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**PLANNING COMMISSION
MEETING AGENDA
REGULAR MEETING**

David Lambert, Chairman, Marianna Perakis, Vice Chairman
Toby Buechner, Carlton Faison, Michael W. Hutson, Tom Krent,
Lakshmi Malalahalli, Sadek Rahman and John J. Tagle

June 14, 2022

7:00 P.M.

Council Chambers

1. ROLL CALL
2. APPROVAL OF AGENDA
3. APPROVAL OF MINUTES – May 24, 2022
4. PUBLIC COMMENT – For Items Not on the Agenda

PRELIMINARY SITE PLAN REVIEW

5. PRELIMINARY SITE PLAN REVIEW (File Number JPLN2022-0017) – Proposed Abbey Estates Site Condominium, 4 units/lots, North side of Wattles, West of Rochester, Section 15, Currently Zoned R-1C (One Family Residential) District

OTHER ITEMS

6. PUBLIC COMMENTS – For Items on the Agenda
7. PLANNING COMMISSION COMMENT
8. ADJOURN

NOTICE: People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at clerk@troymi.gov or by calling (248) 524-3317 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations

Televised Live, Government Channel WTRY (10 WideOpenWest and 17 Comcast) Replayed Wednesdays 3:00 pm, 6:00 pm and 11:00 pm

Chair Lambert called the Regular meeting of the Troy City Planning Commission to order at 7:00 p.m. on May 24, 2022, in the Council Chamber of the Troy City Hall. Chair Lambert and Vice Chair Perakis presented opening remarks relative to the role of the Planning Commission and procedure of tonight’s meeting.

1. ROLL CALL

Present:

- Toby Buechner
- Carlton M. Faison
- Michael W. Hutson
- Tom Krent
- David Lambert
- Marianna Perakis
- Sadek Rahman
- John J. Tagle

Absent:

- Lakshmi Malalahalli

Also Present:

- R. Brent Savidant, Community Development Director
- Ben Carlisle, Carlisle Wortman Associates
- Julie Quinlan Dufrane, Assistant City Attorney
- Kathy L. Czarnecki, Recording Secretary

2. APPROVAL OF AGENDA

Resolution # PC-2022-05-030

- Moved by: Rahman
- Support by: Tagle

RESOLVED, To approve the Agenda as prepared.

- Yes: All present (8)
- Absent: Malalahalli

MOTION CARRIED

3. APPROVAL OF MINUTES – May 10, 2022

Resolution # PC-2022-05-031

- Moved by: Perakis
- Support by: Buechner

RESOLVED, To approve the minutes of the May 10, 2022 Regular meeting as submitted.

Yes: All present (8)
 Absent: Malalahalli

MOTION CARRIED

4. PUBLIC COMMENT – For Items Not on the Agenda

There was no one present who wished to speak.

PUBLIC HEARING

5. PUBLIC HEARING - SPECIAL USE APPROVAL AND PRELIMINARY SITE PLAN REVIEW (SP JPLN2022-0016) – Proposed Automark Collision Center, North side of Maplelawn, West of Crooks (1744 Maplelawn), Section 29, Currently Zoned IB (Integrated Industrial & Business) District

Mr. Carlisle reviewed the Special Use and Preliminary Site Plan application for Automark Collision Center as relates to the reinvestment in the property and site improvements. Mr. Carlisle explained the application is being reviewed as a Special Use because the property is located within 300 feet of residentially zoned property.

Mr. Carlisle addressed the Auto Repair Standards and Special Use Standards set forth in Section 6.26 and Section 9.03 of the Zoning Ordinance, respectively. Mr. Carlisle expressed support of the reinvestment in the site and recommended Preliminary Site Plan and Special Use Approval with the conditions as identified in the Planning Consultant report dated May 12, 2022.

A discussion among Board members and the administration followed, some comments relating to:

- Screening of outdoor storage; maximum eight (8) feet high.
- Distance of property to residentially zoned property.
- Compliance with lighting and landscaping requirements, as relates to the re-use of an existing site.

Present were applicant Andrew Lekosiotis, Manager of Automark, and Glenn DesRosiers, real estate broker, friend and client.

Mr. Lekosiotis said the Troy collision shop would be a support shop for his two larger collision shops located in Farmington Hills and Rochester Hills. He said the shops provide certified repair services for premium vehicles (BMW's, Mercedes, Land Rovers). Mr. Lekosiotis said the Troy site would avoid tow-in's and provide quick repair services. He noted he would be a tenant of the building.

Mr. DesRosiers said he’s known Mr. Lekosiotis for 34 years and wanted to express support for the proposed site reinvestment. He validated the reputable service that Mr. Lekosiotis provides to his clients from all over the country and briefly addressed a recent purchase/acquisition of a shop formerly operated by Mr. Lekosiotis.

There was discussion on:

- Location of overhead doors.
- Screening of outdoor storage, as relates to existing fence.
- Type, condition and estimated number of vehicles that would be stored.

PUBLIC HEARING OPENED

There was no one present who wished to speak.

PUBLIC HEARING CLOSED

Resolution # PC-2022-05-032

Moved by: Krent
 Support by: Rahman

RESOLVED, That Special Use Approval and Preliminary Site Plan Approval for the proposed Automark Collision Center, North side of Maplawn, West of Crooks (1744 Maplawn), Section 29, Currently Zoned IB (Integrated Industrial & Business) District, be **granted**, subject to the following conditions:

1. Repair and restripe parking lot and provide thirty-five (35) automobile spaces including two (2) barrier free spaces.
2. Provide bicycle parking.
3. Install two (2) street trees.
4. Screen outdoor storage area.
5. All equipment including hydraulic hoists, pits, lubrication and repair facilities shall be entirely enclosed within building.
6. All repair and maintenance activities shall be performed entirely within enclosed building.

Yes: All present (8)
 Absent: Malalahalli

MOTION CARRIED

CONCEPTUAL SITE PLAN

6. TROY CIVIC CENTER PAVILION – Conceptual Design

Public Works Director Kurt Bovensiepe presented a conceptual design of the Troy Civic Center Pavilion. He said the conceptual design was recently presented to City Council who in turn approved a proposal from OHM to complete the design of the public space pavilion and ice-skating facility. Mr. Bovensiepe addressed its location in proximity to the Jeanne M. Stine Community Park, OHM goals and objectives, funding, conceptual views of a four-season facility and lighting attraction.

There was discussion on:

- Parking.
- Accessibility to Jeanne M. Stine Community Park.
- Entry free facility, concessions, hours of operation, skating rink management, capability to offer all-season activities.
- Zamboni amenity, function, sustainability of ice-skating rink.
- Opportunity to host future attractions and programs.
- Landscaping.
- Public seating near activities.
- Best practices, ideas, obtained from visits to similar local facilities.
- Aggressive timeline; October 2023.

PRELIMINARY SITE PLAN REVIEW

7. PRELIMINARY SITE PLAN APPROVAL (File Number SP2019-0041) – Proposed Lange View Estates, Southeast corner of Livernois and Leetonia (4080 Livernois), Section 15, Currently Zoned NN Neighborhood Node (Node “H”) District

Mr. Carlisle reviewed the Preliminary Site Plan application for Lange View Estates as relates to location, permitted use, access, existing on-site buildings, surrounding zoning and the undeveloped parcel to the south. He addressed the height and massing of the proposed development, excess of parking spaces on site, and deficiencies relating to trash enclosure details, parking lot trees and location of parking lot light. Mr. Carlisle addressed the Design Standards, Site Plan Review Standards and Transitional Features set forth in the Zoning Ordinance.

Mr. Carlisle stated the townhome development could be an appropriate use of the site but recommended the Planning Commission discuss transitional features, height and massing of the development, particularly the impact it might have on homes located on Leetonia. He reported that should the Planning Commission grant approval of the application, approval should be conditioned on items identified in his report dated May 17, 2022 and confirmation that the plan meets transparency requirements.

Property owner and commercial developer Vince Pangle addressed design elements, building height, historic post office and existing on-site buildings. Mr. Pangle said his business partner Gary Abitheira reduced the building height as much as possible and maintain viability of the project. He addressed existing styles of homes on Leetonia, the need for this type of housing development and shared that he has received positive comments from neighbors with whom he has reached out to. Mr. Pangle cited key elements are the green space adjacent to the home to the rear, upgrading both intersections and adding properties to existing stormwater management.

Ms. Perakis, referencing a rendering, asked if there was consideration given to eliminating the parking under the townhomes, lowering the building height by an entire story and providing detached covered parking.

Mr. Pangle apologized clarifying the rendering is inaccurate. He indicated property dimensions would not accommodate detached covered parking and still accommodate the parking needs for existing on-site buildings.

Mr. Carlisle explained the site is overparked by Zoning Ordinance requirements; 24 spaces are required for office, 16 spaces required for residential, totaling 40 spaces. The application provides 59 parking spaces.

There was discussion on:

- Lowering building height by one story; provide detached parking.
- Excess of parking spaces per Zoning Ordinance requirements.
- Transitional features in relation to adjacent residential.
- Setback of building to east to avoid overshadowing.
- Potential development of southern-most parcel.
- No public comment received by the Planning Department.

Chair Lambert opened the floor for public comment; Acknowledging there was no one present who wished to speak, Chair Lambert closed the floor for public comment.

Members Faison, Hutson, Krent and Perakis expressed concerns with respect to building height, massing, transitional features and architectural elements.

Mr. Carlisle stated the application was submitted prior to a recent adoption of a Zoning Ordinance Text Amendment stipulating a maximum building height of two (2) stories in Neighborhood Node zoning districts. He said this application is considered as a grandfathered use and is permitted to construct up to three (3) stories. He noted though that the application must still meet the transitional features and design features of the Zoning Ordinance.

Resolution # PC-2021-05-033

Moved by: Krent

Seconded by: Tagle

RESOLVED, That Preliminary Site Plan Approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed Lange View Estates, 8 units, located on the Southeast corner of Livernois and Leetonia (4080 Livernois), Section 15, Zoned NN (Neighborhood Node “H”) District, be **denied**, for the following reason:

- 1. The application does not meet the ordinance requirements for transition.

Yes: All present (8)

Absent: Malalahalli

MOTION CARRIED

OTHER ITEMS

- 8. **PUBLIC COMMENT** – For Items on the Agenda

There was no one present who wished to speak.

- 9. **PLANNING COMMISSION COMMENT**

There were general comments, some relating to:

- Status of Neighborhood Node Subcommittee meetings.
- Map of updated trail system.
- National Association of Planning May 15 event at Hammer & Nail in Detroit.

- 10. **ADJOURN**

The Regular meeting of the Planning Commission adjourned at 8:14 p.m.

Respectfully submitted,

David Lambert, Chair

Kathy L. Czarnecki, Recording Secretary

DATE: June 10, 2022

TO: Planning Commission

FROM: R. Brent Savidant, Community Development Director

SUBJECT: PRELIMINARY SITE PLAN REVIEW (File Number JPLN2022-0017) – Proposed Abbey Estates Site Condominium, 4 units/lots, North side of Wattles, West of Rochester, Section 15, Currently Zoned R-1C (One Family Residential) District

The petitioner MGM Signature Homes submitted the above referenced Preliminary Site Plan application for a 4-unit site condominium, comprised of detached single family homes. The property is currently zoned R-1C (One Family Residential) District. The Planning Commission is responsible for granting Preliminary Site Plan Approval for site condominium applications.

The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City's Planning Consultant, summarizes the project. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and recommends approval of the project, as noted.

Attachments:

1. Maps
2. Report prepared by Carlisle/Wortman Associates, Inc.

cc: Applicant
File/Abbey Estates Site Condominium

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PROPOSED RESOLUTION

PRELIMINARY SITE PLAN REVIEW (File Number JPLN2022-0017) – Proposed Abbey Estates Site Condominium, 4 units/lots, North side of Wattles, West of Rochester, Section 15, Currently Zoned R-1C (One Family Residential) District

Resolution # PC-2022-06-

Moved by:
Seconded by:

RESOLVED, That Preliminary Site Condominium Approval, pursuant to Article 8 and Section 10.02 of the Zoning Ordinance, as requested for Abbey Estates Site Condominium, 4 units/lots, North side of Wattles, West of Rochester, Section 15, Currently Zoned R-1C (One Family Residential) District, be granted, subject to the following:

1. Resubmit landscape plan stamped by Landscape Architect.
2. If trees two (2) landmark trees in ROW die during the construction phase of the development, applicant is required to replace street trees as required in the Zoning Ordinance.

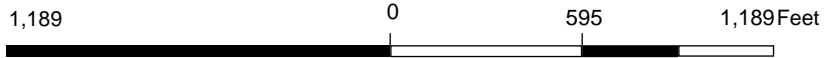
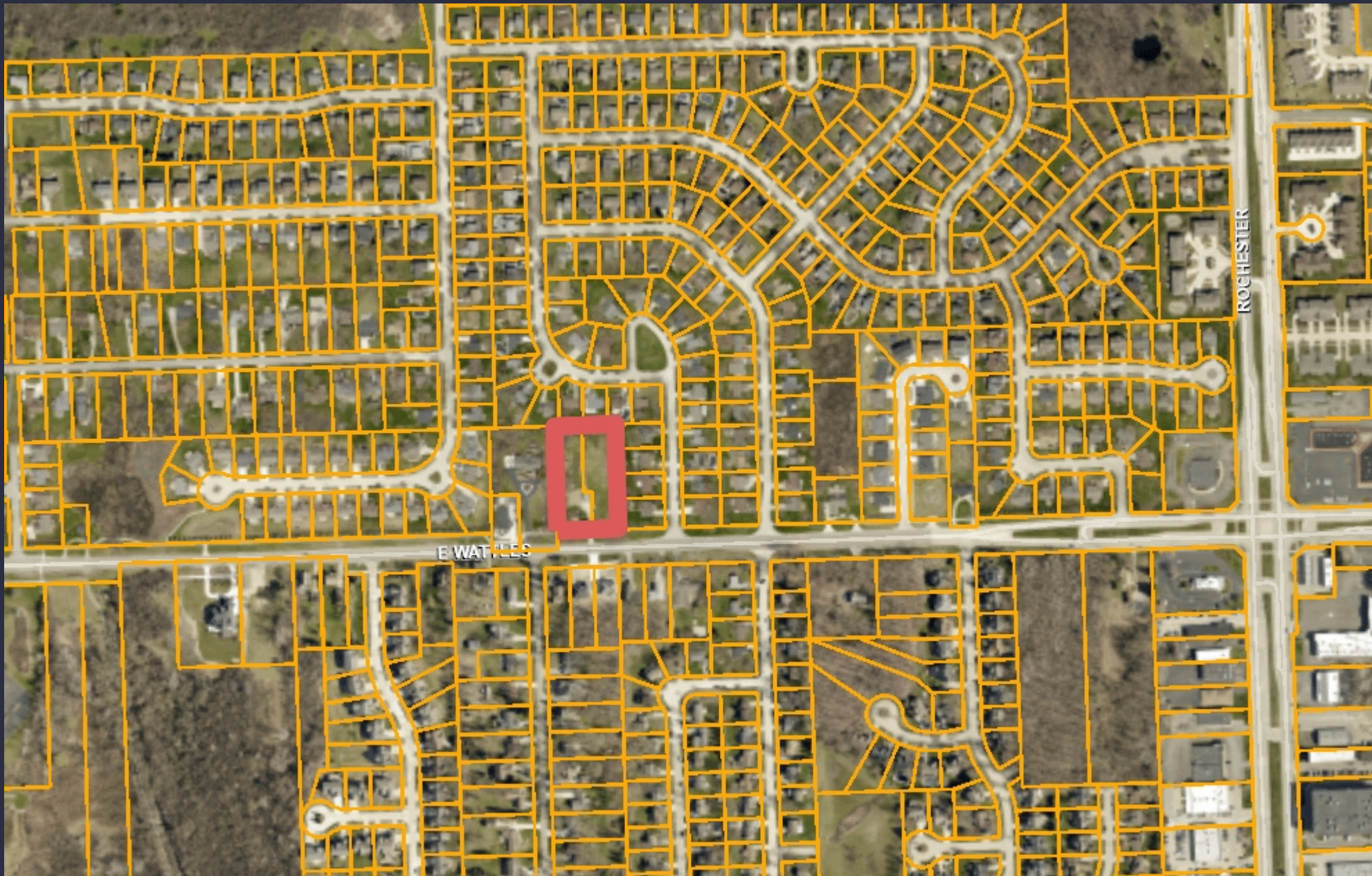
_____) or

(denied, for the following reasons: _____) or

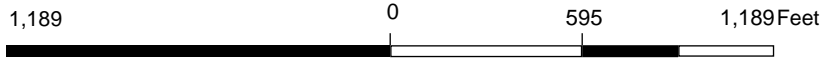
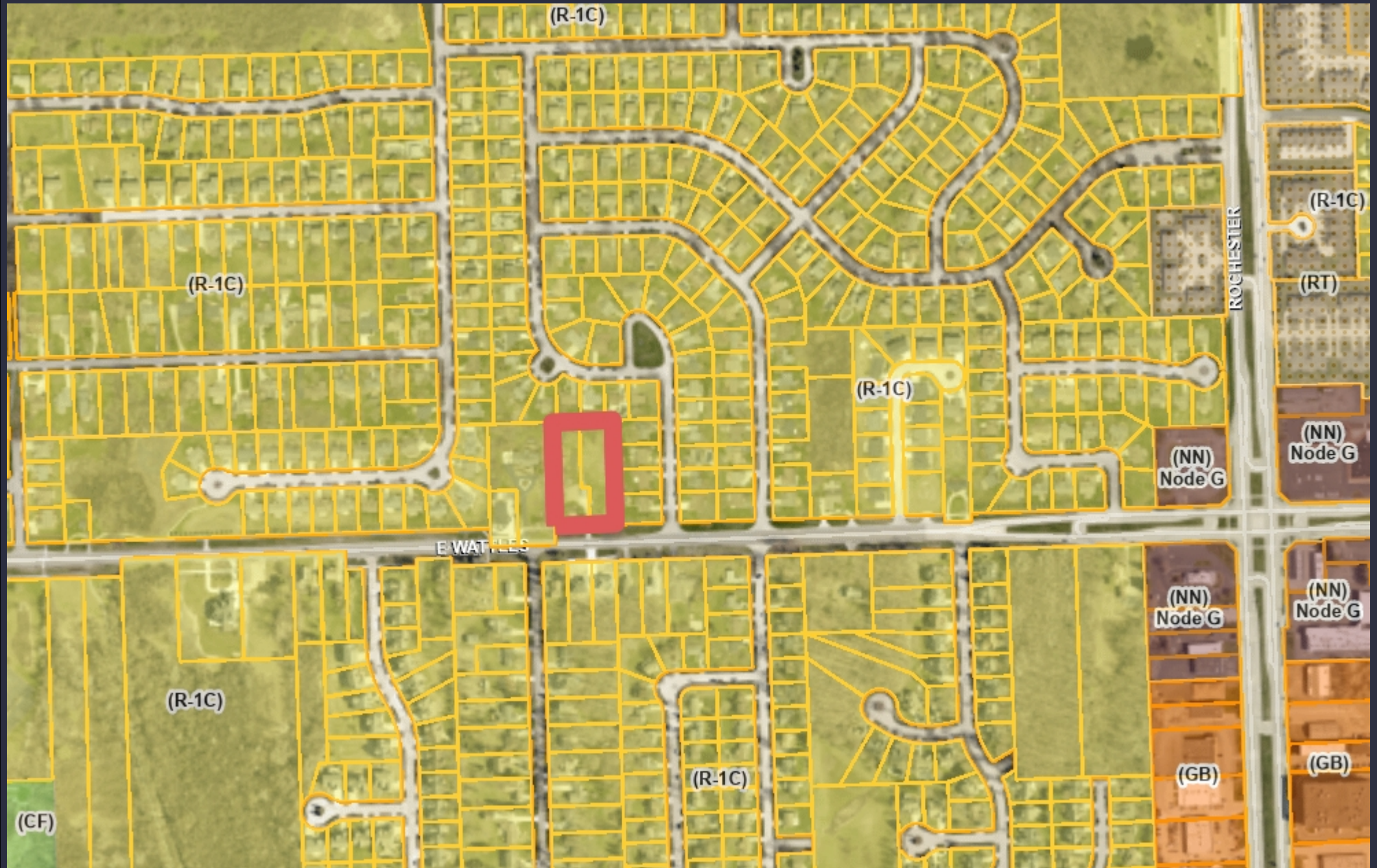
(postponed, for the following reasons: _____)

Yes:
No:
Absent:

MOTION CARRIED / FAILED



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.



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Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: May 20, 2022

**Preliminary Site Plan Approval for a
Site Condominium Plan
For
City of Troy, Michigan**

Applicant:	Steve Muci
Project Name:	Abbey Estates
Plan Date:	May 10, 2022
Location:	571 and 589 Wattles
Zoning:	R-1C, one-family attached residential
Action Requested:	Preliminary Site Condominium Approval

PROJECT AND SITE DESCRIPTION

The applicant is requesting approval to construct a four (4) single family detached site condominium project. The proposed four (4) lots will be created from two (2) existing parcels which total approximately 1.6 acres. The two existing parcels currently are improved with one (1) single family home. The applicant proposes a detention pond along the eastern property line, adjacent to the rear yard of the existing homes on Cypress Drive. The property is zoned R-1B, one-family attached residential, and the proposed site condominium use is permitted by-right.

All lots will be accessed off a private road, which is accessed off Wattles. Sidewalks will be added in front of all units.

Location of subject site:



Size of subject property:
+/-69,260 sq/ft in area

Current use of subject property:
Single Family Home

Proposed use of subject site:
The proposed use is single-family residential site condominium of four (4) lots for homes.

