



Staff and Consultants have not completed the review of the packet.

**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

Paul Schyck
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: *Paul Schyck* 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



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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: 8/21/24
PRINT NAME: Paul Schyck PHONE: 248-820-7306
ADDRESS: Pulte Homes of MI LLC 2800 Livernois Rd, Troy MI 48083 Bldg D Suite 320

DRAFT PACKAGING PUBLIC HEARING

**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-cochères, 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 01, 2024

Genoa Township Planning Commission

2911 Dorr Road
Brighton, MI 48116

Dear Commissioners,

On behalf of Pulte Homes of Michigan LLC (Applicant) and Asa Genoa, LLC, Eisenberg Brighton Genoa, LLC and Are five Family Limited Partnership (Owners), we are pleased to submit a Conceptual Site Plan for **Legacy Hills**, a **58 unit**, single family residential site condominium for your consideration.

Please find the following changes to the plans and submittal documents.

1. We have revised the Parallel Plan to address the comments of the Planning Commission by showing a typical house, well, and septic to further illustrate feasibility. The number of Units on the Parallel Plan has been increased from 58 to 63. However, the Cluster Plan still proposes 58 Units.
2. We have added a sidewalk to the East side of the internal roads on both the Cluster and Parallel Plans.
3. Considered two pathway options as noted in comment below.
4. Added picnic tables in 2 locations North and South of the road within the open space.
5. Added a sidewalk connection to Mountain View within the Challis Road right of way.
6. Revised the Deviation Requests on the Cover Sheet.
7. Added a Public Pathway Note to the Cover Sheet.
8. Slightly adjusted the Open Space Easement along the South property line.
9. Confirmed Mountain View Outlots "A" and "C" can be used for public roads & added notes to Parallel Plan.
10. The Traffic Study has been completed by Flies and Vandenbrink and has been included in the submittal documents.
11. The RPUD Agreement has been revised and included in the submittal documents.
12. The Landscape Plan has been revised to reflect the sidewalks.

As a follow-up to inquiries at the Planning Commission regarding a potential offsite path connection, we have analyzed the route from Legacy Hills to the Round About and the LCRC has no plans to extend the path to the West. Pulte Homes is willing to provide the connection in lieu of paths in the open space so long as the pathway is located in the public road right of way. We look forward to discussing the merits of this alternative active recreation component.

If you have questions, comments or require anything further, please do not hesitate to contact me via email sallen@umlorgroup.com or on my cell (734)890-6022. We look forward to working with you to ensure this project is a success. Thank you in advance for your consideration.

The Umlor Group
Stephen C. Allen
Design Services Director

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

DRAFT PACKET
PUBLIC HEARING #1

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.

DRAFT PACKET
PUBLIC HEARING #1

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]

DRAFT PACKET
PUBLIC HEARING #1

Exhibit C

Conditions for Approval

DRAFT PACKET
PUBLIC HEARING #1

Exhibit D

Planning Commission and Township Board Minutes

DRAFT PACKET
PUBLIC HEARING #1

EXHIBIT E

Final Conceptual Development Plan for Legacy Hills

DRAFT PACKET
PUBLIC HEARING #1

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 Twonship 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 HAZARDOIOUS 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

DRAFT PACKET
PUBLIC HEARING #1

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

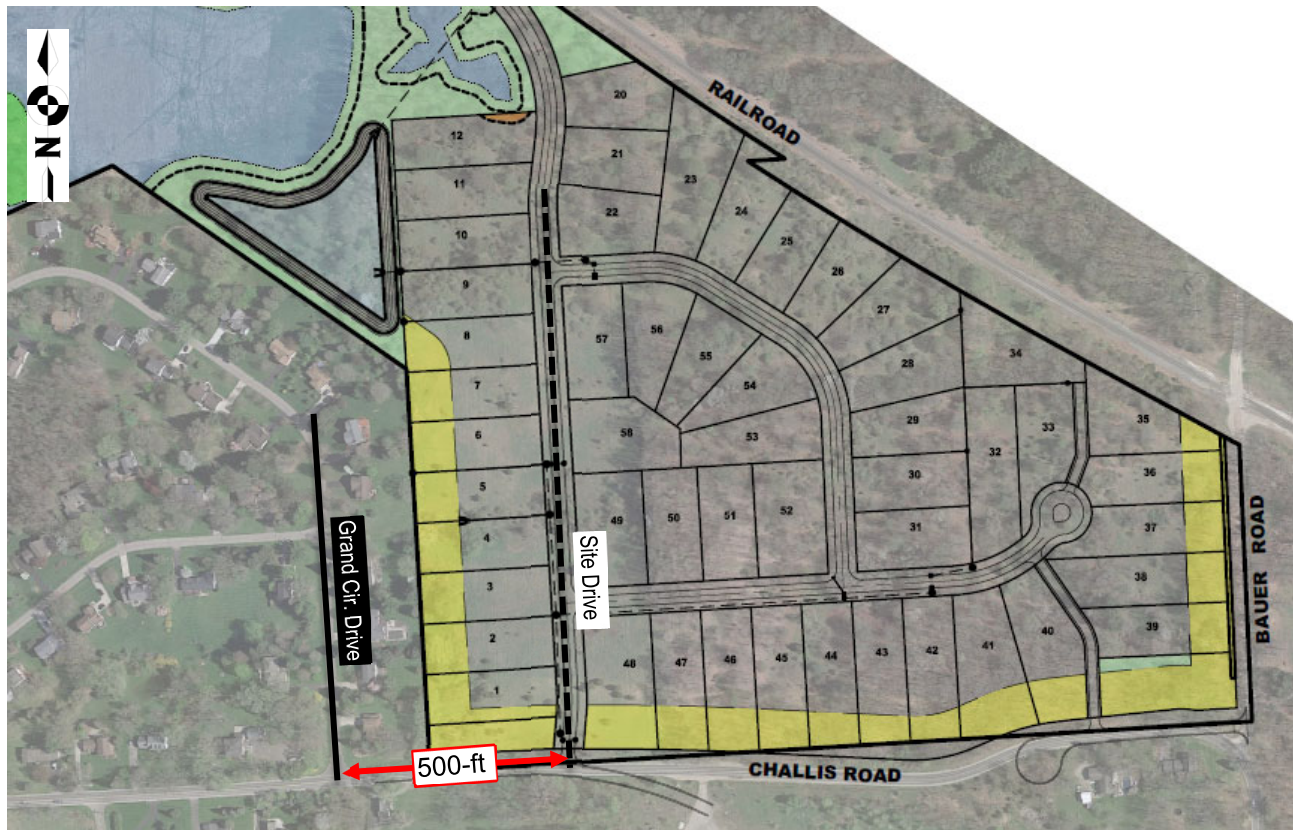
Intersection	Criteria	AM Peak Hour	PM Peak Hour	Recommendation
Challis Road & Site Drive	Left-Turn	No Treatment	No Treatment	No Treatment
	Right-Turn	No Treatment	No Treatment	No Treatment

- 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

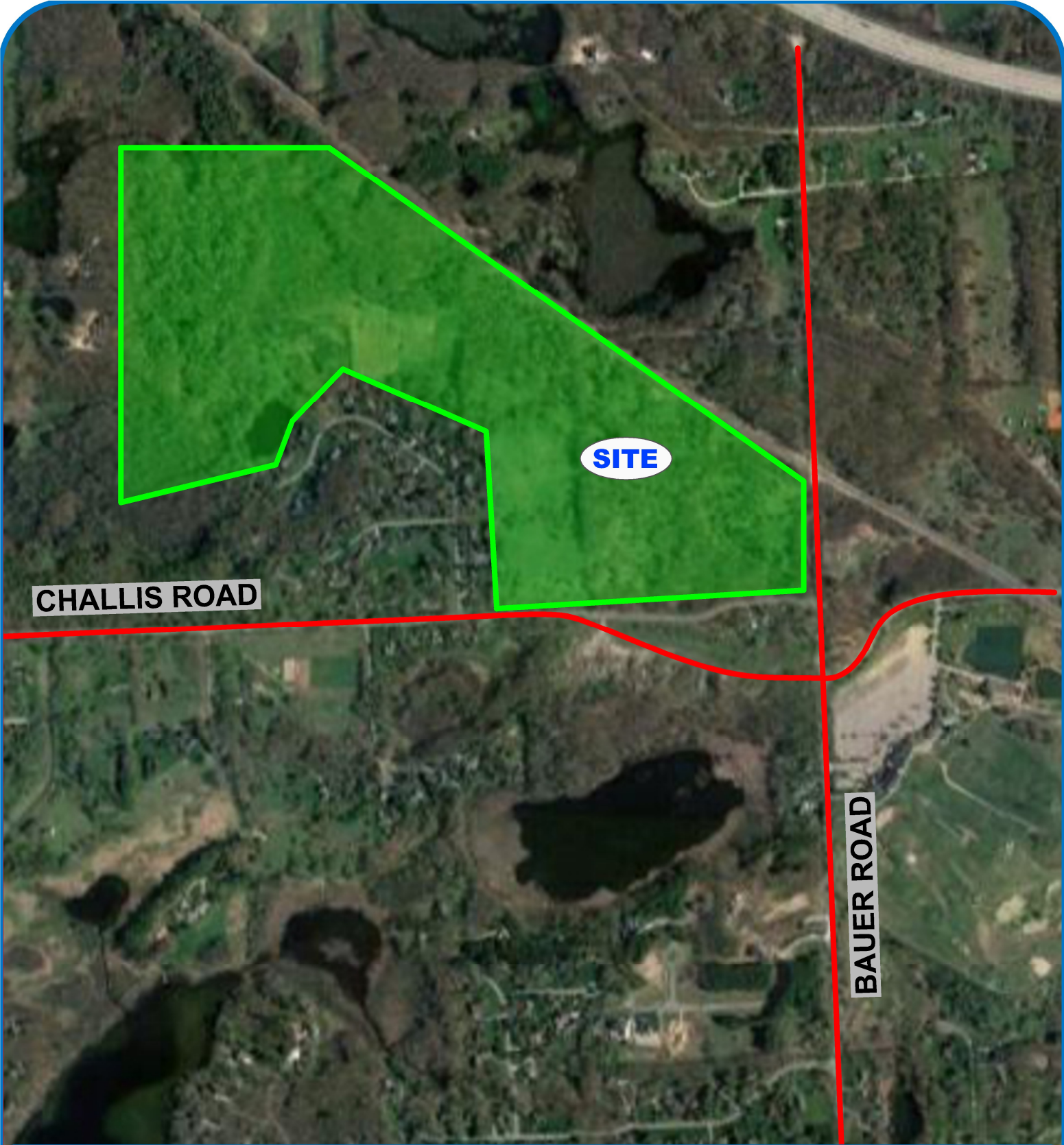
- The proposed development is expected to have minimal impact on the adjacent roadway network and the existing infrastructure can adequately accommodate the projected trips generated by the proposed development plan.

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

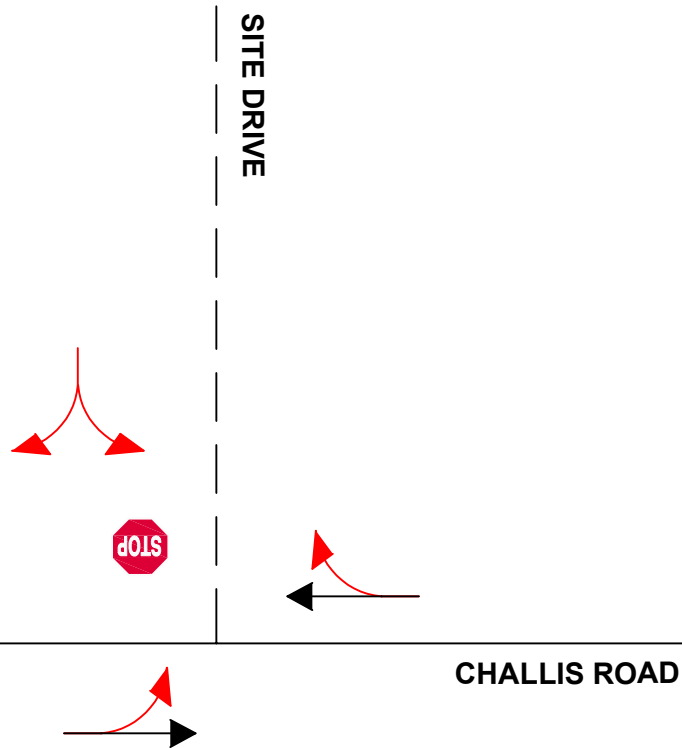
LEGEND

 SITE LOCATION



NORTH
SCALE: NOT TO SCALE

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

8/28

10/6
24/16

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

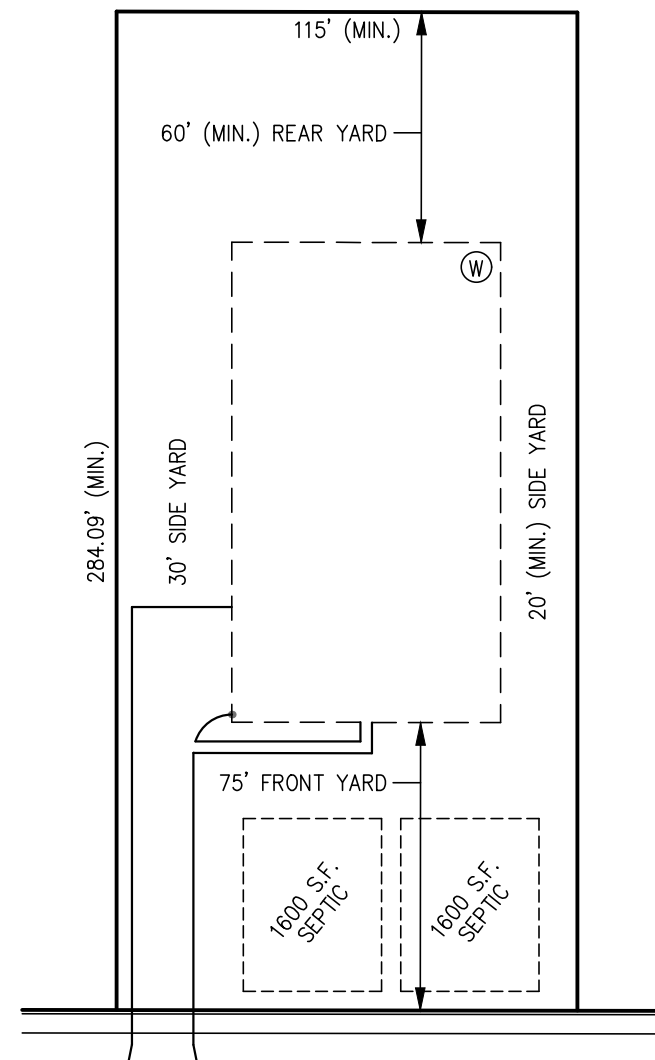
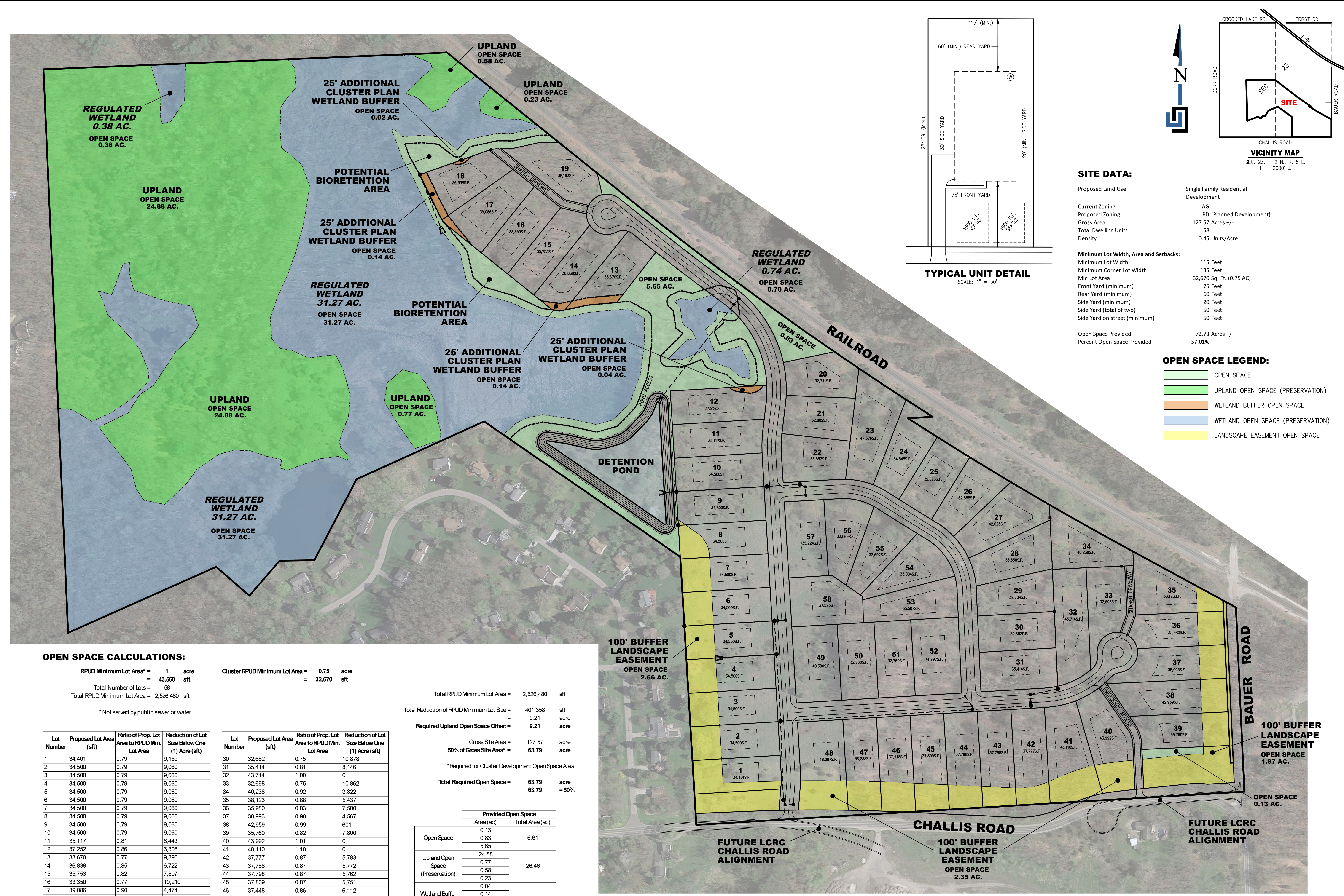
REVISIONS

NO.	DATE	DESCRIPTION

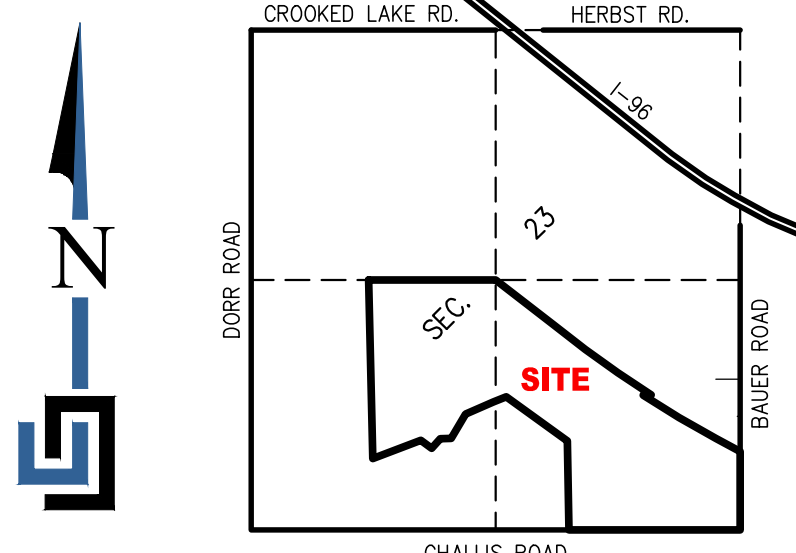
CLIENT:
PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
TROY, MICHIGAN 48063

LEGACY HILLS
DR BY: SA/BB/MG
CK BY: SA/BB
P.M. MN
SCALE 0 75 150
JOB NO. 231213
SHEET NO. 3

CONCEPTUAL SITE PLAN
SHEET 3 OF 4



TYPICAL UNIT DETAIL
SCALE: 1" = 50'



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

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	
Wetland Open Space (Preservation)	31.27	32.35
	0.70	
	0.38	
Landscape Easement Open Space	2.66	6.98
	2.35	
	1.97	
Required Open Space =	63.79	acre
Provided Open Space =	72.73	acre

M:\UMLOR GROUP PROJECT FILES\LEGACY HILLS GENOA\DESIGN FILES & PLAN SETS\BASE AUTOCAD FILES\LEGACY HILLS SITE PLANNING

Type of report: Tube Count - Volume Data

LOCATION: Challis Rd East of Grand Cir Dr SPECIFIC LOCATION: CITY/STATE: Livingston, MI							QC JOB #: 16789101 DIRECTION: EB 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 AM		1				1			1	
12:15 AM		0				0			0	
12:30 AM		0				0			0	
12:45 AM		0				0			0	
01:00 AM		0				0			0	
01:15 AM		1				1			1	
01:30 AM		0				0			0	
01:45 AM		1				1			1	
02:00 AM		0				0			0	
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	
05:00 AM		5				5			5	
05:15 AM		5				5			5	
05:30 AM		6				6			6	
05:45 AM		13				13			13	
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>)

LOCATION: Challis Rd East of Grand Cir Dr							QC JOB #: 16789101			
SPECIFIC LOCATION:							DIRECTION: EB			
CITY/STATE: Livingston, MI							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
06:00 AM		16				16			16	
06:15 AM		20				20			20	
06:30 AM		25				25			25	
06:45 AM		36				36			36	
07:00 AM		64				64			64	
07:15 AM		29				29			29	
07:30 AM		29				29			29	
07:45 AM		38				38			38	
08:00 AM		38				38			38	
08:15 AM		69				69			69	
08:30 AM		65				65			65	
08:45 AM		85				85			85	
09:00 AM		35				35			35	
09:15 AM		21				21			21	
09:30 AM		22				22			22	
09:45 AM		19				19			19	
10:00 AM		26				26			26	
10:15 AM		23				23			23	
10:30 AM		27				27			27	
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>										

LOCATION: Challis Rd East of Grand Cir Dr							QC JOB #: 16789101			
SPECIFIC LOCATION:							DIRECTION: EB			
CITY/STATE: Livingston, MI							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		31				31			31	
12:15 PM		26				26			26	
12:30 PM		28				28			28	
12:45 PM		28				28			28	
01:00 PM		30				30			30	
01:15 PM		32				32			32	
01:30 PM		31				31			31	
01:45 PM		30				30			30	
02:00 PM		33				33			33	
02:15 PM		37				37			37	
02:30 PM		26				26			26	
02:45 PM		39				39			39	
03:00 PM		33				33			33	
03:15 PM		26				26			26	
03:30 PM		33				33			33	
03:45 PM		31				31			31	
04:00 PM		34				34			34	
04:15 PM		28				28			28	
04:30 PM		27				27			27	
04:45 PM		15				15			15	
05:00 PM		32				32			32	
05:15 PM		33				33			33	
05:30 PM		30				30			30	
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			
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		26				26			26	
06:15 PM		26				26			26	
06:30 PM		23				23			23	
06:45 PM		11				11			11	
07:00 PM		18				18			18	
07:15 PM		11				11			11	
07:30 PM		22				22			22	
07:45 PM		29				29			29	
08:00 PM		18				18			18	
08:15 PM		6				6			6	
08:30 PM		12				12			12	
08:45 PM		7				7			7	
09:00 PM		3				3			3	
09:15 PM		5				5			5	
09:30 PM		3				3			3	
09:45 PM		4				4			4	
10:00 PM		5				5			5	
10:15 PM		3				3			3	
10:30 PM		4				4			4	
10:45 PM		4				4			4	
11:00 PM		1				1			1	
11:15 PM		0				0			0	
11:30 PM		1				1			1	
11:45 PM		2				2			2	
Day Total		1829				1829			1829	
% Weekday Average		100%								
% Week Average		100%				100%				
AM Peak 15-min Vol		8:45 AM 85				8:45 AM 85			8:45 AM 85	
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

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 15 Oct 24	Tue	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		2				2			2	
12:15 AM		2				2			2	
12:30 AM		0				0			0	
12:45 AM		2				2			2	
01:00 AM		0				0			0	
01:15 AM		2				2			2	
01:30 AM		1				1			1	
01:45 AM		0				0			0	
02:00 AM		1				1			1	
02:15 AM		0				0			0	
02:30 AM		0				0			0	
02:45 AM		0				0			0	
03:00 AM		1				1			1	
03:15 AM		0				0			0	
03:30 AM		0				0			0	
03:45 AM		0				0			0	
04:00 AM		0				0			0	
04:15 AM		0				0			0	
04:30 AM		0				0			0	
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										

Comments:

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 15 Oct 24	Tue	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
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06:15 AM		3				3			3	
06:30 AM		9				9			9	
06:45 AM		13				13			13	
07:00 AM		1				1			1	
07:15 AM		13				13			13	
07:30 AM		16				16			16	
07:45 AM		14				14			14	
08:00 AM		6				6			6	
08:15 AM		13				13			13	
08:30 AM		30				30			30	
08:45 AM		31				31			31	
09:00 AM		30				30			30	
09:15 AM		22				22			22	
09:30 AM		29				29			29	
09:45 AM		24				24			24	
10:00 AM		19				19			19	
10:15 AM		16				16			16	
10:30 AM		21				21			21	
10:45 AM		28				28			28	
11:00 AM		31				31			31	
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										
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 15 Oct 24	Tue	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
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>										

[Home](#)
[Locate](#)
[Locate All](#)
[Email This](#)
 Auto-Locate:

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](#)

[List View](#)
[All DIRs](#)
[Report Center](#)

	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%)		

1-5 of 8

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		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		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.

