1.46$ ft $Z_{100} - Z_p$

$A = 0.0012227$ ft² $Q_{avg}/(C \times ((2 \times g \times h_{max})^{0.5}))$

Hole Dia. 0.49 in $Area \text{ of hole} = 0.001309542$ ft²

Hole # = 1 holes at elevation 883.69 (Z_{in})

Use 1 holes $C \times A_{actual} \times ((2 \times g \times h)^{0.5})$

$A_{total} = 0.0013095$ ft² $No. \text{ of holes} \times Area \text{ of Hole}$

$Q_{actual} = 0.0078728$ cfs $C \times A_{actual} \times ((2 \times g \times h)^{0.5})$

Q_{actual} is within 6.63% of $Q_{avg} (ft)$ ☐ OK

Outlet Pipe Design

$Q_{peak} = 0.05$ cfs Q_{avg} if discharging to a drain

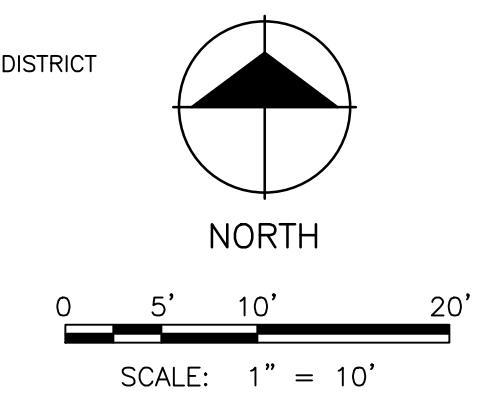
Pipe Material Plastic Q_{avg} if discharging to a root street sewer system

Pipe Size = 2.75 in $Area \text{ of pipe} = 0.041247$ ft²

$n = 0.012$

$R = 0.0572917$ ft

Pipe Slope = 0.5 %



Know what's below.
Call before you dig.

BM NO: 114 ELEVATION: 888.06
MAG NAIL IN THE SOUTHEAST FACE OF A UTILITY POLE
LOCATED ON THE EAST SIDE OF MASON STREET
NORTH OF THE EXISTING SITE ENTRANCE

BM NO: 126 ELEVATION: 887.47
VERTICAL MAG NAIL IN THE SOUTHWEST FOOT OF A 14" MAPLE
TREE ON THE NORTH SIDE OF THE NORTH PROPERTY LINE
29' +/- NE OF SE CORNER OF ANTIQUE STORE

BM NO: 567 ELEVATION: 886.84
RIM ELEVATION OF STORM MANHOLE LOCATED ON THE
CENTERLINE OF CENTER STREET 9' +/- WEST
OF THE CENTERLINE OF MASON STREET

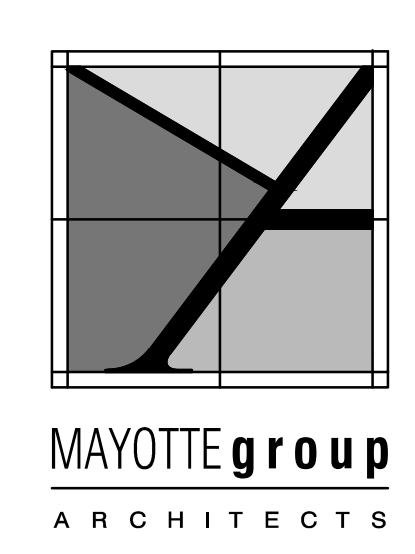
The diagram illustrates two types of surface treatments. The top section, labeled 'HARDWOOD BARK MULCH SURFACE TREATMENT', shows a rectangular area with a grid of '+' symbols. The bottom section, labeled 'DECORATIVE STONE SURFACE TREATMENT', shows a rectangular area with a grid of small, irregular shapes representing stones.

PLANT LIST							
QTY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	ROOT	SPACING	
Deciduous Trees							
5	QR	English Oak	Quercus robur	2" CAL.	B&B	As Shown	
3	QB	Swamp White Oak	Quercus bicolor	2" CAL.	B&B	As Shown	
Shrubs							
83	JV	Juniperus chinensis var. sargentii 'Viridis'	Green Sargent Juniper	3 gal.	Cont.	As Shown	
Ornamental Grasses							
10	JG	Narrow Leaved Japanese Silver Grass	Miscanthus Sinensis 'Gracillimus'	#5 POT	Cont.	As Shown	

PT - DENOTES PARKING LOT TREE

1. ALL PLANT BEDS AND AREAS NOTED FOR BARK MULCH TO RECEIVE 3" (MIN.) OF SHREDDED HARDWOOD BARK MULCH OVER THE ENTIRE BED.
2. MAINTAIN A 3' RADIUS AROUND THE BASE OF EACH TREE THAT IS CLEAR FROM OTHER PLANTS.
3. INSTALL LANDSCAPE FABRIC IN ALL AREAS NOT PLANTED WITH PERENNIALS.
4. BASE BID WILL BE BASED ON QUANTITIES SHOWN. PAYMENT WILL BE MADE BY ACTUAL PLANT COUNT.

