

Owosso Planning Commission



*Regular Meeting
7:00pm, Monday, May 23, 2016
Owosso City Council Chambers*



MEMORANDUM

301 W. MAIN ▪ OWOSSO, MICHIGAN 48867-2958 ▪ WWW.CI.OWOSSO.MI.US

DATE: May 19, 2016
TO: Chairman Wascher and the Owosso Planning Commission
FROM: Susan Montenegro, asst. city manager/director of community development
RE: Regular Planning Commission Meeting: May 23, 2016

The planning commission shall convene at 7:00pm on Monday, May 23, 2016 in the city council chambers of city hall.

The purpose of the meeting will be to hear the rezoning petition for S. Park Street (parking lot attached to 1007 S. Washington) and site plan review for 123 S. Shiawassee Street (Advanced Eye Care).

At this time I am asking to move further review of the sign ordinance to the June meeting as I have not had enough time to devote to research and cannot make recommendations at this time. Tyler has been working on charts to put into the sign ordinance that will be presented at the June meeting as well.

Please **RSVP for the meeting.** Feel free to contact me at 989.725.0544 if you have questions.

Sue

AGENDA
Owosso Planning Commission
Regular Meeting
Monday, May 23, 2016 at 7:00 p.m.
Council Chambers – Owosso City Hall
Owosso, MI 48867

CALL MEETING TO ORDER:

PLEDGE OF ALLEGIANCE:

ROLL CALL:

APPROVAL OF AGENDA: May 23, 2016

APPROVAL OF MINUTES: April 25, 2016

COMMUNICATIONS:

1. Staff memorandum.
2. PC minutes from April 25, 2016.
3. Rezoning application packet – 1007 S. Washington.
4. Site Plan application packet for 123 S. Shiawassee
5. Sign ordinances from: Owosso, Grand Haven, Greenville, Holland and Traverse City.

COMMISSIONER/PUBLIC COMMENTS:

PUBLIC HEARINGS:

1. Rezoning of S. Park Street, Parcel 050-652-011-006-00 from R-1 to B-4.

SITE PLAN REVIEW:

1. 123 S. Shiawassee – Advanced Eye Care.

BUSINESS ITEMS:

None.

ITEMS OF DISCUSSION:

1. Sign ordinance updating.

COMMISSIONER/PUBLIC COMMENTS:

ADJOURNMENT: **Next meeting will be Monday, June 27, 2016**

Commissioners, please call Sue at 725-0544 if you will be unable to attend the meeting on Monday, May 23, 2016.

[The City of Owosso will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting, to individuals with disabilities at the meeting/hearing upon seventy-two (72) hours notice to the City of Owosso. Individuals with disabilities requiring auxiliary aids or services should contact the City of Owosso by writing or calling the following: Amy Kirkland, City Clerk, 301 W. Main St, Owosso, MI 48867 (989) 725-0500]. The City of Owosso website is: www.ci.owosso.mi.us

Affirmative Resolutions
Owosso Planning Commission
Regular Meeting
Monday, May 23, 2016 at 7:00 p.m.
Council Chambers – Owosso City Hall
Owosso, MI 48867

Resolution 160523-01

Motion: _____

Support: _____

The Owosso Planning Commission hereby approves the agenda of May 23, 2016 as presented.

Ayes: _____

Nays: _____

Approved: ____

Denied: ____

Resolution 160523-02

Motion: _____

Support: _____

The Owosso Planning Commission hereby approves the minutes of April 25, 2016 as presented.

Ayes: _____

Nays: _____

Approved: ____

Denied: ____

Resolution 160523-03

Motion: _____

Support: _____

The Owosso Planning Commission hereby approves the zoning changes for S. Park Street, parcel 050-652-011-006-00 from R-1 to B-4.

OR

The Owosso Planning Commission rejects the zoning changes for S. Park Street, parcel 050-652-011-006-00 from R-1 to B-4 based on the following:

Ayes: _____

Nays: _____

Approved: ____

Denied: ____

Resolution 160523-04

Motion: _____
Support: _____

The Owosso Planning Commission hereby approves the application for site plan review for 123 S. Shiawassee Street as applied and attached hereto in plans dated April 28, 2016.

OR

The Owosso Planning Commission hereby denies the application for site plan review for 123 S. Shiawassee Street as applied and attached hereto in plans dated April 28, 2016 based on the following criteria:

—

Ayes: _____
Nays: _____
Approved: ____ Denied: ____

Resolution 160523-05

Motion: _____
Support: _____

The Owosso Planning Commission hereby adjourns the May 23, 2016 meeting, effective at _____pm.

Ayes: _____
Nays: _____
Approved: ____ Denied: ____

MINUTES
REGULAR MEETING OF THE OWOSSO PLANNING COMMISSION
COUNCIL CHAMBERS, CITY HALL
MONDAY, APRIL 25, 2016 – 7:00 P.M.

CALL TO ORDER: Chairperson Bill Wascher called the meeting to order at 7:00 p.m.

PLEDGE OF ALLEGIANCE: Was recited.

ROLL CALL: Roll call was taken by Recording Secretary Roxane Cramer.

MEMBERS PRESENT: Chairman Bill Wascher, Vice-Chair Craig Weaver, Commissioners Tom Taylor, Michelle Collison, Janae Fear, Frank Livingston and Garfield Warren.

MEMBERS ABSENT: Commissioners Frank Livingston, Mike O’Leary and Brent Smith.

OTHERS PRESENT: Troy Crowe, Sheridan Auction Service, Tyler Lepannen, Housing Program Manager, Susan Montenegro, Assistant City Manager /Director of Community Development.

APPROVAL OF AGENDA:
MOTION BY COMMISSIONER TAYLOR, SUPPORTED BY VICE CHAIR WEAVER TO APPROVE THE AGENDA FOR MARCH 28, 2016.
YEAS ALL. MOTION CARRIED.

APPROVAL OF MINUTES:
MOTION BY COMMISSIONER TAYLOR, SUPPORTED BY VICE CHAIR WEAVER TO APPROVE THE MINUTES FOR MARCH 28, 2016.
YEAS ALL. MOTION CARRIED.

- COMMUNICATIONS:**
1. Staff memorandum
 2. PC minutes for March 28, 2016
 3. Rezoning application packet – 1007 S. Washington St.
 4. Sign ordinances from: Owosso, Grand haven, Greenville, Holland and Traverse City

COMMISSIONER/PUBLIC COMMENTS

Ms. Montenegro introduced Tyler Leppanen. Ms. Montenegro stated that Tyler has been doing housing and he will continue to work on local housing issues but will be stepping into the role of code enforcement and community development. Ms. Montenegro stated she asked him to come and start participating in the meetings as another staff person.

PUBLIC HEARINGS:

1. 1007 S. Washington Street – rezoning

Troy Crowe, from Sheridan Auction Service, explained that the State of Michigan now requires them to have a dealer's license because they sell so many cars during the year. He is asking the planning commission to change the business from a B-1 to a B-4. Sheridan takes consignments on the inside and outside of the building. They own everything that is paved. Commissioners inquired about how long the cars would be located at the Owosso location.

MOTION BY COMMISSIONER TAYLOR, SUPPORTED BY COMMISSIONER WARREN THAT THE OWOSSO PLANNING COMMISSION HEREBY APPROVES REZONING OF THE PROPERTY LOCATED AT 1007 SOUTH WASHINGTON STREET, LOTS, 22, 23 AND 24 BE REZONED FROM B-1 TO B-4.

Roll Call Vote.

AYES: Vice-Chair Weaver, Commissioners Fear, Warren, Taylor, Collison, and Chairman Wascher

NAYS: None

ABSENT: Commissioners Livingston, O'Leary and Smith.

SITE PLAN REVIEW:

None.

BUSINESS ITEMS:

None.

ITEMS OF DISCUSSION:

1. Sign Ordinance Updating.

Ms. Montenegro supplied the commissioners with several different sign ordinances for comparison with the current City of Owosso sign ordinance. Commissioners had a lengthy discussion regarding changes in the sign ordinance. Discussions centered on the like and dislikes of each sign ordinance they reviewed. Currently Ms. Montenegro is working on a new application for the sign ordinance. The previous application was a basically a building permit and the fee structure for signs is based on a building permit. Ms. Montenegro feels that this fee structure doesn't work. The definitions need to be clear and not confusing. Commissioner Taylor questioned if commissioners should start going through the sign ordinance to redo it. Chairman Wascher pointed out that the language needed to be updated. He noted the example in the sign ordinance the term "blueprints" was used, he pointed out no one does blue prints any longer. Drawing or Sketch would be the correct language. Ms. Montenegro shared that maybe it would be a good idea to check with sign companies to see what types of signs they use and if the current list of definitions is relevant. She also stated that the last time the City of Owosso updated the sign code was the "Uniformed Sign Code of 1991". She said the latest one is the "Uniform Sign Code of 1997". Tyler Leppanen stated it would be easier for him to have one chart by zoning district. Commissioner Garfield suggested using pictures would be helpful. Chairman Wascher stated that he thought it would be a good idea for the commissioners to take the information home and study it more. Ms. Montenegro summarized that she is going to do the following: email the sign application to the commissioner along with the land use permit for Grand Haven. She is going to check with sign companies to see if they would take a look at the definitions in the City of Owosso ordinance to see if the language is current. She will find out why the "free standing sign and structure sign" were repealed. She will verify that there isn't a newer "Uniformed Sign Code".

COMMISSIONER/PUBLIC COMMENTS:

Commissioner Taylor asked Ms. Montenegro if the medical marijuana dispensary had been closed down. Ms. Montenegro explained that she only knows what he knows. As the zoning administrator, Ms. Montenegro explained to the owner that the location of the facility is in compliance with the City of Owosso ordinance. She also explained to the owner that the facility could be open for a day, six months or years before they could possibly shut it down and by that time the law may have changed.

ADJOURNMENT:

**MOTION BY COMMISSIONER TAYLOR, SUPPORTED BY COMMISSIONER FEAR
TO ADJOURN AT 8:19 P.M. UNTIL THE NEXT MEETING ON MAY 24, 2016.
YEAS ALL, MOTION CARRIED.**

Janae Fear, Secretary

rc

APPLICATION FOR REZONING
CITY OF OWOSSO

301 W. Main Street, Owosso, Michigan 48867, TX 989-725-0540, FX 989-723-8854

Note to Applicants:

1. In order that this application may be processed, the applicant must completely fill in the application and make a non-refundable payment of Three Hundred Dollars (\$300) to the Treasurer's Office, to cover costs associated with the processing.
2. The applicant or his/her representative must be present at the Planning Commission and City Council public hearings for action to be taken on this request.

TO THE OWOSSO CITY COUNCIL:

I, (we), the undersigned, do hereby respectfully make application and petition the City Council to amend the Zoning Ordinance and change the Zoning Map as hereinafter requested,

1. PROPERTY TO BE REZONED: Street Address 1007 S. WASHINGTON ST OWOSSO
Description: (lot, block or metes and bounds) LOTS 22, 23, 24, 8, 9, 10, 11, 12, 13
Frontage in Feet 88' Depth in Feet 264'

2. PROPERTY OWNERSHIP: (Name, Address, and Phone Number)
CROWE PROPERTIES LLC PO BOX 1627 OWOSSO MI 989-666-6339

3. ZONING REQUEST Current Zoning B-1 Requested Zoning B-4
Proposed Use of the Property _____

Indicate why, in your opinion, the requested change is consistent with the Ordinance in prompting and protecting the public health, safety, peace, morals, comfort, convenience and general welfare of the inhabitants of the City of Owosso:

OUR AUCTION BUSINESS REQUIRES US TO HAVE A DEALERS LICENSE TO SELL VEHICLES BY AUCTION, SO WE NEED TO HAVE THE LICENSE.

The above information has been submitted in support of the rezoning and is accurate and truthful to the best of our knowledge.

(Signature of Applicant)

PO BOX 1627 OWOSSO MI
(Address)

(Signature of Co-Applicant)

989-666-6339
(Phone)

- Legal Representative
 Owner
 Option to Purchase

FOR OFFICIAL USE ONLY

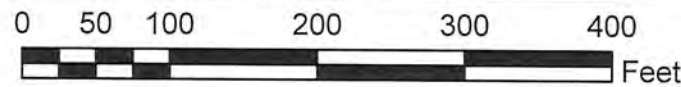
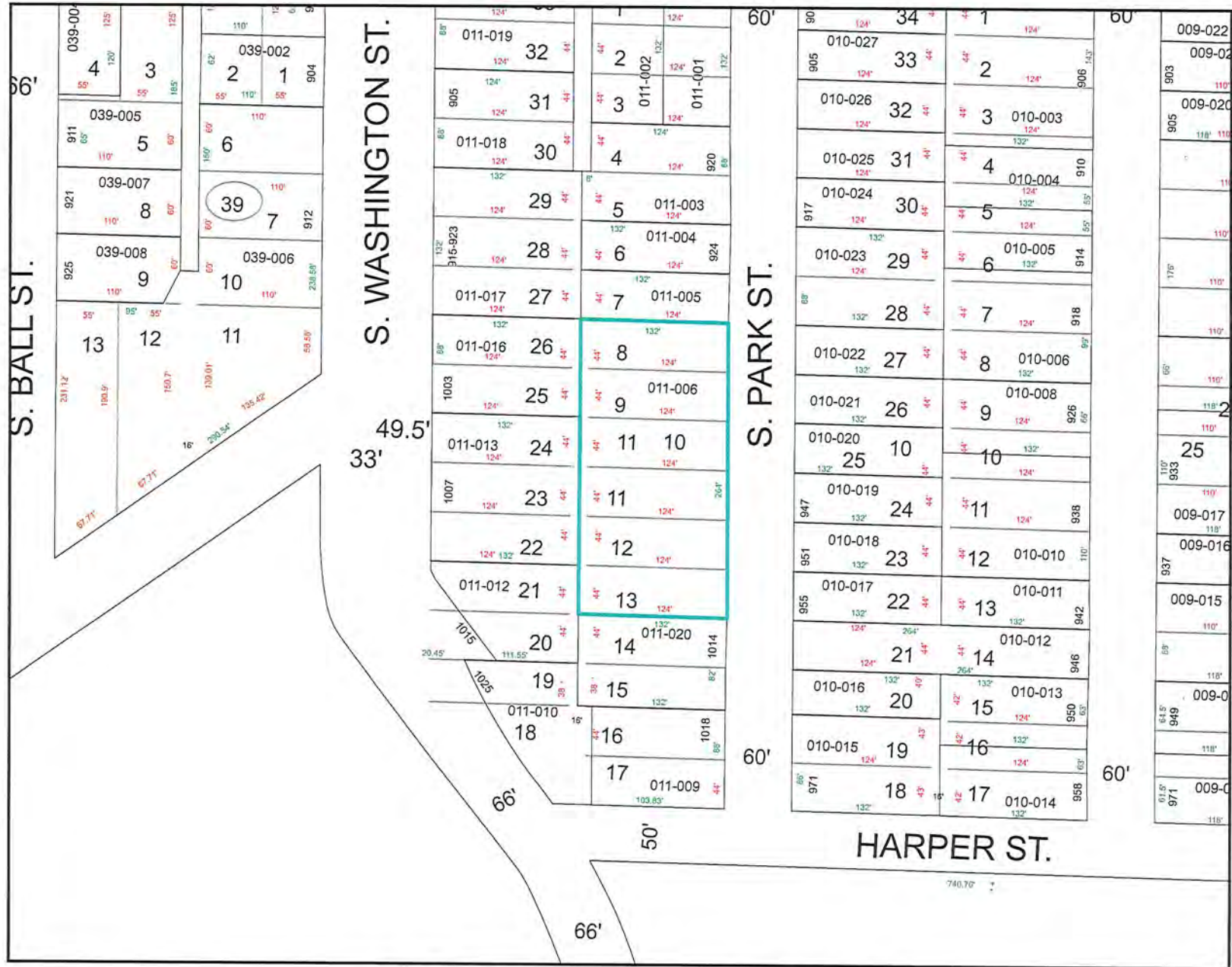
Case # _____
Receipt # _____
Date Filed _____
Description Checked _____

Planning Commission Hearing Date _____
Action Taken _____
City Council Hearing Date _____
Action Taken _____

City of Owosso

Parcel 050-652-011-006-00

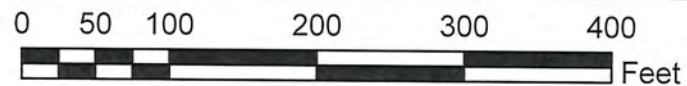
S. Park Street



City of Owosso

Parcel 050-652-011-006-00

S. Park Street

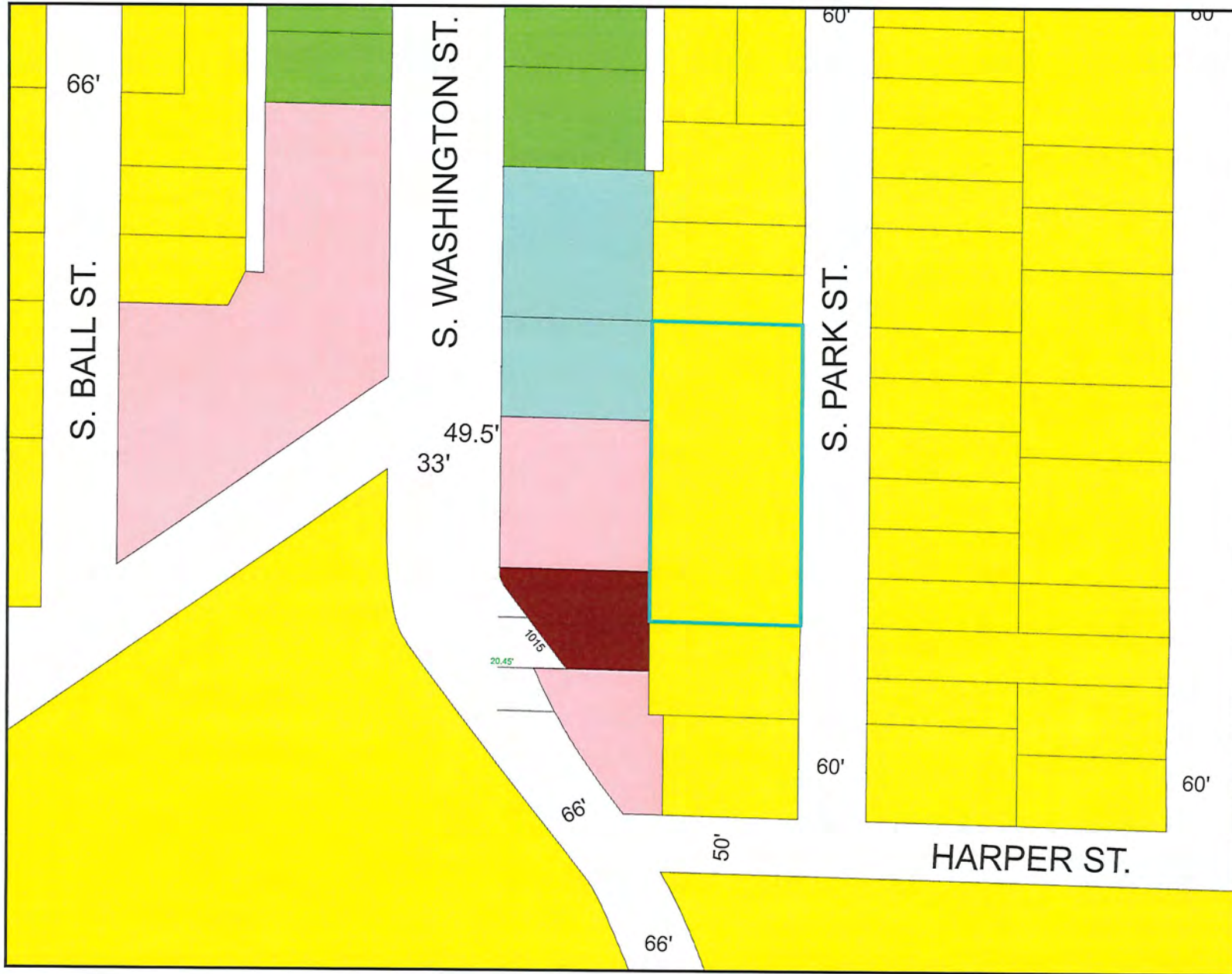


May 2, 2016

City of Owosso

Parcel 050-652-011-006-00

S. Park Street



Legend

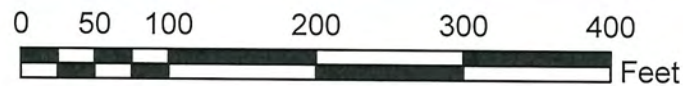
Zoning

<all other values>

Z_PRIMARY

<Null>

- B1
- B2
- B3
- B4
- C-OS
- I1
- I2
- OS1
- P1
- PUD
- R1
- R2
- RM1
- RM2



May 2, 2016

OFFICIAL NOTICE OF PROPOSED REZONING

A Public Hearing will be held on a proposal to rezone the properties described below at the Owosso City Planning Commission Regular Meeting on Monday, May 23, 2016. Proposed use of the property would be for business. Owner needs correct zoning to obtain a dealer's license to sell cars at auction.