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

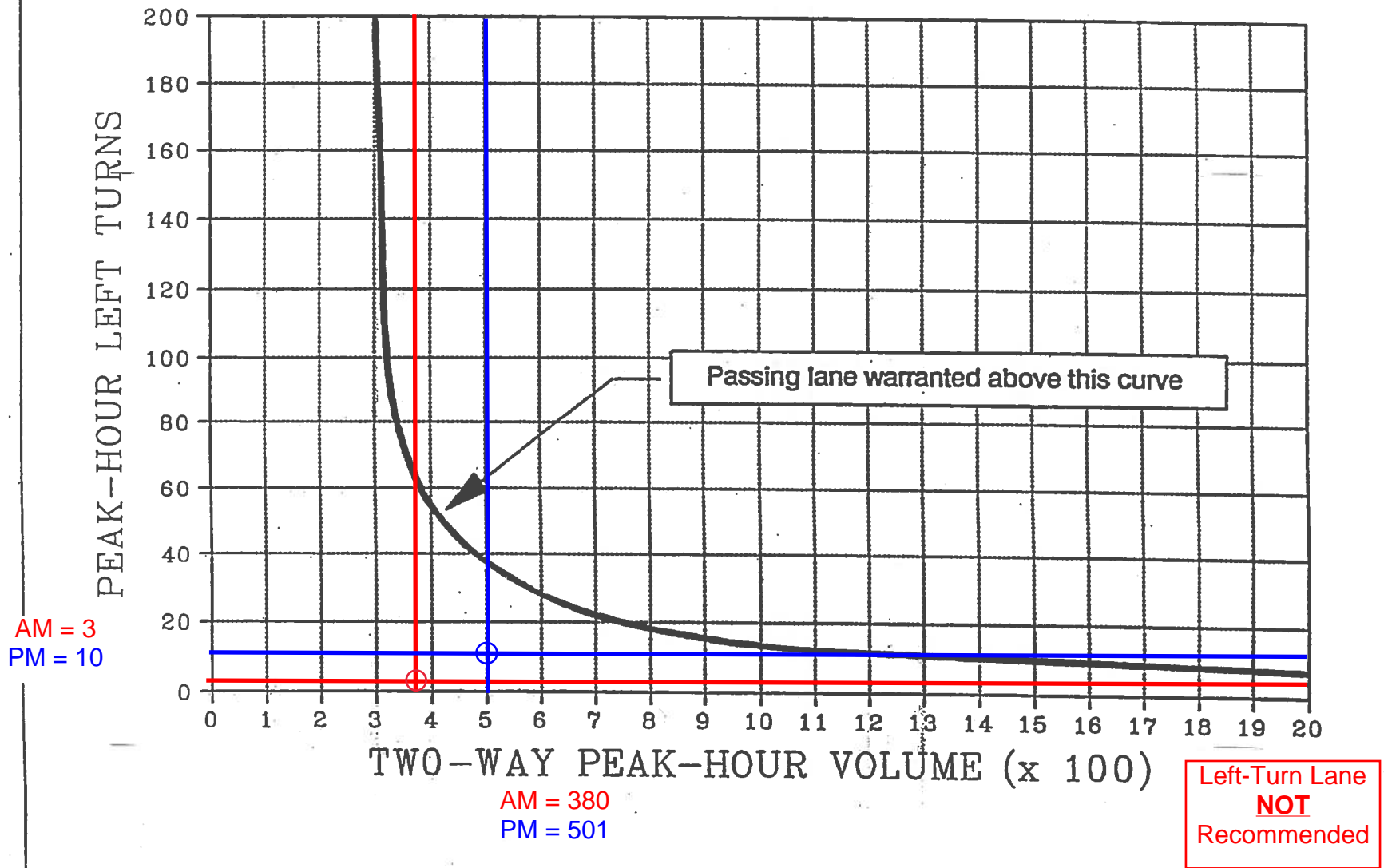
Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	46	35
Average Queue (ft)	3	16
95th Queue (ft)	20	40
Link Distance (ft)	1397	448
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

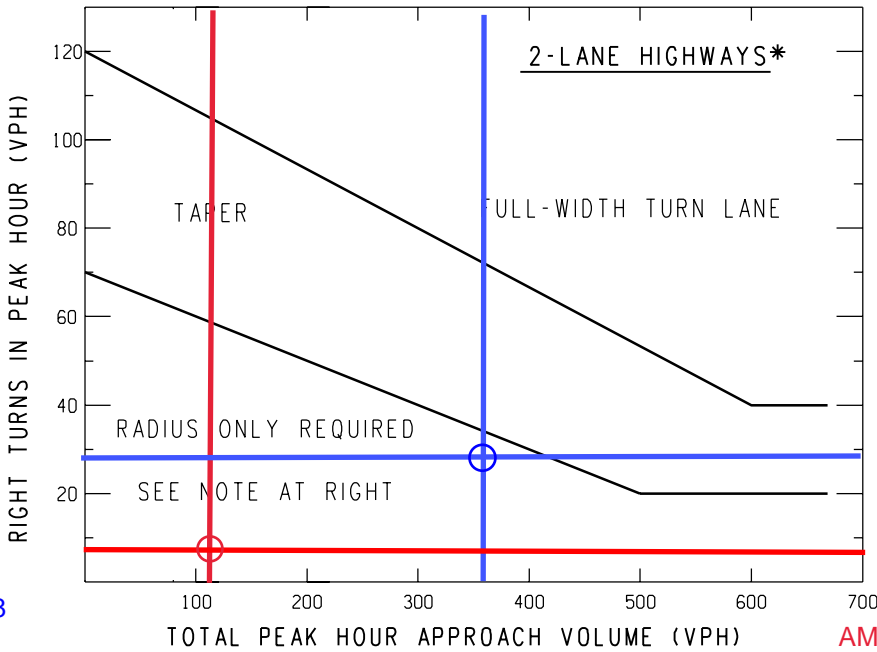
Network wide Queuing Penalty: 0

Challis Road & Site Drive

LEFT TURN PASSING LANE WARRANT (Based on Total Development)



Challis Road & Site Drive



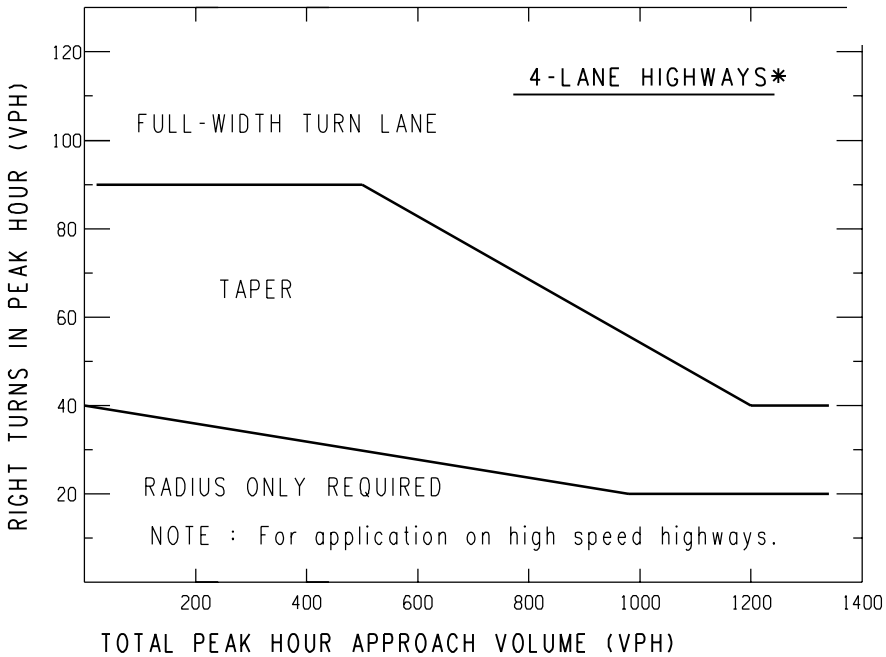
NOTE:
For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

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

ENGINEER/SURVEYOR



LAND DEVELOPMENT SERVICES

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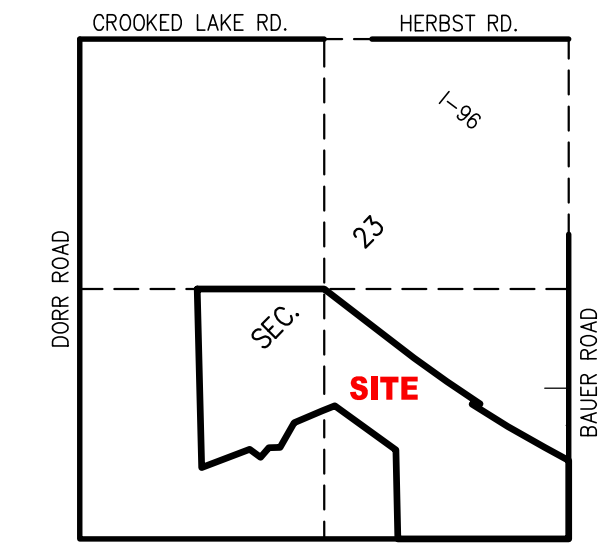
DEVELOPER/APPLICANT



PULTE HOMES OF MICHIGAN
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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



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.



Know what's below.
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The UMLOR Group
LAND DEVELOPMENT SERVICES
109287 WEST ROAD WIXOM, MI 48393
TEL: 248-773-7656 - FAX: 866-690-4307

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

DR BY: SA
CK BY: SA
P.M. SA
SCALE: 0 125 250
JOB NO. 231213
SHEET NO. 1
SHEET 1 OF 5



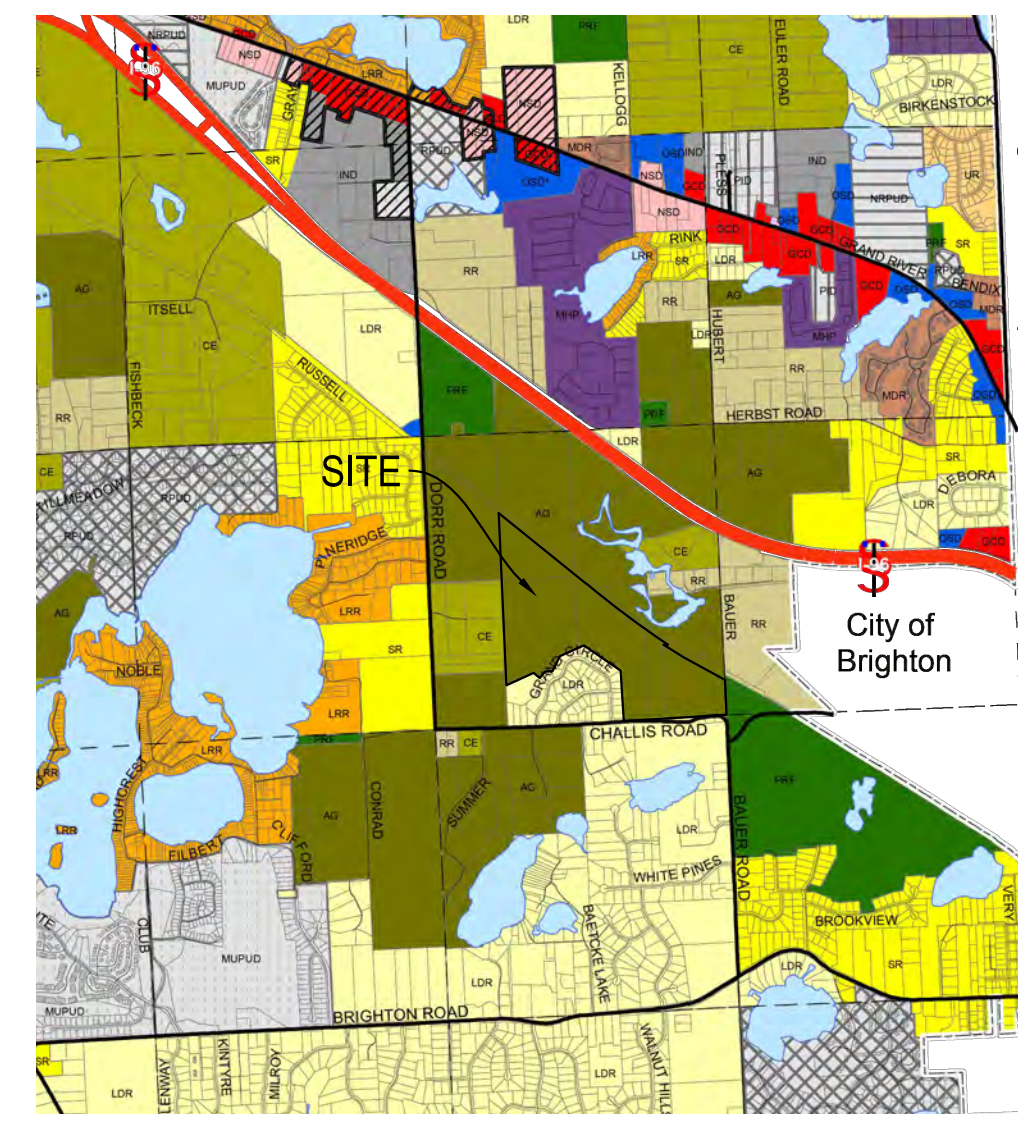
SHEET INDEX

- COVER
- PARALLEL SITE PLAN
- CONCEPTUAL CLUSTER PLAN
- BOUNDARY & TOPOGRAPHIC SURVEY
- 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 L.O.D.

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.

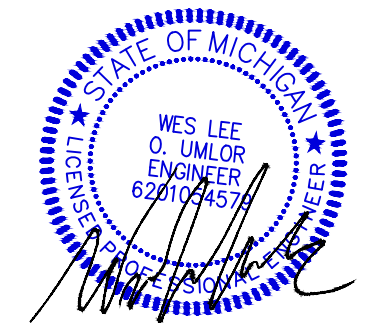
PATHWAY NOTE:
ACTIVE RECREATIONAL COMPONENT
LEGACY HILLS WILL INCLUDE 42700 LF OF WALKING PATH.
LOCATION TO BE FINALIZED DURING FINAL ENGINEERING.

EITHER
A) PATH AND BOARDWALK IN OPEN SPACE PRESERVATION AREA
OR
B) CONNECT TO ROUNDABOUT VIA & THROUGH PUBLIC R.O.W.

DIMENSIONAL DEVIATIONS

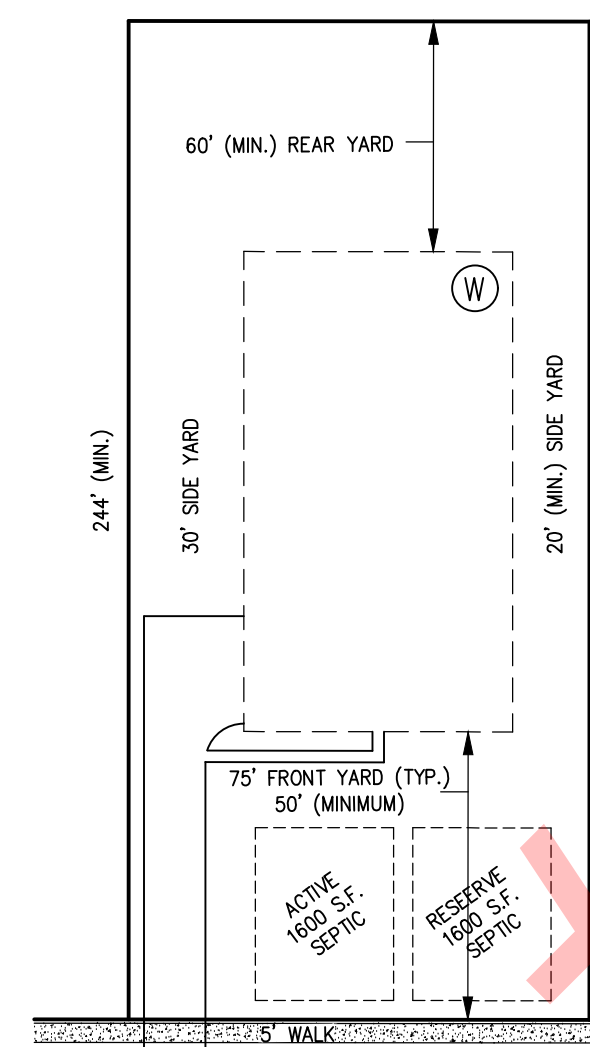
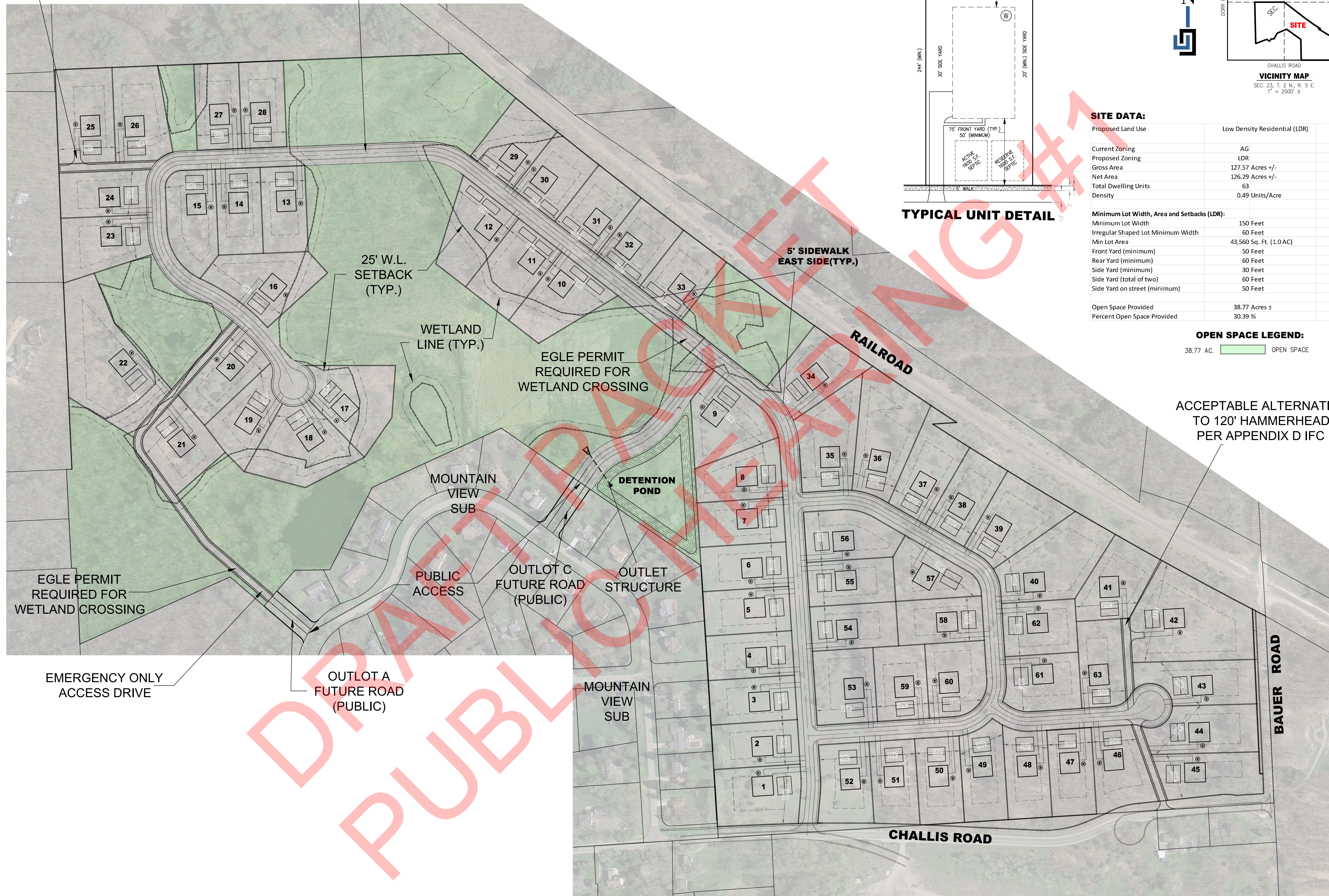
DESCRIPTION	REQUIRED	PUD PROVIDED
AREA FOR SEPTIC & WELL	43,560 S.F.	32,670 S.F.
CUL-DE-SAC LENGTH	1000 FT.	1200 FT.
WETLAND SETBACK	50 FT.	50 FT.*
MINIMUM LOT AREA-LDR	43,560 S.F.	32,670 S.F.
MINIMUM LOT WIDTH-LDR	150 FT.	115 FT.
MINIMUM SIDEYARD-LDR	30 FT.	20 FT.
SIDEYARD TOTAL-LDR	60 FT.	50 FT.