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jwf	checked by
<div></div>	
tzf	drawn by
<div></div>	
	civil engineer
<div><div>Zfe</div><div>ZIEMNICK FOSTER ENGINEERING, LLC 426 S. Clinton Street Grand Ledge, MI 48837 P: 517.627.8068 www.zfengineering.com</div></div>	
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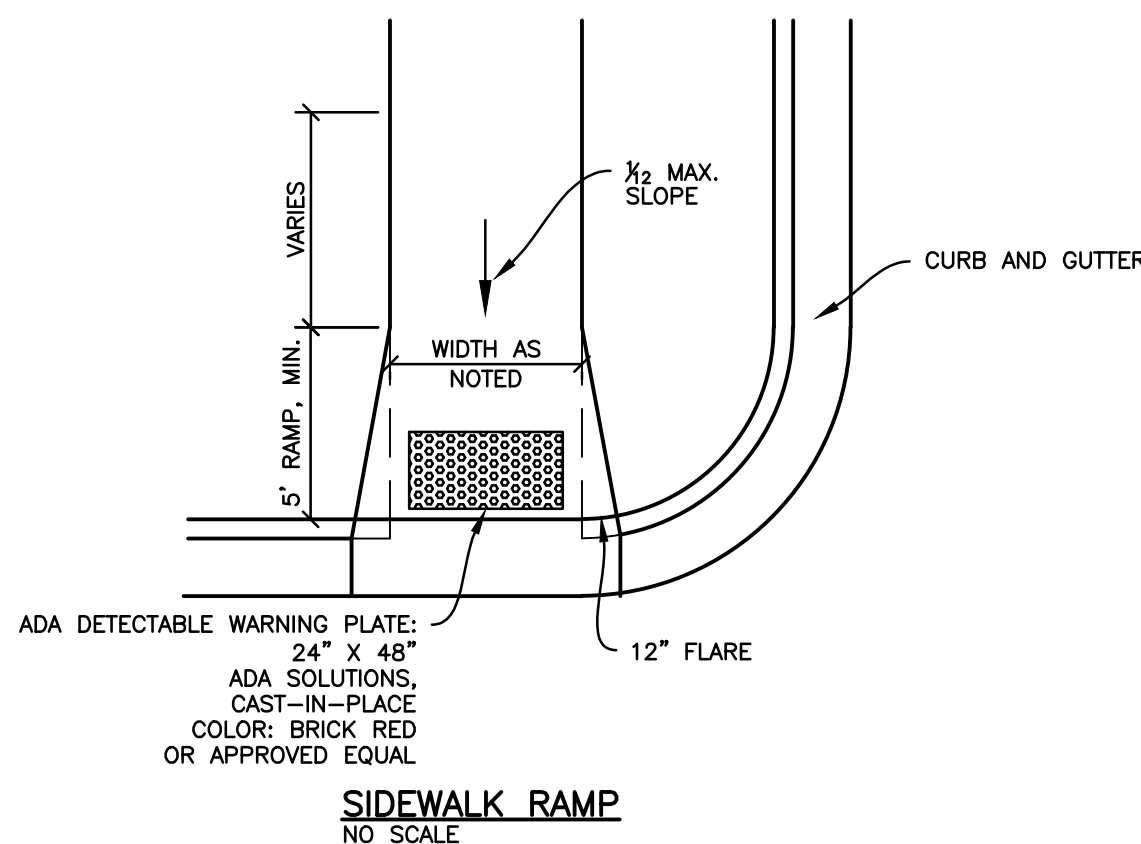
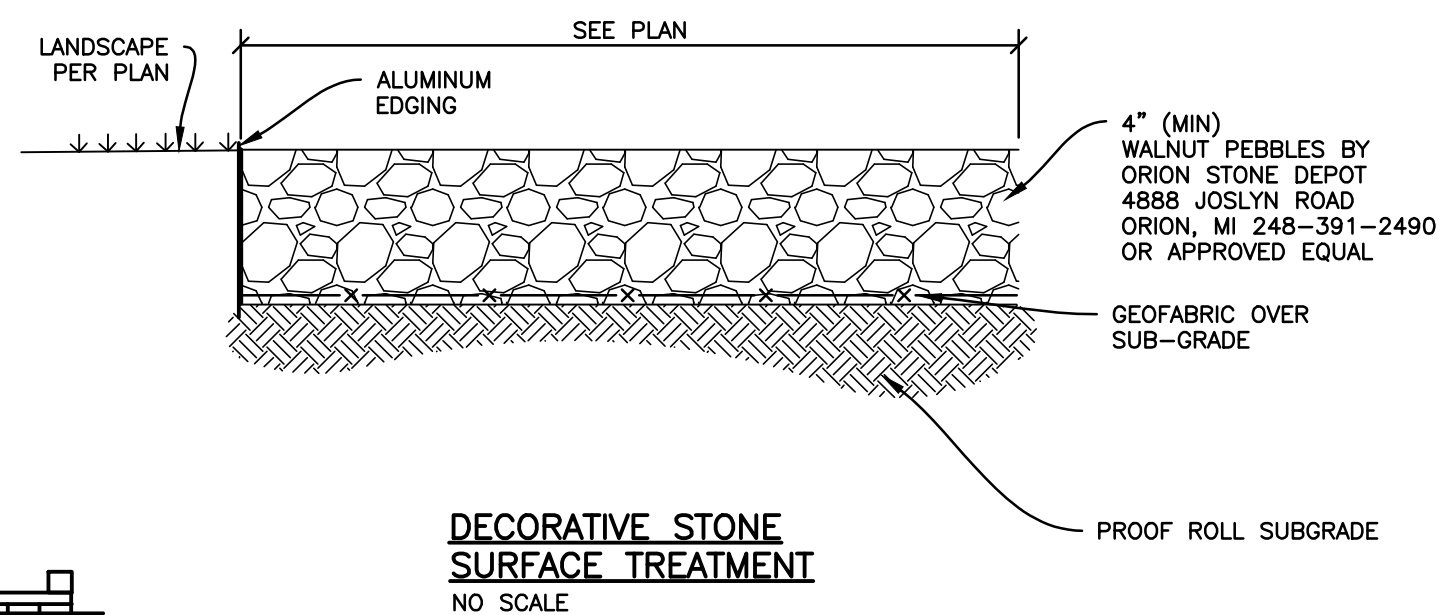