Current Zoning:

The property is currently zoned R-1C, one-family attached residential

Surrounding Property Details:

<u>Direction</u>	<u>Zoning</u>	<u>Use</u>
North	R-1C, One-family Residential District	Single-family home
South	R-1C, One-family Residential District	Single-family home
East	R-1C, One-family Residential District	Single-family home
West	R-1C, One-family Residential District	Single-family home

NATURAL RESOURCES

Topography - The grading plan shows gentle slopes.

Woodlands/Landmark Trees –

A tree survey has been provided to inventory the natural features that exist onsite. The survey identified a total of 57 trees on site. The applicant has identified a total of 5 landmark trees on site and preserving 3. Full replacement and preservation details are shown in table below.

Table 2. – Woodland Protection Ordinance

Replacement Details		
Protected Tree	Inches Removed	Replacement Required
Landmark	50 inches	50 inches
Woodland	0 inches	0 inches
Preservation/Mitigation	Inches Preserved	Credit
Landmark	63 inches	126 inches
Woodland	0 inches	0 inches
Total	0 inches required for replacement. The number of inches preserved and credited exceed the mitigation required.	

Wetlands/Flood Plain – A 0.14 acre wetland was found on site but does not meet the conditions to be regulated by the MDEQ.

Items to be Addressed: None

SITE ARRANGEMENT, ACCESS, AND CIRCULATION

All lots meet the minimum lot area for the R-1C District, are regular in shape, allow for adequate setbacks, and permit sufficient space for the homes and ingress and egress for each unit. The applicant is applying lot averaging to their application. See next section for details.

AREA, WIDTH, HEIGHT, SETBACKS

Required and Provided Dimensions:

Table 4.06.C establishes the requirements for the R-1B District. The requirement and the proposed dimensions are as follows:

	Required	Provided	Compliance
Minimum Lot Area	10,500 sq ft	Range: 13,650 to 9,450 sq.ft	Complies with lot averaging
Minimum Lot Width	85 ft	Range: 77.93 to 112.34 feet	Complies
Setbacks			
Front	30 ft	30 ft	Complies
Side (Least)	10 ft	10 ft	Complies
Side (Total)	20 ft	30 ft	Complies
Rear	40 ft	40 ft	Complies
Maximum Building Height	30 ft, 2.5 story	33 feet to peak.	Needs confirmation
Minimum Floor Area per Unit	1,200 sq ft	Over 1,200 sq.ft (Min)	Will be reviewed with building permits
Maximum Lot Coverage	30%	30% (Max)	Will be reviewed with building permits

Lots:

As set forth in Section 10.01: Average Lot Sizes:

- A. *Intent. The intent of this Section is to permit lot sizes and lot widths to be adjusted to average the minimum lot size as required in the district in which the property is located. This option is permissible in all One-Family Residential Districts.*
- B. *Standards.*
 - a. *In meeting the average minimum lot size, no lot area or width shall be reduced by more than ten (10) percent of that area or width required in the district in which the property is located.*
 - b. *The number of residential lots shall be no greater than if the land area to be developed complies with the minimum lot area and width requirements in the district in which the property is located. In this regard, the following maximum gross densities (including roads) shall not be exceeded:*
 R-1A = 1.6 dwelling units per acre
 R-1B = 2.2 dwelling units per acre
 R-1C = 3.1 dwelling units per acre

R-1D = 3.8 dwelling units per acre
 R-1E = 4.2 dwelling units per acre

Lots:

Required Width (feet): 85, 76.5

Required Area (sq/ft): 10,500 average, 9,450 minimum

Lot	Width (feet)	Area (sq/ft)
1	112.34	13,650
2	77.93	9,450
3	77.93	9,450
4	78.16	9,450
Average:	86.59	10,500

Height:

The applicant shows a height of 33-feet to the peak. 30-feet is the maximum and measured to midpoint of roof. Applicant should confirm roof height.

Items to be Addressed: Confirm height.

LANDSCAPING

Site condominium and subdivision landscaping are regulated by Section 13.02.F.2.

	<u>Required</u>	<u>Provided</u>	<u>Compliance</u>
Wattles: 1 per 10 feet	160 feet = 16	2	See discussion below
Internal Drive: 1 tree per 50 lineal feet	736 lf / 50 = 7 trees	7 trees	Complies
Stormwater Detention Pond	Seeded	Seeded and trees	Complies

Landscape Plan not stamped by Landscape Architect.

Wattles Road Street Trees:

Applicant is required to plant 16 trees. 16 trees equate to 40 caliper inches. The applicant is proposing to preserve two (2) landmark trees along the Wattles Road frontage. These trees are in the ROW. The total caliper inches of those two (2) trees are 40 inches. To plant the required trees, the applicant would have to remove those two (2) mature trees and replant with smaller trees. The applicant is seeking relief to keep these trees rather than remove and use those caliper inches to count towards their planting requirement. Please note that because these two trees are located offsite (in ROW), we did not count their preservation to the woodland mitigation credit. Please note that if the Planning Commission allows these trees to count their planting requirement and if these trees do not survive during the construction

period of this development, the applicant would be required to remove trees and plant the required street trees.

Items to be Addressed: 1). Planning Commission to consider allowing offsite tree preservation to street tree requirement; and 2). Have plan prepared by licensed landscape architect.

FLOOR PLANS AND ELEVATIONS

The applicant submitted five proposed elevations, with all based on the same floor plan. Materials are not indicated.

Items to be Addressed: Provide materials.

SUBMITTAL REQUIREMENTS

Section 10.02 sets forth the intent and standards for site condominium projects.

1. Intent: The intent of this Section is to regulate site condominium projects to ensure compliance with this Ordinance and other applicable standards of the City, to provide procedures and standards for review and approval or disapproval of such developments, and to insure that each project will be consistent and compatible with other developments in the community.

The applicant shall provide the additional information as requested.

Section 10.02.E. regulates physical improvements associated with condominium projects. It requires the following:

1. Principal access and circulation through a site condominium shall be provided by public streets constructed to City standards, within sixty (60) foot wide rights-of-way. Secondary access and circulation through such developments, on which some of the residential parcels may have their sole frontage, may be provided by twenty-eight (28) foot wide streets constructed to City public street standards, within forty (40) foot private easements for public access.

The newly create lots will be accessed from a private road, with a 40-foot easement.

2. Principal access to site condominium of five (5) acres or less in area may be provided by way of twenty-eight (28) foot wide streets constructed to City public street standards, within forty (40) foot private easements for public access, when in the opinion of the City Council the property configuration is such that the provision of conforming dwelling unit parcels is impractical.

The newly create lots will be accessed from a private road, with a 40-foot easement.

3. All entrances to major or secondary thoroughfares shall include deceleration, acceleration and passing lanes as required by Engineering Standards of the City of Troy.

Subject to approval by the City engineering department.

4. Sidewalks shall be constructed, in accordance with City Standards, across the frontage of all dwelling unit parcels. Utilities shall be placed within street rights-of-way, or within easements approved as to size and location by the City Engineer.

Five (5) foot wide sidewalks will be provided across the frontage of all parcels.

5. All shall be served by public water, sanitary sewer, storm sewer and detention/retention systems constructed to City standards, at the expense of the developer. Easements over these systems shall be conveyed and recorded before occupancy permits are issued for dwelling units.

The applicant has proposed full utilities, but all proposed configurations are subject to approval by the City engineering department.

As noted above, all condominium projects are subject to Section 8.05.A.7, which establishes the requirements for a preliminary site plan submittal. Three additional requirements are specifically identified for residential projects. The three additional requirements, identified in 8.05.A.7.o, include:

i. Calculation of the dwelling unit density allowable and a statement of the number of dwelling units, by type, to be provided.

The maximum density is 2.9 units per acre. The site complies at 4 units.

ii. Topography on site and fifty (50) feet beyond, drawn at two (2) foot contour intervals, with existing drainage courses, flood plains, wetlands, and tree stands indicated.

Satisfied.

iii. The typical floor plans and elevations of the proposed buildings, with building height(s).

The applicant shows a height of 33-feet to the peak. 30-feet is the maximum and measured to midpoint of roof. Applicant should confirm roof height.

Items to be Addressed: Confirm roof height.

SUMMARY

The Planning Commission to consider allowing the two (2) trees in the ROW to count towards their street tree requirements.

If the Planning Commission approves the preliminary site plan, the following conditions should be required:

1. Confirm roof height.
2. Provide materials.
3. Resubmit landscape plan stamped by Landscape Architect.
4. If trees two (2) landmark trees in ROW die during the construction phase of the development, applicant is required to replace street trees as required in the Zoning Ordinance.

Abbey Estates
May 20, 2022

Ben R. Carl

CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, AICP, LEED AP
Principal

JENNINGS DRIVE
60' WIDE RIGHT OF WAY, PUBLIC
ASPHALT PAVEMENT

"NORTHGATE SUB."
LIBER 44, PAGE 35, O.C.R.
ZONED R-1C

PART OF LOT 77
PARCEL NO. 20-22-202-146

LOT 78
PARCEL NO. 20-22-202-063

LOT 79
PARCEL NO. 20-22-202-062

LOT 80
PARCEL NO. 20-22-202-001

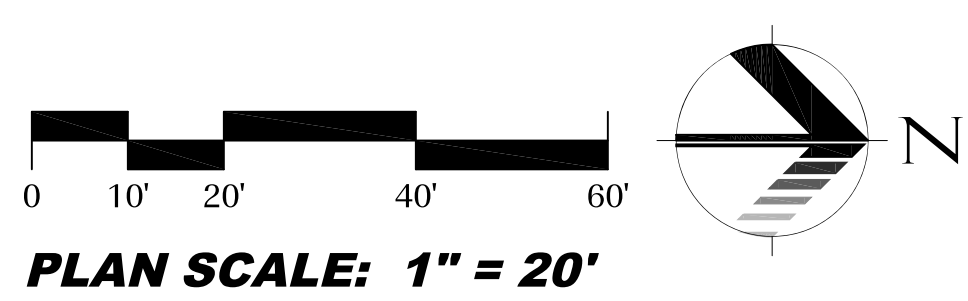
WATTLES ROAD
120' WIDE RIGHT OF WAY, PUBLIC
ASPHALT PAVEMENT

PROPERTY DESCRIPTION

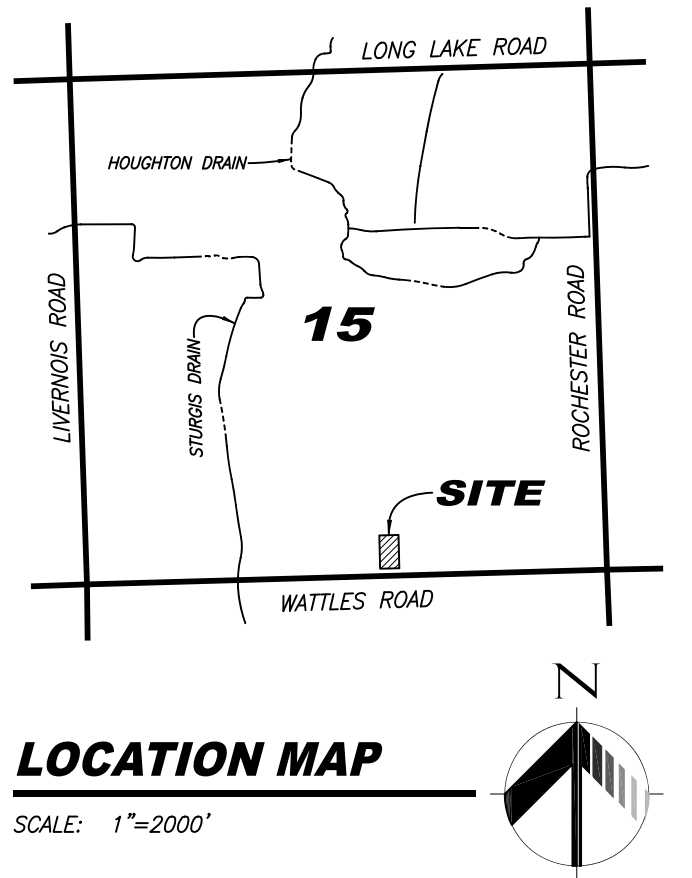
PARCEL NO. 20-15-451-044
PART OF LOT 12, "SUPERVISOR'S PLAT NO. 14", A SUBDIVISION OF PART OF THE SOUTHEAST 1/4 OF SECTION 15, TOWN 2 NORTH, RANGE 11 EAST, TROY TOWNSHIP (NOW CITY OF TROY), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 54 OF PLATS, PAGE 46 OF OAKLAND COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 15; THENCE ALONG THE SOUTH LINE OF SAID SECTION 15 DUE WEST 2136.39 FEET (RECORDED AS 2136.00 FEET); THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST (RECORDED AS NORTH 00 DEGREES 01 MINUTES 00 SECONDS EAST) 60.00 FEET; THENCE DUE WEST 85.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING DUE WEST 115.16 FEET; THENCE NORTH 00 DEGREES 12 MINUTES 48 SECONDS EAST 346.35 FEET (RECORDED AS NORTH 00 DEGREES 01 SECONDS 00 MINUTES WEST 346.20 FEET); THENCE DUE EAST 90.23 FEET; THENCE SOUTH 07 DEGREES 13 MINUTES 26 SECONDS WEST 220.41 FEET; THENCE SOUTH 89 DEGREES 46 MINUTES 34 SECONDS EAST 27.50 FEET; THENCE SOUTH 00 DEGREES 13 MINUTES 26 SECONDS WEST 36.00 FEET; THENCE SOUTH 07 DEGREES 24 MINUTES 17 SECONDS WEST 20.00 FEET; THENCE SOUTH 00 DEGREES 13 MINUTES 26 SECONDS WEST 70.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 0.792 OF AN ACRE, MORE OR LESS.

PARCEL NO. 20-15-451-045
PART OF LOT 12, "SUPERVISOR'S PLAT NO. 14", A SUBDIVISION OF PART OF THE SOUTHEAST 1/4 OF SECTION 15, TOWN 2 NORTH, RANGE 11 EAST, TROY TOWNSHIP (NOW CITY OF TROY), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 54 OF PLATS, PAGE 46 OF OAKLAND COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 15; THENCE ALONG THE SOUTH LINE OF SAID SECTION 15 DUE WEST 2136.39 FEET (RECORDED AS 2136.00 FEET); THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST (RECORDED AS NORTH 00 DEGREES 01 MINUTES 00 SECONDS WEST) 60.00 FEET TO THE POINT OF BEGINNING; THENCE DUE WEST 85.00 FEET; THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST 70.00 FEET; THENCE NORTH 07 DEGREES 24 MINUTES 17 SECONDS EAST 20.00 FEET; THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST 36.00 FEET; THENCE NORTH 89 DEGREES 46 MINUTES 34 SECONDS WEST 27.50 FEET; THENCE DUE EAST 110.00 FEET; THENCE SOUTH 00 DEGREES 13 MINUTES 26 SECONDS WEST 346.35 FEET (RECORDED AS SOUTH 00 DEGREES 01 MINUTES 00 SECONDS EAST 346.20 FEET) TO THE POINT OF BEGINNING AND CONTAINING 0.800 OF AN ACRE, MORE OR LESS.

- LEGEND**
- EXISTING ASPHALT PAVEMENT TO REMAIN
 - EXISTING CONCRETE PAVEMENT TO REMAIN
 - EXISTING GRAVEL TO REMAIN
 - PROPOSED CONCRETE OR ASPHALT STREET PAVEMENTS AND DRIVEWAYS
 - PROPOSED CONCRETE SIDEWALKS
 - PROPOSED GRAVEL SHOULDER

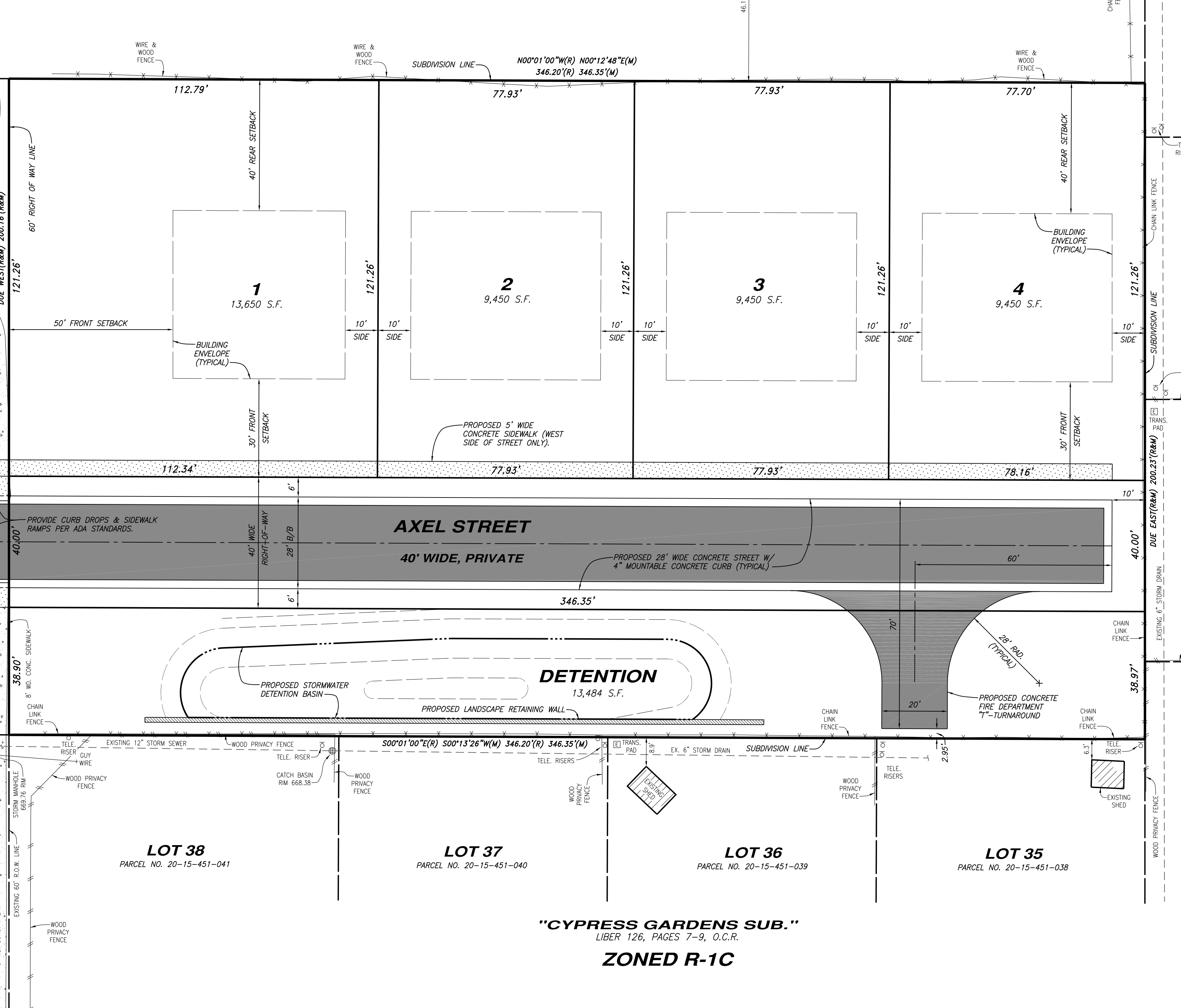


- SHEET INDEX**
- SITE PLAN.
 - PRELIMINARY GRADING & UTILITY PLAN.
 - TREE INVENTORY & PRESERVATION PLAN.
 - LANDSCAPE PLAN.
- SUPPLEMENTALS:**
- BOUNDARY & TOPOGRAPHICAL SURVEY.
 - TYPICAL HOUSE FLOOR PLANS & ELEVATIONS.



- SITE CRITERIA**
- PARCEL SUMMARY:**
ADDRESS: #571 & 589 E. WATTLES ROAD
PARCEL ID NO.: 20-15-451-044 & -045
EXISTING ZONING: R-1C (SINGLE FAMILY RESIDENTIAL)
ADJACENT ZONINGS: R-1C
TOTAL DEVELOPMENT AREA: 69,338 S.F. (1.592 ACRES)
 - USE SUMMARY:**
EXISTING USE: SINGLE FAMILY RESIDENTIAL ACREAGE PARCELS.
PROPOSED USE: SINGLE FAMILY RESIDENTIAL SITE CONDOMINIUM W/ LOT AVERAGING OPTION.
ALLOWABLE DENSITY: 3.1 UNITS PER ACRE.
PROPOSED DENSITY: 4 UNITS (2.5 UNITS PER ACRE)
 - UNIT SUMMARY:**
AVERAGE UNIT AREA REQUIRED: 10,500 S.F.
AVERAGE UNIT AREA PROVIDED: 10,500 S.F.
LOT AVERAGING OPTION ALLOWS FOR 10% REDUCTION IN MIN. UNIT AREA:
MINIMUM UNIT AREA REQUIRED: 9,450 S.F.
MINIMUM UNIT AREA PROVIDED: 9,450 S.F.
LOT AVERAGING OPTION ALLOWS FOR 10% REDUCTION IN MIN. UNIT WIDTH:
MINIMUM UNIT WIDTH REQUIRED: 85' x 90% = 76.5'
MINIMUM LOT WIDTH PROVIDED: 77.93'
 - BUILDING SETBACK SUMMARY:**
FRONT: 30' MIN.
REAR: 40' MIN.
SIDE: 10' MIN. ONE SIDE; 20' MIN. TOTAL
E. WATTLES ROAD: 50'
 - BUILDING CONSTRUCTION SUMMARY:**
MAXIMUM ALLOWABLE BUILDING HEIGHT: 30' (2.5 STORY)
PROPOSED BUILDING HEIGHT: 24' TO 27' ± (NOT TO EXCEED 30')
MAXIMUM ALLOWABLE LOT COVERAGE: 30%
PROPOSED MAXIMUM LOT COVERAGE: 24% ± (NOT TO EXCEED 30%)
MINIMUM REQUIRED FLOOR AREA PER UNIT: 1,200 S.F.
PROPOSED FLOOR AREA PER UNIT: 3,250 S.F. (AVERAGE)

PART OF SOUTHEAST 1/4 OF SECTION 14
PARCEL NO. 20-15-451-042
ZONED R-1C



- BENCHMARKS**
- CITY OF TROY BENCHMARK, BM0715
ELEVATION = 672.67 (NAVD 88 DATUM)
ARROW ON THE TOP OF HYDRANT #22-74 ON THE SOUTH SIDE OF WATTLES ROAD 60 FEET WEST OF JENNINGS DRIVE.
- SITE BENCHMARK**
ELEVATION = 669.76 (NAVD 88 DATUM)
EXISTING STORM MANHOLE IN CONCRETE WALK LOCATED ON THE NORTH SIDE OF WATTLES NEAR THE SOUTHEAST CORNER OF SUBJECT PROPERTY.

