

**SPECIAL MEETING - GENOA CHARTER TOWNSHIP
PLANNING COMMISSION PUBLIC HEARING
DECEMBER 4, 2024
WEDNESDAY
6:30 P.M.
AGENDA**

CALL TO ORDER:

PLEDGE OF ALLEGIANCE:

APPROVAL OF AGENDA:

DECLARATION OF CONFLICT OF INTEREST:

CALL TO THE PUBLIC: *(Note: The Board reserves the right to not begin new business after 10:00 p.m.)*

OPEN PUBLIC HEARING #1... Consideration for a rezoning application, PUD agreement, environmental impact assessment, PUD conceptual and preliminary site condo plan to rezone 127.57 acres from Agriculture (AG) to Low-Density Residential (LDR) with a RPUD overlay to allow for a proposed 58-unit single-family site condominium development located at the northwest corner of Challis Road and Bauer Road. The proposed rezoning is for the following parcels: 4711-23-400-008, 4711-23-400-007, 4711-23-400-001 and 4711-23-300-003. The request is submitted by Pulte Homes of Michigan.

- A. Recommendation of Rezoning to LDR and PUD application for RPUD
- B. Recommendation of PUD agreement
- C. Recommendation of Environmental Impact Assessment (9-27-24)
- D. Recommendation of Conceptual PUD (11-1-24)
- E. Recommendation of Preliminary Site Plan (11-1-24)

OPEN PUBLIC HEARING #2... Consideration of Zoning Ordinance Text amendments to Article 11” General Provisions” of the Zoning Ordinance.

- A. Recommendation of Zoning Ordinance Amendment to Article 11 “General Provisions”

ADMINISTRATIVE BUSINESS:

- Staff Report
- Approval of the November 12, 2024 Planning Commission meeting minutes
- Member discussion
- Adjournment

<p>*Citizen’s Comments- In addition to providing the public with an opportunity to address the Township Board at the beginning of the meeting, opportunity to comment on individual agenda items may be offered by the Chairman as they are presented. Anyone speaking on an agenda item will be limited to 2 minutes.</p>
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GENOA CHARTER TOWNSHIP

Application for Re-Zoning



APPLICANT NAME: PULTE HOMES OF MICHIGAN, LLC ADDRESS: 2800 LIVERNOIS ROAD, BLDG D
OWNER NAME: SEE ATTACHED ADDRESS: SUITE 320, TROY MI 48083
PARCEL #(s): SEE ATTACHED PRIMARY PHONE: (248) 820-7306
EMAIL 1: paul.schyck@pultegroup.com EMAIL 2: joe.skore@pultegroup.com

We, the undersigned, do hereby respectfully make application to and petition the Township Board to amend the Township Zoning Ordinance and change the zoning map of the township of Genoa as hereinafter requested, and in support of this application, the following facts are shown:

A. REQUIRED SUBMITTAL INFORMATION

1. A legal description and street address of the subject property, together with a map identifying the subject property in relation to surrounding properties;
2. The name, signature and address of the owner of the subject property, a statement of the applicant's interest in the subject property if not the owner in fee simple title, and proof of consent from the property owner;
3. It is desired and requested that the foregoing property be rezoned from:
AG to LDR/RPUD
4. A site plan illustrating existing conditions on the site and adjacent properties; such as woodlands, wetlands, soil conditions, steep slope, drainage patterns, views, existing buildings, sight distance limitations, relationship to other developed sites, and access points in the vicinity;
5. A conceptual plan demonstrating that the site could be developed with representative uses permitted in the requested zoning district meeting requirements for setbacks, wetland buffers access spacing, any requested service drives and other site design factors;
6. A written environmental impact assessment, a map of existing site features as described in Article 18 describing site features and anticipated impacts created by the host of uses permitted in the requested zoning district;
7. A written description of how the requested rezoning meets Sec. 22.04 "Criteria for Amendment of the Official Zoning Map."
8. The property in question shall be staked prior to the Planning Commission Public Hearing.

B. DESCRIBE HOW YOUR REQUESTED RE-ZONING MEETS THE ZONING ORDINANCE CRITERIA FOR AMENDING THE OFFICIAL ZONING MAP:

1. How is the rezoning consistent with the goals, policies and future land use map of the Genoa Township Master Plan, including any subareas or corridor studies. If not consistent, describe how conditions have changed since the Master Plan was adopted?

WE ARE REQUESTING THE PROPERTY BE REZONED LOW DENSITY (RPUD)
RESIDENTIAL WHICH IS CONSISTANT WITH THE MASTER PLAN

2. Are the site's physical, geological, hydrological and other environmental features suitable for the host of uses permitted in the proposed zoning district?

THE PROPERTY IS PARTIALY WOODED WITH INTERSPERSED WETLANDS AND ROLLING UPLAND AREAS THAT CONSIST OF MAINLY COARSE SANDS AND GRAVELS. GROUNDWATER IS GENERALLY DOZENS OF FEET BELOW THE UPLAND AREAS AND THE WETLAND INUNDATION IS ONLY PERIODIC.

3. Do you have any evidence that a reasonable return on investment cannot be received by developing the property with one (1) of the uses permitted under the current zoning?

THE CURRENT AG ZONING REQUIRES 10 AC MIN NON-FARM DWELLINGS WHICH IS NOT CONSISTENT WITH ADJACENT PROPERTIES OR THE MASTER PLAN. 10 AC MIN LOT SIZES WOULD ONLY YEILD 12 A LOT DENSITY VS. 58 LOTS AS PROPOSED

4. How would all the potential uses allowed in the proposed zoning district be compatible with surrounding uses and zoning in terms of views, noise, air quality, the environment, density, traffic impacts, drainage and potential influence on property values?

LDR WOULD BE COMPATIBLE WITH ADJACENT RESIDENTIAL PROPERTIES AND NOT ADVERSELY EFFECT THE ENVIRONMENTAL QUALITY OF THE AREA. AT LESS THAN 0.5 UNITS PER ACRE TRAFFIC WOULD NOT BE ADVERSLY EFFECTED & NEW BUILD COMPARABLE HOUSING WOULD ENHANCE PROPERTY VALUES

5. Are infrastructure capacity (streets, sanitary sewer, water, and drainage) and services (police and fire protection, etc.) sufficient to accommodate the uses permitted in the requested district?

THE LOW DENSITY RESIDENTIAL PROPOSAL WILL NOT ADVERSELY EFFECT EMERGENCY SERVES AS IT CONSISTENT WITH THE MASTER PLAN AND THE TOWNSHIPS GOALS. ALSO, SEPTIC AND WELLS ARE PROPOSED WITH NO IMPACT ON WATER AND SEWER CAPACITY

6. Is there a demonstrated demand in Genoa Township or the surrounding area for the types of uses permitted in the requested zoning district? If yes, explain how this site is better suited for the zoning than others which may be planned or zoned to accommodate the demand.

SUPPLY IS DEFICIENT FOR SINGLE FAMILY HOUSING IN MICHIGAN IN GENERAL AND THIS PROPOSAL WILL INCREASE SINGLE FAMILY HOMES WHILE PRESERVING OVER HALF OF THE SITE AS OPEN SPACE.

7. If you have a particular use in mind, is another zoning district more appropriate? Why should the Township re-zone the land rather than amend the list of uses allowed in another zoning district to accommodate your intended use?

LDR IS CONSISTENT WITH THE MASTER PLAN AND A REZONING WILL FULFILL A TOWNSHIP GOAL.

8. Describe any deed restrictions which could potentially affect the use of the property.

WE ARE NOT AWARE OF ANY SUCH DEED RESTIRCTIONS.

C. AFFIDAVIT

The undersigned says that they are the DEVELOPER (owner, lessee, or other specified interest) involved in this petition and that the foregoing answers and statements herein contained and the information herewith submitted are in all respects true and correct to the best of his/her knowledge and belief.

BY: PULTE HOMES OF MICHIGAN LLC

ADDRESS: 2800 LIVERNOIS ROAD, TROY MI 48083, BLDG D, SUITE 320


SIGNATURE

The following contact should also receive review letters and correspondence:

Name: STEVE ALLEN Email: sallen@umlorgroup.com

Business Affiliation: UMLOR GROUP

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

PROJECT NAME: Legacy Hills

PROJECT LOCATON & DESCRIPTION: North of Challis between Bauer Rd and grand Circle Drive

SIGNATURE: 

DATE: 8/24

PRINT NAME: Paul Schyck

PHONE: 248-820-7306

COMPANY NAME & ADDRESS: Pulte Homes of MI LLC

2800 Livernois Troy MI 48083 Bldg D Suite 320



**GENOA CHARTER TOWNSHIP APPLICATION
Planned Unit Development (PUD)**

APPLICANT NAME: Pulte Homes of Michigan, LLC

APPLICANT EMAIL: paul.schyck@pultegroup.com

APPLICANT ADDRESS & PHONE: 2800 Livernois Road Bld D Suit 320 Troy MI 48083

OWNER'S NAME: See Attached

OWNER ADDRESS & PHONE: See Attached . ()

TAX CODE(S): See Attached

QUALIFYING CONDITIONS (To be filled out by applicant)

- 1. A PUD zoning classification may be initiated only by a petition.
- 2. It is desired and requested that the foregoing property be rezoned to the following type of PUD designation:
 - Planned Unit Development (RPUD)
 - Planned Industrial District (PID)
 - Mixed Use Planned Unit Development (MUPUD)
 - Redevelopment Planned Unit Development (RDPUD)
 - Non-residential Planned Unit Development (NRPUD)
 - Town Center Planned Unit Development (TCPUD)
- 3. The planned unit development site shall be under the control of one owner or group of owners and shall be capable of being planned and developed as one integral unit.

EXPLAIN Pulte Homes of Michigan, LLC will be the sole owner and is capable of developing the site as one integral unit.

- 4. The site shall have a minimum area of twenty (20) acres of contiguous land, provided such minimum may be reduced by the Township Board as follows:
 - A. The minimum area requirement may be reduced to five (5) acres for sites served by both public water and public sewer.
 - B. The minimum lot area may be waived for sites zoned for commercial use (NSD, GCD or RCD) where the site is occupied by a nonconforming commercial, office or industrial building, all buildings on such site are proposed to be removed and a new use permitted within the underlying zoning district is to be established. The Township Board shall only permit the PUD on the smaller site where it finds that the flexibility in dimensional standards is necessary to allow for innovative design in redeveloping the site and an existing blighted situation will be eliminated. A parallel plan shall be provided showing how the site could be redeveloped without the use of the PUD to allow the Planning Commission to evaluate whether the modifications to dimensional standards are the

minimum necessary to allow redevelopment of the site, while still meeting the spirit and intent of the ordinance.

C. The PUD site plan shall provide one or more of the following benefits not possible under the standards of another zoning district, as determined by the Planning Commission:

- preservation of significant natural or historic features
- a complementary mixture of uses or a variety of housing types
- common open space for passive or active recreational use
- mitigation to offset impacts
- redevelopment of a nonconforming site where creative design can address unique site constraints.

D. The site shall be served by public sewer and water. The Township may approve a residential PUD that is not served by public sewer or water, provided all lots shall be at least one (1) acre in area and the requirements of the County Health Department shall be met.

Size of property is 127.57 acres.

DESCRIBE BELOW HOW THE REQUESTED PUD DESIGNATION COMPLIES WITH AFOREMENTIONED MINIMUM LOT SIZE REQUIREMENTS.

The units will use on-site wastewater and individual wells that will meet or exceed Livingston County Health Department standards. Unit size will meet or exceed the revised ordinance amendment.

STANDARDS FOR REZONING TO PLANNED UNIT DEVELOPMENT (RESPOND HERE OR WITHIN THE IMPACT STATEMENT)

1. How would the PUD be consistent with the goals, policies and future land use map of the Genoa Township Master Plan, including any subarea or corridor studies. If conditions have changed since the Master Plan was adopted, the consistency with recent development trends in the area;

The Low Density Residential (RPUD) is consistent with the Master Plan.

2. The compatibility of all the potential uses in the PUD with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential influence on property values;

The Low Density Residential (RPUD) would be compatible with adjacent residential properties and not adversely effect the environmental quality of the area. At less than 0.5 units per acre the traffic would not be adversely effected and new build comparable housing would enhance property values.

3. The capacity of infrastructure and services sufficient to accommodate the uses permitted in the requested district without compromising the "health, safety and welfare" of the Township;

The Low Density Residential (RPUD) proposal will not adversely effect emergency services as it is consistent with the Master Plan and Township goals. Also, septic and wells are proposed with no impact on water and sanitary sewer capacity.

4. The apparent demand for the types of uses permitted in the PUD;
Supply is deficient for single family housing in Michigan in general and the proposal will
increase single family homes while preserving over half of the site as open space.

AFFIDAVIT

The undersigned says that they are the Developer (owner, lessee, or other specified interest) involved in this petition and that the foregoing answers and statements herein contained and the information herewith submitted are in all respects true and correct to the best of his/her knowledge and belief.

BY: Pulte Homes of Michigan LLC *Paul Schyck*
ADDRESS: 2800 Livernois Road, Troy MI 48083 Bldg D, Suite 320

Contact Information - Review Letters and Correspondence shall be forwarded to the following:
Steve Allen of Umlor Group at sallen@umlorgroup.com
Name Business Affiliation E-mail



FEE EXCEEDANCE AGREEMENT
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PROJECT NAME: Legacy Hills
PROJECT LOCATON & DESCRIPTION: North of Challis between Bauer and Grand Circle Drive

SIGNATURE: *Paul Schyck* DATE: 8/2/21
PRINT NAME: Paul Schyck PHONE: 248-890-7306
COMPANY NAME & ADDRESS: Pulte Home of Michigan LLC
2800 Livernois T Troy MI 48083 Bldg D Suite 320



GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: PULTE HOMES OF MICHIGAN LLC
If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: see attached

SITE ADDRESS: _____ PARCEL #(s): _____

APPLICANT PHONE: () _____ OWNER PHONE: () _____

OWNER EMAIL: _____

LOCATION AND BRIEF DESCRIPTION OF SITE: Property is located on the north side of Challis Road between Dore & Bauer Roads

BRIEF STATEMENT OF PROPOSED USE: Single Family Residential Site Condominium

THE FOLLOWING BUILDINGS ARE PROPOSED: Single Family Housing Units

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: PULTE HOMES OF MI LLC 

ADDRESS: 2800 Livernois Road, Troy MI 48083 Bldg D Suite 320

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) Steve Allen of Umlor Group at sallen@umlorgroup.com
Name Business Affiliation E-mail Address

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SIGNATURE: Paul Schyck DATE: 5/21/24
PRINT NAME: Paul Schyck PHONE: 248-820-7306
ADDRESS: Pulte Homes of MI LLC 2800 Livernois Rd, Troy MI 48083 Bldg D Suite 320

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
October 15, 2024**

MINUTES

CALL TO ORDER: Chairman Grajek called the meeting of the Genoa Charter Township Planning Commission to order at 6:30 p.m. Present were Chris Grajek, Marianne McCreary, Eric Rauch, Jeff Dhaenens, Greg Rassel, and Tim Chouinard. Absent was Glynis McBain. Also present were Planning Director Amy Ruthig, Brian Borden of Safebuilt, and Shelby Byrne of Tetra Tech.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

DECLARATION OF CONFLICT OF INTEREST:

None

APPROVAL OF AGENDA:

Moved by Commissioner Rassel, supported by Commissioner Rauch, to approve the agenda as presented. **The motion carried unanimously.**

CALL TO THE PUBLIC:

The call to the public was made at 6:31 pm with no response.

OPEN PUBLIC HEARING #1... Consideration for a rezoning application, PUD agreement, Environmental impact assessment, PUD conceptual and preliminary site condo plan to rezone 127.57 acres from Agriculture (AG) to Low-Density Residential (LDR) with a RPUD overlay to allow for a proposed 58-unit single-family site condominium development located at the northwest corner of Challis Road and Bauer Road. The proposed rezoning is for the following parcels: 4711-23-400-008, 4711-23-400-007, 4711-23-400-001 and 4711-23-300-003. The request is submitted by Pulte Homes of Michigan.

A. Recommendation of Rezoning to LDR with a RPUD Overlay B. Recommendation of PUD agreement

C. Recommendation of Environmental Impact Assessment (9-27-24)

D. Recommendation of Conceptual PUD (9-27-24)

E. Recommendation of Preliminary Site Plan (9-27-24)

Mr. Mike Noles of the Umlor Group is representing Pulte Homes. He reviewed a presentation showing the parcels' location; their natural features; a comparison of the current zoning, the Future Land Use Plan, and the RPUD ordinance; the proposed site plan details, including the

area that will be preserved as open space; the proposed home floor plans, elevations, and estimated selling prices; and the proposed buffers for the adjacent properties.

They have addressed some of the Fire Marshal's comments. Although it is not required but requested by the Township Planner, they have started the traffic study and will submit it when completed. They have worked with the Health Department for the well and septic systems.

Commissioner McCreary questioned who owns the parcels. There seems to be more than one owner. Mr. Noles stated that there is one owner who owns multiple companies and they own different properties. She also thanked the developer for speaking with the adjacent neighbors.

Mr. Borden reviewed his letter dated October 9, 2024, which included the process of approval for this project.

1. PUD Qualifying Conditions (Section 10.02):
 - a. The proposal requires approval by the Township in accordance with Section 10.03.01(d) for residential units of less than one-acre that are not served by public sewer or water.
 - b. The applicant must address any technical comments provided by the Township Engineer, Brighton Area Fire Authority and/or Utilities Director.
2. Rezoning Criteria (Section 22.04):
 - a. The proposed zoning designation of LDR/ RPUD from AG is consistent with the Future Land Use Plan and the goals/objectives of the Township Master Plan.
 - b. Use of the RPUD overlay will result in greater open space/natural feature protection than would otherwise be required.
 - c. The only use identified in the RPUD is detached single-family residences, which is generally reasonable and compatible with the area.
 - d. There is a lesser scope traffic study required for this project. It is being prepared but has not yet been provided. Recommended changes as a result of that study may be required to be made.
 - e. The applicant must address any technical comments provided by the Township's engineering consultant, Utilities Director and/or Brighton Area Fire Authority.
3. Conceptual PUD Plan and PUD Agreement (Section 10.03.01):
 - a. The applicant must provide architectural design detailed information to the Township's satisfaction.
 - b. The parallel plan includes a roadway that crosses two regulated wetlands, which will require approval and permits from EGLE.
 - c. The Township may wish to require sidewalks as part of the project.
 - d. Dimensional deviations are sought for lot area, lot width, and one side yard minimum setback/combination of side yard setbacks.
 - e. The applicant must include the dimensional deviations sought in the PUD Agreement.
 - f. The project includes more open space than is otherwise required; however, the Challis Road buffer is deficient in depth in one location. The plan lacks active recreational areas; however, the applicant has advised they will provide this on a revised plan.

- g. Cluster option:
 - i. The Township may wish to request additional information demonstrating that the applicant will complete the project in its entirety.
 - ii. The road connection to access Units 13-19 encroaches into the natural feature setback area and the wetland itself, which requires State and Township approval.
 - iii. Unless waived by the Township, the applicant must incorporate active recreational areas within the open space.
 - iv. The applicant must include a preservation and maintenance plan with the final PUD site plan submittal.
 - v. The Township may include reasonable conditions to ensure protection of public facilities and services, protection of the natural environment, compatibility with adjacent land uses, use of the land in a socially and economically desirable manner, and to implement the Master Plan.
- h. The applicant must address any comments provided by the Township's engineering consultant, Utilities Director and/or Brighton Area Fire Authority.
- i. The applicant must address staff and/or Township Attorney comments.
- j. Exhibits and incorrect information in the draft PUD Agreement must be provided and/or corrected.
- k. The Township may wish to require additional landscape screening between the detention pond and adjacent residences.
- l. The applicant should identify the Challis Road frontage of Units 40-48 as the rear yard, since they will be double-fronted lots.

Ms. Byrne reviewed her letter dated October 7, 2024. She stated that many of her comments are applicable to final site plan approval and not required at this point of the process.

DRAINAGE AND GRADING

1. The conceptual site plan includes stormwater and private road improvements within regulated wetland limits. An EGLE wetland permit will be required for this work and should be obtained prior to final site plan approval.
2. The conceptual site plan shows a detention pond and onsite storm sewer. Storm sewer and detention basin design and calculations should be provided for review as part of the site plan review.
3. An overall proposed grading plan will need to be submitted for review and approval.

WATER AND SANITARY SERVICE

1. The proposed PUD does not have access to municipal water and sanitary sewer service and the cover sheet of the conceptual site plan notes that onsite septic and individual wells are proposed to serve the development and conceptual approval from the Livingston County Health Department (LCHD) has been obtained. Final approval from the LCHD should be provided prior to final site plan approval.

2. The Brighton Area Fire Authority has reviewed the proposed PUD and noted that fire protection water supply will be discussed during the final site plan process. The petitioner will need to work with the Fire Authority to meet any fire suppression requirements they have as part of site plan approval.
3. The revised concept plan shows two fire suppression wells per Fire Authority requirements. In future submittals additional detail should be provided on the plans for the proposed wells and more detail should be provided on how they will operate.

TRAFFIC AND ROADWAYS

1. The proposed PUD would be served by a private road off Challis Road. Future road design should be in accordance with Genoa Township Engineering Standards and a Private Road Construction plan review will be required after final site plan approval. Additionally, the private road intersection should be reviewed and approved by the Livingston County Road Commission (LCRC).
2. Dimensioning of the proposed cul-de-sacs will need to be revised to match Genoa Township Engineering Standards. Cul-de-sacs are required to have a radius of 60 feet with a 75-foot right of way (ROW) radius. The ROW width for the private road should also be dimensioned, but it appears to match the 66-foot standard width requirement.
3. The private road includes a dead-end cul-de-sac on the north end of the development. The road terminating in a dead-end is proposed to be over 1,200 feet long, which exceeds the maximum length of 1,000 feet for a dead-end street. Given the natural features contained on the site, it would be impossible to loop this dead-end road back to the rest of the development. The road will also only have seven lots being served, which generates a minimal amount of traffic. Subject to review by the Brighton Area Fire Authority, she would support a variance for the length of the street.

The Brighton Area Fire Authority Fire Marshal's letter dated September 11, states the following:

1. Fire protection water supply will be discussed further once the final site plan has been completed.
2. Access around the building shall provide emergency vehicles with a turning radius of 50 feet outside and 30 feet inside. Vehicle circulation shall account for non-emergency traffic and maintain the vehicle within the boundary of lanes of travel. Provide an emergency vehicle circulation plan. The cul-de sacs shall meet Appendix D of the International Fire Code.
3. A minimum vertical clearance of 13 1/2 feet shall be maintained along the length of all apparatus access drives. This includes but is not limited to porte-cocheres, lighting, and large canopy trees. The landscape plan indicates numerous large canopy trees that encroach the roadway. The trees must be setback or the species revised to prevent overhanging the roadways.
4. Two-way emergency vehicle access roads shall be a minimum of 26 feet wide, it is recommended that the road width be increased to 32 feet to allow parking on both sides of the road. With a width of 26 feet, one side of the road shall be marked as a fire lane. The secondary access road shall be a minimum of 20 feet wide. With a width of 20 feet, both

- sides of the drive shall be marked as a fire lane. Include the location of the proposed fire lane signage and details of the fire lane sign in the submittal. Access roads to the site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 84,000 pounds.
5. The building shall include the building address on the building. The address shall be a minimum of 4" high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation.
 6. Provide additional details on the secondary access. Initial conversations stated that the access would be gated on both ends. The details shall be submitted and approved. The gates shall be secured with a Knox padlock in conjunction with the maintenance lock so the access is maintained year-round.

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

Commissioner Rauch thanked the applicant for meeting with the neighbors. He is concerned that the plan has as minimum of three lots that should not be considered, specifically Lot #'s 10, 11 and 12. Also, there are 13 additional lots that should not be included due to the wetland crossing that leads to them. He is not confident that EGLE would approve that road to cross the wetland. He would also like to see the preservation of the natural features that abut the adjacent properties. Additional details should be provided for the detention basin. He would like to see the completed traffic study, which will include the new roundabout. He is not in favor of moving this forward this evening.

Mr. Noles stated that EGLE will allow a road to cross a wetland to access an upland developable space. There is a lot of information they need to provide and steps they need to take to receive approval. There is nothing that precludes them from building a home on a lot with a wetland, but they need to show the buildable area on that lot. They will provide the details of the detention basin during final site plan approval and will meet all of the Livingston County Drain Commissioner's requirements. Tonight they are requesting the Planning Commission to review and vote on the density of the site. That can include conditions for them to address.

Mr. Rauch would like to see evidence that Lots #10, 11 and 12 are buildable lots, the distance of the cul-de-sac and some details of the retention basin and storm management plan.

Commissioner Dhaenens asked Mr. Noles if they would consider sidewalks. Mr. Noles noted that the detail of the plan shows that they are proposing sidewalks. They will include sidewalks, but they are deciding if they will put them on both sides or just one side of the road.

Commissioner Dhaenens agrees with the density because they are bigger lots. He does not think the traffic study would be accurate due to the construction that is occurring in the area now, and the construction of the I-96 overpass at Grand River planned for next year. Mr. Noles noted that any rating over an F is acceptable and this development would not bring the rating to or below an F.

Commissioner Dhaenens would like to see additional landscaping around the detention pond. Mr. Noles stated they will comply with that request.

Commissioner McCreary would like to see the traffic study. She questioned the wetland delineations shown on the plan and those that encroach onto some of the lots. Mr. Noles reviewed how those were determined and then the process they will follow with EGLE for them. She asked if they have determined if their wells will affect the neighboring residents' wells. Mr. Noles stated their proposal has met all of the requirements of The Livingston County Health Department for the wells.

Commissioner Chouinard questioned the results of the perk tests. Mr. Noles stated the east side of the site perked very well; however, some sites on the other side may need to have mitigated fields. Mr. Brian Biskner, the engineer, stated they performed 130 perk tests and there were no problems. He agreed that some on the other side will need to be mitigated with grading and additional sand.

Commissioner McCreary questioned what the site will look like when it begins to be developed. Will it be clear cut? Mr. Noles stated they do not keep the existing trees on the interior and include them on new lots because they do not survive. They save as many trees as they can along the perimeter, but there will not be any trees remaining on the interior of the project within the development area.

Commissioner Dhaenens asked if they will be able to sell the lots that abut the railroad tracks. Mr. Noles said they do. There are people who have different thresholds for their property.

The call to the public was opened at 8:01 pm

Ms. Christine Cross of 6984 Challis is one of the residents on the new cul-de-sac by the roundabout. This is a poor time to do a traffic study due to the new roundabout and the bridge closed at Dorr. While 58 homes on this site will not cause a problem, it will be added to the apartments being built in the City of Brighton and what is planned for Latson Road. She thinks that these homes are going to affect her well.

Mr. Carl Mauch of 6503 Catalpa has lived there for 42 years. He likes the roundabout. He agrees with Ms. Cross that the traffic will be impacted by this and other development in a 10-mile radius. There is traffic on Challis Road due to the factory and the U of M facility. When

Genoa Township Planning Commission
October 15, 2024
Approved Minutes

there is a train, the traffic backs up to Target. He is also concerned about this development having one entrance and exit and how that will affect the roundabout traffic. What impact will this have on the schools, the police and fire department?

Mr. Jim Carpenter of 4715 Stillmeadow Drive liked the presentation. He questioned who is going to do a traffic study for the entire area, not only the individual developments.

Mr. Evan Meffert of 6541 Grand Circle Drive is concerned with all of the trees that are going to be removed. He does not think the traffic study will show how difficult it is to pull out of Grand Circle Drive. The one exit and entrance for this development will make that more difficult and dangerous. He noted there is a paved path near the new roundabout and he would like to have that extended to allow people to walk to downtown Brighton.

Mr. Dan Kashian of 6385 Grand Circle has lived here 18 years. There has been a lot of discussion about this specific development, but if there are residential developments being built, there should be safe pedestrian, stroller, and bicycle access.

Ms. Debra Beattie of Pineview Trail stated the property has a lot of issues, such as traffic, a large wetland that is going to be affected, and the impact on people's wells. This project should be on city water and sewer.

Ms. Mary Jane Hebert of 6899 Lyle Lane stated there is a Master Plan but it is not being followed. There are so many exceptions. It should have city water and sewer. There should not be 58 wells. The wetlands are going to be affected.

Ms. Melanie Johnson of 3990 Chilson Road is concerned about the runoff from driveways. Will there be a drainage plan so that it does not drain into the wetlands.

Mr. Mike Wilbanks stated this development is outstanding. This is what this township needs instead of an Amazon warehouse or apartments on Dorr Road and Grand River. These will be high end homes that will be good for the schools and the tax base. The developer and the board are caring about the community.

The call to the public was closed at 8:26 pm.

The Commission discussed the outstanding items that are needed from the applicant.

Moved by Commissioner Rauch, supported by Commissioner Rassel to table all items for Public Hearing #1 to give the petitioner an opportunity to work on the feedback from this evening and to work on the traffic study, acknowledging that the background information on that study may be challenging at this time. **The motion carried (Dhaenens - no; Rassel - yes; Grajek - yes; McCreary - yes; Rauch - yes).**



November 27, 2024

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Amy Ruthig, Planning Director
Subject:	Legacy Hills – Residential Planned Unit Development (Review #3)
Location:	Northwest corner of Challis and Bauer Roads
Zoning:	AG Agricultural District

Dear Commissioners:

At the Township’s request, we have reviewed the revised submittal from Pulte Homes of Michigan requesting PUD rezoning and conceptual PUD plan review for a single-family site condominium development (Legacy Hills) on 127.57 acres of undeveloped land situated at the northwest corner of Challis and Bauer Roads (cover sheet dated 11/1/24).

A. Summary

1. PUD Qualifying Conditions (Section 10.02):

- a. The proposal requires approval by the Township in accordance with Section 10.03.01(d) for residential units of less than 1 acre that are not served by public sewer or water.
- b. The applicant must address any technical comments provided by the Township Engineer, Brighton Area Fire Authority and/or Utilities Director.

2. Rezoning Criteria (Section 22.04):

- a. The proposed zoning designation of LDR/RPUD is consistent with the Future Land Use Plan and goals/objectives of the Township Master Plan.
- b. The RPUD overlay results in greater open space/natural feature protection than would otherwise be required (57.2% provided; 25% minimum for RPUD; 50% minimum for cluster option).
- c. The only use identified in the RPUD is detached single-family, which is generally reasonable and compatible with the area.
- f. The applicant must address any technical comments provided by the Township’s engineering consultant, Utilities Director and/or Brighton Area Fire Authority.

3. Conceptual PUD Plan and PUD Agreement (Section 10.03.01):

- a. The applicant must provide architectural design information to the Township’s satisfaction.
- b. The applicant wishes to discuss 2 pathway options with the Commission.
- c. Additional revisions are needed to the parallel plan.
- d. Dimensional deviations are sought for lot area, lot width, and 1 side yard minimum setback/combination of side yard setbacks.
- e. Cluster option:
 - i. The Township may wish to request additional information demonstrating that the applicant will complete the project in its entirety.
 - ii. The road connection to Units 13-19 encroaches into the natural feature setback area and the wetland itself (thus requiring State and Township approval). The applicant has added the encroachment to the list of dimensional deviations sought via the RPUD.
 - iii. The applicant must include a preservation and maintenance plan with the final PUD site plan submittal.
 - iv. Pending further discussion on pathways, the active recreation requirement may (or may not) be satisfied.
 - v. The Township may include reasonable conditions to ensure protection of public facilities and services, protection of the natural environment, compatibility with adjacent land uses, use of the land in a socially and economically desirable manner, and to implement the Master Plan.

- f. The applicant must address any comments provided by the Township’s engineering consultant, Utilities Director and/or Brighton Area Fire Authority.
- g. The applicant must address staff and/or Township Attorney comments.
- h. Additional landscape screening should be required between the detention pond and residences in the adjacent neighborhood.
- i. The applicant should identify the Challis and Bauer Road frontages of Units 35-48 as the rear yard (since they will be double-fronted lots).
- j. Signage identifying areas not to be disturbed (natural feature setback and landscape easement) should be included.



Aerial view of site and surroundings (looking north)

B. Proposal/Process

The request is to create a Residential Planned Unit Development (RPUD) for 127.57 acres of land generally located at the northwest corner of Challis and Bauer Roads.

Because the RPUD is an overlay zoning district, the request includes rezoning to LDR Low Density Residential in conjunction with use of the RPUD.

At this time, the applicant seeks Planning Commission consideration of LDR/RPUD rezoning for 127.57 acres of land, the conceptual PUD plan, Environmental Impact Statement and draft PUD Agreement.

Following a public hearing, the Commission may put forth recommendations to the Township Board on each component of the request. The Township Board has final approval authority.

Given the nature of the project as a site condominium under a RPUD, the conceptual PUD site plan serves as the preliminary condominium plan. If approved, the final PUD site plan will serve as the final condominium plan.

For the applicant’s information, condominium documents and agency approvals (Road Commission, Health Department, EGLE, etc.) will be required as part of the final PUD site plan submittal.

C. Qualifying Conditions

We have reviewed the request for compliance with Section 10.02 (PUD Qualifying Conditions), as follows:

- 1. Single Ownership.** The PUD application form states that “Pulte Homes of Michigan, LLC will be the sole owner and is capable of developing the site as one integral unit.”
- 2. Initiated by Petition.** The request has been properly initiated by submittal of the required application forms and materials, including applications for PUD, rezoning, and site plan review.
- 3. Minimum Site Area.** Section 10.02.03 requires a minimum of 20 acres for the establishment of a PUD, while the site contains 127.57 acres of land.
- 4. Benefits.** Use of the PUD will result in greater open space preservation that would otherwise be required (57.2%, including upland and wetland areas, as well as natural feature setbacks and buffering along both roadways and the abutting residential development to the west).
- 5. Sewer and Water.** The site is not currently served by public sewer and water, nor is it proposed.

Section 10.02.05 states that “the Township may approve a residential PUD that is not served by public sewer or water, provided all lots shall be at least one (1) acre in area unless approved by the Township in accordance with the requirements provided in Section 10.03.01(d).”

The proposal entails a total of 58 detached single-family units, 5 of which exceed 1-acre in area.

The project includes a total of 73.02 acres of protected open space area and it is the applicant’s intent to seek use of the cluster option, per Section 10.03.01(d). These requirements are reviewed in greater detail in Paragraph E of this letter below.

The Commission should also consider any comments provided by the Township engineering consultant, Utilities Director, and/or Brighton Area Fire Authority with respect to this criterion.

D. Rezoning Criteria

We have reviewed the request for compliance with Section 22.04 (Criteria for Amendment of the Official Zoning Map), as follows:

- 1. Consistency with the goals, policies and future land use map of the Genoa Township Master Plan, including any subarea or corridor studies. If conditions have changed since the Master Plan was adopted, the consistency with recent development trends in the area.**

The Township Master Plan and Future Land Use map identify the subject site as Low Density Residential and Large Lot Rural Residential. These classifications are consistent with LDR and RR zoning, respectively.

The proposed residential development is within the area planned as LDR, while the area planned as RR is to be protected and preserved as part of the RPUD. As such, the proposed rezoning to LDR is consistent with the Future Land Use Plan.

Inclusion of the RPUD overlay ensures further protection of sensitive environmental areas and additional open space beyond what would otherwise be required, which is consistent with the goals and objectives of the Master Plan.

2. *Compatibility of the site's physical, geological, hydrological and other environmental features with the host of uses permitted in the proposed zoning district.*

The site contains 3 regulated wetland areas comprising a total of 32.35 acres. The vast majority of these wetlands will not be disturbed; however, the project does include an encroachment into the 0.74-acre wetland for the roadway connection to Units 13-19.

This encroachment requires a permit from the State and approval from the Township as part of this project.

The protected upland areas (26.46 acres/20.7% of the property) also contain a significant amount of mature wooded areas that will not be disturbed given use of the RPUD overlay.

The Environmental Impact Assessment includes correspondence from the County Health Department noting that the property is generally suitable for on-site sewage disposal and drinking water.

3. *The ability of the site to be reasonably developed with one (1) of the uses permitted under the current zoning.*

Based on gross acreage, current zoning (AG) would allow for development of approximately 12 detached single-family units.

The current AG zoning is a departure from the planned Low Density Residential. Given the discrepancy between current zoning and the Master Plan for this area, the Commission could find that development under AG standards is unreasonable.

4. *The compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential influence on property values.*

Per Section 3.03, the host of permissible land uses between AG and LDR zoning are nearly identical, save for the agricultural uses allowed in AG.

For this particular request, use of the RPUD overlay identifies the only allowable use as detached single-family units.

The proposed use and resulting density are similar in nature to the adjacent residential development.

While the project does not meet the threshold for a full traffic impact statement, it does necessitate a traffic impact assessment, per Section 18.07.09. The revised submittal includes a traffic impact assessment (dated October 30, 2024).

The assessment concludes that “the proposed development is expected to have minimal impact on the adjacent roadway network and the existing infrastructure can adequately accommodate the projected trips generated by the proposed development plan.”

The applicant must address any comments provided by the Township engineering consultant with respect to the traffic impact assessment.

5. *The capacity of Township infrastructure and services sufficient to accommodate the uses permitted in the requested district without compromising the "health, safety and welfare" of the Township.*

The applicant must address any comments provided by the Township engineering consultant, Utilities Director and/or Brighton Area Fire Authority related to this criterion.

6. *The apparent demand for the types of uses permitted in the requested zoning district in the Township in relation to the amount of land in the Township currently zoned to accommodate the demand.*

The rezoning application form states that “supply is deficient for single family housing in Michigan in general and this proposal will increase single family homes while preserving over half of the site as open space.”

The second submittal also includes additional information regarding the demand for new single-family residences.

7. *Where a rezoning is reasonable given the above criteria, a determination the requested zoning district is more appropriate than another district or amending the list of permitted or Special Land Uses within a district.*

In our opinion, since the request is tied to lot size/density and not necessarily a different land use, rezoning to LDR and use of the RPUD overlay is more appropriate than another zoning district or amending host of allowable uses and the corresponding density of the AG District.

8. *The request has not previously been submitted within the past one (1) year, unless conditions have changed or new information has been provided.*

No rezoning requests have been submitted in the past year for the subject property.

E. Conceptual PUD Plan

We have reviewed the request for compliance with the Residential PUD standards (Section 10.03.01), as follows:

- 1. Submittal Materials.** Per Section 10.05, the only notable deficiency is the lack of preliminary architectural design information, which must be provided “to the satisfaction of the Township.”
- 2. Land Use.** As previously noted, the only use proposed is detached single-family residential.

As discussed with the Planning Commission and better depicted on the revised plan, the project does include sidewalks on one side of the road throughout the proposed development. A sidewalk connection to the adjacent neighborhood has also been added within the Challis Road right-of-way.

Lastly, the cover letter included with the revised submittal discusses pathway options for the project. For further discussion with the Commission, the applicant indicates a willingness to provide *either* an offsite path connection or paths within the open space areas of the development.

- 3. Density.** Per this criterion, since a different designation is noted in the Master Plan, the request for RPPUD zoning concurrently includes rezoning from AG to LDR.

Per comments provided at the Planning Commission meeting, the submittal includes a revised parallel plan. The revised plan depicts 63 conventional LDR units, while the conceptual PUD site plan provides 58 units.

However, based on the split Master Plan classifications for the entire property, additional revisions are necessary. More specifically, the northwesterly portion of the subject site is planned for Large Lot Residential, which equates to RR zoning. As such, the units in this area of the property (13-28) must be depicted as conventional RR lots (2 acre lot area; 200’ lot width; 1,200 SF floor area; setbacks are the same as LDR).

It is also important to reiterate that the parallel plan includes a roadway connection that crosses 2 regulated wetlands, which would require approval from the State.

4. Dimensional Standards. Except where dimensional deviations are sought and granted as part of the PUD, the project must comply with LDR dimensional standards.

As previously noted, the majority of the proposed units do not meet the 1-acre minimum lot area; however, the proposal includes more open space than required to offset the total reduction in lot area for all 58 units.

Additionally, LDR requires a minimum lot width of 150 feet, though only a few units meet this standard.

The typical unit detail on Sheet 3 depicts compliant setbacks for the front, rear and 1 side yard; however, the 2nd side yard/combination of side yards is deficient by 10 feet (20' one side and 50' combination proposed).

These dimensional deviations have been included in both the conceptual PUD site plan and draft PUD Agreement, as requested.

5. Open Space. Use of the RPUD overlay requires a minimum open space area of 25% (though the cluster option requires a minimum of 50%). As previously noted, the proposal entails an open space ratio of 57.2% (73.02 acres).

The open space area includes a 100-foot buffer along both main roadways and from the adjacent residential development to the west, as required.

Additionally, the revised submittal notes that picnic tables will be included within 2 of the open space areas.

Lastly, the revised draft PUD Agreement includes language noting that the open space areas will be preserved in perpetuity, as required.

6. Cluster Option. The request has been reviewed for compliance with the standards of Section 10.03.01(d), as follows:

- The 58 units proposed all exceed the minimum allowable area of 32,670 square feet.
- The overall density is 0.45 dwelling units per acre, which is less than the maximum allowable density of 1-acre.
- The submittal includes correspondence from the County Health Department that soils can accommodate on-site sewage disposal.
- The proposal includes extensive landscaping, buffering, and screening, as well as open space preservation, which is beyond what would otherwise be required.
- As previously noted, the proposal protects more open space (57.2%) than would be required under conventional zoning. This includes areas of wooded uplands that could otherwise be developed.
- The open spaces are primarily in the middle of the subject area, though a smaller area is proposed in the southeast corner of the property.
- The site is under single ownership and it is the applicant's intent to complete the project in 1 phase. The Township may wish to request additional information demonstrating that the applicant will complete the project in its entirety.
- Protected open space accounts for 57.2% of the total property area (exceeding the 50% minimum).

- The revised plan provides a 100-foot buffer along both roadways (Challis and Bauer), as well as along the adjacent residential development to the west.
- With one exception, the development provides 50 feet of natural feature setback around the wetland areas. The road connection to Units 13-19 encroaches into the setback area and the wetland itself (thus requiring State approval). This encroachment has been incorporated into the request for dimensional deviations.
- The upland preservation in the northwest portion of the property and the buffers (noted above) will protect mature wooded areas.
- The revised submittal includes picnic tables in 2 of the open space areas and the applicant has 1 pathway option that includes paths within the open space areas. Depending on which pathway option is implemented, this may satisfy the requirement for active recreation.
- The revised draft PUD Agreement includes a provision stating that the open space areas will be preserved in perpetuity via the recorded Master Deed.
- If rezoning and conceptual PUD site plan approval are granted, the applicant must include a preservation and maintenance plan with the final PUD site plan submittal.
- The Township may include reasonable conditions “ensuring that public services and facilities affected by a proposed land use or activity will be capable of accommodating increased service and facility loads caused by the land use or activity, protecting the natural environment and conserving natural resources, ensuring compatibility with adjacent uses of land, promoting the use of land in a socially and economically desirable manner, and further the implementation of the Township Master Plan.”

7. Additional Considerations/PUD Agreement. The applicant must address any comments provided by Township staff and the Township Attorney.

The revised draft PUD Agreement addresses the comments provided in our previous review letters.

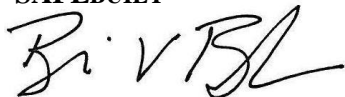
Lastly, we suggest the following:

- The Township should require additional landscape screening between the detention pond and residences in the adjacent neighborhood;
- The applicant should identify the main road frontage (Challis and Bauer Roads) of Units 35-48 as the rear yard since they will be double-fronted lots; and
- Signage should be incorporated along the edge of the natural feature setback and buffer easement to ensure that residents do not disturb these areas. Such signage and the applicable restrictions should be included in the PUD Agreement and Condominium Documents.

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,

SAFE BUILT



Brian V. Borden, AICP

Michigan Planning Manager



November 22, 2024

Ms. Amy Ruthig
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: Legacy Hills
Conceptual Site Plan Review No. 3**

Dear Ms. Ruthig:

Tetra Tech conducted a third review of the conceptual site plan submittal for Legacy Hills last dated November 1, 2024. The site plan was prepared by The UMLOR Group for Pulte Homes. The site is located on the north side of Challis Road, just north of the new Challis Road and Bauer Road roundabout. The proposed PUD includes the addition of 58 single family homes. Improvements include a proposed private road with storm sewer and stormwater detention.

We offer the following comments:

DRAINAGE AND GRADING

1. The conceptual site plan includes stormwater and private road improvements within regulated wetland limits. An EGLE wetland permit will be required for this work and should be obtained prior to final site plan approval.
2. The conceptual site plan shows a detention pond and onsite storm sewer. Storm sewer and detention basin design and calculations should be provided for review as part of the site plan review.
3. An overall proposed grading plan will need to be submitted for review and approval.

WATER AND SANITARY SERVICE

1. The proposed PUD does not have access to municipal water and sanitary sewer service and the cover sheet of the conceptual site plan notes that onsite septic and individual wells are proposed to serve the development and conceptual approval from the Livingston County Health Department (LCHD) has been obtained. Final approval from the LCHD should be provided prior to final site plan approval.
2. The Brighton Area Fire Authority has reviewed the proposed PUD and noted that fire protection water supply will be discussed during the final site plan process. The Petitioner will need to work with the Fire Authority to meet any fire suppression requirements they have as part of site plan approval.

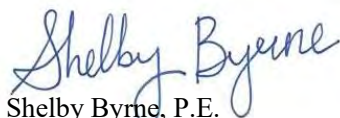
3. The concept plan shows two fire suppression wells per Fire Authority Requirements. In future submittals additional detail should be provided on the plans for the proposed wells and more detail should be provided on how they will operate.

TRAFFIC AND ROADWAYS

1. The proposed PUD would be served by a private road off Challis Road. Future road design should be in accordance with Genoa Township Engineering Standards and a Private Road Construction plan review will be required after final site plan approval. Additionally, the private road intersection should be reviewed and approved by the Livingston County Road Commission (LCRC).
2. Dimensioning of the proposed cul-de-sacs will need to be revised to match Genoa Township Engineering Standards. Cul-de-sacs are required to have a radius of 60 feet with a 75-foot right of way (ROW) radius. The cul-de-sacs meet the ROW requirement but fail to have a road radius of 60 ft. The ROW width for the private road should also be dimensioned, but it appears to match the 66-foot standard width requirement.
3. The private road includes a dead-end cul-de-sac on the north end of the development. The road terminating in a dead-end is proposed to be over 1,200 feet long, which exceeds the maximum length of 1,000 feet for a dead-end street. Given the natural features contained on the site it would be impossible to loop this dead-end road back to the rest of the development. The road will also only have seven lots being served, which generates a minimal amount of traffic. Subject to review by the Brighton Area Fire Authority, we would support a variance for the length of the street.
4. The parallel site plan shows a future public road through Mountain View Outlot C, but the topographic survey shows this as Outlot b. Additionally, Outlot C on the topographic survey is not called out on the parallel plan.
5. A traffic study was provided by the petitioner. The study was conducted and prepared by Fleis & VandenBrink for the intersection on Challis Road and the proposed site driveway. Recommendations stated that no left or right turn lane will be warranted at the proposed site driveway on Challis Road.

The concept plan shows adequate access to the site and a site plan should be submitted with the necessary documents for further review. We recommend that the petitioner consider the above comments in their preparation of the site plan approval process.

Sincerely,



Shelby Byrne, P.E.
Project Engineer



Sydney Strevler, EIT
Civil Engineering Group



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

November 20, 2024

Amy Ruthig
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Legacy Hills RPUD Site Plan
Challis & Bauer
Genoa Twp., MI

Dear Amy,

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on November 12, 2024 and the drawings are dated August 26, 2024 with the latest revisions dated November 1, 2024. The project is based on the proposed rezoning of approximately 127.57 acres from Agriculture to RPUD. The plan proposes 58 residential units and associated access and open space. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition.

1. Fire protection water supply will be discussed further once the final site plan has been completed. **(Two fire suppression well-driven hydrants will be provided for the development to provide the required fire flow. Each well hydrant shall provide a minimum flow rate of 250 gallons per minute. Additional details shall be provided for review and approval for the well construction, power supply, and operation. The wells shall comply with the Livingston County Department of Environmental Health.)**
2. Access around the building shall provide emergency vehicles with a turning radius of 50 feet outside and 30 feet inside. Vehicle circulation shall account for non-emergency traffic and maintain the vehicle within the boundary of lanes of travel. Provide an emergency vehicle circulation plan. The cul de sac's shall meet Appendix D of the International Fire Code. **(Emergency vehicle circulation complies with the requirements of the IFC.)**
IFC 503.2.4
3. A minimum vertical clearance of 13½ feet shall be maintained along the length of all apparatus access drives. This includes but is not limited to porte-cochere's, lighting, and large canopy trees. The landscape plan indicates numerous large canopy trees that encroach the roadway. The trees must be setback or the species revised to prevent overhanging the roadways. **(This has been addressed by a note on Sheet 5 and the landscape plans)**
IFC 503.2.1
4. Two-way emergency vehicle access roads shall be a minimum of 26 feet wide, it is recommended that the road width be increased to 32 feet to allow parking on both sides of the road. With a width of 26 feet, one side of the road shall be marked as a fire lane. The secondary access road shall be a minimum of 20 feet wide. With a width of 20 feet, both sides of the drive shall be marked as a fire lane. Include the location of the proposed fire lane signage and details of the fire lane sign in the submittal. Access roads to the site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 84,000 pounds. **(Access road**



November 20, 2024

Page 2

Legacy Hills RPUD

Challis & Bauer

Site Plan Review

widths are compliant with the fire code. A single no parking fire lane sign shall be installed on the right side of the road in front of each parcel.)

IFC D 103.6

IFC D 103.1

IFC D 102.1

IFC D 103.3

- 5. The building shall include the building address on the building. The address shall be a **minimum of 4"** high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation. **(This is addressed by a note provided on Sheet 5.)**

IFC 505.1

- 6. Provide additional details on the secondary access. Initial conversations stated that the access would be gated on both ends. The details shall be submitted and approved. The gates shall be secured with a Knox padlock in conjunction with the maintenance lock so the access is maintained year-round. **(Compliance with the requirement is noted on Sheet 5.)**

IFC 506.1

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

Rick Boisvert, CFPS
Fire Marshal

cc:Amy Ruthig amy@genoa.org

From: [Martin Doa](#)
To: [Amy Ruthig](#)
Subject: Low-Density Residential (LDR) with RPUD overlay to allow for a proposed 58-unit single family site condominium development located at the northwest corner of Challis and Bauer Roads
Date: Friday, November 22, 2024 10:00:47 AM

Hi Amy,

Welcome to Genoa Township! In spite of past and current challenges, it is a great place to live!!

Regarding the above, in a sentence or two; if "**Low-Density Residential (LDR) with RPUD**" = the same or lower density that is in place at *The Ridge or White Pines Estates* (my neighborhood), then in my mind it is a go! Any greater density, regardless of "concession(s)", superb landscaping, wildlife or nature set aside...or donations to the great activity center at Genoa Township office...**it must be a resounding, emphatic NO!!**

First and foremost it would be out of character in relation to zoning and most importantly a profound adverse impact upon the surrounding area..."beautiful community of country living..." shown below. It is my firm belief and that of many of my fellow Genoa Township residents (all who voted the prior administration out for not protecting our great environment) no high density housing or someone's wordsmith interpretation of "Low Density". One need only look to our neighbors in the City of Brighton...soon to be Novi II. The folks at Pulte are a well-oiled machine adept at such matters and *production housing*...especially Low/High Density Condominiums. They are neither boy scouts nor saints, nor do they always play by the rules.

For an example of intrusive and offensive "development", one need only look to the "Beige Breadbox, aka The Dog House", foisted upon the residents in my area...the BAS leadership out of control, with no transparency or accountability...the Bauer - Brighton Rd intersection is an accident waiting to happen compliments of the BAS do-gooders. After a 5-6 months long and 15-20 emails conversation with Matt Outlaw...Best I can tell...no environmental impact study...no traffic study, etc. Through my communications with Mr. Matt Outlaw the Superintendent, this facility's hours of operation were to closely mirror the hours of operation of the local schools...it has in fact morphed into a whenever we feel like using it facility...Sunday morning, 8 or 9:00 PM...a pock on he area

The mission statement or credo below should be conspicuously posted on a sign above all meeting rooms and conference rooms at Genoa Twp offices...a clear, persistent reminder of their guiding principle and what makes Genoa Twp, such a great place to live

"GENOA TOWNSHIP is a charter township located in the heart of Livingston County, Michigan. Lakes and wetlands, rolling hills and meadows, state parks and wildlife all abound in this beautiful community of country living."

Lastly, when will planning, zoning, etc., meetings be live-streamed? Given the importance of such matters, and the required technology in place...as well as the busy schedules, family commitments, etc of Gena Twp residents, this is just about a requirement. Your thoughts?

**Best Regards,
Martin A. Doa**

November 19, 2024

Dear Genoa Charter Township Planning Commission:

Please accept the following comments on the subject of Public Hearing #1, Genoa Charter Township Planning Commission Public Hearing held October 15, 2024 PUD agreement, environmental impact assessment, PUD conceptual and preliminary site condo plan to rezone 127.57 acres from Agriculture (AG) to Low-Density Residential (LDR) with a RPUD overlay to allow for a proposed 58-unit single-family site condominium development on the agenda for December 4, 2024.

Thank you to the Planning Commission for your service to the community. Thank you also for tabling the Legacy Hills Pulte proposal and requiring more information. Based on current zoning we request that the township does not approve both the rezoning request from PULTE HOMES OF MICHIGAN LLC from Agricultural to LDR and the RPUD cluster overlay request. The reasons for this are as follows:

(This letter is a shorter version of a previously submitted letter to the Genoa Township Planning Commission.)

Development Density

Pulte is requesting moving 3 zoning 'levels' and using the newly enacted RPUD cluster option to build a development that is out of character with the existing homes in the area. Instead of the RPUD cluster option with 'Open Space', a zoning of Country Estates will also preserve open space and limit the number of lots available on wetland and in the development overall.

In the 1.26 square mile area shown on the map below (~807 acres) there are approximately 137 houses. The Pulte Legacy Hills development would place 58 houses in 127 acres but with the RPUD cluster option and 'Open Space' plan, those houses are built on only ~77 acres.

Pulte Homes of Michigan's request to rezone from Agricultural 10 acre lots to RPUD cluster option at under .75 acre lots with 'open space' does not fit in with the overall character of this 1.26 square mile area.

Return on Investment

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Address

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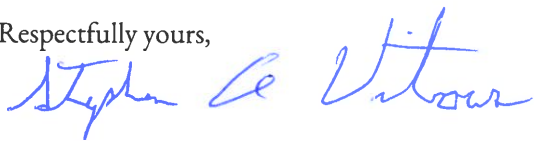
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1. An accurate final lot count for this development is not possible with the Parallel Plan submitted as of November 27, 2024. We respectfully request the Genoa Township Zoning Commission obtains an accurate Parallel Plan from PULTE HOMES OF MICHIGAN LLC showing the correct 2023 Future Land Use Map zoning of Parcel 4711-23-300-003 as Rural Residential which requires 2 acre lots . We also request that PULTE HOMES OF MICHIGAN LLC adheres to Genoa Township Zoning Ordinance Article 11 11.01.01 for the buildable envelope of this land counting wetlands as 25% of

buildable area and removing any submerged lands from the buildable area. The current Parallel Plan shows 1 acre lots on this parcel LDR which is not in keeping with the current 2023 Genoa Township Master Plan. Also, the corner of Lot 12 appears to infringe on Parcel 4711-23-300-003 which should only contain 2 acre lots.

2. As stated in the 2023 GTMP the preservation of natural features was most important goal of participants. Any development in Genoa township is required to preserve wetlands based on current wetland status. Also the 2023 GTMP Natural Features Tree Canopy page 1.39 states: As a condition of site plan approval, trees are required to be protected during construction with root-zone fencing.

Local developers have strived to keep as much tree cover as possible both within the lot and the required buffer zones. Developments such as Pine Creek, Copperleaf, Boulder Creek, The Ridge, etc. prioritized preserving healthy & non-nuisance trees in the required buffer zones of said developments.

Please see attached pages 5-10 from Google Earth. Examples of these developments that strived to preserve the existing tree canopy are: Pine Creek, Copperleaf, Boulder Creek, The Ridge, et al. We are not trying to make development more onerous, we are just trying to save trees with a caliper over a certain diameter (possibly 20") when these trees are not located in the building thermal envelope or near septic drain fields. We are not asking developers to preserve nuisance or diseased trees.

Looking from the road into the proposed building site, many oak and pine trees are over 80 feet tall and are located both inside and outside of the 100 foot buffer zone. We respectfully submit that moving forward, the Genoa Township Planning Commission review the tree ordinance. The Bloomfield Hills Ordinance No. 608 may be a good starting point to revise the existing ordinance. We understand that there are limited resources at Genoa Township and there are existing priorities that need to be done by year end. We volunteer our time to assist in reviewing and helping to draft a tree ordinance that will protect old growth trees without placing an undue burden on developers.

3. Under 10.03.01 Residential PUD (c) Open Space: The open space shall contain some form of ACTIVE recreational facility such as a play area. A Planning Commissioner mentioned walking trails as an option. We do not feel PULTE's proposal of an additional 2 picnic tables for 58 homes rises to the level of ACTIVE recreational facility. To be clear, if 58 units are built with an average sale price of \$750,000, the community would be valued at \$43,500,000. Possibly PULTE would have the funds to install an EGLE approved composite decking boardwalk or bridge connecting the development to the upland area in the open space zone with recreational trails and a gazebo with 2 picnic tables.
4. PULTE HOMES OF MICHIGAN LLC states they have worked with LCRC to ensure traffic for the Legacy Hills Development concept plan which will contain 129 units as shown on Page 5 of 5 of the Traffic Impact Assessment document. Currently there is no request or plans submitted for 129 units. The property owners of the proposed Legacy Hills development also own the following nearby parcels:

Parcel 11-24-300-002 46.31 acres Large Lot Rural Residential from the 2023 Future Land Use Map
Parcel 11-24-300-007 14.29 acres Large Lot Rural Residential from the 2023 Future Land Use Map

In order to get the 129 units mentioned in the submitted traffic report, Parcel 4711-24-300-003 11.60 acres (LDR) may be purchased for a combined 72.2 acre area *if* the lots were 1 acre in size.

As the 2023 Genoa Township Master Plan shows, the Legacy Hills development is in a Secondary Growth Area for the township. The Parcels ending in -002, -003, & -007 are also located in the Secondary Growth Areas. We proactively request the Zoning Commission to reaffirm the listed zoning from the 2023 Future Land Use Map for these parcels. We categorically disagree with any future rezoning of these parcels based on the 2023 Genoa Township Master Plan, the 2023 Future Land Use Map, the topography of the parcels, and the location of these parcels (situated in an area of other Large Lot Rural Residential homes).

Based on topography we also request if a Parallel Plan for an RPUD overlay for the inferred Parcel 4711-24-300-003 11.60 acres (LDR) are submitted, that the lots shown for this inferred parcel are actually buildable lots and not just 1 acre gridlines on an engineering drawing.

PULTE HOMES OF MICHIGAN LLC says the 58 unit Legacy Hills should be rezoned in accordance with the 2023 Future Land Use Map. With the same reasoning, we as current Genoa township residents request no deviation from the 2023 Future Land Use Map for the Parcels ending in -002 and -007.

As current residents, we also request when/if construction starts on this development, construction traffic enters the worksite only from the paved portion of Challis Road where an existing gravel access driveway is located. Construction traffic should not be allowed from Bauer dirt road on the east side of the property, from the Challis cul-de-sac on the northeast corner of the property or anywhere inside the Grand Circle Subdivision. Construction traffic does not increase the quality of life for any current Genoa township resident near this development.

As quoted from former Genoa Township Supervisor Bill Rogers at his last Genoa Board Trustees meeting he hoped that people would, "actually follow ordinance and zoning rules...and it's unfortunate that some of that stuff does not occur."

We would like to thank the Genoa Township Planning Commission for their consideration.

Respectfully yours,

Two handwritten signatures in black ink. The first signature is on the left and the second is on the right, both appearing to be cursive and somewhat stylized.

Address

6899 Lyle Lane, Brighton, MI

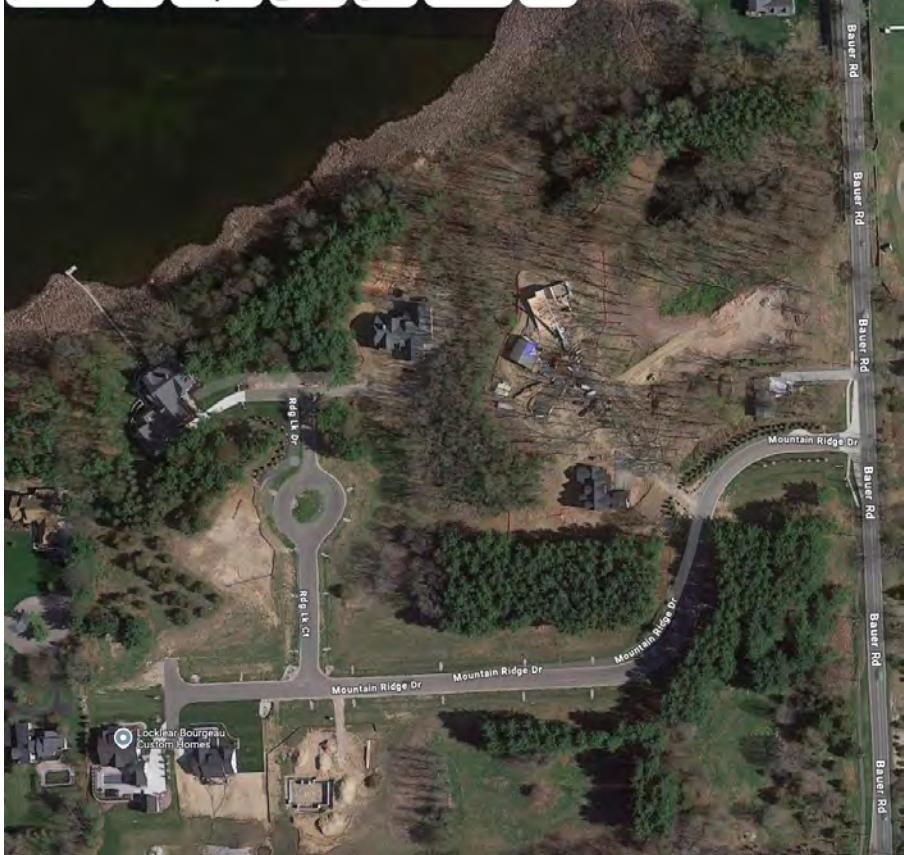


Proposed Legacy Hills
Current Tree Canopy



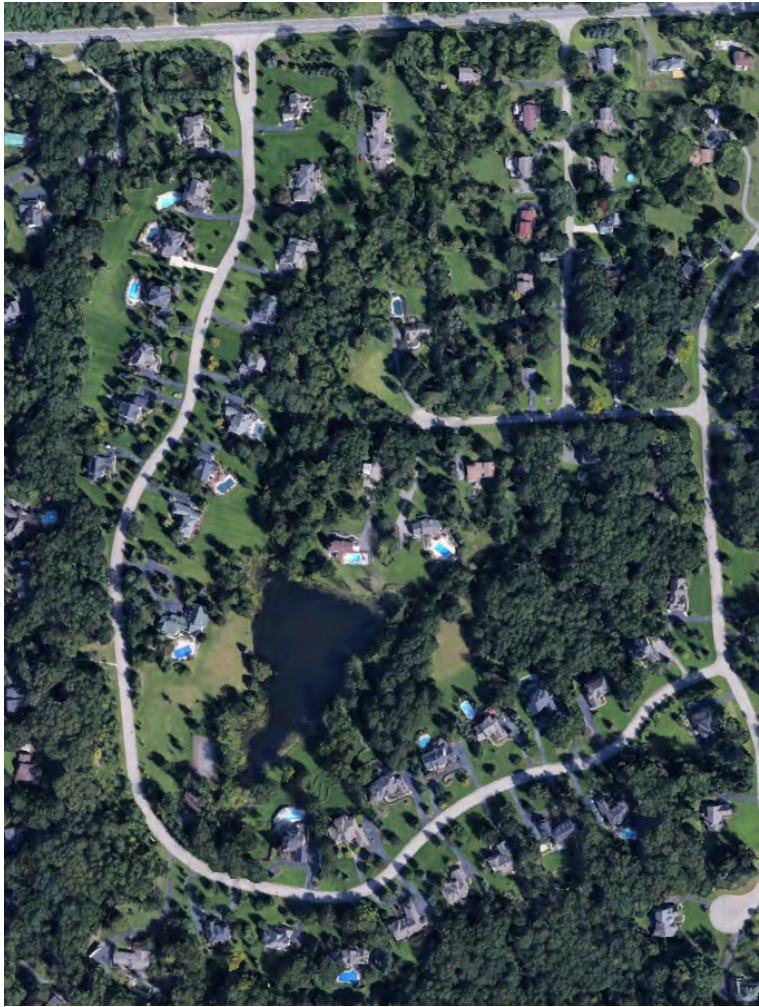
Inferred Expansion of Legacy Hills – Current Tree Canopy

The Ridge Before Development (Google Earth) & The Ridge after development (Google Maps)





Pine Lake St Development Above Boulder Creek Development Below

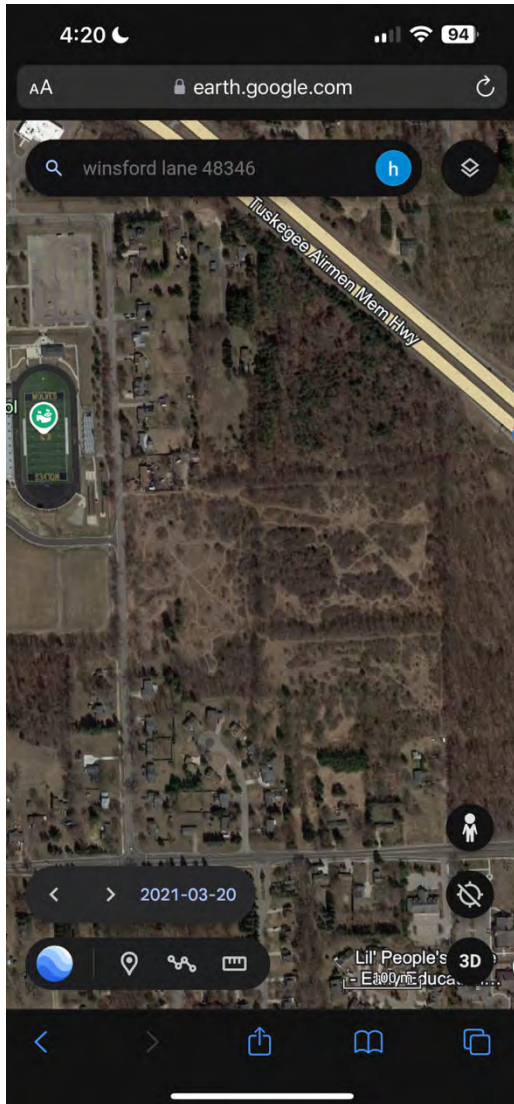




Copperleaf development

Land parcel before any PULTE Development (2021-03-20) and during construction (2022-06-19)
Brookfield at Waldon Village Independence Township 48346

Images from Winsford Lane 48346 (earth.google.com with layer historical imagery active)



**Staff and Attorney review of PUD will be
supplied at a later date prior to the meeting.**

PLANNED DEVELOPMENT AGREEMENT

for

LEGACY HILLS

Entered into between:

Charter Township of Genoa, a Michigan Municipal Corporation

and

Pulte Homes of Michigan LLC, a Michigan limited liability company

Dated: _____, 2024

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LEGACY HILLS PLANNED UNIT DEVELOPMENT AGREEMENT

THIS AGREEMENT (“Agreement”) is made and entered into this ___th day of _____, 2024 (“Effective Date”), by and between the CHARTER TOWNSHIP OF GENOA (“Township”) a Michigan municipal corporation, with offices located at 2911 Dorr Road, Brighton, Michigan 48116, and Pulte Homes of Michigan LLC (“Developer”), a Michigan limited liability company, with offices located at 2800 Livernois Road, Building D, Suite 320, Troy, Michigan 48083.