APPLICANT: #2016-01 Crowe Properties, LLC
 PO Box 1627
 Owosso, MI 48867

PROPERTY ADDRESS: S. Park Street

PROPOSED REZONING: FROM: R-1 Single Family Residential District
 TO: B-4 General Business District

PROPERTY DESCRIPTION: Parcel number 050-652-011-006-00
 LOTS 8 THRU 13 BLK 11 A L WILLIAMS 2ND ADD INCLDG 1/2 CLSD
 ALLEY

LOT SIZE: Frontage 264' Depth 132'

MEETING INFORMATION: Owosso City Planning Commission regular meeting on Monday, May 23,
 2016. The meeting will be held in the lower level of the Owosso City Hall
 at or soon after 7:00 p.m.

WRITTEN COMMENTS: Written comments may be submitted to the clerk's office at city hall or to
 Susan Montenegro at susan.montenegro@ci.owosso.mi.us any time
 prior to the meeting.

Further information on this case is on file in the Community Development Office for your review.

Susan Montenegro
Assistant City Manager/Director of Community Development
989.725.0544
susan.montenegro@ci.owosso.mi.us

[The City of Owosso will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting, to individuals with disabilities at the meeting/hearing upon seventy-two (72) hours notice to the City of Owosso. Individuals with disabilities requiring auxiliary aids or services should contact the City of Owosso by writing or calling the following: Amy Kirkland, City Clerk, 301 W. Main St, Owosso, MI 48867 (989) 725-0500. Website address is www.ci.owosso.mi.us.]

CITY OF OWOSSO, MICHIGAN

SITE PLAN REVIEW APPLICATION AND CHECKLIST

Approval of the site plan is hereby requested for the following parcel(s) of land in the City of Owosso. This application is submitted with three (3) copies of the complete site plan and payment of the appropriate review fees. Applicant shall also submit a digital version of the site plan to the community development director. Application must be filed least 25 days prior to a scheduled planning commission meeting for staff review and proper notices.

Accompanying any site plan required hereunder, the applicant shall provide from a licensed engineer soil borings at the proposed construction site to ascertain bearing capacity of foundations soils at the time of footing excavation to certify such soil conditions meet or exceed design capacity of the foundation to support the proposed structure. These requirements shall comply with policies of the City of Owosso, copies of which can be obtained from the Building Department.

The attached checklist has been completed to certify the data contained on the site plan. If the required data has not been provided, the appropriate box has been checked with a statement of explanation on why the data has not been provided. I understand that if my site plan is deemed to be incomplete, it may be returned by the City for revisions without being forwarded to the Planning Commission for consideration, until such time as the requirements have been adequately met. By signing this application, the applicant hereby grants full authority to the City of Owosso, its agents, employees, representatives and/or appointees to enter upon the undersigned lands/parcel(s) for the purposes of inspection and examination.

Application Filed On: April 28, 2016

Application Transmitted by City On: _____

Property Details:

1. Name of Proposed Development: Advanced Eye Care & Contact Lens Center
2. Property Street Address: 123 S. Shiawassee St.
3. Location of Property: On the (north, south, east, west side) of Shiawassee St.
Street, between Main St. and Clinton St.
Streets.
4. Legal Description of Property: See Site Plan
5. Site Area (in acres and square feet): 0.485 acres, 21,126 sf
6. Zoning Designation of Property: B-1 Commercial

Ownership:

1. Name of Title/Deed Holder: St. Charles Enterprises, LLC/ David E. Duryea
2. Address: 1555 W. Brady Rd.
3. Telephone No: (989) 845-7050
4. Fax No: _____
5. Email address: _____

Applicant:

1. Applicant (If different from owner above): Same as Owner above
2. Address: _____
3. Telephone No: _____
4. Fax No: _____

SITE PLAN REVIEW CHECKLIST

Check the appropriate line. If item is marked as 'not provided', attach detailed explanation.

Item	Provided	Not Provided
1. Site location Map.	X	
2. North arrow, scale (one (1) inch equals fifty (50) feet if the subject property is less than three (3) acres and one (1) inch equals one hundred (100) feet if three (3) acres or more.	X	
3. Revision dates.	X	
4. Signature and Seal of Architect/Surveyor/Engineer.	X	
5. Area of site (in acres and square feet).	X	
6. Boundary of the property outlined in solid line.	X	
7. Names, centerline and right-of-way widths of adjacent streets.	X	
8. Zoning designation of property.	X	
9. Zoning designation and use of adjacent properties.	X	
10. Existing and proposed elevations for building(s) parking lot areas and drives.	X	
11. Direction of surface water drainage and grading plan and any plans for storm water retention/detention on site.	X	
12. Required setbacks from property lines and adjacent parcels.	X	
13. Location and height of existing structures on site and within 100 feet of the property.	X	
14. Location and width of existing easements, alleys and drives.	X	
15. Location and width of all public sidewalks along the fronting street right-of-way and on the site, with details.	X	
16. Layout of existing/proposed parking lot, with space and aisle dimensions.	X	
17. Parking calculations per ordinance.	X	
18. Location of all utilities, including but not limited to gas, water, sanitary sewer, electricity, telephone.	X	
19. Soil erosion and sedimentation control measures during construction.		Deferred
20. Location and height of all exiting/proposed fences, screens, walls or other barriers.	X	
21. Location and details of dumpster enclosure and trash removal plan.	X	
22. Landscape plan indicating existing/proposed trees and plantings along frontage and on the site.	X	
23. Notation of landscape maintenance agreement.		X
24. Notation of method of irrigation.	X	
25. Lighting plan indicating existing/proposed light poles on site, along site's frontage and any wall mounted lights.	X	
a. Cut-sheet detail of all proposed light fixtures.	X	
26. Architectural elevations of building (all facades). Identifying height, Materials used and colors.	X	
27. Existing/proposed floor plans.	X	
28. Roof mounted equipment and screening.	X	
29. Location and type of existing/proposed on-site signage.	X	
30. Notation of prior variances, if any.		N/A
31. Notation of required local, state and federal permits, if any.		N/A

32. Additional information or special data (for some sites only)

- a. Environmental Assessment Study.
- b. Traffic Study. Trip Generation.
- c. Hazardous Waste Management Plan.

_____	N/A
_____	N/A
_____	N/A

33. For residential development: a schedule indicating number of dwelling units, number of bedrooms, gross and usable floor area, parking provided, total area of paved and unpaved surfaces.

_____ N/A

34. LLC establishments must have a current Plan of Operation.

_____ N/A

35. Is property in the floodplain?

_____ N/A

36. Will this require MDEQ permitting?

_____ N/A

37. Performance Bond – when required.

_____ N/A

*Additional data deemed necessary to enable to completion of an adequate review may be required by the Planning Commission, City and/or its consultants.

**City of Owosso Planning Commission
Staff Report – Site Plan**

MEETING DATE: May 23, 2015
TO: Planning commission
FROM: Susan Montenegro, asst. city manager/director of community development
SUBJECT: Site plan approval request for Advanced Eye Care

PETITIONER’S REQUEST AND BACKGROUND MATERIALS

Location 123 S. Shiawassee Street – Parcel 050-700-001-014-00
 117 S. Shiawassee Street – Parcel 050-700-001-013-00

Surrounding land uses and zoning

	LAND USE	ZONING
North	Business – Former Marathon Station	B-4
East	Residential	RM-2
South	Residential	RM-2
West	Business – Carwash	B-4

Comparison chart

	EXISTING	PROPOSED
Zoning	B-1	B-1
Gross lot area	132’ x 120’ = 15,840 square feet	No change
Setbacks- Front Side Rear	15’ (k) 10’ (l) 10’ (m, n) *see below	Parking will be in front yard setback
Height allowed	35’	< 35’

* Notes to schedule

(k) Off-street parking shall be permitted within the front yard.

(l) No side yards are required along the interior side lot lines of the district, except as otherwise specified in the building code. On a corner lot which borders on a residential district to the rear, there shall be provided a setback of twenty (20) feet on the side or residential street. On an exterior side yard abutting a residential district or abutting a street, there shall be provided a setback of ten (10) feet in width.

(m) Loading space shall be provided in the rear yard in the ratio of at least ten (10) square feet per front foot of building and shall be computed separately from the off-street parking requirements; except in the instance of O-1 districts, loading space shall be provided in the ratio of five (5) square feet per front foot of building. Where an alley exists or is provided at the rear of buildings, the rear building setback and loading requirements may be computed from the center of said alley.

(n) When adjacent to an R-1, R-2 or RT-1 district, the minimum rear yard setback shall be ten (10) feet or ten (10) percent of the depth of the lot, whichever is greater, provided that the maximum setback so required shall be sixty (60) feet.

Planning background

Sheet L1.00: Tree and shrub plan adjacent to entry/exit driveway should be evaluated for proper sight distance for exiting vehicles. Proposed shrub and tree must take into consideration line-of-sight for exiting drivers. Evergreen tree should not be allowed here. Shrubbery and deciduous tree satisfactory for this location provided they are properly trimmed and maintained. Shrubbery in an entrance/exit drive area shall not exceed a height of 36".

Utilities and Engineering

Storm Sewer:

- Sheet 6: Storm sewer size and inverts shown on plan. CB's 531 and #1 both shallow due to field conditions. City will provide 6" SDR-26 PVC connection to ROW line, where contractor will make proper fitting with proposed private storm sewer. Drawing shows all site drainage to be drained to proposed catch basins per city code. Eight-inch (8") storm drain questionable until I can review calculations.
- Proposed 1-inch type K-copper water service and a 5 / 8 inch meter is OK. Tap in location on Clinton Street is OK.

Sanitary Sewer:

- Service lead material should be SDR-26 PVC ASTM D3034, and not SDR-35.
- Connection to 8-inch sanitary sewer (on Clinton Street) is approximately 165 ft east of sewer main located on M-52. This tap point should have plenty of grade/fall to meet the minimum 1% grade from the building to the main.
- Sanitary sewer service lateral shall be connected to the sewer main by means of a sewer pipe wye.

Sidewalk/Drives/Parking Lot:

- Sheet 6: Proposed public sidewalk appears satisfactory and barrier free across drive approaches.
- Valve box shown in drive approach should be properly boxed out during concrete construction, for future expansion.
- Sheets 4-7: Appears some proposed work may encroach inside MDOT ROW. Developer advised to contact MDOT about this and whether they will require a ROW permit.
- Sheet 5: Proposed parking layout given. Number of ADA spaces and layout dimensions appear to meet city code. One stall must be signed 'Van Accessible'. Location of proposed ADA spaces questionable. Current location will force a handicapped motorist to back into and across entry lane from street. Advise developer to consider moving spaces away from entry point and closer to building doors.
- Sheet 8: Detail for curb and gutter shows use of reinforcement bar. Although the city normally does not use reinforcement bar, I recommend it be used across commercial driveways.

- Sheet 1: Note 1 of Concrete Construction note should be modified. All concrete constructed inside public ROW should be proportioned with 564 #/cyd of cement. All concrete mixes shall have cement content meeting or exceeding six-full sack mix per cubic yard. Note 6 of Concrete Construction note should be modified so that longitudinal grade shall not exceed 5% (1:20) for sidewalk outside of ramp locations. In ramp locations the longitudinal slope can be increased to 7% (1:14) with max allowed of 8.3%(1:12) with city approval, per MDOT typical details R-28 series.

Soil Erosion Sedimentation Control:

- Sheet 7: SESC Plan. Will need to go to Shiawassee County Health Department for review and approval.

Site Lighting Plan:

- Sheet ES1.00: appears satisfactory. The lighting effect of proposed device next to entry/exit drive is optimistic as to lighting effect through tree and towards building. That lighting effect will most likely diminish as the tree grows.

Building

No changes requested at this time. Full building plan review will be performed when construction documents are received.



DESIGN GROUP, LLC

1494 N. GRAHAM RD. • FREELAND, MI 48623
 PHONE (989) 790-9120 FAX (989) 781-1394

TO City of Owosso
Community Development
301 W. Main Street
Owosso, MI 48867

Next Day Next Day A.M. U.P.S.
 Courier Pick Up U.S.P.S.

LETTER OF TRANSMITTAL

DATE:	4/28/2016	JOB NO.	A15737
ATTENTION:	Susan Montenegro		
RE:	Proposed New Office Building for Advanced Eye Care & Contact Lens Ce 123 S. Shiawassee		

GENTLEMEN:

WE ARE SENDING YOU

<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Under separate cover via _____ the following items:
<input type="checkbox"/> Shop drawings	<input checked="" type="checkbox"/> Prints
<input type="checkbox"/> Copy of letter	<input type="checkbox"/> Change order
	<input type="checkbox"/> Plans
	<input type="checkbox"/> Samples
	<input type="checkbox"/> Specifications

COPIES	DATE	NO.	DESCRIPTION
3			Civil Engineering Plans, Landscape Plan, Site Photometric Plan, Floor Plans & Elevations
1			Site Plan Review Application and Checklist
1			DOT Detention Calculations
1			Check #241589 (\$150 fee)

THESE ARE TRANSMITTED as checked below:

<input checked="" type="checkbox"/> For approval	<input type="checkbox"/> Reviewed as noted	<input type="checkbox"/> Rejected
<input type="checkbox"/> For your use	<input type="checkbox"/> Revise and Resubmit	<input type="checkbox"/> Furnish _____ copies as corrected
<input type="checkbox"/> As requested	<input type="checkbox"/> Prints Returned After Loan To Us	
<input type="checkbox"/> For review and comment	<input type="checkbox"/> _____	
<input type="checkbox"/> FOR BIDS DUE	_____ 20 _____	

REMARKS

COPY TO _____ **SIGNED:** Neil A. Frank, Project Architect

FLOODPLAIN INFORMATION

CITY OF OWOSSO
SAGINAW COUNTY, MICHIGAN
PANEL 0231C
COMMUNITY NUMBER: 260596
MAP NUMBER: 26155C0231C
EFFECTIVE DATE: SEPTEMBER 29, 2011
ZONE: X - 726.90

ZONING

ZONED: B-1 (COMMERCIAL)

SETBACKS: FRONT - 15' (ON BOTH FRONTAGES FOR CORNER LOT)
SIDE - 10' (ABUTTING RESIDENTIAL)
REAR - 10'

MINIMUM LOT AREA: N/A
MINIMUM LOT WIDTH: N/A
MINIMUM LOT DEPTH: N/A
MAXIMUM BUILDING HEIGHT: 35' (3.5 STORIES)
MAXIMUM COVERAGE: N/A

PARKING

PARKING REQUIREMENT: PROFESSIONAL OFFICE

9' x 18'-4" SPACE WITH MINIMUM 24' DRIVE LANE FOR TWO-WAY TRAFFIC

1 SPACE PER 100 S.F. OF USABLE FLOOR AREA

2,531 SQ. FT. USABLE FLOOR AREA

2,531 SQ. FT. / 100 = 25 SPACES REQUIRED

PROPOSED SPACE COUNT
BARRIER FREE SPACES - 2 SPACES
STANDARD SPACES - 26 SPACES
TOTAL PROPOSED SPACES - 28 SPACES

UTILITIES

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:

- FOR WATER AND SEWER
OWOSSO CITY UTILITIES
301 WEST MAIN STREET
OWOSSO, MI 48867
PH: 989-725-0555
- FOR GAS AND ELECTRIC
CONSUMERS ENERGY
530 WILLOW STREET
LANSING, MI 48937
PH: 517-373-6100
- FOR TELEPHONE
FRONTIER COMMUNICATIONS
311 SOUTH CEDAR
IMLAY CITY, MI 48444
PH: 810-724-3127
- FOR ZONING
PLANNING, ZONING & COMMUNITY DEVELOPMENT
301 WEST MAIN STREET
OWOSSO, MI 48867
PH: 989-725-0540

PARCEL DESCRIPTION (050-700-001-014-00)

(PER HOMELAND TITLE SERVICES, SEARCH NO. 15-9540, DATED: SEPTEMBER 22, 2015)

A PARCEL OF LAND SITUATED IN THE NE 1/4 OF SECTION 24, TOWN 7 NORTH, RANGE 2 EAST, OWOSSO TOWNSHIP, SHIAWASSEE COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOTS 13, 14 AND 15, "WOODARDS SUBDIVISION OF BLOCK NO. 1 OF A.L. WILLIAMS ADDITION TO THE VILLAGE OF OWOSSO", SHIAWASSEE COUNTY, MICHIGAN.

CONTAINS 0.485 ACRES OF LAND. SUBJECT TO ALL EASEMENTS AND RECORDS, IF ANY.

UTILITY NOTE

THE UTILITY LOCATIONS ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER / SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

GENERAL NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE ALL PERMITS AND POST ALL BONDS PRIOR TO CONSTRUCTION, OR ENSURE THAT ALL REQUIRED PERMITS AND BONDS HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING MISS-DIG (811) AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATION.
- THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL. THE EXACT LOCATION OF EXISTING UTILITIES SHALL BE LOCATED BY HAND DIGGING.
- ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO STARTING REMOVALS.
- THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO STREETS, SIDEWALKS OTHER STRUCTURES AND ADJACENT AREAS CAUSED BY DEMOLITION OR HAULING OPERATIONS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY ACTIONS TO ENSURE WORKER SAFETY AND COMPLIANCE WITH MI-OSHA GUIDELINES.
- DIMENSIONS ARE TO FACE OF CURB, OUTSIDE FACE OF BUILDING, EDGE OF PAVEMENT, CENTER OF STRUCTURE OR OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS PRIOR TO CONSTRUCTION. ADJUST WORK AS REQUIRED TO MEET FIELD DIMENSIONS AT NO ADDITIONAL COST TO THE OWNER.
- REFER TO ARCHITECTURAL PLANS FOR ACCURATE BUILDING DIMENSIONS AND LAYOUT.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION STAGING AND ACCESSIBILITY WITH OWNER.
- THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AASHTO'S 2011 POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE CITY OF OWOSSO.
- THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES FOR NOISE LEVELS, HOURS OF OPERATION FOR CONSTRUCTION ACTIVITY, VIBRATIONS, OR ANY OTHER RESTRICTIONS.
- COORDINATION BY THE CONTRACTOR; NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO MATERIAL SHORTAGES OR DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE PROPOSAL OR FOR ANY DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OF EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
- ANY QUANTITIES AND DIMENSIONS SHOWN IN PLANS ARE PROVIDED FOR INFORMATION ONLY, CONTRACTOR SHALL FIELD VERIFY PRIOR TO CONSTRUCTION.

REMOVAL

- REMOVALS SHALL BE DONE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- SAW CUTTING FOR PAVEMENT REMOVAL AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE TO THE DEPTH REQUIRED FOR NEAT REMOVAL OF PAVEMENT OR CONCRETE.
- SAW CUTTING DEPTH SHALL BE ADEQUATE TO PREVENT SPALLING, CHIPPING, OR DAMAGE TO EXISTING PAVEMENT EDGES LEFT IN PLACE AS DIRECTED.
- ANY ADDITIONAL TREE REMOVALS, CLEARING, GRADING, ETC. NEEDED FOR THE CONTRACTOR'S STAGING AND/OR WORK OPERATIONS SHALL BE COMPLETED AND AREA RESTORED TO THE SATISFACTION OF THE OWNER WITHOUT ADDITIONAL COMPENSATION.
- ADDITIONAL WORK OUTSIDE OF THE LIMITS AS SHOWN ON THE PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING THE ADDITIONAL WORK.
- MATERIALS REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE PROPERLY DISPOSED OF AT AN OFF SITE LOCATION.