- NOTES**
- CONDOMINIUM LAYOUT AND DIMENSIONS ARE TENTATIVE AND ARE SUBJECT TO MODIFICATION UPON FINAL ENGINEERING APPROVAL AND COMPUTATION OF THE MASTER DEED EXHIBIT "B".
 - THE DEVELOPER SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES OF THE CITY OF TROY, THE COUNTY OF OAKLAND, AND THE STATE OF MICHIGAN.
 - REFER TO PRELIMINARY GRADING & UTILITY PLAN FOR UTILITIES TO SERVE THE PROPOSED UNITS.
 - NO SIGNAGE IS PROPOSED AS A PART OF THIS DEVELOPMENT. NO PARKING-FIRE LANE SIGNS SHALL BE INSTALLED AS DIRECTED BY THE CITY FIRE DEPARTMENT IF AND AS REQUIRED.
 - NO SITE LIGHTING IS PROPOSED AS A PART OF THIS DEVELOPMENT.
 - ALL WORK WITH ANY PUBLIC EASEMENT AND/OR RIGHT-OF-WAY SHALL REQUIRE PERMITS FROM THE CITY OF TROY.

CONTRACTOR'S NOTE

The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG
1-800-482-7171
(TOLL FREE) for the location of underground utilities.

REVISIONS:

CLIENT: MR. STEVE WILCOX
MCM SIGNATURE HOMES
1522 COMBRIERE DR.
TROY, MI 48063
(248) 755-9188

SEAL: NATHAN PAUL ROBINSON
Professional Engineer
License No. 6201047458

PROJECT: Proposed "Abey Estates" Site Condominium
PART OF THE SOUTHEAST 1/4 OF SECTION 15, T.2N., R.11E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN

PLANS: **Site Plan**

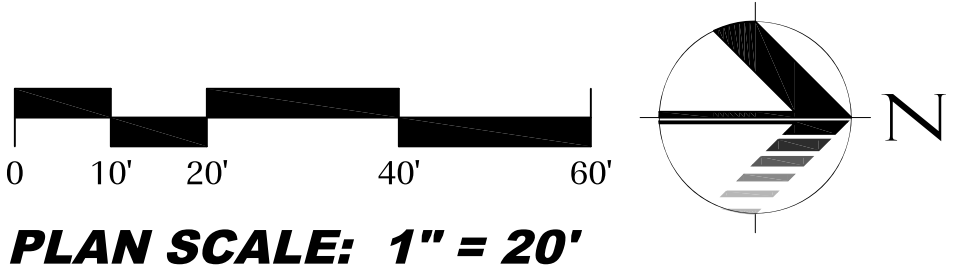
SHEET: **1** OF **4**

MUNICIPAL REVIEW NUMBERS:

CITY BENCHMARK
 CITY OF TROY BENCHMARK NO. BM0715
 ELEVATION = 672.67 (NAVD 88 DATUM)
 ARROW ON THE TOP OF HYDRANT
 #22-74 ON THE SOUTH SIDE OF
 WATTLES ROAD 60 FEET WEST OF
 JENNINGS DRIVE.

LEGEND

	EXISTING ASPHALT PAVEMENT TO REMAIN		PROPOSED CONCRETE OR ASPHALT STREET PAVEMENTS AND DRIVEWAYS
	EXISTING CONCRETE PAVEMENT TO REMAIN		PROPOSED CONCRETE SIDEWALKS
	EXISTING GRAVEL TO REMAIN		PROPOSED GRAVEL SHOULDER
	EXISTING CONTOURS, 1' INTERVAL		PROPOSED GRADE
	EXISTING GRADE		DIRECTION OF SURFACE DRAINAGE



SOILS (FROM COUNTY SOILS SURVEY)
 56A URBAN LAND-BLUNT-LENAWEE COMPLEX (0% TO 3% SLOPES),
 BLOUNT SOILS: 0"-7" DARY GRAY LOAM; 7"-30" BROWN AND GRAYISH-BROWN MOTTLED CLAY; 30"-60" BROWN MOTTLED SILTY CLAY LOAM; LENAWE SOILS: 0"-8" DARK GRAY SILTY CLAY LOAM; 8"-53" GRAY AND DARK GRAY MOTTLED SILTY CLAY LOAM; 53"-60" LIGHT YELLOWISH BROWN MOTTLED SILTY CLAY LOAM. LOW TO VERY LOW SURFACE RUNOFF, POORLY TO SOMEWHAT POORLY DRAINED, MODERATELY SLOW PERMEABILITY.

SITE CRITERIA

UTILITY SUMMARY:
 SANITARY SEWER: PUBLIC SANITARY SEWER SHALL BE EXTENDED ON SITE FROM THE EXISTING SEWER LOCATED ON THE NORTH SIDE OF WATTLES ROAD IN FRONT OF THE SUBJECT PROPERTY.
 STORM SEWER: ENCLOSED STORM SEWERS SHALL BE PROVIDED THROUGHOUT THE DEVELOPMENT TO ACCOMMODATE DRAINAGE AND SHALL OUTLET TO THE EXISTING STORM SEWER LOCATED ON THE NORTH SIDE OF WATTLES ROAD NEAR THE TROY ENGINEERING DEPARTMENT'S RESTRICTED OUTLET SHALL BE PROVIDED PER CITY OF TROY STANDARDS.
 WATER MAIN: PUBLIC WATER MAIN SHALL BE EXTENDED ON SITE FROM THE EXISTING WATER MAIN LOCATED ON THE SOUTH SIDE OF WATTLES ROAD ACROSS FROM THE SUBJECT PROPERTY.
NATURAL FEATURES SUMMARY:
 FLOOD PLAIN: SUBJECT PROPERTY IS LOCATED WITHIN ZONE X, AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE (500-YEAR) FLOOD PLAIN AS PER FLOOD INSURANCE RATE MAP NUMBER 26250034E, DATED SEPTEMBER 29, 2006, AS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
 WETLANDS: THE DEVELOPER SHALL BE RESPONSIBLE FOR RETAINING THE SERVICES OF A WETLANDS CONSULTANT IN ORDER TO VERIFY THAT NO REGULATED WETLANDS EXIST ON THE SUBJECT PROPERTY.

STORM WATER DETENTION

Project Name: Abbey Estates
 Job Number: 19-002
 Date: 5/10/2022
 Revisions:
 Allowable Outflow:
 Tributary Acreage: A = 1.592 acres
 Allowable Outflow = 0.20 cfs/acre
 Runoff Coefficient = C = 0.32 cfs
 Required Detention Volume, 25-Year Storm:

$$Q_0 = \frac{Q_p}{A \times C} = \frac{0.32 \text{ cfs}}{1.592 \text{ acres} \times 0.32} = 0.63 \text{ cfs (per acre)}$$

$$T_{25} = -25 + \sqrt{\frac{8,062.50}{Q_0}} = -25 + \sqrt{\frac{8,062.50}{0.63}} = 88.6 \text{ min. (per acre)}$$

$$V_{25} = \left[\frac{12,900 \times T_{25}}{T_{25} + 25} - 40 \times Q_0 \times T_{25} \right] = \left[\frac{12,900 \times 88.6}{88.6 + 25} - 40 \times 0.63 \times 88.6 \right]$$

$$V_{25} = 7,846.1 \text{ ft}^3 \text{ (per acre)}$$

$$V_{25} = V_{25} \times C \times A = 7,846.1 \text{ ft}^3/\text{acre} \times 0.32 \times 1.592 = 3,997.1 \text{ ft}^3$$
 Provided Detention Volume, 25-Year Storm:

$$V = h^3 \left(A_1 + A_2 + \sqrt{A_1 \times A_2} \right)$$

A ₁ = A _{667.50} = 3,701.4 ft ²	(High Water Level)	h = 1.00 ft
A ₂ = A _{668.50} = 2,523.9 ft ²		V = 3,093.9 ft ³
A ₁ = A _{668.50} = 2,523.9 ft ²	h = 1.00 ft	V = 1,228.1 ft ³
A ₂ = A _{668.50} = 297.3 ft ²		V = 49.6 ft ³
A ₁ = A _{668.50} = 297.3 ft ²	(Outlet Elevation)	h = 0.50 ft
A ₂ = A _{668.00} = 0.0 ft ²		V = 0.0 ft ³
		4,372.6 ft³

PART OF SOUTHEAST 1/4 OF SECTION 14
 PARCEL NO. 20-15-451-042

JENNINGS DRIVE
 60' WIDE RIGHT OF WAY, PUBLIC ASPHALT PAVEMENT

WATTLES ROAD
 120' WIDE RIGHT OF WAY, PUBLIC ASPHALT PAVEMENT

AXEL STREET
 40' WIDE, PRIVATE

SITE BENCHMARK
 ELEVATION = 669.76 (NAVD 88 DATUM)
 EXISTING STORM MANHOLE IN CONCRETE WALK LOCATED ON THE NORTH SIDE OF WATTLES NEAR THE SOUTHEAST CORNER OF SUBJECT PROPERTY.

BENCHMARKS

CITY OF TROY BENCHMARK, BM0715
 ELEVATION = 672.67 (NAVD 88 DATUM)
 ARROW ON THE TOP OF HYDRANT #22-74 ON THE SOUTH SIDE OF WATTLES ROAD 60 FEET WEST OF JENNINGS DRIVE.
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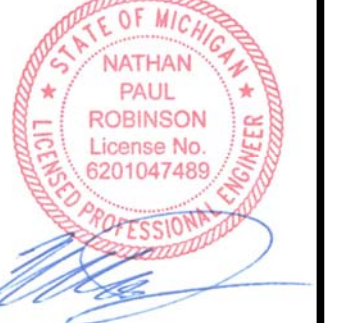
NOTES

- UTILITY AND GRADING DESIGN ARE TENTATIVE AND ARE SUBJECT TO MODIFICATION UPON FINAL ENGINEERING APPROVAL.
- THE DEVELOPER SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES OF THE CITY OF TROY, THE COUNTY OF OAKLAND, AND THE STATE OF MICHIGAN.
- ALL WORK WITHIN ANY PUBLIC EASEMENT AND/OR RIGHT-OF-WAY SHALL REQUIRE PERMITS FROM THE CITY OF TROY.
- UTILITY EASEMENTS SHALL BE PROVIDED TO THE SATISFACTION OF THE CITY OF TROY ENGINEERING DEPARTMENT.
- REFER TO THE TREE PRESERVATION & LANDSCAPE PLAN FOR TREE REMOVALS.
- ALL PERMITS REQUIRED BY THE CITY OF TROY ENGINEERING DEPARTMENT SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
- DRIVEWAY WIDTH AT THE PROPERTY LINE SHALL NOT EXCEED 40% OF THE LOT WIDTH.
- ALL EXISTING BUILDING STRUCTURES ON SITE ARE TO BE REMOVED.

CONTRACTOR'S NOTE

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 1-800-482-7171
 (TOLL FREE) for the location of underground utilities.
 The contractor shall be responsible for adhering to all applicable local, state, and federal standards, specifications, and guidelines for construction.

REVISIONS:
 CLIENT: MRS. STEVE WILCOX
 MCM SIGNATURE HOMES
 1622 COMBRIER DRIVE
 TROY, MI 48063
 (248) 755-9188
 JOB NO: 19-002
 DATE: 5-10-22
 DRAWN BY: N.P.R.



HORIZON ENGINEERING LLC
 CIVIL ENGINEERING, SITE PLANNING & LAND DEVELOPMENT CONSULTING
 P.O. Box 182158, Shelby Township, Michigan 48318
 Phone 586-453-8097 Fax 586-580-0053

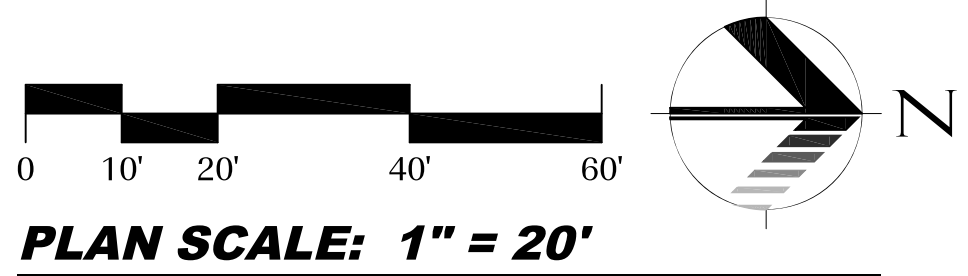
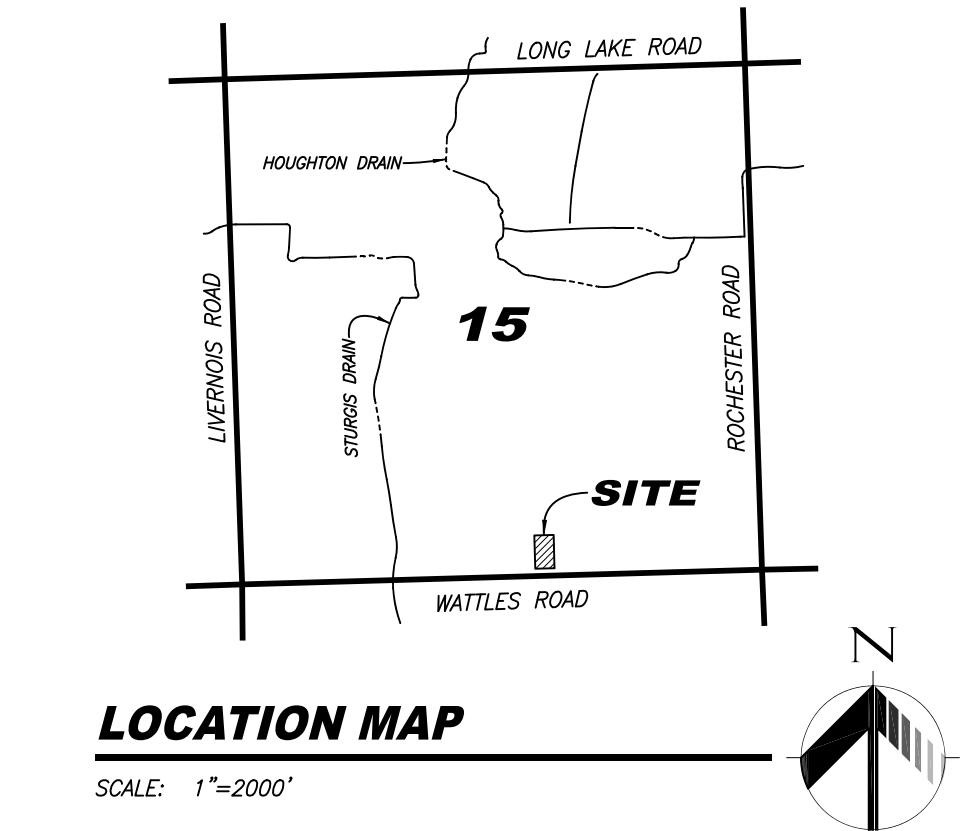
PROJECT:
Proposed "Abbey Estates" Site Condominium
 PART OF THE SOUTHEAST 1/4 OF SECTION 15, T.2N., R.1E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN

PLANS:
Preliminary Utility & Grading Plan

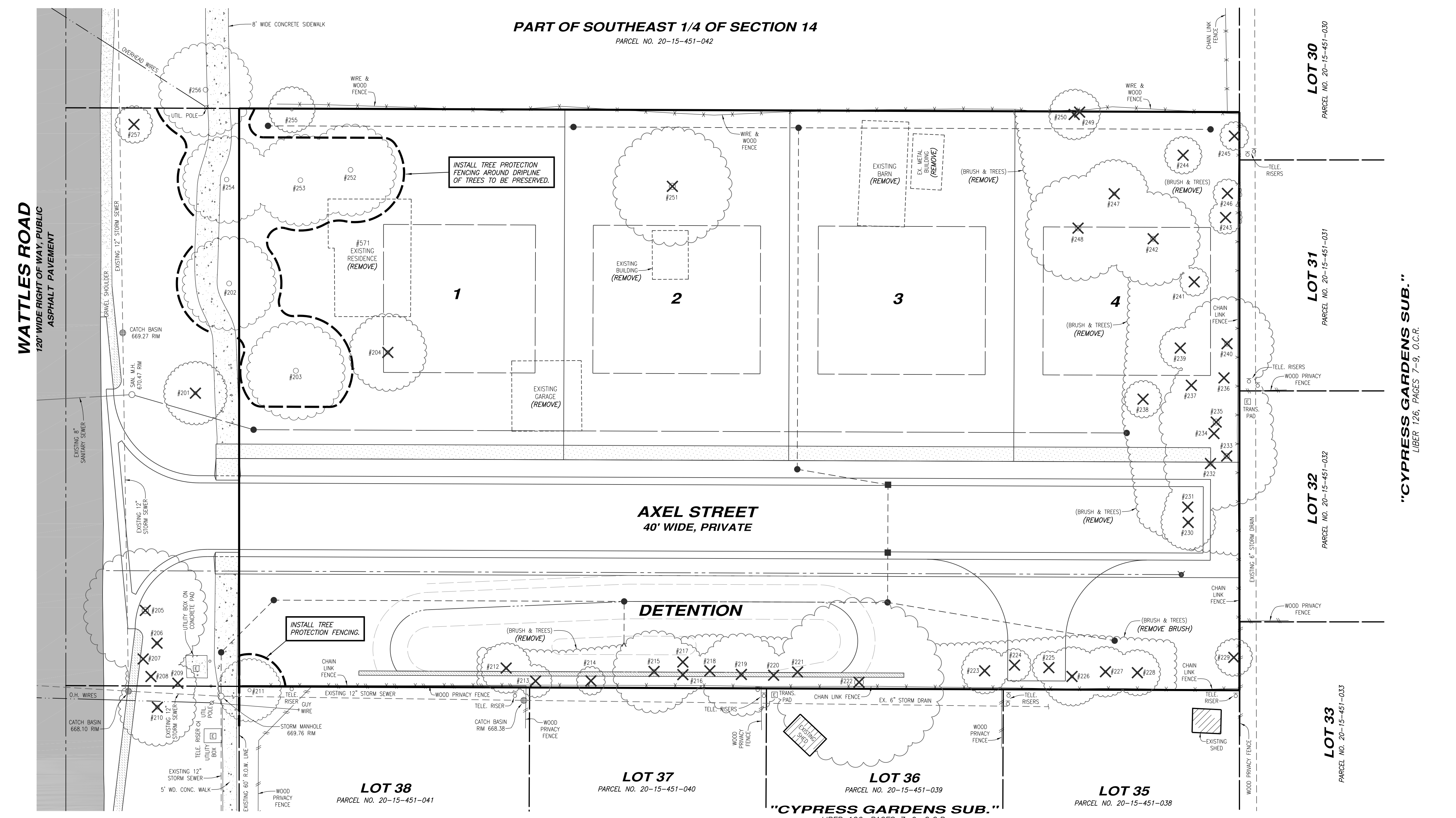
SHEET:
2 OF **4**
 MUNICIPAL REVIEW NUMBERS:

TREE INVENTORY AS SURVEYED ON APRIL 1, 2022 BY ERIC A. OLSON, PLLC, LANDSCAPE ARCHITECT AND CERTIFIED ARBORIST.