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



ACCEPTABLE ALTERNATIVE TO 120' HAMMERHEAD PER APPENDIX D IFC

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

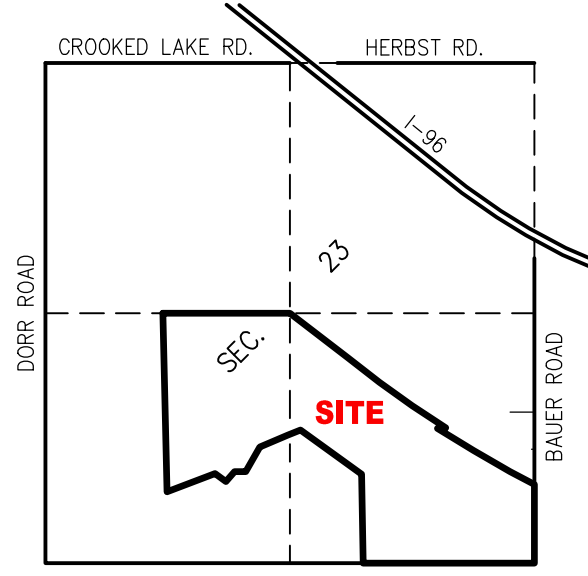


TYPICAL UNIT DETAIL

SITE DATA:

Proposed Land Use	Low Density Residential (LDR)
Current Zoning	AG
Proposed Zoning	LDR
Gross Area	127.57 Acres +/-
Net Area	126.29 Acres +/-
Total Dwelling Units	63
Density	0.49 Units/Acre
Minimum Lot Width, Area and Setbacks (LDR):	
Minimum Lot Width	150 Feet
Irregular Shaped Lot Minimum Width	60 Feet
Min Lot Area	43,560 Sq. Ft. (1.0 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	38.77 Acres ±
Percent Open Space Provided	30.39 %

OPEN SPACE LEGEND:
38.77 AC. OPEN SPACE



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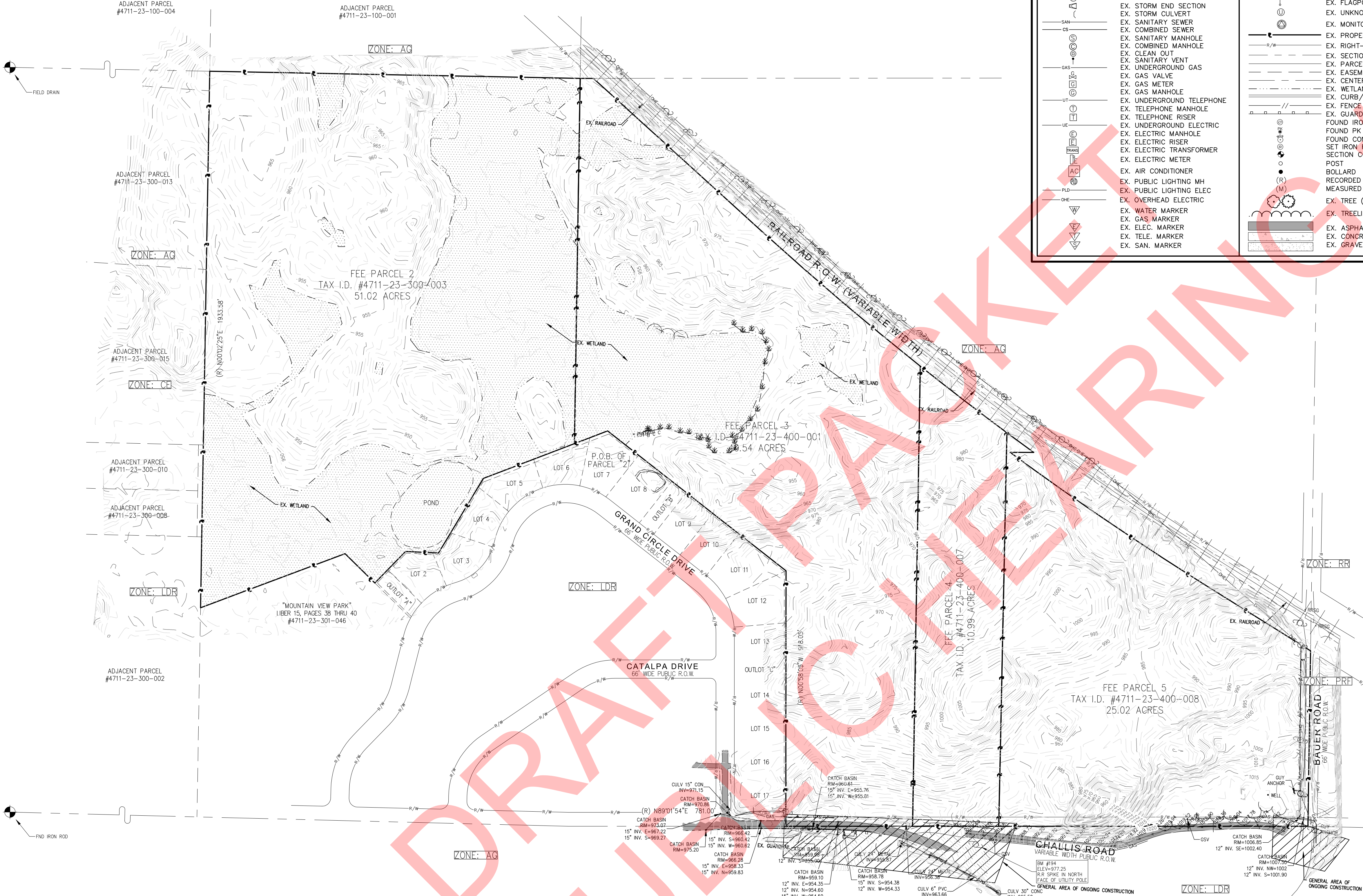
LEGACY HILLS
PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
TROY, MI 48063

PARALLEL SITE PLAN

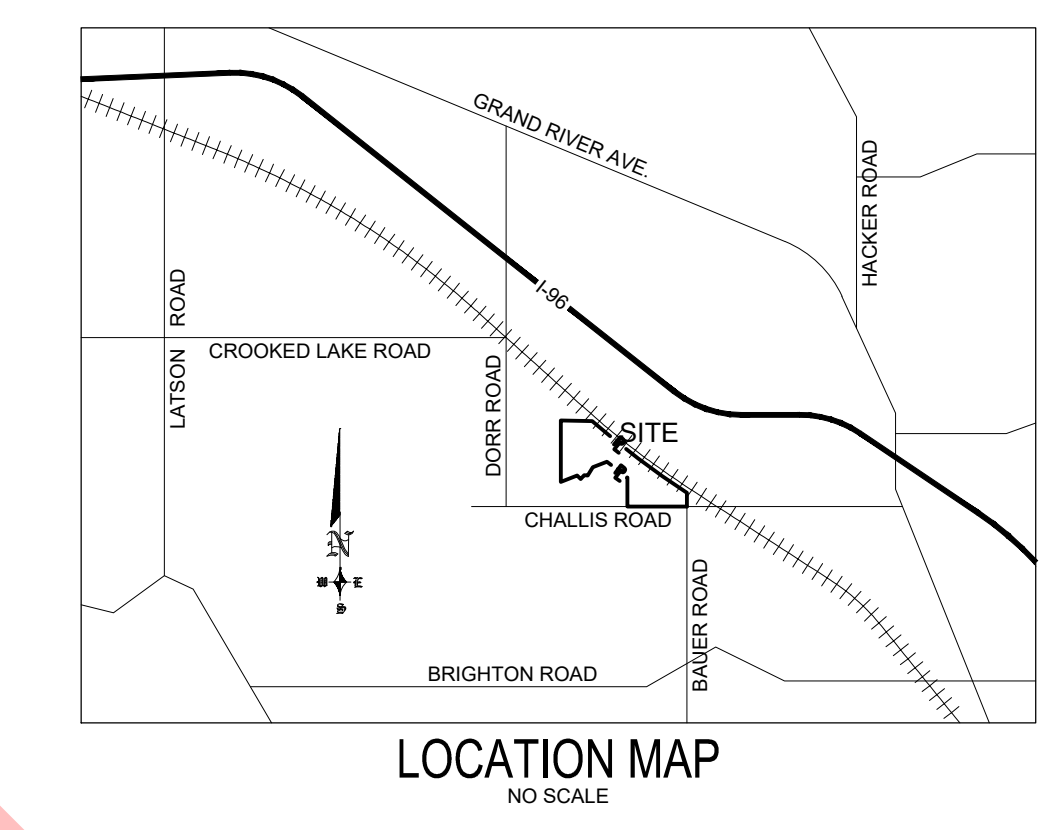
DR BY: SF
CK BY: SA
P.M. SA
SCALE: 0 75 150

JOB NO. 231213
SHEET NO. 2
SHEET 2 OF 5

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



LEGEND		LEGEND	
SYMBOL	DESCRIPTION	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 FIBER
(Symbol)	EX. WATER METER	(Symbol)	EX. UNDERGROUND CABLE
(Symbol)	EX. WATER VALVE	(Symbol)	EX. OVERHEAD TELEPHONE
(Symbol)	EX. HYDRANT	(Symbol)	EX. OVERHEAD CABLE TV
(Symbol)	EX. WATER MANHOLE	(Symbol)	EX. OVERHEAD FIBER
(Symbol)	EX. FRESHWATER WELL	(Symbol)	EX. COMMUNICATION RISER
(Symbol)	EX. GATE VALVE IN WELL	(Symbol)	EX. COMMUNICATION HANDHOLE
(Symbol)	EX. STORM SEWER	(Symbol)	EX. UTILITY POLE
(Symbol)	EX. STORM INLET/CATCH BASIN	(Symbol)	EX. GUY ANCHOR
(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. QUARRAIL
(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)	RECORDED BEARING
(Symbol)	EX. AIR CONDITIONER	(Symbol)	MEASURED BEARING
(Symbol)	EX. PUBLIC LIGHTING MH	(Symbol)	EX. TREE (DECIDUOUS/CONIFER)
(Symbol)	EX. ELEC. MARKER	(Symbol)	EX. TREELINE
(Symbol)	EX. TELE. MARKER	(Symbol)	EX. ASPHALT
(Symbol)	EX. SAN. MARKER	(Symbol)	EX. CONCRETE
(Symbol)		(Symbol)	EX. GRAVEL



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FEEL PARCEL 1
TAX I.D. #4711-24-300-002
46.21 ACRES
(NOT PART OF PROPOSED LAND SALE)

LEGAL DESCRIPTION PER TITLE COMMITMENT

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

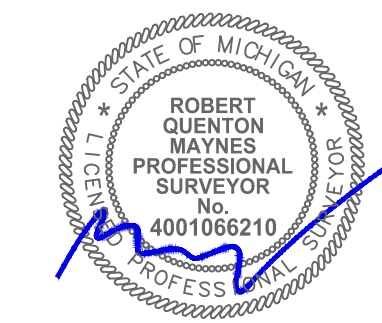
FEEL PARCEL 1
PART OF THE SOUTHWEST 1/4 OF SECTION 24, TOWN 2 NORTH, RANGE 5 EAST, TOWNSHIP OF GENOA, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE CENTERLINE OF BAUER ROAD AND THE SECTION LINE, SAID POINT BEING NORTH 00 DEGREES 04 MINUTES 33 SECONDS WEST 863.80 FEET 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 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 THE 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 58 DEGREES 58 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.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 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 THE 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 58 DEGREES 28 MINUTES 30 SECONDS WEST 201.74 FEET TO THE P.T. OF A CURVE AND THE POINT OF BEGINNING.

FEEL 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 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 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 1371.69 FEET ALONG THE NORTH AND SOUTH 1/4 LINE TO THE POINT OF BEGINNING.

FEEL 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 06 SECONDS WEST 918.05 FEET; THENCE NORTH 52 DEGREES 50 MINUTES 20 SECONDS WEST 815.00 FEET; THENCE SOUTH 67 DEGREES 58 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 NORTH 44 DEGREES 02 MINUTES 15 SECONDS EAST 651.25 FEET ALONG SAID RIGHT OF WAY LINE TO A CURVE TO THE LEFT HAVING A RADIUS OF 11,509.20 FEET AND A LONG 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 454.65 FEET ALONG SAID SOUTH LINE TO THE POINT OF BEGINNING.

FEEL 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 1236.95 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 33 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.

FEEL 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 1118.40 FEET ALONG THE SECTION LINE TO THE SOUTHEAST CORNER OF SAID SECTION 23; THENCE NORTH 00 DEGREES 15 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.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 47 SECONDS WEST 881.08 FEET TO THE P.T. OF THE CURVE; THENCE NORTH 89 DEGREES 01 MINUTES 54 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.

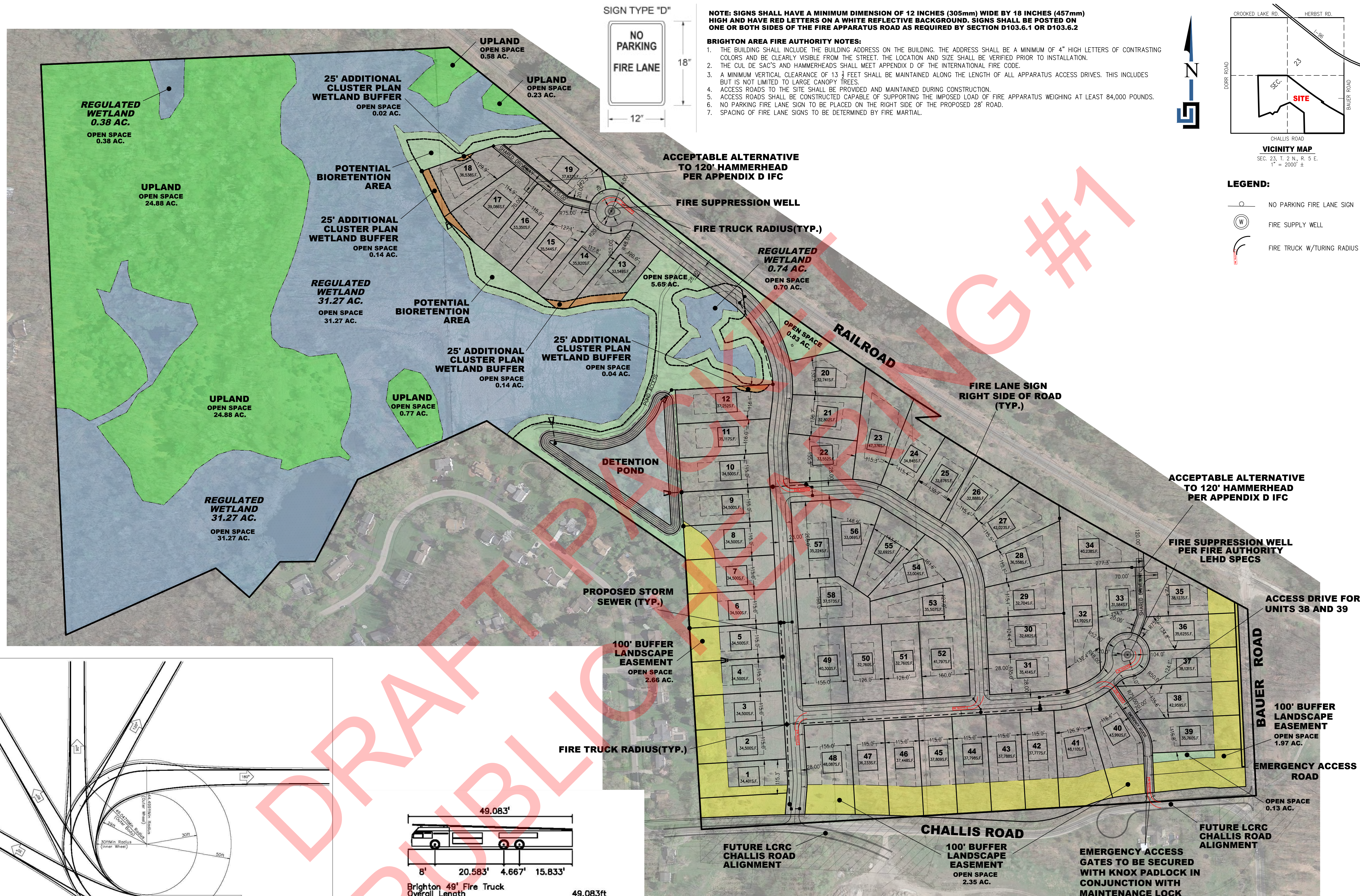


BENCHMARK
BENCHMARK #194 (NAVD 88)
LOCATED IN UTILITY POLE SOUTH OF CHALLIS ROAD. (AREA UNDER ONGOING ROAD CONSTRUCTION AS OF 8-25-24. RAIL ROAD SPIKE IN NORTH FACE OF SAID UTILITY POLE)
ELEV: 977.25

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 CAPS 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		
TRUY, MI 48063	LEGACY HILLS - GENOA		
DR BY: BDR	CK BY: RQM	SCALE: 0 100 200	
JOB NO. #231213		SHEET NO. 4	
SHEET 4 OF 4			



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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

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

DATE: 8/26/2024

REVISIONS

9/27/2024

11/1/2024

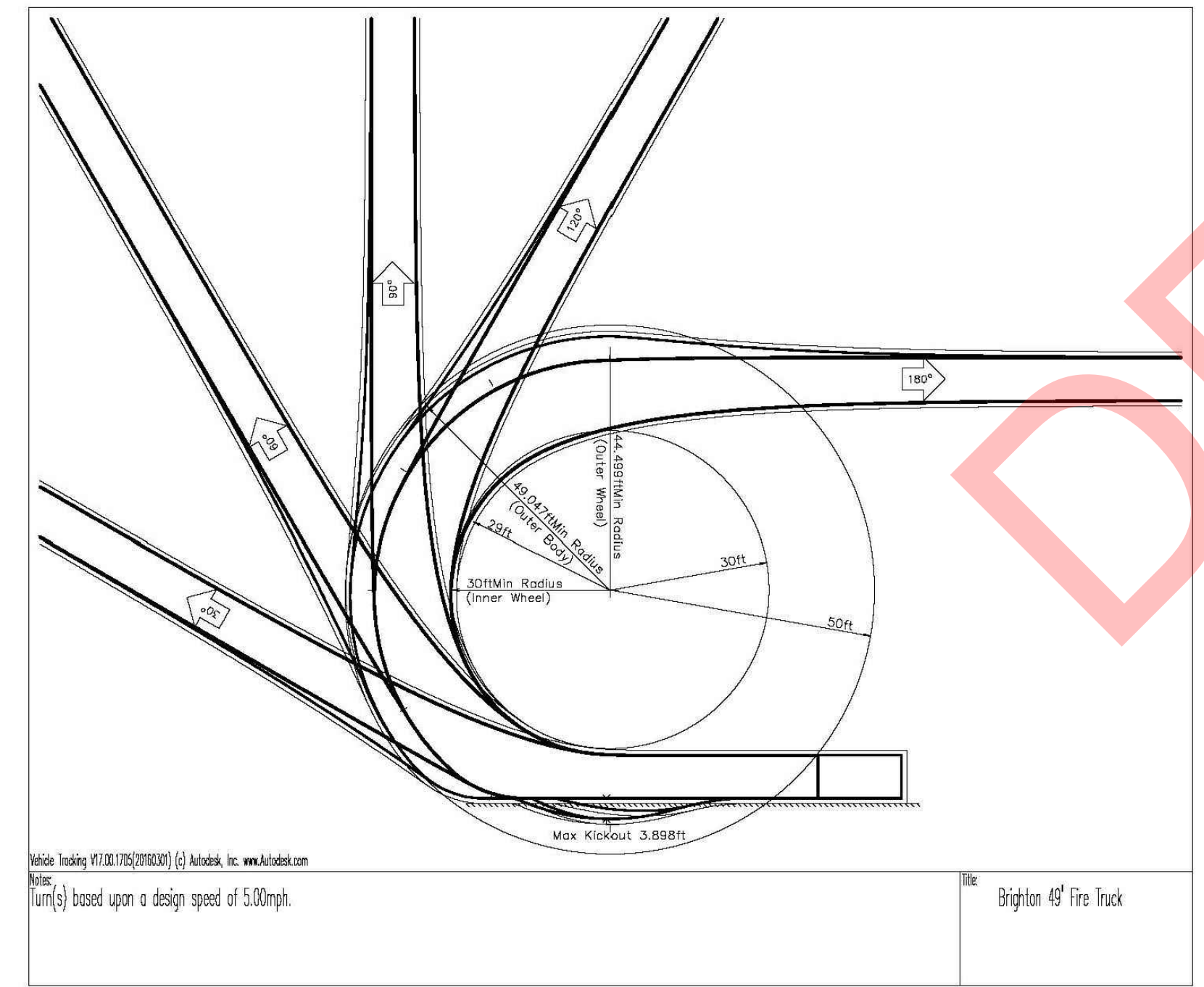
CLIENT:
LEGACY HILLS
PULTE HOMES OF MICHIGAN
2800 LIVERNOIS ROAD, BLDG. D, SUITE 320
TROY, MICHIGAN 48063

EMERGENCY VEHICLE PLAN

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

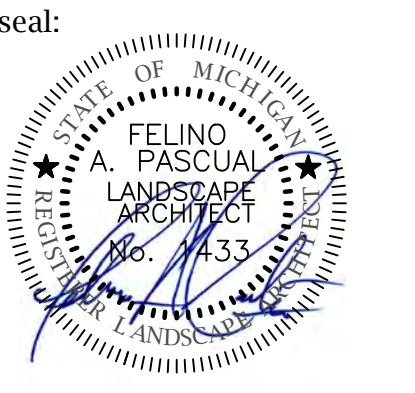
JOB NO. 231213
SHEET NO. **5**

SHEET 5 OF 5



FIRE TRUCK TURNING RADII

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
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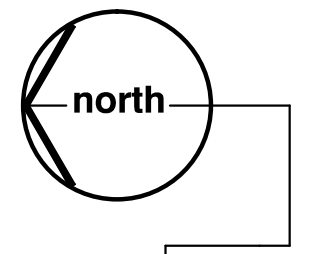
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project no.:
LS24.083.08

sheet no.:
LS-1 of 6



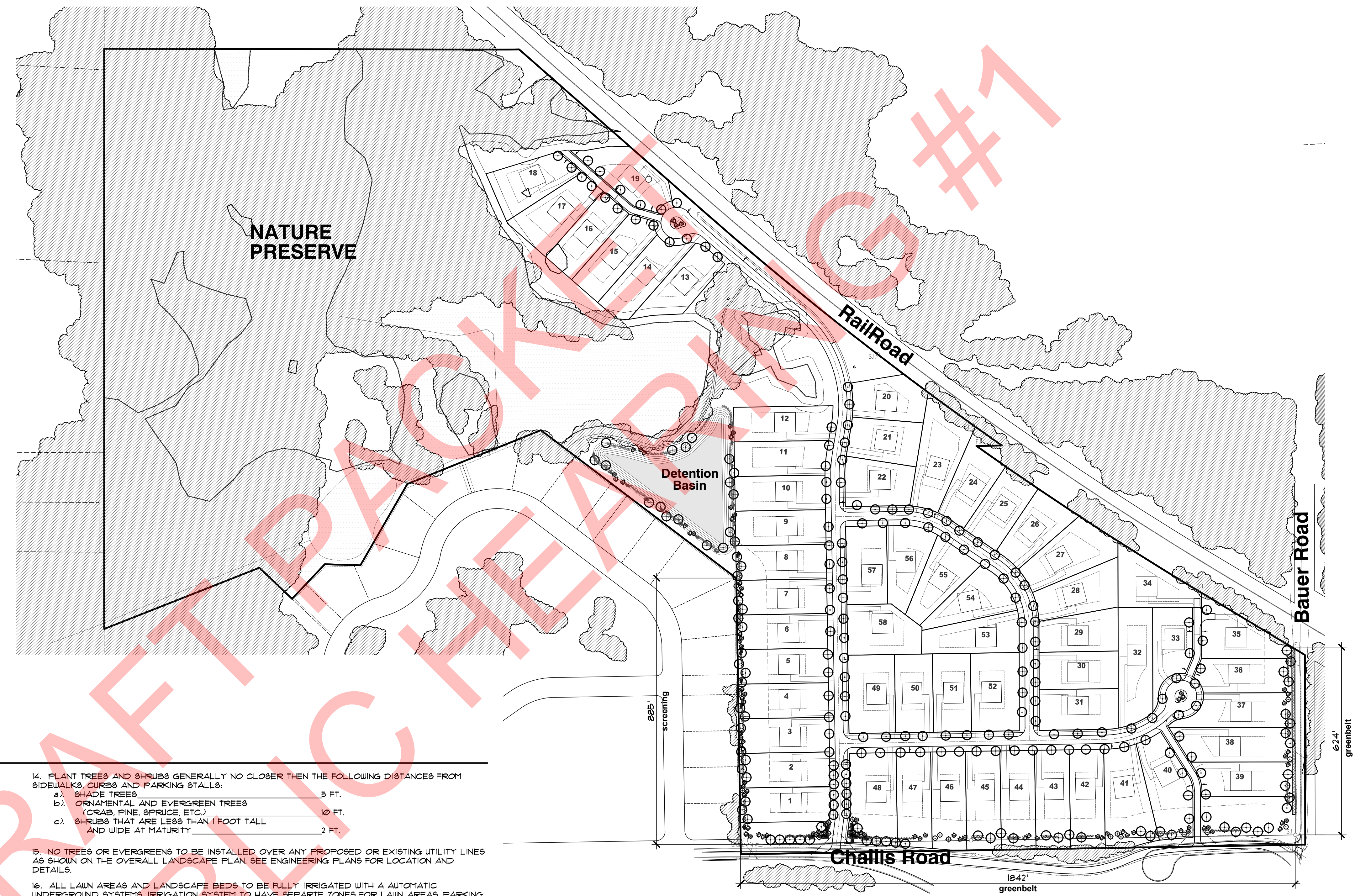
scale: 0' 100' 200' 400' 600'
 1" = 200' - 0"

landscape requirements:

	REQUIRED	PROVIDED
greenbelt (Challis Road)		
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)		
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)		
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		
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		
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, GUYED 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 (CRAB, 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.