AGGREGATE CONSTRUCTION

- AGGREGATE USED FOR PAVEMENT BASE SHALL MEET THE REQUIREMENTS OF SECTION 902 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SHALL BE MDOT CLASS 22A OR 21AA OR AS APPROVED BY THE ENGINEER.
- AGGREGATE BASE CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SECTION 302 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

HMA CONSTRUCTION

- HMA USED FOR PAVEMENT SHALL MEET THE REQUIREMENTS OF SECTION 501 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND GRADE SHALL BE AS NOTED PER PLANS AND DETAILS OR AS APPROVED BY THE ENGINEER.
- HMA PAVEMENT CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SECTION 501 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- HMA BOND COAT WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF HMA PAVING.

MAINTENANCE OF TRAFFIC

- TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MDOT MAINTAINING TRAFFIC TYPICAL PLANS.
- CONTRACTOR TO PROVIDE NECESSARY SIGNAGE, BARRICADES, AND OTHER DEVICES FOR PROTECTION OF THE PUBLIC AND CONSTRUCTION WORKERS PRIOR TO PERFORMING ANY WORK.

PAVEMENT MARKING AND SIGNAGE

- ACCESSIBLE PARKING SIGNS (R7-8 AND R7-8B) SHALL BE INSTALLED ON A 3 LB STEEL POST IN ACCORDANCE WITH MDOT SIGNING SPECIAL DETAIL SIGN-200-A AND SECTION 810 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- WATERBORNE PAVEMENT MARKINGS SHALL MEET THE REQUIREMENTS OF SECTION 920 AND BE APPLIED IN ACCORDANCE WITH SECTION 811 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ACCESSIBLE PARKING PAVEMENT MARKING SYMBOLS SHALL BE IN ACCORDANCE WITH MDOT STANDARD PAVEMENT MARKING STANDARD PLAN PAVE-956-A.
- PARKING STALL SPACES TO BE 4" SOLID YELLOW PAINT STRIPES, HANDICAP PARKING TO BE 4" SOLID BLUE PAINT STRIPES W/ BARRIER FREE STRIPING OF 4" SOLID BLUE @ 2' O.C. ON 45° ANGLE.

CONCRETE CONSTRUCTION

- CONCRETE USED FOR CURB AND SIDEWALK SHALL MEET THE REQUIREMENTS OF SECTION 601 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SHALL BE MDOT GRADE P1 WITH A MINIMUM CEMENT CONTENT OF 526 LB/CYD OR AS APPROVED BY THE ENGINEER.
- CONCRETE PAVEMENT CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SECTION 602 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- CONCRETE SIDEWALKS SHALL BE CONSTRUCTED ACCORDING TO MDOT STANDARD DETAIL R-29 SERIES.
- EXPANSION JOINTS WITH EXPANSION FILLER SHALL BE PLACED WHERE THE CONCRETE PAVEMENT ABUTS AN EXISTING PAVED SURFACE OR BUILDING OR AS DIRECTED BY THE ENGINEER.
- PROPOSED SIDEWALK CUT JOINTS SHALL BE CONSTRUCTED TO DIVIDE THE SIDEWALK INTO APPROXIMATELY 25 SQUARE FOOT AREAS OR AS DIRECTED BY THE ENGINEER.
- ALL SIDEWALKS AND BARRIER FREE RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM 1:48 CROSS-SLOPE AND A MAXIMUM 1:12 LONGITUDINAL SLOPE.
- ALL SIDEWALKS EXCEEDING THE MAXIMUM LONGITUDINAL SLOPE SHALL BE PROVIDED WITH HAND RAILS ON BOTH SIDES AS DIRECTED BY THE ENGINEER.
- SIDEWALK CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MDOT STANDARD PLAN R-28 SERIES.

RESTORATION

- THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS UPON COMPLETION OF THE PROJECT.
- ALL DISTURBED AREAS SHALL BE BROUGHT TO FINAL GRADE AND STABILIZED AS SOON AS POSSIBLE AFTER BEING DISTURBED. PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED WITHIN FIVE CALENDAR DAYS OF COMPLETING FINAL GRADING.
- ALL PERMANENT SLOPES STEEPER THAN 4:1 SHALL BE STABILIZED USING MULCH BLANKETS AS LISTED ON THE PLANS.
- CONTRACTOR SHALL PLACE 3" OF TOPSOIL, SEED AND MULCH AS INDICATED ON ALL DISTURBED AREAS NOT UNDER PAVEMENT OR OTHERWISE LABELED.
- ALL FILL SHALL BE CLEAN INERT MATERIAL.



ARCHITECTS ENGINEERS PLANNERS

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Saginaw, Michigan 48604
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PLAN REVIEW AND PERMITTING

04-28-16

VERT DATUM
—
HORIZ DATUM
NAD 83

SCALE
H: N/A
V: N/A

CITY/VILLAGE/TOWNSHIP
City of Owosso

COUNTY
Saginaw County

CADD
RB

PROJ INGR
ES

ENG
ES

PROJ NUMBER
40050020

DATE

WOLGAST DESIGN GROUP, LLC
ADVANCED EYE CARE & CONTACT LENS CENTER

NOTES

SHEET

1

OF 8

JOB BENCHMARK # 200
TAG IN POWER POLE
ELEV 734.21
TRAVERSE POINT # 103
N 545611.5800
E 13174186.6300 ELEV 731.03
TRAVERSE POINT # 104
N 545444.4800
E 13174344.8300 ELEV 732.84
TRAVERSE POINT # 105
N 545635.0705
E 13174358.8165 ELEV 726.88

NW COR.
SEC. 24
T7N, R2E

N 1/4 COR.
SEC. 24
T7N, R2E

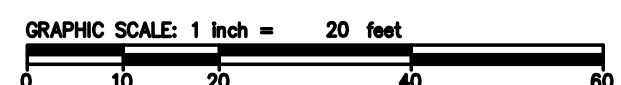
N 1/4 COR.
SEC. 24
T7N, R2E

NE CORNER

S88°49'18"E 2581.02'

NORTH LINE OF SEC. 24

S88°37'15"E 2588.93'



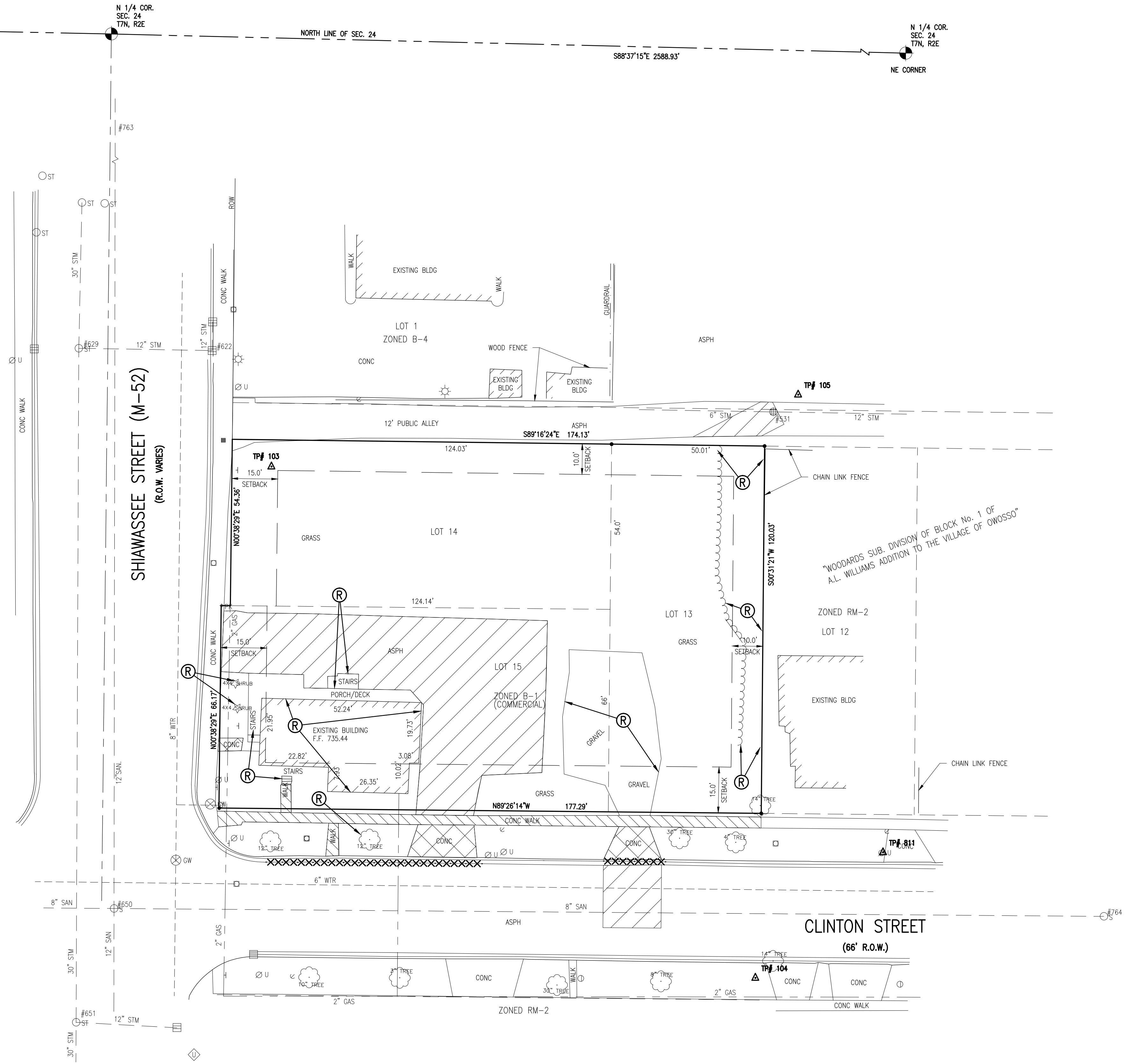
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REVISIONS:	04-28-16	PLAN REVIEW AND PERMITTING
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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
	400610020	ES	ES	RB	Saginaw County	City of Owosso	1"=20'	NAD 83	

SHEET	4
OF 8	

DRAWING PATH: P:\4000_4100\400610020_Wolcast\Drawings\Civil\Removal\50020REM.dwg Apr 27, 2016 - 8:58am



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ADVANCED EYE CARE & CONTACT LENS CENTER
REMOVAL PLAN

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JOB BENCHMARK # 200
TAG IN POWER POLE
ELEV 734.21
TRAVERSE POINT # 103
N 545611.5800
E 13174186.6300 ELEV 731.03
TRAVERSE POINT # 104
N 545444.4800
E 13174344.8300 ELEV 732.84
TRAVERSE POINT # 105
N 545635.0705
E 13174358.8165 ELEV 726.88

NW COR.
SEC. 24
T7N, R2E

S88°49'18"E 2581.02'

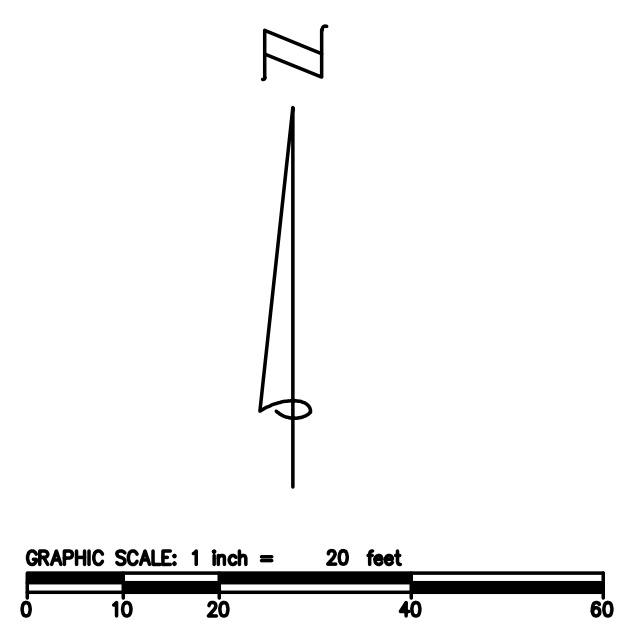
N 1/4 COR.
SEC. 24
T7N, R2E

NORTH LINE OF SEC. 24

S88°37'15"E 2588.93'

N 1/4 COR.
SEC. 24
T7N, R2E

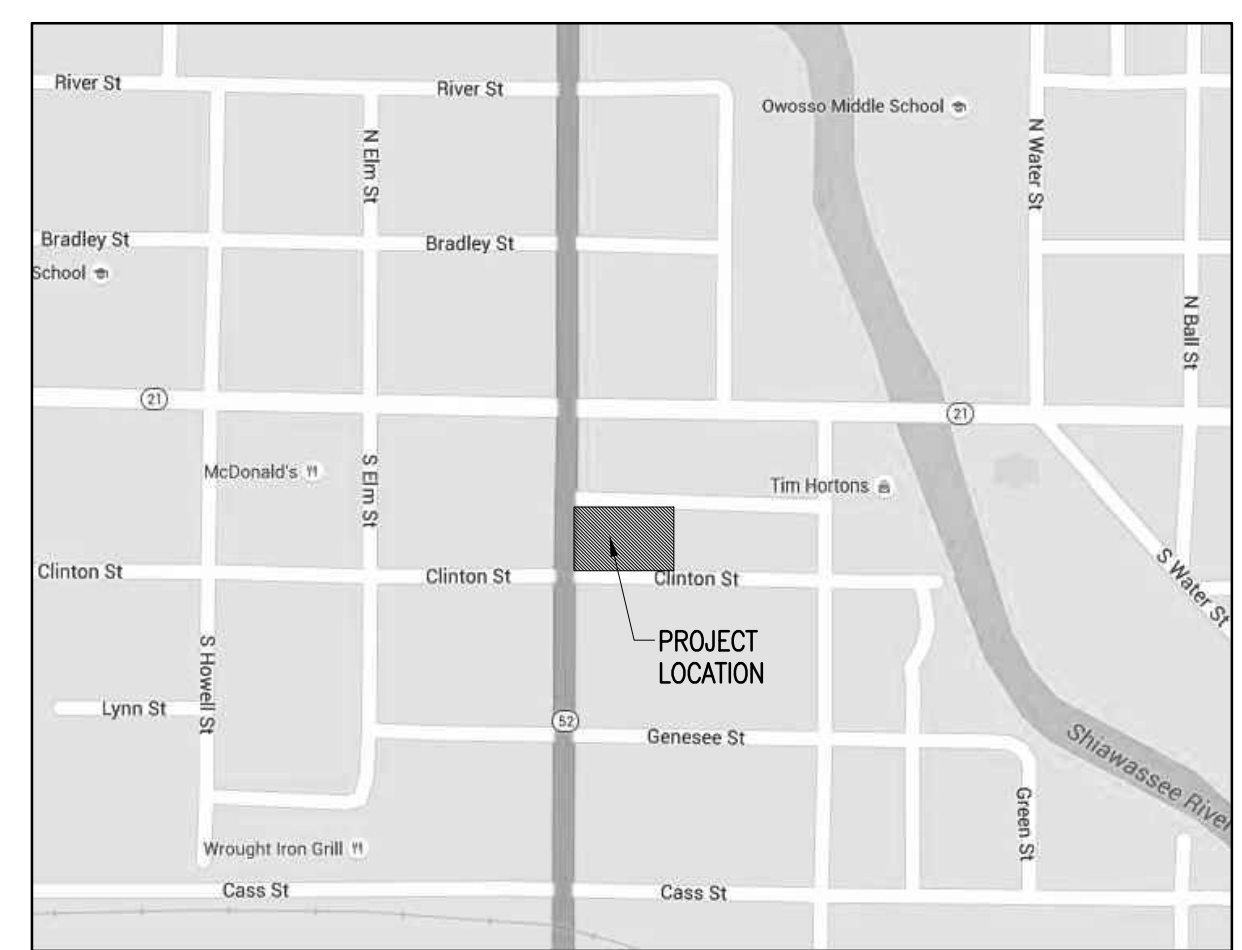
NE CORNER



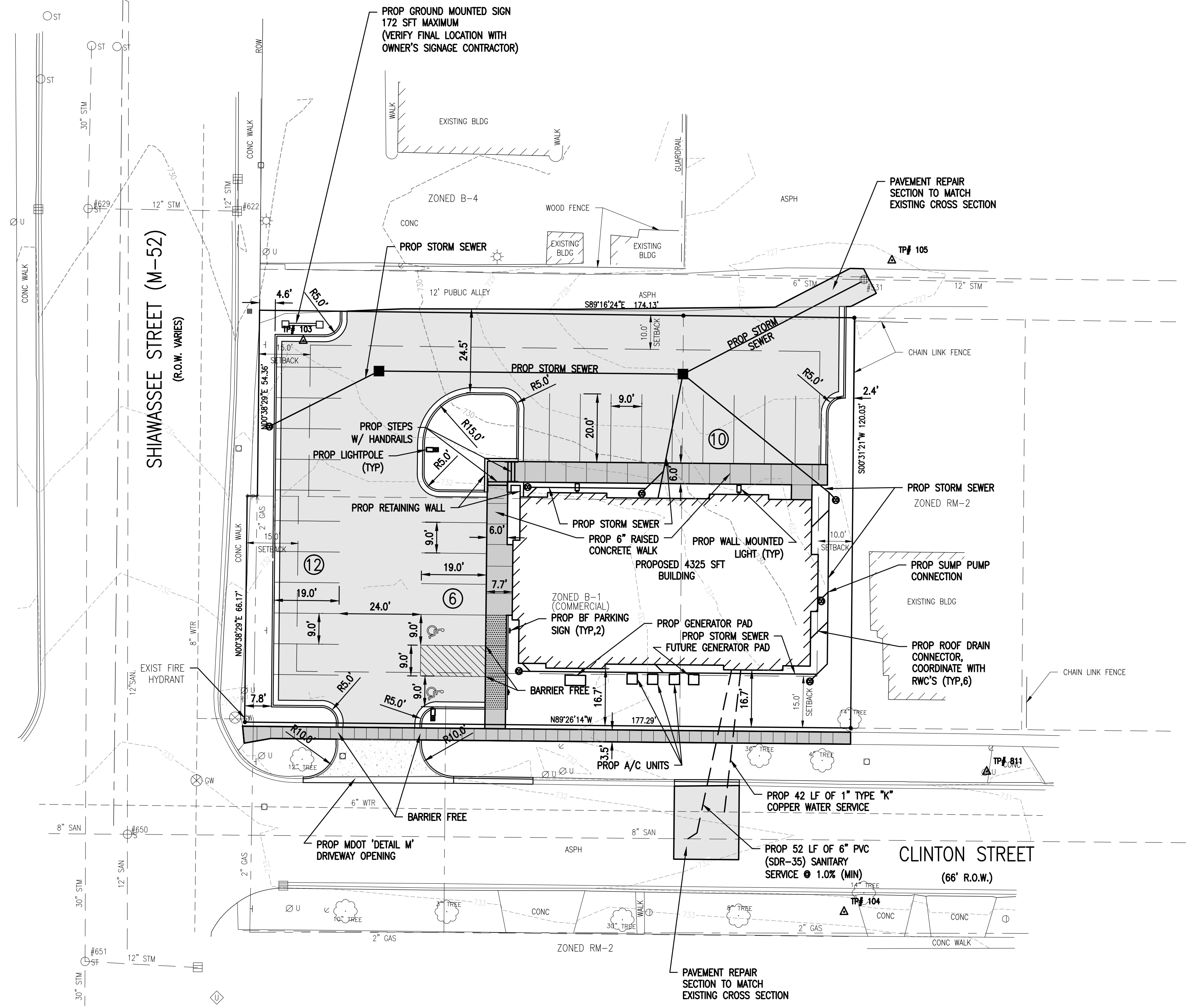
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LOCATION MAP
SCALE: NONE