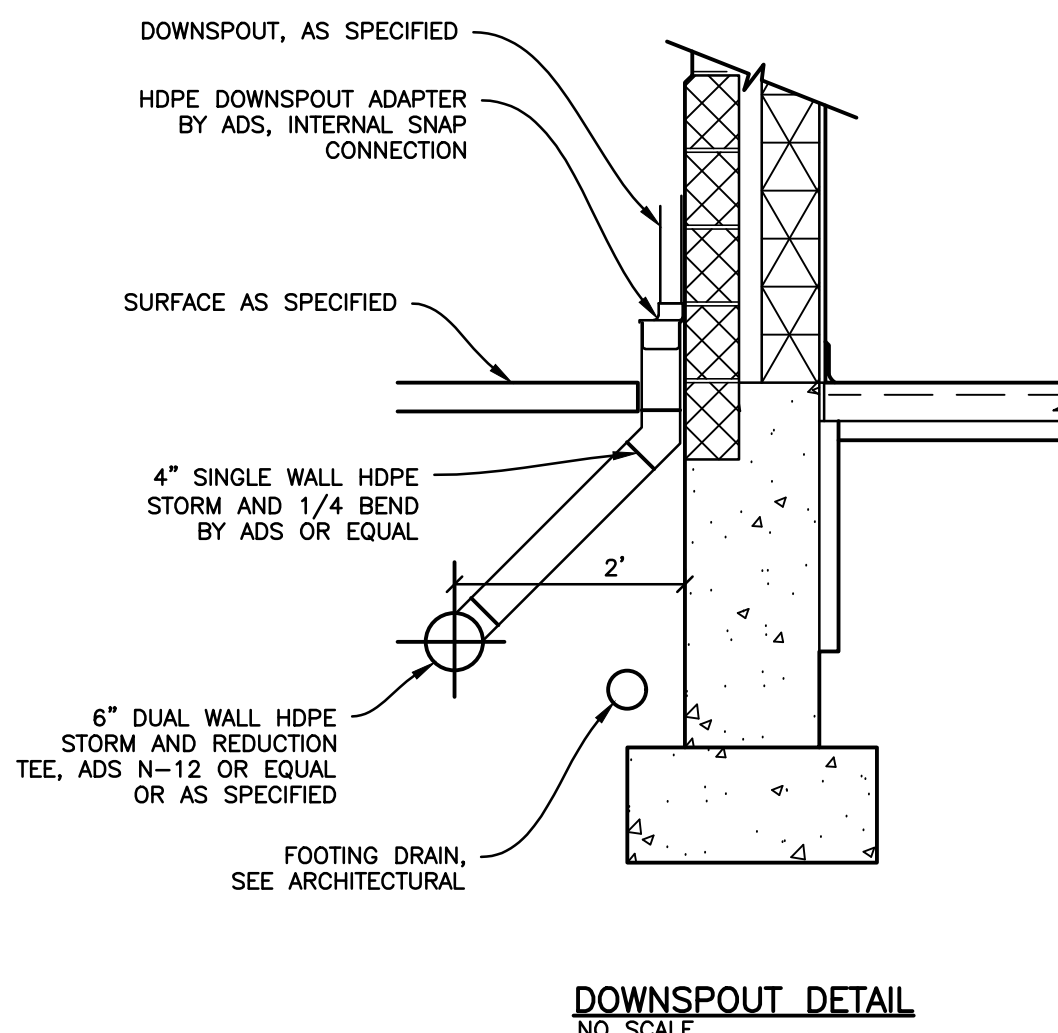
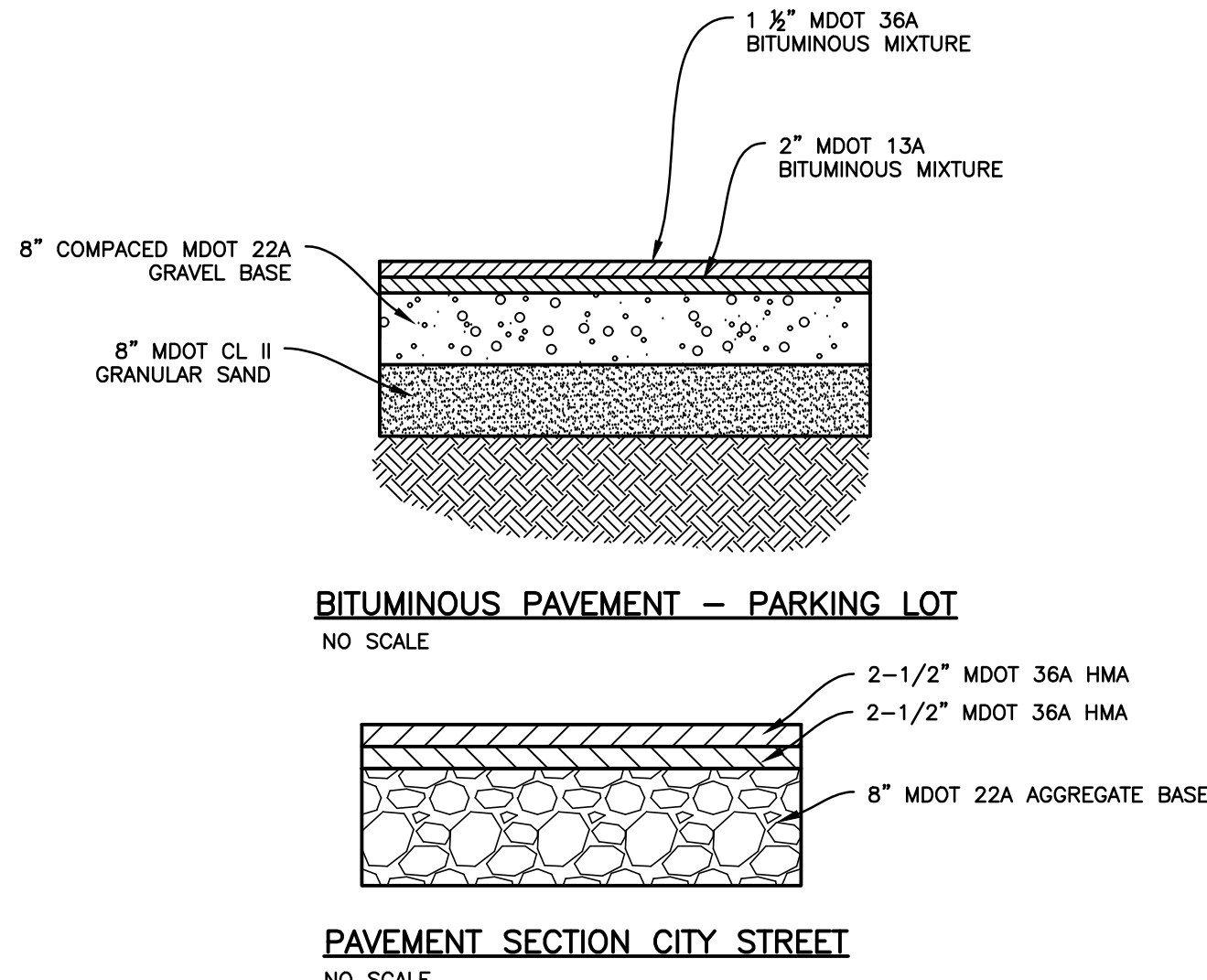
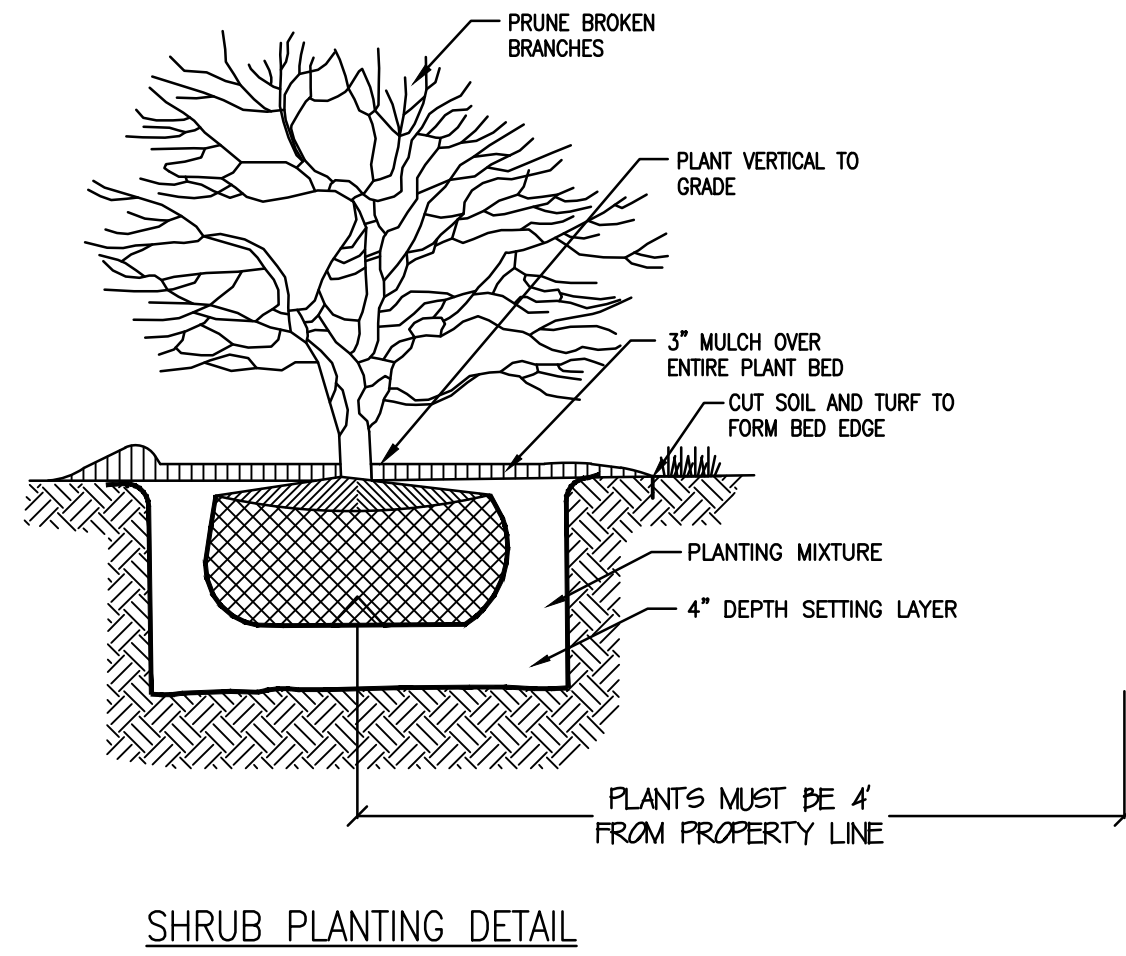
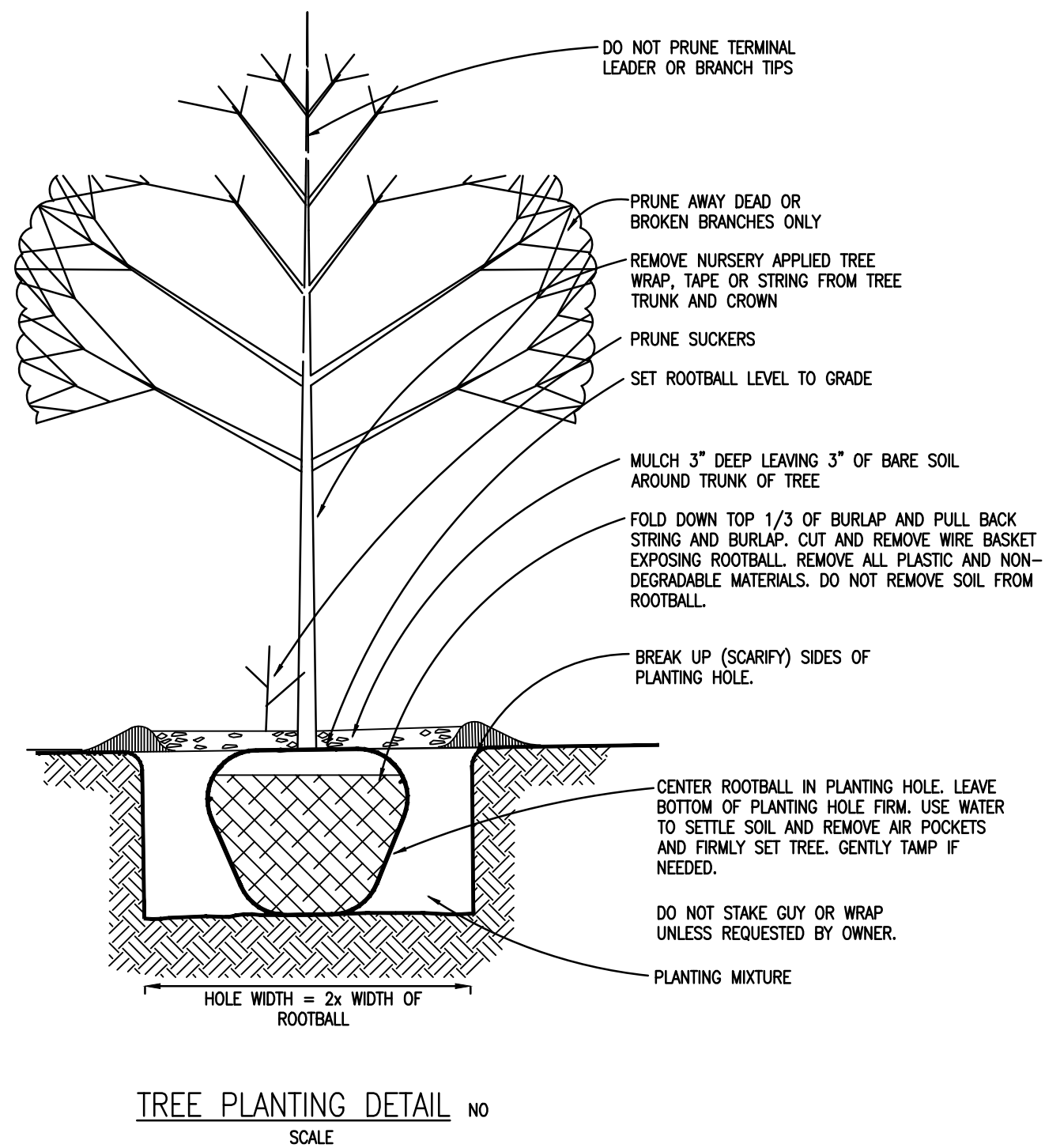
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2019-012