Project Developer: Pulte Homes of Michigan LLC, a Michigan limited liability company

Township Planning Director: Genoa Township Planning Services
Amy Ruthig

Project Engineer: The Umlor Group

RECITALS

A. Developer is, or is under contract to become the owner of certain property more particularly described on **Exhibit A** attached hereto and incorporated herein (“Property”), which is currently zoned AG, Agricultural Zoning District.

B. Developer intends to develop the Property into a single-family site condominium project (the “Project”) consisting of fifty-eight (58) units (“Units”) and consisting of approximately one- hundred-twenty-eight (128) acres.

C. In relation to development of the Project, Developer applied for approval of an amendment to the Township’s Zoning Ordinance to amend the Township Zoning Map and rezone the property to Residential Planned Unit Development (“RPUD”).

D. In accordance with the PUD zoning requirements as set forth in the Township Zoning Ordinance and Master Plan, the Project will have less than one (1) dwelling unit per net acre, and otherwise comply with required width, lot coverage, and setbacks requirements for RPUD zoning under the Zoning Ordinance, except as set forth in the Schedule of Regulations and Modifications attached as **Exhibit D** to this Agreement (the “Zoning Ordinance”).

E. The Project will provide definite benefits to the Township including the preservation of significant natural features and pedestrian connectivity via an internal sidewalk system throughout the Project,

NOW, THEREFORE, it is hereby agreed as follows:

1. SUMMARY DESCRIPTION OF THE PROJECT

The Project covers an area comprising approximately one-hundred-twenty-eight (128) acres, located generally at Challis Road and Bauer Road in the Charter Township of Genoa.

Developer is proposing to develop a single family residential condominium project that generally meets the requirements of the Zoning Ordinance and that is consistent with the conditions imposed in the recommendation of approval by the Planning Commission. The proposed use(s) are as follows: Single family residential homes, provided, however, that Developer may erect and maintain model homes on the Property and temporary promotional signage in furtherance of the sales activities of the Developer in relation to the condominium. Notwithstanding anything to the contrary contained elsewhere in this Agreement, until all Units in the entire Project are sold by Developer, Developer shall have the right to maintain a sales office, a business office, a construction office, models units, promotional signage, storage areas and reasonable parking incident to the foregoing, and such access to, from and over the Project as may be reasonable to enable development and sale of Units or the entire Project by the Developer, as permitted by the Zoning Ordinance.

2. ADHERENCE TO REQUIREMENTS FOR DEVELOPMENT

The Property shall be developed and improved in full compliance with the following (collectively referred to as the “Development Documents”):

- a. Appendix A to the Code of Ordinances for Genoa Township, the Zoning Ordinance. The Project is being developed in accordance with the provisions of Article 10, Planned Unit Development (PUD), in the form and on the terms existing on the Effective Date, except as otherwise provided in this Agreement (the “Zoning Ordinance”) including but not limited all other modifications as set forth on **Exhibit D**, permitting the uses as shown on the Final Conceptual Development Plan for Legacy Hills attached as **Exhibit B**.
- b. The “Conceptual Development Plan for “Legacy Hills” was recommended for approval by the Planning Commission on _____ and approved by the Township Board on _____. The Final PUD Conceptual Plan for “Legacy Hills” prepared by The Umlor Group, Job No. _____, with revision date of _____, attached as **Exhibit B** hereto, and which consists of the following pages:
 - Sheet no. 1 [identify each]
 - Sheet no. 2
 - Sheet no. 3
 - Sheet no. 4
 - Sheet no. 5
- c. Conditions imposed on the Project by the Planning Commission in its recommendation for approval for the PUD Conceptual Development Plan for Legacy Hills on _____, 20____, and the conditions imposed by the Township Board on the Legacy Hills PUD when it was approved on _____, 20____, which may include the conditions recommended by the Township’s Planning Consultant and Engineer, and any other reasonable conditions which

may be subsequently imposed by the Township Board with respect to the Legacy Hills PUD approval, and the Planning Commission as part of the Final Conceptual Development Plan approval with respect to the Site Plan or other required approvals, all of which are set forth in **Exhibit C** attached hereto:

- d. This Agreement and any conditions imposed herein.
- e. Any and all conditions of the Final PUD Conceptual Development Plan Approval recommended by the Planning Commission and adopted by the Township Board pertaining to the Project are reflected in the official minutes of such meetings. The Final Conceptual Development Plan for Legacy Hills is attached as **Exhibit B** to this Agreement (together the official minutes described in this Section, conditions imposed in Section 2(c) above, and the Conceptual Development Plan for Legacy Hills shall be referred to as the “Final Site Plan”). The Final Site Plan shall be designed in conformance with the requirements of this Agreement. The Final Conceptual Development Plan for Legacy Hills is attached as Exhibit B to this Agreement.
- f. Conditions of approval of the Genoa Township Engineering Design Standards and any other reasonable conditions which might be required by the Township Engineer.

Furthermore, all development and improvement of the Property by Developer and all use of the Property shall be subject to and in accordance with all applicable Township Ordinances, and shall also be subject to and in accordance with all other approvals and permits required under applicable Township Ordinances, the Development Documents and state laws for the respective components of the Project. To the extent that there are conflicts or discrepancies between respective provisions of the Development Documents, or between provisions of the Development Documents and Township Ordinances, this Agreement shall control. In the event the PUD Agreement is silent on matters otherwise covered by the PUD, Final Conceptual Development Plan or Township Ordinances and regulations, the PUD and Final Conceptual Development Plan shall control.

All future owner(s) of the Property shall be bound by the terms of this Agreement and the Developer’s authority and responsibilities stated herein. It shall be the responsibility of the Developer to transmit notice to all future owner(s) of the Property of the requirements contained within this Agreement. The Township shall require that all developers, present or future, of any portion of the PUD, as the same may be expanded by the Township, and their respective successors in title, comply with the Township Ordinances and the Development Documents.

3. ADHERENCE TO ORDINANCES

Developer shall comply with all applicable Township ordinances, including the Zoning Ordinance, Condominium Ordinance, and/or the Subdivision Control Ordinance, in effect at the Effective Date of this Agreement, except where modified by this Agreement. Future phases, if applicable of development shall comply with the Zoning Ordinance of the Township in effect at

the Effective Date of this Agreement, except where modified by this Agreement, including, but not limited to, the following dimensional deviations:

DIMENSIONAL DEVIATIONS

DESCRIPTION	REQUIRED	PUD PROVIDED
AREA FOR SEPTIC & WELL	43,560 S.F.	32,670 S.F.
CUL-DE-SAC LENGTH	1000 FT.	1200 FT.
WETLAND SETBACK	50 FT.	50 FT. (including on lot easements)*
MINIMUM LOT AREA-LDR	43,560 S.F.	32,670 S.F.
MINIMUM LOT WIDTH-LDR	150 FT.	115 FT.
MINIMUM SIDE YARD-LDR	30 FT.	20 FT.
SIDE YARD TOTAL-LDR	60 FT.	50 FT.

* except where there is approved wetland impact, in those cases the proposed wetland setback is less than 50 FT. as noted on the construction documents.

Developer acknowledges that certain provisions of this Agreement may exceed the requirements of the Zoning Ordinance, and the Township acknowledges that items shown in the Final Site Plan may be less than the requirements of the Zoning Ordinance. Developer shall fully comply with all engineering and other local, state and federal codes and regulations in effect at the time of this Agreement, unless superseded or otherwise covered in this Agreement and the Final Site Plan. The Final Conceptual Development Plan for Legacy Hills is attached as Exhibit B and minutes of the Planning Commission and Township Board meetings are attached as Exhibit E.

4. PERMITS AND AUTHORIZATIONS

The Township shall grant to Developer and its contractors and subcontractors all Township permits and authorizations necessary to bring all utilities including electricity, telephone, gas, cable television, water and storm to the Property and to otherwise develop and improve the Property in accordance with the Final Site Plan, provided the Developer has first made all requisite applications for permits, complied with the requirements for said permits, and paid all required fees. Any applications for permits from the Township will be processed in the customary manner. The Township will cooperate with Developer in connection with Developer’s applications for any necessary county, state, federal or utility company approvals, permits or authorizations to the extent that such applications and/or discussions are consistent with the Final Site Plan, and this Agreement.

5. EXPIRATION AND PHASING

A. EXPIRATION

Developer shall commence construction of the Improvements (defined below) within two (2) years from the later of (i) the Effective Date of this Agreement, or (ii) upon issuance of all necessary permits and approvals from all required governmental and municipal agencies, including final site plan approval by the Township (the “Expiration Date”).

The Developer has a right to request an extension for commencement of the Improvements for good cause from the Township Board not less than 90 days prior to the Expiration Date of this Agreement.

B. PHASING

The Project will be developed in one phase. If the Project does not have site plan approval, for which the improvements have not been financially secured with the Township, which has not been recorded, and for which construction of the site improvements has not commenced on or before _____, 20__ is not vested, unless the Township Board has approved an extension.

Once construction has commenced on the Project as set forth in Section 5(a), the Developer will be deemed to have obtained vested rights to complete construction of the planned development.

The Project is planned as a one phase development, which shall include the associated infrastructure improvements within, or necessary to serve, the phase.

Construction is scheduled to commence upon final PUD and Final Site Plan approval and receipt by Developer of all permits from outside agencies necessary to permit construction and satisfaction of the conditions established by the Planning Commission during PUD and Site Plan approvals, as well as any additional conditions which may be imposed during Final PUD and Final Site Plan review and approvals prior to the issuance of any permits by the Township.

Upon completion of the Project, it shall be capable of standing on its own in terms of the presence of services, facilities and infrastructure to serve the Project, and open space to be located within the Project, and shall contain the necessary components to insure the protection of natural resources, and the health, safety and welfare of the users of the Project and the residents of the surrounding area. For purposes of this section, “infrastructure” shall mean the Improvements to serve the Project as set forth in the Final Site Plan. In addition, for the Project to be considered complete, all easements required by the Township in relation to the provision of utilities by the Township pursuant to this Agreement must be approved and provided to the Township in recordable form. Developer shall pay all recording fees.

To the extent construction has commenced, Developer shall be deemed to have obtained vested rights, and shall be permitted to complete the Project in accordance with the Development Documents and this Agreement.

7. ROADS, DRIVES AND PARKING LOTS

- a. All roads for the Project, shall be designed, situated and constructed in accordance with the Township Engineering approvals and applicable Township Ordinances, the Development Documents, the Final Site Plan. The roads in the Project will be private roads.
- b. Except as may result from the unavailability of asphalt due to winter weather conditions, all roads, drives and parking lots depicted on the Final Site Plan, and which are necessary to serve any component of the Project then under construction shall be completed and approved (except top coat) prior to issuance of a final Certificate of Occupancy for any building or structure to be served thereby within the component of the Project. In the event that Developer fails to complete the roads, drives and parking lots by the time required by this Agreement, the Township may, at its option, after first giving written notice to Developer of the deficiency and an opportunity to cure the same in the manner and within the time for cure provided in Section 6 above, elect to pursue its remedies as set forth in Section 17. However, in the event the Livingston County Building Department elects to issue building permits, the paving of all areas referenced in this paragraph shall be completed and approved (excluding top coat) prior to issuance of a final Certificate of Occupancy. An extension of the time required to complete the paving of all areas may be granted by the Township administration, in its sole discretion, in the event of circumstances beyond the control of Developer, such as but not limited to adverse weather conditions.
- c. The Township agrees to the proposed road hierarchy, geometrics, utility locations and amended rights-of-way as depicted on the Final Site Plan.
- d. No building or land use permits shall be issued for a construction phase or, if none, the Project, until the infrastructure to serve such construction phase is installed. This shall include, at a minimum, internal roads (except top coat), and storm water drainage and detention. Developer shall be entitled to the issuance of building permits for model homes and Units for sale, provided that (i) all underground utilities for each respective construction phase wherein such model home or Unit is located are complete; and (ii) the access and service roads serving such model home or Unit are complete (except for topcoat).

8. LANDSCAPING, LIGHTING, AND ARCHITECTURAL STANDARDS

Developer shall construct the Project in full compliance with the Development Documents, which shall govern the landscaping, lighting, signs, architectural and other standards applicable to the Project.

9. STORM WATER DETENTION/RETENTION SYSTEM

Developer, at its sole expense, shall construct and maintain storm water detention/retention system (“System”) (except to the extent that the System is accepted by Livingston County Drain Commissioner under a so-called 433 Agreement pursuant to Section

433 of Act No. 40 of the Public Acts of 1956, the Township will not require further maintenance), which System may include both on-site and off-site improvements, in accordance with the Development Documents, the Final Site Plan, and all applicable ordinances, laws, codes, standards and regulations. The System shall be constructed and made to operate using best management practices. At a minimum, the System shall be designed in accordance with Livingston County standards. The System shall provide storm water detention/retention for all the Property.

10. OPEN SPACE AND NATURAL FEATURES

Developer shall dedicate a minimum of 50%, or such other amount as agreed upon by the Township and Developer, of the Property as open space. The open spaces shall be designed and landscaped to create natural areas that add to the overall aesthetics of the Project. For the purpose of insuring long term preservation of open space and natural features within the Project, all open space and storm water drainage and detention areas and facilities, shall be perpetually preserved as unimproved areas (other than Project Improvements installed in accordance with the Final Site Plan) by way of provisions contained in the master deed (“Master Deed”) recorded to establish the Project as a Condominium under the Michigan Condominium Act, Act 59 of 1978 (the “Act”), and in accordance with Township and EGLE requirements as to any wetlands regulated by the Township EGLE and the terms of any conservation easements granted to the EGLE. The Master Deed shall contain language that Co-Owners are prohibited from altering or the wetlands or Open Space Areas contained within the condominium, including within the 25-foot natural features buffer required by the Zoning Ordinance. Demarcation signs will be added in the Open Space Areas of the Condominium to ensure that there is no encroachment into the 25-foot natural features buffer required by the Zoning Ordinance.

11. MAINTENANCE OBLIGATIONS

Provision for the continued maintenance of all roads, drives, parking lots, sidewalks, parks, open spaces, natural features, landscape materials, lighting, System, utility improvements and other improvements as described in the Final Site Plan (all collectively “Improvements”) are of major importance to the continued success of the Project. To ensure the proper installation and continued repair/maintenance of the Improvements, the following standards are imposed, which shall be incorporated into all contract documents relative to the Project, including, but not limited to, the Master Deed as provided below:

a. Developer Obligation to Construct and Repair/Maintain Improvements for the Project.

Developer shall be responsible for the construction of all Improvements as shown on the Final Site Plan in the Project, including the installation of Utility Improvements, at no cost to the Township.

b. Maintenance Obligations

An association shall be established by Developer for maintenance of the common areas after the completion of the Project to control and be responsible for the

repair/maintenance of the Improvements for the Project, at no cost to the Township, and to levy and collect assessments as necessary to pay the cost of such repair/maintenance. For purposes of this Agreement, the term “Association” shall refer to the association which will be created at a point designated by Developer in the Master Deed, or other similar documents to administer and operate the condominium for the Project established under the Act.

c. Additional Obligations

- i. Except as provided in herein, Developer shall be responsible for the repair/maintenance of the all Improvements (except to the extent of dedication to the Township) within the Project, at no cost to the Township, until such time as the Association is formed and the appropriate Master Deed has been recorded, which sets forth the rights, powers, privileges, responsibilities and duties so assigned and conveyed, and which makes the Association responsible for the repair/maintenance of the Improvements, except to the extent that such Improvements have been dedicated to the public. At that time the Association shall become responsible for the same and Developer shall no longer be so responsible.
- ii. The Improvements as constructed shall not be altered in any material way. The repair and maintenance of the Improvements shall not be deemed a material alteration.
- iii. Easements for the benefit of the Developer for repair/maintenance of the Improvements are acknowledged and reserved as shown in the approved final engineering plan. No structure, landscaping, planting, fill or other material shall be placed which may interfere with, impede, obstruct or change the direction of the water flow within the easements for the System, Project drainage areas, and utility easement areas, or which otherwise interferes with the use and maintenance of the Improvements. The repair/maintenance of all of the aforementioned easement areas shall be the responsibility of and enforced by Developer until the Transitional Control Date as defined in the Act, at which time the Association shall be responsible for the same and the Developer shall no longer be so responsible.
- iv. In the event the Township determines that the Improvements are not being properly repaired/maintained, the Township shall serve written notice upon the Developer and/or the Associations, as appropriate, setting forth the manner in which they have failed to repair/maintain the Improvements, in reasonable condition and order. Written notice required in this Agreement may be provided by mail, or by electronic means or facsimile with a hard copy by mail. The notice shall include a demand that deficiencies in the repair/maintenance, in no event less than thirty (30) days (the “Improvement Notice and Cure Period”).

12. CONDOMINIUM DOCUMENTS

The developer shall submit to the Township a proposed Master Deed and Bylaws, including the Exhibit B condominium plan (collectively the “Condominium Documents”), for the Project. The proposed documents shall be subject to review and approval by the Township Attorney and Township staff prior to recording. The Condominium Documents shall be fully executed and recorded prior to the issuance of any certificate of occupancy by the Township. As part of the Condominium Documents, there shall be provisions obligating Developer or the Association, if after the Transitional Control Date, to maintain and preserve all the Improvements, the private roads, drives, entranceways, parking, walkways, screening walls, landscaping, lighting, signage, greenbelts, open areas, pedestrian walkways and open area amenities, setbacks, the System and related easements and any other private common elements and Improvements described in the Final Site Plan in good working order and appearance at all times and in accordance with the Development Documents and Section 11 of this Agreement. The Condominium Documents shall also contain reference to the actions which may be taken by the Township pursuant to Section 11 in the event that the Improvements are not preserved, maintained or repaired. Additionally, the Condominium Documents shall identify and make reference to the Development Documents and the regulations of the Property therein, including a reference to this Agreement.

The Condominium Documents shall contain provisions providing for the continued maintenance/repair of the Improvements, at no cost to the Township, and provisions requiring the levying and collection of assessments as necessary to pay the cost of such repair/maintenance and to ensure the ability to pay the cost of future repairs and maintenance of the Improvements.

13. OMIT.

14. OMIT.

15. REIMBURSABLE COSTS

- a. The Developer shall reimburse the Township for the following costs:
 - i. All reasonable planning, engineering, legal and any consultant fees incurred in connection with the review and approval of the Project, in accordance with the Township’s Planning and Engineering Services Fee Schedules.
 - ii. All reasonable planning, engineering, legal and any consultant fees, along with applicable permit and inspection fees, which may be incurred throughout the construction of the Project as a result of any required inspections or actions taken to ensure compliance with the Development Documents.
- b. In addition, Developer shall be responsible for all costs associated with the submission to the Township and consideration of all plans and documents associated with the Project, including, but not limited to, site plans, landscaping plans, engineering plans, as-built plans, permits, inspections, etc. Further, Developer shall be responsible for all costs related to variance requests, special

use requests, and review and approval of any other agreements associated with the Project, including but not limited to, the Condominium Documents, petitions for any special assessments district, and other similar documents, plans and costs.

16. OMIT.

17. ENFORCEMENT AND REMEDIES

In the event there is a failure to timely perform any obligation or undertaking required by this Agreement, the Township shall serve written notice upon the Developer setting forth such deficiency and a demand that the deficiency be cured within thirty (30) days following the notice (with the exception of a deficiency determined by the Township to constitute an impending and immediate danger to the health safety, and welfare of the public). If the deficiency set forth in the notice is not cured within said thirty (30) day period, the Township may pursue any and all remedies available to it under the Zoning Ordinance.

18. DEVELOPER ACKNOWLEDGMENT

By execution of this Agreement, Developer agrees that the conditions contained herein are fair, reasonable and equitable requirements and conditions; agrees that this Agreement does not constitute a taking of property for any purpose or a violation of any constitutional rights; and agrees to be bound by each and every provision of this Agreement. Furthermore, it is agreed that the Improvements and undertakings described herein are necessary and roughly proportional to the burden imposed, and are necessary in order to ensure that public services and facilities will be capable of accommodating the Project, and the increased service and facility loads caused by the Project; to protect the natural environment and conserve natural resources; to ensure compatibility with adjacent uses of land; to promote use of the Property in a socially and economically desirable manner; and to achieve other legitimate objectives authorized by law. It is further agreed and acknowledged that all the required Improvements, both on-site and off-site, are clearly related to the burdens to be created by the Project, and all such improvements are clearly and substantially related to the Township's legitimate interests in protecting the public health, safety and welfare.

19. MISCELLANEOUS

a. Binding Effect

This Agreement shall be binding upon and inure to the benefit of the parties and their heirs, successors and assigns, including the condominium association established to operate and manage the affairs of the Condominium ("Association"). The Condominium Documents shall include a provision stating that the Association shall be bound by the terms and conditions of this Agreement and that any amendment to the Condominium Documents which impacts the Township's rights under such provision as it relates to this Agreement must be reviewed by the Township. The rights and obligations contained in this Agreement shall run with the Property. Developer shall be required, at its sole

cost, to record this Agreement within thirty (30) days of execution with the Livingston County Register of Deeds, and provide a recorded copy to the Township as soon as a recorded copy is returned to Developer by the Livingston County Register of Deeds. Once Developer, or its successors or its assigns has completed the Project Improvements and turned over the Property to the Association, Developer shall have no further obligation or liability under this Agreement with respect to the obligations or liability first arising under this Agreement after the effective date of such assignment.

b. Authority

This Agreement has been duly authorized by Developer and the Township, through the approval of the Township Board at a meeting in accordance with the laws of the State of Michigan and the Ordinances of the Township. By the execution of this Agreement, the parties each warrant that they have the authority to execute this Agreement and bind the Property in its respective entities to its terms and conditions.

c. Final Site Plan Approval

Developer acknowledges that, at the time of the execution of this Agreement, Developer has not yet obtained Preliminary or Final Site Plan Approval, as required. Developer acknowledges that the Planning Commission may impose additional conditions other than those contained in this Agreement during Site Plan review and approval so long as those conditions are consistent with the approvals previously given and the intent of this Agreement. Developer agrees that any additional conditions which may be attached to the Final Site Plan Approval by the Planning Commission shall be incorporated into and made a part of this Agreement, and shall be enforceable against Developer, in the event Developer proceeds with the Project and executes this Agreement. To the extent that Developer requires minor modifications to the PUD Documents, the Township Zoning Administrator shall be permitted to approve such minor modifications administratively. Minor modifications may include without limitations: (a) a reduction in the size of any building; (b) an increase in the size of any building, provided that the size of other buildings is decreased so that all buildings within the Project do not exceed the density limitation set forth in this Agreement; (c) landscaping materials identified in the attached plan may be replaced by similar types of landscaping materials of better or like quality; (d) changes in floor plans and elevations which do not alter the character of the use; (e) correcting non-material errors; (f) changes requested by the Township, County, or State for safety reasons and (g) those matters defined as Minor changes in Section 10.11.03 of the Zoning Ordinance.

d. Other Governmental Approvals

It is understood that construction of some of the Improvements included in the Project may require the approval of other governmental agencies.

e. **Amendment**

This Agreement may only be amended pursuant to an instrument executed by the Township and the Developer, or their successors and assigns, after mutual consent of the parties.

f. **Partial Invalidity**

Invalidation of any of the provisions contained in this Agreement, or of the application thereof to any person by judgment or court order shall in no way affect any of the other provisions hereof or the application thereof to any other person and the same shall remain in full force and effect.

g. **No Partnership**

None of the terms or provisions of this Agreement shall be deemed to create a partnership or joint venture between Developer and the Township.

h. **Incorporation of Documents**

The recitals contained in this Agreement, the introductory paragraph, and all exhibits attached to this Agreement and referred to herein shall for all purposes be deemed to be incorporated in this Agreement by this reference and made a part of this Agreement.

i. **Cooperation**

In the event that any third-party brings an action against either party regarding the validity or operation of this Agreement, the parties shall cooperate with the other in good faith in any such litigation.

j. **Integration Clause**

This Agreement is intended as the complete integration of all understandings between the parties related to the subject matter herein. No prior contemporaneous addition, deletion or other amendment shall have any force or effect whatsoever, unless embodied herein in writing. No subsequent notation, renewal, addition, deletion or other amendment shall have any force or effect unless embodied in a written amendatory or other agreement executed by the parties required herein, other than additional conditions which may be attached to final site plan approval by the Planning Commission as stated in subsection (c) above.

k. **No Third-Party Relationship**

The parties intend that this Agreement shall create no third-party beneficiary interest except for an assignment pursuant to this Agreement. The parties are not presently aware of any actions by them or any of their authorized representatives which would form the basis for interpretation construing a different intent and in any event expressly disclaim any such acts or actions, particularly in view of the integration of this Agreement.

l. Agreement Jointly Drafted

This Agreement represents the product of joint efforts and mutual understanding of Developer and the Township, and should be construed accordingly. Each party has had the opportunity to have this Agreement reviewed by legal counsel.

m. Governing Law

This Agreement shall be interpreted and construed in accordance with the laws of the State of Michigan, and shall be subject to enforcement only in Michigan courts. The parties agree that this Agreement is consistent with the intent and provisions of the Michigan and U.S. constitutions and applicable law.

n. Survival of Terms.

Any easement rights conveyed in this Agreement along with the following provisions will survive the expiration of this Agreement, along with any and all approvals related to deviations and modifications from the Zoning Ordinance as set forth herein so that any improvements constructed by Developer in accordance with the Development Documents and this Agreement shall be deemed to be in accordance with the Zoning Ordinance and any future zoning ordinances, including upon expiration of this Agreement.

o. Signed Counterparts.

This Agreement may be executed in one or more counterparts by the different parties in separate counterparts, each of which, when executed, shall be deemed to be an original but all of which, when taken together, shall constitute one and the same Agreement. This Agreement may be transmitted by facsimile or electronic mail, and said facsimile or electronic signature shall be deemed as an original.

p. Easements.

Any easements granted or conveyed in this Agreement are non-exclusive easements.

q. Notice.

Unless later information is provided, notices under this Agreement will be provided to:

To Developer:

Pulte Homes of Michigan LLC
Attn: Joe Skore
2800 Livernois Road, Building D, Suite 320, Troy, Michigan 48083
Joe.skore@pultegroup.com

With a required copy to:

Alexandra E. Dieck
Bodman PLC
201 S. Division Street, Suite 400
Ann Arbor, Michigan 48104
adieck@bodmanlaw.com

To Genoa Township:

Charter Township of Genoa

Attention: _____

2911 Dorr Road

Brighton, MI 48116

Phone: _____

Fax: _____

Email to _____

With a copy to the Township Attorney at the same address.

r. **Zoning Ordinance.**

All references in this Agreement to Zoning Ordinance or any Township ordinance and code shall be deemed to refer to the Township zoning ordinances and code in effect as of the Effective Date, subject to any deviation or waiver in respect thereof set forth in this Agreement, or any other provision hereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the day and year recited above.

CHARTER TOWNSHIP OF GENOA
a Michigan municipal corporation

By:
Its:

By:
Its:

ACKNOWLEDGEMENT

STATE OF MICHIGAN)
) ss
COUNTY OF)

The foregoing Agreement was acknowledged before me by _____, the duly elected _____, and _____ the duly elected _____ of the Charter Township of Genoa, on the __ day of _____, 20__.

_____, Notary Public
_____ County, Michigan
My Commission Expires: _____
Acting in _____ County

PULTE HOMES OF MICHIGAN LLC, a Michigan
limited liability company

By: Joe Skore
Its: Vice President of Land Acquisition

ACKNOWLEDGEMENT

STATE OF)
) ss
COUNTY OF)

The foregoing Agreement was acknowledged before me by Joe Skore, the Vice President of Land Acquisition of Pulte Homes of Michigan LLC, a Michigan limited liability company on the ___ day of _____, 20__.

_____, Notary Public
_____ County, Michigan
My Commission expires: _____
Acting in _____ County

Table of Exhibits

- Exhibit A:** Property Legal Description.
- Exhibit B:** Final Conceptual Development Plan for Legacy Hills.
- Exhibit C:** Conditions of Approval
- Exhibit D:** Schedule of Regulations and Modifications
- Exhibit E:** Planning Commission and Township Board Minutes.

Exhibit A

Legal Description

THE LAND IS DESCRIBED AS FOLLOWS: SITUATED IN THE TOWNSHIP OF GENOA, COUNTY OF LIVINGSTON, STATE OF MICHIGAN

PARCEL 1

PART OF THE SOUTHWEST 1/4 OF SECTION 24, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE, SAID POINT BEING NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 863.80 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 24; THENCE NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 1461.36 FEET ALONG THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE; THENCE NORTH 86 DEGREES 35 MINUTES 45 SECONDS EAST 1342.09 FEET; THENCE SOUTH 00 DEGREES 10 MINUTES 36 SECONDS WEST 1213.73 FEET; THENCE NORTH 89 DEGREES 08 MINUTES 40 SECONDS WEST 550.68 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF THE OLD RAILWAY RIGHT OF WAY, AS VACATED, AND TO A POINT ON A CURVE; THENCE SOUTHEASTERLY 299.50 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 10 DEGREES 10 MINUTES 30 SECONDS, A RADIUS OF 1686.52 FEET AND A LONG CHORD BEARING SOUTH 48 DEGREES 02 MINUTES 55 SECONDS EAST 299.11 FEET TO THE P.T. OF THE CURVE; THENCE SOUTH 42 DEGREES 57 MINUTES 40 SECONDS EAST 1393.08 FEET ALONG SAID NORTHERLY RIGHT OF WAY LINE TO THE SECTION LINE AND CENTERLINE OF CHALLIS ROAD; THENCE NORTH 89 DEGREES 23 MINUTES 35 SECONDS WEST 663.70 FEET ALONG SAID SECTION LINE AND CENTERLINE OF CHALLIS ROAD TO THE NORTHERLY RIGHT OF WAY LINE OF THE EXISTING C & O RAILWAY; THENCE NORTH 54 DEGREES 56 MINUTES 45 SECONDS WEST 104.89 FEET TO THE P.C. OF A CURVE; THENCE NORTHWESTERLY 608.48 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 03 DEGREES 01 MINUTES 45 SECONDS, A RADIUS OF 11,509.20 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 27 MINUTES 37 SECONDS WEST 608.41 FEET TO A POINT ON THE CURVE; THENCE NORTH 32 DEGREES 01 MINUTES 30 SECONDS EAST 50.00 FEET TO A POINT ON A CURVE; THENCE NORTHWESTERLY 201.75 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 01 DEGREES 00 MINUTES 00 SECONDS, A RADIUS OF 11,559.20 FEET AND A LONG CHORD BEARING NORTH 58 DEGREES 28 MINUTES 30 SECONDS WEST 201.74 FEET TO THE P.T. OF THE CURVE; THENCE NORTH 58 DEGREES 58 MINUTES 30 SECONDS WEST 645.66 FEET ALONG SAID NORTHERLY RIGHT OF WAY LINE OF THE EXISTING C & O RAILWAY TO THE POINT OF BEGINNING. EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCEL: PART OF THE SOUTHWEST 1/4 OF SECTION 24, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 24; THENCE NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 863.80 FEET ALONG THE CENTERLINE OF BAUER ROAD AND THE WEST SECTION LINE; THENCE SOUTH 58 DEGREES 58 MINUTES 30 SECONDS EAST 645.66 FEET TO THE POINT OF BEGINNING; THENCE NORTH 44 DEGREES 02 MINUTES 15 SECONDS EAST 651.25 FEET; THENCE SOUTH 42 DEGREES 57 MINUTES 40 SECONDS EAST 1393.08 FEET; THENCE NORTH 89 DEGREES 23 MINUTES 35 SECONDS WEST 663.70 FEET ALONG THE SECTION LINE; THENCE NORTH 54 DEGREES 56 MINUTES 45 SECONDS WEST 104.89 FEET TO THE P.C. OF A CURVE; THENCE NORTHWESTERLY 608.48 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 03 DEGREES 01 MINUTES 45 SECONDS, A RADIUS OF 11,509.20 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 27 MINUTES 37 SECONDS WEST 608.41 FEET TO A POINT ON THE CURVE; THENCE NORTH 32 DEGREES 01 MINUTES 30 SECONDS EAST 50.00 FEET TO A POINT ON A CURVE; THENCE NORTHWESTERLY 201.75 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 01 DEGREES 00 MINUTES 00 SECONDS, A RADIUS OF 11,559.20 FEET AND A LONG CHORD BEARING NORTH 58 DEGREES 28 MINUTES 30 SECONDS WEST 201.74 FEET TO THE P.T. OF A CURVE AND THE POINT OF BEGINNING.

PARCEL 2

PART OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE NORTH AND SOUTH 1/4 LINE, SAID POINT BEING NORTH 00 DEGREES 03 MINUTES 25 SECONDS WEST 1376.04 FEET FROM THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE SOUTH 67 DEGREES 59 MINUTES 40 SECONDS WEST 351.56 FEET; THENCE SOUTH 29 DEGREES 59 MINUTES 40 SECONDS WEST 312.00 FEET; THENCE NORTH 88 DEGREES 15 MINUTES 38 SECONDS WEST 118.40 FEET; THENCE SOUTH 43 DEGREES 22 MINUTES 25 SECONDS WEST 158.00 FEET; THENCE NORTH 46 DEGREES 37 MINUTES 35 SECONDS WEST 150.00 FEET; THENCE SOUTH 68 DEGREES 32 MINUTES 25 SECONDS WEST 555.00 FEET; THENCE NORTH 00 DEGREES 02 MINUTES 25 SECONDS EAST 1933.58 FEET; THENCE SOUTH 89 DEGREES 37 MINUTES 35 SECONDS EAST 1331.64 FEET ALONG THE EAST AND WEST 1/4 LINE TO THE CENTER OF SAID SECTION 23; THENCE SOUTH 00 DEGREES 03 MINUTES 25 SECONDS EAST 1311.69 FEET ALONG THE NORTH AND SOUTH 1/4 LINE TO THE POINT OF BEGINNING.

PARCEL 3

PART OF THE SOUTHEAST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 781.00 FEET ALONG THE SECTION LINE TO THE POINT OF BEGINNING; THENCE NORTH 00 DEGREES 58 MINUTES 05 SECONDS WEST 918.05 FEET; THENCE NORTH 52 DEGREES 50 MINUTES 20 SECONDS WEST 815.00 FEET; THENCE SOUTH 67 DEGREES 59 MINUTES 40 SECONDS WEST 126.44 FEET TO THE NORTH AND SOUTH 1/4 LINE; THENCE ALONG SAID NORTH AND SOUTH 1/4 LINE NORTH 00 DEGREES 03 MINUTES 25 SECONDS WEST 1311.69 FEET TO THE CENTER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 00 MINUTES 15 SECONDS EAST 47.54 FEET ALONG THE EAST AND WEST 1/4 LINE TO THE SOUTHERLY RIGHT OF WAY LINE OF THE C & O RAILROAD; THENCE SOUTH 48 DEGREES 42 MINUTES 30 SECONDS EAST 823.14 FEET ALONG SAID RIGHT OF WAY LINE; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE 741.63 FEET ON A CURVE TO THE LEFT HAVING A RADIUS OF 11,509.16 FEET AND A CHORD BEARING SOUTH 50 DEGREES 33 MINUTES 16 SECONDS EAST 741.50 FEET; THENCE SOUTH 00 DEGREES 01 MINUTES 47 SECONDS WEST 1653.80 FEET TO THE SOUTH LINE OF SAID SECTION 23; THENCE SOUTH 89 DEGREES 01 MINUTES 54 SECONDS WEST 454.95 FEET ALONG SAID SOUTH LINE TO THE POINT OF BEGINNING.

PARCEL 4

PART OF THE SOUTHEAST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF CHALLIS ROAD AND THE SECTION LINE, SAID POINT BEING NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 1235.95 FEET FROM THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 309.65 FEET ALONG THE SECTION LINE; THENCE NORTH 00 DEGREES 15 MINUTES 11 SECONDS EAST 1414.45 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF THE C & O RAILROAD; THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE NORTHWESTERLY 392.48 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 01 DEGREES 57 MINUTES 14 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 53 DEGREES 22 MINUTES 38 SECONDS WEST 392.46 FEET;

THENCE SOUTH 00 DEGREES 01 MINUTES 47 SECONDS WEST 1653.80 FEET TO THE SOUTH SECTION LINE AND THE POINT OF BEGINNING.

PARCEL 5

PART OF THE SOUTHEAST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF CHALLIS ROAD AND THE SECTION, SAID POINT BEING NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 1545.60 FEET FROM THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 1110.30 FEET ALONG THE SECTION LINE TO THE SOUTHEAST CORNER OF SAID SECTION 23; THENCE NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 630.24 FEET ALONG THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE TO THE SOUTHERLY RIGHT OF WAY LINE OF THE C & O RAILROAD; THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE NORTH 58 DEGREES 58 MINUTES 30 SECONDS WEST 412.63 FEET TO THE P.C. OF A CURVE; THENCE NORTHWESTERLY 881.35 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 04 DEGREES 22 MINUTES 07 SECONDS, A RADIUS OF 11,559.16 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 47 MINUTES 27 SECONDS WEST 881.08 FEET TO THE P.T. OF THE CURVE; THENCE NORTH 89 DEGREES 01 MINUTES 15 SECONDS EAST 84.65 FEET TO THE P.C. OF A CURVE; THENCE NORTHWESTERLY 118.83 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 00 DEGREES 35 MINUTES 30 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 54 DEGREES 39 MINUTES 00 SECONDS WEST 118.83 FEET; THENCE SOUTH 00 DEGREES 15 MINUTES 11 SECONDS WEST 1414.45 FEET TO THE SOUTH SECTION LINE AND THE POINT OF BEGINNING.

EASEMENT PARCEL

TOGETHER WITH THE RIGHTS AND EASEMENTS AS CREATED, LIMITED AND DEFINED IN ACCESS AND UTILITY EASEMENT AGREEMENT RECORDED IN LIBER 4330, PAGE 940, LIVINGSTON COUNTY RECORDS.

Exhibit B

Final Conceptual Development Plan for Legacy Hills

[Following]

Exhibit C
Conditions for Approval

Exhibit D

Planning Commission and Township Board Minutes

EXHIBIT E

Final Conceptual Development Plan for Legacy Hills

ENVIRONMENTAL IMPACT ASSESSMENT

LEGACY HILLS - PULTE HOMES OF MICHIGAN LLC

September 27, 2024 (Rev:09-27-24)

Mr. Steve Allen
Director of Design Services
The Umlor Group
49287 West Road
Wixom MI, 48393

PROPERTY IDENTIFICATION: Pulte Homes intends to develop the combined properties located on the north side of Challis Road between Dorr Road and Bauer Road in Section 23. The proposed development includes four tax parcels 4711-23-300-003, 4711-23-400-001, 4711-23-400-007 & 4711-23-400-008. The property is currently zoned AG.



LEGACY HILLS OVERLL PROPERTY - GENOA TOWNSHIP – NO SCALE

DESCRIPTION OF PROJECT SITE: The combined property measures **127.57 gross acres**. The site is hilly and partially wooded separating potentially developable upland area at the westerly reaches of the property from the rest of the development. The property is bounded by a Railroad R/W to the North, Bauer Road to the East, Challis Road and an existing subdivision to the South, and residential parcels to the West. There are no defined water features, and the wetland is hydraulically connected to adjacent wetland as part of a larger system. There are no known sources of contamination and ruins of a former living structure was witnessed in the Southeast corner of the property.

IMPACT ON NATURAL FEATURES: The pre-development site is hilly and partially wooded with 32.25 acres of wetlands interspersed throughout the property. All wetlands except for approximately 2000 sf impacted for road construction will be preserved. Of the 127.57 gross acres 72.73 is proposed to remain as open Space as shown below in green, blue and yellow (see site plan for details). The Proposed Cluster PUD option allows for 57% of the property to remain as open space including over 26 acres of upland (see site plan). The preservation of vast, contiguous open space is a benefit to not only the future residents of Legacy Hills, but also the Township at large. Open spaces viewsheds, wildlife habitat, and the preserved natural environment benefits all Township residents. This is the principal benefit of the Cluster Residential PUD.



LEGACY HILLS CLUSTER PUD PLAN - GENOA TOWNSHIP – NO SCALE

IMPACT ON WETLANDS: The proposed road serving Units 13 thru 18 will cause approximately 0.04 ac of the 0.74 ac wetland to be filled for road construction. A permit from EGLE will be obtained for the fill and the amount filled will be mitigated.

All development storm water that will discharge to the wetlands will be filtered of sediment and impurities by sediment basins or mechanical treatment units prior to discharge. The stormwater discharge rate will be maintained at the historic agricultural rate to minimize downstream erosion and large flow fluctuations during storm events. All required EGLE wetland storm water discharge or fill permits will be obtained.

IMPACT ON STORM WATER MANAGEMENT: The pre-development site primarily drains to the Northwest into the existing wetland. We propose to collect runoff into a stormwater collection system and store in a sediment/detention basin prior to restricted releases into the existing wetland. Sediment and impurities will be removed from the storm water through the use of one or more of the following measures: sediment basins, storm water treatment chambers, infiltration, or other acceptable BMP per the Livingston County Drain Commission and Genoa Township Engineering Standards.

IMPACT ON SURROUNDING LAND USES: The Township envisions this property to be Low Density Residential, in harmony with the existing surrounding land uses through its Master Plan. In keeping with the Mater Plan we are proposing a Cluster PUD that results in overall approximately 0.5 Units/acre. The low proposed density will preserve the rural residential nature of this area of the township. A parallel plan has been provided to demonstrate that the cluster plan does not constitute an increase in density.

IMPACT ON PUBLIC FACILITIES AND SERVICES: We have received input from the Fire Marshall on the type of fire suppression and access that will be required. An emergency access drive is shown and fire suppression hydrants and/or drywells will be included in the final plans. We have received site distance approvals for both entrances from Livingston County Road Commission. In keeping with the Township Master Plan we do not foresee any adverse impact on city services

IMPACT ON PUBLIC UTILITIES: Potable Water and Wastewater services will be supplied via on-site septic systems and individual wells installed to Livingston County Health Department standards for the anticipated 58 Units. Therefore, there will be no impact on city sewers and water capacity. We conducted more than 120 test holes and have received preliminary approval from LCHD on-site septic systems. A Hydrogeologic study has been conducted including test wells by MacDowell and Associates and there was adequate quantity and quality of water for individual potable water wells. Also, MacDowell found adequate flow for fire suppression wells.

STORAGE AND HANDLING OF ANY HAZARDOUS MATERIALS: There are no known hazardous materials.

IMPACT ON TRAFFIC AND PEDISTRIANS: A Low-Density Residential Development by its nature should not have any adverse impact on traffic and pedestrians in a rural setting. After a conceptual review by the traffic engineer it would appear that we do not meet the threshold for a traffic study. However, a traffic study according to Section 18.07.09 will be prepared and submitted when completed. The LCRC has reviewed our entrances for site distance and traffic safety issues and approved our locations.

Land Use	ITE Code	Size	Unit	Weekday Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Single-Family Detached	210	58	DU	611	11	34	45	38	22	60

Attached:

LCHD Preliminary Septic Approval

LCHD Preliminary Well Approval

LCRC Site Distance Approval

The Umlor Group

Stephen C. Allen - Design Services Director

MEMO

VIA EMAIL Joe.Skore@PulteGroup.com

To: Pulte Group

From: Jacob Swanson, PE, PTOE
Paul Bonner, EIT
Fleis & VandenBrink

Date: October 30, 2024

Re: Proposed Residential Development
Genoa Township, Michigan
Traffic Impact Assessment

1 INTRODUCTION

This memorandum presents the results of the Traffic Impact Assessment (TIA) for the proposed residential development in Genoa Township, Michigan. The project site is located generally in the northwest quadrant of the Challis Road & Bauer Road intersection, as shown in the attached **Figure 1**. The proposed development includes the construction of single-family detached housing units, located on property that is currently vacant. Site access to the project site is proposed via one (1) full access driveway on Challis Road, which is under the jurisdiction of the Livingston County Road Commission (LCRC). F&V completed this TIA in accordance with the requirements outlined in the Genoa Township Zoning Ordinance Section 18.07.09 and pursuant to Genoa Township requirements as part of the Residential Planned Unit Development (RPUD) review process.

The scope of work for this study was developed based on Fleis & VandenBrink’s (F&V) understanding of the development program, requirements of Genoa Township and LCRC, accepted traffic engineering practices, and methodologies published by the Institute of Transportation Engineers (ITE). Sources of data for this study include F&V subconsultant Quality Counts, LLC (QC), the Michigan Department of Transportation (MDOT), the Southeast Michigan Council of Governments (SEMCOG), LCRC, and ITE.

2 BACKGROUND DATA

2.1 EXISTING ROADWAY NETWORK

Vehicle transportation for the project site is provided via Challis Road. The proposed lane use and traffic control at the site driveway intersection to Challis Road is shown in the attached **Figure 2**. Additional roadway information for Challis Road, within the vicinity of the proposed development, is summarized below in **Table 1**.

Table 1: Roadway Information

Roadway Segment	Challis Road
Number of Lanes	2 (One-lane each direction)
Functional Classification	Major Collector
Roadway Jurisdiction	LCRC
Speed Limit	45-mph
Traffic Volumes (2024 ADT)	4,038 vpd

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

Additionally, LCRC recently completed the construction of the roundabout at the intersection of Challis Road & Bauer Road, to the east of the project site. LCRC provided information regarding their design criteria for this roundabout, which was designed with the following traffic volume parameters:

- 20-year Design Year
- 1.5% Annual Growth Rate
- Background Development – Legacy Hills (129-unit concept plan)

Therefore, the roundabout design explicitly considered the impacts of this development plan, with a higher projected volume than what is currently being proposed. Additionally, it considered a significant implicit background growth, over a period of 20 years. The resulting analysis from LCRC indicates that the roundabout intersection would operate acceptably, at LOS B or better, during both peak periods; Rodel results are provided for reference. Therefore, since LCRC considered the Legacy Hills development as part of the design criteria, the impact of the development will be accommodated within the existing design.

2.2 DATA COLLECTION

F&V subconsultant QC collected existing 24-hour traffic volume data on Tuesday, October 15, 2024, along Challis Road, in the vicinity of the proposed site driveway location. The existing peak hour traffic volumes are shown in the attached **Figure 3**. The weekday AM and PM peak hours along Challis Road were identified to occur between 8:15 AM to 9:15 AM and 3:45 PM to 4:45 PM, respectively.

It was noted that when the data collection was performed, the Dorr Road bridge, west of the project site, was closed for construction. Therefore, the collected traffic volume counts were compared to historic traffic volumes performed in the vicinity of the project site, in order to determine if the existing traffic volume data should be adjusted to consider an impact resulting from the closure of the bridge. The historical traffic volume data included daily traffic volumes collected in 2023, and hourly traffic volumes provided by the LCRC for the nearby roundabout intersection of Challis Road & Bauer Road.

The comparison of the collected 2024 traffic volumes and historical traffic volumes showed negligible difference between the two data sets. Therefore, no adjustments were made to the traffic volume data collected for use in the analysis. The existing and historical traffic volume data are attached.

3 BACKGROUND CONDITIONS (2027)

A growth rate of **1.5%** was provided by LCRC, in order to project the existing 2024 peak hour traffic volumes to the site buildout year of 2027. In addition to the background traffic growth, it is important to account for traffic that will be generated by developments within the vicinity of the study area that are currently under construction or will be constructed prior to the site buildout year. At the time of this study, no background developments were identified by Genoa Township or LCRC within the vicinity of the project site.

Therefore, a conservative annual background growth rate of **1.5%** per year was applied to the existing 2024 peak hour traffic volumes, in order to forecast the background 2027 peak hour traffic volumes **without the proposed development**, as shown in the attached **Figure 3**.

4 SITE TRIP GENERATION

The number of weekday peak hour (AM and PM) and daily vehicle trips that would be generated by the proposed development were forecasted based on data published by ITE in the *Trip Generation Manual, 11th Edition*. The proposed development includes the construction of single-family detached housing units, located on property that is currently vacant. The site trip generation projections for the proposed development are summarized in **Table 2**.

Table 2: Site Trip Generation

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Single-Family Detached	210	58	DU	611	11	34	45	38	22	60



5 SITE TRIP DISTRIBUTION

The vehicular trips that would be generated by the proposed development were assigned to the study roadway network based on the proposed site access plan and driveway configuration, existing peak hour traffic patterns in the adjacent roadway network, and methodologies published by ITE. The adjacent street traffic volumes were used to develop the trip distribution.

In order to determine the projected residential distribution, it was assumed that the existing adjacent street traffic volumes in the morning (AM) are home-to-work based trips, and in the evening (PM) are work-to-home based trips. Therefore, the trip distribution assumes vehicles are leaving the proposed development and exiting the study network during the AM peak hour, then re-entering the network and returning to the proposed development during the PM peak hour. The ITE trip distribution methodology assumes that new trips will return to their direction of origin. The site trip distributions used in the analysis are summarized in **Table 3**. Additionally, LCRC reviewed and approved the trip distribution assumptions used in this analysis.

Table 3: Site Trip Distribution

To/From	Via	AM	PM
East	Challis Road	71%	73%
West	Challis Road	29%	27%
Total		100%	100%

The vehicular traffic volumes shown in **Table 2** were distributed according to the study roadway network based on the distribution shown in **Table 3**. The site-generated peak hour traffic volumes shown in the attached **Figure 3** were added to the background peak hour traffic volumes shown in the attached **Figure 3**, in order to calculate the future peak hour traffic volumes, **with the addition of the proposed development**. Future peak hour traffic volumes are shown in the attached **Figure 3**.

6 FUTURE CONDITIONS (2027)

Future peak hour vehicle delays and Levels of Service (LOS), **with the proposed development**, were calculated at the proposed site driveway intersection on Challis Road using Synchro/SimTraffic (Version 12) traffic analysis software. This analysis was based on the proposed lane use and traffic control shown in the attached **Figure 2**, the future peak hour traffic volumes shown in the attached **Figure 3**, and methodologies presented in the *Highway Capacity Manual, 7th Edition* (HCM7).

Descriptions of LOS “A” through “F” as defined in the HCM, are attached. Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions. Additionally, SimTraffic network simulations were reviewed to evaluate network operations and vehicle queues. The results of the future conditions analysis are attached and summarized in **Table 4**.

Table 4: Future Intersection Operations

Intersection	Control	Approach	Future Conditions			
			AM Peak Hour		PM Peak Hour	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS
1 Challis Road & Site Drive	Stop (Minor)	EBL	7.5	A	8.2	A
		WB	Free			
		SB	11.3	B	12.2	B

The results of the future conditions analysis indicates that all approaches and movements at the proposed site driveway intersection to Challis Road are expected to operate acceptably, at LOS B or better, during both the AM and PM peak hours.

Review of SimTraffic network simulations also indicate acceptable operations at the proposed site driveway intersection. Ingress and egress traffic traveling to/from the proposed development were observed to find adequate gaps within the through traffic along Challis Road, without experiencing significant delays or excessive vehicle queueing.



7 ACCESS MANAGEMENT

7.1 AUXILIARY LANE ANALYSIS

Site access is proposed via one (1) full access driveway on Challis Road, which is under the jurisdiction of the LCRC. The LCRC auxiliary left-turn lane warrant criteria was utilized to evaluate the proposed site driveway location on Challis Road. LCRC does not maintain auxiliary right-turn lane warranting criteria; therefore, the MDOT criteria was utilized in order to determine the need for an auxiliary right-turn treatments. The auxiliary turn lanes were evaluated based on the future peak hour traffic volumes shown in the attached **Figure 3**. The results of the analysis are shown on the attached charts and summarized in **Table 5**.

Table 5: Auxiliary Turn Lane Warrant Analysis Summary

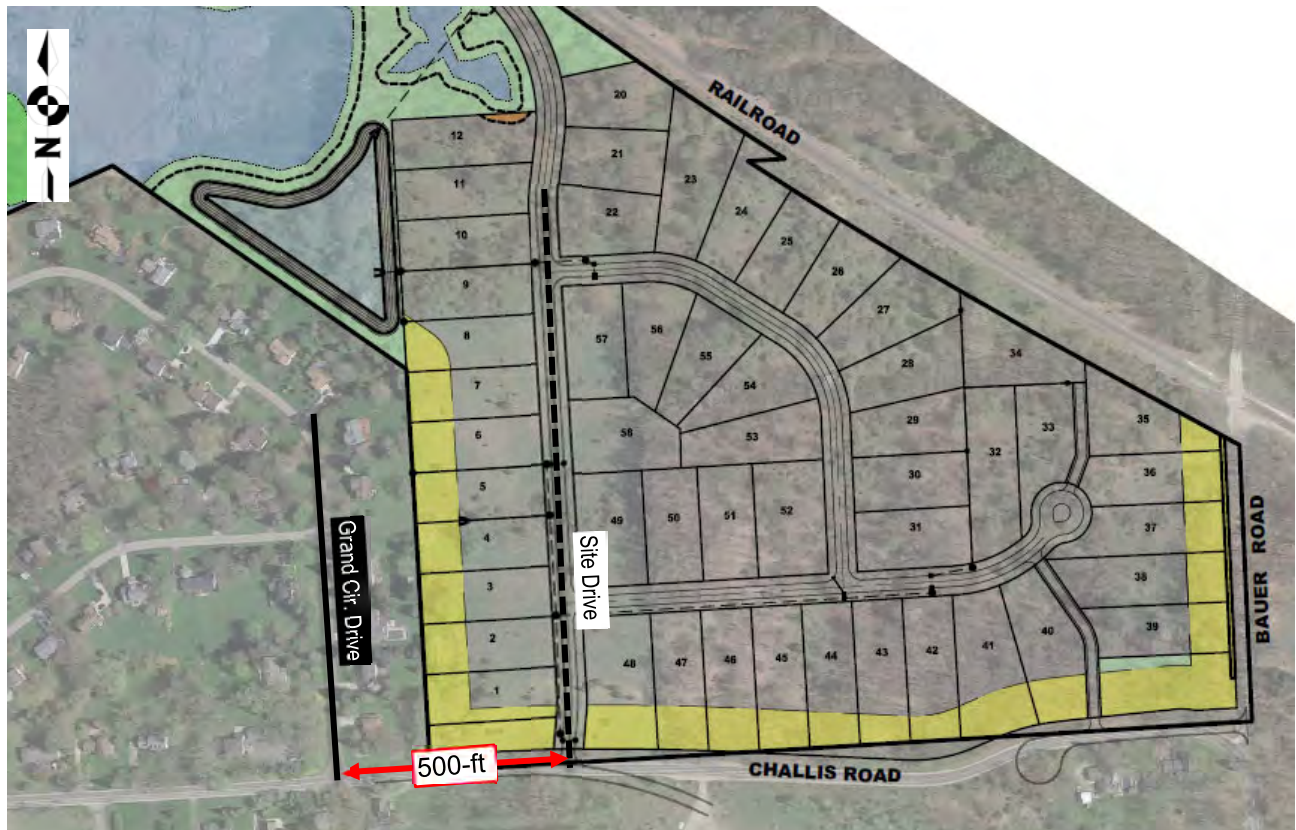
Intersection	Criteria	AM Peak Hour	PM Peak Hour	Recommendation
Challis Road & Site Drive	Left-Turn	No Treatment	No Treatment	No Treatment
	Right-Turn	No Treatment	No Treatment	No Treatment

- The results of the auxiliary turn lane evaluation indicates that left-turn lane and right-turn lane treatments are NOT warranted at the proposed site driveway on Challis Road.

7.2 DRIVEWAY SPACING EVALUATION

Site access to the proposed development will be provided via one (1) full access site driveway along Challis Road, located east of Grand Cir. Drive. The distance between the proposed site driveway to the adjacent driveways and intersections within the vicinity of the project site were identified and are shown in **Exhibit 1**.

Exhibit 1: Proposed Driveway Spacing



8 CONCLUSIONS

The conclusions of this TIA are as follows:

- The results of the future conditions analysis indicates that all approaches and movements at the proposed site driveway on Challis Road are expected to operate acceptably, at LOS B or better, during both the AM and PM peak hours.
- LCRC recently completed the construction of the roundabout at the intersection of Challis Road & Bauer Road, to the east of the project site. LCRC provided information regarding their design criteria for this roundabout, including: a 20-year Design forecast, 1.5% Annual Growth Rate, Background Development – Legacy Hills (129-unit concept plan).
 - The resulting LCRC analysis showed that the roundabout intersection would operate acceptably, at LOS B or better during both the AM and PM peak hours. Therefore, since LCRC considered the Legacy Hills development as part of the design criteria, the impact of the development will be accommodated within the existing design.
- The results of the auxiliary turn lane evaluation indicates that left-turn lane and right-turn lane treatments are NOT warranted at the proposed site driveway on Challis Road.

9 SUMMARY

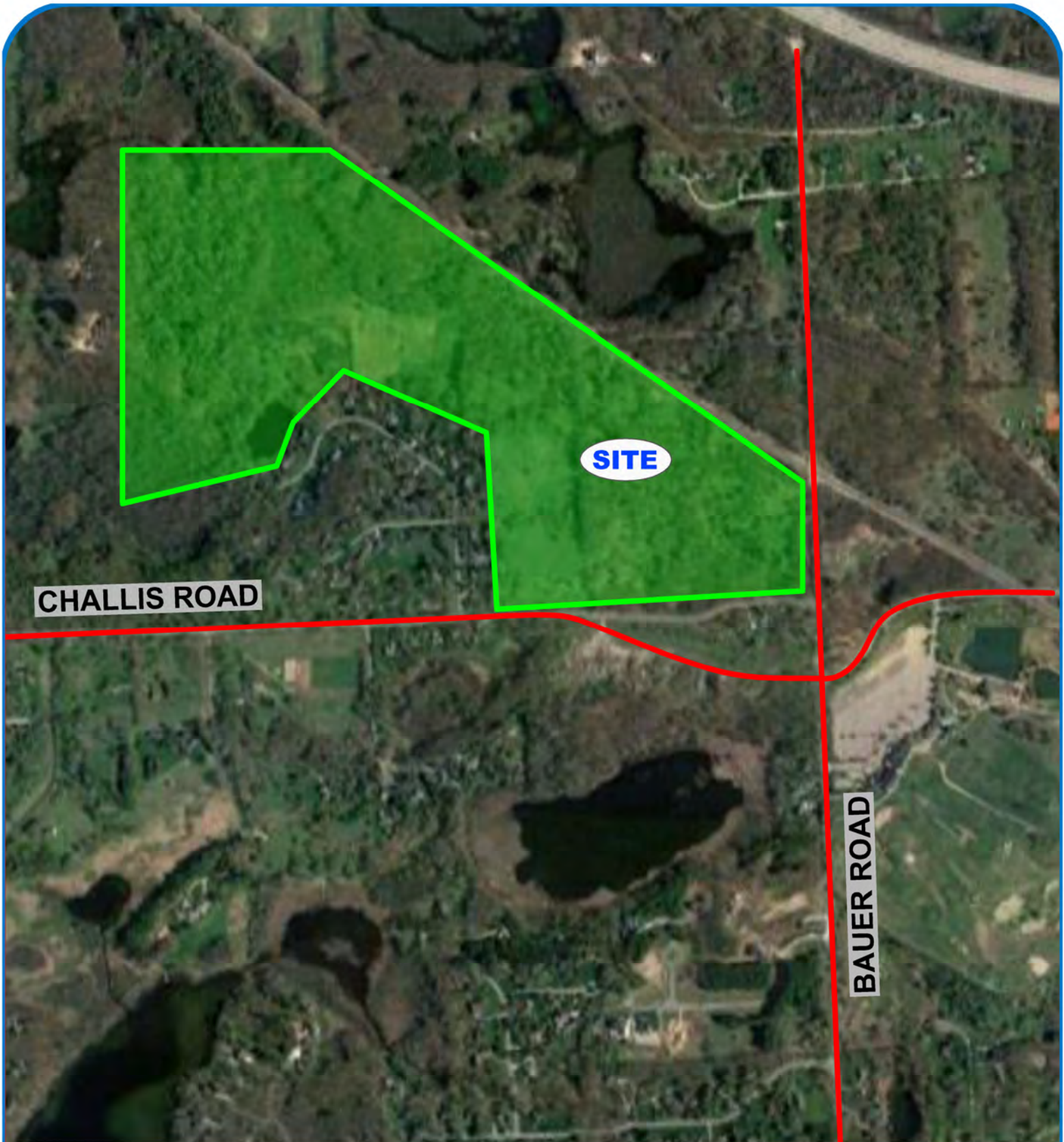
- The proposed development is expected to have minimal impact on the adjacent roadway network and the existing infrastructure can adequately accommodate the projected trips generated by the proposed development plan.

Any questions related to this memorandum, study, analysis, and results should be addressed to Fleis & VandenBrink.



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

- Attachments:** Figures 1-3
 Conceptual Site Plan
 Traffic Volume Data
 LCRC Rodel Results
 Synchro / SimTraffic Results
 Auxiliary Turn Lane Warrants



CHALLIS ROAD

SITE

BAUER ROAD




FIGURE 1

SITE LOCATION MAP

LEGACY HILLS TIA - GENOA TOWNSHIP, MI

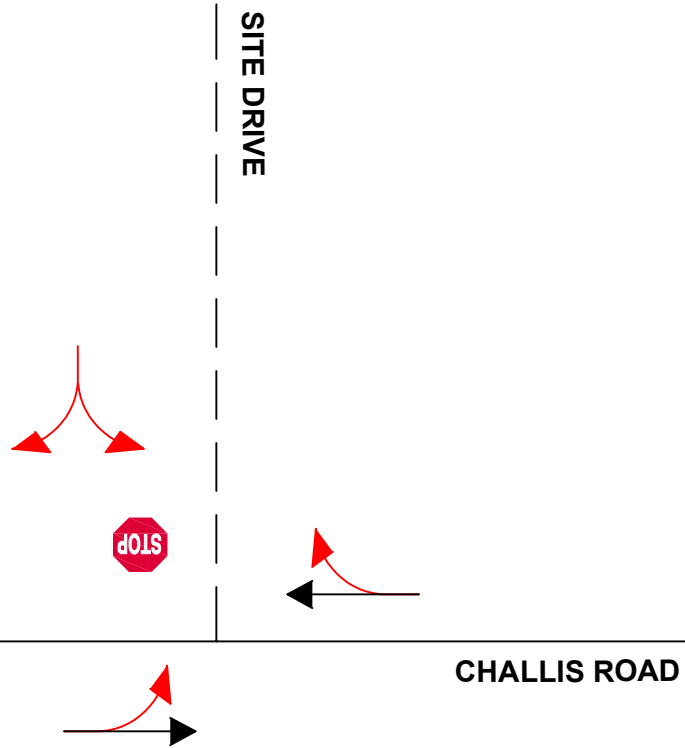
LEGEND

 SITE LOCATION



NORTH
SCALE: NOT TO SCALE
85

SITE









NORTH
SCALE: NOT TO SCALE



FIGURE 2 LANE USE AND TRAFFIC CONTROL

LEGACY HILLS TIA - GENOA TOWNSHIP, MI

LEGEND

	ROADS		PROPOSED ROADS
	LANE USE		PROPOSED LANE USE
	UNSIGNALIZED INTERSECTION		

EXISTING 2024

BACKGROUND 2027

SITE

SITE

SITE DRIVE

SITE DRIVE

← 104/329

← 109/344

254/120 →

CHALLIS ROAD

266/125 →

CHALLIS ROAD

SITE GENERATED

FUTURE 2027

SITE

SITE

SITE DRIVE

SITE DRIVE

10/6
24/16

10/6
24/16

8/28

8/28
109/344

3/10 →

CHALLIS ROAD

3/10 →
266/125 →

CHALLIS ROAD



NORTH
SCALE: NOT TO SCALE

FIGURE 3

TRAFFIC VOLUMES

LEGACY HILLS TIA - GENOA TOWNSHIP, MI

LEGEND

- ROADS
- - - PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)



THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



Know what's below. Call before you dig.