REVISIONS:

04-28-16 PLAN REVIEW AND PERMITTING

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
	400610020	ES	ES	RB	Saginaw County	City of Owosso	1"=20'	NAD 83	

WOLGAST DESIGN GROUP, LLC
ADVANCED EYE CARE & CONTACT LENS CENTER
SITE PLAN



Know what's below.
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TRAVERSE POINT # 104
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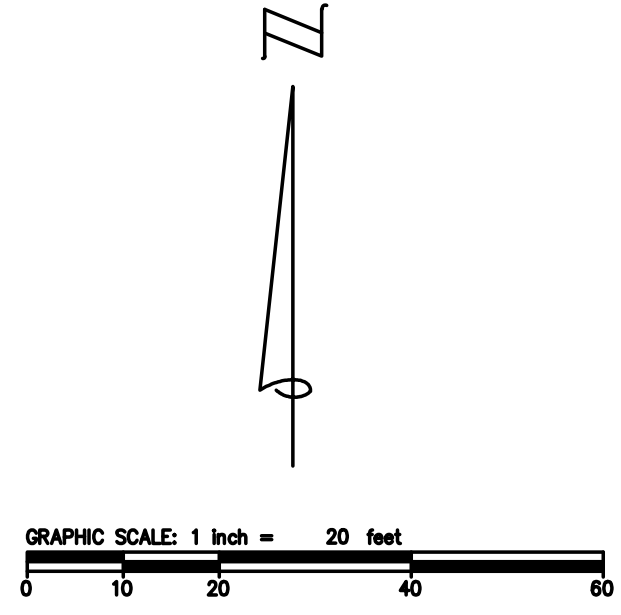
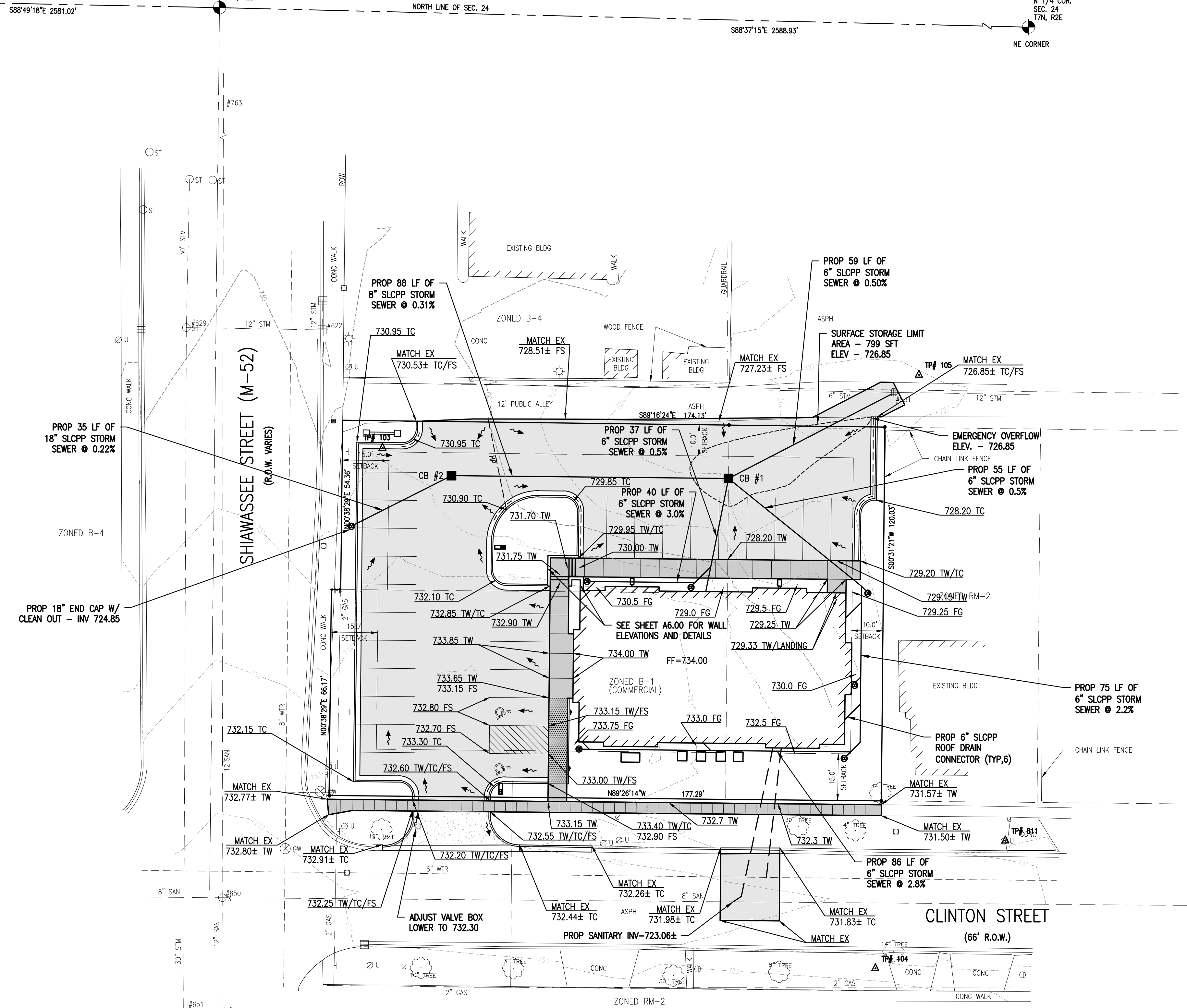
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E 13174358.8165 ELEV 726.88

NW COR.
SEC. 24
T7N, R2E

N 1/4 COR.
SEC. 24
T7N, R2E

N 1/4 COR.
SEC. 24
T7N, R2E

NE CORNER



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STORM STRUCTURE TABLE

- #531
T/CAST 726.50
6" INV W 724.20
12" INV E 723.85
6" INV SW 724.20
- PROP. 3' DIA. CB #1
T/CAST 726.35
8" INV W 724.50
6" INV NE 724.50
6" INV SE 724.50
6" INV S 724.50
- PROP. 4' DIA. CB #2
T/CAST 729.75
8" INV E 724.77
18" INV SW 724.77

GRADING DELINEATIONS

- FF FINISHED FLOOR
- FG FINISHED GROUND
- FS FINISHED SURFACE
- TC TOP OF CURB
- TW TOP OF WALK
- HP HIGH POINT
- DRAINAGE FLOW ARROW
- - - REVERSE SLOPE GUTTER PAN

REVISIONS: 04-28-16 PLAN REVIEW AND PERMITTING

DATE: 4/06/2020
PROJ. NUMBER: 40050020
PROJ. NAME: ADVANCED EYE CARE & CONTACT LENS CENTER
CITY: Saginaw
COUNTY: Saginaw
SCALE: 1"=20'

WOLGAST DESIGN GROUP, LLC
ADVANCED EYE CARE & CONTACT LENS CENTER
GRADING PLAN



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17N, R2E

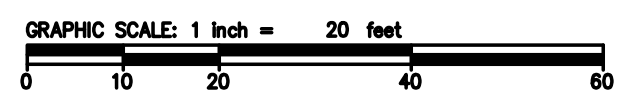
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SEC. 24
17N, R2E

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S88°49'18"E 2581.02'

NORTH LINE OF SEC. 24

S88°37'15"E 2588.93'

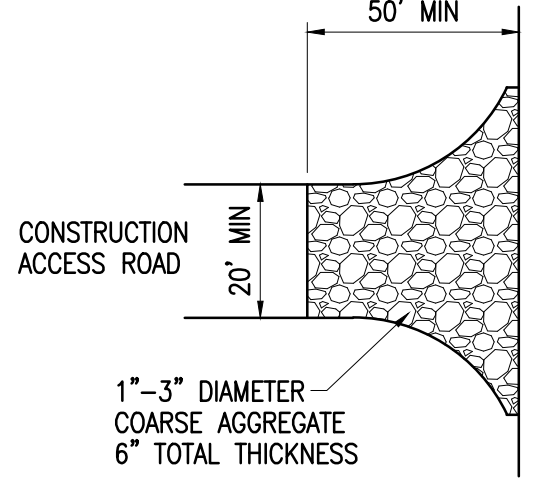


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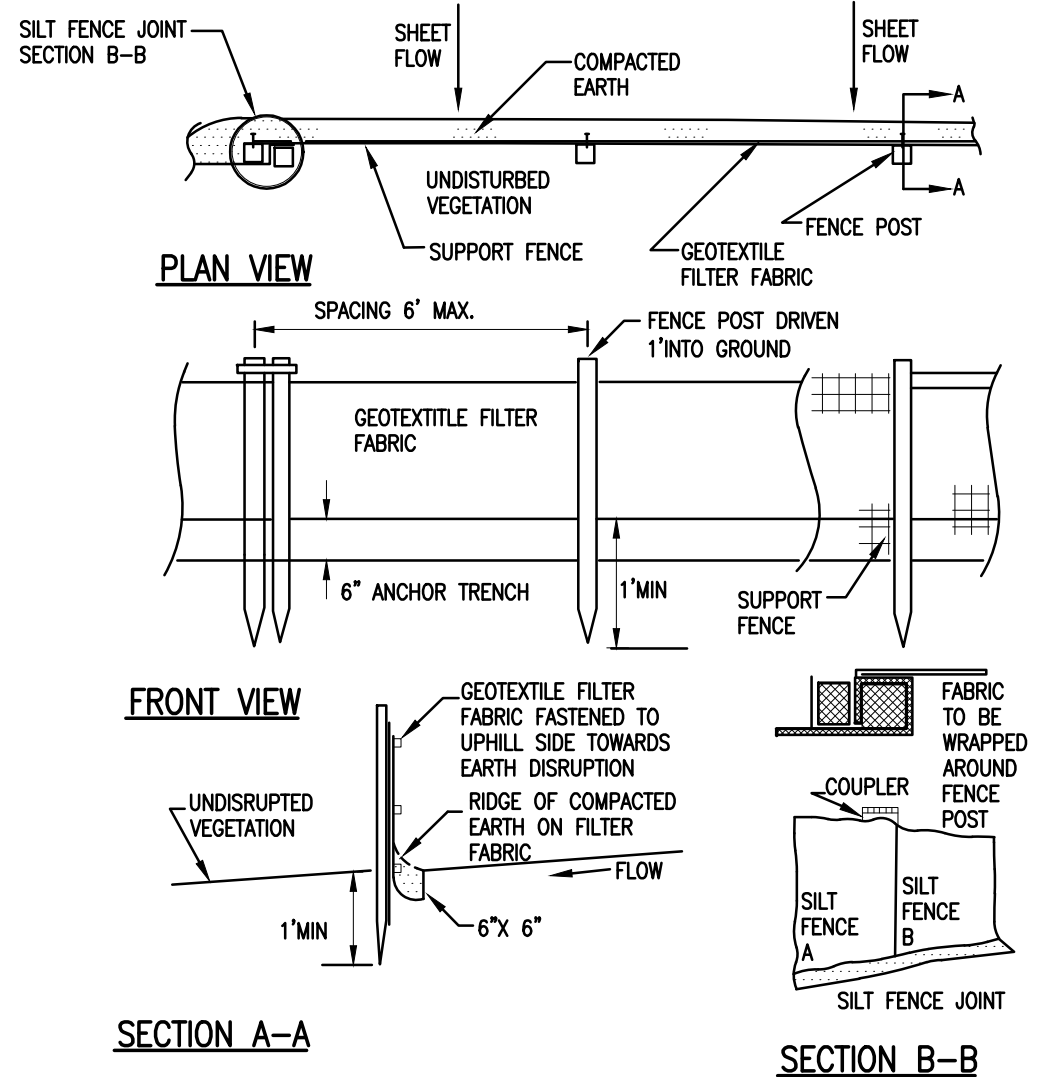
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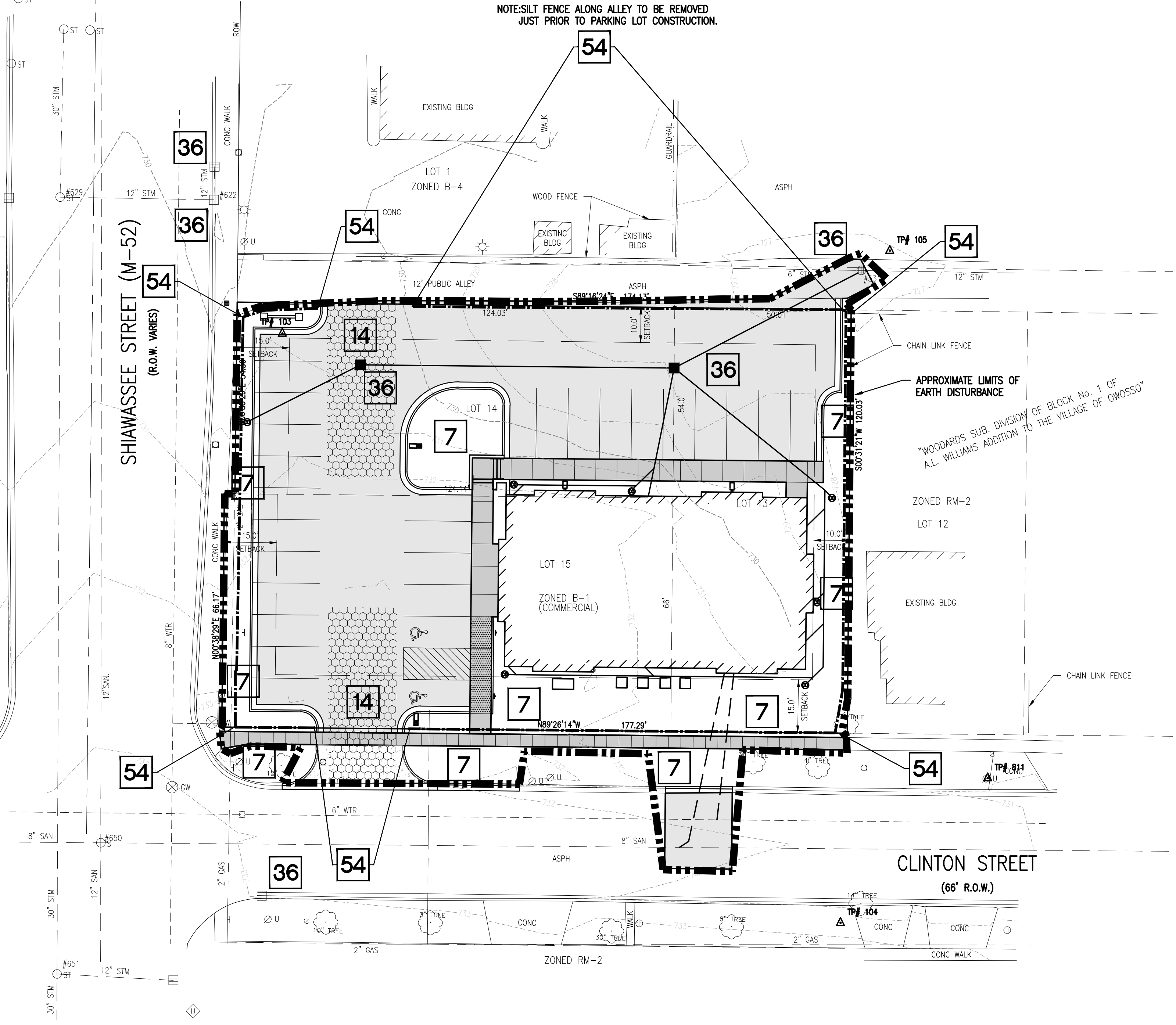
NOTE: GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.



MUD MAT ENTRANCE DETAIL
N.T.S.



SILT FENCE (SP-2)
N.T.S.



SESC GENERAL NOTES

- REFER TO LANDSCAPE PLAN FOR DETAILED INFORMATION ON VEGETATIVE STABILIZATION AND MULCHING.
- SOIL CONDITIONS :
CROSIER-WILLIAMSTOWN LOAMS, 2 TO 6 PERCENT SLOPES
SOURCE: websolidsurvey.nrcs.usda.gov
- AREA OF DISTURBED EARTH IS APPROXIMATELY 0.55 ACRES.
- NEAREST OPEN WATER IS THE SHAWASSEE RIVER APPROXIMATELY 560 FEET EAST OF THE SITE.

MAINTENANCE NOTES

- GRAVEL ACCESS DRIVE
PROPER MAINTENANCE MAY INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY SWEEPING.
- SOIL STOCKPILES
PERIODIC INSPECTIONS SHOULD BE DONE TO ENSURE EXCESSIVE EROSION HAS NOT OCCURRED. IF RUNOFF OR WIND EROSION HAS OCCURRED, REDUCE THE SIDE SLOPES OF THE SPOIL PILE, OR RE-STABILIZE THE STOCKPILE BY PROVIDING TEMPORARY SEEDING. WHEN FILTER FENCING IS USED AROUND A SPOIL PILE, PERIODIC CHECKS SHOULD BE MADE TO ENSURE THAT PIPING HAS NOT OCCURRED UNDER THE FENCING, AND TO ENSURE THE FENCE HAS NOT COLLAPSED DUE TO SOIL SLIPPAGE OR ACCESS BY CONSTRUCTION EQUIPMENT. REPAIR ANY DAMAGED FENCING IMMEDIATELY. BERMS AT THE BASE OF THE SPOIL PILE WHICH BECOME DAMAGED SHOULD BE REPLACED.
- DUST CONTROL
TO PREVENT DUST FROM BECOMING A PUBLIC NUISANCE AND CAUSING OFF-SITE DAMAGES, DUST CONTROL SHOULD BE ONGOING DURING EARTH CHANGE ACTIVITIES.
- SILT FENCE
SILT FENCE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF (1/2) THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SOIL STOCKPILE. IF THE FABRIC IS BEING UNDERCUT (I.E. IF WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE PROCEDURES GIVEN ABOVE. FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND REPLACED WITH NEW FILTER FABRIC IMMEDIATELY. SILT FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE AREA IS FULLY STABILIZED.
- INLET FILTERS
PERIODIC INSPECTIONS SHOULD BE DONE TO ENSURE THAT THE INTEGRITY OF THE GEOTEXTILE FILTER IS MAINTAINED. THE FABRIC SHALL BE REMOVED AND REPLACED SHOULD IT BECOME SEDIMENT LADEN. THE INLET GEOTEXTILE FILTER SHALL BE REMOVED AFTER THE ESTABLISHMENT OF FINAL GRADE AND PRIOR TO PAVEMENT INSTALLATION.
- SEEDING
NEWLY SEEDED AREAS NEED TO BE INSPECTED FREQUENTLY FOR THE FIRST FEW MONTHS TO ENSURE THE GRASS IS GROWING. IF THE SEEDED AREA IS DAMAGED DUE TO RUNOFF, ADDITIONAL STORMWATER MEASURES MAY BE NEEDED. SPOT SEEDING CAN BE DONE ON SMALL AREAS TO FILL IN BARE SPOTS WHERE GRASS DIDN'T GROW PROPERLY.
- MULCHING
MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MULCH IS STAYING IN PLACE. ADDITIONAL TACKING MATERIALS OR NETTING MAY NEED TO BE APPLIED TO HOLD THE MULCH IN PLACE.
- STREET MAINTENANCE
CONTRACTOR SHALL SCRAPE ALL PUBLIC ROADS AT LEAST ON A DAILY BASIS. IN ADDITION, CONTRACTOR SHALL PROVIDE SWEEPING OF PUBLIC ROADS AT LEAST ON A WEEKLY BASIS.