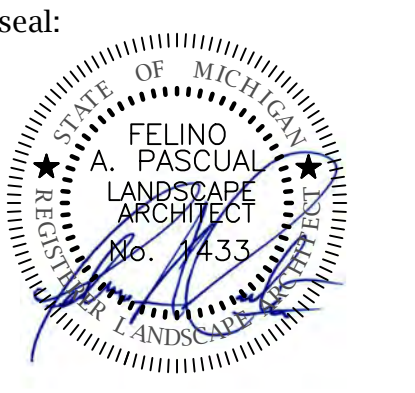


landscape sheet index

- 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.



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 Northwestern
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project:
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 Challis Road & Bauer
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sheet title:
**GENERAL LANDSCAPE
 PLANTING DETAIL**

job no./issue/revision date:
 LS24.083.08 SPA 8-26-2024
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drawn by:
JP,

checked by:
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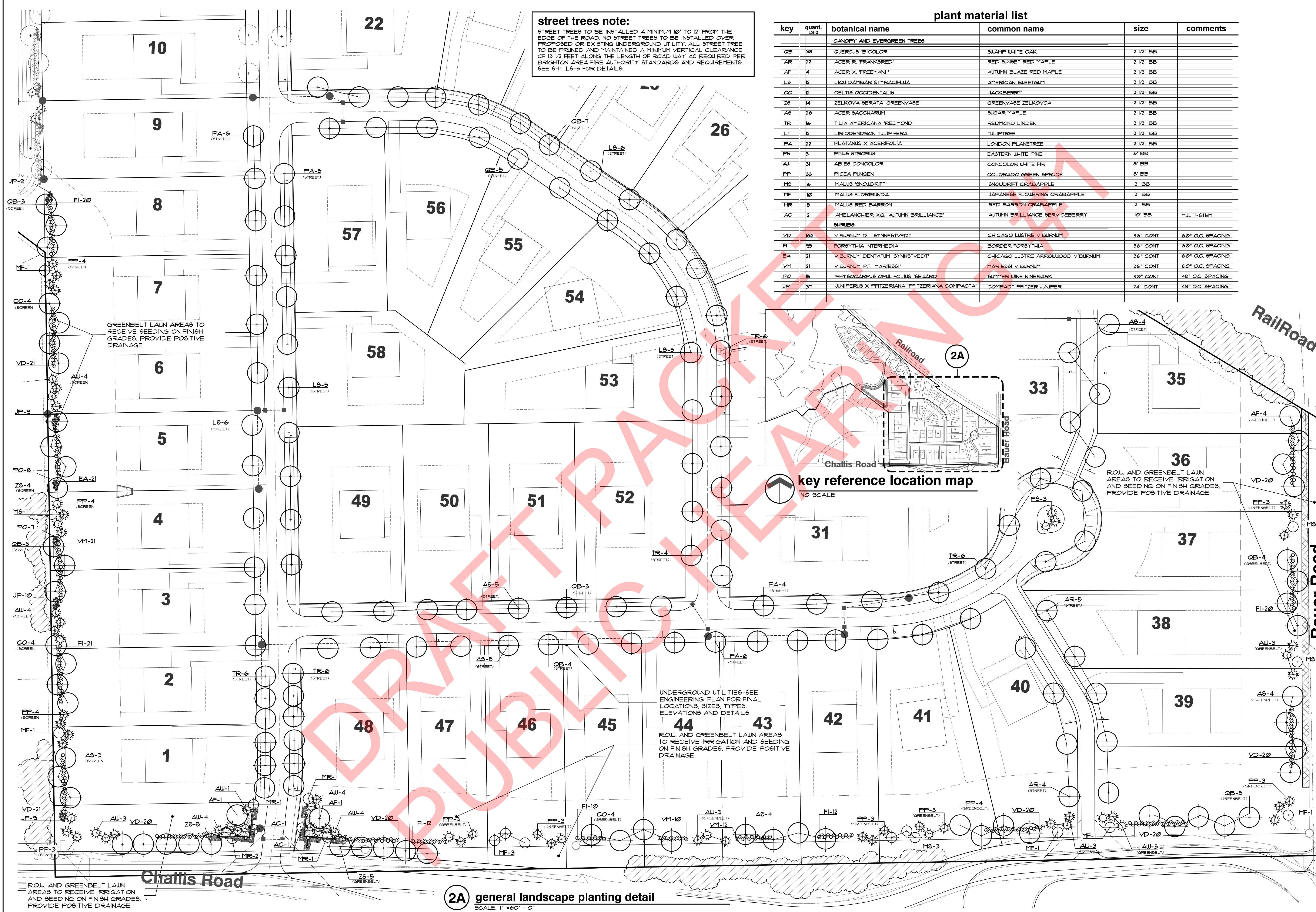
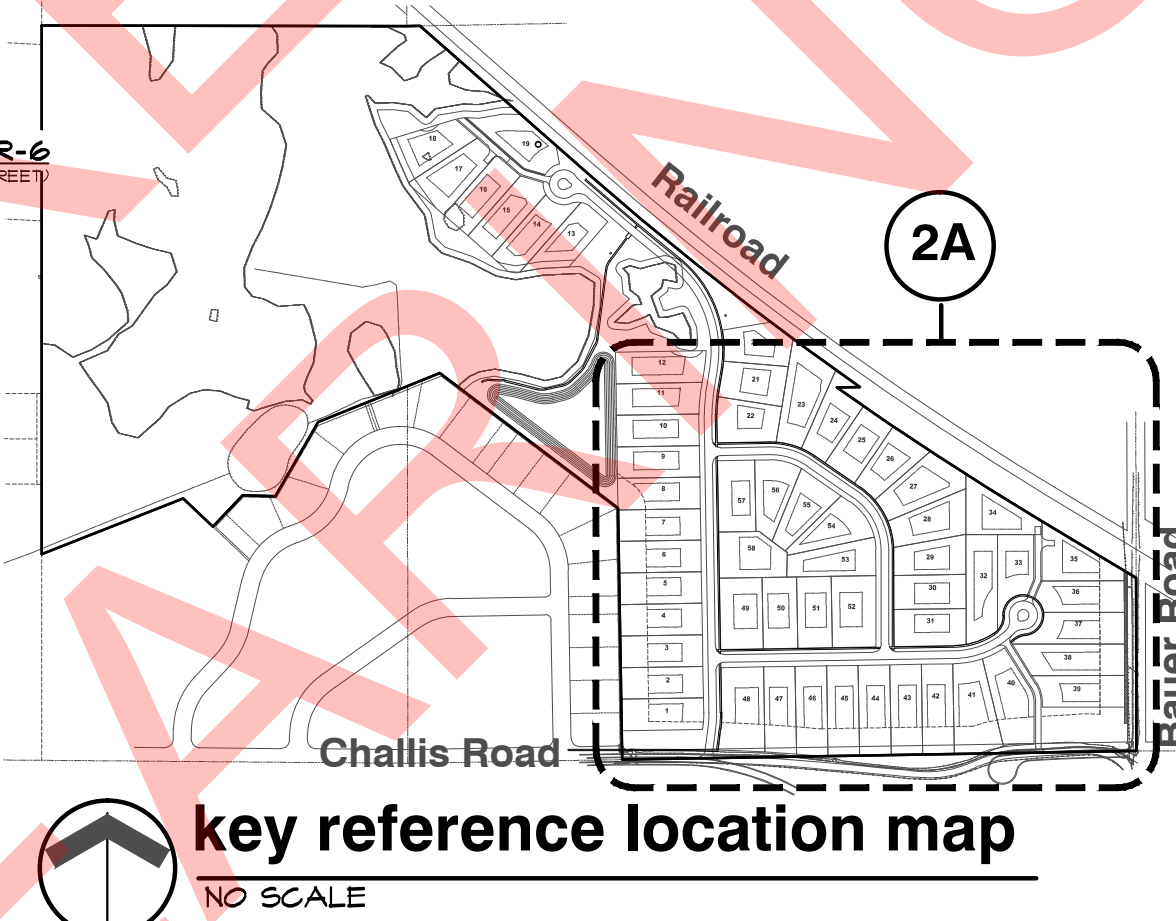
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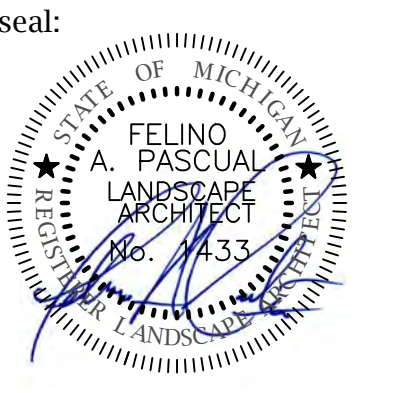
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plant material list

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	PINUS STROBILUS	EASTERN WHITE PINE	8" BB	
AW	31	ABIES CONCOLOR	CONCOLOR WHITE FIR	8" BB	
FP	33	PICEA 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. 'SYNSTYVEDT'	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 'SYNSTYVEDT'	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'	BUTTER WINE NINEBARK	30" CONT	48" O.C. SPACING
JP	31	JUNIPERUS X FRITZERIANA 'FRITZERIANA COMPACTA'	COMPACT FRITZER JUNIPER	24" CONT	48" O.C. SPACING



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



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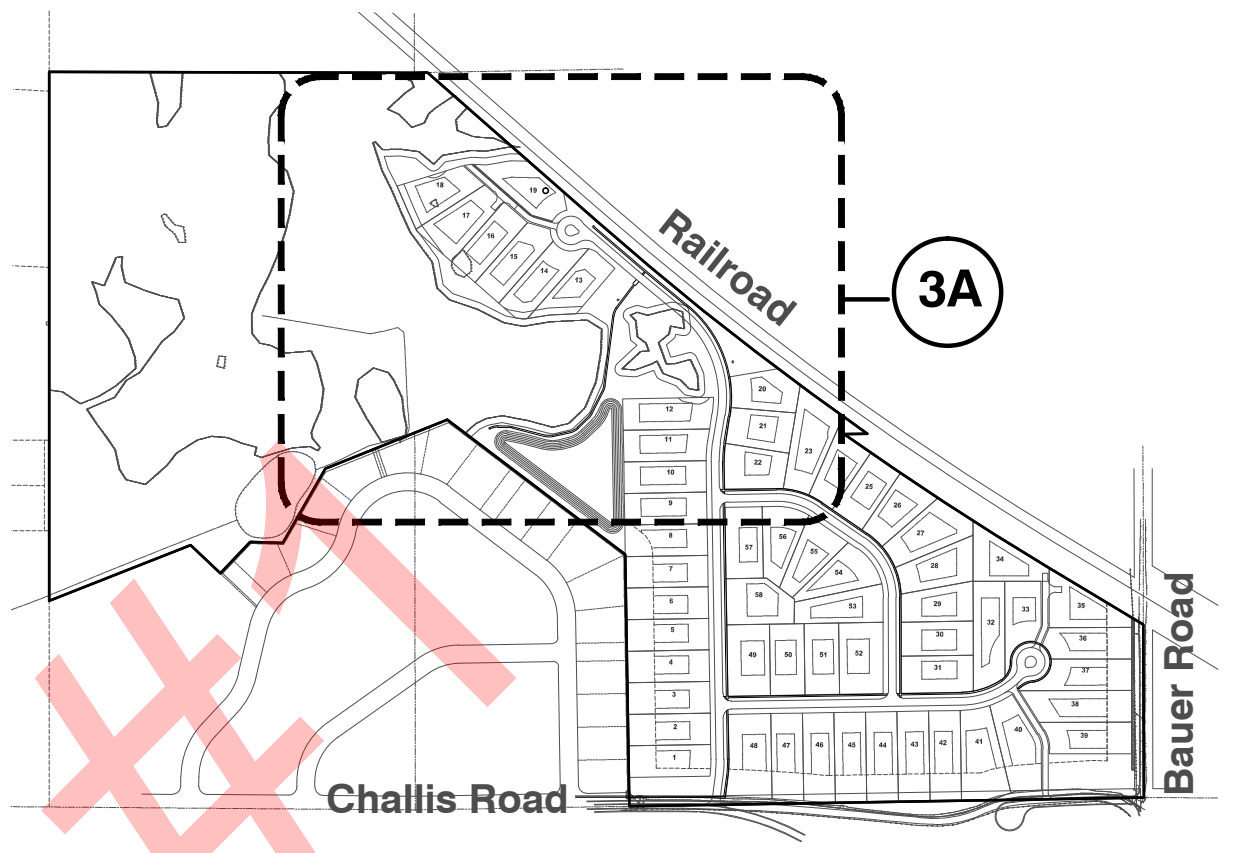
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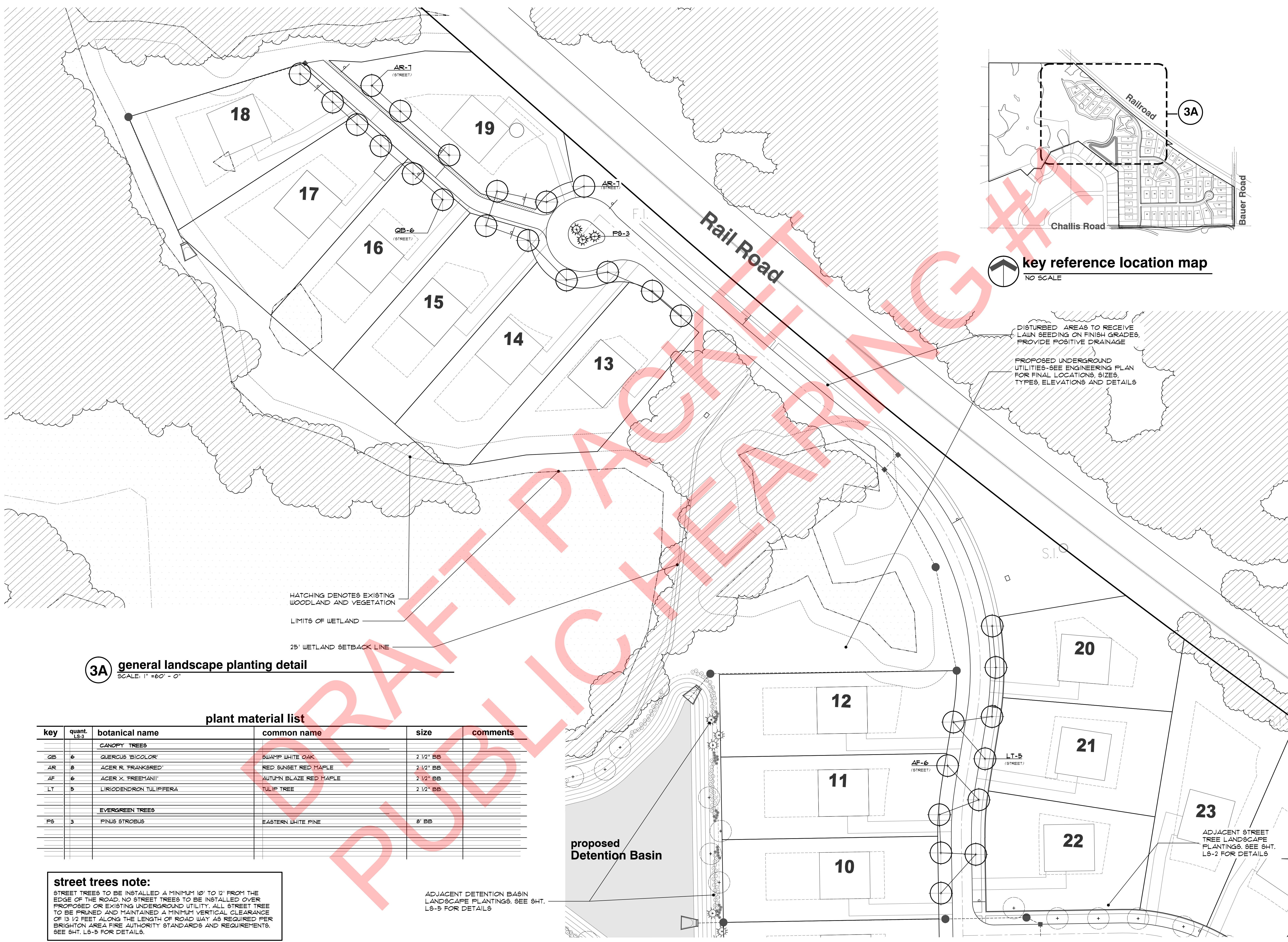
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sheet no:
LS-3 of 6



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

HATCHING DENOTES EXISTING
 WOODLAND AND VEGETATION

LIMITS OF WETLAND

25' WETLAND SETBACK LINE

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

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. FRANKORED'	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
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 SEE SHT. LS-5 FOR DETAILS.