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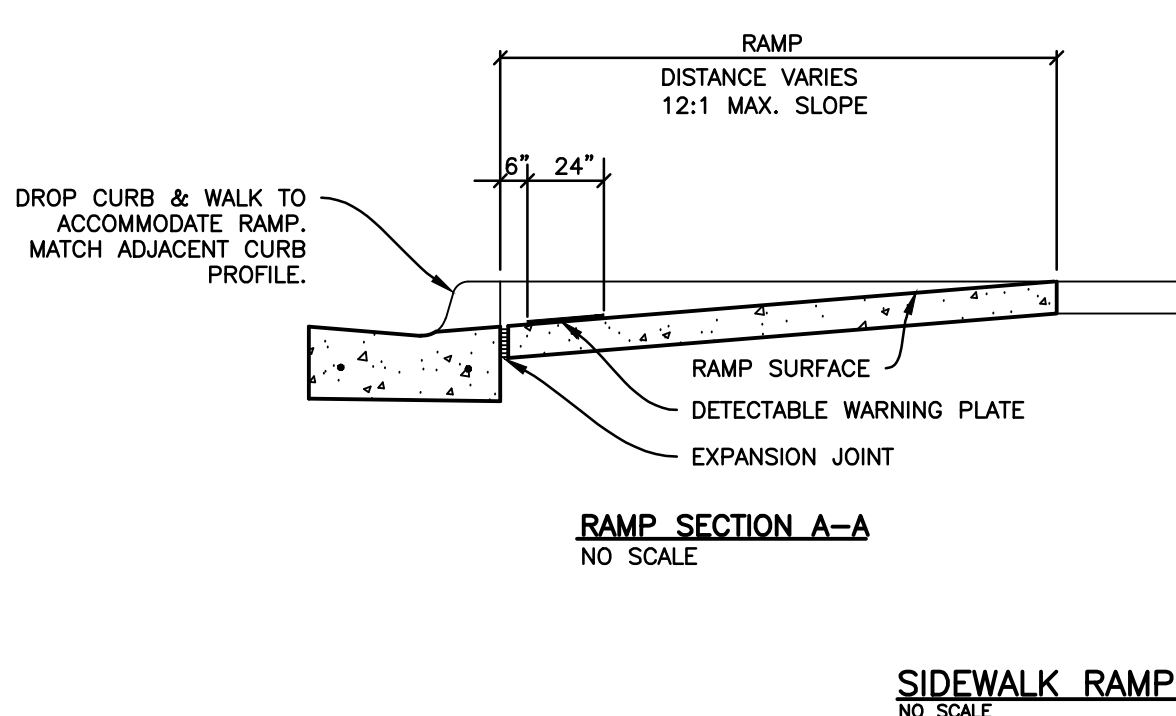
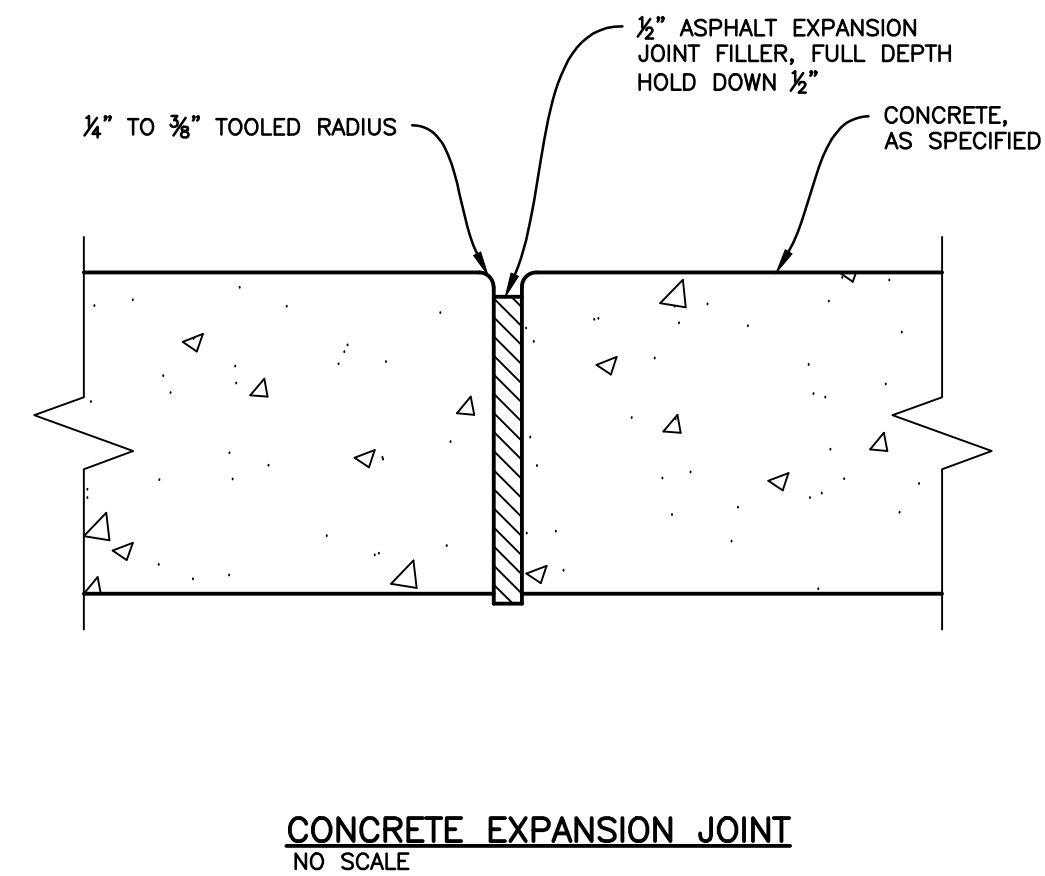