CONSTRUCTION SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS ENGAGED IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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The UMLOR Group
LAND DEVELOPMENT SERVICES
 49287 WEST ROAD WIXOM, MI 48393
 TEL 248.773.7656 • FAX 866.690.1307

SECTION 23
 T. 2 N., R. 5 E.
 GENOA TOWNSHIP
 LIVINGSTON CO., MICHIGAN

DATE: 8/26/2024

REVISIONS

NO.	DATE	DESCRIPTION

CLIENT:
PULTE HOMES OF MICHIGAN
 2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
 TROY, MICHIGAN 48063

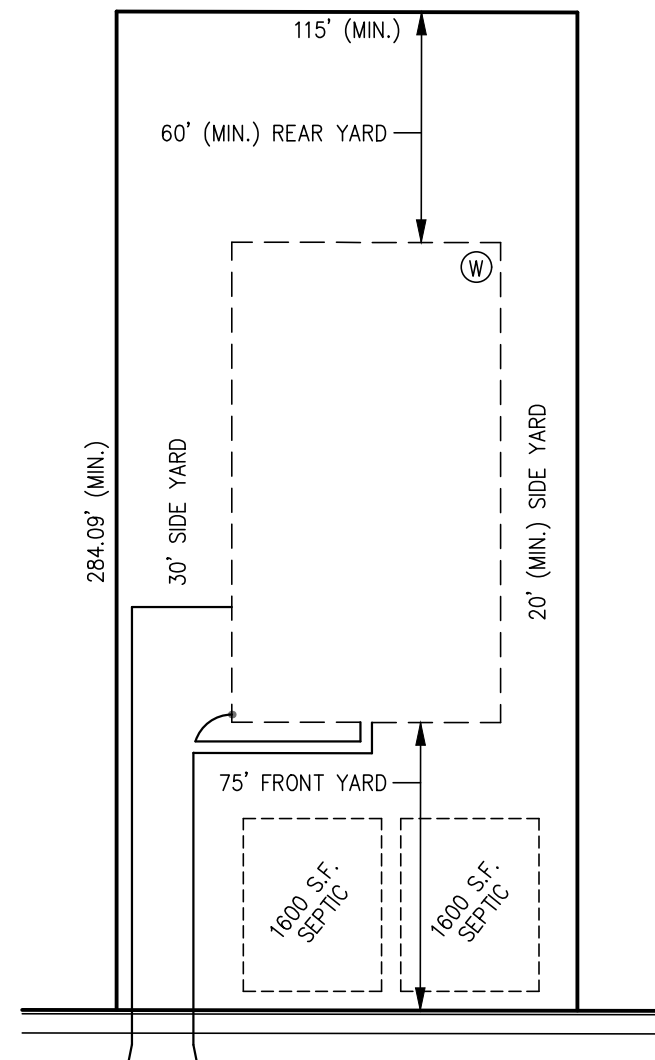
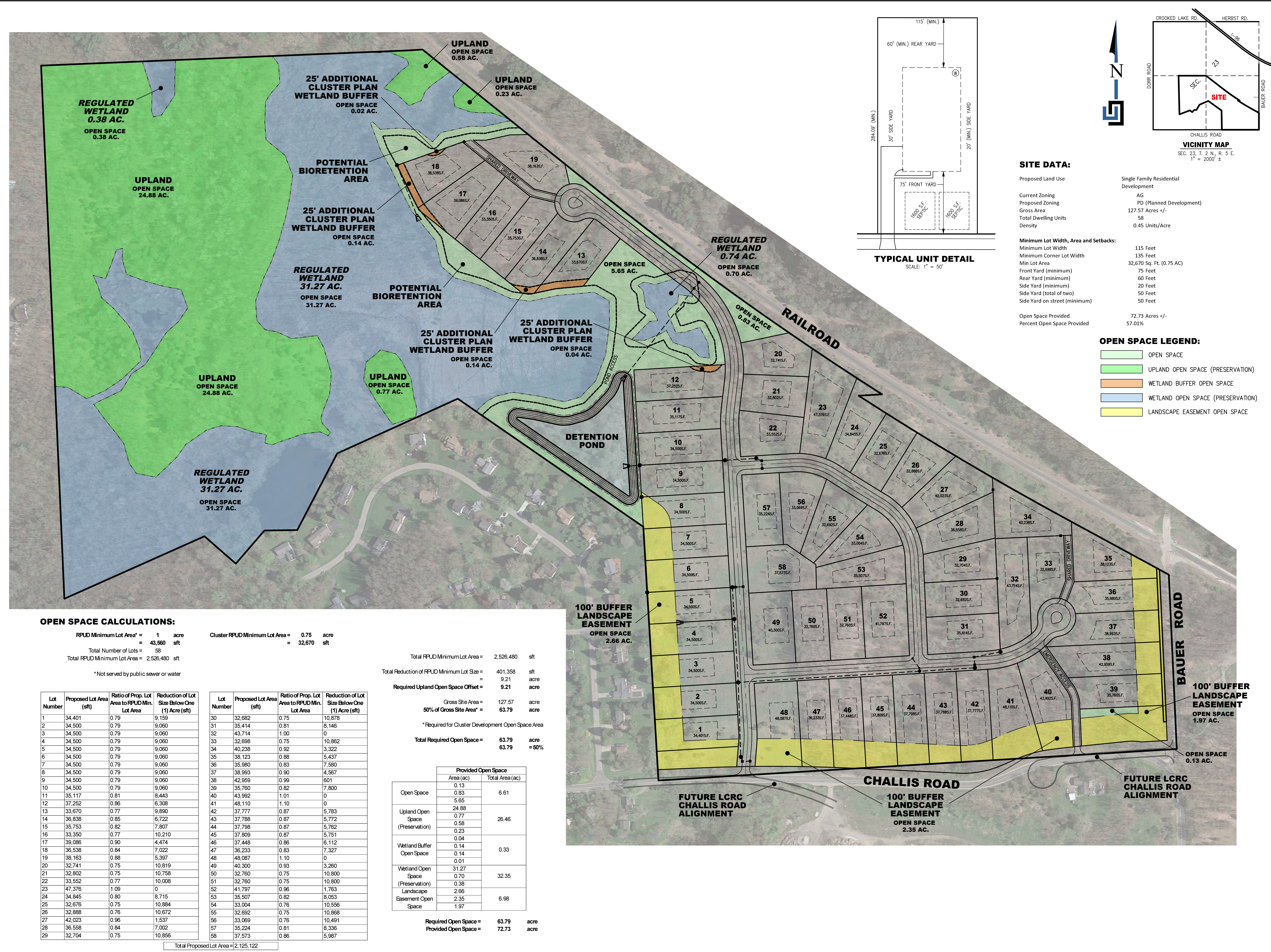
LEGACY HILLS
CONCEPTUAL SITE PLAN

DR BY: SA/BB/MG
 CK BY: SA/BB
 P.M. MN

SCALE: 0 75 150

JOB NO. 231213
 SHEET NO. 3

SHEET 3 OF 4



TYPICAL UNIT DETAIL
 SCALE: 1" = 50'

SITE DATA:

Proposed Land Use	Single Family Residential Development
Current Zoning	AG
Proposed Zoning	PD (Planned Development)
Gross Area	127.57 Acres +/-
Total Dwelling Units	58
Density	0.45 Units/Acre
Minimum Lot Width, Area and Setbacks:	
Minimum Lot Width	115 Feet
Minimum Corner Lot Width	135 Feet
Min Lot Area	32,670 Sq. Ft. (0.75 AC)
Front Yard (minimum)	75 Feet
Rear Yard (minimum)	60 Feet
Side Yard (minimum)	20 Feet
Side Yard (total of two)	50 Feet
Side Yard on street (minimum)	50 Feet
Open Space Provided	72.73 Acres +/-
Percent Open Space Provided	57.01%

OPEN SPACE LEGEND:

- OPEN SPACE
- UPLAND OPEN SPACE (PRESERVATION)
- WETLAND BUFFER OPEN SPACE
- WETLAND OPEN SPACE (PRESERVATION)
- LANDSCAPE EASEMENT OPEN SPACE

OPEN SPACE CALCULATIONS:

RPUD Minimum Lot Area* = 1 acre = 43,560 sft	Cluster RPUD Minimum Lot Area = 0.75 acre = 32,670 sft
Total Number of Lots = 58	
Total RPUD Minimum Lot Area = 2,526,480 sft	

*Not served by public sewer or water

Total RPUD Minimum Lot Area = 2,526,480 sft	Total Reduction of RPUD Minimum Lot Size = 401,358 sft = 9.21 acre
Required Upland Open Space Offset = 9.21 acre	Gross Site Area = 127.57 acre
	50% of Gross Site Area* = 63.79 acre
	* Required for Cluster Development Open Space Area
Total Required Open Space = 63.79 acre	63.79 = 50%

Lot Number	Proposed Lot Area (sft)	Ratio of Prop. Lot Area to RPUD Min. Lot Area	Reduction of Lot Size Below One (1) Acre (sft)	Lot Number	Proposed Lot Area (sft)	Ratio of Prop. Lot Area to RPUD Min. Lot Area	Reduction of Lot Size Below One (1) Acre (sft)
1	34,401	0.79	9,159	30	32,682	0.75	10,878
2	34,500	0.79	9,060	31	35,414	0.81	8,146
3	34,500	0.79	9,060	32	43,714	1.00	0
4	34,500	0.79	9,060	33	32,698	0.75	10,862
5	34,500	0.79	9,060	34	40,238	0.92	3,322
6	34,500	0.79	9,060	35	38,123	0.88	5,437
7	34,500	0.79	9,060	36	35,980	0.83	7,580
8	34,500	0.79	9,060	37	38,993	0.90	4,567
9	34,500	0.79	9,060	38	42,959	0.99	601
10	34,500	0.79	9,060	39	35,760	0.82	7,800
11	35,117	0.81	8,443	40	43,992	1.01	0
12	37,262	0.86	6,308	41	48,110	1.10	0
13	33,670	0.77	9,890	42	37,777	0.87	5,783
14	36,838	0.85	6,722	43	37,788	0.87	5,772
15	35,753	0.82	7,807	44	37,798	0.87	5,762
16	33,350	0.77	10,210	45	37,809	0.87	5,751
17	39,086	0.90	4,474	46	37,448	0.86	6,112
18	36,538	0.84	7,022	47	36,233	0.83	7,327
19	38,163	0.88	5,397	48	48,087	1.10	0
20	32,741	0.75	10,819	49	40,300	0.93	3,260
21	32,802	0.75	10,758	50	32,760	0.75	10,800
22	33,562	0.77	10,008	51	32,760	0.75	10,800
23	47,376	1.09	0	52	41,797	0.96	1,763
24	34,845	0.80	8,715	53	35,507	0.82	8,053
25	32,676	0.75	10,884	54	33,004	0.76	10,556
26	32,888	0.76	10,672	55	32,692	0.75	10,868
27	42,023	0.96	1,537	56	33,069	0.76	10,491
28	36,558	0.84	7,002	57	35,224	0.81	8,336
29	32,704	0.75	10,856	58	37,573	0.86	5,987

Total Proposed Lot Area = 2,125,122

	Provided Open Space	
	Area (ac)	Total Area (ac)
Open Space	0.13	6.61
	0.83	
	5.65	
	24.88	
	0.77	
Upland Open Space (Preservation)	0.58	26.46
	0.23	
	0.04	
	0.14	
Wetland Buffer Open Space	0.14	0.33
	0.01	
	0.18	
Wetland Open Space (Preservation)	31.27	32.35
	0.70	
	0.38	
	2.66	
Landscape Easement Open Space	2.35	6.98
	1.97	
Required Open Space =	63.79	acre
Provided Open Space =	72.73	acre

UMLOR GROUP PROJECT FOLDER\PROJECT HOMES\231213 - LEGACY HILLS GENOA TOWNSHIP AUTOCAD FILE\LEGACY HILLS SITE PLAN.DWG

Type of report: Tube Count - Volume Data

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12:30 AM		0				0			0	
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02:15 AM		0				0			0	
02:30 AM		0				0			0	
02:45 AM		0				0			0	
03:00 AM		0				0			0	
03:15 AM		1				1			1	
03:30 AM		0				0			0	
03:45 AM		1				1			1	
04:00 AM		0				0			0	
04:15 AM		0				0			0	
04:30 AM		1				1			1	
04:45 AM		5				5			5	
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Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

Report generated on 10/17/2024 2:05 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

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10:45 AM		32				32			32	
11:00 AM		31				31			31	
11:15 AM		29				29			29	
11:30 AM		23				23			23	
11:45 AM		22				22			22	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

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01:45 PM		30				30			30	
02:00 PM		33				33			33	
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02:30 PM		26				26			26	
02:45 PM		39				39			39	
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03:15 PM		26				26			26	
03:30 PM		33				33			33	
03:45 PM		31				31			31	
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04:15 PM		28				28			28	
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05:45 PM		28				28			28	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

LOCATION: Challis Rd East of Grand Cir Dr							QC JOB #: 16789101			
SPECIFIC LOCATION:							DIRECTION: EB			
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11:30 PM		1				1			1	
11:45 PM		2				2			2	
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% Weekday Average		100%								
% Week Average		100%				100%				
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PM Peak 15-min Vol		2:45 PM 39				2:45 PM 39			2:45 PM 39	
<i>Comments:</i>										

Type of report: Tube Count - Volume Data

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SPECIFIC LOCATION:							DIRECTION: WB			
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12:45 AM		2				2			2	
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01:15 AM		2				2			2	
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04:45 AM		0				0			0	
05:00 AM		0				0			0	
05:15 AM		2				2			2	
05:30 AM		2				2			2	
05:45 AM		1				1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

Report generated on 10/17/2024 2:05 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

LOCATION: Challis Rd East of Grand Cir Dr SPECIFIC LOCATION: CITY/STATE: Livingston, MI							QC JOB #: 16789101 DIRECTION: WB DATE: Oct 15 2024 - Oct 15 2024			
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07:30 AM		16				16			16	
07:45 AM		14				14			14	
08:00 AM		6				6			6	
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09:15 AM		22				22			22	
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11:15 AM		25				25			25	
11:30 AM		34				34			34	
11:45 AM		29				29			29	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Challis Rd East of Grand Cir Dr SPECIFIC LOCATION: CITY/STATE: Livingston, MI							QC JOB #: 16789101 DIRECTION: WB DATE: Oct 15 2024 - Oct 15 2024			
Start Time	Mon	Tue 15 Oct 24	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		27				27			27	
12:15 PM		27				27			27	
12:30 PM		34				34			34	
12:45 PM		32				32			32	
01:00 PM		40				40			40	
01:15 PM		40				40			40	
01:30 PM		42				42			42	
01:45 PM		31				31			31	
02:00 PM		34				34			34	
02:15 PM		57				57			57	
02:30 PM		55				55			55	
02:45 PM		49				49			49	
03:00 PM		62				62			62	
03:15 PM		61				61			61	
03:30 PM		49				49			49	
03:45 PM		79				79			79	
04:00 PM		90				90			90	
04:15 PM		89				89			89	
04:30 PM		71				71			71	
04:45 PM		70				70			70	
05:00 PM		61				61			61	
05:15 PM		79				79			79	
05:30 PM		71				71			71	
05:45 PM		43				43			43	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

LOCATION: Challis Rd East of Grand Cir Dr							QC JOB #: 16789101			
SPECIFIC LOCATION:							DIRECTION: WB			
CITY/STATE: Livingston, MI							DATE: Oct 15 2024 - Oct 15 2024			
Start Time	Mon	Tue	Wed	Thu	Fri	Average Weekday	Sat	Sun	Average Week	Average Week Profile
		15 Oct 24				15-min Traffic			15-min Traffic	
06:00 PM		58				58			58	
06:15 PM		40				40			40	
06:30 PM		31				31			31	
06:45 PM		41				41			41	
07:00 PM		32				32			32	
07:15 PM		27				27			27	
07:30 PM		21				21			21	
07:45 PM		30				30			30	
08:00 PM		17				17			17	
08:15 PM		18				18			18	
08:30 PM		14				14			14	
08:45 PM		22				22			22	
09:00 PM		24				24			24	
09:15 PM		13				13			13	
09:30 PM		8				8			8	
09:45 PM		13				13			13	
10:00 PM		5				5			5	
10:15 PM		5				5			5	
10:30 PM		1				1			1	
10:45 PM		4				4			4	
11:00 PM		3				3			3	
11:15 PM		3				3			3	
11:30 PM		5				5			5	
11:45 PM		4				4			4	
Day Total		2209				2209			2209	
% Weekday Average		100%								
% Week Average		100%				100%				
AM Peak 15-min Vol		11:30 AM 34				11:30 AM 34			11:30 AM 34	
PM Peak 15-min Vol		4:00 PM 90				4:00 PM 90			4:00 PM 90	
<i>Comments:</i>										

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Disclaimer: The Michigan Department of Transportation (MDOT) works with individual agencies (cities/villages, counties, metropolitan planning organizations (MPOs), regional planning organizations (RPOs), and other areas of MDOT) to identify existing traffic count programs and/or traffic data. [...more](#)

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Record	1	of 1	Goto Record	<input type="text"/>	go
Location ID	47-5027	MPO ID	458		
Type	SPOT	HPMS ID			
On NHS	No	On HPMS	No		
LRS ID	0940303	LRS Loc Pt.	0.747		
SF Group	Urban Non State (2024)	Route Type			
AF Group	NoFactor (2024)	Route			
GF Group	Urban Non State (2024)	Active	Yes		
Class Dist Grp	NTL_5 (2024)	Category	Primary		
Seas Clss Grp					
WIM Group					
QC Group	Default				
Funct'l Class	(5) Major Collector	Milepost			
Located On	CHALLIS RD				
Loc On Alias					
WEST OF	Bauer Rd				
More Detail	▶				

STATION DATA

Directions: [2-WAY](#) [EB](#) [WB](#) [?](#)

AADT ?								
Year	AADT	DHV-30	K %	D %	PA	BC	Src	
2023	4,054 ³		10		3,945 (97%)	109 (3%)	Grown from 2022	
2022	3,967	404	10		3,851 (97%)	116 (3%)		
2021	3,124 ³		12		2,934 (94%)	190 (6%)	Grown from 2020	
2020	2,826 ³		12		2,627 (93%)	199 (7%)	Grown from 2019	
2019	3,241	404	12		3,112 (96%)	129 (4%)		

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VOLUME COUNT			
	Date	Int	Total
	Tue 8/2/2022	60	3,967
	Wed 3/27/2019	15	3,486
	Tue 3/26/2019	15	3,148

VOLUME TREND ?	
Year	Annual Growth
2023	2%
2022	27%
2021	11%
2020	-13%
2019	-19%
2018	1%
2017	4%

CLASSIFICATION			
	Date	Int	Total
No Data			

NOTES/FILES			
	Note	Date	

Scheme Summary

Control Data

Control Data and Model Parameters

Challis Road at Bauer Road	2024 Synthetic Flow Profile (veh)
Scheme-1	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
AM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	No
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	EB Challis	0	0	11.00	1	15.00	1	33.00	66.00	30.00
2	NB Bauer	90	0	11.00	1	15.00	1	33.00	66.00	30.00
3	WB Challis	180	0	11.00	1	15.00	1	33.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	EB Challis	131.00	20.00	1	15.00	1	11.00	1
2	NB Bauer	131.00	20.00	1	15.00	1	11.00	1
3	WB Challis	131.00	20.00	1	15.00	1	11.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	EB Challis	0	1.000	0	1.000	12.00	1643	0	11.00	1643	0
2	NB Bauer	0	1.000	0	1.000	12.00	1643	0	11.00	1643	0
3	WB Challis	0	1.000	0	1.000	12.00	1643	0	11.00	1643	0

Traffic Flow Data (veh/hr)

2024 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows				Flow Modifiers	
		U-Turn	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	EB Challis	0	99	68	0	2.0	1.00
2	NB Bauer	0	69	281	0	2.0	1.00
3	WB Challis	0	217	29	0	2.0	1.00

2024 AM Peak Synthetic Flow Profile - Timeslice 7.5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	EB Challis	0.750	1.125	0.750	0	30	60
2	NB Bauer	0.750	1.125	0.750	0	30	60
3	WB Challis	0.750	1.125	0.750	0	30	60

Operational Results

2024 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	EB Challis	None	167		217		98	1069		0.1562	
2	NB Bauer	None	350		99		285	1133		0.3089	
3	WB Challis	None	246		69		380	1149		0.2140	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	EB Challis	None	3.93		3.93	0.56		A		A
2	NB Bauer	None	4.52		4.52	1.37		A		A
3	WB Challis	None	3.92		3.92	0.82		A		A

2024 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	EB Challis	None	188		245		110	1054		0.1786	
2	NB Bauer	None	395		112		321	1126		0.3504	
3	WB Challis	None	277		78		428	1145		0.2424	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
			1	EB Challis	None	4.00		4.00	0.56	
2	NB Bauer	None	4.68		4.68	1.37		A		A
3	WB Challis	None	3.99		3.99	0.82		A		A

Global Results

Performance and Accidents

2024 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	763		763
Capacity	veh/hr	3352		3352
Average Delay	sec/veh	4.20		4.20
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	0.89		0.89

Scheme Summary

Control Data

Control Data and Model Parameters

Challis Road at Bauer Road	2024 Synthetic Flow Profile (veh)
Scheme-1	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
PM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Available Data

Entry Capacity Calibrated	No
Entry Capacity Modified	No
Crosswalks	No
Flows Factored	No
Approach/Exit Road Capacity Calibrated	No
Accidents	No
Accident Costs	No
Bypass Model	No
Bypass Calibration	No
Global Results	Yes

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	EB Challis	0	0	11.00	1	15.00	1	33.00	66.00	30.00
2	NB Bauer	90	0	11.00	1	15.00	1	33.00	66.00	30.00
3	WB Challis	180	0	11.00	1	15.00	1	33.00	66.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	EB Challis	131.00	20.00	1	15.00	1	11.00	1
2	NB Bauer	131.00	20.00	1	15.00	1	11.00	1
3	WB Challis	131.00	20.00	1	15.00	1	11.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	EB Challis	0	1.000	0	1.000	12.00	1643	0	11.00	1643	0
2	NB Bauer	0	1.000	0	1.000	12.00	1643	0	11.00	1643	0
3	WB Challis	0	1.000	0	1.000	12.00	1643	0	11.00	1643	0

Traffic Flow Data (veh/hr)

2024 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows				Flow Modifiers	
		U-Turn	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor
1	EB Challis	0	81	97	0	2.0	1.00
2	NB Bauer	0	104	225	0	2.0	1.00
3	WB Challis	0	348	200	0	2.0	1.00

2024 PM Peak Synthetic Flow Profile - Timeslice 7.5 mins

Leg	Leg Names	Flow Ratios			Flow Times		
		Ratio 1	Ratio 2	Ratio 3	Time 1	Time 2	Time 3
1	EB Challis	0.750	1.125	0.750	0	30	60
2	NB Bauer	0.750	1.125	0.750	0	30	60
3	WB Challis	0.750	1.125	0.750	0	30	60

Operational Results

2024 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	EB Challis	None	178		348		304	998			0.1783
2	NB Bauer	None	329		81		445	1143			0.2879
3	WB Challis	None	548		104		306	1130			0.4848

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	EB Challis	None	4.33		4.33	0.67		A		A
2	NB Bauer	None	4.35		4.35	1.23		A		A
3	WB Challis	None	6.08		6.08	2.98		A		A

2024 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	EB Challis	None	201		392		343	974		0.2060	
2	NB Bauer	None	371		91		502	1137		0.3262	
3	WB Challis	None	618		117		345	1123		0.5502	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	EB Challis	None	4.46		4.46	0.67		A		A
2	NB Bauer	None	4.48		4.48	1.23		A		A
3	WB Challis	None	6.56		6.56	2.98		A		A

Global Results

Performance and Accidents

2024 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1055		1055
Capacity	veh/hr	3271		3271
Average Delay	sec/veh	5.24		5.24
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	1.54		1.54

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Exhibit 20-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular movement is a function of the number of vehicles in queue, the number of vehicles in the queue, and the number of vehicles in the queue.

When signals are present on the major street, upstream of the subject intersection, flows may not be random but will likely have some platoon structure. Although the procedures in this chapter provide a method for approximating the operations of a TWSC intersection with an upstream signal, the operations of such an intersection is arguably best handled by including it in a complete simulation.

Exhibit 20-2. Level of Service Criteria for Stop-Controlled Intersections (Motor Vehicles)

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. A total delay of 50 sec/veh is assumed as the break point between LOS E and F.

Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection.

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Source: Highway Capacity Manual, 6th Edition. Transportation Research Board, National Research Council

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle. The criteria are given in Exhibit 19-8. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

LOS A describes operations with a control delay of 10 s/veh or less. This level is typically assigned when the volume-to-capacity ratio is low and either progression is extremely favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during a green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

Exhibit 19.8. Level-of-Service Criteria for Signalized Intersections (Motorized Vehicles)

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

1. If the v/c ratio for a lane group exceeds 1.0, a LOS F is assigned to the individual lane group. LOS for approach-based and intersection-wide assessments are determined solely by the control delay.

LOS C describes operations with control delay between 20 and 35 s/veh. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e. one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicle stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55 s/veh. This level is typically assigned when when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80 s/veh. This level is typically assigned when when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level, considered to be unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of the intersection. This level is typically assigned when the volume-to-capacity ratio is high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Highway Capacity Manual, 6th Edition. Transportation Research Board, National Research Council

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	3	266	109	8	24	10
Future Vol, veh/h	3	266	109	8	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	75	84	92	92	92
Heavy Vehicles, %	2	13	11	2	2	2
Mvmt Flow	3	355	130	9	26	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	138	0	-	0	495 134
Stage 1	-	-	-	-	134 -
Stage 2	-	-	-	-	361 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1445	-	-	-	534 915
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	705 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1445	-	-	-	532 915
Mov Cap-2 Maneuver	-	-	-	-	532 -
Stage 1	-	-	-	-	890 -
Stage 2	-	-	-	-	705 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.07	0	11.32
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	16	-	-	-	607
HCM Lane V/C Ratio	0.002	-	-	-	0.061
HCM Control Delay (s/veh)	7.5	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	10	125	344	28	16	6
Future Vol, veh/h	10	125	344	28	16	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	88	91	92	92	92
Heavy Vehicles, %	2	14	10	2	2	2
Mvmt Flow	11	142	378	30	17	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	408	0	-	0	557 393
Stage 1	-	-	-	-	393 -
Stage 2	-	-	-	-	164 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1150	-	-	-	491 656
Stage 1	-	-	-	-	682 -
Stage 2	-	-	-	-	865 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1150	-	-	-	486 656
Mov Cap-2 Maneuver	-	-	-	-	486 -
Stage 1	-	-	-	-	675 -
Stage 2	-	-	-	-	865 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.58	0	12.21
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	128	-	-	-	523
HCM Lane V/C Ratio	0.009	-	-	-	0.046
HCM Control Delay (s/veh)	8.2	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection: 1: Challis Road & Site Drive

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	11	49
Average Queue (ft)	0	21
95th Queue (ft)	5	46
Link Distance (ft)	1397	448
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Challis Road & Site Drive

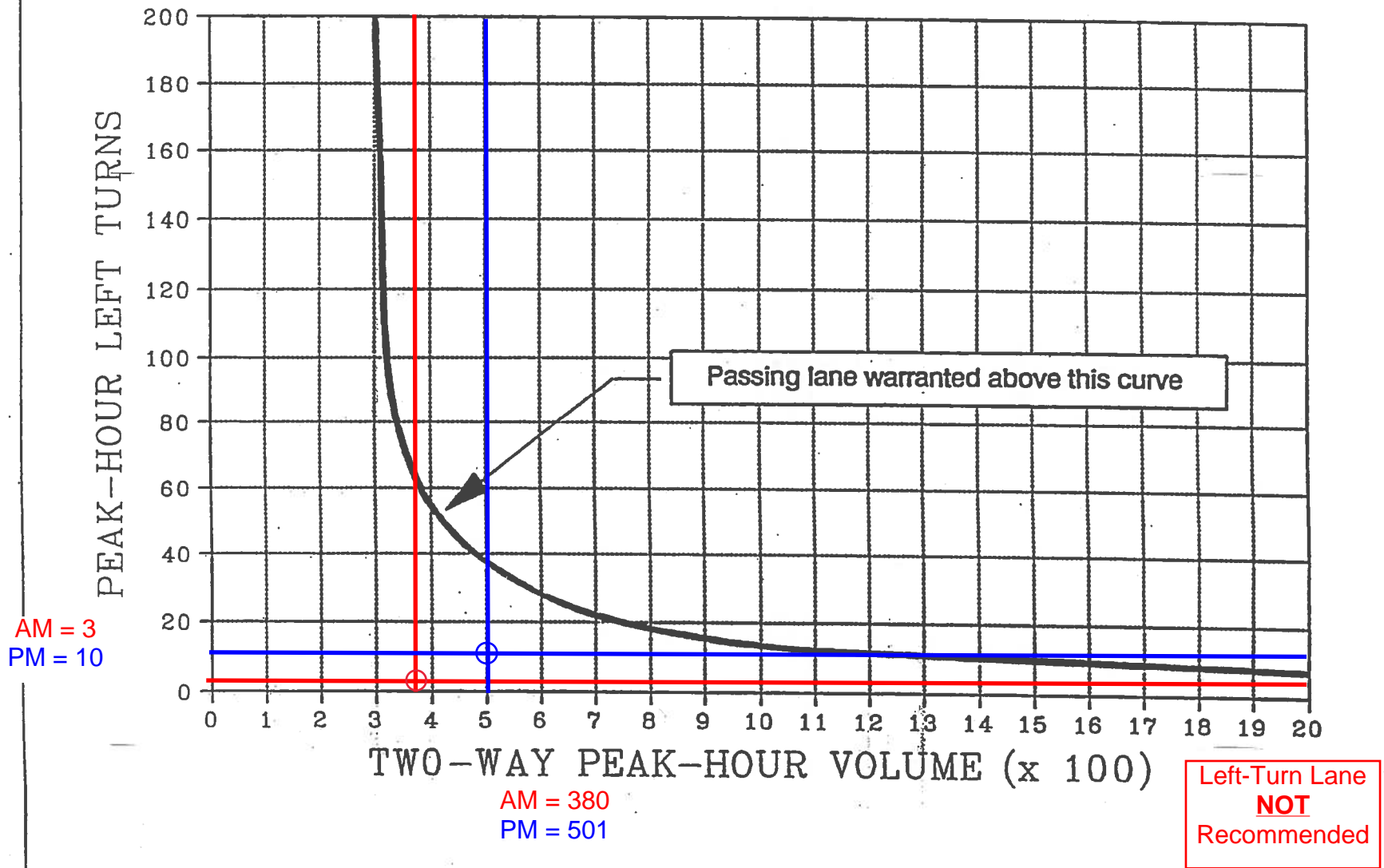
Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	46	35
Average Queue (ft)	3	16
95th Queue (ft)	20	40
Link Distance (ft)	1397	448
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

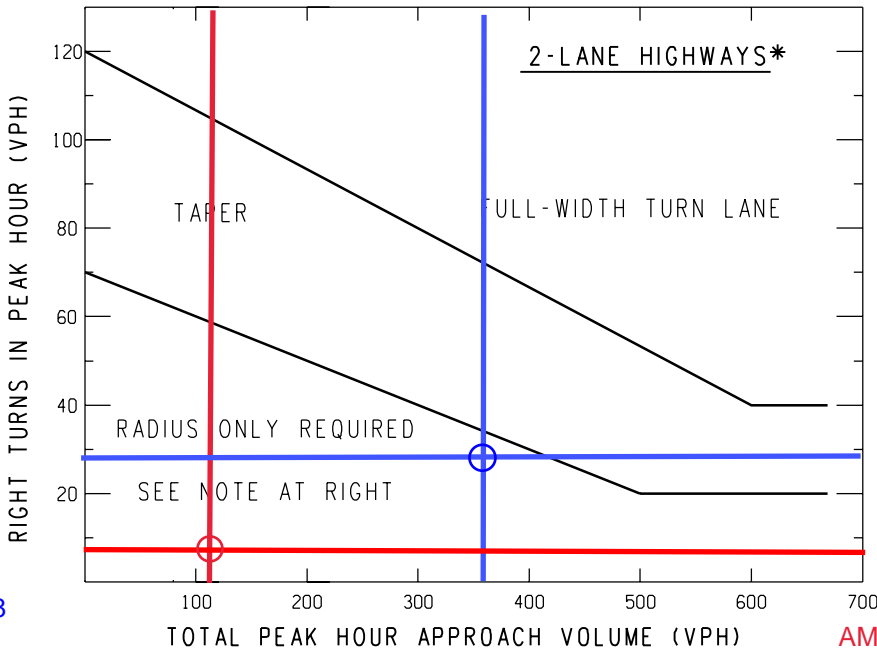
Challis Road & Site Drive

LEFT TURN PASSING LANE WARRANT (Based on Total Development)



A.15

Challis Road & Site Drive



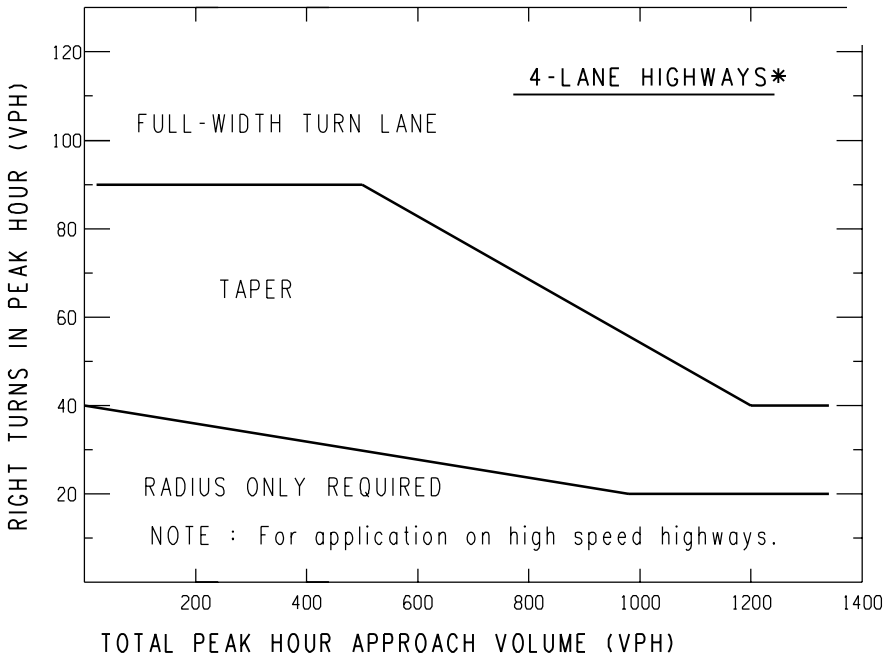
NOTE:
For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = Peak hour right turns - 20

**RT Treatment
NOT
Recommended**

AM=8
MD=28

AM=115
MD=367




*If a center left-turn lane exists (i.e. 3 or 5 lane highway), subtract the number of left turns in approach volume from the total approach volume to get an adjusted total approach volume.

Sample Problem:

The Design Speed is 55 mph. The Peak Hour Approach Volume is 300 vph. The Number of Right Turns in the Peak Hour is 100 vph. Determine if a right turn lane is recommended.

Solution:

Figure indicates that the intersection of 300 vph and 100 vph is located above the upper trend line; thus, a right-turn lane may be recommended.

 TRAFFIC AND SAFETY NOTE	TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS	
	DRAWN BY: MTS	08/05/2004
CHECKED BY: JAT	PLAN DATE:	604A 117
FILE: K:\DGN\ts notes\Note604A tsn.dgn		SHEET 2 OF 2 REV. 08/05/2004

ENGINEER/SURVEYOR



LAND DEVELOPMENT SERVICES

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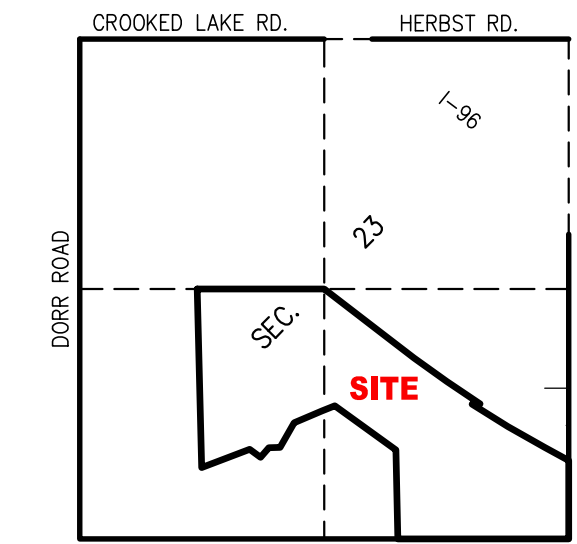
DEVELOPER/APPLICANT



PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD
BLDG D, SUITE 320
TROY, MI 48063
PHONE: (248) 647-2750

CONCEPTUAL CLUSTER R.P.U.D. PLAN LEGACY HILLS

SECTION 23, TOWN 2 NORTH, RANGE 5 EAST
GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN



VICINITY MAP
SEC. 23, T. 2 N., R. 5 E.
1" = 2000'

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

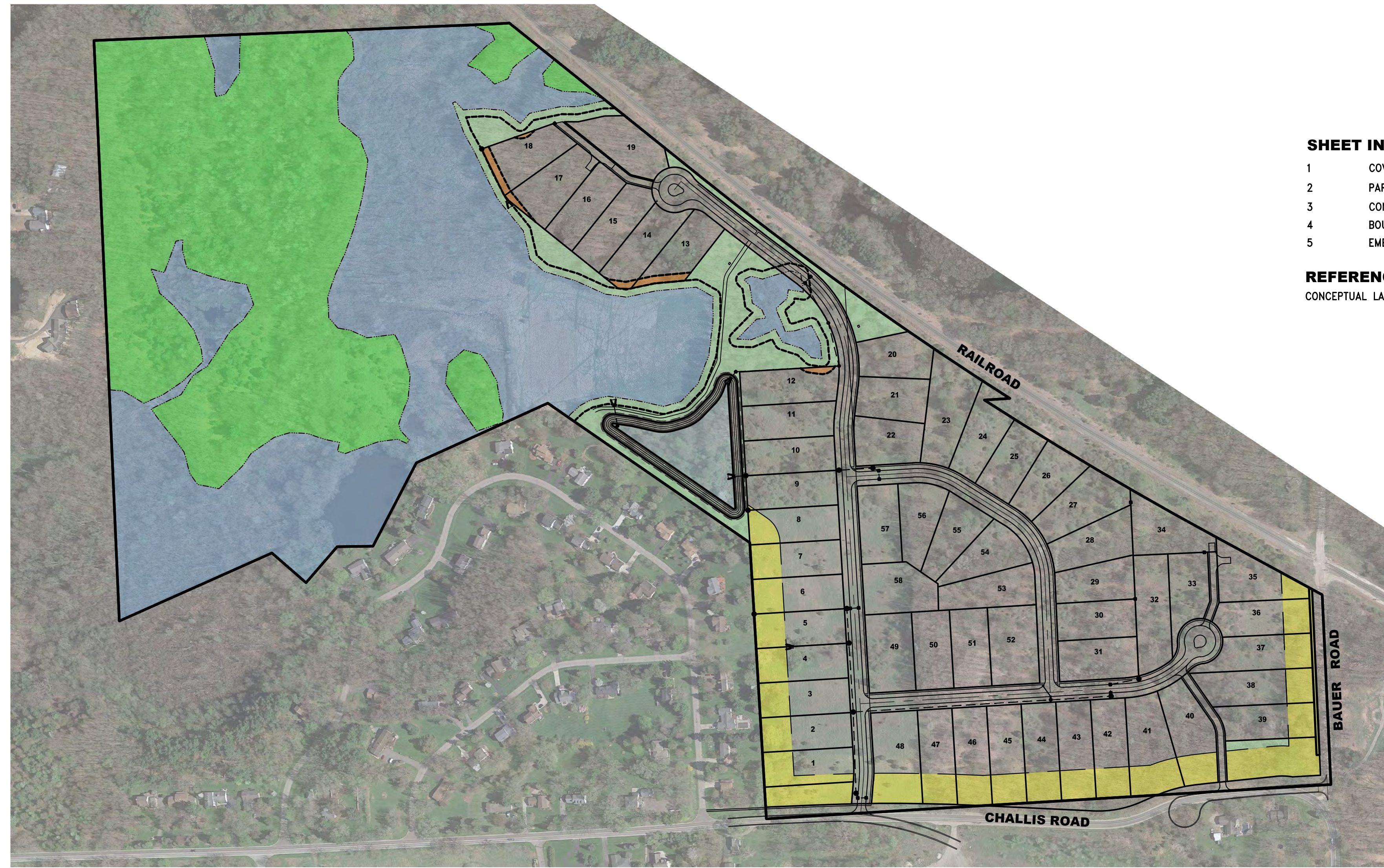


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SHEET INDEX

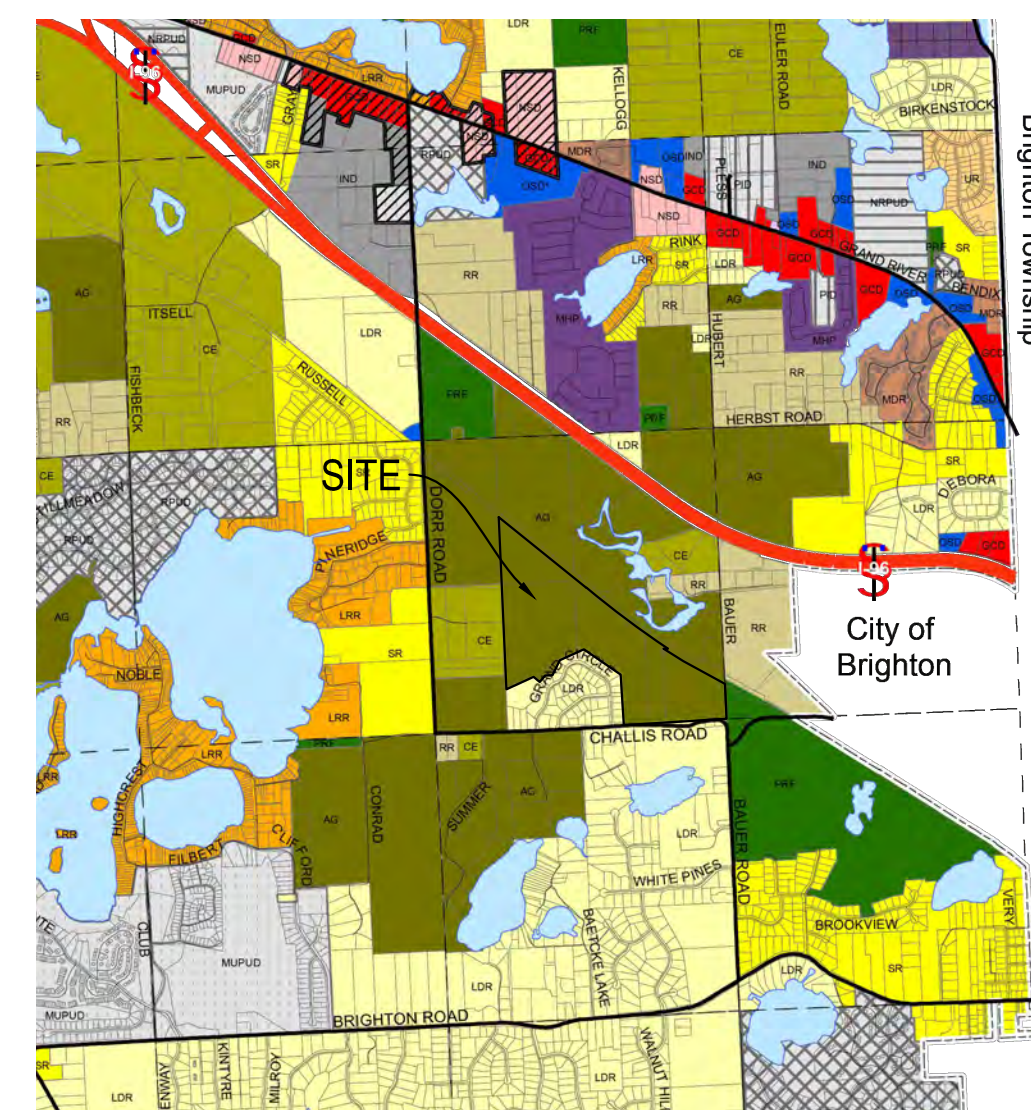
- 1 COVER
- 2 PARALLEL SITE PLAN
- 3 CONCEPTUAL CLUSTER PLAN
- 4 BOUNDARY & TOPOGRAPHIC SURVEY
- 5 EMERGENCY VEHICLE CIRCULATION PLAN

REFERENCE

CONCEPTUAL LANDSCAPE PLAN SHEETS 1-6

GENOA TOWNSHIP ZONING MAP & LEGEND

EXISTING ZONING: AG
PROPOSED ZONING: LDR
FINAL ZONING: PUD



Zoning Map
Genoa Charter Township
Livingston County, Michigan

Legend

AG	GC
CE	NS
RR	OS
LDR	NRPUD
SR	IND
LRR	PID
UR	PRF
MDR	MUPUD
HDR	RDPUD
RPUD	Town Center
MHP	CAPUD
RC	ICPUD

SEPTIC & WELL NOTE:

ON-SITE SEPTIC AND INDIVIDUAL WELLS ARE PROPOSED TO SERVE EACH UNIT. WE HAVE CONCEPTUAL APPROVAL FOR WELL AND SEPTIC SYSTEMS FROM THE LDR.

MORE THAN 120 TEST HOLES WERE COMPLETED CONFIRMING THE SOILS ARE SUITABLE TO SUPPORT ON-SITE SEPTIC SYSTEMS.

A HYDRO-GEOLOGICAL ANALYSIS WAS PERFORMED BY MACDOWELL AND ASSOCIATES CONFIRMING ADEQUATE QUALITY AND QUANTITY OF WATER FOR INDIVIDUAL WELLS.

THE AQUIFER ALSO YIELDED ADEQUATE FLOW CAPACITY FOR FIRE SUPPRESSION WELLS.

STORMWATER NOTE:

THE SITE GENERALLY DRAINS TO THE CENTRALLY LOCATED WETLAND AREA AND STORM WATER WILL BE DIRECTED TO A DETENTION BASIN WITH SEDIMENT REMOVED PRIOR TO THE REGULATED OUTLET INTO THE WETLAND.

GENERAL NOTES:

- 1) A H.O.A. WILL BE SETUP FOR MAINTENANCE.
- 2) CONSTRUCTION IMPROVEMENTS WILL BE SECURED BY A BOND.
- 3) TREES AND WOODLANDS WILL BE PRESERVED AS SHOWN ON THE SITE PLAN, OR REPLACED BY RESOLUTION OF THE TOWNSHIP BOARD.

PATHWAY NOTE:

ACTIVE RECREATIONAL COMPONENT

LEGACY HILLS WILL INCLUDE ±2700 LF OF WALKING PATH.

LOCATION TO BE FINALIZED DURING FINAL ENGINEERING.

EITHER

A) PATH AND BOARDWALK IN OPEN SPACE PRESERVATION AREA

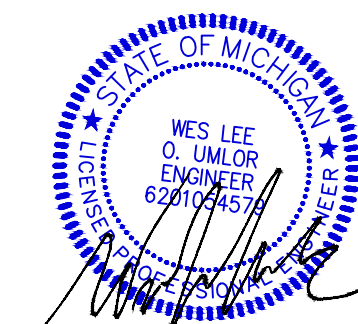
OR

B) CONNECT TO ROUNDABOUT VIA & THROUGH PUBLIC R.O.W.

DIMENSIONAL DEVIATIONS

DESCRIPTION	REQUIRED	PUD PROVIDED
AREA FOR SEPTIC & WELL	43,560 S.F.	32,670 S.F.
CUL-DE-SAC LENGTH	1000 FT.	1200 FT.
WETLAND SETBACK	50 FT.	50 FT.*
MINIMUM LOT AREA-LDR	43,560 S.F.	32,670 S.F.
MINIMUM LOT WIDTH-LDR	150 FT.	115 FT.
MINIMUM SIDEYARD-LDR	30 FT.	20 FT.
SIDEYARD TOTAL-LDR	60 FT.	50 FT.

* Except where there is approved wetland impact, in those cases the proposed wetland buffer is less than 50' as noted on the construction documents.



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SECTION 23
T. 2 N., R. 5 E.
GENOA TOWNSHIP
LIVINGSTON CO., MICHIGAN

DATE: 8/26/2024
REVISIONS
9/27/2024
11/1/2024

DR BY: SA
CK BY: SA
P.M. SA
SCALE: 0 125 250

JOB NO. 231213
SHEET NO. 1

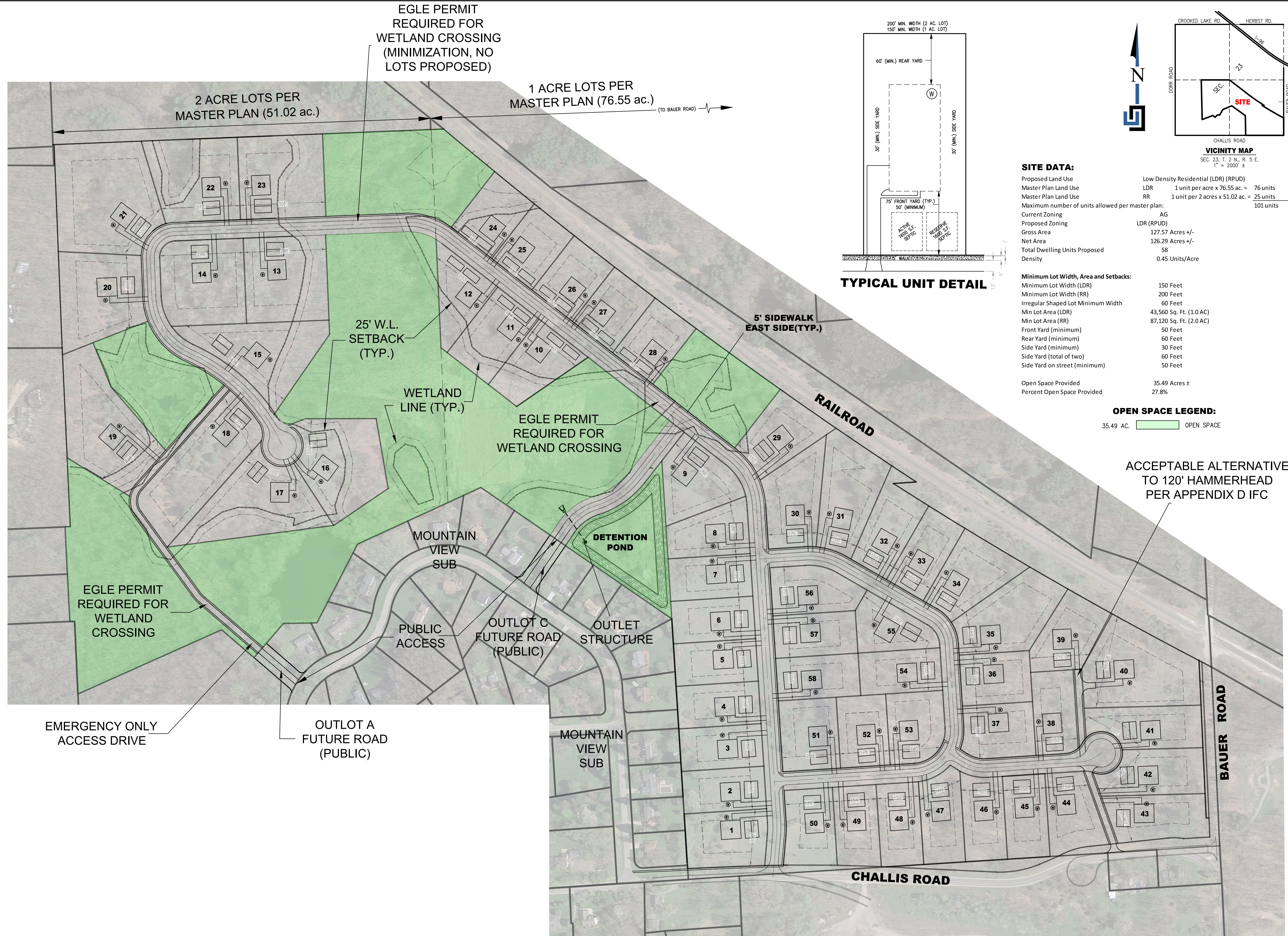
LEGACY HILLS
PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
TROY, MICHIGAN 48063

COVER

DR BY: SA
CK BY: SA
P.M. SA
SCALE: 0 125 250

JOB NO. 231213
SHEET NO. 1

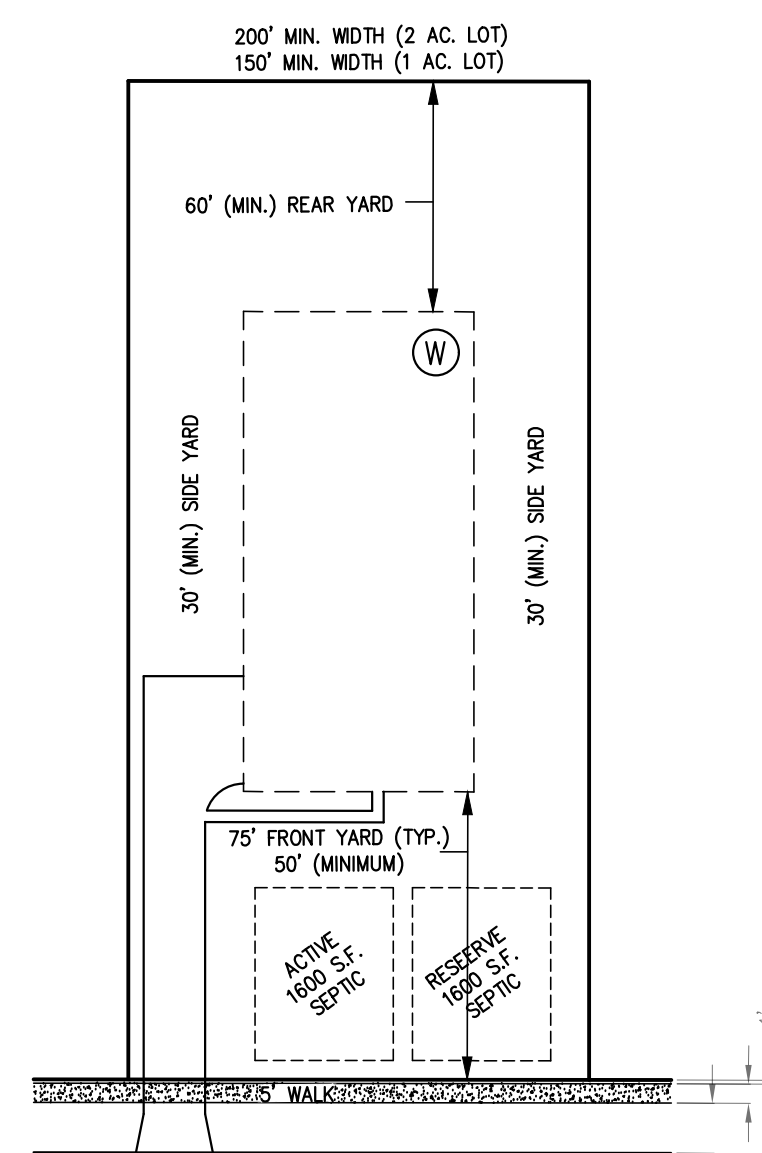
SHEET 1 OF 5



EGLE PERMIT
REQUIRED FOR
WETLAND CROSSING
(MINIMIZATION, NO
LOTS PROPOSED)

2 ACRE LOTS PER
MASTER PLAN (51.02 ac.)

1 ACRE LOTS PER
MASTER PLAN (76.55 ac.)
(TO BAUER ROAD)



TYPICAL UNIT DETAIL

SITE DATA:

Proposed Land Use	Low Density Residential (LDR) (RPUD)
Master Plan Land Use	LDR 1 unit per acre x 76.55 ac. = 76 units
Master Plan Land Use	RR 1 unit per 2 acres x 51.02 ac. = 25 units
Maximum number of units allowed per master plan:	101 units
Current Zoning	AG
Proposed Zoning	LDR (RPUD)
Gross Area	127.57 Acres +/-
Net Area	126.29 Acres +/-
Total Dwelling Units Proposed	58
Density	0.45 Units/Acre

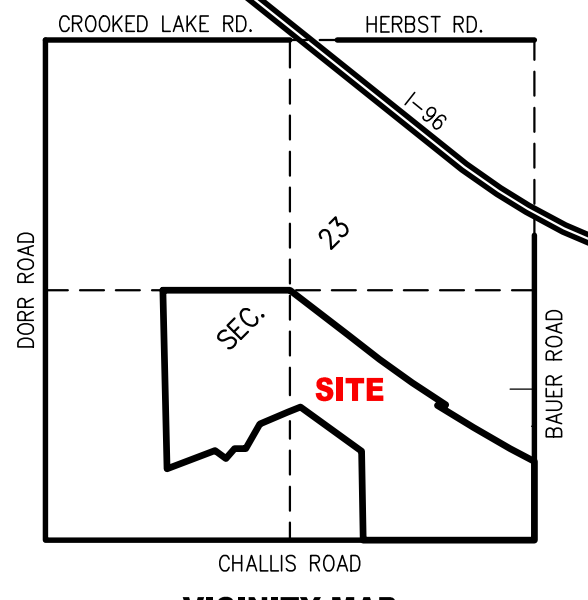
Minimum Lot Width, Area and Setbacks:

Minimum Lot Width (LDR)	150 Feet
Minimum Lot Width (RR)	200 Feet
Irregular Shaped Lot Minimum Width	60 Feet
Min Lot Area (LDR)	43,560 Sq. Ft. (1.0 AC)
Min Lot Area (RR)	87,120 Sq. Ft. (2.0 AC)
Front Yard (minimum)	50 Feet
Rear Yard (minimum)	60 Feet
Side Yard (minimum)	30 Feet
Side Yard (total of two)	60 Feet
Side Yard on street (minimum)	50 Feet

Open Space Provided	35.49 Acres ±
Percent Open Space Provided	27.8%

OPEN SPACE LEGEND:

35.49 AC. OPEN SPACE



VICINITY MAP
SEC. 23, T. 2 N., R. 5 E.
1" = 2000' ±

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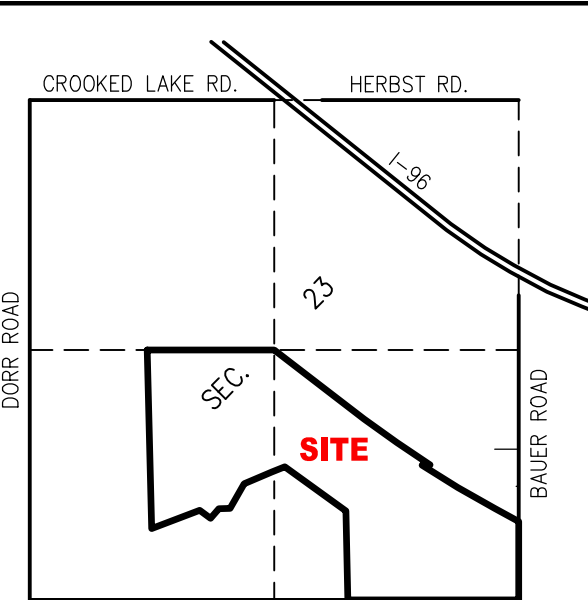
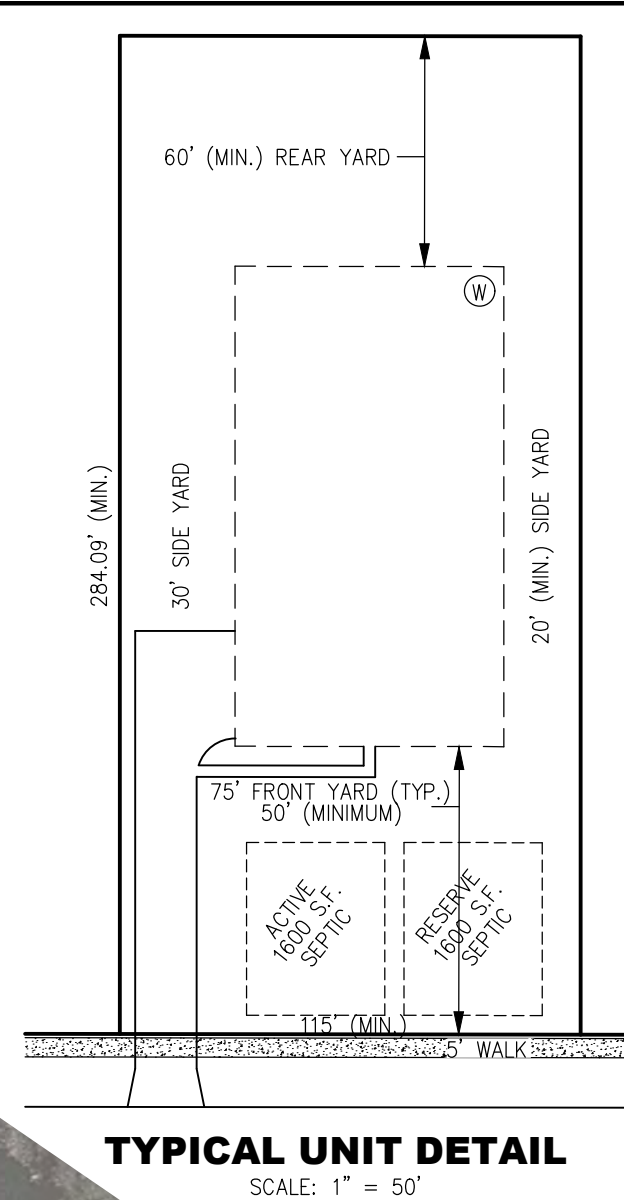
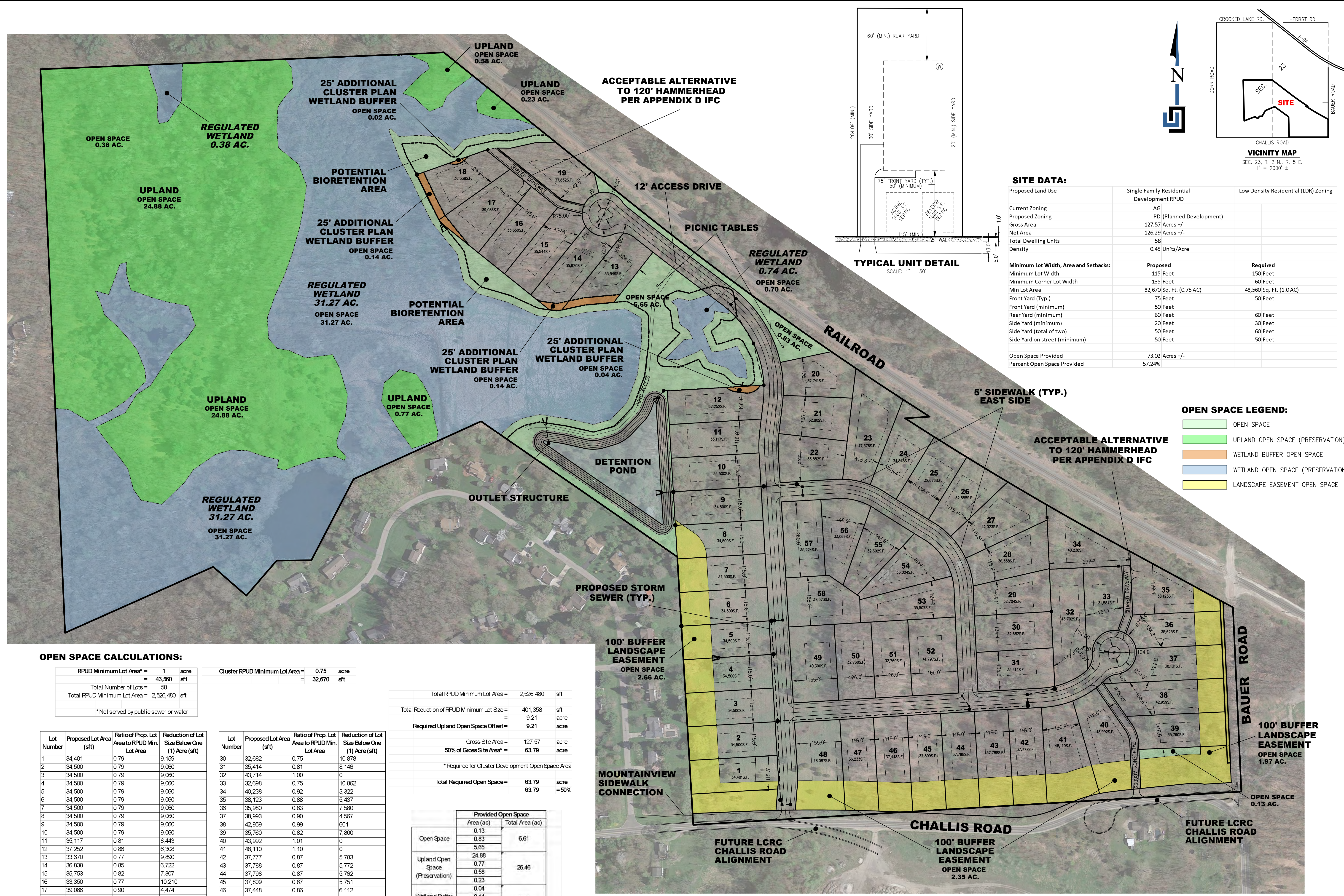
SECTION 23
T. 2 N., R. 5 E.
GENOA TOWNSHIP
LIVINGSTON CO., MICHIGAN

DATE: 8/26/2024

REVISIONS
9/27/2024
11/1/2024
11/26/2024

CLIENT:	LEGACY HILLS
CLIENT:	PULTE HOMES OF MICHIGAN
CLIENT:	2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
CLIENT:	TROY, MI 48063

DR BY:	SF
CK BY:	SA
P.M.:	SA
SCALE:	0 75 150
JOB NO.:	231213
SHEET NO.:	2
SHEET 2 OF 5	



SITE DATA:

Proposed Land Use	Single Family Residential Development RPUD	Low Density Residential (LDR) Zoning
Current Zoning	AG	
Proposed Zoning	PD (Planned Development)	
Gross Area	127.57 Acres +/-	
Net Area	126.29 Acres +/-	
Total Dwelling Units	58	
Density	0.45 Units/Acre	
Minimum Lot Width, Area and Setbacks:	Proposed	Required
Minimum Lot Width	115 Feet	150 Feet
Minimum Corner Lot Width	135 Feet	60 Feet
Min Lot Area	32,670 Sq. Ft. (0.75 AC)	43,560 Sq. Ft. (1.0 AC)
Front Yard (Typ.)	75 Feet	50 Feet
Front Yard (minimum)	50 Feet	50 Feet
Rear Yard (minimum)	60 Feet	60 Feet
Side Yard (minimum)	20 Feet	30 Feet
Side Yard (total of two)	50 Feet	60 Feet
Side Yard on street (minimum)	50 Feet	50 Feet
Open Space Provided	73.02 Acres +/-	
Percent Open Space Provided	57.24%	

OPEN SPACE LEGEND:

- OPEN SPACE
- UPLAND OPEN SPACE (PRESERVATION)
- WETLAND BUFFER OPEN SPACE
- WETLAND OPEN SPACE (PRESERVATION)
- LANDSCAPE EASEMENT OPEN SPACE

OPEN SPACE CALCULATIONS:

RPUD Minimum Lot Area* = 1 acre	Cluster RPUD Minimum Lot Area = 0.75 acre
= 43,860 sqft	= 32,670 sqft
Total Number of Lots = 58	
Total RPUD Minimum Lot Area = 2,526,480 sqft	

* Not served by public sewer or water

Lot Number	Proposed Lot Area (sqft)	Ratio of Prop. Lot Area to RPUD Min. Lot Area	Reduction of Lot Size Below One (1) Acre (sqft)
1	34,401	0.79	9,159
2	34,500	0.79	9,060
3	34,500	0.79	9,060
4	34,500	0.79	9,060
5	34,500	0.79	9,060
6	34,500	0.79	9,060
7	34,500	0.79	9,060
8	34,500	0.79	9,060
9	34,500	0.79	9,060
10	34,500	0.79	9,060
11	35,117	0.81	8,443
12	37,252	0.86	6,308
13	33,670	0.77	9,890
14	36,838	0.85	6,722
15	35,753	0.82	7,807
16	33,350	0.77	10,210
17	39,086	0.90	4,474
18	36,538	0.84	7,022
19	38,163	0.88	5,397
20	32,741	0.75	10,819
21	32,802	0.75	10,758
22	33,552	0.77	10,008
23	47,376	1.09	0
24	34,845	0.80	8,715
25	32,676	0.75	10,884
26	32,888	0.76	10,672
27	42,023	0.96	1,537
28	36,558	0.84	7,002
29	32,704	0.75	10,856

Lot Number	Proposed Lot Area (sqft)	Ratio of Prop. Lot Area to RPUD Min. Lot Area	Reduction of Lot Size Below One (1) Acre (sqft)
30	32,682	0.75	10,878
31	35,414	0.81	8,146
32	43,714	1.00	0
33	32,698	0.75	10,862
34	40,238	0.92	3,322
35	38,123	0.88	5,437
36	35,980	0.83	7,580
37	38,993	0.90	4,567
38	42,959	0.99	601
39	35,760	0.82	7,800
40	43,992	1.01	0
41	48,110	1.10	0
42	37,777	0.87	5,783
43	37,788	0.87	5,772
44	37,798	0.87	5,762
45	37,809	0.87	5,751
46	37,448	0.86	6,112
47	36,233	0.83	7,327
48	48,087	1.10	0
49	40,300	0.93	3,260
50	32,760	0.75	10,800
51	32,760	0.75	10,800
52	41,797	0.96	1,763
53	35,507	0.82	8,053
54	33,004	0.76	10,556
55	32,692	0.75	10,868
56	33,069	0.76	10,491
57	35,224	0.81	8,336
58	37,573	0.86	5,987

Total RPUD Minimum Lot Area = 2,526,480 sqft

Total Reduction of RPUD Minimum Lot Size = 401,358 sqft = 9.21 acre

Required Upland Open Space Offset = 9.21 acre

Gross Site Area = 127.57 acre

50% of Gross Site Area* = 63.79 acre

* Required for Cluster Development Open Space Area

Total Required Open Space = 63.79 acre = 50%

	Area (ac)	Total Area (ac)
Open Space	0.13	6.61
Upland Open Space	0.83	5.85
Wetland Buffer Open Space	24.88	26.46
Wetland Open Space (Preservation)	0.77	0.58
Landscape Easement Open Space	0.23	2.35
Open Space	0.04	0.33
Open Space	0.14	0.33
Open Space	0.01	0.33
Open Space	31.27	32.35
Open Space	0.70	0.38
Open Space	2.66	7.27
Open Space	1.97	7.27

Required Open Space = 63.79 acre

Provided Open Space = 73.02 acre

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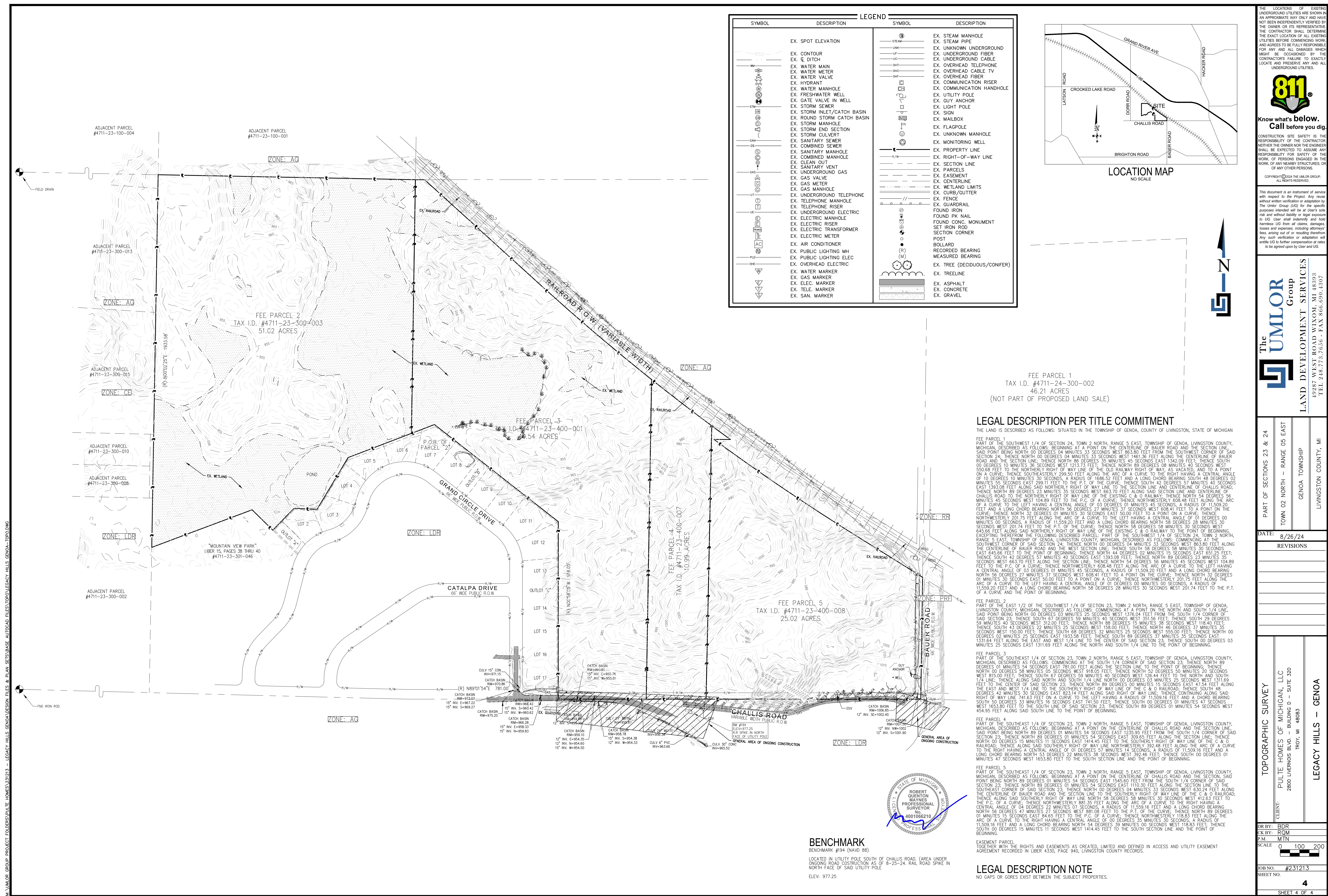
REVISIONS
9/27/2024
11/1/2024

CLIENT:
PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
TROY, MICHIGAN 48063

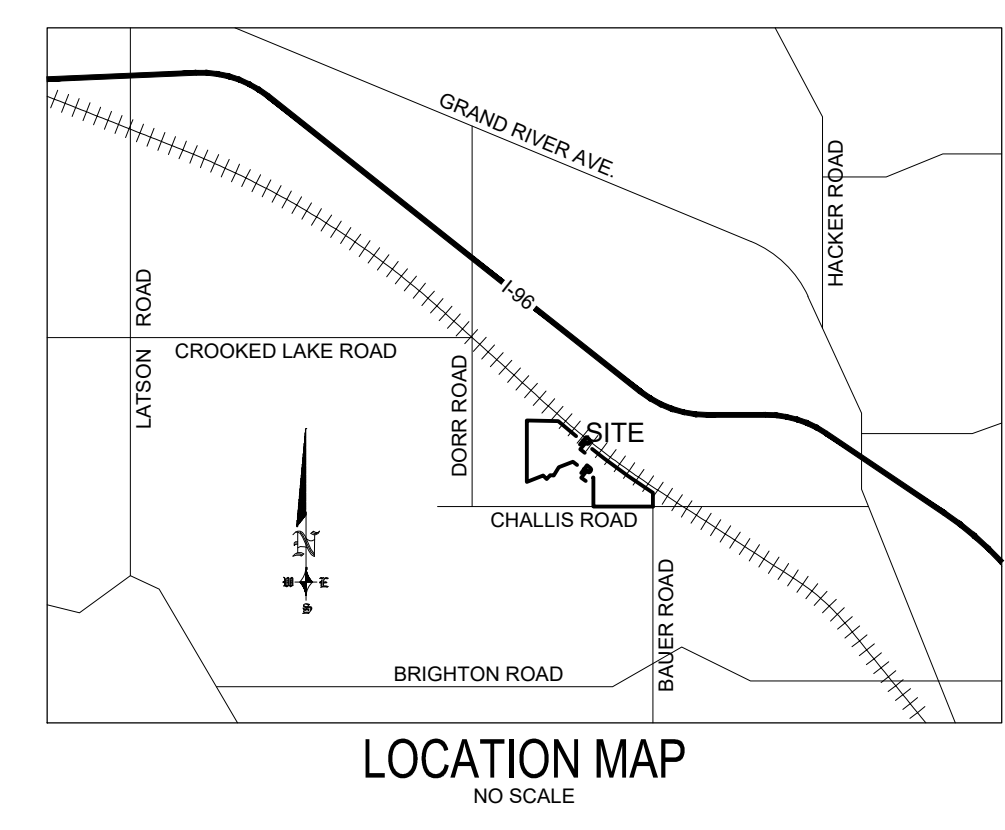
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CK BY: SA/BB
P.M. MN
SCALE: 0 75 150

JOB NO. 231213
SHEET NO. 3
SHEET 3 OF 5

UMLOR GROUP PROJECT LOGS/DESIGN FILES & PLAN SETS/BASE AUTOCAD FILES/TOPO/LEGACY HILLS GENOA-TOPODWG



SYMBOL		DESCRIPTION	
(Symbol)	EX. SPOT ELEVATION	(Symbol)	EX. STEAM MANHOLE
(Symbol)	EX. CONTOUR	(Symbol)	EX. STEAM PIPE
(Symbol)	EX. DITCH	(Symbol)	EX. UNKNOWN UNDERGROUND
(Symbol)	EX. WATER MAIN	(Symbol)	EX. UNDERGROUND CABLE
(Symbol)	EX. WATER METER	(Symbol)	EX. OVERHEAD TELEPHONE
(Symbol)	EX. WATER VALVE	(Symbol)	EX. OVERHEAD CABLE TV
(Symbol)	EX. HYDRANT	(Symbol)	EX. OVERHEAD FIBER
(Symbol)	EX. WATER MANHOLE	(Symbol)	EX. COMMUNICATION RISER
(Symbol)	EX. FRESHWATER WELL	(Symbol)	EX. COMMUNICATION HANDHOLE
(Symbol)	EX. GATE VALVE IN WELL	(Symbol)	EX. UTILITY POLE
(Symbol)	EX. STORM SEWER	(Symbol)	EX. GUY ANCHOR
(Symbol)	EX. STORM INLET/CATCH BASIN	(Symbol)	EX. LIGHT POLE
(Symbol)	EX. ROUND STORM CATCH BASIN	(Symbol)	EX. SIGN
(Symbol)	EX. STORM MANHOLE	(Symbol)	EX. MAILBOX
(Symbol)	EX. STORM END SECTION	(Symbol)	EX. FLAGPOLE
(Symbol)	EX. STORM CULVERT	(Symbol)	EX. UNKNOWN MANHOLE
(Symbol)	EX. SANITARY SEWER	(Symbol)	EX. MONITORING WELL
(Symbol)	EX. COMBINED SEWER	(Symbol)	EX. PROPERTY LINE
(Symbol)	EX. SANITARY MANHOLE	(Symbol)	EX. RIGHT-OF-WAY LINE
(Symbol)	EX. COMBINED MANHOLE	(Symbol)	EX. SECTION LINE
(Symbol)	EX. CLEAN OUT	(Symbol)	EX. PARCELS
(Symbol)	EX. SANITARY VENT	(Symbol)	EX. EASEMENT
(Symbol)	EX. UNDERGROUND GAS	(Symbol)	EX. CENTERLINE
(Symbol)	EX. GAS VALVE	(Symbol)	EX. WETLAND LIMITS
(Symbol)	EX. GAS METER	(Symbol)	EX. CURB/GUTTER
(Symbol)	EX. GAS MANHOLE	(Symbol)	EX. FENCE
(Symbol)	EX. UNDERGROUND TELEPHONE	(Symbol)	EX. GUARDRAIL
(Symbol)	EX. TELEPHONE MANHOLE	(Symbol)	FOUND IRON
(Symbol)	EX. TELEPHONE RISER	(Symbol)	FOUND PK NAIL
(Symbol)	EX. UNDERGROUND ELECTRIC	(Symbol)	FOUND CONC. MONUMENT
(Symbol)	EX. ELECTRIC MANHOLE	(Symbol)	SET IRON ROD
(Symbol)	EX. ELECTRIC RISER	(Symbol)	SECTION CORNER
(Symbol)	EX. ELECTRIC TRANSFORMER	(Symbol)	POST
(Symbol)	EX. ELECTRIC METER	(Symbol)	BOLLARD
(Symbol)	EX. AIR CONDITIONER	(Symbol)	RECORDED BEARING
(Symbol)	EX. PUBLIC LIGHTING MH	(Symbol)	MEASURED BEARING
(Symbol)	EX. PUBLIC LIGHTING ELEC	(Symbol)	EX. TREE (DECIDUOUS/CONIFER)
(Symbol)	EX. OVERHEAD ELECTRIC	(Symbol)	EX. TREELINE
(Symbol)	EX. WATER MARKER	(Symbol)	EX. ASPHALT
(Symbol)	EX. GAS MARKER	(Symbol)	EX. CONCRETE
(Symbol)	EX. ELEC. MARKER	(Symbol)	EX. GRAVEL
(Symbol)	EX. TELE. MARKER		
(Symbol)	EX. SAN. MARKER		



THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

811
Know what's below.
Call before you dig.

CONSTRUCTION SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS ENGAGED IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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The UMLOR Group
LAND DEVELOPMENT SERVICES
49287 WEST ROAD WIXOM, MI 48393
TEL 248.773.7656 - FAX 866.690.1507

ADJACENT PARCEL #4711-23-100-004
ADJACENT PARCEL #4711-23-100-001
ADJACENT PARCEL #4711-23-300-013
ADJACENT PARCEL #4711-23-300-015
ADJACENT PARCEL #4711-23-300-010
ADJACENT PARCEL #4711-23-300-008
ADJACENT PARCEL #4711-23-300-002

LEGAL DESCRIPTION PER TITLE COMMITMENT

THE LAND IS DESCRIBED AS FOLLOWS: SITUATED IN THE TOWNSHIP OF GENOA, COUNTY OF LIVINGSTON, STATE OF MICHIGAN

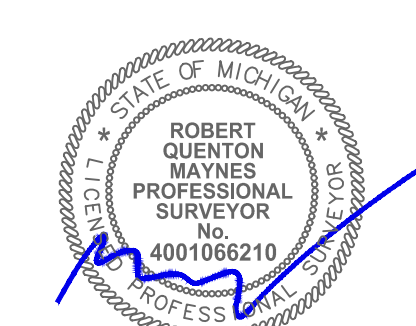
FEE PARCEL 1
PART OF THE SOUTHWEST 1/4 OF SECTION 24, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE, SAID POINT BEING NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 863.80 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 24; THENCE NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 1461.36 FEET ALONG THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE; THENCE NORTH 88 DEGREES 35 MINUTES 45 SECONDS EAST 1342.09 FEET; THENCE SOUTH 00 DEGREES 10 MINUTES 30 SECONDS WEST 1213.73 FEET; THENCE NORTH 89 DEGREES 08 MINUTES 40 SECONDS WEST 550.68 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF THE OLD RAILWAY RIGHT OF WAY, AS VACATED, AND TO A POINT ON A CURVE, THENCE SOUTHEASTERLY 299.50 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 10 DEGREES 10 MINUTES 30 SECONDS, A RADIUS OF 1686.52 FEET AND A LONG CHORD BEARING SOUTH 48 DEGREES 02 MINUTES 35 SECONDS EAST 299.11 FEET TO THE P.T. OF THE CURVE; THENCE SOUTH 42 DEGREES 57 MINUTES 40 SECONDS EAST 1393.08 FEET ALONG SAID NORTHERLY RIGHT OF WAY LINE TO THE SECTION LINE AND CENTERLINE OF CHALLIS ROAD; THENCE NORTH 89 DEGREES 23 MINUTES 35 SECONDS WEST 663.70 FEET ALONG SAID SECTION LINE AND CENTERLINE OF CHALLIS ROAD TO THE NORTHERLY RIGHT OF WAY LINE OF THE EXISTING C & O RAILWAY; THENCE NORTH 54 DEGREES 56 MINUTES 45 SECONDS WEST 104.89 FEET TO THE P.T. OF A CURVE; THENCE NORTHWESTERLY 608.48 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 03 DEGREES 04 MINUTES 45 SECONDS, A RADIUS OF 11,509.20 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 27 MINUTES 37 SECONDS WEST 608.41 FEET TO A POINT ON THE CURVE; THENCE NORTH 32 DEGREES 01 MINUTES 30 SECONDS EAST 50.00 FEET TO A POINT ON A CURVE; THENCE NORTHWESTERLY 201.74 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 01 DEGREE 00 MINUTES 00 SECONDS, A RADIUS OF 11,509.20 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 27 MINUTES 37 SECONDS WEST 608.41 FEET TO THE POINT OF BEGINNING, EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCEL: PART OF THE SOUTHWEST 1/4 OF SECTION 24, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 24; THENCE NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 863.80 FEET ALONG THE CENTERLINE OF BAUER ROAD AND THE WEST SECTION LINE; THENCE SOUTH 58 DEGREES 58 MINUTES 30 SECONDS EAST 845.66 FEET TO THE POINT OF BEGINNING; THENCE NORTH 14 DEGREES 02 MINUTES 15 SECONDS EAST 651.25 FEET; THENCE SOUTH 42 DEGREES 57 MINUTES 40 SECONDS EAST 1393.08 FEET; THENCE NORTH 89 DEGREES 23 MINUTES 35 SECONDS WEST 663.70 FEET ALONG THE SECTION LINE; THENCE NORTH 54 DEGREES 56 MINUTES 45 SECONDS WEST 104.89 FEET TO THE P.T. OF A CURVE; THENCE NORTHWESTERLY 608.48 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 03 DEGREES 01 MINUTES 45 SECONDS, A RADIUS OF 11,509.20 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 27 MINUTES 37 SECONDS WEST 608.41 FEET TO A POINT ON THE CURVE; THENCE NORTH 32 DEGREES 01 MINUTES 30 SECONDS EAST 50.00 FEET TO A POINT ON A CURVE; THENCE NORTHWESTERLY 201.74 FEET TO THE P.T. OF A CURVE AND THE POINT OF BEGINNING.

FEE PARCEL 2
PART OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH AND SOUTH 1/4 LINE, SAID POINT BEING NORTH 00 DEGREES 03 MINUTES 25 SECONDS WEST 1376.04 FEET FROM THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE SOUTH 67 DEGREES 58 MINUTES 40 SECONDS WEST 351.56 FEET; THENCE SOUTH 29 DEGREES 59 MINUTES 40 SECONDS EAST 312.00 FEET; THENCE NORTH 88 DEGREES 15 MINUTES 38 SECONDS WEST 118.40 FEET; THENCE SOUTH 43 DEGREES 22 MINUTES 25 SECONDS WEST 158.00 FEET; THENCE NORTH 46 DEGREES 37 MINUTES 35 SECONDS WEST 150.00 FEET; THENCE SOUTH 89 DEGREES 32 MINUTES 25 SECONDS WEST 555.00 FEET; THENCE NORTH 00 DEGREES 02 MINUTES 20 SECONDS EAST 1933.58 FEET; THENCE SOUTH 89 DEGREES 37 MINUTES 35 SECONDS EAST 1331.64 FEET ALONG THE EAST AND WEST 1/4 LINE TO THE CENTER OF SAID SECTION 23; THENCE SOUTH 00 DEGREES 03 MINUTES 25 SECONDS EAST 1371.69 FEET ALONG THE NORTH AND SOUTH 1/4 LINE TO THE POINT OF BEGINNING.

FEE PARCEL 3
PART OF THE SOUTHEAST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 791.00 FEET ALONG THE SECTION LINE TO THE POINT OF BEGINNING; THENCE NORTH 00 DEGREES 58 MINUTES 00 SECONDS WEST 918.05 FEET; THENCE NORTH 52 DEGREES 50 MINUTES 20 SECONDS WEST 815.00 FEET; THENCE SOUTH 67 DEGREES 59 MINUTES 40 SECONDS WEST 126.44 FEET TO THE NORTH AND SOUTH 1/4 LINE; THENCE ALONG SAID NORTH AND SOUTH 1/4 LINE NORTH 00 DEGREES 03 MINUTES 25 SECONDS WEST 1311.69 FEET TO THE CENTER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 00 MINUTES 15 SECONDS EAST 47.54 FEET ALONG THE EAST AND WEST 1/4 LINE TO THE SOUTHERLY RIGHT OF WAY LINE OF THE C & O RAILWAY; THENCE SOUTH 42 DEGREES 57 MINUTES 40 SECONDS EAST 623.14 FEET ALONG SAID RIGHT OF WAY LINE; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE 7415.35 FEET TO THE LEFT HAVING A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING SOUTH 50 DEGREES 33 MINUTES 16 SECONDS EAST 7415.35 FEET; THENCE SOUTH 00 DEGREES 01 MINUTES 47 SECONDS WEST 1653.80 FEET TO THE SOUTH LINE OF SAID SECTION 23; THENCE SOUTH 89 DEGREES 01 MINUTES 54 SECONDS WEST 454.45 FEET ALONG SAID SOUTH LINE TO THE POINT OF BEGINNING.

FEE PARCEL 4
PART OF THE SOUTHEAST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF CHALLIS ROAD AND THE SECTION LINE, SAID POINT BEING NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 1235.95 FEET FROM THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 309.65 FEET ALONG THE SECTION LINE; THENCE NORTH 00 DEGREES 15 MINUTES 11 SECONDS EAST 1414.45 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF THE C & O RAILROAD; THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE NORTHWESTERLY 392.48 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 01 DEGREE 57 MINUTES 14 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 43 DEGREES 22 MINUTES 25 SECONDS WEST 392.48 FEET TO THE P.T. OF A CURVE; THENCE NORTHWESTERLY 881.35 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 04 DEGREES 22 MINUTES 07 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 47 MINUTES 32 SECONDS WEST 981.08 FEET TO THE P.T. OF THE CURVE; THENCE NORTH 89 DEGREES 01 MINUTES 15 SECONDS EAST 84.65 FEET TO THE P.T. OF A CURVE; THENCE NORTHWESTERLY 118.83 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 00 DEGREES 35 MINUTES 30 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 54 DEGREES 39 MINUTES 00 SECONDS WEST 118.83 FEET; THENCE SOUTH 00 DEGREES 15 MINUTES 11 SECONDS WEST 1414.45 FEET TO THE SOUTH SECTION LINE AND THE POINT OF BEGINNING.

FEE PARCEL 5
PART OF THE SOUTHEAST 1/4 OF SECTION 23, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF CHALLIS ROAD AND THE SECTION, SAID POINT BEING NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 1545.60 FEET FROM THE SOUTH 1/4 CORNER OF SAID SECTION 23; THENCE NORTH 89 DEGREES 01 MINUTES 54 SECONDS EAST 1114.45 FEET ALONG THE SECTION LINE TO THE SOUTHEAST CORNER OF SAID SECTION 23; THENCE NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 630.24 FEET ALONG THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE TO THE SOUTHERLY RIGHT OF WAY LINE OF THE C & O RAILROAD; THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE NORTH 56 DEGREES 58 MINUTES 30 SECONDS WEST 412.63 FEET TO THE P.T. OF A CURVE; THENCE NORTHWESTERLY 881.35 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 04 DEGREES 22 MINUTES 07 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 56 DEGREES 47 MINUTES 32 SECONDS WEST 981.08 FEET TO THE P.T. OF THE CURVE; THENCE NORTH 89 DEGREES 01 MINUTES 15 SECONDS EAST 84.65 FEET TO THE P.T. OF A CURVE; THENCE NORTHWESTERLY 118.83 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 00 DEGREES 35 MINUTES 30 SECONDS, A RADIUS OF 11,509.16 FEET AND A LONG CHORD BEARING NORTH 54 DEGREES 39 MINUTES 00 SECONDS WEST 118.83 FEET; THENCE SOUTH 00 DEGREES 15 MINUTES 11 SECONDS WEST 1414.45 FEET TO THE SOUTH SECTION LINE AND THE POINT OF BEGINNING.

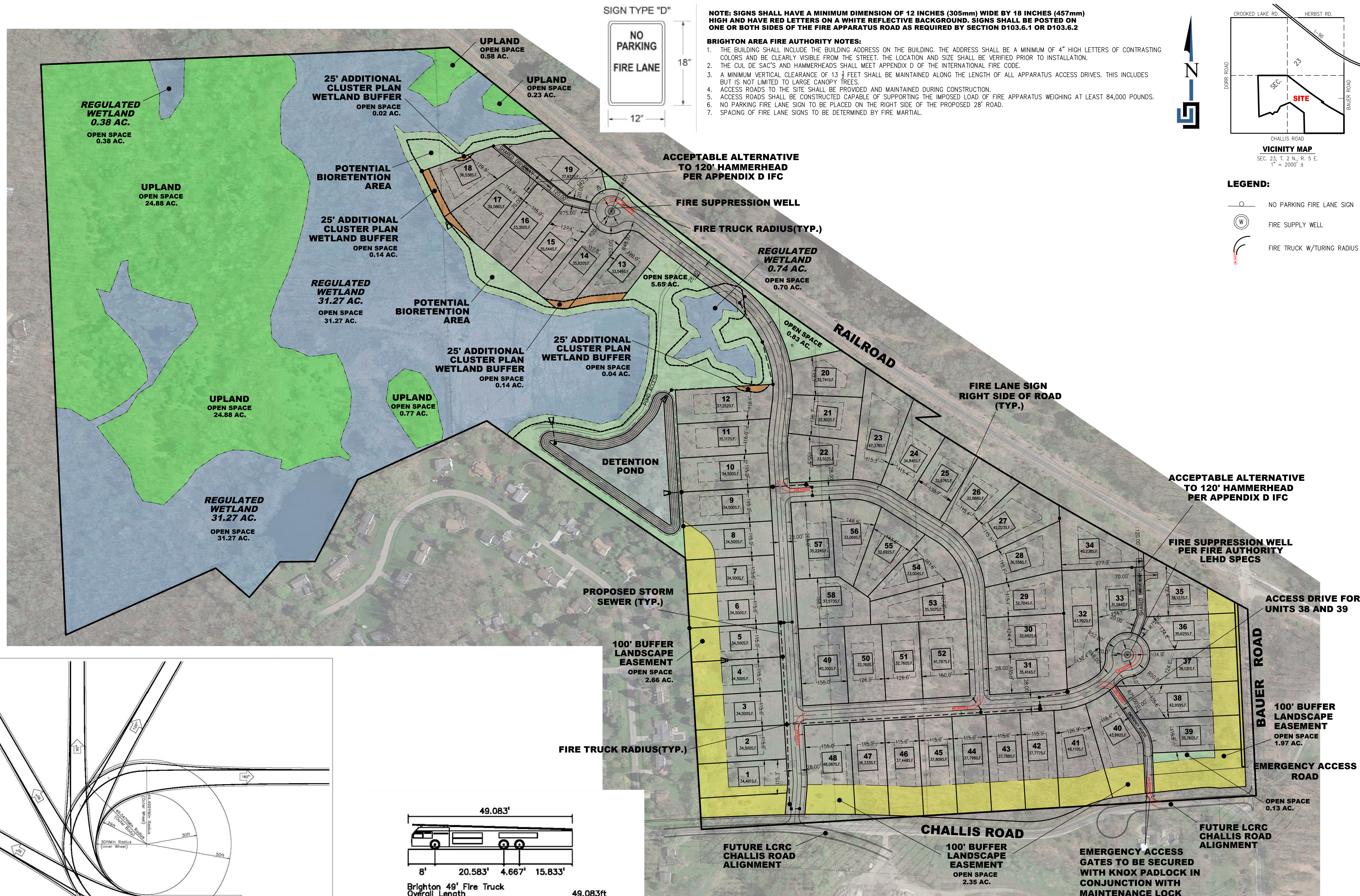


BENCHMARK
BENCHMARK #194 (NAVD 88)
LOCATED IN UTILITY POLE SOUTH OF CHALLIS ROAD. (AREA UNDER ONGOING ROAD CONSTRUCTION AS OF 8-25-24. RAIL ROAD SPIKE IN NORTH FACE OF SAID UTILITY POLE)
ELEV: 977.25

EASEMENT PARCEL
TOGETHER WITH THE RIGHTS AND EASEMENTS AS CREATED, LIMITED AND DEFINED IN ACCESS AND UTILITY EASEMENT AGREEMENT RECORDED IN LIBER 4330, PAGE 940, LIVINGSTON COUNTY RECORDS.

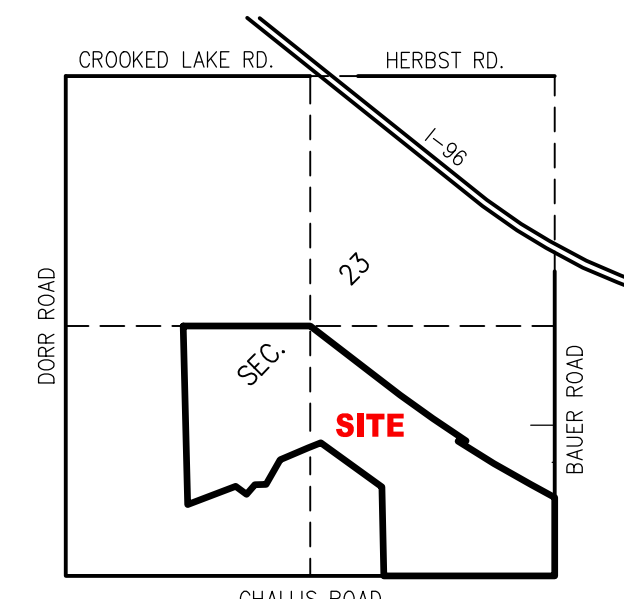
LEGAL DESCRIPTION NOTE
NO GAPS OR CORES EXIST BETWEEN THE SUBJECT PROPERTIES.

PART OF SECTIONS 23 & 24	TOWN 02 NORTH - RANGE 05 EAST	GENOA TOWNSHIP	LIVINGSTON COUNTY, MI
DATE: 8/26/24	REVISIONS		
TOPOGRAPHIC SURVEY	CLIENT: PULTE HOMES OF MICHIGAN, LLC 2800 LIVERNOS BLVD. - SUITE 220 TROY, MI 48063		
DR BY: BDR	CK BY: RQM	P.M. MTN	SCALE: 0 100 200
JOB NO. #231213	SHEET NO. 4		
LEGACY HILLS - GENOA			



NOTE: SIGNS SHALL HAVE A MINIMUM DIMENSION OF 12 INCHES (305mm) WIDE BY 18 INCHES (457mm) HIGH AND HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND. SIGNS SHALL BE POSTED ON ONE OR BOTH SIDES OF THE FIRE APPARATUS ROAD AS REQUIRED BY SECTION D103.6.1 OR D103.6.2

- BRIGHTON AREA FIRE AUTHORITY NOTES:**
- THE BUILDING SHALL INCLUDE THE BUILDING ADDRESS ON THE BUILDING. THE ADDRESS SHALL BE A MINIMUM OF 4" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET. THE LOCATION AND SIZE SHALL BE VERIFIED PRIOR TO INSTALLATION.
 - THE CUL DE SACS AND HAMMERHEADS SHALL MEET APPENDIX D OF THE INTERNATIONAL FIRE CODE.
 - A MINIMUM VERTICAL CLEARANCE OF 13 FEET SHALL BE MAINTAINED ALONG THE LENGTH OF ALL APPARATUS ACCESS DRIVES. THIS INCLUDES BUT IS NOT LIMITED TO LARGE CANOPY TREES.
 - ACCESS ROADS TO THE SITE SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.
 - ACCESS ROADS SHALL BE CONSTRUCTED CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 84,000 POUNDS.
 - NO PARKING FIRE LANE SIGN TO BE PLACED ON THE RIGHT SIDE OF THE PROPOSED 28' ROAD.
 - SPACING OF FIRE LANE SIGNS TO BE DETERMINED BY FIRE MARTIAL.



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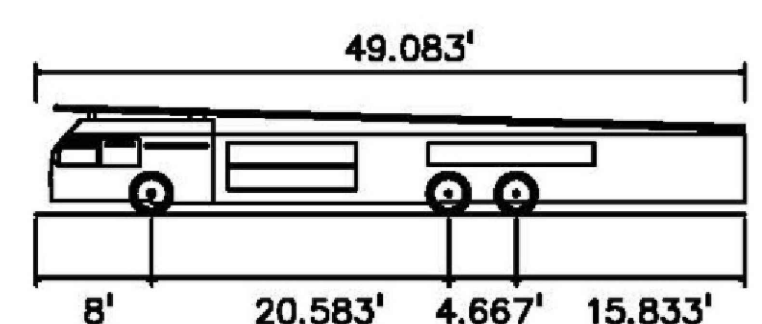
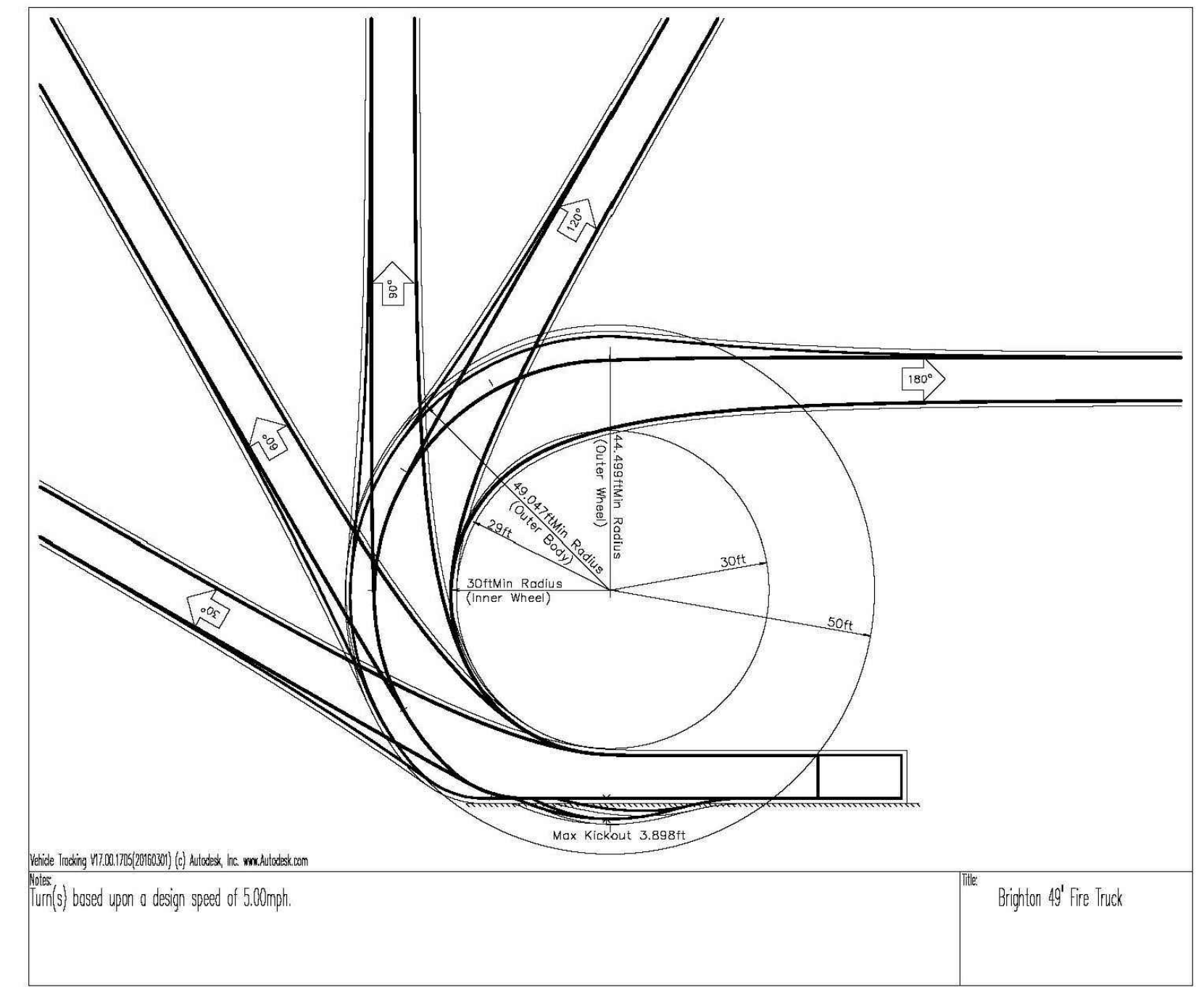
811
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The UMLOR Group
LAND DEVELOPMENT SERVICES
10927 WEST ROAD WIXOM, MI 48193
TEL: 248-778-7656 - FAX: 866-690-4307



Brighton 49' Fire Truck
Overall Length 49.083ft
Overall Width 8.167ft
Overall Body Height 7.500ft
Min Body Ground Clearance 0.750ft
Track Width 8.167ft
Lock-to-lock time 5.00s
Max Steering Angle (Virtual) 45.00°

FIRE TRUCK DETAIL
NOT TO SCALE

FIRE TRUCK TURNING RADII

SECTION 23
T. 2 N., R. 5 E.
GENOA TOWNSHIP
LIVINGSTON CO., MICHIGAN

DATE: 8/26/2024
REVISIONS
9/27/2024
11/1/2024

LEGACY HILLS
PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
TROY, MICHIGAN 48063

CLIENT:

DR BY: SA/BB/MG
CK BY: SA/BB
P.M. MN
SCALE: 0 75 150
JOB NO. 231213
SHEET NO. 5
SHEET 5 OF 5

overall landscape plan for:
The Legacy Hills - a planned single family community
 Genoa Township, Michigan



client:
LAUTREC
 31550
 Northwestern
 HWY. Suite 200
 Farmington Hills,
 Michigan 48334

project:
**THE
 LEGACY
 HILLS**

project location:
 Genoa Township,
 Michigan
 Challis Road & Bauer Road

sheet title:
**CONCEPTUAL
 LANDSCAPE PLAN**

job no./issue/revision date:
 LS24.083.08 SPA 8-26-2024
 LS24.083.09 TWP. COMMENTS 9-26-2024
 LS24.083.10 site updates 10-31-2024

drawn by:
JP,
 checked by:
FP
 date:
8-20-2024
 notice:
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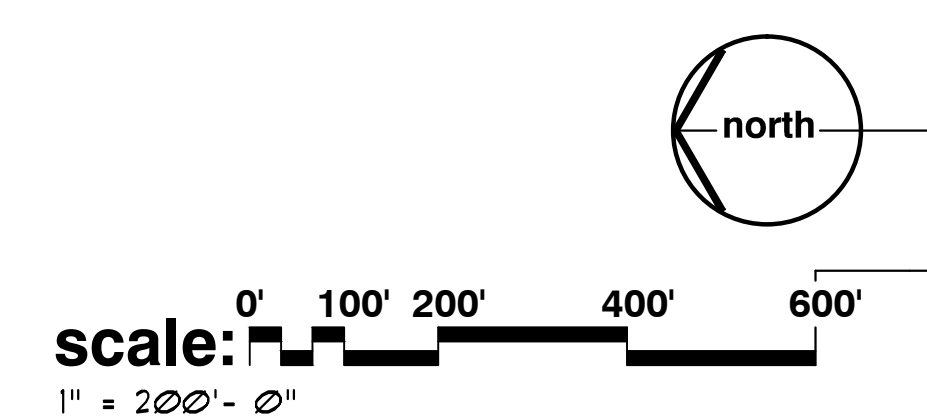
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 Do Not scale drawings. Use figured dimensions only.



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

project no:
LS24.083.08

sheet no:
LS-1 of 6

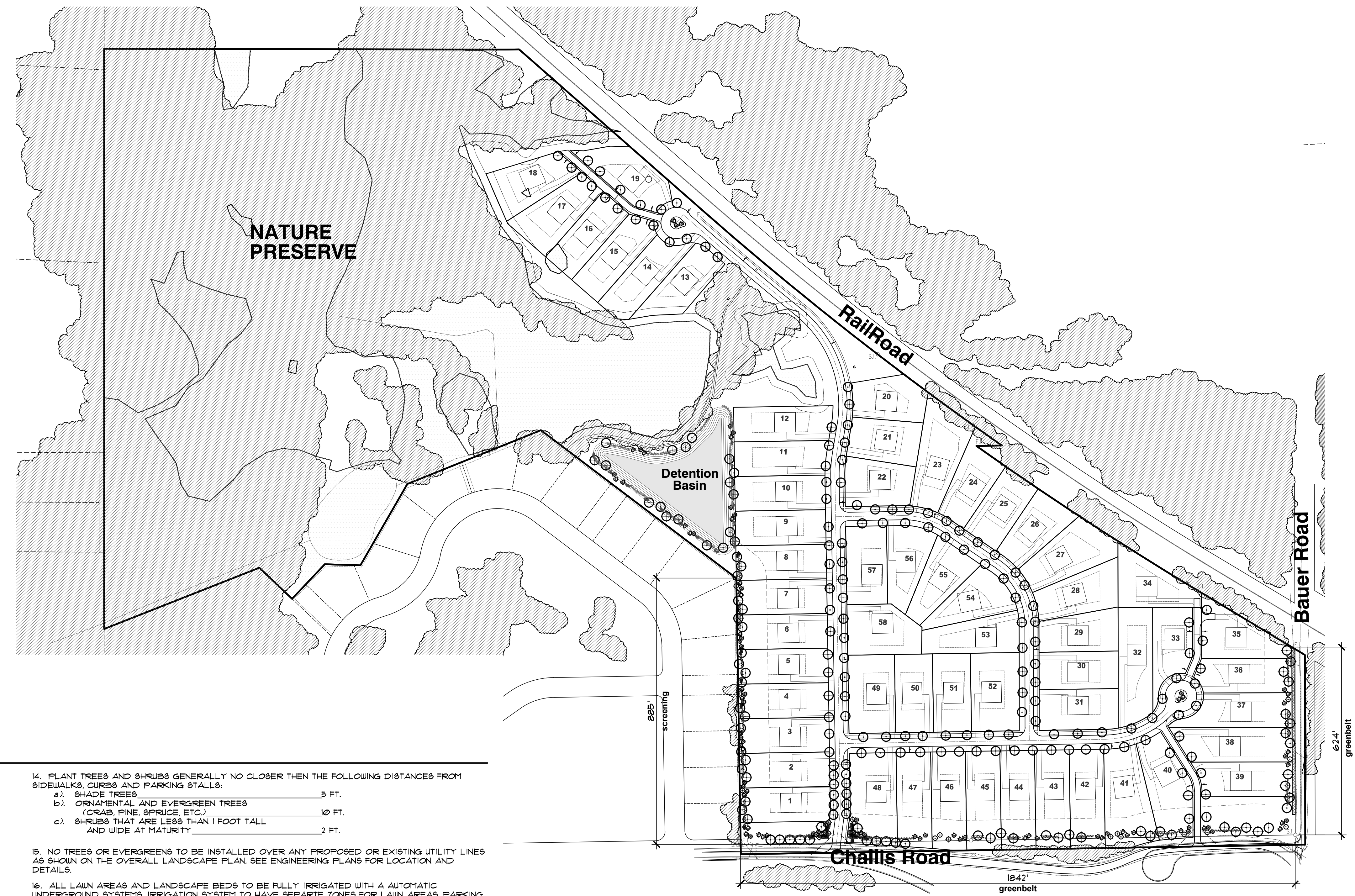


landscape requirements:

greenbelt (Challis Road)	REQUIRED	PROVIDED
TOTAL LIN.FT. OF GREENBELT FRONTAGE	1842±	
ONE (1) 2 1/2" CANOPY OR EVERGREEN TREE PER 40 LIN.FT. (1842 LIN.FT. / 40 LIN.FT. = 46.05 TREES)	46	68
greenbelt (Bauer Road)	REQUIRED	PROVIDED
TOTAL LIN.FT. OF GREENBELT FRONTAGE	624±	
ONE (1) 2 1/2" CANOPY OR EVERGREEN TREE PER 40 LIN.FT. (624 LIN.FT. / 40 LIN.FT. = 15.6 TREES)	16	18
street trees (interior residential streets)	REQUIRED	PROVIDED
TOTAL NO. OF RESIDENTIAL UNITS PROVIDED	58	
TWO (2) 2 1/2" CANOPY TREES PER RESIDENTIAL UNIT (58 UNITS X 2 TREES = 116 TREES)	116	133
landscape screening	REQUIRED	PROVIDED
TOTAL LIN.FT. OF BOUNDARY FRONTAGE	885±	
ONE (1) 2 1/2" CANOPY OR EVERGREEN TREE PER 20 LIN.FT. (885 LIN.FT. / 20 LIN.FT. = 44.25 TREES)	44	44
OR FOUR (4) SHRUBS PER 20 LIN.FT. (885 LIN.FT. / 20 LIN.FT. = 44.25 X 4-SHRUBS=177)	177	177
detention basin	REQUIRED	PROVIDED
TOTAL LIN.FT. OF POND PERIMETER	1602±	
ONE (1) DECIDUOUS OR EVERGREEN TREE PER 50 LIN.FT. (1602 LIN.FT. / 50 LIN.FT. = 32.04 TREES)	32	32
TEN (10) SHRUBS PER 50 LIN.FT. (1604 LIN.FT. / 50 LIN.FT. = 32.04 X 10-SHRUBS=320.4)	320	320

general landscape notes:

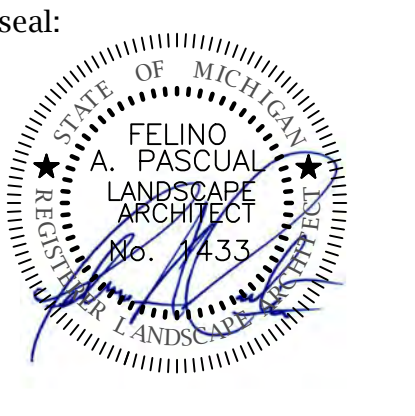
- LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK, CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
- PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES, GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING.
- NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN/DISCREPANCY WITH LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE IF NECESSARY.
- ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY GENOA TOWNSHIP AND LANDSCAPE ARCHITECT.
- ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUIDED AND WRAPPED AS DETAIL SHOWN ON PLAN.
- PLANT BEDS TO BE DRESSED WITH MIN. 4" OF FINELY DOUBLE SHREDDED HARD BARK MULCH.
- DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANTING HOLE.
- NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS.
- REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 4" THICK BARK MULCH FOR SHRUBS AND 4" THICK BARK MULCH FOR PERENNIALS.
- PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
- PROVIDE PEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE.
- ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
- PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS:
 - SHADE TREES 5 FT.
 - ORNAMENTAL AND EVERGREEN TREES (ORAB, PINE, SPRUCE, ETC.) 10 FT.
 - 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. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.
- ALL LAWN AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH A AUTOMATIC UNDERGROUND SYSTEMS. IRRIGATION SYSTEM TO HAVE SEPARATE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED.
- UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECEIVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTURER'S SPECIFICATION.
- ALL NEW PARKING ISLANDS AND LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16"-18" DEPTH, BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING SOILS. ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
- WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
- ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATE DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.



landscape sheet index

- LS-1 OVERALL LANDSCAPE PLAN VIEW
- LS-2 GENERAL PLANTING DETAIL PLAN
- LS-3 GENERAL PLANTING DETAIL PLAN
- LS-4 DETENTION PLANTING DETAIL PLAN
- LS-5 ENTRANCE PLANTING DETAIL MATERIAL LIST, PLANT DETAILS & LANDSCAPE NOTES
- LS-6 ENTRY SIGN MONUMENT WALL

street trees note:
 STREET TREES TO BE INSTALLED A MINIMUM 10' TO 12' FROM THE EDGE OF THE ROAD. NO STREET TREES TO BE INSTALLED OVER PROPOSED OR EXISTING UNDERGROUND UTILITY. ALL STREET TREE TO BE PRUNED AND MAINTAINED A MINIMUM VERTICAL CLEARANCE OF 13 1/2 FEET ALONG THE LENGTH OF ROAD WAY AS REQUIRED PER BRIGHTON AREA FIRE AUTHORITY STANDARDS AND REQUIREMENTS. SEE SHT. LS-5 FOR DETAILS.



client:
LAUTREC
 31550
 Northwestern
 HWY. Suite 200
 Farmington Hills,
 Michigan 48334

project:
**THE
 LEGACY
 HILLS**

project location:
 Genoa Township,
 Michigan
 Challis Road & Bauer
 Road

sheet title:
**GENERAL LANDSCAPE
 PLANTING DETAIL**

job no./issue/revision date:
 LS24.083.08 SPA 8-26-2024
 LS24.083.09 TWP. COMMENTS 9-26-2024
 LS24.083.10 site updates 10-31-2024

drawn by:
JP,

checked by:
FP
 date:
8-20-2024

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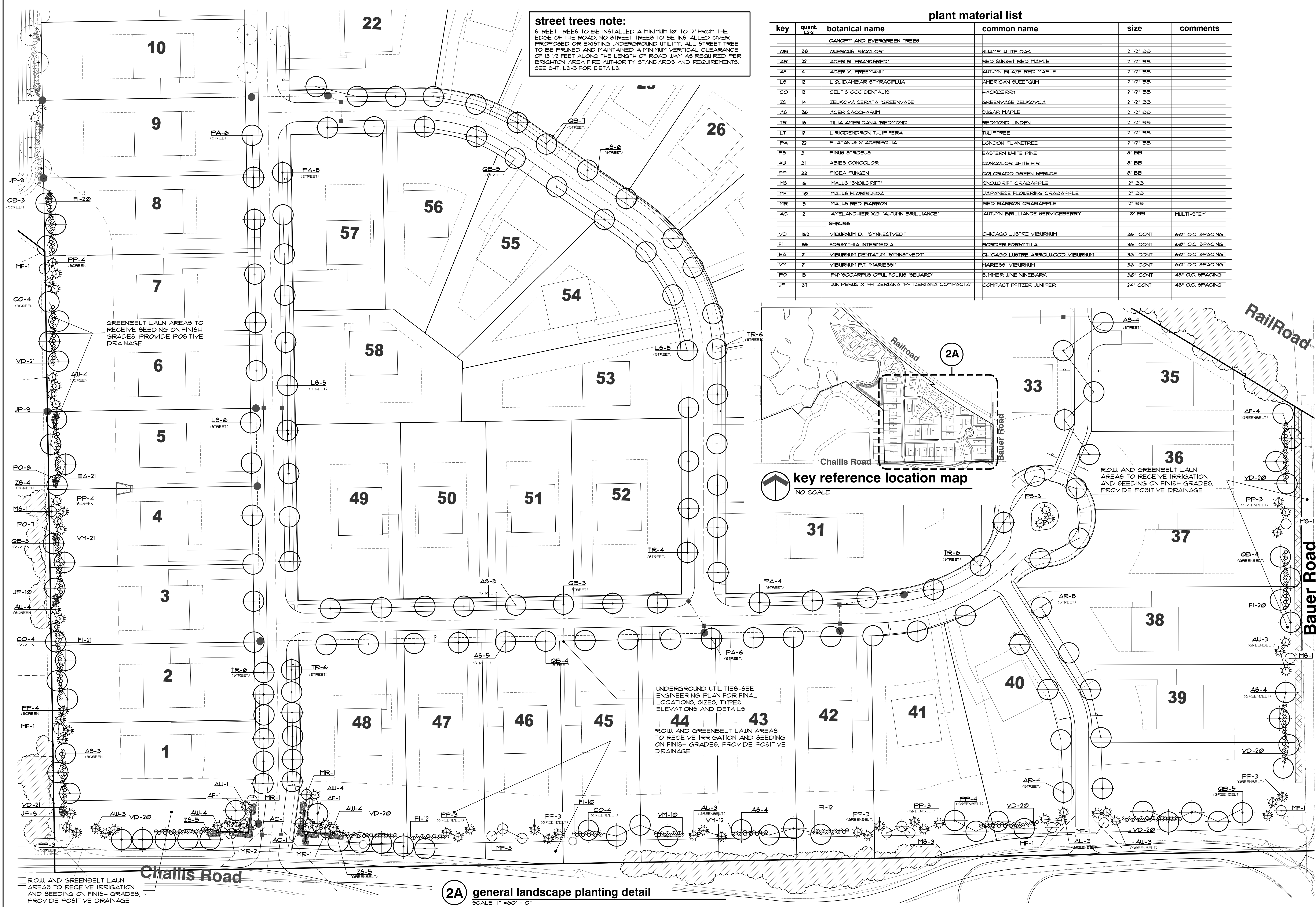
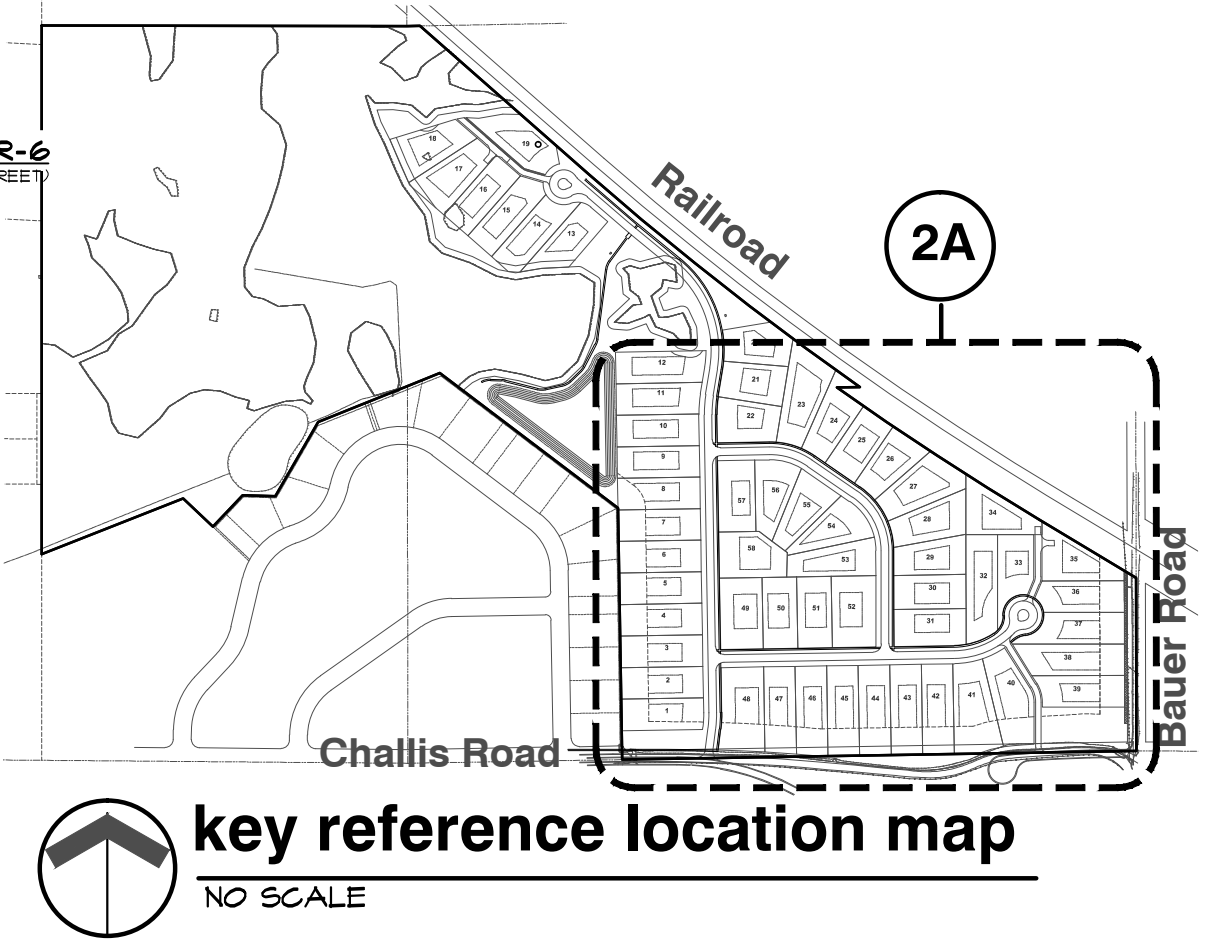
project no:
LS24.083.08

sheet no:
LS-2 of 6

plant material list

key	quant. LS-2	botanical name	common name	size	comments
CANOPY AND EVERGREEN TREES					
QB	38	QUERCUS 'BICOLOR'	SWAMP WHITE OAK	2 1/2" BB	
AR	22	ACER R. 'FRANKSRED'	RED SUNSET RED MAPLE	2 1/2" BB	
AF	4	ACER X. 'FREEMANI'	AUTUMN BLAZE RED MAPLE	2 1/2" BB	
LS	12	LIQUIDAMBAR STRYACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	
CO	12	CELTIS OCCIDENTALIS	HACKBERRY	2 1/2" BB	
ZS	14	ZELKOYA SERATA 'GREENVASE'	GREENVASE ZELKOYCA	2 1/2" BB	
AS	26	ACER SACCHARUM	SUGAR MAPLE	2 1/2" BB	
TR	16	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	2 1/2" BB	
LT	12	LIRIODENDRON TULIPIFERA	TULIPTREE	2 1/2" BB	
FA	22	PLATANUS X ACERIFOLIA	LONDON PLANETREE	2 1/2" BB	
PS	3	FINUS STROBUS	EASTERN WHITE PINE	8' BB	
AW	31	ABIES CONCOLOR	CONCOLOR WHITE FIR	8' BB	
FP	33	FICEA FUNGEN	COLORADO GREEN SPRUCE	8' BB	
MS	6	MALUS 'SNOWDRIFT'	SNOWDRIFT CRABAPPLE	2" BB	
MF	10	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	2" BB	
MR	5	MALUS RED BARRON	RED BARRON CRABAPPLE	2" BB	
AC	2	AMELANCHIER X G. 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	10" BB	MULTI-STEM
SHRUBS					
VD	162	VIBURNUM D. 'SYNSTVEDT'	CHICAGO LUSTRE VIBURNUM	36" CONT	60" O.C. SPACING
FI	95	FORSYTHIA INTERMEDIA	BORDER FORSYTHIA	36" CONT	60" O.C. SPACING
EA	21	VIBURNUM DENTATUM 'SYNSTVEDT'	CHICAGO LUSTRE ARROWWOOD VIBURNUM	36" CONT	60" O.C. SPACING
VM	21	VIBURNUM P.T. 'MARIESSI'	MARIESSI VIBURNUM	36" CONT	60" O.C. SPACING
PO	15	PHYTOSCARPUS OPULIFOLIUS 'SEWARD'	SUMMER WINE NINEBARK	30" CONT	48" O.C. SPACING
JP	31	JUNIPERUS X FRITZERIANA 'FRITZERIANA COMPACTA'	COMPACT FRITZER JUNIPER	24" CONT	48" O.C. SPACING

street trees note:
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 OF 13 1/2 FEET ALONG THE LENGTH OF ROAD WAY AS REQUIRED PER
 BRIGHTON AREA FIRE AUTHORITY STANDARDS AND REQUIREMENTS.
 SEE SHT. LS-5 FOR DETAILS.

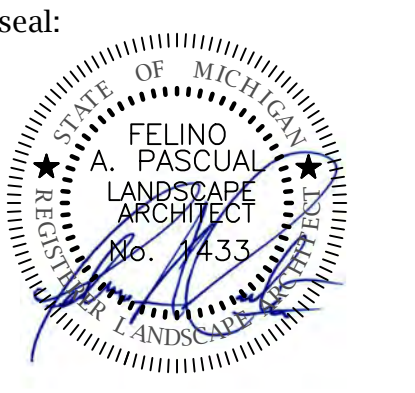


2A general landscape planting detail
 SCALE: 1" = 60' - 0"

ROW AND GREENBELT LAWN
 AREAS TO RECEIVE IRRIGATION
 AND SEEDING ON FINISH GRADES,
 PROVIDE POSITIVE DRAINAGE

UNDERGROUND UTILITIES-SEE
 ENGINEERING PLAN FOR FINAL
 LOCATIONS, SIZES, TYPES,
 ELEVATIONS AND DETAILS
 ROW AND GREENBELT LAWN
 AREAS TO RECEIVE IRRIGATION
 AND SEEDING ON FINISH GRADES,
 PROVIDE POSITIVE DRAINAGE

ROW AND GREENBELT LAWN
 AREAS TO RECEIVE IRRIGATION
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client:
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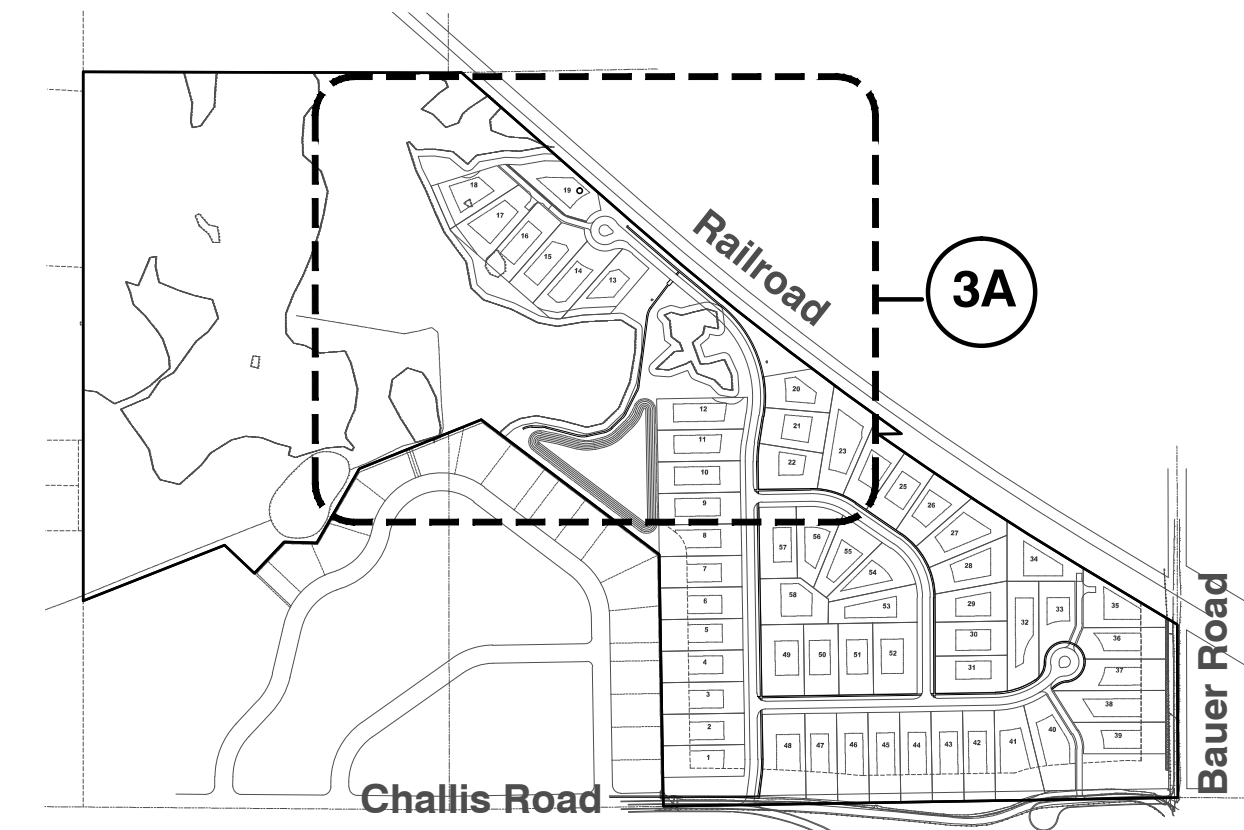
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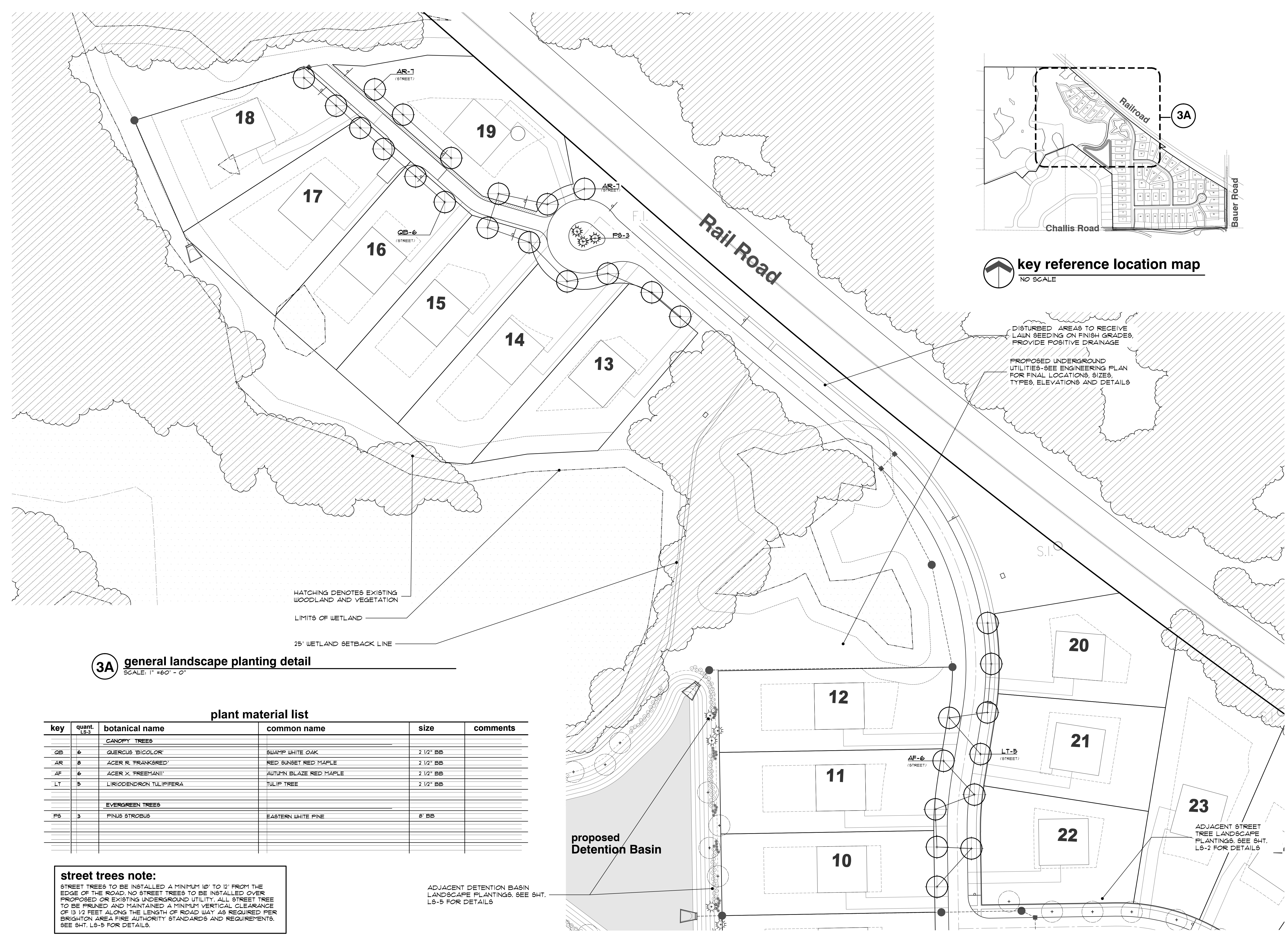
sheet no:
LS-3 of 6



key reference location map
 NO SCALE

DISTURBED AREAS TO RECEIVE
 LAWN SEEDING ON FINISH GRADES,
 PROVIDE POSITIVE DRAINAGE

PROPOSED UNDERGROUND
 UTILITIES-SEE ENGINEERING PLAN
 FOR FINAL LOCATIONS, SIZES,
 TYPES, ELEVATIONS AND DETAILS



3A general landscape planting detail
 SCALE: 1" = 60' - 0"

HATCHING DENOTES EXISTING
 WOODLAND AND VEGETATION

LIMITS OF WETLAND

25' WETLAND SETBACK LINE

plant material list

key	quant. LS-3	botanical name	common name	size	comments
CANOPY TREES					
QB	6	QUERCUS BICOLOR	SWAMP WHITE OAK	2 1/2" BB	
AR	8	ACER R. FRANKOURED'	RED SUNSET RED MAPLE	2 1/2" BB	
AF	6	ACER X. FREEMANII'	AUTUMN BLAZE RED MAPLE	2 1/2" BB	
LT	5	LIRIODENDRON TULIFIFERA	TULIP TREE	2 1/2" BB	
EVERGREEN TREES					
PS	3	PINUS STROBUS	EASTERN WHITE PINE	8' BB	

street trees note:
 STREET TREES TO BE INSTALLED A MINIMUM 10' TO 12' FROM THE
 EDGE OF THE ROAD. NO STREET TREES TO BE INSTALLED OVER
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 SEE SHT. LS-5 FOR DETAILS.