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

**proposed
 Detention Basin**

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	2.00
SCIRPUS ATROVIRENS	DARK GREEN RUSH	2.00
SCIRPUS CYPERINUS	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					
		ALISMA SUBCORDATUM	COMMON WATER PLANTAIN	2.50	
		ASCLEPIAS INCARNATA	SWAMP MILKWEED	2.00	
		BIDENS SPP. BIDENS	SPECIES	2.00	
		EUPATORIUM PERFOOLIATUM	COMMON BONESET	1.00	
		HELENIUM AUTUMNALE	SNEEZEWEED	2.00	
		IRIS VIRGINICA V. SHREVEI	BLUE FLAG	4.00	
		LYCOPUS AMERICANUS	COMMON WATER HOREHOUND	0.50	
		MIMULUS RINGENS	MONKEY FLOWER	1.00	
		PENTHORUM SEDOIDES	DITCH STONECROP	0.50	
		PERSICARIA SPP.	PINKWEED SPECIES	2.00	
		RUDBECKIA SUBTOMBOSA	SWEET BLACK-EYED SUSAN	1.00	
		RUDBECKIA TRILOBA	BROWN-EYED SUSAN	1.50	
		SAGITTARIA LATIFOLIA	COMMON ARROWHEAD	1.00	
		SENNA HEBECARPA	WILD SENNA	2.00	
		SYMPHYOTRICHUM LANCEOLATUM	PANICLED ASTER	0.50	
		SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50	
		THALICTRUM DASycARPUM	PURPLE MEADOW RUE	2.00	
			TOTAL	26.00	



key reference location map
 NO SCALE

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

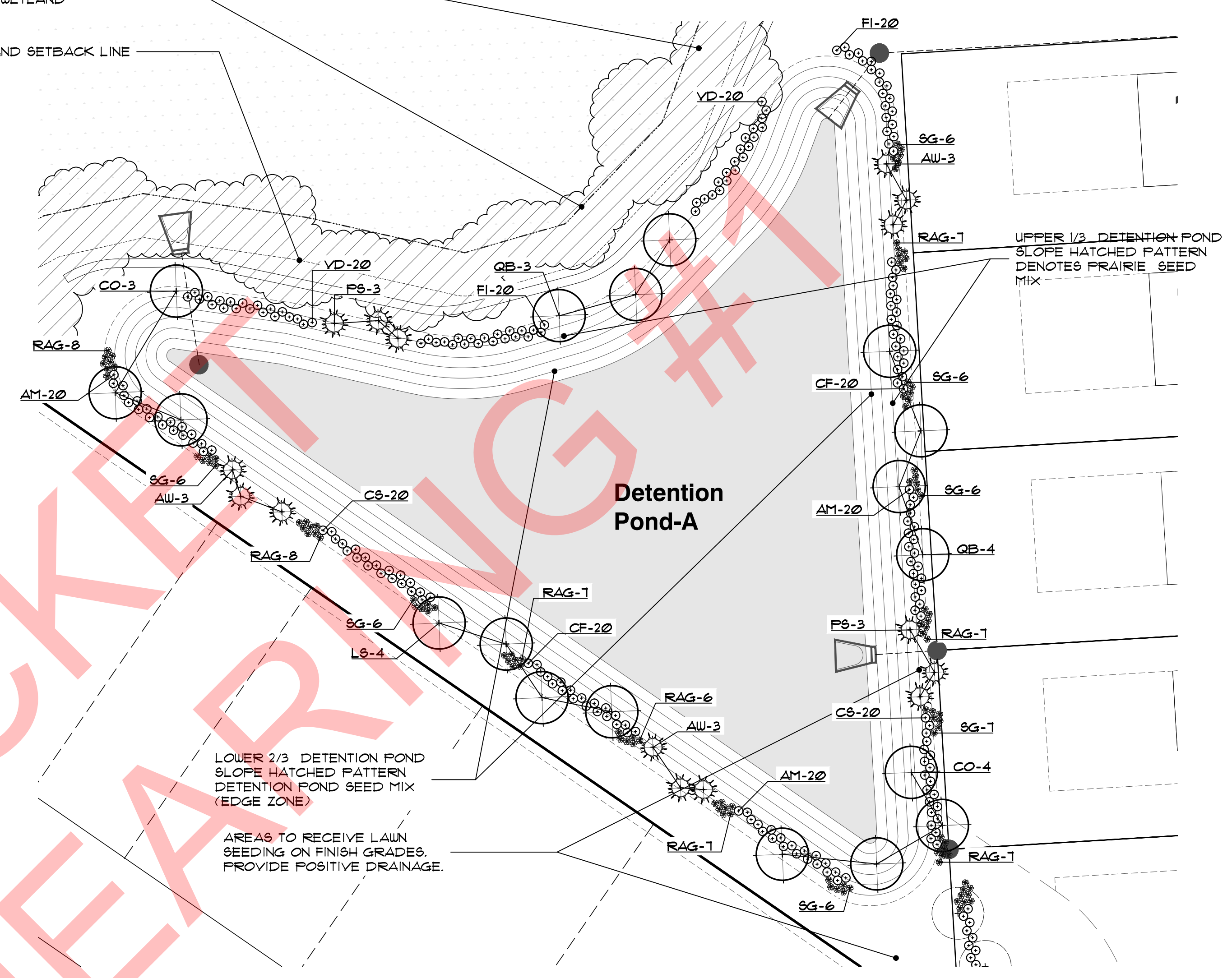
TEMPORARY COVER		
AVENA SATIVA	COMMON OAT	512.00
	TOTAL	512.00

FORBS	COMMON NAME	PLS OZ/ACRE
ASCLEPIAS SYRIACA	COMMON MILKWEED	1.00
ASCLEPIAS TUBEROSA	BUTTERFLY WEED	1.00
CHAMAECRISTA FASCICULATA	PARTRIDGE 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

plant material list

key	quant.	botanical name	common name	size	comments
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'	GR0 LOW FRAGRANT SUMIAC	5" CONT	42" O.C. SPACING
VD	40	VIBURNUM D. 'SYNNESTVEDT'	CHICAGO LUSTRE VIBURNUM	5" CONT	60" O.C. SPACING
CS	40	CORNUS STOLONIFERA	REDTWIG DOGWOOD	5" CONT.	60" O.C. SPACING
CF	40	CORNUS FLAVIRAMEA	YELLOWTWIG DOGWOOD	5" CONT.	60" O.C. SPACING
FI	40	FORSYTHIA INTERMEDIJA	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

HATCHING DENOTES EXISTING WOODLAND AND VEGETATION
 LIMITS OF WETLAND
 25' WETLAND SETBACK LINE

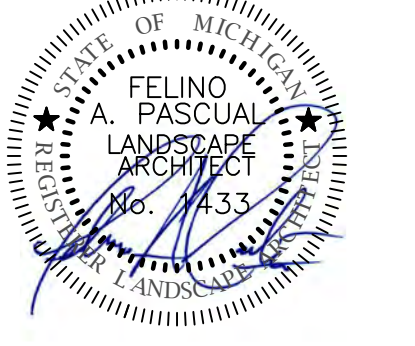


4A detention pond-A planting detail
 SCALE: 1" = 30' - 0"

hatch pattern legend

- Areas to receive IRRIGATION AND SOD, MAINTAINED AND MOWED WEEKLY
- Areas to receive PRAIRIE SEED MIX. (NO MOWED AREA)
- Areas to receive LAWN SEEDING
- Areas to receive DETENTION POND SEED MIX

seal:



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

project:
THE LEGACY HILLS

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

sheet title:
 DETENTION
 LANDSCAPE PLANTING
 DETAIL 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

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project no:
LS24.083.08

planting landscape notes:

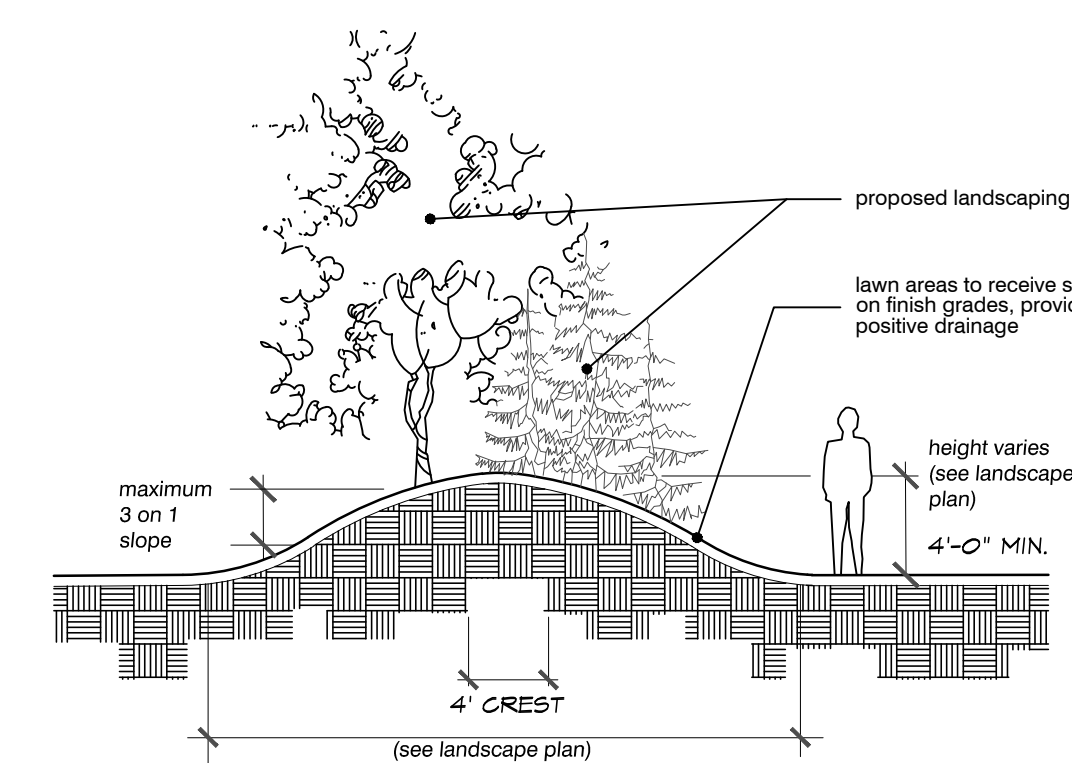
- GENERAL NOTES:**
1. PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE GENOA TOWNSHIP AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
 2. PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS. REPLACE FALLING MATERIAL WITHIN 1 YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
 3. PLANT MATERIALS TO BE 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.

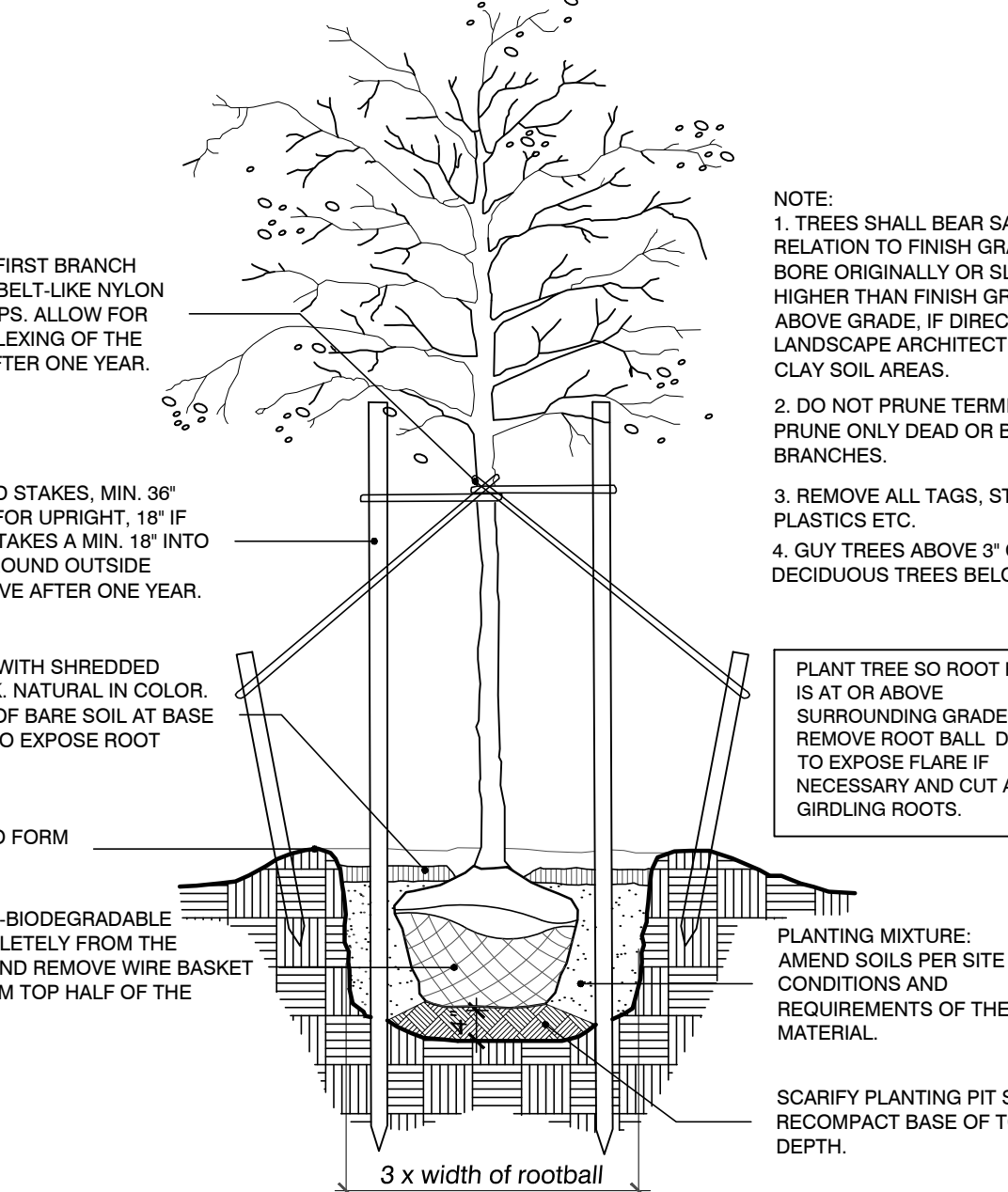
LANDSCAPE MAINTENANCE PROCEDURES AND FREQUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.

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.