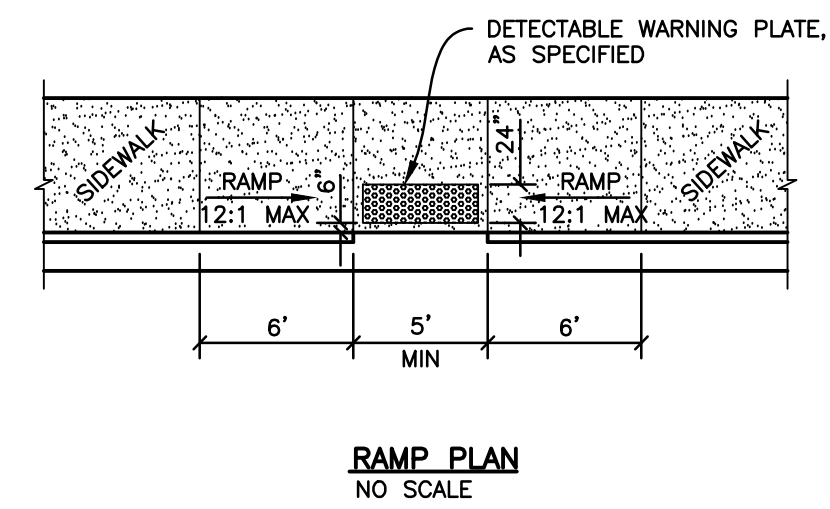
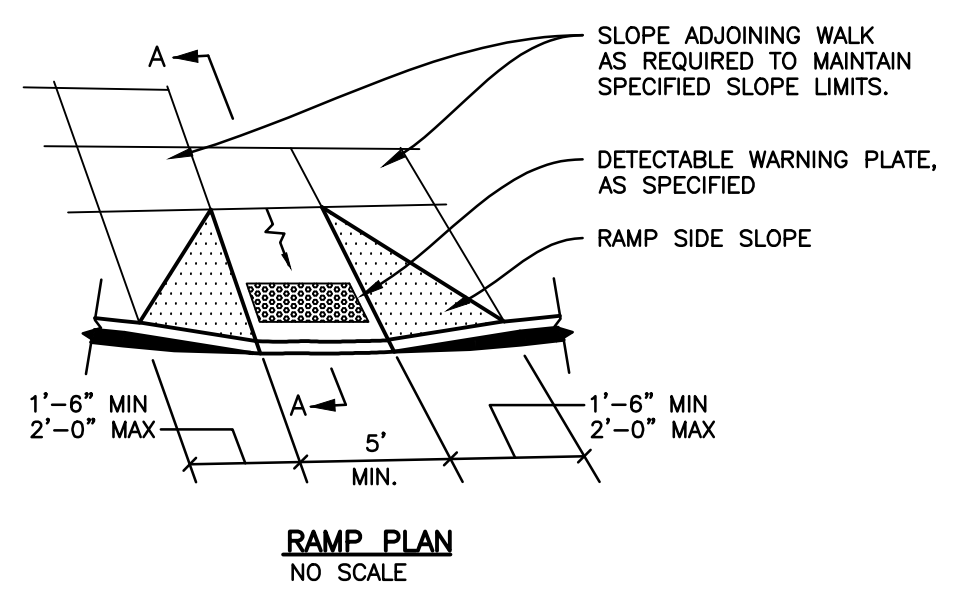
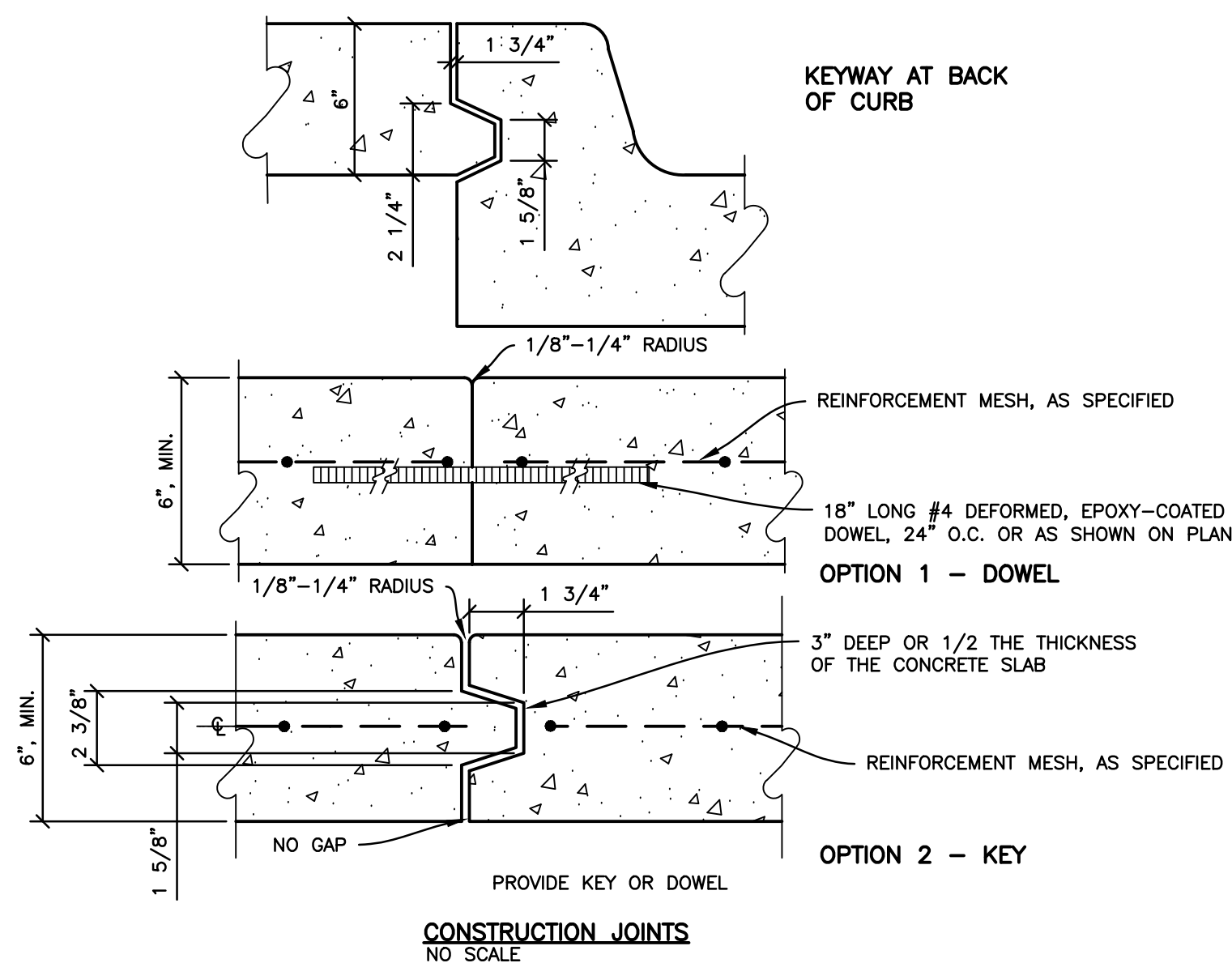
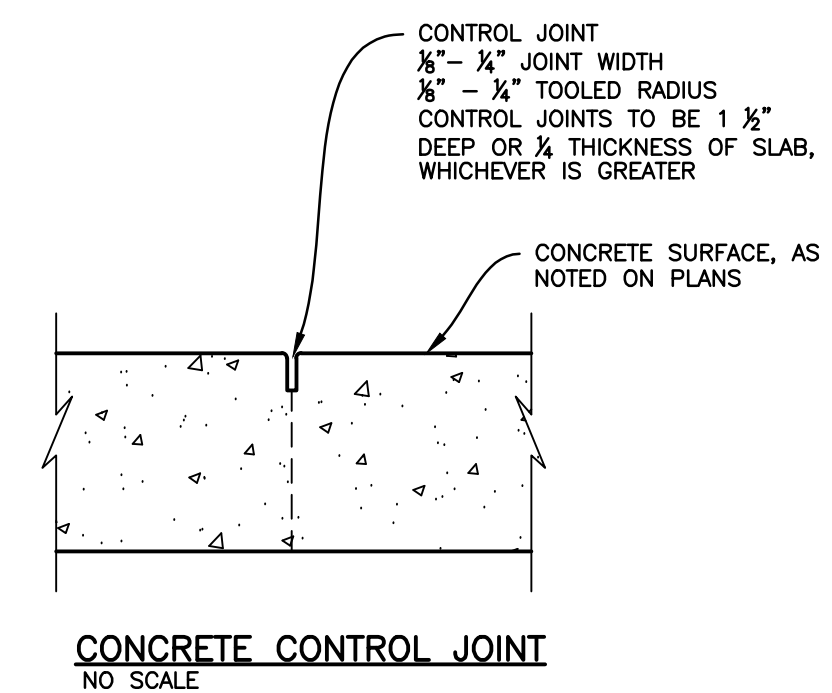