Tree #	d.b.h.	Critical Root Zone (feet)	Botanical Name	Common Name	Condition	Comments	Health Score	(N) Not Regulated (s = size, sp = species, c = condition)	Landmark (L)	Remove?	Replacement Required
201	14	14	Tilia spp.	Linden	good					Yes	none (exempt; located in street ROW)
202	21	21	Gleditsia triacanthos Inermis	Thornless Honeylocust	good				L	NO	-42" (credit)
203	23	23	Pinus strobus	White Pine	fair	- Excessive pitch on trunk			L	NO	-46" (credit)
204	17	17	Picea pungens	Colorado Spruce	fair	- Stunted, yellowing foliage, dead/dying branches				Yes	8.5"
205	34	34	Quercus spp.	Oak (red family)	fair	- Dead branch(es)			L	Yes	none (exempt; located in street ROW)
206	14	14	Ulmus spp.	Elm	fair	- Contorted crown				Yes	none (exempt; located in street ROW)
207	7 / 7	7	Carya spp.	Hickory	poor	- 50% or more dead	43%	N (c)		Yes	none
208	11	11	Quercus spp.	Oak (white family)	poor	- Extensive rot & dead branches	23%	N (c)		Yes	none
209	8	8	Ulmus spp.	Elm	poor	- Utility-pruned, contorted stem, & galls on trunk	47%	N (c)		Yes	none
210	17	17	Ulmus spp.	Elm	poor	- Utility-pruned, contorted stem, & galls on trunk	43%	N (c)		Yes	none
211	14	14	Ulmus pumila	Siberian Elm	fair	- Growing into overhead utilities		N (sp)		NO (offsite)	-
212	11	11	Abies spp.	Fir	fair	- Lower/shaded branches dead/missing				Yes	5.5"
213	7 / 5 / 3	7	Morus spp.	Mulberry	fair	- Contorted crown				Yes	3.5"
214	5 / 3 / ...	5	Acer negundo	Boxelder	fair	- Contorted crown		N (s, sp)		Yes	none
215	18	18	Pinus strobus	White Pine	fair	- Lower/shaded branches dead/missing			L	Yes	18"
216	9	9	Pinus sylvestris	Scotch Pine	fair	- Lower/shaded branches dead/missing				Yes	4.5"
217	8	8	Acer negundo	Boxelder	poor	- Broken branches, severe lean, grown into neighboring tree, & dead branches	37%	N (s, sp)		Yes	none
218	8	8	Picea pungens	Colorado Spruce	poor	- Stunted, yellowing foliage, dead/dying branches	40%	N (c)		Yes	none
219	18	18	Pinus sylvestris	Scotch Pine	poor	- Dead branches & excessive pitch on trunk	47%	N (c)		Yes	none
220	8	8	Picea abies	Norway Spruce	fair	- Lower/shaded branches dead/missing				Yes	4"
221	6	6	Abies spp.	Fir	fair	- Lower/shaded branches dead/missing				Yes	3"
222	64	64	Populus deltoides	Cottonwood	fair	- V-shaped crotch(es)		N (sp)		Yes	none
223	10	10	Picea pungens	Colorado Spruce	fair	- Lower/shaded branches dead/missing				Yes	5"
224	7	7	Pinus sylvestris	Scotch Pine	fair	- Lower/shaded branches dead/missing				Yes	3.5"
225	7	7	Picea pungens	Colorado Spruce	fair	- Dead branches & excessive pitch on trunk				Yes	3.5"
226	13	13	Pinus sylvestris	Scotch Pine	fair	- Lower/shaded branches dead/missing				Yes	6.5"
227	11	11	Pinus sylvestris	Scotch Pine	fair	- Dead branches & excessive pitch on trunk				Yes	5.5"
228	10	10	Pinus sylvestris	Scotch Pine	fair	- Lower/shaded branches dead/missing				Yes	5"
229	8	8	Picea pungens	Colorado Spruce	poor	- Stunted, yellowing foliage, dead/dying branches	40%	N (c)		Yes	none



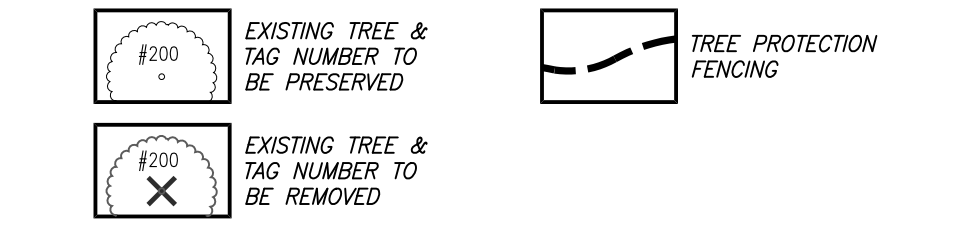
TOTAL CALIPER INCHES OF REPLACEMENT REQUIRED = 122"
 TOTAL CALIPER INCHES OF CREDIT = 206"
 NET CALIPER INCHES OF REPLACEMENT REQUIRED = NONE



PROPERTY DESCRIPTION

PARCEL NO. 20-15-451-044
 PART OF LOT 12, "SUPERVISOR'S PLAT NO. 14", A SUBDIVISION OF PART OF THE SOUTHEAST 1/4 OF SECTION 15, TOWN 2 NORTH, RANGE 11 EAST, TROY TOWNSHIP (NOW CITY OF TROY), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 54 OF PLATS, PAGE 46 OF OAKLAND COUNTY RECORDS, BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 15; THENCE ALONG THE SOUTH LINE OF SAID SECTION 15 DUE WEST 2136.39 FEET (RECORDED AS 2136.00 FEET); THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST (RECORDED AS NORTH 00 DEGREES 01 MINUTES 00 SECONDS WEST) 80.00 FEET; THENCE DUE WEST 85.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING DUE WEST 115.16 FEET; THENCE NORTH 00 DEGREES 12 MINUTES 48 SECONDS EAST 346.35 FEET (RECORDED AS NORTH 00 DEGREES 01 SECONDS 00 MINUTES WEST 346.20 FEET); THENCE DUE EAST 90.23 FEET; THENCE SOUTH 00 DEGREES 13 MINUTES 26 SECONDS WEST 220.41 FEET; THENCE SOUTH 89 DEGREES 46 MINUTES 34 SECONDS EAST 27.50 FEET; THENCE SOUTH 00 DEGREES 13 MINUTES 26 SECONDS WEST 36.00 FEET; THENCE SOUTH 07 DEGREES 24 MINUTES 17 SECONDS WEST 20.00 FEET; THENCE NORTH 07 DEGREES 24 MINUTES 17 SECONDS EAST 20.00 FEET; THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST 20.00 FEET; THENCE NORTH 89 DEGREES 46 MINUTES 34 SECONDS WEST 27.50 FEET; THENCE NORTH 00 DEGREES 13 MINUTES 26 SECONDS EAST 220.41 FEET; THENCE DUE EAST 110.00 FEET; THENCE SOUTH 00 DEGREES 13 MINUTES 26 SECONDS WEST 346.35 FEET (RECORDED AS SOUTH 00 DEGREES 01 MINUTES 00 SECONDS EAST 346.20 FEET) TO THE POINT OF BEGINNING AND CONTAINING 0.800 OF AN ACRE, MORE OR LESS.

LEGEND



NOTES

- FOR EXISTING TREE PROTECTION, A 4-FOOT HIGH ORANGE SNOW FENCE SHALL BE ERRECTED AROUND TREE DRIP LINES PRIOR TO LAND CLEARING AND SITE CONSTRUCTION AND MAINTAINED THROUGHOUT SITE DEVELOPMENT PERIOD. NO CUTTING, FILLING OR TRESPASSING SHALL OCCUR INSIDE FENCED AREAS WITHOUT PRIOR CITY APPROVAL.
- ALL TREES LYING OFFSITE OR OUTSIDE OF THE DEVELOPMENT AREA SHALL BE PRESERVED.

CONTRACTOR'S NOTE

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CLIENT: MR. STEVE WICI, MCM SIGNATURE HOMES, 1522 COMMERCE DR., TROY, MI 48063 (248) 755-0188

REVISIONS:

PROJECT: Proposed "Abbey Estates" Site Condominium

PLANNING: HORIZON ENGINEERING LLC

DATE: 5-10-22

DRAWN BY: N.P.R.

JOB NO: 19-002

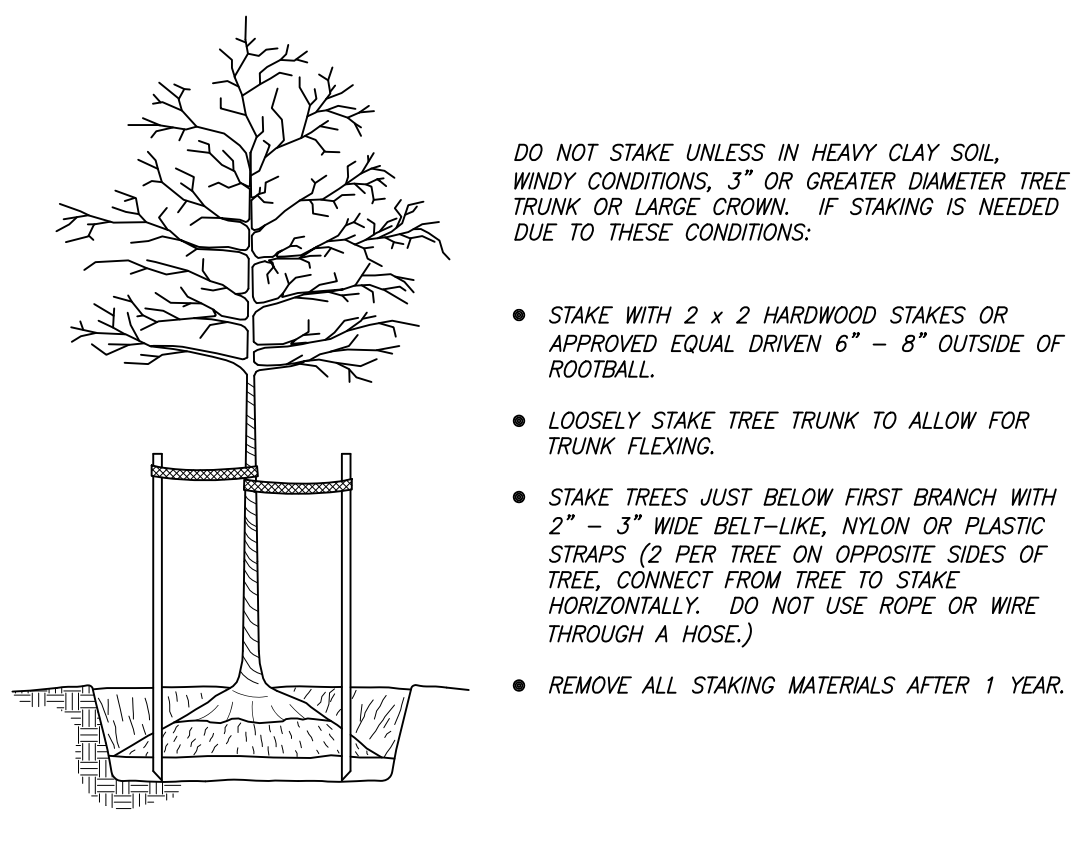
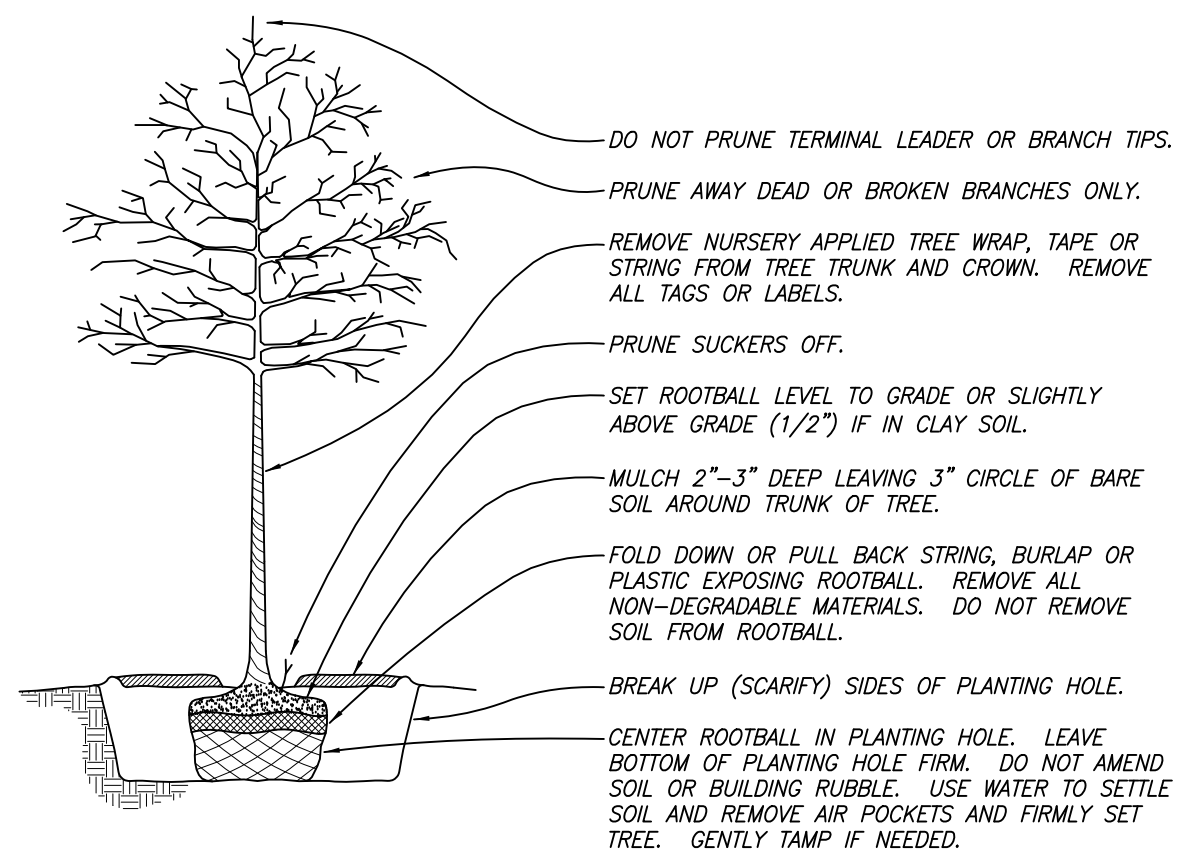
STATE OF MICHIGAN PROFESSIONAL SEAL: NATHAN PAUL ROBINSON, License No. 6201047458

CITY OF TROY, OAKLAND COUNTY, MICHIGAN

Tree Inventory & Preservation Plan

SHEET: 3 OF 4

MUNICIPAL REVIEW NUMBERS:

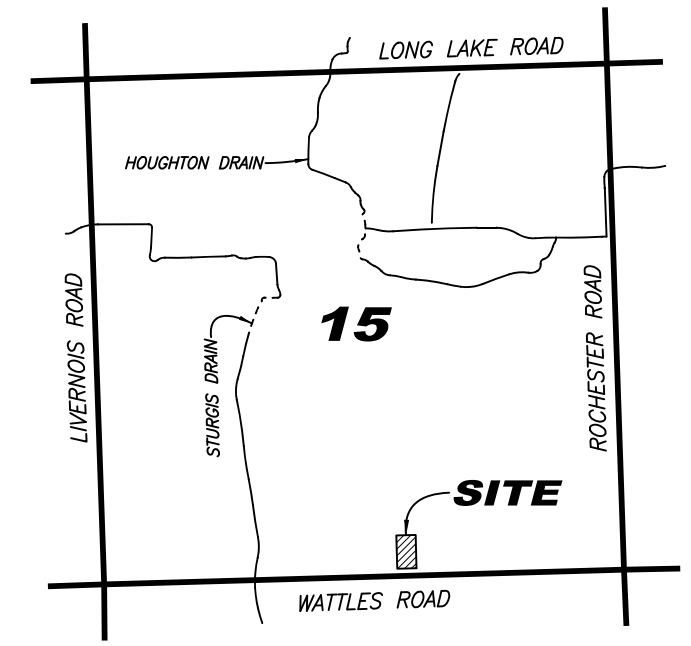


PLANTING NOTES

- ALL CONSTRUCTION AND PLANT MATERIAL LOCATIONS TO BE ADJUSTED ON SITE IF NECESSARY TO AVOID UTILITIES, STRUCTURES, DRIVEWAYS, ETC.
- ANY SUBSTITUTIONS OF PLANT MATERIAL OR ALTERATION IN PLANT SIZES OR SPECIFICATIONS SHALL BE IN ACCORDANCE WITH CITY OF TROY ORDINANCE STANDARDS. ALL STREET TREES SHALL MEET THE MINIMUM SIZE, SPACING AND SPECIES REQUIREMENTS AS SET FORTH IN THE CITY OF TROY'S ZONING ORDINANCE, SECTION 13.02.H, "MINIMUM SIZE AND SPACING REQUIREMENTS" AND SECTION 13.02.I, "PROHIBITED SPECIES".
- ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED, AND WRAPPED.
- PLANT BEDS TO BE MULCHED AND DRESSED WITH 4" OF SHREDDED HARD BARK.
- DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALLS. BACKFILL WITH ONE PART TOP SOIL FROM EXCAVATED PLANTING HOLE.
- REMOVE ALL TWINE, WIRE, AND BURLAP FROM THE TREE AND SHRUB EARTH BALLS AND FROM TREE TRUNKS.
- LAWN TREES TO BE MULCHED WITH A 2" WIDE MINIMUM OF 6" DEEP SHREDDED BARK RING OR APPROVED ALTERNATE DESIGN FOR TRUNK PROTECTION.
- PROVIDE HYDRO-SEEDING AND/OR SOD FOR ALL NEW LAWN AREAS.
- INSTALLATION OF PLANT MATERIAL SHALL BE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
- PLANT MATERIAL, ESPECIALLY EVERGREENS, TO BE PLANTED HIGHER THAN NORMAL WHEN HEAVY SOIL CONDITIONS (CLAY, ETC.) PREVAIL.
- ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
- PLANT TREES AND SHRUBS GENERALLY NO CLOSER THAN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS, AND PARKING STALLS:
 - SHADE TREES.....5 FT.
 - ORNAMENTAL AND EVERGREEN TREES.....10 FT. (CRAB, PINE, SPRUCE, ETC.)
 - SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY.....2 FT.
- NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. REFER TO ENGINEERING PLANS FOR EXACT LOCATIONS OF UTILITY LINES.
- FOR EXISTING TREE PROTECTION, A 4-FOOT HIGH ORANGE SNOW FENCE SHALL BE ERECTED AROUND TREE DRIP LINES PRIOR TO LAND CLEARING AND SITE CONSTRUCTION AND MAINTAINED THROUGHOUT SITE DEVELOPMENT PERIOD. NO CUTTING, FILLING OR TRESPASSING SHALL OCCUR INSIDE FENCED AREAS WITHOUT PRIOR CITY APPROVAL.

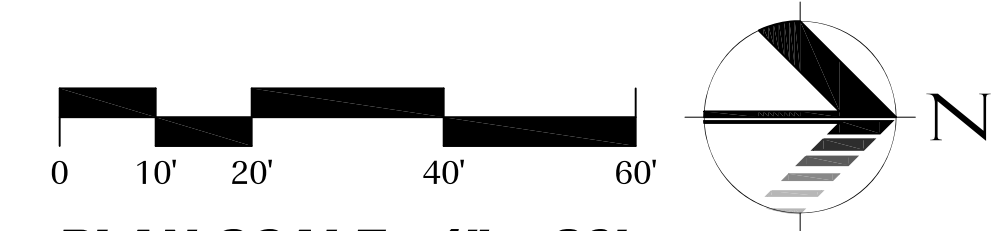
PLANT SCHEDULE & COST ESTIMATE

LARGE DECIDUOUS TREES:						
QUANTITY:	LABEL:	BOTANICAL NAME:	COMMON NAME:	SIZE:	UNIT PRICE:	INSTALLATION COST:
4 EACH	Tt	TILIA TOMENTOSA	STERLING LINDEN	2.5" CAL.	@ \$300.00	@ \$25.00
5 EACH	Qr	QUERCUS RUBRA	RED OAK	2.5" CAL.	@ \$300.00	@ \$25.00
5 EACH	Gt	GLEDITSIA TRIACANTHOS	HONEY LOCUST	2.5" CAL.	@ \$300.00	@ \$25.00
						UNIT TOTAL:
						\$1,300.00
CONIFEROUS TREES:						
QUANTITY:	LABEL:	BOTANICAL NAME:	COMMON NAME:	SIZE:	UNIT PRICE:	INSTALLATION COST:
5 EACH	Pa	PICEA ABIES	NORWAY SPRUCE	5' HT.	@ \$300.00	@ \$25.00
3 EACH	Ps	PINUS STROBUS	WHITE PINE	5' HT.	@ \$300.00	@ \$25.00
						UNIT TOTAL:
						\$975.00
LARGE CONIFEROUS SHRUBS:						
QUANTITY:	LABEL:	BOTANICAL NAME:	COMMON NAME:	SIZE:	UNIT PRICE:	INSTALLATION COST:
9 EACH	To	THUJA OCCIDENTALIS	EMERALD GREEN ARBORVITAE	5' HT.	@ \$200.00	@ \$25.00
						UNIT TOTAL:
						\$2,025.00
TOTAL TREES: 31						SUBTOTAL COST: \$9,175
						5% CONTINGENCY: \$460
						TOTAL ESTIMATE: \$9,635



LOCATION MAP

SCALE: 1"=2000'



SITE CRITERIA

LANDSCAPING SUMMARY:

TREE REPLACEMENT REQUIRED:

TOTAL CALIPER INCHES OF REPLACEMENT REQUIRED = 122"
 TOTAL CALIPER INCHES OF CREDIT = 206"
 NET CALIPER INCHES OF REPLACEMENT REQUIRED = NONE

PRIVATE STREET FRONTAGE TREES REQUIRED:

ONE LARGE DECIDUOUS TREE EVERY 50 FEET OF PRIVATE ROAD FRONTAGE ON SITE.

AXEL DRIVE (WEST SIDE):

REQUIRED = 746.36'/50' = 6.93 = 7 TREES.
 PROVIDED = 7 TREES.

WATTLES ROAD FRONTAGE TREES REQUIRED:

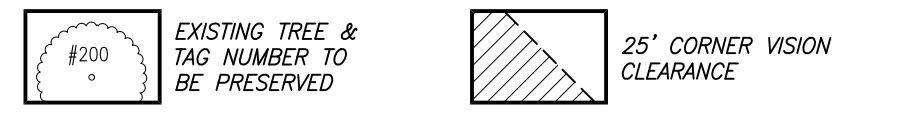
ONE LARGE CONIFEROUS TREE EVERY 10 FEET OF PUBLIC ROAD FRONTAGE ALONG WATTLES ROAD.

REQUIRED = 160.16'/10' = 16.02 = 17 TREES.
 PROVIDED = 5 EXISTING LANDMARK TREES.
 = TOTAL CALIPER CREDIT OF 206" - 122" TREE REPLACEMENT CREDITS ALREADY USED ABOVE = 84"
 = 84"/2.5" MIN. PLANTING SIZE = 33 EQUIVALENT TREES, THEREFORE NO ADDITIONAL TREES PROVIDED.