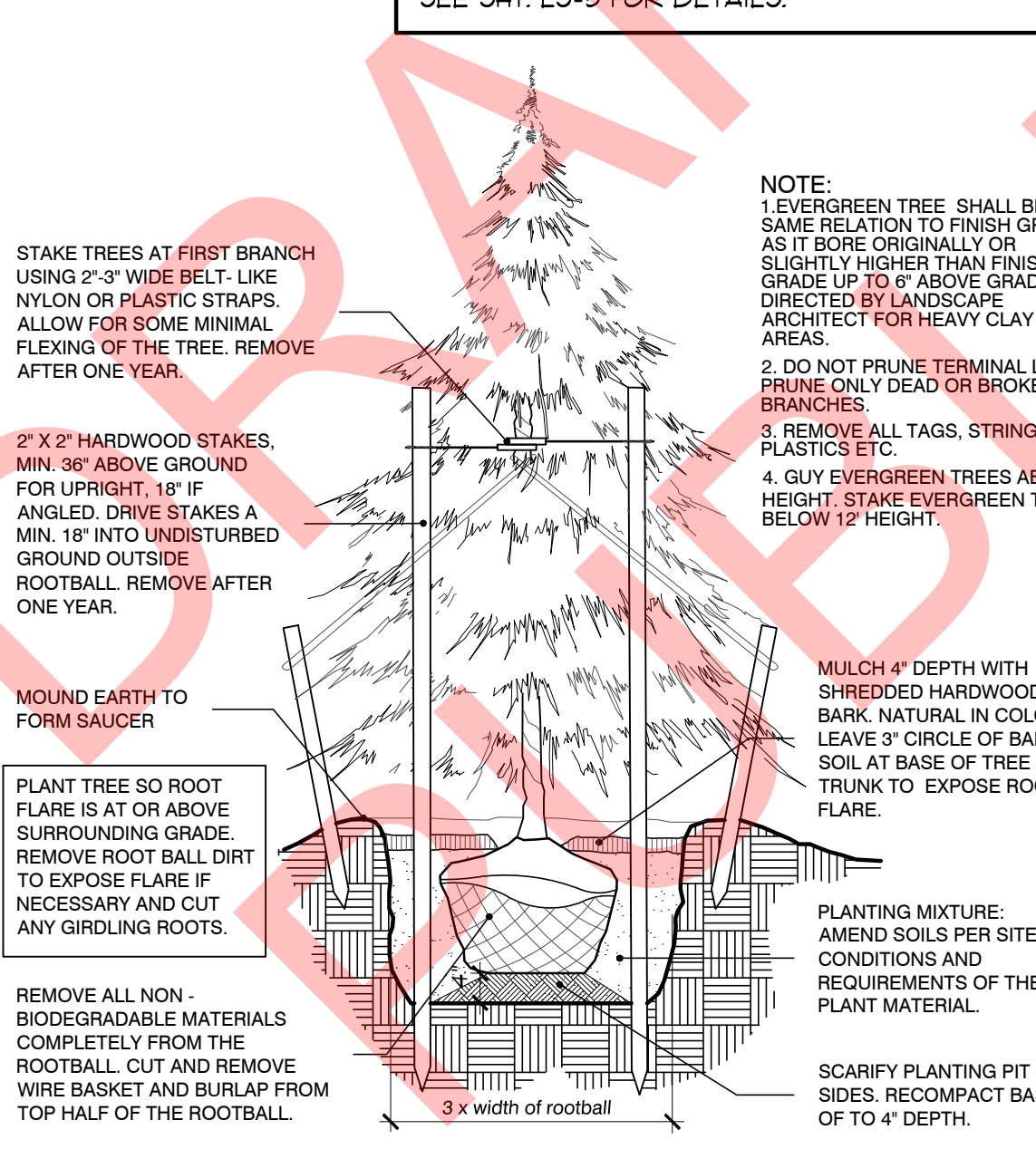
berm planting detail

no scale



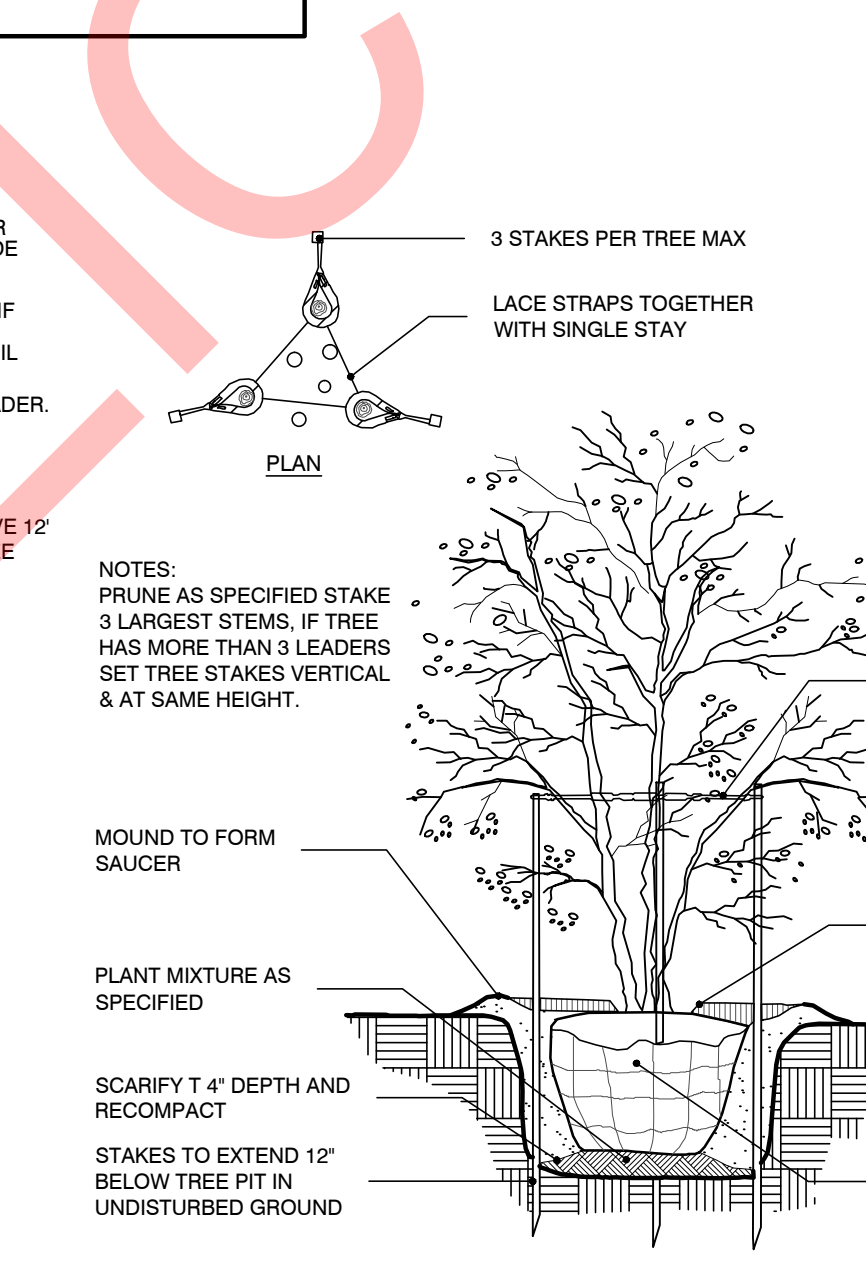
tree planting detail

no scale



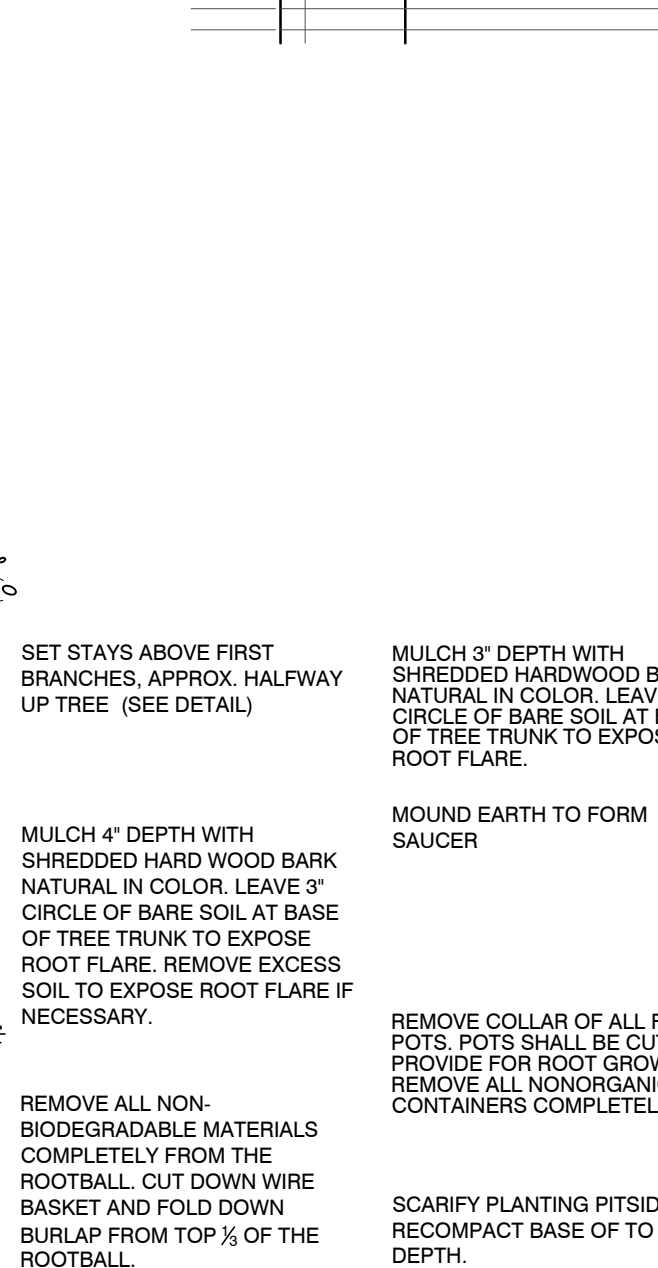
evergreen planting detail

no scale



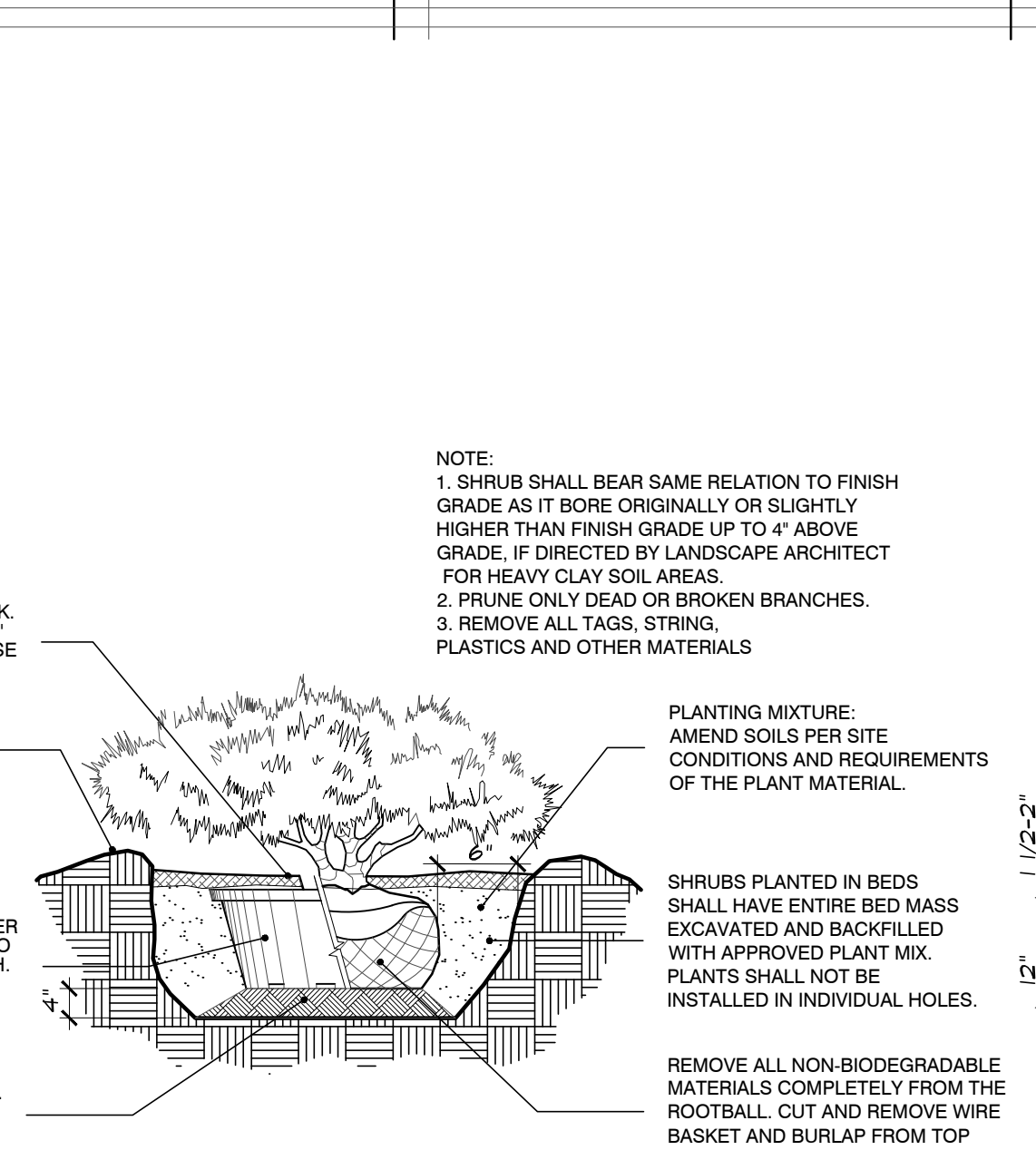
multi-stem tree planting detail

no scale



shrub planting detail

no scale



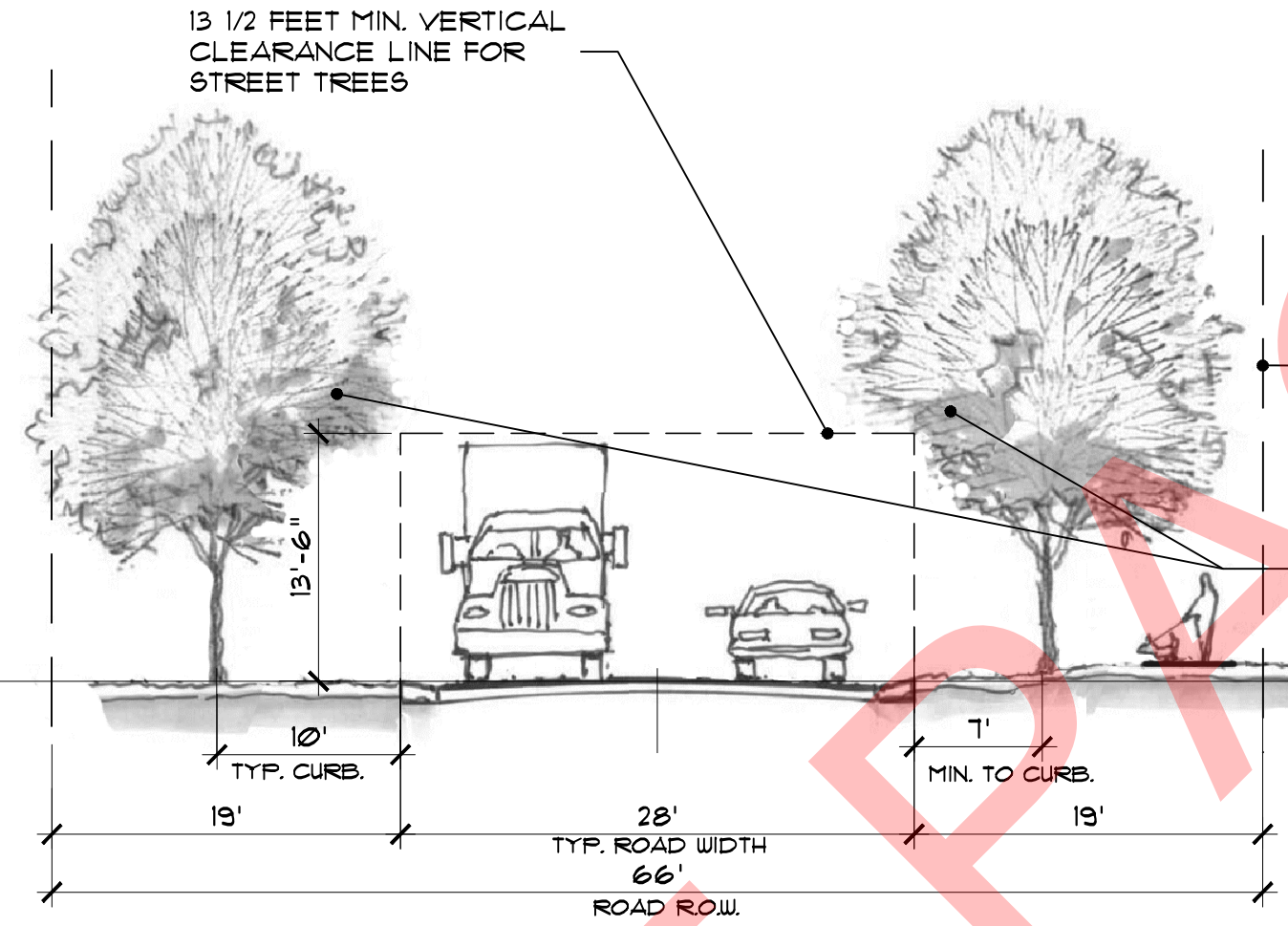
perennial planting detail

no scale



key reference location map

NO SCALE

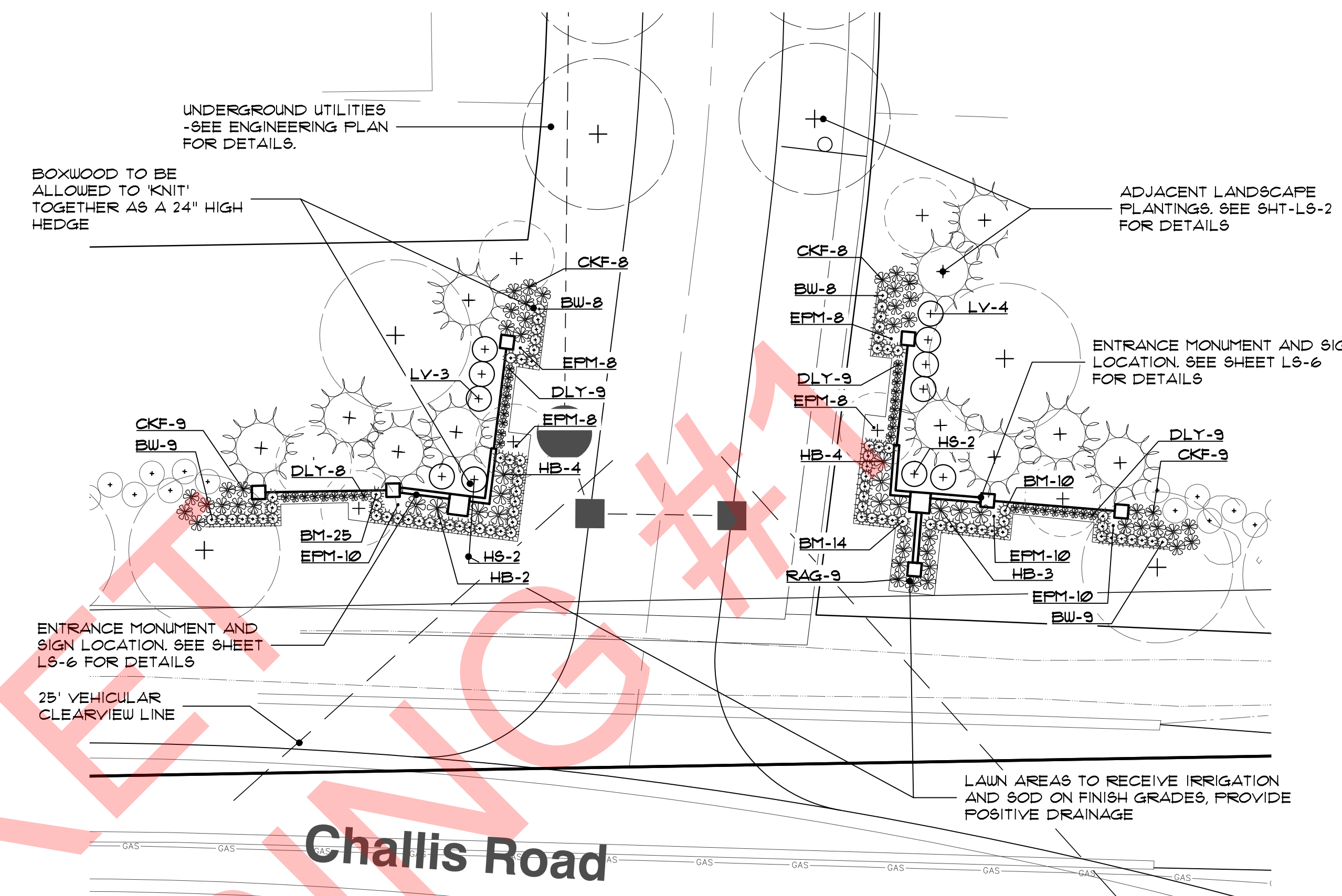


street tree planting detail

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 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. L9-5 FOR DETAILS.



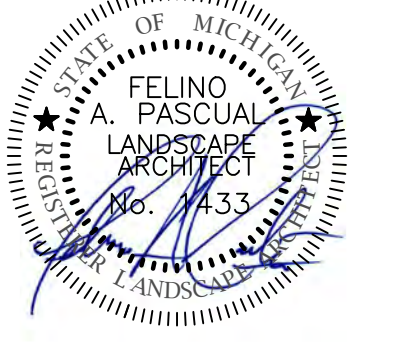
5A entrance landscape planting detail

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

sheet title:



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

project:
THE LEGACY HILLS

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

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

job no./issue/revision date:
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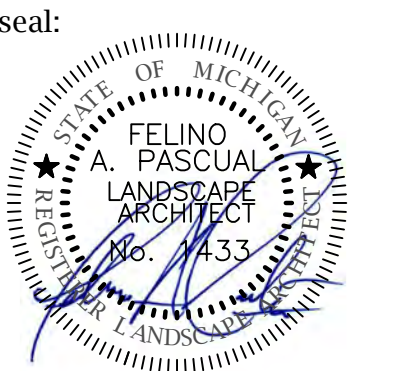
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3 WORKING DAYS BEFORE YOU DIG
 CALL MISS DIG
 1-800-482-7171
 For free location of public utility lines

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project no:
LS24.083.08

sheet no:
LS-5 of 6



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:

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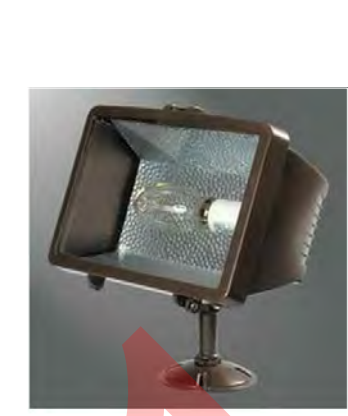
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 of construction

project no:
LS24.083.08

sheet no:

entry wall monument / pier/ signage / notes:

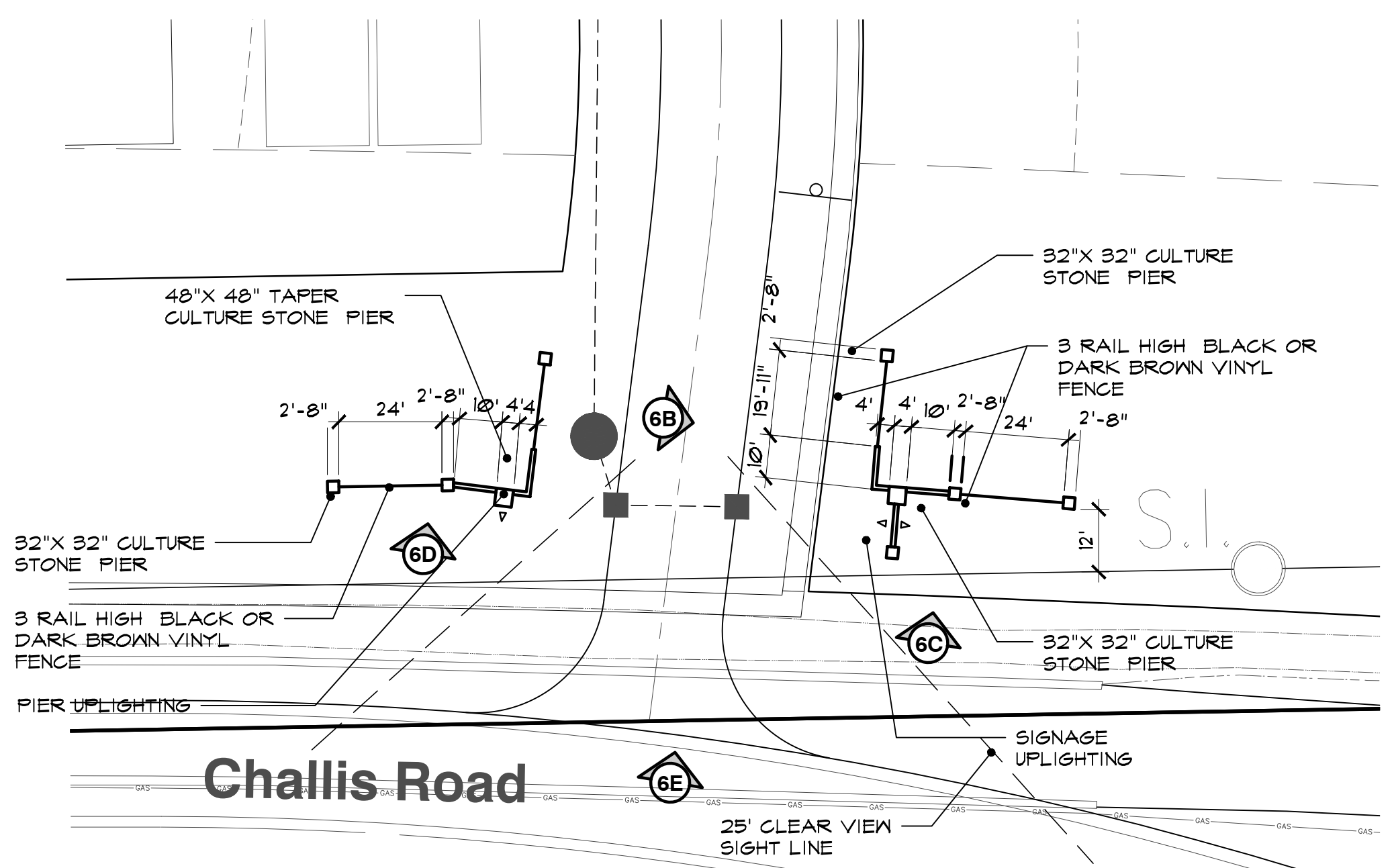
1. LOCATE AND STAKE ALL EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION. COORDINATE ANY ADJUSTMENTS WITH LANDSCAPE ARCHITECT.
2. ALL ENTRY WALL LIGHTING SHALL BE CONTROLLED WITH A "PHOTO-EYE" SWITCH. ALL LIGHTING SHALL BE SHIELDED FROM PUBLIC ROW'S AND ADJACENT PROPERTIES.
3. SEE LANDSCAPE PLAN 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.



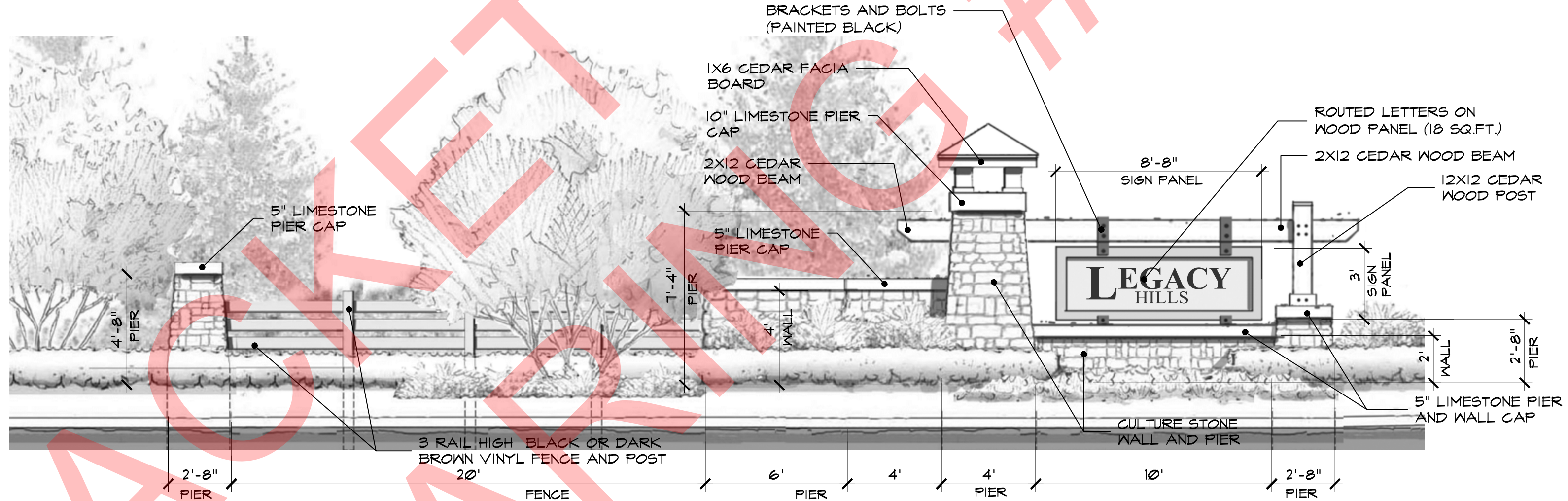
sign panel uplighting
 (2-CONDITIONS)

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

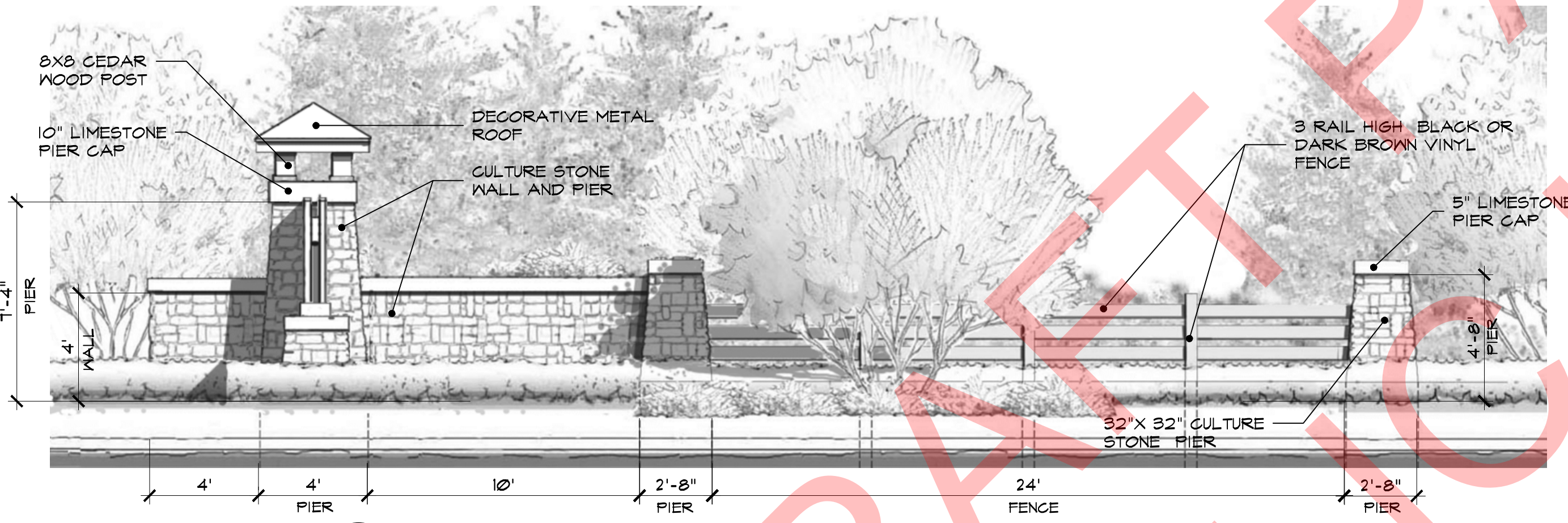
NOTE:
 LIGHT TO BE SHIELD FROM PUBLIC ROW AND LAMP SHALL NOT BE VISIBLE FROM NORMAL VIEWING ANGLES



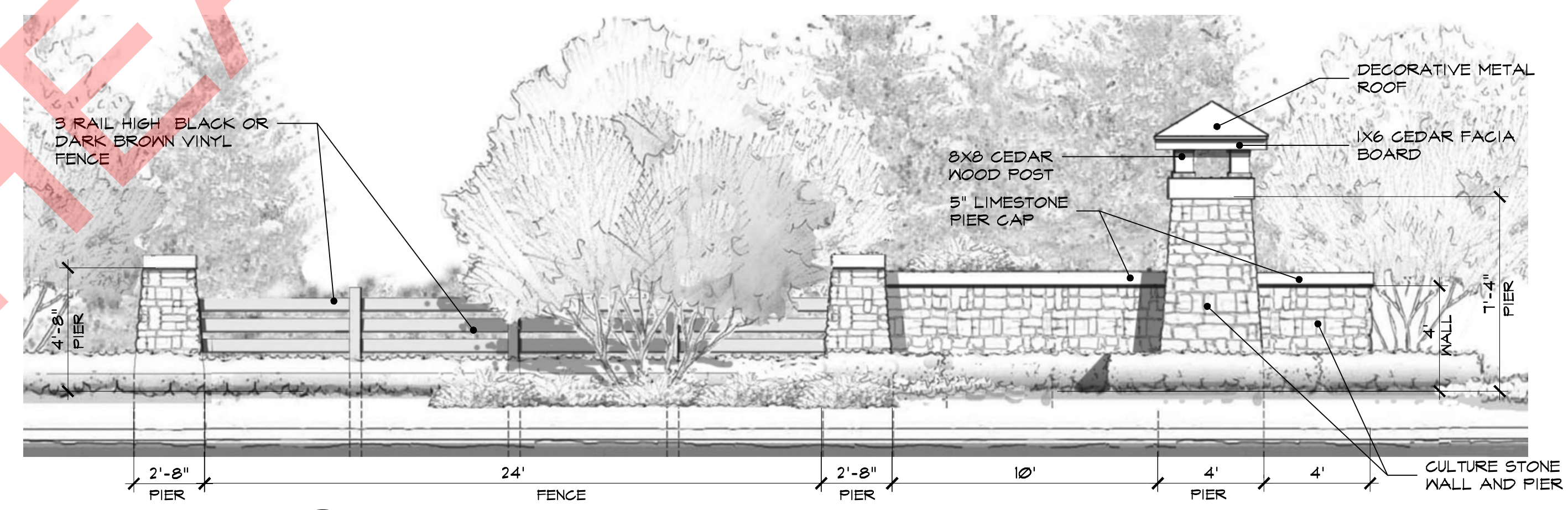
6A entry sign monument elevation
 SCALE: 1/4" = 1' - 0"