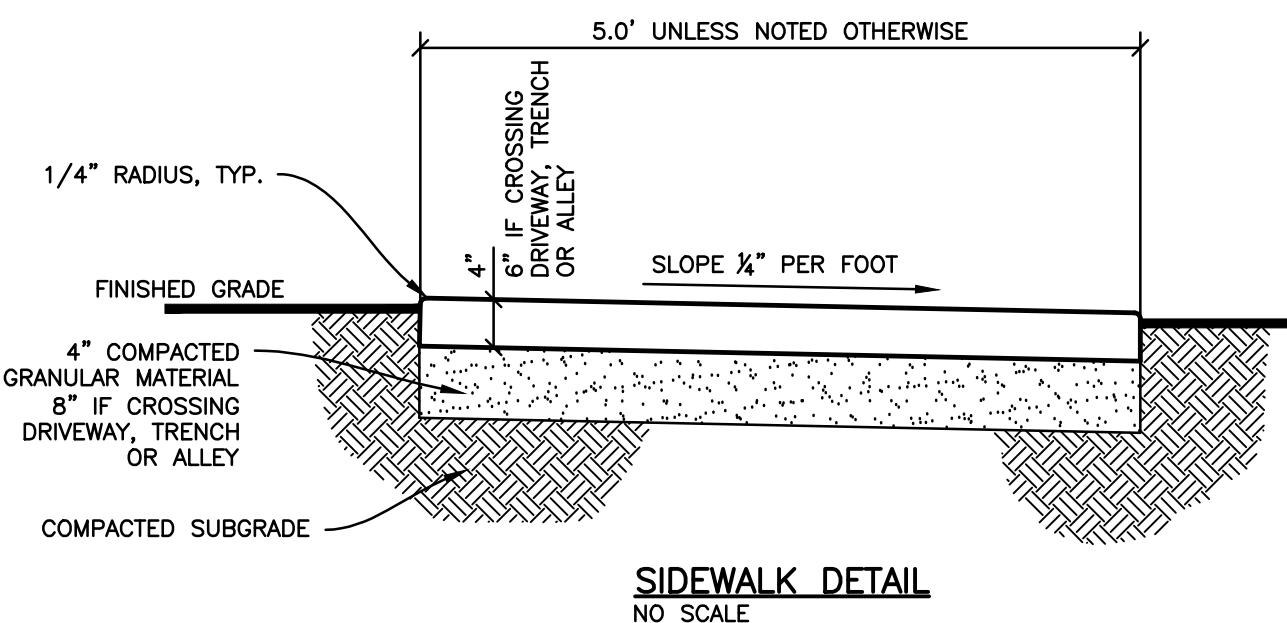
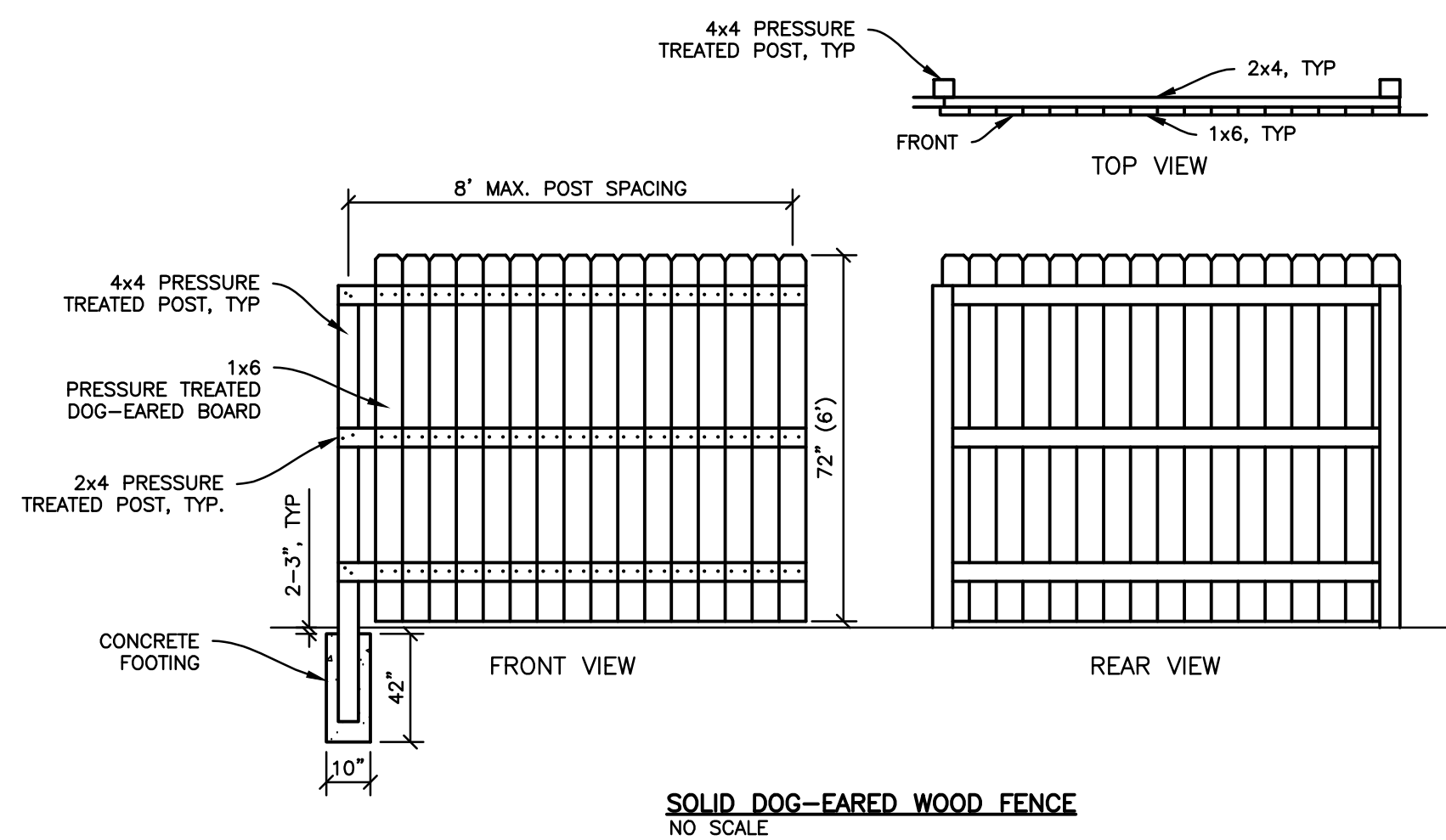
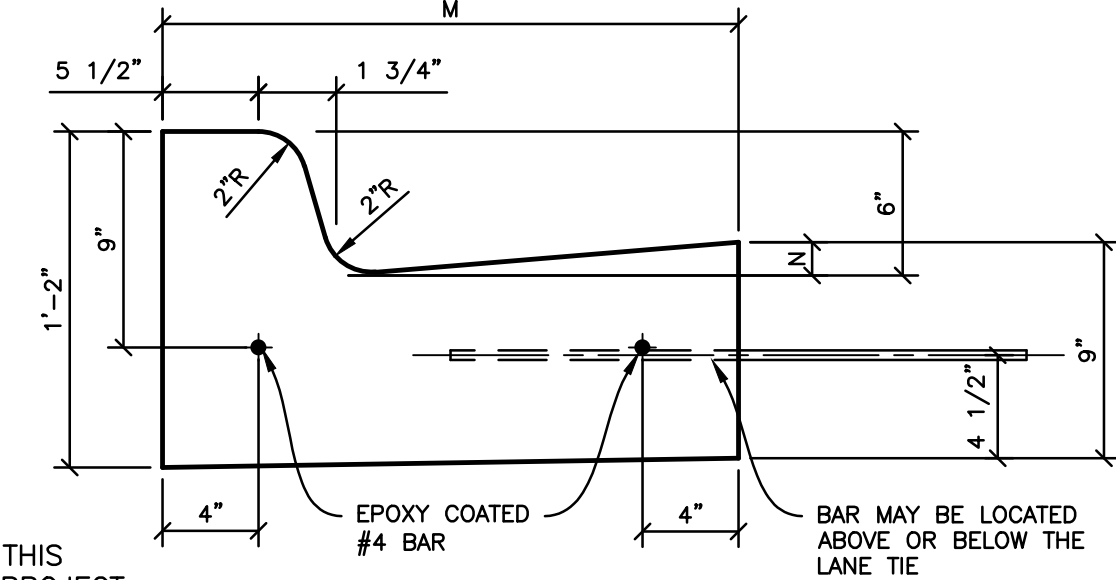
C210