ADDITIONAL LANDSCAPING PROVIDED:

DETENTION AREA: 15 TREES PROVIDED.
 NORTH END OF PRIVATE STREET: 9 NARROW EVERGREENS PROVIDED.

LEGEND



NOTES

1. THE DEVELOPER SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES OF THE CITY OF TROY, THE COUNTY OF OAKLAND, AND THE STATE OF MICHIGAN.

CONTRACTOR'S NOTE

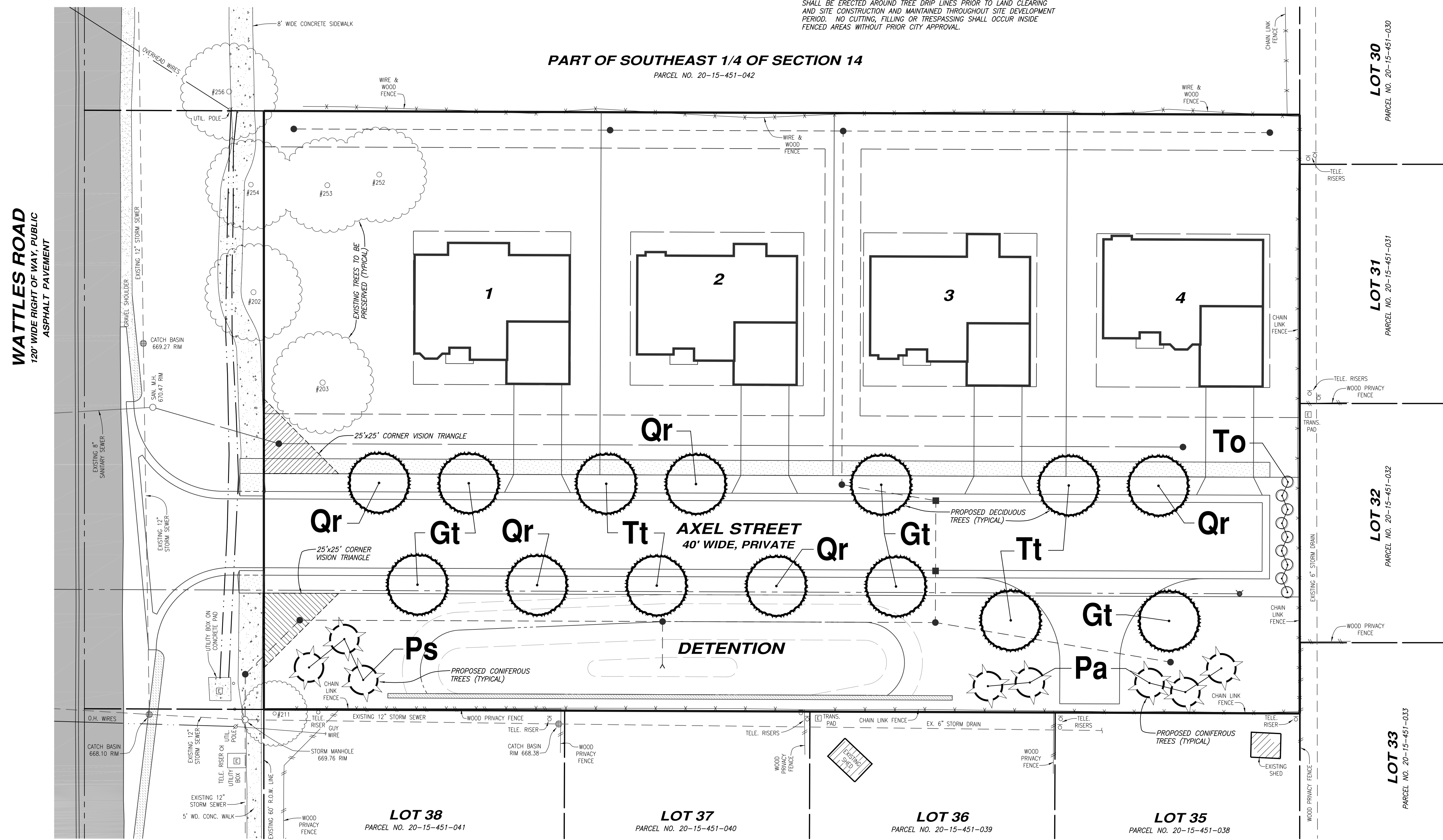
The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG
 1-800-482-7171
 (TOLL FREE) for the location of underground utilities

The contractor shall be responsible for adhering to all applicable local, state, and federal standards, specifications, and guidelines for construction.

TREE PLANTING DETAIL

SCALE: NONE



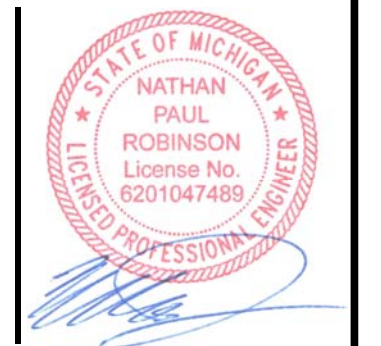
WATTLES ROAD
120' WIDE RIGHT OF WAY, PUBLIC ASPHALT PAVEMENT

"CYPRESS GARDENS SUB."
LIBER 126, PAGES 7-9, O.C.R.

"CYPRESS GARDENS SUB."
LIBER 126, PAGES 7-9, O.C.R.

REVISIONS:
 CLIENT: MEL STEVE WICI
 MCM SIGNATURE HOMES
 1022 COMBRIERERE DR.
 TROY, MI 48068
 (248) 755-0188

JOB NO: 19-002
 DATE: 5-10-22
 DRAWN BY: N.P.R.



HORIZON ENGINEERING LLC
 CIVIL ENGINEERING, SITE PLANNING & LAND DEVELOPMENT CONSULTING
 P.O. Box 182158, Shelby Township, Michigan 48318
 Phone 586.453.8087 Fax 586.580.0053

PROJECT:
Proposed "Abbey Estates" Site Condominium
 PART OF THE SOUTHEAST 1/4 OF SECTION 15, 12N., R.1E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN

PLAN:
Landscape Plan

SHEET:
4 OF **4**
 MUNICIPAL REVIEW NUMBERS:

BOUNDARY & TOPOGRAPHIC SURVEY

CERTIFIED TO: MGM SIGNATURE HOMES

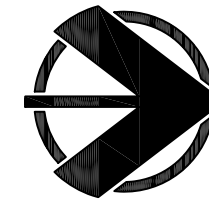
SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT I HAVE SURVEYED THE PROPERTY HEREIN DESCRIBED. THE ELEVATIONS SHOWN HEREON ARE BASED ON A FIELD SURVEY AND THE DRAWING HEREON DELINEATED IS A CORRECT REPRESENTATION OF THE SAME.

Shane Patrick Azbell

SHANE PATRICK AZBELL
LICENSED PROFESSIONAL SURVEYOR, STATE OF MICHIGAN
LICENSE NO. 4001046724

SCALE: 1"=20'

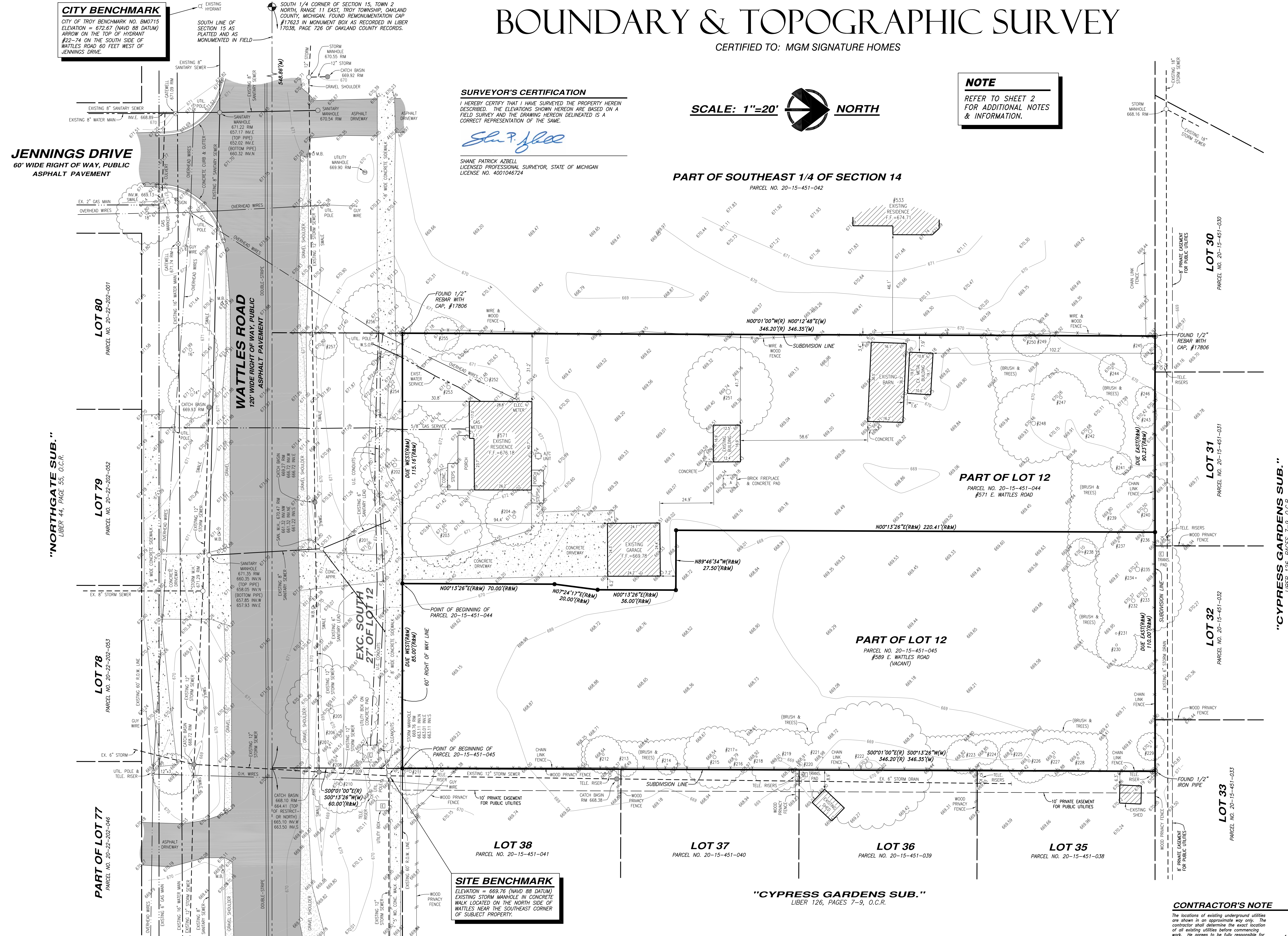


NORTH

NOTE

REFER TO SHEET 2 FOR ADDITIONAL NOTES & INFORMATION.

PART OF SOUTHEAST 1/4 OF SECTION 14
PARCEL NO. 20-15-451-042



CITY BENCHMARK
CITY OF TROY BENCHMARK NO. BM0715
ELEVATION = 672.67 (NAVD 88 DATUM)
ARROW ON THE TOP OF HYDRANT
#22-74 ON THE SOUTH SIDE OF
WATTLES ROAD 60 FEET WEST OF
JENNINGS DRIVE.

SITE BENCHMARK
ELEVATION = 669.76 (NAVD 88 DATUM)
EXISTING STORM MANHOLE IN CONCRETE
WALK LOCATED ON THE NORTH SIDE OF
WATTLES NEAR THE SOUTHEAST CORNER
OF SUBJECT PROPERTY.

CONTRACTOR'S NOTE
The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.
The contractor shall be responsible for adhering to all applicable local, state, and federal standards, specifications, and guidelines for construction.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE) for the location of underground utilities.

AZTEC
LAND SURVEYORS INC.
BOUNDARY & TOPOGRAPHIC SURVEY

CLIENT:
MR. ARTUR KOKA
MGM SIGNATURE HOMES
1000 WATTLES ST.
TROY, MI 48068
(248) 802-8400

JOB NO: 19-003
DATE: 4/7/22
DRAWN BY: S.A.
CHECKED BY: S.A.

REVISIONS:

STATE OF MICHIGAN
SHANE PATRICK AZBELL
License No. 4001046724
PROFESSIONAL SURVEYOR

SHEET 1 OF 2

MUNICIPAL REVIEW NUMBERS:

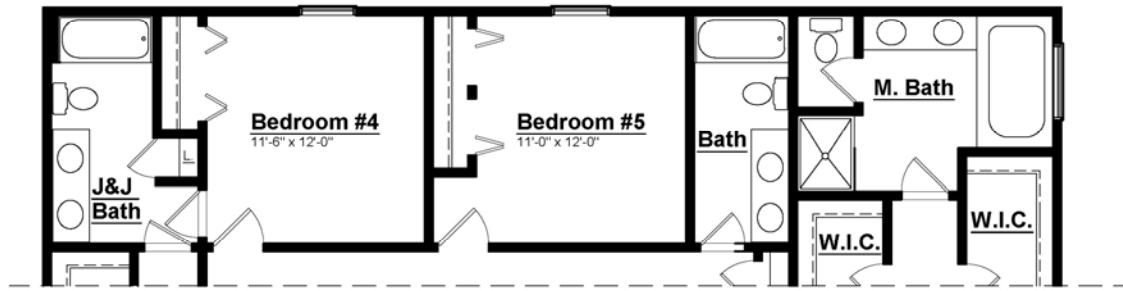
MATCH LINE, SHEET 2

"NORTHGATE SUB.,"
LIBER 44, PAGE 55, O.C.R.

"CYPRESS GARDENS SUB.,"
LIBER 126, PAGES 7-9, O.C.R.

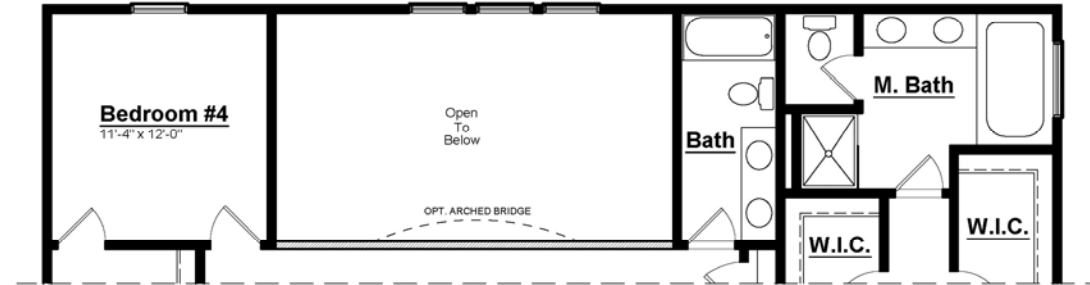
PHONE: 248-287-8799
FAX: 248-287-8799

P.O. BOX 359
HOLLY, MI 48442



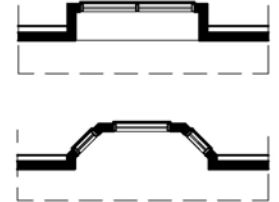
Jack & Jill with 5th Bedroom

Not Available with Two Story Family Room



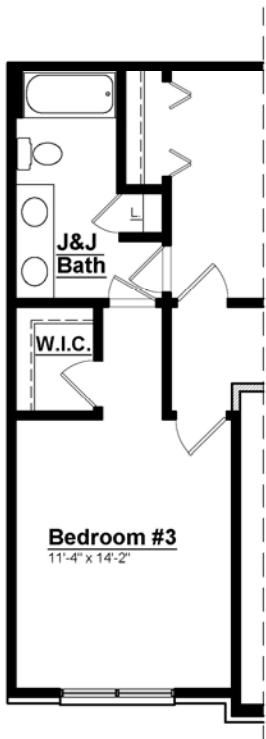
Two Story Family Room

ILO of 240 Sq. Ft.



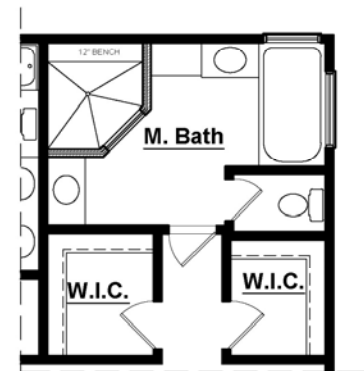
Box-out / Bay Window

Add to Dining/ Library/ Living



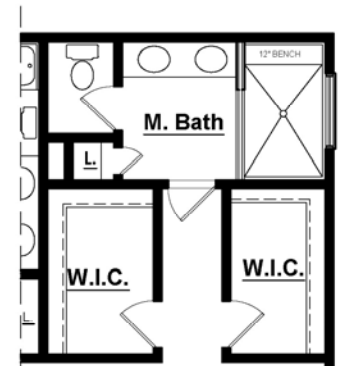
Jack & Jill Bathroom

ILO of Second Floor Laundry Room



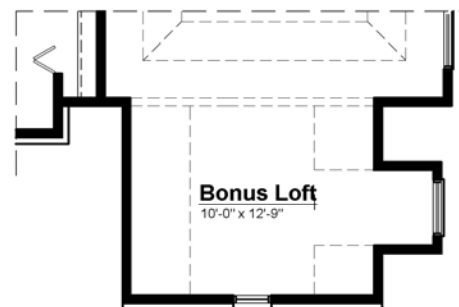
Elite Master Suite

Includes Luxury Shower and Dress Area



Enlarged Master Shower

ILO Built-in Soaking Tub



Bonus Loft at Master Suite

Adds 160 Sf.

Emerald - SECOND FLOOR PLAN

3,250 Sq. Ft.

Colonial | 4 - 6 Bedrooms | 2.5 - 4 Bathroom | 2 - 3 Car Garage











PROPOSED RESIDENCE

XXXX AXEL ST

TROY, MI

GENERAL NOTES

DO NOT SCALE DRAWINGS, USE PRINTED DIMENSIONS ONLY. IF ANY DISCREPANCY OCCURS NOTIFY THE ARCHITECT IMMEDIATELY FOR DIRECTION.

ALL POURED CONC. FTGS. SHALL EXTEND TO A MINIMUM DEPTH OF 42" BELOW PROPOSED FINISHED GRADE IN ACCORDANCE WITH 2015 MICHIGAN RESIDENTIAL CODE, AND SHALL BEAR ON VIRGIN, UNDISTURBED SOIL. ADDITIONAL DEPTH MAY BE REQUIRED AS DICTATED BY SOIL CONDITIONS. ALLOWABLE SOIL BEARING PRESSURE OF 3000 P.S.F. IS ASSUMED FOR FOOTING SIZES SHOWN ON PLAN. VERIFICATION OF ALLOWABLE SOIL BEARING CAPACITY OF 3000 P.S.F. AT EACH JOBSITE IS RESPONSIBILITY OF CONTRACTOR AND SHALL MEET MINIMUM 2009 MICHIGAN RESIDENTIAL CODE. QUESTIONABLE SOIL CONDITIONS ARE TO BE INVESTIGATED BY A QUALIFIED SOILS ENGINEER.

ALL POURED CONC. WALLS WITH BRICK LEDGE GREATER THAN 4"-0" SHALL BE REINFORCED WITH #5 BARS 24" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY OR EQUAL.

ALL POURED CONC. WALLS TO BE BACKFILLED WITH SUITABLE TYPE BACKFILL MATERIAL THAT IS NOT MET CLAY OR IN FROZEN CHUNKS AND BE WELL BRACED UNTIL CONC. IS THOROUGHLY CURED AND ADDITIONAL WEIGHT OF THE BUILDING IS IN PLACE. BACKFILLING SHALL COMPLY WITH THE 2009 MICHIGAN RESIDENTIAL CODE.

ALL POURED CONC. WALLS WITH 7"-0" OR MORE BACKFILL TO BE REINFORCED WITH #4 BARS 16" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY. ALTERNATE: #5 BARS 24" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY.

ALL WINDOW NUMBERS REFER TO GENERIC WINDOW SIZES. NOTES REFER TO WIDTH BY LENGTH CALLED OFF IN FEET AND INCHES; EX: 3050 SH = 3'-0" WIDE BY 5'-0" TALL SINGLE HUNG. WINDOW MANUFACTURER TO MATCH ALL SIZES AND SHAPES DIMENSIONALLY. ANY VARIATIONS TO BE VERIFIED WITH ARCHITECT.

PROVIDE WIND BRACING IN CONFORMANCE WITH 2015 MICHIGAN RESIDENTIAL CODE.

ALL EGRESS WINDOWS SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT MORE THAN 44" ABOVE THE FLOOR, HAVE A NET CLEAR OPENING OF 5.7 SQ. FT., HAVE A MIN. CLEAR HEIGHT DIM. OF 24" AND A MIN. CLEAR OPENING WIDTH DIM. OF 20".

ROOF TRUSS DESIGN BY TRUSS MANUFACTURER TO CONFORM TO ALL MINIMUM DESIGN LOAD REQUIREMENTS AND BUILDER TO BRACE ROOF TRUSSES AS REQUIRED BY MANUFACTURERS DETAILED DRAWINGS.

ROOF TRUSS FRAMING INDICATED ON DRAWINGS IS OUR ASSUMED LAYOUT. TRUSS MANUFACTURER SHALL REVIEW THE DRAWINGS AND INDICATE TO ARCHITECT, PRIOR TO FABRICATION, ANY CHANGE IN BEARING CONDITIONS THAT WOULD REQUIRE RE-FRAMING OF OUR STRUCTURE TO ACCOMMODATE TRUSSES.

BUILDER MUST PROVIDE TRUSS DESIGN DATA (R106.1.4) AT TIME OF PERMITTING OR PROVIDE TRUSS DESIGN DRAWINGS PRIOR TO INSTALLATION OF TRUSSES.