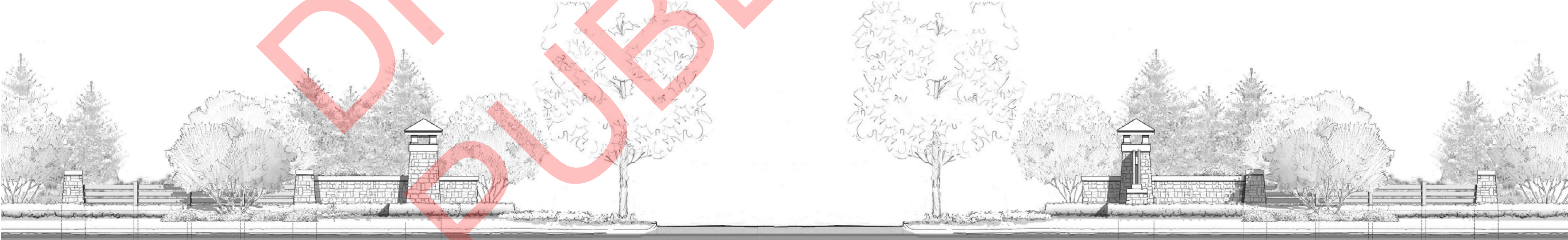
6B entry sign monument elevation
 SCALE: 1/4" = 1' - 0"



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



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

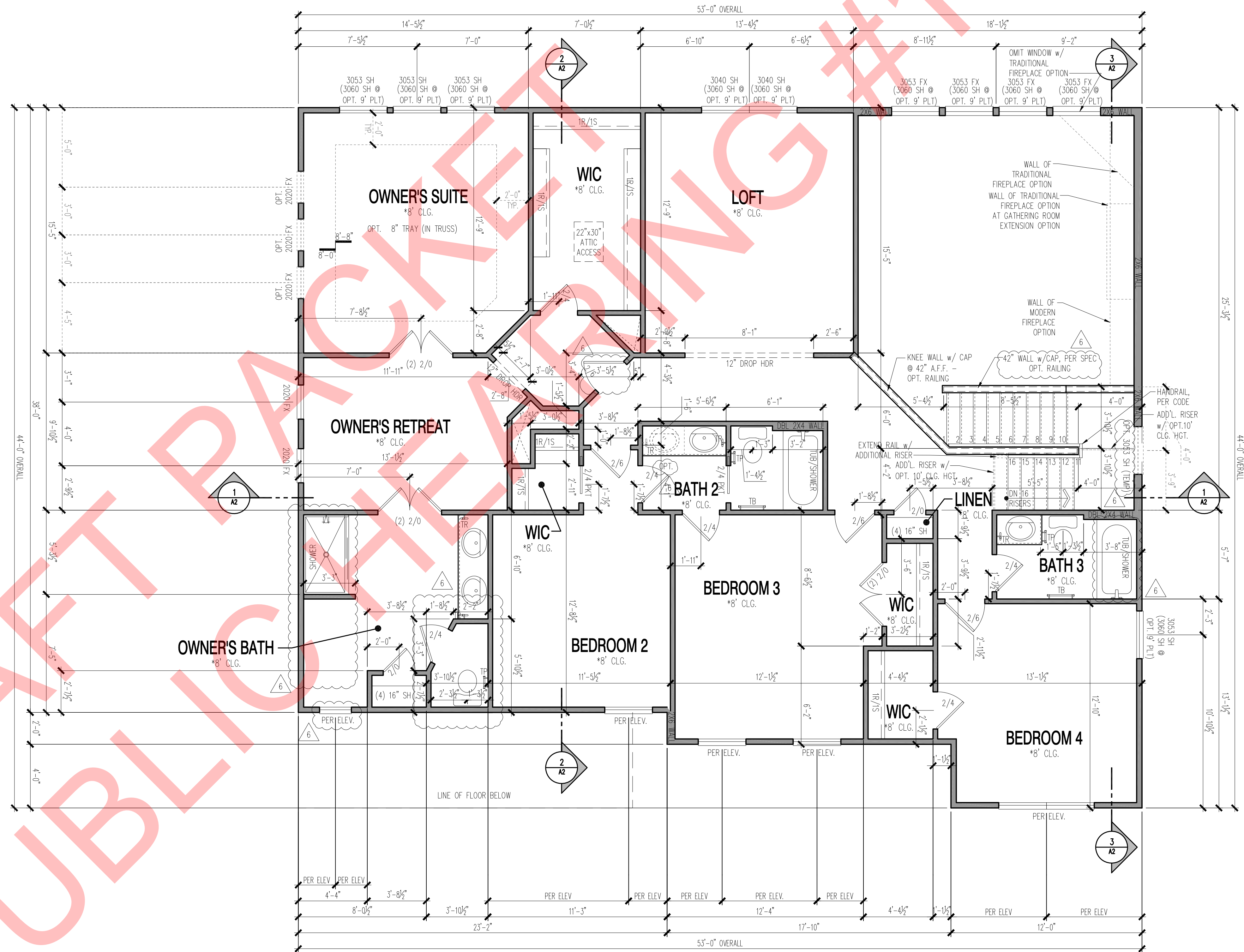


6E entry sign monument elevation
 SCALE: 1/4" = 1' - 0"

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

- ALL ANGLED WALLS (OTHER THAN THOSE AT 90°) SHALL BE CONSIDERED TO BE AT 45° UNLESS NOTED OTHERWISE.
- 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.
- 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.
- PROVIDE FIRE SEPARATION BETWEEN DWELLING AND GARAGE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE 1/2" DRYWALL AT WALLS, CEILING AND UNDERSIDE OF STAIR ASSEMBLY ACCESSIBLE SPACE UNDER STAIRS IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED BY THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE SHALL HAVE A PERMANENT DESIGNATION OR LABEL AFFIXED TO EACH PANE OF GLAZING BEARING THE MANUFACTURER'S LABEL SHOWING THE TYPE AND THICKNESS OF GLASS. FOR OTHER THAN TEMPERED GLASS, LABELS MAY BE OMITTED PROVIDED THE BUILDING OFFICIAL APPROVES THE USE OF A CERTIFICATE, AFFIDAVIT OR OTHER EVIDENCE CONFIRMING COMPLIANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NON-ABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT NOT LESS THAN 72" ABOVE THE FLOOR PER THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE 1/2" MAX. SHEATHING WITH TAPED JOINTS AS DRAFT STOP WITH BATT INSULATION FILLING ALL CAVITIES AT EXTERIOR WALLS ADJACENT TO TUBS AND SHOWERS.
- ALL REQUIRED GUARDRAILS AND GUARDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. GUARDS SHALL NOT BE LESS THAN 36" HIGH MEASURED VERTICALLY ABOVE THE ADJACENT WALKING SURFACE AND NOT LESS THAN 34" HIGH MEASURED VERTICALLY FROM THE SLOPED PLANE THAT ADJUNS THE TREAD NOSINGS.
- ALL REQUIRED HANDRAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH 4 OR MORE RISERS. HANDRAIL HEIGHT SHALL NOT BE LESS THAN 34" OR MORE THAN 38" AS MEASURED VERTICALLY FROM THE SLOPED PLANE THAT ADJUNS THE TREAD NOSINGS AND SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT. HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAIL.
- 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 SFOCLEAR 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 - 4" EXTERIOR WALLS

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

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

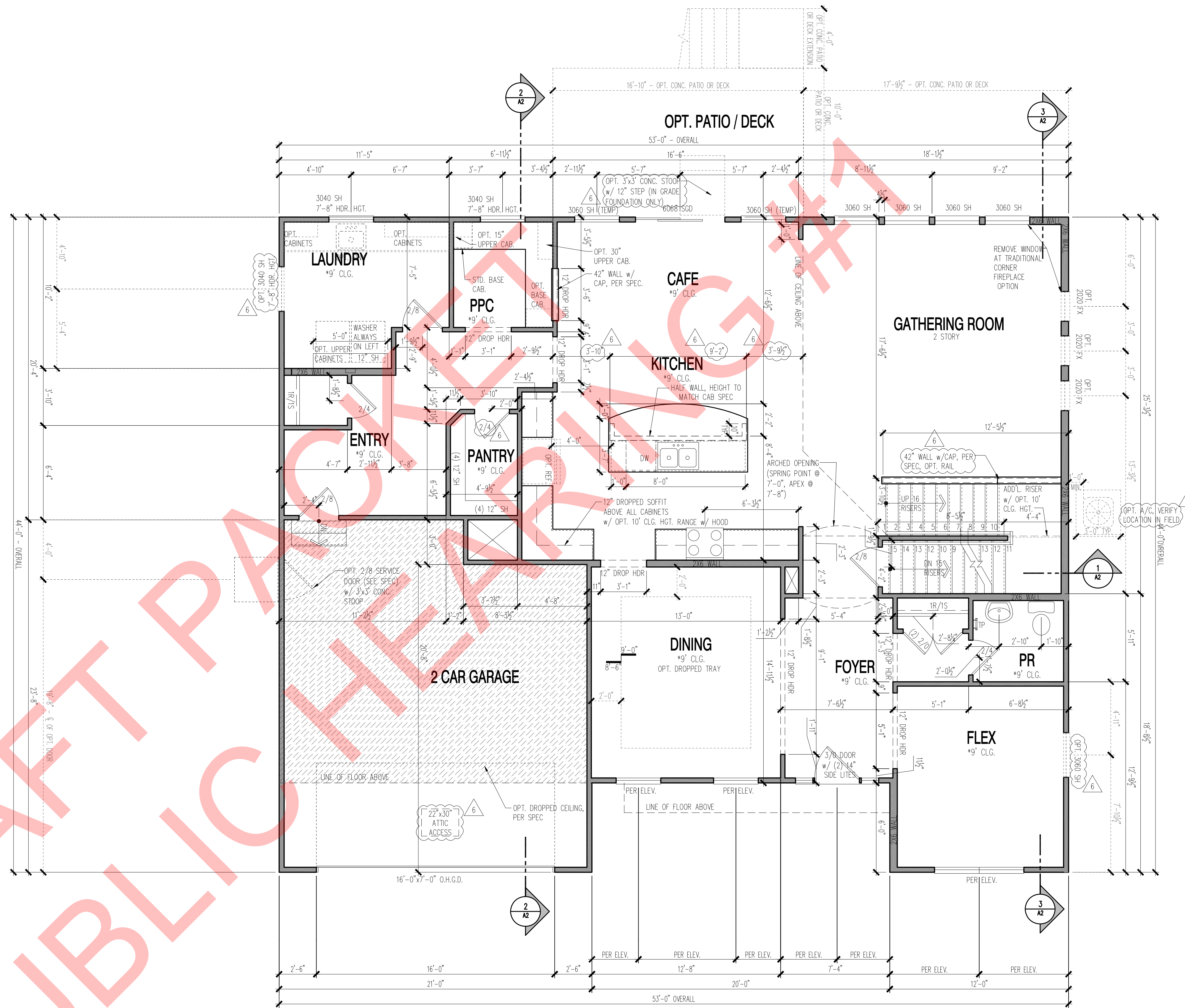
PLAN NAME
Deer Valley
 NPC CHILD NUMBER
2107.300.00.CPM

SHEET
A1
4-2.1

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

- ALL ANGLED WALLS (OTHER THAN THOSE AT 90°) SHALL BE CONSIDERED TO BE AT 45° UNLESS NOTED OTHERWISE.
- 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.
- 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.
- PROVIDE FIRE SEPARATION BETWEEN DWELLING AND GARAGE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE 1/2" DRYWALL AT WALLS, CEILING AND UNDERSIDE OF STAIR ASSEMBLY ACCESSIBLE SPACE UNDER STAIRS IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED BY THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE SHALL HAVE A PERMANENT DESIGNATION OR LABEL AFFIXED TO EACH PANE OF GLAZING BEARING THE MANUFACTURER'S LABEL SHOWING THE TYPE AND THICKNESS OF GLASS. FOR OTHER THAN TEMPERED GLASS, LABELS MAY BE OMITTED PROVIDED THE BUILDING OFFICIAL APPROVES THE USE OF A CERTIFICATE, AFFIDAVIT OR OTHER EVIDENCE CONFIRMING COMPLIANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
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- FOR ADDITIONAL INFORMATION SEE STRUCTURAL DRAWINGS AND NOTES



FIRST FLOOR PLAN - 4" EXTERIOR WALLS

SCALE: 1/4" = 1'-0"
 * OPT. 10' CLG W/ RAISED CEILING HEIGHT UPGRADE OPTION

DRAFT PUBLIC

PLOTED: May 10, 2019 / Arnie Lee / A1 4-1.1.DWG

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
02/06/2015	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

PLAN NAME
Deer Valley
 NPC CHILD NUMBER
2107.300.00.CPM

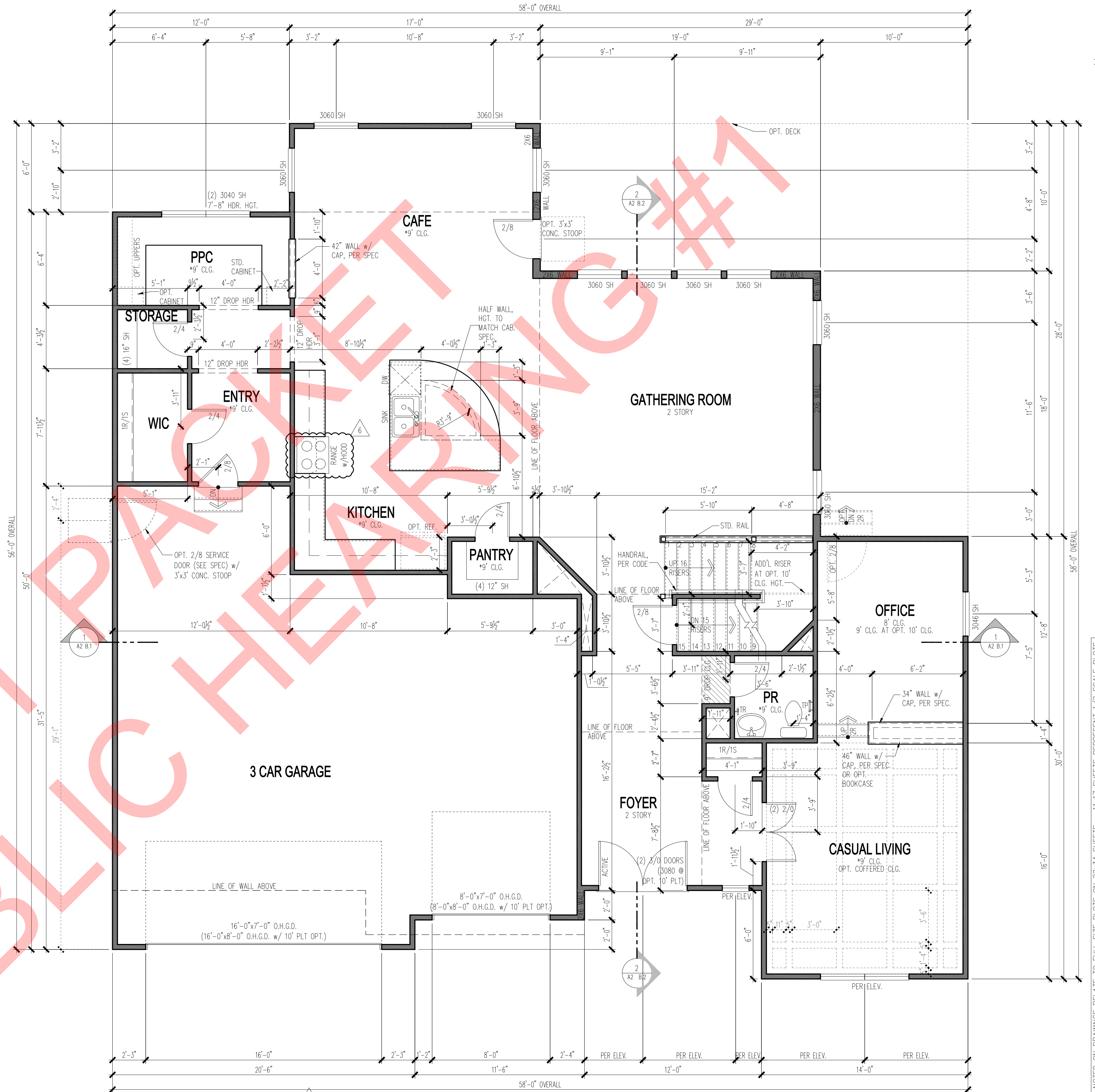
SHEET
A1
4-1.1

NOTE: ESCALES NOTED ON DRAWINGS RELATE TO FULL SIZE PLOTS ON 22x34 SHEETS - 11x17 SHEETS REPRESENT 1/2 SCALE PLOTS

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

- ALL ANGLED WALLS (OTHER THAN THOSE AT 90°) SHALL BE CONSIDERED TO BE AT 45° UNLESS NOTED OTHERWISE.
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FIRST FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 *OPT. 10' CLG. w/ RAISED CEILING HEIGHT UPGRADE OPTION

PLOTTED: November 16, 2016 / Annie Ki / 2054-ROCKWALL-CZ-BASE-PLAN.DWG
 (c) Copyright Pulte Home Corporation - 2016
 NOTE: SCALES NOTED ON DRAWINGS RELATE TO FULL SIZE PLOTS ON 22x34 SHEETS - 11x17 SHEETS REPRESENT 1/2 SCALE PLOTS

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



First Floor Plan
 4" Exterior Walls

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

REV #	DATE	DESCRIPTION
1	02/06/2015	
2	04/06/2015	
3	04/17/2015	
4	01/04/2016	PLAN REVISIONS
5	04/29/2016	POR REVISIONS
6	11/14/2016	PLAN REVISIONS

GARAGE HANDING
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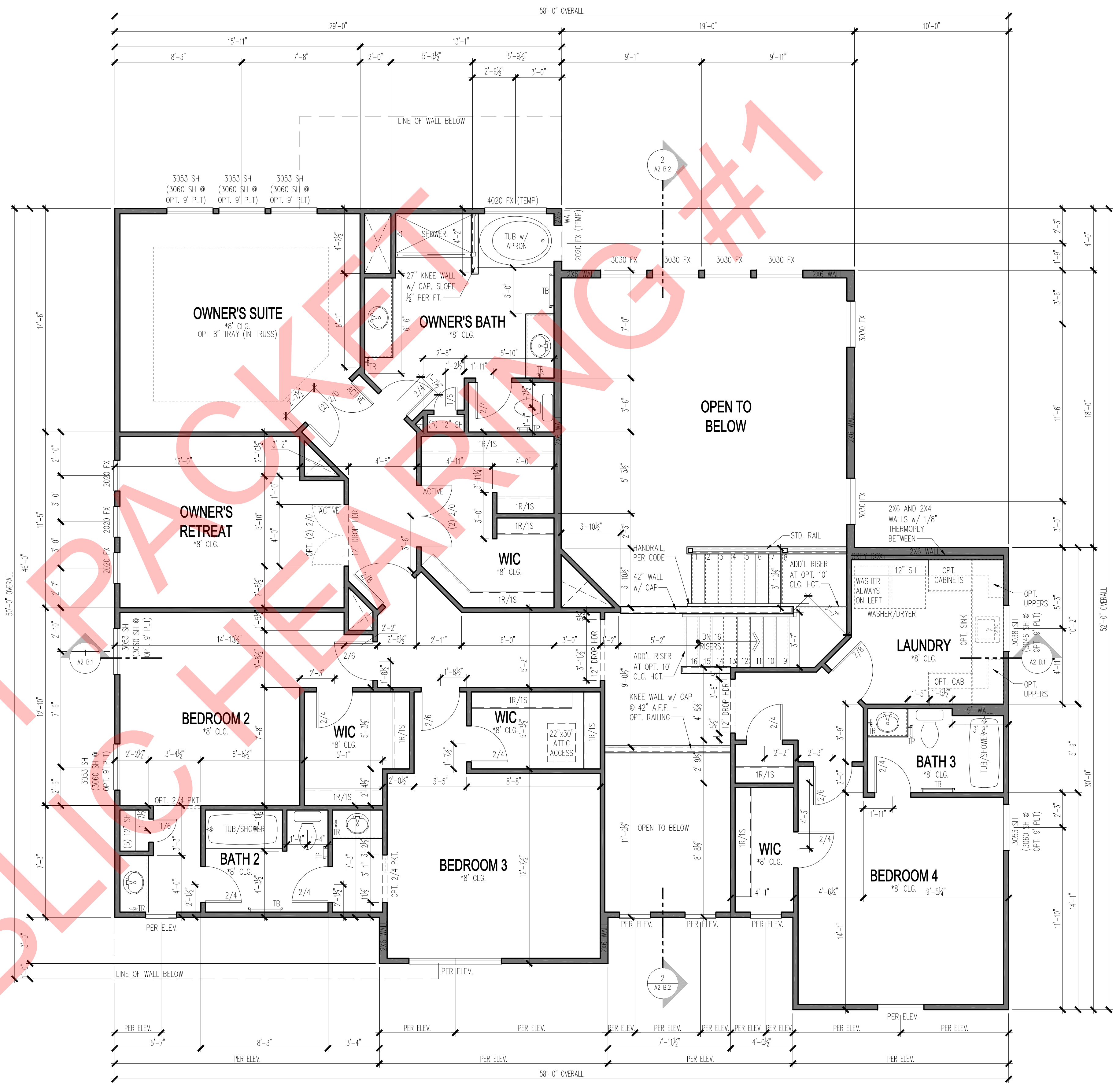
PLAN NAME
Rockwall
 NHC PLAN NUMBER
2054.300.00.CPM
 LAWSON PLAN ID
 **

SHEET
A1
 4-1.1

FLOORPLAN NOTES

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SECOND FLOOR PLAN

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



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	PLAN REVISIONS
5	04/29/2016	PCR REVISIONS
6	11/14/2016	PLAN REVISIONS