CONSTRUCTION SEQUENCE

- PROVIDE EROSION CONTROL MEASURES THAT WILL BE USED AS PART OF THIS WORK. INSTALL ADDITIONAL MEASURES AS REQUIRED BY THESE DRAWINGS AND AS FIELD CONDITIONS DICTATE IN ACCORDANCE WITH CITY OF OWOSSO REQUIREMENTS.
- SITE DEMOLITION.
- IMPLEMENT TEMPORARY SOIL EROSION CONTROL MEASURES, INCLUDING SILT FENCE INSTALLATION AND GRAVEL ACCESS DRIVE.
- STRIP TOPSOIL AND ROUGH SITE.
- CONSTRUCT STORM SEWER SYSTEM COMPLETE. IMMEDIATELY INSTALL INLET FILTERS ON ALL CATCH BASINS.
- BEGIN BUILDING CONSTRUCTION.
- INSTALL ALL OTHER UTILITIES.
- INSTALL PAVEMENT SECTION.
- BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL HAVE PERMANENT STABILIZATION COMPLETED WITHIN 5 DAYS OF FINAL GRADE.
- DAILY, OR AS REQUIRED, CONSTRUCT AND MAINTAIN TEMPORARY BERMS, DRAINS, SILT FENCE, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
- FINISH GRADE, REDISTRIBUTE TOPSOIL AND ESTABLISH VEGETATION ON ALL DISTURBED GROUND AREAS.
- CLEAN PAVEMENT AND STORM SEWERS OF ALL SEDIMENT.
- REMOVE SOIL EROSION CONTROL MEASURES AFTER PERMANENT VEGETATION HAS BEEN ESTABLISHED.
- INSTALL LANDSCAPING MATERIALS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SOIL EROSION CONTROL MEASURES ARE INSTALLED AND MAINTAINED.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

7	Hydro Seeding	Effective on large areas. Mulch tacking agent used to provide immediate protection until grass is rooted. Should include prepared topsoil bed.	PERMANENT MEASURE
14	Aggregate Cover	Tracking Mat - replenish stone as required due to rutting. 1"-3" crushed concrete 8" thick on geo-fabric. 30' wide by 50' long. Temporary measure, remove after completion of construction.	TEMPORARY MEASURE
36	Catch Basin, Drain Inlet	Collects high velocity concentrated runoff. Use filter cloth over inlet. (Alt. Silt-Sak lum.)	TEMPORARY MEASURE
54	Silt Fence	Filters and detains runoff. Shown on plan as - - - - -	TEMPORARY MEASURE



Know what's below.
Call before you dig.

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY EROSION CONTROL MEASURES												
SITE DEMOLITION												
STRIP ANY TOPSOIL / ROUGH GRADE												
INSTALL STORM SEWER SYSTEM												
BUILDING CONSTRUCTION												
SITE CONSTRUCTION & PAVEMENT												
PERMANENT EROSION CONTROL MEASURES												
LANDSCAPING/FINISH GRADING												

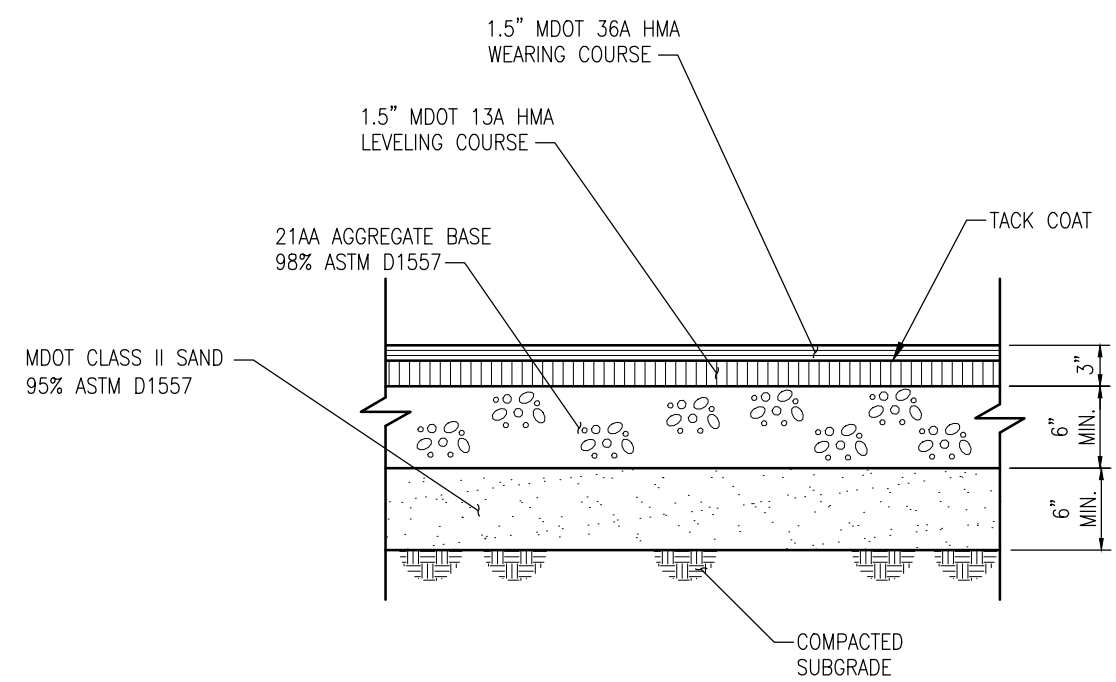
TASK	FREQUENCY	TRACKING MAT	SILT FENCE	INLET FILTERS	STORM SEWER	CB SUMPS	VEGETATION
INSPECT FOR SEDIMENT ACCUMULATION	WEEKLY	X	X	X	X	X	
REMOVE ACCUMULATED SEDIMENT	AS NEEDED		X	X	X	X	
INSPECT FOR FLOATABLES AND DEBRIS	WEEKLY				X	X	
REMOVE FLOATABLES AND DEBRIS	AS NEEDED				X	X	
INSPECT FOR PERMIT CONFORMANCE	AFTER RAIN	X	X	X			
RESTORE TO PERMIT CONFORMANCE	AS NEEDED	X	X	X			
INSPECT FOR SOIL EROSION	AFTER RAIN						X
RESTORE TO PREVENT EROSION	AS NEEDED						X
SCRAPE STREET	DAILY						
SWEEP STREET	WEEKLY						

REVISIONS: 04-28-16 PLAN REVIEW AND PERMITTING

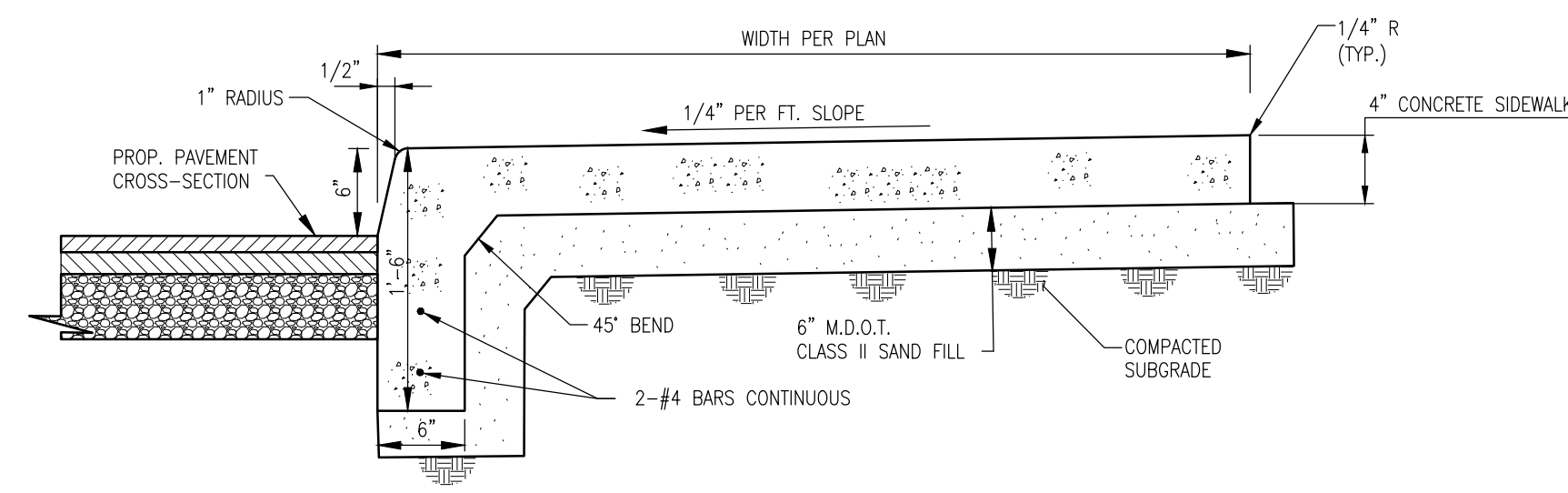
DATE: 4/06/2020
 PROJ. NUMBER: 400610020
 ENG: ES
 PROJ. MGR: ES
 CAD: RB
 COUNTY: Saginaw County
 CITY/VILLAGE/TOWNSHIP: City of Owosso
 SCALE: 1"=20'
 HORIZ. DATUM: NAD 83
 VERT. DATUM: NAD 83
 WOLGAST DESIGN GROUP, LLC
 ADVANCED EYE CARE & CONTACT LENS CENTER
 SOIL EROSION AND SEDIMENTATION CONTROL PLAN

DRAWING PATH: P:\4000_4100406150020_01\06150020SEC.dwg - Apr 27, 2016 - 8:57am

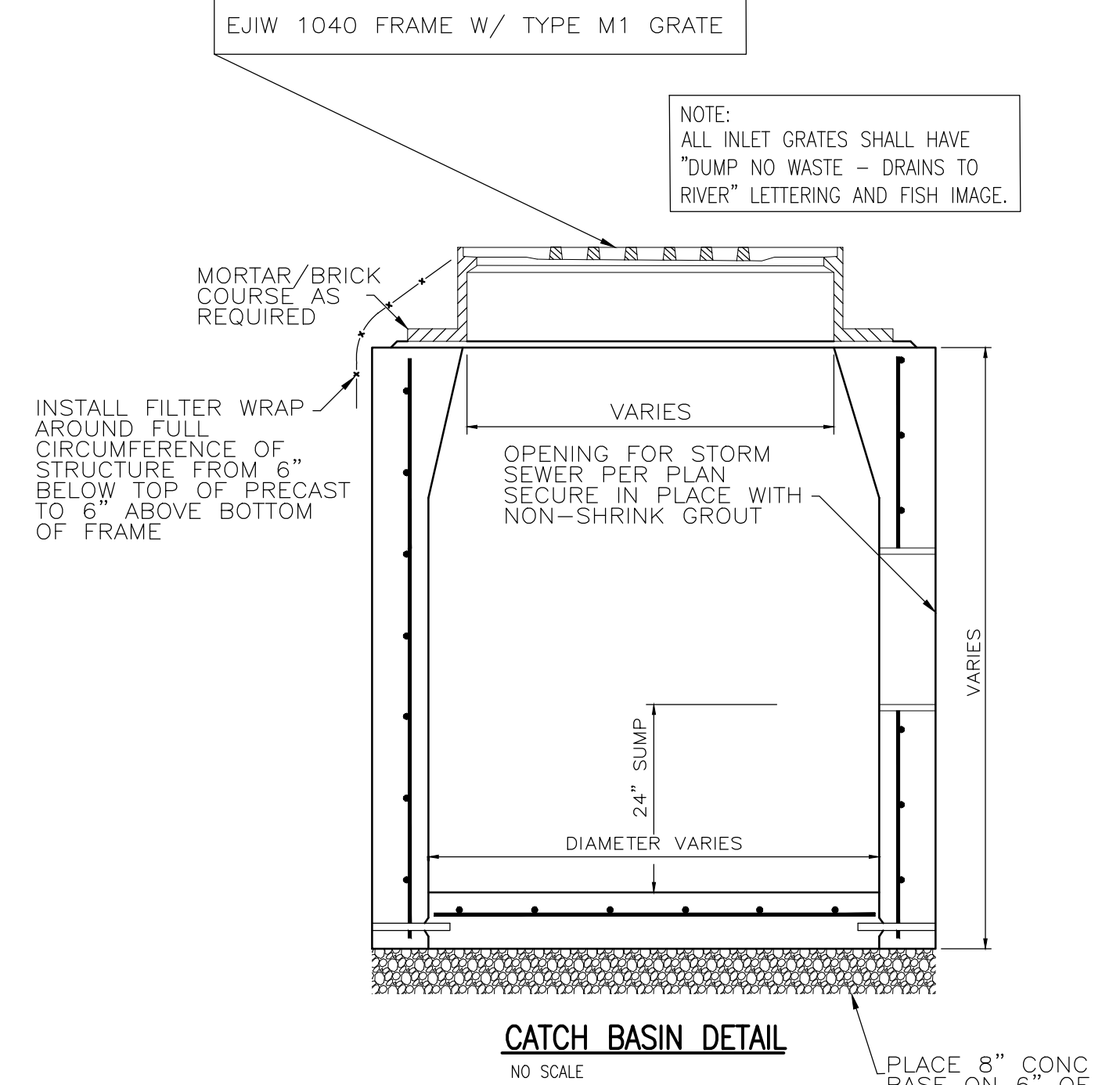
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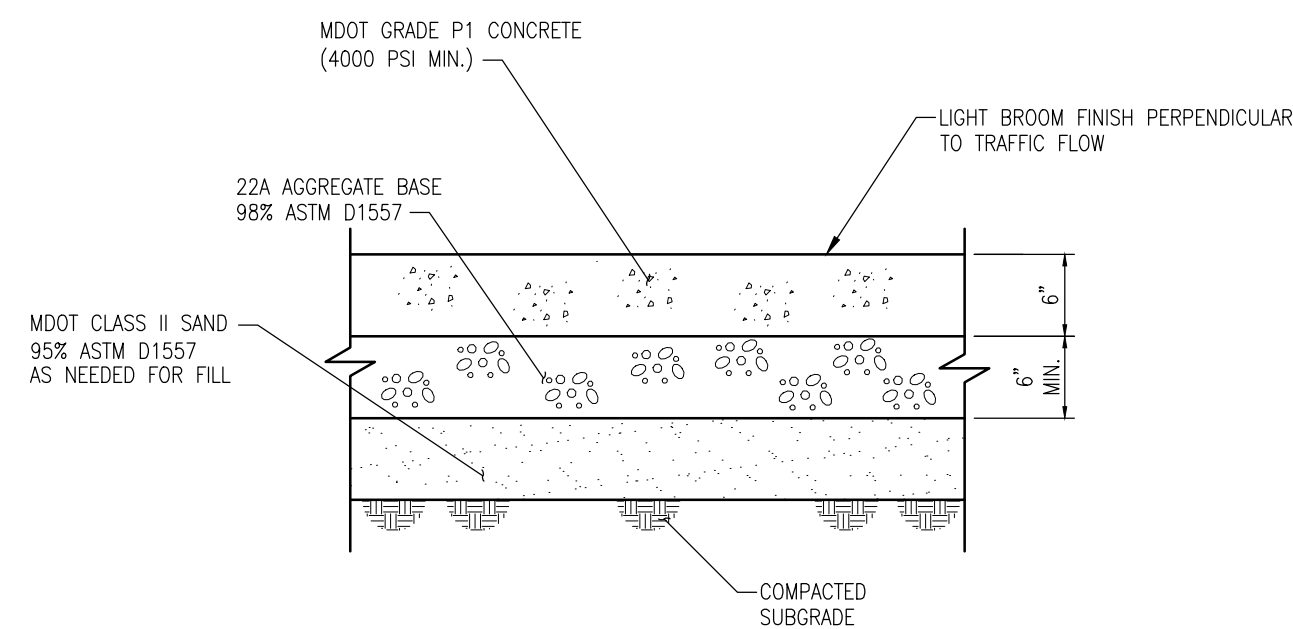
ASPHALT PAVEMENT (STANDARD DUTY)
NO SCALE



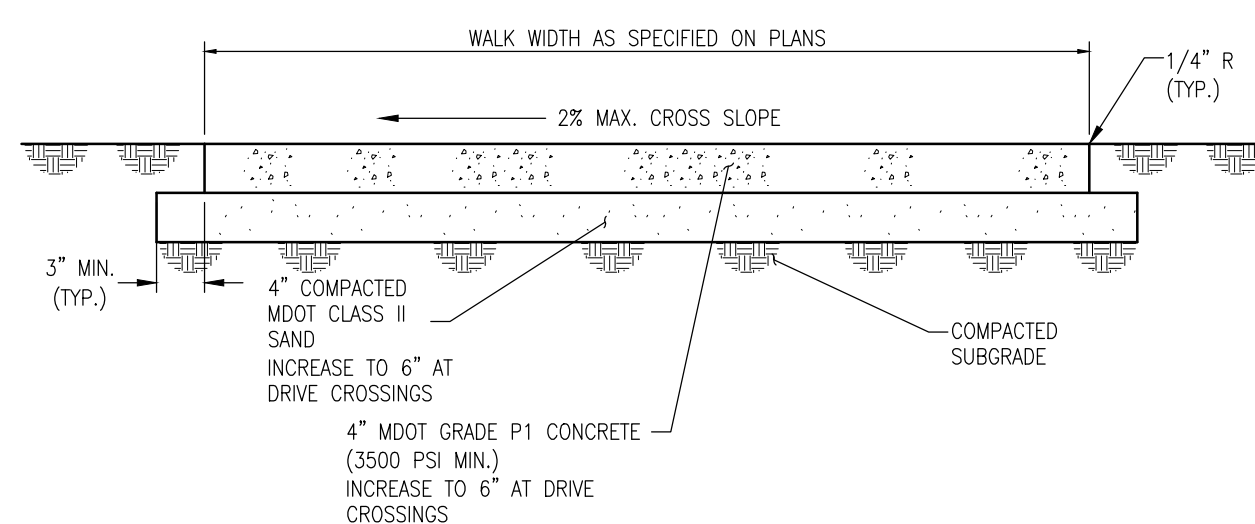
CONCRETE SIDEWALK AND INTEGRAL CURB DETAIL
NO SCALE



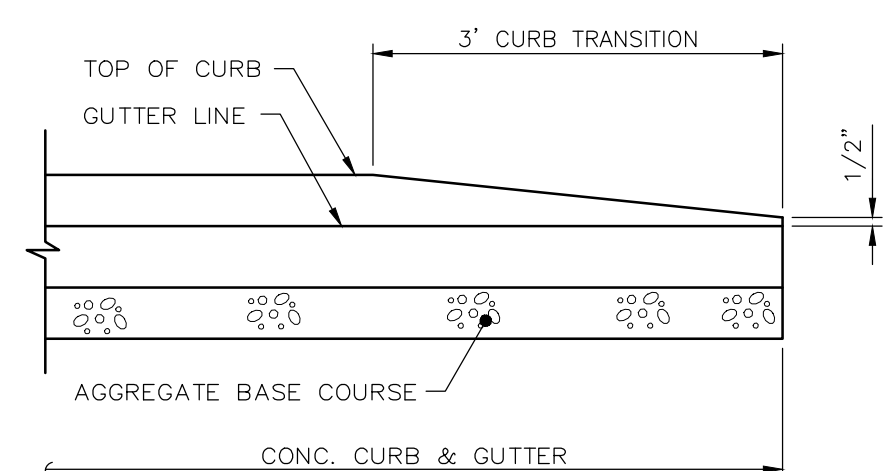
CATCH BASIN DETAIL
NO SCALE



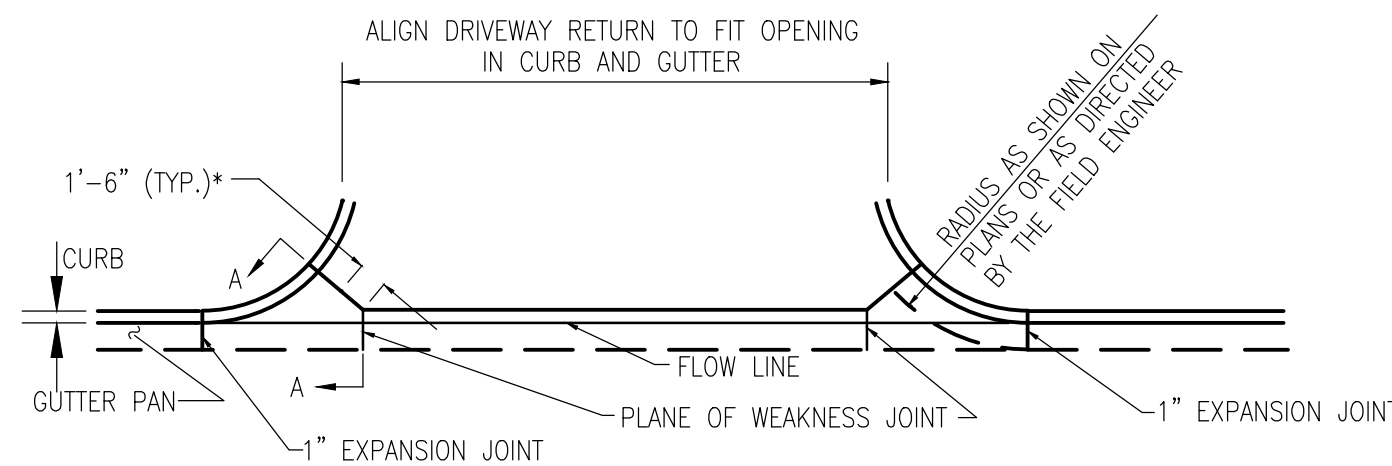
CONCRETE PAVEMENT
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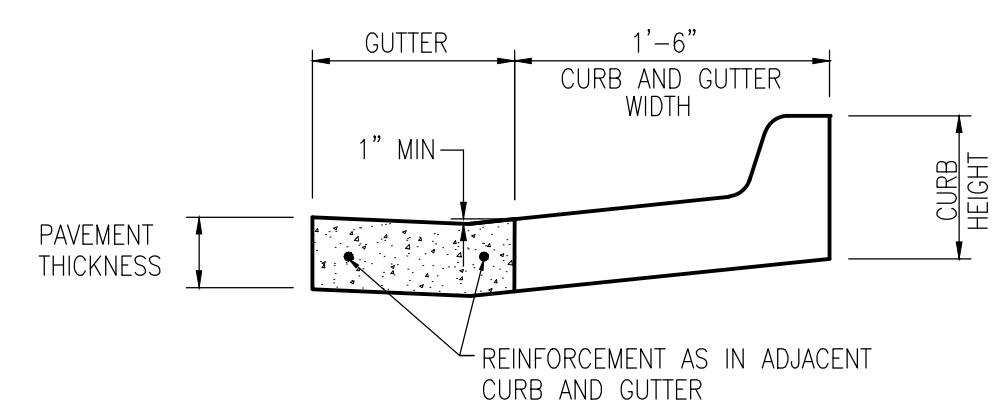
CONCRETE WALK
NO SCALE