ALL CONVENTIONAL FRAMING HEADERS, BEAMS AND RAFTERS 2 x 10 AND LESS TO BE #2 OR BETTER HEM FIR. ALL 2 x 12'S TO BE #2 OR BETTER DOUGLAS FIR.

FLOOR JOIST LOADING CRITERIA

FIRST FLOOR LOADING:
LIVE LOAD 40 P.S.F.
DEAD LOAD 15 P.S.F.
TOTAL LOAD 55 P.S.F.
LIVE LOAD DEFLECTION L/480
TOTAL LOAD DEFLECTION L/240

SECOND FLOOR LOADING:
LIVE LOAD 40 P.S.F.
DEAD LOAD 10 P.S.F.
TOTAL LOAD 50 P.S.F.
LIVE LOAD DEFLECTION L/480
TOTAL LOAD DEFLECTION L/240

FLOOR W/CERAMIC TILE/MARBLE:
LIVE LOAD 40 P.S.F.
DEAD LOAD 25 P.S.F.
TOTAL LOAD 65 P.S.F.
LIVE LOAD DEFLECTION L/720
TOTAL LOAD DEFLECTION L/360

EXT. DECK JOIST LOADING CRITERIA

DECK LOADING:
LIVE LOAD 50 P.S.F.
DEAD LOAD 10 P.S.F.
TOTAL LOAD 60 P.S.F.
LIVE LOAD DEFLECTION L/360
TOTAL LOAD DEFLECTION L/240

ROOF TRUSS LOADING CRITERIA

TOP CHORD LIVE LOAD 30 P.S.F.
DEAD LOAD 7 P.S.F.
BOTT. CHORD LIVE LOAD 10 P.S.F.
(UNINHABITABLE ATTICS W/OUT STORAGE)

LIVE LOAD 20 P.S.F.
(UNINHABITABLE ATTICS WITH STORAGE)
DEAD LOAD 10 P.S.F.

VERIFY AREAS OF DROPPED FLOORS FOR CERAMIC TILE WITH BUILDER AND COORDINATE ALL CERAMIC TILE AREAS SHOWN AND NOT SHOWN WITH I-JOIST MANUFACTURER OR ARCHITECT FOR PROPER DESIGN.

APPLY WATER-RESISTANT GYPSUM BACKER BOARD TO ALL AREAS SUBJECT TO REPEATED DAMP CONDITIONS AND MOISTURE ACCUMULATION AS WELL AS COMPLY WITH THE 2009 MICHIGAN RESIDENTIAL CODE IN RELATED AREAS

ALL SMOKE DETECTORS TO BE INTER-CONNECTED W/ BATTERY BACKUP IN COMPLIANCE WITH 2015 MICHIGAN RESIDENTIAL BUILDING CODE

ALL STAIRWAYS, STAIRWAY GUARDS, HANDRAILS, BALUSTERS, HANDRAIL GRIP SIZE AND HEADROOM REQUIREMENTS TO COMPLY WITH 2015 MICHIGAN RESIDENTIAL CODE REQUIREMENTS.

ALL I-JOISTS ARE DESIGNED WITH TRUSS JOIST MAVERICK DESIGN STANDARDS AND ARE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

ALL L.V.L. BEAMS AND HEADERS TO HAVE A MINIMUM 2 STUD BEARING @ EACH END UNLESS NOTED OTHERWISE

ALL LAMINATED VENEER LUMBER (L.V.L.) TO HAVE A MODULUS OF ELASTICITY OF 1.9 (E=1.9) AND ARE TO BE JOINED TOGETHER PER MANUFACTURERS SPECIFICATIONS.

ALL LAMINATED STRAND LUMBER (TIMBERSTRAND/ L.S.L.) TO HAVE A MODULUS OF ELASTICITY OF 1.5 (E=1.5) AND ARE TO BE JOINED TOGETHER PER MANUFACTURERS SPECIFICATIONS.

I-JOIST LAYOUT AND DETAILS ARE FOR REFERENCE ONLY, AND ALL FLOOR SYSTEMS AND DETAILS SHALL BE VERIFIED BY I-JOIST MANUFACTURER LAYOUT PLAN THAT IS COORDINATED WITH APPROVED ROOF TRUSS LAYOUT.

A FLASHING INSPECTION IS REQUIRED PRIOR TO THE INSTALLATION OF A FULL WALL OF BRICK, AND SHALL COMPLY WITH THE 2015 MICHIGAN RESIDENTIAL CODE.

ALL HOLES NOTCHES CUT OR BORED INTO I-JOIST'S OR L.V.L.'S TO BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

NO. 15 FELT PAPER OR APPROVED WEATHER RESISTANT MATERIAL (R703.2) TO BE ATTACHED TO SHEATHING FLASHING BEHIND ANY VENEERS OF BRICK, CLAY, TILE, CONCRETE, OR NATURAL/ARTIFICIAL STONE AND SHALL COMPLY WITH THE 2015 MICHIGAN RESIDENTIAL CODE (TABLE R703.4)

ALL MASONRY VENEER WALLS TO BE PROVIDED WITH WALL TIES & WEEPHOLES PER CURRENT CODES INCLUDING COMPLIANCE WITH THE 2009 MICHIGAN RESIDENTIAL CODE WHEN INSTALLING STONE AND MASONRY VENEERS.

NOTE:

ALL FOOTINGS ARE DESIGNED FOR 3000 P.S.F. IT IS THE RESPONSIBILITY OF THE BUILDER TO FIELD TEST THE SOIL AND TO CONTACT THE ARCHITECT AND/ OR ENGINEER IF THE SOIL CAPACITY IS UNDER 3000 P.S.F.

AREAS THAT REQUIRE SAFETY GLAZING

UPDATED FOR THE 2015 WCH. RESIDENTIAL CODE

R308.4 HAZARDOUS LOCATIONS. THE LOCATIONS SPECIFIED IN SECTIONS R308.4.1 THROUGH R308.4.7 SHALL BE CONSIDERED TO BE SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING.

R308.4.1 GLAZING IN DOORS. GLAZING IN FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOORS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.

R308.4.2 GLAZING ADJACENT TO DOORS. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) ABOVE THE FLOOR OR WALKING SURFACE AND IT MEETS EITHER OF THE FOLLOWING CONDITIONS:

- WHERE THE GLAZING IS WITHIN 24 INCHES (610 MM) OF EITHER SIDE OF THE DOOR IN THE PLANE OF THE DOOR IN A CLOSED POSITION.
- WHERE THE GLAZING IS ON A WALL PERPENDICULAR TO THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24 INCHES (610 MM) OF THE HINGE SIDE OF AN IN-SWINGING DOOR.

R308.4.3 GLAZING IN WINDOWS. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION:

- THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQUARE FEET (0.836 M²).
- THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES (457 MM) ABOVE THE FLOOR.
- THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES (914 MM) ABOVE THE FLOOR; AND
- ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES (914 MM), MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.

R308.4.4 GLAZING IN GUARDS AND RAILINGS. GLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION

R308.4.5 GLAZING AND NET SURFACES. GLAZING IN WALLS, ENCLOSURES OR FENCES CONTAINING OR FACING HOT TUBS, SPAS, WHIRLPOLS, SAUNAS, STEAM ROOMS, BATHTUBS, SHOWERS AND INDOOR OR OUTDOOR SWIMMING POOLS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION. THIS SHALL APPLY TO SINGLE GLAZING AND EACH PANE IN MULTIPLE GLAZING.

R308.4.6 GLAZING ADJACENT TO STAIRS AND RAMPS. GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 36 INCHES (914 MM) ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.

R308.4.7 GLAZING ADJACENT TO THE BOTTOM STAIR LANDING. GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 36 INCHES (914 MM) ABOVE THE LANDING AND WITHIN A 60-INCH (1524 MM) HORIZONTAL ARC LESS THAN 180 DEGREES FROM THE BOTTOM TREAD NOSING SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.

NOTE:

ALL WOOD TRIM BOARDS TO BE PACKED OUT 1/2" FROM FRAMING

EGRESS WINDOW REQUIREMENTS

- MIN. NET CLEAR OPENING OF 5.7 SQ. FT. (SECOND FLOOR BEDROOMS)
- MIN. NET CLEAR OPENING OF 5.0 SQ. FT. (FIRST FLOOR BEDROOMS ONLY)
- MIN. NET CLEAR OPENING HT. OF 24 INCHES
- MIN. NET CLEAR OPENING WIDTH OF 20 INCHES
- MAX. SILL HT. ABOVE FINISH FLOOR OF 44 INCHES

TABLE R703.7.3.1
ALLOWABLE SPANS FOR LINTELS SUPPORTING
MASONRY VENEER A,B,C

ANGLE SIZE	BEARING TO FASCIA	BEARING ONE LEVEL ABOVE	BEARING TWO LEVELS ABOVE	# OF \"/> REINFORCING BARS REQ.
3 X 3 X 1/4"	6'-0"	4'-6"	3'-0"	1
4 X 3 X 1/4"	8'-0"	6'-0"	4'-6"	1
5 X 3 \ X 5/16"	10'-0"	8'-0"	6'-0"	2
6 X 3 \ X 5/16"	14'-0"	9'-6"	7'-0"	2
2-6 X 3 \ X 5/16"	20'-0"	12'-0"	9'-6"	4

- LONG SIDE OF ANGLE TO BE PLACED IN A VERTICAL POSITION.
- REINFORCED LINTELS SHALL NOT BE LESS THAN 8 IN. TALL & ALL CELLS OF HOLLOW MASONRY LINTELS TO BE GROUTED SOLID. REINFORCEMENT SHALL NOT EXTEND LESS THAN 8 INCHES INTO THE SUPPORTING UNIT.
- ABOVE ITEMS ARE EXAMPLES. OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS MAY BE USED.

NOTE:

SECTION R703.7.2.2;
STEEL ANGLES SUPPORTING BRICK VENEER THAT IS LAG BOLTED TO ROOF CONSTRUCTION WITH SLOPES GREATER THAN 7:12 BUT NOT MORE THAN 12:12 SHALL HAVE STOPS OF A MINIMUM 3 INCHES X 3 INCHES X 1/4 INCH STEEL PLATE WELDED TO THE STEEL ANGLE AT 24 INCHES ON CENTER ALONG THE ANGLE OR AS APPROVED BY THE BUILDING OFFICIAL

NOTE:

AIR LEAKAGE TEST SHALL DONE. PER MEUC 2015 SEC R 402.4

BUILDING CODES

MICHIGAN RESIDENTIAL CODE 2015

MINIMUM REQ. ATTIC VENTILATION

ATTIC VENTILATION SHALL BE PROVIDED IN THE AMOUNT OF 1 SQ. FT. NET VENTILATION PER 300 SQ. FT. OF ATTIC SPACE W/ 50% PROVIDED BY GABLE ROOF AND/OR RIDGE VENTS AND THE BALANCE OF REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.

INDEX OF DRAWINGS

1	GENERAL NOTES, LOCATION KEY
2	FOUNDATION PLAN
3	FIRST FLOOR PLAN, NOTES
4	SECOND FLOOR
5	EXTERIOR ELEVATIONS
6	EXTERIOR ELEVATIONS
7	WALL SECTIONS, DETAILS

SQUARE FOOTAGE

FIRST FLOOR AREA 1599 SF
SECOND FLOOR AREA 1651 SF
TOTAL HOUSE AREA: 3246 SF

OWNER CONTACT:

ARTUR KOKAJ
CELL: 248-802-8409



LOCATION KEY
NO SCALE

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PROJECT
PROPOSED RESIDENCE
XXXX AXEL ST.
TROY, MI

SUBJECT
GENERAL NOTES
INDEX OF DRAWINGS,
LOCATION KEY,

ISSUED:
SQA
06-10-2022

ARCO DESIGN ASSOCIATES
2298 YASMIN DRIVE, COMMERCE TOWNSHIP, MI 48382
PH: (248) 802-8409

DRAWN AK
CHECKED AK
APPROVED AK
BDS
CONSTR

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2021-34

SHEET
1

PROPOSED RESIDENCE

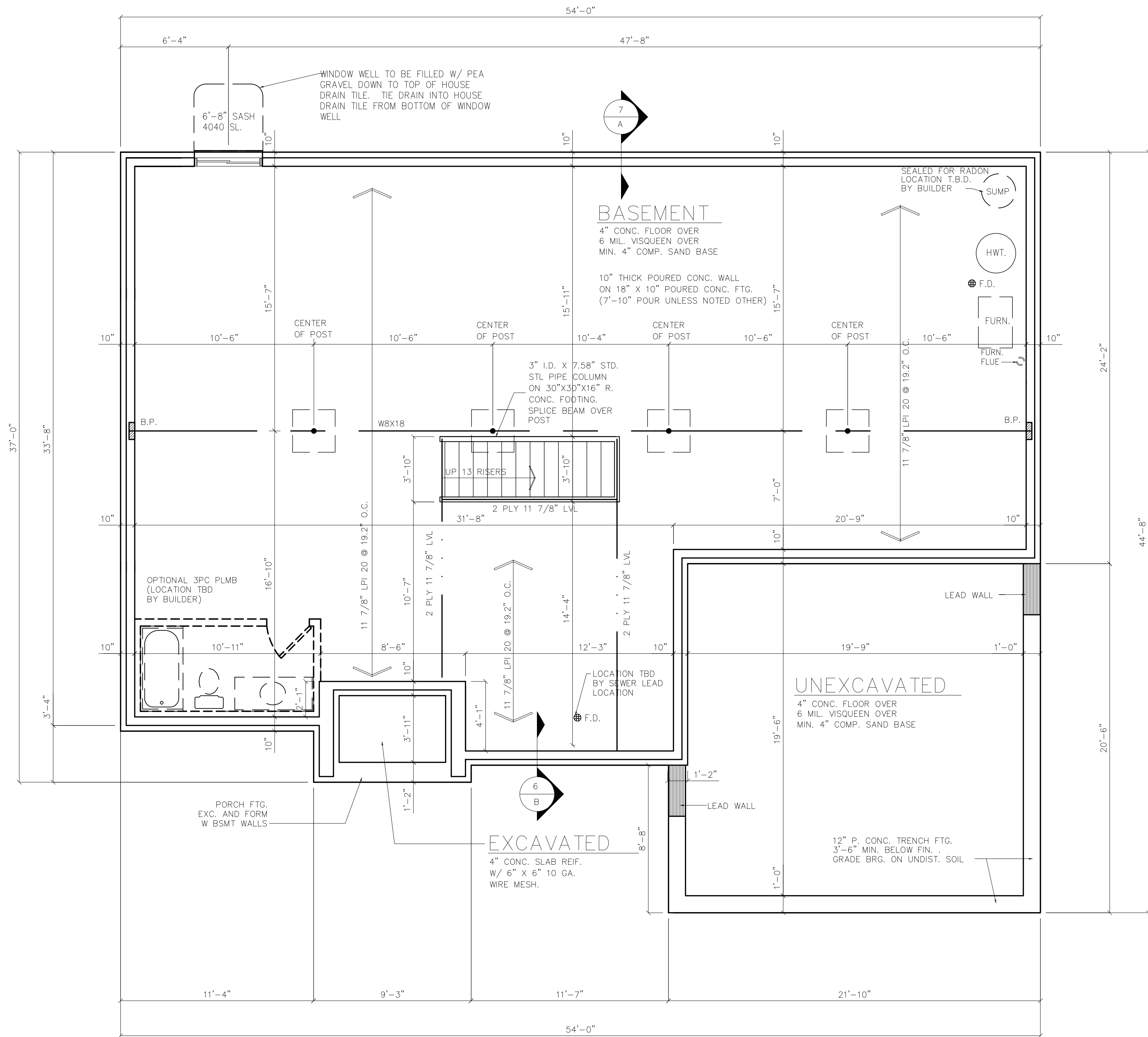
NOTE:
WINDOW WELLS WITH A DEPTH GREATER THAN 44" BELOW GRADE SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OR STEPS USABLE WITH THE WINDOW IN THE FULLY OPEN POSITION.

NOTE:
WINDOW WELL SHALL HAVE HORIZ. DIMENSIONS THAT PROVIDE A MIN. NET CLEAR AREA OF 9 SQ. FT. WITH A MIN HORIZ. PROJECTION AND WIDTH OF 36".

NOTE:
CONCRETE STRENGTH FOR GARAGE FLOORS, PORCHES AND STEPS SHALL BE A MINIMUM OF 3500 P.S.I. WITH AIR ENTRAINMENT PER SECTION R402.2 (TABLE R402.2)

NOTE:
BASEMENT NOT CURRENTLY DESIGNED AS A HABITABLE SPACE. THE SPACE IS CURRENTLY DESIGNED FOR STORAGE, TOILET AND UTILITY SPACES. PER SECTION 106.1 OF THE CODE, BASEMENT WILL NOT REQUIRE AN EMERGENCY ESCAPE, RESCUE WINDOW OR EXTERIOR DOOR.

NOTE:
POURED CONCRETE WALLS SHALL BE VIBRATED IN 20" MAXIMUM LIFTS DURING THE POURING OPERATION IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE.



FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

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PROJECT
PROPOSED RESIDENCE
XXXX AXEL ST.
TROY, MI

SUBJECT
FOUNDATION PLAN

ISSUED BY
09-10-2022

ARCO DESIGN ASSOCIATES
2298 YASWIN DRIVE, COMMERCE TOWNSHIP, MI 48382
PH: (248) 802-8409

ISSUED BY
09-10-2022

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2

PROPOSED RESIDENCE

NOTE:
STAIRWAY ILLUMINATION (R303.6)
 ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIRS, INCLUDING THE LANDINGS AND TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF EACH LANDING OF THE STAIRWAY. FOR INTERIOR STAIRS THE ARTIFICIAL LIGHT SOURCES SHALL BE CAPABLE OF ILLUMINATING TREADS AND LANDINGS TO LEVELS NOT LESS THAN 1 FOOT-CANDLES MEASURED AT THE CENTER OF TREADS AND LANDINGS. EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF THE STAIRWAY. EXTERIOR STAIRWAYS PROVIDING ACCESS TO A BASEMENT FROM THE OUTSIDE GRADE LEVEL SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE BOTTOM LANDING OF THE STAIRWAY. THE LIGHTING AND SWITCHING OF THE STAIRWELL WILL BE INSPECTED AN ELECTRICAL INSPECTOR.

FIRE SEPARATION NOTE
FOR LIVING SPACE ABOVE GARAGE
FIRE SEPARATION (R309)
 GARAGE SPACE BENEATH HABITABLE ROOMS SHALL BE SEPARATED FROM ALL HABITABLE ROOMS ABOVE BY NOT LESS THAN 5/8-INCH TYPE X GYPSUM BOARD OR EQUIVALENT. WHERE THE SEPARATION IS A FLOOR-CEILING ASSEMBLY, THE STRUCTURE SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED BY NOT LESS THAN 1/2-INCH GYPSUM BOARD OR EQUIVALENT. ALL OTHER GARAGE SPACE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN 1/2-INCH GYPSUM BOARD APPLIED TO THE GARAGE SIDE. DROP CLG. UNDER FLR. ABV. (ENCLOSE MECHANICAL AND STRUCTURAL ELEMENTS) VERIFY W/ BLDG.

NOTE:
LANDINGS AT DOORS (R311.4.3)
 THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF EACH EXTERIOR DOOR. WHERE A STAIRWAY OF 2 OR FEWER RISERS IS LOCATED ON THE EXTERIOR SIDE OF A DOOR, OTHER THAN THE REQUIRED EXIT DOOR, A LANDING IS NOT REQUIRED FOR THE EXTERIOR SIDE.
 A LANDING AT AN EXTERIOR DOOR SHALL NOT BE MORE THAN 7 3/4" BELOW THE TOP OF THE THRESHOLD. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SWAYED. EVERY LANDING SHALL HAVE A MIN. DIMENSION OF 36" MEASURED IN THE DIRECTION OF TRAVEL.