ADJACENT DETENTION BASIN
 LANDSCAPE PLANTINGS. SEE SHT.
 LS-5 FOR DETAILS

**proposed
 Detention Basin**

23
 ADJACENT STREET
 TREE LANDSCAPE
 PLANTINGS. SEE SHT.
 LS-2 FOR DETAILS

basin construction notes

PROPER CONSTRUCTION TECHNIQUES, PARTICULARLY INSTALLATION OF VEGETATION, ARE IMPORTANT TO THE SUCCESSFUL FUNCTIONING OF OPEN DETENTION BASINS, ESPECIALLY FOR CONSTRUCTED WETLAND TYPE OPEN DETENTION BASINS IN ORDER TO ESTABLISH A DENSE AND DIVERSE EMERGENT WETLAND PLANT COMMUNITY. GENERAL GUIDELINES FOR VEGETATION INSTALLATION INCLUDE:

1. IF EMERGENT PLANT STOCK IS PROPOSED IN THE POND ZONE, THE SUPPLIED PLUG MATERIAL MUST HAVE SUFFICIENT VEGETATIVE GROWTH EXTENDING OUT OF THE WATER ONCE PLANTED.
2. SEED MUST BE PLANTED ABOVE THE PERMANENT WATER ELEVATION.
3. ALL SEEDED AREAS SHOULD BE PROPERLY STABILIZED WITH A MUGH BLANKET PEGGED IN PLACE.
4. DEPENDING ON THE TYPE OF VEGETATION, BARRIERS MAY BE REQUIRED FOR ONE YEAR TO PROTECT THE PLANTINGS (E.G., SNOW FENCE OR NETTING TO DETER WILDLIFE, PREVENT MOWING).
5. IF DETENTION BASIN ARE COMPACTED, THE SLOPES MUST BE ROTOTILLED, 4" (FOUR) OF COMPOST OR TOPSOIL MUST BE ADDED.
6. "NO MOW ZONE" SIGNS MUST BE PLACED AROUND THE BASIN.

1. DETENTION BASIN NATIVE SEEDING TO BE PERFORMED IN EARLY SPRING OR LATE FALL. AQUATIC PLANTS SHOULD BE INSTALLED IN THE SUMMER AFTER THE COVER CROP HAS ESTABLISHED.

lawn area:

80D LAWN AREAS SHALL BE KENTUCKY BLUE GRASS BLEND GRASS IN A 80D NURSERY ON LOAM SOIL. 80D TO BE INSTALLED ON MINIMUM 4" TOPSOIL.

SEEDED LAWN AREAS SHALL CONSIST OF THE FOLLOWING TYPES AND PROPORTIONS:

- 5% PERENNIAL RYE GRASS
- 10% RED FESCUE
- 25% CHEWING FESCUE
- 60% KENTUCKY BLUE GRASS

SEED MIX SHALL BE APPLIED AT A RATE OF 200 POUNDS PER ACRE AND WEED CONTENT SHALL NOT EXCEED 1%. SEED, PROVIDE A MINIMUM 4" TOP SOIL ON ALL SEEDED LAWN AREA

detention pond landscape requirement:

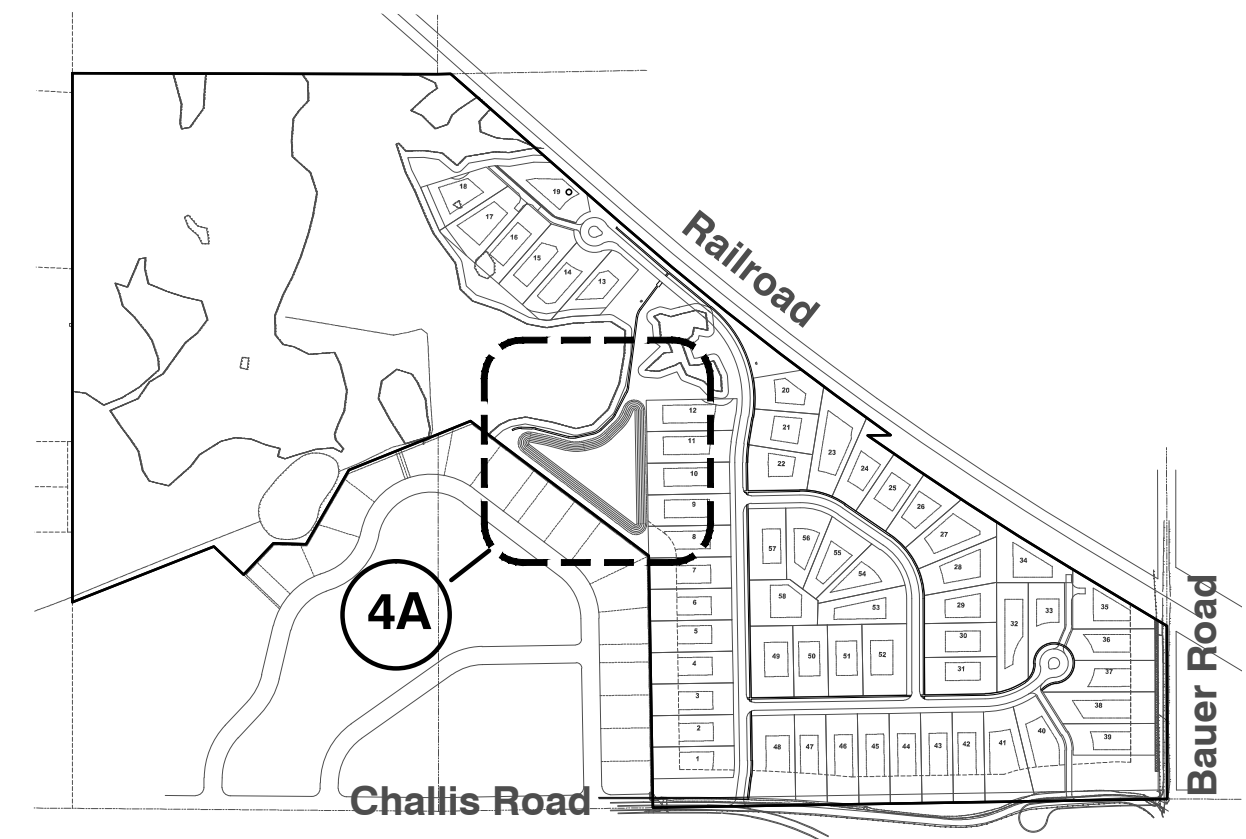
detention basin	REQUIRED	PROVIDED
TOTAL LIN.FT. OF POND PERIMETER	1602±	
ONE (1) DECIDUOUS OR EVERGREEN TREE PER 50 LIN.FT. (1602 LIN.FT. / 50 LIN.FT. = 32.04 TREES)	32	32
TEN (10) SHRUBS PER 50 LIN.FT. (1604 LIN.FT. / 50 LIN.FT. = 32.04 X 10-SHRUBS=320.4)	320	320

detention basin seed mix

A WETLAND SEED MIX FOR SATURATED SOILS IN A DETENTION POND OR FOR SEEDING A SATURATED BASIN. THIS MIX WILL TOLERATE HIGHLY FLUCTUATING WATER LEVELS AND POOR WATER QUALITY ASSOCIATED WITH URBAN STORMWATER WETLANDS AND PONDS. FOR DETENTION BASINS THAT EXPERIENCE LONG, DRY PERIODS, USE THE ECONOMY PRAIRIE SEED MIX IN THE UPPER THIRD TO HALF OF THE BASIN AREA IN COMBINATION WITH THIS MIX. THIS SEED MIX INCLUDES AT LEAST 10 OF 12 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 13 OF 17 NATIVE FORB SPECIES. APPLY AT 36.22 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
BOLBOSCHOENUS FLUVIATILIS	RIVER BULRUSH	1.00
CAREX CRISTATELLA	CRESTED OVAL SEDGE	0.50
CAREX LURIDA	BOTTLEBRUSH SEDGE	3.00
CAREX VULPINOIDEA	BROWN FOX SEDGE	2.00
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	24.00
GLYCERIA STRIATA	FOWL MANNA GRASS	1.00
JUNCUS EFFUSUS	COMMON RUSH	1.00
LEERSIA ORYZOIDES	RICE CUT GRASS	1.00
PANICUM VIRGATUM	SWITCH GRASS	2.00
SCHOENOPLECTUS TABERNAEMONTANI	GREAT BULRUSH	3.00
SCIRPUS ATROVIRENS	DARK GREEN RUSH	2.00
SCIRPUS CYPERRINUS	WOOL GRASS	1.00
	TOTAL	41.50
TEMPORARY COVER		
AVENA SATIVA	COMMON OAT	512.00
	TOTAL	512.00

key	quant.	botanical name	common name	size	comments
FORBS					
		CANOPY AND EVERGREEN TREES			
GB	1	QUERCUS BICOLOR	SWAMP WHITE OAK	2 1/2" BB	
LS	4	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	
CO	1	CELTIS OCCIDENTALIS	HACKBERRY		
PS	6	PINUS STROBUS	EASTERN WHITE PINE	8" BB	
AW	9	ABIES CONCOLOR	CONCOLOR WHITE FIR	8" BB	
SHRUBS					
RAG	51	VIBURNUM D. 'SYNNESTVEDT'	GRD LOW FRAGRANT SUMAC	5" CONT	42" O.C. SPACING
VD	40	VIBURNUM D. 'SYNNESTVEDT'	CHICAGO LUSTRE VIBURNUM	5" CONT	60" O.C. SPACING
CS	40	CORNUS STOLONIFERA	REDTIG DOGWOOD	5" CONT.	60" O.C. SPACING
CF	40	CORNUS FLAVIRAMEA	YELLOWTIG DOGWOOD	5" CONT.	60" O.C. SPACING
FI	40	FORSYTHIA INTERMEDIA	BORDER FORSYTHIA	5" CONT.	60" O.C. SPACING
SG	43	SPIREA X B. BURIALDA 'GOLDFLAME'	GOLDFLAME SPIREA	5" CONT.	42" O.C. SPACING
IV	60	ILEX VERTICILLATA	MICHIGAN HOLLY	5" CONT.	60" O.C. SPACING
		TOTAL			26.00



economy prairie seed mix

THIS PRAIRIE SEED MIX OFFERS AN ECONOMICAL WAY TO ESTABLISH A PRAIRIE. IN ADDITION TO NATIVE PRAIRIE GRASSES, FLOWERING SPECIES PROVIDE COLOR THROUGHOUT THE GROWING SEASON AND FOOD SOURCES FOR BIRDS AND BUTTERFLIES. ADDING SEED OR PLANT PLUGS AT A LATER DATE IS A WONDERFUL WAY TO INCREASE A PRAIRIE'S RICHNESS AND DIVERSITY. THIS SEED MIX INCLUDES AT LEAST 6 OF 7 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 10 OF 13 NATIVE FORB SPECIES. APPLY AT 40.95 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
ANDROPOGON GERARDII	BIG BLUESTEM	12.00
BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA	16.00
CAREX SPP.	PRAIRIE SEDGE SPECIES	3.00
ELYMUS CANADENSIS	CANADA WILD RYE	24.00
PANICUM VIRGATUM	SWITCH GRASS	2.50
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	32.00
SORGHASTRUM NUTANS	INDIAN GRASS	12.00
	TOTAL	101.50

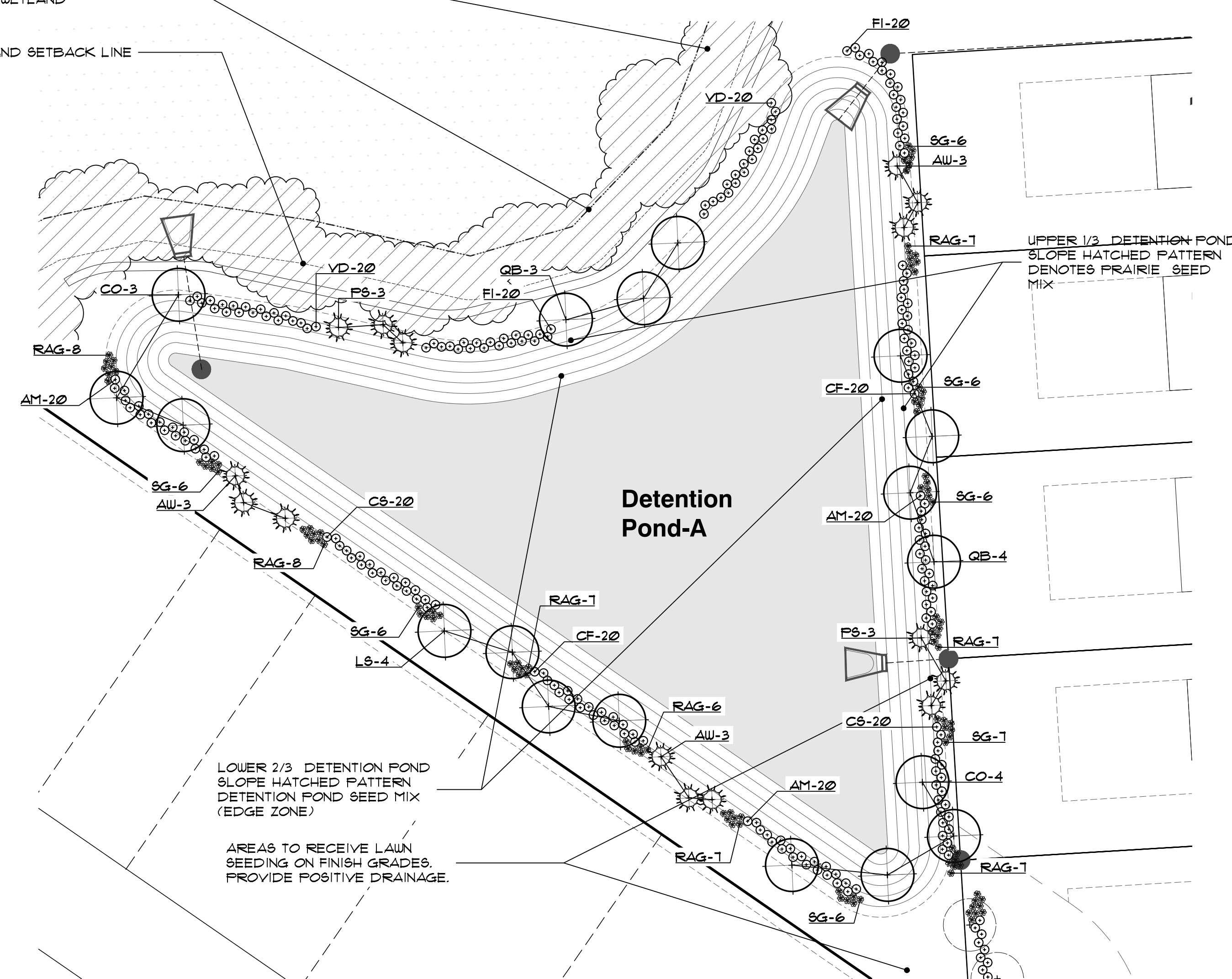
TEMPORARY COVER	COMMON OAT	PLS OZ/ACRE
AVENA SATIVA	COMMON OAT	512.00
	TOTAL	512.00

FORBS	COMMON MILKWEED	PLS OZ/ACRE
ASCLEPIAS SYRIACA	COMMON MILKWEED	1.00
ASCLEPIAS TUBEROSA	BUTTERFLY WEED	1.00
CHAMAECRISTA FASCICULATA	PARTIDGE PEA	10.00
COREOPSIS LANCEOLATA	SAND COREOPSIS	6.00
ECHINACEA PURPUREA	BROAD-LEAVED PURPLE CONEFLOWER	8.00
HELIOPSIS HELIANTHOIDES	FALSE SUNFLOWER	0.25
MONARDA FISTULOSA	WILD BERGAMOT	0.50
PENSTEMON DIGITALIS	FOXGLOVE BEARD TONGUE	1.00
RATIBIDA PINNATA	YELLOW CONEFLOWER	4.00
RUDBECKIA HIRTA	BLACK-EYED SUSAN	8.00
SOLIDAGO SPECIOSA	SHOWY GOLDENROD	0.50
SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER	1.00
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
	TOTAL	41.75

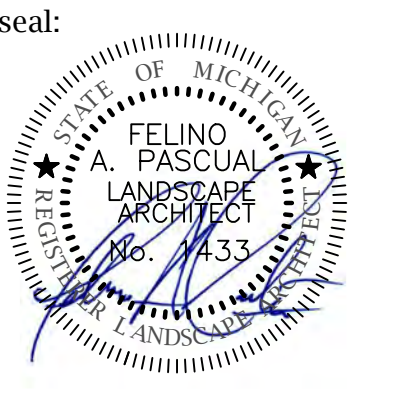
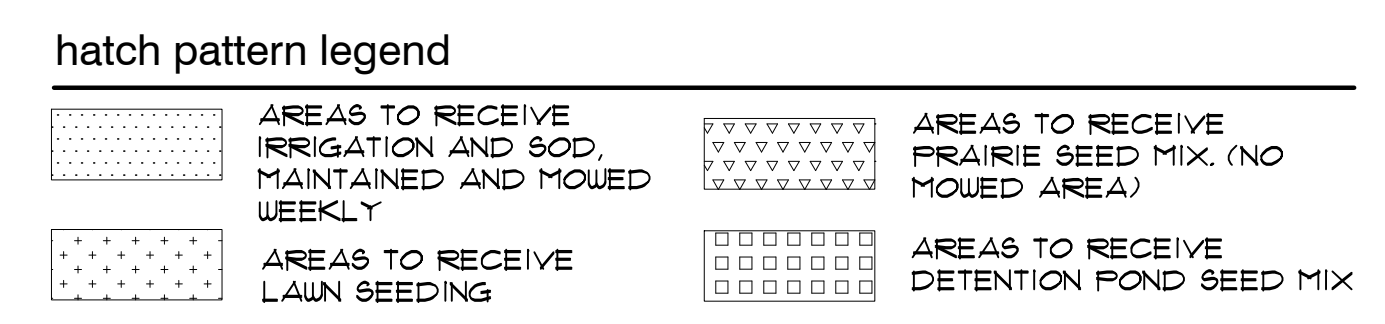
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AW	9	ABIES CONCOLOR	CONCOLOR WHITE FIR	8" BB	
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HATCHING DENOTES EXISTING WOODLAND AND VEGETATION
 LIMITS OF WETLAND
 25' WETLAND SETBACK LINE



4A detention pond-A planting detail
 SCALE: 1" = 30' - 0"



client:
LAUTREC
 31550
 Northwestern
 HWY. Suite 200
 Farmington Hills,
 Michigan 48334

project:
THE LEGACY HILLS

project location:
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 Chaliss Road & Bauer
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sheet title:
 DETENTION
 LANDSCAPE PLANTING
 DETAIL PLAN

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JP,
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project no:
LS24.083.08

sheet no:
LS-4 of 6

planting landscape notes:

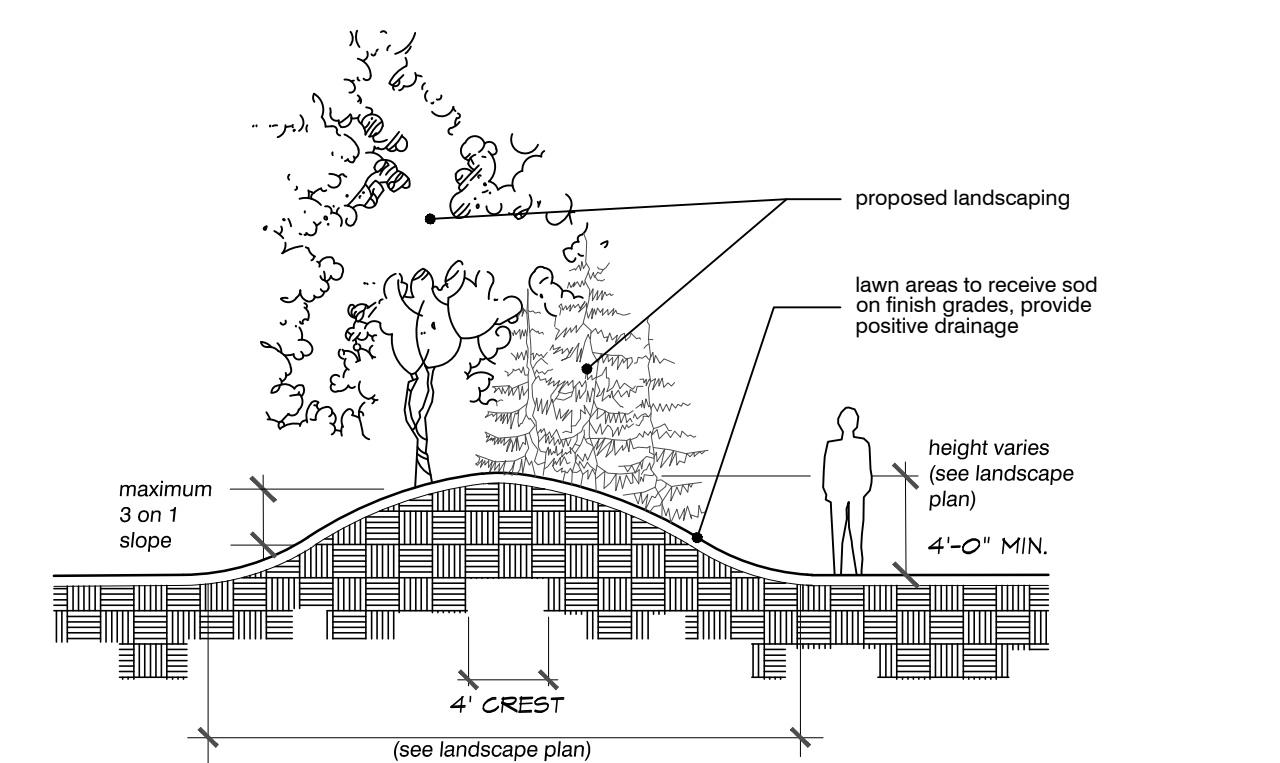
- GENERAL NOTES:**
1. PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE GENOA TOWNSHIP AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
 2. PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS. REPLACE FALLING MATERIAL WITHIN 1 YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
 3. PLANT MATERIALS TO BE OF PREMIUM QUALITY, NO. 1 GRADE NORTHERN NURSERY GROWN, IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.
 4. MULCH IS TO BE NATURAL COLORED, FINELY SHREDDED HARDWOOD BARK OF 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE W/3" PULLED AWAY FROM TRUNK, 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
 5. CALL MISS DIG AT 1-800-482-1111 PRIOR TO ANY CONSTRUCTION.

- DECIDUOUS & EVERGREEN TREE:**
1. TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
 2. DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.
 3. REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.
 4. REMOVE TREE STAKES, GUY WIRES AND TREE WRAP AFTER ONE WINTER SEASON.

- SHRUB:**
1. SHRUB SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
 2. DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.
 3. REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.

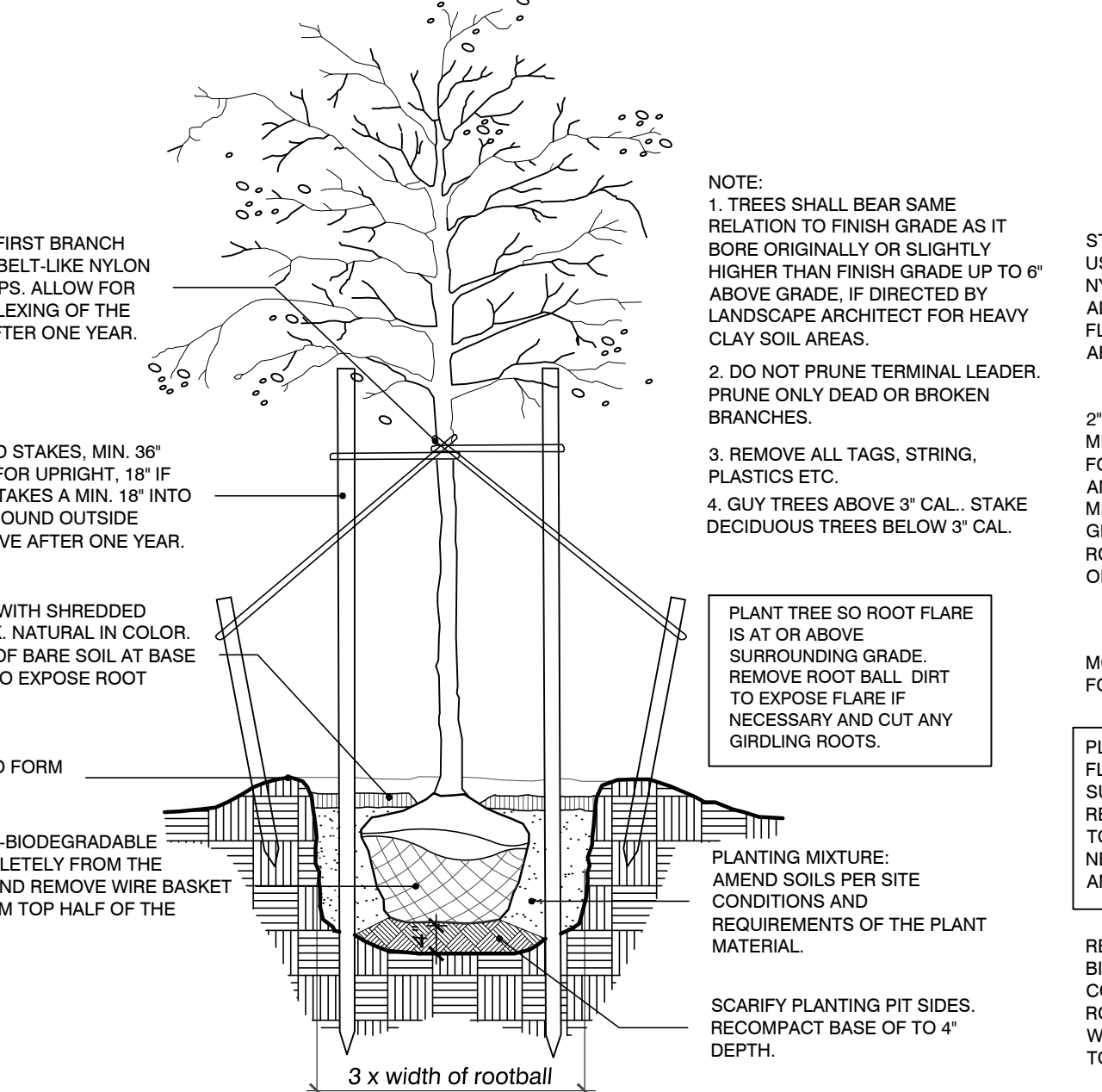
LANDSCAPE MAINTENANCE PROCEDURES AND FREQUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.

1. LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.
2. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
3. ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN 60x (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH 15 AND NOVEMBER 15 OR UNTIL THE FRESH FROST SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE.



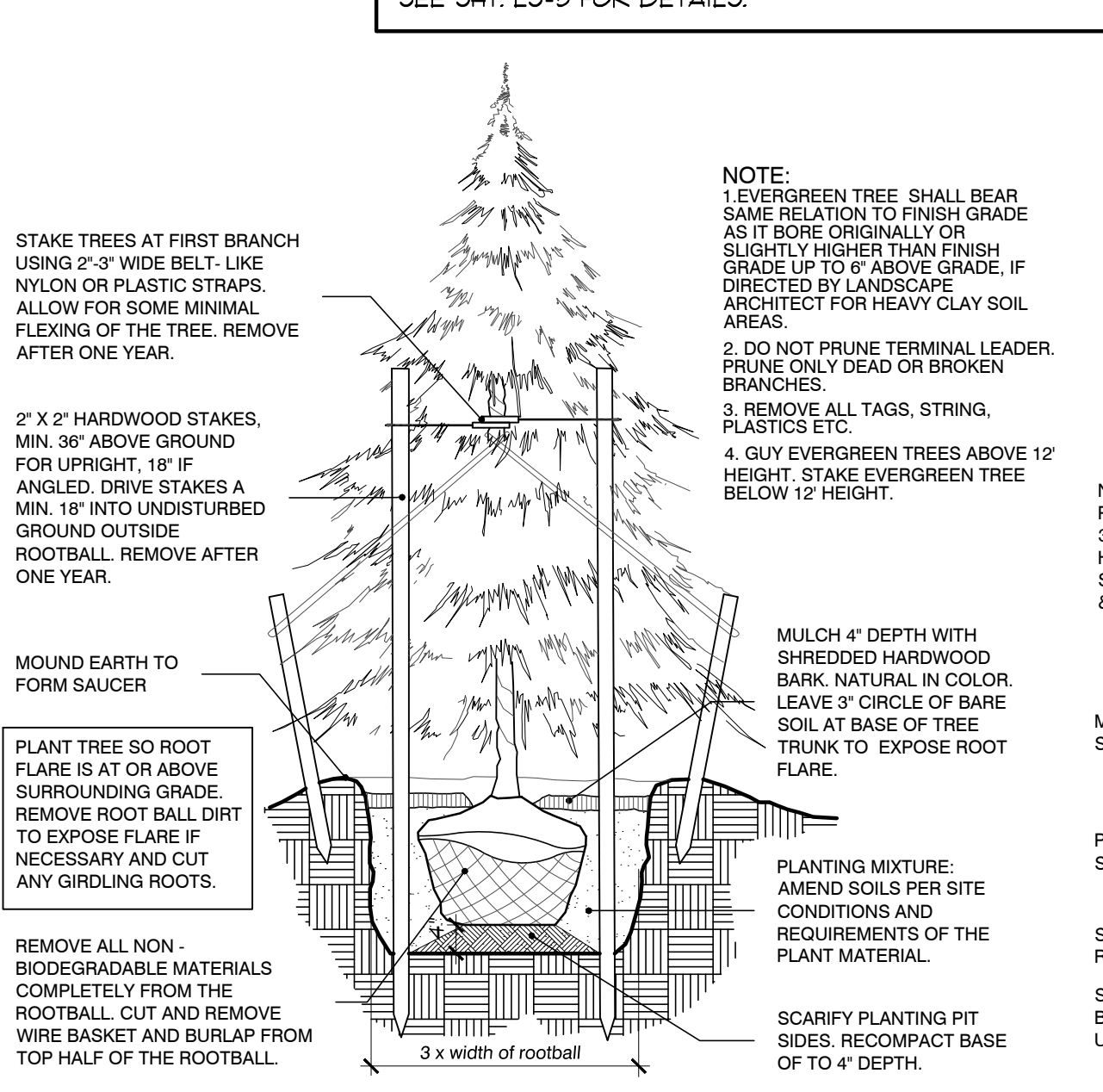
berm planting detail

no scale



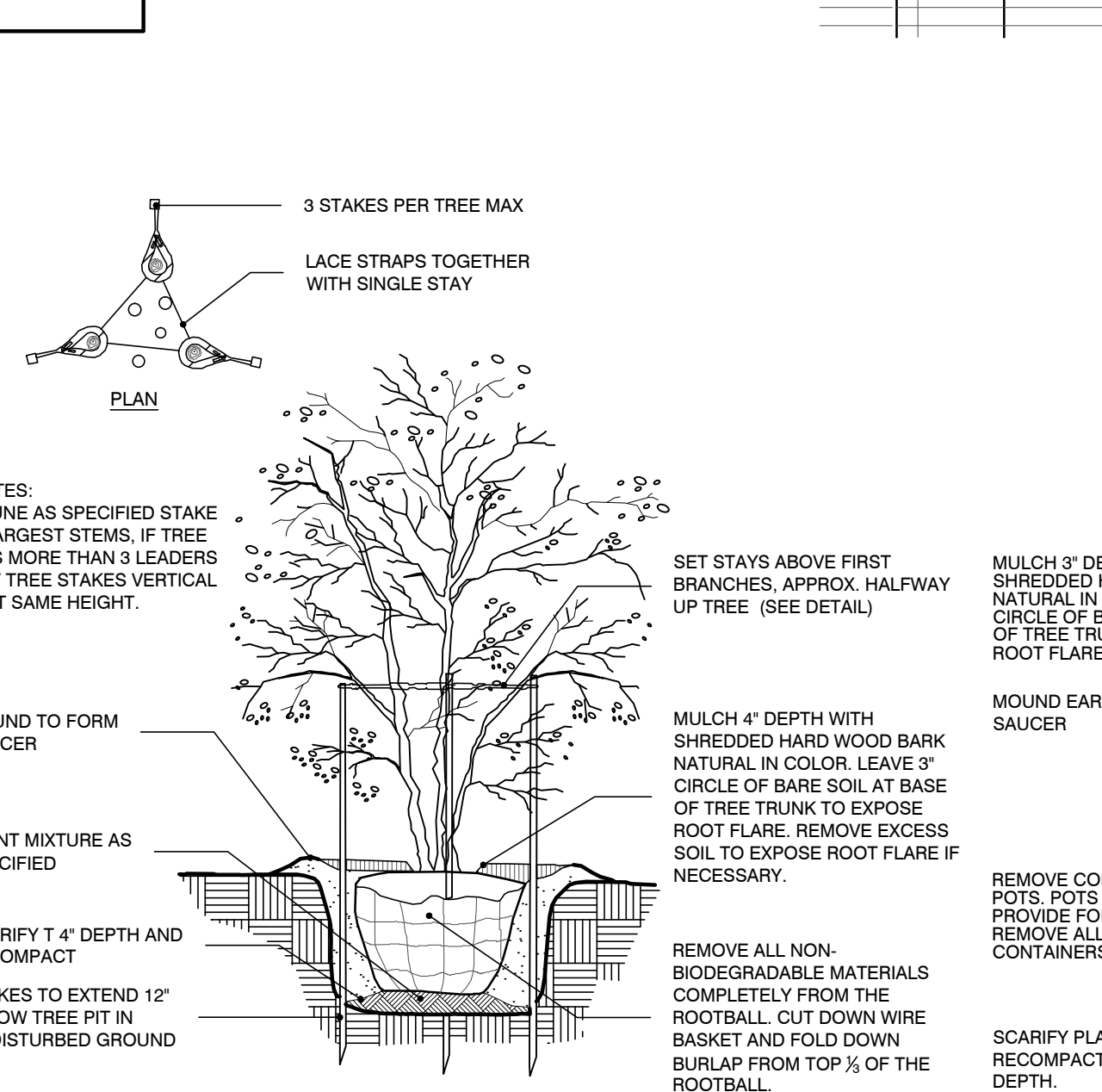
tree planting detail

no scale



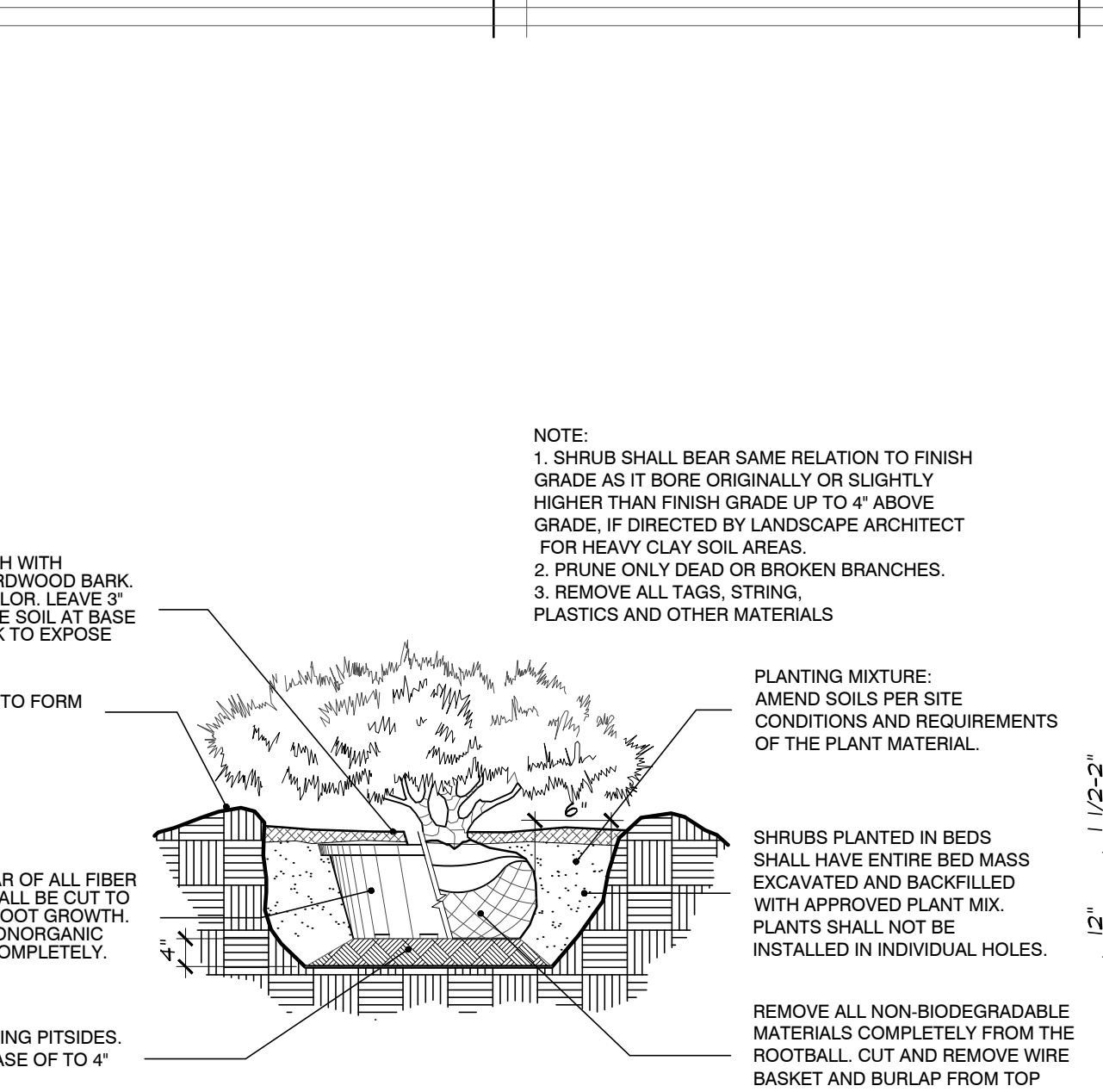
evergreen planting detail

no scale



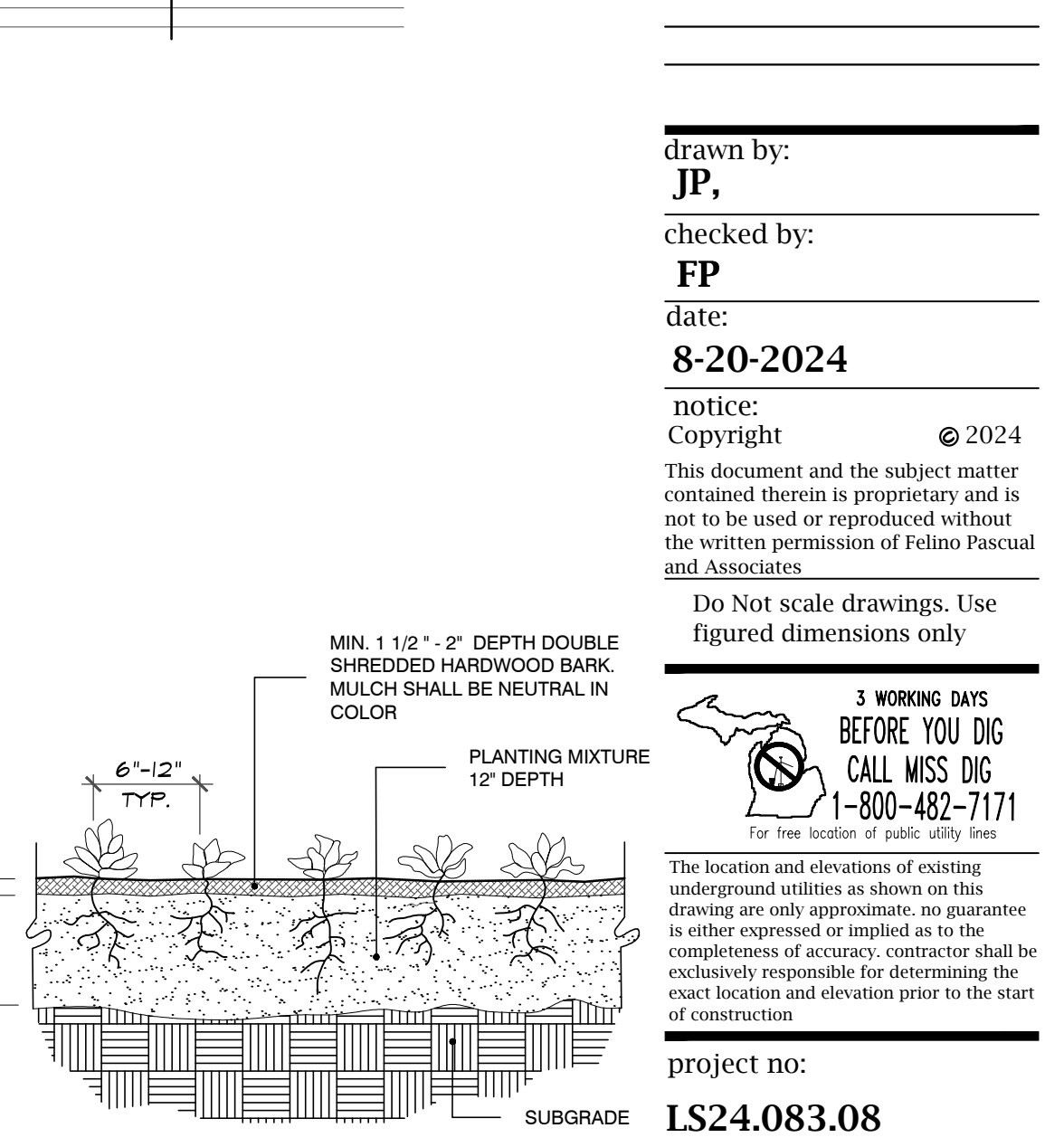
multi-stem tree planting detail

no scale



shrub planting detail

no scale

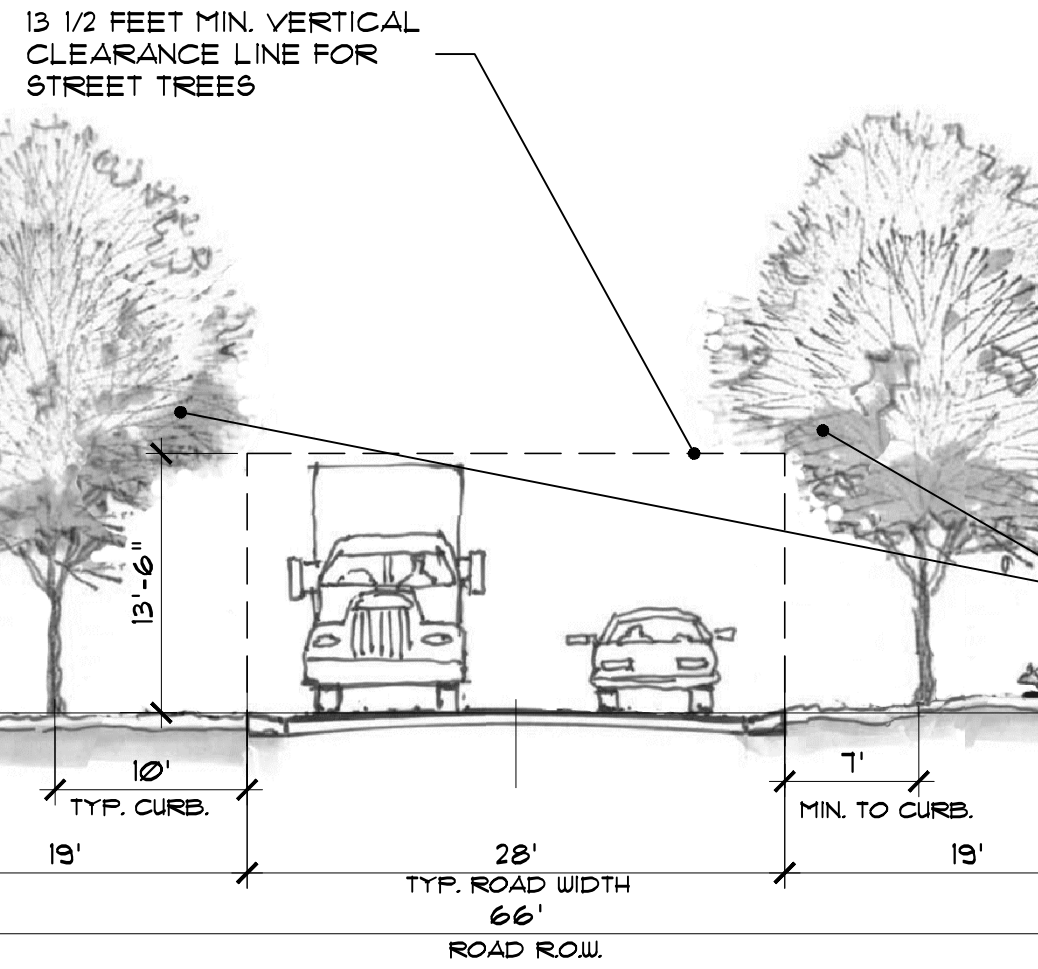


perennial planting detail

no scale

key reference location map

NO SCALE

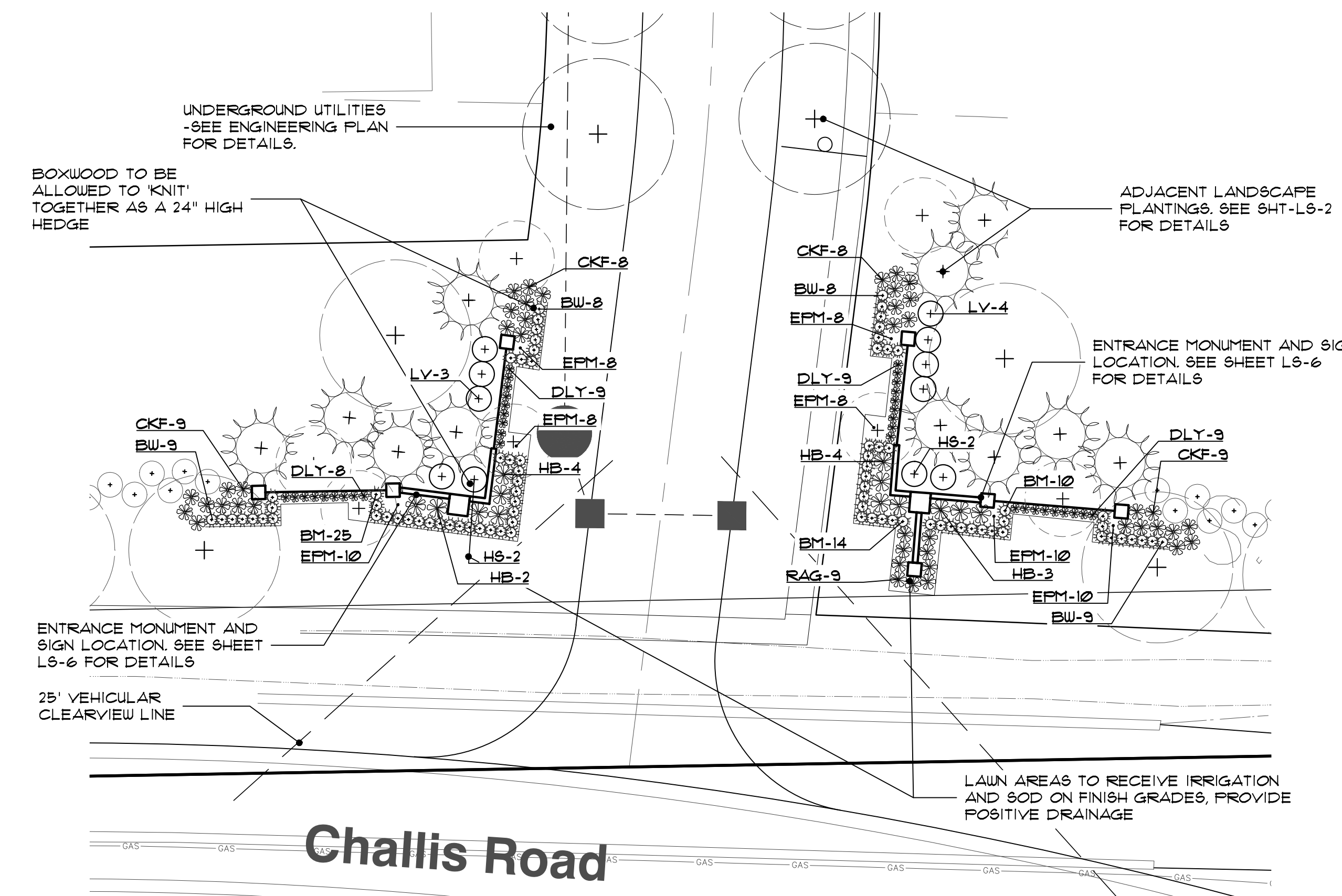


street tree planting detail

SCALE: 1" = 10' - 0"

street trees note:

STREET TREES TO BE INSTALLED A MINIMUM 10' TO 12' FROM THE EDGE OF THE ROAD. NO STREET TREES TO BE INSTALLED OVER PROPOSED OR EXISTING UNDERGROUND UTILITY. ALL STREET TREES TO BE PRUNED AND MAINTAINED A MINIMUM VERTICAL CLEARANCE OF 13 1/2 FEET ALONG THE LENGTH OF ROAD WAY AS REQUIRED PER BRIGHTON AREA FIRE AUTHORITY STANDARDS AND REQUIREMENTS. SEE SHT. L5-5 FOR DETAILS.



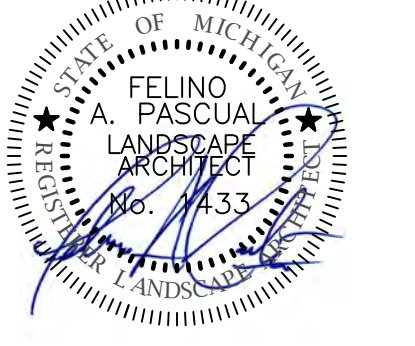
5A entrance landscape planting detail

SCALE: 1" = 20' - 0"

plant material list

key	quant. 5A	botanical name	common name	size	comments
SHRUBS					
BH	83	BUXUS 'GREEN VELVET'	GREEN VELVET BOXWOOD	18" CONT.	24" O.C. SPACING
HB	4	HIBISCUS SYRIACUS 'APHRODITE'	APHRODITE ROSE OF SHARON	36" CONT.	60" O.C. SPACING
LV	7	LIGUSTRUM X 'VICARYI'	GOLDEN VICARY PRIVET	36" CONT.	60" O.C. SPACING
HB	13	HYDRANGEA P. 'ILVOBO'	BOBO HYDRANGEA	30" CONT.	36" O.C. SPACING
RAG	9	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	24" CONT.	42" O.C. SPACING
PERENNIALS AND GRASSES					
CKF	34	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3" CONT.	36" O.C. SPACING
EFM	62	ECHINACEA 'PIXIE MEADOWBRITE'	PIXIE MEADOWBRITE 'PURPLE CONEFLOWERS	4" CONT.	12" O.C. SPACING
DLY	36	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	4" CONT.	18" O.C. SPACING

seal:



client:
LAUTREC
 31550
 Northwestern
 HWY. Suite 200
 Farmington Hills,
 Michigan 48334

project:
THE LEGACY HILLS

project location:
 Genoa Township,
 Michigan
 Challis Road & Bauer Road

sheet title:
 LANDSCAPE MATERIAL LIST, PLANT DETAILS & NOTES

job no./issue/revision date:

- LS24.083.08 SPA 8-26-2024
- LS24.083.09 TWP. COMMENTS 9-26-2024
- LS24.083.10 site updates 10-31-2024

drawn by:
JP,

checked by:
FP

date:
8-20-2024

notice:
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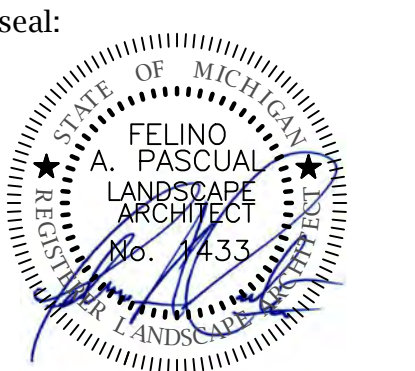
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 Do Not scale drawings. Use figured dimensions only



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project no:
LS24.083.08

sheet no:
LS-5 of 6



entry wall monument / pier/ signage / notes:

1. LOCATE AND STAKE ALL EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION. COORDINATE ANY ADJUSTMENTS WITH LANDSCAPE ARCHITECT.
2. ALL ENTRY WALL LIGHTING SHALL BE CONTROLLED WITH A "PHOTO-EYE" SWITCH. ALL LIGHTING SHALL BE SHIELDED FROM PUBLIC ROW'S AND ADJACENT PROPERTIES.
3. SEE LANDSCAPE PLAN FOR PROPOSED PLANTINGS ADJACENT TO PROPOSED ENTRY SIGN MONUMENT ON SHT. L5-5
4. VERIFY SOIL BEARING CAPACITY PRIOR TO ENTRY SIGN MONUMENT & PIER CONSTRUCTION. IF SOIL BEARING CAPACITY FALLS BELOW STANDARD REQUIREMENTS, CONSULT STRUCTURAL ENGINEER FOR RECOMMENDATION OF FINAL ENTRY MONUMENT & PIER FOOTING DESIGN.
5. SIGNAGE TEXT AND LOGO TO BE METAL PRISMATIC DIMENSIONAL LETTERS. PRIOR TO SIGN INSTALLATION, PERMITS TO BE OBTAINED PER GENOA TOWNSHIP REQUIREMENTS AND APPROVALS.
6. ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO APPROVAL, AND PERMITS PERMITS TO BE OBTAINED PRIOR TO CONSTRUCTION.
7. FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL WITH AN ASSUMED SAFE BEARING CAPACITY OF 2000 P.S.F. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ARCHITECT. VERIFY FOUNDATION SOIL BEARING PRESSURE IN FIELD BY SOILS ENGINEER.
8. MINIMUM CONCRETE STRENGTH TO BE 3000 P.S.I. @ 28 DAYS, U.O.N.; SLABS SHALL BE 3500 P.S.I. MIN. U.O.N.; EXPOSED CONCRETE SHALL BE 4000 P.S.I. WITH 6% ± 1% ENTRAINED AIR U.O.N.
9. ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST RECOMMENDATIONS OF A.C.I.
10. PROVIDE DOUELS INTO FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT AT ALL WALLS, UNLESS OTHERWISE NOTED.
11. PROVIDE MINIMUM 3" CONCRETE COVER FOR REINFORCEMENT BARS BELOW GRADE AND MINIMUM 2" CONCRETE COVER FOR REINFORCEMENT BARS ABOVE GRADE.