TYPICAL CURB END TRANSITION
NO SCALE



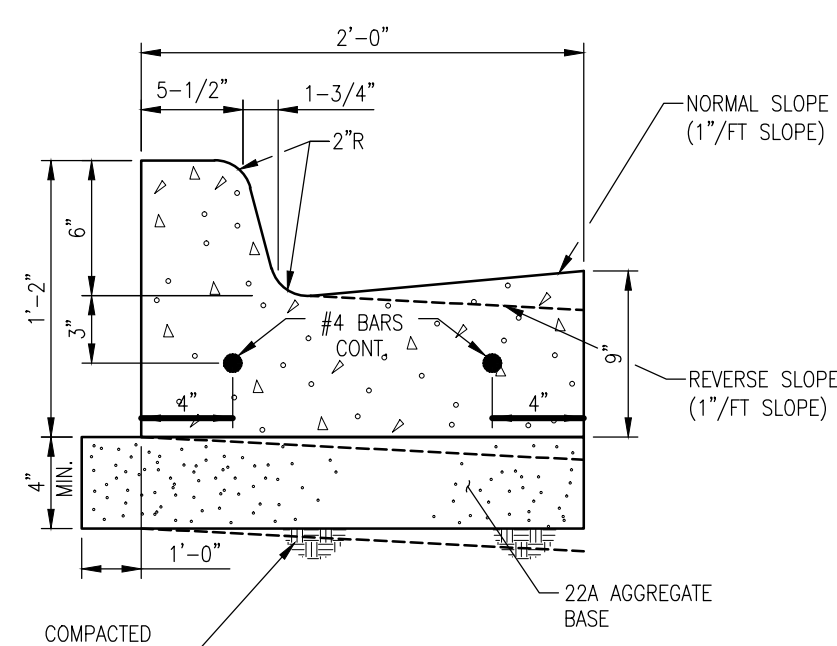
CONCRETE DRIVEWAY OPENING - DETAIL M
NO SCALE



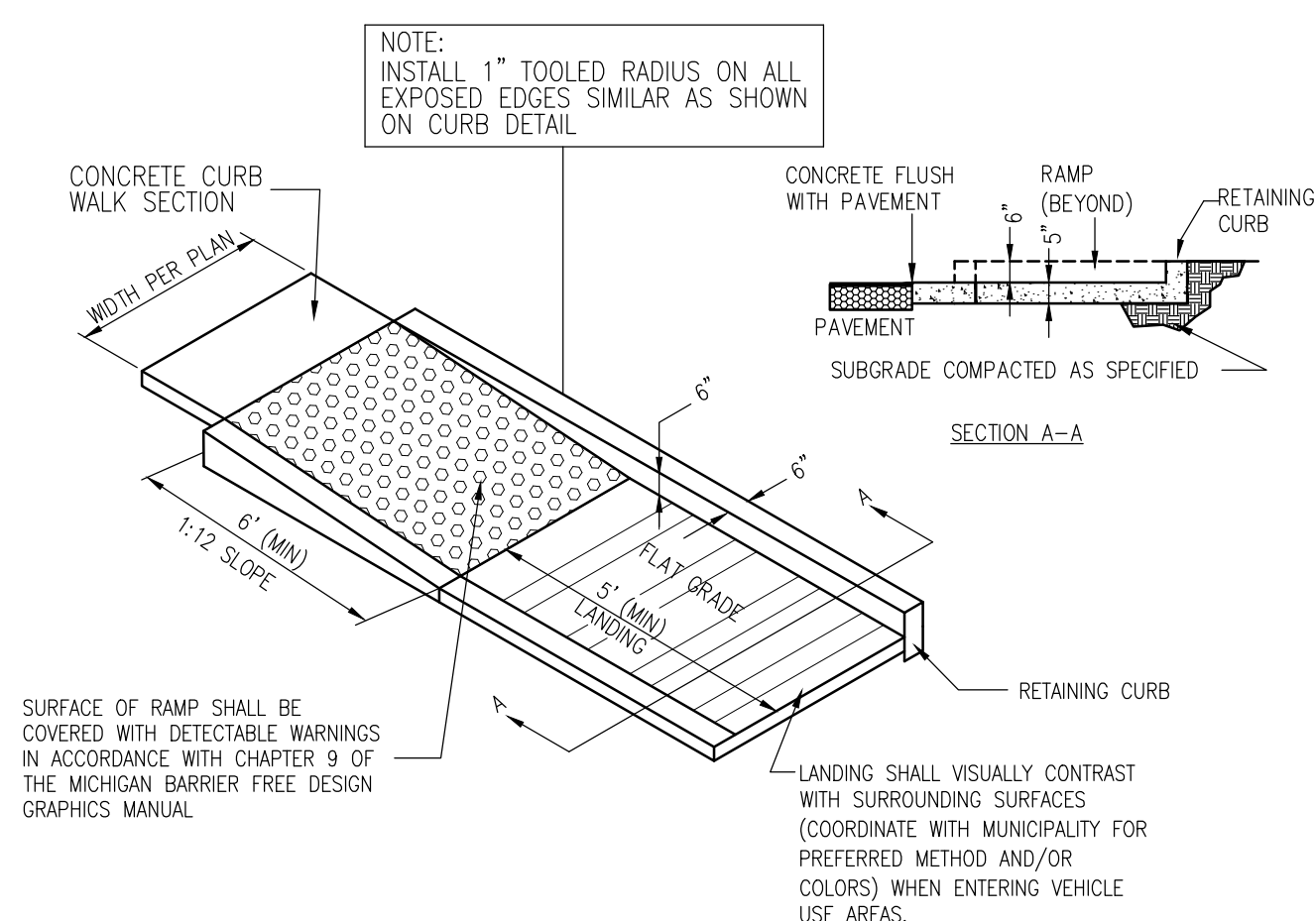
SECTION A-A

NOTE:
DETAIL FOR USE IN AREAS OF ALL
PEDESTRIAN CROSSINGS AND END OF CURB
LOCATIONS

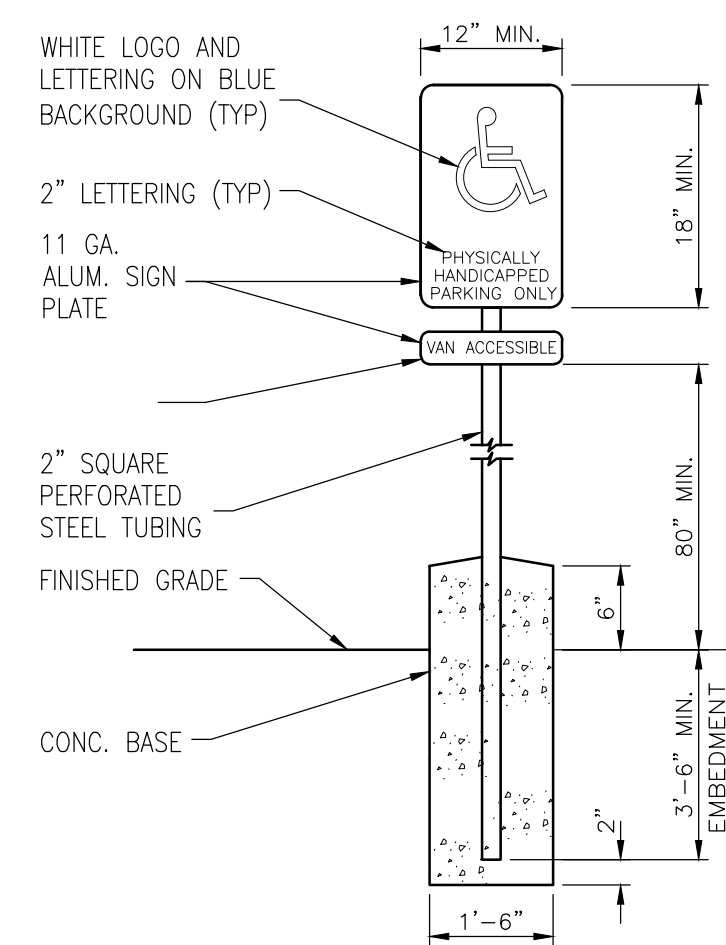
* TO EDGE OF GUTTER OR FACE
OF INTEGRAL CURB



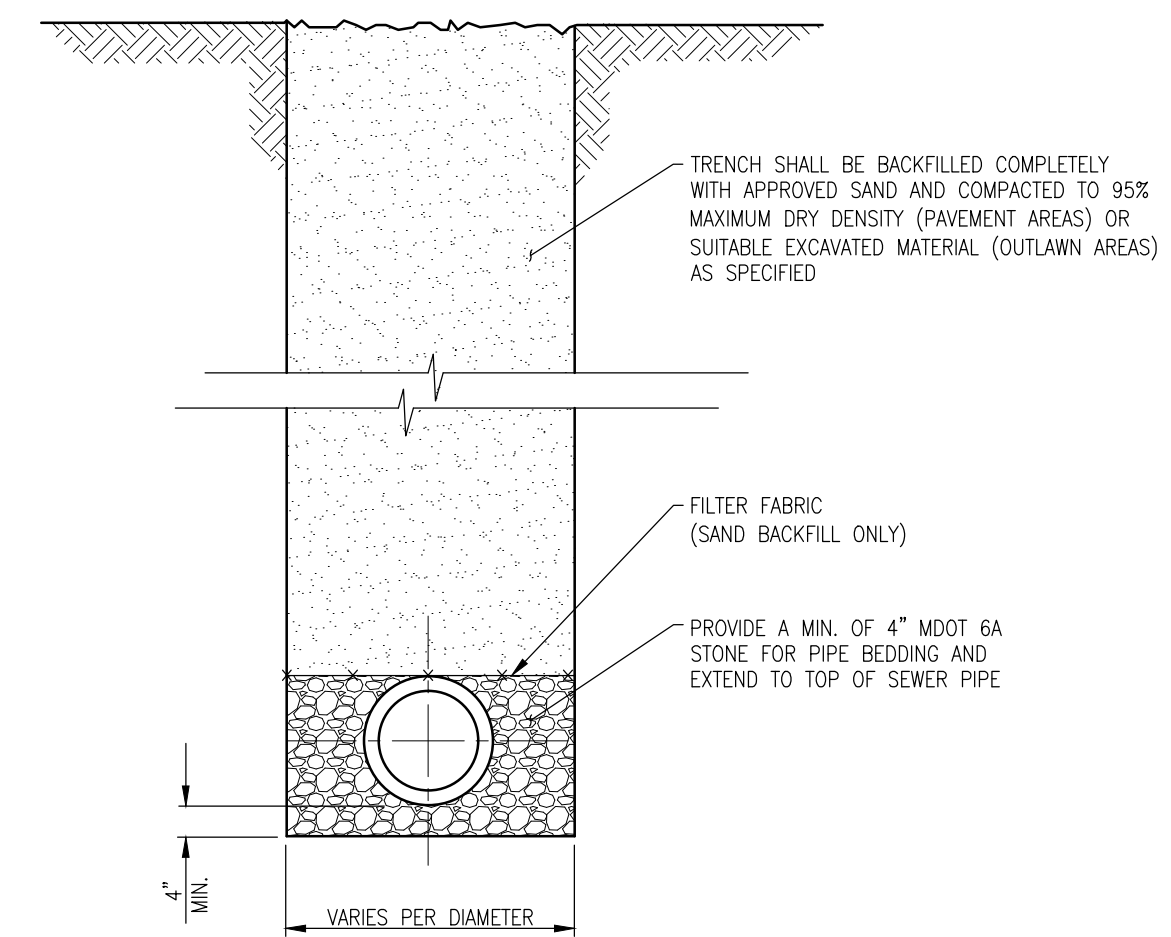
CURB & GUTTER (MDOT F4)
NO SCALE



BARRIER FREE RAMP
NO SCALE



TYPICAL HANDICAP SIGN
NO SCALE



SEWER TRENCH DETAIL
NO SCALE

DRAWING PATH: P:\4000_4100\400610020_Wolcast_Advanced_Eye_Care_Consulting\Drawings\Civil\Details\150202DEI.dwg Apr 27, 2016 - 8:57 am

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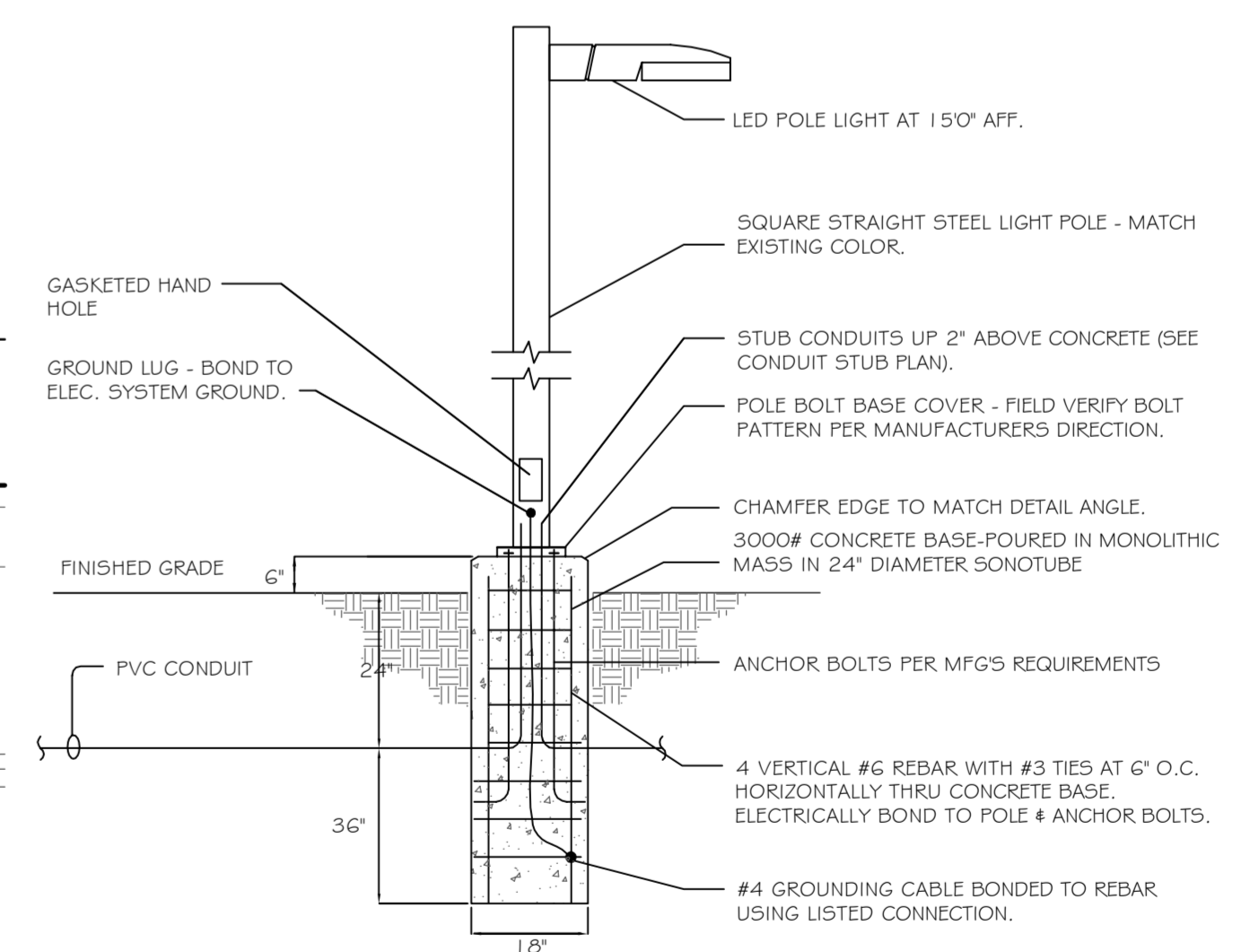
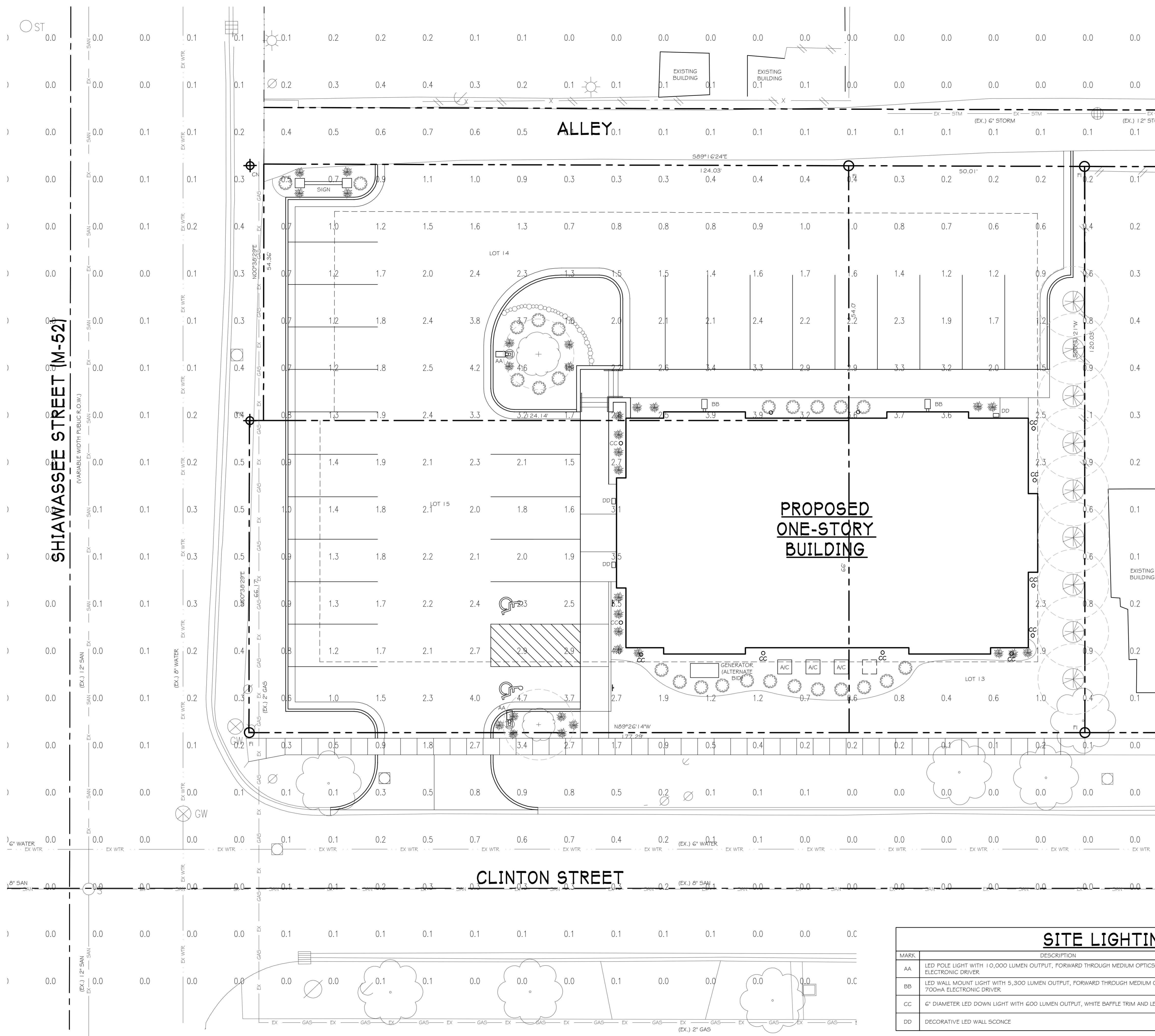
REVISIONS:

DRAWN BY:
N.A.F.