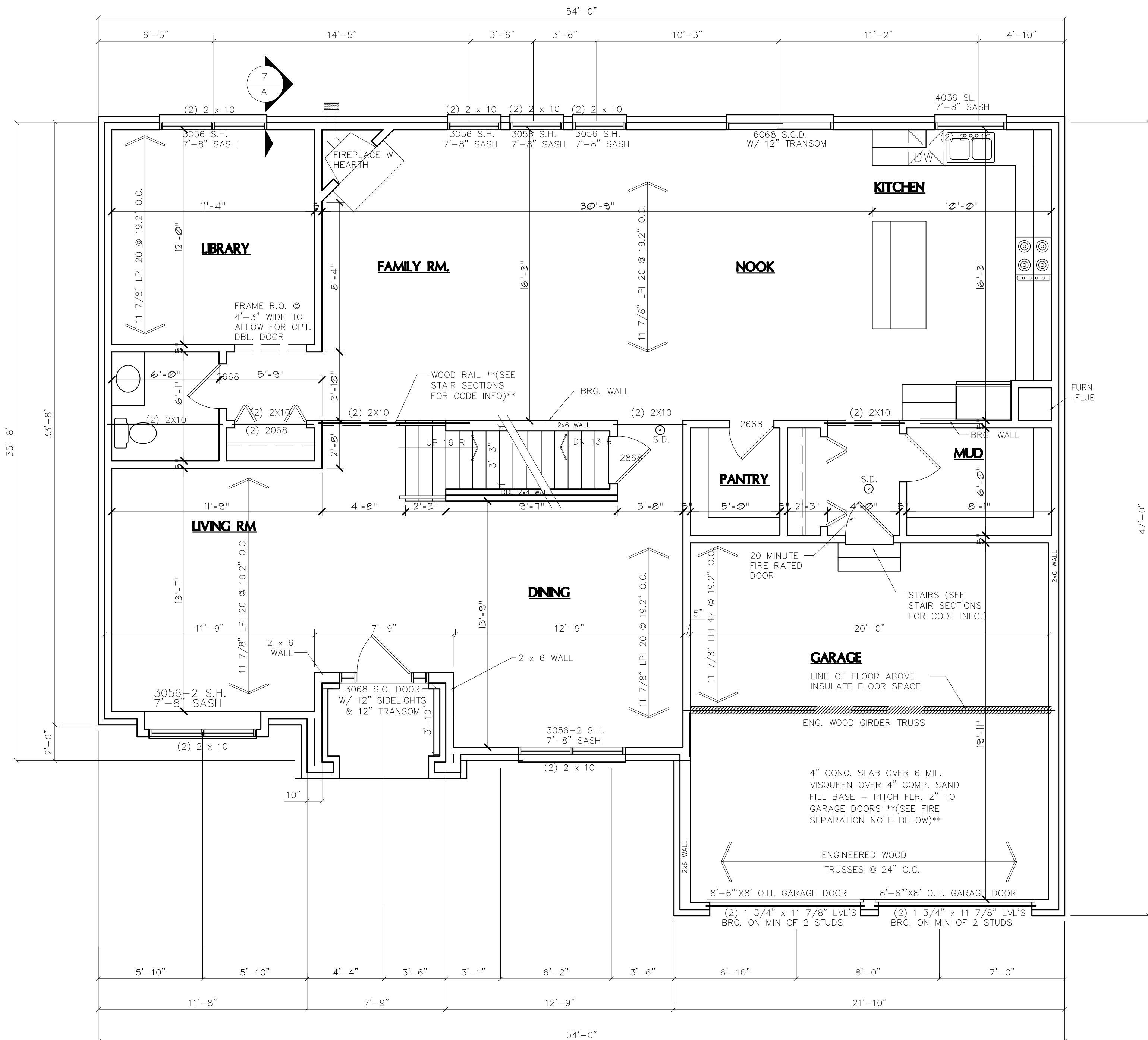
NOTE:
 BATHROOM EXHAUST FANS ARE TO VENT DIRECTLY TO THE OUTSIDE OF STRUCTURE

NOTE:
 FRAME GARAGE WALLS EXCEEDING 10'-0" IN HEIGHT WITH 2x6 STUDS.

NOTE: \odot SD/CM
 ALL SMOKE DETECTORS / CARBON MONOXIDE ALARMS SHALL BE INTERCONNECTED W/ BATTERY BACK-UP PER CODE.

NOTE
SECTION R702.4.2 & R702.4.3:
 WATER-RESISTANT GYPSUM BACKER BOARD SHALL NOT BE USED OVER A VAPOR RETARDER IN A SHOWER OR BATHTUB COMPARTMENT, WHERE THERE WILL BE DIRECT EXPOSURE TO WATER, OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY

NOTE
SECTION E3802.11:
 ALL BRANCH CIRCUITS THAT SUPPLY 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE OUTLETS INSTALLED IN DWELLING UNIT BEDROOMS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER LISTED TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT.



FIRST FLOOR PLAN
 SCALE: 1/4" = 1'-0"

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PROJECT
PROPOSED RESIDENCE
 XXXX AXE ST.
 TROY, MI

SUBJECT
FIRST FLOOR PLAN,

ARKO DESIGN ASSOCIATES
 2296 YASMIN DRIVE, COMMERCE TOWNSHIP, MI 48382
 PH. (248) 802-8409

ISSUED:
 SPA
 06-10-2022

DRAWN AK
 CHECKED AK
 APPROVED AK
 BIDS
 CONSTR

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2021-34

SHEET
3
 PROPOSED RESIDENCE

NOTE:
STAIRWAY ILLUMINATION (R303.6)
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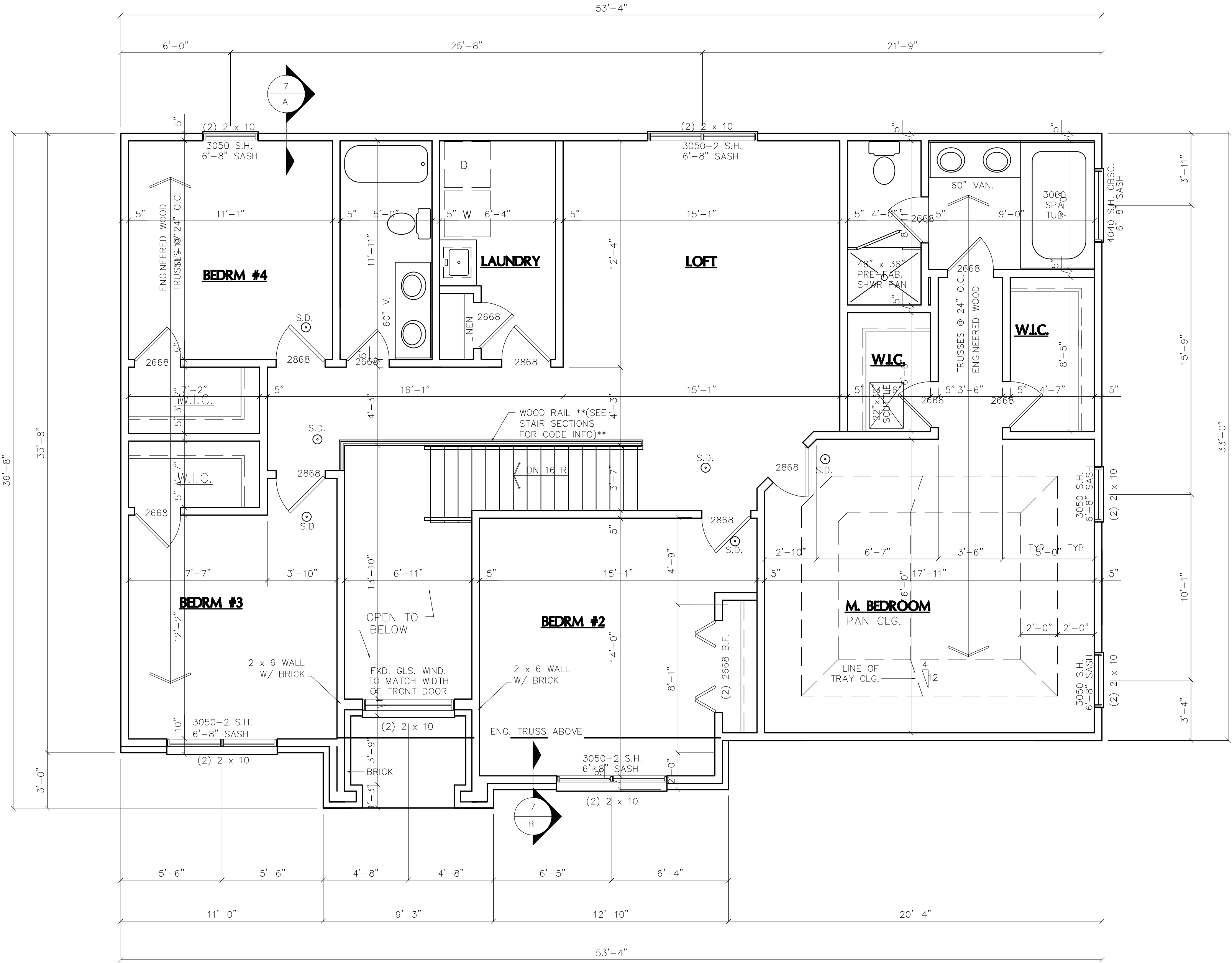
NOTE:
 BATHROOM EXHAUST FANS ARE TO VENT DIRECTLY TO THE OUTSIDE OF STRUCTURE

NOTE:
 FRAME GARAGE WALLS EXCEEDING 10'-0" IN HEIGHT WITH 2x6 STUDS.

NOTE: \odot S.D./C.M.
 ALL SMOKE DETECTORS / CARBON MONOXIDE ALRMARS SHALL BE INTERCONNECTED W/ BATTERY BACK-UP PER CODE.

NOTE
SECTION R702.4.2 & R702.4.3:
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SECOND FLOOR PLAN
 SCALE: 1/4" = 1'-0"

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PROJECT
PROPOSED RESIDENCE
 XXXX AVE. ST.
 TROY, MI

SUBJECT
SECOND FLOOR PLAN

ARKO DESIGN ASSOCIATES
 2298 YASMIN DRIVE, COMMERCE TOWNSHIP, MI 48382
 PH. (248) 802-8409

ISSUED:
 SPA
 05-10-2022

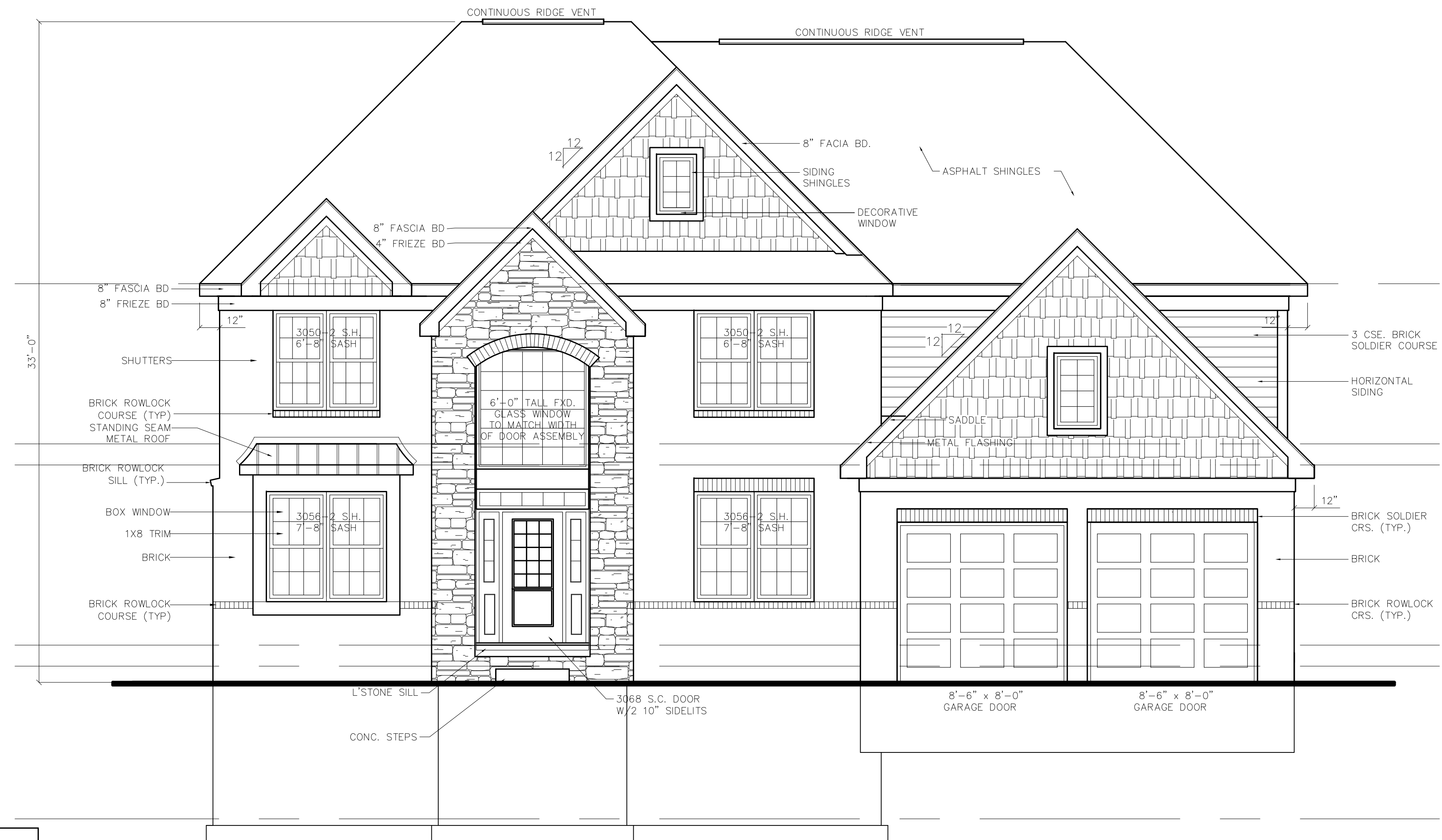
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 CHECKED AK
 APPROVED AK
 BIDS
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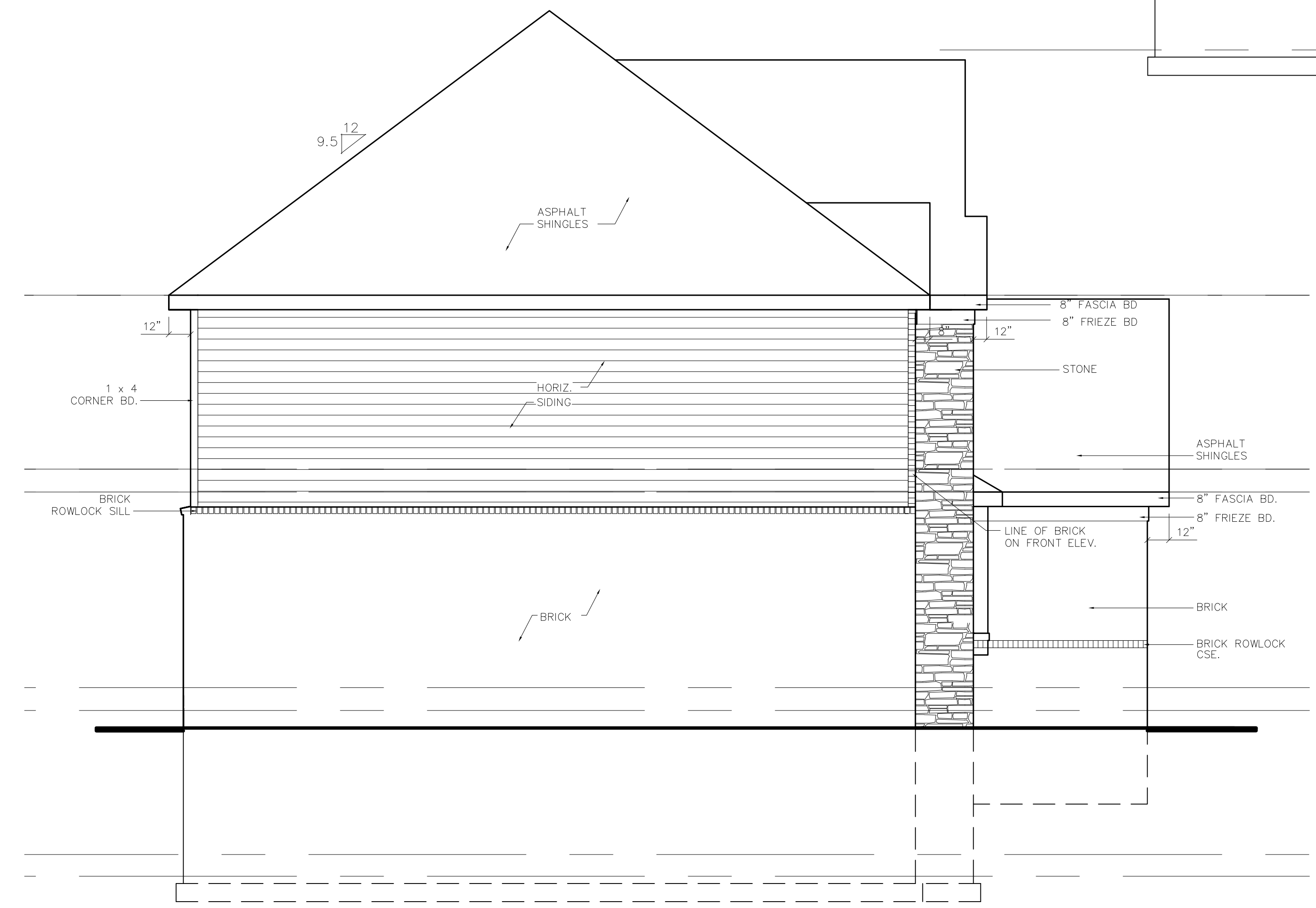
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PROPOSED RESIDENCE



FRONT ELEVATION



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

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XXXX AXEL ST.
TROY, MI

SUBJECT
EXTERIOR ELEVATIONS

ISSUED:
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ARKO DESIGN ASSOCIATES
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PH: (248) 802-8409

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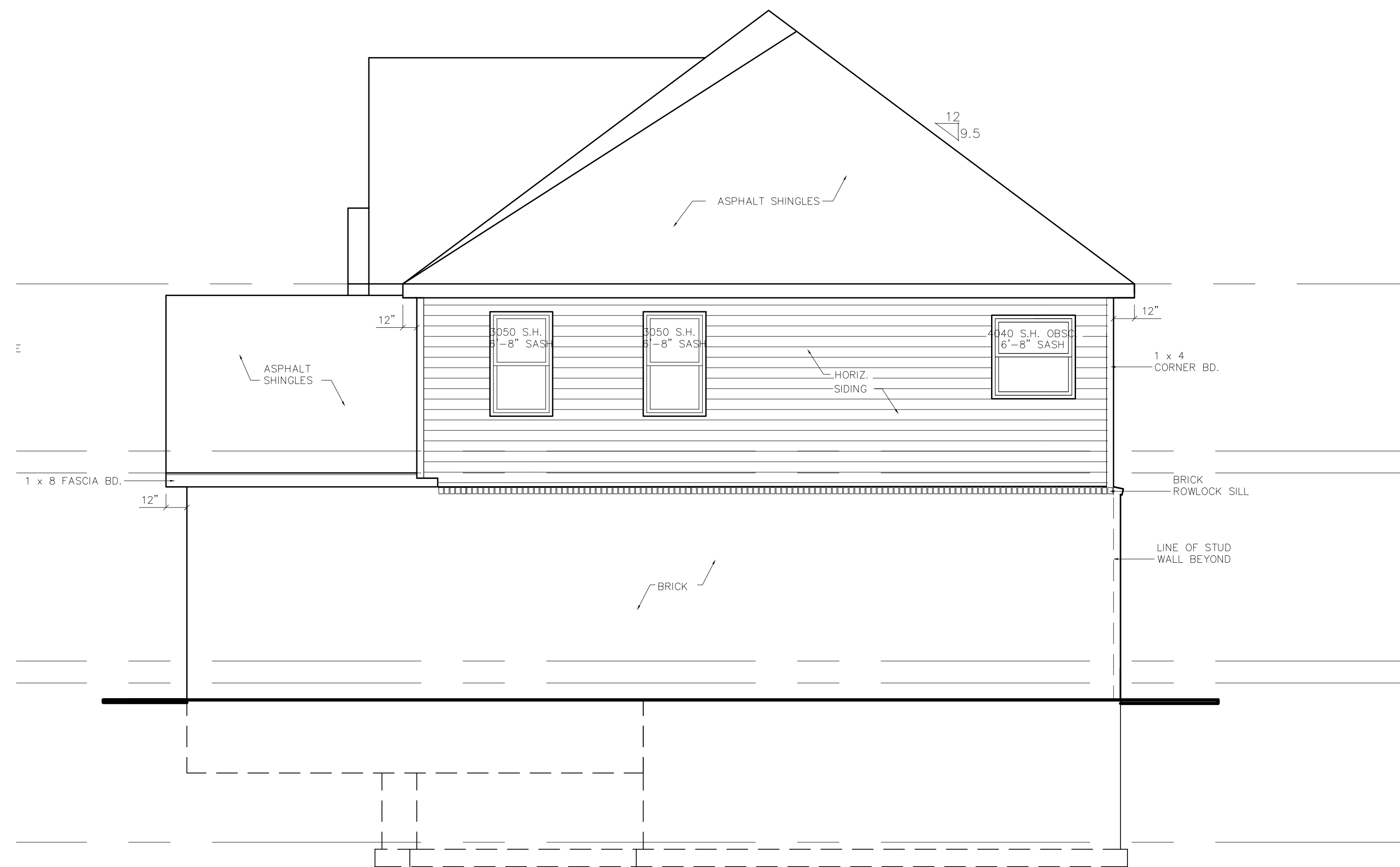
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PROPOSED RESIDENCE



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



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

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PROJECT
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TROY, MI