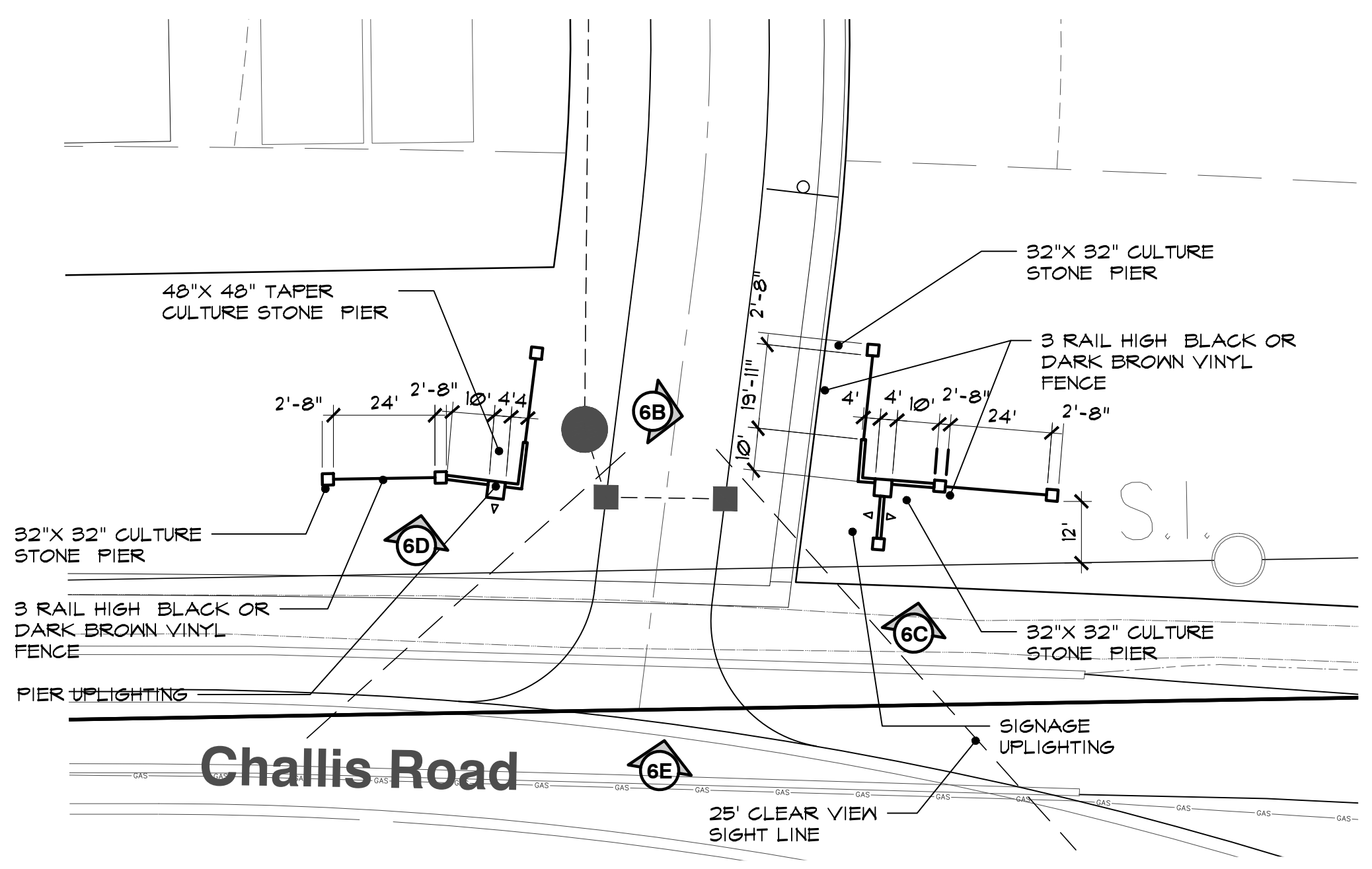


SIGNAGE UPLIGHTING MANUFACTURED BY HYDREL, MODEL NO. 4199, 20660 NORDHOFF STREET, SUITE B CHATSWORTH, CA 91311
 WEB SITE : www.HYDREL.COM
 PHONE: 866-533-9901
 FAX: 866-533-5291
 FINISH SELECTION : BRONZE

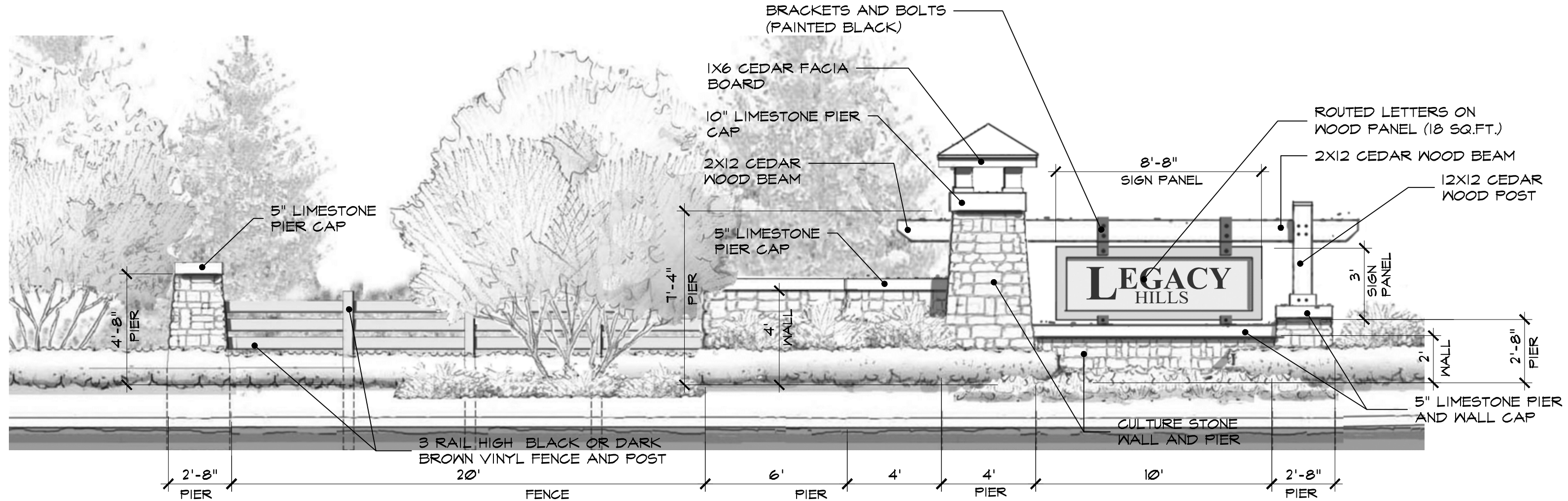
NOTE:
 LIGHT TO BE SHIELD FROM PUBLIC ROW AND LAMPS SHALL NOT BE VISIBLE FROM NORMAL VIEWING ANGLES

sign panel uplighting

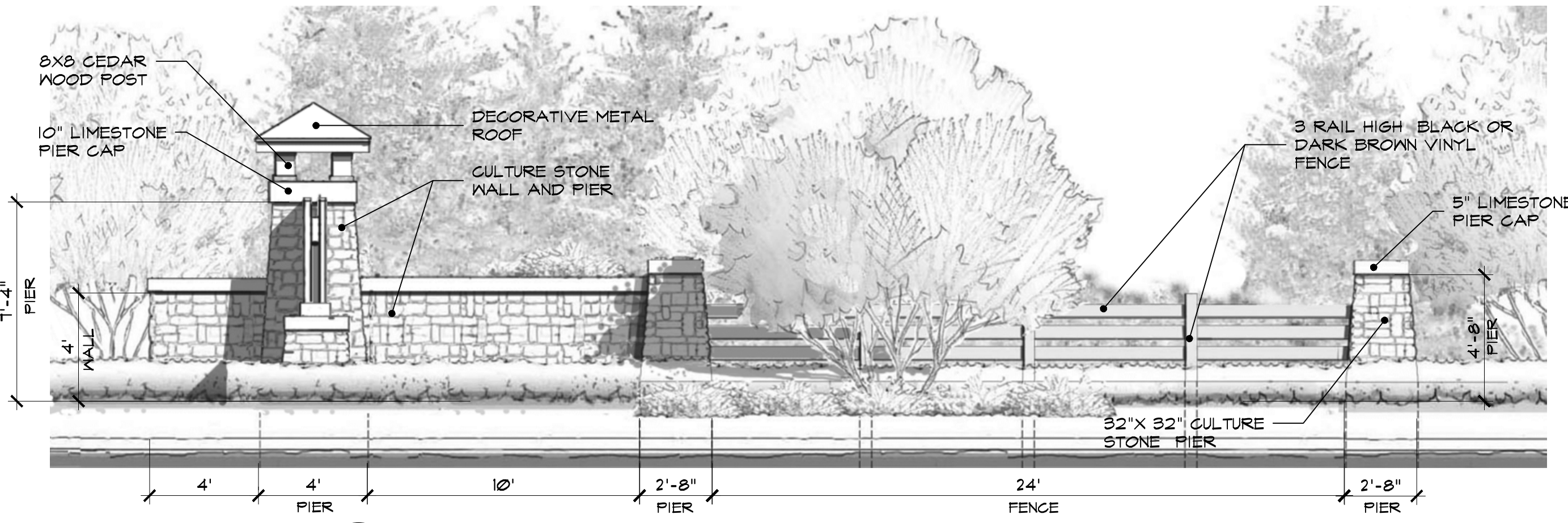
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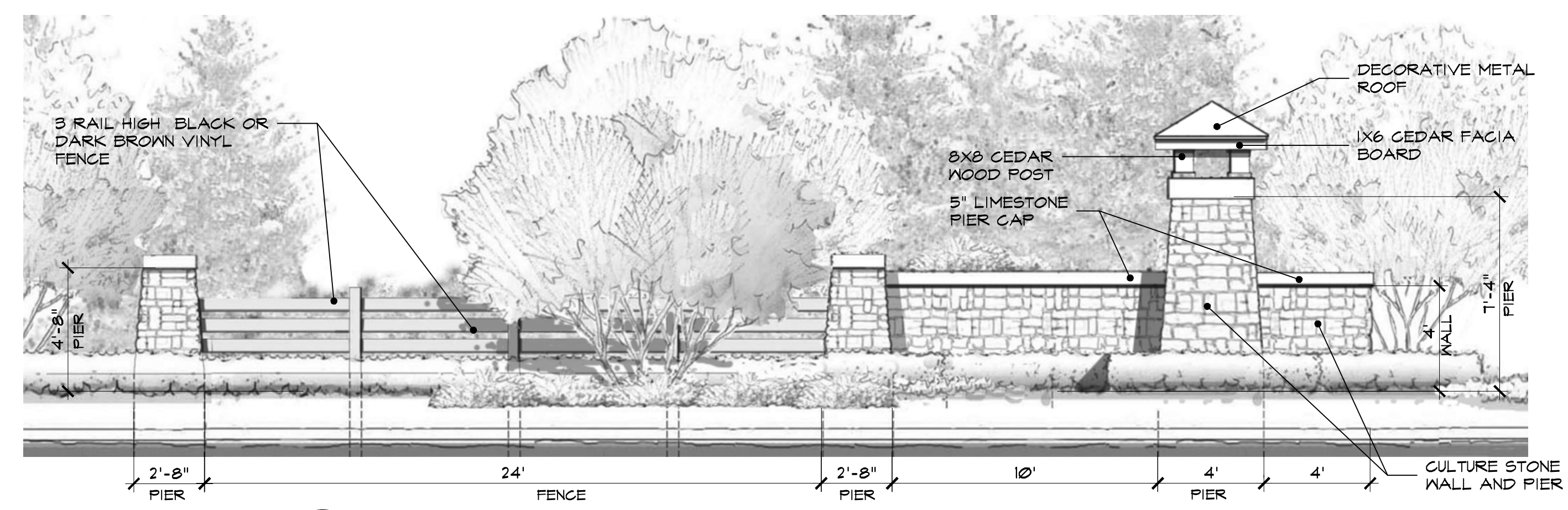
6A entry sign monument elevation
 SCALE: 1/4" = 1' - 0"



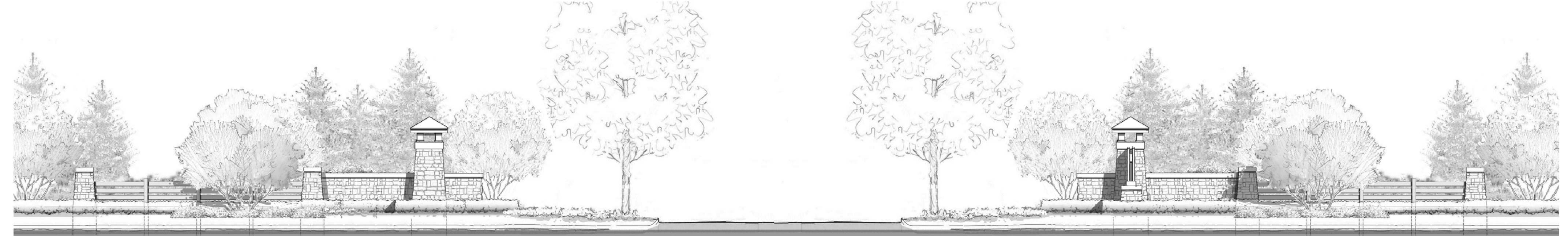
6B entry sign monument elevation
 SCALE: 1/4" = 1' - 0"



6C entry sign monument elevation
 SCALE: 1/4" = 1' - 0"



6D entry sign monument elevation
 SCALE: 1/4" = 1' - 0"



6E entry sign monument elevation
 SCALE: 1/4" = 1' - 0"

client:
LAUTREC
 31550
 Northwestern
 HWY. Suite 200
 Farmington Hills,
 Michigan 48334

project:
THE LEGACY HILLS

project location:
 Genoa Township,
 Michigan
 Challis Road & Bauer Road

sheet title:
ENTRANCE SIGN MONUMENT

job no./issue/revision date:

LS24.083.08 SPA 8-26-2024
LS24.083.09 TWP. COMMENTS 9-26-2024
LS24.083.10 site updates 10-31-2024

drawn by:
JP,
 checked by:
FP
 date:
8-20-2024

notice:
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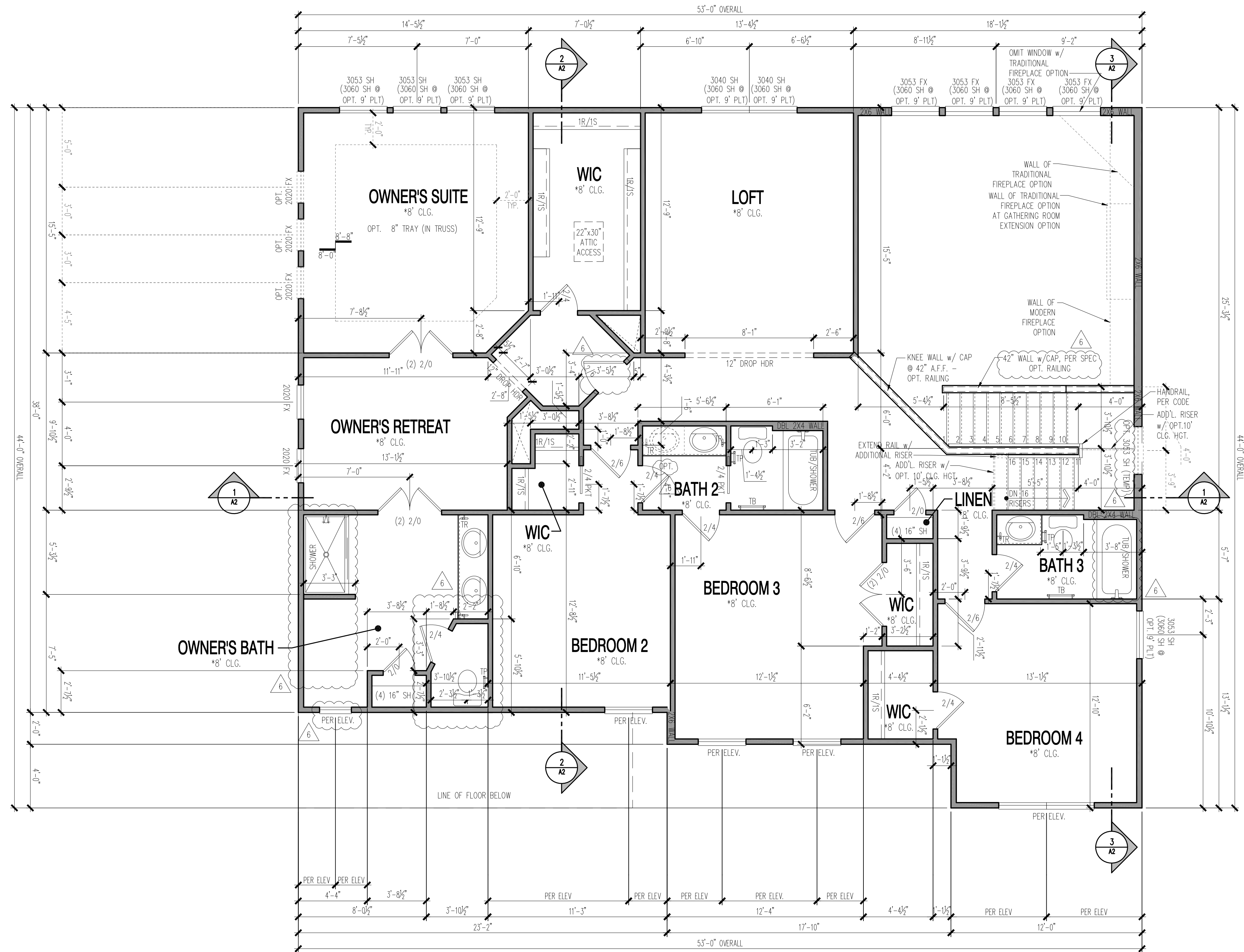
project no:
LS24.083.08

sheet no:

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

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- PROVIDE A 1-3/8" OR LARGER SOLID CORE WOOD DOOR, SOLID CORE STEEL DOOR OR HONEYCOMB CORE STEEL DOOR, OR 20 MINUTE FIRE-RATED DOOR EQUIPPED WITH A SELF-CLOSING DEVICE BETWEEN GARAGE AND LIVING SPACE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
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- FOR ADDITIONAL INFORMATION SEE STRUCTURAL DRAWINGS AND NOTES



SECOND FLOOR PLAN - 4" EXTERIOR WALLS

SCALE: 1/4" = 1'-0"
 * OPT. 9" CLG w/ RAISED CEILING HEIGHT UPGRADE OPTION

Midwest Zone Office
 1900 Golf Road - Suite 300
 Schaumburg, Illinois 60173



Second Floor Plan
 4" Exterior Walls

PRODUCT MANAGER	RICK STARKEY
INITIAL RELEASE DATE:	08/04/2014
REV#	DATE/DESCRIPTION
△	02/05/2015 REVISIONS
△	01/04/2016 PLAN REVISIONS
△	04/29/2016 PCR REVISIONS
△	11/14/2016 PLAN REVISIONS
△	12/01/2017 PCR REVISIONS
△	05/10/2019 PCR REVISIONS

GARAGE HANDING
Garage Left

SPECIFICATION LEVEL

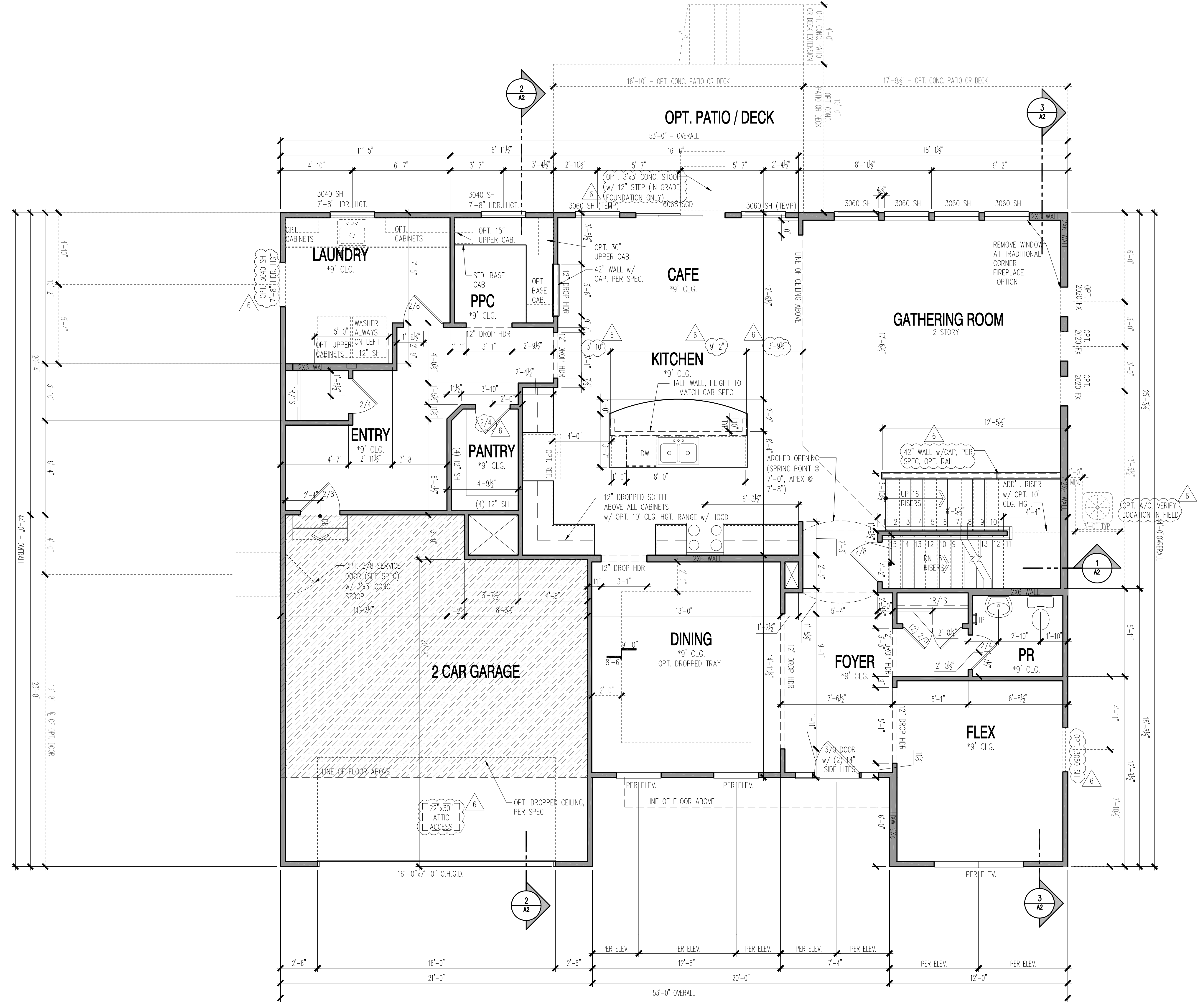
PLAN NAME
Deer Valley
 NPC CHILD NUMBER
2107.300.00.CPM

SHEET
A1
 4-2.1

FLOORPLAN NOTES

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FIRST FLOOR PLAN - 4" EXTERIOR WALLS

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

* OPT. 10' CLG W/ RAISED CEILING HEIGHT UPGRADE OPTION

Midwest Zone Office
1900 Golf Road - Suite 300
Schaumburg, Illinois 60173



First Floor Plan
4" Exterior Walls

PRODUCT MANAGER	RICK STARKEY
INITIAL RELEASE	DATE: 08/04/2014
REV#	DATE/DESCRIPTION
1	02/05/2015 REVISIONS
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GARAGE HANDING
Garage Left

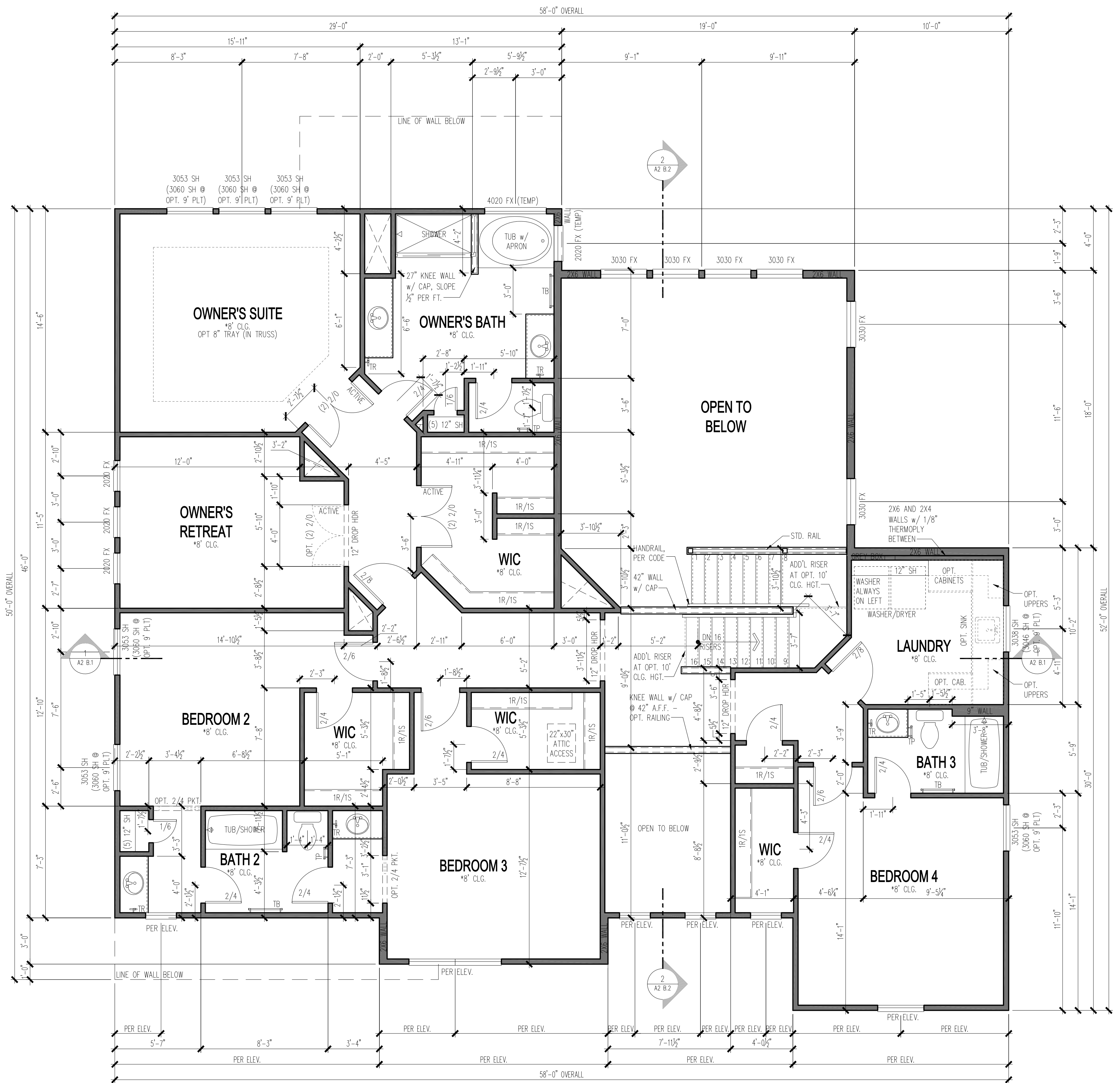
PLAN NAME
Deer Valley
NPC CHILD NUMBER
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- BASEMENTS, HABITABLE ATTICS AND ALL SLEEPING ROOMS MUST HAVE AT LEAST ONE EMERGENCY ESCAPE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. THE EMERGENCY ESCAPE MUST HAVE A 5.7" SPOCLEAR OPENING AND A SILL HEIGHT OF NO MORE THAN 44" ABOVE FINISHED FLOOR. ESCAPE WINDOWS AT GRADE LEVEL MUST HAVE A MIN. OF 5.0 SF OF OPEN AREA. REQUIRED CLEAR OPENINGS SHALL BE A MINIMUM OF 24" HIGH AND 20" WIDE. EMERGENCY ESCAPES WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GRADE MUST HAVE A WINDOW WELL AND LADDER IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES.
- FOR ADDITIONAL INFORMATION SEE STRUCTURAL DRAWINGS AND NOTES.



SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"
 *OPT. 9' CLG W/ RAISED CEILING HEIGHT UPGRADE OPTION

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Midwest Zone Office
 1900 Golf Road - Suite 300
 Schaumburg, Illinois 60173



Second Floor Plan
 4th Exterior Walls

REV #	DATE	DESCRIPTION
1	02/06/2015	PRODUCTION MANAGER Rick Storkley INITIAL RELEASE DATE: 08/04/2014 CURRENT RELEASE DATE: 04/29/2016
2	04/06/2015	
3	04/17/2015	
4	01/04/2016	
5	04/29/2016	PLAN REVISIONS
6	04/29/2016	PCR REVISIONS
7	11/14/2016	PLAN REVISIONS

GARAGE HANDING
Left

PLAN NAME:
Rockwall
 WPK PLAN NUMBER:
2054.300.00.CPM
 LAWSON PLAN ID

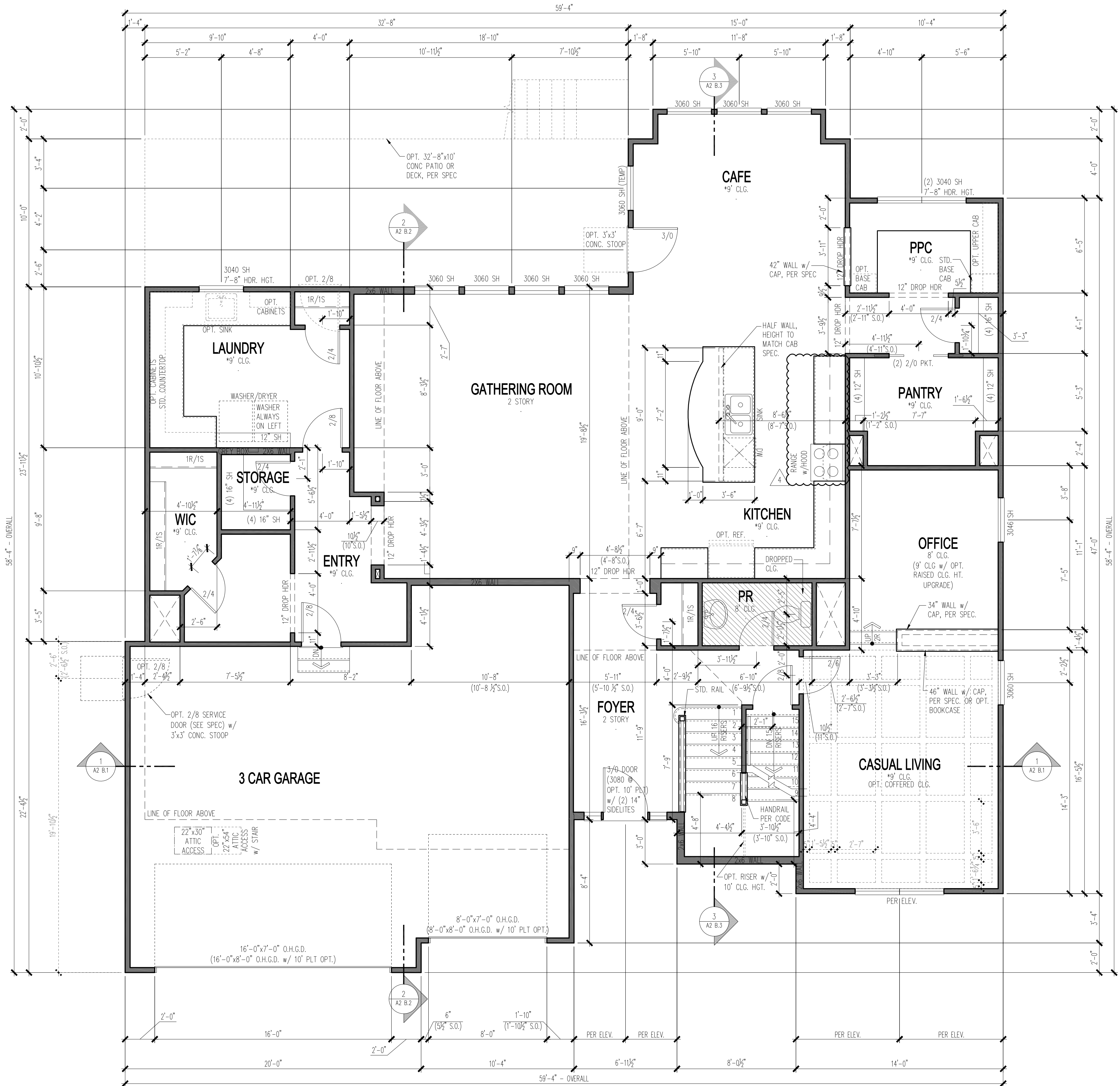
SHEET
A1
 4-2.1

PLOTTED: November 16, 2016 / Annie KI / 2054-ROCKWALL-CZ-BASE-PLAN.DWG

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

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- ALL NON-BEARING WALLS TO BE 2x4 STUDS AT 24" O.C. KITCHEN AND PULTE PLANNING CENTER WALLS, WHERE CABINETS ARE TO BE HUNG, SHALL BE FRAMED AT 16" O.C.
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FIRST FLOOR PLAN

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

* OPT. 10' CLG W/ RAISED CEILING HEIGHT UPGRADE OPTION

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Midwest Zone Office
1900 E. Golf Road, - Suite 300
Schaumburg, Illinois 60173



First Floor Plan
4" Exterior Walls

REV #	DATE	DESCRIPTION
1	02/20/2015	PLAN REVISIONS
2	01/04/2016	PLAN REVISIONS
3	04/29/2016	PCR REVISIONS
4	11/14/2016	PLAN REVISIONS

GARAGE HANDING
Left

PLAN NAME
Skyview
REV. PLAN NUMBER
2056.300.00.CPM
LAWSON PLAN ID

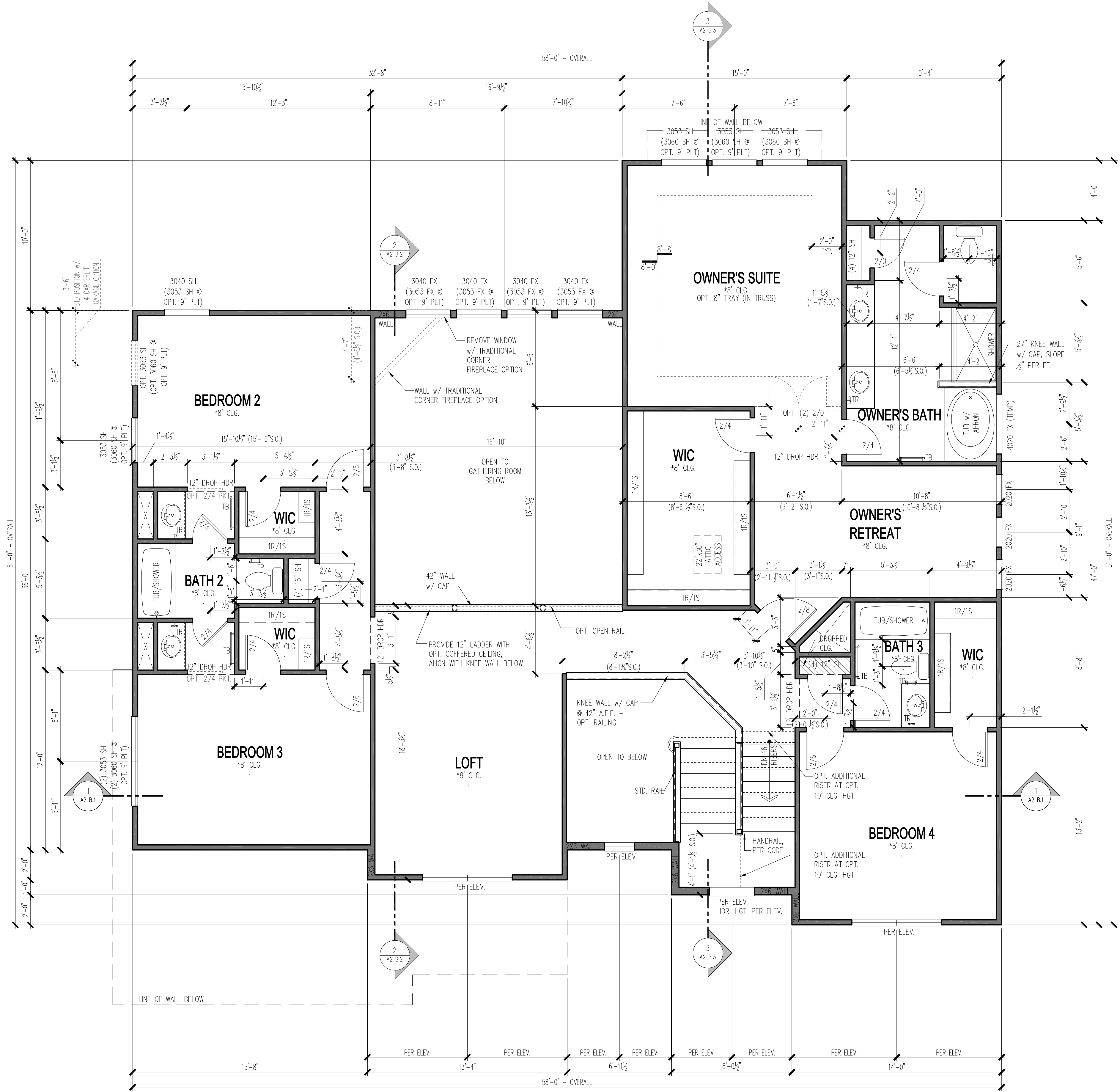
SHEET
A1
4-1.1

PLOTTED: November 28, 2016 / Annie Ki / 2056-SKYVIEW-C2-BASE-PLAN.DWG

FLOORPLAN NOTES

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SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"
 * OPT. 9' CLG w/ RAISED CEILING HEIGHT UPGRADE OPTION

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Midwest Zone Office
 1900 E. Golf Road, - Suite 300
 Schaumburg, Illinois 60173



Second Floor Plan
 4 Exterior Walls

PRODUCTION MANAGER	Rick Storker
INITIAL RELEASE DATE:	08/04/2014
CURRENT RELEASE DATE:	04/29/2016

REV #	DATE / DESCRIPTION
△	02/20/2015 PLAN REVISIONS
△	01/04/2016 PLAN REVISIONS
△	04/29/2016 PCR REVISIONS
△	11/14/2016 PLAN REVISIONS

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GARAGE HANDING
Left

PLAN NAME:
Skyview
 NEW PLAN NUMBER:
2056.300.00.CPM
 LAWSON PLAN ID

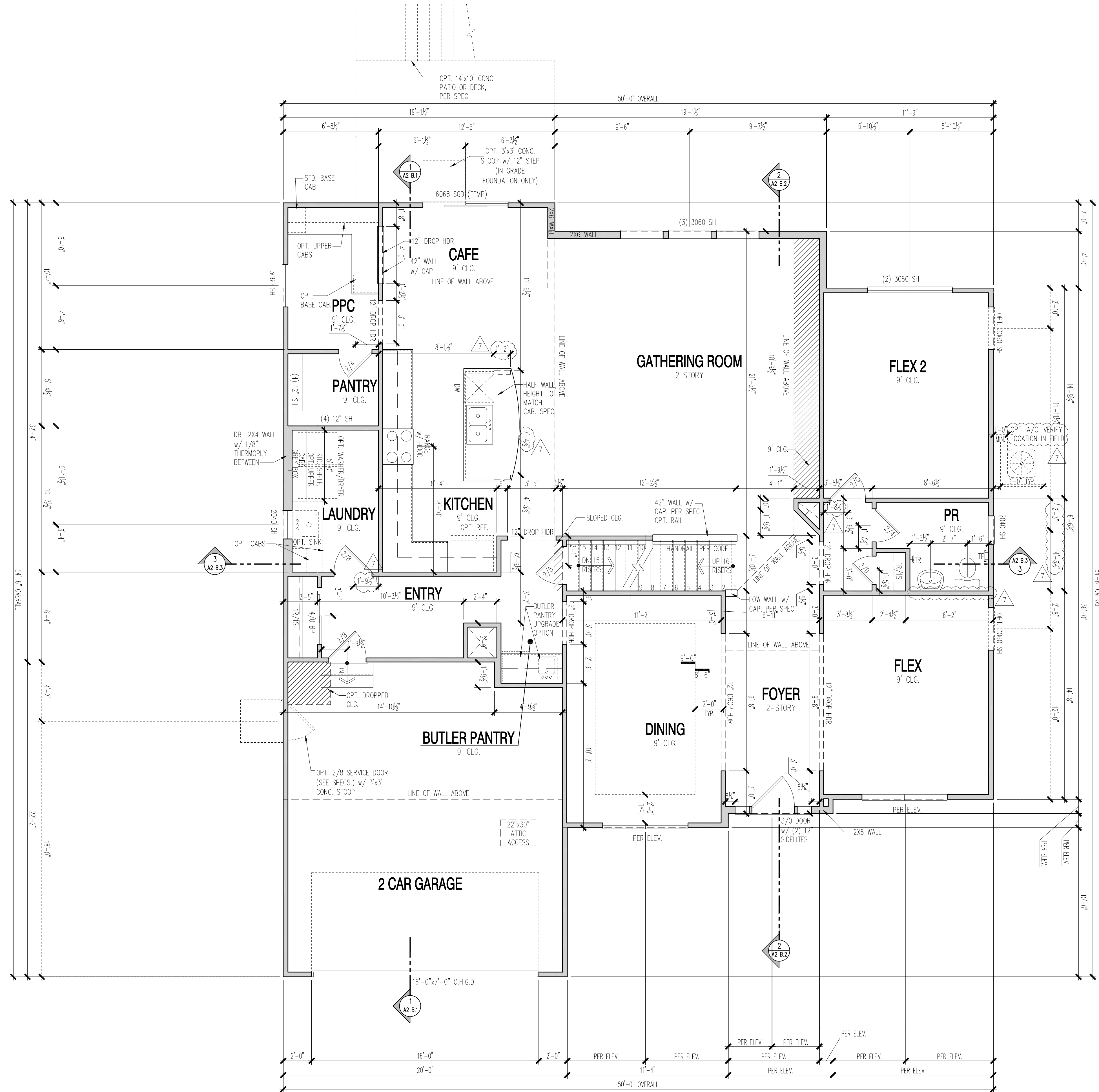
SHEET
A1
 4-2.1

PLOTTED: November 28, 2016 / Annie Ki / 2056-SKYVIEW-C2-BASE-PLAN.DWG

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FIRST FLOOR PLAN - 4" WALLS

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

REV#	DATE/DESCRIPTION
01	01/26/2015
02	03/12/2015
03	12/15/2015
04	03/11/2016
05	11/14/2016
06	12/01/2017
07	05/10/2019

GARAGE HANDLING
Single Family

SPECIFICATION LEVEL

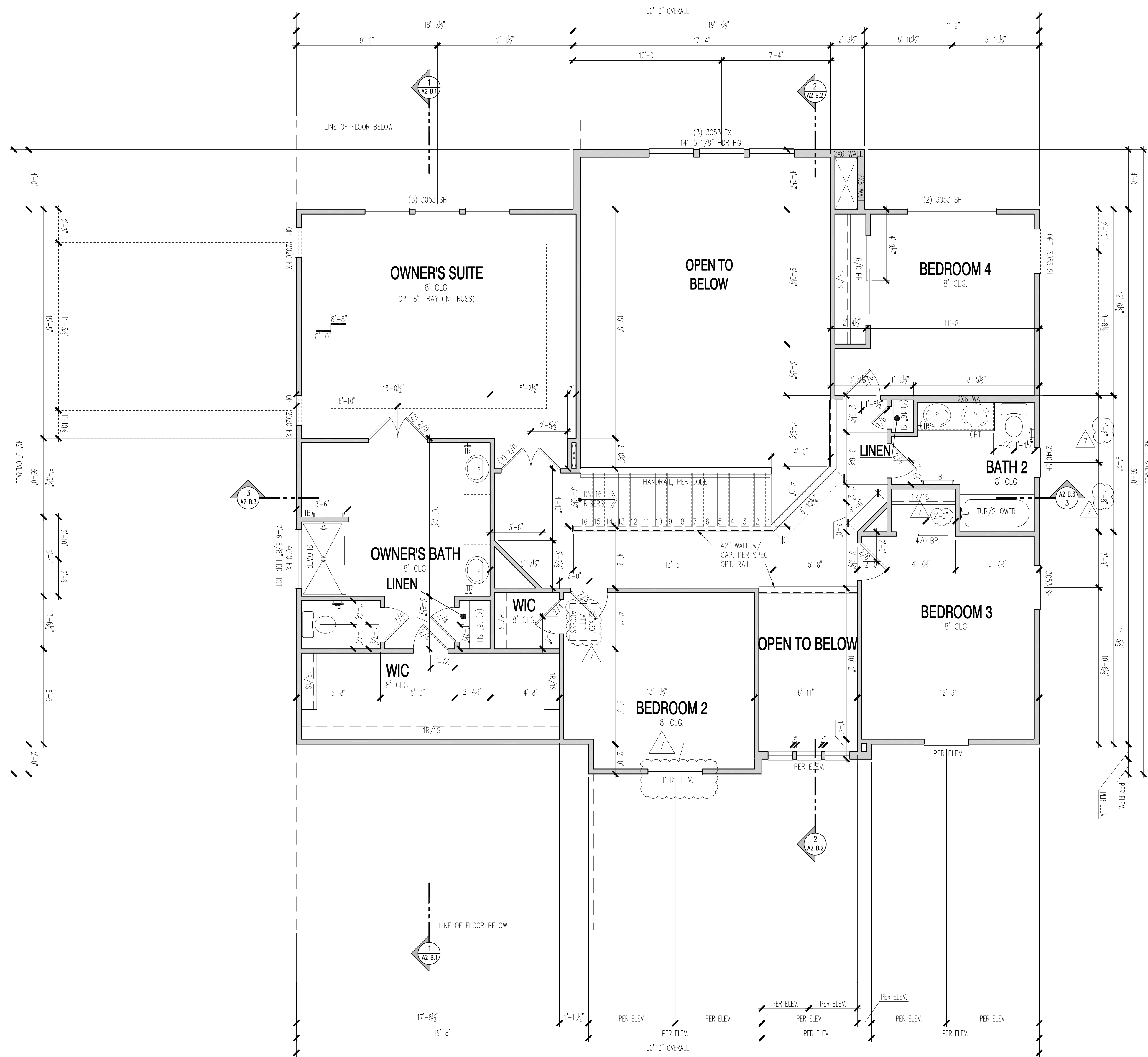
PLAN NAME
Woodside
NPC CHILD NUMBER
2312.300.00.CPM

SHEET
A1
4-1.1

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

REV#	DATE/DESCRIPTION
01	11/14/2014
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03	03/12/2015
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11	11/14/2016
12	12/01/2017
05	05/10/2019

GARAGE HANDLING
Single Family

SPECIFICATION LEVEL

PLAN NAME
Woodside
NPC CHILD NUMBER
2312.300.00.CPM

SHEET
A1
4-2.1

Legacy Hills Deer Valley

Elevations were received after
resubmittal was sent to
consultants



CT2M-MI1



EC2P



EC3U



NC2H



FH2A



PR2N

Legacy Hills

Rockwall



CT2M-MI1



EC3S-MI1



HR3S-MI1



NC3H



PR2N-MI1

Legacy Hills

Skyview



CR2G-MI1



EC3W-MI1



LC2A-MI1



NC3H



PR2H-MI1

Legacy Hills

Woodside



HR3U



HR2F



CT2U



CR2L



NC2L



HR3S

**ARTICLE 11
GENERAL PROVISIONS**

Sec. 11.01 GENERAL DIMENSIONAL STANDARDS

- 11.01.01 **Calculation of (Buildable) Lot Area:** In the calculation of areas required to maintain specific densities, open space requirements and similar needs, no lot or parcel or portion of same shall be used more than once in such calculation, nor shall adjacent outlots or other open space be used in lieu of space contained within the stated boundaries of the subject lot or parcel. In calculating density for residential developments, twenty-five percent (25%) of wetlands area shall be included in computing gross density. Submerged lands shall not be counted towards minimum lot area or density calculations.
- 11.01.02 **Required Area or Space to be Maintained:** No lot or lots in common ownership and no yard, court, parking area, or other space shall be divided, altered or reduced to make such area or dimension less than the minimum required under this Ordinance. If already less than the minimum required, said area or dimension shall not be further divided or reduced.
- 11.01.03 **Access to Dedicated Streets:** Any lot created after the effective date of this Ordinance shall have frontage upon a public street right-of-way or legally recorded access easement meeting the private road or shared driveway requirements of Article 15. Additional access requirements for specific types of uses:
- (a) Single family dedicated lots or condominiums within a planned unit development may have secondary access to a dedicated street through a private road built to Township standards.
 - (b) Multiple family developments, mobile home parks and other types of medium-high density residential development shall have as a minimum, secondary access to a thoroughfare as noted in the Township Master Plan from a private road constructed to Township standards.
 - (d) The Planning Commission may allow secondary access to a dedicated street through a private frontage road, service drive or private road within an approved access easement.
- 11.01.04 **Architectural Projections into Yards:** Except as otherwise provided, all projections shall comply with the setback requirements as provided for principal or accessory buildings for the district in which they are located. For the purposes of this requirement, porches with screens, lattice or removable storm window sashes shall be considered enclosed.

Notwithstanding these requirements, Certain architectural features may project into the required yards as noted in the table below:

PERMITTED ARCHITECTURAL PROJECTIONS INTO REQUIRED YARDS*

Projection	Front Yard	Rear Yard	Waterfront Yard	Side Yard	
				Side Yard 10' or less in LRR	Side Yard
Fireplaces and chimneys under 8' wide	3 ft.	5 ft.	2 ft.	2 ft.	3 ft.
Awnings and canopies	3 ft.	5 ft.	2 ft.	2 ft.	3 ft.
Bay and bow windows	3 ft.	5 ft.	2 ft.	2 ft.	3 ft.
Eaves and cornices, overhanging	3 ft.	3 ft.	3 ft.	2 ft.	3 ft.
Gutters	3 ft.	3 ft.	3 ft.	2 ft.	3 ft.
Mechanical equipment such as HVAC and generators	--	5 ft.	2 ft.	2 ft.	3 ft.
Unroofed porches and stoops	3 ft.	5 ft.	--	2 ft.	3 ft.
ADA Ramps	Permitted in any yard				

* In no case shall projecting architectural elements be less than three (3) feet from a property line except for ADA ramps.

(as amended 10/04/21)

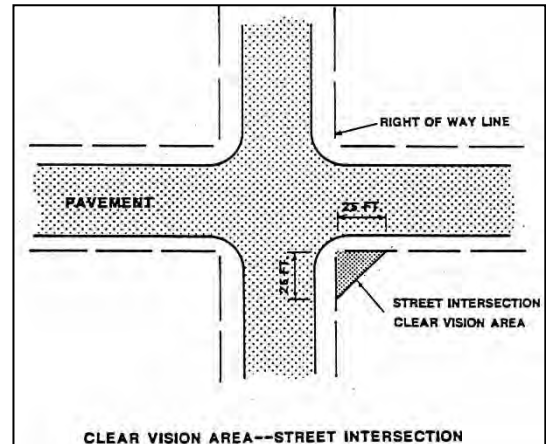
11.01.05 **Supplementary Height Regulations:** The following kinds of structural appurtenances may be permitted to exceed the height limitations for authorized use.

- (a) Schools, churches, hospitals and other institutional buildings may be erected to a height not exceeding sixty (60) feet provided the front, side and rear yards shall not be less than the height of the building wall abutting on such yard.
- (b) Chimneys, church spires, cupolas, domes, towers, water tanks, monuments or other architectural features approved by the Planning Commission may be erected to a height up to sixty (60) feet tall; flag poles may be up to sixty (60) feet tall. The Township shall be provided with sufficient evidence to assure that adjacent uses and structures are not threatened due to a collapse of the structure for any reason. (as amended 10/04/21)
- (c) Any mechanical equipment, including water and gas meters, elevator housings, stairways, tanks, heating, ventilation and air conditioning equipment, and other similar equipment, located on the roof of any building shall comply with the following standards:
 - (1) All such equipment shall be screened by a solid wall, fence, landscaping and/or architectural feature that is constructed of the same material and compatible in appearance with the principal building.
 - (2) Roof-mounted equipment shall not exceed a height of ten (10) feet above the surrounding roof surface, and shall occupy no more than fifteen percent (15%) of the total roof area. When roof-mounted equipment is located on a building that is adjacent to a residential use or is in view from the adjacent roadway, appropriate architectural screening shall be required.
- (d) Structural extensions appropriate to the building design, such as cornices, shall be limited to five feet above the stated height limit.

- (e) Silos and other farm features shall be limited to fifteen (15) feet above the principal structure height limit.

11.01.06 **Intersection Clear Vision Triangle:** No fence, wall, or structure shall be erected, established, or maintained on any lot which will obstruct the view of drivers in vehicles approaching the intersection adjacent to a corner lot or a driveway on any lot. Fences, walls, or structures located in the triangular area described below shall not be permitted to exceed a height of thirty-six (36) inches above the lowest point of the intersecting road(s). The unobstructed triangular area is described as follows:

- (a) The area formed at the corner intersection of two road right of way or easement lines, the two (2) sides of the triangular area being twenty-five (25) feet in length measured along abutting public right of way lines, and third side being a line connecting these two sides, or
- (b) The area formed at the corner intersection of a road right of way or easement and a driveway, the two (2) sides of the triangular area being ten (10) feet in length measured along the right of way line and edge of the driveway, and the third side being a line connecting these two sides.



Sec. 11.02 USES

11.02.01 **Principal Building, Structure or Use:** No lot may contain more than one (1) principal building, structure or use, except groups of multiple-family dwellings, under the same ownership, site condominium projects, mobile home parks, farm worker housing, unified retail/business centers, auto dealerships, office complexes or other groups of buildings the Zoning Administrator deems to be a principal use collectively.

11.02.02 **Determination of "Similar Uses":** Since every type of potential use cannot be addressed in the zoning ordinance, each district provides for "similar uses", referencing this section. All applications for a use not specifically addressed in any zoning district shall be submitted to the Planning Commission for review at a public hearing, based on the following standards.

- (a) A finding the proposed use is not listed as a Permitted or Special Land Use in any zoning district.
- (b) If the use is not addressed in the Zoning Ordinance, the Planning Commission shall select the use listed in the zoning ordinance which most closely resembles the proposed use using criteria such as the nature of the use, aesthetics, traffic generated, potential impact on property values, noise, vibration, dust, smoke, odor, glare and other objectionable impacts in terms of health, safety and welfare in the Township.
- (c) Once a similar use is determined, the proposed use shall comply with any conditional use standards that apply to the similar use.

- (d) Where the Planning Commission determines a proposed use is not similar to a use addressed in the Zoning Ordinance, the applicant may petition for an amendment to the Zoning Ordinance, as described in Article 22.
- (e) The determination as to whether a proposed use is similar in nature and class to another Permitted or Special Land Use within a district should be considered as an expansion of the use regulations, not a variance applying to a particular situation. Any use determined by the Planning Commission to be similar shall thereafter be included in the enumeration of the uses.
- (f) Any use that would constitute a violation of any other Federal, State or local law or regulation shall be prohibited. (as amended 12/31/06)

11.02.03 **Changes in Tenancy/Ownership:** All structures or uses which are conforming uses, nonconforming uses, or approved special uses, planned unit developments or site plans with conditions attached for approval, shall comply with these regulations, special approvals or conditions regardless of change of tenancy or ownership of the property or use. Regulations in this Ordinance pertaining to the discontinuance of nonconforming uses, as provided for elsewhere in this Article, shall continue to be met.

11.02.04 **Voting Place:** The provisions of this Ordinance shall not be so construed as to interfere with the temporary use of any property as a voting place in connection with Township, school or other public election.

11.02.05 **Temporary Buildings and Structures:** Temporary buildings and structures, including trailers incidental to construction work on a lot, may be placed on such lot for a period not to exceed twelve (12) months in conjunction with a project subject to the restrictions of this section.

- (a) Temporary buildings and structures may only be used in conjunction with an approved construction project for the storage of construction materials, tools, supplies and equipment, for construction management and supervision offices, sales and for temporary on-site sanitation, solid waste or fuel facilities, related to construction activity on the same lot. No temporary building or structure shall be used as a dwelling unit.
- (b) A land use permit for such building or structure shall be issued by the Zoning Administrator prior to installation.
- (c) Temporary buildings and structures shall be removed from the lot within fifteen (15) days after an occupancy permit is issued by the Building Department for the permanent structure on such lot, or within fifteen (15) days after the expiration of a land use permit issued for construction on such lot.
- (d) Non-construction related residential temporary buildings and structures shall comply with accessory building and structure regulations of 11.04 and shall be properly maintained.
(as amended 10/04/21)

11.02.06 **Open Storage, Parking and Repair of Vehicles:** Except as otherwise provided in this Section, no boat, tractor, trailer, recreation vehicle, commercial vehicle, or other equipment and supplies may be parked or stored on a lot without a principal building. Except as otherwise provided in this Section, no boat, tractor, trailer, recreation vehicle, commercial vehicle, or

other equipment and supplies may be parked or stored on a residentially zoned lot with a principal building unless they are parked or stored in an enclosed building, or may be permitted as follows:

- (a) Boats, trailers and recreational vehicles of twenty-four (24) feet or less in length shall be parked or stored in a rear or side yard. Boats, trailers and recreational vehicles more than twenty-four (24) feet in length shall not be parked or stored within the minimum required rear or side yard setback. All such vehicles and/or trailers must display proof of current license or registration. The maximum number of boats, tractors, trailers, recreation vehicles may be stored or parked in and residential zoning district is as follows:

Lot Area	Total maximum number of boats, tractors, trailers, and recreation vehicles per lot*	Maximum number of boats, tractors, trailers, recreation vehicles over twenty-four (24) feet in length*
One (1) Acre or less	3	1
More than one (1) acre but less than five (5) acres	5	2
Five (5) acres or more	7	3

*Up to two (2) additional boats, tractors, trailers, or recreational vehicles of any length may be allowed provided they are fully screened and not visible from off-site.

- (b) Recreation trailers or recreation vehicles may be parked in the front yard for loading, unloading and cleaning purposes for a maximum of 48 hours (see also Section 11.03.03).
- (c) On waterfront lots, no tractor, trailer, commercial vehicle, recreational vehicle or similar equipment and supplies shall be parked or stored in the waterfront yard except non-motorized boats under eighteen (18) feet in length, boating supplies and docking equipment. Two (2) recreational vehicles, boats or trailers may be parked in the front yard driveway of a waterfront lot provided a minimum setback of twenty (20) feet is provided from a front lot line and the minimum parking requirements for the use is maintained.
- (d) Parking of vehicles, boats, trailers, recreational vehicles, tractors or other equipment in residential zoning districts shall be provided on a paved or gravel surface. Gravel surfaces shall be of sufficient depth to accommodate the weight of a vehicle and shall be resistant to erosion and weathering. Short term parking may be allowed on a grass/lawn for temporary short-term events whereby in no case shall vehicles be parked in grass/lawn for more than forty-eight (48) hours or more than five (5) times in a calendar year.
- (e) The carrying out of repair, restoration and maintenance procedures or projects on vehicles in any residential zoning district, when such work is not conducted entirely within the interior of the vehicle, shall be subject to the following limitations:
- (1) All vehicles parked or being worked on outside shall be licensed and operable. All cars, boats, tractors, trailers, recreation vehicles, and commercial vehicles shall be parked or placed on a paved surface. The Zoning Administrator may approve alternative surfaces, such as gravel or stone, if the applicant

demonstrates that the surface is resistant to erosion and weathering and will not have a negative impact on the environment.

- (2) Procedures exceeding forty-eight (48) hours in duration or which require the vehicle to be inoperable in excess of forty-eight (48) hours shall be conducted within an enclosed building.
- (3) Inoperable vehicles and vehicle parts shall be stored inside an enclosed building.
- (f) Class one (1) and two (2) US DOT Gross Vehicle Weight Rating vehicles, less than 10,000 pounds, may be parked on residential property. No more than one class three (3) heavy duty pickup truck, not more than 14,000 pounds, may be parked on residential property. Vehicles associated with GAAMPs-verified farms are exempt from this requirement.
- (g) It shall be unlawful for the owner, tenant or lessee of any lot to permit the open storage or outdoor parking of semi-tractor (WB-50 or larger) trucks and/or semi-trailers, bulldozers, earth carriers, cranes or any other similar equipment or machinery, unless the storage or display of such vehicles is an approved use or unless the vehicles are temporarily parked while in use for approved construction on such lot (i.e., active land use permit). (as amended 8/24/07)
- (h) No vehicle used for transporting flammable liquids, explosives, toxic or noxious materials shall be parked or stored in a residential district.
- (i) Open storage, parking and repair is not permitted on any vacant land.
- (j) No part of any boat, tractor, trailer, recreational vehicle, commercial vehicle, or other equipment and supplies may encroach into public right-of-way or be placed or parked over sidewalks, pathways, private roads or other thoroughfares.
(as amended 10/04/21)

11.02.07 **Essential Public Services**

- (a) Essential services shall be permitted as authorized under any franchise in effect within the Township, subject to regulation as provided in any law of the State of Michigan or in any ordinance of the Township, provided it is the intent of this section to ensure conformity of all structures and uses to the requirements of this Zoning Ordinance wherever such conformity shall be practicable and not in conflict with the specific requirements of such franchise, state legislation or Township Ordinance. In the absence of such conflict, the Zoning Ordinance shall prevail. Appeal from the application of this Ordinance in regard to any essential service may be made to the Zoning Board of Appeals. Wireless communication facilities shall be subject to the requirements of Section 11.02.08.
- (b) Necessary utility services shall be provided for all uses. Prior to obtaining a plumbing permit for sewer or water, a land use permit shall be obtained from the Township. On-site septic systems shall be designed in accordance with the standards of the Livingston County Health Department.

11.02.08 **Wireless Communication Facilities**

- (a) **Purpose and Intent.** The regulations of this Section are intended to conform with federal laws and administrative rules governing facilities needed to operate wireless communication systems and to set forth procedures and standards for review and approval for the location of such facilities within Genoa Township. It is the Township's intent to reasonably regulate the location and design of such facilities to retain the integrity of neighborhoods and the character, property values and aesthetic quality of the township. Given the increase in the number of wireless communication facilities requested as a result of the new technology and the Federal Telecommunications Act of 1996, it is the policy of the township that all users should co-locate on Attached Wireless Communication Facilities and Wireless Communication Support Structures. Collocation is proposed in order to assure the most economic use of land and to prevent the proliferation of duplicative services. In recognition of the Township's concern that technological advances may render certain Wireless Communication Facilities obsolete or unnecessary in the future, requirements are set forth for the removal of unused or unnecessary facilities in a timely manner and provide security for removal.
- (b) **Definitions.** The following definitions shall apply in the interpretation of this Section:
- (1) **Wireless Communication Facilities.** All structures and accessory facilities relating to the use of the radio frequency spectrum for the purpose of transmitting or receiving radio signals. This may include, but shall not be limited to, radio towers, television towers, telephone devices, personal communication transmission equipment and exchanges, microwave relay towers, telephone transmission equipment building, small cell wireless equipment and commercial mobile radio service facilities. This definition does not include "reception antenna" for an individual lot as otherwise defined and regulated in this zoning ordinance. (as amended 10/04/21)
 - (2) **Attached Wireless Communication Facilities.** Wireless communication facilities affixed to existing structures, including but not limited to existing buildings, towers, water tanks, or utility poles.
 - (3) **Wireless Communication Support Structures.** Structures erected or modified to support wireless communication antennas. Support structures within this definition include, but shall not be limited to, monopoles, lattice towers, light poles, wood poles and guyed towers, or other structures which appear to be something other than a mere support structure.
 - (4) **Collocation.** Location by two (2) or more wireless communication providers of wireless communication facilities on a common structure, tower, or building, to reduce the overall number of structures required to support wireless communication antennas within the township.
- (c) **Zoning Districts and Approval Process for Wireless Communication Facilities.** Wireless Communication Facilities may be located within the Township in accordance with the Table set forth below.

Type/Location of Wireless Communication Facility	Districts Permitted	Approval Procedure
1. Attached to existing structures:		
- Attached to an existing conforming structure that will not be materially altered or changed in appearance	All non-single family residential districts	Administrative Land Use Permit approval by the Zoning Administrator
- Attached to an existing utility pole that will not be modified or materially alter the pole or impair sight lines or compromise safety	All districts	Administrative Land Use Permit approval by the Zoning Administrator, provided letter of acceptance is provided by the utility company
- Collocation upon an attached wireless communication facility previously approved for such collocation	All districts	Administrative Land Use Permit approval by the Zoning Administrator
2. Located on a municipally owned site:		
-Monopole up to 150 feet in height ¹	All districts	Special Land Use and Site Plan approval by the Township Board in accordance with Article 19.
3. Located on a site owned by another governmental entity, religious institution, or public school		
-Monopole up to 100 feet in height ¹	All districts	Special Land Use and Site Plan approval by the Township Board in accordance with Article 19.
4. New facility not addressed above:		
- Monopole up to 120 feet tall ¹	AG, PRF, OSD, GCD & RCD Districts	Special Land Use and Site Plan approval by the Township Board in accordance with Article 19.
- Monopole any height	IND District	Special Land Use and Site Plan approval by the Township Board in accordance with Article 19.
- Lattice tower where it can be demonstrated that a monopole is not feasible.	IND District	Special Land Use and Site Plan approval by the Township Board in accordance with Article 19.

1. Height may be increased ten (10) feet where determined necessary to provide future collocation. (as amended 12/31/06 and 10/04/21)

(d) Application Requirements. The following information shall be provided with the application, in addition to other submittal requirements for sketch plan or site plan, as required in Article 18.

(1) Signed certification by a professional engineer licensed by the State of Michigan with regard to the manner in which the proposed structure will fall in the event of damage, accident or injury (i.e. “fall zone”), and that the setback area provided shall accommodate the structure should it fall or break and provide a reasonable buffer in the event the structure fails.

(2) A description of performance guarantee to be posted at the time of receiving a land use permit for the facility to ensure removal of the facility when it is abandoned or is no longer needed. The applicant shall demonstrate that funds will be available to the Township for removal of any structure used for wireless communication in an amount which reasonably reflects the cost of removal of the facility and restoration of the property or structure upon which the facility is located or placed. Adequate funds shall also be provided to cover the Township's administrative costs in the event that the applicant or its successor does not remove the Wireless Communication Facility in a timely manner.

The security shall, at the election of the Township Board, be in the form of: (1) cash; (2) security bond; (3) letter of credit; or, (4) an agreement in a form approved by the Township Attorney and recordable at the office of the Register of Deeds, establishing a promise of the applicant and owner of the property, or their successors, to remove the facility in a timely manner as required under this section of the ordinance. It shall further be provided that the applicant, owner or successor, shall be responsible for payment of any costs or attorney fees incurred by the Township in securing removal.

- (3) A map that illustrates existing and known proposed wireless communication facilities within Genoa Township and adjacent communities, which are relevant in terms of potential collocation or to demonstrate the need for the proposed facility. If and to the extent the information in question is on file with the township, the applicant shall be required only to update as needed. Any such information which is trade secret and/or other confidential commercial information which, if released would result in commercial disadvantage to the applicant, may be submitted with a request for confidentiality in connection with the development of governmental policy MCL 15.243(1)(g). This ordinance shall serve as the promise to maintain confidentiality to the extent permitted by law. The request for confidentiality must be prominently stated in order to bring it to the attention of the community.
 - (4) For all new facilities, in recognition of the township's policy to promote collocation, a written agreement, transferable to all assessors and assigns, that the operator shall make space available on the facility for collocation.
 - (5) The name, address and phone number of the person to contact for engineering, maintenance and other notice purposes. This information shall be continuously updated during all times the facility is on the premises.
- (e) Design Standards Applicable to All Facilities. In addition to the Criteria of Site Plan Review listed in Article 18 and Special Land Use Review listed in Article 19, all wireless communication facilities shall be constructed and maintained in accordance with the following standards:
- (1) Facilities shall be located and designed to be harmonious with the surrounding areas. The Planning Commission may require unique design of the structure to either diminish the visual impact or to create an architectural feature that will contribute to or enhance community character.
 - (2) A permit for the construction and use of a new wireless communication facility shall not be granted until the applicant demonstrates a feasible collocation is not available for the coverage area and capacity needs. Additionally, a permit for the construction and use of a new wireless communication facility shall not be granted in the AG District until it has been demonstrated that there are no feasible alternative locations. (as amended 10/04/21)
 - (3) All new and modified wireless communication facilities shall be designed and constructed to accommodate collocation, with a written agreement in a format approved by the Township Attorney.

- (4) Landscaping shall be provided to screen the structure base, accessory buildings and enclosure from adjacent uses and public rights-of-way.
- (5) Elevations of the accessory buildings shall be provided. All accessory buildings shall be constructed of brick, provided the Planning Commission may waive this requirement for a building that is located in the Industrial district and is not visible from a public right-of-way or non-industrial zoning district.
- (6) Fencing shall be provided for protection of the support structure and security from children and other persons who may otherwise access facilities.
- (7) Any nonconforming situations on the site, such as, but not limited to, outdoor storage, signs, inadequate landscaping, unpaved parking, lack of a sidewalk, improper lighting or similar conditions shall be brought into conformance prior to the erection of the wireless communication facility. If existing buildings or structures are not in conformance with the current zoning standards, improvements shall be made to decrease the nonconformity or additional landscaping shall be provided to reduce the impact of the nonconformity and the wireless facility.
- (8) The operator shall comply with applicable federal and state standards relative to the environmental effects of radio frequency emissions.
- (9) The applicant shall demonstrate that the requested height of the new or modified support structure and antenna shall be the minimum height necessary for reasonable communication by the applicant, including additional height to accommodate future collocation where appropriate.
- (10) Minimum required setbacks for new facility or support structure.
 - a. From any agricultural or residential district - the height of the structure, plus twenty-five (25) feet, provided the engineering information required in (d)(1) is provided. The person or body with authority to approve the facility may decrease this setback to that provided in c below upon a finding that no residential use exists or is expected on the adjacent site. (as amended 10/04/21)
 - b. From any existing or proposed rights-of-way or other publicly traveled roads or non-motorized improved pathways - half the height of the structure, plus twenty-five (25) feet, provided the engineering information required in (d)(1) is provided; otherwise the setback shall be the height of the facility.
 - c. From non-residential district - one half the height of the structure, plus ten (10) feet, provided the engineering information required in (d)(1) above demonstrates such setback is adequate.
 - d. In the agricultural (AG) District, spacing from an off-site residential building shall be not less than one thousand (1000) feet. The person or body with authority to approve the facility may decrease this setback to that provided in c above upon a finding that there are no

other alternatives and if impacts to adjacent residential use have been mitigated. (as amended 10/04/21)

- (11) Accessory buildings shall be a maximum of fourteen (14) feet high and shall be set back in accordance with the requirements for principal buildings in that zoning district.
 - (12) There shall be unobstructed access to the support structure, for operation, maintenance, repair and inspection purposes, which may be provided through or over an easement. This access shall have a width and location determined by such factors as: the location of adjacent thoroughfares and traffic and circulation within the site; utilities needed to service the tower and any attendant facilities; the location of buildings and parking facilities; proximity to residential districts and minimizing disturbance to the natural landscape; and the type of equipment which will need to access the site.
 - (13) Where an attached wireless communication facility is proposed on the roof of a building if the equipment enclosure is proposed as a roof appliance or penthouse on the building, it shall be designed, constructed and maintained to be architecturally compatible with the principal building. The equipment enclosure may be located within the principal building or may be an accessory building. If proposed as an accessory building, it shall conform with all district requirements for principal buildings, including yard setbacks.
 - (14) The support system shall be constructed in accordance with all applicable building codes and shall include the submission of a soils report from a geotechnical engineer, licensed in the State of Michigan. This soils report shall include soil borings and statements confirming the suitability of soil conditions for the proposed use.
 - (15) The requirements of the Federal Aviation Administration, Federal Communication Commission, and Michigan Aeronautics Commission shall be noted. Any aviation hazard lighting shall be detailed on the plans.
 - (16) A maintenance plan, and any applicable maintenance agreement, shall be presented and approved as part of the site plan for the proposed facility. Such plan shall be designed to ensure the long term, continuous maintenance to a reasonably prudent standard.
- (f) Removal. As a condition of every approval of a wireless communication facility, adequate provision shall be made for removal of all or part of the facility by users and owners upon the occurrence of one or more of the following events:
- (1) When the facility has not been used for one hundred eighty (180) days or more. For purposes of this section, the removal of antennas or other equipment from the facility, or the cessation of operations (transmission and/or reception of radio signals) shall be considered as the beginning of a period of non-use.
 - (2) Six (6) months after new technology is available at reasonable cost, as determined by the Township Board, which permits the operation of the communication system without the requirement of the support structure.