DATE:
04-28-16

PROJECT NUMBER:
A15737

SHEET NUMBER:
ES1.00



**TYPE AA POLE AND
 BASE DETAIL**
 SCALE: NONE

SITE LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	VOLTS	MANUFACTURER	CATALOG NUMBER	LAMP
AA	LED POLE LIGHT WITH 10,000 LUMEN OUTPUT, FORWARD THROUGH MEDIUM OPTICS AND 700mA ELECTRONIC DRIVER	120V	LITHONIA (OR APPROVED)	D5XO LED 40C 700 40K T4M MVOLT. PROVIDE WITH MATCHING SQUARE STRAIGHT STEEL POLE	LED 90W 4000°K
BB	LED WALL MOUNT LIGHT WITH 5,300 LUMEN OUTPUT, FORWARD THROUGH MEDIUM OPTICS AND 700mA ELECTRONIC DRIVER	120V	LITHONIA (OR APPROVED)	D5XO LED 20C 700 40K T4M MVOLT WBA	LED 45W 4000°K
CC	6" DIAMETER LED DOWN LIGHT WITH 600 LUMEN OUTPUT, WHITE BAFFLE TRIM AND LENS	120V	HALO (OR APPROVED)	RL560WH6840 RL56TRMWH PROVIDE WITH COMPATIBLE HOUSING	LED 4000°K
DD	DECORATIVE LED WALL SCONCE	120V	WINONA LTG. (OR APPROVED)	WFW3704 WL 6WIDE LED 12	LED 4000°K

PROJECT MANAGER SHALL REVIEW LIGHTING FIXTURE SUBMITTALS WITH OWNER OR OWNER REPRESENTATIVE FOR APPROVAL BEFORE ORDERING.

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 CONSTRUCTION

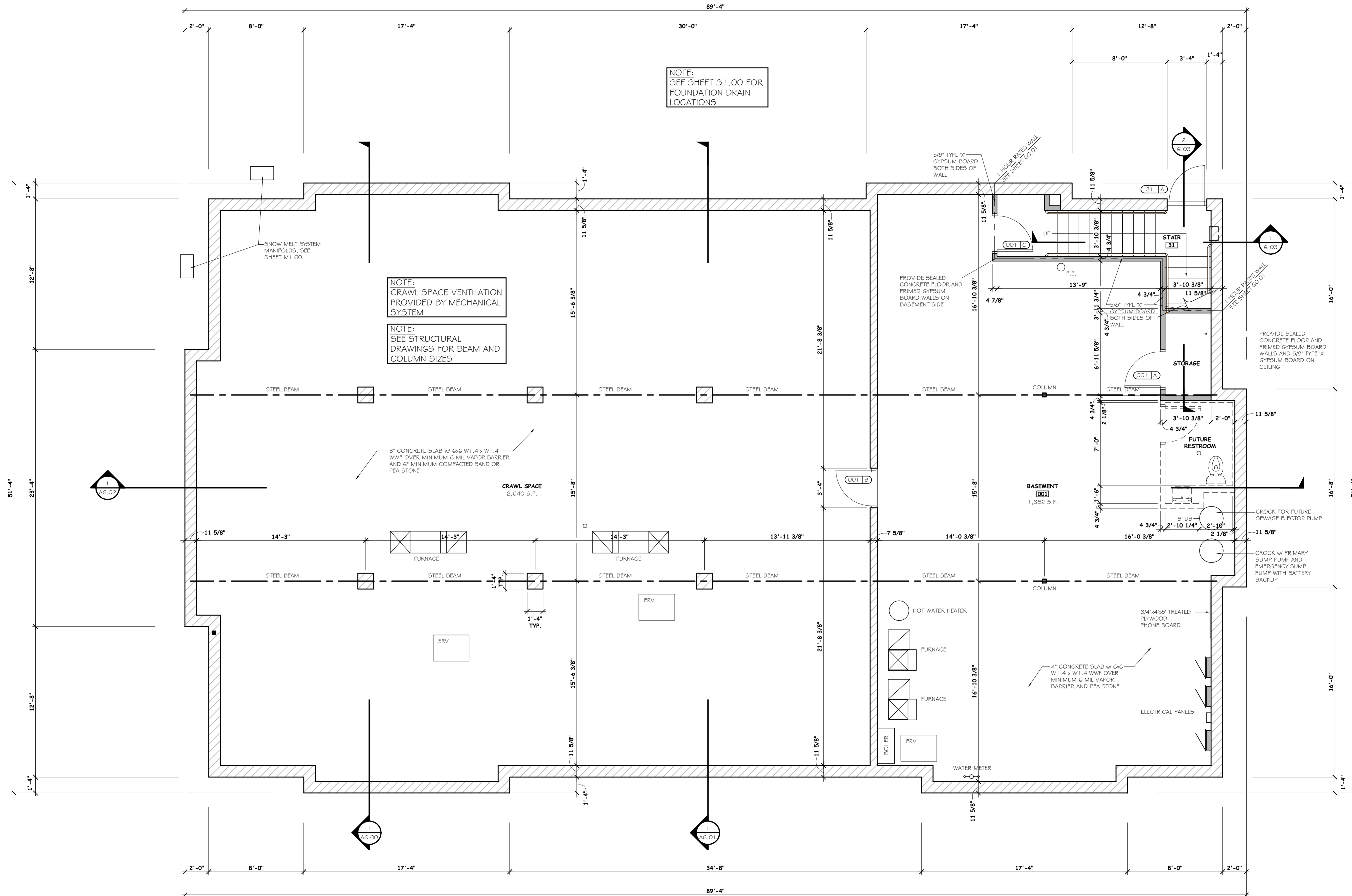
REVISIONS:

DRAWN BY:
A.D.V.

DATE:
04-28-16

PROJECT NUMBER:
A15737

SHEET NUMBER:
A1.00



NOTE:
 SEE SHEET S1.00 FOR
 FOUNDATION DRAIN
 LOCATIONS

NOTE:
 CRAWL SPACE VENTILATION
 PROVIDED BY MECHANICAL
 SYSTEM

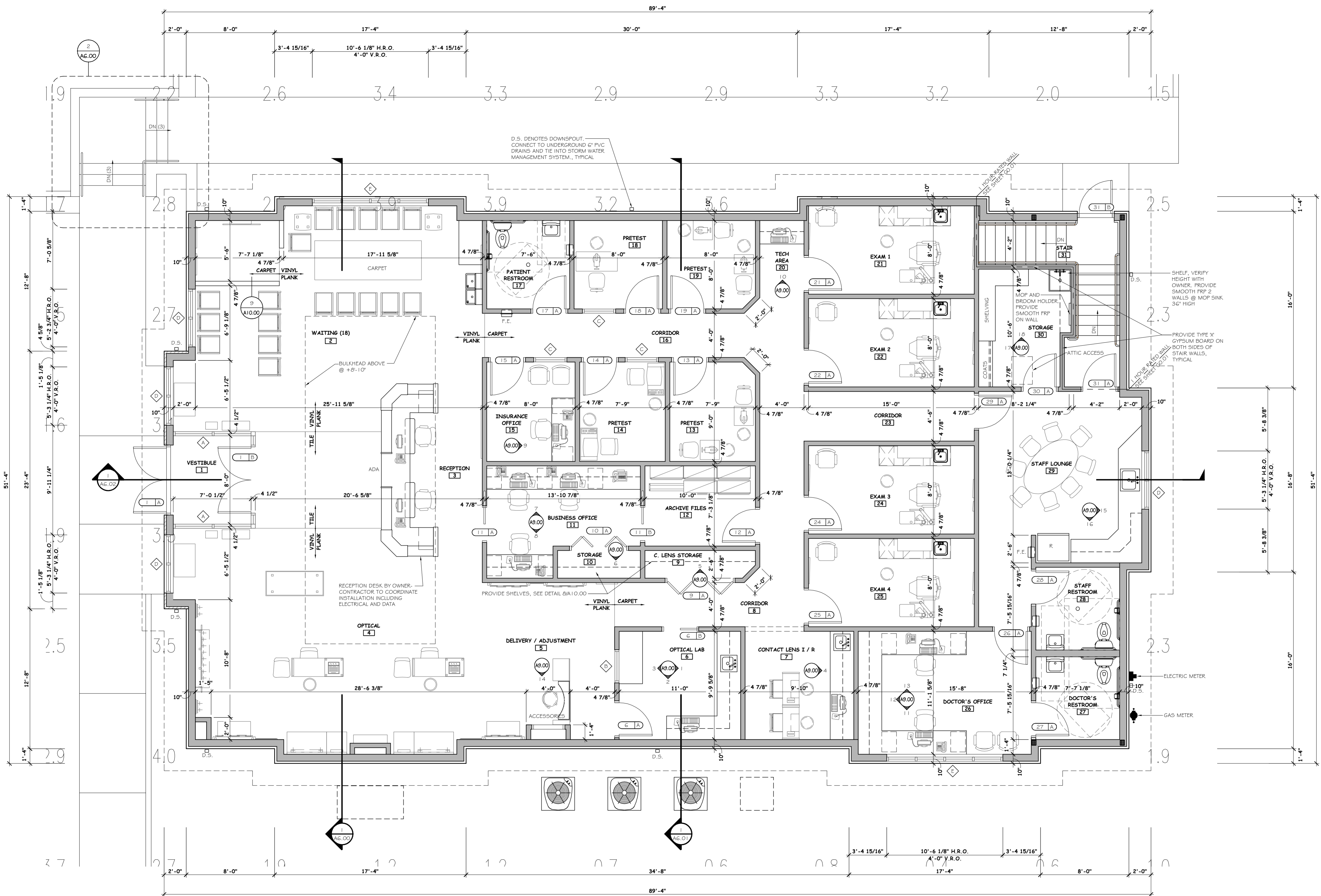
NOTE:
 SEE STRUCTURAL
 DRAWINGS FOR BEAM AND
 COLUMN SIZES

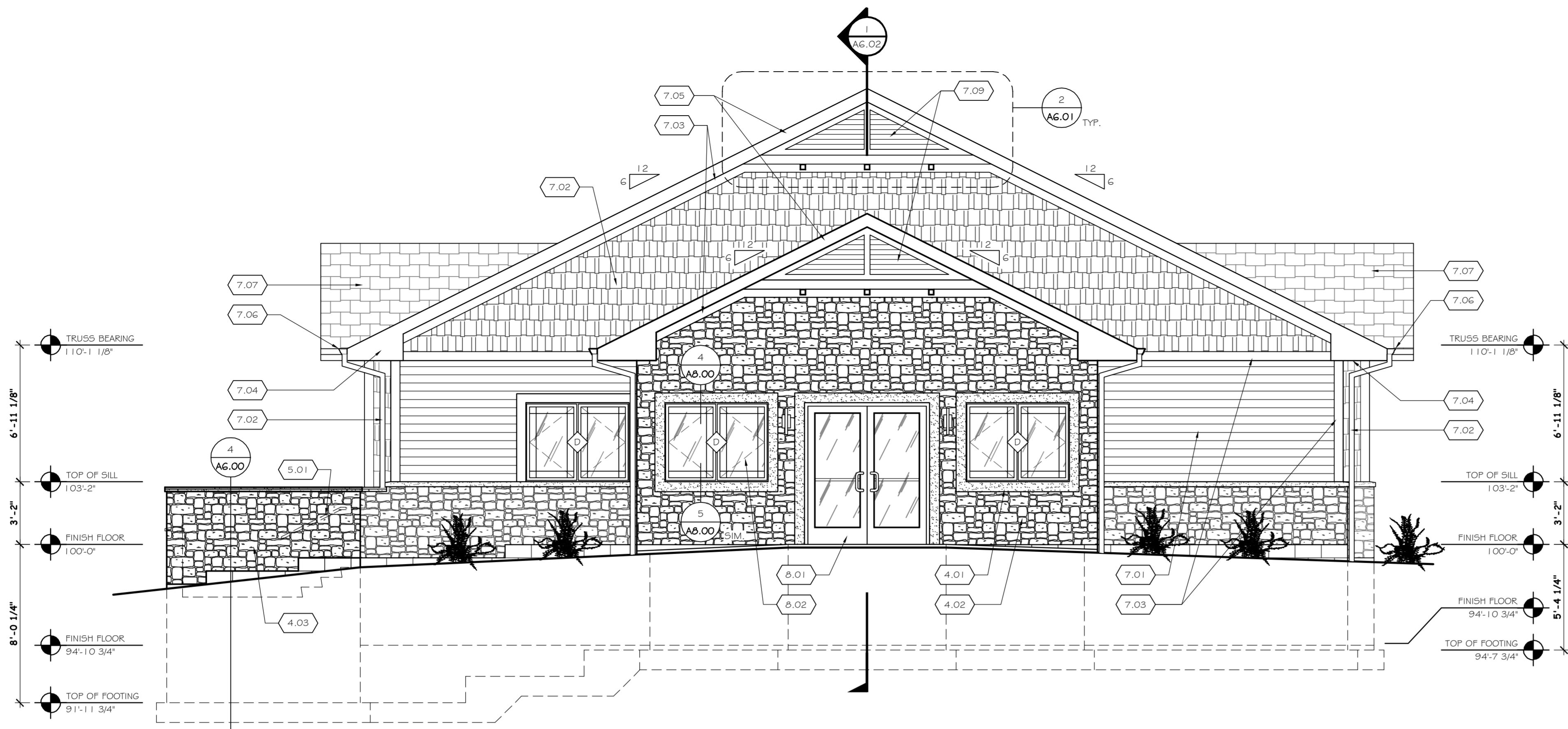
3" CONCRETE SLAB w/ 6x6 W1.4 x W1.4
 WWF OVER MINIMUM 6 MIL VAPOR BARRIER
 AND 6" MINIMUM COMPACTED SAND OR
 PEA STONE

CRAWL SPACE
 2,640 S.F.

4" CONCRETE SLAB w/ 6x6
 W1.4 x W1.4 WWF OVER
 MINIMUM 6 MIL VAPOR
 BARRIER AND PEA STONE

BASEMENT
 1,362 S.F.





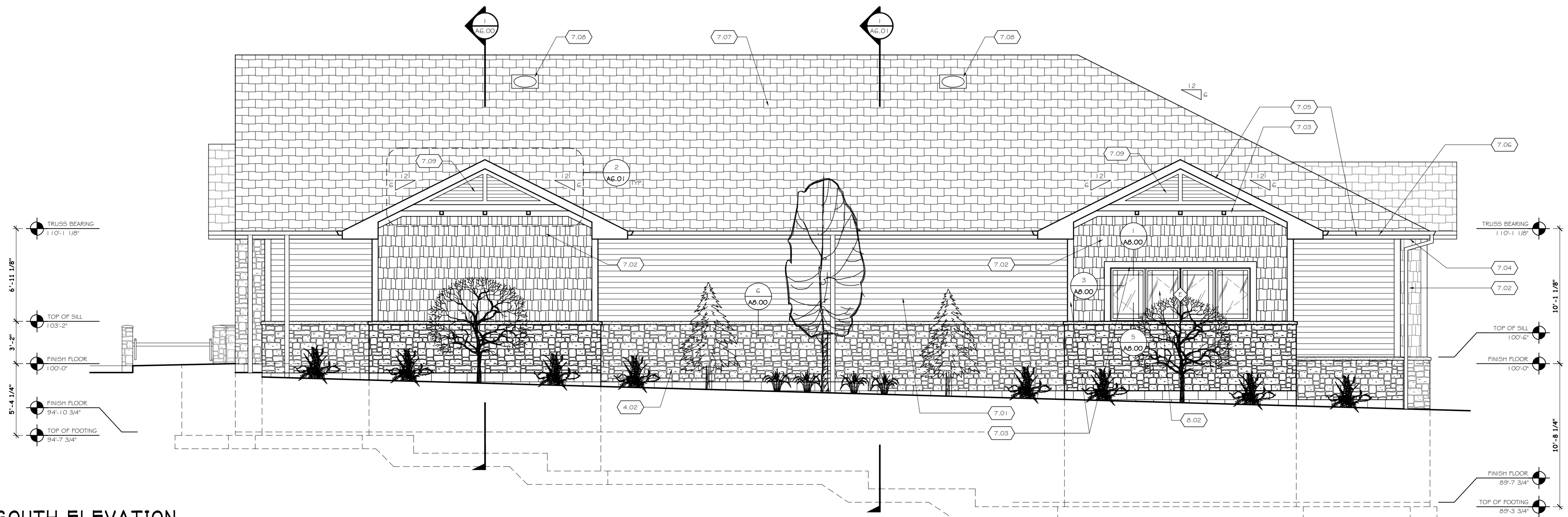
1 WEST ELEVATION
SCALE: 1/4" = 1' - 0"

EXTERIOR ELEVATION GENERAL NOTES

1. DOWNSPOUTS AS INDICATED TO BE CONNECTED TO UNDERGROUND 6" PVC DRAINS AND TIED INTO STORM WATER MANAGEMENT SYSTEM.
2. PROVIDE FLASHING AS REQUIRED WHERE ALL ROOF SLOPES MEET VERTICAL SURFACES.
3. ALL STACKS ROOF POWER VENTS AND PLUMBING STACKS PENETRATING ROOFS SHALL BE PAINTED TO MATCH ROOF COLOR.
4. PROVIDE EXPANSION JOINTS IN MASONRY & BRICK AS SHOWN OR AS REQUIRED PER MASONRY INSTITUTE RECOMMENDATION.
5. PROVIDE 1" MORTAR NET WITH MORTAR NET WEEPS AT 32" O.C. @ BASE OF EXTERIOR MASONRY AND OVER DOORS & WINDOWS.
6. PROVIDE LOW EXPANDING FOAM AROUND ALL EXTERIOR DOORS AND WINDOWS. REMOVE EXCESS FOAM PRIOR TO INSTALLING SEALANT.
7. PROVIDE SEALANT AROUND ALL DOORS AND WINDOWS, EXTERIOR SURFACES: G.E. SILICONE SEALANT #1600. INTERIOR SURFACES: BUTYL RUBBER PECORA CHEMICAL.
8. PROVIDE ICE SHIELD AND WATER GUARD AT ROOF EDGES, EXTEND FROM EAVES EDGE TO A POINT AT LEAST 24" INSIDE THE EXTERIOR WALL LINE OF THE BUILDING AND 1 ROW IN ALL VALLEYS.
9. PAINT ALL ELECTRICAL, GAS METERS, DOWNSPOUTS AND OTHER ITEMS FASTENED TO BUILDING TO MATCH BUILDING BACKGROUND.
10. ALL EXTERIOR CMU TO HAVE WATER REPELLANT ADD MIXTURE IN BLOCK AND MORTAR. APPLY CLEAR SEALER TO FINISHED WALL SYSTEM.
11. ALL LOUVERS TO HAVE INSECT SCREENS AND BAKED ENAMEL FINISH. VERIFY COLOR.
12. ALL EXTERIOR WINDOWS TO HAVE FLASHING TAPE PER MANUFACTURERS RECOMMENDATIONS.