SUBJECT
EXTERIOR ELEVATIONS

ARKO DESIGN ASSOCIATES
2298 YASMIN DRIVE, COMMERCE TOWNSHIP, MI 48382
PH. (248) 802-8409

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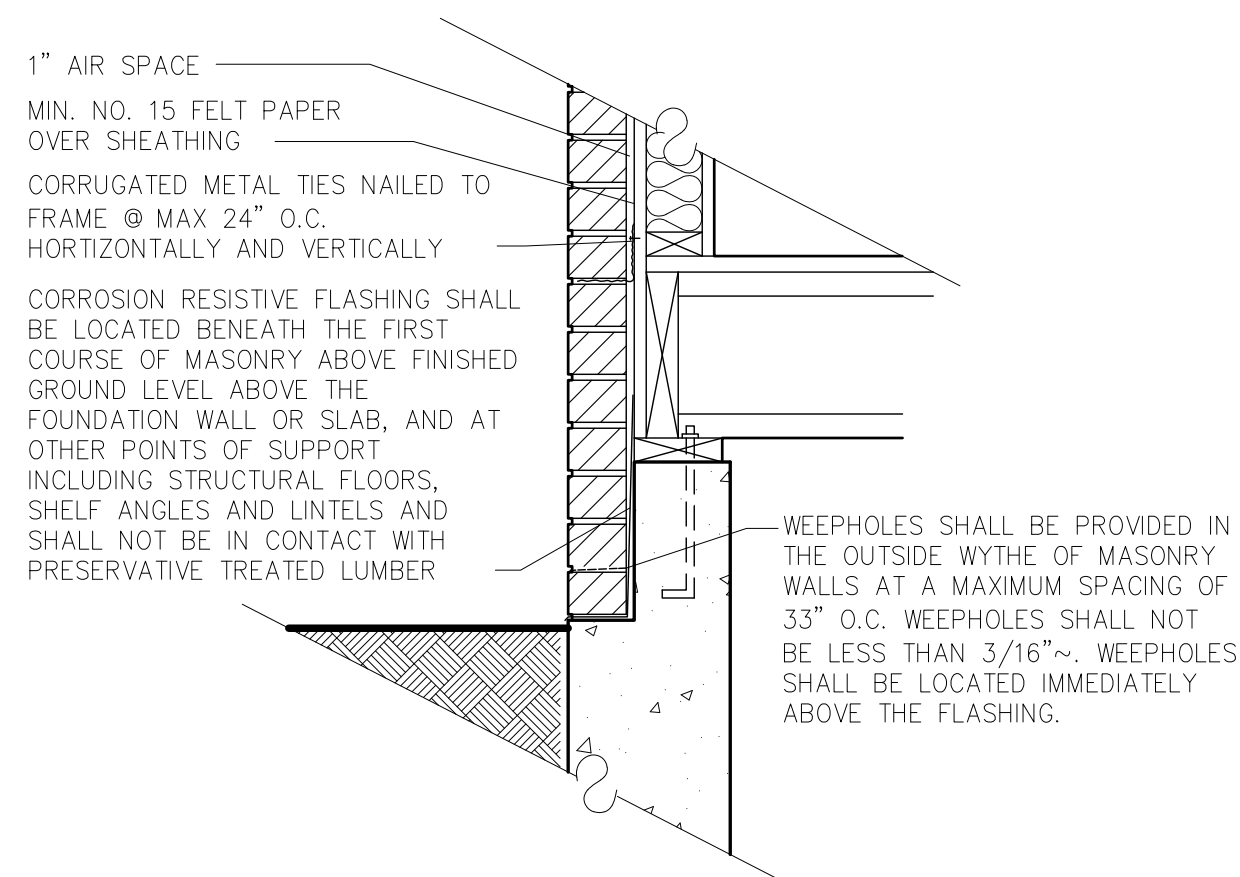
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6

PROPOSED RESIDENCE

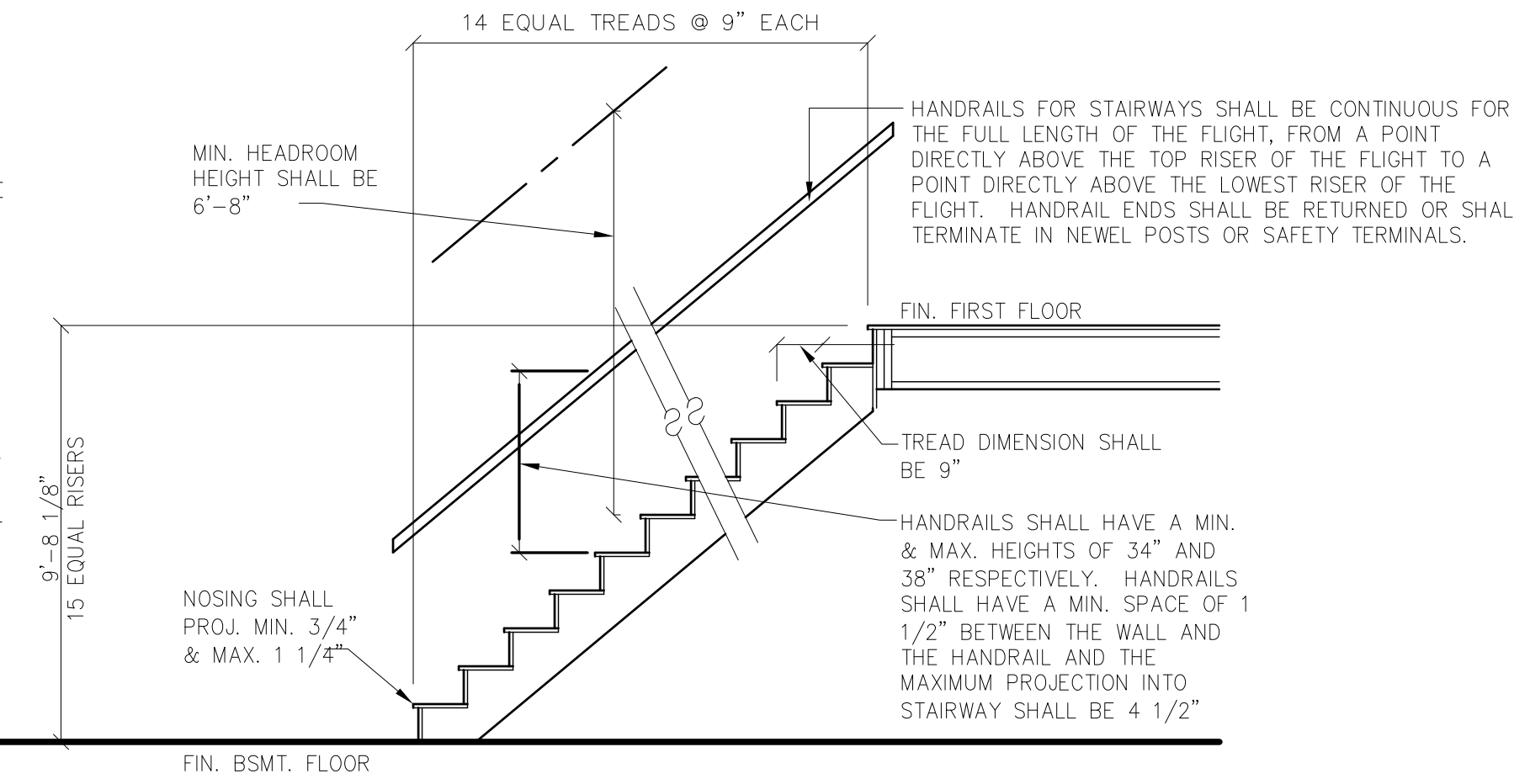


BRICK/WEEP HOLE DETAIL
SCALE 1" = 1'-0"

HANDRAILS

TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF AT LEAST 1 1/4 INCHES AND NOT GREATER THAN 2 INCHES. IF THE HANDRAIL IS NOT CIRCULAR IT SHALL HAVE A PERIMETER DIMENSION OF AT LEAST 4 INCHES AND NOT GREATER THAN 6 1/4 INCHES WITH A MAXIMUM CROSS SECTION OF DIMENSION OF 2 1/4 INCHES.

TYPE II. HANDRAILS WITH A PERIMETER GREATER THAN 6 1/4 INCHES SHALL PROVIDE A GRASPABLE FINGER RECESS AREA ON BOTH SIDES OF THE PROFILE. THE FINGER RECESS SHALL BEGIN WITHIN A DISTANCE OF 3/4 INCH MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND ACHIEVE A DEPTH OF AT LEAST 5/16 INCH WITHIN 7/8 INCH BELOW THE WIDEST PORTION OF THE PROFILE. THIS REQUIRED DEPTH SHALL CONTINUE FOR AT LEAST 3/8 INCH TO A LEVEL THAT IS NOT LESS THAN 1 3/4 INCHES BELOW THE TALLEST PORTION OF THE PROFILE. THE MINIMUM WIDTH OF THE HANDRAIL ABOVE THE RECESS SHALL BE 1/4 INCHES TO A MAXIMUM OF 2 3/4 INCHES. EDGES SHALL HAVE A MINIMUM RADIUS OF 0.01 INCHES.



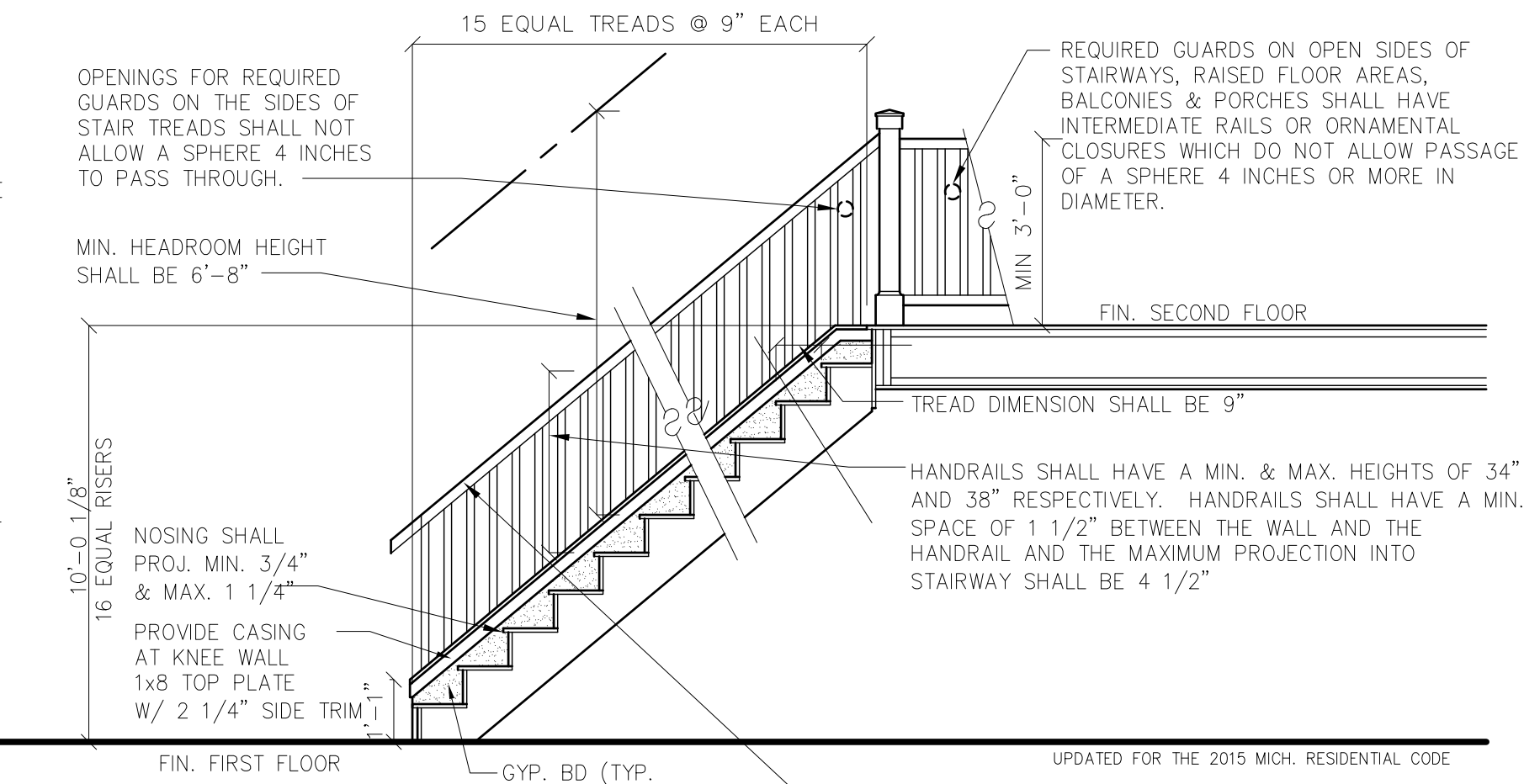
BASEMENT TO FIRST FLOOR STAIR SECTION

SCALE: 3/8" = 1'-0"

HANDRAILS

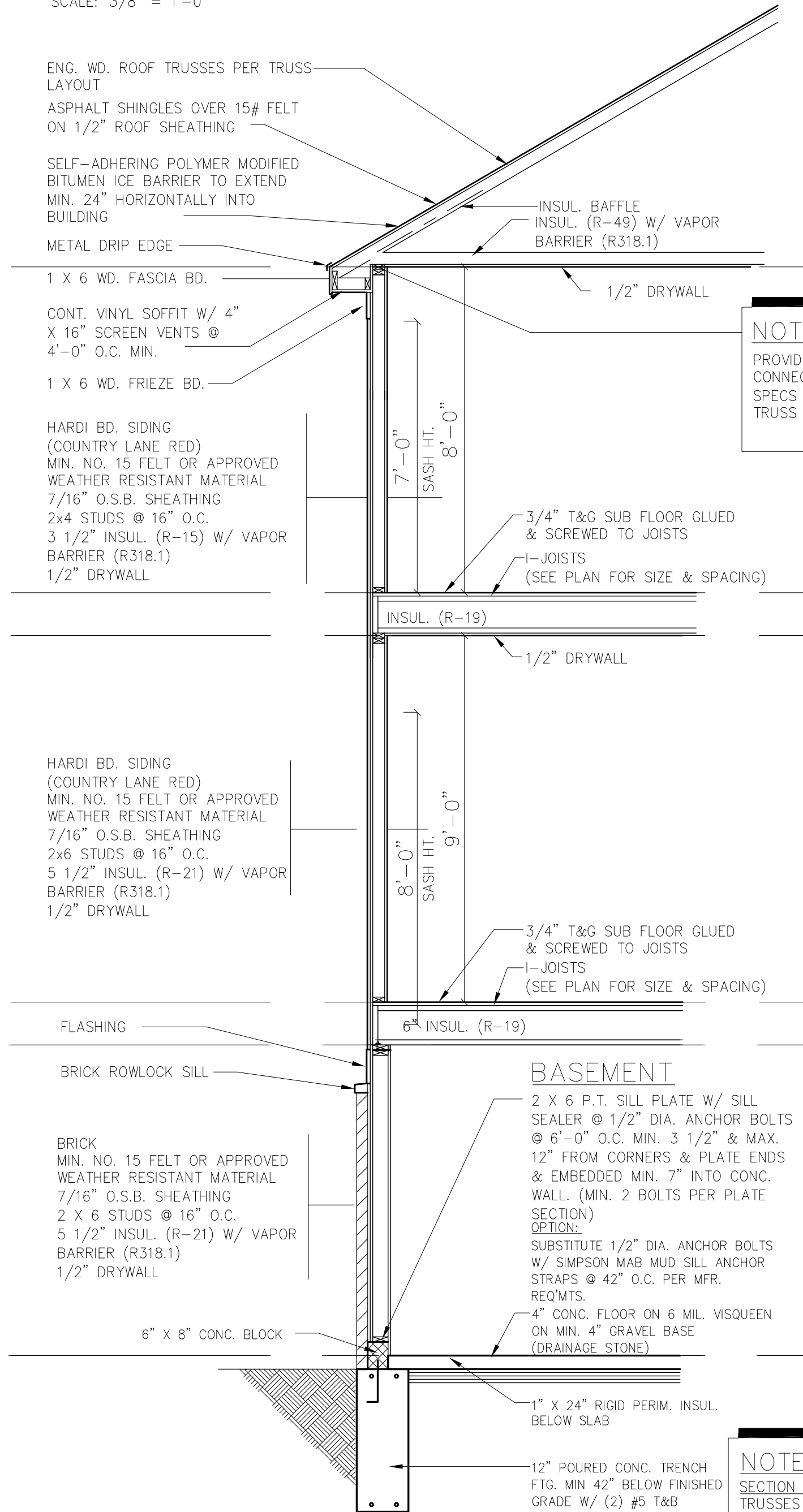
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FIRST FLOOR TO SECOND FLOOR STAIR SECTION

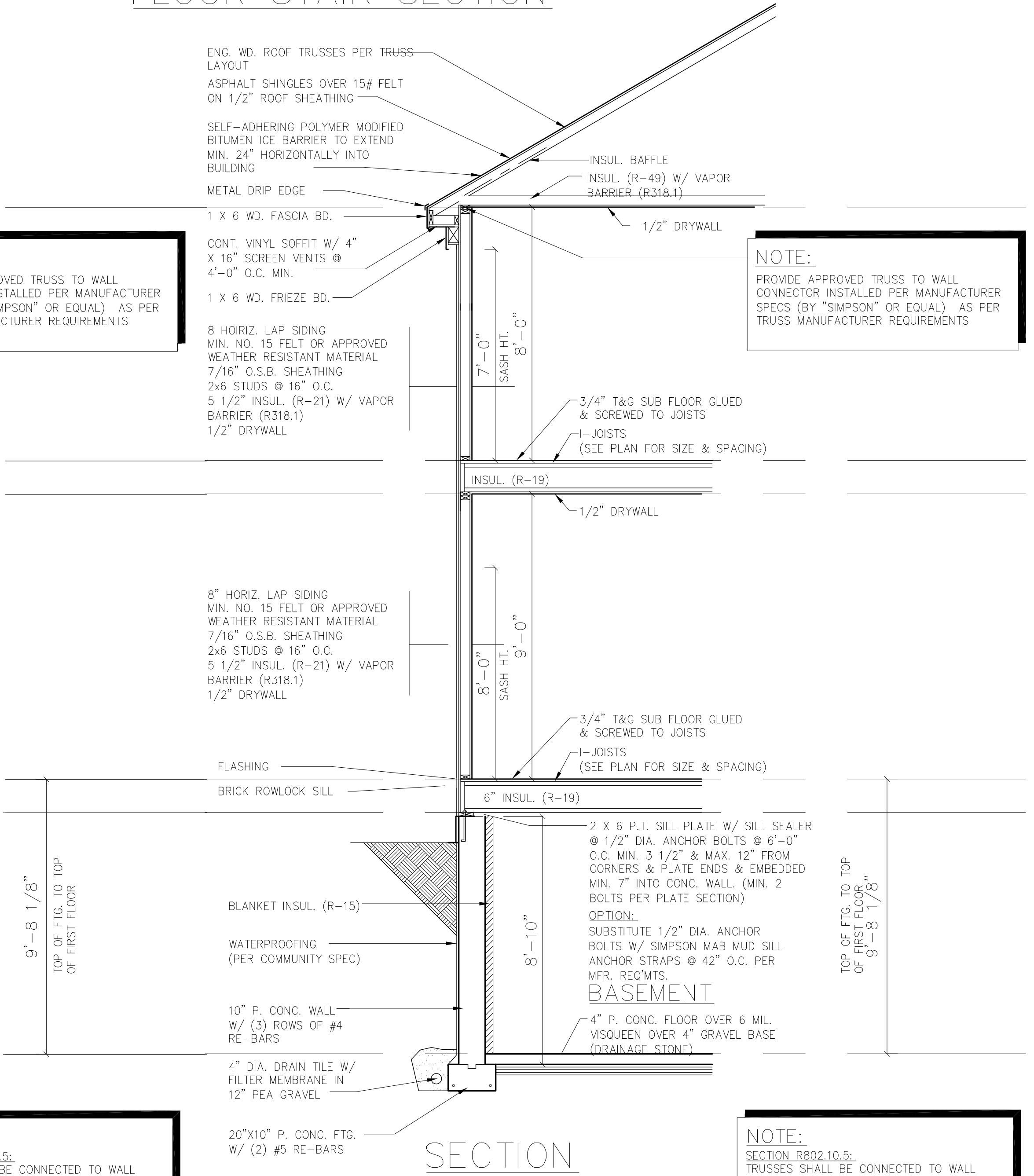
UPDATED FOR THE 2015 MICH. RESIDENTIAL CODE



SECTION
SCALE 3/8" = 1'-0"
CUT THROUGH REAR OF HOUSE

NOTE:
PROVIDE APPROVED TRUSS TO WALL CONNECTOR INSTALLED PER MANUFACTURER SPECS (BY "SIMPSON" OR EQUAL) AS PER TRUSS MANUFACTURER REQUIREMENTS

NOTE:
SECTION R802.10.5:
TRUSSES SHALL BE CONNECTED TO WALL PLATES BY THE USE OF APPROVED CONNECTORS HAVING A RESISTANCE TO UPLIFT OF NOT LESS THAN 175# AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS (SEE SECTIONS FOR FURTHER NOTATIONS)



SECTION
SCALE 3/8" = 1'-0"
CUT THROUGH FRONT OF HOUSE

NOTE:
PROVIDE APPROVED TRUSS TO WALL CONNECTOR INSTALLED PER MANUFACTURER SPECS (BY "SIMPSON" OR EQUAL) AS PER TRUSS MANUFACTURER REQUIREMENTS

NOTE:
SECTION R802.10.5:
TRUSSES SHALL BE CONNECTED TO WALL PLATES BY THE USE OF APPROVED CONNECTORS HAVING A RESISTANCE TO UPLIFT OF NOT LESS THAN 175# AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS (SEE SECTIONS FOR FURTHER NOTATIONS)

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PROJECT
PROPOSED RESIDENCE
XXXX AXEL ST.
TROY, MI

SUBJECT
WALL SECTIONS, DETAILS

ARKO DESIGN ASSOCIATES
2298 YASMIN DRIVE, COMMERCE TOWNSHIP, MI 48382
PH. (248) 802-8409

ISSUED:
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08-10-2022

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APPROVED AK
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2021-34

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7

PROPOSED RESIDENCE



P.O. Box 157 • St. Charles, Michigan 48655 • Phone (989) 865-6297

May 9, 2022

Mr. Artur Kokaj
MGM Signature Homes
1232 Combermere Drive
Troy, MI 48083

Mr. Kokaj:

At your request, I inspected a property at 571 and 589 E. Wattles Road in Troy, Michigan to determine if any regulated wetlands were present. Based on analyses of vegetation, soils, and hydrology I found wetland conditions on only very small areas in the interior of the property and along the east, west and north property edges. These small, poorly-drained spots covered only 0.14 acres in total and were dominated by buckthorn and other wetland facultative trees and shrubs.

Under Michigan Wetlands Protection rules, wetlands less than 5 acres in size are not regulated unless they are contiguous with a lake, pond, or stream. Since there are no water bodies within 500 feet of the subject property, I conclude that no wetlands potentially subject to state regulation exist on the property. Most of the site is regularly-mowed cultivated grass with typical lawn weeds such as dandelion. In my opinion, no further site analyses related to wetland issues are warranted.

Sincerely,

Patrick J. Rusz, Ph.D.
Chief Wetlands Ecologist
S & R Environmental Consulting
PO Box 157, St. Charles, MI 48655

“specialists in ecological analysis and resource management”