- (3) The situations in which removal of a facility is required, as set forth in paragraph 1 above, may be applied and limited to portions of a facility.
 - (4) Upon the occurrence of one or more of the events requiring removal, specified in paragraph (1) above, the property owner or persons who had used the facility shall immediately apply or secure the application for any required demolition or removal permits, and immediately proceed with and complete the demolition/removal, restoring the premises to an acceptable condition as reasonably determined by the Zoning Administrator.
 - (5) If the required removal of a facility or a portion thereof has not been lawfully completed within sixty (60) days of the applicable deadline, and after at least thirty (30) days written notice, the Township may remove or secure the removal of the facility or required portions thereof, with its actual cost and reasonable administrative charge to be drawn or collected and/or enforced from or under the security posted at the time application was made for establishing the facility.
- (g) Collocation.
- (1) Statement of Policy. It is the policy of Genoa Township to minimize the overall number of newly established locations for Wireless Communication Facilities and Wireless Communication Support Structures within the Township and to encourage the use of existing structures for Attached Wireless Communication Facilities. If a provider fails or refuses to permit collocation on a facility owned or controlled by it, where collocation is feasible, the result will be that a new and unnecessary additional structure will be required, in contradiction with Township policy. Collocation shall be required unless an applicant demonstrates that collocation is not feasible.
 - (2) Feasibility of Collocation. Collocation shall be deemed "feasible" for the purpose of this section where all of the following are met:
 - a. The wireless communication provider or property owner where collocation is proposed will accept market rent or other market compensation for collocation and the wireless communication provider seeking the facility will pay such rates.
 - b. The site on which collocation is being considered, taking into consideration reasonable modification or replacement of a facility, is able to provide structural support.
 - c. The collocation being considered is technically reasonable, e.g. the collocation will not result in unreasonable interference, given appropriate physical and other adjustments in relation to the structure, antennas and the like.
- (h) Nonconforming facilities and penalties for not permitting collocation. If a party who owns or otherwise controls a wireless communication facility shall fail or refuse to alter a structure to accommodate a proposed and otherwise feasible collocation, such facility shall thereupon and thereafter be deemed to be a nonconforming structure and use, and shall not be altered, expanded or extended in any respect. In addition, if a

party refuses to allow collocation in accordance with the intent of this Section, and this action results in construction of a new tower, the township may refuse to approve a new wireless communication support structure from that party for a period of up to five (5) years. Such a party may seek and obtain a variance from the Zoning Board of Appeals if and to the limited extent the applicant demonstrates entitlement to variance relief which, in this context, shall mean a demonstration that enforcement of the five (5) year prohibition would unreasonably discriminate among providers of functionally equivalent wireless communication services, or that such enforcement would have the effect of prohibiting the provision of personal wireless communication services.

- (i) Variances. The Zoning Board of Appeals may consider a variance from the standards of this Section, based upon a finding that one or more of the following factors exist, as appropriate for the type of variance requested:
 - (1) For location, the applicant has demonstrated that a location within a district or location in accordance with the standards of this Section cannot reasonably meet the coverage or capacity needs of the applicant.
 - (2) For no collocation the applicant has demonstrated that a feasible collocation is not available for the coverage area and capacity needs because existing structures cannot support the facility, that collocation would result in unreasonable interference, or that reasonable financial terms are not available for collocation.
 - (3) For setback, the applicant has provided engineering information that documents that the tower is self-collapsing and that the setback area provided shall accommodate the structure should it fall or break and provide a reasonable buffer in the event the structure fails.
 - (4) For height, the height requested is due to signal interference due to topography, tall buildings, masses of trees, or other obstructions, or would reduce the number of towers to the benefit of the township.
 - (5) For all, the applicant has proposed means to mitigate any negative impacts through provision for future collocation, if found to be appropriate by the township, and special design of the facility and site.
 - (6) For all, the wireless communication and accessory facilities shall be designed to be compatible with the existing character of the proposed site, neighborhood and general area such as a steeple, bell tower, or similar form.

Sec. 11.02.09

Medical Marihuana/Recreational Marihuana (as amended 10/04/21)

- (a) Purpose and intent. The regulations of this Section are intended to conform with Michigan's Medical Marihuana Act ("MMMA"), MCL 333.26421, et seq. and Michigan Supreme Court ruling in *DeRuiter v Byron Township*, 505 Mich. 130 (2020) and the Court of Appeals ruling in *Charter Township of Ypsilanti v Pontius*, unpublished per curiam opinion of the Court of Appeals, issued December 29, 2020 (Docket No. 340487). It is the Township's intent to curtail problems associated with insufficient or improper electrical supplies, problems with ventilation leading to mold, offensive odors, other health hazards and/or other hazards that are associated with the

cultivation, growth, harvest, and storage of marihuana in structures, particularly in commercial and residential settings.

This article is intended to permit those persons in need of marihuana for medicinal purposes as allowed under the MMMA, to be afforded a reasonable opportunity to be treated, and for those persons who are permitted to furnish medical marihuana, to furnish it within the limitations of the MMMA and Michigan Zoning Enabling Act, MCL 125.3101, et seq. (“MZE A”), and the geographical restrictions imposed by the Zoning Ordinance in order to protect the public health, safety, and welfare.

This article is also intended to recognize the rights of individuals 21 years of age and older to use, possess, store, consume, process or cultivate, grow, harvest, and store marihuana (referred to collectively as the “use of recreational marihuana”) in their residence in accordance with the Michigan Regulation and Taxation of Marihuana Act (MRTMA), MCL 333.27952, et seq.,

This article is further intended to protect and preserve the public health, safety, and welfare of the Township, the quality of life and stability of property values, including, but not limited to, the value of residential, commercial and industrial districts.

Therefore, this Article is intended to prohibit a caregiver’s cultivation, growth, harvest, and storage of marihuana in residential and commercial districts in order to protect and preserve peace, order, property and safety of persons as a result of issues associated with the growth of marihuana in residential and commercial districts including problems with insufficient or improper electrical supply, problems with ventilation leading to mold, offensive odors, or other health hazards and other hazards which are associated with the cultivation, growth, harvest, and storage of marihuana in residential and commercial settings and which is otherwise often difficult to detect and regulate. The MZE A provides the Township with statutory authority to impose zoning limitations as set forth in this Article.

- (b) Definitions. The following words, terms and phrases, when used in this subsection, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning
- (1) MMMA. The Michigan Medical Marihuana Act, MCL 333.26421 et seq. currently, or as amended. (“Act or “MMMA”)
 - (2) Registered Primary Caregiver. A person meeting the definition of caregiver under the MMMA and who has been issued and possesses a registry identification card and possesses the documentation that constitutes a valid registry under the MMMA.
 - (3) Marihuana. Marihuana means that term as defined in Section 7106 of the Public Health Code, 1978 PA 368, MCL 333.7106.
 - (4) Medical Use. Medical use means the acquisition, possession, cultivation, manufacture, use, internal possession, delivery, transportation of marihuana, or paraphernalia relating to the administration of marihuana to treat or alleviate a registered qualifying patient's debilitating medical condition, or

symptoms associated with the debilitating medical condition, as further defined under the MMMA.

- (5) **Registered Qualifying Patient.** A person meeting the definition under state law and who has been issued and possesses a registry identification card which is valid under the MMMA, as amended.
- (6) **Enclosed Locked Facility.** An enclosed locked facility means a closet, room, or other comparable stationary and fully enclosed area equipped with secure locks or other functioning security devices that permit access only by a registered primary care giver, or registered qualifying patient. Marihuana plants grown outdoors, are considered to be in an enclosed, locked facility if they are not visible to the unaided eye from an adjacent property when viewed by an individual at ground level, or from a permanent structure and are grown within a stationary structure that is enclosed on all sides, except for the base, by chain-link fencing, wooden slats, or a similar material that prevents access by the general public and that it is anchored, attached, or affixed to the ground; located on land that is owned, leased, or rented by either the registered qualifying patient, or a person designated through the department registration process, as the primary giver, for the registered qualifying patient, or patients for whom the marihuana plants are grown; and equipped with functioning locks or other security devices that restrict access only to the registered qualifying patient, or the registered primary caregiver, who owns, leases, or rents the property on which the structure is located. Enclosed, locked facility includes a motor vehicle if both of the following conditions are met:
 - a. The vehicle is being used temporarily to transport living marihuana plants from one location to another with the intent to permanently retain those plants at the second location.
 - b. An individual is not inside the vehicle unless he or she is either the registered qualifying patient to whom the living marihuana plants belong, or the individual designated through the Department of Registration process as the primary caregiver for the registered qualifying patient.
- (7) **Transfer.** To convey, sell, give, deliver, or allow the possession by another person or entity
- (8) **MRTMA.** The Michigan Regulation and Taxation of Marihuana Act Initiated Law 1 of 2018, MCL 333.27952 et. seq currently, or as amended. (“MRTMA”)
- (9) **Other provisions and terms.** The other provisions and terms of the MMMA and MRTMA for purposes of deferential context are incorporated by reference as though more fully restated herein.

(c) **Requirements.**

- (1) **Medical marihuana for registered qualifying patients or any individual over the age of twenty-one (21).** Registered qualifying patients, or visiting

qualified patients and individuals over the age of twenty-one years old, may use, possess, and store medical marihuana as provided in the MMMA, MCL 333.26421 et seq as amended, and marihuana as provided in the MRTMA, MCL 333.27952 et. seq as amended, and as further regulated herein.

- a. May use, possess and store marihuana in their principal residence within the Township for personal use only, and shall comply at all times and in all circumstances with the Act, MRTMA and the General Rules of the Michigan Community Health or the Michigan Department of Licensing and Regulatory Affairs, as they may be amended from time to time.
- b. May only cultivate, grow, harvest, and store marihuana for him or herself in compliance with the MMMA and the MRTMA, on a residentially zoned parcel or otherwise authorized for residential use in an enclosed locked facility, inaccessible on all sides and equipped with locks or other security devices that permit access only by the registered qualifying patient and individuals twenty-one years or older, provided that no more than twelve (12) marihuana plants are possessed, cultivated, stored or processed on the premises at once.
- c. No equipment or process shall be used in growing, processing, or handling marihuana which creates additional noise, vibration, glare, light, fumes, odors or electrical interference detectable to the normal senses at or beyond the property line of the property. In case of electrical interference, no equipment or process shall be used which creates visual or audible interreference with any radio, television, broadband, or similar receiver off the premises or causes fluctuation in line voltage off the premises.
- d. The separation of plant resin from a marihuana plant by butane extraction or any other method that utilizes a substance with a flashpoint below 100 degrees Fahrenheit in any public place, a motor vehicle, inside a residential structure or the curtilage of a residential structure is prohibited.
- e. If a room with windows is utilized as a marihuana-cultivation or grow location, any lighting methods that exceed usual residential use between the hours of 11:00 p.m. and 6:00 a.m. shall employ shielding methods, without alteration to the exterior of the residence or dwelling unit, to prevent ambient light spillage that causes or creates a distraction or nuisance to adjacent residential properties.
- f. If the registered patient, or individual twenty-one years or older, is not the owner of the premises, a written statement that there is no lease or that the lease does not prohibit the cultivation of marihuana shall be provided.
- g. No person other than the registered patient or individual twenty-one years or older shall be engaged or involved in the growing, processing, handling of marihuana.

- h. Use of the registered patient's residential dwelling unit for medical marihuana or an individual twenty-one years or older for recreational marihuana related purposes, shall be clearly incidental and subordinate to its use for residential purposes. Not more than one hundred (100) square feet of any residential dwelling unit and/or accessory structure on a residential lot, shall be used for the growing, processing, and handling of medical or recreational marihuana.
 - i. Any modifications to the dwelling unit made for the purpose of cultivation, growing, harvesting, and storing medical or recreational marihuana shall comply with all applicable building, electrical, mechanical, and fire safety code requirements, including all requisite permit applications and related inspections.
 - j. No part of an accessory building, detached garage, pole barn, or similar building or structure shall be used for the growing, processing, or distribution of medical or recreational marihuana unless such building or structure has been inspected and approved for the building, electrical, mechanical, and fire safety requirements of such use and fits the definition of an enclosed, locked facility.
 - k. The registered qualifying patient, individuals over the age of twenty-one and the owners, agents, and employees of the parcel at which marihuana for personal or medical use is present are responsible jointly and severally for compliance with this section.
 - l. All marijuana cultivation, growth, harvest, and storage shall have odor mitigation systems such that odor is imperceptible from the outside of any property line.
- (2) **Registered Primary Caregiver Operations.** Any registered primary caregiver may acquire, possess, cultivate, grow, harvest, store, manufacture, transfer, or transport medical marihuana compliant with the MMMA, MCL 333.26421 et seq. as amended. Cultivation of medical marihuana by a registered primary care giver as defined under the MMMA, is prohibited in any zoning district, except the Agricultural (AG) and Industrial (IND) Districts subject to the following:
- a. A registered primary caregiver may only grow, cultivate, manufacture, process, and store marihuana on a conforming parcel occupied by a permitted use in the AG district and IND district; and in an enclosed locked facility.
 - b. A registered primary caregiver facility cultivating, growing, harvesting, manufacturing, processing and storing medical marihuana must not be located within one thousand (1,000) feet of any other medical marihuana facility or off-premises residential dwelling.
 - c. A registered primary caregiver facility cultivating, growing, harvesting, manufacturing, processing and storing medical marihuana must not be located within one thousand (1,000) feet of

any school, childcare facility, community center, youth center, playground, public or private library, housing facility owned by a public housing authority, and place of worship as measured from the outer most boundaries of the lot or parcel on which the medical marihuana facility is located.

- d. Not more than one registered primary caregiver with a maximum of 72 marihuana plants but no more than 12 plants for each individual registered qualifying patient as set forth in the MMMA shall be allowed per parcel.
- e. The registered primary caregiver is responsible for utilizing an enclosed locked facility upon the agricultural or industrial zoned parcel, compliant with the MMMA for cultivating, growing, harvesting, manufacturing, processing, and storing marihuana for medical use only. The enclosed locked facility utilized by the primary registered caregiver, shall provide separation by fully enclosed walls, or fences, for plants that are grown on behalf of each registered qualifying patient, on whose behalf the registered primary caregiver is furnishing marihuana for medical use, so it is accessible only to the primary caregiver and registered patient. The cultivating, growing, harvesting, manufacturing, processing, and storing of medical marihuana is permitted only by registered primary caregivers and registered qualifying patients.
- f. All caregiver marihuana cultivation, grow, harvest, manufacture, process, and storing facilities are required to be in compliance with the state requirements and shall have odor mitigation systems such that odor is imperceptible from the outside of any building or lease line. A ventilation plan shall be required for marihuana cultivation, growth, harvest, manufacturing, processing, and storage facilities that provides for adequate ventilation so as to prevent pesticides, insecticides or other chemicals used in the cultivation of marihuana or marihuana related products from being dispersed or released outside the building or lease line. The plan shall further provide for resulting smoke, vapor, fumes, gases and particulate matter from marihuana or its cultivation, growth, harvest, manufacture, processing, and storage to be effectively confined to the any building or lease line.
- m. No equipment or process shall be used in growing, processing, or handling marihuana which creates additional noise, vibration, glare, light, fumes, odors or electrical interference detectable to the normal senses at or beyond the property line of the property. In case of electrical interference, no equipment or process shall be used which creates visual or audible interreference with any radio, television, broadband, or similar receiver off the premises or causes fluctuation in line voltage off the premises.
- n. If marihuana is grown or located in a room, building or structure with windows or non-opaque form of enclosure, all interior lighting

shall be shielded to prevent ambient light spillage that causes or creates a distraction or nuisance to adjacent properties.

- o. Any modifications or alterations made in support of or in association with cultivating, growing, harvesting, manufacturing, processing, and storing medical or recreational marihuana shall comply with all applicable building, electrical, mechanical, and fire safety code requirements, including all requisite permit applications and related inspections
- p. Certificate Required. The operations of a registered primary caregiver within an industrial or agricultural zoning district, shall only be permitted upon the issuance of a Zoning Certificate to Cultivate Medical Marihuana. Such certificate is required to be renewed annually. The following information shall be provided with an application for zoning certificate to cultivate medical marihuana:
 - i. A complete and accurate application shall be submitted on a form provided by the Township along with submission of the application fee. The application fee and renewal fee shall be an amount determined by resolution of the Township Board.
 - ii. Proof of property ownership or a written statement that there is no lease or that the lease does not prohibit the cultivation of marihuana shall be provided.
 - iii. A photocopy of the current and valid caregiver registry card issued by the state to the person who is permitted to grow, cultivate, harvest, process, manufacture and store medical marihuana and who will be doing so at the registered location. Upon expiration of the card, an updated and new copy of the renewed card shall be provided to the Township. Information treated as confidential under the MMMA, including the primary caregiver registry identification card and any information about qualifying patients associated with the primary caregiver, which is received by the Township, shall be maintained separately from public information submitted in support of the application. It shall not be distributed or otherwise made available to the public and shall not be subject to disclosure under the Freedom of Information Act.
 - iv. Specification of the number of qualifying patients for whom marihuana will or may be grown, cultivated, harvested, manufactured, processed and stored.
 - v. A floor plan, with dimensions, illustrating the enclosed and locked location in the building where marihuana will be grown, cultivated, harvested, manufactured, processed and

stored, and detailing the security measures related to that location and building. The floor plan shall also depict the required separation for plants grown on behalf of each registered qualifying patient showing the construction method used to ensure that it is accessible only to the primary caregiver and registered patient.

- vi. A full description of the nature and types of equipment which will be used in marihuana cultivation and processing; and a description of the location at which the use will take place.
- vii. Details regarding electrical, mechanical, plumbing, and another other related improvements and installations or facilities that will be used for growing, cultivating, harvesting, and storing the marihuana.
- viii. A full description of the odor mitigation systems and a ventilation plan that provides for adequate ventilation so as to prevent pesticides, insecticides or other chemicals used in the cultivation of marihuana or marihuana related products from being dispersed or released outside the building or lease line. The plan shall further provide for resulting smoke, vapor, fumes, gases and particulate matter from marihuana or its manufacturing or cultivation to be effectively confined to the any building or lease line.
- ix. An operations plan that addresses water use, wastewater, and the disposal of waste.
- x. A description of type, quantity, location and method of containment for any herbicides, pesticides, fertilizers that will be used for growing, cultivating, and harvesting the marihuana.
- xi. The zoning administrator may require additional information necessary to demonstrate compliance with all requirements. The planning zoning administrator shall review the application to determine compliance with this Ordinance, the MMMA and the MRTMA and any applicable Michigan Regulatory Agency General Rules. A certificate shall be granted if the application demonstrates compliance with this Ordinance and the MMMA
- xii. The use shall be maintained in compliance with the requirements of this Ordinance and the MMMA. Any departure shall be grounds to revoke the certificate and take other lawful action. If a certificate is revoked, the applicant shall not engage in the activity unless and until a new Zoning Authorization to Cultivate Medical Marihuana certificate is granted.

- (3) Marihuana establishments prohibited.
 - a. Any and all types of a “marihuana establishment,” as that term is defined and used in Michigan Initiated Law 1 of 2018, commonly known as the Michigan Regulation and Taxation of Marihuana Act, are completely prohibited in the Township, and may not be established or operated in any zoning district, by any means, including by way of a variance.
 - b. Any and all types of “marihuana facilities” as described in Act 281 of 2016, the Medical Marihuana Facilities Licensing Act are completely prohibited in the Township and may not be established, licensed or operated in any zoning district, by any means, including by way of a variance.
 - c. Nothing in this Section 3.2.I shall limit any privileges, rights, immunities or defenses of a person as provided in the Michigan Medical Marihuana Act, Michigan Initiated Law 1 of 2008, MCL 333.26421, et seq.
- (4) Nonconforming Status. Registered Patient Caregivers that have applied for and have obtained building, electrical, plumbing and/or mechanical permits for the cultivation of medical marihuana within any zoning district, prior to the enactment of this Ordinance, shall enjoy nonconforming use status from the provisions of this Ordinance and shall be permitted to continue subject to section 24.05 of this Ordinance
- (5) Severability. If any section, subsection, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent portion of this Ordinance, and such holding shall not affect the validity of the remaining portions of this Ordinance.

(as amended 10/04/21)

Sec. 11.03 DWELLINGS

11.03.01 **Single Family Dwelling Design Standards:** Single family dwellings and mobile homes located outside a mobile home park or manufactured housing subdivision shall conform to the standards of this section.

- (a) Certification: If the dwelling unit is a mobile home, the mobile home must either be (i) new and certified by the manufacturer and/or appropriate inspection agency as meeting the Mobile Home Construction and Safety Standards of the U.S. Dept. of Housing and Urban Development, as amended, or any similar successor or replacement standards which may be promulgated, or (ii) used and certified by the manufacturer and/or appropriate inspection agency as meeting the standards referenced in (i) above, and found, on inspection by the Zoning Administrator or his/her designee, to be in excellent condition and safe and fit for residential occupancy.
- (b) Dimensional Standards: Each such dwelling unit shall comply with the minimum standards listed in Article 3 for the Zoning District in which it is located, including minimum lot area, minimum lot width, minimum floor area, required setbacks and maximum building height.

- (c) Dimensions: Each such dwelling unit shall have a minimum width across any front, side or rear elevation of 20 feet and comply in all respects with the Michigan State Construction Code Commission, including minimum heights for habitable rooms. Where a dwelling is required by law to comply with any federal or state standards or regulations for construction and where such standards or regulations for construction are different than those imposed by the Michigan State Construction Code Commission, then such federal or state standard or regulation shall apply.
- (d) Foundation: Each such dwelling unit shall be firmly attached to a permanent foundation constructed on the site in accordance with the Michigan State Construction Code Commission and shall have a wall of the same perimeter dimensions of the dwelling and constructed of such materials and type as required in the applicable building code for single-family dwellings. If said dwelling is a mobile home, the dwelling shall be securely anchored to the foundation to prevent displacement during windstorms.
- (e) Undercarriage: In the event that such dwelling unit shall be a mobile home, the wheels, tongue, hitch assembly and other towing appurtenances shall be removed before attachment to a permanent foundation. The foundation or masonry skirting shall fully enclose the undercarriage and chassis prior to occupancy.
- (f) Sewage disposal and water supply: Each such dwelling unit shall be connected to a public sewer and water supply approved by the Township or to such private facilities approved by the Livingston County Health Department.
- (g) Code compliance: Each such dwelling unit shall comply with all pertinent building and fire codes. In the case of a mobile home, all construction and all plumbing, electrical apparatus and insulation within and connected to said mobile home shall be of a type and quality conforming to the "Mobile Home Construction and Safety Standards" as promulgated by the United States Department of Housing and Urban Development, being 24 CFR 3280, and as from time to time such standards may be amended. Additionally, all dwellings shall meet or exceed all applicable roof snow load and strength requirements.
- (h) Storage area: Each such dwelling unit shall contain a storage area equal to 10% of the square footage of the dwelling or 100 square feet, whichever shall be less. This storage area shall consist of a basement, attic, closet areas or attached garage, or in a separate detached accessory structure which complies with the standards of this Article regarding accessory buildings and structures.
- (i) Compatible Building Design: All newly constructed single family and two-family homes shall be aesthetically compatible in design and appearance with other residences in the vicinity. This shall be accomplished by maintaining the architectural styles, details, building materials and design themes of dwelling units on both sides of the street, within five hundred (500) feet of the subject lot and in the same zoning district. Similarity and compatibility with surrounding dwelling units in terms of the following design requirements and features must be provided in order to meet this requirement:
 - (1) roof drainage systems that concentrate roof drainage at collection points along the sides of the dwelling;

- (2) minimum of two exterior doors with one facing the front lot line and the second one being in either the rear or side of the dwelling;
 - (3) steps connected to exterior door areas or to porches connected to the door areas where a difference in elevation requires the same;
 - (4) roof pitch of no less than four (4) feet of rise for each twelve (12) feet of horizontal run;
 - (5) front facade appearance that is manifestly designed as a front façade containing a door, windows and other architectural features customary of the front facade of a residence; and
 - (6) exterior building materials compatible with surrounding dwellings;
- (k) **Compatibility determination:** The compatibility of design and appearance shall be determined in the first instance by the Township Zoning Administrator. An applicant may appeal to the Board of Zoning Appeals within a period of fifteen (15) days from the receipt of notice of said Zoning Administrator's decision. The determination of compatibility shall be based upon the building compatibility design standards listed in Section 11.03.01(i) above and all other design standards outlined in this Section. The foregoing shall not be construed to prohibit innovative design concepts involving such matters as solar energy, view, unique land contour, or relief from the common or standard designed home.
- (l) **Additions:** Each such dwelling unit shall contain no addition or room or other area which is not constructed with similar quality workmanship as the original structure, including permanent attachment to the principal structure and construction of a foundation as required herein. In addition, the dwelling unit shall have no less than two (2) exterior doors, with one being either at the rear or side of the dwelling unit.
- (m) **Building permit:** All construction required herein shall be commenced only after a building permit has been obtained in accordance with the applicable Michigan State Construction Code provisions and requirements.
- (n) **Exceptions:** The foregoing standards shall not apply to a mobile home located in a licensed mobile home park except to the extent required by state or federal law or otherwise specifically required in this ordinance and pertaining to such parks. Mobile homes which do not conform to the standards of this section shall not be used for dwelling purposes within the Township unless located within a mobile home park or a mobile home subdivision district for such uses, or unless used as a temporary residence as otherwise provided in this Ordinance.

11.03.02 Dwellings Outside of the Agricultural and Residential Districts:

- (a) The construction of dwellings in nonresidential districts is prohibited except for housing used exclusively by security, custodial maintenance or management personnel and approved by the Planning Commission. The use of trailers and recreational vehicles for housing such security and custodial personnel, or other persons, is prohibited.

- (b) The use of recreation vehicles and trailers is permitted as a temporary residence between May 1st and October 1st each year provided the vehicles and trailers are located in a designated recreation vehicle/trailer park, and that they are connected to appropriate sewer, water and electric facilities serving the park.

Sec. 11.03.03 Regulations on Accessory Dwellings

- (a) Recreational vehicles or camping trailers may be used for living purposes when accessory to single-family or two-family dwellings, provided such use shall only be permitted for a cumulative total of no more than twenty-one (21) days in any twelve (12) month period. Any such recreational vehicle parked in a front yard shall be parked in the driveway.
- (b) For lots of 120 acres or more in the Agricultural District, one additional principal building (a total of two) shall be permitted if the additional principal building is occupied by a member of the family who occupies the principal building, or employees working on the property for farming purposes, raising livestock or training horses, provided each accessory dwelling unit meets the minimum size for a one (1) bedroom unit as specified in Section 3.04.
- (c) The use of any portion of the basement of a partially completed building, or any detached garage or accessory building for dwelling or sleeping purposes in any zoning district is prohibited.

Sec. 11.04 ACCESSORY BUILDINGS AND STRUCTURES (as amended 10/04/21)

11.04.01 Accessory Buildings, Structures and Uses in General

- (a) **Relation to Principal Building:** Accessory buildings, structures and uses are permitted only in connection with, incidental to and on the same lot with a principal building, that is occupied by a use permitted in the particular zoning district. No accessory building, structure or use shall be occupied or utilized unless the principal structure to which it is accessory is occupied or utilized.
- (b) **Permit Required:** Any accessory building or structure shall require a land use permit, except minor accessory structures, gardens, landscaping, flagpoles, and play structures, as defined herein. In addition, one (1) accessory structure two hundred (200) square feet or less shall be allowed with a land use waiver.
- (c) **Required Setbacks (Attached):** Where the accessory building, structure or use is structurally attached to a principal building, structure or use, it shall be subject to all the regulations applicable to principal buildings, structures and uses, except for decks as noted in Section 11.04.03(a) and fences and walls as noted under section 11.04.03(b). An accessory building, structure or use shall be considered part of the principal building if it is structurally and architecturally integrated into the principal building, and/or is attached by a covered or enclosed breezeway or similar architectural feature with a roof style consistent with the principal building by a distance not greater than twenty (20) feet in length.
- (d) For the purposes of this section screens, lattice, trellis, slats, beams, rafters or removable storm window sashes shall be considered enclosed and/or covered.

- (e) Natural Features Setback: All accessory buildings, structures, and uses are subject to the natural feature setback requirements of Section 13.02.04(d).
(as amended 10/04/21)

11.04.02 Accessory Buildings

- (a) Restrictions in Front Yard: Detached accessory buildings shall not be erected in any front yard, except as follows:
 - (1) Waterfront lots in the Lakeshore Resort Residential District, provided the front setback is not less than ten (10) feet.
 - (2) Lots of at least five (5) acres in the AG or CE District when the front setback is equal to or greater than the average setback of established buildings on adjoining lots or seventy-five (75) feet, whichever is greater, as determined by the Zoning Administrator. If both of the adjacent lots are undeveloped, then front yard accessory buildings are permitted with a minimum front yard setback of two hundred (200) feet.
 - (1) In the case of attached residential dwelling complexes, detached parking garages or carports may be permitted in the non-required front yard provided the Planning Commission approves the site plan, elevation drawings and construction materials. In reviewing such structures, the Planning Commission shall consider the impact of headlights and views from nearby public streets and adjacent properties.
- (b) Required Setbacks (Detached, two hundred (200) square feet or less total floor area): Detached accessory buildings with two hundred (200) square feet or less total floor area shall be at least four (4) feet from any principal building, and at least four (4) feet from any lot line.
- (c) Required Setbacks (Detached, over two hundred (200) square feet total floor area): Detached accessory buildings over two hundred (200) square feet of total floor area shall be at least ten (10) feet from any principal building, and at least ten (10) feet from any side or rear lot line; except as follows:
 - (1) On lots greater than one (1) acre detached accessory buildings over two hundred (200) square feet of total floor area shall meet the setback requirements for principal buildings. (as amended 10/04/21)
 - (2) On lots in the Lakeshore Resort Residential District detached accessory buildings over two hundred (200) square feet of total floor area shall be allowed to reduce one (1) side yard setback to at least five (5) feet as follows:
 - a. The accessory building shall be setback at least ten (10) feet from the other side lot line.
 - b. There shall be a minimum of ten (10) feet of separation from buildings on adjacent lots.
 - (3) In non-residential districts, all detached accessory buildings shall meet the setback requirements for principal structures unless otherwise provided herein.

- (d) **Setback from Shoreline:** Detached accessory buildings shall be setback at least fifty (50) feet from the nearest edge of any lake shoreline, except in the Lakeshore Resort Residential District where accessory buildings shall meet the shoreline setback requirements for the principal building as specified in Table 3.04.02. All accessory buildings are subject to the natural feature setback requirements of Section 13.02.04(d).
- (e) **Maximum Size:** The combined total of all accessory buildings in any residential district shall be a maximum of nine hundred (900) square feet in area for lots less than one (1) acre, one thousand five hundred (1500) square feet in area for lots equal to or greater than one (1) acre but less than three (3) acres, and two thousand two hundred (2200) square feet in area for lots three (3) acres or greater. Accessory buildings located on lots five (5) acres or more in Agricultural and Country Estates Districts shall not be limited by size, provided all required setbacks are met.
- (f) **Maximum Number:** No more than two (2) detached accessory buildings shall be permitted on any lot in any district except conforming lots in the Agricultural and Country Estate District.
- (g) **Maximum, Height:** The maximum building height of any detached accessory building shall be eighteen (18) feet (see Article 25 for calculation of building height), except as follows:
 - (1) Antenna heights may be as noted in Section 11.04.03(l)
 - (2) On lots two (2) acres or greater in Agricultural, Country Estate and Rural Residential Districts, accessory building heights shall not exceed 35 feet..
- (h) **Restrictions on Use:** Accessory garages shall only be used to store vehicles or equipment associated with a Permitted Use.
- (i) **Not used for dwelling/business:** Accessory buildings shall not be occupied for dwelling purposes nor used for any business profession, trade or occupation except for agricultural uses in an Agricultural District as permitted in Section 3.03 and home occupations as provided for in Section 3.03.02(a).
(as amended 12/31/06, 3/5/10, 2/25/11, and 10/04/21)

11.04.03 **Accessory Structures**

- (a) **Decks, Balconies, Porches, and Similar Structures.** Decks, balconies, porches or similar structures are permitted only when they are attached to or abutting buildings that are occupied by a use permitted in the particular zoning district.
 - (1) Attached or abutting covered or enclosed decks, balconies, porches or similar structures with an open or enclosed roof and/or walls or enclosure shall be considered to be part of the building for purposes of determining setbacks with the exception of one (1) pergola or gazebo as regulated in Section 11.04.03(a)(3) below.
 - (2) **Required Setbacks:** When attached or abutting the building uncovered decks and similar structures without a roof, walls or other form of enclosure shall be permitted within all principal structure non-required yards. Within the

principal structure required yard, attached or abutting uncovered decks, balconies and similar structures without a roof, walls of other form of enclosure shall be permitted as follows:

- a. Front Yard: Attached or abutting uncovered decks, balconies and similar structures without a roof, walls or other form of enclosure may extend twelve (12) feet from the front building line provided they shall be at least twenty (20) feet from the front lot line.
 - b. Side Yard: Attached or abutting uncovered decks, balconies and similar structures without a roof, walls or other form of enclosure may extend into the required side yard provided they shall be at least four (4) feet from any side lot line.
 - c. Rear Yard: Attached or abutting uncovered decks, balconies and similar structures without a roof, walls or other form of enclosure may extend into the required rear yard provided they shall be at least ten (10) feet from any rear lot line.
 - d. Waterfront Yard: Attached or abutting uncovered decks, balconies and similar structures without a roof, walls or other form of enclosure may extend a maximum fifteen (15) feet into the required waterfront yard provided that a minimum fifteen (15) foot wide open space greenbelt shall be provided between the deck and the closest edge of the shoreline.
- (3) Gazebos/Pergolas: When attached or abutting a principal building and not within the principal structure required waterfront yard, uncovered decks, balconies and similar structures may include a covered or enclosed pergola or gazebo with a maximum size of one hundred fifty (150) square feet and a maximum height of fourteen (14) feet (see Article 25 for calculation of building height). Detached, freestanding gazebos or pergolas shall meet accessory building setbacks of Section 11.04.02.
- (4) For condominiums, the placement of decks shall be stipulated in the Condominium Master Deed and Exhibit B Site Plan, in conformance with the regulations of this section. Where there are no property lines between the two condominium units, decks shall be setback a minimum of four (4) feet from the halfway point between the two units, provided the decks are separated a minimum of eight (8) feet (combined four (4) foot setback of both decks).
- (5) Detached, freestanding, or non-abutting decks, balconies, porches, and similar structures shall comply with the requirements of Section 11.04.02 for Accessory Buildings.
(as amended 5/13/05, 3/5/10 and 10/04/21)
- (b) **11.04.03 Swimming Pools, Spas, Hot Tubs and Similar Structures.**
- (1) Requirement for Fence: Every person owning land on which there is located a swimming pool, spa, hot tub, or similar device (below ground or above ground) which contains twenty-four (24) inches or more of water in depth at any point, shall erect and maintain thereon a fence, wall, barrier or other

form of enclosure approved by the Building Official surrounding the device sufficient to make such device inaccessible to small children. Such fence, including the gates, shall not be less than four (4) feet or greater than (6) feet above grade. All gates shall be self-latching with latches placed no less than four (4) feet above grade or otherwise made inaccessible from the outside to small children. A hot tub or spa with a locking cover shall not require a fence.

- (2) Restriction from Front Yard: Swimming pools, spas, hot tubs and similar devices and their associated enclosures, decks, and/or patio shall not be located in any front yard.
- (3) Restriction from Waterfront Yard: All pools, spas, hot tubs, and their associated enclosures, decks and /or patio shall not be erected in the required shoreline setback for principal buildings as stated in Table 3.04.02. Such structures are also subject to the natural feature setback requirements of Section 13.02.04(d).
- (4) Relationship of Height to Setback: Swimming pools, spas, hot tubs, similar facilities and associated enclosures or surrounding decks with an elevation measured from the mean grade at any point adjacent to such facility of three (3) feet or less shall be at least ten (10) feet from any side or rear lot line. Where the elevation is greater than three (3) feet above grade at any point, the setback shall be at least fifteen (15) feet from any side or rear lot line.
(as amended 10/04/21)

(c) **Fences and Walls**

- (1) All fences and walls shall be located entirely on the property of the owner of the fence. Adjoining property owners may jointly apply for a fence permit for the purpose of constructing a fence on the common property line.
- (2) Unless specifically authorized elsewhere in this Ordinance, fences and walls located within the front yard in any residential zoning district shall not exceed three (3) feet in height, or be in excess of forty-nine (49) percent (%) solid or impervious.
- (3) Chain link fences shall not be erected in any front yard unless enclosing a retention pond that has been approved by the Planning Commission.
- (4) Waterfront Lots: Fences and walls shall not be permitted in the required shoreline setback for principal buildings as stated in Table 3.04.02.
- (5) Unless specifically authorized elsewhere in this Ordinance, fences and walls located within the side yard, rear yard or non-required waterfront yard in any zoning district shall not exceed a height of six (6) feet, except the Zoning Administrator may approve an eight (8) foot high security fence of a permitted essential public service building, essential public service storage yard, towers, conforming commercial or industrial use, which may also include a maximum of one (1) additional foot of barb wire.

- (6) Fences must be constructed of a natural or synthetic material that is all-weather resistant and is engineered and designed to be used for permanent installation as a fence or screen material. Where a fence has a finished and unfinished side, the more decorative side shall face outward toward the adjoining property or street.
 - (7) Fences shall be installed and maintained free from defects, safety hazards and collapse, and shall be kept in good repair. No signs, words, letters, images, or illustrations shall be installed on any fence.
 - (8) Fences and walls shall not be erected within any public right-of-way or maintained in such a way as to obstruct the vision of motorists exiting driveways or within the triangular area formed by the intersection of the street right-of-way lines and a line connecting two points located on those intersecting right-of-way lines twenty-five (25) feet from the point of intersection with the right-of-way lines.
 - (9) The use of electric current or charge on any fence or part thereof is prohibited, except for low voltage fences in the Agricultural, Country Estate and Rural Residential Districts, intended to enclose permitted livestock, or electronic fences buried beneath the ground.
(as amended 12/31/06, 3/5/10 and 10/04/21)
- (d) **Waterfront Accessory Structures:** Waterfront structures are permitted accessory structures on waterfront property, subject to the requirements of this section. The following requirements apply to all structures within the required waterfront yard (i.e. the required principal structure setback from the ordinary high-water mark.) in all zoning districts.
- (1) Only the following structures shall be permitted within the required waterfront yard:
 - a. Permitted Projections, subject to the requirements of Section 11.01.04.
 - b. No more than one accessory building, subject to the requirements of Section 11.04.02.
 - c. Accessory Structures, subject to the requirements of Section 11.04.03.
 - d. A dock and mooring apparatus;
 - e. Allowable accessory use of the waterfront in a single-family residential district shall be limited to not more than (1) dock per lot occupied with a principal permitted use. Boat houses shall not be permitted.
 - f. Commercial boat rental shall be prohibited in residential districts.
 - g. Boat launching sites and boat docks within a common use riparian lot and dockminiums shall comply with the provisions of Section 13.03.
(as amended 10/04/21)

- (e) **Gardens and landscaping.** Gardens and landscaping are permitted in all yards. (as amended 10/04/21)
- (f) **Manufactured landscape features and minor structures.** Manufactured landscape features and minor structures may be permitted in all yards subject to the following:
 - (1) Any such feature or structure that exceeds a dimension of six (6) feet in width, length, diameter, etc. shall not be located closer than three (3) feet from a front, side or rear property line and five (5) feet from a shoreline.
 - (2) Manufactured landscape features and minor structures that exceed a height of six (6) feet shall be setback from lot lines a distance not less than equal to the height.
 - (3) No landscape feature or minor structure shall exceed the height of twelve (12) feet in height, measured from the lowest ground level at the base of the structure/feature to the highest point of the feature.
 - (4) No such landscape feature or minor structure shall be located where it will obstruct the vision of drivers or otherwise impede traffic.
(as amended 10/04/21)
- (g) **Ground level unenclosed projections (G.L.U.P.).** Ground level unenclosed projections shall be permitted to encroach into the required setback areas as follows:
 - (1) G.L.U.P.s shall be not be permitted within three (3) feet of any front, side or rear property line.
 - (2) For riparian waterfront lots, a minimum fifteen (15) foot wide open space greenbelt shall be provided between the G.L.U.P. and the closest edge of the shoreline with the following exception:
 - a. Within the fifteen (15) foot greenbelt a G.L.U.P. of one hundred (100) square feet or less shall be permitted along the shoreline with a maximum length along the shoreline of ten (10) feet.
 - (3) G.L.U.P.s shall be subject to lot coverage requirements.
(as amended 10/04/21)
- (h) **Steps, stairways and stoops.** Unroofed and unenclosed steps, stairways and stoops may encroach in the required yards as follows:
 - (1) Steps, stairways and stoops shall not be located any closer than three (3) feet to any property line.
 - (2) Steps, stairways and stoops may include a landing area which does not exceed twenty (20) square feet.
 - (3) Encroachments into required yards shall be allowed as indicated in the table below:

Front Yard	Rear Yard	Waterfront Yard ⁽¹⁾	Side Yard	
			Side Yard 10' or less in LRR	Side Yard
10 ft.	15 ft.	15 ft. ⁽¹⁾	2 ft.	5 ft.

¹. Waterfront yard - Steps, staircases and landing areas (not to exceed twenty (20) square feet in area) may be permitted to extend to the shoreline where required by topography as confirmed by the Zoning Administrator. Stair treads shall not exceed four (4) feet in width by fourteen (14") or less in depth.
(as amended 10/04/21)

- (i) **Flagpoles.** Flagpoles are permitted in all yards provided that they are setback a distance at least equal to their height. (as amended 10/04/21)
- (j) **Retaining walls.** Retaining walls may be permitted subject to the following conditions:
 - (1) Retaining walls may be utilized only where needed to stabilize steep slopes which exceed thirty-three (33) percent (one foot vertical rise in three feet of horizontal run) and where retaining walls are necessary to establish grade for buildings and accessory structures, preserve grade around trees, wetlands or other natural features to be preserved or as part of a grading plan to establish positive drainage from a site as determined by the Zoning Administrator.
 - (2) Retaining walls shall not be used to alter the overall natural topography of the land. For example, retaining walls could be used to create a terrace on the slope, but the direction of the slope and the drainage patterns should not be altered.
 - (3) Retaining walls over three (3) feet tall shall be designed by a licensed professional engineer and calculations demonstrating its structural stability must be submitted as part of the site plan.
 - (4) Retaining walls shall comply with the following dimensional standards. Height of the wall shall be measured at any point on either side of the wall, from the grade level adjacent to the wall to the top of the wall. Where possible, permission to grade on adjacent property shall be sought to minimize retaining wall height.
 - i. Front Yard: Retaining walls within the required front yard shall not exceed three (3) feet in height and shall not be located within twenty (20) feet of the front lot line or be less than two (2) feet from the side lot line.
 - ii. Side and Rear Yard: Retaining walls within the required side or rear yard shall not exceed a height of six (6) feet and shall not be located closer than two (2) feet to the side or rear lot line.
 - iii. Waterfront Yard: Retaining walls within the required waterfront yard shall not exceed a height of four (4) feet and shall not be located closer than fifteen (15) feet to the shoreline or be less than two (2) feet from the side lot line. This does not include seawalls which are regulated

by the Michigan Department of Energy, Great Lakes and Environment (EGLE).

- (5) Stepped or Tiered Walls: Retaining walls which are stepped in multiple tiers having a series of two (2) or more parallel walls shall each comply with the maximum height allowed by Section 11.04.03(j)(4). The height of the upper retaining wall shall be less than or equal to the height of the lower wall and the distance between the retaining walls must be at least equal to the height of the lower wall but not less than three (3) feet.
- (6) If a guard railing is required by the building code, said railing shall not exceed the minimum required height and shall be the maximum amount of transparency utilizing thin rails, wire, glass or similar and in no case shall the railing be less than fifty (50) percent pervious or transparent. Except for a railing required by the building code, where a fence is located on top of a retaining wall, the height of the retaining wall shall be included in the height of the fence for the purpose of determining compliance with the fence height requirements of Section 11.04.03(c).
- (7) Notwithstanding the conditions above, this ordinance shall not prohibit the replacement or maintenance of existing retaining walls that do not meet the requirements of this ordinance but were constructed prior to the effective date of this ordinance provided that the replacement or maintenance does not increase the non-conformity of the structure.

(as amended 10/04/21)

- (k) **Play Structures.** Play structures shall be permitted in side, rear, and waterfront yards subject to the following:

- (1) Play structures shall not be permitted in the front yard.
- (2) Play structures shall not be located any closer than four (4) feet to any property line.
- (3) Encroachments into the required waterfront yard yards shall not exceed fifteen (15) feet.

(as amended 10/04/21)

- (l) **Reception Antennas and Towers:** Radio or television antennas or towers, including satellite dish antennas and transmission or reception antennas erected or installed in any zoning district as an accessory structure to a permitted use shall comply with the standards below. Wireless communication facilities, such as cellular antenna and commercial broadcasting antenna, shall be subject to the requirements of Section 11.02.08

- (1) **Intent and Exceptions:** The intent of this section is to provide reasonable regulations for reception antenna facilities to achieve the objectives listed below.
 - i. Promote safety and prevent hazards to persons and property resulting from accidents involving antenna facilities which could fall from building or structural mountings due to wind load, snow load or other factors.

- ii. Promote utilization of ground mounting for antennae facilities where reasonably feasible.
 - iii. Require screening of ground-mounted facilities and minimize visibility to roof or structure mounted facilities to maintain architectural integrity and aesthetic quality of property improvements and preserve property values.
 - iv. Exclude from provisions of this section are conventional VHF and UHF television antennae, satellite dishes less than one (1) meter in diameter and short wave radio antennae based upon the following findings: there is relatively minor concern for wind and snow load issues due to an established safety record; there has been an historical acceptance of such facilities from architectural and aesthetic standpoints; and the cost of complying with the procedure for application and review would be unreasonable in relation to the cost of purchasing and installing the facility.
 - v. Balance regulations on the placement and manner of reception antenna installation to the minimum required to achieve the objectives herein.
 - vi. Promote and protect the public health, safety and welfare by the exercise of Township police powers in relation to a property owner's right to construct and use reception antennae to receive signals without reasonable restriction.
- (2) Requirements: A ground mounted regulated reception antenna or tower, shall be located only in a rear yard and shall not be within the required side yard setback. For lots with lake frontage, regulated reception, antenna and towers shall be located in the side or front (street side) yard. A roof mounted regulated reception antenna shall be placed on a section of the roof in the rear yard.
- i. Conventional VHF and UHF television antennae, satellite dishes less than one (1) meter in diameter and short-wave radio antennae shall be exempt from the regulations of this section and not require a land use permit, provided the equipment is not located in the front yard or on the portion of the building facing the front lot line.
 - ii. No portion of a regulated reception antenna shall be located closer than six (6) feet, measured on a horizontal plane, from any side or rear lot line or placed on any easement.
 - iii. Ground-mounted antenna in a front yard within one hundred (100) feet of a public street or within fifty (50) feet of a residential lot line shall be screened from such street by landscaping or a wall with a sketch plan approved by the Zoning Administrator prior to erection of the antenna. If there is no conforming location on the property where the facility may be so obscured from view, screening shall be accomplished to the extent reasonably feasible, as approved by the Zoning Administrator or if the antenna is mesh type, screening need not exceed six (6) feet in height.

- iv. The color of all antennae shall be of tones similar to the surroundings. Ground-mounted antennae shall not be white unless they are of a mesh type or unless the background consists primarily of a white building. Bright or pastel colors shall not be used in any instance.
- v. Ground mounted reception antenna shall be secured to the ground with cement or similar material.
- vi. The diameter of a regulated reception antenna shall not exceed twelve (12) feet.
- vii. Regulated reception antenna and towers shall extend a maximum of twenty (20) feet above the rooftop.
- viii. No advertising or identification display shall be placed on any portion of a reception antenna or tower, except for the name of the manufacturer and serial number.
- ix. All electrical and antenna wiring shall be placed underground, where applicable.
- x. The antenna shall be located and designed to meet the manufacturer specifications to withstand a wind force of one hundred (100) miles per hour.
- xi. If a usable signal cannot be obtained by locating the antenna in the rear yard, the antenna may be located in the side yard of the property subject to the submission of a written affidavit and approval of the Zoning Board of Appeals provided the placing of an antenna in a side yard shall remain subject to all other conditions set forth in this section.
- xii. Erection of regulated reception antenna or towers shall require a land use permit from the Township Zoning Administrator.

(m) **Outdoor Furnaces:**

- (1) **Purpose.** Although outdoor furnaces may provide an economical alternative to conventional heating systems, concerns have been raised regarding the safety and environmental impacts of these heating devices, particularly the production of offensive odors and potential health effects of uncontrolled emissions. This section is intended to ensure that outdoor furnaces are utilized in a manner that does not create a nuisance or hazard and is not detrimental to the health, safety and general welfare of the residents of Genoa Charter Township.
- (2) **Permit Required.** No outdoor furnace shall be constructed or installed without obtaining a land use permit. (as amended 10/04/21)
- (3) **Definitions.** The following definitions shall apply to the terms used in this section:

- i. **Firewood.** Trunks and branches of trees and bushes, but does not include leaves, needles, vines or brush smaller than three inches in diameter.
 - ii. **Outdoor Furnace.** Any equipment, device or apparatus, or any part thereof, which is installed, affixed or situated outdoors for the primary purpose of combustion of fuel to produce heat or energy used as a component of a heating system providing heat for any interior space.
 - iii. **Untreated Lumber.** Dry wood that has been milled and dried but which has not been treated or combined with any petroleum product, chemical, preservative, glue, adhesive, stain, paint or other substance.
 - iv. **Stack.** A vertical structure enclosing a flue or flues that carry off smoke or exhaust from an outdoor furnace, including that part of the structure extending above a roof.
- (4) **Requirements.** Outdoor furnaces located outside the principal building may be permitted in any zoning district as an accessory structure to a permitted use only under the following conditions:
- i. The outdoor furnace shall be for the purpose of providing heat to a dwelling or accessory structure on the same lot.
 - ii. The outdoor furnace shall be a minimum of forty (40) feet from all structures on the lot.
 - iii. The outdoor furnace shall be a minimum of one hundred (100) feet from all property lines.
 - iv. The outdoor furnace may only be located in a rear or side yard and shall not be located in the front yard.
 - v. An area at least thirty (30) feet in diameter around the outdoor furnace shall be free of ignitable materials or debris; except that fuel for the outdoor furnace may be stored within this area.
- (6) The outdoor furnace shall utilize a stack with a minimum height of fifteen (15) feet and shall not exceed fifteen (15) feet above the height of the principal structure height limit. All outdoor furnaces shall be equipped with properly functioning spark arrestors.
- (7) Only materials meeting outdoor furnace manufacturer's specifications are permitted to be burned in the outdoor furnace, such as firewood, untreated lumber, natural gas, propane or pellets. Burning of any and all other materials in an outdoor furnace is prohibited. Trash, garbage, plastics, gasoline, rubber, naphtha, material treated with petroleum products (particle board, railroad ties and pressure treated wood), painted or stained wood, leaves, paper products, cardboard, and material that could pose a hazard to surrounding residents shall not be used for fuel. Lighter fluids, gasoline or chemicals to start the furnace are prohibited.

- (8) The outdoor furnace shall not be located where smoke will create a nuisance to neighboring properties pursuant to Section 13.05.
- (9) The outdoor furnace shall be from a manufacturer with a safety certification from a qualified independent laboratory that has tested the furnace and certified that it complies with safety standards established by Underwriters Laboratory (UL 391-1955).
- (10) Use of the outdoor furnace must follow all operating instructions supplied by the manufacturer.
- (11) The outdoor furnace must also comply with all applicable county, state or federal guidelines. (as amended 2/25/11)

Sec. 11.05 WIND ENERGY CONVERSION SYSTEMS (WECS)

11.05.01 General:

- (a) **Intent:** The intent of these regulations is to provide for sustainable energy sources by allowing the development of Wind Energy Conversion Systems (WECS), while providing regulations that limit the impact of these facilities as follows:
 - (1) Protect public health, safety, welfare, and quality of life by minimizing the potential adverse impacts of a WECS.
 - (2) Protect the aesthetic quality of the natural, rural open spaces of the Township.
 - (3) Protect neighboring property owners from noise and safety impacts.
 - (4) Protect waterfowl and birds.
 - (5) Ensure structures do not exceed a height that would impact aviation safety.
 - (6) To establish standards and procedures by which the siting, design, engineering, installation, operation, and maintenance of a WECS shall be governed.
- (b) **Applicability:** WECS shall comply with the standards below.
 - (1) On-site use WECS up to a height of seventy-two (72) feet shall be allowed in any zoning district as an accessory structure, subject to the requirements of Section 11.05.02.
 - (2) On-site use WECS over a height of seventy-two (72) feet shall be allowed in certain zoning districts as an accessory structure, subject to the requirements of Section 11.05.03.
 - (3) A utility grid WECS shall be allowed as a principal use of land in certain zoning districts, subject to the requirements of Section 11.05.03.
- (c) **Definitions:** For the purpose of this section, the following words and phrases shall have the meanings respectively ascribed to them as follows:

- (1) **Ambient Noise:** The amount of background noise at a given location prior to the installation of a WECS which may include, but is not limited to, traffic, machinery, lawnmowers, general human activity and the interaction of the wind with the landscape. Ambient Sound Level is measured on the Decibel – dB (A) – weighted scale as defined by the American National Standards Institute (ANSI). Such noise levels shall be measured on the property line or on the adjacent property, which is receiving the noise.
- (2) **Anemometer tower:** A freestanding tower containing instrumentation such as anemometers that is designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system used by utility companies to monitor energy production from a central control unit, which is an accessory land use to a utility grid WECS.
- (3) **ANSI:** The American National Standards Institute.
- (4) **dB (A):** dB (A) means the sound pressure level in decibels measured on the "A" scale of a standard sound level meter having characteristics defined by the American National Standards Institute, Publication ANSI s1.4-1971.
- (5) **Decibel:** The unit of measure used to express the magnitude of sound pressure and sound intensity (dB).
- (6) **Horizontal axis WECS:** A WECS which converts wind energy into electricity through the use of a wind turbine generator with a horizontal axis of rotation. This type of WECS is directional in that it achieves optimal energy production while pointed into or away from the direction of the wind.
- (7) **IEC:** The International Electrotechnical Commission.
- (8) **ISO:** The International Organization for Standardization.
- (9) **Lease unit boundary:** The boundary around property leased for purposes of a WECS, including adjacent parcels to the parcel on which the WECS tower or equipment is located. For purposes of setback, the lease unit boundary shall not cross road rights-of-way.
- (10) **Non-participating property:** means a property that is adjacent to an energy facility and that is not a participating property.
- (11) **On site WECS:** A land use for generating electric power from wind that is accessory to a legal principal use and intended to primarily serve the needs of the electric power consumer at that site.
- (12) **Participating property:** means real property that either is owned by an applicant or that is the subject of an agreement that provides for payment by an applicant to a landowner or monetary compensation related to an energy facility regardless of whether any part of that energy facility is constructed on the property.

- (13) **Rotor:** An element of a WECS that acts as a multi-bladed airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.
- (14) **Shadow flicker:** Alternating changes in light intensity caused by the moving blades of a WECS casting shadows on the ground and stationary objects, such as but not limited to a window at a dwelling.
- (15) **Tower height:** The vertical distance as measured from the ground level of the base of a wind energy conversion system tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WECS.
- (16) **Utility grid WECS:** The use of wind power to generate electric power for the principal purpose of supplying electric power to the energy grid, with little or no on-site use of the generated power.
- (17) **Utility-Scale Wind Energy Systems under PA 233.** A system that captures and converts wind into electricity, for the purpose of sale or far use in locations other than solely the wind energy facility property, and with a nameplate capacity of 100 megawatts or more. Wind energy facility includes, but is not limited to , the following equipment and facilities to be constructed by an electric provider or independent power producer: wind towers; foundations; towers; poles; crossarms; guy lines and anchors; substations; interconnection or switching facilities; circuit breakers and transformers; energy storage facilities; overhead and underground controls; communications and radio relay systems and telecommunications equipment; monitoring and recording equipment and facilities; erosions control facilities; utility lines and installations; generation tie lines; ancillary buildings; wind monitoring stations; and accessory equipment and structures. (see 11.05.04)
- (18) **Vertical axis WECS:** A WECS which converts wind energy into electricity through the use of a wind turbine generator with a vertical axis of rotation. This type of WECS is not directional in that it does not need to be pointed into or away from the direction of the wind in order to achieve optimal energy production.
- (19) **Wind energy conversion system (WECS):** A land use for generating power by use of wind; utilizing wind turbine generators, including the turbine, blades, and tower as well as related electrical equipment. This does not include wiring to connect the WECS to the electric utility grid. See also on-site WECS and utility grid WECS.
- (20) **Wind site assessment.** An assessment to determine the wind speeds at a specific site and the feasibility of using that site for construction of a WECS.

11.05.02 **On-site Use WECSs:** An On-site Use WECS up to seventy-two (72) feet tall is an accessory use which shall meet the following standards:

- (a) **Locations Where System Allowed:** An accessory WECS up to seventy two (72) feet tall shall be permitted in all districts with administrative land use permit approval by the Zoning Administrator.

- (b) **Number of Systems:** An on-site use WECS is to be designed to primarily serve the needs of a home, farm, or on-site business. One (1) on-site use WECS shall be permitted per property.
- (c) **Clearance above Ground:** The minimum blade or rotor clearance will be at least ten (10) feet from the ground.
- (d) **System Attached to a Structure or Roof:** A WECS may be attached to an existing structure. Roof-mounted equipment shall not exceed a height of fifteen (15) feet above the surrounding roof surface.
- (e) **Property Setback:** The minimum distance between an on-site use WECS and the owner's property lines shall be equal to the height of the WECS tower including the top of the blade in its vertical position. No part of the WECS structure, including guy wire anchors, may extend closer than ten (10) feet to the owner's property lines, or the distance of the required setback in the respective zoning district, whichever results in the greater setback. Where a WECS is located in the front yard, it shall be setback two hundred (200) feet from the front lot line.
- (f) **Color:** WECS shall be painted a non-obtrusive (light color such as white, beige or light gray) color that is non-reflective. No striping or color shall be visible on the blades or tower. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades. Nacelles may have lettering that exhibits the manufacturer's identification.
- (g) **Towers:** WECS shall use tubular towers. Lattice towers shall be prohibited.
- (h) **Sound Pressure Level:** On site use WECS shall not create noise levels that exceed sixty (60) dB (A) measured at the property line.
- (i) **Construction Codes, Towers, & Interconnection Standards:** On-site use WECS, including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. On-site use WECS including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950, MCL 259.431 *et seq.*), and the Michigan Tall Structures Act (Public Act 259 of 1959, MCL 259.481 *et seq.*).
- (j) **Connection to Energy Grid:** An interconnected on-site use WECS shall comply with Michigan Public Service Commission and Federal Energy Regulatory Commission standards. Off-grid systems are exempt from this requirement.
- (k) **Safety:** An on-site use WECS shall have automatic braking, governing, or a feathering system to prevent uncontrolled rotation or over speeding. All wind towers shall have lightning protection. If a tower is supported by guy wires, the wires shall be clearly visible to a height of at least eight (8) feet above the guy wire anchors.
- (l) **Accessibility:** Towers shall be designed and constructed in such a manner that integrated tower climbing devices are a minimum of twelve (12) feet above the base of the tower and only accessible by using a separate climbing device.

- (m) **Labeling of WECS Tower Subsystem:** The following information shall be provided on labels attached to the tower in a visible, easily read, and easily accessible location:
- (1) Equipment weight of the tower subsystem;
 - (2) Manufacturer's name and address;
 - (3) Model number;
 - (4) Serial number;
 - (5) The survival wind speed in miles per hour and meters per second;
 - (6) Name of installer;
 - (7) Name of person responsible for maintenance;
 - (8) Emergency telephone number in force for (6) and (7) above.
- (n) **Labeling of WECS Power Conversion Subsystem:** The following information shall be provided on labels attached to the WECS power conversion subsystem in a visible, easily read, and easily accessible location:
- (1) Maximum power input (KW), rated voltage (volts) and rated current output (amperes) of the generator, alternator, etc.;
 - (2) Manufacturer's name and address;
 - (3) Model number;
 - (4) Serial number;
 - (5) Emergency and normal shutdown procedures;
 - (6) Underwriters label, where appropriate.
- (o) **Utilities:** Power lines shall be placed underground. If the WECS is connected to a public utility system for net metering purposes, it shall meet the requirements for interconnection and operation as set forth in the public utility's current service regulations that meet federal, state and industry standards applicable to wind power generation facilities. Any such connection shall be inspected and approved by the appropriate utility company.
- (p) **Removal of Abandoned Facilities:** Any WECS that is not operated for a continuous period of twelve (12) months shall be considered abandoned and the owner of such WECS shall remove the WECS within ninety (90) days of receiving an abandonment notification from the Township. Failure to remove an abandoned WECS within ninety (90) days shall be grounds for the Township to remove the WECS at the owner's expense.

11.05.03 **Utility Grid WECS, Anemometer Towers and On-site Use WECS Over Seventy-Two (72) Feet High:** A utility grid WECS and anemometer towers, or on-site use WECS over seventy-two (72) feet high shall meet the following standards:

- (a) **Locations Where System Allowed:** Utility grid WECS and on-site WECS over seventy-two (72) feet in height shall be permitted in the AG, CE, PRF and IND districts with special land use approval by the Township Board in accordance with Article 19 and site plan approval by the Planning Commission in accordance with Article 18.
- (b) **Clearance above Ground:** The minimum blade or rotor clearance for a horizontal axis tower mounted WECS will be at least twenty (20) feet above ground or above any outdoor areas intended for human use. The minimum rotor clearance for a vertical axis WECS installed on-grade will be at least ten (10) feet above ground.
- (c) **System attached to a Structure or Roof:** A WECS may be attached to an existing structure so that the appearance of the structure will not be materially altered or changed. Roof-mounted equipment shall not exceed a height of twenty (20) feet above the surrounding roof surface. The equipment shall not be attached to a portion of the roof that is highly visible.
- (d) **Height:** No utility grid WECS or on-site use WECS shall exceed one hundred fifty (150) feet in height.
- (e) **Property Setback:** The minimum distance between a WECS and the property lines shall be equal to the height of the WECS tower including the top of the blade in its vertical position. The minimum distance between an anemometer tower and the owner's property lines shall be equal to the height of the tower. No part of the WECS structure, including guy wire anchors, may extend closer than ten (10) feet to the owner's property lines, or the distance of the required setback in the respective zoning district, whichever results in the greater setback. Any operations and maintenance office building, a sub-station, or ancillary equipment shall comply with any property set-back requirement of the respective zoning district. Where a WECS is located in the front yard, it shall be setback two hundred (200) feet from the front lot line.
- (f) **Color:** WECS shall be painted a non-obtrusive (light color such as white, beige or light gray) color that is non-reflective. No striping or color shall be visible on the blades or tower.
- (g) **Sound Pressure Level:** WECS shall not create noise levels that exceed sixty (60) dB (A) measured at the property line.
- (h) **Safety Requirements:** WECS shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times when service personnel are not present. All spent lubricants and cooling fluids shall be properly and safely removed in a timely manner from the site of the WECS. A sign shall be posted near the tower or operations and maintenance office building that will contain emergency contact information. Signage placed at the road access shall be used to warn visitors about the potential danger of falling ice.

- (i) **Accessibility:** Towers shall be designed and constructed in such a manner that integrated tower climbing devices are a minimum of twelve (12) feet above the base of the tower and only accessible by using a separate climbing device.
- (j) **Performance Security:** Performance guarantee, pursuant to Section 21.03 of this Ordinance, shall be provided for the applicant making repairs to public roads damaged by the construction of the WECS.
- (k) **Utilities:** Power lines shall be placed underground. If the WECS is connected to a public utility system for net metering purposes, it shall meet the requirements for interconnection and operation as set forth in the public utility's current service regulations that meet federal, state and industry standards applicable to wind power generation facilities. Any such connection shall be inspected and approved by the appropriate utility company. Utility grid WECS shall comply with applicable utility, Michigan Public Service Commission, and Federal Energy Regulatory Commission interconnection standards.
- (l) **Permits:** WECS shall comply with all applicable state construction and electrical codes and County building permit requirements.
- (m) **Aviation Hazard:** WECS shall comply with Federal Aviation Administration (FAA) requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950 as amended, M.C.L. 259.431 et seq.), and the Michigan Tall Structures Act (Public Act 259 of 1959 as amended, M.C.L. 259.481 et seq.). The minimum FAA lighting standards shall not be exceeded. All tower lighting required by the FAA shall be shielded to the extent possible to reduce glare and visibility from the ground. The tower shaft shall not be illuminated unless required by the FAA.
- (n) **Standards:** The following standards apply only to utility grid WECS:
 - (1) **Visual Impact:** Utility grid WECS projects shall use tubular towers and all utility grid WECS in a project shall be finished in a single, non-reflective matte finished color. A project shall be constructed using WECS of similar design, size, operation, and appearance throughout the project. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades. Nacelles may have lettering that exhibits the manufacturer's and/or owner's identification.
 - (2) **Decommissioning:** A decommissioning plan for the WECS and any anemometer towers shall be provided that indicates 1) the anticipated life of the project, 2) the estimated decommissioning costs net of salvage value in current dollars, 3) the method of ensuring that funds will be available for decommissioning and restoration, 4) the anticipated manner in which the project will be decommissioned and the site restored and 5) performance guarantee, pursuant to Section 21.03 of this Ordinance.
 - (3) **Electromagnetic Interference:** Utility grid WECS shall not be installed in any location where its proximity to existing fixed broadcast, retransmission, or reception antennae for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception unless the applicant provides a replacement signal to the affected party that will restore reception to at least the level

present before operation of the WECS. No utility grid WECS shall be installed in any location within the line of sight of an existing microwave communications link where operation of the WECS is likely to produce electromagnetic interference in the link's operation unless the interference is proven to be insignificant.