GARAGE HANDING
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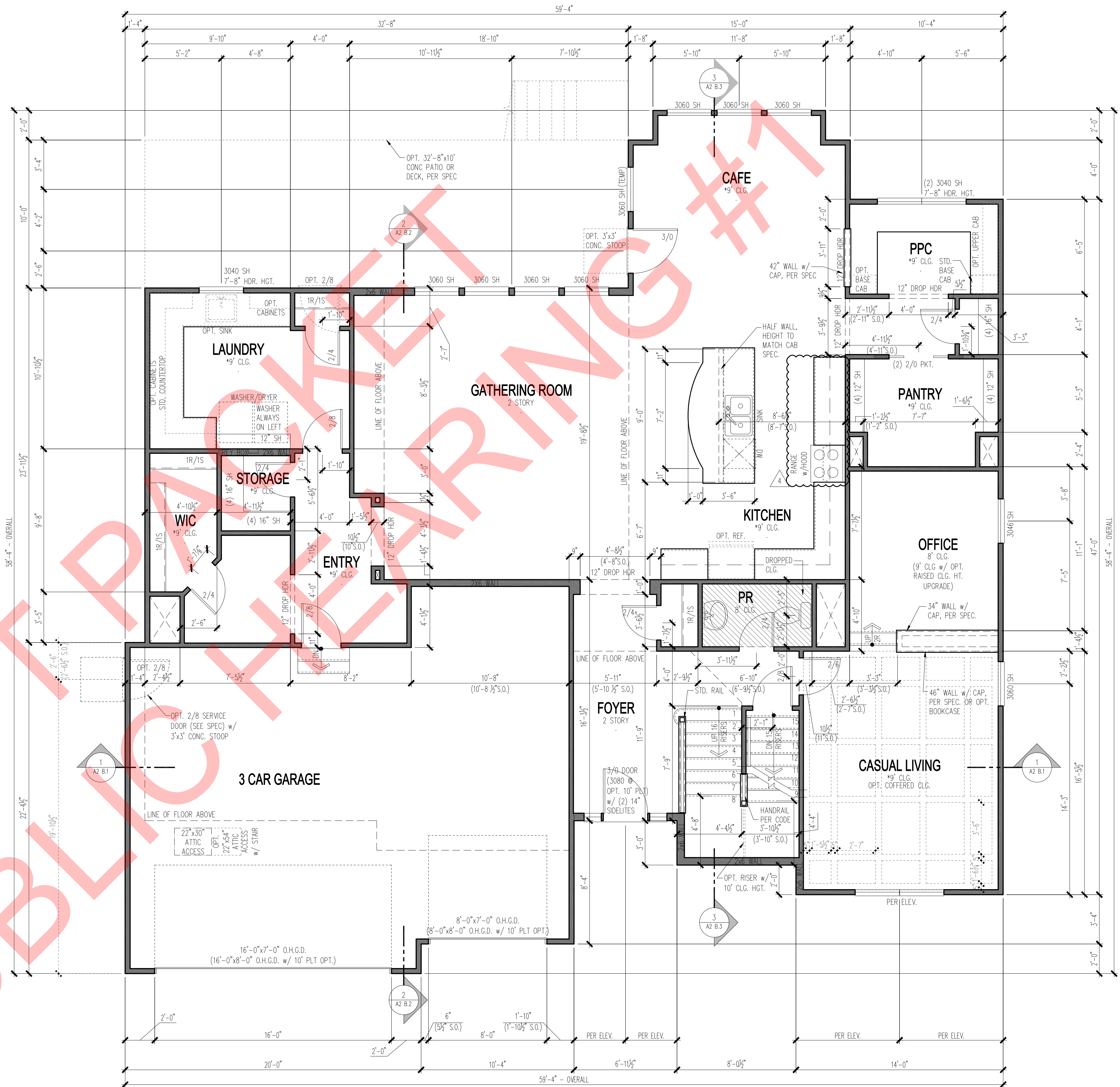
PLAN NAME:
Rockwall
 WHP PLAN NUMBER:
2054.300.00.CPM
 LAWSON PLAN ID

SHEET
A1
 4-2.1

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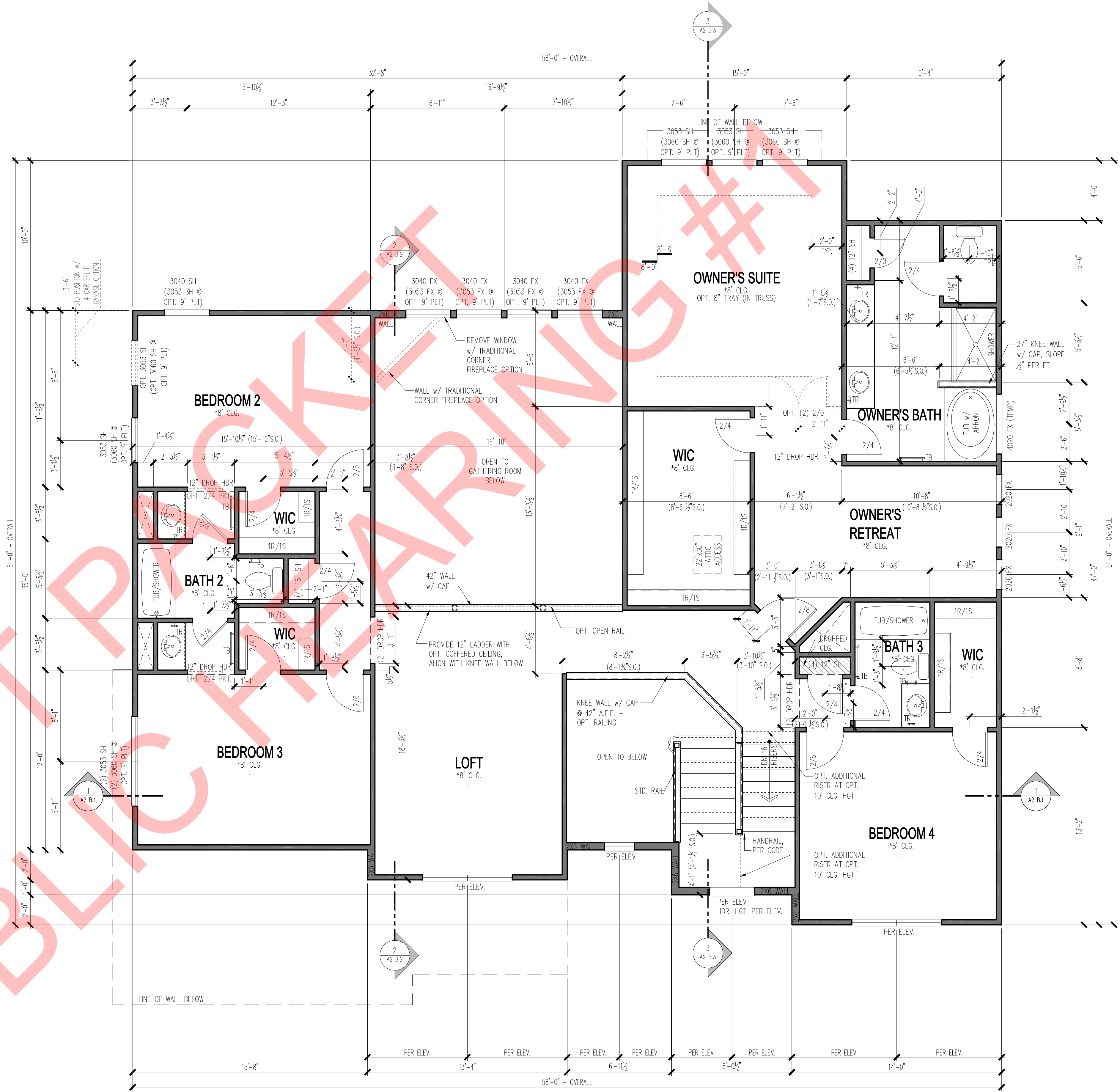
PLAN NAME:
Skyview
REV. PLAN NUMBER:
2056.300.00.CPM
LAWSON PLAN ID

SHEET
A1
4-1.1

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

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

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

GARAGE HANDING
Left

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

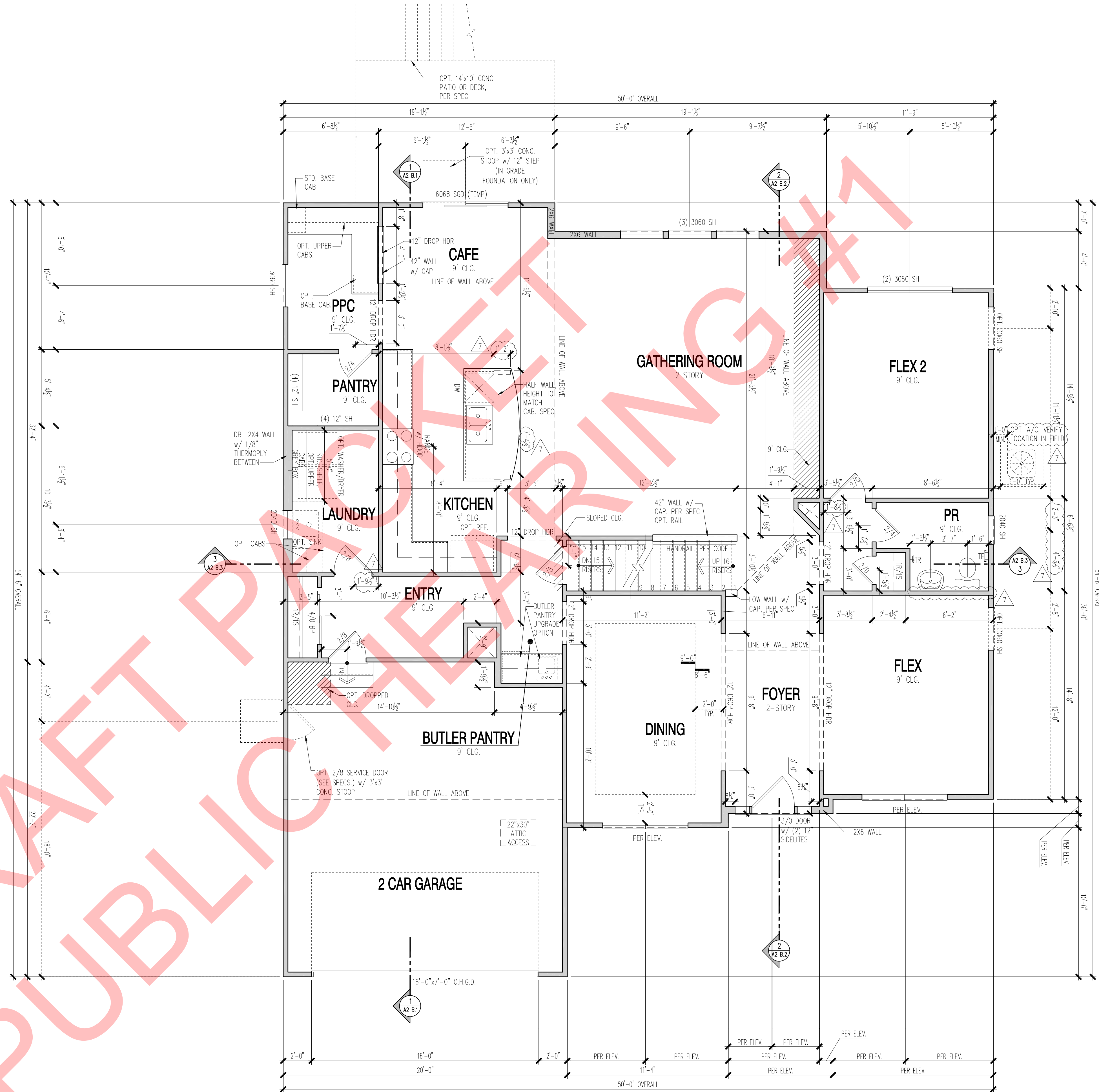
SHEET
A1
4-2.1

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

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

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- ALL STUDS AT EXTERIOR AND INTERIOR WALLS SHALL BE 2x4 UNLESS OTHERWISE NOTED
- ALL STUDS AT EXTERIOR WALLS AND INTERIOR BEARING WALLS TO BE FRAMED AT 16" O.C. UNLESS NOTED OTHERWISE
- ALL NON-BEARING WALLS, OTHER THAN IN THE KITCHEN AND PLANNING CENTERS, TO BE 2x4 STUDS AT 24" O.C. UNLESS OTHERWISE NOTED OR RESTRICTED BY LOCAL CODES OR ORDINANCES. KITCHEN AND PLANNING CENTER WALLS WHERE WALL CABINETS ARE TO BE HUNG SHALL BE FRAMED AT 16" O.C.
- PROVIDE DOUBLE 2x TOP PLATES AT ALL LOAD BEARING WALLS.
- PROVIDE SINGLE TOP PLATE AT ALL INTERIOR NON-LOADING BEARING WALLS.
- 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.
- PROVIDE FIRE SEPARATION BETWEEN DWELLING AND GARAGE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE 1/2" DRYWALL AT WALLS, CEILING AND UNDERSIDE OF STAIR ASSEMBLY ACCESSIBLE SPACE UNDER STAIRS IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED BY THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE SHALL HAVE A PERMANENT DESIGNATION OR LABEL AFFIXED TO EACH PANE OF GLAZING BEARING THE MANUFACTURER'S LABEL SHOWING THE TYPE AND THICKNESS OF GLASS. FOR OTHER THAN TEMPERED GLASS, LABELS MAY BE OMITTED PROVIDED THE BUILDING OFFICIAL APPROVES THE USE OF A CERTIFICATE, AFFIDAVIT OR OTHER EVIDENCE CONFIRMING COMPLIANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL BATHUB AND SHOWER FLOORS AND WALLS ABOVE BATHUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NON-ABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT NOT LESS THAN 72" ABOVE THE FLOOR PER THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE THERMO-PLY SHEATHING AND BATT INSULATION FILLING ALL CAVITIES AT EXTERIOR WALLS SURROUNDING TUBS AND SHOWERS.
- ALL REQUIRED GUARDRAILS AND GUARDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. GUARDS SHALL NOT BE LESS THAN 36" HIGH MEASURED VERTICALLY ABOVE THE ADJACENT WALKING SURFACE AND NOT LESS THAN 34" HIGH MEASURED VERTICALLY FROM THE SLOPED PLANE THAT ADJOINS THE TREAD NOSINGS.
- ALL REQUIRED HANDRAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH 4 OR MORE RISERS. HANDRAIL HEIGHT SHALL NOT BE LESS THAN 34" OR MORE THAN 38" AS MEASURED VERTICALLY FROM THE SLOPED PLANE THAT ADJOINS THE TREAD NOSINGS AND SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT. HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAIL.
- BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM MUST HAVE AT LEAST ONE EMERGENCY ESCAPE OR RESCUE OPENING IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. WHERE THE BASEMENT CONTAINS 1 OR MORE SLEEPING ROOMS, EMERGENCY ESCAPE OR RESCUE OPENINGS SHALL BE REQUIRED IN EACH SLEEPING ROOM. THE EMERGENCY ESCAPE OR RESCUE OPENING SHALL HAVE A CLEAR 5.7 SQUARE FEET OF OPEN AREA WITH A SILL HEIGHT OF NO MORE THAN 44" ABOVE THE FLOOR OR 5.0 SQUARE FEET OF OPEN AREA FOR GRADE-FLOOR WINDOWS. THE CLEAR OPENING SHALL A MINIMUM OF 24" OF OPENING HEIGHT AND 20" OPENING WIDTH. EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND LEVEL ELEVATION SHALL BE PROVIDED WITH 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



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

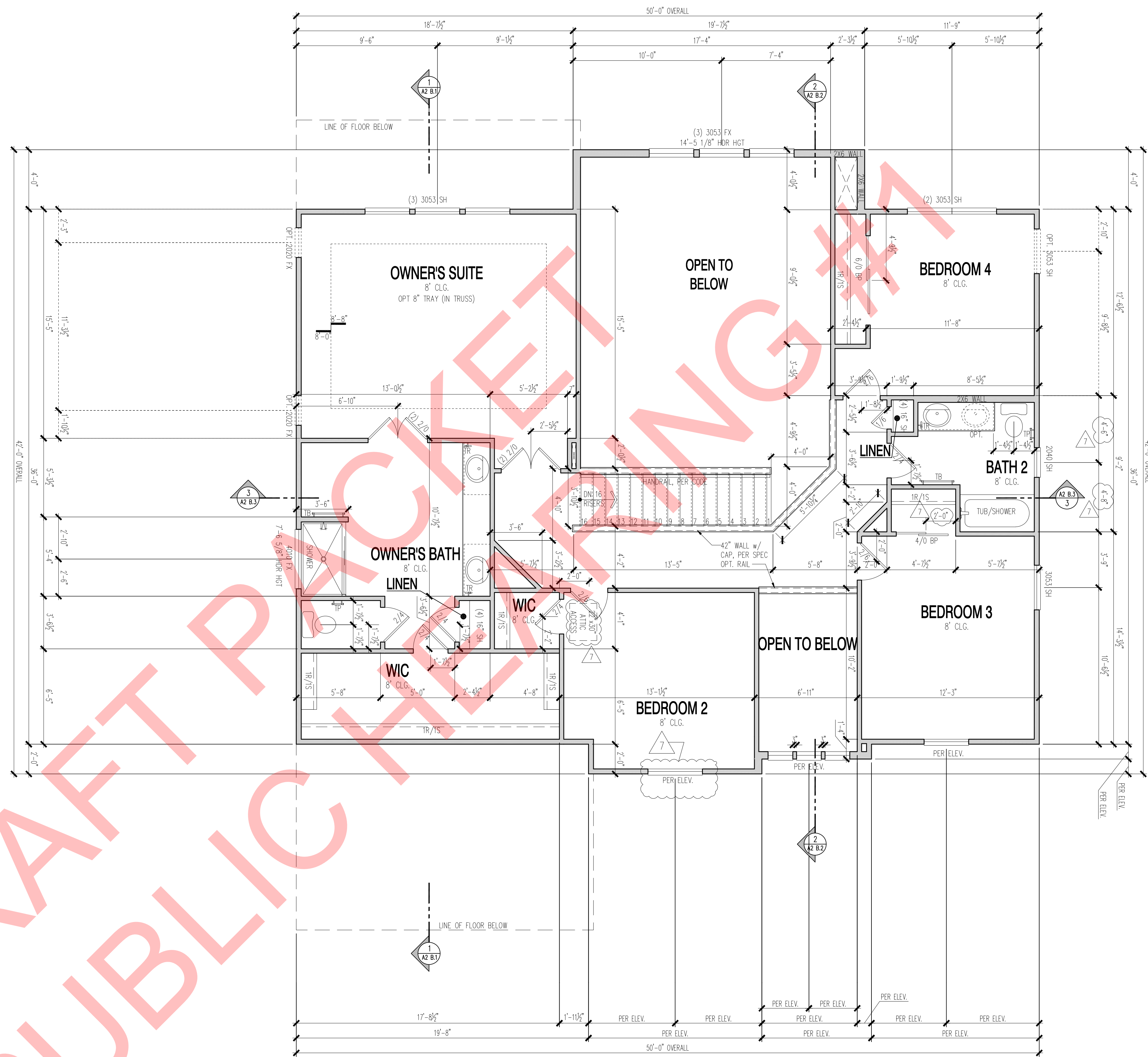
SHEET
A1
4-1.1

NOTE: SCALES NOTED ON DRAWINGS RELATE TO FULL SIZE PLOTS ON 22x34 SHEETS - 11x17 SHEETS REPRESENT 1/2 SCALE PLOTS

FLOORPLAN NOTES

GENERAL SPECIFICATIONS

- ALL ANGLED WALLS (OTHER THAN THOSE AT 90°) SHALL BE CONSIDERED TO BE AT 45° UNLESS NOTED OTHERWISE.
- ALL STUDS AT EXTERIOR AND INTERIOR WALLS SHALL BE 2x4 UNLESS OTHERWISE NOTED.
- ALL STUDS AT EXTERIOR WALLS AND INTERIOR BEARING WALLS TO BE FRAMED AT 16" O.C. UNLESS NOTED OTHERWISE.
- ALL NON-BEARING WALLS, OTHER THAN IN THE KITCHEN AND PLANNING CENTERS, TO BE 2x4 STUDS AT 24" O.C. UNLESS OTHERWISE NOTED OR RESTRICTED BY LOCAL CODES OR ORDINANCES. KITCHEN AND PLANNING CENTER WALLS WHERE WALL CABINETS ARE TO BE HUNG SHALL BE FRAMED AT 16" O.C.
- PROVIDE DOUBLE 2x TOP PLATES AT ALL LOAD BEARING WALLS.
- PROVIDE SINGLE TOP PLATE AT ALL INTERIOR NON-LOADING BEARING WALLS.
- 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.
- PROVIDE FIRE SEPARATION BETWEEN DWELLING AND GARAGE IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE 1/2" DRYWALL AT WALLS, CEILING AND UNDERSIDE OF STAIR ASSEMBLY ACCESSIBLE SPACE UNDER STAIRS IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED BY THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE SHALL HAVE A PERMANENT DESIGNATION OR LABEL AFFIXED TO EACH PANE OF GLAZING BEARING THE MANUFACTURER'S LABEL SHOWING THE TYPE AND THICKNESS OF GLASS. FOR OTHER THAN TEMPERED GLASS, LABELS MAY BE OMITTED PROVIDED THE BUILDING OFFICIAL APPROVES THE USE OF A CERTIFICATE, AFFIDAVIT OR OTHER EVIDENCE CONFIRMING COMPLIANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- ALL BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NON-ABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT NOT LESS THAN 72" ABOVE THE FLOOR PER THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODE.
- PROVIDE THERMO-PLY SHEATHING AND BATT INSULATION FILLING ALL CAVITIES AT EXTERIOR WALLS SURROUNDING TUBS AND SHOWERS.
- ALL REQUIRED GUARDRAILS AND GUARDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. GUARDS SHALL NOT BE LESS THAN 36" HIGH MEASURED VERTICALLY ABOVE THE ADJACENT WALKING SURFACE AND NOT LESS THAN 34" HIGH MEASURED VERTICALLY FROM THE SLOPED PLANE THAT ADJOINS THE TREAD NOSINGS.
- ALL REQUIRED HANDRAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH 4 OR MORE RISERS. HANDRAIL HEIGHT SHALL NOT BE LESS THAN 34" OR MORE THAN 38" AS MEASURED VERTICALLY FROM THE SLOPED PLANE THAT ADJOINS THE TREAD NOSINGS AND SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT. HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAIL.
- BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM MUST HAVE AT LEAST ONE EMERGENCY ESCAPE OR RESCUE OPENING IN ACCORDANCE WITH THE CURRENTLY ADOPTED EDITION OF THE IRC OR APPLICABLE LOCAL CODES. WHERE THE BASEMENT CONTAINS 1 OR MORE SLEEPING ROOMS, EMERGENCY ESCAPE OR RESCUE OPENINGS SHALL BE REQUIRED IN EACH SLEEPING ROOM. THE EMERGENCY ESCAPE OR RESCUE OPENING SHALL HAVE A CLEAR 5.7 SQUARE FEET OF OPEN AREA WITH A SILL HEIGHT OF NO MORE THAN 44" ABOVE THE FLOOR OR 5.0 SQUARE FEET OF OPEN AREA FOR GRADE-LEVEL WINDOWS. THE CLEAR OPENING SHALL A MINIMUM OF 24" OF OPENING HEIGHT AND 20" OPENING WIDTH. EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND LEVEL ELEVATION SHALL BE PROVIDED WITH 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 - 4" WALLS

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

REV#	DATE/DESCRIPTION
01	11/14/2014
02	01/26/2015
03	03/12/2015
04	12/15/2015
05	03/11/2016
06	11/14/2016
07	12/01/2017
08	05/10/2019

GARAGE HANDING
Single Family

SPECIFICATION LEVEL

PLAN NAME
Woodside
NPC CHILD NUMBER
2312.300.00.CPM

SHEET
A1
4-2.1