REVIEW DRAWING
NOT FOR
CONSTRUCTION
PLOT DATE: 05.14.19

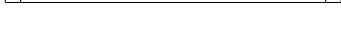
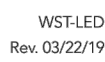
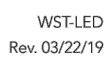
LANDSCAPE PLAN



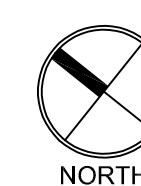
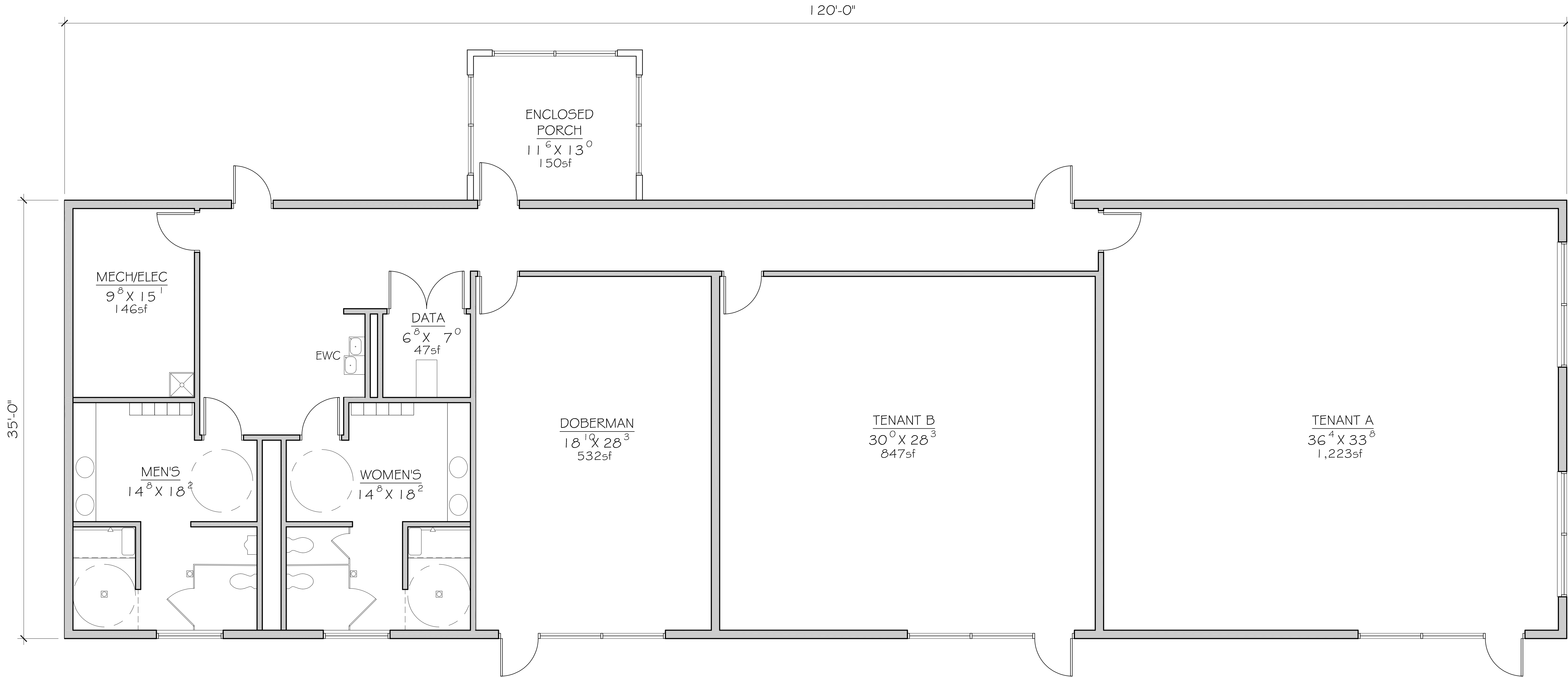
MDOT CONCRETE CURB & GUTTER (R-30-E)				
DETAIL	DIMENSION	LANE TIES	CONCRETE (CYD/LFT)	
	M	N		
F1	1'-6"	7/8"	AS SHOWN	0.0484
F2	1'-6"	7/8"	OMITTED	0.0484
F3	2'-0"	1 1/8"	AS SHOWN	0.0610
F4	2'-0"	1 1/8"	OMITTED	0.0610
F5	2'-6"	1 1/8"	AS SHOWN	0.0737
F6	2'-6"	1 1/8"	OMITTED	0.0737



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PLOT DATE: 05.14.19



E100



PROPOSED FLOOR PLAN

1/4"=1'-0"

FLOOR PLAN

DOBERMAN TECHNOLOGIES
NEW BUILDING
Mason Street
Mason, Michigan

2019-012

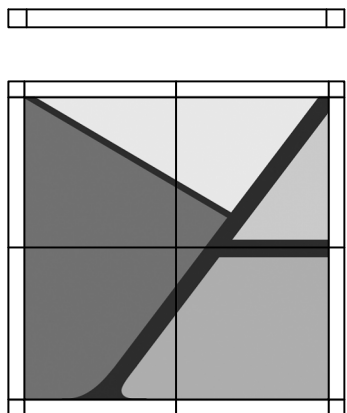
A100

04.10.2019 ISSUED FOR OWNER REVIEW

checked by

drawn by

consultant



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