- (o) **Site Plan:** Site plan requirements for utility grid WECS and on-site WECS over seventy-two (72) feet in height are as follows:
- (1) Documentation that sound pressure level, construction code, tower, interconnection (if applicable), and safety requirements have been reviewed and the submitted site plan is prepared to show compliance with these issues.
 - (2) Proof of the applicant's general liability insurance for at least three million dollars (\$3,000,000) for the project to cover the operator, the landowner and the Township.
 - (3) A copy of that portion of all the applicant's lease(s) with the land owner(s) granting authority to install the anemometer tower and/or utility grid WECS; legal description of the property(ies), lease unit(s); and the site plan shows the boundaries of the leases as well as the boundaries of the lease unit boundary.
 - (4) The phases, or parts of construction, with a construction schedule.
 - (5) The project area boundaries.
 - (6) The location of all dwellings within three hundred (300) feet of the system.
 - (7) The location of all guy wires or other support devices.
 - (8) The location, height, and dimensions of all existing and proposed structures and fencing.
 - (9) The location, grades, and dimensions of all temporary and permanent on-site and access roads from the nearest county or state-maintained road.
 - (10) All new above ground infrastructure related to the project.
 - (11) A copy of manufacturers' material safety data sheet(s) which shall include the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants and coolants.
 - (12) For utility grid WECS only:
 - a. A copy of a noise modeling and analysis report and the site plan shall show locations of equipment identified as a source of noise. Equipment shall be placed so that the WECS will not exceed the maximum permitted sound pressure levels. The noise modeling and analysis shall conform to IEC 61400 and ISO 9613. After installation of the utility grid WECS, sound pressure level measurements shall be done by a third party, qualified professional according to the procedures in the most current version of ANSI S12.18. All sound pressure levels shall be measured with a sound

meter that meets or exceeds the most current version of ANSI S1.4 specifications for a Type II sound meter. Documentation of the sound pressure level measurements shall be provided to Genoa Township within sixty (60) days of the commercial operation of the project.

- b. A visual impact simulation showing the completed site as proposed on the submitted site plan. The visual impact simulation shall be from four viewable angles and conducted adjacent to property lines or the lease unit boundaries.
- c. A copy of an environment analysis by a qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis, and shall show those measures on the site plan. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.
- d. A copy of an avian and wildlife impact analysis by a qualified professional to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis, and shall show those measures on the site plan. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. (Sites requiring special scrutiny include wildlife refuges, other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally and/or state listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract large numbers of raptor.)
 - 1. At a minimum, the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area. Where appropriate, surveys for bats, raptors, and general avian use should be conducted. The analysis shall include the potential effects on species listed under the federal Endangered Species Act and Michigan's Endangered Species Protection Law.
 - 2. The analysis shall indicate whether a post construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted.
- e. A copy of a shadow flicker analysis for residential buildings and livestock areas within one thousand (1,000) feet of the proposed system. The analysis shall to identify the locations of shadow flicker that may be caused by the project and the expected durations of the flicker at these locations from sun-rise to sun-set over the course of a year. The analysis shall identify problem areas where shadow flicker may affect residents and livestock within one thousand (1,000) feet. The analysis shall also show measures that shall be taken to eliminate or mitigate the problems.

- f. A second site plan which shows the restoration plan for the site after completion of the project which includes the following supporting documentation:
1. The anticipated life of the project.
 2. The estimated decommissioning costs net of salvage value in current dollars.
 3. The method of ensuring that funds will be available for decommissioning and restoration.
 4. The anticipated manner in which the project will be decommissioned and the site restored.
- g. A description of the complaint resolution process developed by the applicant to resolve complaints from nearby residents concerning the construction or operation of the project. The process may use an independent mediator or arbitrator and shall include a time limit for acting on a complaint. The process shall not preclude the local government from acting on a complaint. During construction the applicant shall maintain and make available to nearby residents a telephone number where a project representative can be reached during normal business hours.

11.05.04 Utility-Scale Wind Energy Systems under PA 233 only.

- (a) **Intent and Purpose:** The intent and purpose of this Section is to establish standards pursuant to PA 233 of 2024. To the extent the following provisions conflict with the provisions in subsection 11.05.01, 11.05.02, 11.05.03 above, these provisions shall apply. All provisions in 11.05.01, 11.05.02, and 11.05.03 above that do not conflict with the subsection remain in full force and effect and shall be applicable to all Utility- Scale Wind Energy Systems regardless of nameplate capacity. The following provisions do not apply if PA 233 of 2023 is repealed, enjoined, or otherwise not in effect, and do not apply to Utility Grid WESC.
- (b) **Locations Where System Allowed:** Utility-Scale Wind Energy Systems shall be permitted in IND and PID districts with special land use approval by Township Board in accordance with Article 19 and site plan approval by the Township Board and Planning Commission in accordance with Article 18.
- (c) **Application:** To construct an Utility-Scale Wind Energy System, an electric provider or IPP that proposes to obtain a certificate from the Michigan Public Service Commission to construct an energy facility within the Township shall follow the following application process:
- (1) At least 60 days before the public meeting provided for in MCL 460.1223, an electric provider or IPP shall offer in writing to meet with the Township Supervisor, or the Supervisor's designee, to discuss the site plan. The offer to meet should be delivered by email. The Supervisor or Supervisor's designee must respond within 30 days from the offer to meet.
 - (2) Within 30 days following the meeting described in paragraph 11.05.04 (2)(a), the Township Supervisor shall notify the electric provider or IPP

planning to construct the energy facility that the Township has a compatible renewable energy ordinance. If all affected local units with zoning jurisdiction provide similar timely notice to the electric provider or IPP, then the electric provider or IPP shall file for approval of a permit with the Township.

- (3) To file for approval of a permit the electric provider or IPP must submit a complete application to the Township Clerk. The application form to be used shall be adopted by resolution of the Township Board. The application shall contain the items set forth in MCL 460.1225(1), except for (l)(j) and (s). The application may also require other information to determine compliance with this Compatible Renewable Energy Ordinance. By resolution, the Township may establish an application fee and escrow policy to cover the Township’s reasonable costs of review and processing of the application, including but not limited to staff, attorney engineer, planning, environmental, or other professional costs.

(d) **Application Review:** The application shall be processed as a special land use subject to the provisions of this Article. The Township board following a recommendation from the Planning Commission shall approve or deny the application within 120 days after receiving a complete application. This deadline may be extended by up to 120 days if jointly agreed upon by the Township Board and the applicant. If the application is approved, the following standards apply:

- (1) **Setbacks.** Utility-Scale Wind Energy Systems must comply with the following minimum setback requirements, with setback distances measured from the center of the base of the wind tower:

Setback Description	Setback Distance
Occupied community buildings and dwelling on nonparticipating properties	2.1 times the maximum blade tip height to the nearest point on the outside wall of the structure
Residences and other structures on participating properties	1.1 times all the maximum blade tip height to the nearest point on the outside wall of the structure
Nonparticipating property lines	1.1 times the maximum blade tip height
Public road right-of-way	1.1 times the maximum blade tip height to the center line of the public road right-of-way
Overhead communication and electric transmission, not including utility service lines to individual houses or outbuildings	1.1 times the maximum blade tip height to the center line of the easement containing the overhead line

- (2) **Height.** Each wind tower does not exceed the height allowed under a Determination of No Hazard to Air Navigation by the Federal Aviation Administration under 14 CFR part 77.
- (3) **Shadow Flicker:** Each wind tower must be sited such that any occupied community building or nonparticipating residence will not experience more than 30 hours per year of shadow flicker under planned operating conditions as indicated by industry standard computer modeling.
- (4) **Noise:** The Wind Energy System must not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall

of the nearest dwelling located on an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.

- (6) **Lighting:** The Wind Energy System must be equipped with a functioning light-mitigating technology. To allow proper conspicuity of a wind turbine at night during construction, a turbine may be lighted with temporary lighting until the permanent lighting configuration, including the light-mitigating technology, is implemented. The Township may grant a temporary exemption from the requirements of this subparagraph if installation of appropriate light-mitigating technology is not feasible. A request for a temporary exemption must be in writing and state all of the following:
 - (a) The purpose of the exemption.
 - (b) The proposed length of the exemption
 - (c) A description of the light-mitigating technologies submitted to the Federal Aviation Administration.
 - (d) The technical or economic reason a light-mitigating technology is not feasible.
 - (e) Any other relevant information requested by the Township.
- (7) **Radar Interference:** The Wind Energy System must meet any standards concerning radar interference, lighting (subject to subparagraph (6) or other relevant issues as determined by the Township.
- (8) **Environmental Regulations:** The Wind Energy System must comply with applicable state or federal environmental regulations.
- (9) **Public Service Commission:** The Wind Energy Facility will comply with any more stringent requirements adopted by the Michigan Public Service Commission as provided for in MCL 460.1226(8)(b)(vii). Before adopting such requirements, the commission must determine that the requirements are necessary for compliance with state or federal environmental regulations.
- (10) **Host community agreement:** The applicant shall enter into a host community agreement with the Township. The host community agreement shall require that , upon commencement of any operation, the Wind Energy System owner must pay the Township \$2,000.00 per megawatt of nameplate capacity. The payment shall be used as determined by the Township for police, fire, public safety, or other infrastructure, or for other projects as agreed by to by the local unit and the applicant.

Sec. 11.06 SOLAR ENERGY SYSTEMS (as amended 08/21/23)

11.06.01 General:

- (a) **Intent:** The intent of these regulations is to provide suitable locations for Solar Energy Systems to meet a reasonable demonstrated need for renewable energy land uses while providing regulations that limit the impact of these facilities as follows:
- (1) Protect public health, safety, welfare and quality of life by minimizing the potential adverse impacts of a solar energy system.
 - (2) To ensure the compatibility of land uses in the vicinity of the solar energy system.
 - (3) Protect the aesthetic quality of the natural, rural open spaces of the Township and to mitigate adverse impacts to agricultural lands, natural and environmentally-sensitive areas, and developed residential areas; and to preserve scenic views and cultural heritage.
 - (4) Protect neighboring property owners from glare, noise and safety impacts.
 - (5) Protect native vegetation, wildlife and pollinator habitat.
 - (6) To establish standards and procedures by which the siting, design, construction, operation, monitoring, modification, and removal of such systems shall be governed.
 - (7) Land considered for utility solar energy systems shall be within reasonable proximity to an electrical substation and electrical transmission lines to limit potential impact on other areas and uses within the Township.
- (b) **Definitions:**
- (1) **Abandonment:** Any solar energy system or facility that is no longer producing power.
 - (2) **Building Integrated Photovoltaics (BIPVs):** A private solar energy system that is integrated into the structure of a building (rather than a separate mechanical device), replacing or substituting for an architectural or structural component of the building. Building integrated systems include but are not limited to photovoltaic or hot water solar energy systems that are contained within roofing materials such as solar roof tiles or solar shingles, windows, skylights and awnings.
 - (3) **Decommission:** To remove or retire a solar energy system or facility from active service.
 - (4) **Ground-Mounted Solar Energy System:** A private or utility solar energy system that is not attached to or mounted on any roof or exterior wall of any principal or accessory building.

- (5) **Height:** The height of a solar energy system, measured vertically from the adjacent grade to its highest point at maximum tilt.
- (6) **Inhabited Structure:** Any existing structure usable for living or non-agricultural commercial purposes, including, but not limited to: working, sleeping, eating, cooking, recreation, office, office storage, or any combination thereof. An area used only for storage incidental to a residential use, including agricultural barns, is not included in this definition. If it is not clear by this definition, the Zoning Administrator shall make a determination of any structure regarding whether or not it is inhabited.
- (7) **Maximum Tilt:** The maximum angle of a solar array (i.e., most vertical position) for capturing solar radiation as compared to the natural or unaltered ground or topography upon which the solar array is installed.
- (8) **Minimum Tilt:** The minimal angle of a solar array (i.e., most horizontal position) for capturing solar radiation as compared to the natural or unaltered ground or topography upon which the solar array is installed.
- Non-Participating Property:** A property that is adjacent to an energy facility and that is not a participating property.
- (9)
- (10) **Participating Property:** A property that either is owned by an applicant or that is the subject of an agreement that provides for the payment by an applicant to a landowner or monetary compensation related to an energy facility regardless of whether any part of that energy facility is constructed on the property.
- (11) **Photovoltaic Array (PV Array):** A device designed to collect and transform solar energy into electricity.
- (12) **Private Solar Energy System:** A Solar Energy System used exclusively for private purposes with the purpose primarily of generating electricity for the principle use on the site and not used for commercial resale of energy, except for the sale of surplus electrical energy back to the electrical grid.
- (13) **Repowering:** Replacing or upgrading Solar Energy System to increase power rating of panels or Solar Energy System accessory structures within the approved project footprint. This does not apply to regular maintenance.
- (14) **Roof or Building-Mounted Solar Energy System:** A private solar energy system that is attached to or mounted on any roof or exterior wall of any principal or accessory building but excluding BIPVs.

- (15) **Solar Energy System:** Any part of a system or device designed to collect or store solar radiation or energy for the purpose of transforming it into any other form of usable energy or electricity, including the collection and transfer of heat created by solar energy to any other medium by any mean which may include but is not limited to, PV arrays, racks, inverters, transformers, wiring, batteries, and electrical system components.
- (16) **Utility-Scale Solar Energy Facility under PA 233:** a system that captures and converts solar energy into electricity, for the purpose of sale or for use in locations other than solely the solar energy facility property, and with a nameplate capacity of 50 megawatts or more. Utility-Scale Solar energy facility includes, but is not limited to, the following equipment and facilities to be constructed by an electric provider or independent power producer: photovoltaic solar panels; solar inverters; access roads; distribution, collection, and feeder lines; wires and cables; conduit; footings; foundations; towers; poles; crossarms; guy lines and anchors; substations; interconnection or switching facilities; circuit breakers and transformers; energy storage facilities; overhead and underground control; communications and radio relay systems and telecommunications equipment; utility lines and installations; generation tie lines; solar monitoring stations; and accessory equipment and structures.
- (17) **Solar Farm:** See Utility Solar Energy Facility.
- (18) **Utility Solar Energy System or Facility:** A Solar Energy System where the principal design, purpose, or use of such system is to provide energy to off-site uses or the wholesale or retail sale of generated electricity to any person or entity.
- (c) **General Provisions:** Solar Energy Systems shall comply with the standards below:
- (1) All Solar Energy Systems shall be permanently and safely attached to the building or structure or to the ground and must conform to the provisions of this Ordinance and all County, State, and Federal regulations, and safety requirements, including applicable building codes and applicable industry standards, including those of the American National Standards Institute (ANSI).
 - (2) Solar Energy Systems shall be installed, maintained and used only in accordance with the manufacturer's directions. Upon request, a copy shall be submitted to the Township or building official prior to installation. The Township may inspect the completed installation to verify compliance.
 - (3) If an applicant or operator of a Solar Energy System fails to comply with this Ordinance, the Township, in addition to any other remedy under this Ordinance, may revoke any approvals after giving the applicant notice and

an opportunity to be heard. Additionally, the Township may pursue any legal or equitable action to abate a violation and recover any and all costs, including the Township's actual attorney fees and costs.

11.06.02 **Private Solar Energy System:**

- (a) Private Solar Energy Systems shall be permitted as an accessory use in all zoning districts, subject to the following:
 - (1) Administrative Review. A land use permit from the Township is required for the installation of any private solar energy system. The applicant is responsible for contacting the building department to determine if a Private Solar Energy System requires a building permit. The application must include:
 - a. A site plan depicting setback, panel size and location, wiring location, lot coverage, location of property lines, buildings, structures, fences, greenbelts, and road right of ways. The site plan must be drawn to scale.
 - b. Photographs of the property's existing condition.
 - c. Renderings or catalogue cuts of the proposed solar energy equipment.
 - d. A certificate of compliance demonstrating that the system has been tested and approved by Underwriters Laboratories (UL) or other approved independent testing agency acceptable to Township.
 - e. A copy of the manufacturer's installation directions.
 - (2) The exterior surfaces of solar energy systems shall be generally neutral in color and substantially non-reflective of light. A unit may not be installed or located so that sunlight or glare is reflected into neighboring uses or onto adjacent streets.
 - (3) Solar energy systems shall be located in the least visibly obtrusive location where panels would remain functional.
 - (4) Batteries associated with Private Solar Energy Systems must be located within a secured container or enclosure.
 - (5) Solar energy systems that are damaged or are no longer in use for a period of one (1) year shall be replaced or removed by the property owner within six (6) months of the date of damage or abandonment.

- (6) Signage shall be provided in a visible location with disconnection procedures for emergency first responders.
- (7) All power transmission lines, wires, or conduits from a ground-mounted Private Solar Energy System to any building or other structure shall be located underground.

11.06.03 **Ground Mounted Private Solar Energy System.** Ground Mounted Private Solar Energy Systems are permitted in all zoning districts as an accessory use, subject to the following:

- (a) Ground Mounted Private Solar Energy Systems are subject to special land use review except small residential accessory systems which occupy less than 500 square feet in area are subject to administrative review of a land use permit pursuant to Section 11.06.02(a)(1).
- (b) **Location.** Ground Mounted Private Solar Energy System shall only be located in the non-required rear or side yard for principal buildings in the zoning district in which it is located. The unit may be located in the front yard only if permitted by the Planning Commission provided that the unit is no less than two-hundred (200) feet from the front lot line.
- (c) **Size.** The total combined area of all Ground Mounted Private Solar Energy System must not exceed one (1) percent of the size of the lot with a maximum of 2,500 square feet.
- (d) **Lot Coverage.** The total area of ground-mounted solar energy collectors shall be included in the calculation of maximum permitted lot coverage for impervious surface.
- (e) **Height.** 16 feet maximum, measured from the natural grade below the unit to the highest point when oriented to maximum tilt.
- (f) All power transmission lines, wires, or conduits from a ground-mounted Private Solar Energy System to any building or other structure shall be located underground.
- (g) **Screening.** Greenbelt screening is required around any Ground Mounted Private Solar Energy System and around any equipment associated with the system to obscure, to the greatest extent possible, the Solar Energy System from adjacent residences. The greenbelt shall consist of shrubs, trees, and other non-invasive plant species that provide a visual screen. All landscaping shall be maintained in a healthy, neat and orderly state free from refuse and debris. Any dead or diseased plants shall be removed and replaced within six (6) months. In lieu of a planting greenbelt, a decorative fence may be used if approved by the Planning Commission. Fences shall be installed and maintained free from defects, safety hazards and collapse, and shall be kept in good repair.

11.06.04 **Building Integrated Photovoltaics.** Private solar energy system BIVPs shall be permitted in all zoning districts and shall be subject to the zoning regulations applicable to the structure or building to which they are integrated. BIVP's must comply with the general provisions of 11.06.01(c).

11.06.05 **Roof or Building Mounted Private Solar Energy Systems:**

- (a) **Weight and Installation:** A roof or building mounted unit shall be only of such weight as can safely be supported by the structure. Proof thereof, in the form of certification by a professional engineer or other qualified person, shall be submitted to the Township prior to installation.
- (b) **Application:** Applications for building and roof mounted solar energy systems must include horizontal and vertical elevation drawings that show the location and height of the system on the building and the dimensions of the system.
- (c) **Location:** Wall-mounted units shall not be located on the front yard elevation wall of a building.
- (d) **Height:**
 - (1) Wall-mounted units shall not exceed the height of the building wall to which they are attached.
 - (2) A roof-mounted system shall not project more than three (3) feet above the highest point of the roof and shall not exceed the maximum building height for the zoning district in which it is located.
- (e) **Extension:** A solar energy collector that is mounted on a building in an area other than the roof shall not extend vertically beyond the wall on which it is mounted and shall not extend more than twelve (12) inches beyond the wall on which it is mounted and may not extend into a required yard.

11.06.06 **Utility Solar Energy System or Facility**

- (a) **Intent and Purpose.** The intent and purpose of this Section is to establish standards for the siting, installation, operation, repair, decommissioning, and removal of Utility Solar Energy Systems or Facilities; establish the process for the reviewing and permitting of such facilities; protect the health, welfare, safety, and quality of life of the general public; and ensure compatibility with land uses in the vicinity of the areas affected by such facilities.
- (b) **Locational Requirements.** Utility Solar Energy Systems or Facilities are permitted by special land use in the Industrial (IND) and Planned Industrial (PID) Districts. Utility solar energy systems and facilities are not permitted on property enrolled in the Farmland and Open Space Preservation Act, being in PA 116, of 1974, now codified in Part 361 of the Natural Resources and Environmental Protection Act, PA 451 of 1974, as amended.

(c) **Application Requirements.** An applicant proposing a Utility Solar Energy System or Facility must comply with the Special Land Use requirements of Article 19 and the Site Plan review requirements of Article 18. The information, plans, documents, and other items identified as application requirements in this ordinance, including the site plan and special land use permit, are substantive requirements for obtaining approval for a Utility Solar Energy System or Facility. The Planning Commission will review the sufficiency of the application materials. If the Planning Commission determines that the substance of any application item is insufficient to protect the public health, safety, and welfare, the Planning Commission may deny approval on that basis. In addition, the applicant for a Utility Solar Energy System or Facility shall provide the Township with all of the following:

- (1) **Applicant Identification.** The name of the applicant, any parent company or subsidiary of the parent company, along with any “doing business as” of the parent company along with address in full. A statement that the applicant is the owner involved or is acting on the owner's behalf. The address of the property involved in the application (substitution may include a legal description and parcel identification number(s)), and any additional contact information. Each application for a Utility Solar Energy Facility shall also be dated to indicate the date the application is submitted to the Township.
- (2) A complete copy of the agreement including all exhibits and attachments between the applicant and the utility company that will be purchasing electricity from the proposed Utility Solar Energy System or Facility.
- (3) An affidavit or evidence of an agreement between the lot owner or operator confirming the owner or operator has the permission of the property owner to apply for the necessary permits for construction and operation of Utility Solar Energy System or Facility.
- (4) **Parcel Numbers.** A list of all parcel numbers that will be used by the Utility Solar Energy System or Facility including applicable attachments, establishing ownership of each parcel, with all lease agreements, easements, or purchase agreements for the subject parcels.
- (5) **Project Description.** A general description of the proposed project including a legal description of the property or properties on which the project would be located and an anticipated construction schedule.
- (6) **Insurance.** Proof of the general liability insurance to cover the Utility Solar Energy Facility, the Township, and the Landowner.

- (7) Certifications. Certification that applicant will comply with all applicable state and federal laws and regulations.
- (8) Compliance with the County Building Code and the National Electric Safety Code. Construction of a Utility Solar Energy System or Facility shall comply with the National Electric Safety Code and the County Building Code (as shown by approval by the County) as a condition of any Special Land Use Permit under this section. In the event of a conflict between the County Building Code and National Electric Safety Code (NESC), the NESC shall prevail.
- (9) Operations and Maintenance Agreement. This agreement shall include landscaping upkeep, regular checks, and maintenance with a detailed description of operations and parameters including anticipated regular and unscheduled maintenance and the hours maintenance will take place, the name and contact information of the certified operator, the applicant's equipment maintenance and repair plan, the applicant's inspection protocol, and general safety documentation as well as consequences and penalties for noncompliance. This agreement shall attach copies of manufacturer's directions and/or instruction manuals for installing, maintaining and using the Utility Solar Energy System or Facility.
- (10) Hazardous Waste Plan. A plan for managing hazardous waste shall be provided. This plan shall include Manufacturers' Safety Data Sheets (MSDS) and documentation of the type, quantity and storage procedures of all materials used in the operation of all equipment.
- (11) Environmental Impact: Copy of the Environmental Impact Assessment meeting the requirements of 11.06.05(c)(36)(f) section and those of Section 18.07.
- (12) Sound modeling study including sound isolines extending from the sound sources to the property lines and indicating compliance with the requirements of 11.06.05(c)(36)(h).
- (13) Wildlife Impact: A wildlife impact study, including an analysis of the impact on the properties within one mile of the project and meeting the requirements of 11.06.05(c)(36)(e).
- (14) A ground cover vegetation establishment and management plan shall be provided and shall meet the requirements of 11.06.05(c)(36)(i).
- (15) A groundwater analysis performed by a certified hydrogeologist or other qualified environmental expert of all parcels in the participating property shall be provided.

- (16) Glare Study: An analysis by a third-party qualified professional acceptable to the Township to determine if glare from the Utility-Scale Solar Energy System will be visible from nearby residents and roadways. If required, the analysis will consider the changing position of the sun throughout the day and year and its influences on the utility-scale solar energy system.
- (17) Stormwater Study: An analysis by a third-party qualified professional acceptable to the Township studying the proposed layout of the Utility-Scale Solar Energy System and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain event. Percolation tests or site-specific soil information must be provided to demonstrate infiltration on-site without the use of engineered solutions.
- (18) Visual Impact Assessment Analysis. A technical analysis by a third party qualified professional of the visual impacts of the proposed project, including a description of the project, the existing visual landscape, and important scenic resources, plus visual simulations that show what the project will look like (including proposed landscape and other screening measures) a description of potential project impacts, and mitigation measures that would help to reduce the visual impacts created by the project and documented on the site plan.
- (19) Decommissioning and Land Reclamation Plan: This plan shall describe the actions to be taken following the abandonment or discontinuation of the Utility Solar Energy System or Facility, including evidence of proposed commitments with property owners to ensure proper final reclamation, repairs to roads, and other steps necessary to fully remove the system or facility and restore the subject parcels to a native state. This plan shall include the format of a financial security to be applied to the decommissioning process. This plan shall also comply with the requirements of Section 11.06.05(c)(37).
- (20) Complaint Resolution Protocol: A plan for resolving complaints from the public or others concerning the construction and operation of the Utility Solar Energy System or Facility. This plan shall comply with the requirements as provided in Section 11.06.05(c)(38).
- (21) Emergency Action Plan: Copy of a plan for the actions to be taken in event of an emergency. The emergency action plan must include a fire suppression plan, including the technology to be used and the training and equipment to be provided to Township or other firefighters before the facility becomes operational. The emergency action plan must include plans for immediate cleanup and long-term aftermath efforts following an emergency.

- (22) Proof of approval by Livingston County, Road Commission, and Drain Commission.
- (23) The applicant must also obtain a permit from the Livingston County Road Commission or Michigan Department of Transportation (MDOT) for permission to connect access roads to existing County or State roads and from the Livingston County Drain Commission for any culverts or other drainage facilities.
- (24) Proof that the Applicant and/or its contractor has informed the Livingston County Road Commission (LCRC) and the Township of all the roads they propose to use as haul routes to each construction (including repair and decommissioning) site. This shall be done prior to beginning any construction (or decommissioning) at any site. A third-party road inspector will be retained, with mutual approval of the Township, the Applicant, and the LCRC or the Michigan Department of Transportation (MDOT) if a state highway is involved. The road inspector will determine any precautions to be taken (including videotaping and physical inspections) during the process to determine any damage that may be caused by Applicant's contractor(s), and then determine the appropriate road standards and measures to be taken to repair the damage. The cost of the third-party road inspector and/or any other required third-party assistance, and of all repairs necessitated to restore the roads [and related property which may be damaged by the contractor(s)], shall be the responsibility of the Applicant and/or their contractor, and shall in no case be the responsibility of the Township.
- (25) Anticipated construction schedule including timeline to completion and scope of work.
- (26) A complete description of the proposed technology to include type of solar panel and system, maximum height, fixed mounted versus tracking, number of panels and angles of orientation.
- (27) Current ground and aerial photographs and video of the entire development area prior to construction.
- (28) Proof of environmental compliance, including compliance with Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act; (MCL 324.3101 et. seq.; Part 91, Soil Erosion and Sedimentation Control (MCL 324.9101 et. seq.) and any corresponding County ordinances; Part 301, Inland Lakes and Streams, (MCL 324.30101 et. seq.); Part 303, Wetlands (MCL 324.30301 et. seq.); Part 365, Endangered Species Protection (MCL324.36501 et. seq.); and any other applicable laws and rules in force at the time the application is considered by the Township.

- (29) An attestation that the applicant will indemnify and hold the Township harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the Solar Energy System. The Township shall be named as an additional insured for such indemnity under 11.06.05(c)(36)(l).

- (30) Airport Review: Any Solar Energy System must be reviewed using the current Solar Glare Hazard Analysis Tool (SGHAT) available through Sandia National Laboratories or a commercially available equivalent. The SGHAT will be used to ensure that airports and those that use them will not be affected by unwanted visual or ocular impacts. The process is designed to save costs and increase public safety.
 - a. The Study shall determine if there are any potential adverse effects on any registered airfield within ten miles of the project. Effects noted, but not exclusively, should include any possible decreased safety and utility.
 - b. In addition, all proposed solar facilities must obtain a Determination of No Hazard (DNH) from the Federal Aviation Administration (FAA). A DNH does not eliminate the need for the SGHAT study nor does it in any way eliminate the standard for glare on roadways or non-participating parcels.
 - c. The DNH must be obtained prior to breaking ground on any portion of the Solar Energy System.
 - d. No Solar Energy System that impacts safety or utility of any registered airfield shall be permitted.

- (31) Any other relevant studies, reports, certificates, or approvals as may be reasonably required by the Planning Commission.

- (32) Site Plan Requirements shall be submitted meeting the requirements of Section 18.04 and in addition, shall also include the following:
 - a. The approximate height, and dimensions of all existing structures, existing parcel drainage tile layouts, water bodies, waterways, floodplains, landscaping, and fencing, on the parcels planned for Solar Energy installation including other parcels within one thousand (1000) feet of the project's boundaries.
 - b. Documentation of existing vegetation, floodplains and regulated and/or endangered species.

- c. Indication of how and where the system will be connected to the power grid.
- d. Photometric plan meeting the requirements of Section 12.03.07.
- e. Plan(s) showing the location of proposed Utility Solar Energy System or Facility including panels, equipment, transformers, inverters, fencing, underground and overhead wiring (including the depth of underground wiring), new drainage facilities (if any), access drives (including width), substations and accessory structures, along with a note indicating where any trees measuring over 2.5 feet in diameter within six inches of grade are to be removed.
- f. Plan for ground cover establishment and management.
- g. Plan for providing wildlife corridor that provides access for wildlife to navigate through the project.
- h. Security plan detailing measures to prevent unauthorized trespass and access during the construction, operation, removal, maintenance, or repair of the Utility Solar Energy System or Facility.
- i. Application Fee. Review fees shall be submitted for a Special Use application and Site Plan Review application. If requested by the Planning Commission, the applicant shall provide an escrow fee to the Township in the amount specified by the Zoning Administrator to cover the costs associated with but not limited to independent review by experts.

(33) Site Requirements.

- a. The site shall be at least twenty (20) acres.
- b. The site may consist of a single participating property or multiple participating properties.
- c. The site and all fenced compounds shall have access described below.
 - i. There shall be direct access from a public road or an access easement with a maximum length of one thousand (1,000) feet and a width of at least thirty-three (33) feet.
 - ii. Access drives shall be paved with a permanent, durable and dustless surface and shall be graded and drained to dispose stormwater without negatively impacting

adjacent property. The Township Board, following a recommendation of the Planning Commission and the Township Engineer, may approve a gravel surface for low intensity use drives, upon a finding that neighboring properties and the environment will not be negatively impacted and that the surface is sufficient to support fire apparatus and provide access at all times of the year.

- d. Utility Solar Energy Systems (including all solar panels, components, equipment and related accessory structures) must be set back at least one hundred (100) feet from the property line of any Non-Participating Property at the time of application. If a single Utility Solar Energy System is located on more than one lot, or if the adjacent parcel is owned by the same owner as the property on which the Utility Solar Energy System is located, then the Planning Commission may eliminate the lot-line setbacks of this subsection for the lot lines shared by those lots. All property in the setback areas, shall be maintained as defined in a maintenance setback plan acceptable to the Township.
- e. Utility Solar Energy Systems must be set back at least one hundred (100) feet from the edge of any road or rail right-of-way, wetland, shoreline, river, wellhead protection area or drain easement. The Planning Commission may increase this setback requirement up to 200 feet if the Planning Commission determines that such a setback is necessary to protect the public health, safety, and welfare.
- f. Utility Solar Energy Systems must be set back at least five hundred (500) feet from non-participating residential dwellings, churches or religious institutions, schools, family or group child day-care homes, bed and breakfast establishments, residential facilities, and any other residence or inhabited structure.
- g. The height of the Utility Solar Energy System and any mounts, buildings, accessory structures, and related equipment must not exceed sixteen (16) feet when oriented at maximum tilt. Lightning rods shall not exceed 20 feet in height and shall not be any greater than necessary to protect the Utility Solar Energy System from lightning.
- h. The ground mounting of panels must be by screw or a similar system that does not require a footing, concrete, or other permanent mounting, to minimize soil compaction. No pounding of panel posts is permitted.

- i. Permits. All required county, state, and federal permits must be obtained before commencement of construction of the Utility Solar Energy System.
- (34) Buffer and Screening Requirements. Greenbelt screening is required around any Utility Solar Energy System and around any equipment associated with the system to obscure, to the greatest extent possible. There shall be a landscape buffer at least fifty (50) feet wide along the exterior of the fenced compound with plantings required as described below.
- a. Where adjacent to a residential use or zoning district, the buffer shall include an eight (8) foot tall landscaped berm upon which the required landscaping will be placed.
 - b. An evergreen buffer shall contain two rows of staggered evergreen trees planted not less than twelve (12) feet apart trunk to trunk, and the two rows shall be ten (10) ft apart. The buffer shall also include native shrubs planted with spacing of not more than six (6) feet apart on center. The Township may consider an alternative landscape buffer as a part of the special land use approval provided the alternative provides adequate screening.
 - c. Evergreen plantings shall be least eight (8) feet tall at time of planting, measured from the top of the root ball to the base of the leader (not including the height of the leader) and must be a species that can reasonably be expected to reach a height of ten (10) feet within three (3) growing seasons.
 - d. Native shrub plantings shall be a least two (2) feet tall at the time of planting measured from the top of the root ball to the top of the shrub.
 - e. The trees may be trimmed but must maintain a height of at least eighteen (18) feet.
 - f. The overall landscape plan shall not contain more than 33% of any one plant species. The use of trees native to the area, and mixture of trees from the same species association, is encouraged.
 - g. Good arboricultural techniques shall be followed with respect to vegetation, including but not limited to, proper pruning, proper fertilizing, and proper mulching, so that the vegetation will reach maturity as soon as practical and will have maximum density in foliage. Dead or diseased vegetation shall be removed and must be replanted in a manner consistent with this Section at the next appropriate planting time.

The Planning Commission may waive or reduce the above requirements if equivalent screening is provided by existing or planned parks, parkways, recreation areas, or by existing woodlands on the lot, and topographic or other natural conditions.

- (35) Appearance. The exterior surface of the Utility Solar Energy System must be generally neutral in color and substantially non-reflective of light.
- (36) Performance Standards:
 - a. Utility Solar Energy Systems or Facilities shall be designed, constructed, operated, and maintained in compliance with all applicable provisions of local, state, and federal laws and regulations.
 - b. PV Array Components: PV array components shall be approved by the Institute of Electrical and Electronics Engineers (IEEE), Solar Rating and Certification Corporation (SRCC), Electronic Testing Laboratories (ETL), or other similar certification organization if the similar certification organization is acceptable to the Township.
 - c. Fencing: If regulations require fencing, the Utility Solar Energy System or Facility compounds may be completely surrounded by a fence designed to prevent unauthorized access.
 - i. The fence shall be at least seven (7) feet tall without barbed wire and posts shall extend at least thirty-six (36) inches into the ground.
 - ii. Gate posts and corner posts shall have a concrete foundation.
 - iii. The fence shall be a woven agricultural-style fence or other design as approved by the Planning Commission.
 - iv. Gates shall be provided at all access points, unless otherwise permitted or approved. Gates for vehicular access shall be approved by the Fire Authority.
 - v. Gates shall be the same height and constructed of the same material as the fencing. Access, such as knock box, shall be provided for emergency responders.
 - vi. The Township may require or allow a fence design to allow for the passage of wildlife upon a finding that

adequate access control and visual screening will be preserved.

- vii. Alternate fencing may be approved by the Township upon a finding that the alternative provides adequate access control and visual screening.

d. Safety:

- i. All collection system wiring shall comply with all applicable safety and stray voltage standards.
- ii. All electrical connection systems and lines from the Utility Solar Energy System or Facility to the electrical grid connection shall be located and maintained a minimum of six (6) feet underground within and adjacent to the site.
- iii. All access gates and doors to Utility Solar Energy System or Facility compounds and electrical equipment shall be lockable and kept secured at all times when service personnel are not present.
- iv. The applicant or owner shall be responsible for maintenance of the access roads.
- v. The manufacturers or installer's identification and appropriate warning signs shall be posted on or near solar panels in a clearly visible manner.
- vi. Fire suppression plans and Safety Data Sheets shall be kept on-site and be accessible for emergency responders.
- vii. The applicant will provide an unredacted copy of the manufacturer's safety manual for each component of the Utility Solar Energy System without distribution restraints to be kept at the Township Hall or other locations deemed necessary by Planning Commission or local first responders. The Manual should include standard details for an industrial site such as materials, chemicals, fire, access, safe distances during system or facility failure, processes in emergencies, etc.
- viii. The Township shall have the right upon issuing any Solar Energy System or Facility special use permit to inspect the premises on which each system is located at any reasonable time. The Township may hire a consultant to assist with any such inspections at a

reasonable cost to be charged to the operator of the Solar Energy System or Facility.

- ix. Advertising or non-project related graphics shall be prohibited. This exclusion does not apply to signs required by this Ordinance.
 - x. Signs shall be posted at entrances to Utility Solar Energy System or Facility compounds containing emergency contact information, operator contact information, and complaint resolution information. The Township may require additional signs with this information on the fence surrounding the compound. These signs shall be maintained and the information shall be kept current.
 - xi. The Utility Solar Energy System or Facility owner, operator, and property owner shall be responsible, jointly and severally, for mitigating erosion, flooding, and all other environmental impacts resulting from the Utility Solar Energy System or Facility.
 - xii. The Utility Solar Energy System or Facility owner, operator, and property owner shall be responsible, jointly and severally, for making repairs to any public roads, drains, and infrastructure damaged by the construction of, use of, or damage to, a Utility Solar Energy System or Facility. Any solar panel damaged beyond repair or use must be removed from the project site within five days and must be disposed of off-site in accordance with any state or federal requirements.
 - xiii. Utility Solar Energy Systems or Facilities shall not have any on-site battery storage systems for the sale of stored energy.
 - xiv. Plants or grasses not part of the buffer area shall be maintained not to exceed a height of twelve (12) inches. The Township may approve a taller height upon a finding that it will not result in a nuisance.
- e. Wildlife Impact:
- i. The applicant shall have a third-party qualified professional, acceptable to the Township, conduct an analysis to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts identified in the analysis. The applicant

shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.

- ii. Sites requiring special scrutiny include wildlife refuges, other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally or state listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract large numbers of raptors.
 - iii. At a minimum, the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area. Where appropriate, surveys for bats, raptors, or general avian use should be conducted. The analysis shall include the potential effects on species listed under the federal Endangered Species Act and Michigan's Endangered Species Protection Law. The applicant shall follow all pre-construction and post-construction recommendations of the United States Fish and Wildlife Service.
 - iv. The analysis shall indicate whether a post-construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted. Power lines should be placed underground, when feasible, to prevent avian collisions and electrocutions. All above-ground lines, transformers, or conductors should follow any Avian Power Line Interaction Committee (APLIC, <http://www.aplic.org/>) guidelines to prevent avian mortality.
- f. Environmental Impact:
- i. The applicant shall have a third-party qualified professional, acceptable to the Township, conduct an analysis to identify and assess any potential impacts on the natural environment including, but not limited to, wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts identified in the analysis.
 - ii. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. The applicant shall comply with

applicable parts of the Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.) including but not limited to Part 31 Water Resources Protection (MCL 324.3101 et seq.), Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.), Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.), Part 303 Wetlands (MCL 324.30301 et seq.), Part 323 Shoreland Protection and Management (MCL 324.32301 et seq.), Part 325 Great Lakes Submerged Lands (MCL 324.32501 et seq.), and Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.).

- g. Spacing. Utility Solar Energy Systems or Facilities shall be at least two thousand five hundred (2,500) feet from any adjacent, existing Utility Solar Energy System or Facility.
- h. Noise. The noise generated by a utility-scale solar energy system must not exceed the following limits:
 - i. Forty (40) Dba Lmax, as measured at the lot line of the project property.
 - ii. Thirty-Five (35) Dba Lmax, as measured at the lot line of the project property, between the hours of 9:00 p.m. and 7:00 a.m.
 - iii. In addition to the above limitations, a sound barrier of a solid decorative masonry wall or evergreen tree berm, with trees spaced not less than 10 feet apart, must be constructed to reduce noise levels surrounding all inverters. The berm must be no more than ten (10) feet from all inverters, must be at least as tall as all inverters but not more than three (3) feet taller than the height of all inverters.
 - iv. The noise level by a Utility Solar Energy Facility must be inspected every three (3) years, at the operator's expense, by an auditory expert to ensure compliance with these noise requirements. Copies of the inspection reports shall be provided to the Township.
- i. Groundcover. Utility Solar Energy Facilities shall include the installation of at least one (1) of the following types of dual use perennial ground cover vegetation to promote ecological benefits. The perennial ground cover vegetation shall be maintained for the duration of operation until the site is decommissioned.

- i. Pollinator habitat with a score of at least seventy-six (76) on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites (www.pollinators.msu.edu);
- ii. Conservation cover focused on restoring native plants, grasses, or prairie with the aim of protecting specific species, such as bird habitat, or providing specific ecosystem services, such as carbon sequestration or improving soil health;
- iii. Incorporation of rotational livestock grazing and forage production as part of an overall vegetative maintenance plan; or
- iv. Raising crops for food, fiber, or fuel and generating electricity within the site to maximize land use.
- v. The Township may approve or require alternative ground cover upon finding it is not feasible to provide groundcover as defined above.
- vi. All groundcover must be native plants with substantial root system to support soil. Turf grass is not permitted as ground cover.
- vii. Invasive species and noxious weeds are not permitted and must be removed in a timely manner.
- j. Lighting. Lighting shall be limited to inverter or substation locations only and shall comply with 14.04(E) Lighting.
- k. Emergency Action Plan; Emergency Training. Before the Utility Solar Energy System or Facility is operational, it must provide the necessary training, equipment, or agreements specified in the application to Township or other emergency personnel.
- l. General Liability Insurance; Bonding Requirements; Escrow Requirements.
 - i. Utility Solar Energy Systems or Facilities shall have and maintain general liability insurance of at least ten million (\$10,000,000.00) dollars. The Township may require a higher amount for larger projects and may allow for a lesser amount for smaller projects upon a finding that the alternate amount is more consistent with the likely risk.

- ii. In addition, In order to assure the funds will be available to perform all road repairs required under this ordinance, the Applicant will be required to post financial security acceptable to the Township, in the form of: a) a surety bond from a surety listed as acceptable on the Federal Surety Bond circular 570 of the U.S. Department of Treasury; or b) an acceptable letter of credit; or c) an escrow account established in a financial institution licensed in the State of Michigan. The amount of the security shall be a minimum of one million two hundred fifty thousand dollars (\$1,250,000), but this amount may be increased if the third-party consultant determines the amount needed for road repairs is greater than this amount. The bond (or other security) shall only be released (in whole or part) when the Township Board, in consultation with LCRC and the third-party inspector, determines that all required road work has been completed and approved by LCRC and/or MDOT.

- iii. General Maintenance Bond. The Township shall require a General Maintenance Bond to guarantee all aspects of this Ordinance are met at all times during the construction and operation of the Utility Solar Energy System. At the time of the Special Use application, the Applicant shall submit two third-party contractor bids for construction of all fencing, landscaping, and drainage improvements associated with the Utility Solar Energy System, and the bond shall be the higher of the two bids. The Township may use the bond to repair any landscaping, fencing, drainage infrastructure (including drainage tiles), and/or to correct any ongoing violation of this Ordinance, in the event that the facility fails to adequately maintain the required site improvements, or fails to make operational changes to correct an operational violation.

- iv. The Applicant shall be required, as a condition of the operation, to fund an escrow account for investigation of complaints for, but not limited to glare, stray voltage, noise, and signal interference in the amount of \$15,000.00 to be used at the discretion of the Township Board to pay for third party investigative services, the provider of which shall be chosen by the Township. Such funds shall be deposited with the Township Treasurer, or with a third-party fiduciary, at the discretion of the Township. When the escrow account balance is below \$5,000.00 the Township shall notify the Applicant and

the Applicant shall replenish the account to the amount of \$15,000.00 within 45 days.

- m. Repowering or Modifications. Any modifications of an approved site plan that are made after the initial date of approval, including an expansion of project, shall be resubmitted to the Township Planning Commission for review at an additional fee based upon current fee schedule. Any changes of the approved site plan, subject to this Ordinance as it exists at time of application, will require a new site plan application and review, including reconfiguration of arrays, updating current technology, and Solar Energy Facility infrastructure.
 - n. The Applicant must submit an attestation that the Applicant will indemnify and hold the Township harmless from any costs or liability arising from the approval, installation, construction, use, maintenance, repair, or removal of the Utility Solar Energy System.
 - o. Prior to the start of construction, any existing drain tile must be inspected by robotic camera and the imagery submitted to the township for baseline documentation on tile condition. Any damage shall be repaired, and a report submitted to the landowner and Township. While the facility is in operation, the owner or operator must reinspect the drain tiles every three years by robotic camera for any damage and must repair any damage within 60 days of discovery. The owner or operator must report the inspection, along with any damage and repair, to the Township within 90 days after each three-year deadline. The Township reserves the right to have the Building Inspector or other agent present at the time of repair. Solar panel support structures and/or foundations shall be constructed to preserve any drainage field tile or system.
 - p. Transfer or Sale: In the event of a transfer or sale of the Facility, the new owner or operator must notify the Township within 30 days of the transfer or sale, and the Zoning Administrator shall administratively amend the permit to name the new owner or operator. Upon transfer or sale, the cash bond shall be transferred to the new owner or operator and shall be maintained at all times, the estimated costs of decommissioning shall be resubmitted, and the security bond adjusted to account for the new estimate.
- (37) Abandonment and Decommissioning: Following the operational life of the project, the Applicant shall perform decommissioning and removal of the Utility Solar Energy System or Facility and all its components and restore the site to its original conditions.

- a. The decommissioning plan shall be written to provide security to the Township for one hundred twenty-five percent (125%) of the cost to remove and dispose of all panels, wiring, and restoration of the land to its original conditions. The value of decommissioning shall be determined by a third-party financial consultant or engineer selected by the Township and paid for by the developer. The decommissioning security shall be paid in cash to the Township. Once value of decommissioning is determined, it shall be updated on a periodic basis of not less than every three (3) years and additional security may be required on the basis of the average inflation rate of the preceding three (3) years.
- b. All abandonment and decommissioning work must be done when soil is dry or frozen to prevent compaction.
- c. Solar energy systems that are not operated for a continuous period of twelve (12) months shall be considered abandoned and shall be subject to removal proceedings.
- d. Solar energy systems that are damaged shall be replaced or removed within seven (7) days.
- e. The ground must be restored to its original topography within three hundred sixty-five (365) days of abandonment or decommissioning. An extension may be granted if a good faith effort has been demonstrated and any delay is not the result of actions or inaction of the operator. An alternative topography can be approved by the Township as part of the original site plan review or later as part of decommissioning.
- f. If land balancing is required, all top soil will be saved and spread evenly over balanced area.
- g. An annual report shall be provided to the Zoning Administrator showing continuity of operation and shall notify the Zoning Administrator if use is to cease, prior to decommissioning, or abandonment.
- h. Continuing Obligations: Failure to keep any required financial security in full force and effect at all times while a Utility Solar Energy System or Facility exists or is in place shall constitute a material and significant violation of the Special Land Use, Special Use Permit, and this Ordinance, and will subject the Utility Solar Energy System or Facility Applicant, owner, and operator, jointly and severally, to all remedies available to the Township, including any enforcement action, civil action,

request for injunctive relief, and revocation of the Special Land Use Permit.

- i. The Applicant shall be responsible for the payment of all attorney fees and other costs incurred by the Township in the event that the structure is not voluntarily removed and the Township has to enforce removal.
- (38) Complaint Resolution. Utility Solar Energy Systems or Facilities shall provide a complaint resolution process, as described below.
- a. The site shall have signs posted with contact information to collect complaints related to the Utility Solar Energy System or Facility.
 - b. A log shall be kept by the owner or operator of all complaints received and shall be available to Township officials for review, per Township request.
 - c. The operator or its agent shall respond to complainants within ten (10) business days and shall provide notification to the Zoning Administrator.
 - d. Any resolution shall include lawful and reasonable solutions consistent with the Zoning Ordinance, which shall also be provided to the Zoning Administrator.
 - e. The operator or its assigns reserve the right to adjudicate any claims, including residential claims, in a court of competent jurisdiction. An annual report shall be submitted to the Zoning Administrator and the Township Board that details all complaints received, the status of complaint resolution, and actions taken to mitigate complaints. (as amended 08/21/23)

11.06.07 Utility-Scale Solar Energy Systems under PA 233 only.

- (a) **Intent and Purpose:** The following provisions apply to Utility-Scale Solar Energy Systems as defined above and shall be allowed in the Industrial (IND) and Planned Industrial Development (PID) zoning districts by special use permit. To the extent the following provisions conflict with the provisions in subsection 11.06.02, 11.06.03, 11.06.04, 11.06.05 and 11.06.06 above, these provisions shall apply. All provisions above that do not conflict with the subsection remain in full force and effect and shall be applicable to all Utility-Scale Solar Energy Systems regardless of nameplate capacity. The following provisions do not apply if PA 233 of 2023 is repealed, enjoined, or otherwise not in effect, and do not apply to Utility-Scale Solar Energy Systems:

- (b) **Location.** Where System Allowed: Utility-Scale Solar Energy Systems shall be permitted in Industrial (IND) and Planned Industrial Development (PID) on 20-acres or more with special land use approval by Township Board in accordance with Article 19 and site plan approval by the Planning Commission and Township Board in accordance with Article 18.
- (c) **Application.** To Construct an Utility-Scale Wind Energy System, an electric provider or IPP that proposes to obtain a certificate from the Michigan Public Service Commission to construct an energy facility within the Township shall follow the following application process:
- (1) At least 60 days before the public meeting provided for in MCL 460.1223, an electric provider or IPP shall offer in writing to meet with the Township Supervisor, or the Supervisor's designee, to discuss the site plan. The offer to meet should be delivered by email. The Supervisor or Supervisor's designee must respond within 30 days from the offer to meet.
 - (2) Within 30 days following the meeting described in paragraph 11.06.07 (c)(i), the Township Supervisor shall notify the electric provider or IPP planning to construct energy facility that the Township has a compatible renewable energy ordinance. If all affected local units with zoning jurisdiction provide similar timely notice to the electric provider or IPP, then the electric provider or IPP shall file for approval of a permit with the Township.
 - (3) To file for approval of a permit the electric provider or IPP must submit a complete application to the Township Clerk. The application form to be used shall be adopted by resolution of the Township Board. The application shall contain the items set forth in MCL 460.1225(1), except for (l)(j) and (s).
 - (4) The application may also require other information to determine compliance with this Compatible Renewable Energy Ordinance. By resolution, the Township may establish an application fee and escrow policy to cover the Township's reasonable costs of review and processing of the application, including but not limited to staff, attorney, engineer, planning, environmental, or other professional costs.

(d) **Application Review:** The application shall be processed as a special land use subject to the provisions of this Article. The Township board following a recommendation from the Planning Commission shall approve or deny the application within 120 days after receiving a complete application. This deadline may be extended by up to 120 days if jointly agreed upon by the Township Board and the applicant. If the application is approved the following standards apply:

(1) **Setback:** Setback distances measured from the nearest edge of the perimeter fencing of the facility:

Setback Description	Setback Distance
Occupied community buildings and dwelling on nonparticipating properties	300 feet from the nearest point on the outer wall
Public road right-of-way	50 feet measured from nearest edge of a public road right-of-way
Nonparticipating properties	50 feet measured from the nearest shared property line

(2) **Fencing:** The solar energy facility shall comply with the latest version of the National Electric Code as of November 29, 2024 or any applicable successor standard approved by the Michigan Public Service Commission as provided in MCL 460.1226(8)(a)(ii).

(3) **Height:** Solar panel components do not exceed a maximum height of 25 feet above ground when the arrays are at full tilt.

(4) **Noise:** The solar energy facility does not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall of the nearest dwelling located on an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.

(5) **Lighting:** The solar energy facility will implement dark sky-friendly lighting solutions.

(6) **Environmental Regulations.** The solar energy facility will comply with any more stringent requirements adopted by the Michigan Public Service Commission as provided in MCL 460.1226(8)(a)(iv).

(7) **Host Community Agreement.** The applicant shall enter into a host community agreement with the Township. The host community agreement shall require that, upon commencement of any operation, the Utility-Scale

Solar Energy System owner must pay the Township \$2,000.00 per megawatt of nameplate capacity. The payment shall be used as determined by the Township for police, fire, public safety, or other infrastructure, or for other projects as agreed by to by the local unit and the applicant.

11.07 **Utility-Scale Battery Energy Storage Systems under PA 233 only.**

Section 11.07.01 General

- (a) **Intent and purpose:** The regulations of this Section are intended to conform with PA 233 of 2024.

- (b) **Definitions:**
 - (1) **Battery Energy Storage System, Small Off-Site:** A Battery Energy Storage System that is a principal use (or co-located with a second principal use) and that is designed and built to connect into the distribution or transmission grid with a nameplate capacity less than 50 megawatts.

 - (2) **Battery Energy Storage System, Large Off-Site:** A Battery Energy Storage System (BESS) that is a principal use (or co-located with a second principal use) and that is designed and built to connect to the transmission grid with a nameplate capacity of 50 megawatts or more.

 - (3) **Non-Participating Property:** Any property that is adjacent to a participating property, but is not part of the battery storage project.

 - (4) **Participating Property:** A Utility-Scale Battery Energy Storage System host property or any real property that is the subject of an agreement that provides for the payment of monetary compensation to the landowner from the system owner (or affiliate) regardless of whether any part of a system is constructed on the property.

- (c) **Applicability:** The following provisions apply to Utility-Scale Battery Energy Storage Systems as defined. The following provisions do not apply if PA 233 of 2023 is repealed, enjoined, or otherwise not in effect, and do not apply to Utility-Scale Solar Energy Systems:

- (d) **Locations.** Utility-Scale Battery Energy Storage Systems shall be permitted in Industrial (IND) and Planned Industrial Parks (PID) more with special land use approval by Township Board in accordance with Article 19 and site plan approval by the Planning Commission and Township Board in accordance with Article 18.

- (e) **Application.** To Construct an Utility-Scale Battery Energy Storage System, An electric provider or IPP that proposes to obtain a certificate from the Michigan Public Service Commission to construct an energy facility within the Township shall follow the following application process:
- (1) At least 60 days before the public meeting provided for in MCL 460.1223, an electric provider or IPP shall offer in writing to meet with the Township Supervisor, or the Supervisor's designee, to discuss the site plan. The offer to meet must be delivered by email and certified mail must also be sent to the Township Board in care of the Township Clerk in this manner. The Supervisor or Supervisor's designee must respond within 30 days from the offer to meet.
 - (2) Within 30 days following the meeting described in paragraph 11.07.01 (e)(1) the Township Supervisor shall notify the electric provider or IPP planning to construct the Utility-Scale Battery Energy Storage System facility that the Township has a compatible renewable energy ordinance. If all affected local units with zoning jurisdiction provide similar timely notice to the electric provider or IPP, then the electric provider or IPP shall file for approval of a permit with the Township.
 - (3) To file for approval of a permit the electric provider or IPP must submit a complete application to the Township Clerk. The application form to be used shall be adopted by resolution of the Township Board. The application shall contain the items set forth in MCL 460.1225(1), except for (l)(j) and (s). The application may also require other information to determine compliance with this Compatible Renewable Energy Ordinance. By resolution, the Township may establish an application fee and escrow policy to cover the Township's reasonable costs of review and processing of the application, including but not limited to staff, attorney, engineer, planning, environmental, or other professional costs.

11.07.02 Application Review: The application shall be processed as a special land use subject to the provisions of this Article 19. The Township board following a recommendation from the Planning Commission shall approve or deny the application within 120 days after receiving a complete application. This deadline may be extended by up to 120 days if jointly agreed upon by the Township Board and the applicant. In consideration of the application the the Zoning Administrator must approve the application and issue a permit for the requested construction if it complies with the following standards:

- (a) **Setback:** Setback distances measured from the nearest edge of the perimeter fencing of the facility:

Setback Description	Setback Distance
Occupied community buildings and dwelling on nonparticipating properties	300 feet from the nearest point on the outer wall
Nonparticipating parties	50 feet measured from nearest edge of a public road right-of-way
Public road right-of-way	50 feet measured from the nearest shared property line

- (b) **NFPA Standard:** Utility-Scale Battery Energy Storage facility must comply with the version of NFPA 855 “Standard for the Installation of Stationary Energy Storage Systems” in effect on November 29, 2024 or any applicable successor standard adopted by the Michigan Public Service Commission as provided for in MCL 460.1226(8)(c)(ii).
- (c) **Fencing:** The Utility-Scale Battery Energy Storage Facility shall comply with the latest version of the National Electric Code as of November 29, 2024 or any applicable successor standard approved by the Michigan Public Service Commission as provided in MCL 460.1226(8)(a)(ii).
- (d) **Noise:** The Utility-Scale Battery Energy Storage Facility shall not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall of the nearest dwelling located on an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.
- (e) **Lighting:** The Utility-Scale Battery Energy Storage Facility will implement dark sky-friendly lighting solutions.
- (f) **Environmental Regulations:** The Utility-Scale Battery Energy Storage System must comply with applicable state or federal environmental regulations.
- (g) **Host Community Agreement:** The applicant shall enter into a host community agreement with the Township. The host community agreement shall require that, upon commencement of any operation, the Utility-Scale Battery Energy Storage System owner must pay the Township \$2,000.00 per megawatt of nameplate capacity. The payment shall be used as determined by the Township for police, fire, public safety, or other infrastructure, or for other projects as agreed to by the local unit and the applicant.

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
November 12, 2024**

MINUTES

CALL TO ORDER: Chairman Grajek called the meeting of the Genoa Charter Township Planning Commission to order at 6:30 p.m. Present were Chris Grajek, Marianne McCreary, Eric Rauch, Jeff Dhaenens, Tim Chouinard, Glynis McBain and Greg Rassel. Also present were Planning Director Amy Ruthig, Brian Borden of Safebuilt, and Shelby Byrne of Tetra Tech.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

APPROVAL OF AGENDA:

Moved by Commissioner McCreary, supported by Commissioner Rauch, to approve the agenda as presented. **The motion carried unanimously.**

DECLARATION OF CONFLICT OF INTEREST:

Commissioner McCreary stated she has a conflict of interest for Open Public Hearing #1. She left the room at 6:31 pm.

CALL TO THE PUBLIC:

The call to the public was made at 6:32 pm with no response.

OPEN PUBLIC HEARING #1...Consideration of a rezoning application and environmental impact assessment to rezone 410 s. Hughes Road (parcel 4711-03-300-011) (9.76 acres) from Public Recreation Facilities (PRF) to Suburban Residential (SR). The property is located on the west side of Hughes Road south of Golf Club. The request is petitioned by Jill Bianco.

- A. Recommendation of Environmental Impact Assessment (10-22-24)
- B. Recommendation of Rezoning

Mr. Brent LaVanway of Boss Engineering and Ms. Jill Bianco, the applicant, were present. Mr. LaVanway stated the property is approximately 10 acres, most is wetlands, and currently zoned PRF (Public and Recreational Facilities). They would like to have it rezoned to SR (Suburban Residential) for future development in addition to the existing house.

Mr. Borden reviewed his letter dated November 5, 2024.

1. The subject site is planned as Small Lot Residential, which is consistent with Suburban Residential Zoning.
2. The request is generally consistent with the goals and objectives of the Township's Master Plan.

3. The request is anticipated to be compatible with the environmental conditions of the site and the surrounding area.
4. A new residence cannot be built as currently zoned.
5. The host of uses permitted in Suburban Residential are generally compatible with existing and planned uses in the surrounding area.
6. The Commission should consider any comments provided by the Township Engineer, Utilities Director and/or Fire Authority with respect to impacts on infrastructure and services.
7. In his opinion, rezoning is appropriate based on the Master Plan and site conditions, and is more appropriate than a text amendment allowing single-family residences in PRF.
8. He noted that the existing nonconforming structures will still be non-conforming but will become closer to compliance with the rezoning.

Ms. Byrne stated that since no improvements are proposed and the proposed zoning is a less intense use, she has no concerns.

The Brighton Area Fire Authority Fire Marshal's letter dated October 7, states that he has no opposition to the rezoning.

Commissioner Dhaenens asked what the applicant envisions being built there. Ms. Bianco stated she is hoping to remove the existing cottage and build a 2,300-2,500 square foot home. There is a new septic field and they will be digging a well. She will only have one home on the property. He wants to ensure that there is still access for the dam. His concern is that there will not be municipal utilities for this property. Ms. Ruthig stated the applicant would need to receive an easement from a neighboring private property to run the sewer to their property. Commissioner Rauch understands Commissioner Dhaenens' concerns, but there is a hardship here and the municipal utilities do not seem to be necessary. Commissioner Chouinard has reviewed this property previously and there is no way to get sewer here without an easement. Ms. Ruthig stated Dr. Tatara has also reviewed it and agrees with Commissioner Chouinard.

Commissioner Rauch stated the standards in Low Density Residential are less restrictive than Suburban Residential so looking at the neighboring properties, this could be a transitional zoning and not spot zoning. Mr. Borden stated there are also limitations to the uses due to there not being municipal utilities. It is not spot zoning.

The call to the public was opened at 6:48 pm with no response.

Moved by Commissioner Rauch, supported by Commissioner Chouinard, to recommend to the Township Board approval of the Environmental Impact Assessment dated October 22, 2024 to rezone 410 S. Hughes Road. **The motion carried unanimously.**

Moved by Commissioner Rauch, supported by Commissioner Chouinard, to recommend to the Township Board approval of the Rezoning of 410 S. Hughes Road from Public Recreation Facilities (PRF) to Suburban Residential (SR). **The motion carried unanimously.**

Commissioner McCreary returned at 6:50 pm.

OPEN PUBLIC HEARING #2... Consideration for a site plan review and completion of a private road to phase two of the Misty Meadows Subdivision. The property is located on the West side of Latson Road, south of Crooked Lake Road. The request is submitted by GFG Investment Properties.

A. Recommendation of Environmental Impact Assessment (5-19-16)

B. Disposition of Site Plan (10-22-24)

Mr. LaVanway of Boss Engineering and Mr. Guy Genzel of Misty Meadows were present. Mr. LaVanway stated this is a land division on a private road. The first phase is already constructed and they are requesting to have the temporary cul-de-sacs removed, the entire road be made private, and the remainder of the site developed.

Mr. Borden reviewed his letter dated November 5, 2024.

1. In his opinion, the conditions are present to warrant consideration of a private road as opposed to public.
2. If the existing Private Road Maintenance Agreement does not cover Phase 2, it must be amended and submitted for the Township's review.
3. The technical design and construction standards are subject to review and comment by the Township's engineering consultant.
4. The Commission should consider any comments provided by the Brighton Area Fire Authority.
5. The Commission may request an updated Environmental Impact Assessment if deemed necessary.

Ms. Byrne stated that the applicant has addressed all of her previous comments.

The Brighton Area Fire Authority Fire Marshal's letter dated October 7, 2024 states "The fire authority has no objection to the change from bituminous pavement to gravel. The access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds and must be a maintained all weather surface."

Commissioner McCreary stated the Impact Assessment was done eight years ago. She asked if an updated one should be provided. Mr. LaVanway stated the only difference now from when it was originally done would be that there is additional traffic on Latson Road, but their road entrance is sufficient.

She asked if legal counsel had reviewed the documents. She has concerns with the statement under "Declaration of Restrictive Covenants". Item #1, Item a. "All of the lots in the Premises shall be used only as single-family residences, for use by related family members of one family."

Mr. Genzel stated his attorney and the township's attorney reviewed it back in 2016. Ms. Ruthig stated the document that was originally recorded in 2016 only has the private road maintenance agreement. It does not have the "Declaration of Restrictive Covenants".

Commissioner Rauch does not feel that the township is liable for this document as it is a private agreement and already recorded. Commissioner McBain stated the document can be amended at this time, but after the developer has sold all of the lots, there is no way for the property owners to amend it.

Commissioner Dhaenens asked for an update on the project. Mr. Genzel stated he has sold three lots recently so he is able to move forward at this time.

The call to the public was opened at 7:12 pm with no response.

Commissioner McCreary reiterated her concerns in the Declaration of Restrictive Covenants section and she would like that section of the agreement reviewed by the township attorney.

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Environmental Impact Assessment dated May 19, 2016 for phase two of the Misty Meadows Subdivision. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to approve the Site Plan dated November 22, 2024 for phase two of the Misty Meadows Subdivision with the following condition:

- The Declaration of Restrictive Covenants be reviewed by the township attorney and any necessary amendments be made by the applicant.

The motion carried unanimously.

ADMINISTRATIVE BUSINESS:

Staff Report

Ms. Ruthig stated there will be a special meeting on December 4 at the Township Hall regarding the solar ordinance update. The regular meeting on December 9 will be at Parker Middle School for the Latson Road/I-96 Commercial PUD Rezoning and Innovation Interchange Private Road.

Commissioner McBain is not able to attend the December 4 meeting.

There will be a Planning Commission meeting in January.

Approval of the October 15, 2024 Planning Commission meeting minutes

Two changes were noted.

Moved by Commissioner McCreary, seconded by Commissioner Rassel, to approve the minutes of the October 15, 2024 Planning Commission Meeting as amended. **The motion carried unanimously.**

Member Discussion

Commissioner McCreary and Trustee Jean Ledford went to a very informative Brown Bag Lunch at Oceola Township regarding accessory dwelling units.

Commissioner Dhaenens thanked the commission, staff, and consultants for all of their help to him. He knows the township is in great hands. He will miss everyone.

Adjournment

Moved by Commissioner Dhaenens, seconded by Commissioner Rauch, to adjourn the meeting at 7:33 pm. **The motion carried unanimously.**

Respectfully Submitted,

Patty Thomas, Recording Secretary