EXTERIOR ELEVATION KEYNOTES

- 4.01 DUTCH QUALITY STONE 6" TRIM.
- 4.02 DUTCH QUALITY STONE - WEATHER LEDGE w/ WATER TABLE SILL. PROVIDE WATER DRAIN MAT AND BASE WEEP OPENINGS. VERIFY STONE STYLE AND COLOR BEFORE ORDERING. NOTE - INSTALL SHEATHING AND BUILDING WRAP OVER RIGID INSULATION BEHIND STONE, TYP.
- 4.03 DUTCH QUALITY STONE - WEATHER LEDGE ON CMU WALL w/ LIMESTONE CAP.
- 5.01 PAINTED 1 1/2" Ø STEEL HANDRAIL.
- 7.01 JAMES HARDIE CEDARMILL CEMENT BOARD LAP SIDING, STANDARD COLOR OVER DOW WEATHERMATE PLUS BUILDING WRAP AND 1/2" OSB SHEATHING.
- 7.02 BASE BID: JAMES HARDIE CEMENT BOARD HARDIESHINGLE SIDING, STANDARD COLOR OVER DOW WEATHERMATE PLUS BUILDING WRAP AND 1/2" OSB SHEATHING. ALTERNATE BID: CERTAINTED 7" STAGGERED CEDAR IMPRESSIONS VINYL SHAKE.
- 7.03 JAMES HARDIE 5 1/2" 4/4 HARDIE TRIM NT3 SMOOTH BOARDS, STANDARD COLOR.
- 7.04 ROLLEX STEALTH VENTED ALUMINUM SOFFIT.
- 7.05 2x8 ALUMINUM WRAPPED FASCIA.
- 7.06 CONTINUOUS ALUMINUM GUTTER & DOWNSPOUTS TO MATCH FASCIA COLOR. CONNECT TO UNDERGROUND 6" PVC. CONNECT 6" PVC TO NEAREST CATCH BASIN.
- 7.07 CERTAINTED LANDMARK PRO ASPHALT SHINGLES OVER SYNTHETIC UNDERLAYMENT AND 5/8" OSB SHEATHING.
- 7.08 POWER ROOF VENTS, SEE ROOF PLAN.
- 7.09 ALUMINUM NON-VENTED LOUVER WITH BAKED ENAMEL FINISH.
- 8.01 ALUMINUM FRAMED ENTRY SYSTEM w/ ANODIZED FINISH. CAULK HEAD AND JAMBS.
- 8.02 ANDERSEN 400 SERIES CASEMENT WINDOWS. PROVIDED WITH LOW E4 GLASS, PRAIRIE GRILLES BETWEEN GLASS AND INSECT SCREEN. CAULK ALL SIDES.
- 8.03 INSULATED ALUMINUM DOOR. CAULK HEAD AND JAMBS.



2 SOUTH ELEVATION
SCALE: 1/4" = 1' - 0"

PRELIMINARY
NOT FOR
CONSTRUCTION

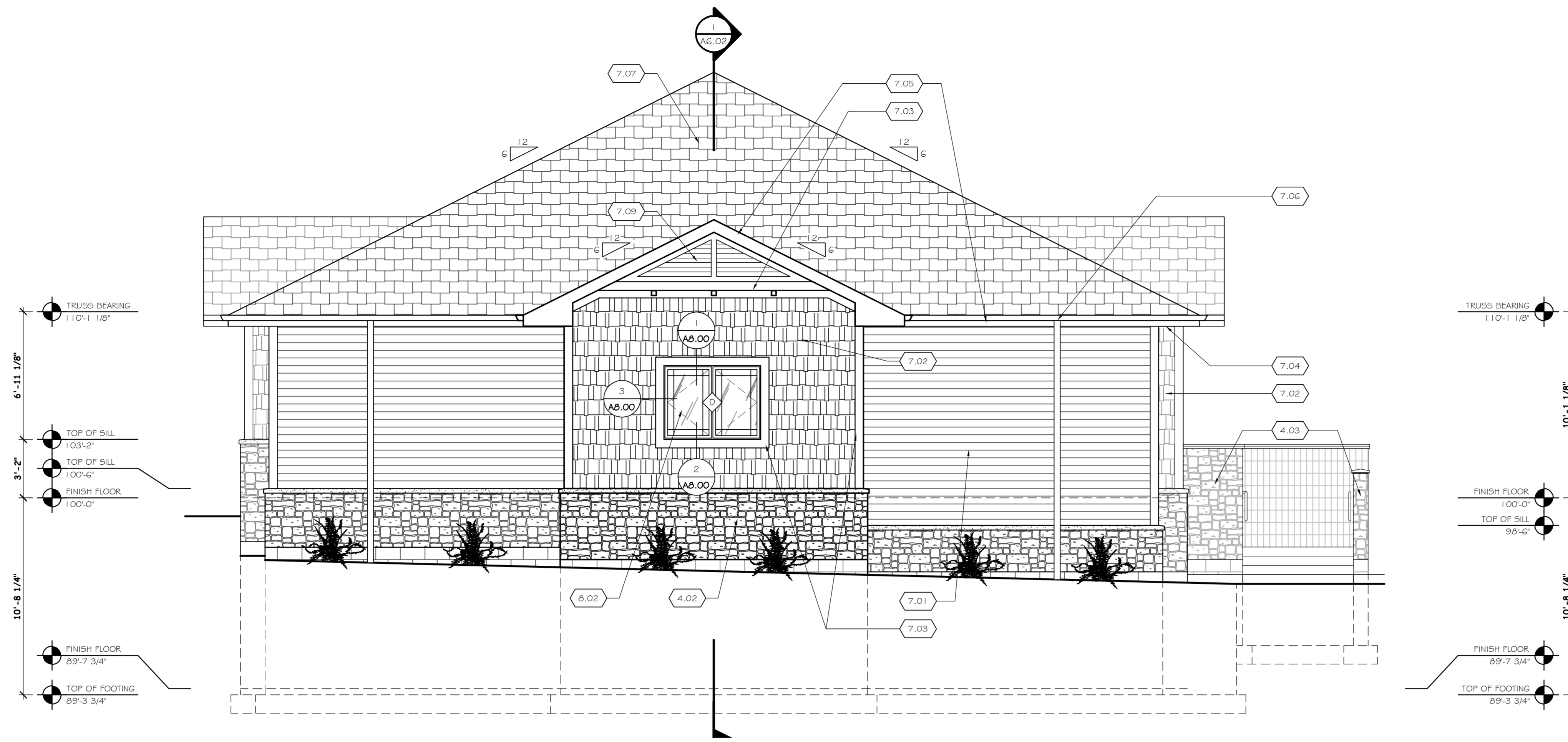
REVISIONS:

DRAWN BY:
A.D.V.

DATE:
04-28-16

PROJECT NUMBER:
A15737

SHEET NUMBER:
A5.00



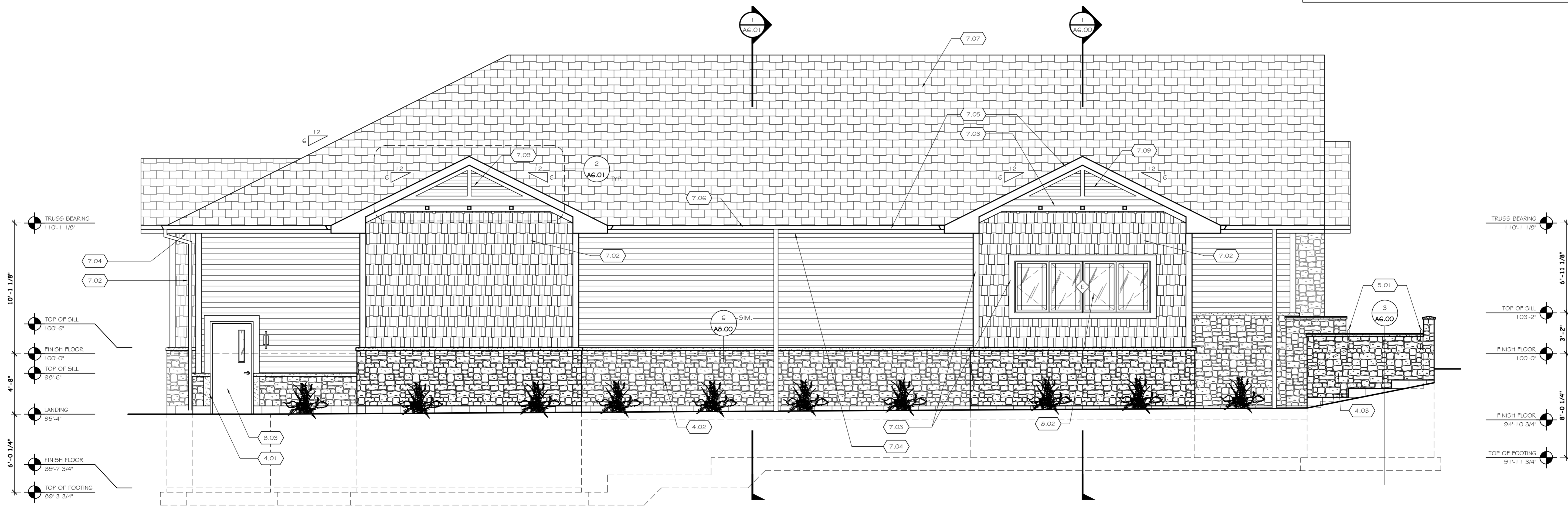
1 EAST ELEVATION
SCALE: 1/4" = 1' - 0"

EXTERIOR ELEVATION GENERAL NOTES

1. DOWNSPOUTS AS INDICATED TO BE CONNECTED TO UNDERGROUND 6" PVC DRAINS AND TIED INTO STORM WATER MANAGEMENT SYSTEM.
2. PROVIDE FLASHING AS REQUIRED WHERE ALL ROOF SLOPES MEET VERTICAL SURFACES.
3. ALL STACKS ROOF POWER VENTS AND PLUMBING STACKS PENETRATING ROOFS SHALL BE PAINTED TO MATCH ROOF COLOR.
4. PROVIDE EXPANSION JOINTS IN MASONRY & BRICK AS SHOWN OR AS REQUIRED PER MASONRY INSTITUTE RECOMMENDATION.
5. PROVIDE 1" MORTAR NET WITH MORTAR NET WEEPS AT 32" O.C. @ BASE OF EXTERIOR MASONRY AND OVER DOORS & WINDOWS.
6. PROVIDE LOW EXPANDING FOAM AROUND ALL EXTERIOR DOORS AND WINDOWS. REMOVE EXCESS FOAM PRIOR TO INSTALLING SEALANT.
7. PROVIDE SEALANT AROUND ALL DOORS AND WINDOWS, EXTERIOR SURFACES: G.E. SILICONE SEALANT #1 600. INTERIOR SURFACES: BUTYL RUBBER PECORA CHEMICAL.
8. PROVIDE ICE SHIELD AND WATER GUARD AT ROOF EDGES, EXTEND FROM EAVES EDGE TO A POINT AT LEAST 24" INSIDE THE EXTERIOR WALL LINE OF THE BUILDING AND 1 ROW IN ALL VALLEYS.
9. PAINT ALL ELECTRICAL, GAS METERS, DOWNSPOUTS AND OTHER ITEMS FASTENED TO BUILDING TO MATCH BUILDING BACKGROUND.
10. ALL EXTERIOR CMU TO HAVE WATER REPELLANT ADD MIXTURE IN BLOCK AND MORTAR. APPLY CLEAR SEALER TO FINISHED WALL SYSTEM.
11. ALL LOUVERS TO HAVE INSECT SCREENS AND BAKED ENAMEL FINISH. VERIFY COLOR.
12. ALL EXTERIOR WINDOWS TO HAVE FLASHING TAPE PER MANUFACTURERS RECOMMENDATIONS.

EXTERIOR ELEVATION KEYNOTES

- 4.01 DUTCH QUALITY STONE 6" TRIM.
- 4.02 DUTCH QUALITY STONE - WEATHER LEDGE w/ WATER TABLE SILL. PROVIDE WATER DRAIN MAT AND BASE WEEP OPENINGS. VERIFY STONE STYLE AND COLOR BEFORE ORDERING. NOTE - INSTALL SHEATHING AND BUILDING WRAP OVER RIGID INSULATION BEHIND STONE, TYP.
- 4.03 DUTCH QUALITY STONE - WEATHER LEDGE ON CMU WALL w/ LIMESTONE CAP.
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- 7.03 JAMES HARDIE 5 1/2" 4/4 HARDIE TRIM NT3 SMOOTH BOARDS, STANDARD COLOR.
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- 7.06 CONTINUOUS ALUMINUM GUTTER & DOWNSPOUTS TO MATCH FASCIA COLOR. CONNECT TO UNDERGROUND 6" PVC. CONNECT 6" PVC TO NEAREST CATCH BASIN.
- 7.07 CERTAINTED LANDMARK PRO ASPHALT SHINGLES OVER SYNTHETIC UNDERLAYMENT AND 5/8" OSB SHEATHING.
- 7.08 POWER ROOF VENTS, SEE ROOF PLAN.
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- 8.01 ALUMINUM FRAMED ENTRY SYSTEM w/ ANODIZED FINISH. CAULK HEAD AND JAMBS.
- 8.02 ANDERSEN 400 SERIES CASEMENT WINDOWS. PROVIDED WITH LOW E4 GLASS, PRAIRIE GRILLES BETWEEN GLASS AND INSECT SCREEN. CAULK ALL SIDES.
- 8.03 INSULATED ALUMINUM DOOR. CAULK HEAD AND JAMBS.



2 NORTH ELEVATION
SCALE: 1/4" = 1' - 0"

PRELIMINARY
NOT FOR
CONSTRUCTION

REVISIONS:

DRAWN BY:
A.D.V.

DATE:
04-28-16

PROJECT NUMBER:
A15737

SHEET NUMBER:
A5.01



Project:	Advanced Eye Care-Owosso
Project #:	4006-15-0020
Project Location:	City of Owosso
Date:	4/6/2016
Calculated By:	ERS
Checked By:	

DOT DETENTION CALCULATIONS

Trunkline	Permit No	Location Description
		NE Corner of M-52 & Clinton St.
Calculations done by (signature)		Date
		4/6/2016

1. Determination of EXISTING runoff into right of way (Rational Method)

Gross Area of Development	21144 S.F.
Total Existing area draining into ROW	21144 S.F.

Grass (S.F.*0.20 = CA)

S.F. 14240 CA **2848**

Pavement (S.F.*0.80 = CA)

S.F. 4186 CA **3348.8**

Building (S.F.*0.80 = CA)

S.F. 1349 CA **1079.2**

Other (S.F.*0.70 = CA)

S.F. 1369 CA **958.3**

Total Area Total CA

S.F. 21144 CA **8234.30**

(Wt. C) = CA/ Total Area 0.39

Qallow = CAI Use 10 year storm to determine I from charts for $T_c = ((2Ln)/(3\sqrt{S}))^{0.467}$

where L = 140 FT. (length of flow) where n = 0.2 for grass

where S = 0.0507 FT./FT. (slope of parcel)

Tc = 7.87 I₁₀ = 4.4 from charts

Qallow = 0.83 CFS where Qallow = $CAI_{10}/(43560 \text{ S.F./Acre})$

2. Determination of PROPOSED runoff area into right of way

Total proposed area draining into right of way = 21144 S.F.

Grass (S.F.*0.20 = CA)

S.F. 4689 CA **937.8**

Pavement (S.F.*0.80 = CA)

S.F. 12130 CA **9704**

Building (S.F.*0.80 = CA)

S.F. 4325 CA **3460**

Other (S.F.*Impervious Factor = CA)

S.F. CA

Total Area Total CA

S.F. 21144 CA **14101.80**

(Wt. C) = CA/ Total Area 0.67

3. Determination of Metering Line

Overflow elevation in parking lot minus 1/3 depth of retention = 726.85

Storm sewer main top elevation at retention outlet (closed system) = 724.85

Discharge pipe top elevation at outlet (open ditch) = N/A

Length of metering line = F.T. 59

Manning's formula for pipe discharge, $Q = CF(S^{1/2})$

Hydraulic Gradient = $S = (\text{Overflow elev.} - \text{Outlet elev.}) / \text{length of meter line}$
 Closed system 0.034

Conveyance Factors (CF) = $1.486/n * A(R^{2/3})$

Diameter (inches)	Smooth PVC	Concrete	Cast Iron	Corrugated Steel
	Manning's Coeff. "n" 0.010	0.013	0.015	0.021
4		1.9	1.65	1.18
6	7.3	5.61	4.86	3.47
8	15.8	12.09	9.82	7.48
10	28.4	21.88	16.75	13.55
12	46.4	25.64	25.73	22.06
15	84.1	64.7	46.65	40.05

Metering Pipe Size & Type 6" PVC CF = 7.3

$Q_{\text{discharge}} = CF * S^{1.5}$ 1.28 CFS Per City: Site to be restricted to 6" Outlet

4. Determination of Detention volume (25 yr Storm)						
TC (min)	i_{25} (in/hr)	$C_w A$ (A in acres)	Q_{in}	Q_{out} = Q_{allow}	$Q_{in} - Q_{out}$	$(Q_{in} - Q_{out}) \times TC \times 60$ (ft^3)
10	5.16	0.33	1.70	1.34	0.36	218
20	3.72	0.33	1.23	1.28	-0.05	-63
30	3.02	0.33	1.00	1.34	-0.34	-618
40	2.48	0.33	0.82	1.34	-0.52	-1252
50	2.15	0.33	0.71	1.34	-0.63	-1892
60	1.92	0.33	0.63	1.34	-0.71	-2543
90	1.43	0.33	0.47	1.34	-0.87	-4688
120	1.19	0.33	0.39	1.34	-0.95	-6821
180	0.87	0.33	0.29	1.34	-1.05	-11371
360	0.51	0.33	0.17	1.34	-1.17	-25309
720	0.30	0.33	0.10	1.34	-1.24	-53611
1080	0.21	0.33	0.07	1.34	-1.27	-82341

DESIGN RETENTION VOLUME = **218 Cu.Ft.**
 VOLUME OF PROPOSED RETENTION BASIN = 224 Cu.Ft.

Detention Provided Calculation

Pipe - 8" $A = 0.349 \text{ ft}^2/\text{ft}$

$$V = (0.349)(88 \text{ ft}) = \underline{30 \text{ ft}^3}$$

18" $A = 1.767 \text{ ft}^2/\text{ft}$

$$V = (1.767)(35 \text{ ft}) = \underline{61 \text{ ft}^3}$$

Surface Storage @ CB # 1

$$V = \frac{1}{3} A(h)$$

$$= \frac{1}{3}(799)(0.5)$$

$$= \underline{133 \text{ ft}^3}$$

$$h = 726.85 - 726.35 = 0.50 \text{ ft}$$

$$A = 799 \text{ ft}^2$$

$$V_{\text{Total}} = 30 \text{ ft}^3 + 61 \text{ ft}^3 + 133 \text{ ft}^3$$

$$\boxed{V = 224 \text{ ft}^3} > 218 \text{ ft}^3 \text{ Req.}$$

CITY OF OWOSSO
301 W MAIN ST
OWOSSO, MI 48867
Phone : (989) 725-0599

Received From:
WOLGAST

Date: 04/29/2016 Time: 9:10:45 AM
Receipt: 386209 *** REPRINT ***
Cashier: AKSmith
Workstation: 02 Drawer: 1

SITE PLAN REVIEW

ITEM REFERENCE	AMOUNT

ZONING ZONING VARIANCE, APPLICATION FEE, MA P	\$150.00

TOTAL	\$150.00
CHECKS 241589	\$150.00
Total Tendered:	\$150.00
Change:	\$0.00